



Bundesnetzagentur

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

Draft

# SSB FL 030

## Interface specification for ground-based air navigation and positioning radio transmitters at 1030 and 1090 MHz

**Edition: March 2025**

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DE

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).

Diese Schnittstellenbeschreibung enthält 6

Kontaktinformation: Bundesnetzagentur für Elektrizität, Gas, Telekommunikation, Post  
und Eisenbahnen

Referat 421, Seidelstr. 49, D-13405 Berlin

## 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 provision 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 transmitters, the provisions concerning frequency allocation, in particular those contained in Part 6 of the Telecommunications Act (TKG) of 23 June 2021 (Federal Law Gazette (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 Internal market clause

Goods lawfully marketed in another Member State of the European Union or in Turkey 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 Range of validity

This interface description describes the essential requirements relating to the FuAG § 4(2) for all fixed and mobile ground-based air navigation and positioning radio transmitters at 1030 MHz and 1090 MHz, excluding secondary radar interrogators and radio distance measurement equipment (DME) (see the note below).

Radio transmitters 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 users of radio transmitters with appropriate information so as to enable them to operate the radio transmitters 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 FL 014, June 2012 edition, notified under No. 2012/0428/D.

Note (valid at the time of publication of this document):

The interface description for secondary radar systems (interrogator) is SSB FL 028, March 2023 edition, notified under No. 2023/0625/D. The interface description for distance measurement equipment (DME) is SSB FL 026, October 2022 edition, notified under No. 2023/0032/D.

### 4 documents

The following cited documents are essential 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 be based solely 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
- Radio Regulations<sup>1</sup> (VO Funk), International Telecommunication Union (ITU), Geneva (Règlement des radiocommunications, Union internationale des télécommunications (UIT), Geneva)
- ICAO Annex 10 to the Convention on International Civil Aviation, Aeronautical Telecommunications, Volume IV, Surveillance and Collision Avoidance Systems
- ICAO Doc 9924, Aeronautical Surveillance Manual
- CEPT/ERC/REC 74-01, Unwanted Emissions in the Spurious Domain
- ETSI EN 303 213-5-1 Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 5: Harmonised Standard for access to radio spectrum for Multilateration (MLAT) equipment; Sub-part 1: Receivers and Interrogators

<sup>1</sup> 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 303 213-5-2 Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 5: Harmonised Standard for access to radio spectrum for Multilateration (MLAT) equipment; Sub-part 2: Reference and Vehicle Transmitters
- ETSI EN 303 363-2, Air Traffic Control Surveillance Radar Sensors; Secondary Surveillance Radar (SSR); Harmonised Standard for access to radio spectrum; Part 2: Far Field Monitor (FFM)

## 5 Technical interface requirements

This interface specification includes the technical interface requirements for all stationary and mobile ground-based air navigation and positioning radio transmitters at 1030 MHz and 1090 MHz.

Table 1: Interrogators at 1030 MHz

Table 2: Receivers at 1090 MHz

Table 1: Interrogators at 1030 MHz				
	No	Parameter	Beschreibung (Description)	Bemerkung (Comments)
Normative part	1	Funkdienst (Radiocommunication Service)	AERONAUTICAL RADIONAVIGATION SERVICE	
	2	Verwendungszweck/Anwendung (Application)	Aeronautical surveillance	Aeronautical surveillance query stations (e.g. active multilateralism)
	3	Frequenzbereich (Frequency band)	960-1164 MHz	Transmission frequency of the query stations: 1030 MHz
	4	Kanalbelegung (Channelling)		
	5	Modulation/belegte Bandbreite (Modulation/Occupied bandwidth)	V1D Pulse modulation, phase modulation	Spectrum mask for interrogators according to ICAO Annex 10, Vol. IV, Fig. 3.2
	6	Richtung/Abstand (Direction/Separation)		
	7	Sendeleistung/Leistungsdichte (Transmit power/Power density)	The maximum permissible power is determined using the frequency assignment based on the location.	
	8	Kanalzugangs- und Belegungsvorschriften (Channel access and occupation rules)		
	9	Genehmigungsverfahren (Authorisation regime)	Individual allocation	The allocation will be made on the basis of Part Six of the Telecommunications Act.
	10	Wesentliche Zusatzanforderungen (Additional essential requirements)		
	11	Frequenzplanungsannahmen (Frequency planning assumptions)	Vertical polarisation	
Informative part	12	Vorgesehene Änderungen (Planned changes)		
	13	Referenzen (References)	ICAO Annex 10 Vol IV, ICAO Doc 9924, CEPT/ERC/REC 74-01, ETSI EN 303 213-5-1	
	14	Notifizierungsnummer (Notification number)		
	15	Anmerkungen (Remarks)		

**Table 2: Receivers at 1090 MHz**

No	Parameter	Beschreibung (Description)	Bemerkung (Comments)	
Normative part	1	Funkdienst (Radiocommunication Service)	AERONAUTICAL RADIONAVIGATION SERVICE	
	2	Verwendungszweck/Anwendung (Application)	Aeronautical surveillance	Ground-based receivers, e.g. FFM, vehicle and reference transmitters, ES/NT devices
	3	Frequenzbereich (Frequency band)	960-1164 MHz	Transmission frequency of receivers: 1090 MHz
	4	Kanalbelegung (Channelling)		
	5	Modulation/belegte Bandbreite (Modulation/Occupied bandwidth)	V1D Pulse modulation, phase modulation	Spectrum mask for receivers in accordance with ICAO Annex 10, Vol. IV, Fig. 3.5
	6	Richtung/Abstand (Direction/Separation)		
	7	Sendeleistung/Leistungsdichte (Transmit power/Power density)	500 W (27 dBW)	Maximum transmitter power output (at the antenna connection) in accordance with ICAO Annex 10, Vol. IV, 3.1.1.7.11 The maximum permissible power is determined using the frequency assignment based on the location.
	8	Kanalzugangs- und Belegungsvorschriften (Channel access and occupation rules)		
	9	Genehmigungsverfahren (Authorisation regime)	Individual allocation	The allocation will be made on the basis of Part Six of the Telecommunications Act.
	10	Wesentliche Zusatzanforderungen (Additional essential requirements)		
	11	Frequenzplanungsannahmen (Frequency planning assumptions)	Vertical polarisation	
Informative part	12	Vorgesehene Änderungen (Planned changes)		
	13	Referenzen (References)	ICAO Annex 10 Vol IV, ICAO Doc 9924, CEPT/ERC/REC 74-01, ETSI EN 303 213-5-2, ETSI EN 303 363-2	
	14	Notifizierungsnummer (Notification number)		
	15	Anmerkungen (Remarks)		