

Prague, 15 January 2014  
Ref. ČTÚ-120 551/2013-605

On the basis of results 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/9/01.2014-1 of the Radio Spectrum Utilisation Plan  
for the frequency band 39.5–43.5 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 39.5 GHz to 43.5 GHz by radiocommunication services. This part of the Radio Spectrum Utilisation Plan is follow-up to the Common part of the Radio Spectrum Utilisation 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

<sup>1</sup> Common part of the Radio Spectrum Utilisation Plan Nr. PV/10.2005-35, as amended.

<sup>2</sup> ERC Report 25: European Table of Frequency Allocations and Utilisations in the frequency range 8,3 kHz to 3000 GHz, rev. 2013.

This is an unofficial translation. The legally binding text is the original Czech version.

39.5–40	FIXED FIXED- SATELLITE(space-to- Earth) MOBILE MOBILE- SATELLITE(space-to- Earth) Earth exploration- satellite (space-to- Earth) 3) 4) 5)	MD	FIXED FIXED- SATELLITE(space-to- Earth) MOBILE MOBILE- SATELLITE(space-to- Earth) Earth exploration- satellite (space-to- Earth) 3) 4) 5)	Earth stations of fixed-satellite service MD
40–40.5	EARTH EXPLORATION- SATELLITE (space-to- Earth) FIXED FIXED- SATELLITE(space-to- Earth) MOBILE MOBILE- SATELLITE(space-to- Earth) SPACE RESEARCH (space-to-Earth) Earth exploration- satellite (space-to- Earth) 4) 5)	MD	FIXED FIXED- SATELLITE(space-to- Earth) MOBILE MOBILE- SATELLITE(space-to- Earth) SPACE RESEARCH (space-to-Earth) Earth exploration- satellite (space-to- Earth) 4) 5)	Earth stations of fixed-satellite service MD
40.5–42.5	FIXED FIXED- SATELLITE(space-to- Earth) BROADCASTING BROADCASTING- SATELLITE 3) 6) 7)	Fixed links	FIXED BROADCASTING- SATELLITE Broadcasting 3) 6) 7)	Fixed links
42.5–43.5	FIXED FIXED- SATELLITE(space-to- Earth) MOBILE except aeronautical mobile RADIOASTRONOMY 3) 6) 7) 8)	Fixed links	FIXED FIXED- SATELLITE(space-to- Earth) MOBILE except aeronautical mobile RADIOASTRONOMY 3) 6) 7) 8)	Fixed links

<sup>3</sup> Footnote 5.547 of the Radio Regulations.

<sup>4</sup> Footnote 5.516B of the Radio Regulations.

<sup>5</sup> Footnote EU2 of the ERC Report 25.

<sup>6</sup> Footnote 5.551I of the Radio Regulations.

<sup>7</sup> Footnote 5.551H of the Radio Regulations.

<sup>8</sup> Footnote 5.149 of the Radio Regulations.

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### Article 3 Frequency band characteristics

The band is allocated on primary basis to terrestrial and space services. In Europe the priority is given to development of terrestrial services, particularly to multimedia wireless systems in the fixed service. Development of new applications in the band is foreseen, such as high-density applications in the fixed or fixed-satellite services or broadband systems in the mobile service. Development is heading towards applications smoothing the differences between radiocommunication services. Use of the band by multimedia wireless systems will be preferred in the Czech Republic.

### Article 4 International obligations

Provisions of the Radio Regulations<sup>9)</sup> (hereinafter „RR“) and the HCM Agreement<sup>10)</sup> apply to operation and coordination of radio frequencies (hereinafter „frequencies“).

### Part 2 Fixed service

#### Article 5 Current conditions in the fixed service

(1) The band 39.5-40.5 GHz is not used by fixed service stations.

(2) The band 40.5-43.5 GHz, in accordance with the Recommendation ECC/REC/(01)04<sup>11)</sup>, is utilised by point-to-point stations and following conditions apply:

- a) maximum e.i.r.p. spectral power density is 40 dBW/MHz;
- b) duplex separation is 1500 MHz;
- c) for 112 MHz channel bandwidth<sup>12)</sup>, centre frequencies  $f_n$  and  $f_n'$  [MHz] of particular operation channels are in relation to the reference frequency  $f_0 = 42\,000$  MHz given by formulas

$$f_n = f_0 - 1506 + 112n, \text{ in the lower duplex sub-band and}$$

$$f_n' = f_0 - 6 + 112n, \text{ in the upper duplex sub-band,}$$

where  $n = 7$  to  $12$  (preferentially  $10$ ,  $11$  and  $12$ ),

for 56 MHz channel bandwidth, centre frequencies  $f_n$  and  $f_n'$  [MHz] of particular operation channels are in relation to the centre frequency  $f_0 = 42\,000$  MHz given by formulas

$$f_n = f_0 - 1478 + 56n, \text{ in the lower duplex sub-band and}$$

$$f_n' = f_0 + 22 + 56n, \text{ in the upper duplex sub-band,}$$

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<sup>9)</sup> Radio Regulations, International Telecommunication Union, Geneva, 2012.

<sup>10)</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 43.5 GHz for the fixed service and the land mobile service, Zagreb, 2010.

<sup>11)</sup> ECC/REC/(01)04 - Recommended guidelines for the accommodation and assignment of Multimedia Wireless Systems (MWS) and Point-to-Point (P-P) Fixed Wireless Systems in the frequency band 40.5–43.5 GHz.

<sup>12)</sup> Channel width complies to the distance of centres of two neighbouring channels.

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kde  $n = 13$  až  $25$  (preferentially  $19, 20$  to  $25$ ),

for 28 MHz channel bandwidth, centre frequencies  $f_n$  and  $f_n'$  [MHz] of particular operation channels are in relation to the centre frequency  $f_0 = 42\,000$  MHz given by formulas

$$f_n = f_0 - 1464 + 28n, \text{ in the lower duplex sub-band and}$$

$$f_n' = f_0 + 36 + 28n, \text{ in the upper duplex sub-band,}$$

where  $n = 7$  to  $24$ ;

for 14 MHz channel bandwidth, centre frequencies  $f_n$  and  $f_n'$  [MHz] of particular operation channel are in relation to the centre frequency  $f_0 = 42\,000$  MHz given by formulas

$$f_n = f_0 - 1457 + 14n, \text{ in the lower duplex sub-band and}$$

$$f_n' = f_0 + 43 + 14n, \text{ in the upper duplex sub-band,}$$

where  $n = 1$  to  $12$ ;

- d) sub-bands 40.500-40.550 GHz, 41.894-42.050 GHz and 43.394-43.500 GHz are guard bands;
- e) national and international frequency coordination is carried out by the Office.

#### Article 6

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

(1) Based on operational experiences of the P-P links operations in the fixed service, the Office can modify technical conditions of the utilisation of the bands described in article 5(2).

(2) In accordance with decision<sup>13</sup>), fixed service utilisation will not be developed in the future.

#### Part 3

#### **Fixed satellite and broadcasting satellite service**

#### Article 7

#### **Current conditions in the fixed satellite and broadcasting satellite service**

Utilisation of the band 39.5–40.5 GHz in the fixed-satellite service by coordinated and non-coordinated stations is in the Europe harmonised and set down by the CEPT Decision ERC/DEC/(00)02<sup>13</sup>). CEPT identifies the band as suitable for shared operation of military and civil satellite application. The band 40.5–42.5 GHz preferred utilisation is, in accordance with the CEPT Decision<sup>9</sup>), by multimedia wireless systems. Non-coordinated earth stations in the fixed-satellite service or broadcasting-satellite service cannot require protection against the stations in the fixed or broadcasting service.

#### Article 8

#### **Information on future development in satellite and fixed-satellite service**

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<sup>13</sup> ERC Decision of 27 March 2000 on the use of the band 37.5–40.5 GHz by the fixed service and Earth stations of the fixed-satellite service (space-to-Earth)

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Changes in the utilisation of the band by the service are not envisaged currently on international or national levels.

Part 4  
**Mobile Service**

Article 9  
**Current conditions in the mobile service**

The bands 39.5-40.5 GHz and 42.5-43.5 GHz are allocated to the mobile service as a primary. Neither band is currently used by civil applications.

Article 10  
**Information on future development in the mobile service**

Changes in the utilisation of the band by the service are not envisaged currently on international or national levels.

Part 5  
**Radioastronomy service**

Article 11  
**Current conditions in the radio astronomy service**

42.5–43.5 GHz is set down by the provision of the RR <sup>8)</sup>. In the Czech Republic no observations in this band are performed.

Article 12  
**Information on future development in the radio astronomy service**

Changes in the utilisation of the band by the service are not envisaged currently on international or national levels.

Part 6  
**Earth exploration satellite service and space research service**

Article 13  
**Current conditions in the Earth exploration-satellite service  
and space research service**

The band is not used by the Earth exploration-satellite service and space research service in the Czech Republic for the time being.

Article 14  
**Information on future development in the Earth exploration-satellite service  
and space research service**

Changes in the utilisation of the band by the service are not envisaged on international or national levels.

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Part 7  
**Broadcasting service**

Article 15  
**Current conditions in the broadcasting service**

The band 40.5–42.5 GHz is allocated to the broadcasting service as well, but currently not used by this service.

Article 16  
**Information on future development in the Earth exploration-satellite service and space research service**

Changes in the utilisation of the band by the service are not envisaged on international or national levels.

Part 8  
**Final provisions**

Article 17  
**Cancelling provisions**

The part of the Radio Spectrum Utilisation Plan No. PV-P/9/10.2005-39 for the frequency band 39.5-43.5 GHz of 18 October 2005 is cancelled.

Article 18  
**Effect**

This part of the Radio Spectrum Utilisation Plan comes into effect on 15 February 2014.

**Explanatory memorandum**

To implement Section 16(2) of the Act, the Office issues the Measure of General Nature Part No. PV-P/9/01.2014-1 of the Radio Spectrum Utilisation Plan (hereinafter „the part of the plan”), laying down technical characteristics and conditions of the use of radio spectrum in the frequency band from 39.5 GHz do 43.5 GHz by radiocommunication services.

This part of the plan is based on the principles set down in the Act and in European legislation, especially *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/EU<sup>14</sup>) 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) and further 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 the radio spectrum use and ability to anticipate the decisions of the Office.

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<sup>14</sup> Directive amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services.

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This part of the plan amends the radio spectrum utilisation plan part No. PV-P/9/10.2005-39 for the frequency band 39.5-43.5 GHz. The reason of issuing of this measure is to ensure the transparency of the conditions of radio spectrum utilisation and the transparency of the Offices' decisions.

According to former CEPT assumptions, the band 40.5-43.5 GHz had been designated for multimedia wireless systems (MWS). However, with respect to minimum utilisation of the band by the MWS systems, the European strategy of use of this band had been reconsidered and CEPT amended harmonisation document<sup>15)</sup> introducing conditions for point-to-point microwave systems. Therefore, the cause to amend this part of the plan and future perspective use of the band were the necessity to implement conditions of use of the 40.5-43.5 GHz band. Revised conditions enable deployment of high capacity fixed P-P links.

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 the information common to radiocommunication services which utilise described band. Frequency sharing of the 39.5-40.5 GHz band with the non-civil use is introduced in accordance with the footnote EU2 of the ERC Report<sup>2)</sup>. Concrete spectrum use conditions are described in particular articles.

Article 4 contains conditions corresponding to international obligations. In this band, it means respecting of Radio Regulations of the ITU and the HCM Agreement.

Part 2 sets down conditions of the fixed radiocommunication service utilisation. The conditions described are default and Office can set down further technical parameters in the individual authorisation based on specific configuration. This part reflects harmonised conditions in accordance the CEPT recommendation<sup>11)</sup>. Proposed channel arrangement of the 40.5-43.5 MHz band is based on assumption of introduction of high capacity P-P links. It further allows both the TDD and FDD duplex sharing provided spectrum pairs are assigned (authorised). As spectrum features of the stations are determined by the block edge mask, maximum e.i.r.p. of the stations depends on the channel width. The Office will consider possible expansion on the band utilisation in the guard bands described in article 5(d).

Part 3 sets down conditions of utilisation in fixed satellite service. Because the 40.5-42.5 GHz band is prioritised for fixed service in accordance with European harmonisation, uncoordinated earth stations in the fixed satellite service or in the broadcasting satellite service cannot claim protection from stations operated in the fixed service.

Article 4 refers to mobile service. As former intentions on the 42.5-43.5 GHz band use by wideband mobile systems or M2M<sup>16)</sup> systems (e.g. transmission of video to mobile terminals) had not been fulfilled in this band, the allocation will no longer be used in the Czech Republic. With regard to the primary use of the 39.5-40.5 GHz and 42.5-43.5 GHz by the services described in articles 2 and 3, future use of the mobile service is not envisaged.

Article 5 informs about radioastronomy allocation, which does not use the bands actively, but has the priority to be protected from other services in accordance with the RR.

Article 6 contains information on allocations to Earth exploration service and space research service. The services have no utilisation in the Czech Republic at the time being.

Article 7 concerns on broadcasting radiocommunication service. As former cause of allocation (i.e. one way multimedia transmission) is taken over by the fixed service (two-way

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<sup>15)</sup> ERC Decision of 27 March 2000 on the use of the band 37.5–40.5 GHz by the fixed service and Earth stations of the fixed-satellite service (space-to-Earth).

<sup>16)</sup> Machine-to-Machine (communication among devices)

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high capacity links), and as distribution of multimedia content is provided by IP networks in particular below 6 GHz, the allocation lost its meaning in the Europe.

The statement in article 17 cancels the part of the radio spectrum utilisation plan No PV-P/9/10.2005-39 for the frequency band 39.5-43.5 GHz of the 18 October 2005. The effective date of this new part is set down in article 18 and is based on Section 124 (2) of the Act.

On the basis of Section 130 of the Act and in accordance with the Czech Telecommunication Office's Rules for maintaining consultations the Office published at the discussion site the draft of Part No. PV-P/9/XX.2013-Y of the Radio Spectrum Utilisation Plan together with the Call for comments on 4 December 2013. During the public consultation the Office received no comments on the proposal.

On behalf of the Council of the Czech  
Telecommunication Office

Jaromír Novák  
Chairman of the Council  
of the Czech Telecommunication Office

<signed>