
Interface Requirement 2072

Terrestrial systems capable of providing electronic communications services in 2500 to 2690 MHz

Notification number in respect to Northern Ireland: 2012/600/UK

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1. References

CEPT Report 72: “Report from CEPT to the European Commission in response to the Mandate “to review the harmonised technical conditions for certain EU-harmonised frequency bands and to develop least restrictive harmonised technical conditions suitable for next-generation (5G) terrestrial wireless systems”, approved 5 July 2019

ECC Report 308: “Analysis of the suitability and update of the regulatory technical conditions for 5G MFCN and AAS operation in the 2500-2690 MHz band”, approved 6 March 2020

ECC Decision (05)05: “Harmonised utilization of spectrum for Mobile/Fixed Communications Networks (MFCN) operating within the band 2500-2690 MHz”, corrected 4 March 2022

COMMISSION IMPLEMENTING DECISION (EU) 2020/636 of 8 May 2020 amending Decision 2008/477/EC as regards an update of relevant technical conditions applicable to the 2500–2690 MHz frequency band

EN 301 908: IMT cellular networks; Harmonised EN covering the essential requirements of article 3.2 of the Radio Equipment Directive (Directive 2014/53/EU).

2. Foreword

- 2.1 This UK Interface Requirement contains the requirements for the licensing and use of terrestrial systems capable of providing electronic communications services in the specified frequency bands.
- 2.2 It is required by the Wireless Telegraphy Act 2006 that no radio equipment is installed or used in the UK except under the authority of a licence granted by or otherwise exempted by regulations made by Ofcom. It is a condition of such a licence or exemption regulations as appropriate that, in order to be installed or used in the UK, the equipment must meet the minimum requirements specified in this UK Interface Requirement for the stated equipment types and for the stated frequency bands.
- 2.3 Nothing in this UK Interface Requirement shall preclude equipment from being placed on the market in the UK that complies with the 'essential requirements' specified in Radio Equipment Regulations 2017 (SI 2017/1206).
- 2.4 The requirements given in the main body of this UK Radio Interface Requirement will apply to the licensing of terrestrial systems capable of providing electronic communications services in the 2.6 GHz (2500 to 2690 MHz) band.
- 2.5 This UK Radio Interface Requirement will be revised as necessary, for example to follow:
 - a) current technology developments for reasons related to the effective and appropriate use of the spectrum in particular maximising spectrum utilisation; and
 - b) changes to the available spectrum allocated for terrestrial systems capable of providing electronic communications services in the 900 MHz and 1800 MHz bands.
- 2.6 All UK Radio Interface Requirements will be published and will be made available free of charge from the Ofcom website at <http://www.ofcom.org.uk>.
- 2.7 Further information on this UK Radio Interface Requirement can be obtained from the technical enquiry contact given at the back of this document.

3. Minimum requirements for operation within the UK

- 3.1 The minimum requirements in this document are made for reasons related to the effective and appropriate use of the radio spectrum, in particular maximising spectrum utilisation.
- 3.2 This UK Radio Interface Requirement gives a high-level description of how the spectrum in the UK is used for electronic communications services in the 2.6 GHz band. It does not prescribe technical interpretation of the 'essential requirements' of Radio Equipment Regulations 2017 (SI 2017/1206).
- 3.3 This UK Radio Interface Requirement therefore stipulates the necessary equipment parameters for the authorisation of terrestrial systems capable of providing electronic communications services in the 2.6 GHz band in the UK. Tables 3.1 to 3.3 contain the relevant equipment parameters. These taken together with the 'essential requirements' detailed in the Radio Equipment Regulations 2017 (SI 2017/1206) constitute the minimum requirements for terrestrial systems capable of providing electronic communications services in the 2.6 GHz band within the UK.
- 3.4 Nothing in this UK Interface Requirement shall preclude equipment from being placed on the market in the UK that complies with the 'essential requirements' specified in Radio Equipment Regulations 2017 (SI 2017/1206).
- 3.5 The technical parameters specified in the UK Radio Interface Requirement are applied to achieve the desired level of compatibility within the spectrum for terrestrial systems capable of providing electronic communications services in the 2.6 GHz band and with other radiocommunications services, whilst promoting enterprise, innovation and competition.
- 3.6 This UK Radio Interface requirement provides the necessary technical information which facilitates access to spectrum by making clear the assumptions that are made in planning the use of the spectrum for terrestrial systems capable of providing electronic communications services in the 2.6 GHz band in the UK. It is not the intention of this UK Radio Interface Requirement to duplicate or impose any additional 'essential requirements' of the Radio Equipment Regulations 2017 (SI 2017/1206). Any specified parameters within this document are for the purpose of identifying product options and not as a national de facto product requirement.

Table 3.1a: Minimum requirements for the use of: terrestrial systems capable of providing electronic communications services operating in the 2500 to 2570 MHz band

Mandatory (1 – 10)	
1. Radiocommunication Service	Mobile or Fixed service
2. Application	TRA-ECS (Terrestrial radio applications capable of providing electronic communication services)
3. Frequency band(s)	2500 to 2570 MHz
4. Channelling	N/A
5. Modulation / Occupied bandwidth	N/A
6. Direction / Separation	Terminal station transmit Repeater transmit/receive Uplink / downlink separation 120 MHz
7. Maximum Mean Transmit Power	23 dBm Total Radiated Power (TRP) per device
8. Channel access and occupation rules	N/A
9. Authorisation regime	Network user equipment meeting the minimum requirements outlined in this Interface Requirement is exempt from licensing provided that it meets the requirements of the relevant exemption regulations Repeaters meeting the minimum requirements outlined <i>Wireless Telegraphy (Mobile Repeater) (Exemption) Regulations 2022</i> is exempt from licensing provided that it meets the requirements of the relevant exemption regulations. All other repeaters require a WT Act licence.
10. Additional essential requirements	N/A
Informative (11 – 15)	
11. Frequency planning assumptions	CEPT Report 72 ECC Report 308 ECC Decision (05)05 (EU) 2020/636
12. Planned changes	N/A
13. Reference	ETSI EN 301 908

14. Remarks

15. Notification Number (in respect of Northern Ireland)	2012/600/UK
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Table 3.1b: Minimum requirements for the use of: terrestrial systems capable of providing electronic communications services operating in the 2500 to 2570 MHz band

Mandatory (1 – 10)	
1. Radiocommunication Service	Mobile or Fixed service
2. Application	TRA-ECS (Terrestrial radio applications capable of providing electronic communication services)
3. Frequency band(s)	2500 to 2570 MHz
4. Channelling	N/A
5. Modulation / Occupied bandwidth	N/A
6. Direction / Separation	Terminal transmit Repeater transmit/receive Uplink / downlink separation 120 MHz
7. Maximum Mean Transmit Power	Mobile or nomadic terminal stations or repeaters*: 31 dBm TRP per device Fixed or installed terminal stations or repeaters*: 35 dBm EIRP per device * The maximum mean power relates to the EIRP or TRP of a specific piece of Radio Equipment irrespective of the number of transmit antennas. It is recognised that a possible tolerance of up to +2 dB is included in this value, to take account of operation under extreme environmental conditions and production spread. This value does not include test tolerance.
8. Channel access and occupation rules	N/A
9. Authorisation regime	A WT Act licence required for terminals not meeting the Maximum Transmit Power / Power Density limits set out in Table 3.1a. Repeaters meeting the minimum requirements outlined Wireless Telegraphy (Mobile Repeater) (Exemption) Regulations 2022 is exempt from licensing provided that it meets the requirements of the relevant exemption regulations. All other repeaters require a WT Act licence.
10. Additional essential requirements	N/A
Informative (11 – 15)	

11. Frequency planning assumptions	CEPT Report 72 ECC Report 308 ECC Decision (05)05 (EU) 2020/636
12. Planned changes	N/A
13. Reference	ETSI EN 301 908
14. Remarks	N/A
15. Notification Number (in respect of Northern Ireland)	2012/600/UK

Table 3.2: Minimum requirements for the use of: terrestrial systems capable of providing electronic communications services operating in the 2620 to 2690 MHz band

Mandatory (1 – 10)	
1. Radiocommunication Service	Mobile or Fixed service
2. Application	TRA-ECS (Terrestrial radio applications capable of providing electronic communication services)
3. Frequency band(s)	2620 to 2690 MHz
4. Channelling	N/A
5. Modulation / Occupied bandwidth	N/A
6. Direction / Separation	Base station transmit Repeater transmit/receive Uplink / downlink separation: 120 MHz
7. Maximum Mean Transmit Power / Power Density	Terrestrial ECS system non-AAS base stations or repeaters: 65 dBm / 5 MHz EIRP per antenna Terrestrial ECS system AAS base stations or repeaters: 50 dBm / 5 MHz TRP per cell
8. Channel access and occupation rules	N/A
9. Authorisation regime	WT Act licence required. Repeaters meeting the minimum requirements outlined <i>Wireless Telegraphy (Mobile Repeater) (Exemption) Regulations 2022</i> is exempt from licensing provided that it meets the requirements of the relevant exemption regulations.
10. Additional essential requirements	N/A
Informative (11 – 15)	
11. Frequency planning assumptions	EU Decision 2022/173/EU ECC Decision (06)13
12. Planned changes	N/A
13. Reference	ETSI EN 301 908
14. Remarks	N/A
15. Notification Number (in respect of Northern Ireland)	2012/600/UK

Table 3.3a: Minimum requirements for the use of: terrestrial systems capable of providing electronic communications services operating in the 2570 to 2620 MHz band (terminal stations and repeaters)

Mandatory (1 – 10)	
1. Radiocommunication Service	Mobile or Fixed service
2. Application	TRA-ECS (Terrestrial radio applications capable of providing electronic communication services)
3. Frequency band(s)	2570 to 2620 MHz
4. Channelling	N/A
5. Modulation / Occupied bandwidth	N/A
6. Direction / Separation	Terminal station transmit Repeater transmit/receive Uplink/downlink separation: Time division duplex (TDD)
7. Maximum Mean Transmit Power / Power Density	26dBm Total Radiated Power (TRP)
8. Channel access and occupation rules	N/A
9. Authorisation regime	Network user equipment meeting the minimum requirements outlined in this Interface Requirement is exempt from licensing provided that it meets the requirements of the relevant exemption regulations. Repeaters meeting the minimum requirements outlined <i>Wireless Telegraphy (Mobile Repeater) (Exemption) Regulations 2022</i> is exempt from licensing provided that it meets the requirements of the relevant exemption regulations.
10. Additional essential requirements	N/A
Informative (11 – 15)	
11. Frequency planning assumptions	EU Decision 2022/173/EU ECC Decision (06)13
12. Planned changes	N/A
13. Reference	ETSI EN 301 908
14. Remarks	N/A
15. Notification Number (in respect of Northern Ireland)	2012/600/UK

Table 3.3b: Minimum requirements for the use of: terrestrial systems capable of providing electronic communications services operating in the 2570 to 2620 MHz band (terminal stations and repeaters)

Mandatory (1 – 10)	
1. Radiocommunication Service	Mobile or Fixed service
2. Application	TRA-ECS (Terrestrial radio applications capable of providing electronic communication services)
3. Frequency band(s)	2570 to 2620 MHz
4. Channelling	N/A
5. Modulation / Occupied bandwidth	N/A
6. Direction / Separation	Terminal station transmit Repeater transmit/receive
	Uplink/downlink separation: Time division duplex (TDD)
7. Maximum Mean Transmit Power / Power Density	Mobile or nomadic terminal stations or repeaters: 31dBm/(5 MHz) Total Radiated Power (TRP) Fixed or installed terminal stations or repeaters: 35dBm/(5 MHz) EIRP
8. Channel access and occupation rules	N/A
9. Authorisation regime	WT Act licence required for terminals not meeting the Maximum Transmit Power / Power Density limits in Table 3.3a. Repeaters meeting the minimum requirements outlined <i>Wireless Telegraphy (Mobile Repeater) (Exemption) Regulations 2022</i> is exempt from licensing provided that it meets the requirements of the relevant exemption regulations.
10. Additional essential requirements	N/A
Informative (11 – 15)	
11. Frequency planning assumptions	EU Decision 2022/173/EU ECC Decision (06)13
12. Planned changes	N/A
13. Reference	ETSI EN 301 908
14. Remarks	N/A
15. Notification Number (in respect of Northern Ireland)	2012/600/UK

Table 3.4: Minimum requirements for the use of: terrestrial systems capable of providing electronic communications services operating in the 2570 to 2620 MHz band (base stations and repeaters)

Mandatory (1 – 10)	
1. Radiocommunication Service	Mobile or Fixed service
2. Application	TRA-ECS (Terrestrial radio applications capable of providing electronic communication services)
3. Frequency band(s)	2570 to 2620 MHz
4. Channelling	N/A
5. Modulation / Occupied bandwidth	N/A
6. Direction / Separation	Base station transmit Repeater transmit/receive Uplink/downlink separation: Time division duplex (TDD)
7. Maximum Mean Transmit Power / Power Density	Unrestricted spectrum blocks: <i>Non-AAS Radio Equipment</i> 61dBm/(5 MHz) EIRP <i>AAS Radio Equipment</i> 46dBm/(5 MHz) TRP Restricted spectrum blocks: <i>Non-AAS Radio Equipment</i> 25dBm/(5 MHz) EIRP <i>AAS Radio Equipment</i> 22dBm/(5 MHz) TRP Restricted spectrum blocks will be specified in the authorisation
8. Channel access and occupation rules	N/A
9. Authorisation regime	Network user equipment meeting the minimum requirements outlined in this Interface Requirement is exempt from licensing provided that it meets the requirements of the relevant exemption regulations. Repeaters meeting the minimum requirements outlined <i>Wireless Telegraphy (Mobile Repeater) (Exemption) Regulations 2022</i> is exempt from licensing provided that it meets the requirements of the relevant exemption regulations. All other repeaters require a WT Act licence.
10. Additional essential requirements	N/A
Informative (11 – 15)	
11. Frequency planning assumptions	EU Decision 2022/173/EU ECC Decision (06)13

12. Planned changes	N/A
13. Reference	ETSI EN 301 908
14. Remarks	“AAS” means active antenna system. An AAS is a base station and 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 is not intended to include 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
15. Notification Number (in respect of Northern Ireland)	2012/600/UK

4. Additional performance parameters

None specified

5. Contact details

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6. Document history

Version	Date	Changes
0.1	February 2008	Draft Published
1.0	July 2008	Final version published
2.0	March 2012	Draft revision published
2.1	October 2012	Draft revision published
3.0	March 2013	Final version published
3.1	January 2018	Replaced R&TTE Directive 1999/5/EC and Directive 98/34/EC with Radio Equipment Directive 2014/53/EU and Directive (EU) 2015/1535 respectively. Minor editorials.
4.0	October 2022	Updated to include AAS radio equipment limits