



Prague, 18 August 2017
Ref: ČTÚ-38 345/2017-613

On the basis of public consultations under section 130 of the Act 127/2005 Coll., on electronic communications and on amendments to certain related acts (the Electronic Communications Act), as later amended, and Act No. 500/2004 Coll., the Administrative Code, as later amended, and on the basis of decision of the Council of the Czech Telecommunication Office (hereinafter only “the Office“) under Section 107(9)(b)(2) of the Act, and in order to implement Section 9 and 12 of the Act, the Office as the appropriate state administration body under Section 108(1)(b) of the Act issues by a Measure of General Nature this

General Authorization No. VO-R/23/08.2017-6
for the use of radio frequencies and for operation of fixed service devices in the
frequency bands
71–76 GHz and 81–86 GHz.

Article 1
Introductory provisions

The apparatus operating conditions^{1), 2)} relating to the use of radio frequencies and operation of digital fixed radio systems serving for the transmission of data signals in the frequency bands 71–76 GHz and 81–86 GHz (hereinafter only “the station“) by natural or juristic persons (hereinafter only “the operator“) are set out by the Act, the frequency band allocation plan, the radio spectrum used plan pursuant to section 16 of the Act and this General Authorization pursuant to section 10, paragraph 1 of the Act.

Article 2
Specific conditions

- (1) The factual conditions related to Section 10(1), (m) are as follows:
- a) radio frequencies may be used by operator of the station without individual authorization for the use of radio frequencies;
 - b) the station can be a part of the point-to-point fixed radio system only (hereinafter only “the fixed link“);
 - c) the operator of the station can use in the frequency sub-bands³⁾:
 - 1. 71.125–75.875 GHz and 81.125–85.875 GHz the radio frequencies and their mutual combination for TDD and FDD systems with channels with minimum occupied band width by transmission of 250 MHz and its multiples;
 - 2. 74.875–75.875 GHz and 84.875–85.875 GHz the radio frequencies for FDD systems also with occupied band width by transmission of 62.5 MHz or 125 MHz.
 - d) the harmonized standard for the stations is ČSN ETSI EN 302 217-3⁴⁾;

¹⁾ Sections 73 and 74 of the Act.

²⁾ European harmonized standards referred to in article 2, paragraph 1, letter d), applied on the basis of the law No. 90/2016 Coll., on the assessment of conformity of stated products in case of their delivery on market, and Government Decree No. 426/2016 Coll., on the assessment of conformity of radio devices in case of their delivery on market.

³⁾ Revised Recommendation ECC/REC/(05)07 from 2013.

⁴⁾ ČSN ETSI EN 302 217-3 – Fixed radio systems – Characteristics and requirements for point-to-point equipment and antennas – Part 3: Equipment operating in frequency bands where both frequency coordinated or uncoordinated deployment

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- e) the station can be operated with an antenna with minimum gain $G_i = 38 \text{ dBi}^4$) only;
- f) the maximum equivalent isotropic radiated power (hereinafter only “e.i.r.p.”) of the station with gain of antenna G_i is defined only by the rules⁴⁾:
- 1) e.i.r.p. $\leq +85 \text{ [dBm]}$ for $G_i \geq 55 \text{ dBi}$.
 - 2) e.i.r.p. $\leq +85 - (55 - G_i) \text{ [dBm]}$ for $55 \text{ dBi} > G_i \geq 45 \text{ dBi}$.
 - 3) e.i.r.p. $\leq +75 - 2 \cdot (45 - G_i) \text{ [dBm]}$ for $45 \text{ dBi} > G_i \geq 38 \text{ dBi}$.
- g) the spectral power density of emissions at the state border shall not exceed the value of $-98 \text{ dB(W/(m}^2 \cdot \text{MHz))}$;
- h) provided that harmful interference between the stations of operators occurs, the operators settle interference issues on principle of the mutual agreement. If the agreement fails, the procedure based on Section 100 of the Act applies, i.e. the protective provision will be arranged by operator who put the station in the operation later;
- i) the stations shall not cause harmful interference to the stations of primary radiocommunication services to which radio frequencies are used on the basis of the individual authorisation and cannot claim protection from harmful interference caused by these stations;
- j) the station may be neither electrically nor mechanically modified.

(2) The factual conditions related to Section 10(1), (p) are as follows:

- a) the operator shall communicate, without undue delay, the initial use of radio frequencies to the web portal <https://vor-kmitocty.ctu.cz> (hereinafter only “the portal”), so that the electronic form (hereinafter only “the form”) is completed with the following details:
1. numerical identifier⁵⁾ of the fixed link;
 2. electric component of the electromagnetic field that is used;
 3. geographical co-ordinates⁶⁾ of the station in geodetic system WGS-84 while maintaining accuracy of one second should be indicated;
 4. height of the antenna system above the ground;
 5. gain of the used antenna;
 6. transmitting radio frequency;
 7. occupied bandwidths;
 8. mean power⁷⁾;
 9. type and the name⁸⁾ and producer of the station.

In items 3 up to 9, the entries for both terminal points of the fixed link are reported.

- b) Registered operator is authorized only to complete and submit the form, provided that he is logged to the portal;
- c) for purposes of paragraph 1, letter h), the datum of the submission of completed form to the portal is considered as the commencement of the use of radio frequencies;

might be applied – Harmonized EN covering the essential requirements of article 3.2 of the Directive 2014/53/EU.

- ⁵⁾ For purposes of General Authorisation, the unique numerical identifier of the fixed link is defined as the identification of the fixed link whereby the operator can identify its fixed link unambiguously for communication of change of some demanded items (for example the change of occupied bandwidth, gain of antenna etc.) and in order to communicate the termination of the use of radio frequencies. Unique identifier of the fixed link is chosen by the operator of the fixed link. Maximal number of digits of identifier is six. The identifier consists of integer number which is higher than zero.
- ⁶⁾ The operator may state furthermore optional entry as for example address or other specification of position, the name of the position and things like that.
- ⁷⁾ For purposes of this General Authorisation, the mean output is defined as average output which is supplied by the station into antenna feeder during adequate time period compared with the lowest modulation frequency under usual operational conditions.
- ⁸⁾ For purposes of this General Authorisation, the product name of the station is defined according to the name (type, model) of transmitting radio device which is designated by the producer. With help of this indication could be identify relevant station on the position.

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d) the operator communicates the datum of termination of the use of the radio frequencies and change of reported entries according to paragraph 2, letter a), item 2 up to 9, without undue delay, by means of formerly submitted form, by which the use of the radio frequencies was proclaimed and which is accessible after the operator will be logged to the portal;

e) the change of already reported technical entries, according to paragraph 2, letter a), item 2 up to 8, is recognized to be recommencement of the use of the radio frequencies and for purposes of paragraph 1, letter h), the datum of announcement of this change will be regarded as new commencement of the use of the radio frequencies;

f) the Office releases the technical data of fixed link, according to paragraph 2, letter a), item 2 up to 8, on its website. URL: <http://www.ctu.cz>

Article 3 **Repealing provisions**

This is to repeal General Authorisation No. VO-R/23/09.2013-5 for the use of radio frequencies and for operation of fixed service devices in the bands 71–76 GHz and 81–86 GHz, published in Issue 14/2013 of the Telecommunications Bulletin (hereinafter only “VO-R/23/09.2013-5”).

Article 4 **Effect**

This General Authorisation comes into effect on 1 October 2017.

Explanatory Memorandum

To implement Section 9 and Section 12 of the Act, the Office issues this General Authorisation for the use of radio frequencies and for operation of fixed service devices in the frequency bands 71–76 GHz and 81–86 GHz (hereinafter only “the General Authorisation”). The General Authorisation is based on the principles set out in the Act, from frequency plans and harmonisation Objectives of the European Union, and it replaces the General Authorisation VO-R/23/09.2013-5, which is repealed by Article 3 of the General Authorisation.

The reason for the change of the General Authorisation is in particular to enable efficient utilisation of the parts of the frequency bands 71–76 GHz and 81–86 GHz, the change of market requirements and modification of ČSN ETSI EN 302 217-3 standard to V2.2.1 version in 2014. At the same time, the accuracy improvement was carried out.

General Authorisation VO-R/23/09.2013-5 corresponded with ČSN ETSI EN 302 217-3 standard up to V1.3.1 version which does not contain the requirements on radio devices enabling utilization of narrower channel than 250 MHz as stated in the past. In spite of the fact that revised Recommendation ECC/REC/(05)07 from 2013 already enabled utilisation of channel also with width of 62.5 MHz, this change was not reflected in relevant harmonised standard and the Office at this time supported to keep the minimal channel width of 250 MHz, among others also to prevent the undesirable fragmentation of the frequency bands 71–76 GHz and 81–86 GHz and their irreversible devaluation because the expected high transmission rate was possible to reach only by utilization of channel with at least 250 MHz width. The high width of the channel was necessary namely due to fact that in the past for these frequency bands were available such radio devices which managed bi-state modulation (BPSK typically), i.e. it was a case of radio devices with low spectral efficiency class.

At this time for these bands there are already available radio devices which enable utilisation of multi-state modulations i.e. the radio devices with higher level of spectral efficiency class parameter. Increase of the number of modulation states will cause increase the frequency spectrum utilisation which corresponds with Section 15(1) of the Act whereby the Office practises the radio spectrum management so that it maintain, inter alia, to the efficient utilisation of radio frequencies. The higher transmission rate may be achieved by use of the narrower channel with higher modulation states. It saves frequency spectrum. The Office also received from the operator and producer of device a demand for enable to use the narrower channels.

On the basis of hereinabove, the Office acceded to use the part of frequency bands in FDD mode according to annex UC 1.2, letter b) of ČSN ETSI EN 302 217-3 standard for channels 16 up to 19 (74.875–75.875 / 84.875–84.875 GHz) with the channels of 62.5 MHz and 125 MHz width. The change presented by the Office is therefore in accordance with the updated harmonized ČSN ETSI EN 302 217-3 standard version V2.2.1 which in the part UC already allows newly 62.5 MHz and 125 MHz channels as well.

In order to avoid the uncontrolled and non-systemic utilization of narrower channels overall entire available frequency bands, the Office enabled part of the available frequency bands only for the narrow channels, (i.e. with width less than 250 MHz) and for the case that in the future the use of radio frequencies 74.875–75.875 GHz and 84.875–85.875 GHz increase by the narrower channels, the Office will consider further widening of utilization of the narrower channels on the relevant band.

In respect of situation that on the market there are already enough available radio devices which allow the use of channels of 62.5 MHz and 125 MHz width, the given change does not represent an advantage for the particular entrepreneur or producer of radio equipment.

In article 2, paragraph 1, letter c), second sentence therefore on channels determined by frequencies of 74.875–75.875 GHz and 84.875–85.875 GHz there was allowed the operation of FDD systems with minimum channel width occupied by transmission of 62.5 MHz and former letter d) was replaced by text which sets down the obligation to apply the harmonized ČSN ETSI EN 302 217-3 standard.

At the same time, the footnote²⁾ was replaced by new wording “European harmonized standards referred to article 2, letter d), applied on the basis of Act No. 90/2016 Coll., on the assessment of conformity of stated products in case of their delivery on market, and Government order No. 426/2016 Coll., on the assessment of conformity of radio devices in case of their

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delivery on market”.

After footnote³) was inserted footnote⁴), wording “ČSN ETSI EN 302 217-3 – Fixed radio systems – Characteristics and requirements for point-to-point equipment and antennas – Part 3: Equipment operating in frequency bands where both frequency coordinated or uncoordinated deployment might be applied – Harmonized EN covering the essential requirements of article 3.2 of the Directive 2014/53/EU” which reflects legislative amendment. The subsequent footnotes were renumbered accordingly.

At the same time, the footnote⁶) which specified only details about kind of optional entries might be furthermore presented in the notification form was amended.

Furthermore, the footnote⁹) was removed as it was introduced due to introduction of portal in 2013.

The Office, due to make more transparent situation addresses utilization of radio frequencies on the basis of general authorization and individual authorization for the use of radio frequencies, also amended article 2, paragraph 1, letter i).

Article 3 repeals General Authorization No. VO-R/23/09.2013-5 which is replaced by this General Authorization.

Article 4 sets down the effective date of the General Authorization.

On the basis of Section 130 of the Act and in accordance with the Czech Telecommunication Office’s Rules for consultations, the Office published on 22 June 2017 the draft of Measure of General Nature by which is issued the General Authorization No. VO-R/23/XX.2017-Y for the use of radio frequencies and for operation of fixed service devices in the frequency bands 71–76 GHz and 81–86 GHz and call for comments to be posted at discussion site.

In framework of the public consultation during one month, the Office did not receive any comment, in accordance with document The Czech Telecommunication Office’s Rules for conducting consultations presented at the discussion site.

After termination of the public consultation the Office received only one informal question (thought) consists of worry about setting limitation to the current utilization of radio frequencies in TDD mode as well as concern over meddle in the combination of transmitting and receiving frequencies. The Office to this fact informs that modification of General Authorisation did not result in the limitation of current TDD usage. On contrary, it occurs newly to make possible the use of both frequency bands by FDD systems also for channels of 62.5 MHz and 125 MHz width. As regards worries about the intervene in combination of transmitting and receiving frequencies in this term also did not happen any change. The channel arrangement proceeds from Recommendation ECC/REC/(05)07 amended in 2013 which the General Authorisation implements and to which it is referred³). In this respect the change did not take place either.

On behalf of the Council
of the Czech Telecommunication Office

Jaromir Novak

Chairman of the Council
of the Czech Telecommunication Office

<signed>