

Prague 22 June 2022
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Based on the result of a public consultation held 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 the decision of the Council of the Czech Telecommunication Office (hereinafter “the Office”) under Section 107(9)(b)(2) of the Act and to implement Section 16(2) of the Act, the Office as the competent administration authority under Section 108(1)(b) of the Act and Section 10 of the Act No. 500/2004 Coll., the Administrative Procedure Code, as amended, hereby issues this Measure of General Nature

**Part No. PV-P/13/07.2022-8 of the Radio Spectrum Utilisation Plan
for the frequency band 10–12.5 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 10 GHz to 12.5 GHz by radiocommunication services. This part of the Radio Spectrum Utilisation Plan is a follow-up to the Common part of the Radio Spectrum Utilisation Plan.¹⁾

Part1
General information on the frequency band

Article 2
Frequency band characteristics

(1) The band is used by satellite services, the radiolocation service and scientific services for Earth exploration and space research. Regarding the satellite services, the use of the band 11.7–12.5 GHz for reception of satellite television is significant. The reception of satellite television in the bands 10.7–11.7 GHz and 12.75–13.75 GHz of the fixed-satellite service has no protection from utilisation by fixed links. The use of point-to-point fixed links and reportage applications predominates in the fixed service.

(2) In parts of the band where the passive science services have allocations, protection of these services from harmful interference is claimed. Transmission is prohibited in the 10.68 – 10.7 GHz band in accordance with the footnote²⁾ of Radio Regulations (hereinafter “RR”).³⁾

¹⁾ Common part of the Radio Spectrum Utilisation Plan No. PV/10.2005-35.

²⁾ Footnote 5.340 of RR

³⁾ Radio Regulations, International Telecommunication Union, Geneva, 2020.

(3) Allocation of frequency bands to radiocommunication services listed in the National Table of Frequency Allocations⁴⁾ complies with the European harmonisation target⁵⁾ (hereinafter “ECA”).

(4) Information stated in this Article are further detailed in Parts laying down the conditions for the band utilisation in individual radiocommunication services and bands.

Article 3 International obligations

(1) Provisions of the RR, European Commission (hereinafter “Commission”) harmonisation documents and HCM Agreement⁶⁾ apply to operation and coordination of radio frequencies. The sub-bands 10.70–10.95 GHz and 11.2–11.45 GHz are subject to planning of the fixed-satellite service according to RR Annex⁷⁾ and the sub-band 11.7–12.5 GHz is subject to planning of the broadcasting-satellite service according to RR Annex.⁸⁾

(2) Where there is stated in this part of the Radio Spectrum Utilisation Plan that a footnote of the Radio Regulations applies, the text of a footnote of Radio Regulations stated in Part III of the Decree is to be applied.⁴⁾

Article 4 Information on Future Development

(1) Following the new conditions set in Article 6(6), the Office expects development of utilisation of radio channels up to 112 MHz width in the 10.7–11.7 GHz band.

(2) Within the point 1.8 of the ITU World Telecommunications conference WRC-23 programme, results of studies on the needs of satellite service done based on Resolution⁹⁾ will be discussed as well as taking the relevant steps related to the Resolution’s¹⁰⁾ revision, referred to by RR Footnote,¹¹⁾ which will aim to the networks utilisation by fixed-satellite service in the bands 10.95–11.2 GHz and 11.45–11.7 GHz for the purposes of control and communication of unmanned aerial vehicles (except for communication of the load).

(3) Within the point 1.17, WRC-23 will discuss the results of studies on inter-satellite service done based on Resolution¹²⁾ and following allocation of suitable bands for this service including adopting relevant regulatory measures. The list of bands includes among others also the 11.7– 2.7 GHz band.

(4) The operation conditions of the Short Range Devices are updated periodically by the CEPT Electronic Communications Committee (hereinafter “ECC”) and by the Commission, what brings as a result frequent updates of the conditions for use at national level.

⁴⁾ Government Decree No. 105/2010 Coll., on the Frequency Band Allocation Plan (National Table of Frequency Allocation), as amended.

⁵⁾ ERC Report 25: European Table of Frequency Allocations and Applications in the frequency range 8.3 kHz to 3000 GHz, rev. 2021.

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, 30 September 2010.

⁷⁾ Annex 30B of RR.

⁸⁾ Annex 30 of RR.

⁹⁾ RR Resolution 171 (WRC-19).

¹⁰⁾ RR Resolution 155 (Rev. WRC-19).

¹¹⁾ Footnote 5.484B of RR.

¹²⁾ RR Resolution 773 (WRC-19).

Part 2
Conditions of Utilisation

Article 5
Short Range Devices

(1) The Short Range Devices use frequencies in the bands allocated to various radiocommunication services, they must not cause harmful interference to applications of the radiocommunication services, and at the same time, they cannot claim protection from harmful interference by the stations of radiocommunication services.

(2) In accordance with the Commission Decisions,^{13),14)} ECC Decisions^{15),16)} and with ECC Recommendations¹⁷⁾, it is allowed to use the given sub-bands by the following Short Range Devices (SRD¹⁸⁾):

- (a) Radar level meters of 10–10.6 GHz in metal or ferro concrete tanks or in similar constructions with comparable attenuative characteristics; and
- (b) The whole range characterised by this Part by devices using ultrawideband technology.

(3) Specific conditions for frequency utilisation, including the technical parameters, are defined by the relevant General Authorisation.¹⁹⁾

Article 6
Fixed service

(1) In accordance with ECC Recommendation,²⁰⁾ it is possible to operate short-time local PMSE²¹⁾ video links in fixed service in the band 10–10.3 GHz.

(2) The bands 10.301–10.42 GHz and 10.476–10.588 GHz may be used by the point-to-point fixed links. Particular conditions for the use of the radio frequencies including technical parameters are specified by the General Authorisation.²²⁾

(3) The sub-bands 10.420–10.476 GHz and 10.588–10.644 GHz are designated for short-time local PMSE video links.

(4) The sub-band 10.644–10.68 GHz is designated for simplex point-to-point fixed links. Centre frequency is 10 658 MHz. The maximum occupied bandwidth of a particular channel is 28 MHz.

(5) In accordance with RR footnote,²³⁾ the power delivered to antenna must not exceed -3 dBW in the 10.6–10.68 GHz sub-band. The Office can limit the maximum value to ensure compatibility with the existing other utilisation. In compliance with RR footnote,²⁴⁾ the RR

¹³⁾ Commission Implementing Decision (EU) 2022/180 of 8 February 2022 amending Decision 2006/771/EC as regards the update of harmonised technical conditions in the area of radio spectrum use for short-range devices.

¹⁴⁾ Commission Implementing Decision (EU) 2019/785 of 14 May 2019 on the harmonisation of radio spectrum for equipment using ultra-wideband technology in the Union and repealing Decision 2007/131/EC.

¹⁵⁾ CEPT Decision ECC/DEC/(06)04 – The harmonised use, exemption from individual licensing and free circulation of devices using Ultra-Wideband (UWB) technology in bands below 10.6 GHz.

¹⁶⁾ CEPT Decision ECC/DEC/(12)03 – The harmonised conditions for UWB applications onboard aircraft.

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

¹⁸⁾ The abbreviation SRD stands for Short Range Device.

¹⁹⁾ General Authorisation No. VO-R/10/07.2021-8 for the use of radio frequencies and for the operation of Short Range Devices, as amended.

²⁰⁾ Frequency Ranges for the Use of Terrestrial Audio and Video Programme Making and Special Events (PMSE) applications.

²¹⁾ The PMSE abbreviation stands for Programme Making and Special Events services.

²²⁾ General Authorisation No. VO-R/14/05.2022-8 for the use of radio frequencies and for the operation of equipment in the 10 GHz band, as amended.

²³⁾ Footnote 5.482 of RR.

²⁴⁾ Footnote 5.482A of RR.

Resolution²⁵⁾ and conditions according to ECC Decision²⁶⁾ apply for sharing the 10.6–10.68 GHz band with Earth exploration-satellite service.

(6) In accordance with ECC Decision,²⁷⁾ the band 10.7–11.7 GHz is designated for the high-speed²⁸⁾ duplex point-to-point fixed links. The transmitting radio devices shall fulfil the following conditions:

- a) duplex spacing of transmitting and receiving frequencies is 490 MHz;
- b) the channels shall have width of 28 MHz, whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 11\,200$ MHz given by formulas:

$$\begin{aligned} f_n &= f_0 - 505 + 28n \text{ in the lower part of the band and} \\ f_n' &= f_0 - 15 + 28n \text{ in the upper part of the band,} \\ &\text{where } n = 1, 2 \text{ up to } 17, \end{aligned}$$

or width of 40 MHz whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 11\,200$ MHz given by formulas:

$$\begin{aligned} f_n &= f_0 - 505 + 40n \text{ in the lower part of the band and} \\ f_n' &= f_0 - 15 + 40n \text{ in the upper part of the band,} \\ &\text{where } n = 1, 2 \text{ up to } 12, \end{aligned}$$

or width of 56 MHz whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 11\,200$ MHz given by formulas:

$$\begin{aligned} f_n &= f_0 - 491 + 28n \text{ in the lower part of the band and} \\ f_n' &= f_0 - 1 + 28n \text{ in the upper part of the band,} \\ &\text{where } n = 1, 2 \text{ up to } 16, \end{aligned}$$

or width of 80 MHz whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 11\,200$ MHz given by formulas:

$$\begin{aligned} f_n &= f_0 - 485 + 40n \text{ in the lower part of the band and} \\ f_n' &= f_0 + 5 + 40n \text{ in the upper part of the band,} \\ &\text{where } n = 1, 2 \text{ up to } 11, \end{aligned}$$

or width of 112 MHz whereas centre frequencies f_n a f_n' [MHz] of particular operating channels are in relation to the reference frequency $f_0 = 11\,200$ MHz given by formulas:

$$\begin{aligned} f_n &= f_0 - 463 + 28n \text{ in the lower part of the band and} \\ f_n' &= f_0 + 27 + 28n \text{ in the upper part of the band,} \\ &\text{where } n = 1, 2 \text{ up to } 14. \end{aligned}$$

The channel arrangement corresponds with ECC Recommendation.²⁹⁾

²⁵⁾ Resolution 751 of RR.

²⁶⁾ Decision ECC/DEC/(10)01 on sharing conditions in the 10.6-10.68 GHz band between the fixed service, mobile service and Earth exploration satellite service (passive).

²⁷⁾ Decision ERC/DEC (00)08 on the use of the band 10.7–12.5 GHz in the fixed service and Earth stations of the broadcasting/satellite and fixed/satellite service (space-to-Earth).

²⁸⁾ Recommendation ERC/REC 12–06 – Preferred channel arrangements for fixed service systems operating in the frequency band 10.7–11.7 GHz.

²⁹⁾ Recommendation ERC/REC 12–06 - Preferred channel arrangements for fixed service systems operating in the frequency band 10.7–11.7 GHz.

(7) In accordance with ECA footnote³⁰⁾ and ECC Decision,²⁷⁾ there are no new systems in fixed service allowed in the 11.7–12.5 GHz band.

(8) The frequency coordination for purposes of granting the individual license for the use of radio frequencies is provided by the Office which respects the needs of the radiolocation service and the protection of the radio astronomy service in the 10.6–10.7 GHz sub-band.

Article 7

Broadcasting and broadcasting-satellite service

The 11.7–12.5 GHz band is used for satellite television broadcasting. The use of the frequencies by the satellite stations is possible in accordance with the plan for the broadcasting-satellite service compliant with RR Annex⁸⁾ only.

Article 8

Fixed-satellite service

(1) The transmitting radio device which is placed on satellite can use the frequencies in accordance with provisions of RR³¹⁾ only. The plan of the fixed-satellite service for the frequency bands 10.7–10.95 GHz and 11.2–11.45 GHz is included in RR Annex.⁷⁾

(2) The band 10.7-11.7 GHz can be used for reception from satellites:

- a) In accordance with CEPT Decision,³²⁾ by terrestrial terminals AES³³⁾ which are placed on boards of aircrafts and intended for provision of broadband data communications on boards of aircrafts;
- b) In accordance with CEPT Decision,³⁴⁾ by terrestrial stations VSAT³⁵⁾ which provide data communication in particular.

(3) The satellite interactive terminals LEST³⁶⁾ and HEST³⁷⁾ use the band 10.7–12.5 GHz for reception in accordance with CEPT Decisions.^{38), 39)}

(4) Terminal utilising the 10.7–11.7 GHz band for receiving cannot claim protection from harmful interference from fixed service stations.⁴⁰⁾

(5) According to the footnote of RR⁴¹⁾ the feeder links for broadcasting-satellite service within the fixed-satellite service can be deployed in the band 10.7–11.7 GHz (Earth-to-space).

³⁰⁾ Footnote 28 of ECA.

³¹⁾ Article 9 of RR.

³²⁾ Decision ECC/DEC/(05)11 of 24 June 2005 on the free circulation and use of Aircraft Earth Stations (AES) in the frequency bands 14–14.5 GHz (Earth-to-space), 10.7–11.7 GHz (space-to-Earth) and 12.5–12.75 GHz (space to Earth).

³³⁾ The abbreviation AES stands for Aircraft Earth Stations.

³⁴⁾ Decision CEPT/ECC/DEC(03)04 of 17 October 2003 on exemption from Individual Licensing of VSAT operating in the frequency bands 14.25–14.5 GHz (Earth-to-Space) and 10.7–11.7 GHz (space-to-Earth).

³⁵⁾ The abbreviation VSAT stands for terminals with very small antenna, (Very Small Aperture Terminal).

³⁶⁾ Low E.i.r.p. Satellite Terminals (LEST).

³⁷⁾ High E.i.r.p. Satellite Terminals (HEST).

³⁸⁾ Decision ECC/DEC/(06)02 of 24 March 2006 on exemption from individual licensing of low e.i.r.p. satellite terminals (LEST) operating within the frequency bands 10.7–12.75 GHz or 19.7–20.2 GHz (Space-to-Earth) and 14–14.25 GHz or 29.5–30 GHz (Earth-to-Space).

³⁹⁾ Decision ECC/DEC/(06)03 of 24 March 2006 on exemption from individual licensing of high e.i.r.p. satellite terminals (HEST) operating within the frequency bands 10.7–12.75 GHz or 19.7–20.2 GHz (Space-to-Earth) and 14–14.25 GHz or 29.5–30 GHz (Earth-to-Space).

⁴⁰⁾ See also General Authorisation No. VO-R/12/11.2021-11 for the use of radio frequencies and for the operation of equipment for broadband data transmission in the bands 2.4 GHz–71 GHz, as amended.

⁴¹⁾ Footnote 5.484 of RR.

(6) Based on the footnote of RR,⁴²⁾ the use of the 11.7–12.5 GHz band (space-to-Earth) by the fixed-satellite service is limited to non-geostationary systems. The footnote of RR⁴³⁾ provides that in this sub-band, the fixed-satellite service shall not cause harmful interference to, or claim protection from, broadcasting-satellite stations which use the frequencies in conformity with Plans compliant with RR Annex.⁸⁾ Based on the footnote of RR,⁴⁴⁾ the allocations to the broadcasting-satellite service which are in conformity with the Plans included in the RR Annex⁸⁾ can be also used for transmissions in the fixed satellite service (space-to-Earth), provided that such transmissions do not cause more interference, or require more protection from interference than the broadcasting-satellite service transmissions operating in conformity with these plans.

Article 9

Amateur and amateur-satellite service

(1) The 10–10.5 GHz band is allocated to the amateur service on a secondary basis.

(2) The 10.45–10.5 GHz band is allocated to the amateur-satellite service on a secondary basis.

(3) The operation of the amateur service and the amateur-satellite service shall comply with the special legal measure.⁴⁵⁾

Article 10

Radio astronomy service

(1) The radio astronomy service is a passive radiocommunication service based on reception of radio waves of cosmic origin. Due to low levels of received signals, the operation of this service depends on protection from interference caused by other radiocommunication services. All users of the 10.6–10.68 GHz band shall take all practicable steps to protect radio astronomy service from harmful interference in accordance with the footnote of RR.⁴⁶⁾

(2) All transmissions are forbidden on frequencies in the 10.68–10.76 GHz sub-band which is shared by radioastronomy service with passive use of the Earth exploration-satellite services and space research.

Article 11

Radiolocation service

The 10–10.5 GHz band is allocated to the radiolocation service on a primary basis and the 10.5–10.68 GHz band on a secondary basis. The bands have non-civil usage.

Article 12

Earth exploration-satellite service and space research

The 10.6–10.7 GHz band is allocated to these services in passive mode (reception only). The passive scientific applications in this band are globally utilised for weather and natural disasters forecasting, rain and snow precipitation monitoring, state of the seas,

⁴²⁾ Footnote 5.487A of RR.

⁴³⁾ Footnote 5.487 of RR.

⁴⁴⁾ Footnote 5.492 of RR.

⁴⁵⁾ Decree No. 156/2005 Coll., on technical and operational conditions of amateur radiocommunication service.

⁴⁶⁾ Footnote 5.149 of RR.

sea streams and amount of salt in the sea water, together with data from monitoring in other bands.

Article 13
Meteorological-satellite service

The 9.975–10.025 GHz band is allocated to the meteorological-satellite service on a secondary basis according to the footnote of RR.⁴⁷⁾ It can be used by meteorological-satellite radars.

Article 14
Mobile service

(1) In accordance with the RR footnote,⁴⁸⁾ for sharing of the 10.6–10.68 GHz sub-band with the Earth exploration-satellite service, the Resolution of RR⁴⁹⁾ limiting the maximum radiated power of a transmitter on antenna output applies.

(2) In this band, mobile service, land mobile service and mobile except aeronautical mobile service have no civil use in the Czech Republic.

Part 3
Final provisions

Article 15
Repealing provisions

This is to repeal the Measure of General Nature – Part No. PV-P/13/12.2012-16 of the Radio Spectrum Utilisation Plan for the 10–12.5 GHz frequency band of 4 December 2012.

Article 16
Effect

This part of the Radio Spectrum Utilisation Plan is effective from 1 September 2022.

⁴⁷⁾ Footnote 5.479 of RR.

⁴⁸⁾ Footnote 5.482A of RR.

⁴⁹⁾ Resolution 751 (WRC-07).

Explanatory Memorandum

To implement Section 16(2) of the Act, the Office issues the Measure of General Nature Part No. PV-P/13/07.2022-8 of the Radio Spectrum Utilisation Plan (hereinafter “the part of the plan”), specifying the technical characteristics and conditions of the use of radio spectrum in the frequency band from 10 GHz to 12.5 GHz by radiocommunication services. This part of the plan is based on the principles established in the Act and in European legislation, especially in Directive (EU) 2018/1972 of the European Parliament and of the Council establishing the European Electronic Communications Code 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 radio spectrum use and to anticipate the future decisions of the Office.

The purpose of this issue of the part of the plan is to update the conditions for the use of radio frequencies in compliance with the harmonisation documents in effect. Expanding the conditions for the use of the 10.7–11.7 GHz band with the possibility to use radio channels up to 112 MHz width is a significant modification.

Article 2 presents characteristic of the band. The most important utilisation of the band is reception of satellite television broadcasting in the satellite-broadcasting service and within the fixed service it is the operation of the fixed links. The need to protect the passive scientific services from interference, notably in the 10.68–10.7 GHz band, is emphasised.

Article 4 with information on the future development states that the Office expects development of utilisation of radio channels of 112 MHz width in the fixed service in the 10.7–11.7 GHz band. The Article further draws attention to the points of programme of the WRC-23 which might influence the future conditions for the use of the described range of radio frequencies.

Conditions for the use of radio frequencies by the Short Range Devices were concentrated into Article 5. The utilisation of the 10.6 GHz frequency by radar level meters in tanks is particularly significant. The use of radio spectrum by the Short Range Devices is still evolving and reaches a mass scale.

In Article 6 with conditions for the use of frequencies in the fixed service is newly allowed in Paragraph 1 to use the 10–10.3 GHz sub-band by short-time video links, e.g. for production of reportages, similarly to other ranges listed in Paragraph 3. The protection of passive scientific applications in the 10.6–10.68 GHz sub-band is ensured by limiting the power delivered to antenna compliant with the provisions of RR and the ECC Decision. Based on the users’ requirement, Paragraph 6 newly allows to use radio channels of 112 MHz width. This adjustment takes into account the target defined in point 3.8 of Action Plan 2.0 to implement non-subsidy measures to support the planning and construction of electronic communications networks, adopted by Government Resolution No. 778 of 4 November 2019. By this amendment, the Office expanded the conditions for the use of microwave bands with regard to the possibility to use wide radio channels in suitable fixed service bands. The order of radio channels complies with the European harmonisation according to ECC Recommendation.²⁹⁾ Paragraph 7 was modified following the termination of the original utilisation in fixed services due to utilisation of satellite services on primary basis.

Article 7 informs about the utilisation of the 11.7–12.5 GHz band by broadcasting-satellite service which means in the Czech Republic the reception of satellite television and radio broadcasting.

In Article 8 describing the utilisation of frequencies by the fixed-satellite service (space-to-Earth), a Point on Omnitrac terminals was deleted in Paragraph 2 due to termination of this system.

A specification on the use on passive scientific services was added to Paragraph 12 to emphasise the contribution of these services and the importance of their protection from interference.

Based on the Section 130 of the Act and in accordance with the Czech Telecommunication Office Rules for Conducting Consultations at the Discussion Site, the Office published a draft of the Measure of General Nature Part No. PV-P/13/XX.2022-Y of the Radio Spectrum Utilisation Plan on 12 May 2022 together with a call for comments. During the public consultation period the Office did not receive any comments.

On behalf of the Council of the Czech
Telecommunication Office

Hana Továrková
Chair of the Council
of the Czech Telecommunication Office

<signed>