FICORA 15X/2007 M

UNOFFICIAL TRANSLATION

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Regulation

ON COLLECTIVE FREQUENCIES FOR LICENCE-EXEMPT RADIO TRANSMITTERS AND ON THEIR USE

Issued in Helsinki on 20 08

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The Finnish Communications Regulatory Authority (FICORA) has, under Section 7, Subsection 2 of the Act on Radio Frequencies and Telecommunications Equipment of 16 November 2001 (1015/2001), prescribed as follows:

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General provisions

Section 1

Scope of application

This Regulation applies to the following radio transmitters, which conform with the requirements set out in Sections 21 a or 45 of the Act on Radio Frequencies and Telecommunications Equipment, and which operate only on the collective frequencies assigned in the Annex:

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1) cordless CT1 telephones taken into use on 31 December 2003 at the latest, cordless CT2 telephones taken into use on 31 December 2004 at the latest, and DECT equipment;

2) mobile terminals and other terminals for GSM, UMTS and the 450 MHz digital broadband mobile network;

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3) LA telephones (national Citizen Band equipment) which have been approved according to the regulations of 25 March 1981 by the General Directorate of Posts and Telecommunications and taken into use on 31 December 1992 at the latest;

4) PR 27 telephones;

4A) CB telephones;

5) non-specific short range devices except radio transmitters on the collective frequency 468.200 MHz and which have not been taken into use on 31 December 2007 at the latest;

6) telecommand equipment for use with scale model aircraft;

7) equipment for automatic vehicle identification for railways (AVI);

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8) wide-band data transmission equipment (WAS/RLAN);
9) low-power alarms for security and safety and social alarms;
10) equipment for detecting movement and equipment for alert;
11) radio frequency identification devices (RFID);
12) on-site paging systems;
13) wireless loudspeakers, equipment for in-ear monitoring, headphones, aids for the hearing impaired, helmet radio telephones and radio microphones;
14) ultra low-power medical implants;
15) satellite telephones;
15A) terminal equipment for satellite systems;
16) Inmarsat B, C, D, M, M4[1] , BGAN, Inmarsat phone[2] , EMS MSSAT, EMS PRODAT, SpaceChecker S-SMS, Thuraya and other stations complying with Decision ECC/DEC/(02)11, except stations aboard vessels in international traffic;
17) Arcanet stations and OmniTRACS stations within the EUTELTRACS system;
18) terminal equipment for fixed wireless access networks which is connected to a central switching exchange and for which the Finnish Communications Regulatory Authority has granted a licence referred to in Section 7 of the Act on Radio Frequencies and Telecommunications Equipment;
19) terminals belonging to the VIRVE (Finland's Public Authority Network) emergency services network;
20) PMR446 telephones;
20A) digital PMR446 equipment;
21) road transport and traffic telematics;
22) HEST[3] and LEST[4] satellite terminals;
23) terminals of the GSM-R network of the Finnish State Railways;
24) mobile satellite earth stations on the collective frequency 14 - 14.5 GHz placed on board an aircraft (AES);
25) low-power FM transmitters;
26) Orbcomm satellite terminals; and
27) UWB equipment.

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[1] Also called GAN, Global Area Network
[2] Also called Inmarsat Mini-M
[3] High EIRP satellite terminals
[4] Low EIRP satellite terminals
[7] FM, G3E

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Section 2

Possession and use of radio transmitters

No licence, as referred to in Section 7 of the Act on Radio Frequencies and Telecommunications Equipment, is required for the possession and use of the radio transmitters mentioned in Section 1 above. The provisions set out below shall be obeyed in the use of these radio transmitters.

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Special provisions on use

Section 3

Cordless telephones, DECT, wide-band data transmission equipment (WAS/RLAN)

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1. Only antennas with which it was attested that the equipment meets the essential requirements may be connected to the equipment. However, an antenna with a maximum gain of 12 dBi may be connected to DECT equipment.
2. An amplifier shall not be connected between the equipment and the antenna or the base station and the antenna, if it is not attested that the equipment combination complies with requirements.

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Section 4

Mobile terminals, other terminals for GSM, UMTS and the 450 MHz digital broadband mobile network , satellite telephones, Inmarsat B, C, D, M, M4[1], BGAN and phone[2], EMS-MSSAT, EMS-PRODAT, SpaceChecker S-SMS, Thuraya, other stations complying with Decision ECC/DEC/(02)11, Arcanet and OmniTRACS stations, HEST satellite terminals and terminals of the GSM-R network of the Finnish State Railways

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1. These terminals shall not be used on board airborne aircraft or in any other equipment used in aviation, with the exception of terminal equipment for GSM 1800 Mobile network, the use of which is allowed on board airborne aircraft equipped with a base station according to ECC Decision ECC/DEC/(06)07.

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2. HEST satellite terminals shall not be used within 500 metres of an airfield (from the protective fence).

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Section 5

LA radio telephones, PR 27 telephones and CB telephones

1. These telephones shall not be used on board airborne aircraft or in any other equipment used in aviation.
2. An amplifier shall not be connected between the telephone and its antenna, if it is not attested that the equipment combination complies with requirements.
3. With these telephones a separate antenna with a maximum gain of 3 dBd may be used.
4. The country-specific settings of the CB telephone must not be changed to work on other frequencies and transmitter power than referred to in item 4A in the Annex.

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Section 6

Satellite earth stations placed on board an aircraft

1. A satellite earth station on the collective frequency 14 - 14.5 GHz, placed on board on aircraft shall not be used within 100 metres of an airfield runway or a control tower.

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Section 7

Other radio transmitters to which this Regulation shall apply

1. Radio transmitter shall not be used on board airborne aircraft or in any other equipment used in aviation, unless allowed on any collective frequency defined in the Annex to this Regulation.
2. An amplifier shall not be connected between a radio transmitter and its antenna, if it is not attested that the equipment combination complies with requirements.

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Miscellaneous provisions

Section 8

Period of validity

This Regulation enters into force on 2008 and will remain in force until further notice.

This Regulation sets aside the Regulation bearing the same title (FICORA 15X/2007 M) issued on 31 October 2007.

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Section 9

Information and publication

This Regulation is included in the Series of Regulations issued by the Finnish Communications Regulatory Authority and it can be obtained from the FICORA Customer Service Office:

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Visiting address	Itämerenkatu 3 A, HELSINKI
Postal address	PO Box 313
	FI-00181 HELSINKI
Tel. national	09 6966 500
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Fax international	+358 9 6966 410
Website	http://www.ficora.fi

The Decisions and Recommendations of the European Radiocommunications Committee (ERC) and the European Electronic Communications Committee (ECC), referred to in this Regulation, can be obtained at the website of the European Radiocommunications Office (ERO), address http://www.ero.dk.

Helsinki

Director-General Rauni Hagman

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Director Kari Koho

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ANNEX

COLLECTIVE FREQUENCIES ASSIGNED BY THE FINNISH COMMUNICATIONS REGULATORY AUTHORITY FOR THE RADIO TRANSMITTERS REFERRED TO IN SECTION 1

The Radio Frequency Regulation and its Annex, The Frequency Allocation Table, (Regulation 4) shall also be obeyed in the use of the radio transmitters mentioned below.

Effective radiated power

The effective radiated power of a radio transmitter is the sum of transmitter power and antenna gain subtracted by the attenuation of transmission line. The effective radiated power is defined in W ERP - units by comparison to dipole antenna (gain dBd) or W EIRP - units by comparison to isotropic antenna (gain dBi).

Freedom from interference on collective frequency

There are several users on a collective frequency. Therefore there may appear interference on collective frequencies caused by other licence-exempt or licenced radio transmitters.

1 CORDLESS CT1 TELEPHONES TAKEN INTO USE ON 31 DECEMBER 2003 AT THE LATEST, CORDLESS CT2 TELEPHONES TAKEN INTO USE ON 31 DECEMBER 2004 AT THE LATEST, AND DECT EQUIPMENT

CT1 phones, fixed part	959.0125 MHz + (0...39) x 25 kHz
CT1 phones, portable part	914.0125 MHz + (0...39) x 25 kHz
CT2 phones	864.150 MHz + (0...39) x 100 kHz
DECT equipment	1881.792 MHz + (0...9) x 1.728 MHz

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2 MOBILE TERMINALS AND OTHER TERMINALS FOR GSM, UMTS AND THE 450 MHZ DIGITAL BROADBAND MOBILE NETWORK

450 MHz digital broadband mobile network	453.700 - 456.925 MHz
GSM	880.200 MHz + (0...173) x 200 kHz
	1710.200 MHz + (0...373) x 200 kHz
UMTS	
	882.400 MHz + (0...151) x 200 kHz
	1712.400 MHz + (0...351) x 200 kHz
	1902.400 MHz + (0...76) x 200 kHz
	1922.400 MHz + (0...276) x 200 kHz
	2022.4 MHz + (0...6) x 200 kHz

3 LA TELEPHONES APPROVED ACCORDING TO THE REGULATIONS OF 25 MARCH 1981 BY THE GENERAL DIRECTORATE OF POSTS AND TELECOMMUNICATIONS AND TAKEN INTO USE ON 31 DECEMBER 1992 AT THE LATEST

Channel	Frequency	Channel	Frequency	Channel	Frequency
1	26.965 MHz	9	27.065 MHz	16	27.155 MHz
2	26.975 "	10	27.075 "	17	27.165 "
3	26.985 "	11	27.085 "	18	27.175 "
4	27.005 "	11A	27.095 "	19	27.185 "
5	27.015 "	12	27.105 "	20	27.205 "
6	27.025 "	13	27.115 "	21	27.215 "
7	27.035 "	14	27.125 "	22	27.225 "

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8	27.055 "	15	27.135 "

Transmitter power ≤ 5 W and effective radiated power of equipment with integral antenna ≤ 1 W ERP.

Channel spacing 10 kHz.

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4 PR 27 TELEPHONES

Channel	Frequency	Channel	Frequency	Channel	Frequency
1	26.965 MHz	14	27.125 MHz	27	27.275 MHz
2	26.975 "	15	27.135 "	28	27.285 "
3	26.985 "	16	27.155 "	29	27.295 "
4	27.005 "	17	27.165 "	30	27.305 "
5	27.015 "	18	27.175 "	31	27.315 "
6	27.025 "	19	27.185 "	32	27.325 "
7	27.035 "	20	27.205 "	33	27.335 "
8	27.055 "	21	27.215 "	34	27.345 "
9	27.065 "	22	27.225 "	35	27.355 "
10	27.075 "	23	27.255 "	36	27.365 "
11	27.085 "	24	27.235 "	37	27.375 "
12	27.105 "	25	27.245 "	38	27.385 "
13	27.115 "	26	27.265 "	39	27.395 "
				40	27.405 "

Transmitter power ≤ 4 W and effective radiated power of equipment with integral antenna ≤ 4 W ERP.

Only frequency modulation[7].

Channel spacing 10 kHz.

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4A CB TELEPHONES

Channel	Frequency	Channel	Frequency	Channel	Frequency
1	26.965 MHz	14	27.125 MHz	27	27.275 MHz
2	26.975 "	15	27.135 "	28	27.285 "
3	26.985 "	16	27.155 "	29	27.295 "
4	27.005 "	17	27.165 "	30	27.305 "
5	27.015 "	18	27.175 "	31	27.315 "
6	27.025 "	19	27.185 "	32	27.325 "
7	27.035 "	20	27.205 "	33	27.335 "
8	27.055 "	21	27.215 "	34	27.345 "
9	27.065 "	22	27.225 "	35	27.355 "
10	27.075 "	23	27.255 "	36	27.365 "
11	27.085 "	24	27.235 "	37	27.375 "
12	27.105 "	25	27.245 "	38	27.385 "
13	27.115 "	26	27.265 "	39	27.395 "
				40	27.405 "

Transmitter power and effective radiated power (ERP) of equipment with integral antenna:

1) at frequency modulation[7] ≤ 4 W,

2) at double-sideband modulation[8] carrier power ≤ 1 W and

3) at single-sideband modulation[9] modulation peak power ≤ 4 W.

Channel spacing 10 kHz.

[8] AM DSB, A3E
[9] SSB, J3E and R3E

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5 NON-SPECIFIC SHORT RANGE DEVICES [10]

Voice applications and other short range audio applications and video applications are allowed only on frequencies above 2.4 GHz, unless stated otherwise.

The use of non-specific short range devices is allowed in an aircraft.

In the frequency bands where channel spacing is defined, the centre frequency of the first channel is at a distance of channel spacing/2 from the lower frequency band edge.

26.825 MHz 26.845 " 26.865 " 26.885 " 26.905 " 26.925 " 26.935 " 26.945 " 26.995 " 27.045 " 27.095 " 27.145 " 27.195 " 27.255 "	Transmitter power of equipment using an external antenna ≤ 500 mW and effective radiated power of equipment with integral antenna ≤ 100 mW ERP. Channel spacing 10 kHz.
26.957 – 27.283 MHz	Effective radiated power ≤ 10 mW ERP. Voice and audio applications are allowed.
40.660 – 40.790 MHz	Transmitter power of equipment using an external antenna ≤ 500 mW and effective radiated power of equipment with integral antenna ≤ 100 mW ERP.

[10] Non-specific short-range devices are, among others, equipment for control, alarm, telemetry, telecommand and data transmission, social alarms and video applications. ERC Recommendation CEPT/ERC/REC 70-03, applicable parts of Annexes 1 and 8, and applicable parts of ERC Decisions ERC/DEC/(01)03, ERC/DEC/(01)10 and ERC/DEC/(01)12. Commission Decision 2006/771/EC.

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40.660 – 40.700 MHz	Effective radiated power ≤ 10 mW ERP. Voice and audio applications are allowed.
138.200 – 138.450 MHz	Effective radiated power ≤ 500 mW ERP. Duty cycle ≤ 10%.[11]
433.050 – 434.790 MHz	Effective radiated power ≤ 25 mW ERP. Duty cycle ≤ 10 %[11, 12] Effective radiated power ≤ 1 mW ERP.
433.050 – 434.790 MHz	Power spectral density of transmission below - 13 dBm/10 kHz ERP for broadband transmitters. No restrictions on duty cycle.
434.040 – 434.790 MHz	Effective radiated power ≤ 10 mW ERP. Channel spacing max. 25 kHz. No restrictions on duty cycle.
468.200 MHz	Transmitter power ≤ 500 mW and effective radiated power ≤ 500 mW ERP. Total bandwidth of emission max. 25 kHz. New equipment to be taken into use on 31 December 2007 at the latest.
863.000 - 870.000[13]	Effective radiated power ≤ 25 mW ERP. Duty cycle ≤ 0.1%[11,14] or an appropriate access protocol[21]. Channel spacing ≤ 100 kHz[15]. FHSS[16] modulation. Number of channels ≥ 47.

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[11] The duty cycle is defined as the ratio, expressed as a percentage, of the maximum transmitter "on" time, relative to a one hour period.
[12] The duty cycle ≤ 10 % entered into force for radio transmitters to be placed on the market from 1 April 2003, no restrictions on the duty cycle before that.
[13] Sub-bands 868.600-868.700 MHz, 869.200-869.250 MHz, 869.250-869.300 MHz, 869.300-869.400 MHz, 869.650-869.700 MHz are not included, because these sub-bands are intended for low-power alarms for security and safety and social alarms (see section 9 of the Annex).
[14] Duty cycle ≤ 1% if the band is limited to 865-868 MHz.
[15] Recommended channel spacing is 100 kHz. 25 kHz and 50 kHz spacing is also allowed.
[16] Frequency hopping spread spectrum.

863.000 - 870.000[13]	Effective radiated power ≤ 25 mW ERP[17]. Power spectral density ≤ -4.5 dBm/100 kHz[18]. Duty cycle ≤ 0.1%[11,14] or an appropriate access protocol[21]. DSSS[19] and other broadband modulation except FHSS[16].
863.000 - 870.000[13]	Effective radiated power ≤ 25 mW ERP. Duty cycle ≤ 0.1%[11,14] or an appropriate access protocol[21]. Channel spacing ≤ 100 kHz[20]. Other modulations except FHSS[16].
868.000 – 868.600 MHz	Effective radiated power ≤ 25 mW ERP. Duty cycle ≤ 1%[11] or an appropriate access protocol[21]. Voice and audio applications are allowed.
868.700 – 869.200 MHz	Effective radiated power ≤ 25 mW ERP. Duty cycle ≤ 0.1%[11] or an appropriate access protocol[21]. Voice and audio applications are allowed.
869.400 – 869.650 MHz	Effective radiated power ≤ 500 mW ERP. Channel spacing 25 kHz. Duty cycle ≤ 10% or an appropriate access protocol[21]. The frequency band may be used as 1 channel for high-speed data transmission. Voice and audio applications are allowed.
869.700 – 870.000 MHz	Effective radiated power ≤ 5 mW ERP. Voice applications allowed with an appropriate access protocol[21] together with an automatic carrier

[17] Duty cycle ≤ 1% and radiated power ≤ 10 mW ERP for other wideband modulation than FHSS or DSSS with bandwidth of 200 kHz to 3 MHz in band 865-868 MHz.
[18] Power spectral density +6.2 dBm/100 kHz if the band is limited to 865-868 MHz and +0.8 dBm/100 kHz if the band is limited to 865-870 MHz.
[19] Direct sequence spread spectrum.
[20] Bandwidth of 50 kHz to 200 KHz is allowed if the band is limited to 865.500-867.500 MHz.
[21] One appropriate access protocol is defined in ETSI Standard EN 300 220.

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	time-out timer.
2400.000 – 2483.500 MHz	Effective radiated power ≤ 10 mW EIRP.
5725 – 5875 MHz	Effective radiated power ≤ 25 mW EIRP.
24.00 – 24.25 GHz	Effective radiated power ≤ 100 mW EIRP.
61.00 – 61.50 GHz	Effective radiated power ≤ 100 mW EIRP.
122 – 123 GHz	Effective radiated power ≤ 100 mW EIRP.
244 – 246 GHz	Effective radiated power ≤ 100 mW EIRP.

Collective frequency bands with restrictions relating to individual pieces of equipment:

230.000 – 231.000 MHz	Collective frequency band for social alarms whose conformity with the essential requirements has been attested based on an application that has arrived before 1 August 1997, and which have been taken into use on 30 June 1998 at the latest, *and* for non-specific short range devices whose conformity with the essential requirements has been attested based on an application that has arrived before 31 December 1997, and which have been taken into use on 31 December 1998 at the latest. Effective radiated power ≤ 500 mW ERP.
868.150 – 868.650 MHz	Effective radiated power ≤ 500 mW ERP for non-specific short range devices whose conformity with the essential requirements has been attested based on an application that has arrived before 31 July 1998, and which have

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been taken into use on 31 December 1998 at the latest.

6 TELECOMMAND EQUIPMENT FOR USE WITH SCALE MODEL AIRCRAFT[22]

35.000 MHz	35.080 MHz	35.160 MHz
35.010 "	35.090 "	35.170 "
35.020 "	35.100 "	35.180 "
35.030 "	35.110 "	35.190 "
35.040 "	35.120 "	35.200 "
35.050 "	35.130 "	35.210 "
35.060 "	35.140 "	35.220 "
35.070 "	35.150 "	

Effective radiated power ≤ 100 mW ERP.
Channel spacing 10 kHz.

7 EQUIPMENT FOR AUTOMATIC VEHICLE IDENTIFICATION FOR RAILWAYS (AVI)[23]

2447.0 MHz 2448.5 MHz 2450.0 MHz 2451.5 MHz 2453.0 MHz

Effective radiated power ≤ 500 mW EIRP.
Channel spacing 1.5 MHz.

[22] Short range devices, ERC Recommendation CEPT/ERC/REC 70-03, applicable parts of Annex 8, ERC Decision ERC/DEC/(01)11
[23] Short range devices, ERC Recommendation CEPT/ERC/REC 70-03, applicable parts of Annex 4.

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8 WIDE-BAND DATA TRANSMISSION EQUIPMENT (WAS/RLAN)[24]

2400.000 – 2483.500 MHz	Effective radiated power ≤ 100 mW EIRP.
5150.000 – 5250.000 MHz	Effective radiated power ≤ 200 mW EIRP, power spectral density of transmission has to be ≤ 10 mW/1 MHz EIRP. Only indoor use permitted.
5250.000 – 5350.000 MHz	Effective radiated power ≤ 200 mW EIRP, power spectral density of transmission has to be ≤ 10 mW/1 MHz EIRP. Only indoor use permitted.
5470.000 – 5725.000 MHz	Effective radiated power ≤ 1 W EIRP, power spectral density of transmission has to be ≤ 50 mW/1 MHz EIRP.

RLAN equipment operating in the bands 5250 - 5350 MHz and 5470 - 5725 MHz shall employ transmit power control which provides a mitigation factor of at least 3 dB on the maximum permitted output power of the systems. If transmit power control is not in use, the maximum permitted mean EIRP and the corresponding mean EIRP density limits shall be reduced by 3 dB.

RLAN equipment operating in the bands 5250 - 5350 MHz and 5470 - 5725 MHz shall use mitigation techniques complying with the detection, operational and response requirements described in Standard EN 301 893.

[24] Short range devices, ERC Recommendation CEPT/ERC/REC 70-03, applicable parts of Annex 3 and ERC Decision ERC/DEC/(01)07 and ECC Decision ECC/DEC/(04)08. Commission Decisions 2005/513/EC and 2007/90/EC.

9 LOW-POWER ALARMS FOR SECURITY AND SAFETY AND SOCIAL ALARMS[25]

In the frequency bands where channel spacing is defined, the centre frequency of the first channel is at a distance of channel spacing/2 from the lower frequency band edge.

142.250 MHz	Effective radiated power ≤ 1 mWERP. Total bandwidth of emission ≤ 25 kHz.
169.4000 - 169.4750 MHz	Meter reading systems. Effective radiated power ≤ 500 mW ERP. Channel spacing ≤ 50 kHz. Duty cycle ≤ 10 %.[11]
169.4000 - 169.4750 MHz	Asset tracking and tracing systems. Effective radiated power ≤ 500 mW ERP. Channel spacing ≤ 50 kHz. Duty cycle ≤ 1 %.[11]
169.4750 - 169.4875 MHz	Only social alarms. Effective radiated power ≤ 10 mW ERP. Channel spacing 12.5 kHz. Duty cycle ≤ 0.1%.[11]
169.5875 - 169.6000 MHz	Only social alarms. Effective radiated power ≤ 10 mW ERP. Channel spacing 12.5 kHz. Duty cycle ≤ 0.1%.[11]
868.600 – 868.700 MHz	Effective radiated power ≤ 10 mW ERP. Channel spacing 25 kHz. Duty cycle ≤ 1%[11] The frequency band may be used as 1 channel for high-speed data transmission.

[25] Short range devices, ERC Recommendation CEPT/ERC/REC 70-03, applicable parts of Annexes 2 and 7, ECC Decision ECC/DEC/(05)02. Commission Decisions 2005/928/EC and 2006/771/EC.

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869.250 – 869.300 MHz	Effective radiated power ≤ 10 mW ERP. Channel spacing 25 kHz. Duty cycle ≤ 0.1%.[11]
869.300 – 869.400 MHz	Effective radiated power ≤ 10 mW ERP. Channel spacing 25 kHz. Duty cycle ≤ 1.0%.[11]
869.650 – 869.700 MHz	Effective radiated power ≤ 25 mW ERP. Channel spacing 25 kHz . Duty cycle ≤ 10%[11].
869.200 – 869.250 MHz	Only for social alarms. Effective radiated power ≤ 10 mW ERP. Channel spacing 25 kHz. Duty cycle ≤ 0.1%.[11]

10 EQUIPMENT FOR DETECTING MOVEMENT AND EQUIPMENT FOR ALERT[26]

2400.000 – 2483.500 MHz	Effective radiated power ≤ 25 mW EIRP.
9500 – 9975 MHz	Effective radiated power ≤ 25 mW EIRP. Restrictions relating to individual pieces equipment: Effective radiated power ≤ 500 mW EIRP equipment for detecting movement and equipment for alert whose conformity wi… requirements has been attested based o… application that has arrived before 31 December 1998 and which have been taken into use on 31 December 1999 at the latest.
10.45 – 10.50 GHz	Effective radiated power ≤ 500 mW EIRP.

[26] Short range devices, ERC Recommendation CEPT/ERC/REC 70-03, applicable parts of Annex 6, ERC Decision ERC/DEC/(01)08

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13.40 – 14.00 GHz	Effective radiated power ≤ 25 mW EIRP.
17.1 – 17.3 GHz	Ground based synthetic aperture radars (GBSAR). Effective radiated power ≤ 26 dBm EIRP. Appropriate access protocol[27].
24.00 – 24.25 GHz	Effective radiated power ≤ 100 mW EIRP. Restrictions relating to individual pieces of equipment: Effective radiated power ≤ 500 mW EIRP for equipment for detecting movement and equipment for alert whose conformity with requirements has been attested based on an application that has arrived before 31 December 1998 and which have been taken into use on 31 December 1999 at the latest.
4.5 - 7.0 GHz	Tank level probing radars. Maximum radiated power outside the tank -41.3 dBm EIRP and inside the tank +24 dBm EIRP.
8.5 - 10.6 GHz	Tank level probing radars. Maximum radiated power outside the tank -41.3 dBm EIRP and inside the tank +30 dBm EIRP.
24.05 - 27.00 GHz 57 - 64 GHz 75 - 85 GHz	Tank level probing radars. Maximum radiated power outside the tank -41.3 dBm EIRP and inside the tank +43 dBm EIRP.

[27] One appropriate access protocol is defined in ETSI Standard EN 300 440.

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Collective frequency bands with restrictions relating to individual pieces of equipment:

10.50 – 10.55 GHz	Collective frequency band for equipment for detecting movement and equipment for alert whose conformity with the essential requirements has been attested based on an application that has arrived before 31 December 1997, and which have been taken into use on 31 December 1998 at the latest. Effective radiated power ≤ 500 mW EIRP.

11 RADIO FREQUENCY IDENTIFICATION DEVICES (RFID)[28]

865.000 – 865.600 MHz	Effective radiated power ≤ 100 mW ERP. Channel spacing 200 kHz.[29]
865.600 – 867.600 MHz	Effective radiated power ≤ 2 W ERP. Channel spacing 200 kHz. [29]
867.600 – 868.000 MHz	Effective radiated power ≤ 500 mW ERP. Channel spacing 200 kHz. [29]
865.600 - 865.800 MHz	Effective radiated power ≤ 2 W ERP.[30]
866.200 - 866.400 MHz	Effective radiated power ≤ 2 W ERP.[30]
866.800 - 867.000 MHz	Effective radiated power ≤ 2 W ERP.[30]
867.400 - 867.600 MHz	Effective radiated power ≤ 2 W ERP.[30]
2446.0 – 2454.0 MHz	Effective radiated power ≤ 500 mW EIRP. Effective radiated power ≤ 4 W EIRP only indoors and duty cycle ≤ 15 %.[31]

[28] ERC Recommendation CEPT/ERC/REC 70-03, applicable parts of Annex 11.
[29] Equipment placed on the market according to standard EN 302 208 V1.1.1
[30] Equipment placed on the market according to standard EN 302 208 V1.2.1
[31] The duty cycle shall be ≤ 15 % during any 200 ms period (i.e. 30 ms on, 170 ms off)

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12 ON-SITE PAGING SYSTEMS

27.720 MHz	27.820 MHz	27.920 MHz
27.740 "	27.840 "	27.940 "
27.760 "	27.860 "	30.300 "
27.780 "	27.880 "	40.680 "
27.800 "	27.900 "	

Transmitter power ≤ 5 W and effective radiated power of equipment with integral antenna ≤ 5W ERP.
Channel spacing 10 kHz.

Collective frequencies for on-site paging systems up to and including 31 December 2004:

26.965 MHz	Transmitter power ≤ 5 W and effective radiated power of equipment with integral antenna ≤ 5W ERP. Channel spacing 10 kHz.
27.075 "	
27.255 "	
27.400 "	

Collective frequencies with restrictions relating to individual pieces of equipment:

27.450 MHz	Collective frequencies only for on-site paging systems that have been taken into use on 1 January 1989 at the latest. Transmitter power ≤ 5 W and effective radiated power of equipment with integral antenna ≤ 5 W ERP. Channel spacing 10 kHz.
27.490 MHz	

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13 WIRELESS LOUDSPEAKERS, EQUIPMENT FOR IN-EAR MONITORING, HEADPHONES, AIDS FOR THE HEARING IMPAIRED, HELMET RADIO TELEPHONES AND RADIO MICROPHONES[32]

In frequency bands where the channel spacing is defined, the centre frequency of the first channel shall be at a distance of channel spacing/2 from the lower edge of the frequency band.

31.100 MHz	33.500 MHz	Effective radiated power ≤ 10 mW ERP.
32.100 "	36.700 "	Total bandwidth of emission max. 200
32.900 "	37.100 "	kHz.
42.400 –	43.600 MHz	

169.4000 - 169.4750 MHz	Channel spacing ≤ 50 kHz. Effective radiated power ≤ 10 mW ERP. Aids for the hearing impaired. Shared use with short range devices.
169.4875 - 169.5875 MHz	Channel spacing ≤ 50 kHz. Effective radiated power ≤ 10 mW ERP. Only Aids for the hearing impaired.
863.000 - 865.000 MHz	Effective radiated power ≤ 10 mW ERP.
864.800 - 865.000 MHz	Effective radiated power ≤ 10 mW ERP. Channel spacing max. 50 kHz.

[32] Short range devices, ERC Recommendation CEPT/ERC/REC 70-03, applicable parts of Annexes 10 and 13, ECC Decision ECC/DEC/(05)02. Commission Decisions 2005/928/EC and 2006/771/EC.

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Narrow band analogue voice devices.

14 ULTRA LOW-POWER MEDICAL IMPLANTS[33]

30.0 – 37.5 MHz	Applications for blood pressure measuring. Effective radiated power ≤ 1 mW ERP. Duty cycle ≤ 10 %.
401.000 - 402.000 MHz	Effective radiated power ≤ 25 µW ERP and an appropriate access protocol or duty cycle ≤ 0.1 % and radiated power ≤ 250 nW ERP. Channel spacing ≤ 25 kHz. The centre frequency of the first channel shall be at a distance of channel spacing/2 from the lower frequency band edge.
402.000 – 405.000 MHz	Effective radiated power ≤ 25 µW ERP. Channel spacing ≤ 25 kHz. The centre frequency of the first channel shall be at a distance of channel spacing/2 from the lower frequency band edge.
405.000 - 406.000 MHz	Effective radiated power ≤ 25 µW ERP and an appropriate access protocol or duty cycle ≤ 0.1 % and radiated power ≤ 250 nW ERP. Channel spacing ≤ 25 kHz. The centre frequency of the first channel shall be at a distance of channel spacing/2 from the lower frequency band edge.

[33] Short range devices, ERC Recommendation CEPT/ERC/REC 70-03, Annex 12, ERC Decision ERC/DEC/(01)17. Commission Decision 2006/771/EC.

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15 SATELLITE TELEPHONES[34]

1610.0 – 1621.35 MHz	Globalstar
1621.35 – 1626.5 MHz	Iridium

15A TERMINAL EQUIPMENT FOR SATELLITE SYSTEMS[35]

1980 - 2010 MHz
2170 - 2200 MHz

16 INMARSAT-B, C, D, M, M4[1], BGAN, INMARSAT-PHONE[2], EMS-MSSAT-. EMS-PRODAT-. SPACECHECKER S-SMS-, THURAYA- AND OTHER STATIONS COMPLYING WITH DECISION ECC/DEC/(02)11[36]

1626.5 – 1645.5 MHz
1646.5 – 1660.5 MHz

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17 ARCANET STATIONS AND OMNITRACS STATIONS WITHIN THE EUTELTRACS SYSTEM[37]

14.00 – 14.25 GHz

18 TERMINAL EQUIPMENT FOR FIXED WIRELESS ACCESS NETWORKS

3410 – 3590 MHz
10.150 – 10.240 GHz / 10.500 – 10.590 GHz

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[34] ERC Decisions ERC/REC/(97)03 and ERC/DEC/(97)05
[35] ERC Decisions ERC/DEC/(97)03 and ERC/DE/(97)05 and ECC/DEC/(06)09. Commission Decision 2007/98/EC, Commission Decision 2007/98/EC, OJ L 43, 15.2.2007, p. 32; Annex 1.
[36] ERC Decisions ERC/DEC/(98)12 (Inmarsat-D), ERC/DEC/(98)13 (Inmarsat-C), ERC/DEC/(98)14 (Inmarsat-M), ERC/DEC/(98)18 (EMS-Prodat), ERC/DEC/(98)19 (EMS-MSSAT), ERC/DEC/(98)29 (Inmarsat Mini-M), ERC/DEC/(99)18 (Inmarsat-B), ERC/DEC/(99)20 (Inmarsat-M4), ERC/DEC/(01)22 (Space-Checker), ERC/DEC/(01)25 (Thuraya)
[37] ERC Decisions ERC/DEC/(98)17 (ARCANET) and ERC/DEC/(98)15 (Euteltracs-Omnitracs)

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24.549 – 25.333 GHz / 25.557 – 26.341 GHz

19 TERMINALS BELONGING TO THE VIRVE (FINLAND'S PUBLIC AUTHORITY NETWORK) EMERGENCY SERVICES NETWORK

380.0125 MHz + (0...199) x 25 kHz (380.0125 – 384.9875 MHz)
Direct Mode Operation (DMO):
380.0125 MHz + (0...239) x 25 kHz (380.0125 – 385.9875 MHz)
390.0125 MHz + (0...239) x 25 kHz (390.0125 – 395.9875 MHz)
Use allowed in an aircraft and other equipment used in aviation.

20 PMR446 TELEPHONES[38]

446.00625 MHz + (0...7) x 12.5 kHz
Effective radiated power ≤ 500 mW ERP.
Total bandwidth of emission 12.5 kHz.

20A DIGITAL PMR446 EQUIPMENT[39]

446.10625 MHz + (0...7) x 12.5 kHz
Effective radiated power ≤ 500 mW ERP. Channel spacing 12.5 kHz.

446.103125 MHz + (0...15) x 6.25 kHz
Effective radiated power ≤ 500 mW ERP. Channel spacing 6.25 kHz.

21 ROAD TRANSPORT AND TRAFFIC TELEMATICS[40]

5795 – 5805 MHz	Road toll systems. Effective radiated power ≤ 8 EIRP.
21.650 – 26.650 GHz	Automotive Short Range Radars (SRR). The spectral power density of UWB transmission ≤ -41.3 dBm/MHz EIRP, except for frequencies below 22 GHz where the spectral power

[38] ERC Decisions CEPT/ERC/DEC/(98)/25 and CEPT/ERC/DEC/(98)/26
[39] ECC Decision ECC/DEC/(05)/12
[40] Short range devices, ERC Recommendation CEPT/ERC/REC 70-03, applicable parts of Annex 5

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	density is ≤ -61.3 dBm/MHz EIRP, and spectral density measured as peak value 0 dBm/50 MHz EIRP. 24.05 – 24.25 GHz narrowband component, peak power 20 dBm EIRP. Duty cycle ≤ 10 % for peak emission higher than – 10 dBm EIRP. New radars shall be taken into use on 30.6.2013 at the latest.[41]
76.00 – 77.00 GHz	Effective radiated power: Peak power ≤ 316 W EIRP. Average power ≤ 100 W EIRP. Average power for pulsed radars ≤ 225 mW EIRP.
77 – 81 GHz	Automotive Short Range Radars (SRR). The spectral power density ≤ -3 dBm/MHz EIRP and peak power ≤ 55 dBm EIRP. The spectral power density ≤ -9 dBm/MHz EIRP outside a vehicle.[42]

22 HEST and LEST SATELLITE TERMINALS[43]

HEST satellite terminals
14.0 – 14.25 GHz
29.5 – 30.00 GHz
Effective radiated power ≤ 50 dBW EIRP.

LEST satellite terminals
14.0 - 14.25 GHz
29.5 - 30.00 GHz
Effective radiated power ≤ 34 dBW EIRP.

[41] ECC Decision and Commission Decision 2005/50/EC also include further terms for taking equipment into use.
[42] Commission decision 2004/545/EC and ECC Decision ECC/DEC/(04)03
[43] ECC Decisions ECC/DEC/(06)03 (HEST) and ECC/DEC/(06)02 (LEST)

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23 TERMINALS OF THE GSM-R NETWORK OF THE FINNISH STATE RAILWAYS

876.2000 MHz + (0…19) x 200 kHz

Direct Mode Operation (DMO):
876.0125 MHz + (0…4) x 12.5 kHz

24 MOBILE SATELLIE EARTH STATIONS ON THE COLLECTIVE FREQUENCY 14 - 14.5 GHZ PLACED ON BOARD AN AIRCRAFT (AES)[44]

14 - 14.5 GHz	Effective radiated power ≤ 50 dBW EIRP.

25 LOW-POWER FM TRANSMITTERS[45]

87.5 - 108 MHz	Effective radiated power ≤ 50 nW ERP.

26 ORBCOMM SATELLITE TERMINALS[46]

148.00 - 150.05 MHz

27 UWB DEVICES[47]

3.4 - 4.8 GHz	UWB devices using low duty cycle (LDC). Power spectral density ≤ -41.3 dBm/MHz EIRP. Duty cycle 5 % per second and 0.5 % per hour. Burst duration ≤ 5 ms. For devices without mitigation technique the

[44] ECC Decision ECC/DEC/(05)11
[45] ERC Recommendation CEPT/ERC/REC 70-03, applicable parts of Annex 13
[46] ERC Decisions ERC/DEC/(99)05 and ERC/DEC/(99)06
[47] ECC Decisions ECC/DEC/(06)04, ECC/DEC/(06)12 and ECC/DEC/(07)01 and European Commission Decision 2007/131/EC. Placing on the market of UWB equipment requires the use of a Notified Body until the relevant harmonized standard has been published. The power spectral density outside the frequency bands mentioned are defined in the Commission Decision 2007/131/EC.

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	maximum power spectral density (EIRP) is: - 85 dBm/MHz in band 3,4-3,8 GHz - 70 dBm/MHz in band 3,8-4,2 GHz Fixed installed equipment for indoor use only.
4.2 - 4.8 GHz	Power spectral density ≤ -41.3 dBm/MHz EIRP. New devices shall be taken into use on 31 December 2010 at the latest. For devices without mitigation technique, to be taken into use after this date, the power spectral density is ≤ -70 dBm/MHz EIRP. Fixed installed equipment for indoor use only.
6.0 - 8.5 GHz	Power spectral density ≤ -41.3 dBm/MHz EIRP. Fixed installed equipment for indoor use only.
2.2 - 8.0 GHz	Building material analyses (BMA) devicesusing UWB technology. Power spectral densities (EIRP) in different sub-bands: -50 dBm/MHz in band 2.2 - 2.5 GHz -65 dBm/MHz in band 2.5 - 2.69 GHz[48] -55 dBm/MHz in band 2.69 - 2.7 GHz[49] -82 dBm/MHz in band 2.7 - 3.4 GHz -50 dBm/MHz in band 3.4 - 4.8 GHz -55 dBm/MHz in band 4.8 - 5.0 GHz -50 dBm/MHz in band 5.0 - 8.0 GHz

[48] If an access protocol is used, -50 dBm/MHz is allowed in the frequency bands 2.5-2.69 GHz and 2.7-3.4 GHz. An appropriate access protocol is defined in standard EN 302 435.
[49] Total radiated power in the frequency bands 2.69-2.7 GHz and 4.8-5.0 GHz shall be below -65 dBm/MHz EIRP. Total radiated power is defined in standard EN 302 435.

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UNOFFICIAL TRANSLATION

RADIO FREQUENCY REGULATION

Issued in Helsinki on xx xx 2008

The Finnish Communications Regulatory Authority (FICORA) has, under section 6, subsection 1 and section 14 of the Act on Radio Frequencies and Telecommunications Equipment 16 November 2001 (1015/2001), prescribed as follows:

Section 1
Objectives of the Regulation

The radio frequencies are used as this Regulation provides to safeguard the fair availability, efficient, appropriate and sufficiently interference-free use of radio frequencies.

Section 2
Scope of application

This Regulation applies to the radio frequency spectrum 9 kHz - 400 GHz.

Radio transmitters intended for use on the radio frequencies shall meet the requirements of this Regulation for transmitting and receiving frequencies, channel spacing, bandwidth of transmission, duplex separation, transmitted powers and other corresponding radio characteristics (*radio interfaces*).

Directive 1999/5/EC of the European Parliament and of the Council, section 4 (399L0005); OJ L 91, 7.4.1999, p. 10 and Directive 1998/34/EC of the European Parliament and of the Council (398L0034); OJ L 204 and its latest amendment 1998/48/EC; OJ L 217.

Electrical equipment other than radio equipment (*ISM equipment*), designated to generate radio frequency energy and used for scientific, industrial, medical or other similar purposes may only be used on the radio frequencies and on the conditions determined in this Regulation.

Section 3

The use of radio frequencies

The Frequency Allocation Table, as given in annex, contains provisions on the allocation of radio frequencies, frequency bands and sub-bands for different purposes of use. The radio interface requirements and the frequency bands designated for ISM equipment, and the terms of use of this equipment, referred to in section 2, are also included in the Frequency Allocation Table.

The Finnish Communications Regulatory Authority may justifiably allow other radiocommunication in a frequency band than that intended for this frequency band, if this other radiocommunication neither restricts the use of the frequency band for its primary usage, nor causes interference in the radiocommunication performed according to the primary usage of the band.

If protection of radiocommunication in other countries so requires, the Finnish Communications Regulatory Authority may restrict or set conditions on radiocommunication complying with the Frequency Allocation Table or that which is otherwise allowed by the Finnish Communications Regulatory Authority.

Section 4

Entry into force

This Regulation enters into force on xx xxxx 2008 and will remain in force until further notice.

This Regulation sets aside the Regulation bearing the same title and issued by the Finnish Communications Regulatory Authority on 31 October 2007 (FICORA 4J/2007 M).

Section 5

Information and publication

This Regulation is included in the Series of Regulations issued by the Finnish Communications Regulatory Authority and it can be obtained from the Customer Service Office of FICORA:

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Helsinki xx xx 2008

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LIST OF ABBREVIATIONS

ARP	Analog mobile telephone system
AVI	Automatic Vehicle Identification
BGAN	Broadband Global Area Network
BWA	Broadband Wireless Access
CENELEC	European Committee for Electrotechnical Standardization
CEPT	The European Conference of Postal and Telecommunications Administration
CS	Central Station
DAB	Digital Audio Broadcasting
DEC	Decision
DECT	Digital European Cordless Telecommunication system
DGPS	Differential GPS
DME	Distance Measuring Equipment
DRS	Digital Radio System
DSC	Digital Selective Calling
ECA	European Common Allocation
ECC	Electronic Communications Commitee
E-GSM	Extended Global System for Mobile Telecommunication
EIRP	Equivalent Isotropically Rediated Power
EN xxx	European Norm xxx
ENG/OB	Electronic News Gathering/Outside Broadcasting
EPIRB	Emergency Position-Indicating RadioBeacon
ERC	European Radiocommunications Committee
ERMES	European Radio Messaging System
ETSI	European Telecommunications Standards Institute
EY	Euroopan Yhteisö
FICORA	Viestintävirasto / Finnish Communications Regulatory Authority / Kommunikationsverket
FM	Frequency Modulation
FWA	Fixed Wireless Access
FWS	Fixed Wireless Systems
GMDSS	Global Maritime Distress and safety System
GSM	Global System for Mobile Telecommunication
HDFSS	High Density Fixed Satellite Service
HEST	High EIRP Satellite Terminals
IALA	International Association of Lighthouse Authorities
ICAO	International Civil Aviation Organisation
ILS	Instrumental Landing System
IMT-2000	International Mobile Telecommunications
ISM	Industrial, Scientific and Medical applications
ITU-R	International Telecommunication Union, Radiocommunication sector
LA	AM/DSB CB
LEST	Low EIRP Satellite Terminals
LR	Radiolocation Land Station
MLS	Microwave Landing System
MVDS	Multipoint Video Distribution System
MWS	Multimedia Wireless Systems
NMT	Nordic Mobile Telephone
OB	Outside Broadcasting
OR	Off-Route
PMP	Point-to-Multipoint
PMR	Professional /Private Mobile Radio
R	Route
REC	Recommendation
RES	Resolution
RHA68	Tiedote "Harrastuskäyttöön varatut kanavat taajuusalueella 68 – 71 MHz" Announcement "Channels in the 68 - 71 MHz frequency band reserved for hobby usage" Meddelande "för fritidsbruk reserverade kanaler inom frekvensbandet 68 -71 MHz"
RLAN	Radio Local Area Network
RR	Radio Regulations
RR AP30B	Appendix 30B of the ITU Radio Regulations
RTTT	Road transport and traffic telematics
SAR	Search And Rescue, Synthetic Aperture Radar
S-DAB	Satellite Digital Audio Broadcasting
S-PCS	Satellite Personal Communication System
S-SMS	Satellite Short Message System

SRD	Short Range Devices
SRR	Short range radar
SSR	Secondary Surveillance Radar
TETRA	Terrestrial Trunked Radio
TFTS	Terrestrial Flight Telephone System
THK TAC TFC	Telehallintokeskus / Telecomminications Administration Centre / Teleförvaltningscentralen
T-DAB	Terrestrial Digital Audio Broadcasting
TS	Terminal Station, Technical Specification
TV	Television
UTRAN TDD	UMTS Terrestrial radio access network, time division duplex
UTRAN FDD	UMTS Terrestrial radio access network, frequency division duplex
UWB	Ultra Wideband
VDL	VHF digital link
VIRVE	Finland’s Public Authority Network, emergency services network.
VLBI	Very Long Baseline Interferometry
WLAN	Wireless Local Area Network
WLL	Wireless Local Loop
VOR	VHF Omnidirectional Radio Range

FREQUENCY ALLOCATION TABLE
INDUCTIVE EQUIPMENT AND ULTRA-WIDEBAND EQUIPMENT (UWB)

Inductive equipment

The operation of inductive equipment is based on data transfer over reactive magnetic or electric fields instead of free propagation of radio waves. Therefore a piece of inductive equipment is not such radio equipment as referred to in the Act of Radio Frequencies and Telecommunications Equipment. The frequency bands typically assigned for inductive equipment in Europe are listed in the ECC Recommendation ERC/REC 70-03 on the use of Short Range Devices (www.ero.dk). Inductive equipment complying with this recommendation may be used in Finland. The use of other inductive equipment operating within the frequency range 9 kHz - 30 MHz and with field strength below the maximum values for field strength mentioned in the standard EN 300 330 is not restricted in Finland, either.

ULTRA-WIDEBAND EQUIPMENT (UWB)

The ultra-wideband equipment (UWB, Ultra Wide Band) operates in several sub-bands and, thus, has not been added to the Frequency Allocation Table. The frequency bands and air interfaces assigned for this equipment are listed belov.
Equipment categories: Licence-exempt generic UWB equipment, building material analysis equipment, tank level probing radars and GPR/WPR equipment subject to licence.

THE ULTRA-WIDEBAND EQUIPMENT (UWB, Ultra Wide Band)

GENERIC UWB EQUIPMENT

Frequency band	Conditions for use
6.0 - 8.5 GHz	Licence-exempt equipment, see Ficora Regulation 15. UWB equipment according to Decision ECC/DEC/(06)04. Fixed installed equipment only for indoor use. Spectral power density of UWB transmission -41.3 dBm/MHz EIRP. Standard (draft) EN 302 065. Placing on the market of equipment requires the use of a Notified Body until a harmonized standard has been published. European Commission Decision 2007/131/EC.
3.4 - 4.8 GHz	Licence-exempt equipment, see Ficora Regulation 15. UWB equipment according to Decision ECC/DEC/(06)12. Fixed installed equipment only for indoor use. Spectral power density of UWB transmission -41.3 dBm/MHz EIRP. Restriction on duty cycle, see ECC/DEC/(06)12. Standard (draft) EN 302 065. Placing on the market of equipment requires the use of a Notified Body until a harmonized standard has been published. European Commission Decision 2007/131/EC.
4.2 - 4.8 GHz	Licence-exempt equipment, see Ficora Regulation 15. New equipment to be taken into use on 31.12.2010 at the latest. Fixed installed equipment only for indoor use. Spectral power density of UWB transmission -41.3 dBm/MHz EIRP. Standard (draft) EN 302 065. Placing on the market of equipment requires the use of a Notified Body until a harmonized standard has been published. European Commission Decision 2007/131/EC.

BUILDING MATERIAL ANALYSIS EQUIPMENT

Frequency band	Conditions for use
2.2 - 8.0 GHz	Licence-exempt equipment, see Ficora Regulation 15. Building material analysis UWB equipment. Radiated power of UWB transmission per sub-band, see Ficora Regulation 15. Standard (draft) EN 302 435. Placing on the market of equipment requires the use of a Notified Body until a harmonized standard has been published.

TANK LEVEL PROBING RADARS

Frequency band	Conditions for us
4.5 - 7.0 GHz	Licence-exempt equipment, see Ficora Regulation 15 (Annex, item 10). Tank level probing radars. Maximum radiated power -41,3 dBm EIRP outside the tank and +24 dBm EIRP inside the tank. Standard EN 302 372.
8.5 - 10.6 GHz	Licence-exempt equipment, see Ficora Regulation 15 (Annex, item 10). Tank level probing radars. Maximum radiated power -41,3 dBm EIRP outside the tank and +30 dBm EIRP inside the tank. Standard EN 302 372.
24.05 - 27.00 GHz	Licence-exempt equipment, see Ficora Regulation 15 (Annex, item 10). Tank level probing radars. Maximum radiated power -41,3 dBm EIRP

	outside the tank and +43 dBm EIRP inside the tank. Standard EN 302 372.
57 - 64 GHz	Licence-exempt equipment, see Ficora Regulation 15 (Annex, item 10). Tank level probing radars. Maximum radiated power -41,3 dBm EIRP outside the tank and +43 dBm EIRP inside the tank. Standard EN 302 372.
75 - 85 GHz	Licence-exempt equipment, see Ficora Regulation 15 (Annex, item 10). Tank level probing radars. Maximum radiated power -41,3 dBm EIRP outside the tank and +43 dBm EIRP inside the tank. Standard EN 302 372.

GPR / WPR EQUIPMENT

Frequency bands	**Conditions for use**
30 - 12400 MHz	GPR/WPR equipment subject to licence according to Decision ECC/DEC/(06)08. Standard EN 302 066.

Frequency band **Services in Finland**	**Sub-band** **(its width)** **and usage**	**Mode of traffic.** **Class of station** **and TX/RX-code** **Channel spacing,** **bandwidth. (Class** **of emission)** **Duplex separation** **and duplex band** **Standart type**	**Comments**
9 - 14 kHz RADIONAVIGATION	9 - 14 kHz (5 kHz) Radionavigation		
14.000 - 19.950 kHz FIXED MARITIME MOBILE	14.000 - 19.950 kHz (5.950 kHz) Fixed Maritime mobile		
19.950 - 20.050 kHz STANDARD FREQUENCY AND TIME SIGNAL	19.950 - 20.050 kHz (0.100 kHz) Standard frequency and time signal		20 kHz standard frequency.
20.050 - 70.000 kHz FIXED MARITIME MOBILE	20.050 - 70.000 kHz (49.950 kHz) Fixed Maritime mobile		
70 - 72 kHz RADIONAVIGATION	70 - 72 kHz (2 kHz) Maritime radionavigation	Simplex. Land station (NL) TX 0,25 kHz.	
72 - 84 kHz FIXED	72 - 84 kHz (12 kHz) Fixed		
MARITIME MOBILE RADIONAVIGATION	Maritime mobile Radionavigation		
84 - 86 kHz RADIONAVIGATION	84 - 86 kHz (2 kHz) Maritime radionavigation	Simplex. Land station (NL) TX 0,25 kHz.	
86 - 90 kHz FIXED	86 - 90 kHz (4 kHz) Fixed		
MARITIME MOBILE RADIONAVIGATION	Maritime mobile Radionavigation		
90 - 110 kHz RADIONAVIGATION Fixed	90 - 110 kHz (20 kHz) Radionavigation Fixed		Loran C-navigation system (100 kHz +/- 10 kHz). No transmitters in Finland.

110 - 112 kHz FIXED	110 - 112 kHz (2 kHz) Fixed		
MARITIME MOBILE RADIONAVIGATION	Maritime mobile Radionavigation		
112 - 115 kHz RADIONAVIGATION	112 - 115 kHz (3 kHz) Maritime radionavigation	Simplex. Land station (NL) TX 0,25 kHz.	
115.000 - 117.600 kHz RADIONAVIGATION	115.000 - 117.600 kHz (2.600 kHz) Maritime radionavigation	Simplex. Land station (NL) TX 0,25 kHz.	
Fixed Maritime mobile	Fixed Maritime mobile		
117.600 - 126.000 kHz FIXED	117.600 - 126.000 kHz (8.400 kHz) Fixed		Reception of weather maps.
MARITIME MOBILE RADIONAVIGATION	Maritime mobile Radionavigation		
126 - 129 kHz RADIONAVIGATION	126 - 129 kHz (3 kHz) Maritime radionavigation	Simplex. Land station (NL) TX 0,25 kHz.	
129 - 130 kHz FIXED	129 - 130 kHz (1 kHz) Fixed		
MARITIME MOBILE RADIONAVIGATION	Maritime mobile Radionavigation		
130.000 - 148.500 kHz FIXED MARITIME MOBILE	130.000 - 148.500 kHz (18.500 kHz) Fixed Maritime mobile		
Amateur	135.700 - 137.800 kHz (2.100 kHz) Amateur	Simplex. Amateur station (AT) TXRX	Regulation Ficora 6. User certificate required. Radiated power max. 1 W ERP. The numerical value means the peak envelope power when the carrier of the transmission is attenuated by at least 6 dB, in other cases it means the carrier power.

148.500 - 255.000 kHz BROADCASTING	148.500 - 255.000 kHz (106.500 kHz) Broadcasting	Broadcasting station (sound) (BC) TX 9 kHz, 10 kHz.	Usage according to plan GE-75.
255.000 - 283.500 kHz AERONAUTICAL RADIONAVIGATION	255.000 - 283.500 kHz (28.500 kHz) Aeronautical radionavigation	Simplex. Land station (AL) TX 1 kHz, 0,8 kHz.	Non-Directional Beacon.
BROADCASTING	Broadcasting	Broadcasting station (sound) (BC) TX 9 kHz, 10 kHz.	Usage according to plan GE-75.
283.500 - 315.000 kHz AERONAUTICAL RADIONAVIGATION	283.500 - 315.000 kHz (31.500 kHz) Aeronautical radionavigation	Simplex. Land station (AL) TX 0,5 kHz, 0,8 kHz.	Non-Directional Beacon.
MARITIME RADIONAVIGATION	Radio beacons and DGPS-transmitters	Simplex. Land station (NL) TX 0,5 kHz, 0,8 kHz.	GE-85 plan radio beacons and DGPS-transmitter in all Baltic Sea countries according to the IALA plan. Consol navigation system. No transmitter in Finland.
315 - 325 kHz AERONAUTICAL RADIONAVIGATION Maritime radionavigation	315 - 325 kHz (10 kHz) Aeronautical radionavigation Maritime radionavigation	Simplex. Land station (AL) TX 1 kHz, 0,8 kHz.	Non-Directional Beacon.
325 - 405 kHz AERONAUTICAL RADIONAVIGATION	325 - 405 kHz (80 kHz) Aeronautical radionavigation	Simplex. Land station (AL) TX 1 kHz, 0,8 kHz.	Non-Directional Beacon.
405 - 415 kHz RADIONAVIGATION	405 - 415 kHz (10 kHz) Aeronautical radionavigation	Simplex. Land station (AL) TX 1 kHz, 0,8 kHz.	410 kHz direction finding transmitter on ship. 406.5-413.5 kHz maritime direction finding has interference protection (RR 5.76). Non-Directional Beacon.
415 - 435 kHz AERONAUTICAL RADIONAVIGATION	415 - 435 kHz (20 kHz) Aeronautical radionavigation	Simplex. Land station (AL) TX 1 kHz, 0,8 kHz.	Non-Directional Beacon.

MARITIME MOBILE	Telex and radiotelegraphy service	Duplex. Coast station (FC) TX Ship station (MS) TX 0,5 kHz, (A1A) (F1B) Duplex. Coast station (FC) RX Mobile station (MR) RX 0,5 kHz, (A1A) (F1B) Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 0,5 kHz, (A1A) (F1B)	GE-85 plan. User certificate required.
435 - 495 kHz MARITIME MOBILE	435 - 495 kHz (60 kHz) Telex and radiotelegraphy service	Duplex. Coast station (FC) TX Ship station (MS) TX 0,5 kHz, (A1A) (F1B) Duplex. Coast station (FC) RX Ship station (MS) RX 0,5 kHz, (A1A) (F1B) Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 0,5 kHz, (A1A) (F1B)	GE-85 plan. User certificate required. 435.0-453.0 kHz coast stations 453.0-455.0 kHz vessels 455.5-457.0 kHz coast stations 457.5-489.5 kHz vessels 490.5-494.5 kHz coast stations 453.5 kHz intership 454.0 kHz ship common TX 454.5 kHz intership 455.0 kHz intership 455.5 kHz DSC 458.0 kHz ship common TX 458.5 kHz DSC 468.0 kHz ship common TX 480.0 kHz ship common TX 490.0 kHz GMDSS:n NAVTEX
Aeronautical radionavigation	Aeronautical radionavigation		Non-Directional Beacon.

495 - 505 kHz MOBILE	495 - 505 kHz (10 kHz) Mobile radio		Distress and calling frequency and its guardband. International distress and calling frequency 500 kHz for radio telegraphy use.
505.000 - 526.500 kHz MARITIME MOBILE	505.000 - 526.500 kHz (21.500 kHz) Telex and radiotelegraphy service	Duplex. Coast station (FC) TX Ship station (MS) TX 0,5 kHz, (A1A) (F1B) Duplex. Coast station (FC) RX Ship station (MS) RX 0,5 kHz, (A1A) (F1B) Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 0,5 kHz, (A1A) (F1B)	GE-85 plan. User certificate required. 506.0 - 510.0 kHz vessels 510.5 - 526.0 kHz coast stations 505.5 kHz ship international TX 512.0 kHz 500 kHz reserve 518.0 kHz NAVTEX MS/ RX
AERONAUTICAL RADIONAVIGATION	Aeronautical radionavigation	Simplex. Land station (AL) TX 1 kHz, 0,8 kHz.	Non-Directional Beacon.
526.500 - 1606.500 kHz BROADCASTING	526.500 - 1606.500 kHz (1080 kHz) Broadcasting	Broadcasting station (sound) (BC) TX 9 kHz, 10 kHz.	Usage according to plan GE-75. In use: 558 kHz Helsinki 963 kHz Pori.
1606.500 - 1625.000 kHz FIXED LAND MOBILE	1606.500 - 1625.000 kHz (18.500 kHz) Fixed Land mobile		
MARITIME MOBILE	1607.000 - 1624.500 kHz (17.500 kHz) Telex and DSC-traffic	Duplex. Coast station (FC) TX 0,5 kHz, 2141.500 - 2160.000 kHz	User certificate required. GE-85 plan. 1621.0-1624.5 kHz national DSC frequencies, TX coast stations.
1625 - 1635 kHz RADIOLOCATION	1625 - 1635 kHz (10 kHz) Radiolocation		

1635 - 1800 kHz FIXED	1635 - 1800 kHz (165 kHz) Fixed		
MARITIME MOBILE LAND MOBILE	Radiotelephone service Land mobile	Duplex. Coast station (FC) TX 3 kHz, 2,8 kHz. (J3E) 2060.000 - 2141.500 kHz	User certificate required. GE-85 plan. Carrier frequency 1.4 kHz below center frequency.
1800 - 1810 kHz RADIOLOCATION	1800 - 1810 kHz (10 kHz) Radiolocation		
1810 - 1850 kHz AMATEUR	1810 - 1850 kHz (40 kHz) Amateur	Simplex. Amateur station (AT) TXRX 8 kHz.	Regulation Ficora 6. User certificate required. The transmitter power in the novice class 120 W and in the general class 1500 W. The numerical value means the peak envelope power when the carrier of the transmission is attenuated by at least 6 dB, in other cases it means the carrier power.
1850 - 2000 kHz AMATEUR	1850 - 1855 kHz (5 kHz) Amateur	Simplex. Amateur station (AT) TXRX 8 kHz.	Regulation Ficora 6. User certificate required. The transmitter power max. 15 W. Peak envelope power 60 W, when the carrier of the transmission is attenuated by at least 6 dB.
MOBILE	1850 - 1950 kHz (100 kHz) Maritime radiotelephone service	Duplex. Coast station (FC) TX 3 kHz, 2,8 kHz. (J3E)	User certificate required.
FIXED	1850 - 2000 kHz (150 kHz) Fixed		

AMATEUR	1861 - 1906 kHz (45 kHz) Amateur	Simplex. Amateur station (AT) TXRX 8 kHz.	Regulation Ficora 6. User certificate required. The transmitter power max. 15 W. Peak envelope power 60 W, when the carrier of the transmission is attenuated by at least 6 dB.
	1912 - 2000 kHz (88 kHz) Amateur	Simplex. Amateur station (AT) TXRX 8 kHz.	Regulation Ficora 6. User certificate required. The transmitter power max. 15 W. Peak envelope power 60 W, when the carrier of the transmission is attenuated by at least 6 dB.
MOBILE	1950 - 2000 kHz (50 kHz) Maritime radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, 2,8 kHz. (J3E)	User certificate required.
2000 - 2025 kHz FIXED	2000 - 2025 kHz (25 kHz) Fixed		
MOBILE (except aeronautical mobile (R))	Maritime radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, 2,8 kHz. (J3E)	User certificate required. Paired band is not defined. 2000,4-2024,4 kHz vessels.
2025 - 2045 kHz FIXED	2025 - 2045 kHz (20 kHz) Fixed		
MOBILE (except aeronautical mobile (R)) Meteorological aids	Maritime service Meteorological Aids	Duplex. Coast station (FC) TX Ship station (MS) TX 3 kHz, 2,8 kHz. (J3E) Duplex. Coast station (FC) RX Ship station (MS) RX 3 kHz, 2,8 kHz. (J3E)	User certificate required. Paired band is not defined.

2045 - 2160 kHz MARITIME MOBILE	2045 - 2060 kHz (15 kHz) Radiotelephone service	Duplex. Ship station (MS) TX 3 kHz, 2,8 kHz. (J3E)	User certificate required. 2046.4, 2049.4, 2052.4, 2055.4 and 2058.4 kHz international ship to shore frequencies.
FIXED LAND MOBILE	2045 - 2160 kHz (115 kHz) Fixed Land mobile		
MARITIME MOBILE	2060.000 - 2141.500 kHz (81.500 kHz) Radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, 2,8 kHz. (J3E) 1635 - 1800 kHz	User certificate required.
	2141.500 - 2160.000 kHz (18.500 kHz) Telex and DSC-traffic	Duplex. Coast station (FC) RX 0,5 kHz, (F1B) 1605.500 - 1625.000 kHz	User certificate required. GE-85 plan. 2156.0 -2159.5 kHz national DSC frequencies, ships TX.
2160 - 2170 kHz RADIOLOCATION	2160 - 2170 kHz (10 kHz) Radiolocation	Simplex. Mobile station (MR) TXRX 1,5 kHz.	
2170.000 - 2173.500 kHz MARITIME MOBILE	2170.000 - 2173.500 kHz (3.500 kHz) Maritime mobile	Duplex. Coast station (FC) TX Ship station (MS) TX Duplex. Coast station (FC) RX Ship station (MS) RX Simplex. Coast station (FC) TXRX Ship station (MS) TXRX	User certificate required. 2170.5 kHz international SELCAL calling frequency (SSFC-system).

2173.500 - 2190.500 kHz MOBILE	2173.500 - 2190.500 kHz (17 kHz) Maritime mobile	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX	User certificate required. Frequency band is reserved exclusively for distress and international calling traffic. 2174.5 kHz distress frequency (telex). 2177.0 kHz international DSC-calling frequency for ships. 2182.0 kHz distress and calling frequency (phone), standard ETS 300 441. 2187.5 kHz distress frequency (DSC). 2189.5 kHz international DSC-calling frequency for coast stations.
2190.500 - 2194.000 kHz MARITIME MOBILE	2190.500 - 2194.000 kHz (3.500 kHz) Maritime mobile	Duplex. Coast station (FC) TX Ship station (MS) TX Duplex. Coast station (FC) RX Ship station (MS) RX Simplex. Coast station (FC) TXRX Ship station (MS) TXRX	User certificate required.
2194 - 2300 kHz FIXED	2194 - 2300 kHz (106 kHz) HF links	Simplex. Fixed station (FX) TXRX	
MOBILE (except aeronautical mobile (R))	Radiolocation	Simplex. Mobile station (MR) TXRX	

	Maritime radiotelephone service	Duplex. Coast station (FC) RX Ship station (MS) RX 3 kHz, (J3E) Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 3 kHz, (J3E)	User certificate required. 2196.4 - 2259.4 kHz vessels. 2264.4 - 2297.4 kHz ship to ship.
2300 - 2498 kHz FIXED	2300 - 2498 kHz (198 kHz) HF links	Simplex. Fixed station (FX) TXRX	
BROADCASTING	Broadcasting		Restrictions on use (RR 5.113).
MOBILE (except aeronautical mobile (R))	Maritime radiotelephone service	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 3 kHz, (J3E)	User certificate required. 2300.4 - 2495.4 kHz ship to ship. 2339.4 kHz traffic between finnish ships.
2498 - 2501 kHz STANDARD FREQUENCY AND TIME SIGNAL	2498 - 2501 kHz (3 kHz) Standard frequency and time signal		2500 kHz standard frequency.
2501 - 2502 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research	2501 - 2502 kHz (1 kHz) Standard frequency and time signal Space research		
2502 - 2625 kHz MOBILE (except aeronautical mobile (R))	2502 - 2578 kHz (76 kHz) Radio telex service	Duplex. Coast station (FC) RX Ship station (MS) TX 0,5 kHz, (F1B)	User certificate required.
FIXED	2502 - 2625 kHz (123 kHz) HF links	Simplex. Fixed station (FX) TXRX	
MOBILE (except aeronautical mobile (R))	2578 - 2625 kHz (47 kHz) Radio telex service	Duplex. Coast station (FC) TX Ship station (MS) RX 0,5 kHz, (F1B)	User certificate required. Also radiotelephone service (class of emission 2K80J3E).
2625 - 2650 kHz MARITIME RADIONAVIGATION	2625 - 2650 kHz (25 kHz) Maritime radionavigation		

MARITIME MOBILE	Maritime radiotelephone service	Duplex. Coast station (FC) TX (F1B) (J3E) Duplex. Coast station (FC) RX (F1B) (J3E) Simplex. Coast station (FC) TXRX (F1B) (J3E)	User certificate required.
2650 - 2850 kHz FIXED	2650 - 2850 kHz (200 kHz) HF links	Simplex. Fixed station (FX) TXRX	
MOBILE (except aeronautical mobile (R))	Maritime radiotelephone service	Duplex. Coast station (FC) TX 0,5 kHz, (F1B)	User certificate required.
2850 - 3025 kHz AERONAUTICAL MOBILE (R)	2850 - 3025 kHz (175 kHz) Aeronautical mobile	Simplex. Aeronautical station (FA) TXRX 3 kHz, 2,7 kHz.	The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority. 3023 kHz international collective frequency (search and rescue), R and OR.
3025 - 3155 kHz AERONAUTICAL MOBILE (OR)	3025 - 3155 kHz (130 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
3155 - 3200 kHz FIXED	3155 - 3200 kHz (45 kHz) HF links	Simplex. Fixed station (FX) TXRX	
MOBILE (except aeronautical mobile (R))	Maritime radiotelephone service	Simplex. Coast station (FC) TXRX 0,5 kHz,	User certificate required. Recommendation of use: Vessel (MS) F1B-transmission.
3200 - 3230 kHz FIXED	3200 - 3230 kHz (30 kHz) Fixed	Simplex. Fixed station (FX) TXRX 8 kHz,	
BROADCASTING	Broadcasting		Restrictions on use (RR 5.113).

MOBILE (except aeronautical mobile (R))	Maritime radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, (J3E)	User certificate required. Paired band is not defined. 3202.4 - 3229.4 kHz vessels.
3230 - 3400 kHz FIXED	3230 - 3400 kHz (170 kHz) HF links	Simplex. Fixed station (FX) TXRX	
BROADCASTING	Broadcasting		Restrictions on use (RR 5.113).
MOBILE (except aeronautical mobile)	Maritime radiotelephone service	Duplex. Base station (FB) RX 3 kHz, (J3E)	User certificate required.
3400 - 3500 kHz AERONAUTICAL MOBILE (R)	3400 - 3500 kHz (100 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
3500 - 3800 kHz FIXED	3500 - 3800 kHz (300 kHz) HF links	Simplex. Fixed station (FX) TXRX	
MOBILE (except aeronautical mobile)	Maritime service	Simplex. Coast station (FC) TXRX 3 kHz. (J3E)	User certificate required.
AMATEUR	Amateur	Simplex. Amateur station (AT) TXRX 8 kHz.	Regulation Ficora 6. User certificate required. The transmitter power in the novice class 120 W and in the general class 1500 W. The numerical value means the peak envelope power when the carrier of the transmission is attenuated by at least 6 dB, in other cases it means the carrier power.
3800 - 3900 kHz FIXED	3800 - 3900 kHz (100 kHz) HF links	Simplex. Fixed station (FX) TXRX	

AERONAUTICAL MOBILE (OR) LAND MOBILE	Aeronautical mobile Maritime service		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority. User certificate required.
3900 - 3950 kHz AERONAUTICAL MOBILE (OR)	3900 - 3950 kHz (50 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
3950 - 4000 kHz FIXED BROADCASTING	3950 - 4000 kHz (50 kHz) HF links Broadcasting	Simplex. Fixed station (FX) TXRX	
4000 - 4063 kHz FIXED	4000 - 4063 kHz (63 kHz) HF links	Simplex. Fixed station (FX) TXRX	
MARITIME MOBILE	Radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, 2,8 kHz. (J3E) Simplex. Ship station (MS) TXRX 3 kHz, 2,8 kHz. (J3E)	User certificate required. 4001.4 - 4061.4 kHz ship to ship. 21 maritime radio simplex channels. Finnish ships use. Also cross band traffic ship to shore. See channel spacing in appendix 1 to this table.
4063 - 4438 kHz MARITIME MOBILE	4063.300 - 4064.800 kHz (1.500 kHz) Data service	Simplex. Coast station (FC) RX 0,3 kHz,	User certificate required. 6 channels, maritime research.
	4066.400 - 4144.400 kHz (78 kHz) Radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, 2,8 kHz. (J3E) 4352.400 - 4436.400 kHz	User certificate required. 27 half duplex channels. Carrier frequency 1.4 kHz below center frequency. 4126.4 kHz international distress and calling frequency. See channel spacing in appendix 1 to this table.

4147.400 - 4150.400 kHz (3 kHz) Radiotelephone service	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 3 kHz, 2,8 kHz. (J3E)	User certificate required. 2 channels. Traffic between vessels and other simplex traffic. Carrier frequency 1.4 kHz below center frequency. See channel spacing in appendix 1 to this table.
4154 - 4170 kHz (16 kHz) Wide-band telegraphy and special transmissions	Simplex. Ship station (MS) TX 4 kHz,	User certificate required. Wideband transmissions, facsimile and special transmission systems. 5 channels.
4172.500 - 4181.500 kHz (9 kHz) Radio telex service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 4209.500 - 4219.000 kHz	User certificate required. 18 half duplex channels. 4177.5 kHz international distress and safety frequency. See channel spacing in appendix 1 to this table.
4181.750 - 4186.750 kHz (5 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B)	User certificate required. Paired band is not defined.
4187 - 4202 kHz (15 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B) Simplex. Ship station (MS) TXRX 0,1 kHz, (A1A) (A1B)	User certificate required. Paired band is not defined. Finnish vessels: 4189.0, 4191.5, 4194.0 ja 4199.0 kHz, +/- 200 Hz.
4202.500 - 4207.000 kHz (4.500 kHz) Telex and radiotelegraphy service	Duplex. Coast station (FC) RX 0,5 kHz, (A1A) (A1B) (F1B) Simplex. Ship station (MS) TXRX 0,5 kHz, (A1A) (A1B) (F1B)	User certificate required. 10 channels. Secondary traffic between vessels and coast stations. See channel spacing in appendix 1 to this table.

	4207.500 - 4209.000 kHz (1.500 kHz) DSC service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 4219.500 - 4220.500 kHz Simplex. Coast station (FC) TXRX 0,5 kHz, (F1B)	User certificate required. 4207.5 kHz international distress frequency (simplex). 4208.5, 4209.0 ja 4208.0 kHz international calling frequencies, 3 half channels.
	4209.500 - 4219.000 kHz (9.500 kHz) Radio telex service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 4172.500 - 4181.500 kHz	User certificate required. 18 half duplex channels and 1 simplex channel. 4209.5 ja 4210.0 kHz GMDSS/MSI. See channel spacing in appendix 1 to this table.
	4219.500 - 4220.500 kHz (1 kHz) DSC service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 4207.500 - 4209.000 kHz	User certificate required. 4219.5, 4220.0 and 4220.5 kHz international calling frequencies, 3 half channels.
	4221 - 4351 kHz (130 kHz) Wide-band telegraphy and special transmissions	Duplex. Coast station (FC) TX Simplex. Coast station (FC) TXRX	User certificate required. Wideband transmissions, facsimile and special transmission systems. Channel spacing and paired band are not defined.
	4352.400 - 4436.400 kHz (84 kHz) Radiotelephone service	Duplex. Coast station (FC) TX 3 kHz, 2,8 kHz. (J3E) 4066.400 - 4144.400 kHz	User certificate required. 29 half duplex channels. Carrier frequency 1.4 kHz below center frequency. 4418.4 kHz international calling frequency. See channel spacing in appendix 1 to this table.
4438 - 4650 kHz FIXED	4438 - 4650 kHz (212 kHz) HF links	Simplex. Fixed station (FX) TXRX	
MOBILE (except aeronautical mobile (R))	Mobile radio		

4650 - 4700 kHz AERONAUTICAL MOBILE (R)	4650 - 4700 kHz (50 kHz) Aeronautical mobile	Simplex. Aeronautical station (FA) TXRX 3 kHz, 2,7 kHz.	The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
4700 - 4750 kHz AERONAUTICAL MOBILE (OR)	4700 - 4750 kHz (50 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
4750 - 4850 kHz FIXED	4750 - 4850 kHz (100 kHz) HF links	Simplex. Fixed station (FX) TXRX	
AERONAUTICAL MOBILE (OR)	Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
BROADCASTING LAND MOBILE	Broadcasting Land mobile		Restrictions on use (RR 5.113).
4850 - 4995 kHz FIXED	4850 - 4995 kHz (145 kHz) HF links	Simplex. Fixed station (FX) TXRX	
BROADCASTING LAND MOBILE	Broadcasting Land mobile		Restrictions on use (RR 5.113).
4995 - 5003 kHz STANDARD FREQUENCY AND TIME SIGNAL	4995 - 5003 kHz (8 kHz) Standard frequency and time signal		5000 kHz standard frequency.
5003 - 5005 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research	5003 - 5005 kHz (2 kHz) Standard frequency and time signal Space research		
5005 - 5060 kHz FIXED BROADCASTING	5005 - 5060 kHz (55 kHz) Fixed Broadcasting		Restrictions on use (RR 5.113).

5060 - 5250 kHz FIXED	5060 - 5250 kHz (190 kHz) HF links	Simplex. Fixed station (FX) TXRX	
Mobile (except aeronautical mobile)	Mobile radio		
5250 - 5450 kHz FIXED	5250 - 5450 kHz (200 kHz) HF links	Simplex. Fixed station (FX) TXRX	
MOBILE (except aeronautical mobile)	Maritime service	Simplex. Coast station (FC) TXRX	User certificate is required of users of maritime safety equipment.
5450 - 5480 kHz FIXED	5450 - 5480 kHz (30 kHz) Fixed		
AERONAUTICAL MOBILE (OR) LAND MOBILE	Aeronautical mobile Land mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
5480 - 5680 kHz AERONAUTICAL MOBILE (R)	5480 - 5680 kHz (200 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority. 5680 kHz international collective frequency for search and rescue, R ja OR.
5680 - 5730 kHz AERONAUTICAL MOBILE (OR)	5680 - 5730 kHz (50 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
5730 - 5900 kHz FIXED LAND MOBILE	5730 - 5900 kHz (170 kHz) HF links Land mobile	Simplex. Fixed station (FX) TXRX	

5900 - 5950 kHz BROADCASTING	5900 - 5950 kHz (50 kHz) Broadcasting		Restrictions on use RR 5.134.
5950 - 6200 kHz BROADCASTING	5950 - 6200 kHz (250 kHz) Broadcasting	Simplex. Broadcasting station (sound) (BC) TX 10 kHz.	
6200 - 6525 kHz MARITIME MOBILE	6201.400 - 6222.400 kHz (21 kHz) Radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, 2,8 kHz. (J3E) 6502.400 - 6523.400 kHz	User certificate required. 8 half channels. Carrier frequency 1.4 kHz below center frequency. 6216.4 kHz (carrier frequency 6215 kHz) is distress and security frequency (simplex) and international ships TX frequency (duplex). See channel spacing in appendix 1 to this table.
	6225.400 - 6231.400 kHz (6 kHz) Radiotelephone service	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 3 kHz, 2,8 kHz. (J3E)	User certificate required. 3 radiotelephone channels. Ships to ships traffic and other simplex traffic. Carrier frequency 1.4 kHz below center frequency. See channel spacing in appendix 1 to this table.
	6235 - 6259 kHz (24 kHz) Wide-band telegraphy and special transmissions	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 4 kHz,	User certificate required. Wideband transmissions, facsimile and special transmission systems. 7 channels.
	6261.300 - 6262.500 kHz (1.200 kHz) Data service	Simplex. Coast station (FC) TXRX 0,3 kHz,	User certificate required. 6 channels, maritime research.
	6263.000 - 6275.500 kHz (12.500 kHz) Radio telex service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 6314.000 - 6326.500 kHz	User certificate required. 25 half channels. 6268.0 kHz international distress/telex (TX/RX). See channel spacing in appendix 1 to this table.

6275.750 - 6280.750 kHz (5 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B)	User certificate required. Paired band is not defined. International A1A calling channels for vessels (morse code).
6281.000 - 6284.500 kHz (3.500 kHz) Radio telex service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 6327.000 - 6330.500 kHz	User certificate required. 8 half channels. See channel spacing in appendix 1 to this table.
6285 - 6300 kHz (15 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B) Simplex. Ship station (MS) TXRX 0,1 kHz, (A1A) (A1B)	User certificate required. Paired band is not defined. Finnish vessels: 6287.0, 6289.5, 6292.0 ja 6297.0 kHz, +/-200 Hz.
6300.500 - 6311.500 kHz (11 kHz) Telex and radiotelegraphy service	Duplex. Coast station (FC) RX 0,5 kHz, (A1A) (F1B) Simplex. Ship station (MS) TXRX 0,5 kHz, (A1A) (F1B)	User certificate required. 23 channels. Unpaired frequencies.
6312.000 - 6313.500 kHz (1.500 kHz) DSC service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 6331 - 6332 kHz	User certificate required. 6312.0 kHz international DSC distress frequency. 6312.5, 6313.0 ja 6313.5 kHz international calling frequencies, 3 half channels.
6314.000 - 6330.500 kHz (16.500 kHz) Radio telex service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 6263.000 - 6275.500 kHz Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 6281.000 - 6284.500 kHz	User certificate required. 34 half duplex channels and 1 simplex channel. 6314.0 kHz GMDSS/MSI (TX/RX). See channel spacing in appendix 1 to this table.

	6331 - 6332 kHz (1 kHz) DSC service	Duplex. Coast station (FC) TX 0,5 kHz, (F1B) 6312.000 - 6313.500 kHz	User certificate required. 6331.0, 6331.5 ja 6332.0 kHz international calling frequencies, 3 half channels.
	6332 - 6502 kHz (170 kHz) Wide-band telegraphy and special transmissions	Duplex. Coast station (FC) TX Simplex. Coast station (FC) TXRX	User certificate required. Channel spacing and paired band are not defined. Wideband transmissions, facsimile and special transmission systems.
	6502.400 - 6523.400 kHz (21 kHz) Radiotelephone service	Duplex. Coast station (FC) TX 3 kHz, 2,8 kHz. (J3E) 6201.400 - 6222.400 kHz	User certificate required. 8 channels. Carrier frequency 1.4 kHz below center frequency. 6517.4 kHz international calling frequency. See channel spacing in appendix 1 to this table.
6525 - 6685 kHz AERONAUTICAL MOBILE (R)	6525 - 6685 kHz (160 kHz) Aeronautical mobile	Simplex. Aeronautical station (FA) TXRX 3 kHz, 2,7 kHz.	The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
6685 - 6765 kHz AERONAUTICAL MOBILE (OR)	6685 - 6765 kHz (80 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
6765 - 7000 kHz FIXED Land mobile	6765 - 7000 kHz (235 kHz) HF links Land mobile	Simplex. Fixed station (FX) TXRX	6765 - 6795 kHz ISM (RR 5.138). 6765 - 6795 kHz ISM (RR 5.138).

7000 - 7100 kHz AMATEUR AND AMATEUR-SATELLITE	7000 - 7100 kHz (100 kHz) Amateur and amateur-Satellite	Simplex. Amateur station (AT) TXRX 8 kHz.	Regulation Ficora 6. User certificate required. The transmitter power in the novice class 120 W and in the general class 1500 W. The numerical value means the peak envelope power when the carrier of the transmission is attenuated by at least 6 dB, in other cases it means the carrier power.
7100 - 7200 kHz BROADCASTING	7100 - 7200 kHz (100 kHz) FM sound broadcasting		Right of use ends on 29.3.2009 (WRC-2003).
Amateur	7100 - 7200 kHz (100 kHz) Amateur	Simplex. Amateur station (AT) TXRX 8 kHz.	Regulation Ficora 6. User certificate required. The transmitter power in the novice class 120 W and in the general class 250 W. The numerical value means the peak envelope power when the carrier of the transmission is attenuated by at least 6 dB, in other cases it means the carrier power. ECC/REC/(05)05.
7200 - 7300 kHz BROADCASTING	7200 - 7300 kHz (100 kHz) FM sound broadcasting		
7300 - 7350 kHz BROADCASTING	7300 - 7350 kHz (50 kHz) Broadcasting		Restrictions on use (RR 5.134). Look at RR 5.143 also.
7350 - 8100 kHz FIXED Land mobile	7350 - 8100 kHz (750 kHz) HF links Land mobile	Simplex. Fixed station (FX) TXRX	
8100 - 8195 kHz FIXED	8100 - 8195 kHz (95 kHz) HF links	Simplex. Fixed station (FX) TXRX	

MARITIME MOBILE	Radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, (J3E) Simplex. Ship station (MS) TXRX 3 kHz, (J3E)	User certificate required. 8102.4 - 8129.4 kHz ship to ship. 31 maritime radio simplex channels. Finnish ships use. Also cross band traffic, ship to shore. See channel spacing in appendix 1 to this table.
8195 - 8815 kHz MARITIME MOBILE	8196.400 - 8292.400 kHz (96 kHz) Radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, 2,8 kHz. (J3E) 8720.400 - 8813.400 kHz	User certificate required. 33 half channels and 1 simplex channel. Carrier frequency 1.4 kHz below center frequency. 8256.4 kHz international calling frequency. 8292.4 kHz international distress frequency (TX/ RX). See channel spacing in appendix 1 to this table.
	8295.400 - 8298.400 kHz (3 kHz) Radiotelephone service	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 3 kHz, 2,8 kHz. (J3E)	User certificate required. 2 channels. Carrier frequency 1.4 kHz below center frequency. See channel spacing in appendix 1 to this table.
	8302 - 8338 kHz (36 kHz) Wide-band telegraphy and special transmissions	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 4 kHz,	User certificate required. Wideband transmissions, facsimile and special transmission systems. 10 channels.
	8340.300 - 8341.500 kHz (1.200 kHz) Data service	Duplex. Coast station (FC) RX 0,3 kHz,	User certificate required. 5 channels, maritime research.
	8342.000 - 8365.500 kHz (23.500 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B) Simplex. Ship station (MS) TXRX 0,1 kHz, (A1A) (A1B)	User certificate required. Paired band is not defined. Finnish vessels: 8344.0, 8346.5, 8349.0 and 8354.0 kHz, +/- 200 Hz.

8365.750 - 8370.750 kHz (5 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B)	User certificate required. Paired band is not defined. International A1A calling channels for vessels (morse code).
8371 - 8376 kHz (5 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B) Simplex. Ship station (MS) TXRX 0,1 kHz, (A1A) (A1B)	User certificate required. Paired band is not defined. Finnish vessels: 8374.0 kHz, +/- 200 Hz.
8376.500 - 8396.000 kHz (19.500 kHz) Radio telex service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 8416.500 - 8436.000 kHz	User certificate required. 39 half channels and 1 simplex channel. 8376.5 kHz distress frequency (TX/RX). See channel spacing in appendix 1 to this table.
8396.500 - 8414.000 kHz (17.500 kHz) Telex and radiotelegraphy service	Duplex. Coast station (FC) RX 0,5 kHz, (A1A) (A1B) (F1B) Simplex. Ship station (MS) TXRX 0,5 kHz, (A1A) (A1B) (F1B)	User certificate required. 36 channels. Unpaired frequencies. See channel spacing in appendix 1 to this table.
8414.500 - 8416.000 kHz (1.500 kHz) DSC service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 8436.500 - 8437.500 kHz	User certificate required. 8414.5 kHz international distress frequency (TX/ RX). 8415.0, 8415.5 and 8416.0 kHz international calling frequencies, 3 half channels.
8416.500 - 8436.000 kHz (19.500 kHz) Radio telex service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 8376.500 - 8396.000 kHz	User certificate required. 39 half duplex channels and 1 simplex channel. 8416.5 kHz GMDSS safety frequency (MSI transmission). See channel spacing in appendix 1 to this table.

	8436.500 - 8437.500 kHz (1 kHz) DSC service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 8414.500 - 8416.000 kHz	User certificate required. 8436.5, 8437.0 and 8437.5 kHz international calling frequencies, 3 half channels.
	8438 - 8707 kHz (269 kHz) Wide-band telegraphy and special transmissions	Duplex. Coast station (FC) TX Simplex. Coast station (FC) TXRX	User certificate required. Wideband transmissions, radiotelegraphy, facsimile and special transmission systems.
	8708.400 - 8717.400 kHz (9 kHz) Radiotelephone service	Duplex. Coast station (FC) TX 3 kHz, 2,8 kHz. (J3E)	User certificate required. Paired band is not defined. 4 channels. Carrier frequency 1.4 kHz below center frequency. Channels 834-837, see appendix 1 to this table.
	8720.400 - 8813.400 kHz (93 kHz) Radiotelephone service	Duplex. Coast station (FC) TX 3 kHz, 2,8 kHz. (J3E) 8196.400 - 8292.400 kHz	User certificate required. 32 channels. 8780.4 kHz international calling frequency. Carrier frequency 1.4 kHz below center frequency. See channel spacing in appendix 1 to this table.
8815 - 8965 kHz AERONAUTICAL MOBILE (R)	8815 - 8965 kHz (150 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
8965 - 9040 kHz AERONAUTICAL MOBILE (OR)	8965 - 9040 kHz (75 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
9040 - 9400 kHz FIXED	9040 - 9400 kHz (360 kHz) HF links	Simplex. Fixed station (FX) TXRX	

9400 - 9500 kHz BROADCASTING	9400 - 9500 kHz (100 kHz) Broadcasting		Restriction on use (RR 5.134). Look at RR 5.146 also.
9500 - 9900 kHz BROADCASTING	9500 - 9900 kHz (400 kHz) Broadcasting	Simplex. Broadcasting station (sound) (BC) TX 10 kHz.	9550, 9560 and 9670 kHz Pori, frequencies vary.
9900 - 9995 kHz FIXED	9900 - 9995 kHz (95 kHz) HF links	Simplex. Fixed station (FX) TXRX	
9995 - 10003 kHz STANDARD FREQUENCY AND TIME SIGNAL	9995 - 10003 kHz (8 kHz) Standard frequency and time signal		10000 kHz standard frequency.
10003 - 10005 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research	10003 - 10005 kHz (2 kHz) Standard frequency and time signal Space research		
10005 - 10100 kHz AERONAUTICAL MOBILE (R)	10005 - 10100 kHz (95 kHz) Aeronautical mobile	Simplex. Aeronautical station (FA) TXRX 3 kHz, 2,7 kHz.	The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
10100 - 10150 kHz FIXED	10100 - 10150 kHz (50 kHz) HF links	Simplex. Fixed station (FX) TXRX	
Amateur	Amateur	Simplex. Amateur station (AT) TXRX 1 kHz.	Regulation Ficora 6. User certificate required. The transmitter power in the novice class 120 W and in the general class 1500 W. The numerical value means the peak envelope power when the carrier of the transmission is attenuated by at least 6 dB, in other cases it means the carrier power.

10150 - 11175 kHz FIXED	10150 - 11175 kHz (1025 kHz) HF links	Simplex. Fixed station (FX) TXRX	
Mobile (except aeronautical mobile (R))	Mobile radio		
11175 - 11275 kHz AERONAUTICAL MOBILE (OR)	11175 - 11275 kHz (100 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
11275 - 11400 kHz AERONAUTICAL MOBILE (R)	11275 - 11400 kHz (125 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
11400 - 11600 kHz FIXED	11400 - 11600 kHz (200 kHz) HF links	Simplex. Fixed station (FX) TXRX	
11600 - 11650 kHz BROADCASTING	11600 - 11650 kHz (50 kHz) Broadcasting		Restriction on use (RR 5.134). Look at RR 5.146 also.
11650 - 12050 kHz BROADCASTING	11650 - 12050 kHz (400 kHz) Broadcasting	Simplex. Broadcasting station (sound) (BC) TX 10 kHz.	11755 and 11820 kHz Pori, frequencies vary.
12050 - 12100 kHz BROADCASTING	12050 - 12100 kHz (50 kHz) Broadcasting		Restriction on use (RR 5.134). Look at RR 5.146 also.
12100 - 12230 kHz FIXED	12100 - 12230 kHz (130 kHz) HF links	Simplex. Fixed station (FX) TXRX	

12230 - 13200 kHz MARITIME MOBILE	12231.400 - 12351.400 kHz (120 kHz) Radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, 2,8 kHz. (J3E) 13078.400 - 13198.400 kHz	User certificate required. 41 half duplex channels of which one half is also used as simplex channel. Carrier frequency 1.4 kHz below center frequency. 12291.4 kHz international distress frequency and calling frequency of maritime rescue centres. See channel spacing in appendix 1 to this table.
	12354.400 - 12366.400 kHz (12 kHz) Radiotelephone service	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 3 kHz, 2,8 kHz. (J3E)	User certificate required. 5 radiotelephone channels. Carrier frequency 1.4 kHz below center frequency. Finnish vessels use all these frequencies. See channel spacing in appendix 1 to this table. 12360.4 kHz international calling frequency for radiotelephone service (ships and coast stations).
	12370 - 12418 kHz (48 kHz) Wide-band telegraphy and special transmissions	Simplex. Base station (FB) TXRX Mobile station (MR) TXRX 4 kHz,	User certificate required. Wideband transmissions, facsimile and special transmission systems. 13 channels.
	12420.300 - 12421.500 kHz (1.200 kHz) Data service	Simplex. Coast station (FC) TXRX 0,3 kHz,	User certificate required. 5 channels, maritime research.
	12422.000 - 12476.500 kHz (54.500 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B) Simplex. Ship station (MS) TXRX 0,1 kHz, (A1A) (A1B)	User certificate required. Paired band is not defined. Finnish vessels: 12424.0, 12426.5, 12429.0, 12434.0, 12449.0, 12459.0 and 12474.0 kHz, +/- 200 Hz.

12477.000 - 12549.500 kHz (72.500 kHz) Radio telex service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 12579.500 - 12656.500 kHz	User certificate required. 146 half duplex channels and 1 simplex channel. 12520.0 kHz international distress frequency (TX/ RX). See channel spacing in appendix 1 to this table.
12549.750 - 12554.750 kHz (5 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B)	User certificate required. Calling frequencies. Paired band is not defined.
12555.000 - 12559.500 kHz (4.500 kHz) Radio telex service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 12652.000 - 12656.500 kHz	User certificate required. 10 half duplex channels (channels 147-156). See channel spacing in appendix 1 to this table.
12560.000 - 12576.500 kHz (16.500 kHz) Telex and radiotelegraphy service	Duplex. Coast station (FC) RX 0,5 kHz, (A1A) (A1B) (F1B) Simplex. Ship station (MS) TXRX 0,5 kHz, (A1A) (A1B) (F1B)	User certificate required. 34 channels. Unpaired frequencies. See channel spacing in appendix 1 to this table.
12577.000 - 12578.500 kHz (1.500 kHz) DSC service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 12657 - 12658 kHz	User certificate required. 12577 kHz international DSC distress frequency. 12577.5, 12578.0 and 12578.5 kHz international calling frequencies, 3 half even channels, (ships TX).
12579.000 - 12656.500 kHz (77.500 kHz) Radio telex service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 12477.000 - 12549.500 kHz Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 12555.000 - 12559.500 kHz	User certificate required. 156 half duplex channels and 1 simplex channel. 12579 kHz international security frequency/MSI (TX/RX). See channel spacing in appendix 1 to this table.

	12657 - 12658 kHz (1 kHz) DSC service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 12577.500 - 12578.500 kHz	User certificate required. 12657.0, 12657.5 and 12658.0 kHz international calling frequencies, 3 half even channels, (ships RX).
	12658.500 - 13077.000 kHz (418.500 kHz) Wide-band telegraphy and special transmissions	Duplex. Coast station (FC) TX Simplex. Coast station (FC) TXRX	User certificate required. Channel spacing and paired band are not defined. Wideband transmissions, facsimile and special transmission systems.
	13078.400 - 13198.400 kHz (120 kHz) Radiotelephone service	Duplex. Coast station (FC) TX 3 kHz, 2,8 kHz. (J3E) 12231.400 - 12351.400 kHz	User certificate required. 41 half duplex channels. 13138.4 kHz international calling frequency. See channel spacing in appendix 1 to this table.
13200 - 13260 kHz AERONAUTICAL MOBILE (OR)	13200 - 13260 kHz (60 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
13260 - 13360 kHz AERONAUTICAL MOBILE (R)	13260 - 13360 kHz (100 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
13360 - 13410 kHz FIXED RADIO ASTRONOMY	13360 - 13410 kHz (50 kHz) HF links Radio Astronomy	Simplex. Fixed station (FX) TXRX	Protection for radio astronomy.
13410 - 13570 kHz FIXED	13410 - 13570 kHz (160 kHz) HF links	Simplex. Fixed station (FX) TXRX	
Mobile (except aeronautical mobile (R))	Mobile radio		13553 - 13567 kHz ISM (RR 5.150).

13570 - 13600 kHz BROADCASTING	13570 - 13600 kHz (30 kHz) Broadcasting		Restrictions on use (RR 5.134). Look at RR 5.151 also.
13600 - 13800 kHz BROADCASTING	13600 - 13800 kHz (200 kHz) Broadcasting	Simplex. Broadcasting station (sound) (BC) TX 10 kHz.	13770.0 kHz Pori, periodicaly.
13800 - 13870 kHz BROADCASTING	13800 - 13870 kHz (70 kHz) Broadcasting		Restrictions on use (RR 5.134). Until 1.4.2007 also HF-links. (RR 5.151).
13870 - 14000 kHz FIXED	13870 - 14000 kHz (130 kHz) HF links	Simplex. Fixed station (FX) TXRX	
Mobile (except aeronautical mobile (R))	Mobile radio		
14000 - 14250 kHz AMATEUR AND AMATEUR-SATELLITE	14000 - 14250 kHz (250 kHz) Amateur and amateur-Satellite	Simplex. Amateur station (AT) TXRX 8 kHz.	Regulation Ficora 6. User certificate required. The transmitter power in the novice class 120 W and in the general class 1500 W. The numerical value means the peak envelope power when the carrier of the transmission is attenuated by at least 6 dB, in other cases it means the carrier power.
14250 - 14350 kHz AMATEUR	14250 - 14350 kHz (100 kHz) Amateur	Simplex. Amateur station (AT) TXRX 8 kHz.	Regulation Ficora 6. User certificate required. The transmitter power in the novice class 120 W and in the general class 1500 W. The numerical value means the peak envelope power when the carrier of the transmission is attenuated by at least 6 dB, in other cases it means the carrier power.

14350 - 14990 kHz FIXED	14350 - 14990 kHz (640 kHz) HF links	Simplex. Fixed station (FX) TXRX	
Mobile (except aeronautical mobile (R))	Mobile radio		
14990 - 15005 kHz STANDARD FREQUENCY AND TIME SIGNAL	14990 - 15005 kHz (15 kHz) Standard frequency and time signal		15000 kHz standard frequency.
15005 - 15010 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research	15005 - 15010 kHz (5 kHz) Standard frequency and time signal Space research		
15010 - 15100 kHz AERONAUTICAL MOBILE (OR)	15010 - 15100 kHz (90 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
15100 - 15600 kHz BROADCASTING	15100 - 15600 kHz (500 kHz) Broadcasting	Simplex. Broadcasting station (sound) (BC) TX 10 kHz.	15185 kHz Pori periodicaly.
15600 - 15800 kHz BROADCASTING	15600 - 15800 kHz (200 kHz) Broadcasting		Restriction on use (RR 5.134). Look at RR 5.146 also.
15800 - 16360 kHz FIXED	15800 - 16360 kHz (560 kHz) HF links	Simplex. Fixed station (FX) TXRX	
16360 - 17410 kHz MARITIME MOBILE	16361.400 - 16526.400 kHz (165 kHz) Radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, 2,8 kHz. (J3E) 17243.400 - 17408.400 kHz	User certificate required. 56 half duplex channels of which one half is also used as simplex channel. Carrier frequency 1.4 kHz below center frequency. 16421.4 kHz international distress frequency and calling frequency of maritime rescue centres. See channel spacing in appendix 1 to this table.

	16529.400 - 16547.400 kHz (18 kHz) Radiotelephone service	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 3 kHz, 2,8 kHz. (J3E)	User certificate required. 7 radiotelephone channels. Carrier frequency 1.4 kHz below center frequency. See channel spacing in appendix 1 to this table. 16538.4 kHz international calling frequency for radiotelephone service (ships and coast stations).
	16551 - 16615 kHz (64 kHz) Wide-band telegraphy and special transmissions	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 4 kHz,	User certificate required. Wideband transmissions, facsimile and special transmission systems. 17 channels.
	16617.300 - 16618.500 kHz (1.200 kHz) Data service	Simplex. Coast station (FC) RX 0,3 kHz,	User certificate required. 5 channels, maritime research.
	16619 - 16683 kHz (64 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B) Simplex. Ship station (MS) TXRX 0,1 kHz, (A1A) (A1B)	User certificate required. Paired band is not defined. Finnish vessels: 16621.0, 16623.5, 16626.0, 16631.0, 16646.0, 16656.0, 16671.0 and 16681.0 kHz, +/- 200 Hz.
	16683.500 - 16733.500 kHz (50 kHz) Radio telex service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 16806.500 - 16856.500 kHz	User certificate required. 101 half duplex channels and 1 simplex channel. 16695.0 kHz international distress frequency (TX/ RX). See channel spacing in appendix 1 to this table.
	16733.750 - 16738.750 kHz (5 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B)	User certificate required. Calling frequencies. Paired band is not defined.
	16739.000 - 16784.500 kHz (45.500 kHz) Radio telex service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 16857.000 - 16902.500 kHz	User certificate required. 92 half duplex channels (channels 102-193). See channel spacing in appendix 1 to this table.

16785 - 16804 kHz (19 kHz) Telex and radiotelegraphy service	Duplex. Coast station (FC) RX 0,5 kHz, (A1A) (A1B) (F1B) Simplex. Ship station (MS) TXRX 0,5 kHz, (A1A) (A1B) (F1B)	User certificate required. 39 channels. Unpaired frequencies. See channel spacing in appendix 1 to this table.
16804.500 - 16806.000 kHz (1.500 kHz) DSC service	Duplex. Base station (FB) RX 0,5 kHz, 0,304 kHz. (F1B) 16903 - 16904 kHz	User certificate required. 16804.5 kHz international DSC distress frequency (simplex). 16805.0, 16805.5 and 16806.0 kHz international calling frequencies, 3 half even channels, (ships TX).
16806.500 - 16902.500 kHz (96 kHz) Radio telex service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 16683.500 - 16733.500 kHz Duplex. Base station (FB) TX 0,5 kHz, 0,304 kHz. (F1B) 16739.000 - 16784.500 kHz	User certificate required. 193 half duplex channels and 1 simplex channel. 16806.5 kHz international security channel (MSI). See channel spacing in appendix 1 to this table.
16903 - 16904 kHz (1 kHz) DSC service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 16804.500 - 16806.000 kHz	User certificate required. 16903.0, 16903.5 and 16904.0 kHz international calling frequencies, 3 half even channels, (ships RX).
16904.500 - 17242.000 kHz (337.500 kHz) Wide-band telegraphy and special transmissions	Duplex. Coast station (FC) TX Simplex. Coast station (FC) TXRX	User certificate required. Channel spacing and paired band are not defined. Wideband transmissions, radiotelegraphy, facsimile and special transmission systems.

	17243.400 - 17408.400 kHz (165 kHz) Radiotelephone service	Duplex. Coast station (FC) TX 3 kHz, 2,8 kHz. (F1B) 16361.400 - 16526.400 kHz	User certificate required. 56 half duplex channels. Carrier frequency 1.4 kHz below center frequency. 17303.4 kHz international calling frequency. See channel spacing in appendix 1 to this table.
17410 - 17480 kHz FIXED	17410 - 17480 kHz (70 kHz) HF links	Simplex. Fixed station (FX) TXRX	
17480 - 17550 kHz BROADCASTING	17480 - 17550 kHz (70 kHz) Broadcasting		Restrictions on use (RR 5.134). Look at RR 5.146 also.
17550 - 17900 kHz BROADCASTING	17550 - 17900 kHz (350 kHz) Broadcasting	Simplex. Broadcasting station (sound) (BC) TX 10 kHz.	17800 kHz Pori.
17900 - 17970 kHz AERONAUTICAL MOBILE (R)	17900 - 17970 kHz (70 kHz) Aeronautical mobile	Simplex. Aeronautical station (FA) TXRX 3 kHz, 2,7 kHz.	The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
17970 - 18030 kHz AERONAUTICAL MOBILE (OR)	17970 - 18030 kHz (60 kHz) Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
18030 - 18052 kHz FIXED	18030 - 18052 kHz (22 kHz) Fixed		
18052 - 18068 kHz FIXED Space research	18052 - 18068 kHz (16 kHz) Fixed Space research		

18068 - 18168 kHz AMATEUR AND AMATEUR-SATELLITE	18068 - 18168 kHz (100 kHz) Amateur and amateur-Satellite	Simplex. Amateur station (AT) TXRX 8 kHz.	Regulation Ficora 6. User certificate required. The transmitter power in the novice class 120 W and in the general class 1500 W. The numerical value means the peak envelope power when the carrier of the transmission is attenuated by at least 6 dB, in other cases it means the carrier power.
18168 - 18780 kHz FIXED	18168 - 18780 kHz (612 kHz) HF links	Simplex. Fixed station (FX) TXRX	
Mobile (except aeronautical mobile)	18186 - 18780 kHz (594 kHz) Mobile radio		
18780 - 18900 kHz MARITIME MOBILE	18781.400 - 18823.400 kHz (42 kHz) Radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, (J3E) 19756.400 - 19798.400 kHz	User certificate required. 15 half duplex channels. Carrier frequency 1.4 kHz below center frequency. 18796.4 kHz international radiotelephone service calling freguency, pair frequency 19771.4 kHz. See channel spacing in appendix 1 to this table.
	18826.400 - 18844.400 kHz (18 kHz) Radiotelephone service	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 3 kHz, 2,8 kHz. (J3E)	User certificate required. 7 radiotelephone channels. Carrier frequency 1.4 kHz below center frequency. See channel spacing in appendix 1 to this table.
	18848 - 18868 kHz (20 kHz) Wide-band telegraphy and special transmissions	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 4 kHz,	User certificate required. Wideband transmissions, facsimile and special transmission systems. 6 channels.

	18870.500 - 18892.500 kHz (22 kHz) Radio telex service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 19680.500 - 19703.000 kHz	User certificate required. 45 half channels. See channel spacing in appendix 1 to this table.
	18893 - 18898 kHz (5 kHz) Telex and radiotelegraphy service	Duplex. Coast station (FC) RX 0,5 kHz, (A1A) (A1B) (F1B) Simplex. Ship station (MS) TXRX 0,5 kHz, (A1A) (A1B) (F1B)	User certificate required. 11 channels. Secondary traffic between vessels and coast stations. See channel spacing in appendix 1 to this table.
	18898.500 - 18899.500 kHz (1 kHz) DSC service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 19703.500 - 19704.500 kHz	User certificate required. 18898.5, 18899.0 and 18899.5 kHz international DSC calling frequencies, 3 channels, center frequencies.
18900 - 19020 kHz BROADCASTING	18900 - 19020 kHz (120 kHz) Broadcasting		Restriction on use (RR 5.134). Look at RR5.146 also.
19020 - 19680 kHz FIXED	19020 - 19680 kHz (660 kHz) HF links	Simplex. Fixed station (FX) TXRX	
19680 - 19800 kHz MARITIME MOBILE	19680.500 - 19703.000 kHz (22.500 kHz) Radio telex service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 18870.500 - 18892.500 kHz	User certificate required. 45 half channels and 1 simplex channel. 19680.5 kHz GMDSS security frequency (MSI-transmission) TX/ RX. See channel spacing in appendix 1 to this table.
	19703.500 - 19704.500 kHz (1 kHz) DSC service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 18898.500 - 18899.500 kHz	User certificate required. 19703.5, 19704.0 ja 19704.5 kHz international DSC calling frequencies, 3 channels, center frequencies.

	19705 - 19755 kHz (50 kHz) Wide-band telegraphy and special transmissions	Duplex. Coast station (FC) TX Simplex. Coast station (FC) TXRX	User certificate required. Channel spacing and paired band are not defined. Wideband transmissions, radiotelegraphy, facsimile and special transmission systems.
	19756.400 - 19798.400 kHz (42 kHz) Radiotelephone service	Duplex. Coast station (FC) TX 3 kHz, 2,8 kHz. (J3E) 18781.400 - 18823.400 kHz	User certificate required. 15 half duplex channels. Carrier frequency 1.4 kHz below center frequency. 19771.4 kHz international calling frequency, paired frequency is 18796.4 kHz.
19800 - 19990 kHz FIXED	19800 - 19990 kHz (190 kHz) Fixed		
19990 - 19995 kHz STANDARD FREQUENCY AND TIME SIGNAL	19990 - 19995 kHz (5 kHz) Standard frequency and time signal		
Space research	19990 - 19995 kHz (5 kHz) Space research		
19995 - 20010 kHz STANDARD FREQUENCY AND TIME SIGNAL	19995 - 20010 kHz (15 kHz) Standard frequency and time signal		20000 kHz standard frequency.
20010 - 21000 kHz FIXED Mobile	20010 - 21000 kHz (990 kHz) HF links Mobile radio	Simplex. Fixed station (FX) TXRX	

21000 - 21450 kHz AMATEUR AND AMATEUR-SATELLITE	21000 - 21450 kHz (450 kHz) Amateur and amateur-Satellite	Simplex. Amateur station (AT) TXRX 8 kHz.	Regulation Ficora 6. User certificate required. The transmitter power in the novice class 120 W and in the general class 1500 W. The numerical value means the peak envelope power when the carrier of the transmission is attenuated by at least 6 dB, in other cases it means the carrier power.
21450 - 21850 kHz BROADCASTING	21450 - 21850 kHz (400 kHz) Broadcasting	Simplex. Broadcasting station (sound) (BC) TX 10 kHz.	21550 kHz Pori, periodically.
21850 - 21870 kHz FIXED	21850 - 21870 kHz (20 kHz) Fixed		
21870 - 21924 kHz FIXED	21870 - 21924 kHz (54 kHz) Fixed		
21924 - 22000 kHz AERONAUTICAL MOBILE (R)	21924 - 22000 kHz (76 kHz) Aeronautical mobile	Simplex. Aeronautical station (FA) TXRX 3 kHz, 2,7 kHz.	The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
22000 - 22855 kHz MARITIME MOBILE	22001.400 - 22157.400 kHz (156 kHz) Radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, 2,8 kHz. (J3E) 22697.400 - 22853.400 kHz	User certificate required. 53 half duplex channels. Carrier frequency 1.4 kHz below center frequency. 22061.4 kHz international calling frequency, paired frequency is 22757.4 kHz. See channel spacing in appendix 1 to this table.

22160.400 - 22178.400 kHz (18 kHz) Radiotelephone service	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 3 kHz, 2,8 kHz. (J3E)	User certificate required. 7 radiotelephone channels. Carrier frequency 1.4 kHz below center frequency. See channel spacing in appendix 1 to this table.
22182 - 22238 kHz (56 kHz) Wide-band telegraphy and special transmissions	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 4 kHz.	User certificate required. Wideband transmissions, facsimile and special transmission systems. 15 channels.
22240.300 - 22241.500 kHz (1.200 kHz) Data service	Simplex. Coast station (FC) RX 0,3 kHz,	User certificate required. 3 channels, maritime research.
22242 - 22279 kHz (37 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B) Simplex. Ship station (MS) TXRX 0,1 kHz, (A1A) (A1B)	User certificate required. Paired band is not defined. Finnish vessels: 22244.0, 22246.5, 22249.0, 22254.0, 22269.0 and 22279.0 kHz, +/- 200 Hz.
22279.250 - 22284.250 kHz (5 kHz) Radiotelegraphy service	Duplex. Base station (FB) RX 0,1 kHz, (A1A) (A1B)	User certificate required. Calling frequencies. Paired band is not defined.
22284.500 - 22351.500 kHz (67 kHz) Radio telex service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 22376.000 - 22443.500 kHz	User certificate required. 135 half duplex channels. See channel spacing in appendix 1 to this table.
22352 - 22374 kHz (22 kHz) Telex and radiotelegraphy service	Duplex. Coast station (FC) RX 0,5 kHz, (A1A) (A1B) (F1B) Simplex. Ship station (MS) TXRX 0,5 kHz, (A1A) (A1B) (F1B)	User certificate required. 45 channels. Secondary traffic between vessels and coast stations. See channel spacing in appendix 1 to this table.

	22374.500 - 22375.500 kHz (1 kHz) DSC service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 22444 - 22445 kHz	User certificate required. 22374.5, 22375.0 and 22375.5 kHz international calling frequencies, 3 half even channels, (ships TX).
	22376.000 - 22443.500 kHz (67.500 kHz) Radio telex service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 22284.500 - 22351.500 kHz	User certificate required. 135 half channels and 1 simplex channel. 22376.0 kHz GMDSS/ MSI, (TX/RX). See channel spacing in appendix 1 to this table.
	22444 - 22445 kHz (1 kHz) DSC service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 22374.500 - 22375.500 kHz	User certificate required. 22444.0, 22444.5 and 22445.0 kHz international calling frequencies, 3 half even channels, (ships RX).
	22445.500 - 22696.000 kHz (250.500 kHz) Wide-band telegraphy and special transmissions	Duplex. Coast station (FC) TX Simplex. Coast station (FC) TX	User certificate required. Channel spacing and paired band are not defined. Wideband transmissions, radiotelegraphy, facsimile and special transmission systems.
	22697.400 - 22853.400 kHz (156 kHz) Radiotelephone service	Duplex. Coast station (FC) TX 3 kHz, 2,8 kHz. (J3E) 22001.400 - 22157.400 kHz	User certificate required. 53 half duplex channels. Carrier frequency 1.4 kHz below center frequency. 22757.4 kHz international calling frequency, paired frequency in 22061.4 kHz. See channel spacing in appendix 1 to this table.
22855 - 23000 kHz FIXED	22855 - 23000 kHz (145 kHz) HF links	Simplex. Fixed station (FX) TXRX	
23000 - 23200 kHz FIXED	23000 - 23200 kHz (200 kHz) HF links	Simplex. Fixed station (FX) TXRX	

Mobile (except aeronautical mobile (R))	Mobile radio		
23200 - 23350 kHz FIXED	23200 - 23350 kHz (150 kHz) Fixed		
AERONAUTICAL MOBILE (OR)	Aeronautical mobile		The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
23350 - 24000 kHz FIXED	23350 - 24000 kHz (650 kHz) HF links	Simplex. Fixed station (FX) TXRX	
MOBILE (except aeronautical mobile)	Mobile radio		
24000 - 24890 kHz FIXED LAND MOBILE	24000 - 24890 kHz (890 kHz) Fixed Land mobile		
24890 - 24990 kHz AMATEUR AND AMATEUR-SATELLITE	24890 - 24990 kHz (100 kHz) Amateur and amateur-Satellite	Simplex. Amateur station (AT) TXRX 8 kHz.	Regulation Ficora 6. User certificate required. The transmitter power in the novice class 120 W and in the general class 1500 W. The numerical value means the peak envelope power when the carrier of the transmission is attenuated by at least 6 dB, in other cases it means the carrier power.
24990 - 25005 kHz STANDARD FREQUENCY AND TIME SIGNAL	24990 - 25005 kHz (15 kHz) Standard frequency and time signal		25000 kHz standard frequency.

25005 - 25010 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research	25005 - 25010 kHz (5 kHz) Standard frequency and time signal Space research		
25010 - 25070 kHz FIXED	25010 - 25070 kHz (60 kHz) Maritime service	Simplex. Coast station (FC) TXRX	User certificate required.
MOBILE (except aeronautical mobile)	Mobile radio		
25070 - 25210 kHz MARITIME MOBILE	25071.400 - 25098.400 kHz (27 kHz) Radiotelephone service	Duplex. Coast station (FC) RX 3 kHz, 2,8 kHz. (J3E) 26146.400 - 26173.400 kHz Simplex. Coast station (FC) TXRX 3 kHz, 2,8 kHz. (J3E)	User certificate required. 10 half duplex channels. Carrier frequency 1.4 kHz below center frequency. 25098.4 kHz international calling frequency, pair frequency 26173.4 kHz. See channel spacing in appendix 1 to this table.
	25101.400 - 25119.400 kHz (18 kHz) Radiotelephone service	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 3 kHz, 2,8 kHz. (J3E)	User certificate required. 7 radiotelephone channels. Carrier frequency 1.4 kHz below center frequency. See channel spacing in appendix 1 to this table.
	25123 - 25159 kHz (36 kHz) Wide-band telegraphy and special transmissions	Simplex. Coast station (FC) TXRX Ship station (MS) TXRX 4 kHz,	User certificate required. Wideband transmissions, facsimile and special transmission systems. 10 channels.
	25161.500 - 25171.000 kHz (9.500 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B) Simplex. Ship station (MS) TXRX 0,1 kHz, (A1A) (A1B)	User certificate required. Paired band is not defined. Finnish vessels: 25163.5, 25166.0 and 25168.5 kHz +/- 200 Hz.
	25171.250 - 25172.750 kHz (1.500 kHz) Radiotelegraphy service	Duplex. Coast station (FC) RX 0,1 kHz, (A1A) (A1B)	User certificate required. Paired band is not defined.

	25173.000 - 25192.500 kHz (19.500 kHz) Radio telex service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 26100.500 - 26120.500 kHz	User certificate required. 40 half duplex channels. See channel spacing in appendix 1 to this table.
	25193 - 25208 kHz (15 kHz) Radio telex service	Duplex. Coast station (FC) RX 0,5 kHz, (A1A) (A1B) (F1B) Simplex. Ship station (MS) TXRX 0,5 kHz, (A1A) (A1B) (F1B)	User certificate required. 31 channels. Secondary traffic between vessels and coast stations. See channel spacing in appendix 1 to this table.
	25208.500 - 25209.500 kHz (1 kHz) DSC service	Duplex. Coast station (FC) RX 0,5 kHz, 0,304 kHz. (F1B) 26121 - 26122 kHz	User certificate required. 25208.5, 25209.0 and 25209.5 kHz international calling frequencies, 3 channels.
25210 - 25550 kHz FIXED	25210 - 25550 kHz (340 kHz) Fixed		
MOBILE (except aeronautical mobile)	Mobile radio		
25550 - 25670 kHz RADIO ASTRONOMY	25550 - 25670 kHz (120 kHz) Radio Astronomy		
25670 - 26100 kHz BROADCASTING	25670 - 26100 kHz (430 kHz) Broadcasting		
26100 - 26175 kHz MARITIME MOBILE	26100.500 - 26120.500 kHz (20 kHz) Radio telex service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 25173.000 - 25192.500 kHz	User certificate required. 40 half channels and 1 simplex channel. 26100.5 kHz GMDSS security frequency (MSI-transmission), TX/RX. See channel spacing in appendix 1 to this table.

	26121 - 26122 kHz (1 kHz) DSC service	Duplex. Coast station (FC) TX 0,5 kHz, 0,304 kHz. (F1B) 25208.500 - 25209.500 kHz	User certificate required. 26121.0, 26121.5 and 26122.0 kHz international calling frequencies, 3 half even channels.
	26122.500 - 26145.000 kHz (22.500 kHz) Wide-band telegraphy and special transmissions	Duplex. Coast station (FC) TX Simplex. Coast station (FC) TXRX	User certificate required. Channel spacing and paired band are not defined. Wideband transmissions, radiotelegraphy, facsimile and special transmission systems.
	26146.400 - 26173.400 kHz (27 kHz) Radiotelephone service	Duplex. Coast station (FC) TX 3 kHz, 2,8 kHz. (J3E) 25071.400 - 25098.400 kHz	User certificate required. 10 half duplex channels. Carrier frequency 1.4 kHz below center frequency. 26173.4 kHz international calling frequency, paired frequency 25098.4 kHz.

Frequency band **Services in Finland**	**Sub-band** **(its width)** **and usage**	**Mode of traffic.** **Class of station** **and TX/RX-code** **Channel spacing,** **bandwidth.** **(Class of** **emission)** **Duplex** **separation and** **duplex band** **Standart type**	**Comments**
26175 - 27500 kHz MOBILE	26175 - 26815 kHz (640 kHz) Military use		
	26825 - 27255 kHz (430 kHz) (SRD) Non-specific Short Range Devices	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 10 kHz, 7 kHz.	Equipment are exempt from licensing, see exact frequencies in regulation Ficora 15. Transmitter power max. 500 mW, radiated power max. 100 mW ERP, standard EN 300 220-1, non-audio applications. 26957 - 27283 kHz ISM (RR 5.150). Telecommand equipment for use with scale model aircraft, according to SRD recommendation ERC/REC/70-03 och ERC decision ERC/DEC/(01) 10.
	26957 - 27283 kHz (326 kHz) (SRD) Non-specific Short Range Devices		Radiated power max. 10 mW ERP, no channelling, standard EN 300 220-1, audio applications is allowed, according to SRD recommendation ERC/REC 70-03 and ERC decision ERC/DEC/(01) 02. European Commission decision 2006/771/EC.

26965 - 27225 kHz (260 kHz) LA (National citizens band equipment)	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 10 kHz, 7 kHz.	Equipment are exempt from licensing, see exact frequencies in regulation Ficora 15. The transmitter power must not exceed 5 W. The radiated power (ERP) of a transmitter equipped with an antenna built in connection with the transmitter (integral antenna) must not exceed 1 W. Only those LA radio telephones which have been taken into use 31.12.1992 or before that, may be carried and used. 26957 - 27283 kHz ISM (RR 5.150).
26965 - 27405 kHz (440 kHz) PR-27	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 10 kHz, 7 kHz.	Equipment are exempt from licensing, see exact frequencies in regulation Ficora 15. The transmitter power (with integral antenna ERP) must not exceed 4 W, standard EN 300 135-1, ERC decision ERC/DEC(96)02. 26957 - 27283 kHz ISM (RR 5.150).
26965 - 27405 kHz (440 kHz) CB	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 10 kHz, 7 kHz.	Equipment are exempt from licensing, see exact frequencies in regulation Ficora 15. The transmitter power (with integral antenna ERP) max: FM: 4 W, standards EN 300 135-1 AM: carrier power 1 W, standards EN 300 433-1 SSB: peak envelope power 4 W, standards EN 300 433-1. 26957 - 27283 kHz ISM (RR 5.150).

	26965 - 27490 kHz (525 kHz) On-site paging	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 10 kHz, 7 kHz.	Equipment are exempt from licensing, see exact frequencies in regulation Ficora 15. Transmitter power of pagers (with integral antenna ERP) must not exceed 5 W, standard EN 300 224-1. 26957 - 27283 kHz ISM (RR 5.150).
27.500 - 28.000 MHz MOBILE	27.500 - 27.990 MHz (0.490 MHz) On-site paging	Simplex. Base station (FB) TX Land mobile station (ML) RX 10 kHz, 7 kHz.	27.720 - 27.940 MHz on-site paging. Equipment are exempt from licensing, see exact frequencies in regulation Ficora 15. Transmitter power of pagers (with integral antenna ERP) must not exceed 5 W, standard EN 300 224-1.
28.000 - 29.700 MHz AMATEUR AND AMATEUR-SATELLITE	28.000 - 29.700 MHz (1.700 MHz) Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. The transmitter power in the novice class 120 W and in the general class 1500 W. The numerical value means the peak envelope power when the carrier of the transmission is attenuated by at least 6 dB, in other cases it means the carrier power.
AMATEUR	29.560 - 29.590 MHz (0.030 MHz) Amateur	Duplex. Amateur repeater station (ATT) RX 10 kHz, 8 kHz. +0,1 MHz 29.660 - 29.690 MHz	Regulation Ficora 6. User certificate required.
	29.660 - 29.690 MHz (0.030 MHz) Amateur	Duplex. Amateur repeater station (ATT) TX 10 kHz, 8 kHz. -0,1 MHz 29.560 - 29.590 MHz	Regulation Ficora 6. User certificate required.

29.700 - 47.000 MHz MOBILE	29.710 - 29.800 MHz (0.090 MHz) PMR	Simplex. Land mobile station (ML) TXRX 10 kHz,	Common channels for PMR, all Finland, radiated power max. 100 mW ERP. See PMR standards appendix 2 to this table.
	29.810 - 29.940 MHz (0.130 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 10 kHz, Fixed station (FX) TXRX	Radiated power typically max. 0,5 W ERP. See PMR standards appendix 2 to this table.
	29.950 - 30.010 MHz (0.060 MHz) Military use		
	30.000 - 37.500 MHz (7.500 MHz) (SRD) Ultra low-power medical membrane implants for blood pressure measurements		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 1 mW ERP, duty cycle < 10%, according to SRD-recommendation ERC/REC 70-03.
	30.020 - 30.300 MHz (0.280 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Land mobile station (ML) TXRX 15 kHz, 10 kHz.	Radiated power typically max. 200 mW ERP. No new licences any more. Also 20 kHz channel spacing. See PMR standards appendix 2 to this table. 30.300 MHz on-site paging equipment are exempt from licensing, see regulation Ficora 15, transmitter power of pagers (with integral antenna ERP) must not exeed 5 W, bandwidth max. 25 kHz, standard EN 300 224-1.

30.325 - 34.325 MHz (4 MHz) Military use		31.100, 32.100, 32.900 and 33.500 MHz wireless loudspeakers, in-ear monitoring, headphones, aids for the hearing impaired, helmet radio telephones, radio microphones. Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW ERP, the total bandwidth of the emission max. 200 kHz, standard EN 300 422-1. SRD recommendation ERC/ REC/70-03.
34.350 - 34.950 MHz (0.600 MHz) Military use		
35.000 - 35.220 MHz (0.220 MHz) (SRD) Model aircraft control systems	Simplex. Land mobile station (ML) TXRX 10 kHz,	Equipment are exempt from licensing, see exact frequencies in regulation Ficora 15. Radiated power max. 100 mW ERP. Standard EN 300 220-1. ERC decision ERC/DEC/(01) 11. SRD recommendation ERC/ REC/70-03.
35.250 - 40.660 MHz (5.410 MHz) Military use		

35.350 - 40.550 MHz (5.200 MHz) PMR	Simplex. Land mobile station (ML) TXRX 25 kHz,	36.700 and 37.100 MHz wireless loudspeakers, in-ear monitoring, headphones, aids for the hearing impaired, helmet radio telephones, radio microphones. Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10mW ERP, the total bandwidth of the emission max 200 kHz, standard EN 300 422-1. SRD recommendation ERC/ REC/70-03.
40.660 - 40.700 MHz (0.040 MHz) (SRD) Non-specific Short Range Devices		Radiated power 10 mW ERP, no channelling, standard EN 300 220-1, audio applications is allowed, ERC decision ERC/DEC/(01) 03. SRD recommendation ERC/ REC/70-03. 40,660 - 40,700 MHz ISM (RR 5.150). European Commission decision 2006/771/EC.
40.660 - 40.790 MHz (0.130 MHz) (SRD) Non-specific Short Range Devices	Simplex. Land mobile station (ML) TXRX	Equipment are exempt from licensing, see regulation Ficora 15. Transmitter power max. 500 mW, radiated power max. 100 mW ERP, standard EN 300 220-1, non-audio applications. 40.680 MHz on-site paging, transmitter power of pagers (with integral antenna ERP) must not exceed 5 W, standard EN 300 224-1. 40.660 - 40.700 MHz ISM (RR 5.150). Telecommand equipment for use with scale model aircraft

			according to SRD recommendation ERC/REC 70-03 and ERC decision ERC/DEC/(01) 12.
	40.800 - 42.375 MHz (1.575 MHz) Military use		
	42.400 - 43.600 MHz (lower and upper limits of sub-band) (1.200 MHz) (SRD) Narrow band analogue voice devices	Simplex. Land mobile station (ML) TXRX	Wireless loudspeakers, in-ear monitoring, headphones, aids for the hearing impaired, helmet radio telephones. Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW ERP. The total bandwidth of the emission max. 200 kHz. Standard EN 300 422-1.
	(SRD) Radio microphones		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW ERP. The total bandwidth of the emission max. 200 kHz. Standard EN 300 422-1. SRD recommendation ERC/ REC/70-03.
	43.625 - 46.975 MHz (3.350 MHz) Military use		
47 - 68 MHz BROADCASTING	47 - 68 MHz (21 MHz) Television	Broadcasting station (BT) TX 7 MHz, 7 MHz.	TV channels 2, 3 and 4 (band I).

MOBILE	Military use		67.500 MHz channel for hobby and professional activities according to notification RHA68. - mobile stations only, whole area of Finland, radiated power max. 5 W ERP, channel width 25 kHz. A licence is granted for use of all RHA68 channels (26 channels). The channels are to be used in accordance with the licence conditions. See PMR standards appendix 2 to this table.
Amateur	50 - 52 MHz (2 MHz) Amateur	Simplex. Amateur station (AT) TXRX 18 kHz.	Regulation Ficora 6. Regional restrictions. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 200 W, when the carrier of the transmission is attenuated by at least 6 dB.
	51.210 - 51.390 MHz (0.180 MHz) Amateur	Duplex. Amateur repeater station (ATT) RX 20 kHz, 18 kHz. +0,6 MHz 51.810 - 51.990 MHz	Regulation Ficora 6. User certificate required. Channels RF81 - RF99.
	51.810 - 51.990 MHz (0.180 MHz) Amateur	Duplex. Amateur repeater station (ATT) TX 20 kHz, 18 kHz. -0,6 MHz 51.210 - 51.390 MHz	Regulation Ficora 6. User certificate required. Channels RF81 - RF99.

68.000 - 74.800 MHz LAND MOBILE	68.025 - 71.000 MHz (2.975 MHz) Hobby and professional activities (RHA68) Military use	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	68.050, 68.175, 68.575, 70.200 MHz hobby and professional activities - mobile stations only, radiated power max. 5 W ERP. 68.375 MHz hobby and professional activities - mobile stations only, radiated power max. 25 W ERP. A licence is granted for use of all RHA68 channels (26 channels). The channels are to be used in accordance with the licence conditions. See PMR standards appendix 2 to this table.
	71.025 - 72.100 MHz (1.075 MHz) PMR, hobby and professional activities (RHA68)	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Channels for hobby and professional activities according to notification RHA68. 71.025, 71.350, 71.375, 71.425, 71.475, 71.550, 71.575, 71.600, 71.625 MHz hobby and professional activities - only mobile stations, radiated power max. 5 W ERP. 71.050, 71.100, 71.175, 71.750, 71.900 MHz hobby and professional activities - only mobile stations, radiated power max. 25 W ERP. A licence is granted for use of all RHA68 channels (26 channels). The channels are to be used in accordance with the licence conditions. See PMR standards appendix 2 to this table.

	72.125 - 72.700 MHz (0.575 MHz) PMR, hobby and professional activities (RHA68) Military use	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table. 72.200 MHz sales demonstration. 72.325 MHz channel for hobby and professional activities according to notification RHA68. - mobile stations, radiated power max. 5 W ERP. A licence is granted for use of all RHA68 channels (26 channels). The channels are to be used in accordance with the licence conditions.
	72.725 - 72.975 MHz (0.250 MHz) PMR	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table.
	73.000 - 73.475 MHz (0.475 MHz) Military use		
	73.500 - 74.000 MHz (0.500 MHz) PMR	Simplex. Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Sub-band under review. See PMR standards appendix 2 to this table.
	74.025 - 74.800 MHz (0.775 MHz) Military use		See PMR standards appendix 2 to this table.
74.800 - 75.200 MHz AERONAUTICAL RADIONAVIGATION	74.800 - 75.200 MHz (0.400 MHz) Instrument landing system (ILS)	Simplex. Land station (AL) TX 2,6 kHz. (A2AAN)	75.000 MHz Marker beacon frequency and its guardbands.
75.200 - 87.500 MHz LAND MOBILE	75.225 - 76.000 MHz (0.775 MHz) PMR (taxis)	Duplex. Base station (FB) RX 25 kHz, 16 kHz. +5 MHz 80.225 - 81.000 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.

76.025 - 77.100 MHz (1.075 MHz) PMR	Duplex. Base station (FB) RX 25 kHz, 16 kHz. +5 MHz 81.025 - 82.100 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
77.125 - 77.750 MHz (0.625 MHz) PMR	Duplex. Base station (FB) RX 25 kHz, 16 kHz. +5 MHz 82.125 - 82.750 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. 77.200 MHz sales demonstration, simplex mobile station. 77.200/82.200 MHz sales demonstration.
77.775 - 77.825 MHz (0.050 MHz) PMR (power utilities)	Simplex. Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
77.850 - 78.075 MHz (0.225 MHz) PMR (power utilities)	Duplex. Base station (FB) TX 25 kHz, 16 kHz. +6 MHz 83.850 - 84.075 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
78.100 - 80.000 MHz (1.900 MHz) PMR (power utilities)	Duplex. Base station (FB) TX 25 kHz, 16 kHz. +6 MHz 84.100 - 86.000 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
80.025 - 80.200 MHz (0.175 MHz) PMR	Simplex. Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table.
80.225 - 81.000 MHz (0.775 MHz) PMR (taxis)	Duplex. Base station (FB) TX 25 kHz, 16 kHz. -5 MHz 75.225 - 76.000 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
81.025 - 82.100 MHz (1.075 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. -5 MHz 76.025 - 77.100 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.

	82.125 - 82.750 MHz (0.625 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. -5 MHz 77.125 - 77.750 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. 82.200/77.200 MHz sales demonstration.
	82.775 - 83.550 MHz (0.775 MHz) Military use		
	83.575 - 83.825 MHz (0.250 MHz) PMR (power utilities)	Simplex. Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	83.850 - 84.075 MHz (0.225 MHz) PMR (power utilities)	Duplex. Base station (FB) RX 25 kHz, 16 kHz. -6 MHz 77.850 - 78.075 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	84.100 - 86.000 MHz (1.900 MHz) PMR (power utilities)	Duplex. Base station (FB) RX 25 kHz, 16 kHz. -6 MHz 78.100 - 80.000 MHz Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	86.025 - 87.100 MHz (1.075 MHz) PMR	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table.
	87.125 - 87.475 MHz (0.350 MHz) Military use		
87.500 - 108.000 MHz BROADCASTING	87.500 - 108.000 MHz (lower and upper limits of sub-band) (20.500 MHz) FM sound broadcasting	Simplex. Broadcasting station (sound) (BC) TX 100 kHz, 300 kHz.	Decrees of the Government 680/2007 and 1158/2002. Band II, usage according to agreement Geneva 84. Standard ETS 300 384 or EN 302 018-1, Cenelec EN 50067 (RDS).

	87.500 - 108.000 MHz (lower and upper limits of sub-band) (20.500 MHz) (SRD) Low-power FM transmitters	Simplex. Land mobile station (ML) TXRX	Terminals are exempt from licensing, see regulation Ficora 15. Radiated power max. 50 nW ERP. SRD recommendation ERC/ REC/70-03. Standard EN 301 357.
108.000 - 117.975 MHz AERONAUTICAL MOBILE (R)	108.000 - 117.975 MHz (9.975 MHz) Aeronautical mobile		
AERONAUTICAL RADIONAVIGATION	108.100 - 111.950 MHz (3.850 MHz) Instrument landing system (ILS)	Simplex. Land station (AL) TX 50 kHz, 2,1 kHz. (A8XXF)	ILS (Localiser).
	111.975 - 117.975 MHz (6 MHz) VHF omnidirectional radio range (VOR)	Simplex. Land station (AL) TX 50 kHz, 20,9 kHz. (A9WWF)	VHF Omnidirectional Range (VOR).
117.975 - 137.000 MHz AERONAUTICAL MOBILE (R)	118.000 - 121.400 MHz (3.400 MHz) Aeronautical mobile service	Simplex. Aeronautical station (FA) TXRX 25 kHz, 6 kHz.	International and national aeronautical radiocommunication. The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority. 119.700 MHz common channel for aerodrome control and approach control.
	121.425 - 121.575 MHz (0.150 MHz) Aeronautical emercency service	Simplex. Aeronautical station (FA) TXRX 25 kHz, 6 kHz.	The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority. 121.500 MHz national aeronautical emergency frequency and its guardbands, standard EN 300 152-1.

121.600 - 121.975 MHz (0.375 MHz) Aeronautical mobile service	Simplex. Aeronautical station (FA) TXRX 25 kHz, 6 kHz.	The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority. International and national aerodrome surface radiocommunication. 121.900 MHz is the aeronautical land communication channel throughout Finland.
122.000 - 123.050 MHz (1.050 MHz) Aeronautical mobile service	Simplex. Aeronautical station (FA) TXRX 25 kHz, 6 kHz.	National aeronautical radiocommunication. The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority. Nationwide common channels: 122.200 MHz rescue and fire fighting, 122.300 MHz aviation training, 122,400 MHz flight calibration, 122.500 MHz power-driven flight, 122,025; 122.750 MHz gliding competitions, 122.950 MHz parachute jumping and hang-gliding (also in accordance with towing services for paragliding, transmitter power max. 5 W).

123.075 - 123.125 MHz (0.050 MHz) Aeronautical search and rescue service	Simplex. Aeronautical station (FA) TXRX 25 kHz, 6 kHz.	The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority. 123.100 MHz aeronautical search and rescue frequency and its guardbands. It is an auxiliary frequency to 121.500 MHz.
123.150 - 123.675 MHz (0.525 MHz) Aeronautical mobile service	Simplex. Aeronautical station (FA) TXRX 25 kHz, 6 kHz.	National aeronautical radiocommunication. The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority. 123.500 MHz nationwide common channel for gliding.
123.700 - 129.675 MHz (5.975 MHz) Aeronautical mobile service	Simplex. Aeronautical station (FA) TXRX 25 kHz, 6 kHz.	International and national aeronautical radiocommunication. The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.
129.700 - 130.875 MHz (1.175 MHz) Aeronautical mobile service	Simplex. Aeronautical station (FA) TXRX 25 kHz, 6 kHz.	National aeronautical radiocommunication. The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority.

	130.900 - 136.675 MHz (5.775 MHz) Aeronautical mobile service	Simplex. Aeronautical station (FA) TXRX 25 kHz, 6 kHz.	International and national aeronautical radiocommunication. The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority. In the frequency band 131,400-131,975 MHz channel spacing 8,33 kHz is also used.
	136.700 - 136.975 MHz (0.275 MHz) Aeronautical mobile service	Simplex. Aeronautical station (FA) TXRX 25 kHz, 6 kHz.	International and national aeronautical radiocommunication. The user of radio equipment used in aviation must have a radio telephone operators certificate issued by the Finnish Civil Aviation Authority. Reserved for digital data transfer (VDL).
137 - 138 MHz MOBILE-SATELLITE (SPACE-TO-EARTH)	137 - 138 MHz (1 MHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX	137.000 - 137.025 MHz and 137.175 - 137.825 MHz mobile satellite on a primary basis.
METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	Meteorological-satellites	Space station (EM) TX Earth station (TM) RX	
138 - 144 MHz MOBILE	138 - 144 MHz (6 MHz) Military use		142.250 MHz (SRD) low-power alarms for security and safety, social alarms, equipment are exempt from licensing, see regulation Ficora 15, radiated power max. 1 mW ERP, the total bandwidth of the emission max 25 kHz, standard EN 300 220-1.

	138.200 - 138.450 MHz (lower and upper limits of sub-band) (0.250 MHz) (SRD) Non-specific Short Range Devices	Simplex. Land mobile station (ML) TXRX	Equipment are exempt from licensing, see exact frequencies in regulation Ficora 15. Radiated power max. 500 mW ERP. Duty cycle < 10 %. Standard EN 300 220-1. SRD recommendation ERC/ REC/70-03.
AERONAUTICAL MOBILE (OR)	139 - 143 MHz (4 MHz) Military use		
144 - 146 MHz AMATEUR AND AMATEUR-SATELLITE	144 - 146 MHz (2 MHz) Amateur and amateur-Satellite	Simplex. Amateur station (AT) TXRX 18 kHz.	Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB. Beginning on 1 November 2007 it is allowed to use 600 W carrier power for transmission class A1A and digital modes with a maximum bandwidth of 3 kHz in the frequency bands 144.000 - 144.150 MHz and 432.000 - 432.150 MHz.
AMATEUR	145.0000 - 145.1875 MHz (0.1875 MHz) Amateur	Duplex. Amateur repeater station (ATT) RX 12,5 kHz, +0,6 MHz 145.6000 - 145.7875 MHz	Regulation Ficora 6. User certificate required. Channels RV48 - RV62.

	145.6000 - 145.7875 MHz (0.1875 MHz) Amateur	Duplex. Amateur repeater station (ATT) TX 12,5 kHz, -0,6 MHz 145.0000 - 145.1875 MHz	Regulation Ficora 6. User certificate required. Channels RV48 - RV62.
AMATEUR-SATELLITE	145.800 - 146.000 MHz (0.200 MHz) Amateur-Satellite	Simplex. Amateur station (AT) TXRX	Regulation Ficora 6. User certificate required. The transmitter power in the novice class 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
146.000 - 149.900 MHz LAND MOBILE	146.00625 - 146.29375 MHz (0.2875 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX Fixed station (FX) TXRX 12,5 kHz, 8 kHz.	Radiated power for base and fixed stations typically max. 2 W ERP. Radiated power for mobile stations typically max. 0.5 W ERP. See PMR standards appendix 2 to this table.
	146.3125 - 146.3375 MHz (0.025 MHz) PMR		Sub-band under review.
	146.35625 - 146.79375 MHz (0.4375 MHz) PMR	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 12,5 kHz, 8 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table.

	146.80625 - 146.89375 MHz (0.0875 MHz) PMR	Duplex. Base station (FB) RX 12,5 kHz, 8 kHz. +4,6 MHz 151.40625 - 151.49375 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	146.90625 - 148.26875 MHz (1.3625 MHz) PMR	Duplex. Base station (FB) RX 12,5 kHz, 8 kHz. +4,6 MHz 151.50625 - 152.86875 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. 147.100 MHz common channel for PMR, all Finland, simplex mobile stations, radiated power max. 5 W ERP.
Mobile-satellite (earth-to-space)	148.000 - 149.900 MHz (1.900 MHz) Mobile satellite	Land mobile earth station (TU) TX Space station (EU) RX	Usage according to RR 5.221. Licence-exempt Orbcomm satellite terminals. See Ficora Regulation 15.
LAND MOBILE	148.28125 - 149.39375 MHz (1.1125 MHz) Digital PMR (DMR)	Duplex. Base station (FB) RX 12,5 kHz, +4,6 MHz 152.88125 - 153.99375 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(06) 06. Short term events, concerts etc., digital or analogue systems: duplex channels 148.28125/152.88125 MHz, 148.81875/153.41875 MHz and 149.33125/153.93125 MHz, simplex channels 148.29375 MHz, 148.83125 MHz, 149.34375. The channels to use will be granted on a case by case basis.
	149.40625 - 149.89375 MHz (0.4875 MHz) Digital PMR (DMR)	Duplex. Base station (FB) RX 12,5 kHz, +4,6 MHz 154.00625 - 154.49375 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(06) 06.

149.900 - 150.050 MHz RADIONAVIGATION-SATELLITE	149.900 - 150.050 MHz (0.150 MHz) Maritime satellite navigation	Space station (EN) TX Mobile earth station (UN) RX	Reception of Tsykada navigation satellites, usage will end year 2015.
MOBILE-SATELLITE (EARTH-TO-SPACE)	Mobile satellite	Land mobile earth station (TU) TX Space station (EU) RX	Land mobile satellites until year 2015, (RR 5.224A). Licence-exempt Orbcomm satellite terminals. See Ficora Regulation 15.
150.050 - 154.000 MHz MOBILE	150.050 - 151.000 MHz (0.950 MHz) Military use		
LAND MOBILE	151.00625 - 151.39375 MHz (0.3875 MHz) PMR	Duplex. Base station (FB) RX	Sub-band under review.
	151.40625 - 151.49375 MHz (0.0875 MHz) PMR	Duplex. Base station (FB) TX 12,5 kHz, 8 kHz. -4,6 MHz 146.80625 - 146.89375 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	151.50625 - 152.86875 MHz (1.3625 MHz) PMR	Duplex. Base station (FB) TX 12,5 kHz, 8 kHz. -4,6 MHz 146.90625 - 148.26875 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. 152.050 and 152.100 MHz common channels for PMR, all Finland, simplex mobile stations, radiated power max. 5 W ERP.
	152.88125 - 153.99375 MHz (1.1125 MHz) Digital PMR (DMR)	Duplex. Base station (FB) TX 12,5 kHz, -4,6 MHz 148.28125 - 149.39375 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(06) 06. Short term events, concerts etc., digital or analogue systems: duplex channels 152.88125/148.28125 MHz, 153.41875/148.81875 MHz ja 153.93125/149.33125 MHz,

			simplex channels 152.89375 MHz, 153.43125 MHz, 153.94375 MHz. The channels to use will be granted on a case by case basis.
154 - 174 MHz MOBILE	154.00625 - 154.49375 MHz (0.4875 MHz) Digital PMR (DMR)	Duplex. Base station (FB) TX 12,5 kHz, -4,6 MHz 149.40625 - 149.89375 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(06) 06.
	154.50625 - 154.64375 MHz (0.1375 MHz) PMR	Simplex. Land mobile station (ML) TXRX 12,5 kHz, 8 kHz.	Common channels for PMR, all Finland, radiated power max. 5 W ERP. See PMR standards appendix 2 to this table.
	154.65625 - 154.89375 MHz (0.2375 MHz) Digital PMR (DMR)	Simplex. Land mobile station (ML) TXRX 12,5 kHz,	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(06) 06. 154.65625 MHz, 154.68125 MHz, 154.71875 MHz, 154.76875 MHz, 154.79375 MHz, 154.81875 MHz, 154.85625 MHz and 154.89375 MHz, common channels for PMR throughout Finland. Simplex, mobile stations, radiated power max. 5 W ERP.
	154.900 - 155.475 MHz (0.575 MHz) Military use		

MARITIME MOBILE MOBILE	155.500 - 155.825 MHz (0.325 MHz) PMR (boating) Military use	Simplex. Land mobile station (ML) TXRX	User certificate required. 155.500, 155.525 and 155.650 MHz common Nordic channels for leisure boating (L-channels), standards EN 300 162-1, EN 301 025-1, EN 301 178-1. 155,625; 155,775 ja 155,825 MHz common Nordic channels for fishing (F-channels), standards EN 301 178-1, EN 300 162-1, EN 301 025-1.
	155.850 - 155.875 MHz (0.025 MHz) Government		
	155.900 - 156.000 MHz (0.100 MHz) Government		
MARITIME MOBILE	156.025 - 156.350 MHz (0.325 MHz) Coast stations	Duplex. Coast station (FC) RX Port station (FP) RX 25 kHz, 16 kHz. +4,6 MHz 160.625 - 160.950 MHz	User certificate required. Standards EN 301 025-1, EN 301 178-1, EN 300 162-1. 156.025 MHz GOFREP-system, Finlands frequency, ship station transmitting frequency. 156.300 MHz for intership communication only, channel 6, simplex mobile stations. The table of transmitting frequencies in the VHF maritime mobile band is shown in the Handbook of short range communications for yachtsmen, issued by Ficora (in Finnish and Swedish), or in RR AP 18.

	156.375 - 156.875 MHz (0.500 MHz) Coast stations	Simplex. Coast station (FC) TXRX Port station (FP) TXRX 25 kHz, 16 kHz.	User certificate required. Standards EN 301 025-1, EN 301 178-1, EN 300 162-1. 156.400 ja 156.625 MHz channels 8 and 72 for intership communication only. 156.525 MHz channel 70 international DSC frequency. 156.775 and 156.825 MHz channels 75 and 76 are quardbands for channel 16. 156.800 MHz channel 16 international distress, safety and calling frequency for navigation. Guardbands +/- 37.5 kHz. 156.875 MHz channel 77 for intership communication only.
	156.900 - 157.425 MHz (0.525 MHz) Coast stations	Duplex. Coast station (FC) RX Port station (FP) RX 25 kHz, 16 kHz. +4,6 MHz 161.500 - 162.025 MHz	User certificate required. Standards EN 301 025-1, EN 301 178-1, EN 300 162-1. 157.025 MHz GOFREP-system, Finlands alternate frequency, ship stations transmitting frequency.
MOBILE	157.450 - 158.800 MHz (1.350 MHz) PMR	Duplex. Base station (FB) RX 25 kHz, 16 kHz. +4,6 MHz 162.050 - 163.400 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	158.825 - 160.425 MHz (1.600 MHz) Government	Duplex. Base station (FB) TX 25 kHz, 16 kHz. +4,6 MHz 163.425 - 165.025 MHz Duplex. Base station (FB) RX 25 kHz, 16 kHz. +4,6 MHz 163.425 - 165.025 MHz	Radiated power typically max. 25 W ERP. 160.250, 160.275 and 160.300 MHz common channels for PMR, all Finland, simplex mobile stations, radiated power max. 5 W ERP.
	160.450 - 160.475 MHz (0.025 MHz) Government		

	160.500 - 160.600 MHz (0.100 MHz) Government		
MARITIME MOBILE	160.625 - 160.950 MHz (0.325 MHz) Coast stations	Duplex. Coast station (FC) TX Port station (FP) RX 25 kHz, 16 kHz. -4,6 MHz 156.025 - 156.350 MHz	User certificate required. Standards EN 301 025-1, EN 301 178-1, EN 300 162-1. 160.625 MHz GOFREP-system, Finlands frequency, coast stations transmitting frequency.
MOBILE	160.975 - 161.150 MHz (0.175 MHz) Government		
	161.175 - 161.375 MHz (0.200 MHz) PMR	Duplex. Base station (FB) RX 25 kHz, 16 kHz. +4,6 MHz 165.775 - 165.975 MHz	Sub-band under review.
	161.4125 - 161.4625 MHz (0.050 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX Fixed station (FX) TXRX 25 kHz, 16 kHz.	Radiated power for base and fixed stations typically max. 2 W ERP. Radiated power for mobile stations typically max. 0.5 W ERP. Duty cycle < 10 %. See PMR standards appendix 2 to this table.
MARITIME MOBILE	161.500 - 162.025 MHz (0.525 MHz) Coast stations	Duplex. Coast station (FC) TX Port station (FP) TX 25 kHz, 16 kHz. -4,6 MHz 156.900 - 157.425 MHz	User certificate required. Standardit EN 301 025-1, EN 301 178-1, EN 300 162-1. AIS1=161.975 MHz and AIS2=162.025 MHz international AIS-channels. 161.625 MHz GOFREP-system, Finlands alternate frequency, coast stations transmitting frequency.

MOBILE	162.050 - 163.400 MHz (1.350 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. -4,6 MHz 157.450 - 158.800 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	163.425 - 165.025 MHz (1.600 MHz) Government	Duplex. Base station (FB) RX 25 kHz, 16 kHz. -4,6 MHz 158.825 - 160.425 MHz Duplex. Base station (FB) TX 25 kHz, 16 kHz. -4,6 MHz 158.825 - 160.425 MHz Simplex. Base station (FB) TXRX	Radiated power typically max. 25 W ERP. 163.675, 164.525, 164.575 and 164.600 MHz for reindeer management in reindeer management areas, simplex mobile stations.
	165.050 - 165.275 MHz (0.225 MHz) Government		
	165.300 - 165.750 MHz (0.450 MHz) PMR		
	165.775 - 165.975 MHz (0.200 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. -4,6 MHz 161.175 - 161.375 MHz	Sub-band under review.
	166.000 - 167.675 MHz (1.675 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. +4,6 MHz 170.600 - 172.275 MHz Simplex. Land mobile station (ML) TXRX	Radiated power for duplex channels typically max. 25 W ERP and for simplex channels 5 W ERP. See PMR standards appendix 2 to this table. 167.650/172.250 MHz sales demonstration.

167.700 - 168.550 MHz (0.850 MHz) PMR (Finnish State Railways)	Duplex. Base station (FB) TX 25 kHz, 16 kHz. +4,6 MHz 172.300 - 173.150 MHz Duplex. Base station (FB) RX 25 kHz, 16 kHz. +4,6 MHz 172.300 - 173.150 MHz Simplex. Land mobile station (ML) TXRX	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. Also +4.65 and +4.7 MHz duplex separation.
168.575 - 169.400 MHz (0.825 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. +4,6 MHz 173.175 - 174.000 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
169.400 - 169.475 MHz (lower and upper limits of sub-band) (0.075 MHz) (SRD) Short range devices	50 kHz,	Meter reading systems, tracking and tracing systems and aids for the hearing impaired. Equipment are exempt from licensing, see regulation Ficora 15. Meter reading and tracking devices, radiated power max. 500 mW ERP. Duty cycle < 10 % for meter reading systems. Duty cycle < 1 % for tracking and tracing systems. Standard EN 300 220-1. Aids for the hearing impaired, radiated power max. 10 mW ERP. Other aids for the hearing impaired (maximum radiated power 500 mW) ERP are subject to licence. Standard EN 300 422-1. SRD recommendation ERC/ REC/70-03. ECC decision ECC/DEC/(05) 02.

		European Comission decision 2005/928/EC. Sub-band also for PMR use (to be removed), and interference may occur.
169.400 - 169.600 MHz (0.200 MHz) PMR	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table. PMR service is allowed until the radio licences expire. The licences are not renewed and no new licences are granted.
169.4750 - 169.4875 MHz (lower and upper limits of sub-band) (0.0125 MHz) (SRD) Short range devices	12,5 kHz.	Centre frequency 169,48125 MHz. For social alarms only. Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW ERP. Duty cycle < 0.1 %. Other social alarms (maximum radiated power 500 mW, duty cycle above or as big as 0,1 %) are subject to licence. Standardi EN300 220-1. SRD recommendation ERC/ REC/70-03. ECC decision ECC/DEC/(05) 02. European Commission decision 2005/928/EC. Sub-band also for PMR use (to be removed), and interference may occur.

169.4875 - 169.5875 MHz (lower and upper limits of sub-band) (0.100 MHz) (SRD) Aids for the handicapped	50 kHz, 50 kHz.	Centre frequencies are: 169,5125 MHz ja 169,5625 MHz. Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW ERP. Other aids for the hearing impaired (maximum radiated power 500 mW) ERP are subject to licence. Standard EN 300 422-1. ECC decision ECC/DEC/(05) 02. European Commission decision 2005/928/EC. Sub-band also for PMR use (to be removed), and interference may occur.
169.5875 - 169.6000 MHz (lower and upper limits of sub-band) (0.0125 MHz) (SRD) Short range devices	12,5 kHz.	Centre frequency 169,59375 MHz. For social alarms only. Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW ERP. Duty cycle < 0.1 %. Other social alarms (maximum radiated power 500 mW, duty cycle above or as big as 0,1 %) are subject to licence. Standard EN 300 220-1. SRD recommendation ERC/ REC/70-03. ECC decision ECC/DEC/(05) 02. European Commission decision 2005/928/EC. Sub-band also for PMR use (to be removed), and interference may occur.

169.61875 - 169.80625 MHz (0.1875 MHz) PMR	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 12,5 kHz, 8 kHz.	Tracking and tracing systems, paging, PMR. Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(05) 02. Paging, standardi EN 300 224-1. European Commission decision 2005/928/EC.
169.625 - 169.800 MHz (0.175 MHz) PMR	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Tracking and tracing systems, paging, PMR. Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. Paging, standard EN 300 224-1. ECC decision ECC/DEC/(05) 02. European Commission decision 2005/928/EC.
169.825 - 169.875 MHz (0.050 MHz) PMR	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table.
169.900 - 170.350 MHz (0.450 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. -4,6 MHz 165.300 - 165.750 MHz	
170.375 - 170.575 MHz (0.200 MHz) PMR	Simplex. Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table. 170.425 and 170.450 MHz common channels for PMR, all Finland, simplex mobile stations, radiated power max. 5 W ERP.

170.600 - 172.275 MHz (1.675 MHz) PMR	Duplex. Base station (FB) RX 25 kHz, 16 kHz. -4,6 MHz 166.000 - 167.675 MHz Simplex. Land mobile station (ML) TXRX	Radiated power for duplex channels typically max. 25 W ERP and for simplex channels 5 W ERP. See PMR standards appendix 2 to this table. 172,250/167,650 MHz sales demonstration. 172,250 MHz sales demonstration, simplex mobile stations.
172.300 - 173.150 MHz (0.850 MHz) PMR (Finnish State Railways)	Duplex. Base station (FB) RX 25 kHz, 16 kHz. -4,6 MHz 167.700 - 168.550 MHz Duplex. Base station (FB) TX 25 kHz, 16 kHz. -4,6 MHz 167.700 - 168.550 MHz Simplex. Land mobile station (ML) TXRX	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. Also -4.65 and -4.7 MHz duplex separations.
173.175 - 174.000 MHz (0.825 MHz) PMR	Duplex. Base station (FB) RX 25 kHz, 16 kHz. -4,6 MHz 168.575 - 169.400 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
173.965 - 174.015 MHz (0.050 MHz) (SRD) Aids for the handicapped	50 kHz.	Radiated power 2 mW ERP, regional restrictions, standard EN 300 422-1.

174 - 230 MHz BROADCASTING	174 - 230 MHz (lower and upper limits of sub-band) (56 MHz) Digital television and sound broadcasting	Simplex. Broadcasting station (BT) TX Broadcasting station (sound) (BC) TX 7 MHz, 7 MHz.	TV channels 5-12 (band III). Digital television and radio according to Geneva 2006 Agreement. Television (DVB): standard EN 300 774. Digital radio (DAB): Standard ETS 300 401. 174 - 230 MHz radio microphones, channel width 200 kHz, radiated power max. 10 mW ERP, standard EN 300 422-1, regional restrictions.
230 - 235 MHz BROADCASTING	230 - 235 MHz (lower and upper limits of sub-band) (5 MHz) Digital sound broadcasting	Simplex. Broadcasting station (sound) (BC) TX	Digital radio (DAB) according to plan Wiesbaden 95 (Constanta 2007). Standard ETS 300 401. 230 - 231 MHz (SRD) Short range devices, licence exempted equipment, taken into use before 31.12.1998, see regulation Ficora 15, transmitter power and radiated power (ERP) max. 500 mW.
235 - 267 MHz BROADCASTING	235 - 240 MHz (5 MHz) Digital sound broadcasting	Simplex. Broadcasting station (sound) (BC) TX	Digital radio (DAB) according to plan Wiesbaden 95 (Constanta 2007). Standard ETS 300 401.
MOBILE	240 - 267 MHz (27 MHz) Military use		243 MHz emergency frequency for aviation and navigation (EPIRB, position indicating radiobeacon and radiotelephones for distress), standard EN 300 152-1.
267 - 272 MHz MOBILE	267 - 272 MHz (5 MHz) Military use		
272 - 273 MHz MOBILE	272 - 273 MHz (1 MHz) Military use		

273 - 322 MHz MOBILE	273 - 308 MHz (35 MHz) Military use		
FIXED, MOBILE	308.200 - 319.000 MHz (10.800 MHz) Sound program transmission	200 kHz, 300 kHz.	Fixed radio links and mobile transmitters for one-way sound program transmission. Standard EN 300 454-1.
MOBILE	319.025 - 322.000 MHz (2.975 MHz) Military use		
322.000 - 328.600 MHz MOBILE	322.000 - 328.600 MHz (6.600 MHz) Military use		
328.600 - 335.400 MHz AERONAUTICAL RADIONAVIGATION	328.600 - 335.400 MHz (6.800 MHz) Instrument landing system (ILS)	Simplex. Land station (AL) TX 50 kHz, 2,1 kHz. (A8XXF)	ILS (Glide Path).
335.400 - 339.000 MHz MOBILE	335.400 - 338.500 MHz (3.100 MHz) Military use		Also civil usage: 335.800, 336.500, 337.000, 337.400 and 338.000 MHz individually licensed radio microphones. Radiated power typically max. 50 mW ERP. Channel width 200 kHz. Channels free from 3rd order intermodulation. It shall be prohibited for a user to take other frequencies into use than those mentioned on his licence. Standardi EN 300 422-1.
339.000 - 399.900 MHz FIXED	339.000 - 358.500 MHz (19.500 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 500 kHz, 2 MHz. +20,5 MHz 359.500 - 379.000 MHz DRS2/360, FM24/360	Sub-band under review. Transmitter power max. 5 W. No new licences for radiolinks.

	359.500 - 379.000 MHz (19.500 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 500 kHz, 2 MHz. -20,5 MHz 339.000 - 358.500 MHz DRS2/360, FM24/360	Sub-band under review. Transmitter power max. 5 W. No new licences for radiolinks.
MOBILE	380.0125 - 384.9875 MHz (4.975 MHz) Emergency services network (VIRVE)	Duplex. Base station (FB) RX 25 kHz, 25 kHz. +10 MHz 390.0125 - 394.9875 MHz	Mobile terminals belonging to the emergency services network (VIRVE) are exempt from licensing, see regulation Ficora 15. Radiated power typically max. 25 W ERP. Standard EN 303 035-1 and EN 300 113-1. ERC decision ERC/DEC/(96) 01 and ERC recommendation T/R 02-02. Harmonised channels for Direct Mode Operation (DMO), ERC/DEC/(01)19: 380.0125 - 380.1375 MHz and 390.0125 - 390.1375 MHz. Harmonised channels for Air-Ground-Air operation (AGA), ECC/DEC/(06)05: 384.8125 - 384.9875 MHz and 394.8125 - 394.9875 MHz.
	385.0125 - 389.9875 MHz (4.975 MHz) TETRA	Duplex. Base station (FB) RX 25 kHz, 25 kHz. +10 MHz 395.0125 - 399.8875 MHz	Standard EN 303 035-1 and EN 300 113-1. ERC decision for civil-TETRA ERC/DEC/(96)04 and ERC recommendation T/R 02-02. In addition mobile terminals belonging to the emergency services network (VIRVE) are exempt from licensing, see regulation Ficora 15. 395.0125 - 395.9875 / 385.0125 - 385.9875 MHz expansionband for Direct Mode Operation

			(DMO) of the emergency services network (VIRVE).
	390.0125 - 394.9875 MHz (4.975 MHz) Emergency services network (VIRVE)	Duplex. Base station (FB) TX 25 kHz, 25 kHz. -10 MHz 380.0125 - 384.9875 MHz	Radiated power typically max. 25 W ERP. Standard EN 303 035-1 and EN 300 113-1. ERC decision ERC/DEC/(96) 01 and ERC recommendation T/R 02-02. Harmonised channels for Direct Mode Operation (DMO), ERC/DEC/(01)19: 380.0125 - 380.1375 MHz and 390.0125 - 390.1375 MHz. Harmonised channels for Air-Ground-Air operation (AGA) channels, ECC/DEC/(06)05: 384.8125 - 384.9875 MHz and 394.8125 - 394.9875 MHz.
	395.0125 - 399.8875 MHz (4.875 MHz) TETRA	Duplex. Base station (FB) TX 25 kHz, 25 kHz. -10 MHz 385.0125 - 389.9875 MHz	Radiated power typically max. 25 W ERP. Standard EN 303 035-1 and EN 300 113-1. ERC decision for civil-TETRA ERC/DEC/(96)04 and ERC recommendation T/R 02-02. In addition mobile terminals belonging to the emergency services network (VIRVE) are exempt from licensing, see regulation Ficora 15. 395.0125 - 395.9875 / 385.0125 - 385.9875 MHz expansion band for Direct Mode Operation (DMO) of the emergency services network (VIRVE).
399.900 - 400.050 MHz RADIONAVIGATION-SATELLITE	399.900 - 400.050 MHz (0.150 MHz) Maritime satellite navigation	Space station (EN) TX Mobile earth station (UN) RX	Reception of Tsykada navigation-satellites (usage will end in year 2015).

MOBILE-SATELLITE (EARTH-TO-SPACE)	Mobile satellite	Land mobile earth station (TU) TX Space station (EU) RX	Only land mobile-satellite until year 2015 (RR 5.224A).
400.050 - 400.150 MHz STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE	400.050 - 400.150 MHz (0.100 MHz) Standard frequency and time signal satellite	Space station (EE) TX Earth station (UE) RX Space station (EY) TX Earth station (UY) RX	400.100 MHz standard frequency.
400.150 - 401.000 MHz METEOROLOGICAL AIDS	400.150 - 401.000 MHz (0.850 MHz) Sondes	Simplex. Mobile station (SA) TX Base station (SM) RX	Usage according ITU-R Rec. RS.1165-2. Standard EN 302 054.
MOBILE-SATELLITE (SPACE-TO-EARTH)	Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX	
401 - 406 MHz MOBILE	401 - 402 MHz (1 MHz) (SRD) Ultra low-power medical implants	Simplex. 25 kHz,	Equipment are exempt from licensing, see regulation Ficora 15. Radiated power typically max. 0.025 mW ERP and an appropriate access protocol or duty cycle < 0.1 % and radiated power max. 250 nW ERP. Standard (draft) EN 302 537. SRD recommendation ERC/ REC/70-03.
METEOROLOGICAL-SATELLITE (EARTH-TO-SPACE)	401 - 403 MHz (2 MHz) Meteorological data collection platforms (DCPs)	Earth station (TM) TX Space station (EM) RX	
EARTH EXPLORATION-SATELLITE (EARTH-TO-SPACE)	Earth exploration satellite	Earth station (TW) TX Space station (EW) RX	
METEOROLOGICAL AIDS	401 - 406 MHz (5 MHz) Sondes	Simplex. Mobile station (SA) TX Base station (SM) RX	Usage according ITU-R Rec. RS.1165-2. Definition of radio interface in preparation. Standard EN 302 054.

MOBILE	402 - 405 MHz (3 MHz) (SRD) Ultra low-power medical implants	Simplex. 25 kHz,	Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 0,025 mW ERP. Standard EN 301 839-1. SRD recommendation ERC/ REC/70-03. ERC decision ERC/DEC/(01) 17. European Commission decision 2006/771/EC.
	405 - 406 MHz (1 MHz) (SRD) Ultra low-power medical implants	Simplex. 25 kHz,	Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 0.025 mW ERP and an appropriate access protocol or duty cycle < 0.1 % and radiated power max. 250 nW ERP. Standard (draft) EN 302 537. SRD recommendation ERC/ REC/70-03.
406.000 - 406.100 MHz MOBILE-SATELLITE (EARTH-TO-SPACE)	406.000 - 406.100 MHz (0.100 MHz) Rescue service	Earth station (TE) TX Space station (EI) RX	User certificate required. EPIRB and ELT transmissions from Earth-to-COSPAS-SARSAT-satellites. Standard EN 300 152.
406.100 - 410.000 MHz MOBILE	406.125 - 406.600 MHz (0.475 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power for base and fixed stations typically max. 2 W ERP. Radiated power for mobile stations typically max. 0.5 W ERP. See PMR standards appendix 2 to this table.
	406.625 - 406.925 MHz (0.300 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Fixed station (FX) TXRX 25 kHz, 16 kHz.	Radiated power for base and fixed stations typically max. 2 W ERP. See PMR standards appendix 2 to this table.

	406.950 - 407.000 MHz (0.050 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power for base and fixed stations typically max. 2 W ERP. Radiated power for mobile stations typically max. 0.5 W ERP. See PMR standards appendix 2 to this table.
	407.025 - 407.500 MHz (0.475 MHz) Military use		
	407.525 - 408.550 MHz (1.025 MHz) PMR	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table. 407.525, 407.575, 408.375 and 408.400 MHz common channels for PMR, all Finland, simplex mobile stations, radiated power max. 5 W ERP.
	408.575 - 409.000 MHz (0.425 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 12,5 kHz, 8 kHz.	Radiated power for base and fixed stations typically max. 2 W ERP. Radiated power for mobile stations typically max. 0.5 W ERP. See PMR standards appendix 2 to this table.
	409.0125 - 409.9750 MHz (0.9625 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Fixed station (FX) TXRX 12,5 kHz, 8 kHz.	Radiated power for base and fixed stations typically max. 2 W ERP. See PMR standards appendix 2 to this table.
410 - 420 MHz MOBILE	410.0125 - 410.8875 MHz (0.875 MHz) Digital PMR (DMR)	Duplex. Base station (FB) RX 25 kHz, 25 kHz. +10 MHz 420.0125 - 420.8875 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(06) 06.

FIXED	410.975 - 412.850 MHz (1.875 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 125 kHz, 100 kHz. +10 MHz 420.975 - 422.850 MHz FM4/419	Transmitter power max. 25 W. Standard EN 300 086-1 for applicable parts. Channels B-2a - B13a.
	412.925 - 413.975 MHz (1.050 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 25 kHz, 16 kHz. +10 MHz 422.925 - 423.975 MHz FM1/420	Transmitter power max. 25 W. Standard EN 300 086-1 for applicable parts. Channels C65a - C107a.
MOBILE	414.0125 - 416.3375 MHz (2.325 MHz) TETRA	Duplex. Base station (FB) RX 25 kHz, 25 kHz. +10 MHz 424.0125 - 426.3375 MHz	Radiated power typically max. 25 W ERP. Standard EN 303 035-1 and EN 300 113-1. ERC decision ERC/DEC/(96) 04. TAC decision of 9.6.1993.
	416.375 - 417.500 MHz (1.125 MHz) Mobile radio		Sub-band under review.
	417.525 - 417.900 MHz (0.375 MHz) PMR	Duplex. Base station (FB) RX 12,5 kHz, 8 kHz. +10 MHz 427.525 - 427.900 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	417.925 - 419.125 MHz (1.200 MHz) Digital wideband PMR networks	Duplex. Base station (FB) RX +10 MHz 427.925 - 429.125 MHz	Channel width 25-200 kHz. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(04) 06.
	419.150 - 419.525 MHz (0.375 MHz) PMR	Duplex. Base station (FB) RX 12,5 kHz, 8 kHz. +10 MHz 429.150 - 429.525 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	419.55625 - 419.71875 MHz (0.1625 MHz) Digital PMR (DMR)	Duplex. Base station (FB) RX 12,5 kHz, 12,5 kHz. +10 MHz 429.55625 - 429.71875 MHz	Also for PMR systems using 6.25 kHz channel spacing. Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(06) 06.

FIXED	419.750 - 420.000 MHz (0.250 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 25 kHz, 16 kHz. +10 MHz 429.750 - 430.000 MHz FM1/420	Transmitter power max. 25 W. Standard EN 300 086-1 for applicable parts. Channels D1a - D10a.
420 - 430 MHz MOBILE	420.0125 - 420.8875 MHz (0.875 MHz) Digital PMR (DMR)	Duplex. Base station (FB) TX 25 kHz, 25 kHz. -10 MHz 410.0125 - 410.8875 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(06) 06.
FIXED	420.975 - 422.850 MHz (1.875 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 125 kHz, 100 kHz. -10 MHz 410.975 - 412.850 MHz FM4/419	Transmitter power max. 25 W. Standard EN 300 086-1 for applicable parts. Channels B-2b - B13b.
	422.925 - 423.975 MHz (1.050 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 25 kHz, 16 kHz. -10 MHz 412.925 - 413.975 MHz FM1/420	Transmitter power max. 25 W. Standard EN 300 086-1 for applicable parts. Channels C65b - C107b.
MOBILE	424.0125 - 426.3375 MHz (2.325 MHz) TETRA	Duplex. Base station (FB) TX 25 kHz, 25 kHz. -10 MHz 414.0125 - 416.3375 MHz	Radiated power typically max. 25 W ERP. Standards EN 303 035-1 and EN 300 113-1. ERC decision ERC/DEC/(96) 04. TAC decision of 9.6.1993.
	426.375 - 427.500 MHz (1.125 MHz) Mobile radio		Sub-band under review.
	427.525 - 427.900 MHz (0.375 MHz) PMR	Duplex. Base station (FB) TX 12,5 kHz, 8 kHz. -10 MHz 417.525 - 417.900 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	427.925 - 429.125 MHz (1.200 MHz) Digital wideband PMR networks	Duplex. Base station (FB) TX -10 MHz 417.925 - 419.125 MHz	Channel width 25-200 kHz. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(04) 06.

	429.150 - 429.525 MHz (0.375 MHz) PMR	Duplex. Base station (FB) TX 12,5 kHz, 8 kHz. -10 MHz 419.150 - 419.525 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	429.55625 - 429.71875 MHz (0.1625 MHz) Digital PMR (DMR)	Duplex. Base station (FB) TX 12,5 kHz, 12,5 kHz. -10 MHz 419.55625 - 419.71875 MHz	Also for PMR systems using 6.25 kHz channel spacing. Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(06) 06.
FIXED	429.750 - 430.000 MHz (0.250 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 25 kHz, 16 kHz. -10 MHz 419.750 - 420.000 MHz FM1/420	Transmitter power max. 25 W. Standard EN 300 086-1 for applicable parts. Channels D1b - D10b.
430 - 432 MHz MOBILE	430.025 - 431.975 MHz (1.950 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power for base and fixed stations typically max. 2 W ERP. Radiated power for mobile stations typically max. 0.5 W ERP. See PMR standards appendix 2 to this table. 430.025, 430.050, 430.075, 430.100 and 430.125 MHz common channels for mobile data applications, all Finland, radiated power max. 0.5 W ERP, channel width 12.5 kHz or 25 kHz. 430.150, 430.200, 430.225 and 430.250 MHz common channels for mobile D-GPS correction signal transmitters, and sales demonstration for data applications, all Finland, radiation power max. 10 W ERP, channel width 12.5 kHz or 25 kHz.

			430.300, 430.325, 430.350 and 430.375 MHz common channels for mobile data applications and for D-GPS correction signal transmitters, radiation power max. 10 W ERP, channel width 12.5 or 25 kHz.
432 - 438 MHz AMATEUR	432 - 435 MHz (3 MHz) Amateur	Simplex. Amateur station (AT) TXRX	Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB. 432.725, 432.775, 433.625, 433.775, 434.525, 434.575 MHz national packet radio trunking network. Beginning on 1 November 2007 it is allowed to use 600 W carrier power for transmission class A1A and digital modes with a maximum bandwidth of 3 kHz in the frequency bands 144.000 - 144.150 MHz and 432.000 - 432.150 MHz.
	433.000 - 433.375 MHz (0.375 MHz) Amateur	Duplex. Amateur repeater station (ATT) RX 25 kHz, +1,6 MHz 434.600 - 434.975 MHz	Regulation Ficora 6. User certificate required.

Mobile	433.050 - 434.790 MHz (1.740 MHz) (SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 25 mW ERP, standard EN 300 220-1, duty cycle <10 %, enters into force on 1 April 2003, peech and audio applications not allowed, ECC decision ECC/DEC/(04) 02. SRD recommendation ERC/ REC/70-03. European Commission decision 2006/771/EC.
	433.050 - 434.790 MHz (1.740 MHz) (SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 1 mW ERP, the spectral power density of transmission shall be below -13 dBm/10 kHz for broadband transmitters, standard EN 300 220-1, no restrictions on duty cycle, speech and audio applications not allowed, ECC decision ECC/DEC/(04) 02. SRD recommendation ERC/ REC/70-03.
	434.040 - 434.790 MHz (0.750 MHz) (SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW ERP, channel spacing max. 25 kHz, standard EN 300 220-1, no restrictions on duty cycle, speech and audio applications not allowed, ECC decision ECC/DEC(04)02. SRD recommendation ERC/ REC/70-03.

AMATEUR	434.600 - 434.975 MHz (0.375 MHz) Amateur	Duplex. Amateur repeater station (ATT) TX 25 kHz, -1,6 MHz 433.000 - 433.375 MHz	Regulation Ficora 6. User certificate required.
AMATEUR AND AMATEUR-SATELLITE	435 - 438 MHz (3 MHz) Amateur and amateur-Satellite	Simplex. Amateur station (AT) TXRX	Regulation Ficora 6. User certificate required. The amateur-satellite service may operate subject to not causing harmful interference to other services. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
438 - 440 MHz RADIOLOCATION	438 - 440 MHz (2 MHz) Military use		
440 - 450 MHz MOBILE	440.0125 - 440.5875 MHz (0.575 MHz) PMR	Simplex. Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table.
	440.60625 - 440.89375 MHz (0.2875 MHz) PMR	Simplex. Land mobile station (ML) TXRX 12,5 kHz, 8 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table.
	440.90625 - 441.18125 MHz (0.275 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Fixed station (FX) TXRX 12,5 kHz, 8 kHz.	Radiated power typically max. 2 W ERP. See PMR standards appendix 2 to this table.

441.200 - 441.575 MHz (0.375 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Fixed station (FX) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 2 W ERP. See PMR standards appendix 2 to this table.
441.600 - 442.750 MHz (1.150 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX Fixed station (FX) TXRX 25 kHz, 16 kHz.	Radiated power for base and fixed stations typically max. 2 W ERP. Radiated power for mobile stations typically max. 0.5 W ERP. See PMR standards appendix 2 to this table.
442.775 - 443.000 MHz (0.225 MHz) PMR	Simplex. Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table. 442.850, 442.875, 442.900, 442.925, 442.950 and 442.975 MHz common speech channels for crane operations, all Finland, radiated power max. 1 W ERP.
443.025 - 444.000 MHz (0.975 MHz) PMR	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table. 443.125, 443.500, 443.550 and 443.800 MHz common channels for PMR, all Finland, simplex mobile stations, radiated power max. 5 W ERP. 443.525 MHz smoke diving, whole Finland, simplex mobile stations. 443.975 MHz sales demonstration, simplex mobile stations.
444.025 - 444.525 MHz (0.500 MHz) Government	Duplex. Base station (FB) TX 25 kHz, 16 kHz. +5 MHz 449.025 - 449.525 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.

444.550 - 444.975 MHz (0.425 MHz) PMR, governmental	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX Duplex. Base station (FB) TX 25 kHz, 16 kHz. +5 MHz 449.550 - 449.975 MHz	Radiated power for duplex channels typically max. 25 W ERP and for simplex channels 5 W ERP. See PMR standards appendix 2 to this table.
445 - 446 MHz (1 MHz) PMR	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table. 445.200 and 445.675 MHz common channels for PMR, all Finland, simplex mobile stations, radiated power max. 5 W ERP.
446.00625 - 446.09375 MHz (0.0875 MHz) PMR446	Simplex. Land mobile station (ML) TXRX 12,5 kHz, 8 kHz.	Equipment are exempt from licensing, see exact frequencies in regulation Ficora 15. Radiated power max. 500 mW ERP. Total bandwidth of the emission 12.5 kHz. Standard EN 300 296-1. ERC decisions ERC/DEC/(98) 25, ERC/DEC/(98)26.
446.100 - 446.200 MHz (0.100 MHz) Digital PMR446	Simplex. Land mobile station (ML) TXRX	Equipment are exempt from licensing, see regulation Ficora 15. Total bandwidth of the emission 6,25 kHz or 12,5 kHz. Equipment with channel spacing 6,25 kHz: 446,103125 MHz + (0…15) x 6,25 kHz Radiated power 500 mW ERP. Standard EN 301 166-1. Equipment with channel spacing 12,5 kHz: 446,10625 MHz + (0…7) x 12,5 kHz. Radiated power 500 mW ERP.

		Standard EN 300 113-1. ECC Decision ECC/DEC/(05) 12.
446.21875 - 446.99375 MHz (0.775 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Fixed station (FX) TXRX 12,5 kHz, 8 kHz.	Radiated power typically max. 2 W ERP. See PMR standards appendix 2 to this table.
447.00625 - 447.29375 MHz (0.2875 MHz) Digital PMR (DMR)	Simplex. Land mobile station (ML) TXRX 12,5 kHz,	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table. ECC decision ECC/DEC/(06) 06. 447,00625 MHz, 447,05625 MHz, 447,08125 MHz, 447,15625 MHz, 447,18125 MHz, 447,20625 MHz, 447,23125 MHz, 447,28125 MHz common channels for PMR throughout Finland. Simplex, mobile stations, radiated power max. 5 W ERP.
447.30625 - 447.70625 MHz (0.400 MHz) PMR	Simplex. Land mobile station (ML) TXRX 12,5 kHz, 8 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table.
447.71875 - 448.76875 MHz (1.050 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 12,5 kHz, 8 kHz.	Radiated power for base stations typically max. 2 W ERP and for mobile stations max. 0,5 W ERP. See PMR standards appendix 2 to this table.

	448.78125 - 448.99375 MHz (0.2125 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Base station (FB) TXRX Fixed station (FX) TXRX Land mobile station (ML) TXRX 12,5 kHz, 8 kHz.	Radiated power for base and fixed stations typically max. 2 W ERP. Radiated power for mobile stations typically max. 0.5 W ERP. See PMR standards appendix 2 to this table.
	449.00625 - 449.51875 MHz (0.5125 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX Fixed station (FX) TXRX 12,5 kHz, 8 kHz.	Radiated power for base and fixed stations typically max. 2 W ERP. Radiated power for mobile stations typically max. 0.5 W ERP. See PMR standards appendix 2 to this table.
	449.025 - 449.525 MHz (0.500 MHz) Government	Duplex. Base station (FB) RX 25 kHz, 16 kHz. -5 MHz 444.025 - 444.525 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	449.550 - 450.000 MHz (0.450 MHz) PMR, governmental	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX Duplex. Base station (FB) RX 25 kHz, 16 kHz. -5 MHz 444.550 - 444.975 MHz	Radiated power for duplex channels typically max. 25 W ERP and for simplex channels 5 W ERP. See PMR standards appendix 2 to this table.
450 - 470 MHz MOBILE	450.000 - 450.300 MHz (0.300 MHz) On-site paging	Simplex. Base station (FB) TX Duplex. Base station (FB) TX 25 kHz, 16 kHz. +12,2 MHz 462.200 - 462.500 MHz	Radiated power typically max. 5 W ERP. Standard EN 300 224-1.

450.325 - 452.500 MHz (2.175 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. +9,7 MHz 460.025 - 462.175 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. 451.175/460.875 MHz sales demonstration.
452.525 - 452.975 MHz (0.450 MHz) PMR	Duplex. Base station (FB) RX 25 kHz, 16 kHz. +10 MHz 462.525 - 462.975 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
453.0125 - 453.6625 MHz (0.650 MHz) PMR	Duplex. Base station (FB) RX 25 kHz, 16 kHz. +10 MHz 463.0125 - 463.6625 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
453.700 - 456.925 MHz (lower and upper limits of sub-band) (3.225 MHz) Digital wide-band public mobile network	Duplex. Base station (FB) RX 1,275 MHz, 1,25 MHz. +10 MHz 463.700 - 466.925 MHz	Terminals are exempt from licensing, see regulation Ficora 15. ETSI EN 301 449, item 4.2.2.2.2 (base stations).
456.9625 - 457.4625 MHz (0.500 MHz) PMR	Duplex. Base station (FB) RX 25 kHz, 16 kHz. +10 MHz 466.9625 - 467.4625 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
457.500 - 458.100 MHz (0.600 MHz) PMR	Duplex. Base station (FB) RX 25 kHz, 16 kHz. +10 MHz 467.500 - 468.100 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. 457.525, 457.550 and 457.575 MHz communication on-board, simplex and duplex TX, channel spacing 25 kHz, max 2 W ERP, class of emission G3E, (RR 5.287), standard EN 300 720-1. 457.5375 and 457.5625 MHz communication on-board, simplex and duplex TX,

		channel spacing 12.5 kHz, max 2 ERP, class of emission G3E, (RR 5.287). 457.600 MHz speech communication on-board, radiated power max. 2 W ERP, simplex and duplex TX.
458.125 - 459.000 MHz (0.875 MHz) PMR	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table. 458.250, 458.850 and 458.900 MHz common channels for PMR, all Finland, simplex mobile stations, radiated power max. 5 W ERP. 458.600, 458.625, 458.725 and 458.800 MHz communication on-board on passager ships, radiated power max. 1 W ERP also driving schools, radiated power max 5 W ERP.
459.025 - 460.000 MHz (0.975 MHz) PMR	Duplex. Base station (FB) RX 25 kHz, 16 kHz. +9,7 MHz 468.725 - 469.700 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
460.025 - 462.175 MHz (2.150 MHz) PMR	Duplex. Base station (FB) RX 25 kHz, 16 kHz. -9,7 MHz 450.325 - 452.475 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. 460,875/451,175 MHz sales demonstration.
462.200 - 462.500 MHz (0.300 MHz) On-site paging	Duplex. Base station (FB) RX 25 kHz, 16 kHz. -12,2 MHz 450.000 - 450.300 MHz	Radiated power typically max. 5 W ERP. Standard EN 300 224-1.
462.525 - 462.975 MHz (0.450 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. -10 MHz 452.525 - 452.975 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.

463.0125 - 463.6625 MHz (0.650 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. -10 MHz 453.0125 - 453.6625 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
463.700 - 466.925 MHz (lower and upper limits of sub-band) (3.225 MHz) Digital wide-band public mobile network	Duplex. Base station (FB) TX 1,275 MHz, 1,25 MHz. -10 MHz 453.700 - 456.925 MHz	ETSI EN 301 449, item 4.2.2.2.2 (base stations).
466.9625 - 467.4625 MHz (0.500 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. -10 MHz 456.9625 - 457.4625 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
467.500 - 468.100 MHz (0.600 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. -10 MHz 457.500 - 458.100 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table. 467.525, 467.550 and 467.575 MHz communication on-board, simplex and duplex RX, channel spacing 25 kHz, radiated power max. 2 W ERP, class of emission G3E, (RR 5.287), standard EN 300 720-1. 467.5375 and 467.5625 MHz communication on-board, channel spacing 12,5 kHz, radiated power max. 2 W ERP, class of emission G3E, (RR 5.287). 467.600 MHz speech communication on-board, radiated power max. 2 W ERP, simplex and duplex RX.

	468.125 - 468.700 MHz (0.575 MHz) Control, alarm, telemetry, telecommand, data transmission	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX Fixed station (FX) TXRX 25 kHz, 16 kHz.	Radiated power for base and fixed stations typically max. 2 W ERP. Radiated power for mobile stations typically max. 0.5 W ERP. See PMR standards appendix 2 to this table. 468.200 MHz non-specific short range devices (SRD) are exempt from licensing, see regulation Ficora 15. New equipment shall be taken into use on 31.12.2007 at the latest. Transmitter power and radiated power (ERP) max. 500 mW, the total bandwidth of the emission max. 25 kHz, standard EN 300 220-1.
	468.725 - 469.700 MHz (0.975 MHz) PMR	Duplex. Base station (FB) TX 25 kHz, 16 kHz. -9,7 MHz 459.025 - 460.000 MHz	Radiated power typically max. 25 W ERP. See PMR standards appendix 2 to this table.
	469.725 - 469.975 MHz (0.250 MHz) PMR	Simplex. Land mobile station (ML) TXRX 25 kHz, 16 kHz.	Radiated power typically max. 5 W ERP. See PMR standards appendix 2 to this table.

Frequency band **Services in Finland**	**Sub-band** **(its width)** **and usage**	**Mode of traffic.** **Class of station and** **TX/RX-code** **Channel spacing,** **bandwidth. (Class** **of emission)** **Duplex separation** **and duplex band** **Standart type**	**Comments**
470 - 790 MHz BROADCASTING	470 - 790 MHz (lower and upper limits of sub-band) (320 MHz) Television	Simplex. Broadcasting station (BT) TX 8 MHz, 8 MHz.	TV channels 21-60 (band IV and V). Digital television according to Geneva 2006 Agreement. Decrees of the Government 680/2007 and 1158/2002. Television (DVB): standard EN 300 744. Mobile radio: Mobile station TX, channels 21 and 23. Radiomicrophones/reporter communications, the frequencies to use will be assigned on a case by case basis.
790 - 862 MHz MOBILE	790 - 822 MHz (32 MHz) Military use		
BROADCASTING	790 - 862 MHz (72 MHz) Television	Simplex. Broadcasting station (BT) TX 8 MHz, 8 MHz.	TV-channels 61 - 69 (band V). On TV-channels 61 - 64 (790 - 822 MHz) and 69 (854 - 862 MHz) also use of radio microphones. Digital television according to Geneva 2006 Agreement. Television (DVB): standard EN 300 744.

MOBILE	790.100 - 821.900 MHz (31.800 MHz) Radio microphones	Simplex. Land mobile station (ML) TXRX	Radiated power typically max. 50 mW ERP. The total bandwidth of the emission max. 200 kHz. Standard EN 300 422-1. A user shall have no other selectable frequencies than those mentioned in his licence. SRD recommendation ERC/ REC/70-03.
	838 - 862 MHz (24 MHz) Military use		
	854 - 862 MHz (lower and upper limits of sub-band) (8 MHz) Radio microphones	Simplex. Land mobile station (ML) TXRX	Radiated power typically max. 50 mW ERP. The total bandwidth of the emission max. 200 kHz. Standard EN 300 422-1. SRD recommendation ERC/ REC/70-03. The whole sub-band can be used. Within this sub-band 200 kHz wide channels free from 3rd order intermodulation are example: 855.500, 856.000, 857.250, 860.375, 861.500 and 861.875 MHz. A user shall have no other selectable frequencies than those mentioned on his licence.
862 - 960 MHz MOBILE	862 - 863 MHz (1 MHz) Military use		

863 - 865 MHz (2 MHz) (SRD) wireless audio applications	Simplex. Land mobile station (ML) TXRX	Equipment are exempt from licensing, see regulation Ficora 15. Wireless loudspeakers, headphones, in-ear monitoring, helmet radio telephones, standard EN 301 357-1. Aids for the hearing impaired, standard EN 300 422-1. The total bandwidth of the emission max. 200 kHz. Radiated power max. 10 mW ERP. SRD recommendation ERC/ REC/70-03. European Commission decision 2006/771/EC.
(SRD) Radio microphones	Simplex. Land mobile station (ML) TXRX	Equipment are exempt from licensing, see regulation Ficora 15. The total bandwidth of the emission max. 200 kHz. Radiated power max. 10 mW ERP. Standard EN 300 422-1. SRD recommendation ERC/ REC/70-03.
863 - 870 MHz (lower and upper limits of sub-band) (7 MHz) (SRD) Non-specific Short Range Devices		Terminals are exempt from licensing, see regulation Ficora 15. The following sub-bands are excluded as these sub-bands are assigned for low-power alarms for security and safety and social alarms: 868.600 - 868.700 MHz 869.200 - 869.250 MHz 869.250 - 869.300 MHz 869.300 - 869.400 MHz 869.650 - 869.700 MHz. Restrictions on e.g. modulation and duty factor

			on the sub-band, see exact operational conditions in the FICORA Regulation 15. Radiated power normally max. 25mW ERP, exact power limits in Regulation 15. Standard EN 300 220-1. SRD recommendation ERC/ REC/70-03.
	864.150 - 868.050 MHz (3.900 MHz) Cordless telephones (CT 2)	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 100 kHz,	Equipment are exempt from licensing, see exact frequencies in regulation Ficora 15. Radiated power max. 20 mW. Standard EN 301 797. Introduction of new equipment is not allowed after 31.12. 2004.
	864.800 - 865.000 MHz (0.200 MHz) (SRD) Narrow band analogue voice devices	Simplex. Land mobile station (ML) TXRX 50 kHz,	Equipment are exempt from licensing, see regulation Ficora 15. Standard EN 300 220-1. Radiated power max. 10 mW ERP. The total bandwidth of the emission max. 50 kHz. SRD recommendation ERC/ REC/70-03.
	865 - 868 MHz (3 MHz) (SRD) Radio frequency identification devices (RFID)	200 kHz,	Equipment are exempt from licensing, see regulation Ficora 15. Equipment based on Standard EN 302 208-2 V1.1.1. 865,000 - 865,600 MHz radiated power max. 100 mW ERP, 865,600 - 867,600 MHz radiated power max. 2 W ERP, 867,600 - 868,000 MHz radiated power max. 500

			mW ERP. SRD recommendation ERC/ REC/70-03. European Commission decision 2006/804/EC.
	865 - 868 MHz (3 MHz) (SRD) Radio frequency identification devices (RFID)	200 kHz,	Equipment are exempt from licensing, see regulation Ficora 15. Equipment based on Standard EN 302 208-2 V1.2.1 865,600 - 865,800 MHz radiated power max. 2 W ERP, 866,200 - 866,400 MHz radiated power max. 2 W ERP, 866,800 - 867,000 MHz radiated power max. 2 W ERP, 867,400 - 867,600 MHz radiated power max. 2 W ERP. SRD recommendation ERC/ REC/70-03.
	868.000 - 868.600 MHz (lower and upper limits of sub-band) (0.600 MHz) (SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see exact frequencies in regulation Ficora 15. Radiated power max. 25 mW ERP. Duty cycle < 1 % or an appropriate access protocol. Standard EN 300 220-1. SRD recommendation ERC/ REC/70-03. European Commission decision 2006/771/EC. 868,150-868,650 MHz (SRD) Non-specific short range devices exempt from licensing that have been taken into use before 31.12.1998, see FICORA regulation15.

		Radiated power max. 500 mW ERP.
868.600 - 868.700 MHz (lower and upper limits of sub-band) (0.100 MHz) (SRD) Short range devices	25 kHz,	Low-power alarms for security and safety, social alarms. Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW ERP. Duty cycle < 1 %. Standard EN 300 220-1. SRD recommendation ERC/ REC/70-03. European Commission decision 2006/771/EC.
868.700 - 869.200 MHz (lower and upper limits of sub-band) (0.500 MHz) (SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 25 mW ERP. Duty cycle < 0.1 % or an appropriate access protocol. Standard EN 300 220-1. SRD recommendation ERC/ REC/70-03. European Commission decision 2006/771/EC.
869.200 - 869.250 MHz (lower and upper limits of sub-band) (0.050 MHz) (SRD) Short range devices	25 kHz,	Only for social alarms. Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW ERP. Duty cycle < 0.1 %. Standard EN 300 220-1. SRD recommendation ERC/ REC/70-03. European Commission decision 2006/771/EC.

869.250 - 869.300 MHz (lower and upper limits of sub-band) (0.050 MHz) (SRD) Short range devices	25 kHz,	Low-power alarms for security and safety, social alarms. Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW ERP. Duty cycle < 0.1 %. Standard EN 300 220-1. SRD recommendation ERC/ REC/70-03. European Commission decision 2006/771/EC.
869.300 - 869.400 MHz (lower and upper limits of sub-band) (0.100 MHz) (SRD) Low-power alarms for security and safety, social alarms	25 kHz,	Low-power alarms for security and safety, social alarms. Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW ERP. Duty cycle < 1 %. Standard EN 300 220-1. SRD recommendation ERC/ REC/70-03.
869.400 - 869.650 MHz (lower and upper limits of sub-band) (0.250 MHz) (SRD) Non-specific Short Range Devices	25 kHz,	Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 500 mW ERP. Duty cycle < 10 % or an appropriate access protocol. Standard EN 300 220-1. SRD recommendation ERC/ REC/70-03. European Commission decision 2006/771/EC.

869.650 - 869.700 MHz (lower and upper limits of sub-band) (0.050 MHz) (SRD) Short range devices	25 kHz,	Low-power alarms for security and safety, social alarms. Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 25 mW ERP. Duty cycle < 10 %. Standard EN 300 220-1. SRD recommendation ERC/REC/70-03. European Commission decision 2006/771/EC.
869.700 - 870.000 MHz (lower and upper limits of sub-band) (0.300 MHz) (SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 5 mW ERP. Standard EN 300 220-1. SRD recommendation ERC/REC/70-03. European Commission decision 2006/771/EC.
870 - 876 MHz (6 MHz) Mobile radio	Duplex. Base station (FB) RX +45 MHz 915 - 921 MHz	ERC decision ERC/DEC/(96)04. ECC decision ECC/DEC/(04)06.
870 - 880 MHz (10 MHz) Military use		Restrictions for the military use in the GSM-R band.
876.200 - 880.000 MHz (3.800 MHz) GSM-R	Duplex. Base station (FB) RX 200 kHz, 200 kHz. +45 MHz 921.200 - 925.000 MHz	Terminals are exempt from licensing, see regulation Ficora 15. ECC decision ECC/DEC/(02)05, ECC/DEC/(02)09. ERC decision T/R 25-09. Specifications to the appropriate extent: ETSI TS 151 010-1 (terminal) ETSI TS 151 021 (base station) ETSI TS 151 026 (repeater).

880.200 - 914.800 MHz (34.600 MHz) GSM 900	Duplex. Base station (FB) RX 200 kHz, 200 kHz. +45 MHz 925.200 - 959.800 MHz	GSM terminals are exempt from licensing, see regulation Ficora 15. Specifications to the appropriate extent: ETSI TS 151 010-1 (GSM terminals) ETSI TS 151 021 (GSM base stations) ETSI TS 151 026 (GSM repeaters) ERC decision ERC/DEC/(97)02, ERC/DEC/(94)01, ERC/DEC/(95)01.
IMT	Duplex. Base station (FB) RX +45 MHz 925.200 - 959.800 MHz	UMTS terminals are exempt from licensing, see regulation Ficora 15. Specifications to the appropriate extent: ETSI TS 134 121 (UMTS terminals) ETSI TS 125 141 (UMTS base stations) ETSI TS 125 143 (UMTS repeaters) ECC decision ECC/DEC/(06)13. ERC decision ERC/DEC/(00)06.
914.0125 - 914.9875 MHz (0.975 MHz) Cordless telephones (CT 1)	Duplex. Base station (FB) RX 25 kHz, 16 kHz. +45 MHz 959.0125 - 959.9875 MHz	Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW. Standard EN 301 796. Introduction of new equipment is not allowed after 31.12.2003.
915 - 921 MHz (6 MHz) Mobile radio	Duplex. Base station (FB) TX -45 MHz 870 - 876 MHz	ERC decision ERC/DEC/(96)04. ECC decision ECC/DEC/(04)06.

915 - 925 MHz (10 MHz) Military use		Restrictions for the military use in the GSM-R band.
921.200 - 925.000 MHz (3.800 MHz) GSM-R	Duplex. Base station (FB) TX 200 kHz, 200 kHz. -45 MHz 876.200 - 880.000 MHz	ECC decision ECC/DEC/(02)05. ERC recommendation T/R 25-09. Specifications to the appropriate extent: ETSI TS 151 010-1 (terminals) ETSI TS 151 021 (base station) ETSI TS 151 026 (repeaters).
925.200 - 959.800 MHz (34.600 MHz) GSM 900	Duplex. Base station (FB) TX 200 kHz, 200 kHz. -45 MHz 880.200 - 914.800 MHz	Specifications to the appropriate extent: ETSI TS 151 010-1 (GSM terminals) ETSI TS 151 021 (GSM base stations) ETSI TS 151 026 (GSM repeaters) ERC decision ERC/DEC/(97)02, ERC/DEC/(94)01. The frequencies 928.9 - 930.5 MHz (GSM radio channels 994-1001) must not be used for mobile communications within a radius of 100 km and the frequencies 927.5 - 928.9 MHz (GSM radio channels 987-993) and 930.5 - 931.9 MHz (GSM radio channels 1002-1008) not for mobile communications within a radius of 50 km from the EISCAT organization (European Incoherent Scatter) receiver station in Sodankylä (26E3818 and 67N2145).

	IMT	Duplex. Base station (FB) TX -45 MHz 880.200 - 914.800 MHz	Specifications to the appropriate extent: ETSI TS 134 121 (UMTS terminals) ETSI TS 125 141 (UMTS base stations) ETSI TS 125 143 (UMTS repeaters) ECC decision ECC/DEC/ (06)13.
	959.0125 - 959.9875 MHz (0.975 MHz) Cordless telephones (CT 1)	Duplex. Base station (FB) TX 25 kHz, 16 kHz. -45 MHz 914.0125 - 914.9875 MHz	Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 mW. Standard EN 301 796. Introduction of new equipment is not allowed after 31.12.2003.
960 - 1164 MHz AERONAUTICAL MOBILE (R)	960 - 1164 MHz (204 MHz) Aeronautical mobile		The use is limited to systems that operate in accordance with recognized international aeronautical standards (RR 5.4B06, WRC-07).
AERONAUTICAL RADIONAVIGATION	962 - 1164 MHz (202 MHz) Distance measuring equipment	Simplex. Land station (AL) TX 63 MHz, 1 MHz.	The DME-X-channels are in use. 1030/1090 MHz SSR.
1164 - 1215 MHz AERONAUTICAL RADIONAVIGATION	1164 - 1213 MHz (49 MHz) Distance measuring equipment	Simplex. Land station (AL) TX 63 MHz, 1 MHz.	The DME X-channels are in use.
RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH, SPACE-TO-SPACE)	1164 - 1215 MHz (51 MHz) Radionavigation satellite	Space station (EN) TX Mobile earth station (UN) RX Space station (EN) TX Space station (EN) RX	(RR 5.328A)
1215 - 1240 MHz RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH, SPACE-TO-SPACE)	1215 - 1240 MHz (25 MHz) Radionavigation satellite	Space station (EN) TX Mobile earth station (UN) RX Space station (EN) TX Space station (EN) RX	

AERONAUTICAL RADIONAVIGATION	Aeronautical radionavigation		
RADIOLOCATION	Radars		
EARTH EXPLORATION-SATELLITE	Active sensors	Space station (EW) TX Space station (EW) RX	
1240 - 1260 MHz RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH, SPACE-TO-SPACE)	1240 - 1260 MHz (20 MHz) Radionavigation satellite	Space station (EN) TX Mobile earth station (UN) RX Space station (EN) TX Space station (EN) RX	
AERONAUTICAL RADIONAVIGATION	Aeronautical radionavigation		
RADIOLOCATION	Radars		
EARTH EXPLORATION-SATELLITE	Active sensors	Space station (EW) TX Space station (EW) RX	
Amateur	Amateur		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
1260 - 1300 MHz Amateur and amateur-satellite	1260 - 1270 MHz (10 MHz) Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. The amateur-satellite service may operate subject not to causing harmful interference to other services, limited to the Earth-to-space direction, on a secondary basis. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of

			the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH, SPACE-TO-SPACE)	1260 - 1300 MHz (40 MHz) Radionavigation satellite	Space station (EN) TX Mobile earth station (UN) RX Space station (EN) TX Space station (EN) RX	
AERONAUTICAL RADIONAVIGATION	Aeronautical radionavigation		
RADIOLOCATION	Radars		
EARTH EXPLORATION-SATELLITE	Active sensors	Space station (EW) TX Space station (EW) RX	
RADIOLOCATION	1270 - 1295 MHz (25 MHz) Wind Profiler Radars		Usage according to ITU-R M. 1227.
Amateur	1270 - 1300 MHz (30 MHz) Amateur		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
1300 - 1350 MHz AERONAUTICAL RADIONAVIGATION	1300 - 1350 MHz (50 MHz) Aeronautical radionavigation		
RADIOLOCATION	Radars		
RADIONAVIGATION-SATELLITE (EARTH-TO-SPACE)	Radionavigation satellite	Space station (EN) RX Mobile earth station (UN) TX	

1350 - 1400 MHz FIXED	1350 - 1375 MHz (25 MHz) Military use		
	1375.750 - 1376.750 MHz (1 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 0,5 MHz, +52 MHz 1427.750 - 1428.750 MHz DRS2/1400	Channel plan according to CEPT Rec. T/R 13-01 Annex B. Digital point-to-point radiolinks, channels B1a - B3a. Standards EN 301 751, EN 300 630. Antenna standard EN 300 631. Radiation pattern envelope class 2. Minimum antenna gain 16 dBi. Minimum cross polar discrimination 25 dB. Sub-band under review.
	1378.750 - 1389.250 MHz (10.500 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 3,5 MHz, 2 MHz. +52 MHz 1430.750 - 1441.250 MHz PMP4/1400	Channel plan according to CEPT Rec. T/R 13-01 Annex B. Point-to-multipoint radiolinks, channels A1a - A4a. Standard EN 301 753. Antenna standard EN 301 525. Radiation pattern envelope for central station CS1 and for terminal station TS3. Minimum antenna gain for central station 5 dBi and for terminal station 14 dBi. Minimum cross polar discrimination for central station 20 dB. Sub-band under review.
	1391 - 1400 MHz (9 MHz) Military use		
1400 - 1427 MHz RADIO ASTRONOMY	1400 - 1427 MHz (27 MHz) Radio Astronomy	Radio astronomy station (RA) RX	All emissions prohibited (RR 5.340).

1427 - 1429 MHz FIXED	1427.750 - 1428.750 MHz (1 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 0,5 MHz, -52 MHz 1375.750 - 1376.750 MHz DRS2/1400	Channel plan according to CEPT Rec. T/R 13-01 Annex B. Digital point-to-point radiolinks, channels B1b - B3b. Standardi EN 301 751, EN 300 630. Antenna standard EN 300 631. Radiation pattern envelope class 2. Minimum antenna gain 16 dBi. Minimum cross polar discrimination 25 dB. Sub-band under review.
1429 - 1452 MHz FIXED	1430.750 - 1441.250 MHz (10.500 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 3,5 MHz, 2 MHz. -52 MHz 1378.750 - 1389.250 MHz PMP4/1400	Channel plan according to CEPT Rec. T/R 13-01 Annex B. Point-to-multipoint radiolinks, channels A1b - A4b. Standard EN 301 753. Antenna standard EN 301 525. Radiation pattern envelope for central station class CS1 and for terminal station TS3. Minimum antenna gain for central station 5 dBi and for terminal station 14 dBi. Minimum cross polar discrimination for central station 20 dB. Sub-band under review.
	1443 - 1452 MHz (9 MHz) Military use		
1452 - 1492 MHz FIXED	1452 - 1467 MHz (15 MHz) Military use		The frequencies shall be used for fixed services until needed for T-DAB.

BROADCASTING	Terrestrial Digital Audio Broadcasting (T-DAB)		Usage according to the Maastricht 2002 agreement (Constanta 2007). Standard ETS 300 401.
	1467.000 - 1479.500 MHz (12.500 MHz) Terrestrial Digital Audio Broadcasting (T-DAB)		Usage according to the Maastricht 2002 agreement (Constanta 2007). Standard ETS 300 401.
BROADCASTING-SATELLITE	1479.500 - 1492.000 MHz (12.500 MHz) Satellite Digital Audio Broadcasting (S-DAB)		Standard ETS 300 401. ECC decision ECC/DEC/(03)02.
1492 - 1525 MHz MOBILE	1492 - 1519 MHz (27 MHz) Military use		
MOBILE-SATELLITE (SPACE-TO-EARTH)	1518 - 1525 MHz (7 MHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX 1670 - 1675 MHz	ECC decision ECC/DEC/(04)09. Stations in the mobile-satellite service shall not claim protection from the stations in the fixed service.
FIXED, MOBILE	1519.200 - 1524.800 MHz (5.600 MHz) Sound program transmission	200 kHz, 300 kHz. FMÄ/1500	Fixed radio links and mobile transmitters for one-way sound program transmission. Standard EN 300 454.
1525 - 1530 MHz MOBILE-SATELLITE (SPACE-TO-EARTH)	1525 - 1530 MHz (5 MHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX +101,5 MHz 1626.500 - 1631.500 MHz	ERC Decision ERC/DEC/(98)12 (Inmarsat-D), ERC/DEC/(98)13 (Inmarsat-C), ERC/DEC/(98)14 (Inmarsat-M), ERC/DEC/(98)18 (EMS-Prodat), ERC/DEC/(98)19 (EMS-MSSAT), ERC/DEC/(98)29 (Inmarsat Mini-M), ERC/DEC/(99)18 (Inmarsat-B),

			ERC/DEC/(99)20 (Inmarsat-M4), ERC/DEC/(01)22 (SpaceChecker), ERC/DEC/(01)25 (Thuraya). ECC/DEC/(02)11. Standard EN 301 426. Standard EN 301 444. Standard EN 301 681. User certificate is required of users of maritime safety equipment.
1530 - 1535 MHz MOBILE-SATELLITE (SPACE-TO-EARTH)	1530 - 1533 MHz (3 MHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX +101,5 MHz 1631.500 - 1634.500 MHz	ERC Decision ERC/DEC/ (98)12 (Inmarsat-D), ERC/DEC/(98)13 (Inmarsat-C), ERC/DEC/(98)14 (Inmarsat-M), ERC/DEC/(98)18 (EMS-Prodat), ERC/DEC/(98)19 (EMS-MSSAT), ERC/DEC/(98)29 (Inmarsat Mini-M), ERC/DEC/(99)18 (Inmarsat-B), ERC/DEC/(99)20 (Inmarsat-M4), ERC/DEC/(01)22 (SpaceChecker), ERC/DEC/(01)25 (Thuraya). ECC/DEC/(02)11. Standard EN 301 426. Standard EN 301 444. Standard EN 301 681. Priority to maritime distress and safety communications (RR 5.353A). User certificate is required of users of maritime safety equipment.

	1533 - 1535 MHz (2 MHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX +101,5 MHz 1634.500 - 1636.500 MHz	ERC Decision ERC/DEC/(98)12 (Inmarsat-D), ERC/DEC/(98)13 (Inmarsat-C), ERC/DEC/(98)14 (Inmarsat-M), ERC/DEC/(98)18 (EMS-Prodat), ERC/DEC/(98)19 (EMS-MSSAT), ERC/DEC/(98)29 (Inmarsat Mini-M), ERC/DEC/(99)18 (Inmarsat-B), ERC/DEC/(99)20 (Inmarsat-M4), ERC/DEC/(01)22 (SpaceChecker), ERC/DEC/(01)25 (Thuraya). ECC/DEC/(02)11. Standard EN 301 426. Standard EN 301 444. Standard EN 301 681. Priority to maritime distress and safety communications (RR 5.353A). User certificate is required of users of maritime safety equipment.
1535 - 1559 MHz MOBILE-SATELLITE (SPACE-TO-EARTH)	1535 - 1544 MHz (9 MHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX +101,5 MHz 1636.500 - 1645.500 MHz	ERC Decision ERC/DEC/(98)12 (Inmarsat-D), ERC/DEC/(98)13 (Inmarsat-C), ERC/DEC/(98)14 (Inmarsat-M), ERC/DEC/(98)18 (EMS-Prodat), ERC/DEC/(98)19 (EMS-MSSAT), ERC/DEC/(98)29 (Inmarsat Mini-M), ERC/DEC/(99)18 (Inmarsat-B), ERC/DEC/(99)20 (Inmarsat-M4), ERC/DEC/(01)22

			(SpaceChecker), ERC/DEC/(01)25 (Thuraya). ECC/DEC/(02)11. Standard EN 301 426. Standard EN 301 444. Standard EN 301 681. Priority to maritime distress and safety communications (RR 5.353A). User certificate is required of users of maritime safety equipment.
	1544 - 1545 MHz (1 MHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX +101,5 MHz 1645.500 - 1646.500 MHz	For distress and safety only (RR 5.356). SAR band in use for Inmarsat E Earth stations. User certificate is required of users of maritime safety equipment.
	1545 - 1555 MHz (10 MHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX +101,5 MHz 1646.500 - 1656.500 MHz	Priority to aeronautical distress and safety communications (RR 5.362A). User certificate is required of users of maritime safety equipment.
	1555 - 1559 MHz (4 MHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX +101,5 MHz 1656.500 - 1660.500 MHz	ERC Decision ERC/DEC/ (98)12 (Inmarsat-D), ERC/DEC/(98)13 (Inmarsat-C), ERC/DEC/(98)14 (Inmarsat-M), ERC/DEC/(98)18 (EMS-Prodat), ERC/DEC/(98)19 (EMS-MSSAT), ERC/DEC/(98)29 (Inmarsat Mini-M), ERC/DEC/(99)18 (Inmarsat-B), ERC/DEC/(99)20 (Inmarsat-M4), ERC/DEC/(01)22 (SpaceChecker), ERC/DEC/(01)25

			(Thuraya). ECC/DEC/(02)11. Standard EN 301 426. Standard EN 301 444. Standard EN 301 681. User certificate is required of users of maritime safety equipment.
1559 - 1610 MHz RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH, SPACE-TO-SPACE)	1559 - 1610 MHz (51 MHz) Radionavigation satellite	Space station (EN) TX Mobile earth station (UA) RX Space station (EN) TX Space station (EN) RX	
1610.000 - 1610.600 MHz MOBILE-SATELLITE (EARTH-TO-SPACE)	1610.000 - 1610.600 MHz (0.600 MHz) Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX 2483.500 - 2500.000 MHz	Terminals are exempt from licensing, see regulation Ficora 15. 1610.000 - 1621.350 MHz Globalstar, standard EN 301 441. ERC decision ERC/DEC/ (97)03. User certificate is required of users of maritime safety equipment.
1610.600 - 1613.800 MHz MOBILE-SATELLITE (EARTH-TO-SPACE)	1610.600 - 1613.800 MHz (3.200 MHz) Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX 2483.500 - 2500.000 MHz	Terminals are exempt from licensing, see regulation Ficora 15. 1610.000 - 1621.350 MHz Globalstar, standard EN 301 441. ERC decision ERC/DEC/ (97)03. ERC decision ERC/DEC/ (97)05. User certificate is required of users of maritime safety equipment.

1613.800 - 1626.500 MHz MOBILE-SATELLITE (EARTH-TO-SPACE)	1613.800 - 1626.500 MHz (12.700 MHz) Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX 2483.500 - 2500.000 MHz	Terminals are exempt from licensing, see regulation Ficora 15. 1610.000 - 1621.350 MHz Globalstar, standard EN 301 441. 1621.350 - 1626.500 MHz Iridium (also space-to-Earth), standard EN 301 441. Space-to-Earth direction on a secondary basis. ERC decision ERC/DEC/(97)03. ERC decision ERC/DEC/(97)05. User certificate is required of users of maritime safety equipment.
1626.500 - 1660.000 MHz MOBILE-SATELLITE (EARTH-TO-SPACE)	1626.500 - 1631.500 MHz (5 MHz) Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX -101,5 MHz 1525 - 1530 MHz	Terminals are exempt from licensing, see regulation Ficora 15. ERC Decision ERC/DEC/(98)12 (Inmarsat-D), ERC/DEC/(98)13 (Inmarsat-C), ERC/DEC/(98)14 (Inmarsat-M), ERC/DEC/(98)18 (EMS-Prodat), ERC/DEC/(98)19 (EMS-MSSAT), ERC/DEC/(98)29 (Inmarsat Mini-M), ERC/DEC/(99)18 (Inmarsat-B), ERC/DEC/(99)20 (Inmarsat-M4), ERC/DEC/(01)22 (SpaceChecker), ERC/DEC/(01)25 (Thuraya). ECC/DEC/(02)11. Standard EN 301 426. Standard EN 301 444. Standard EN 301 681. Priority to maritime distress

			and safety communications (RR 5.353A). User certificate is required of users of maritime safety equipment.
	1631.500 - 1636.500 MHz (5 MHz) Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX -101,5 MHz 1530 - 1535 MHz	Terminals are exempt from licensing, see regulation Ficora 15. ERC Decision ERC/DEC/ (98)12 (Inmarsat-D), ERC/DEC/(98)13 (Inmarsat-C), ERC/DEC/(98)14 (Inmarsat-M), ERC/DEC/(98)18 (EMS-Prodat), ERC/DEC/(98)19 (EMS-MSSAT), ERC/DEC/(98)29 (Inmarsat Mini-M), ERC/DEC/(99)18 (Inmarsat-B), ERC/DEC/(99)20 (Inmarsat-M4), ERC/DEC/(01)22 (SpaceChecker), ERC/DEC/(01)25 (Thuraya). ECC/DEC/(02)11. Standard EN 301 426. Standard EN 301 444. Standard EN 301 681. Priority to maritime distress and safety communications (RR 5.353A). User certificate is required of users of maritime safety equipment.

1636.500 - 1645.500 MHz (9 MHz) Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX -101,5 MHz 1535 - 1544 MHz	Terminals are exempt from licensing, see regulation Ficora 15. ERC Decision ERC/DEC/(98)12 (Inmarsat-D), ERC/DEC/(98)13 (Inmarsat-C), ERC/DEC/(98)14 (Inmarsat-M), ERC/DEC/(98)18 (EMS-Prodat), ERC/DEC/(98)19 (EMS-MSSAT), ERC/DEC/(98)29 (Inmarsat Mini-M), ERC/DEC/(99)18 (Inmarsat-B), ERC/DEC/(99)20 (Inmarsat-M4), ERC/DEC/(01)22 (SpaceChecker), ERC/DEC/(01)25 (Thuraya). ECC/DEC/(02)11. Standard EN 301 426. Standard EN 301 444. Standard EN 301 681. Priority to maritime distress and safety communications (RR 5.353A). User certificate is required of users of maritime safety equipment.
1645.500 - 1646.500 MHz (1 MHz) Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX -101,5 MHz 1544 - 1545 MHz	For distress and safety only (RR 5.375). SAR band in use for Inmarsat E Earth stations. User certificate is required of users of maritime safety equipment.

1646.500 - 1656.500 MHz (10 MHz) Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX -101,5 MHz 1545 - 1555 MHz	Terminals are exempt from licensing, see regulation Ficora 15. ERC Decision ERC/DEC/ (98)12 (Inmarsat-D), ERC/DEC/(98)13 (Inmarsat-C), ERC/DEC/(98)14 (Inmarsat-M), ERC/DEC/(98)18 (EMS-Prodat), ERC/DEC/(98)19 (EMS-MSSAT), ERC/DEC/(98)29 (Inmarsat Mini-M), ERC/DEC/(99)18 (Inmarsat-B), ERC/DEC/(99)20 (Inmarsat-M4), ERC/DEC/(01)22 (SpaceChecker), ERC/DEC/(01)25 (Thuraya). ECC/DEC/(02)11. Standard EN 301 426. Standard EN 301 444. Standard EN 301 681. Priority to aeronautical distress and safety communications (RR 5.362A). User certificate is required of users of maritime safety equipment.
1656.500 - 1660.000 MHz (3.500 MHz) Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX -101,5 MHz 1555 - 1559 MHz	Terminals are exempt from licensing, see regulation Ficora 15. ERC Decision ERC/DEC/ (98)12 (Inmarsat-D), ERC/DEC/(98)13 (Inmarsat-C), ERC/DEC/(98)14 (Inmarsat-M), ERC/DEC/(98)18 (EMS-Prodat), ERC/DEC/(98)19 (EMS-MSSAT),

			ERC/DEC/(98)29 (Inmarsat Mini-M), ERC/DEC/(99)18 (Inmarsat-B), ERC/DEC/(99)20 (Inmarsat-M4), ERC/DEC/(01)22 (SpaceChecker), ERC/DEC/(01)25 (Thuraya). ECC/DEC/(02)11. Standard EN 301 426. Standard EN 301 444. Standard EN 301 681. User certificate is required of users of maritime safety equipment.
1660.000 - 1660.500 MHz RADIO ASTRONOMY	1660.000 - 1660.500 MHz (0.500 MHz) Radio Astronomy	Radio astronomy station (RA) RX	
MOBILE-SATELLITE (EARTH-TO-SPACE)	Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX -101,5 MHz 1555 - 1559 MHz	Terminals are exempt from licensing, see regulation Ficora 15. ERC Decision ERC/DEC/(98)12 (Inmarsat-D), ERC/DEC/(98)13 (Inmarsat-C), ERC/DEC/(98)14 (Inmarsat-M), ERC/DEC/(98)18 (EMS-Prodat), ERC/DEC/(98)19 (EMS-MSSAT), ERC/DEC/(98)29 (Inmarsat Mini-M), ERC/DEC/(99)18 (Inmarsat-B), ERC/DEC/(99)20 (Inmarsat-M4), ERC/DEC/(01)22 (SpaceChecker), ERC/DEC/(01)25 (Thuraya). ECC/DEC/(02)11. Standard EN 301 426.

			Standard EN 301 444. Standard EN 301 681. User certificate is required of users of maritime safety equipment.
1660.500 - 1668.400 MHz RADIO ASTRONOMY	1660.500 - 1668.400 MHz (7.900 MHz) Radio Astronomy	Radio astronomy station (RA) RX	
1668.400 - 1670.000 MHz METEOROLOGICAL AIDS RADIO ASTRONOMY	1668.400 - 1670.000 MHz (1.600 MHz) Sondes Radio Astronomy	Mobile station (SA) TX Base station (SM) RX Radio astronomy station (RA) RX	Standard EN 302 454. Usage according ITU-R Rec. RS.1165-2.
1670 - 1675 MHz MOBILE-SATELLITE (EARTH-TO-SPACE) Mobile	1670 - 1675 MHz (5 MHz) Mobile satellite Mobile radio	Mobile earth station (UA) TX Space station (EI) RX 1518 - 1525 MHz	ECC decision ECC/DEC/(04)09.
1675 - 1690 MHz METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	1675 - 1690 MHz (15 MHz) Meteorological-satellites	Space station (EM) TX Earth station (TM) RX	
	Sondes	Mobile station (SA) RX Base station (SM) RX	Standard EN 302 454. Usage according ITU-R Rec. RS.1165-2.
1690 - 1700 MHz METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	1690 - 1700 MHz (10 MHz) Meteorological-satellites	Space station (EM) TX Earth station (TM) RX	
	Sondes	Mobile station (SA) RX Base station (SM) RX	Standard EN 302 454. Usage according ITU-R Rec. RS.1165-2.
1700 - 1710 MHz METEOROLOGICAL-SATELLITE (SPACE-TO-EARTH)	1700 - 1710 MHz (10 MHz) Meteorological-satellites	Space station (EM) TX Earth station (TM) RX	

1710 - 1980 MHz MOBILE	1710.200 - 1784.800 MHz (74.600 MHz) GSM 1800	Duplex. Base station (FB) RX 200 kHz, 200 kHz. +95 MHz 1805.200 - 1879.800 MHz	Terminals are exempt from licensing, see regulation Ficora 15. Standards and specifications: ETSI TS 151 010-1 (terminal) ETSI TS 151 021 (base station) ETSI TS 151 026 (repeaters). ERC decision ERC/DEC/(95)03, ERC/DEC/(95)01. ECC decision ECC/DEC/(06)07. European Commission decision 2008/294/EC.
	IMT	Duplex. Base station (FB) RX +95 MHz 1805.200 - 1879.800 MHz	Terminals are exempt from licensing, see regulation Ficora 15. Specifications to the appropriate extent: ETSI TS 134 121 (UMTS terminals) ETSI TS 125 141 (UMTS base stations) ETSI TS 125 143 (UMTS repeaters) ECC decision ECC/DEC/(06)13. ERC decision ERC/DEC/(00)06. IMT/UMTS channel plan under review.
	1785 - 1800 MHz (15 MHz) (SRD) Radio microphones	Simplex. Land mobile station (ML) TXRX	Total bandwidth of emission for analogue transmitters max. 200 kHz. Total bandwidth of emission for digital transmitters max. 600 kHz. Standards EN 300 422-1 and EN 301 840. SRD recommendation ERC/REC/70-03.

1800 - 1805 MHz (5 MHz) Mobile radio		European negotiations for the future use of the frequency band under-way. ECC decision ECC/DEC/ (02)07.
1805.200 - 1879.800 MHz (74.600 MHz) GSM 1800	Duplex. Base station (FB) TX 200 kHz, 200 kHz. -95 MHz 1710.200 - 1784.800 MHz	Standards and specifications: ETSI TS 151 010-1 (terminal) ETSI TS 151 021 (base station) ETSI TS 151 026 (repeaters). ERC decision ERC/DEC/ (95)03. ECC decision ECC/DEC/ (06)07. European Commission decision 2008/294/EC.
IMT	Duplex. Base station (FB) TX -95 MHz 1710.200 - 1784.800 MHz	Specifications to the appropriate extent: ETSI TS 134 121 (UMTS terminals) ETSI TS 125 141 (UMTS base stations) ETSI TS 125 143 (UMTS repeaters) ECC decision ECC/DEC/ (06)13. IMT/UMTS channel plan under review.
1881.792 - 1897.344 MHz (15.552 MHz) DECT	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX 1,728 MHz,	Terminals are exempt from licensing, see regulation Ficora 15. Radiated power max. 250 mW. Standard EN 301 406. ERC decison ERC/DEC/ (94)03.

1900 - 1920 MHz (20 MHz) IMT	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX	UTRAN TDD Terminals are exempt from licensing, see regulation Ficora 15. ECC decision ECC/DEC/(06)01. ERC recommendation ERC/REC/(01)01. ERC decision ERC/DEC/(00)06. Specifications to the appropriate extent: ETSI TS 134 122 (terminal) ETSI TS 125 142 (base stations)
1920 - 1980 MHz (60 MHz) IMT	Duplex. Base station (FB) RX +190 MHz 2110 - 2170 MHz	UTRAN FDD Terminals are exempt from licensing, see regulation Ficora 15. ECC decision ECC/DEC/(06)01. ERC decision ERC/DEC/(00)06 ERC recommendation ERC/REC/(01)01. Specifications to the appropriate extent: ETSI TS 134 121 (terminals) ETSI TS 125 141 (base stations) ETSI TS 125 143 (repeaters) Fixed radio: in the frequency band some old radio links are used; duplex band 2038.500-2094.500 MHz.

1980 - 2010 MHz MOBILE-SATELLITE (EARTH-TO-SPACE)	1980 - 2010 MHz (30 MHz) Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX 2170 - 2200 MHz	Equipment are exempt from licensing, see regulation Ficora 15. Standard EN 301 442. ERC decision ERC/DEC/(97)03, ERC/DEC/(97)05. ECC beslut ECC/DEC/(06)09. European Commission decision 2007/98/EC.
2010 - 2025 MHz MOBILE	2010 - 2020 MHz (10 MHz) IMT	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX	UTRAN TDD ECC decision ECC/DEC/(06)01.
	2020 - 2025 MHz (5 MHz) IMT	Simplex. Base station (FB) TXRX Land mobile station (ML) TXRX	UTRAN TDD Terminals are exempt from licensing, see regulation Ficora 15. ECC decision ECC/DEC/(06)01. ERC decision ERC/DEC/(00)06. ERC recommendation ERC/REC/(01)01. Specifications to the appropriate extent: ETSI TS 134 122 (terminals) ETSI TS 125 142 (base stations)
2025 - 2110 MHz SPACE OPERATION (EARTH-TO-SPACE, SPACE-TO-SPACE)	2025 - 2110 MHz (85 MHz) Space operation	Earth station (TT) TX Space station (ET) RX 2200 - 2290 MHz Space station (ET) TX Space station (ET) RX	
EARTH EXPLORATION-SATELLITE (EARTH-TO-SPACE, SPACE-TO-EARTH)	Earth exploration satellite	Earth station (TW) TX Space station (EW) RX Space station (EW) TX Earth station (TW) RX	

FIXED	2038.500 - 2094.500 MHz (56 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, 16 MHz. +175 MHz 2213.500 - 2269.500 MHz DRS2X8/2100	Channel plan according to CEPT Rec. T/R 13-01 Annex C. Channels 1a - 5a. Standard ETS 300 633-1.3.1, class 2. Antenna standard EN 300 631. Radiation pattern envelope class 2. Minimum antenna gain 20 dBi. Minimum cross polar discrimination 25 dB. Minimum hop lenght 20 km. No new links. Sub-band under review. In the frequency band some old radio links are used; the duplex band 1919.500-1975.500 MHz.
2110 - 2170 MHz MOBILE	2110 - 2170 MHz (60 MHz) IMT	Duplex. Base station (FB) TX -190 MHz 1920 - 1980 MHz	UTRAN FDD ECC decision ECC/DEC/(06)01. ERC recommendation ERC/REC/(01)01. Specifications to the appropriate extent: ETSI TS 134 121 (terminals) ETSI TS 125 141 (base stations) ETSI TS 125 143 (repeaters)
2170 - 2200 MHz MOBILE-SATELLITE (SPACE-TO-EARTH)	2170 - 2200 MHz (30 MHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX 1980 - 2010 MHz	Equipment are exempt from licensing, see regulation Ficora 15. Standard EN 301 442. ERC decision ERC/DEC/(97)03, ERC/DEC/(97)05. ECC decision ECC/DEC/(06)09. European Commission decision 2007/98/EC.

2200 - 2290 MHz SPACE OPERATION (EARTH-TO-SPACE, SPACE-TO-SPACE)	2200 - 2290 MHz (90 MHz) Space operation	Space station (ET) TX Earth station (TT) RX 2025 - 2110 MHz Space station (ET) TX Space station (ET) RX	
FIXED	2213.500 - 2269.500 MHz (56 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, 16 MHz. -175 MHz 2038.500 - 2094.500 MHz DRS2X8/2100	Channel plan according to CEPT Rec. T/R 13-01 Annex C. Channels 1b - 5b. Standard ETS 300 633-1.3.1, class 2. Antenna standard EN 300 631. Radiation pattern envelope class 2. Minimum antenna gain 20 dBi. Minimum cross polar discrimination 25 dB. Minimum hop length 20 km. No new links. Sub-band under review.
2290 - 2300 MHz FIXED MOBILE	2290 - 2300 MHz (10 MHz) Wireless cameras Mobile radio		Wireless cameras and ENG- links 2290 - 2400 MHz. Channel spacing max. 20 MHz. In the frequency band 2290- 2315 MHz the channels are assigned on a case-to-case basis. The frequency band 2315-2400 MHz is in common use for cordless cameras and ENG links subject to licence. Standard ETS 300 638 and EN 300 744 applies. ERC recommendation ERC/ REC 25-10.

2300.000 - 2483.500 MHz FIXED	2300 - 2400 MHz (100 MHz) Wireless cameras		Wireless cameras and ENG links 2290 - 2400 MHz. Channel spacing max. 20 MHz. In the frequency band 2290-2315 MHz the channels are assigned on a case-to-case basis. The frequency band 2315-2400 MHz is in common use for cordless cameras and ENG links subject to licence. Standard ETS 300 638 and EN 300 744 applies. ERC recommendation ERC/REC 25-10.
Amateur	2300 - 2400 MHz (100 MHz) Amateur		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
Amateur and amateur-satellite	2400 - 2450 MHz (50 MHz) Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. The amateur-satellite service may operate subject to not causing harmful interference to other services, limited to the Earth-to-space direction, on a secondary basis. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is

			attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
MOBILE	2400.000 - 2483.500 MHz (lower and upper limits of sub-band) (83.500 MHz) (SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 10 m W EIRP. Standard EN 300 440-1. SRD recommendation ERC/ REC/70-03. 2400 - 2500 MHz ISM (RR 5.150). European Commission decision 2006/771/EC.
	(SRD) Equipment for automatic vehicle identification for railways (AVI)		Channels for AVI 2447, 2448.5; 2450; 2451,5 and 2453 MHz. Equipment are exempt from licensing, see regulation Ficora 15. Standard EN 300 761. Radiated power max. 500 mW EIRP. SRD recommendation ERC/ REC/70-03.
	(SRD) Equipment for detecting movement and for alert		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 25 mW EIRP. Standard EN 300 440-1. ERC decision ERC/DEC/ (01)08. SRD recommendation ERC/ REC/70-03.

	(SRD) Wideband Data Transmission Systems (WAS/RLAN)		Equipment are exempt from licensing, see regulation Ficora 15. Effective radiated power max. 100 mW EIRP. Standard EN 300 328-1. ERC decision ERC/DEC/(01)07. SRD recommendation ERC/REC/70-03.
	2446 - 2454 MHz (8 MHz) (SRD) Radio frequency identification devices (RFID)		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power typically max. 500 mW EIRP. Radiated power max. 4 W EIRP only indoors and duty cycle < 15 %. The duty cycle shall be < 15 % during any 200 ms period (i. e. 30 ms on, 170 ms off). Standard EN 300 440-1. SRD recommendation ERC/REC/70-03. 2400-2500 MHz ISM RR (RR 5.150).
2483.500 - 2500.000 MHz MOBILE	2483.500 - 2500.000 MHz (16.500 MHz) Mobile radio		2400-2500 MHz ISM (RR 5.150).
MOBILE-SATELLITE (SPACE-TO-EARTH)	2483.500 - 2500.000 MHz (16.500 MHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX 1610.000 - 1626.500 MHz	2483,5 - 2500,0 MHz Globalstar, standard EN 301 441. ERC decision ERC/DEC/(97)03. 2400 - 2500 MHz ISM (RR 5.150).
2500 - 2690 MHz MOBILE	2500 - 2570 MHz (lower and upper limits of sub-band) (70 MHz) IMT, Mobile radio	Duplex. Base station (FB) RX +120 MHz 2620 - 2690 MHz	Sub-band under review, taken into use after 2008. ECC decision ECC/DEC/(02)06. ECC decision ECC/DEC/(05)05.

FIXED	2500.250 - 2566.750 MHz (66.500 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 3,5 MHz, 4 MHz. +119 MHz 2619.250 - 2685.750 MHz DRS2X2/2600	ITU-R F.283, modified (channel separation with 3.5 MHz channels). Digital radiolinks, channels 5a - 24a. Centre gap of the channel plan is 2569-2617 MHz. Standards EN 301 751, EN 300 633. Antenna standard EN 300 631. Radiation pattern envelope class 2. Minimum antenna gain 20 dBi. Minimum cross polar discrimination 25 dB. Minimum hop length 20 km.
MOBILE	2570 - 2620 MHz (lower and upper limits of sub-band) (50 MHz) IMT, Mobile radio		Sub-band under review, taken into use after 2008. ECC decision ECC/DEC/(02)06. ECC decision ECC/DEC/(05)05.
FIXED	2619.250 - 2685.750 MHz (66.500 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 3,5 MHz, 4 MHz. -119 MHz 2500.250 - 2566.750 MHz DRS2X2/2600	ITU-R F.283, modified. Digital radiolinks, channels 5b - 24b. Centre gap of the channel plan is 2569-2617 MHz. Standards EN 301 751, EN 300 633. Antenna standard EN 300 631. Radiation pattern envelope class 2. Minimum antenna gain 20 dBi. Minimum cross polar discrimination 25 dB. Minimum hop length 20 km.

MOBILE	2620 - 2690 MHz (lower and upper limits of sub-band) (70 MHz) IMT, Mobile radio	Duplex. Base station (FB) TX -120 MHz 2500 - 2570 MHz	Sub-band under review, taken into use after 2008. ECC decision ECC/DEC/ (02)06. ECC decision ECC/DEC/ (05)05.
2690 - 2700 MHz RADIO ASTRONOMY Mobile	2690 - 2700 MHz (10 MHz) Radio Astronomy Mobile radio		
2700 - 2900 MHz AERONAUTICAL RADIONAVIGATION	2700 - 2900 MHz (200 MHz) Aeronautical radionavigation		
Radiolocation	Military use		
	Radars		Radiated peak power max. 100 dBW. The use is restricted to ground-based radars and to associated airborne transponders, which transmit only when actuated by radars operating in the same band (RR 5.337).
2900 - 3100 MHz RADIONAVIGATION	2900 - 3100 MHz (200 MHz) Radionavigation		
RADIOLOCATION	Military use Radars		Radiated peak power max. 100 dBW.
3100 - 3300 MHz RADIOLOCATION	3100 - 3300 MHz (200 MHz) Radars Military use		Radiated peak power max. 100 dBW.
3300 - 3400 MHz RADIOLOCATION	3300 - 3400 MHz (100 MHz) Radars Military use		Radiated peak power max. 100 dBW.

Frequency band **Services in Finland**	**Sub-band** **(its width)** **and usage**	**Mode of traffic. Class of station and TX/RX-code** **Channel spacing, bandwidth. (Class of emission)** **Duplex separation and duplex band** **Standart type**	**Comments**
3400 - 4200 MHz Amateur	3400 - 3408 MHz (8 MHz) Amateur		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
MOBILE	3410 - 3500 MHz (lower and upper limits of sub-band) (90 MHz) Radio systems of wireless access network (BWA)	Duplex. Fixed station (FX) TXRX +100 MHz 3510 - 3600 MHz	Terminals are exempt from licensing, see regulation Ficora 15. Radiation pattern envelope for terminal station TS5, table 5. Standards EN 301 753, EN 301 124, EN 301 253, EN 301 021, EN 301 080. Antenna standard EN 302 085. ERC recommendations ERC/REC 14-03, ERC/ REC 13-04. ECC decision ECC/DEC/ (07)02. Mobile use is subject to licence. Frequency bands: a) 3410-3438 MHz b) 3438-3466 MHz c) 3466-3490 MHz

			Amendment to the usage plan for this sub-band under review. Thus licences are only granted up to and including 31.12.2010, for the time being.
	3500 - 3590 MHz (lower and upper limits of sub-band) (90 MHz) Radio systems of wireless access network (BWA)	Duplex. Fixed station (FX) TXRX -100 MHz 3400 - 3490 MHz	Terminals are exempt from licensing, see regulation Ficora 15. Central stations are subjects to licence. Radiation pattern envelope for central station CS class 3. Minimum antenna gain (non-directional) for central station 8 dBi. Standards EN 301 753, EN 301 124, EN 301 253, EN 301 021, EN 301 080. Antenna standard EN 302 085. ERC recommendations ERC/REC 14-03, ERC/ REC 13-04. ECC decision ECC/DEC/ (07)02. Mobile use is subject to licence. Frequency bands: a) 3510-3538 MHz b) 3538-3566 MHz c) 3566-3590 MHz Amendment to the usage plan for this sub-band under review. Thus licences are only granted up to and including 31.12.2010, for the time being.

FIXED	3597 - 3655 MHz (58 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 29 MHz, +126 MHz 3723 - 3781 MHz DRS17/3700, DRS34/3700, FMTV/3700	Channel plan according to ITU-R F.382. Transfer of TV programs, channels D1a - D3a. Standards EN 301 751, EN 301 216. Transmitter power max. 10 W. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop lenght 20 km. DRS 34/3700
FIXED SATELLITE (SPACE-TO-EARTH)	3600 - 4200 MHz (600 MHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	Not standardised earth stations and Very Small Aperture Terminal (VSAT), standard EN 301 443.
FIXED	3600 - 4200 MHz (600 MHz) Military use		Restricted right to use up to and including 31.12.2012.
	3610 - 3850 MHz (240 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 40 MHz, +320 MHz 3930 - 4170 MHz DRS140/3900, DRS155/3900	Channel plan according to CEPT Rec. ERC/REC 12-08 Annex A. Channels 1a - 7a. Standards EN 301 751, EN 301 669, EN 301 461, EN 301 277. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.

3611.500 - 3669.500 MHz (58 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 29 MHz, +126 MHz 3737.500 - 3795.500 MHz DRS17/3700, DRS34/3700, FMTV/3700	Transfer of TV programs, channels C1a - C3a. Standards EN 301 751, EN 301 216. Transmitter power max. 10 W. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
3723 - 3781 MHz (58 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 29 MHz, -126 MHz 3597 - 3655 MHz DRS17/3700, DRS34/3700, FMTV/3700	Standards EN 301 751, EN 301 216. Transfer of TV programs, channels D1b-D3b. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
3737.500 - 3795.500 MHz (58 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 29 MHz, -126 MHz 3611.500 - 3669.500 MHz DRS17/3700, DRS34/3700, FMTV/3700	Transfer of TV programs, channels C1b - C3b. Standards EN 301 751, EN 301 216. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.

3810 - 3955 MHz (145 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 29 MHz, +213 MHz 4023 - 4168 MHz DRS17/4000, DRS34/4000, FMTV/4000	Channel plan according to ITU-R F.382. Transfer of TV programs, channels B1a - B6a. Standards EN 301 751, EN 301 216. Transmitter power max. 10 W. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop lenght 20 km.
3824.500 - 3969.500 MHz (145 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 29 MHz, +213 MHz 4037.500 - 4182.500 MHz DRS17/4000, DRS34/4000, FMTV/4000	Channel plan according to ITU-R F.382. Transfer of TV programs, channels A1a - A6a. Standards EN 301 751, EN 301 216. Transmitter power max. 10 W. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.

3930 - 4170 MHz (240 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 40 MHz, -320 MHz 3610 - 3850 MHz DRS140/3900, DRS155/3900	Channel plan according to CEPT Rec. ERC/REC 12-08 Annex A. Channels 1b - 7b. Standards EN 301 751, EN 301 669, EN 301 461, EN 301 277. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
4023 - 4168 MHz (145 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 29 MHz, - 213 MHz 3810 - 3955 MHz DRS17/4000, DRS34/4000, FMTV/4000	Channel plan according to ITU-R F.382. Transfer of TV programs, channels B1b - B6b. Standards EN 301 751, EN 301 216. Transmitter power max. 10 W. Antenna standard EN 300 833. Radiation pattern envelope class 4, figure 2d. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.

	4037.500 - 4182.500 MHz (145 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 29 MHz, - 213 MHz 3824.500 - 3969.500 MHz DRS17/4000, DRS34/4000, FMTV/4000	Channel plan according to ITU-R F.382. Transfer of TV programs, channels A1b - A6b. Standards EN 301 751, EN 301 216. Transmitter power max. 10 W. Antenna standard EN 300 833. Radiation pattern envelope class 4, figure 2d. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
4200 - 4400 MHz AERONAUTICAL RADIONAVIGATION	4200 - 4400 MHz (200 MHz) Radio altimeters	Simplex. Mobile station (AM) TX 30 MHz.	Radiated power 500 mW.
4400 - 4800 MHz FIXED MOBILE	4400 - 4450 MHz (50 MHz) Fixed radiolinks Mobile radio		Sub-band under review. Sub-band under review.
FIXED	4450 - 4590 MHz (140 MHz) Military use		
FIXED SATELLITE (SPACE-TO-EARTH)	4500 - 4800 MHz (300 MHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX 6725 - 7025 MHz	Frequency plan for fixed-satellite, RR AP30B.
FIXED	4590 - 4610 MHz (20 MHz) Fixed radiolinks Mobile radio		Sub-band under review. Sub-band under review.
	4610 - 4650 MHz (40 MHz) Military use		
4800 - 4990 MHz MOBILE FIXED	4800 - 4870 MHz (70 MHz) Mobile radio Fixed radiolinks		Sub-band under review. Sub-band under review.

	4870 - 4990 MHz (120 MHz) Military use		
4990 - 5000 MHz FIXED	4990 - 5000 MHz (10 MHz) Fixed		
MOBILE RADIO ASTRONOMY	Mobile radio Radio Astronomy		
5000 - 5150 MHz RADIONAVIGATION-SATELLITE (EARTH-TO-SPACE)	5000 - 5010 MHz (10 MHz) Radionavigation satellite	Space station (EN) RX Mobile earth station (UN) TX	
AERONAUTICAL RADIONAVIGATION	5000 - 5030 MHz (30 MHz) Aeronautical radionavigation		
RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH, SPACE-TO-SPACE)	5010 - 5030 MHz (20 MHz) Radionavigation satellite	Space station (EN) TX Mobile earth station (UN) RX Space station (EN) TX Space station (EN) RX	
AERONAUTICAL RADIONAVIGATION	5030 - 5150 MHz (120 MHz) Aeronautical radionavigation	Simplex. Land station (AL) TX Mobile station (AM) RX	ICAO MLS.
FIXED SATELLITE	5091 - 5150 MHz (59 MHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Non-GSO MSS feeder links (RR 5.444A).
5150 - 5250 MHz FIXED SATELLITE (EARTH-TO-SPACE)	5150 - 5250 MHz (100 MHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Non-GSO MSS feeder links (RR 5.447A). 5150 - 5216 MHz (66 MHz) also space-to-Earth (RR 5.447B).
MOBILE	(SRD) Wideband Data Transmission Systems (WAS/RLAN)		Wide-band data transmission equipment (WAS/RLAN). Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 200 mW EIRP, the spectral power ensity of transmission shall be below 10 mW/1 MHz, only indoor use permitted, standard EN 301 893-1,

			ECC decision ECC/DEC/(04)08. SRD recommendation ERC/REC/70-03. European Commission decision 2005/513/EC and 2007/90/EC.
5250 - 5350 MHz MOBILE Earth exploration-satellite	5250 - 5350 MHz (100 MHz) (SRD) Wideband Data Transmission Systems (WAS/RLAN) Earth exploration satellite		Wide-band data transmission equipment (WAS/RLAN). Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 200 mW EIRP, the spectral power ensity of transmission shall be below 10 mW/1MHz, only indoor use permitted. RLAN equipment operating in the frequency bands 5250-5350 MHz and 5470-5725 MHz shall employ transmitter power control, which provides, on average, a mitigation factor of at least 3 dB on the maximum permitted output power of the systems. If transmitter power control is not in use, the maximum permitted mean EIRP and the corresponding mean EIRP density limits for the 5250-5350 MHz and 5470-5725 MHz bands shall be reduced by 3 dB.RLAN equipment operating in the 5250-5350 MHz and 5470-5725 MHz bands shall use mitigation

			techniques that give at least the same protection as the detection, operational and response requirements described in EN 301 893. Standard EN 301 893-1. ECC decision ECC/DEC/ (04)08. SRD recommendation ERC/ REC/70-03. European Commission decision 2005/513/EC and 2007/90/EC.
5350 - 5725 MHz RADIOLOCATION	5350 - 5400 MHz (50 MHz) Radars		
Earth exploration-satellite	5350 - 5460 MHz (110 MHz) Earth exploration satellite		
RADIOLOCATION	5400 - 5470 MHz (70 MHz) Military use		
	5470 - 5725 MHz (255 MHz) Radars		5480/5570 MHz position location (TX/RX of LR station).
MOBILE	(SRD) Wideband Data Transmission Systems (WAS/RLAN)		Wide-band data transmission equipment (WAS/RLAN). Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 1 W EIRP, the spectral power ensity of transmission shall be below 50 mW / 1 MHz. RLAN equipment operating in the frequency bands 5250-5350 MHz and 5470-5725 MHz shall employ transmitter power control, which provides, on average, a mitigation factor

			of at least 3 dB on the maximum permitted output power of the systems. If transmitter power control is not in use, the maximum permitted mean EIRP and the corresponding mean EIRP density limits for the 5250-5350 MHz and 5470-5725 MHz bands shall be reduced by 3 dB.RLAN equipment operating in the 5250-5350 MHz and 5470-5725 MHz bands shall use mitigation techniques that give at least the same protection as the detection, operational and response requirements described in EN 301 893. Standard EN 301 893-1. ECC decision ECC/DEC/(04)08 TAC decision of 14.8.1996. SRD recommendation ERC/REC/70-03. 5480/5570 MHz position location (TX/RX of LR station). European Commission decision 2005/513/EC and 2007/90/EC.
RADIOLOCATION	5500 - 5650 MHz (150 MHz) Meteorological radars	Simplex. Radiolocation land station (LR) TX	Radiated peak power max. 100 dBW.

Amateur and amateur-satellite	5650 - 5670 MHz (20 MHz) Amateur and amateur-Satellite		User certificate required. Amateur-Satellite service earth-to-space direction, subject to not causing harmful interference to other services. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
RADIOLOCATION	5650 - 5725 MHz (75 MHz) Radars	Simplex. Radiolocation land station (LR) TX	Radiated peak power max. 100 dBW.
Amateur	5670 - 5725 MHz (55 MHz) Amateur		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.

5725 - 5925 MHz Amateur	5725 - 5830 MHz (105 MHz) Amateur		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
MOBILE	5725 - 5875 MHz (150 MHz) (SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 25 mW EIRP. Standard EN 300 440-1. 5725 - 5875 MHz ISM (RR 5.150) SRD recommendation ERC/REC/70-03. European Commission decision 2006/771/EC.
FIXED SATELLITE (EARTH-TO-SPACE)	5725 - 5925 MHz (200 MHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Not standardised earth stations.
RADIOLOCATION	5795 - 5805 MHz (10 MHz) (SRD) Road Transport and Traffic telematics (RTTT)		Equipment are exempt from licensing, see regulation Ficora 15. Specially road toll systems. ECC decision ERC/DEC/(02)01. TAC decision of 18.11.1992. 5805 - 5815 MHz possible national expansion band for RTT. Standard EN 300 674. SRD recommendation ERC/REC/70-03.

Amateur and amateur-satellite	5830 - 5850 MHz (20 MHz) Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. Amateur-Satellite service space-to-earth direction, subject not to causing harmful interference to other services. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
FIXED SATELLITE (EARTH-TO-SPACE)	5850 - 5925 MHz (75 MHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX 3400 - 4200 MHz	Very Small Aperture Terminal (VSAT), standard EN 301 443.
FIXED	5875 - 5925 MHz (50 MHz) Fixed radiolinks		
5925 - 7080 MHz FIXED SATELLITE (EARTH-TO-SPACE)	5925 - 6650 MHz (725 MHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Very Small Aperture Terminal (VSAT), standard EN 301 443.
	5925 - 6725 MHz (800 MHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Not standardised earth stations.

FIXED	5945.200 - 6152.750 MHz (207.550 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 29,65 MHz, 30 MHz. +252,04 MHz 6197.240 - 6404.790 MHz	Channel plan according to CEPT Rec. ERC/REC 14-01. Channels 1a - 8a. Standard EN 301 751. Transmitter power max. 10 W. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
	6197.240 - 6404.790 MHz (207.550 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 29,65 MHz, 30 MHz. -252,04 MHz 5945.200 - 6152.750 MHz	Channel plan according to CEPT Rec. ERC/REC 14-01. Channels 1b - 8b. Standard EN 301 751. Transmitter power max. 10 W. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.

	6460 - 6740 MHz (280 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 40 MHz, +340 MHz 6800 - 7080 MHz DRS140/6800, DRS2X34/6800	Channel plan according to CEPT Rec. ERC/REC 14-02. Digital fixed radiolinks, channels 1a - 8a. Standard EN 301 751. Transmitter power max. 10 W. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
FIXED SATELLITE (EARTH-TO-SPACE, SPACE-TO-EARTH)	6700 - 7075 MHz (375 MHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	Non-GSO MSS feeder links, space-to-Earth, (RR 5.458B).
	6725 - 7025 MHz (300 MHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX 4500 - 4800 MHz	Frequency plan for fixed-satellite, RR AP30B.
FIXED	6800 - 7080 MHz (280 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 40 MHz, -340 MHz 6460 - 6740 MHz DRS140/6800, DRS2X34/6800	Channel plan according to CEPT Rec. ERC/REC 14-02. Digital fixed radiolinks, channels 1b - 8b. Standard EN 301 751. Transmitter power max. 10 W. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
FIXED SATELLITE (EARTH-TO-SPACE, SPACE-TO-EARTH)	7025 - 7075 MHz (50 MHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Not standardised earth stations.

7080 - 8500 MHz FIXED	7121 - 7233 MHz (112 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, +168 MHz 7289 - 7401 MHz DRS140/7300, DRS155/7300, DRS34/7300	Channel plan according to ITU-R F.385, modified (duplex spacing changed). Digital fixed radiolinks, channels 1a - 5a. Standards EN 301 751, EN 301 216, EN 300 234. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
	7289 - 7401 MHz (112 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, -168 MHz 7121 - 7233 MHz DRS140/7300, DRS155/7300, DRS34/7300	Channel plan according to ITU-R F.385, modified (duplex spacing changed). Digital fixed radiolinks, channels 1b - 5b. Standards EN 301 751, EN 301 216, EN 300 234. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.

7428 - 7540 MHz (112 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, +168 MHz 7596 - 7708 MHz DRS155/7600, DRS34/7600	Channel plan according to ITU-R F.385, modified (the frequency moved upwards + 29 MHz.) Digital fixed radiolinks, channels 1a - 5a. Standard EN 301 216. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
7501.500 - 7550.500 MHz (49 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7 MHz, +168 MHz 7669.500 - 7718.500 MHz DRS8/7600	Channel plan according to ITU-R F.385, modified (the frequency moved upwards + 29 MHz, national subdivision). Digital fixed radiolinks, channels D13a - D20a. Standards EN 301 751, EN 301 216. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.

7505 - 7547 MHz (42 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, +168 MHz 7673 - 7715 MHz DRS2X8/7600	Channel plan according to ITU-R F.385, modified (the frequency moved upwards + 29 MHz, national subdivision). Digital fixed radiolinks, channels C7a - C10a. Standards EN 301 751, EN 301 216. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
7596 - 7708 MHz (112 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, -168 MHz 7428 - 7540 MHz DRS155/7600, DRS34/7600	Channel plan according to ITU-R F.385, modified (the frequency moved upwards + 29 MHz). Digital fixed radiolinks, channels 1b - 5b. Standards EN 301 751, EN 301 216. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.

7669.500 - 7718.500 MHz (49 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7 MHz, -168 MHz 7501.500 - 7550.500 MHz DRS8/7600	Channel plan according to ITU-R F.385, modified (the frequency moved upwards + 29 MHz, national subdivision). Digital fixed radiolinks, channels D13b - D20b. Standards EN 301 751, EN 301 216. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
7673 - 7715 MHz (42 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, -168 MHz 7505 - 7547 MHz DRS2X8/7600	Channel plan according to ITU-R F.385, modified (the frequency moved upwards + 29 MHz, national subdivision). Digital fixed radiolinks, channels C7b - C10b. Standards EN 301 751, EN 301 216. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
7747.700 - 7955.250 MHz (207.550 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 29,65 MHz, +252,04 MHz 7999.740 - 8177.640 MHz DRS17/8000, FMTV/8000	Fixed and portable radiolinks of Digita Ltd. ENG/OB radiolinks, channels 1a - 7a. Channel 8a 7955.25 MHz transfer for radar signal, ENG/OB radio links (simplex).

	7999.740 - 8177.640 MHz (177.900 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 29,65 MHz, -252,04 MHz 7747.700 - 7925.600 MHz DRS17/8000, FMTV/8000	Fixed and portable radiolinks of Digita Ltd, channels 1b - 7b.
	8275 - 8500 MHz (225 MHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX	Sub-band under review. Standards EN 301 751, EN 301 216. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Minimum hop length 20 km.
8500 - 10000 MHz RADIOLOCATION	8500 - 10000 MHz (1500 MHz) Radars Military use		Maritime and aeronautical radiolocation. 8860/8960 MHz speed measuring of ships, TX/RX of fixed station.
	9500 - 9975 MHz (475 MHz) (SRD) Equipment for detecting movement and for alert		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 25 mW EIRP. Standard EN 300 440-1. SRD recommendation ERC/REC/70-03.
10.000 - 10.450 GHz FIXED	10.000 - 10.280 GHz (0.280 GHz) Fixed radiolinks	Simplex. Fixed station (FX) TX Portable link (FXS) TX FM TV/10000	Unidirectional video links including ENG/OB radiolinks. Standard EN 300 638. 10.015, 10.075, 10.135 GHz. The frequencies 10.045 and 10.105 are common channels in the whole of Finland.

Amateur	Amateur		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
MOBILE	10.000 - 10.450 GHz (0.450 GHz) Mobile radio		
FIXED	10.150 - 10.240 GHz (lower and upper limits of sub-band) (0.090 GHz) Radio systems of fixed wireless access network (FWA)	Duplex. Fixed station (FX) TXRX +350 MHz 10.500 - 10.590 GHz	Terminals are exempt from licensing, see regulation Ficora 15. Standards EN 301 751, EN 301 753, EN 301 124, EN 301 253, EN 301 080, EN 301 021. Antenna standard EN 302 085. Radiation pattern envelope class 3. ERC recommendations ERC/REC/12-05, ERC/ REC 13-04.
	10.259 - 10.287 GHz (0.028 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, +350 MHz 10.609 - 10.637 GHz DRS2X8/10500	Channel plan according to CEPT Rec. ERC/REC 12-05. Digital radiolinks, channels B2a - B4a. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

Amateur	10.368 - 10.370 GHz (0.002 GHz) Amateur		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
FIXED	10.3885 - 10.4060 GHz (0.0175 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 3,5 MHz, +266 MHz 10.6545 - 10.6720 GHz DRS2/10500, DRS8/10500	Digital fixed radiolinks, channels 30a-35a. No new licences.
	10.406 - 10.450 GHz (0.044 GHz) Fixed radiolinks	Simplex. Fixed station (FX) TX Portable link (FXS) TX	Unidirectional video radiolinks including ENG/OB radiolinks. Standard EN 300 638. 10.427 GHz video transmission. ERC recommendation ERC/REC 25-10.
10.450 - 10.500 GHz RADIOLOCATION	10.450 - 10.500 GHz (lower and upper limits of sub-band) (0.050 GHz) (SRD) Equipment for detecting movement and for alert		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 500 mW EIRP. Standard EN 300 440-1. SRD recommendation ERC/REC/70-03.

Amateur and amateur-satellite	Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
10.500 - 10.680 GHz RADIOLOCATION	10.500 - 10.550 GHz (lower and upper limits of sub-band) (0.050 GHz) (SRD) Equipment for detecting movement and for alert		Licence exempted equipment, taken into use before 31.12.1998, see regulation Ficora 15.
FIXED	10.500 - 10.590 GHz (lower and upper limits of sub-band) (0.090 GHz) Radio systems of fixed wireless access network (FWA)	Duplex. Fixed station (FX) TXRX -350 MHz 10.150 - 10.240 GHz	Terminals are exempt from licensing, see regulation Ficora 15. Standards EN 301 751, EN 301 753, EN 301 124, EN 301 253, EN 301 080, EN 301 021. Antenna standard EN 302 085. Radiation pattern envelope class 3. Minimum antenna gain (non-directional) for central station 8 dBi. ERC recommendation ERC/REC/12-05, ERC/REC 13-04.

	10.609 - 10.637 GHz (0.028 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, -350 MHz 10.259 - 10.287 GHz DRS2X8/10500	Channel plan according to CEPT Rec. ERC/REC 12-05. Digital radiolinks, channels B2b - B4b. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
	10.6545 - 10.6720 GHz (0.0175 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 3,5 MHz, -266 MHz 10.3885 - 10.4060 GHz DRS2/10500, DRS8/10500	Digital fixed radiolinks, channels 30b - 35b. No new licences.
10.680 - 10.700 GHz RADIO ASTRONOMY	10.680 - 10.700 GHz (0.020 GHz) Space research		
10.700 - 11.700 GHz FIXED SATELLITE (SPACE-TO-EARTH)	10.700 - 10.950 GHz (0.250 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX 12.750 - 13.250 GHz	Frequency plan for fixed-satellite, RR APS30B. Not in use in Finland, but reserved.
	10.700 - 11.700 GHz (1 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	Not standardised earth stations.
	Fixed satellite	Space station (EC) TX Earth station (TC) RX 14.250 - 14.500 GHz	ERC decision ERC/DEC/(00)08. Standard EN 301 428.
	Fixed satellite	Space station (EC) TX Earth station (TC) RX 29.500 - 30.000 GHz	ERC decision ERC/DEC/(00)08. Standard EN 301 459.
	Fixed satellite	Space station (EC) TX Earth station (TC) RX 14.000 - 14.250 GHz	ERC decision ERC/DEC/(00)08. OmniTRACS stations for EUTELTRACS system on a secondary basis, standard EN 301 427.

	Fixed satellite	Space station (EC) TX Earth station (TC) RX 12.750 - 13.250 GHz, 13.750 - 14.500 GHz	Satellite News Gathering (SNG), standard EN 301 430.
	11.200 - 11.450 GHz (0.250 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX 12.750 - 13.250 GHz	Frequency plan for fixed-satellite, RR APS30B.
	11.450 - 11.700 GHz (0.250 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX 14.000 - 14.250 GHz	ARCANET stations on a secondary basis, standard EN 301 427.
11.700 - 12.500 GHz BROADCASTING-SATELLITE	11.700 - 12.500 GHz (0.800 GHz) Broadcasting satellite	Space station (EV) TX Earth station (UV) RX 17.300 - 18.100 GHz	Frequency plan for broadcasting-satellite, RR AP30, WRC2000. ERC decision ERC/DEC/ (00)08.
Fixed satellite (space-to-earth)	Fixed satellite	Space station (EC) TX Earth station (TC) RX 29.500 - 30.000 GHz	Standard EN 301 459. ERC decision ERC/DEC/ (00)08.
	Fixed satellite	Space station (EC) TX Earth station (TC) RX	Non-GSO fixed satellite, not standardised earth stations.
12.500 - 12.750 GHz FIXED SATELLITE (SPACE-TO-EARTH)	12.500 - 12.750 GHz (0.250 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	Not standardised earth stations.
	Fixed satellite	Space station (EC) TX Earth station (TC) RX 29.500 - 30.000 GHz	Standard EN 301 459.
	Fixed satellite	Space station (EC) TX Earth station (TC) RX 12.750 - 13.250 GHz, 13.750 - 14.500 GHz	Satellite News Gathering (SNG), standard EN 301 430.
	Fixed satellite	Space station (EC) TX Earth station (TC) RX 14.000 - 14.250 GHz	Standard EN 301 428. ARCANET stations and OmniTRACS stations for EUTELTRACS system on a secondary basis, standard EN 301 427.

12.750 - 13.250 GHz FIXED SATELLITE (EARTH-TO-SPACE)	12.750 - 13.250 GHz (0.500 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Not standardised earth stations.
	Fixed satellite	Earth station (TC) TX Space station (EC) RX 10.700 - 11.700 GHz, 12.500 - 12.750 GHz	Satellite News Gathering (SNG), standard EN 301 430.
	Fixed satellite	Earth station (TC) TX Space station (EC) RX 10.700 - 10.950 GHz, 11.200 - 11.450 GHz	Frequency plan for fixed-satellite, RR AP30B.
FIXED	12.7545 - 12.9715 GHz (0.217 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7 MHz, +266 MHz 13.0205 - 13.2375 GHz DRS8/13000	Channel plan according to CEPT Rec. ERC/REC 12-02E. Digital radiolinks, channels E1a - E19a. Standards EN 301 751, EN 300 639, EN 300 786, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dBi.
	12.758 - 12.968 GHz (0.210 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, +266 MHz 13.024 - 13.234 GHz DRS2X8/13000	Channel plan according to CEPT Rec. ERC/REC 12-02E. Digital fixed radiolinks, channels D1a - D9. Standards EN 301 751, ETS 300 639, ETS 300 786, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

12.765 - 12.961 GHz (0.196 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, +266 MHz 13.031 - 13.227 GHz DRS34/13000	Channel plan according to CEPT Rec. ERC/REC 12-02E. Digital fixed radiolinks, channels A1a - A4a. Standards EN 301 751, EN 301 128, ETS 300 639. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
12.989 - 13.003 GHz (0.014 GHz) Fixed radiolinks		
13.0205 - 13.2375 GHz (0.217 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7 MHz, 266 MHz. -266 MHz 12.7545 - 12.9715 GHz DRS8/13000	Channel plan according to CEPT Rec. ERC/REC 12-02E. Digital fixed radiolinks, channels E1b - E19b. Standards EN 301 751, EN 300 639, EN 300 786, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dBi.

	13.024 - 13.234 GHz (0.210 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, -266 MHz 12.758 - 12.968 GHz DRS2X8/13000	Channel plan according to CEPT Rec. ERC/REC 12-02E. Digital fixed radiolinks, channels D1b - D9b. Standards EN 301 751, ETS 300 639, ETS 300 786, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
	13.031 - 13.227 GHz (0.196 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, -266 MHz 12.765 - 12.961 GHz DRS34/13000	Channel plan according to CEPT Rec. ERC/REC 12-02E. Digital fixed radiolinks, channels A1b - A4b. Standards EN 301 751, EN 301 128, ETS 300 639. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
13.250 - 13.400 GHz AERONAUTICAL RADIONAVIGATION Earth exploration-satellite	13.250 - 13.400 GHz (0.150 GHz) Aeronautical radionavigation Earth exploration satellite		Limited to Doppler navigation aids (RR 5.497).
13.400 - 13.750 GHz RADIOLOCATION EARTH EXPLORATION-SATELLITE	13.400 - 13.750 GHz (0.350 GHz) (SRD) Equipment for detecting movement and for alert Earth exploration satellite		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 25 mW EIRP. Standard EN 300 440-1. SRD recommendation ERC/REC/70-03.

13.750 - 14.000 GHz RADIOLOCATION	13.750 - 14.000 GHz (lower and upper limits of sub-band) (0.250 GHz) (SRD) Equipment for detecting movement and for alert		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 25 mW EIRP. Standard EN 300 440-1. SRD recommendation ERC/REC/70-03.
FIXED SATELLITE (EARTH-TO-SPACE)	Fixed satellite	Earth station (TC) TX Space station (EC) RX	Not standardised earth stations. In the frequency area restrictions on eirp (RR 5.502 and RR 5.503).
	Fixed satellite	Earth station (TC) TX Space station (EC) RX 10.700 - 11.700 GHz, 12.500 - 12.750 GHz	Satellite News Gathering (SNG), standard EN 301 430. In the frequency area restrictions on eirp (RR 5.502 and RR 5.503).
14.000 - 14.500 GHz FIXED SATELLITE (EARTH-TO-SPACE)	14.000 - 14.250 GHz (0.250 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX 12.500 - 12.750 GHz	Equipment are exempt from licensing, see regulation Ficora 15. ECC/DEC/(06)02 (LEST), ECC/DEC/(06)03 (HEST). Standard EN 301 428.
Mobile-satellite	Mobile satellite	Land mobile earth station (TU) TX Space station (EU) RX Ship earth station (TG) TX Space station (EG) RX 10.700 - 11.700 GHz, 11.450 - 11.700 GHz, 12.500 - 12.750 GHz	Terminals are exempt from licensing, see regulation Ficora 15. ECC/DEC/(98)15 (Omnitracs) ECC/DEC/(98)17 (Arcanet) ECC/DEC/(05)11 (AES) Standard EN 301 427. Standard EN 302 186.
FIXED SATELLITE (EARTH-TO-SPACE)	Fixed satellite	Earth station (TC) TX Space station (EC) RX 10.700 - 11.700 GHz, 12.500 - 12.750 GHz	Satellite News Gathering (SNG), standard EN 301 430.
	Fixed satellite	Earth station (TC) TX Space station (EC) RX	Not standardised earth stations.

	14.250 - 14.500 GHz (0.250 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX 10.700 - 11.700 GHz	Standard EN 301 428.
Mobile-satellite	14.250 - 14.500 GHz (0.250 GHz) Mobile satellite	Land mobile earth station (TU) TX Space station (EU) RX Ship earth station (TG) TX Space station (EG) RX 10.700 - 11.700 GHz, 12.500 - 12.750 GHz	Terminals are exempt from licensing, see regulation Ficora 15. ECC decision ECC/DEC/ (05)11 (AES). Standardi EN 302 186.
14.500 - 15.350 GHz FIXED	14.515 - 14.613 GHz (0.098 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, +728 MHz 15.243 - 15.341 GHz DRS2X8/15000, DRS8/15000	Channel plan according to ITU-R F.636. Digital fixed radiolinks, channels A1a - A8a. Standards EN 301 751, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
	14.627 - 14.921 GHz (0.294 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, +308 MHz 14.935 - 15.229 GHz DRS2X8/15000, DRS8/15000	Channel plan according to ITU-R F.636. Digital fixed radiolinks, channels B1a - B22a. Standards EN 301 751, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

	14.935 - 15.229 GHz (0.294 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, -308 MHz 14.627 - 14.921 GHz DRS2X8/15000, DRS8/15000	Channel plan according to ITU-R F.636. Digital fixed radiolinks, channels B1b - B22b. Standards EN 301 751, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
	15.243 - 15.341 GHz (0.098 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, -728 MHz 14.515 - 14.613 GHz DRS2X8/15000, DRS8/15000	Channel plan according to ITU-R F.636. Digital fixed radiolinks, channels A1b - A8b. Standards EN 301 751, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
15.350 - 15.400 GHz RADIO ASTRONOMY	15.350 - 15.400 GHz (0.050 GHz) Radio Astronomy		VLBI.
15.400 - 15.700 GHz AERONAUTICAL RADIONAVIGATION	15.430 - 15.630 GHz (0.200 GHz) Aeronautical radionavigation		
15.700 - 17.100 GHz RADIOLOCATION	15.700 - 17.100 GHz (1.400 GHz) Radars Military use		

17.100 - 17.300 GHz RADIOLOCATION	17.100 - 17.300 GHz (0.200 GHz) (SRD) radio location (GBSAR)		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 26 dBm EIRP. Appropriate access protocol. SRD recommendation ERC/REC/70-03. Standard EN 300 440.
EARTH EXPLORATION-SATELLITE	17.100 - 17.300 GHz (0.200 GHz) (SRD) Wideband Data Transmission Systems (WAS/RLAN) Earth exploration satellite		SRD recommendation ERC/REC/70-03.
17.300 - 19.300 GHz FIXED SATELLITE (SPACE-TO-EARTH)	17.300 - 17.700 GHz (0.400 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	ECC decision ECC/DEC/(05)08.
FIXED SATELLITE (EARTH-TO-SPACE)	17.300 - 18.100 GHz (0.800 GHz) Fixed satellite	Earth station (UV) TX Space station (EV) RX 11.700 - 12.500 GHz	Use limited to feeder links for broadcasting-satellite service (BSS) (RR 5.516).
FIXED	17.755 - 17.920 GHz (0.165 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 55 MHz, +1010 MHz 18.765 - 18.930 GHz DRS140/18700, DRS155/18700	ERC decision ERC/DEC/(00)07. Channel plan according to CEPT Rec. ERC/REC 12-03. Digital fixed radiolinks, channels F1a - F4a. Standard EN 300 430. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
FIXED SATELLITE (EARTH-TO-SPACE, SPACE-TO-EARTH)	17.800 - 18.600 GHz (0.800 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	Non-GSO RR 5.484A. ERC decision ERC/DEC/(00)07.

FIXED	18.030 - 18.250 GHz (0.220 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 110 MHz, +1010 MHz 19.040 - 19.260 GHz DRS140/18700, DRS155/18700	ERC decision ERC/DEC/(00)07. Channel plan according to CEPT Rec. ERC/REC 12-03. Digital fixed radiolinks, channels B3a - B5a. Antenna standard EN 300 833. Radiation pattern envelope class 3, figure 3c. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
FIXED SATELLITE (SPACE-TO-EARTH)	18.100 - 18.800 GHz (0.700 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	ERC decision ERC/DEC/(00)07. 18.1 - 18.4 GHz use limited to feeder links for broadcasting-satellite service (BSS) (RR 5.520).
FIXED	18.3325 - 18.4975 GHz (0.165 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 27,5 MHz, +1010 MHz 19.3425 - 19.5075 GHz DRS34/18700	ERC decision ERC/DEC/(00)07. Channel plan according to CEPT Rec. ERC/REC 12-03. Digital fixed radiolinks, channels A23a - A29a. Standardi EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 3, figure 3c. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

18.5275 - 18.5725 GHz (0.045 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 15 MHz, +1010 MHz 19.5375 - 19.5825 GHz DRS2X8/18700	ERC decision ERC/DEC/ (00)07. Channel plan according to ITU-R F.595, modified. Digital fixed radiolinks, channels E1a - E4a. Standards EN 301 751, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
18.5875 - 18.6475 GHz (0.060 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7,5 MHz, +1010 MHz 19.5975 - 19.6575 GHz DRS8/18700	ERC decision ERC/DEC/ (00)07. Channel plan according to ITU-R F.595, modified. Digital fixed radiolinks, channels C5a - C13a. Standards EN 301 751, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. In the band 18,6 - 18,8 GHz GHz transmitter power max. 0,5 W.

	18.6575 - 18.6825 GHz (0.025 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 5 MHz, +1010 MHz 19.6675 - 19.6925 GHz DRS2X2/18700	ERC decision ERC/DEC/ (00)07. Channel plan according to ITU-R F.595, modified. Digital fixed radiolinks, channels D1a - D6a. Standards EN 301 751, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. In the band 18,6 - 18,8 GHz GHz transmitter power max. 0,5 W.
	18.765 - 18.930 GHz (0.165 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 55 MHz, -1010 MHz 17.755 - 17.920 GHz DRS140/18700, DRS155/18700	ERC decision ERC/DEC/ (00)07. Channel plan according to CEPT Rec. ERC/REC 12-03. Digital fixed radiolinks, channels F1b - F4b. Standards EN 301 751, EN 300 430. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. In the band 18,6 - 18,8 GHz GHz transmitter power max. 0,5 W.
FIXED SATELLITE (SPACE-TO-EARTH)	18.800 - 19.300 GHz (0.500 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	ERC decision ERC/DEC/ (00)07. Non-GSO fixed satellite service (RR 5.523A).

FIXED	19.040 - 19.260 GHz (0.220 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 110 MHz, -1010 MHz 18.030 - 18.250 GHz DRS140/18700, DRS155/18700	ERC decision ERC/DEC/ (00)07. Channel plan according to CEPT Rec. ERC/REC 12-03. Digital fixed radiolinks, channels B3b - B5b. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
19.300 - 19.700 GHz FIXED SATELLITE (EARTH-TO-SPACE, SPACE-TO-EARTH)	19.300 - 19.700 GHz (0.400 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX Space station (EC) TX Earth station (TC) RX	ERC decision ERC/DEC/ (00)07. Also non-GSO MSS feeder links (RR 5.523D), also Earth-to-space (RR 5.523B).
FIXED	19.3425 - 19.5075 GHz (0.165 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 27,5 MHz, -1010 MHz 18.3325 - 18.4975 GHz DRS34/18700	ERC decision ERC/DEC/ (00)07. Channel plan according to CEPT Rec. ERC/REC 12-03. Digital fixed radiolinks, channels A23b - A29b. Standards EN 301 751, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

19.5375 - 19.5825 GHz (0.045 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 15 MHz, -1010 MHz 18.5275 - 18.5725 GHz DRS2X2/18700	ERC decision ERC/DEC/ (00)07. Channel plan according to ITU-R F.595, modified. Digital fixed radiolinks, channels E1b - E4b. Standards EN 301 751, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
19.5975 - 19.6575 GHz (0.060 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7,5 MHz, -1010 MHz 18.5875 - 18.6475 GHz DRS8/18700	ERC decision ERC/DEC/ (00)07. Channel plan according to ITU-R F.595, modified. Digital fixed radiolinks, channels C5b - C13b. Standards EN 301 751, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
19.6675 - 19.6925 GHz (0.025 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 5 MHz, -1010 MHz 18.6575 - 18.6825 GHz DRS2X2/18700	ERC decision ERC/DEC/ (00)07. Channel plan according to ITU-R F.595, modified. Digital fixed radiolinks, channels D1b - D6b. Standards EN 301 751, EN 301 128. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi.

			Minimum cross polar discrimination 27 dB.
19.700 - 20.100 GHz FIXED SATELLITE (SPACE-TO-EARTH)	19.700 - 20.100 GHz (0.400 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX 29.500 - 30.000 GHz	Satellite User Terminals (SUT), standard EN 301 459. ECC decision ECC/DEC/(05)08.
	Fixed satellite	Space station (EC) TX Earth station (TC) RX	Not standardised earth stations. ECC decision ECC/DEC/(05)08.
20.100 - 20.200 GHz MOBILE-SATELLITE (SPACE-TO-EARTH)	20.100 - 20.200 GHz (0.100 GHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX	
FIXED SATELLITE (SPACE-TO-EARTH)	Fixed satellite	Space station (EC) TX Earth station (TC) RX 29.500 - 30.000 GHz	Satellite User Terminals (SUT), standard EN 301 459. ECC decision ECC/DEC/(05)08.
	Fixed satellite	Space station (EC) TX Earth station (TC) RX	Not standardised earth stations. ECC decision ECC/DEC/(05)08.
20.200 - 21.200 GHz MOBILE-SATELLITE (SPACE-TO-EARTH)	20.200 - 21.200 GHz (1 GHz) Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX	
21.200 - 23.600 GHz FIXED	21.231 - 22.099 GHz (0.868 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, +1232 MHz 22.463 - 23.331 GHz DRS2X8/23000, DRS8/23000	Channel plan according to ITU-R F.637, no new licences. Digital fixed radiolinks, channels C1a - C63a. Standarder EN 301 751, EN 300 198. 21.2 - 21.4 GHz ENG/OB radiolinks and monitoring cameras. ERC recommendation ERC/REC 25-10. Standard EN 300 638.
BROADCASTING-SATELLITE	21.400 - 22.000 GHz (0.600 GHz) Broadcasting satellite		

FIXED	21.650 - 23.600 GHz (1.950 GHz) (SRD) Automotive Short Range Radar (SRR)		21,650 - 26,650 GHz automotive Short Range Radar (SRR). Terminals are exempt from licensing, see regulation Ficora 15. Use in the sub-band 21.650 - 23.600 GHz is not according to the mode of traffic in the Radio Regulation and new radars shall be taken into use on 30.6.2013 at the latest. The spectral power density of UWB transmission < -41.3 dBm/MHz EIRP, except for frequencies below 22 GHz where the spectral power density is < -61.3 dBm/MHz EIRP. 24.05 - 24.25 GHz narrowband component, peak power 20 dBm EIRP. Duty cycle < 10% for peak emission higher than -10 dBm EIRP. Standard EN 302 288. ECC decision ECC/DEC/(04)10. European Commission decision 2005/50/EC.
	22.078 - 22.134 GHz (0.056 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 56 MHz, +1008 MHz 23.086 - 23.142 GHz DRS155/23000	Channel plan according to CEPT Rec. T/R 13-02. Digital fixed radiolinks, channels E1a - E2a. Standards EN 301 751, EN 300 198. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar

			discrimination 27 dB.
	22.134 - 22.330 GHz (0.196 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, +1232 MHz 23.366 - 23.562 GHz FMTV/21400	Channel plan according to ITU-R F.637, no new licences. Digital and analog fixed radiolinks, channels B33a - B40a. Standards EN 301 751, EN 300 198.
	22.190 - 22.414 GHz (0.224 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, +1008 MHz 23.198 - 23.422 GHz DRS34/23000	Channel plan according to CEPT Rec. T/R 13-02. Digital fixed radiolinks, channels A1a - A9a. Standards EN 301 751, EN 300 198. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
RADIO ASTRONOMY	22.210 - 22.500 GHz (0.290 GHz) Radio Astronomy	Radio astronomy station (RA) RX	VLBI, satellite-VLBI, continuum measurements, solar radio emission, molecule lines.
FIXED	22.435 - 22.505 GHz (0.070 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, +1008 MHz 23.443 - 23.513 GHz DRS2X8/23000	Channel plan according to CEPT Rec. T/R 13-02. Digital fixed radiolinks, channels B3a - B8a. Standards EN 301 751, EN 300 198. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

22.463 - 23.331 GHz (0.868 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, -1232 MHz 21.231 - 22.099 GHz DRS2X8/23000, DRS8/23000	Channel plan according to ITU-R F.637, no new licences. Digital fixed radiolinks, channels C1b - C63b. Standard EN 300 198.
22.5155 - 22.5715 GHz (0.056 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7 MHz, +1008 MHz 23.5235 - 23.5795 GHz DRS8/23000	Channel plan according to CEPT Rec. T/R 13-02. Digital fixed radiolinks, channels D1a - D9a. Standards EN 301 751, EN 300 198. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
22.5855 - 22.5890 GHz (0.0035 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 3,5 MHz, +1008 MHz 23.5935 - 23.5970 GHz DRS2/23000, DRS2X2/23000	Channel plan according to CEPT Rec. T/R 13-02. Digital fixed radiolinks, channels F5a - F6a. Standards EN 301 751, EN 300 198. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
22.600 - 23.000 GHz (0.400 GHz) Fixed radiolinks	Simplex. Fixed station (FX) TXRX	ENG/OB radiolinks and video monitoring.

23.086 - 23.142 GHz (0.056 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 56 MHz, -1008 MHz 22.078 - 22.134 GHz DRS155/23000	Channel plan according to CEPT Rec. T/R 13-02. Digital fixed radiolinks, channels E1b - E2b. Standards EN 301 751, EN 300 198. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
23.198 - 23.422 GHz (0.224 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, -1008 MHz 22.190 - 22.414 GHz DRS34/23000	Channel plan according to CEPT Rec. T/R 13-02. Digital fixed radiolinks, channels A1b - A9b. Standards EN 301 751, EN 300 198. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
23.366 - 23.562 GHz (0.196 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, -1232 MHz 22.134 - 22.330 GHz FMTV/21400	Channel plan according to ITU-R F.637, no new licences. Digital and analog fixed radiolinks, channels B33b - B40b. Standard EN 300 198.

23.443 - 23.513 GHz (0.070 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, -1008 MHz 22.435 - 22.505 GHz DRS2X8/23000	Channel plan according to CEPT Rec. T/R 13-02. Digital fixed radiolinks, channels B3b - B8b. Standarder EN 301 751, EN 300 198. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
23.5235 - 23.5795 GHz (0.056 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7 MHz, -1008 MHz 22.5155 - 22.5715 GHz DRS8/23000	Channel plan according to CEPT Rec. T/R 13-02. Digital fixed radiolinks, channels D1b - D9b. Standards EN 301 751, EN 300 198. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
23.5935 - 23.5970 GHz (0.0035 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 3,5 MHz, -1008 MHz 22.5855 - 22.5890 GHz DRS2/23000, DRS2X2/23000	Channel plan according to CEPT Rec. T/R 13-02. Digital fixed radiolinks, channels F5b - F6b. Standards EN 301 751, EN 300 198. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

23.600 - 24.000 GHz RADIO ASTRONOMY	23.600 - 24.000 GHz (0.400 GHz) (SRD) Automotive Short Range Radar (SRR)		21,650 - 26,650 GHz automotive Short Range Radar (SRR). Terminals are exempt from licensing, see regulation Ficora 15. Use in the sub-band 23.6 - 24 GHz is not according to the mode of traffic in the Radio Regulation and new radars shall be taken into use on 30.6.2013 at the latest. The spectral power density of UWB transmission < -41.3 dBm/MHz EIRP, except for frequencies below 22 GHz where the spectral power density is < -61.3 dBm/MHz EIRP. 24.05 - 24.25 GHz narrowband component, peak power 20 dBm EIRP. Duty cycle < 10% for peak emission higher than -10 dBm EIRP. Standard EN 302 288. ECC decision ECC/DEC/(04)10. European Commission decision 2005/50/EC.
	23.600 - 24.000 GHz (0.400 GHz) Radio Astronomy		All emissions prohibited (RR 5.340).

24.000 - 24.050 GHz AMATEUR AND AMATEUR-SATELLITE	24.000 - 24.050 GHz (0.050 GHz) Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
Radiolocation	24.000 - 24.050 GHz (0.050 GHz) (SRD) Automotive Short Range Radar (SRR)		21,650 - 26,650 GHz automotive Short Range Radar (SRR). Terminals are exempt from licensing, see regulation Ficora 15. New radars shall be taken into use on 30.6.2013 at the latest. The spectral power density of UWB transmission < -41.3 dBm/MHz EIRP, except for frequencies below 22 GHz where the spectral power density is < -61.3 dBm/MHz EIRP. 24.05 - 24.25 GHz narrowband component, peak power 20 dBm EIRP. Duty cycle < 10% for peak emission higher than -10 dBm EIRP. Standard EN 302 288. ECC decision ECC/DEC/(04)10. European Commission decision 2005/50/EC.

	(SRD) Equipment for detecting movement and for alert		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 100 mW EIRP. Standard EN 300 440-1. SRD recommendation ERC/ REC/70-03. 24.000 - 24.250 GHz ISM (RR 5.150).
	(SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 100 mW EIRP. Standard EN 300 440-1. SRD recommendation ERC/ REC/70-03. 24,000 - 24,250 GHz ISM (RR 5.150).
24.050 - 24.250 GHz RADIOLOCATION	24.050 - 24.250 GHz (0.200 GHz) (SRD) Automotive Short Range Radar (SRR)		21,650 - 26,650 GHz automotive Short Range Radar (SRR). Terminals are exempt from licensing, see regulation Ficora 15. New radars shall be taken into use on 30.6.2013 at the latest. The spectral power density of UWB transmission < -41.3 dBm/MHz EIRP, except for frequencies below 22 GHz where the spectral power density is < -61.3 dBm/MHz EIRP. 24.05 - 24.25 GHz narrowband component, peak power 20 dBm EIRP. Duty cycle < 10% for peak emission higher than -10 dBm EIRP. Standardi EN 302 288. ECC decision ECC/DEC/

			(04)10. European Commission decision 2005/50/EC.
	24.050 - 24.250 GHz (lower and upper limits of sub-band) (0.200 GHz) (SRD) Equipment for detecting movement and for alert		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 100 mW EIRP. Standard EN 300 440-1. SRD recommendation ERC/REC/70-03. 24,000 - 24,250 GHz ISM (RR 5.150).
	(SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 100 mW EIRP. Standard EN 300 440-1. SRD recommendation ERC/REC/70-03.
Amateur	Amateur		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.

24.250 - 27.000 GHz FIXED	24.250 - 27.000 GHz (2.750 GHz) (SRD) Automotive Short Range Radar (SRR)		21,650 - 26,650 GHz automotive Short Range Radar (SRR). Terminals are exempt from licensing, see regulation Ficora 15. Use in the sub-band 24.250 - 26.650 GHz is not according to the mode of traffic in the Radio Regulation and new radars shall be taken into use on 30.6.2013 at the latest. The spectral power density of UWB transmission < -41.3 dBm/MHz EIRP, except for frequencies below 22 GHz where the spectral power density is < -61.3 dBm/MHz EIRP. 24.05 - 24.25 GHz narrowband component, peak power 20 dBm EIRP. Duty cycle < 10% for peak emission higher than -10 dBm EIRP. Standard EN 302 288. ECC decision ECC/DEC/(04)10. European Commission decision 2005/50/EC.
	24.549 - 25.333 GHz (lower and upper limits of sub-band) (0.784 GHz) Radio systems of fixed wireless access network (FWA)	Duplex. Fixed station (FX) TXRX 56 MHz, +1008 MHz 25.557 - 26.341 GHz	Terminals are exempt from licensing, see regulation Ficora 15. Standards: EN 301 753, EN 301 213-1, EN 301 213-2 and EN 301 213-3. Antenna standard EN 301 215-2. Radiation pattern envelope for central station class CS2, table 3, figure 2.

			Minimum antenna gain for central station figure 3. Radiated power 24 dBW / MHz for directional antennas and 8 dBW / MHz for non-directional antennas. It is allowed for FWA operators to use point-to-point systems in their frequency bands, point-to-point standard EN 301 751. ERC recommendations ERC/REC 13-04, T/R 13-02 Annex B and ERC/REC/(00)05.
	25.347 - 25.431 GHz (0.084 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, +1008 MHz 26.355 - 26.439 GHz DRS34/26000	Channel plan according to CEPT Rec. T/R 13-02. Digital radiolinks,channels A1a - A4a. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
EARTH EXPLORATION-SATELLITE (SPACE-TO-EARTH)	25.500 - 27.000 GHz (1.500 GHz) Earth exploration satellite	Space station (EW) TX Earth station (TW) RX	The earth stations shall not claim protection from stations in the fixed and mobile services (RR 5.536A ja RR 5.536B).

FIXED	25.557 - 26.341 GHz (lower and upper limits of sub-band) (0.784 GHz) Radio systems of fixed wireless access network (FWA)	Duplex. Fixed station (FX) TXRX 56 MHz, -1008 MHz 24.549 - 25.333 GHz	Terminals are exempt from licensing, see regulation Ficora 15. Standards: EN 301 753, EN 301 213-1, EN 301 213-2 and EN 301 213-3. Antenna standard EN 301 215-2. Radiation pattern envelope for terminal station TS1, table 1, figure 1. Minimum antenna gain for terminal station 26 dBi. Radiated power max. 24 dBW / MHz. It is allowed for FWA operators to use point-to-point systems in their frequency bands, point-to-point standard EN 301 751. ERC recommendations ERC/REC 13-04, T/R 13-02 annex B and ERC/REC/(00)05.
	26.355 - 26.439 GHz (0.084 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, -1008 MHz 25.347 - 25.431 GHz DRS34/26000	Channel plan according to CEPT Rec. T/R 13-02. Digital radiolinks, channel A1b - A4b. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
27.000 - 27.500 GHz FIXED	27.000 - 27.500 GHz (0.500 GHz) Fixed		
27.500 - 29.500 GHz FIXED SATELLITE (EARTH-TO-SPACE)	27.000 - 29.500 GHz (2.500 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Not standardised earth stations.

	27.5000 - 27.8285 GHz (0.3285 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Standard EN 301 360. ECC decision ECC/DEC (05)01.
FIXED	27.9475 - 27.9895 GHz (0.042 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, +1008 MHz 28.9555 - 28.9975 GHz DRS2X8/28000	ECC decision ECC/DEC/ (05)01. Channel plan according to CEPT Rec. T/R 13-02. Digital radiolinks, channel C1a - C4a. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
	28.0105 - 28.1505 GHz (0.140 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, +1008 MHz 28.0185 - 29.1585 GHz DRS34/28000	ECC decision ECC/DEC/ (05)01. Channel plan according to CEPT Rec. T/R 13-02. Digital radiolinks, channel A1a - A6a. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
	28.1925 - 28.4165 GHz (0.224 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 56 MHz, +1008 MHz 29.2005 - 29.4245 GHz DRS155/28000	ECC decision ECC/DEC/ (05)01. Channel plan according to CEPT Rec. T/R 13-02. Digital radiolinks, channel B1a - B5a. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi.

			Minimum cross polar discrimination 27 dB.
FIXED SATELLITE (EARTH-TO-SPACE)	28.4445 - 28.8365 GHz (0.392 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Standard EN 301 360. ECC decision ECC/DEC (05)01.
	28.8365 - 28.9485 GHz (0.112 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Standard EN 301 360. ECC decision ECC/DEC (05)01.
FIXED	28.9555 - 28.9975 GHz (0.042 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, -1008 MHz 27.9475 - 27.9895 GHz DRS2X8/28000	ECC decisio ECC/DEC/(05) 01. Channel plan according to CEPT Rec. T/R 13-02. Digitala radiolänkar, kanalerna C1b - C4b. Standard EN 301 751. Antennstandard EN 300 833. Strålningsdiagram klass 3. Minimiförstärkning 32 dBi. Minimidämpning av korspolarisation 27 dB.
	29.0185 - 29.1585 GHz (0.140 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, -1008 MHz 28.0105 - 28.1505 GHz DRS34/28000	ECC decision ECC/DEC/ (05)01. Channel plan according to CEPT Rec. T/R 13-02. Digital radiolinks, channel A1b - A6b. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
FIXED SATELLITE (EARTH-TO-SPACE)	29.100 - 29.500 GHz (0.400 GHz) Mobile-satellite feeder links	Earth station (TC) TX Space station (EC) RX	ECC decision ECC/DEC (05)01.

FIXED	29.2005 - 29.4245 GHz (0.224 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 56 MHz, -1008 MHz 28.1925 - 28.4165 GHz DRS155/28000	ECC decision ECC/DEC/ (05)01. Channel plan according to CEPT Rec. T/R 13-02. Digital radiolinks, channel B1b - B5b. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
FIXED SATELLITE (EARTH-TO-SPACE)	29.4525 - 29.5000 GHz (0.0475 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Standard EN 301 360. ECC decisio ECC/DEC(05) 01.
29.500 - 31.000 GHz FIXED SATELLITE (EARTH-TO-SPACE)	29.500 - 30.000 GHz (0.500 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Not standardised earth stations. ECC decision ECC/DEC/ (05)08.
	Fixed satellite	Earth station (TC) TX Space station (EC) RX 10.700 - 12.750 GHz	Terminals are exempt from licensing, see regulation Ficora 15. ECC/DEC/(06)02 (LEST), ECC/DEC/(06)03 (HEST). Standard EN 301 459.
	Fixed satellite	Earth station (TC) TX Space station (EC) RX 19.700 - 20.200 GHz	Terminals are exempt from licensing, see regulation Ficora 15. ECC/DEC/(06)02 (LEST), ECC/DEC/(06)03 (HEST). Standard EN 301 459.
MOBILE-SATELLITE (EARTH-TO-SPACE)	Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX	
FIXED SATELLITE (EARTH-TO-SPACE)	29.500 - 31.000 GHz (1.500 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	Not standardised earth stations. Non-GSO fixed satellite service (RR 5.484A).

Frequency band **Services in Finland**	**Sub-band** **(its width)** **and usage**	**Mode of traffic. Class of station and TX/RX-code** **Channel spacing, bandwidth. (Class of emission)** **Duplex separation and duplex band** **Standart type**	**Comments**
31.000 - 31.300 GHz FIXED MOBILE	31.000 - 31.300 GHz (0.300 GHz) Fixed radiolinks Mobile radio		Temporary ENG/OB radiolinks. Standard EN 302 063. Sub-band under review. CEPT Rec. ECC/REC 02-02.
31.300 - 31.500 GHz RADIO ASTRONOMY EARTH EXPLORATION-SATELLITE	31.300 - 31.500 GHz (0.200 GHz) Radio Astronomy Earth exploration satellite		All emissions prohibited (RR 5.340).
31.500 - 31.800 GHz EARTH EXPLORATION-SATELLITE	31.500 - 31.800 GHz (0.300 GHz) Earth exploration satellite		
RADIO ASTRONOMY SPACE RESEARCH	Radio Astronomy Space research		
31.800 - 33.400 GHz RADIONAVIGATION	31.800 - 33.400 GHz (1.600 GHz) Radionavigation		
FIXED	31.8185 - 31.8535 GHz (0.035 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7 MHz, +812 MHz 32.6305 - 32.6655 GHz DRS8/32000	Channel plan according to CEPT Rec. ERC/REC/(01)02. Digital radiolinks, channel A1a - A6a. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

31.864 - 31.976 GHz (0.112 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, +812 MHz 32.676 - 32.788 GHz DRS2X8/32000	Channel plan according to CEPT Rec. ERC/REC/ (01)02. Digital radiolinks, channel B1a - B9a. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
31.997 - 32.277 GHz (0.280 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, +812 MHz 32.809 - 33.089 GHz DRS8/32000	Channel plan according to CEPT Rec. ERC/REC/ (01)02. Digital radiolinks, channel C1a - C11a. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
32.347 - 32.515 GHz (0.168 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 56 MHz, +812 MHz 33.159 - 33.327 GHz DRS155/32000	Channel plan according to CEPT Rec. ERC/REC/ (01)02. Digital radiolinks, channel D1a - D4a. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

32.6305 - 32.6655 GHz (0.035 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7 MHz, -812 MHz 31.8185 - 31.8535 GHz DRS8/32000	Channel plan according to CEPT Rec. ERC/REC/ (01)02. Digital radiolinks, channel A1b - A6b. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
32.676 - 32.788 GHz (0.112 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, -812 MHz 31.864 - 31.976 GHz DRS2X8/32000	Channel plan according to CEPT Rec. ERC/REC/ (01)02. Digital radiolinks, channel B1b - B9b. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
32.809 - 33.089 GHz (0.280 GHz) Fixed radiolinks		Channel plan according to CEPT Rec. ERC/REC/ (01)02. Digital radiolinks, channel C1b - C11b. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

	33.159 - 33.327 GHz (0.168 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 56 MHz, -812 MHz 32.347 - 32.515 GHz DRS155/32000	Channel plan according to CEPT Rec. ERC/REC/ (01)02. Digital radiolinks, channel D1b - D4b. Standard EN 301 751. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
33.400 - 35.500 GHz RADIOLOCATION	33.400 - 35.500 GHz (2.100 GHz) Radars		Short range radars. Standard EN 300 440.
35.500 - 36.000 GHz RADIOLOCATION EARTH EXPLORATION-SATELLITE	35.500 - 36.000 GHz (0.500 GHz) Radars Radars		Short range radars. Standard EN 300 440.
36 - 37 GHz RADIO ASTRONOMY	36 - 37 GHz (1 GHz) Radio Astronomy	Radio astronomy station (RA) RX	Continuum measurements, solar radio emission.
37.000 - 39.500 GHz FIXED	37.05975 - 37.09825 GHz (0.0385 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 3,5 MHz, +1260 MHz 38.31975 - 38.35825 GHz DRS2/38000, DRS2X2/38000	Channel plan according to CEPT Rec. T/R 12-01. Digital fixed radiolinks, channels A1a - A12a. Standards EN 301 751, EN 300 197. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

37.1035 - 37.2225 GHz (0.119 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7 MHz, +1260 MHz 38.3635 - 38.4825 GHz DRS8/38000	Channel plan according to CEPT Rec. T/R 12-01. Digital fixed radiolinks, channels B7a - B24a. Standards EN 301 751, EN 300 197. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
37.233 - 37.331 GHz (0.098 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, +1260 MHz 38.493 - 38.591 GHz DRS2X8/38000	Channel plan according to CEPT Rec. T/R 12-01. Digital fixed radiolinks, channels C13a - C20a. Standards EN 301 751, EN 300 197. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
37.3415 - 38.1745 GHz (0.833 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7 MHz, +1260 MHz 38.6015 - 39.4345 GHz DRS8/38000	ERC decision ERC/DEC/(00)02. Channel plan according to CEPT Rec. T/R 12-01. Digital fixed radiolinks, channels 41a - 160a. Standards EN 301 751, EN 300 197. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

	37.352 - 37.604 GHz (0.252 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, +1260 MHz 38.612 - 38.864 GHz DRS34/38000	ERC decision ERC/DEC/(00)02. Channel plan according to CEPT Rec. T/R 12-01. Digital fixed radiolinks, channels D11a - D20a. Standards EN 301 751, EN 300 197. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
FIXED SATELLITE (SPACE-TO-EARTH)	37.500 - 39.500 GHz (2 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	ERC decision ERC/DEC (00)02.
FIXED	37.646 - 38.150 GHz (0.504 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 56 MHz, +1260 MHz 38.906 - 39.410 GHz DRS155/38000	ERC decision ERC/DEC/(00)02. Channel plan according to CEPT Rec. T/R 12-01. Digital fixed radiolinks, channels E11a - E20a. Standards EN 301 751, EN 300 197. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

38.31975 - 38.35825 GHz (0.0385 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 3,5 MHz, -1260 MHz 37.05975 - 37.09825 GHz DRS2/38000, DRS2X2/38000	ERC decision ERC/DEC/(00)02. Channel plan according to CEPT Rec. T/R 12-01. Digital fixed radiolinks, channels A1b - A12b. Standards EN 301 751, EN 300 197. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
38.3635 - 38.4825 GHz (0.119 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7 MHz, -1260 MHz 37.1035 - 37.2225 GHz DRS8/38000	ERC decision ERC/DEC/(00)02. Channel plan according to CEPT Rec. T/R 12-01. Digital fixed radiolinks, channels B7b - B24b. Standards EN 301 751, EN 300 197. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
38.493 - 38.591 GHz (0.098 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 14 MHz, -1260 MHz 37.233 - 37.331 GHz DRS2X8/38000	ERC decision ERC/DEC/(00)02. Channel plan according to CEPT Rec. T/R 12-01. Digital fixed radiolinks, channels C13b - C20b. Standards EN 301 751, EN 300 197. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi.

		Minimum cross polar discrimination 27 dB.
38.6015 - 39.4345 GHz (0.833 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 7 MHz, -1260 MHz 37.3415 - 38.1745 GHz DRS8/38000	ERC decision ERC/DEC/ (00)02. Channel plan according to CEPT Rec. T/R 12-01. Digital fixed radiolinks, channels 41b - 160b. Standards EN 301 751, EN 300 197. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
38.612 - 38.864 GHz (0.252 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 28 MHz, -1260 MHz 37.352 - 37.604 GHz DRS34/38000	ERC decision ERC/DEC/ (00)02. Channel plan according to CEPT Rec. T/R 12-01. Digital fixed radiolinks, channels D11b - D20b. Standards EN 301 751, EN 300 197. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.

	38.906 - 39.410 GHz (0.504 GHz) Fixed radiolinks	Duplex. Fixed station (FX) TXRX 56 MHz, -1260 MHz 37.646 - 38.150 GHz DRS155/38000	ERC decision ERC/DEC/(00)02. Channel plan according to CEPT Rec. T/R 12-01. Digital fixed radiolinks, channels E11b - E20b. Standards EN 301 751, EN 300 197. Antenna standard EN 300 833. Radiation pattern envelope class 4. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB.
39.500 - 40.500 GHz FIXED SATELLITE (SPACE-TO-EARTH)	39.500 - 40.500 GHz (1 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	ERC decision ERC/DEC/(00)02.
MOBILE	Mobile radio		
MOBILE-SATELLITE (SPACE-TO-EARTH)	Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX	ERC decision ERC/DEC/(00)02.
40.500 - 42.500 GHz BROADCASTING-SATELLITE	40.500 - 42.500 GHz (2 GHz) Broadcasting satellite	Space station (EV) TX Earth station (UV) RX	
BROADCASTING	Broadcasting		
FIXED	Fixed radiolinks		Band for MWS. Standard EN 301 977. ERC recommendation ERC/REC/(01)04. ERC decision ERC/DEC/(99)15.
FIXED SATELLITE (SPACE-TO-EARTH)	Fixed satellite	Space station (EC) TX Earth station (TC) RX	ECC decision ECC/DEC/(02)04.
42.500 - 43.500 GHz FIXED	42.500 - 43.500 GHz (1 GHz) Fixed radiolinks		Band for MWS. Standard EN 301 977. ERC recommendation ERC/REC/(01)04. ERC decision ERC/DEC/(99)15.
RADIO ASTRONOMY	Radio Astronomy	Radio astronomy station (RA) RX	VLBI, continuum measurements, solar radio emission.

FIXED SATELLITE (EARTH-TO-SPACE)	Fixed satellite	Space station (EC) RX Earth station (TC) TX	
43.500 - 47.000 GHz MOBILE	43.500 - 47.000 GHz (3.500 GHz) Mobile radio		
MOBILE-SATELLITE	Mobile satellite		
RADIONAVIGATION RADIONAVIGATION-SATELLITE	Radionavigation Radionavigation satellite		
47.000 - 47.200 GHz AMATEUR AND AMATEUR-SATELLITE	47.000 - 47.200 GHz (0.200 GHz) Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
47.200 - 50.200 GHz FIXED	47.200 - 47.500 GHz (0.300 GHz) High altitude platform station (HAPS)		(RR 5.552A).
FIXED SATELLITE (EARTH-TO-SPACE)	47.200 - 50.200 GHz (3 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	47.2 - 49.2 GHz BSS feeder links (RR 5.552).
FIXED MOBILE	Fixed radiolinks Mobile radio		Temporary ENG/OB radiolinks. ERC recommendation ERC/REC/ 25-10.
FIXED SATELLITE (SPACE-TO-EARTH)	47.500 - 47.900 GHz (0.400 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	ECC Decision ECC/DEC (05)08.

FIXED	47.900 - 48.200 GHz (0.300 GHz) High altitude platform station (HAPS)		(RR 5.552A)
FIXED SATELLITE (SPACE-TO-EARTH)	48.200 - 48.540 GHz (0.340 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	ECC Decision, ECC/DEC (05)08.
RADIO ASTRONOMY	48.940 - 49.040 GHz (0.100 GHz) Radio Astronomy		
FIXED SATELLITE (SPACE-TO-EARTH)	49.440 - 50.200 GHz (0.760 GHz) Fixed satellite	Space station (EC) TX Earth station (TC) RX	ECC Decision, ECC/DEC (05)08.
50.200 - 50.400 GHz SPACE RESEARCH	50.200 - 50.400 GHz (0.200 GHz) Space research		
50.400 - 51.400 GHz FIXED	50.400 - 51.400 GHz (1 GHz) Fixed radiolinks		
FIXED SATELLITE (EARTH-TO-SPACE)	Fixed satellite	Earth station (TC) TX Space station (EC) RX	
51.400 - 52.600 GHz FIXED	51.400 - 52.600 GHz (1.200 GHz) Fixed radiolinks		Digital fixed radiolinks. Channel plan according to ERC recommendation ERC/REC/12-11 will be taken into use in the near future. Standard EN 301 786.
52.600 - 55.780 GHz SPACE RESEARCH	52.600 - 57.780 GHz (5.180 GHz) Space research		
55.780 - 57.000 GHz FIXED	55.780 - 57.000 GHz (1.220 GHz) Fixed radiolinks		Digital fixed radiolinks. Channel plan according to ERC recommendation ERC/REC/12-12 will be taken into use in the near future. In the band 55.780 - 56.260 GHz transmitter power max. 4 dBm / MHz. Standards EN 301 751, EN 300 407.

57.000 - 58.200 GHz FIXED	57.250 - 58.050 GHz (0.800 GHz) Fixed radiolinks	Simplex (TDD). Fixed station (FX) TXRX 100 MHz, DRS8/58000	Digital fixed radiolinks. Channel plan according to ERC recommendation ERC/REC/12-09 Annex A, item a), channels 3 -12. Standards EN 301 751, EN 300 408 class A, no co-ordinated frequency planning. Antenna standard EN 300 833. Radiation pattern envelope class 3. Minimum antenna gain 32 dBi. Minimum cross polar discrimination 27 dB. Sub-band under review.
58.200 - 59.000 GHz EARTH EXPLORATION-SATELLITE (PASSIVE)	58.200 - 59.000 GHz (0.800 GHz) Earth exploration satellite		Sub-band under review.
FIXED	Fixed		Sub-band under review.
MOBILE SPACE RESEARCH	Mobile radio Space research		
59.000 - 59.300 GHz FIXED RADIOLOCATION	59.000 - 59.300 GHz (0.300 GHz) Fixed Radiolocation		Sub-band under review.
59.300 - 64.000 GHz FIXED	59.300 - 62.000 GHz (2.700 GHz) Fixed		Sub-band under review.
RADIOLOCATION	59.300 - 64.000 GHz (4.700 GHz) Radiolocation		
MOBILE	61.000 - 61.500 GHz (lower and upper limits of sub-band) (0.500 GHz) (SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 100 mW EIRP. Standard EN 300 440-1. SRD recommendation ERC/REC/70-03. 61.0 - 61.5 GHz ISM (RR 5.138).

	62 - 63 GHz (1 GHz) Mobile radio		CEPT Rec. T/R 22-03. Sub-band under review.
RADIOLOCATION	63 - 64 GHz (1 GHz) (SRD) Road Transport and Traffic telematics (RTTT)		Road Transport and Traffic Telematics, a licence is still required for the use of these systems. ECC decision ERC/DEC/(02)01. TAC decision of 18.11.1992.
64 - 65 GHz FIXED	64 - 65 GHz (1 GHz) Fixed radiolinks		ECC Recommedation ECC/REC/(05)02. Sub-band under review.
65 - 66 GHz FIXED MOBILE	65 - 66 GHz (1 GHz) Fixed Mobile radio		ECC Recommedation ECC/REC/(05)02. Sub-band under review.
66 - 71 GHz MOBILE	66 - 71 GHz (5 GHz) Mobile radio		
MOBILE-SATELLITE	Mobile satellite		
RADIONAVIGATION RADIONAVIGATION-SATELLITE	Radionavigation Radionavigation satellite		
71 - 74 GHz FIXED SATELLITE (SPACE-TO-EARTH)	71 - 74 GHz (3 GHz) Fixed satellite		
FIXED	Fixed		ECC Recommendation ECC/REC/(05)07. Sub-band under review.
MOBILE	Mobile radio		
MOBILE-SATELLITE (SPACE-TO-EARTH)	Mobile satellite	Space station (EI) TX Mobile earth station (UA) RX	
74 - 76 GHz FIXED	74.000 - 75.500 GHz (1.500 GHz) Fixed		(RR 5.559A) ECC Recommendation ECC/REC/(05)07. Sub-band under review.
BROADCASTING	Broadcasting		
BROADCASTING-SATELLITE	Broadcasting satellite		
MOBILE	Mobile radio		

FIXED SATELLITE (SPACE-TO-EARTH)	Fixed satellite	Space station (EC) TX Earth station (TC) RX	
Space research (space-to-earth)	Space research		
FIXED	75.500 - 76.000 GHz (0.500 GHz) Fixed		ECC Recommendation ECC/REC/(05)07.
76.000 - 77.500 GHz RADIOLOCATION	76 - 77 GHz (lower and upper limits of sub-band) (1 GHz) (SRD) Road Transport and Traffic telematics (RTTT)		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max: peak power 316 W EIRP, average power 100 W EIRP, average power for pulsed radars 225 mW EIRP. Standard EN 301 091-1. TAC decision of 18.11.1992. SRD recommendation ERC/REC/70-03. ECC decision ECC/DEC/(02)01.
Space research (space-to-earth) RADIO ASTRONOMY	Space research Radio Astronomy		
Amateur and amateur-satellite	76.000 - 77.500 GHz (1.500 GHz) Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.

RADIOLOCATION	77.000 - 77.500 GHz (0.500 GHz) (SRD) Automotive Short Range Radar (SRR)		77 - 81 GHz automotive Short Range Radar (SRR). Terminals are exempt from licensing, see regulation Ficora 15. The spectral power density -3 dBm/MHz EIRP and peak power 55 dBm/MHz EIRP. The spectral power density < -9 dBm / MHz EIRP outside a vehicle. Standard draft EN 302 264. ECC decision ECC/DEC/(04)03. European Commission decision 2004/545/EC.
77.500 - 78.000 GHz AMATEUR AND AMATEUR-SATELLITE	77.500 - 78.000 GHz (0.500 GHz) (SRD) Automotive Short Range Radar (SRR)		77 - 81 GHz automotive Short Range Radar (SRR). Terminals are exempt from licensing, see regulation Ficora 15. Use in the sub-band 77.5 - 78 GHz is not according to the Service in the Radio Regulation. The spectral power density -3 dBm/MHz EIRP and peak power 55 dBm/MHz EIRP. The spectral power density < -9 dBm / MHz EIRP outside a vehicle. Standard draft EN 302 264. ECC decision ECC/DEC/(04)03. European Commission decision 2004/545/EC.

	77.500 - 78.000 GHz (0.500 GHz) Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
Radio astronomy	Radio Astronomy		
Space research (space-to-earth)	Space research		
78 - 79 GHz RADIOLOCATION	78 - 79 GHz (1 GHz) (SRD) Automotive Short Range Radar (SRR)		77 - 81 GHz automotive Short Range Radar (SRR). Terminals are exempt from licensing, see regulation Ficora 15. The spectral power density -3 dBm/MHz EIRP and peak power 55 dBm/MHz EIRP. The spectral power density < -9 dBm / MHz EIRP outside a vehicle. Standard draft EN 302 264. ECC decison ECC/DEC/(04)03. European Comission decision 2004/545/EC.
	78 - 79 GHz (1 GHz) Radiolocation		

Amateur and amateur-satellite	Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
Radio astronomy	Radio Astronomy		
Space research (space-to-earth)	Space research		
79 - 81 GHz RADIO ASTRONOMY	79 - 81 GHz (2 GHz) Radio Astronomy		
RADIOLOCATION	79 - 81 GHz (2 GHz) (SRD) Automotive Short Range Radar (SRR)		77 - 81 GHz automotive Short Range Radar (SRR). Terminals are exempt from licensing, see regulation Ficora 15. The spectral power density -3 dBm/MHz EIRP and peak power 55 dBm/MHz EIRP. The spectral power density < -9 dBm / MHz EIRP outside a vehicle. Standard draft EN 302 264. ECC decision ECC/DEC/(04)03. European Commission decision 2004/545/EC.
	Radiolocation		

Amateur and amateur-satellite	Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
Space research (space-to-earth)	Space research		
81 - 84 GHz Amateur and amateur-satellite	81.000 - 81.500 GHz (0.500 GHz) Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB. (RR 5.561A)
FIXED SATELLITE (EARTH-TO-SPACE)	81 - 84 GHz (3 GHz) Fixed satellite	Earth station (TC) TX Space station (EC) RX	
FIXED	Fixed		ECC Recommendation ECC/REC/(05)07. Sub-band under review.
MOBILE	Mobile radio		

RADIO ASTRONOMY	Radio Astronomy		
MOBILE-SATELLITE (EARTH-TO-SPACE)	Mobile satellite	Mobile earth station (UA) TX Space station (EI) RX	
Space research (space-to-earth)	Space research		
84 - 86 GHz FIXED	84 - 86 GHz (2 GHz) Fixed		ECC Recommendation ECC/REC/(05)07. Sub-band under review.
FIXED SATELLITE (EARTH-TO-SPACE)	Fixed satellite		
MOBILE RADIO ASTRONOMY	Mobile radio Radio Astronomy		
86 - 92 GHz RADIO ASTRONOMY	86 - 92 GHz (6 GHz) Radio Astronomy	Radio astronomy station (RA) RX	Spectral line and continuum measurements, solar radio emission, also VLBI. All emissions prohibited (RR 5.340).
92 - 94 GHz FIXED	92 - 94 GHz (2 GHz) Fixed		
MOBILE	Mobile radio		
RADIOLOCATION RADIO ASTRONOMY	Radiolocation Radio Astronomy	Radio astronomy station (RA) RX	Spectral line measurements.
94.000 - 94.100 GHz EARTH EXPLORATION-SATELLITE	94.000 - 94.100 GHz (0.100 GHz) Earth exploration satellite		Spaceborne cloud radars (RR 5.562).
RADIOLOCATION	Radiolocation		
SPACE RESEARCH (ACTIVE) Radio astronomy	Space research Radio Astronomy		
94.100 - 95.000 GHz FIXED	94.100 - 95.000 GHz (0.900 GHz) Fixed		
MOBILE	Mobile radio		
RADIO ASTRONOMY RADIOLOCATION	Radio Astronomy Radiolocation		
95 - 100 GHz FIXED	95 - 100 GHz (5 GHz) Fixed		
MOBILE	Mobile radio		
RADIOLOCATION	Radiolocation		
RADIONAVIGATION	Radionavigation		

RADIONAVIGATION-SATELLITE RADIO ASTRONOMY	Radionavigation satellite Radio Astronomy	Radio astronomy station (RA) RX	Spectral line and continuum measurements.
100 - 102 GHz RADIO ASTRONOMY	100 - 102 GHz (2 GHz) Radio Astronomy	Radio astronomy station (RA) RX	Spectral line and continuum measurements, solar radio emission, also VLBI. All emissions prohibited (RR 5.340).
EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE)	Earth exploration satellite Space research		
102 - 105 GHz FIXED	102 - 105 GHz (3 GHz) Fixed		
MOBILE	Mobile radio		
RADIO ASTRONOMY	Radio Astronomy	Radio astronomy station (RA) RX	Spectral line and continuum measurements, solar radio emission, also VLBI.
105.000 - 109.500 GHz FIXED	105.000 - 109.500 GHz (4.500 GHz) Fixed		
MOBILE	Mobile radio		
SPACE RESEARCH (PASSIVE)	Space research		
RADIO ASTRONOMY	Radio Astronomy	Radio astronomy station (RA) RX	Spectral line and continuum measurements, solar radio emission, also VLBI.
109.500 - 111.800 GHz EARTH EXPLORATION-SATELLITE (PASSIVE)	109.500 - 111.800 GHz (2.300 GHz) Earth exploration satellite		All emissions prohibited (RR 5.340).
RADIO ASTRONOMY	Radio Astronomy		
SPACE RESEARCH (PASSIVE)	Space research		Spectral line and continuum measurements, solar radio emissio, also VLBI.
111.800 - 114.250 GHz FIXED	111.800 - 114.250 GHz (2.450 GHz) Fixed		All emissions prohibited (RR 5.340).
MOBILE	Mobile radio		
RADIO ASTRONOMY	Radio Astronomy		

SPACE RESEARCH (PASSIVE)	Space research		Spectral line and continuum measurements, solar radio emission, also VLBI.
114.250 - 116.000 GHz EARTH EXPLORATION-SATELLITE (PASSIVE)	114.250 - 116.000 GHz (1.750 GHz) Earth exploration satellite		Spectral line and continuum measurements, solar radio emission, also VLBI. All emissions prohibited (RR 5.340).
RADIO ASTRONOMY SPACE RESEARCH (PASSIVE)	Radio Astronomy Space research		
116.000 - 119.980 GHz EARTH EXPLORATION-SATELLITE (PASSIVE)	116.000 - 119.980 GHz (3.980 GHz) Earth exploration satellite		
INTER-SATELLITE SPACE RESEARCH (PASSIVE)	Inter-satellite Space research		
119.980 - 122.250 GHz SPACE RESEARCH (PASSIVE)	119.980 - 122.250 GHz (2.270 GHz) Space research		
EARTH EXPLORATION-SATELLITE (PASSIVE) INTER-SATELLITE	Earth exploration satellite Inter-satellite		
MOBILE	122.000 - 122.250 GHz (0.250 GHz) (SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. SRD recommendation ERC/REC/70-03. Radiated power max. 100 mW ERIP. Standard EN 300 440-1. 122 - 123 GHz ISM (RR 5.138).
122.250 - 123.000 GHz MOBILE	122.250 - 123.000 GHz (0.750 GHz) (SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 100 mW ERIP. Standard EN 300 440-1. SRD recommendation ERC/REC/70-03. 122 - 123 GHz ISM (RR 5.138).

FIXED	Fixed		
INTER-SATELLITE	Inter-satellite		
Amateur	Amateur		User certificate required. Regulation Ficora 6. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
123 - 130 GHz FIXED SATELLITE (SPACE-TO-EARTH)	123 - 130 GHz (7 GHz) Fixed satellite		
MOBILE-SATELLITE (SPACE-TO-EARTH)	Mobile satellite		
RADIONAVIGATION	Radionavigation		
RADIONAVIGATION-SATELLITE Radio astronomy	Radionavigation satellite Radio Astronomy		
130 - 134 GHz FIXED	130 - 134 GHz (4 GHz) Fixed		
INTER-SATELLITE	Inter-satellite		
MOBILE	Mobile radio		
RADIO ASTRONOMY	Radio Astronomy		
EARTH EXPLORATION-SATELLITE (AKTIVE)	Earth exploration satellite		Earth exploration satellite 133.500 - 134.000 GHz (RR 5.562E).

134 - 136 GHz AMATEUR AND AMATEUR-SATELLITE Radio astronomy	134 - 136 GHz (2 GHz) Amateur and amateur-Satellite Radio Astronomy		User certificate required. Regulation Ficora 6. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
136 - 141 GHz RADIOLOCATION	136 - 141 GHz (5 GHz) Radiolocation		
RADIO ASTRONOMY	Radio Astronomy		
Amateur and amateur-satellite	Amateur and amateur-Satellite		User certificate required. Regulation Ficora 6. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB. (RR 5.149)
141.000 - 148.500 GHz FIXED MOBILE	141.000 - 148.500 GHz (7.500 GHz) Fixed Mobile radio		

148.500 - 151.500 GHz RADIO ASTRONOMY	148.500 - 151.500 GHz (3 GHz) Radio Astronomy		All emissions prohibited (RR 5.340).
EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE)	Earth exploration satellite Space research		
151.500 - 155.500 GHz FIXED	151.500 - 155.500 GHz (4 GHz) Fixed		
MOBILE	Mobile radio		
RADIO ASTRONOMY RADIOLOCATION	Radio Astronomy Radiolocation		
155.500 - 158.500 GHz SPACE RESEARCH (PASSIVE)	155.500 - 158.500 GHz (3 GHz) Space research		
EARTH EXPLORATION-SATELLITE (PASSIVE)	Earth exploration satellite		The allocation is valid until 1.1.2018 (RR 5.562F).
FIXED	Fixed		The date of entry into force shall be 1.1.2018 (RR 5.562G).
MOBILE RADIO ASTRONOMY	Mobile radio Radio Astronomy		The date of entry into force shall be 1.1.2018 (RR5.562G).
158.500 - 164.000 GHz FIXED SATELLITE (SPACE-TO-EARTH)	158.500 - 164.000 GHz (5.500 GHz) Fixed satellite		
FIXED	Fixed		
MOBILE	Mobile radio		
MOBILE-SATELLITE (SPACE-TO-EARTH)	Mobile satellite		
164 - 167 GHz RADIO ASTRONOMY	164 - 167 GHz (3 GHz) Radio Astronomy		All emissions prohibited (RR 5.340).
EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE)	Earth exploration satellite Space research		
167.000 - 174.500 GHz FIXED	167.000 - 174.500 GHz (7.500 GHz) Fixed		
FIXED SATELLITE (SPACE-TO-EARTH)	Fixed satellite		

INTER-SATELLITE MOBILE	Inter-satellite Mobile radio		
174.500 - 174.800 GHz FIXED	174.500 - 174.800 GHz (0.300 GHz) Fixed		
INTER-SATELLITE MOBILE	Inter-satellite Mobile radio		
174.800 - 182.000 GHz EARTH EXPLORATION-SATELLITE (PASSIVE)	174.800 - 182.000 GHz (7.200 GHz) Earth exploration satellite		
INTER-SATELLITE SPACE RESEARCH (PASSIVE)	Inter-satellite Space research		
182 - 185 GHz RADIO ASTRONOMY	182 - 185 GHz (3 GHz) Radio Astronomy		183.310 GHz spectral line measurements of water molecule.
185 - 190 GHz EARTH EXPLORATION-SATELLITE (PASSIVE)	185 - 190 GHz (5 GHz) Earth exploration satellite		
INTER-SATELLITE SPACE RESEARCH (PASSIVE)	Inter-satellite Space research		
190.000 - 191.800 GHz EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE)	190.000 - 191.800 GHz (1.800 GHz) Earth exploration satellite Space research		All emissions prohibited (RR 5.340).
191.800 - 200.000 GHz MOBILE	191.800 - 200.000 GHz (8.200 GHz) Mobile radio		
FIXED	Fixed		
INTER-SATELLITE	Inter-satellite		
MOBILE-SATELLITE	Mobile satellite		
RADIONAVIGATION RADIONAVIGATION-SATELLITE	Radionavigation Radionavigation satellite		
200 - 202 GHz EARTH EXPLORATION-SATELLITE (PASSIVE)	200 - 202 GHz (2 GHz) Earth exploration satellite		All emissions prohibited (RR 5.340).
RADIO ASTRONOMY SPACE RESEARCH (PASSIVE)	Radio Astronomy Space research		

202 - 209 GHz EARTH EXPLORATION-SATELLITE (PASSIVE)	202 - 209 GHz (7 GHz) Earth exploration satellite		All emissions prohibited (RR 5.340).
RADIO ASTRONOMY SPACE RESEARCH (PASSIVE)	Radio Astronomy Space research		
209 - 217 GHz FIXED SATELLITE (EARTH-TO-SPACE)	209 - 217 GHz (8 GHz) Fixed satellite		
FIXED	Fixed		
MOBILE RADIO ASTRONOMY	Mobile radio Radio Astronomy		
217 - 226 GHz RADIO ASTRONOMY	217 - 226 GHz (9 GHz) Radio Astronomy		
FIXED	Fixed		
FIXED SATELLITE (EARTH-TO-SPACE)	Fixed satellite		
MOBILE SPACE RESEARCH (PASSIVE)	Mobile radio Space research		
226.000 - 231.500 GHz SPACE RESEARCH (PASSIVE)	226.000 - 231.500 GHz (5.500 GHz) Space research		All emissions prohibited (RR 5.340).
EARTH EXPLORATION-SATELLITE (PASSIVE) RADIO ASTRONOMY	Earth exploration satellite Radio Astronomy		
231.500 - 232.000 GHz FIXED	231.500 - 232.000 GHz (0.500 GHz) Fixed		
MOBILE Radiolocation	Mobile radio Radiolocation		
232 - 235 GHz FIXED SATELLITE (SPACE-TO-EARTH)	232 - 235 GHz (3 GHz) Fixed satellite		
FIXED	Fixed		
MOBILE Radiolocation	Mobile radio Radiolocation		
235 - 238 GHz FIXED SATELLITE (SPACE-TO-EARTH)	235 - 238 GHz (3 GHz) Fixed satellite		

EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE)	Earth exploration satellite Space research		
238 - 240 GHz FIXED SATELLITE (SPACE-TO-EARTH)	238 - 240 GHz (2 GHz) Fixed satellite		
FIXED	Fixed		
MOBILE	Mobile radio		
RADIOLOCATION	Radiolocation		
RADIONAVIGATION RADIONAVIGATION-SATELLITE	Radionavigation Radionavigation satellite		
240 - 241 GHz FIXED	240 - 241 GHz (1 GHz) Fixed		
MOBILE RADIOLOCATION	Mobile radio Radiolocation		
241 - 248 GHz RADIO ASTRONOMY	241 - 248 GHz (7 GHz) Radio Astronomy		
Amateur and amateur-satellite	Amateur and amateur-Satellite		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.

RADIOLOCATION	244 - 246 GHz (lower and upper limits of sub-band) (2 GHz) (SRD) Non-specific Short Range Devices		Equipment are exempt from licensing, see regulation Ficora 15. Radiated power max. 100 mW EIRP. Standard EN 300 440-1. SRD recommendation ERC/REC/70-03. 244 - 246 GHz ISM (RR 5.138).
248 - 250 GHz AMATEUR AND AMATEUR-SATELLITE Radio astronomy	248 - 250 GHz (2 GHz) Amateur and amateur-Satellite Radio Astronomy		Regulation Ficora 6. User certificate required. The transmitter power in the novice class max. 30 W. Peak envelope power 120 W, when the carrier of the transmission is attenuated by at least 6 dB. The transmitter power in the general class max. 150 W. Peak envelope power 600 W, when the carrier of the transmission is attenuated by at least 6 dB.
250 - 252 GHz RADIO ASTRONOMY	250 - 252 GHz (2 GHz) Radio Astronomy		All emissions prohibited (RR 5.340).
EARTH EXPLORATION-SATELLITE (PASSIVE) SPACE RESEARCH (PASSIVE)	Earth exploration satellite Space research		
252 - 265 GHz RADIO ASTRONOMY	252 - 265 GHz (13 GHz) Radio Astronomy		
FIXED	Fixed		
MOBILE	Mobile radio		
MOBILE-SATELLITE (EARTH-TO-SPACE)	Mobile satellite		
RADIONAVIGATION RADIONAVIGATION-SATELLITE	Radionavigation Radionavigation satellite		

265 - 275 GHz FIXED SATELLITE (EARTH-TO-SPACE)	265 - 275 GHz (10 GHz) Fixed satellite		
FIXED	Fixed		
MOBILE RADIO ASTRONOMY	Mobile radio Radio Astronomy		
275 - 400 GHz (not allocated)	275 - 400 GHz (125 GHz) (not allocated)		

DEFINITIONS OF TERMS AND REFERENCES USED IN THE RADIO FREQUENCY UTILISATION PLAN

Frequency band. Services in Finland

Frequency band and services in use or intended to be used in this frequency band in Finland. The frequency bands and services are based on the Radio Regulations (RR) and the ERC Report 25.

Sub-band, its width and usage

Sub-bands, their width and intended use. In mobile and fixed services, the centre frequencies of the extreme channels are the lower and upper limits of a sub-band. In other radio services, the sub-band limits form the limits for the given usage.

Mode of traffic

Mode of traffic of a sub-band is either simplex (use of one frequency) or duplex (use of two frequencies).

Class of station

Class of station is based on the Radio Regulations (RR). In the land mobile service, for instance, the class of station of a base station is FB.

TX/RX code

Defines the direction of transmission, i.e. whether the frequency is used for transmitting (TX) or receiving (RX) or both (TXRX).

Channel spacing

States the frequency separation between the centre frequencies of two adjacent channels. In the table the channel spacing value is identified through a comma (,).

Bandwidth

States the bandwidth allowed for a transmission using the channel (i.e. necessary bandwidth). In the table the bandwidth value is identified through a full stop (.).

Class of emission

Determines, for instance, type of modulation and type of information to be transmitted.

Duplex separation and paired band

The corresponding frequency band (paired band) is situated at the distance given by the duplex separation either on higher frequencies (+) or on lower frequencies (-) than the band given in the table.

Standard type

Gives information on the most essential properties of radio link equipment (e.g. DRS 34/18000 = capacity 34 Mbit/s, frequency range 18000 MHz or FM 4/419 = modulation FM, capacity 4 speech channels and frequency range 419 MHz).

Radio Regulations, RR

The mandatory (binding) Annex to the Constitution and Convention of the International Telecommunications Union (ITU Radio Regulations).

Duty cycle

The duty cycle is defined as the ratio of the maximum transmitter "on" time, relative to a one-hour period.

Output power of radio link

If no maximum output power is mentioned for the transmitter of a radio link, the value given in the standard reference is applicable. The standard reference concerning the radiation pattern envelope of a radio link antenna defines the required maximum side lobe attenuation, which can be relaxed depending on the usage environment of the system in question.

References to standards

The standard references do not set compulsory requirements for placing of equipment on the market. When there are references to standards or other comparable specifications in the Radio Frequency Plan, this implies that they have been used as assumptions for equipment performance in an interference analysis concerning a new frequency assignment or as a technical basis for compatibility studies between different radio communications services or as a technical basis for coordination agreements with other countries. Standard references may in some cases also be used to define a channel access procedure, the use of which is a condition for the use of certain frequency bands.

The standard references do not specify the version of standard, but the references are to be understood to refer to the latest adopted versions.

References to different technologies

The Radio Frequency Plan also contains references to specific technologies in connection with remarkable frequency assignments or regulations on exemption from individual licensing. The references are not intended to proclaim the permitted technology as the only permitted alternative. Other technologies with sufficiently compatible radio characteristics are permitted as well.

Inductive equipment

The operation of inductive equipment is based on data transfer over reactive magnetic or electronic fields instead of free propagation of radio waves. Therefore a piece of inductive equipment is not such radio equipment as referred to in the Radio Act. However, the Radio Frequency Plan contains references to the interfaces for inductive applications referred to in Recommendation ERC/REC 70-03 and applications complying with these may be used in Finland. Also the use of other inductive equipment operating within the frequency range 9 kHz – 30 MHz and with field strength below the maximum values for field strength mentioned in the standard EN 300 330-1 is not restricted in Finland.

1. RadioTelephone Base Stations only for Analogue Speech Transmission

1.1 Radio telephone base stations
Standard EN 300 086-1
Equipment with selectivity call: Standard EN 300 219-1

1.2 Vehicle-mounted radio telephones
Standard EN 300 086-1
Equipment with selectivity call: Standard EN 300 219-1

1.3 Portable radio telephones

a) equipment with antenna connector
Standard EN 300 086-1
Equipment with selectivity call: Standard EN 300 219-1

b) equipment with integral antenna
Standard EN 300 296-1
Equipment with selectivity call: Standard EN 300 341-1

2. Radio Telephones for analogue Speech and/or Data Transmission

2.1 Radio telephone base stations

a) channel spacing ≥ 25 kHz:
Standard EN 300 394-1

b) channel spacing 25 kHz or 12.5 kHz:
Standard EN 300 113-1

c) channel spacing ≤ 10 kHz
Standard EN 301 166-1

2.2 Vehicle-mounted radio telephones

a) channel spacing ≥ 25 kHz:
Standard EN 300 394-1

b) channel spacing 25 kHz or 12.5 kHz:
Standard EN 300 113-1

c) channel spacing ≤ 10 kHz
Standard EN 301 166-1

2.3 Portable radio telephones

a) channel spacing ≥ 25 kHz:
Standard EN 300 394-1

b) channel spacing 25 kHz or 12.5 kHz:
Equipment with antenna connector: Standard EN 300 113-1
Equipment with integral antenna: Standard EN 300 390-1

c) channel spacing ≤ 10 kHz:
Standard EN 301 166-1

3. Telecommand and Telemetry Equipment and Data Transmission Systems

3.1 Standard EN 300 220-1 with the following specifications:

This standard is applied to equipment with transmission power less than 0.5 W in the frequency bands 29.810 - 29.940 MHz and 161.4125 - 161.4625 MHz and in the sub-bands within the frequency band 406...470 MHz identified by Ficora for this purpose.

3.2. Standard EN 300 113-1 is applied to all other equipment operating in other frequency ranges and exceeding the transmission power 0.5 W.

MARITIME CHANNELLING TABLES
6.8.2007

Appendix 1 to Frequency Allocation Table

Paired radiotelephony channels in the 4 MHz band

	Coast stations		Ships	
Channel number	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
401	4357	4358,4	4065	4066,4
402	4360	4361,4	4068	4069,4
403	4363	4364,4	4071	4072,4
404	4366	4367,4	4074	4075,4
405	4369	4370,4	4077	4078,4
406	4372	4373,4	4080	4081,4
407	4375	4376,4	4083	4084,4
408	4378	4379,4	4086	4087,4
409	4381	4382,4	4089	4090,4
410	4384	4385,4	4092	4093,4
411	4387	4388,4	4095	4096,4
412	4390	4391,4	4098	4099,4
413	4393	4394,4	4101	4102,4
414	4396	4397,4	4104	4105,4
415	4399	4400,4	4107	4108,4
416	4402	4403,4	4110	4111,4
417	4405	4406,4	4113	4114,4
418	4408	4409,4	4116	4117,4
419	4411	4412,4	4119	4120,4
420	4414	4415,4	4122	4123,4
421	4417*	4418,4*	4125*1)	4126,4*
422	4420	4421,4	4128	4129,4
423	4423	4424,4	4131	4132,4
424	4426	4427,4	4134	4135,4
425	4429	4430,4	4137	4138,4
426	4432	4433,4	4140	4141,4
427	4435	4436,4	4143	4144,4
428	4351	4352,4	-	-
429	4354	4355,4	-	

*) Channel 421 (coast station carrier frequency 4417 kHz and ship station carrier frequency 4125 kHz) is the calling channel in radiotelephony.

1) The ship station TX frequency 4125 kHz of channel 421 is used as the distress and safety

frequency in radiotelephony.

Paired radiotelephony channels in the 6 MHz band

	Coast stations		Ships	
Channel number	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
601	6501	6502,4	6200	6201,4
602	6504	6505,4	6203	6204,4
603	6507	6508,4	6206	6207,4
604	6510	6511,4	6209	6210,4
605	6513	6514,4	6212	6213,4
606	6516*	6517,4*	6215*2)	6216,4*
607	6519	6520,4	6218	6219,4
608	6522	6523,4	6221	6222,4

*) Channel 606 (coast station carrier frequency 6516 kHz and ship station carrier frequency 6215 kHz) is the calling channel in radiotelephony.

2) The ship station TX frequency 6215 kHz of channel 606 is used as the distress and safety

frequency in radiotelephony.

Paired radiotelephony channels in the 8 MHz band

	Coast stations		Ships			Coast stations		Ships	
Channel number	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency	Channel number	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
801	8719	8720,4	8195	8196,4	819	8773	8774,4	8249	8250,4
802	8722	8723,4	8198	8199,4	820	8776	8777,4	8252	8253,4
803	8725	8726,4	8201	8202,4	821	8779*	8780,4*	8255*	8256,4*
804	8728	8729,4	8204	8205,4	822	8782	8783,4	8258	8259,4
805	8731	8732,4	8207	8208,4	823	8785	8786,4	8261	8262,4
806	8734	8735,4	8210	8211,4	824	8788	8789,4	8264	8265,4
807	8737	8738,4	8213	8214,4	825	8791	8792,4	8267	8268,4
808	8740	8741,4	8216	8217,4	826	8794	8795,4	8270	8271,4
809	8743	8744,4	8219	8220,4	827	8797	8798,4	8273	8274,4
810	8746	8747,4	8222	8223,4	828	8800	8801,4	8276	8277,4
811	8749	8750,4	8225	8226,4	829	8803	8804,4	8279	8280,4
812	8752	8753,4	8228	8229,4	830	8806	8807,4	8282	8283,4
813	8755	8756,4	8231	8232,4	831	8809	8810,4	8285	8286,4
814	8758	8759,4	8234	8235,4	832	8812	8813,4	8288	8289,4
815	8761	8762,4	8237	8238,4	833	8291 3)	8292,4	8291 3)	8292,4
816	8764	8765,4	8240	8241,4	834	8707	8708,4	-	-
817	8767	8768,4	8243	8244,4	835	8710	8711,4	-	-
818	8770	8771,4	8246	8247,4	836	8713	8714,4	-	-
					837	8716	8717,4	-	-

*) Channel 821 (coast station carrier frequency 8779 kHz and ship station carrier frequency 8255 kHz) is the calling channel in radiotelephony.

3) The ship station TX frequency 8291 kHz of channel 833 is used as the distress and safety

frequency in radiotelephony.

Paired radiotelephony channels in the 12 MHz band

	Coast stations		Ships	
Channel number	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
1201	13077	13078,4	12230	12231,4
1202	13080	13081,4	12233	12234,4
1203	13083	13084,4	12236	12237,4
1204	13086	13087,4	12239	12240,4
1205	13089	13090,4	12242	12243,4
1206	13092	13093,4	12245	12246,4
1207	13095	13096,4	12248	12249,4
1208	13098	13099,4	12251	12252,4
1209	13101	13102,4	12254	12255,4
1210	13104	13117,4	12269	12270,4
1211	13107	13105,4	12257	12258,4
1212	13110	13108,4	12260	12261,4
1213	13113	13111,4	12263	12264,4
1214	13116	13114,4	12266	12267,4
1215	13119	13120,4	12272	12273,4
1216	13122	13123,4	12275	12276,4
1217	13125	13126,4	12278	12279,4
1218	13128	13129,4	12281	12282,4
1219	13131	13132,4	12284	12285,4
1220	13134	13135,4	12287	12288,4
1221	13137*	13138,4*	12290*4)	12291,4*
1222	13140	13141,4	12293	12294,4
1223	13143	13144,4	12296	12297,4
1224	13146	13147,4	12299	12300,4
1225	13149	13150,4	12302	12303,4
1226	13152	13153,4	12305	12306,4
1227	13155	13156,4	12308	12309,4
1228	13158	13159,4	12311	12312,4
1229	13161	13162,4	12314	12315,4
1230	13164	13165,4	12317	12318,4
1231	13167	13168,4	12320	12321,4
1232	13170	13171,4	12323	12324,4
1233	13173	13174,4	12326	12327,4
1234	13176	13177,4	12329	12330,4
1235	13179	13180,4	12332	12333,4
1236	13182	13183,4	12335	12336,4
1237	13185	13186,4	12338	12339,4
1238	13188	13189,4	12341	12342,4
1239	13191	13192,4	12344	12345,4
1240	13194	13195,4	12347	12348,4
1241	13197	13198,4	12350	12351,4

*) Channel 1221 (coast station carrier frequency 13137 kHz and ship station carrier frequency 12290 kHz) is the calling channel in radiotelephony.

4) The ship station TX frequency 12290 kHz of channel 1221 is used as the distress and safety

frequency in radiotelephony.

Paired radiotelephony channels in the 16 MHz band

	Coast stations		Ships	
Channel number	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
1601	17242	17243,4	16360	16361,4
1602	17245	17246,4	16363	16364,4
1603	17248	17249,4	16366	16367,4
1604	17251	17252,4	16369	16370,4
1605	17254	17255,4	16372	16373,4
1606	17257	17258,4	16375	16376,4
1607	17260	17261,4	16378	16379,4
1608	17263	17264,4	16381	16382,4
1609	17266	17267,4	16384	16385,4
1610	17269	17270,4	16387	16388,4
1611	17272	17273,4	16390	16391,4
1612	17275	17276,4	16393	16394,4
1613	17278	17279,4	16396	16397,4
1614	17281	17282,4	16399	16400,4
1615	17284	17285,4	16402	16403,4
1616	17287	17288,4	16405	16406,4
1617	17290	17291,4	16408	16409,4
1618	17293	17294,4	16411	16412,4
1619	17296	17297,4	16414	16415,4
1620	17299	17300,4	16417	16418,4
1621	17302*	17303,4*	16420*4)	16421,4*
1622	17305	17306,4	16423	16424,4
1623	17308	17309,4	16426	16427,4
1624	17311	17312,4	16429	16430,4
1625	17314	17315,4	16432	16433,4
1626	17317	17318,4	16435	16436,4
1627	17320	17321,4	16438	16439,4
1628	17323	17324,4	16441	16442,4
1629	17326	17327,4	16444	16445,4
1630	17329	17330,4	16447	16448,4
1631	17332	17333,4	16450	16451,4
1632	17335	17336,4	16453	16454,4
1633	17338	17339,4	16456	16457,4
1634	17341	17342,4	16459	16460,4
1635	17344	17345,4	16462	16463,4
1636	17347	17348,4	16465	16466,4
1637	17350	17351,4	16468	16469,4
1638	17353	17354,4	16471	16472,4
1639	17356	17357,4	16474	16475,4
1640	17359	17360,4	16477	16478,4
1641	17362	17363,4	16480	16481,4
1642	17365	17366,4	16483	16484,4
1643	17368	17369,4	16486	16487,4
1644	17371	17372,4	16489	16490,4
1645	17374	17375,4	16492	16493,4
1646	17377	17378,4	16495	16496,4
1647	17380	17381,4	16498	16499,4
1648	17383	17384,4	16501	16502,4
1649	17386	17387,4	16504	16505,4
1650	17389	17390,4	16507	16508,4
1651	17392	17393,4	16510	16511,4
1652	17395	17396,4	16513	16514,4
1653	17398	17399,4	16516	16517,4
1654	17401	17402,4	16519	16520,4
1655	17404	17405,4	16522	16523,4
1656	17407	17408,4	16525	16526,4

*) Channel 1621 (coast station carrier frequency 16302 kHz and ship station carrier frequency 16420 kHz) is the calling channel in radiotelephony.

4) The ship station TX frequency 16420 kHz of channel 1621 is used as the distress and safety frequency in radiotelephony.

Paired radiotelephony channels in the 18/19 MHz band

	Coast stations		Ships	

Channel number	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
1801	19755	19756,4	18780	18781,4
1802	19758	19759,4	18783	18784,4
1803	19761	19762,4	18786	18787,4
1804	19764	19765,4	18789	18790,4
1805	19767	19768,4	18792	18793,4
1806	19770*	19771,4 *	18795 *	18796,4 *
1807	19773	19774,4	18798	18799,4
1808	19776	19777,4	18801	18802,4
1809	19779	19780,4	18804	18805,4
1810	19782	19783,4	18807	18808,4
1811	19785	19786,4	18810	18811,4
1812	19788	19789,4	18813	18814,4
1813	19791	19792,4	18816	18817,4
1814	19794	19795,4	18819	18820,4
1815	19797	19798,4	18822	18823,4

*) Channel 1806 (coast station carrier frequency 19770 kHz and ship station carrier frequency 18795 kHz) is the calling channel in radiotelephony.

Paired radiotelephony channels in the 22 MHz band

Coast stations	Ships	Coast stations	Ships

Channel number	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
2201	22696	22697,4	22000	22001,4
2202	22699	22700,4	22003	22004,4
2203	22702	22703,4	22006	22007,4
2204	22705	22706,4	22009	22010,4
2205	22708	22709,4	22012	22013,4
2206	22711	22712,4	22015	22016,4
2207	22714	22715,4	22018	22019,4
2208	22717	22718,4	22021	22022,4
2209	22720	22721,4	22024	22025,4
2210	22723	22724,4	22027	22028,4
2211	22726	22727,4	22030	22031,4
2212	22729	22730,4	22033	22034,4
2213	22732	22733,4	22036	22037,4
2214	22735	22736,4	22039	22040,4
2215	22738	22739,4	22042	22043,4
2216	22741	22742,4	22045	22046,4
2217	22744	22745,4	22048	22049,4
2218	22747	22748,4	22051	22052,4
2219	22750	22751,4	22054	22055,4
2220	22753	22754,4	22057	22058,4
2221	22756*	22757,4*	22060*	22061,4*
2222	22759	22760,4	22063	22064,4
2223	22762	22763,4	22066	22067,4
2224	22765	22766,4	22069	22070,4
2225	22768	22769,4	22072	22073,4
2226	22771	22772,4	22075	22076,4
2227	22774	22775,4	22078	22076,4
2228	22777	22778,4	22081	22082,4
2229	22780	22781,4	22084	22085,4
2230	22783	22784,4	22087	22088,4
2231	22786	22787,4	22090	22091,4
2232	22789	22790,4	22093	22094,4
2233	22792	22793,4	22096	22097,4
2234	22795	22796,4	22099	22100,4
2235	22798	22799,4	22102	22103,4
2236	22801	22802,4	22105	22106,4
2237	22804	22805,4	22108	22109,4
2238	22807	22808,4	22111	22112,4
2239	22810	22811,4	22114	22115,4
2240	22813	22814,4	22117	22118,4
2241	22816	22817,4	22120	22121,4
2242	22819	22820,4	22123	22124,4
2243	22822	22823,4	22126	22127,4
2244	22825	22826,4	22129	22130,4
2245	22828	22829,4	22132	22133,4
2246	22831	22832,4	22135	22136,4
2247	22834	22835,4	22138	22139,4
2248	22837	22838,4	22141	22142,4
2249	22840	22841,4	22144	22145,4
2250	22843	22844,4	22147	22148,4
2251	22846	22847,4	22150	22151,4
2252	22849	22850,4	22153	22154,4
2253	22852	22853,4	22156	22157,4

*) Channel 2221 (coast station carrier frequency 22756 kHz and ship station carrier frequency 22060 kHz) is the calling channel in radiotelephony.

Paired radiotelephony channels in the 25 MHz band

	Coast stations		Ships	
Channel number	Carrier frequency	Assigned frequency	Carrier frequency	Assigned frequency
2501	26145	26146,4	25070	25071,4
2502	26148	26149,4	25073	25074,4
2503	26151	26152,4	25076	25077,4

2504	26154	26155,4	25079	25080,4
2505	26157	26158,4	25082	25083,4
2506	26160	26161,4	25085	25086,4
2507	26163	26164,4	25088	25089,4
2508	26166	26167,4	25091	25092,4
2509	26169	26170,4	25094	25095,4
2510	26172 *	26173,4 *	25097 *	25098,4

*) Channel 2510 (coast station carrier frequency 26172 kHz and ship station carrier frequency 25097 kHz) is the calling channel in radiotelephony.

Unpaired radiotelephony frequencies (3JE) in bands 4, 6, 8, 12, 16, 18, 22 and 25 MHz

These frequencies are used for ship-to-ship communications. When required, they can be used also for communications between a ship and a coast station.

The frequencies can be used for simplex communicating also by coast station when the transmitting power does not exceed 1 kW.

4 MHz	4 MHz	6 MHz	6 MHz	8 MHz	8 MHz	12 MHz	12 MHz

f c	f a	f c	fa	fc	fa	fc	fa
4146	4147,4	6224	6225,4	8294	8295,4	12353	12354,4
4149	4150,4	6227	6228,4	8297	8298,4	12356	12357,4
		6230	6231,4			12359	12360,4
						12362	12363,4
						12365	12366,4

16 MHz f c	16 MHz f a	18 MHz fc	18 MHz fa	22 MHz fc	22 MHz fa	25 MHz fc	25 MHz fa
16528	16529,4	18825	18826,4	22159	22160,4	25100	25101,4
16531	16532,4	18828	18829,4	22162	22163,4	25103	25104,4
16534	16535,4	18831	18832,4	22165	22166,4	25106	25107,4
16537	16538,4	18834	18835,4	22168	22169,4	25109	25110,4
16540	16541,4	18837	18838,4	22171	22172,4	25112	25113,4
16543	16544,4	18840	18841,4	22174	22175,4	25115	25116,4
16546	16547,4	18843	18844,4	22177	22178,4	25118	25119,4

f c = carrier frequency
f a = assigned frequency

Additional unpaired frequencies (J3E) shared with fixed service in the 4 and 8 MHz bands

These frequencies are used for ship-to-ship communications. When required, they can be used also for communications between a ship and a coast station.

4 MHz f c	4 MHz f a	4 MHz fc	4 MHz fa	8 MHz fc	8 MHz fa	8 MHz fc	8 MHz fa
4000	4001,3	4033	4034,4	8101	8102,4	8149	8150,4

4003	4004,3	4036	4037,4	8104	8105,4	8152	8153,4
4006	4007,3	4039	4040,4	8107	8108,4	8155	8156,4
4009	4010,3	4042	4043,4	8110	8111,4	8158	8159,4
4012	4013,3	4045	4046,4	8113	8114,4	8161	8162,4
4015	4016,3	4048	4049,4	8116	8117,4	8164	8165,4
4018	4019,3	4051	4052,4	8119	8120,4	8167	8168,4
4021	4022,3	4054	4055,4	8122	8123,4	8170	8171,4
4024	4025,3	4057	4058,4	8125	8126,4	8173	8174,4
4027	4028,3	4060	4061,4	8128	8129,4	8176	8177,4
4030	4031,3			8131	8132,4	8179	8180,4
				8134	8135,4	8182	8183,4
				8137	8138,4	8185	8186,4
				8140	8141,4	8188	8189,4
				8143	8144,4	8191	8192,4
				8146	8147,4		

f c = carrier frequency
f a = assigned frequency

Paired telex frequencies (NBDP) 4 MHz

All frequencies are assigned frequencies

Channel number	Coast station TX (kHz)	Ship TX (kHz)	Channel number	Coast station TX (kHz)	Ship TX (kHz)
1	4210,5	4172,5	11	4177,5 *)	4177,5 *)
2	4211	4173	12	4215,5	4178
3	4211,5	4173,5	13	4216	4178,5
4	4212	4174	14	4216,5	4179
5	4212,5	4174,5	15	4217	4179,5
6	4213	4175	16	4217,5	4180
7	4213,5	4175,5	17	4218	4180,5
8	4214	4176	18	4218,5	4181
9	4214,5	4176,5	19	4219	4185,5
10	4215	4177			

*) 4177,5 kHz is the distress frequency for telex communications.

Paired telex frequencies (NBDP) 6 MHz

All frequencies are assigned frequencies

Channel number	Coast station TX (kHz)	Ship TX (kHz)	Channel number	Coast station TX (kHz)	Ship TX (kHz)	Channel number	Coast station TX (kHz)	Ship TX (kHz)
1	6314,5	6263	14	6320,5	6269,5	27	6327	6281
2	6315	6263,5	15	6321	6270	28	6327,5	6281,5
3	6315,5	6264	16	6321,5	6270,5	29	6328	6282
4	6316	6264,5	17	6322	6271	30	6328,5	6282,5
5	6316,5	6265	18	6322,5	6271,5	31	6329	6283
6	6317	6265,5	19	6323	6272	32	6329,5	6283,5
7	6317,5	6266	20	6323,5	6272,5	33	6330	6284
8	6318	6266,5	21	6324	6273	34	6330,5	6284,5
9	6318,5	6267	22	6324,5	6273,5			
10	6319	6267,5	23	6325	6274			
11	6268 *)	6268 *)	24	6325,5	6274,5			
12	6319,5	6268,5	25	6326	6275			

13	6320	6269	26	6326,5	6275,5

*) 6268,0 kHz is the distress frequency for telex communications.

Paired telex frequencies (NBDP) 8 MHz

All frequencies are assigned frequencies

Channel number	Coast station TX (kHz)	Ship TX (kHz)	Channel number	Coast station TX (kHz)	Ship TX (kHz)	Channel number	Coast station TX (kHz)	Ship TX (kHz)
1	8376,5 *)	8376,5 *)	15	8423,5	8383,5	29	8430,5	8390,5
2	8417	8377	16	8424	8384	30	8431	8391
3	8417,5	8377,5	17	8424,5	8384,5	31	8431,5	8391,5
4	8418	8378	18	8425	8385	32	8432	8392
5	8418,5	8378,5	19	8425,5	8385,5	33	8432,5	8392,5
6	8419	8379	20	8426	8386	34	8433	8393
7	8419,5	8379,5	21	8426,5	8386,5	35	8433,5	8393,5
8	8420	8380	22	8427	8387	36	8434	8394
9	8420,5	8380,5	23	8427,5	8387,5	37	8434,5	8394,5
10	8421	8381	24	8428	8388	38	8435	8395
11	8421,5	8381,5	25	8428,5	8388,5	39	8435,5	8395,5
12	8422	8382	26	8429	8389	40	8436	8396
13	8422,5	8382,5	27	8429,5	8389,5			
14	8423	8383	28	8430	8390			

*) 8376,5 kHz is the distress frequency for telex communications.

Paired telex frequencies (NBDP) 12 MHz

All frequencies are assigned frequencies

Channel number	Coast station TX (kHz)	Ship TX (kHz)	Channel number	Coast station TX (kHz)	Ship TX (kHz)	Channel number	Coast station TX (kHz)	Ship TX (kHz)
1	12579,5	12477	61	12609,5	12507	121	12639	12537
2	12580	12477,5	62	12610	12507,5	122	12639,5	12537,5
3	12580,5	12478	63	12610,5	12508	123	12640	12538
4	12581	12478,5	64	12611	12508,5	124	12640,5	12538,5
5	12581,5	12479	65	12611,5	12509	125	12641	12539
6	12582	12479,5	66	12612	12509,5	126	12641,5	12539,5
7	12582,5	12480	67	12612,5	12510	127	12642	12540
8	12583	12480,5	68	12613	12510,5	128	12642,5	12540,5
9	12583,5	12481	69	12613,5	12511	129	12643	12541
10	12584	12481,5	70	12614	12511,5	130	12643,5	12541,5
11	12584,5	12482	71	12614,5	12512	131	12644	12542
12	12585	12482,5	72	12615	12512,5	132	12644,5	12542,5
13	12585,5	12483	73	12615,5	12513	133	12645	12543
14	12586	12483,5	74	12616	12513,5	134	12645,5	12543,5
15	12586,5	12484	75	12616,5	12514	135	12646	12544
16	12587	12484,5	76	12617	12514,5	136	12646,5	12544,5
17	12587,5	12485	77	12617,5	12515	137	12647	12545
18	12588	12485,5	78	12618	12515,5	138	12647,5	12545,5
19	12588,5	12486	79	12618,5	12516	139	12648	12546
20	12589	12486,5	80	12619	12516,5	140	12648,5	12546,5
21	12589,5	12487	81	12619,5	12517	141	12649	12547
22	12590	12487,5	82	12620	12517,5	142	12649,5	12547,5
23	12590,5	12488	83	12620,5	12518	143	12650	12548
24	12591	12488,5	84	12621	12518,5	144	12650,5	12548,5
25	12591,5	12489	85	12621,5	12519	145	12651	12549
26	12592	12489,5	86	12622	12519,5	146	12651,5	12549,5
27	12592,5	12490	87	12520 *)	12520 *)	147	12652	12555
28	12593	12490,5	88	12622,5	12520,5	148	12652,5	12555,5
29	12593,5	12491	89	12623	12521	149	12653	12556
30	12594	12491,5	90	12623,5	12521,5	150	12653,5	12556,5
31	12594,5	12492	91	12624	12522	151	12654	12557
32	12595	12492,5	92	12624,5	12522,5	152	12654,5	12557,5
33	12595,5	12493	93	12625	12523	153	12655	12558
34	12596	12493,5	94	12625,5	12523,5	154	12655,5	12558,5

35	12596,5	12494	95	12626	12524	155	12656	12559
36	12597	12494,5	96	12626,5	12524,5	156	12656,5	12559,5
37	12597,5	12495	97	12627	12525			
38	12598	12495,5	98	12627,5	12525,5			
39	12598,5	12496	99	12628	12526			
40	12599	12496,5	100	12628,5	12526,5			
41	12599,5	12497	101	12629	12527			
42	12600	12497,5	102	12629,5	12527,5			
43	12600,5	12498	103	12630	12528			
44	12601	12498,5	104	12630,5	12528,5			
45	12601,5	12499	105	12631	12529			
46	12602	12499,5	106	12631,5	12529,5			
47	12602,5	12500	107	12632	12530			
48	12603	12500,5	108	12632,5	12530,5			
49	12603,5	12501	109	12633	12531			
50	12604	12501,5	110	12633,5	12531,5			
51	12604,5	12502	111	12634	12532			
52	12605	12502,5	112	12634,5	12532,5			
53	12605,5	12503	113	12635	12533			
54	12606	12503,5	114	12635,5	12533,5			
55	12606,5	12504	115	12636	12534			
56	12607	12504,5	116	12636,5	12534,5			
57	12607,5	12505	117	12637	12535			
58	12608	12505,5	118	12637,5	12535,5			
59	12608,5	12506	119	12638	12536			
60	12609	12506,5	120	12638,5	12536,5			

*) 12520,0 kHz is the distress frequency for telex communications.

Paired telex frequencies (NBDP) 16 MHz

All frequencies are assigned frequencies

Channel number	Coast station TX (kHz)	Ship TX (kHz)	Channel number	Coast station TX (kHz)	Ship TX (kHz)	Channel number	Coast station TX (kHz)	Ship TX (kHz)
1	16807	16683,5	61	16836,5	16713,5	121	16866,5	16748,5
2	16807,5	16684	62	16837	16714	122	16867	16749
3	16808	16684,5	63	16837,5	16714,5	123	16867,5	16749,5
4	16808,5	16685	64	16838	16715	124	16868	16750
5	16809	16685,5	65	16838,5	16715,5	125	16868,5	16750,5
6	16809,5	16686	66	16839	16716	126	16869	16751
7	16810	16686,5	67	19839,5	16716,5	127	16869,5	16751,5
8	16810,5	16687	68	16840	16717	128	16870	16752
9	16811	16687,5	69	16840,5	16717,5	129	16870,5	16752,5
10	16811,5	16688	70	16841	16718	130	16871	16753
11	16812	16688,5	71	16841,5	16718,5	131	16871,5	16753,5
12	16812,5	16689	72	16842	16719	132	16872	16754
13	16813	16689,5	73	16842,5	16719,5	133	16872,5	16754,5
14	16813,5	16690	74	16843	16720	134	16873	16755
15	16814	16690,5	75	16843,5	16720,5	135	16873,5	16755,5
16	16814,5	16691	76	16844	16721	136	16874	16756
17	16815	16691,5	77	16844,5	16721,5	137	16874,5	16756,5
18	16815,5	16692	78	16845	16722	138	16875	16757
19	16816	16692,5	79	16845,5	16722,5	139	16875,5	16757,5
20	16816,5	16693	80	16846	16723	140	16876	16758
21	16817	16693,5	81	16846,5	16723,5	141	16876,5	16758,5
22	16817,5	16694	82	16847	16724	142	16877	16759
23	16818	16694,5	83	16847,5	16724,5	143	16877,5	16759,5
24	16695 *)	16695 *)	84	16848	16725	144	16878	16760
25	16818,5	16695,5	85	16848,5	16725,5	145	16878,5	16760,5
26	16819	16696	86	16849	16726	146	16879	16761
27	16819,5	16696,5	87	16849,5	16726,5	147	16879,5	16761,5
28	16820	16697	88	16850	16727	148	16880	16762
29	16820,5	16697,5	89	16850,5	16727,5	149	16880,5	16762,5
30	16821	16698	90	16851	16728	150	16881	16763
31	16821,5	16698,5	91	16851,5	16728,5	151	16881,5	16763,5
32	16822	16699	92	16852	16729	152	16882	16764
33	16822,5	16699,5	93	16852,5	16729,5	153	16882,5	16764,5
34	16823	16700	94	16853	16730	154	16883	16765

35	16823,5	16700,5	95	16853,5	16730,5	155	16883,5	16765,5
36	16824	16701	96	16854	16731	156	16884	16766
37	16824,5	16701,5	97	16854,5	16731,5	157	16884,5	16766,5
38	16825	16702	98	16855	16732	158	16885	16767
39	16825,5	16702,5	99	16855,5	16732,5	159	16885,5	16767,5
40	16826	16703	100	16856	16733	160	16886	16768
41	16826,5	16703,5	101	16856,5	16733,5	161	16886,5	16768,5
42	16827	16704	102	16857	16739	162	16887	16769
44	16828	16705	104	16858	16740	164	16888	16770
45	16828,5	16705,5	105	16858,5	16740,5	165	16888,5	16770,5
46	16829	16706	106	16859	16741	166	16889	16771
47	16829,5	16706,5	107	16859,5	16741,5	167	16889,5	16771,5
48	16830	16707	108	16860	16742	168	16890	16772
49	16830,5	16707,5	109	16860,5	16742,5	169	16890,5	16772,5
50	16831	16708	110	16861	16743	170	16891	16773
51	16831,5	16708,5	111	16861,5	16743,5	171	16891,5	16773,5
52	16832	16709	112	16862	16744	172	16892	16774
53	16832,5	16709,5	113	16862,5	16744,5	173	16892,5	16774,5
54	16833	16710	114	16863	16745	174	16893	16775
55	16833,5	16710,5	115	16863,5	16745,5	175	16893,5	16775,5
56	16834	16711	116	16864	16746	176	16894	16776
57	16834,5	16711,5	117	16864,5	16746,5	177	16894,5	16776,5
58	16835	16712	118	16865	16747	178	16895	16777
59	16835,5	16712,5	119	16865,5	16747,5	179	16895,5	16777,5
60	16836	16713	120	16866	16748	180	16896	16778

(to be continued)

Paired telex frequencies (NBDP) 16 MHz (continued from previous page)

All frequencies are assigned frequencies

Channel number	Coast station TX (kHz)	Ship TX (kHz)
181	16896,5	16778,5
182	16897	16779
183	16897,5	16779,5
184	16898	16780
185	16898,5	16780,5
186	16899	16781
187	16899,5	16781,5
188	16900	16782
189	16900,5	16782,5
190	16901	16783
191	16901,5	16783,5
192	16902	16784
193	16902,5	16784,5

*) 16695,0 kHz is the distress frequency for telex communications.

Paired telex frequencies (NBDP) 18/19 MHz

All frequencies are assigned frequencies

Channel number	Coast station TX (kHz)	Ship TX (kHz)	Channel number	Coast station TX (kHz)	Ship TX (kHz)
1	19681	18870,5	31	19696	18885,5
2	19681,5	18871	32	19696,5	18886
3	19682	18871,5	33	19670	18886,5
4	19682,5	18872	34	19670,5	18887
5	19683	18872,5	35	19671	18887,5
6	19683,5	18873	36	19671,5	18888
7	19684	18873,5	37	19672	18888,5
8	19684,5	18874	38	19672,5	18889

9	19685	18874,5
10	19685,5	18875
11	19686	18875,5
12	19686,5	18876
13	19687	18876,5
14	19687,5	18877
15	19688	18877,5
16	19688,5	18878
17	19689	18878,5
18	19689,5	18879
19	19690	18879,5
20	19690,5	18880
21	19691	18880,5
22	19691,5	18881
23	19692	18881,5
24	19692,5	18882
25	19693	18882,5
26	19693,5	18883
27	19694	18883,5
28	19694,5	18884
29	19695	18884,5
30	19695,5	18885
39	19673	18889,5
40	19673,5	18890
41	19701	18890,5
42	19701,5	18891
43	19702	18891,5
44	19702,5	18892
45	19703	18892,5

Paired telex frequencies (NBDP) 22 MHz

All frequencies are assigned frequencies

Channel number	Coast station TX (kHz)	Ship TX (kHz)
1	22376,5	22284,5
2	22377	22285
3	22377,5	22285,5
4	22378	22286
5	22378,5	22286,5
6	22379	22287
7	22379,5	22287,5
8	22380	22288
9	22380,5	22288,5
10	22381	22289
11	22381,5	22289,5
12	22382	22290
13	22382,5	22290,5
14	22383	22291
15	22383,5	22291,5
16	22384	22292
17	22384,5	22292,5
18	22385	22293
19	22385,5	22293,5
20	22386	22294
21	22386,5	22294,5
22	22387	22295
23	22387,5	22295,5
24	22388	22296
25	22388,5	22296,5
26	22389	22297
27	22389,5	22297,5
28	22390	22298
29	22390,5	22298,5
30	22391	22299
31	22391,5	22299,5
32	22392	22300
33	22392,5	22300,5
34	22393	22301
35	22393,5	22301,5
61	22406,5	22314,5
62	22407	22315
63	22407,5	22315,5
64	22408	22316
65	22408,5	22316,5
66	22409	22317
67	22409,5	22317,5
68	22410	22318
69	22410,5	22318,5
70	22411	22319
71	22411,5	22319,5
72	22412	22320
73	22412,5	22320,5
74	22413	22321
75	22413,5	22321,5
76	22414	22322
77	22414,5	22322,5
78	22415	22323
79	22415,5	22323,5
80	22416	22324
81	22416,5	22324,5
82	22417	22325
83	22417,5	22325,5
84	22418	22326
85	22418,5	22326,5
86	22419	22327
87	22419,5	22327,5
88	22420	22328
89	22420,5	22328,5
90	22421	22329
91	22421,5	22329,5
92	22422	22330
93	22422,5	22330,5
94	22423	22331
95	22423,5	22331,5
121	22436,5	22344,5
122	22437	22345
123	22437,5	22345,5
124	22438	22346
125	22438,5	22346,5
126	22439	22347
127	22439,5	22347,5
128	22440	22348
129	22440,5	22348,5
130	22441	22349
131	22441,5	22349,5
132	22442	22350
133	22442,5	22350,5
134	22443	22351
135	22443,5	22351,5

36	22394	22302	96	22424	22332
37	22394,5	22302,5	97	22424,5	22332,5
38	22395	22303	98	22425	22333
39	22395,5	22303,5	99	22425,5	22333,5
40	22396	22304	100	22426	22334
41	22396,5	22304,5	101	22426,5	22334,5
42	22397	22305	102	22427	22335
43	22397,5	22305,5	103	22427,5	22335,5
44	22398	22306	104	22428	22336
45	22398,5	22306,5	105	22428,5	22336,5
46	22399	22307	106	22429	22337
47	22399,5	22307,5	107	22429,5	22337,5
48	22400	22308	108	22430	22338
49	22400,5	22308,5	109	22430,5	22338,5
50	22401	22309	110	22431	22339
51	22401,5	22309,5	111	22431,5	22339,5
52	22402	22310	112	22432	22340
53	22402,5	22310,5	113	22432,5	22340,5
54	22403	22311	114	22433	22341
55	22403,5	22311,5	115	22433,5	22341,5
56	22404	22312	116	22434	22342
57	22404,5	22312,5	117	22434,5	22342,5
58	22405	22313	118	22435	22343
59	22405,5	22313,5	119	22435,5	22343,5
60	22406	22314	120	22436	22344

Paired telex frequencies (NBDP) 25/26 MHz

All frequencies are assigned frequencies

Channel number	Coast station TX (kHz)	Ship TX (kHz)
1	26101	25173
2	26101,5	25173,5
3	26102	25174
4	26102,5	25174,5
5	26103	25175
6	26103,5	25175,5
7	26104	25176
8	26104,5	25176,5
9	26105	25177
10	26105,5	25177,5
11	26106	25178
12	26106,5	25178,5
13	26107	25179
14	26107,5	25179,5
15	26108	25180
16	26108,5	25180,5
17	26109	25181
18	26109,5	25181,5
19	26110	25182
20	26110,5	25182,5
21	26111	25183
22	26111,5	25183,5
23	26112	25184
24	26112,5	25184,5
25	26113	25185
26	26113,5	25185,5
27	26114	25186
28	26114,5	25186,5
29	26115	25187
30	26115,5	25187,5
31	26116	25188
32	26116,5	25188,5

33	26117	25189
34	26117,5	25189,5
35	26118	25190
36	26118,5	25190,5
37	26119	25191
38	26119,5	25191,5
39	26120	25192
40	26120,5	25192,5

Unpaired telex frequencies (NBDP) 4, 6, 8, 12, 16, 18, 22 and 25 MHz

All frequencies are assigned frequencies.

In addition to telex traffic these frequencies can be used for morse telegraphy working (AIA). The frequencies are intended primarily for ship-to-ship communications. They can also be used as ship station TX frequencies in ship-to-shore communications.

Channel number	Ship TX (kHz)	Ship TX (kHz)	Ship TX (kHz)	Ship TX (kHz)	Ship TX (kHz)	Ship TX (kHz)	Ship TX (kHz)	Ship TX (kHz)
1	4202,5	6300,5	8396,5	12560	16785	18893	22352	25193
2	4203	6301	8397	12560,5	16785,5	18893,5	22352,5	25193,5
3	4203,5	6301,5	8397,5	12561	16786	18894	22353	25194
4	4204	6302	8398	12561,5	16786,5	18894,5	22353,5	25194,5
5	4204,5	6302,5	8398,5	12562	16787	18895	22354	25195
6	4205	6303	8399	12562,5	16787,5	18895,5	22354,5	25195,5
7	4205,5	6303,5	8399,5	12563	16788	18896	22355	25196
8	4206	6304	8400	12563,5	16788,5	18896,5	22355,5	25196,5
9	4206,5	6304,5	8400,5	12564	16789	18897	22356	25197
10	4207	6305	8401	12564,5	16789,5	18897,5	22356,5	25197,5
11		6305,5	8401,5	12565	16790	18898	22357	25198
12		6306	8402	12565,5	16790,5		22357,5	25198,5
13		6306,5	8402,5	12566	16791		22358	25199
14		6307	8403	12566,5	16791,5		22358,5	25199,5
15		6307,5	8403,5	12567	16792		22359	25200
16		6308	8404	12567,5	16792,5		22359,5	25200,5
17		6308,5	8404,5	12568	16793		22360	25201
18		6309	8405	12568,5	16793,5		22360,5	25201,5
19		6309,5	8405,5	12569	16794		22361	25202
20		6310	8406	12569,5	16794,5		22361,5	25202,5
21		6310,5	8406,5	12570	16795		22362	25203
22		6311	8407	12570,5	16795,5		22362,5	25203,5
23		6311,5	8407,5	12571	16796		22363	25204
24			8408	12571,5	16796,5		22363,5	25204,5
25			8408,5	12572	16797		22364	25205
26			8409	12572,5	16797,5		22364,5	25205,5
27			8409,5	12573	16798		22365	25206
28			8410	12573,5	16798,5		22365,5	25206,5
29			8410,5	12574	16799		22366	25207
30			8411	12574,5	16799,5		22366,5	25207,5
31			8411,5	12575	16800		22367	25208
32			8412	12575,5	16800,5		22367,5	

33	8412,5	12576	16801	22368
34	8413	12576,5	16801,5	22368,5
35	8413,5		16802	22369
36	8414		16802,5	22369,5
37			16803	22370
38			16803,5	22370,5
39			16804	22371
40				22371,5
41				22372
42				22372,5
43				22373
44				22373,5
45				22374

Amendments made to the Regulation 4 and to the Frequency Allocation Table since 31.10.2007

- The frequency band 7100 - 7300 kHz has been updated according to present use. ECC Recommendation ECC/REC/(05)05.

- The sub-band 29.810 - 29.940 MHz has been assigned for control, alarm, telemetry, telecommand and data transmission. The remark "sub-band under review" has been removed.

- Totally 2*1.6 MHz of the sub-bands 148.28125 - 149.89375 MHz / 152.88125 - 154.49375 MHz has been allocated to digital PMR (DMR). The remark "sub-band under review" has been removed and reference to ECC Decision ECC/DEC/(06)06 on narrow band digital PMR/PAMR systems has been added. In addition three duplex channels and six simplex channels have been assigned for digital or analogue systems in the duplex sub-bands for short-term use.

- The sub-band 154.65625 - 154.89375 MHz has been assigned for digital PMR (DMR), the remark "sub-band under review" has been removed and reference to ECC Decision ECC/DEC/(06)06 on narrow band digital PMR/PAMR systems has been added. In addition eight common DMR channels have been assigned for use throughout Finland.

- Reference has been added to the updated ITU-R Recommendation RS.1165-2 in sub-bands 400.150 - 401.000 MHz and 401 - 406 MHz, and the remark "definition of radio interference in preparation" has been removed.

- The sub-bands 417.925 - 419.125 MHz / 427.925 - 429.125 MHz have been assigned for wideband (25 - 200 kHz) digital PMR systems. Reference to ECC Decision ECC/DEC/(04)06 has been added. The remark "sub-band under review" has been removed.

- In the sub-band 440.6125 - 441.1750 MHz, 0.2875 MHz has been assigned for PMR (440.60625 - 440.89375 MHz) and 0,275 MHz to data transmission (440.90625 - 441.18125 MHz). The remark "sub-band under review" has been removed.

- The sub-band 447.00625 - 447.29375 MHz has been assigned for digital PMR (DMR), the remark "sub-band under review" has been removed and reference to ECC Decision ECC/DEC/(06)06 on narrow band digital PMR/PAMR systems has been added. In addition eight common DMR channels have been assigned for use throughout Finland.

- In order to improve spectrum efficiency a parallel assignment for data transmission (449.00625 - 449.51875 MHZ) has been added to the sub-band 449.025 - 449.525 MHz.

- Channels in accordance with the new channel spacing of RFID equipment has been added to the sub-band 865 - 868 MHZ. The renewed ETSI Standard applies to this equipment.

- An exemption from licensing has been added for UMTS900 mobile terminals in sub-band 880.200 - 914.800 MHz, as UMTS mobile services in this sub-band are allowed according to the Government Decree On the Frequency Utilization Plan for Television and Radio Broadcasting and Telecommunication Activities that require a Licence (680/2007, in Finnish). In addition reference to ERC Decision ERC/DEC(00)06 on exemption from licensing has been added.

- The text "IMT-2000/UMTS channel plan under review" has been removed from sub-bands 880.200 - 914.800 MHz and 925.200 - 959.800 MHz, as a decision has been made on UMTS network use in these frequencies and the right to use the band has been granted to operators (diary number 958/700/2007, 31.10.2007).

- Allocation to mobile aeronautical service (R) has been added to the frequency band 960 - 1164 MHz (WRC-07 Decision).

- The present use is about to end in sub-bands 1375.750 - 1389.250 MHz and 1427.750 - 1441.250 MHz and the limits for use of radio links, decided by WRC07, are known. Therefore new channelling is planned for these sub-bands and accordingly a remark "sub-band under review" has been added.

- The remark "definition of radio interference in preparation" has been removed from and reference to the updated ITU-R Recommendation RS.1165-2 has been added to sub-bands 1668.400 - 1670.000 MHz, 1675 - 1690 MHz and 1690 - 1700 MHz.

- An exemption from licensing has been added for UMTS1800 mobile terminals in sub-band 1710.200 - 1784.800 MHz, as the Government Decree On the Frequency Utilization Plan for Television and Radio Broadcasting and Telecommunication Activities that require a Licence (680/2007, in Finnish) allows UMTS mobile services in this sub-band. In addition reference to ERC Decision ERC/DEC(00)06 on exemption from licensing has been added.

- Reference to European Commission Decision 2008/294/EC on allowing GSM1800 services on aircraft has been added to sub-bands 1710.200 - 1784.800 MHz and 1805.200 - 1879.800 MHz.

- The allocation to fixed service and use of radio links is removed from sub-bands 1713.500 - 1741.500 MHz and 1832.500 - 1860.500 MHz, as the frequency band is allocated to GSM1800/UMTS1800 mobile service and no radio links are used in the band after 1.8.2008.

- In the sub-bands 1919.500 - 1975.500 MHz and 2038.500 - 2094.500 MHz only a few radio links are used nowadays, and accordingly the old DRS 2x8/2000 radio link channel raster is removed. However, as a few radio links are still used in the band, the remark "Fixed service: a few old radio links used, duplex band 2038.500 - 2094.500 MHz" has been added to the sub-band 1920 - 1980 MHz for mobile services. In addition the remark "A few old radio links used in the band, duplex band 1919.500 - 1975.500 MHz" has been added to the sub-band 2038.500 - 2094.500 MHz, radio link channel raster DRS 2x8/2100.

- Allocation to mobile services and reference to ECC BWA (Broadband Wireless Access) Decision ECC/DEC/(07)02 have been added to sub-bands 3410 - 3500 MHz and 3500 - 3590 MHz. As provided by the Communications Market Act telecommunications are subject to licence, and accordingly the text "mobile use is subject to licence" has been added to 'Remarks'. The term "Fixed" has been removed from the column 'Sub-band', and the abbreviation FWA has been changed to BWA.

- The allocation to fixed satellite service (FSS) has been removed from sub-band 3400 - 3600 MHz. According to ECC Decision ECC/DEC/(07)02 the sub-band is used for Broadband Wireless Access in Finland.

- The allocation to fixed satellite service has been removed from sub-bands 15.40 - 15.43 GHz, 15.43 - 15.63 GHz (satellite to earth) and 15.63 - 15.70 GHz, as the allocation has also been removed from the Radio Regulations.

- The allocation to fixed satellite service has been removed from sub-band 15.430 - 15.630 GHz (earth to satellite). Due to other frequency usage FSS can not be used in this sub-band in Finland.

- The sub-band 17.1 - 17.3 GHz has been assigned for radiolocation equipment (ground based synthetic aperture radars, GBSAR) exempted from licensing.

- In the sub-band 27.5 - 29.5 GHz allocation has been harmonized to the Radio Regulations and ECA (European Common Frequency Allocation) by adding allocation to not standardized earth stations in fixed satellite service.

- Sub-bands and channel numbers for 28 GHz links have been amended:

  Sub-band 27.9475 - 27.9895 GHz: four channels have been removed (new channels C1 - C4).
  Sub-band 28.0105 - 28.1505 GHz: channels have been re-organized and two channels have been removed (new channels A1 - A6).
  Sub-band 28.1925 - 28.4165 GHz: two channels have been added (new channels B1 - B5).
  Sub-band 28.9555 - 28.9975 GHz: four channels have been removed (new channels C1 - C4).
  Sub-band 29.0185 - 29.1585 GHz: channels have been re-organized and two channels have been removed (new channels A1 - A6).
  Sub-band 29.2005 - 29.4245 GHz: two channels have been added (new channels B1 - B5).

- The text "sub-band under review" has been added to the sub-bands for fixed service in the frequency bands 57 - 63 GHz and 64 - 66 GHz, as the use of the bands for FLANE (Fixed Local Area Network Extension = PP-MWGS) is being investigated in CEPT.

- The text "sub-bands under review" has been added to the sub-bands for fixed service in the frequency bands 71 - 76 GHz and 81 - 86 GHz, as the use of the bands is being investigated in CEPT.

- The use of the frequency band 75.500 - 76.000 GHz has been updated according to the present use.

Editorial amendments:

- Broadcasting terminology has been harmonized in the sub-band 87.500 - 108.000 MHz and sub-bands in the frequency band 174 - 240 MHz.

- References to digital television have been removed from the sub-bands in frequency band 470 - 862 MHz, as all transmissions are digital. In addition broadcasting terminology has been harmonized.

- Reference to ECC Decision ECC/DEC(02)09 on exemption from licensing has been added to the sub-band 876.200 - 880.000 MHz.

- Sub-bands 880.200 - 890.000 MHz (E-GSM) and 890.200 - 914.800 MHz (P-GSM) have been united.

- Reference to ERC Decision ERC/DEC(95)01 on exemption from licensing has been added to the sub-band 880.200 - 914.800 MHz.

- Sub-bands 925.200 - 935.000 MHz (E-GSM) and 935.200 - 959.800 MHz (P-GSM) have been united.

- The remark 'usage according to the Maastricht 2002 agreement (Constanta 2007)' has been added to the sub-band 1452 - 1467 MHz (the same text as in sub-band 1467.000 - 1479.500 MHz).

- References to decisions ERC/DEC/(98)12, ERC/DEC/(98)13, ERC/DEC/(98)14, ERC/DEC/(98)18, ERC/DEC/(98)19, ERC/DEC/(98)29, ERC/DEC/(99)18, ERC/DEC/(99)20, ERC/DEC/(01)22 and ERC/DEC/(01)25 on exemption from licensing have been added to the sub-bands of the frequency bands 1525 - 1559 MHz and 1626.5 - 1660.5 MHz. In addition the text 'Inmarsat A Earth stations' has been removed, as the stations are no longer in use.

- Reference to ERC Decision ERC/DEC(97)05 on exemption from licensing has been added to the sub-bands 1610.600 - 1613.800 MHz, 1613.800 - 1626.500 MHz, 1980 - 2010 MHz and 2170 - 2200 MHz.

- Reference to ERC Decision ERC/DEC(95)01 on exemption from licensing has been added to the sub-band 1710.200 - 1784.800 MHz.

- Reference to ERC Decision ERC/DEC(00)06 on exemption from licensing has been added to the sub-bands 1900 - 1920 MHz and 1920 - 1980 MHz.

- The unnecessary text 'Self provided applications operating in self coordinating mode' has been removed from the 'Remarks' in the sub-band 2010 - 2020 MHz.

- Reference to ERC Decision ERC/DEC(00)06 on exemption from licensing has been added to the sub-band 2020 - 2025 MHz.

- The text "Fixed service" has been added to the column 'Frequency band' in the sub-band 3597 - 3655 MHz.

- The unnecessary references to VSAT and SIT Earth stations have been removed from the sub-bands of the frequency band 10.7 - 12.75 GHz.

- Reference to the decisions ECC/DEC/(06)02, ECC/DEC/(06)03, ERC/DEC/(98)15, ERC/DEC/(98)17 and ECC/DEC/(05)11 has been added to the sub-bands of the frequency band 14.000 - 14.500 GHz. In addition the unnecessary reference to VSAT Earth stations has been removed.

- In the frequency band 27.500 - 29.500 GHz the text 'Fixed satellite service allowed according to ECC/DEC/(05)01' has been replaced by reference to the decision only.

- Reference to the decisions ECC/DEC/(06)02 and ECC/DEC/(06)03 has been added to sub-band 29.500 - 30.000 GHz. The unnecessary references to SIT and SUT Earth stations have been removed.

- In the frequency band 37.5 - 39.5 GHz the text 'Usage according to ERC decision ERC/DEC/(00)02' has been replaced by reference to the decision only.

- In the Regulation the term IMT has replaced the term IMT 2000.

- References to the abrogated ERC decisions ERC/DEC/(01)04, ERC/DEC/(01)09, ERC/DEC/(01)18, ERC/DEC/(97)06, ERC/DEC/(01)05 and ERC/DEC/(01)06 have been removed.

- The term RLAN/WLAN has been replaced by the term WAS/RLAN. The term Hiperlan has been removed.