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COMMISSION IMPLEMENTING DECISION (EU) 2024/1983

of 18 July 2024

on the harmonisation of the 40,5-43,5 GHz frequency band for terrestrial systems capable of providing wireless broadband electronic communications services in the Union

(notified under document C(2024) 1520)

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Decision No 676/2002/EC of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision) ⁽¹⁾, and in particular Article 4(3) thereof,

Whereas:

- (1) Directive (EU) 2018/1972 of the European Parliament and of the Council ⁽²⁾ ('European Electronic Communications Code') refers to the need for further study of the 40,5-43,5 GHz frequency band in the context of ensuring increased coordinated availabilities of radio spectrum to achieve very high speed fixed and wireless networks. That Directive also requires Member States to promote the harmonisation of use of radio spectrum by electronic communications networks and services across the Union, *inter alia*, by pursuing wireless broadband coverage of their national territory and population at high quality and speed, as well as coverage of major national and European transport paths.
- (2) The 40,5-43,5 GHz ('42 GHz') frequency band was harmonised globally for International Mobile Telecommunications ⁽³⁾ (IMT) at the 2019 World Radiocommunication Conference (WRC-19) through amending the Radio Regulations of the International Telecommunication Union's Radiocommunication Sector (ITU-R). The relevant amendment to the Radio Regulations stipulates measures to ensure coexistence between IMT systems, including 5G, and Fixed Satellite Service (FSS) as well as the Radio Astronomy Service (RAS) within the 42 GHz frequency band.
- (3) The Commission's Communication 'Connectivity for a Competitive Digital Single Market – Towards a European Gigabit Society' ⁽⁴⁾ sets out ambitious connectivity objectives for the Union, which were updated with the Commission Communication '2030 Digital Compass: the European way for the Digital Decade' ⁽⁵⁾ and further supported by Decision (EU) 2022/2481 of the European Parliament and of the Council ⁽⁶⁾ establishing the Digital Decade Policy Programme 2030. Those connectivity objectives are to be achieved through the widespread deployment and take-up of very high capacity networks. The Commission's Communication '5G for Europe: An Action Plan' ⁽⁷⁾ identifies coordinated actions at Union level, including the identification and harmonisation of radio spectrum for 5G on the basis of the opinion of the Radio Spectrum Policy Group (RSPG), in order to ensure uninterrupted 5G coverage in all urban areas and major terrestrial transport paths by 2025.

⁽¹⁾ OJ L 108, 24.4.2002, p. 1, ELI: [http://data.europa.eu/eli/dec/2002/676\(1\)/oj](http://data.europa.eu/eli/dec/2002/676(1)/oj).

⁽²⁾ Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (OJ L 321, 17.12.2018, p. 36, ELI: <http://data.europa.eu/eli/dir/2018/1972/oj>).

⁽³⁾ In accordance with ITU-R Resolution 243 (WRC-2019) on the Terrestrial component of International Mobile Telecommunications in the frequency bands 37-43,5 GHz and 47,2-48,2 GHz.

⁽⁴⁾ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'Connectivity for a Competitive Digital Single Market – Towards a European Gigabit Society' COM(2016) 587 final.

⁽⁵⁾ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions '2030 Digital Compass: the European way for the Digital Decade' COM(2021) 118 final.

⁽⁶⁾ Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030 (OJ L 323, 19.12.2022, p. 4, ELI: <http://data.europa.eu/eli/dec/2022/2481/oj>).

⁽⁷⁾ Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions '5G for Europe: An Action Plan', COM(2016) 588 final.

- (4) The RSPG has adopted three opinions on a strategic spectrum roadmap for 5G in Europe ⁽⁸⁾, in which, *inter alia*, it highlighted the need for implementation of frequency bands above 24 GHz to meet the high capacity performance targets of 5G, and identified the 42 GHz frequency band as a priority in terms of studies for second stage mm-wave 5G bands for terrestrial wireless networks in the Union. The RSPG considered the 42 GHz frequency band as a viable option for 5G in the longer term, taking into account the need for a general balance between the provision of terrestrial mobile and satellite services within the 40-50 GHz frequency range.
- (5) The 42 GHz frequency band provides high capacity allowing for innovative next generation (including 5G) wireless broadband (WBB) electronic communications services (ECS) based on small cells ⁽⁹⁾ and using large block sizes of at least 200 MHz. The use of that frequency band appears suitable, in this context, for hotspots in urban and suburban areas.
- (6) While the 42 GHz frequency band is allocated to the Fixed Service (FS) in the Member States of the Union ⁽¹⁰⁾ and used for terrestrial fixed wireless connections ('fixed links'), flexibility of spectrum use is required to ensure coexistence between WBB ECS, including 5G, and fixed links.
- (7) The 42 GHz frequency band is also used for satellite services across the Member States of the Union. That use comprises the 40,5-42,5 GHz frequency range for space-to-Earth communications and the 42,5-43,5 GHz frequency range for Earth-to-space communications, thus supporting receiving and transmitting FSS earth stations, respectively. The adjacent 39,5-40,5 GHz frequency band is allocated to both FSS and Mobile Satellite Service (MSS) for space-to-Earth communications. The latter frequency band is to be used by both coordinated and uncoordinated receiving satellite earth stations (both FSS and MSS). Therefore, those satellite earth stations should be appropriately protected against interference from terrestrial WBB ECS.
- (8) The 42,5-43,5 GHz frequency band is further used for systems in the RAS which should be appropriately protected against interference from terrestrial WBB ECS.
- (9) Next-generation terrestrial systems providing WBB ECS, including 5G, should be deployed within the 42 GHz frequency band under harmonised technical conditions in the Union. Those conditions should safeguard the continued operation and potential future development of systems in the relevant incumbent FS, RAS and FSS within this band. Those conditions should equally ensure that such existing and future systems do not have a significant negative impact on the deployment and coverage of next-generation (5G) terrestrial wireless systems.
- (10) Pursuant to Article 4(2) of Decision 676/2002/EC, on 14 April 2020, the Commission issued a mandate to the European Conference of Postal and Telecommunications Administrations (CEPT) to develop least restrictive harmonised technical conditions suitable for next-generation (5G) terrestrial wireless systems for priority frequency bands above 24 GHz, including the 42 GHz frequency band.

⁽⁸⁾ Opinion on spectrum related aspects for next-generation wireless systems (5G) (RSPG16-032 final) of 9 November 2016, Second Opinion on 5G networks (RSPG18-005 final) of 30 January 2018, Third Opinion on 5G implementation challenges (RSPG19-007 final) of 30 January 2019.

⁽⁹⁾ Such as pursuant to Commission Implementing Regulation (EU) 2020/1070 of 20 July 2020 on specifying the characteristics of small-area wireless access points pursuant to Article 57 paragraph 2 of Directive (EU) 2018/1972 of the European Parliament and the Council establishing the European Electronic Communications Code (OJ L 234, 21.7.2020, p. 11, ELI: http://data.europa.eu/eli/reg_impl/2020/1070/oj).

⁽¹⁰⁾ In accordance with the ITU Radio Regulations (2020 edition), the whole 42 GHz frequency band is allocated to the Fixed Service on a co-primary basis in all three Regions of the ITU.

- (11) In response to that mandate, on 18 November 2022 the CEPT issued a report ⁽¹¹⁾ ('CEPT Report 82') specifying the least restrictive harmonised technical conditions in the 42 GHz frequency band, based on the concept of a Block Edge Mask (BEM), for the introduction of next-generation (5G) terrestrial wireless systems in that band, in compliance with the principles of technology and service neutrality. Those technical conditions are consistent with 5G standardisation developments in particular regarding the channelling arrangements ⁽¹²⁾ and the use of active antenna systems (AAS), and are therefore conducive to global harmonisation.
- (12) The harmonised technical conditions in the CEPT Report 82 assume synchronised operation of neighbouring terrestrial WBB ECS systems of different operators and knowledge of the location of the WBB ECS base stations. Unsynchronised or semi-synchronised operation of neighbouring terrestrial WBB ECS systems requires further studies in order to develop relevant harmonised technical conditions but remains possible with geographical separation and may be subject to additional appropriate mitigation measures applicable at national level.
- (13) The harmonised technical conditions provided in the CEPT Report 82 for the use of the 42 GHz frequency band for terrestrial systems providing WBB ECS are based on the assumption of hotspot deployment and an authorisation regime where the locations of the WBB ECS base stations (transmitters and receivers) are known. Additional measures at national level may be needed for an authorisation regime where the locations of WBB ECS base stations are not known in advance of an installation, in order to ensure appropriate coexistence of those services with other services in this band and in adjacent bands, while still respecting the least restrictive harmonised technical conditions set out in the Annex to this Decision. Such additional measures are provided in Annex 3 to the CEPT Report 82.
- (14) The CEPT Report 82 also provides guidance for the use of the 42 GHz frequency band for terrestrial WBB ECS (including 5G) in order to ensure protection of FS, FSS and RAS within this band, as well as of FS, FSS and MSS in adjacent bands.
- (15) Coexistence between terrestrial systems providing WBB ECS (including 5G) and FSS earth stations operating in the 42 GHz frequency band, and in the adjacent 39,5-40,5 GHz frequency band, can be ensured by applying, where appropriate, technical constraints to the deployment of WBB ECS base stations in a limited geographical area around a satellite earth station. Coexistence measures should be considered between FSS earth stations and WBB ECS base stations where they are near each other, recognising that WBB ECS base stations are expected to be deployed primarily in densely populated areas.
- (16) In line with Directive 2014/53/EU of the European Parliament and of the Council ⁽¹³⁾, compliance of WBB ECS base stations and terminal stations with the out-of-band emissions' limits below 40,5 GHz and above 43,5 GHz should be based on the assumptions referred to in the CEPT Report 82 ⁽¹⁴⁾.

⁽¹¹⁾ Report 82 from the CEPT to the European Commission in response to the Mandate 'to develop least restrictive harmonised technical conditions suitable for next-generation (5G) terrestrial wireless systems for priority frequency bands above 24 GHz', Harmonised least restrictive technical conditions for the 40,5-43,5 GHz frequency band, link: <https://docdb.cept.org/document/28574>.

⁽¹²⁾ ETSI TS 138 104 (v16.9.0) defines the 39,5-43,5 GHz frequency band for use with New Radio (NR) technology based on time division duplex (TDD), and channel bandwidths of 50 MHz, 100 MHz, 200 MHz and 400 MHz.

⁽¹³⁾ Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC (OJ L 153, 22.5.2014, p. 62, ELI: <http://data.europa.eu/eli/dir/2014/53/oj>).

⁽¹⁴⁾ For base stations see ETSI TS 138 104 V17.6.0 (table 9.7.4.3.3-2); for terminal stations see ETSI TS 138.101-2 V17.6.0 (table 6.5.2.1-1).

- (17) In addition, the CEPT has developed technical guidelines⁽¹⁵⁾ ⁽¹⁶⁾ to support the introduction of terrestrial systems providing WBB ECS in the 42 GHz frequency band, while allowing in a proportionate way the continued use of FSS receiving and transmitting earth stations in the relevant portions of the 42 GHz frequency band, as well as coexistence with FSS receiving earth stations in the adjacent 39,5-40,5 GHz frequency band. Those technical guidelines can facilitate coexistence in fulfilling the obligations under this Decision.
- (18) Coexistence between terrestrial systems providing WBB ECS (including 5G) and satellite receivers in the FSS within the 42 GHz frequency band is currently feasible, subject to technical conditions that address the antenna elevation of the WBB ECS base stations, noting also the applicable provisions of the Radio Regulations of the ITU-R.
- (19) Coexistence between terrestrial systems providing WBB ECS (including 5G) and fixed links within the 42 GHz frequency band is feasible on a case-by-case basis, subject to coordination at national level between both services, if deployed in the same area and in the same frequency range.
- (20) The CEPT Report 82 does not address the usage of the 42 GHz frequency band for the provision of WBB ECS to unmanned aerial vehicles (UAVs), such as drones.
- (21) Specific measures, such as establishing geographical separation distances and exclusion zones, may be required at national level on a case-by-case basis to ensure the protection of stations in the RAS operating in the 42,5-43,5 GHz frequency band.
- (22) Cross-border frequency coordination agreements among Member States as well as between Member States and third countries may be necessary to avoid harmful interference and to improve spectrum efficiency and convergence in spectrum use, in compliance with Article 28 of Directive (EU) 2018/1972.
- (23) Member States should take up the 42 GHz frequency band for next-generation terrestrial (5G) wireless broadband electronic communications services based on legally binding harmonised technical conditions in accordance with the CEPT Report 82 and in line with the Union's policy objectives.
- (24) The notion of 'designating and making available' the 42 GHz frequency band in the context of this Decision refers to the following steps: (i) the adaptation of the national legal framework on frequency allocation to include the intended use of this band under the harmonised technical conditions set in this Decision, (ii) the initiation of all necessary measures in order to ensure coexistence with existing use in this band to the extent necessary, (iii) the initiation of the appropriate measures, supported by the launch of a stakeholder consultation process where appropriate, in order to allow the use of this band in accordance with the applicable legal framework at Union level, including the harmonised technical conditions of this Decision. Subsequent to this, Member States should allow the use of the 42 GHz frequency band pursuant to Directive (EU) 2018/1972, in particular, Article 53 thereof.
- (25) Pursuant to Article 4(3) of Decision 676/2002/EC, the Commission should set a deadline to the Member States for the implementation of this Decision. Besides, following the obligation laid down in Article 7 of Decision 676/2002/EC, Member States should provide the Commission with all information necessary for the purpose of verifying the implementation of this Decision. This should apply in particular as regards the gradual introduction and development of terrestrial 5G services in the 42 GHz frequency band and any coexistence issues, to help the timely review and the assessment of its impact at Union level. Such review should also address the suitability of the technical conditions to ensure adequate protection of other services, taking into account the development of terrestrial systems providing WBB ECS, including 5G.

⁽¹⁵⁾ ECC Recommendation (22)01 'Guidelines to support the introduction of MFCN in 40,5-43,5 GHz while ensuring, in a proportionate way, the use of FSS receiving earth stations in the frequency band 40,5-42,5 GHz and the use of FSS transmitting earth stations in the frequency band 42,5-43,5 GHz and the possibility for future deployment of these earth stations'.

⁽¹⁶⁾ ECC Recommendation (22)02 'Guidelines on measures to facilitate compatibility between MFCN operating in 40,5-43,5 GHz and FSS earth stations receiving in 39,5-40,5 GHz and to prevent and/or resolve interference issues'.

(26) The measures provided for in this Decision are in accordance with the opinion of the Radio Spectrum Committee,

HAS ADOPTED THIS DECISION:

Article 1

This Decision establishes the essential harmonised technical conditions for the availability and efficient use of the 40,5-43,5 GHz frequency band in the Union for terrestrial systems capable of providing wireless broadband electronic communications services.

Article 2

Member States shall designate and make available on a non-exclusive basis the 40,5-43,5 GHz frequency band for terrestrial systems capable of providing wireless broadband electronic communications services, in compliance with the technical conditions set out in the Annex.

Article 3

Member States shall ensure that, in compliance with the technical conditions set out in the Annex, the terrestrial systems referred to in Article 1 protect the following systems appropriately and do not constrain their future evolution and development:

- (a) systems in the Radio Astronomy Service operating within the 42,5-43,5 GHz frequency band;
- (b) satellite systems in the Fixed Satellite Service operating within the 40,5-42,5 GHz frequency band for space-to-Earth communications and within the 42,5-43,5 GHz frequency band for Earth-to-space communications;
- (c) satellite systems in the Fixed Satellite Service and Mobile Satellite Service operating within the 39,5-40,5 GHz frequency band for space-to-Earth communications.

Article 4

Member States shall ensure the coexistence of the terrestrial systems referred to in Article 1 with the continued operation of terrestrial fixed links within the 40,5-43,5 GHz frequency band, based on frequency coordination at national level. Member States may also enable the future evolution and development of terrestrial fixed links within the 40,5-43,5 GHz frequency band at national level.

Article 5

Under the condition that the number and locations of new satellite earth stations are determined so as not to impose disproportionate constraints on the systems referred to in Article 1, and subject to market demand for such stations, Member States shall ensure the continued deployment and operation of satellite earth stations providing Fixed Satellite Service within the 40,5-43,5 GHz frequency band.

Article 6

Member States shall facilitate cross-border coordination agreements to enable operation of the terrestrial systems referred to in Article 1, taking into account existing regulatory procedures and rights applicable under relevant international agreements.

Article 7

Member States shall implement this Decision by 31 December 2026.

Member States shall provide the Commission with all necessary information on the implementation of this Decision immediately after the adoption of the relevant national measures.

Member States shall monitor the use of the 40,5-43,5 GHz frequency band, including the progress on coexistence between the terrestrial systems referred to in Article 1 and other systems using that band, and report their findings to the Commission upon request or on their own initiative to allow for a timely review of this Decision.

Article 8

This Decision is addressed to the Member States.

Done at Brussels, 18 July 2024.

For the Commission
Thierry BRETON
Member of the Commission

ANNEX

TECHNICAL CONDITIONS REFERRED TO IN ARTICLES 2 AND 3

1. DEFINITIONS

For the purposes of this Decision, the following definitions apply:

- (1) 'active antenna systems (AAS)' means a base station and an antenna system where the amplitude and/or phase between antenna elements is continually adjusted, resulting in an antenna pattern that varies in response to short term changes in the radio environment. This excludes long-term beam shaping such as fixed electrical down tilt. In AAS base stations the antenna system is integrated as part of the base station system or product;
- (2) 'synchronised operation' means operation of two or more different time division duplex (TDD) networks, where simultaneous uplink (UL) and downlink (DL) transmissions do not occur, that is at any given moment in time either all networks transmit in downlink or all networks transmit in uplink. This requires the alignment of all DL and UL transmissions for all TDD networks involved as well as synchronising the beginning of the frame across all networks;
- (3) 'unsynchronised operation' means operation of two or more different TDD networks, where at any given moment in time at least one network transmits in DL while at least one network transmits in UL. This might happen if the TDD networks either do not align all DL and UL transmissions or do not synchronise at the beginning of the frame;
- (4) 'semi-synchronised operation' means operation of two or more different TDD networks, where part of the frame is consistent with synchronised operation, while the remaining portion of the frame is consistent with unsynchronised operation. This requires the adoption of a frame structure for all TDD networks involved, including slots where the UL/DL direction is not specified, as well as synchronising the beginning of the frame across all networks;
- (5) 'equivalent isotropically radiated power (EIRP)' is the product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna (absolute or isotropic gain);
- (6) 'total radiated power (TRP)' is a measure of how much power a composite antenna radiates. It equals the total conducted power input into the antenna array system less any losses in the antenna array system. TRP means the integral of the power transmitted in different directions over the entire radiation sphere as shown in the formula:

$$TRP \cong \frac{1}{4\pi} \int_0^{2\pi} \int_0^{\pi} P(\vartheta, \varphi) \sin(\vartheta) d\vartheta d\varphi$$

where $P(\vartheta, \varphi)$ is the power radiated by an antenna array system in direction (ϑ, φ) given by the formula:

$$P(\vartheta, \varphi) = P_{Tx} g(\vartheta, \varphi)$$

where P_{Tx} denotes the conducted power (measured in Watts), which is input to the array system, and $g(\vartheta, \varphi)$ denotes the array systems directional gain along the (ϑ, φ) direction.

2. GENERAL PARAMETERS

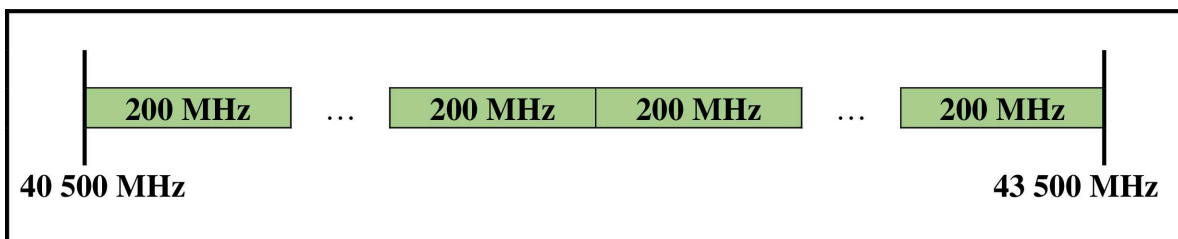
- (1) The duplex mode of operation in the 40,5-43,5 GHz frequency band shall be TDD.
- (2) The assigned block size shall be a multiple of 200 MHz. A smaller block size of 50 MHz or 100 MHz or 150 MHz, adjacent to the assigned block of another spectrum user, is also possible to ensure efficient use of the whole frequency band.
- (3) The technical conditions contained in this Annex are essential to address the mutual coexistence of terrestrial systems capable of providing wireless broadband electronic communications services (WBB ECS) and the coexistence of such systems with space station receivers in the Fixed Satellite Service (FSS) within the 42,5-43,5 GHz frequency band.
- (4) Base station and terminal station transmission within the 40,5-43,5 GHz frequency band shall be in compliance with the technical conditions set out in this Annex.

- (5) The harmonised technical conditions provided below are based on the assumption of hotspot deployment and an authorisation regime where the locations of the WBB ECS base stations (both transmitters and receivers) are known. In order to implement the necessary protection for systems referred to in Article 3, additional measures at national level may be required for an authorisation regime where the locations of WBB ECS base stations are not known in advance of an installation ⁽¹⁾, while still respecting the harmonised technical conditions for WBB ECS set out in this Annex.
- (6) Additional measures may be required at national level, in order to ensure appropriate protection of receiving satellite earth stations operating within the 40,5-42,5 GHz frequency band and, if needed, within the adjacent 39,5-40,5 GHz frequency band, and of systems in the Radio Astronomy Service (RAS) within the 42,5-43,5 GHz frequency band, as well as to ensure the coexistence of terrestrial systems capable of providing WBB ECS with terrestrial fixed links ⁽²⁾.
- (7) For WBB ECS base stations, the protection of adjacent services below 40,5 GHz and above 43,5 GHz is provided through relevant out-of-band limits, which are derived in accordance with ETSI TS 138 104 V17.6.0 (table 9.7.4.3.3-2) ⁽³⁾.
- (8) For terminal stations, the protection of adjacent services is provided by the requirements of ETSI TS 138.101-2 V.17.6.0 (table 6.5.2.1-1).

Figure 1 provides an example of a possible channelling arrangement.

Figure 1

Example of a channelling arrangement within the 40,5-43,5 GHz frequency band



3. TECHNICAL CONDITIONS FOR BASE STATIONS – BLOCK EDGE MASK

The following technical parameters for base stations, called Block Edge Mask (BEM), are an essential component of conditions necessary to ensure coexistence between neighbouring networks capable of providing WBB ECS, in the absence of bilateral or multilateral agreements between operators of such neighbouring networks. Network operators of WBB ECS in the 40,5-43,5 GHz frequency band may agree bilaterally or multilaterally, on less stringent technical parameters, provided that they continue to comply with the technical conditions applicable for the protection of other services, applications or networks and with their obligations resulting from cross-border coordination. Member States shall ensure that those less stringent technical parameters can be used by agreement among all concerned parties.

A BEM is an emission mask that defines power levels as a function of frequency relative to the edge of a block of spectrum assigned to an operator. The BEM consists of several elements that are given in Table 1. The in-block power limit is applied to a block assigned to an operator. The baseline power limit ensures the protection of the spectrum of other operators within the 40,5-43,5 GHz frequency band. The transitional region power limit enables filter roll-off from the in-block to the baseline power limit in order to ensure coexistence with other operators in adjacent blocks. Both the baseline power limit and the transitional region power limit represent out-of-block BEM elements.

⁽¹⁾ The implementation of sharing conditions implies the need for prior information on the existing or planned location of the interfering and/or the interfered system or on the distance between them.

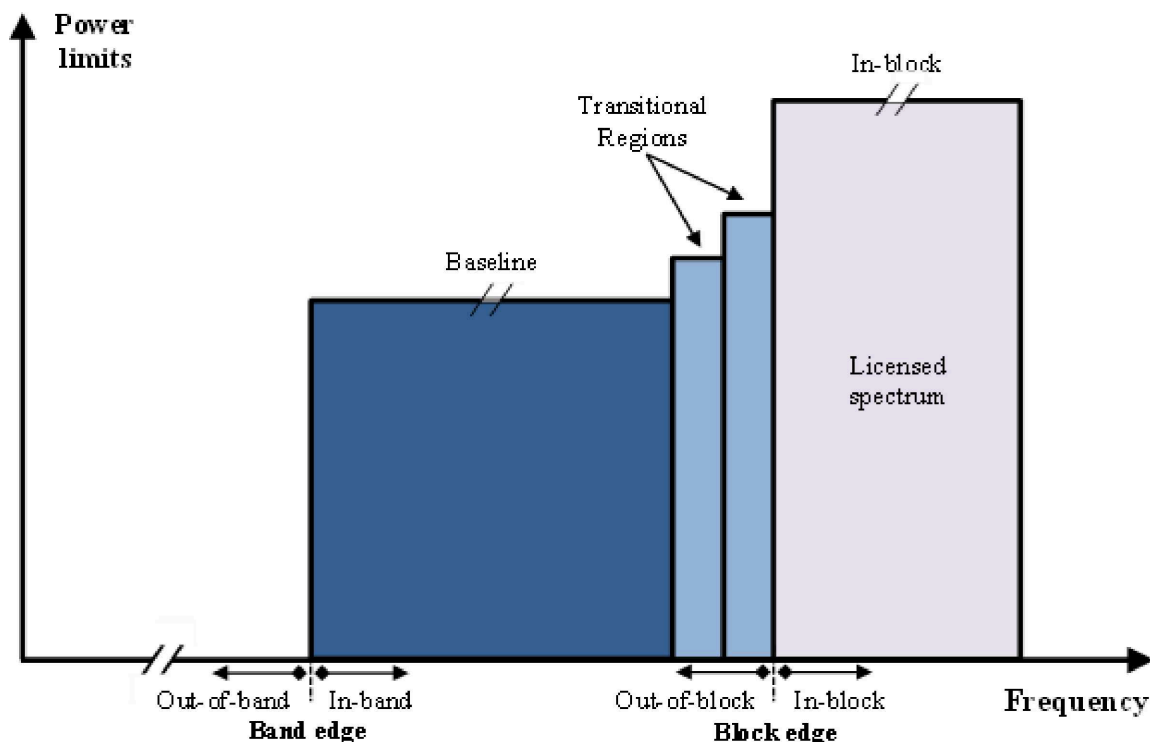
⁽²⁾ Guidance on such measures is provided in the ECC Recommendations (22)01 and (22)02.

⁽³⁾ The values for such limits are: TRP of -5 dBm/MHz (0 ≤ Δf < 20 MHz), -13 dBm/MHz (20 MHz ≤ Δf < 400 MHz) and spurious limits for Δf > 400 MHz.

Figure 2 shows a general BEM applicable to the 40,5-43,5 GHz frequency band.

Figure 2

Illustration of a block edge mask



No harmonised in-block power limit is specified. Tables 2 and 3 assume synchronised operation. Unsynchronised or semi-synchronised operation necessitates the geographical separation of neighbouring networks, while additional appropriate mitigation measures applicable at national level may also be applied. Table 4 provides an additional technical condition for base stations to facilitate coexistence with satellite systems in the Earth-to-space FSS.

Table 1

Definition of BEM elements

BEM Element	Definition
In-block	Assigned spectrum block for which the BEM is derived.
Baseline	Spectrum within the 40,5-43,5 GHz frequency band used for terrestrial systems capable of providing WBB ECS, not including the operator's block under consideration and the corresponding transitional regions.
Transitional region	Spectrum adjacent to an operator's block.

Table 2

Base station transitional region power limit for synchronised operation

Frequency range	Maximum TRP	Measurement bandwidth
Up to 50 MHz below or above an operator's block	12 dBm	50 MHz

Explanatory note

This limit ensures coexistence between wireless broadband electronic communications networks in adjacent block(s) within the 40,5-43,5 GHz frequency band in synchronised operation. Appropriate mitigation measures may be applied at national level in case of unsynchronised or semi-synchronised operations ⁽⁴⁾.

Table 3

Base station baseline power limit for synchronised operation

Frequency range	Maximum TRP	Measurement bandwidth
Baseline	4 dBm	50 MHz

Explanatory note

This limit ensures coexistence between wireless broadband electronic communications networks in non-adjacent blocks within the 40,5-43,5 GHz frequency band in synchronised operation. Appropriate mitigation measures may be applied at national level in case of unsynchronised or semi-synchronised operations ⁽⁴⁾.

Table 4

Additional conditions applying to AAS outdoor base stations

Requirement on elevation of the main beam of AAS outdoor base stations

When deploying such base stations, it shall be ensured that each antenna is normally transmitting only with the main beam pointing below the horizon and in addition the antenna shall have mechanical pointing below the horizon except when the base station is only receiving.

Explanatory note

The condition applies to the protection of space station receivers in the FSS (Earth-to-space).

⁽⁴⁾ Relevant information is provided in ECC Report 307 'Toolbox for the most appropriate synchronisation regulatory framework including coexistence of MFCN in 24,25-27,5 GHz in unsynchronised and semi-synchronised mode', approved on 6 March 2020.