Bundesnetzagentur

Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railways

Draft

SSB FE-OE 064

Interface specification for radio relay equipment in the 71-76 and 81-86 GHz frequency bands (point-to-point)

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Notified in accordance with Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services (OJ L 241, 17/9/2015, p. 1).

This interface specification has 5 pages

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1 General

Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 (OJ L 153/62) 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 was transposed in the Federal Republic of Germany by the Act on the making available of radio equipment on the market (Radio Equipment Act (Funkanlagengesetz – FuAG) of 27 June 2017 (Federal Law Gazette (BGBl.) I No 42, p. 1947), last amended by Article 1 of the Act of 14 May 2024 (BGBl. I No 148).

Pursuant to § 33(1) FuAG, the Federal Network Agency shall provide specific and appropriate specifications of the radio interfaces as regards radio equipment operated in frequency bands for which the conditions of use are not harmonised throughout the Community.

This interface specification (SSB) contains information necessary to enable the manufacturer to carry out the relevant tests in relation to the essential requirements applicable to the relevant radio equipment in accordance with the provisions of FuAG § 4(2) and, where applicable, § 4(3).

Furthermore, radio equipment must be designed in such a way that other basic requirements under § 4(1)(1) and (2) FuAG are observed.

For the commissioning and operation of radio equipment, the provisions concerning frequency allocation, in particular those contained in Part 6 of the Telecommunications Act (TKG) of 23 June 2021 (BGBl. I No 35, p. 1858), last amended on 14 May 2024 by Article 35 of the Act of 6 May 2024 (BGBl. I No 149), remain unaffected.

The Ordinance on the means of providing proof as regards limiting exposure to electromagnetic fields (BEMFV) of 20 August 2002 (BGBl. I No 60, p. 3366), last amended on 4 July 2017 by Article 3(3) of the Act of 27 June 2017 (BGBl. I No 42, p. 1947), must be complied with.

The Federal Network Agency shall order the enactment of the interface specification in its Official Gazette and publish its reference therein; only the German edition is binding.

2 Single Market clause

Goods lawfully marketed in another Member State of the European Union or in Türkiye, or originating and lawfully marketed in an EFTA State that is a contracting party to the Agreement on the European Economic Area, are deemed to be compatible with this measure. The application of [this measure] is subject to Regulation (EU) 2019/515 of 19 March 2019 on the mutual recognition of goods lawfully marketed in another Member State from 19 April 2020.

3 Scope of application

This interface specification describes the fundamental requirements relating to § 4(2) of the FuAG for radio equipment for point-to-point (P-P) radio relay in the 71-76 GHz and 81-86 GHz bands.

Radio equipment within the meaning of this interface specification is to be used for its intended purpose and operated in accordance with the manufacturer's instructions. Directive 2014/53/EU requires manufacturers to provide radio equipment users with appropriate information to enable them to operate the radio equipment as intended and in accordance with the provisions of said Directive. This information shall also include appropriate instructions on cabling and antenna types to be used in conjunction with the radio equipment.

This interface specification replaces SSB FE-OE 042, May 2014 edition, notified under 2014/0398/D.

4 Documents

The following cited documents are necessary for the application of this document. For dated references, only the referenced edition of the document shall apply. For undated references, the most recent edition of the referenced document (including any amendments) shall apply.

Presumption of conformity may only be based on versions of harmonised European standards that are included in the current list of harmonised standards within the framework of Directive 2014/53/EU and have been published by the European Commission in the Official Journal of the EU.

- Frequency plan in accordance with the Telecommunications Act (TKG) on the distribution of the frequency band from 0 kHz to 3000 GHz among spectrum usages and on the definitions for such use
  Published by the Federal Network Agency
- Administrative Provision for Frequency Allocations in the Fixed Radio Service for Radio Relay Applications (VV RiFu)
  Published by the Federal Network Agency
- Radio Regulations[1] (VO Funk),
  International Telecommunication Union (ITU), Geneva
  (Règlement des radiocommunications, Union internationale des télécommunications (UIT), Geneva)
- ITU-R F.699
  Reference radiation patterns for fixed wireless system antennas for use in coordinarion studies and interference assessment in the frequency range from 100 MHz to 86 GHz
- ITU-R F.746
  Radio frequency arrangements for fixed service systems
- ITU-R F.2006
  Radio frequency channel and block arrangements for fixed wireless systems operating in the 71-76 GHz and 81-86 GHz bands
- ETSI EN 302 217-1
  Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas; Part 1: Overview, common characteristics and requirements not related to access to radio spectrum

[1] The Radio Regulations are available in Arabic, Chinese, English, French, Russian and Spanish. In all cases of dispute or doubt, the French text shall prevail.

- ETSI EN 302 217-2
  Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas; Part 2: Digital systems operating in frequency bands from 1 GHz to 86 GHz; **Harmonised Standard** for access to radio spectrum
- ETSI EN 302 217-4
  Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas; Part 4: Antennas
- CEPT ECC/REC (01)05
  List of parameters of digital point-to-point fixed radio links used for national planning
- CEPT ECC/REC (05)07
  Radio frequency channel arrangements for fixed service systems operating in the bands 71-76 GHz and 81-86 GHz
- CEPT/ERC/REC 74-01
  Unwanted emissions in the spurious domain
- CEPT ECC Report 124
  Coexistence between fixed service operating in the 71-76 GHz/81-86 GHz and the passive services
- CEPT ECC Report 139
  Impact of level probing radars using ultra-wideband technology on radiocommunications services

5 Technical interface requirements

This SSB includes the technical interface requirements for radio equipment for point-to-point radio relay applications in the 71-76 GHz and 81-86 GHz frequency bands.

Table 1: Radio relay equipment in the 71-76 GHz and 81-86 GHz frequency bands

	KM	Parameter *(Parameter)*	Beschreibung *(Description)*	Bemerkung *(Comments)*
Normative part	1	Funkdienst *(Radiocommunication Service)*	FIXED RADIO SERVICES	
	2	Verwendungszweck/Anwendung *(Application)*	Radio relay/digital radio relay systems	Point-to-point
	3	Frequenzbereich *(Frequency band)*	71 000–75 900 GHz (lower band) 81 000–85 900 GHz (upper band)	
	4	Kanalbelegung *(Channelling)*	125 MHz, 250 MHz to 8x250 MHz	
	5	Modulation/belegte Bandbreite *(Modulation/Occupied bandwidth)*	FDD	
	6	Richtung/Abstand *(Direction/Separation)*	10 GHz	Duplex separation
	7	Sendeleistung/Leistungsdichte *(Transmit power/Power density)*	max. 316 kW (+85 dBW) EIRP	in accordance with Radio Regulation Art. 21 The specific value is stipulated with the frequency allocation.
	8	Kanalzugangs- und Belegungsvorschriften *(Channel access and occupation rules)*	in accordance with VV RiFu	ITU-R F.746, ITU-R F.2006, ECC/REC (05)07 ECC Report 124, ECC Report 136
	9	Genehmigungsverfahren *(Authorisation regime)*	Individual allocation	
	10	Wesentliche Zusatzanforderungen *(Additional essential requirements)*	Minimum antenna gain: 30 dBi	Horizontal or vertical polarization possible, ITU-R F.699
	11	Frequenzplanungsannahmen *(Frequency planning assumptions)*	ATPC is recommended	
Informative part	12	Vorgesehene Änderungen *(Planned changes)*		
	13	Referenzen *(References)*	ITU-R F.699, ITU-R F.746, ITU-R F.2006, EN 302 217-1, EN 302 217-2, EN 302 217-4, CEPT ECC/REC (01)05, CEPT ECC/REC (05)07 CEPT ERC/REC 74-01	
	14	Notifizierungsnummer *(Notification number)*		
	15	Anmerkungen *(Remarks)*		