

Prague, 8 March 2006  
Ref.: 13 366/2006–605

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 on the basis of the decision of the Council of the Czech Telecommunications Office (hereinafter „the Office“) under Section 107(8)(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/2/03.2006-4  
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 follows up with the Common part of the Radio Spectrum Utilisation Plan<sup>1)</sup>.

Part 1  
**General information on the frequency band**

Article 2  
**Frequency bands**

Band (GHz)	Current conditions		Future harmonisation <sup>2)</sup>	
	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
24.5–24.65	FIXED INTER-SATELLITE	Fixed links	FIXED	Fixed links

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

<sup>2)</sup> ERC Report 25: European Table of Frequency Allocations and Utilisations covering the frequency range 9 kHz to 275 GHz, rev. Copenhagen, 2004.

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24.65–24.75	FIXED INTER-SATELLITE	Fixed links	FIXED	Fixed links
24.75–25.25	FIXED	Fixed links	FIXED	Fixed links
25.25–25.5	FIXED INTER-SATELLITE MOBILE Standard frequency and time signal- satellite (Earth-to- space)	Fixed links	FIXED INTER-SATELLITE MOBILE	Fixed links
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	FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration- satellite (space-to- Earth)	Fixed links
26.5–27	FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration- satellite <sup>3</sup> (space-to- Earth) Standard frequency and time signal- satellite (Earth-to- space)	Military	FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration- satellite (space-to- Earth)	Military
27–27.5	FIXED INTER-SATELLITE MOBILE	Military	FIXED INTER-SATELLITE MOBILE Earth exploration- satellite (space-to- Earth)	Military

### Article3

#### Frequency band characteristics

(1) Prevailing utilisation of the band 24.25–26.5 GHz is in the civil fixed service.

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(2) Into described band partly falls the band 21.5–26.5 GHz (24 GHz), which is in accordance with the Commission Decision<sup>3)</sup> possible to utilise by the automotive short-range radar equipment on following conditions:

- a) equipment providing road vehicle-based radar functions for collision mitigation and traffic safety applications;
- b) equipment work on non-interference and non-protected basis', it means that no harmful interference may be caused to other users of the band and that no claim may be made for protection from harmful interference received from other systems or services operating in that band;
- c) equipment could use the band till reference date 30 June 2013;
- d) for UWB<sup>4)</sup> part of automotive short-range radar equipment is available whole band with a maximum mean power density of –41,3 dBm/MHz e.i.r.p. and peak power density of 0 dBm/50MHz e.i.r.p.;
- e) automotive short-range radar equipment mounted on vehicles shall only operate when the vehicle is active.

(3) The band 26.5–27.5 GHz is in accordance with ERC Report) allocated for harmonised military use.

#### Article4 **International obligations**

Provisions of the Radio Regulations<sup>5)</sup> (hereinafter „RR“) and HCM Agreement<sup>6)</sup> apply to operation and coordination.

#### Part 2 **Fixed service**

#### Article5 **Current conditions in the fixed service**

(1) Band 24.25–24.5 GHz is allocated for temporary fixed links SAP/SAB using digital modulation. Channel separations was not determined.

(2) 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 guard bands and utilisation is not allowed.

(3) 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 the duplex bands designed for utilisation by fixed links point-multipoint within FWA<sup>7)</sup> networks operated by licence holders.

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<sup>3)</sup> 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.

<sup>4)</sup> Ultra Wide Band.

<sup>5)</sup> Radio Regulations, International Telecommunication Union, Geneva, 2004.

<sup>6)</sup> 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 39.5 GHz for the fixed service and the land mobile service, Vilnius, 2005.

<sup>7)</sup> Fixed Wireless Access.

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(4) Transmitting devices operated in FWA networks have to fulfil next conditions:

- a) four or more states digital modulation format;
- b) duplex separation 1008 MHz;
- c) base station transmit in lower part of the band a maximal e.i.r.p. is 41,5 dBW;
- c) channel separation is 56 MHz and reference frequency  $f_0 = 25\,501$  MHz, then the centre frequencies  $f_n$  a  $f_n'$  [MHz] of particular operation channels are expressed by the following relationships:

$$\begin{aligned}f_n &= f_0 - 980 + 56n, \text{ in lower part of the band and} \\f_n' &= f_0 + 28 + 56n, \text{ in upper part of the band,} \\&\text{where } n = 1, 2 \text{ up to } 4,\end{aligned}$$

or channel separation is 28 MHz and reference frequency  $f_0 = 25\,501$  MHz, then the centre frequencies  $f_n$  a  $f_n'$  [MHz] of particular operation channels are expressed by the following relationships:

$$\begin{aligned}f_n &= f_0 - 966 + 28n, \text{ in lower part of the band and} \\f_n' &= f_0 + 42 + 28n, \text{ in upper part of the band,} \\&\text{where } n = 1, 2, 3 \text{ up to } 8,\end{aligned}$$

or channel separation is 14 MHz and reference frequency  $f_0 = 25\,501$  MHz, then the centre frequencies  $f_n$  a  $f_n'$  [MHz] of particular operation channels are expressed by the following relationships:

$$\begin{aligned}f_n &= f_0 - 959 + 14n, \text{ in lower part of the band and} \\f_n' &= f_0 + 49 + 14n, \text{ in upper part of the band,} \\&\text{where } n = 1, 2, 3 \text{ up to } 16.\end{aligned}$$

Arrangement is in accordance with Recommendations of ITU-R<sup>8)</sup> and CEPT<sup>9)</sup>.

(5) Links within the FWA networks are allowed for user terminals access only and not for network infrastructure point-to-point links.

(6) International coordination of the base stations of FWA networks is ensured by the Office. National coordination of the base stations carry out operators themselves.

(7) Operation of the user terminals is possible on basis of the General authorisation<sup>10)</sup>.

(8) Bands 24.773–25.445 / 25.781–26.453 GHz are determined for fixed links point-to-point and operated transmitting devices have to fulfil next conditions:

- a) minimal antenna gain 35 dBi;
- b) four or more states digital modulation format;
- c) duplex separation 1008 MHz;
- d) channel separation is 56 MHz and reference frequency  $f_0 = 25\,501$  MHz, then the centre frequencies  $f_n$  a  $f_n'$  [MHz] of particular operation channels are expressed by the following relationships:

$$f_n = f_0 - 980 + 56n, \text{ in lower part of the band and}$$

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<sup>8)</sup> Recommendation ITU-R F.384-7 – Radio-frequency channel arrangements for medium and high analogue or digital radio-relay systems operating in the upper 6 GHz band.

<sup>9)</sup> Recommendation CEPT/ERC/REC 14-02 –Radio-frequency channel arrangements for medium and high capacity analogue or high capacity digital radio-relay systems operating in the band 6425 MHz–7125 MHz.

<sup>10)</sup> General authorisation No. VO–R/18/08.2005-30.

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$$f_n' = f_0 + 28 + 56n, \text{ in upper part of the band,} \\ \text{where } n = 5, 6, 7 \text{ up to } 16 \text{ (preferably } 15 \text{ or } 16),$$

or channel separation is 28 MHz and reference frequency  $f_0 = 25\,501$  MHz, then the centre frequencies  $f_n$  a  $f_n'$  [MHz] ] of particular operation channels are expressed by the following relationships:

$$f_n = f_0 - 966 + 28n, \text{ in lower part of the band and} \\ f_n' = f_0 + 42 + 28n, \text{ in upper part of the band,} \\ \text{where } n = 9, 10, 11 \text{ up to } 32 \text{ (preferably } 9, 10, 11 \text{ up to } 15),$$

or channel separation is 14 MHz and reference frequency  $f_0 = 25\,501$  MHz, then the centre frequencies  $f_n$  a  $f_n'$  [MHz] ] of particular operation channels are expressed by the following relationships:

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

or channel separation is 7 MHz and reference frequency  $f_0 = 25\,501$  MHz, then the centre frequencies  $f_n$  a  $f_n'$  [MHz] ] of particular operation channels are expressed by the following relationships:

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

or channel separation is 3,5 MHz and reference frequency  $f_0 = 25\,501$  MHz, then the centre frequencies  $f_n$  a  $f_n'$  [MHz] ] of particular operation channels are expressed by the following relationships:

$$f_n = f_0 - 953,75 + 3,5n, \text{ in lower part of the band and} \\ f_n' = f_0 + 54,25 + 3,5n, \text{ in upper part of the band,} \\ \text{where } n = 65, 66, 67 \text{ up to } 256 \text{ (preferably } 217, 218, 219 \text{ up to } 224).$$

Arrangement is in accordance with Recommendations of ITU-R) and CEPT).

(9) 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 and antennas considering actual configuration of link.

(10) National and international coordination of point-to-point links is ensured by the Office.

#### Article6

### **Information on future development in the fixed service**

Changes in the utilisation of the band by the fixed service are not expected.

#### Part3

### **Mobile service**

#### Article7

### **Current conditions in the mobile service**

Mobile service is not utilised in the Czech Republic. SAP/SAB are planned within the fixed service.

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Article8

**Information on future development in the mobile service**

Changes in the utilisation of the band are not expected.

Part4

**Inter-satellite service**

Article9

**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 the footnote<sup>11)</sup> of the RR limited to applications in the space research and Earth exploration-satellite services and transmission of the data from industrial or medical activities in the space.

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

Article10

**Information on future development in the inter-satellite service**

Changes in the utilisation of the band are not expected.

Part5

**Standard frequency and time signal-satellite service**

Article11

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

The service is not utilised in the Czech Republic.

Article12

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

ERC Report) does not contain allocation to this service, deleting or remaining of the national allocation is still under consideration.

Part6

**Earth exploration-satellite service**

Article13

**Current conditions in the Earth exploration-satellite service**

Earth stations of the service operating in the band 25.5–27 GHz could not require protection against the stations in the fixed or mobile services. The service is not utilised in the Czech Republic.

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<sup>11)</sup> Footnote 5.536 of RR.

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Article14

**Information on future development in the Earth exploration-satellite service**

Allocation of the band 27–27.5 GHz to the service is expected due to harmonisation with the ERC Report), but changes in utilisation are not expected.

Part7

**Space research service**

Article15

**Current conditions in the space research service**

Earth stations of the service operating in the band 25.5–27 GHz could not require protection against stations in the fixed or mobile services. The service is not utilised in the Czech Republic.

Article16

**Information on future development in the space research service**

Changes in the utilisation of the band are not expected.

Part8

**Final provisions**

Article17

**Effect**

This part of the Radio Spectrum Utilisation Plan comes into effect on 1 April 2006.

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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/2/03.2006-4 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.

The part of the plan is based on the principles set down in the Act and in European legislation, especially Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive) and Decision No 676/2002/EC of the European Parliament and of the Council of 7 March 2002 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.

The purpose of this part of the plan is to ensure the transparency of conditions for the radio spectrum use and ability to anticipate the decisions of the Office.

Article 2 consists of information from National Table of Frequency Allocations and information on current utilisation by applications. Column "Future harmonisation" presents future intentions, i.e. allocation to services and utilisation by applications according to ERC Report 25: European Table of Frequency Allocations and Utilisations. More details about applications are in relevant articles on individual radiocommunication services.

Article 3 presents characteristics of the frequency band with information common to radiocommunication services utilisation and information about utilisation of the part of the band from 24.25 to 26.5 GHz by ultra-wide component of vehicle-based radar for collision mitigation and traffic safety applications.

Article 4 contains international obligations, determined by Radio Regulations of the International Telecommunication Union and HCM agreement which replaced former Berlin 2003 Agreement.

The most important utilisation of the band is operation of FWA networks in the fixed service described in Article 2. Information on other radiocommunication services, to which is the band allocated, is in subsequent articles.

On the basis of Section 130 of the Act and in accordance with the Czech Telecommunication Office's Rules for maintaining consultations with the affected parties at the discussion site, the Office published at the discussion site its draft Part No. PV-P/2/XX.2005-Y of the Radio Spectrum Utilisation Plan on 9 January 2006 together with the Call for comments. During the public consultation period the Office received only one comment on text refining and it was accepted.

David Stádník  
Chairman of the Council  
of the Czech Telecommunication Office  
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