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

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Draft

# SSB RU 007

## Interface specification for radiosondes in the meteorological aids service

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Notification number under Directive (EU) 2015/1535: xxxx/xxxx/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).

This interface description consists of 7

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| EN | Interface specification | Radiosondes in the meteorological aids service | Phone: +49 30 4374 0<br>Email: <a href="mailto:ssb@bnetza.de">ssb@bnetza.de</a><br>Fax: +49 30 4374 1180<br>Website: <a href="http://www.bundesnetzagentur.de">www.bundesnetzagentur.de</a> | SSB RU 007 | November 2024 |
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## 1 General information

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 – 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 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 which 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 applies to radiosondes in the meteorological aids service used for civilian/military purposes. Radiosondes are used for the one-way transfer of weather and environmental data gathered during flights to take aerological measurements (balloon ascent, parachute descent, etc.).

For the purposes of this interface specification, radio equipment means equipment used for the 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 the directives. This information may also include appropriate instructions on cabling and antenna types to be used with the device.

The applications are reserved for the following essential users: the German Meteorological Service (DWD); military users (mil), which include the German (DE), American (US), British (UK) and Dutch (NL) armed forces, as well as other institutions (civil users) whose tasks include the collection of meteorological data.

Geographical discrimination and time-based coordination (ascent times) for frequency uses are set out, where necessary, in the 'Agreement on the future spectrum allocation for radiosondes in Germany' and determined in the course of frequency allocation.

This interface specification replaces SSB SF 004, January 2017 edition, notified under No 2017/0235/D.

### 4 Documentation

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 § 90 TKG on the distribution of the frequency range from 0 kHz to 3000 GHz among frequency uses and on the definitions for such uses published by the Federal Network Agency
- Administrative specifications for frequency allocations in the private mobile radio sector (VVnöml) published by the Federal Network Agency
- Radio Regulations<sup>1</sup> (VO Funk), International Telecommunications Union (ITU), Geneva (Règlement des radiocommunications, Union internationale des télécommunications (UIT), Genève)

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<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.

- ETS EN 302 054  
Meteorological Aids (Met Aids); Radiosondes to be used in the 400,15 MHz to 406 MHz frequency range with power levels ranging up to 200 mW;  
**Harmonised Standard** for access to radio spectrum

The following standard is not published in the current list of harmonised standards and therefore cannot be used for the declaration of conformity:

- ETSI EN 300 220-3  
Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW;  
Part 3: **Harmonized EN** covering essential requirements under article 3.2 of the R&TTE Directive

## 5 Technical interface requirements

This interface specification contains the technical interface requirements for radiosondes in the following frequency ranges:

Table 1: 402.2 – 402.4 MHz, 402.4 – 402.6 MHz, 402.6 – 402.8 MHz, 402.8 – 403.0 MHz

Table 2: 403.02 – 403.90 MHz, 403.90 – 403.98 MHz

Table 3: 404.0 – 404.2 MHz, 404.2 – 404.4 MHz, 404.4 – 404.6 MHz, 404.6 – 404.8 MHz, 404.8 – 405.0 MHz, 405.0 – 405.2 MHz, 405.2 – 405.4 MHz, 405.4 – 405.6 MHz, 405.6 – 405.8 MHz, 405.8 – 406.0 MHz

| <b>Table 1:</b> 402.2 – 402.4 MHz, 402.4 – 402.6 MHz, 402.6 – 402.8 MHz, 402.8 – 403.0 MHz |    |   |  |  |
|--|----|---|--|--|
|  | No | Parameter<br><i>(Description)</i>   | Description<br><i>(Description)</i>  | Comments<br><i>(Comments)</i>  |
| Normative section  | 1  | Radio services<br><i>(Radiocommunication Service)</i>                                     | METEOROLOGICAL AIDS SERVICE  |  |
|  | 2  | Intended use/Application<br><i>(Application)</i>  | Radiosondes  |  |
|  | 3  | Frequency range<br><i>(Frequency band)</i>  | 402.2 – 402.4 MHz<br>402.4 – 402.6 MHz<br>402.6 – 402.8 MHz<br>402.8 – 403.0 MHz | DWD <sup>a</sup> , Bw <sup>a</sup> , civilian users <sup>b</sup><br>DWD <sup>a</sup> , Bw <sup>a</sup> , civilian users <sup>b</sup><br>DWD <sup>a</sup> , Bw <sup>a</sup> , civilian users <sup>b</sup><br>DWD <sup>a</sup> , Bw <sup>a</sup> , civilian users <sup>b</sup> |
|  | 4  | Channelling<br><i>(Channelling)</i>   |  |  |
|  | 5  | Modulation/occupied bandwidth<br><i>(Modulation/Occupied bandwidth)</i>                   | 200 kHz  |  |
|  | 6  | Direction/distance<br><i>(Direction/Separation)</i>                                       |  |  |
|  | 7  | Transmission power/power density<br><i>(Transmit power/Power density)</i>                 | 200 mW ERP   |  |
|  | 8  | Channel access and assignment regulations<br><i>(Channel access and occupation rules)</i> |  |  |
|  | 9  | Approval procedure<br><i>(Authorisation regime)</i>                                       | Individual allocation  |  |
|  | 10 | Additional essential requirements<br><i>(Additional essential requirements)</i>           |  |  |
|  | 11 | Frequency planning assumptions<br><i>(Frequency planning assumptions)</i>                 |  |  |
| Information sec-   | 12 | Planned changes<br><i>(Planned changes)</i>   |  |  |
|  | 13 | References<br><i>(References)</i>   | ETSI EN 300 220-3,<br>ETSI EN 302 054  |  |
|  | 14 | Notification number<br><i>(Notification number)</i>                                       |  |  |
|  | 15 | Remarks<br><i>(Remarks)</i>   |  |  |

DWD – Deutscher Wetterdienst [German Meteorological Service], Bw – Bundeswehr [German Armed Forces]

<sup>a</sup> Primary users (fixed measuring network)

<sup>b</sup> Secondary users: when using the frequency, the ascent times (measuring intervals) of the fixed measuring network must be observed.

**Table 2:** 403.02 – 403.90 MHz, 403.90 – 403.98 MHz

| No                | Parameter | Description<br><i>(Description)</i>   | Comments<br><i>(Comments)</i>  |   |
|-------------------|-----------|---|--|---|
| Normative section | 1         | Radio services<br><i>(Radiocommunication Service)</i>                                     | METEOROLOGICAL AIDS SERVICE  |   |
|                   | 2         | Intended use/Application<br><i>(Application)</i>  | Radiosondes  |   |
|                   | 3         | Frequency range<br><i>(Frequency band)</i>  | 403.02 – 403.90 MHz<br>403.90 – 403.98 MHz                                   | Mobile users (mil)<br>Civilian users <sup>a</sup> , UK <sup>b</sup> , NL <sup>b</sup> |
|                   | 4         | Channelling<br><i>(Channelling)</i>   |  |   |
|                   | 5         | Modulation/occupied bandwidth<br><i>(Modulation/Occupied bandwidth)</i>                   | 20 kHz   |   |
|                   | 6         | Direction/distance<br><i>(Direction/Separation)</i>                                       |  |   |
|                   | 7         | Transmission power/power density<br><i>(Transmit power/Power density)</i>                 | Max. ascent height 10 km: 100 mW ERP<br>Max. ascent height 30 km: 300 mW ERP |   |
|                   | 8         | Channel access and assignment regulations<br><i>(Channel access and occupation rules)</i> |  |   |
|                   | 9         | Approval procedure<br><i>(Authorisation regime)</i>                                       | Individual allocation  |   |
|                   | 10        | Additional essential requirements<br><i>(Additional essential requirements)</i>           |  |   |
|                   | 11        | Frequency planning assumptions<br><i>(Frequency planning assumptions)</i>                 |  |   |
| Information sec-  | 12        | Planned changes<br><i>(Planned changes)</i>   |  |   |
|                   | 13        | References<br><i>(References)</i>   | ETSI EN 300 220-3,<br>ETSI EN 302 054  |   |
|                   | 14        | Notification number<br><i>(Notification number)</i>                                       |  |   |
|                   | 15        | Remarks<br><i>(Remarks)</i>   |  |   |

UK - British Armed Forces, NL - Dutch Armed Forces

<sup>a</sup> Primary users (fixed measuring network)

<sup>b</sup> Secondary users: when using the frequency, the ascent times (measuring intervals) of the fixed measuring network must be observed.

**Table 3:** 404.0 – 404.2 MHz, 404.2 – 404.4 MHz, 404.4 – 404.6 MHz, 404.6 – 404.8 MHz, 404.8 – 405.0 MHz, 405.0 – 405.2 MHz, 405.2 – 405.4 MHz, 405.4 – 405.6 MHz, 405.6 – 405.8 MHz, 405.8 – 406.0 MHz

| No                | Parameter | Description<br><i>(Description)</i>   | Comments<br><i>(Comments)</i>  |  |
|-------------------|-----------|---|--|--|
| Normative section | 1         | Radio services<br><i>(Radiocommunication Service)</i>                                     | METEOROLOGICAL AIDS SERVICE  |  |
|                   | 2         | Intended use/Application<br><i>(Application)</i>  | Radiosondes  |  |
|                   | 3         | Frequency range<br><i>(Frequency band)</i>  | 404.0 – 404.2 MHz<br>404.2 – 404.4 MHz<br>404.4 – 404.6 MHz<br>404.6 – 404.8 MHz<br>404.8 – 405.0 MHz<br>405.0 – 405.2 MHz<br>405.2 – 405.4 MHz<br>405.4 – 405.6 MHz<br>405.6 – 405.8 MHz<br>405.8 – 406.0 MHz | DWD <sup>a</sup> , Bw <sup>a</sup> , civilian users <sup>b</sup><br>DWD <sup>a</sup> , Bw <sup>a</sup> , civilian users <sup>b</sup><br>DWD <sup>a</sup> , Bw <sup>a</sup> , civilian users <sup>b</sup><br>DWD <sup>a</sup> , Bw <sup>a</sup> , civilian users <sup>b</sup><br>DWD <sup>a</sup> , Bw <sup>a</sup> , civilian users <sup>b</sup><br>DWD <sup>a</sup> , Bw <sup>a</sup> , civilian users <sup>b</sup><br>DWD <sup>a</sup> , Bw <sup>a</sup> , civilian users <sup>b</sup><br>DWD <sup>a</sup> , Bw <sup>a</sup> , civilian users <sup>b</sup><br>Bw <sup>a</sup> , US <sup>a</sup><br>Bw <sup>a</sup> , US <sup>a</sup> |
|                   | 4         | Channelling<br><i>(Channelling)</i>   |  |  |
|                   | 5         | Modulation/occupied bandwidth<br><i>(Modulation/Occupied bandwidth)</i>                   | 200 kHz  |  |
|                   | 6         | Direction/distance<br><i>(Direction/Separation)</i>                                       |  |  |
|                   | 7         | Transmission power/power density<br><i>(Transmit power/Power density)</i>                 | 200 mW ERP   |  |
|                   | 8         | Channel access and assignment regulations<br><i>(Channel access and occupation rules)</i> |  |  |
|                   | 9         | Approval procedure<br><i>(Authorisation regime)</i>                                       | Individual allocation  |  |
|                   | 10        | Additional essential requirements<br><i>(Additional essential requirements)</i>           |  |  |
|                   | 11        | Frequency planning assumptions<br><i>(Frequency planning assumptions)</i>                 |  |  |
| Information sec-  | 12        | Planned changes<br><i>(Planned changes)</i>   |  |  |
|                   | 13        | References<br><i>(References)</i>   | ETSI EN 300 220-3,<br>ETSI EN 302 054  |  |
|                   | 14        | Notification number<br><i>(Notification number)</i>                                       |  |  |
|                   | 15        | Remarks<br><i>(Remarks)</i>   |  |  |

DWD - Deutscher Wetterdienst [German Meteorological Service], Bw - Bundeswehr [German Armed Forces], US - United States Armed Forces

<sup>a</sup> Primary users (fixed measuring network)

<sup>b</sup> Secondary users: when using the frequency, the ascent times (measuring intervals) of the fixed measuring network must be observed.