

Prague, 24 February 2010  
Ref. 106 792/2009-605

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/3/02.2010-2  
of the Radio Spectrum Utilisation Plan  
for the frequency band 52.6-59 GHz.**

Article 1  
**Introductory provision**

This part of the Radio Spectrum Utilisation Plan sets out the technical characteristics and conditions of use of radio spectrum in the frequency band from 52.6 GHz to 59 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 condition		Future harmonisation <sup>2)</sup>	
	Allocation	Utilisation	Allocation	Utilisation
52.6-54.25	EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH (passive)	Passive applications All emissions are prohibited	EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH (passive)	Passive applications

<sup>1)</sup> Common part of the Radio Spectrum Utilisation Plan No. PV/10.2005-35 published in the Telecommunication Journal 14/2005 .

<sup>2)</sup> ERC Report 25: European Table of Frequency Allocations and Utilisations in the frequency range 9 kHz to 3000 GHz, rev. Kyiv, 2009.

54.25-55.78	EARTH EXPLORATION SATELLITE (passive) SPACE RESEARCH (passive)	Passive application	EARTH EXPLORATION SATELLITE (passive) SPACE RESEARCH (passive)	Passive application
55.78-56.9	EARTH EXPLORATION SATELLITE (passive) FIXED INTER-SATELLITE SPACE RESEARCH (passive) Mobile <sup>3)</sup>	Passive application Fixed links	EARTH EXPLORATION SATELLITE (passive) FIXED INTER-SATELLITE SPACE RESEARCH (passive) <sup>3)</sup>	Passive application High density fixed links
56.9-57	EARTH EXPLORATION SATELLITE (passive) FIXED INTER-SATELLITE MOBILE <sup>3)</sup> SPACE RESEARCH (passive)	Passive application Fixed links	EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE <sup>3)</sup> SPACE RESEARCH (passive)	Passive application High density fixed links
57-58.2	EARTH EXPLORATION SATELLITE (passive) FIXED INTER-SATELLITE MOBILE <sup>3)</sup> SPACE RESEARCH (passive)	Passive application Fixed links SRD	EARTH EXPLORATION SATELLITE (passive) FIXED INTER-SATELLITE MOBILE <sup>3)</sup> SPACE RESEARCH (passive)	Passive application High density fixed links SRD
58.2-59	EARTH EXPLORATION SATELLITE (passive) FIXED SPACE RESEARCH (passive)	Passive application Fixed links SRD	EARTH EXPLORATION SATELLITE (passive) FIXED RADIOASTRONOMY SPACE RESEARCH (passive)	Passive application High density fixed links SRD

### Article 3 Frequency band characteristics

The prevailing part of the frequency band 52.6-59 GHz is characterized by utilisation by passive satellite services - the Earth exploration-satellite service and space research service. In the band 52.6-54.25 GHz all emissions are prohibited according to the footnote of the Radio Regulations<sup>4)</sup> (hereinafter „RR“) and also users of the adjacent bands are obliged to

<sup>3)</sup> Stations in the aeronautical mobile service may be operated according Footnote 5.558 of the RR.

<sup>4)</sup> Footnote 5.340 of the Radio regulations, International Telecommunication Union, Geneva, 2008.

take it into account. In the Czech Republic the utilisation of the band 57-59 GHz by the fixed service is the most significant one.

#### Article 4 International obligations

Provisions of the RR<sup>5)</sup> apply to operation and coordination.

#### Part 2 Fixed service

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

(1) The frequency bands in the range 55.78-59 GHz are allocated to the fixed service. According to RR footnote<sup>6)</sup>, the bands 55.78-59 GHz are available for high-density applications in the fixed service.

(2) The bands in the range 55.78-57 GHz are not used yet.

(3) The bands 57-57.1 GHz and 58.9-59 GHz are guard bands. In order to reduce possibility of mutual adverse influence of radio equipment operated in adjacent bands, permanent transmission is not allowed. The bands can be used by applications described in paragraph 5, or by temporary point-to-point links<sup>7)</sup> similarly to conditions described in paragraph 4.

(4) The band 57.1-58.9 GHz is used by fixed links point-to-point in accordance with CEPT Recommendation<sup>8)</sup>. Radio equipment has to comply:

- a) e.i.r.p. shall be limited to 25 dBW;
- b) minimum antenna gain is 30 dBi;
- c) maximum output power shall be limited to +10 dBm;
- d) channel separation is either 50 MHz, whereas the reference frequency  $f_0$  is 56 950 MHz and the centre frequencies of individual channels are expressed by the following relationship:

$$f_n = f_0 + 25 + 50n,$$

where  $n = 1, 2, 3, \text{ až } 40,$

or, the channel separation is 100 MHz, whereas the reference frequency  $f_0$  is 56 950 MHz and the centre frequencies of individual channels are expressed by the following relationship:

$$f_n = f_0 + 25 + 100n,$$

where  $n = 1, 2, 3, \text{ až } 20,$

and the channels can be aggregated. Channel arrangement complies with CEPT Recommendation<sup>9)</sup>;

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<sup>5)</sup> Radio Regulations of the International Telecommunication Union, Geneva 2008.

<sup>6)</sup> Footnote 5.547 of the Radio regulations.

<sup>7)</sup> For the purpose of temporary purposes or equipment alignment and propagation tests.

<sup>8)</sup> CEPT/ECC/REC (09)01 – Use of the 57-64 GHz frequency band for point-to-point fixed wireless systems.

- e) the radio equipment can be operated either in the FDD<sup>10)</sup> or TDD<sup>11)</sup> operation mode.
- f) the Office can specify further requirements on technical parameters of used radio equipment and antennas considering actual configuration of link;
- g) in the Band 57.1-58.9 GHz, national and international coordination is carried out by the Office.

(5) In the band 57-59 GHz can be operated short range devices for wideband data transmission in accordance with the EC Decision<sup>12)</sup> (hereinafter „the EC Decision“) and CEPT Recommendation<sup>13)</sup>. Operation<sup>14)</sup> is possible on the basis of General Authorisation<sup>15)</sup>.

#### Article 6

### Information on future development in the fixed service

(1) Conditions of the use of the band 55.78-57 GHz will be determined in case of interest in such use. Arrangement according to the Recommendations ITU-R<sup>16)</sup> and CEPT<sup>17)</sup> is assumed. In the band 55.78-56.26 GHz the maximum spectral power flux density delivered to the antenna of the station will be limited to -26 dB (W/MHz) in order to protect stations in Earth exploration-satellite service (passive) according to footnote<sup>18)</sup> of RR.

(2) Future utilisation of the frequency bands in the Czech Republic will correspond to proposals of European harmonisation.

(3) The Office will consider possibility of operation on the basis of General Authorisation in the bands described in article 5, paragraph 4.

#### Part 3

### Satellite services

#### Article 7

### Current conditions in satellite services

(1) The band 52.6-59 GHz is allocated to the earth exploration satellite-service and the space research service. Because of exclusively passive operation these services require protection against harmful interference caused by transmitting stations of other services. For this reason all emissions in the range 52.6-54.25 GHz are prohibited in accordance with the footnote<sup>4)</sup> of RR and in the band 55.78-56.26 GHz the maximum spectral power flux density delivered to the antenna of station in fixed service is limited to -26 dB (W/MHz in accordance with the footnote<sup>18)</sup> of RR).

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<sup>9)</sup> CEPT/ERC/REC 12-09 - Radio frequency channel arrangement for fixed service systems operating in the band 57.0-59.0 GHz which do not require frequency planning.

<sup>10)</sup> Frequency Division Duplex.

<sup>11)</sup> Time Division Duplex.

<sup>12)</sup> Commission Decision No. 2009/381/EC of 13 May 2009 amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices.

<sup>13)</sup> Recommendation CEPT/ERC/REC 70-03 - Relating to the use of Short Range Devices (SRD).

<sup>14)</sup> According to the EC Decision, devices can be operated within frequency range 57-66 GHz.

<sup>15)</sup> General Authorisation No. VO-R/12/08.2005-34 for the use of radio frequencies and the operation of wide-spectrum based broadband data transmission equipment or OFDM in the 2.4 GHz and 5 GHz frequency bands, as amended.

<sup>16)</sup> Recommendation ITU-R F.1497 - Radio-frequency channel arrangements for systems in fixed service operating in the band 55.78-59.0 GHz.

<sup>17)</sup> Recommendation CEPT/ERC/REC 12-12 - Radio frequency channel arrangement for fixed service systems operating in the band 55.78-57.0 GHz.

<sup>18)</sup> Footnote 5.557A of RR.

(2) Limitation of the inter-satellite service in bands 55.78-56.9 GHz and 57-58.2 GHz is in accordance with footnote<sup>19)</sup> of the RR determined in such way that the single-entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, shall not exceed -147 dB(W/m<sup>2</sup>/100 MHz) for all angles of arrival. In accordance with the footnote<sup>20)</sup> of the RR the use of the band 56.9-57 GHz by inter-satellite systems is limited to links between satellites in geostationary-satellite orbit and to transmissions from non-geostationary satellites in high-Earth orbit to those in low-Earth orbit.

#### Article 8

### **Information on future development in satellite services**

The allocation to the inter-satellite service in the band 56.9-57 GHz is supposed to be deleted pursuant to Report ERC<sup>2)</sup>.

#### Part 4

### **Mobile service**

#### Article 9

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

In the band 55.78-58.2 GHz stations in the aeronautical mobile service may be operated in accordance with the footnote<sup>3)</sup> of the RR subject to not causing harmful interference to the inter-satellite service. In accordance with the provision<sup>21)</sup> of the RR this aeronautical mobile service cannot claim protection from harmful interference caused by the other services having allocations in this band.

#### Article 10

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

Report ERC<sup>2)</sup> does not allocate band 55.78-56.9 GHz to the mobile service and deletion of this allocation in the Czech Republic is anticipated. A possibility of operation of stations in the aeronautical mobile service in accordance with footnote<sup>3)</sup> of the RR remains retained.

#### Part 5

### **Radio astronomy**

#### Article 11

### **Current conditions in radio astronomy**

In the bands 58.2-59 GHz radio astronomy observations may be carried out under national arrangements in accordance with footnote<sup>22)</sup> of the RR. This possibility is not used in the Czech Republic.

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<sup>19)</sup> Footnote 5.556A of RR  
<sup>20)</sup> Footnote 5.558A of RR  
<sup>21)</sup> Provision 5.43 of RR  
<sup>22)</sup> Footnote 5.556 of RR

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

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

Changes in the utilisation of the frequency range are not expected.

Part 6  
**Final provisions**

Article 13  
**Repealing provisions**

This is to repeal the Part No. PV-P/3/10.2005-36 of the Radio Spectrum Utilisation Plan for the frequency band 52.6-59 GHz of the 18 October 2005.

Article 14  
**Effect**

This part of the Radio Spectrum Utilisation Plan is effective from 1 March 2010.

## Explanatory memorandum

To implement Section 16(2) of the Act, the Office issues the Measure of General Nature part No. PV-P/3/02.2010-2 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 52.6 GHz to 59 GHz by radiocommunication services.

The part of the plan is based on the principles set out in the Act and in European legislation, especially in the Directive 2002/21/EC of the European Parliament and of the Council 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 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. The reason to issue this part of the plan was in particular the need to implement the EC Decision on operation of wideband data systems in the 57-59 GHz band. In text were also updated references to new edition of related documents.

Article 1 defines relation with common part of the Plan and the subject of the measure.

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. The table was updated with information on short range devices whose operating conditions are specified in the relevant sections of this part plan.

Article 3 presents band characteristics with information common to other radiocommunication services utilising the described band. Article informs particularly about mutual influencing of respective applications, e.g. passive utilisation which requires protection.

Article 4 contains international obligations, determined by Radio Regulations of the International Telecommunication Union upon which the Office acts in radio spectrum management.

Article 5, describing current situation in fixed service, determines conditions for the civil utilisation of the bands and sub-bands (i.e. frequency ranges closer than bands mentioned in the National Frequency Allocation Table). These conditions are basic and the Office may specify other technical parameters with respect to real configuration in individual authorisation for frequencies utilisation. Principles of sharing and coordination for individual equipment are given here. Based on EC Decision, the article 5 contains new information on the possibility of short range wideband data systems operation<sup>14)</sup> in the 57-59 GHz on the basis of General Authorisation. Moreover, the guard bands 57-57.1 GHz and 58.9-59 GHz can be used by temporary links, the coordination conditions in the band 57.1-58.9 GHz have been unified and the channels can be aggregated in order to prepare conditions for high speed applications. In accordance with the harmonisation documents, operation conditions as well as editorial corrections have been modified.

Article 6 contains information on future development and expected changes in the fixed service. Information on high density applications has been moved to heading of the article 5. New article 3 informs about possible future unlicensed operation of fixed service in band 57-59 GHz.

Part 3 contains information on satellite service. New editorial changes have been made in article 8 with information on future development of this service.

Part 4 informs about current conditions in the mobile service and assumes future repeal of assignment to this radiocommunication service.

Part 5 informs about radio astronomy that is currently not provided in the Czech Republic, but the users of radio spectrum should be aware of passive character of the service with the signals on noise level so the potential harmful interference could make operation of this service in neighbouring countries impossible.

The previous part of the plan in the frequency band from 52.6 GHz to 59 GHz is repealed in the article 13.

Effective date of this document is set down in the article 14 with regard to the necessity of accelerated procedure to implement the EC Decision.

On the basis of § 130 of the Act and according to the Rules of the Czech Telecommunication Office for conducting of consultations with entities concerned on the discussion site, the Office published the draft of the Part No. PV-P/3/xx.2010-yy of the Radio Spectrum Utilisation Plan together with the Call for comments on the discussion site on 29 January 2010.

In order to drive the implementation date laid down by the EC Decision and after successful negotiations with non-civil radio spectrum users, the Office limited the term for submission of comments to 10 workdays in accordance with the provision of Section 130(6) of the Act.

During the public consultation the Office did not receive any comment.

On behalf of the Council  
of the Czech Telecommunication Office

Pavel Dvořák  
Chairman of the Council  
of the Czech Telecommunication Office

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