
Band introduction

2100 GHz frequency band

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Table of Contents

Summary	4
1. Introduction	5
2. Regulation of the 2100 MHz frequency band	7
2.1. International regulation.....	7
2.1.1. ITU	7
2.1.2. CEPT	8
2.1.3. European Union.....	8
2.2. National regulation	10
2.2.1. Conditions of use of MFCN.....	10
2.2.2. Conditions of use of other applications.....	12
3. Use of the 2100 GHz frequency band.....	13
3.1. Current use.....	13
3.2. Future use.....	14
4. Cross-border frequency use and international coordination.....	15
5. Other potential sources of interference	16
6. Radio spectrum fees	17

Summary

The 2100 MHz frequency band has been harmonised in the member states in the European Union, first for Universal Mobile Telecommunications Systems (UMTS¹) and then for the provision of wireless broadband electronic communications services using mobile and fixed communications networks (MFCNs²), taking into account the strategic challenges arising from the growing radio spectrum demand for wireless broadband communications and the principle of technological neutrality. Under EU harmonised rules, only frequency-division duplex (FDD) wireless terrestrial communications networks can be deployed in the frequency band.

In most European countries, the 1920–1980/2110–2170 MHz frequency band was awarded and put into use for UMTS in the early 2000s. On 1 September 2004, the predecessor of the National Media and Infocommunications Authority (hereinafter referred to as the NMHH) launched a competitive procedure for the radio spectrum rights of use for the third-generation mobile radio telecommunications service IMT-2000/UMTS, in which three operators were awarded 2x15 MHz radio spectrum rights of use, each from the available 2x60 MHz spectrum. Radio spectrum rights of use were extended in 2018, meaning that these rights of use are valid until 23 June 2027 and 27 June 2027. The awarding of the previously 'ungranted' 1965–1980/2155–2170 MHz (2x15 MHz) frequency range supporting the deployment of 5G and additional wireless broadband services took place in 2020³. Two operators obtained radio spectrum rights of use as a result of this procedure. In order to ensure continuity of user-blocks, operators with rights of use in the 2100 MHz frequency band have concluded a frequency band refarming agreement, as the result of this, they have rights of use for contiguous user-blocks in the frequency band.

The purpose of this hearing is, inter alia, to assess the needs for the further use of the part of the 2100 MHz frequency band (2x45 MHz spectrum amount) covered by the expiring radio spectrum rights of use in June 2027.

¹ UMTS: Universal Mobile Telecommunications System

² MFCN: Mobile/Fixed Communication Network

³ https://nmhh.hu/cikk/205699/Az_5G_bevezeteset_tamogato_es_tovabbi_vezetek_nelkuli_szelessavu_szolgaltataso_khoz_kapcsolodo_frekvenciahasznalati_jogosultsagok_targyaban_kiirt_arveresi_eljaras_dokumentacioja

1. Introduction

Pursuant to the International Radio Regulations, the 1920–1980 MHz and 2110–2170 MHz paired frequency bands (hereinafter referred to as the '1920–1980/2110–2170 MHz frequency band' or '2100 MHz frequency band') can be used world-wide for the implementation of international mobile telecommunications (IMT⁴).

The 2100 MHz frequency band has been designated in the European countries to implement networks based on the UMTS/IMT-2000 technology, according to the EU regulation accepted in 1999, i.e. the so-called UMTS Decision⁵. The scope of this decision extended to the 1900–1980 MHz, 2010–2025 MHz and 2110–2170 MHz frequency bands, which included the FDD⁶ use of the 1920–1980 MHz and 2110–2170 MHz frequency bands (2 GHz paired frequency bands), and the TDD⁷ use of the 1900–1920 MHz and 2010–2025 MHz frequency bands (2 GHz unpaired frequency bands). The 2100 MHz frequency band for UMTS purposes has been practically awarded in every European country.

Striving to ensure the potential for technological development, the regulation of the frequency band that was originally harmonised for UMTS across Europe was amended, keeping in mind the strategic challenges arising from the increasing radio spectrum demand of wireless broadband communications and the principle of technological neutrality. In this framework, Commission Implementing Decision 2012/688/EU⁸ ensuring the technology-neutral use of the frequency band was adopted, harmonising the 1920–1980/2110–2170 MHz paired frequency band on a technology-neutral basis for mobile and fixed communications networks (MFCN) operating in frequency division duplex (FDD) mode, capable of providing wireless broadband communications services. Commission Implementing Decision (EU) 2020/667⁹ amending Decision 2012/688/EU allowed the use of active antenna systems (AAS¹⁰) for 5G systems in the frequency band.

Hungary has implemented the EU regulation related to the use of the 1920–1980/2110–2170 MHz frequency band for MFCN purposes. NMHH Decree 7/2015 (XI. 13.) on the national frequency allocation and the rules for using frequency bands (hereinafter referred to as the 'NFFF') contains the technical and frequency band usage requirements enabling technology-

⁴ IMT: International Mobile Telecommunication

⁵ Decision 128/1999/EC on the coordinated introduction of a third-generation mobile and wireless communications systems (UMTS) in the Community', published in the Official Journal of the European Community on 22 March 1999 (repealed)

⁶ FDD: Frequency Division Duplex

⁷ TDD: Time Division Duplex

⁸ Commission Implementing Decision 2012/688/EU of 5 November 2012 on the harmonisation of the frequency bands 1920–1980 MHz and 2110–2170 MHz for terrestrial systems capable of providing electronic communications services in the Union

⁹ Commission Implementing Decision (EU) 2020/667 of 6 May 2020 amending Decision 2012/688/EU as regards an update of relevant technical conditions applicable to the frequency bands 1920–1980 MHz and 2110–2170 MHz

¹⁰ AAS: Active Antenna System

neutral use of the frequency band, and defines the conditions for obtaining the right to use radio spectrum.

In most European countries, the 2100 MHz frequency band was awarded and put into use for UMTS/IMT-2000 purposes in the early 2000s. In Hungary, the frequency band was awarded in 2004 for 15 years. Three operators each obtained 2x15 MHz from the available 2x60 MHz radio spectrum. The remaining 2x15 MHz were granted by the NMHH by way of an auction procedure started on 18 July 2019. The amount of radio spectrum obtained in 2004 changed for two operators based on an agreement concluded in 2024 for the transfer of radio spectrum rights of use of a 2x5 MHz frequency block, but this does not affect the conditions under which the rights of use were granted. The radio spectrum rights of use for the 1920–1965/2110–2155 MHz frequency band, which expired in 2019, have been extended by 7.5 years at the request of the holders of rights of use, meaning that the licences will now expire in June 2027. The radio spectrum rights of use for the 1965–1980/2155–2170 MHz frequency band awarded in 2020 are valid until 2035 and can be extended for 5 years.

In several countries, including Hungary, UMTS (3G) systems in the 1920–1980/2110–2170 MHz frequency band have already been phased out and the frequency band is typically used by mobile operators for LTE¹¹/IMT-Advanced and 5G/IMT-2020 systems, taking into account consumer demand and the principle of technology neutrality.

¹¹ LTE: Long Term Evolution

2. Regulation of the 2100 MHz frequency band

2.1. International regulation

International regulation is based on the ITU¹² Radio Regulations (RR¹³). According to the Radio Regulations, the 2100 MHz frequency band (and its various frequency ranges) is globally harmonised for mobile broadband applications. The international organisations and groups responsible for radio spectrum management (ITU, CEPT¹⁴, European Commission, RSPG¹⁵, RSC¹⁶) have also developed and adopted detailed rules for the use of the frequency band.

On a European level, establishment of regulation took place in two steps. The 1920–1980/2110–2170 MHz frequency band was first harmonised for UMTS, then in 2012 the regulation of the use of the frequency band was amended to allow the provision of wireless broadband electronic communications services using mobile and fixed communications networks based on alternative technologies (other than UMTS), taking into account the principles of technology and service neutrality. In 2020, it became possible to use 5G AAS in the frequency band.

2.1.1. ITU

The ITU International Radio Regulations allocate the 1920–1980/2110–2170 MHz frequency band in Region 1, which includes EU Member States, to the fixed and mobile services on a co-primary basis. Within this, the 2110–2120 MHz sub-band is also allocated for space research (deep space, Earth-to-space) on primary basis.

Annex 1 of the NFFF contains the international allocation according to the Radio Regulations.

The 1920–1980/2110–2170 MHz frequency band may be used for IMT in accordance with Footnote 5.388:

5.388 The frequency bands 1 885-2 025 MHz and 2 110-2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications (IMT). Such use does not preclude the use of these frequency bands by other services to which they are allocated. The frequency bands should be made available for IMT in accordance with Resolution 212 (Rev.WRC-15) (see also Resolution 223 (Rev.WRC-15)*). (WRC-15)*

¹² ITU: International Telecommunication Union

¹³ RR: Radio Regulation

¹⁴ CEPT: European Conference of Postal and Telecommunications Administration

¹⁵ RSPG: Radio Spectrum Policy Group

¹⁶ RSC: Radio Spectrum Committee

2.1.2. CEPT

According to ECC/DEC/(06)01¹⁷, the 1920–1980/2110–2170 MHz frequency band can be used for mobile and fixed communications networks (MFCN) capable of providing wireless broadband communications services. ECC/DEC/(06)01 contains the harmonised technical conditions for the use of the 1920–1980/2110–2170 MHz frequency band for MFCN, the recommended channel spacings and the emission limits to ensure the coexistence of different radio services. The frequency band can also be used for the provision of mobile communication services on aircraft (MCA¹⁸) and on board vessels (MCV¹⁹), in compliance with the provisions of ECC/DEC/(06)07²⁰ and ECC/DEC/(08)08²¹.

Other relevant CEPT/ECC documents on the use of the 2100 MHz frequency band for MFCN are as follows:

- ERC/REC/01-01²², containing coordination requirements for MFCN systems operating in the 1920–1980 MHz and 2110–2170 MHz frequency bands;
- CEPT Report 39²³ (was compiled for the European Commission), containing the results of technical studies on the technology-neutral use of the 2100 MHz frequency band for FDD use of the 1920–1980 MHz and 2110–2170 MHz frequency bands, and TDD use of the 1900–1920 MHz and 2010–2025 MHz frequency bands.

2.1.3. European Union

The European Parliament and the Council accepted Decision No 128/1999/EC on the harmonised introduction of a third-generation mobile and wireless communications system (UMTS) in the Community on 14 December 1998. This so-called ‘UMTS Decision’ covered the regulation of the FDD use of the 1920–1980 MHz and 2110–2170 MHz frequency bands and the TDD use of the 1900–1920 MHz and 2010–2025 MHz frequency bands. This decision still contained technological constraints. According to the decision, the member states were obliged, on the one hand, to take all possible measures to allow the harmonised and gradual introduction of UMTS services in their territories latest by 1 January 2002, and they had to implement a licensing system latest by 1 January 2000 for UMTS purposes. In the 2010–2025

¹⁷ ECC/DEC/(06)01: The harmonised utilisation of the bands 1920–1980 MHz and 2110–2170 MHz for mobile/fixed communications networks (MFCN) including terrestrial IMT systems

¹⁸ MCA: Mobile Communication on Aircraft

¹⁹ MCV: Mobile Communication on Vessels

²⁰ ECC/DEC/(06)07: The harmonised use of airborne GSM, LTE and 5G NR non-AAS systems in the frequency bands 1710–1785 MHz and 1805–1880 MHz, and airborne UMTS systems in the frequency bands 1920–1980 MHz and 2110–2170 MHz

²¹ ECC/DEC/(08)08: The harmonised use of GSM systems in the 900 MHz and 1800 MHz bands, UMTS systems in the 2 GHz band and LTE and 5G NR non-AAS systems in the 1800 MHz and 2.6 GHz (FDD) bands on board vessels

²² ERC/REC/01-01: Cross-border coordination for mobile/fixed communications networks (MFCN) in the frequency bands: 1920–1980 MHz and 2110–2170 MHz

²³ CEPT Report 039: Report from CEPT to the European Commission in response to the Mandate to develop least restrictive technical conditions for 2 GHz bands

MHz frequency band, TDD systems failed to become widespread, and therefore the European Commission (hereinafter referred to as the 'Commission') sought other uses for the unpaired frequency range.

In line with its publication entitled 'Rapid access to spectrum for wireless electronic communications services through more flexibility'²⁴, which covers the 2100 MHz terrestrial frequency band, among other things, the Commission urged the more flexible use of the radio spectrum and reinforced the principles of technology and service neutrality in Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002²⁵ (hereinafter referred to as the 'Framework Directive'). On 15 June 2009, the Commission issued a mandate to CEPT to elaborate, within the framework of Wireless Access Policy for Electronic Communications Services (WAPECS²⁶), the technical conditions with the least restrictive use for the 2 GHz frequency bands as well.

2.1.3.1. Use of MFCN in the 1920–1980/2110–2170 MHz frequency band

Based on the results of CEPT Report 39, Commission Implementing Decision 2012/688/EU²⁷ ensuring the technology neutral use of the 1920–1980/2110–2170 MHz paired frequency band was adopted, removing technological restrictions and harmonising the 1920–1980/2110–2170 MHz frequency band on a technology-neutral basis for mobile and fixed communications networks (MFCN) capable of providing wireless broadband communications services.

The adopted Commission Implementing Decision 2012/688/EU required Member States to designate, on a non-exclusive basis, the 1920–1980 and 2110–2170 MHz paired frequency bands for systems capable of providing electronic communications services in accordance with the parameters set out in the Annex to the Decision, no later than 30 June 2014.

Technological progress made the following change necessary. Commission Implementing Decision (EU) 2020/667 of 6 May 2020 amending Decision 2012/688/EU as regards an update of relevant technical conditions applicable to the frequency bands 1920–1980 MHz and 2110–2170 MHz also enabled the use of 5G AAS in the 2100 MHz frequency band.

2.1.3.2. Other harmonised use in the 1920–1980/2110–2170 MHz frequency band

Based on EU regulations, the provision of MCA services available on aircraft and MCV services available to persons on board of vessels had to be made possible in the 1920–1980/2110–2170 MHz frequency band in accordance with the following Commission Decisions:

²⁴ COM(2007) 50: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2007:0050:FIN:EN:PDF>

²⁵ DIRECTIVE (EC) NO. 2002/21 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').

²⁶ WAPECS: Wireless Access Policy for Electronic Communications Services

²⁷ Commission Implementing Decision of 5 November 2012 on the harmonisation of the frequency bands 1920–1980 MHz and 2110–2170 MHz for terrestrial systems capable of providing electronic communications services in the Union

- Commission Implementing Decisions 2013/654/EU amending Commission Decision 2008/294/EC of 7 April 2008 on harmonised conditions of radio spectrum use for the operation of mobile communication services on aircraft (MCA services) in the Community, and Commission Implementing Decision (EU) 2016/2317 amending both;
- Commission Decision 2010/166/EU of 19 March 2010 on harmonised conditions of use of radio spectrum for mobile communication services on board vessels (MCV services) in the European Union, and Commission Implementing Decision (EU) 2017/191 amending it.

2.2. National regulation

In Hungary, pursuant to the NFFF in force, in line with the Radio Regulations, the 1920–1980 MHz and 2110–2170 MHz paired frequency bands are allocated for fixed and mobile services under Footnote 5.388 on a primary basis. Applications of the space research services may also operate in the 2110–2120 MHz sub-band, also on a primary basis.

In line with European harmonised use, Annex 2 of the NFFF states that the 1920–1980 MHz/2110–2170 MHz frequency band can be designated on a primary basis for terrestrial systems capable of providing electronic communications services operating in FDD mode. On a tertiary basis, civil MCA systems may operate in the 1920–1980/2110–2170 MHz frequency band in the context of mobile service, while both civil and non-civil SRD²⁸ radio determination applications can operate in the 1900–1980/2110–2170 MHz frequency band.

2.2.1. Conditions of use of MFCN

The conditions of use and radio spectrum management requirements for terrestrial systems capable of providing electronic communications services in the 1920–1980/2110–2170 MHz frequency band are set out in Annex 3, Sections 3.4 and 3.9 of the NFFF.

The 2x60 MHz spectrum available in the 1920–1980/2110–2170 MHz frequency band is divided into 24 units of 5 MHz blocks, so that by applying a 190 MHz duplex distance, 12 units of 5 MHz duplex frequency blocks are formed according to the table below:

	A	B	C
1	Base block	Lower block band [MHz]	Upper block band [MHz]
2	1	1920–1925	2110–2115
3	2	1925–1930	2115–2120
4	3	1930–1935	2120–2125
5	4	1935–1940	2125–2130
6	5	1940–1945	2130–2135
7	6	1945–1950	2135–2140
8	7	1950–1955	2140–2145
9	8	1955–1960	2145–2150
10	9	1960–1965	2150–2155
11	10	1965–1970	2155–2160
12	11	1970–1975	2160–2165
13	12	1975–1980	2165–2170

²⁸ SRD: Short Range Device

Table 1 – Division of the 2100 MHz frequency band into base blocks
[Source: NFFF Annex 3]

A user-blocks can consist of an integer number of base blocks.

The conditions for obtaining the right of radio spectrum use and the condition for using the frequency band are summarised in the table below:

	A	B
1	Subject of condition	Specification
2	Purpose of use	providing electronic communications services
3	Method of frequency allocation	competitive procedure
4	Amount of the obtainable frequency range	the amount of base blocks which may be obtained by participants in the competitive procedure and the extent of user blocks are specified by the call documentation of the competitive procedure
5		
6	Territorial coverage of entitlement to radio spectrum use	in case of obtainment of entitlement to radio spectrum use, as a result of a tendering procedure, national coverage, in case of transfer, smaller geographical unit is also permitted
7	Method of management	block management
8	Secondary trading	the entitlement to radio spectrum use and the right of radio spectrum use may be transferred or leased either partially or entirely; the partial transfer of the frequency shall be completed in form of base blocks
9	Band rearrangement	allowed

Table 2 – Conditions for obtaining right of radio spectrum use and conditions of using the 2100 MHz frequency band
[Source: NFFF Annex 3]

General radio spectrum management requirements for the use of the frequency band for MFCN are set out in the table below:

	A	B
1	Requirement subject	Specification
2	End-user station to repeater station uplink frequency band	1920–1980 MHz
3	MFCN station downlink frequency band	2110–2170 MHz
4	Duplex spacing	190 MHz
5	Access mode, operation mode	FDD
6		the 1 920-1 980 MHz sub-band or parts thereof may only be used for up-link operation without pairing with spectrum within the sub-band 2 110-2 170 MHz (e.g. for SUL ²⁹)
7		the 2 110-2 170 MHz sub-band or parts thereof may only be used for down-link operation without pairing with spectrum within the sub-band 1 920-1 980 MHz (e.g. for SDL ³⁰)

Table 3 – General radio spectrum management requirements in the 2100 MHz frequency band
[Source: NFFF Annex 3]

Specific radio spectrum management requirements relating for certain applications:

²⁹ SUL: Supplemental uplink

³⁰ SDL: Supplemental downlink

	A	B
1	Requirement subject	Specification
2	Nominal channel spacing	UMTS: 5 MHz
3		LTE (including LTE-MTC and LTE-eMTC): 5 MHz, 10 MHz, 15 MHz, 20 MHz
4		NB-IoT: 200 kHz
5		NR: 5 MHz, 10 MHz, 15 MHz, 20 MHz
6	Application mode of IoT systems	LTE-MTC, LTE-eMTC: in-band
7		NB-IoT: in-band (IB-NB-IoT), guard-band (GB-NB-IoT)

Table 4 – Specific radio spectrum management requirements relating for certain applications in the 2100 MHz frequency band [Source: NFFF Annex 3]

Regarding the services, no limiting provisions are in force, as technology and service neutrality must be ensured in the frequency band. National radio spectrum rights of use for terrestrial systems capable of providing electronic communications services in the context of mobile services and fixed services can be obtained in the 1920–1980/2110–2170 MHz paired frequency band.

However, taking technology neutrality into account, the frequency band shall be used in FDD mode only, in compliance with the harmonised technical conditions set out in Decision 2012/688/EU.

2.2.2. Conditions of use of other applications

The conditions of use and radio spectrum management requirements for MCA systems in the 1920–1980/2110–2170 MHz frequency band are set out in Annex 3, Section 4.10 of the NFFF.

In accordance with EU regulations, systems providing MCV services can also operate in the 1920–1980/2110–2170 MHz frequency band. The MCV systems do not concern the territory of Hungary; they can only be used in international traffic, outside Hungary's borders. Annex 6 to the NFFF sets out the conditions for systems providing MCV services in the coastal waters of EU Member States in order to avoid harmful interference with terrestrial mobile networks.

SRD radio determination applications shall be operated in accordance with Annex 3, Section 9.7.2 of the NFFF.

Since MCA systems and SRD applications can operate on a tertiary basis, it is not necessary to examine their detailed regulation in relation to the subject matter of this public hearing.

3. Use of the 2100 GHz frequency band

3.1. Current use

As part of the competitive procedure launched on 31 August 2004 for the introduction of 3G technology (UMTS), the Hungarian mobile operators at the time (Magyar Telekom Nyrt. (hereinafter: 'Magyar Telekom'), Vodafone Magyarország Zrt.³¹, Telenor Magyarország Zrt.³² (hereinafter referred to as 'Yettel')) each were granted rights of use for 2x15 MHz frequency division duplex (FDD) spectrum from the (paired) 2x60 MHz spectrum available in the 2100 MHz frequency band, which were extended in 2018 for 7.5 years until 23 June 2027 and until 27 June 2018, respectively. In 2024, Magyar Telekom and Yettel concluded an agreement on the transfer of the radio spectrum rights of use in respect of the 1940–1945/2130–2135 MHz frequency bands (base block 5 under Annex 3, Section 3.9.2 of the NFFF), in accordance with NMHH Decree 7/2013 (IX. 19.) on the secondary trading of radio frequencies (hereinafter referred to as the 'Rmkr.'), which was approved by the NMHH. In accordance with legal requirements, the transfer agreement does not affect the original terms and conditions of the existing radio spectrum rights of use at the time of acquisition. The agreement is related to the phase-out of 2G, as at the same time the two operators agreed that, from 1 January 2026 at the earliest, Magyar Telekom's 2G network traffic will be taken over by Yettel. The 1965–1980/2155–2170 MHz frequency range (3x5 MHz duplex base block) was awarded in 2020, and the granted radio spectrum usage right is valid for 15+5 years. In order to ensure continuity of user-blocks, mobile operators with rights of use in the 2100 MHz frequency band have concluded a frequency band refarming agreement. As the result of refarming they have granted rights of use to use contiguous user blocks in the frequency band.

The radio spectrum rights of use acquired in the 2100 MHz frequency band and their expiry dates are shown in Table 5 and Figure 1.

Operator	Frequency band	Amount of Spectrum	Expiry of rights of use**
	1920–1930 MHz / 2110–2120 MHz	2x20 MHz	2035 (+5 years)
	1930–1940 MHz / 2120–2130 MHz		27.06.2027*
	1940–1960 MHz / 2130–2150 MHz	2x20 MHz	27.06.2027*
	1960–1975 MHz / 2150–2165 MHz	2x20 MHz	23.06.2027*
	1975–1980 MHz / 2165–2170 MHz		2035 (+5 years)

* extended by 7.5 years

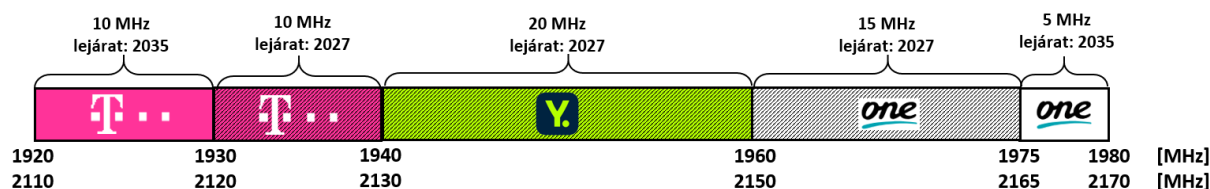
** 2035 (+5 years), status after September 2020 band refarming

*** As of 1 January 2025, Vodafone Hungary Zrt. was renamed to One Magyarország Zrt.

5 – Radio spectrum usage rights in the 2100 MHz frequency band

³¹ from 1 January 2025, One Magyarország Zrt.

³² from 1 March 2022, Yettel



1 – Radio spectrum rights of use in the 2100 MHz frequency band

	expiry
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3.2. Future use

The radio spectrum rights of use for the 1930–1975/2120–2160 MHz frequency range, acquired in 2004 and extended in 2018, will expire at the end of June 2027; therefore, the purpose of this hearing is, among other things, assessing the needs for the further use of the 2x45 MHz radio spectrum amount that will become available.

Since, under the NFFF, renewal of radio spectrum rights of use are permitted in the 2100 MHz frequency band, there are two options under the legislation for the further use of the 2100 MHz frequency band covered by the radio spectrum rights of use expiring in 2027: competitive procedure or the possibility of renewing the existing radio spectrum rights of use.

4. Cross-border frequency use and international coordination

Based on the data available in the ECO Frequency Information System (hereinafter: 'EFIS'³³), designated by the European Commission as a common access point and operated by the European Communications Office (hereinafter referred to as the 'ECO'), the use by the neighbouring countries is summarised in the following table.

	AUT	HRV	ROU*	SRB	SVK	SVN	UKR
Application ³⁴	digital cell	UMTS/LTE	digital cell	MFCN	UMTS/LTE	technology-neutral	IMT-2000/UMTS
Expiry of the rights of use	2044	2024	2020/2022	2026	2026	2036	2030

*More recent data for ROU is not available in EFIS

Table 6 – Neighbouring countries' use of the 2100 MHz frequency band

In national border zones, frequency use of only those stations meeting prevailing relevant conditions set forth in international coordination documents is permitted.

We currently have international coordination agreements with Ukraine for UMTS/IMT-2000 and with several other countries for MFCN cross-border use in the 1920–1980 and 2110–2170 MHz frequency bands.

Considering that the frequency band can be used in a technology-neutral mode based on the international regulation, the conclusion of an "MFCN agreement" is necessary with every neighbouring country, which ensures, regardless of the chosen technology, the border zone implementation of broadband mobile service applications.

The international coordination requirements for the introduction of the MFCN have been developed in the competent CEPT working groups; the international coordination rules corresponding to the frequency band are contained in recommendation ECC/REC/(01)01.

The agreement is based on the field strength limitations applicable in border zones and the use of preferred codes; accordingly, if the countries concerned adhere to the values specified in the agreement, the coordination of the individual stations is not necessary.

³³ <https://www.efis.dk/>

³⁴ Application name in EFIS (only applications relevant to the use of the frequency band are indicated)

5. Other potential sources of interference

Compliance with the technical parameters set out in Decision (EU) 2020/667 shall ensure compatibility between in-band MFCN networks and between MFCN and other out-of-band applications. Based on experience to date, we have no information on interference problems that require further investigation in the 2100 MHz frequency band.

In case of interference problems emerging in the course of operation of networks operating in accordance with the specified requirements, the provisions of the Electronic Communications Act³⁵ must be followed.

³⁵ Act C of 2003 on Electronic Communications

6. Radio spectrum fees

The fees payable for the use of the 2100 MHz frequency band are governed by the rules and calculation methods determined in Section 20 under the heading 'Fees payable for service purpose frequency bands subject to block management and awarded through competitive procedure' and Annex 9 of the NMHH Decree 1/2011 (III. 31.) on frequency reservation and usage fees (hereinafter referred to as the 'Fee Decree').

Pursuant to Section 20 of the Fee Decree, for service-purpose frequency bands subject to block management and awarded through competitive procedure, or rewarded thereafter, during the period of validity of the radio spectrum rights of use, the holder of rights of use, as well as those who have been granted radio spectrum rights of use in a frequency band subject to block allocation by law and designated without a competitive tender procedure, shall pay monthly band fee.