

Prague, 14 November 2012
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On the basis of public consultation under Section 130 of the Act No. 127/2005 Coll., on electronic communications and on amendment to certain related acts (the Electronic Communications Act), as amended (hereinafter „the Act“) and under Section 10 of the Act No. 500/2004 Coll., Administrative Regulations, as amended, on the basis of the decision of the Council of the Czech Telecommunications Office (hereinafter „the Office“) under Section 107(9)(b)(2) of the Act and in order to implement Section 16(2) of the Act, the Office as the appropriate state administration body under Section 108(1)(b) of the Act hereby issues this Measure of General Nature

**Part No. PV-P/2/11.2012-14 of the Radio Spectrum Utilisation Plan
for the frequency band 24.25–27.5 GHz.**

Article 1
Introductory provision

This part of the Radio Spectrum Utilisation Plan sets down the technical characteristics and conditions of use of radio spectrum in the frequency band from 24.25 GHz to 27.5 GHz by radiocommunication services. This part of the Radio Spectrum Utilisation Plan is follow-up to the Common part of the Radio Spectrum Utilisation Plan¹⁾.

Part 1
General information on the frequency band

Article 2
Frequency bands

Band (GHz)	Current conditions		Future harmonisation ²⁾	
	Allocation	Utilisation	Allocation	Utilisation
24.25–24.45	FIXED	Fixed links SAP/SAB	FIXED MOBILE	Fixed links SAP/SAB
24.45–24.5	FIXED INTER-SATELLITE	Fixed links SAP/SAB	FIXED MOBILE	Fixed links SAP/SAB

¹⁾ Common part of the Radio Spectrum Utilisation Plan Nr. PV/10.2005-35 published in the Telecommunication Journal 14/2005.

²⁾ ERC Report 25: The European Table of Frequency Allocations and Applications in the frequency range 9 kHz to 3000 GHz, rev. Lille, 2011.

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24.5–24.65	FIXED INTER-SATELLITE	Fixed links Access networks	FIXED	Fixed links Access networks
24.65–24.75	FIXED INTER-SATELLITE FIXED-SATELLITE (Earth to-space) ³⁾	Fixed links Access networks Feeder links	FIXED FIXED-SATELLITE (Earth to-space) ³⁾	Fixed links Access networks Feeder links
24.75–25.25	FIXED FIXED-SATELLITE (Earth to-space) ³⁾	Fixed links Feeder links	FIXED FIXED-SATELLITE (Earth to-space) ³⁾	Fixed links Access networks Feeder links
25.25–25.5	FIXED FIXED-SATELLITE MOBILE Standard frequency and time signal- satellite (Earth-to- space)	Fixed links MD	FIXED FIXED-SATELLITE MOBILE	Fixed links Access networks
25.5–26.5	FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration- satellite (space-to- Earth) Standard frequency and time signal- satellite (Earth-to- space)	Fixed links Access networks MD	FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration - satellite (space-to- Earth)	Fixed links Access networks
26.5–27	FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration- satellite (space-to- Earth) Standard frequency and time signal- satellite (Earth-to- space)	MD	FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration- satellite (space-to- Earth)	MD
27–27.5	FIXED INTER-SATELLITE MOBILE	MD	FIXED INTER-SATELLITE MOBILE Earth exploration - satellite (space-to- Earth)	MD

³⁾ Footnote 5.532B of the Radio Regulations effective from 1 January 2013.

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Article 3 Frequency band characteristics

(1) Described band is allocated to the fixed, mobile, fixed-satellite and inter-satellite services and to the scientific services.

(2) The use of the band is mainly by the fixed service for point-to-point and point-to-multipoint fixed links. The band 24.25–25.25 GHz is used by civil applications in the fixed service and the band 25.25–26.5 GHz is shared by civil and non-civil applications in the fixed service. In accordance with ERC Report²⁾, the band 26.5–27.5 GHz is harmonised for non-civil use in the fixed and the mobile services.

(3) The sub-bands 24.25–26.65 GHz are temporarily used by automotive short range radars (hereinafter only “SRR devices”⁴⁾).

Article 4 International obligations

Provisions of the Radio Regulations⁵⁾ (hereinafter only „RR“) and provisions of HCM Agreement⁶⁾, apply to utilisation and coordination.

Part 2 Fixed service

Article 5 Current conditions in the fixed service

(1) The sub-band 24.25–24.5 GHz is designated in accordance with CEPT Recommendation⁷⁾ for temporary point-to-point fixed links SAP/SAB⁸⁾ for audiovisual transmission. The channel separations are not determined.

(2) The frequency sub-bands 24.5–24.549 GHz, 24.605–24.619 GHz, 24.675–24.689 GHz, 24.745–24.773 GHz, 25.445–25.557 GHz, 25.613–25.627 GHz, 25.683–25.697 GHz, 25.753–25.781 GHz a 26.453–26.5 GHz are the guard bands and shall not be used.

(3) The sub-bands 24.549–24.605/25.557–25.613 GHz, 24.619–24.675/25.627–25.683 GHz a 24.689–24.745/25.697–25.753 GHz are duplex sub-bands designated for use by point-to-multipoint fixed links within FWA⁹⁾ networks, (hereinafter only „access networks“) operated by holders of authorisations. For transmitting radio devices of the access networks, the following conditions apply:

a) duplex separation is 1008 MHz;

⁴⁾ Abbreviation SRR stands for automotive Short Range Radars.

⁵⁾ Radio Regulations, International Telecommunication Union, Geneva, 2008.

⁶⁾ HCM Agreement – Agreement between the Administrations of Austria, Belgium, the Czech Republic, Germany, France, Hungary, the Netherlands, Croatia, Italy, Liechtenstein, Lithuania, Luxembourg, Poland, Romania, the Slovak Republic, Slovenia and Switzerland on the co-ordination of frequencies between 29.7 MHz and 43.5 GHz for the fixed service and the land mobile service, Zagreb, 2010.

⁷⁾ Recommendation CEPT ERC/REC 25-10 – Frequency ranges for the use of temporary terrestrial audio and video SAP/SAB links (incl. ENG/OB).

⁸⁾ Abbreviation SAB/SAP stands for Service Ancillary for Broadcasting/Service Ancillary for Program.

⁹⁾ Abbreviation FWA stands for Fixed Wireless Access.

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- b) base stations transmit in lower part of the band and the maximal e.i.r.p. is 41.5 dBW;
- c) channel separations proceed from CEPT Recommendations^{10), 11)} and ITU-R Recommendation¹²⁾;
- d) channel separation is 56 MHz, whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 25\,501$ MHz given by formulas:

$$f_n = f_0 - 980 + 56n + 14(n-1), \text{ in lower half of the duplex band and} \\ f_n' = f_0 + 28 + 56n + 14(n-1), \text{ in upper part of the duplex band,} \\ \text{where } n = 1, 2, 3,$$

or channel separation is 28 MHz, whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 25\,501$ MHz given by formulas:

$$f_n = f_0 - 966 + 28n + 14m, \text{ in lower half of the duplex band and} \\ f_n' = f_0 + 42 + 28n + 14m, \text{ in upper part of the duplex band,} \\ \text{where for } n = 1, 2 \text{ is } m = 0, \\ \text{for } n = 3, 4 \text{ is } m = 1, \\ \text{for } n = 5, 6 \text{ is } m = 2,$$

or channel separation is 14 MHz, whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 25\,501$ MHz given by formulas:

$$f_n = f_0 - 959 + 14n + 14m, \text{ in lower half of the duplex band and} \\ f_n' = f_0 + 49 + 14n + 14m, \text{ in upper part of the duplex band,} \\ \text{where for } n = 1, 2, 3, 4 \text{ is } m = 0, \\ \text{for } n = 5, 6, 7, 8 \text{ is } m = 1, \\ \text{for } n = 9, 10, 11, 12 \text{ is } m = 2;$$

- e) links within access networks are allowed for user terminals access only and not for point-to-point links of internal network infrastructure;
- f) international coordination of the base station of fixed access networks is provided by Office. National coordination of the base stations carry out operators themselves;
- g) use of frequencies by users terminals is allowed on the basis of General Authorisation¹³⁾.

(4) The sub-bands 24.773–25.445/25.781–26.453 GHz are determined for point-to-point fixed links and transmitting radio devices have to fulfil following conditions:

- a) minimum antenna gain is 35 dBi;
- b) the Office sets down maximal e.i.r.p. of point-to-point links individually and can specify further requirements on technical parameters of used radio equipment in respect to the specific configuration of links;
- c) duplex separation is 1008 MHz;
- d) channel arrangements are in accordance with CEPT Recommendations^{10), 11)} and ITU-R Recommendation¹²⁾;

¹⁰⁾ Recommendation CEPT T/R 13-02 – Preferred channel arrangements for fixed service systems in the frequency range 22–29.5 GHz.

¹¹⁾ Recommendation CEPT ECC/REC(11)01 – Guidelines for assignment of frequency blocks for FWA in the bands 24.5–26.5 GHz, 27.5–29.5 GHz and 31.8–33.4 GHz.

¹²⁾ Recommendation ITU-R F.748-4 – Radio-frequency arrangements for systems of the fixed service operating in the 25, 26 and 28 GHz.

¹³⁾ General Authorisation No. VO-R/18/02.2011-2 for the operation of terminals in fixed wireless access network in the bands 3.5 GHz, 25 GHz and 28 GHz.

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- e) channel separation is 56 MHz, whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 25\,501$ MHz given by formulas:

$$\begin{aligned} f_n &= f_0 - 980 + 56n, \text{ in lower half of the duplex band and} \\ f_n' &= f_0 + 28 + 56n, \text{ in upper part of the duplex band,} \\ &\text{where } n = 5, 6, 7 \text{ to } 16 \text{ (preferred } 15 \text{ or } 16), \end{aligned}$$

or channel separation is 28 MHz, whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 25\,501$ MHz given by formulas:

$$\begin{aligned} f_n &= f_0 - 966 + 28n, \text{ in lower half of the duplex band and} \\ f_n' &= f_0 + 42 + 28n, \text{ in upper part of the duplex band,} \\ &\text{where } n = 9, 10, 11 \text{ to } 32 \text{ (preferred } 9, 10, 11 \text{ to } 15), \end{aligned}$$

or channel separation is 14 MHz, whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 25\,501$ MHz given by formulas:

$$\begin{aligned} f_n &= f_0 - 959 + 14n, \text{ in lower half of the duplex band and} \\ f_n' &= f_0 + 49 + 14n, \text{ in upper part of the duplex band,} \\ &\text{where } n = 17, 18, 19 \text{ to } 64 \text{ (preferred } 31, 32, 33 \text{ to } 39), \end{aligned}$$

or channel separation is 7 MHz, whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 25\,501$ MHz given by formulas:

$$\begin{aligned} f_n &= f_0 - 955,5 + 7n, \text{ in lower half of the duplex band and} \\ f_n' &= f_0 + 52,5 + 7n, \text{ in upper part of the duplex band,} \\ &\text{where } n = 33, 34, 35 \text{ to } 128 \text{ (preferred } 79, 80, 81 \text{ to } 108), \end{aligned}$$

or channel separation is 3,5 MHz, whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 25\,501$ MHz given by formulas:

$$\begin{aligned} f_n &= f_0 - 953,75 + 3,5n, \text{ in lower half of the duplex band and} \\ f_n' &= f_0 + 54,25 + 3,5n, \text{ in upper part of the duplex band,} \\ &\text{where } n = 65, 66, 67 \text{ to } 256 \text{ (preferred } 217, 218, 219 \text{ to } 224); \end{aligned}$$

- f) national and international coordination of point-to-point links is provided by the Office.

Article 6

Information on future development in the fixed service

The Office does not expect changes in use of the band by the fixed service.

Part 3

Mobile service

Article 7

Current conditions in the mobile service

In accordance with Commission Decision¹⁴⁾, ¹⁵⁾, CEPT Decision¹⁶⁾ and CEPT Recommendation¹⁷⁾, the band 24.25–26.65 GHz is possible temporarily use by short range

¹⁴⁾ Commission Decision 2005/50/EC of 17 January 2005 on the harmonisation of the 24 GHz range radio spectrum band for the time-limited use by automotive short-range radar equipment in the Community.

¹⁵⁾ Commission Decision 2011/485/EU of 29 July 2011 amending Decision 2005/50/EC.

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stations, SRR devices. Particular conditions of use of radio frequencies by SRR devices including technical parameters are specified in the General Authorisation¹⁸⁾.

Article 8

Information on future development in the mobile service

The Office expects termination of use of the band 24.25–26.65 GHz by SRR devices and on the basis of Commission Decision¹⁹⁾, the transition of SRR devices is planned into 79 GHz band.

Part 4

Inter-satellite service

Article 9

Current conditions in the inter-satellite service

(1) Utilisation of the band 25.25–27.5 GHz by the inter-satellite service is, in accordance with footnote²⁰⁾ of RR, limited to applications in space research and Earth exploration-satellite research and on data transmissions coming from industrial or medical activities in universe.

(2) The service is not used in the Czech Republic.

Article 10

Information on future development in the inter-satellite service

The ERC Report²⁾ expects termination of allocation to the inter-satellite service in the band 24.45–24.75 GHz.

Part 5

Standard frequency and time signal-satellite service

Article 11

Current conditions in the standard frequency and time signal-satellite service

The service is not used in the Czech Republic.

Article 12

Information on future development in the standard frequency and time signal-satellite service

The ERC Report²⁾ expects termination of allocation to the standard frequency and time signal-satellite services in the bands 25.25–27 GHz. Transmission services of time reference or frequencies are provided in other frequency bands allocated to the fixed-satellite service or the radiodetermination service.

¹⁶⁾ Decision CEPT ECC/DEC(04)10 – On the frequency bands to be designated for the temporary introduction of automotive Short Range Radars.

¹⁷⁾ Recommendation CEPT ERC/REC 70-03 – Relating to the use of Short Range Devices (SRD).

¹⁸⁾ General Authorisation No. VO-R/10/04.2012-7 for the use of radio frequencies and for the operation of Short Range Devices.

¹⁹⁾ Commission Decision 2004/545/ES of 8 July 2004 on the harmonisation of radio spectrum in the 79 GHz range for the use of automotive short range radar equipment in the Community.

²⁰⁾ Footnote 5.536 of RR.

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Part 6

Earth exploration-satellite service

Article 13

Current conditions in the Earth exploration-satellite service

In accordance with RR footnote²¹⁾, earth stations of this service shall not claim protection from stations of the fixed and mobile services in the band 25.5–27 GHz. The service is not used in the Czech Republic.

Article 14

Information on future development in the Earth exploration-satellite service

By reason of harmonisation with ERC Report²⁾, the future allocation of the band 27–27.5 GHz to the Earth exploration-satellite service is considered in the Czech Republic.

Part 7

Space research service

Article 15

Current conditions in the Space research service

In accordance with RR footnote²²⁾, earth station of this service shall not claim protection from stations of the fixed and mobile services in the band 25.5 –27 GHz. The service is not used in the Czech Republic.

Article 16

Information on future development in the Space research service

No changes in utilisation of the band by this radiocommunication service on international or national level are expected.

Part 8

Final provisions

Article 17

Repealing provisions

This is to repeal Measure of General Nature Part No. PV-P/2/03.2006-4 of the Radio Spectrum Utilisation Plan for frequency band 24.25–27.5 GHz of 8 March 2006.

Article 18

Effect

This part of Radio Spectrum Utilisation Plan is effective from 1 January 2013.

²¹⁾ Footnote 5.536B of RR.

²²⁾ Footnote 5.536C of RR.

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Explanatory memorandum

To implement Section 16(2) of the Act, the Office issues the Measure of General Nature Part No. PV-P/2/11.2012-14 of the Radio Spectrum Utilisation Plan (hereinafter „the part of the plan”), laying down the technical characteristics and conditions of the use of radio spectrum in the frequency band from 24.25 GHz to 27.5 GHz by radiocommunication services.

This part of the plan is based on the principles set down in the Act and in European legislation, especially in Directive 2002/21/EC of the European Parliament and of the Council on a Common Regulatory Framework for Electronic Communications Networks and Services (as amended by the Directive 2009/140/EC²³) and in Decision No. 676/2002/EC of the European Parliament and of the Council on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision) as well as on principles determined in the Common part of the Radio Spectrum Utilisation Plan No. PV/10.2005-35, as amended.

The purpose of this part of the plan is to ensure the transparency of conditions for radio spectrum use and the ability to anticipate the decisions of the Office. The reason for this new issue is particularly the update applicable references to harmonisation documents and making channel arrangements in the band 24.5–26.5 GHz more detailed.

Article 2 presents information that corresponds with the plan of allocations of frequency bands (National Table of Frequency Allocations) completed with current utilisations by applications. The harmonisation intention i.e. allocation to the radiocommunication services and use by applications according to the European Table of Frequency Allocations and Utilisations – ERC Report 25 is also presented. From the use, the major applications and additional details are described in parts dedicated to the particular radiocommunication services.

Article 3 with characteristic of the band informs on the use of the band by the fixed service for point-to-point and point-to-multipoint links and temporarily utilisation of the sub-bands by automotive short range radars, SRR devices. Information on conditions of the use of SRR devices are in Part 3 which refers to future conditions in the mobile service.

Article 4 presents the international obligations of the Czech Republic for radio spectrum management which in the case of concerned band means the Radio Regulations of the International Telecommunication Union and HCM Agreement.

Part 2 is dedicated to the fixed service. It sets down conditions for operation of FWA access networks and conditions for operation of point-to-point fixed links. In the frame of new issue, in paragraph 3 with conditions of the use of the frequencies by holders of authorisations, the formulas for calculation of FWA operational channels were modified by reason of determination of these channels in connection with guard bands. The modification complies with rights result from assignments as well as technical ability of radio devices.

Part 3 informs on current and future conditions in the mobile service. In the Czech Republic utilisation is limited to temporary civil use of the band 24.25–26.65 GHz by automotive short range radars, SRR devices, with the proviso that future development aims to 79 GHz band.

Part 4 on the inter-satellite service informs on the use of the band 25.25–27.5 GHz by applications in space and Earth exploration-satellite research.

²³) Directive 2009/140/EC of the European Parliament and of the Council amending Directives 2002/21/EC on common regulatory framework for electronic communications network and services, 2002/19/EC on access to, and interconnection of, electronic communications network and associated facilities, and 2002/20/EC on the authorisation of electronic communications network and services.

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Part 5 describes situation in the standard frequency and time signal-satellite service. Projected termination of assignment to this service proceeds from substitution of time signals transfer with help of the other services, for example in GPS and GLONASS systems.

Part 6 on Earth exploration-satellite service is supplemented with reference to the footnote of Radio Regulations which sets down conditions of protection of earth stations.

Part 7 on condition in the space research service is supplemented with reference to the footnote of Radio Regulations which sets down conditions of protection of earth stations.

Article 17 contains repealing provision and article 18 sets down the effect of this part of Radio Spectrum Utilisation Plan.

On the basis of Section 130 of the Act and according to the Czech Telecommunication Office's Rules for conducting consultations at the discussion site, on 1 October 2012, the Office published Part No. PV-P/2/XX.2012-Y of the Radio Spectrum Utilisation Plan with the call for comments at the discussion site. During the public consultation, the Office received no comments to the draft.

On behalf of the Council of the
Czech Telecommunication Office

Pavel Dvořák
Chairman of the Council
of Czech Telecommunication Office
<signed>