

**Calibration Laboratory of****Schmid & Partner  
Engineering AG**

Zeughausstrasse 43, 8004 Zurich, Switzerland

**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)

**The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates****Accreditation No.: SCS 0108**

Client

**WSCT**  
Shenzhen

Certificate No.

**MAGPy-8H3D-3087\_Nov24****CALIBRATION CERTIFICATE**

Object

**MAGPy-8H3D+E3DV2 SN:3087**  
**MAGPy-DASV2 SN:3116**

Calibration procedure(s)

**QA CAL-46.v1**  
**Calibration Procedure for MAGPy-8H3D+E3D**  
**Near-field Electric and Magnetic Field Sensor System**

Calibration date

**November 01, 2024**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^\circ\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards          | ID                 | Cal Date (Certificate No.)     | Scheduled Calibration |
|----------------------------|--------------------|--------------------------------|-----------------------|
| Oscilloscope               | SN: 110918         | 03-Sep-24 (No. 4030A315008835) | Sep-25                |
| Reference 20 dB Attenuator | SN: CC2552 (20x)   | 26-Mar-24 (No. 217-04046)      | Mar-25                |
| Type-N mismatch            | SN: 310982 / 06327 | 26-Mar-24 (No. 217-04047)      | Mar-25                |

| Secondary Standards     | ID             | Check Date (in house)  | Scheduled Check        |
|-------------------------|----------------|------------------------|------------------------|
| Network Analyzer E5061B | SN: MY49810822 | In house check: Nov-23 | In house check: Nov-24 |
| TEM Cell                | SN: S6029i     | In house check: Nov-23 | In house check: Nov-24 |
| Plate Capacitor         | SN: 6028i      | In house check: Nov-23 | In house check: Nov-24 |
| Resonator (160kHz)      | SN: 6030i      | In house check: Nov-23 | In house check: Nov-24 |

|                                                                                                                 | Name               | Function            | Signature |
|-----------------------------------------------------------------------------------------------------------------|--------------------|---------------------|-----------|
| Calibrated by                                                                                                   | Aidonia Georgiadou | Laboratory Engineer |           |
| Approved by                                                                                                     | Sven Kühn          | Technical Manager   |           |
| Issued: November 01, 2024                                                                                       |                    |                     |           |
| This calibration certificate shall not be reproduced except in full without written approval of the laboratory. |                    |                     |           |

## Calibration Laboratory of

Schmid & Partner  
Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)

**The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates**

**Accreditation No.: SCS 0108**

## Glossary

MAGPy-8H3D-E3D    Magnetic Amplitude and Gradient Probe – Eight H-field Sensors, Single E-field sensor  
MAGPy-DAS         Magnetic Amplitude and Gradient Data Acquisition System

## Calibration is Performed According to the Following Standards:

- a) IEEE Std 1309-2013, "IEEE Standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz", November 2013

## Methods Applied and Interpretation of Parameters

- Calibration has been performed after the adjustment of the device.
- *Linearity*: Calibration of the linearity of the field reading over the specified dynamic range at 161.75 kHz. Influence of offset voltage is included in this measurement.
- *Frequency response*: Calibration of the field reading over the specified frequency range from 3.0 kHz to 10.0 MHz.
- Receiving Pattern: Assessed for H-field polarizations  $\vartheta$ , and  $\phi = 0^\circ \dots 360^\circ$ ;  $\vartheta = 90^\circ$ , and  $\phi = 0^\circ \dots 360^\circ$ ; for the XYZ sensors (in TEM-Cell at 4 kHz, 40 kHz, 400 kHz and 4 MHz).
- Receiving Pattern: Assessed for E-field polarizations  $\vartheta$ , and  $\phi = 0^\circ \dots 360^\circ$ ;  $\vartheta = 90^\circ$ , and  $\phi = 0^\circ \dots 360^\circ$ ; for the XYZ sensor (in parallel plate capacitor at 4 kHz, 40 kHz, 400 kHz and 4 MHz).

## Calibration Uncertainty

The calibration uncertainty is 0.7 dB for the H-field readings and 1.06 dB for the E-field readings. The calibration uncertainty is specified over the frequency range from 3.0 kHz to 10.0 MHz and a dynamic range from 0.1 A/m to 3200 A/m and from 0.08 V/m to 2000 V/m respectively.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

|                        |                                  |                   |
|------------------------|----------------------------------|-------------------|
| Unit Type              | MAGPy-8H3D+E3DV2 (SP MGY 303 AA) | 3087              |
|                        | MAGPy-DASV2 (SE UMS 303 AF)      | 3116              |
|                        | MAGPy FPGA Board                 | WP000270          |
| Adjustment Date        | Last MAGPy Adjustment            | November 01, 2024 |
| Firmware SW Version    | MAGPy Firmware                   | Ver. 1.00         |
| Backend SW Version     | MAGPy Backend                    | Ver. 1.0.2        |
| Calibration SW Version | MAGACAP                          | Ver. 1.0          |

## Dynamic Range

### Dynamic Range, H-field, Channel 0

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.390                 | 0.370 | 0.370 | 0.400                 | 0.380 | 0.380 | 0.22            | 0.23  | 0.23  | ±1.00          |
| 0.520                 | 0.510 | 0.500 | 0.530                 | 0.510 | 0.520 | 0.17            | 0.00  | 0.34  | ±1.00          |
| 0.720                 | 0.700 | 0.690 | 0.710                 | 0.700 | 0.700 | -0.12           | 0.00  | 0.12  | ±1.00          |
| 0.940                 | 0.910 | 0.900 | 0.940                 | 0.910 | 0.900 | 0.00            | 0.00  | 0.00  | ±1.00          |
| 1.28                  | 1.24  | 1.22  | 1.28                  | 1.25  | 1.20  | 0.00            | 0.07  | -0.14 | ±1.00          |
| 1.75                  | 1.70  | 1.67  | 1.75                  | 1.69  | 1.66  | 0.00            | -0.05 | -0.05 | ±1.00          |
| 2.33                  | 2.26  | 2.23  | 2.32                  | 2.27  | 2.22  | -0.04           | 0.04  | -0.04 | ±0.20          |
| 3.12                  | 3.02  | 2.97  | 3.11                  | 3.03  | 2.95  | -0.03           | 0.03  | -0.06 | ±0.20          |
| 4.23                  | 4.10  | 4.03  | 4.23                  | 4.12  | 4.03  | 0.00            | 0.04  | 0.00  | ±0.20          |
| 5.73                  | 5.55  | 5.46  | 5.72                  | 5.60  | 5.46  | -0.02           | 0.08  | 0.00  | ±0.20          |
| 7.69                  | 7.46  | 7.34  | 7.69                  | 7.53  | 7.34  | 0.00            | 0.08  | 0.00  | ±0.20          |
| 10.3                  | 9.96  | 9.79  | 10.3                  | 10.0  | 9.81  | 0.00            | 0.03  | 0.02  | ±0.20          |
| 13.9                  | 13.5  | 13.2  | 13.8                  | 13.5  | 13.2  | -0.06           | 0.00  | 0.00  | ±0.20          |
| 18.7                  | 18.2  | 17.8  | 18.7                  | 18.2  | 17.9  | 0.00            | 0.00  | 0.05  | ±0.20          |
| 25.3                  | 24.5  | 24.1  | 25.3                  | 24.6  | 24.1  | 0.00            | 0.04  | 0.00  | ±0.20          |
| 33.8                  | 32.8  | 32.2  | 33.9                  | 32.9  | 32.4  | 0.03            | 0.03  | 0.05  | ±0.20          |
| 45.6                  | 44.3  | 43.5  | 45.9                  | 44.5  | 43.7  | 0.06            | 0.04  | 0.04  | ±0.20          |
| 62.0                  | 60.1  | 59.0  | 62.2                  | 60.3  | 59.3  | 0.03            | 0.03  | 0.04  | ±0.20          |
| 85.1                  | 82.5  | 81.1  | 84.9                  | 82.2  | 80.7  | -0.02           | -0.03 | -0.04 | ±0.20          |
| 111                   | 108   | 106   | 111                   | 108   | 106   | 0.00            | 0.00  | 0.00  | ±0.20          |
| 153                   | 148   | 146   | 153                   | 148   | 145   | 0.00            | 0.00  | -0.06 | ±0.20          |
| 212                   | 206   | 202   | 212                   | 205   | 202   | 0.00            | -0.04 | 0.00  | ±0.20          |
| 294                   | 285   | 280   | 296                   | 280   | 274   | 0.06            | -0.15 | -0.19 | ±0.20          |
| 434                   | 420   | 412   | 429                   | 414   | 406   | -0.10           | -0.12 | -0.13 | ±0.20          |
| 599                   | 579   | 567   | 596                   | 575   | 563   | -0.04           | -0.06 | -0.06 | ±0.20          |
| 894                   | 864   | 845   | 899                   | 867   | 848   | 0.05            | 0.03  | 0.03  | ±0.20          |
| 1350                  | 1310  | 1280  | 1380                  | 1330  | 1300  | 0.19            | 0.13  | 0.13  | ±0.30          |
| 1840                  | 1780  | 1740  | 1900                  | 1830  | 1780  | 0.28            | 0.24  | 0.20  | ±0.30          |
| 3030                  | 2920  | 2850  | 3150                  | 3030  | 2950  | 0.34            | 0.32  | 0.30  | ±0.50          |
| 3690                  | 3540  | 3450  | 3850                  | 3700  | 3600  | 0.37            | 0.38  | 0.37  | ±0.50          |

SPEAG H-field linearity tolerance criteria<sup>1</sup>:

- ±1.0dB for applied H-fields < 2.0A/m
- ±0.2dB for applied H-fields ≥ 2.0A/m and < 1000A/m
- ±0.3dB for applied H-fields ≥ 1000A/m and < 2000A/m
- ±0.4dB for applied H-fields ≥ 2000A/m and < 3000A/m
- ±0.5dB for applied H-fields ≥ 3000A/m

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).

## Dynamic Range, H-field, Channel 1

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.390                 | 0.380 | 0.380 | 0.400                 | 0.400 | 0.390 | 0.22            | 0.45  | 0.23  | ±1.00          |
| 0.530                 | 0.520 | 0.520 | 0.530                 | 0.540 | 0.510 | 0.00            | 0.33  | -0.17 | ±1.00          |
| 0.730                 | 0.710 | 0.710 | 0.730                 | 0.710 | 0.700 | 0.00            | 0.00  | -0.12 | ±1.00          |
| 0.950                 | 0.930 | 0.930 | 0.950                 | 0.920 | 0.930 | 0.00            | -0.09 | 0.00  | ±1.00          |
| 1.29                  | 1.26  | 1.26  | 1.28                  | 1.26  | 1.25  | -0.07           | 0.00  | -0.07 | ±1.00          |
| 1.76                  | 1.72  | 1.73  | 1.79                  | 1.71  | 1.72  | 0.15            | -0.05 | -0.05 | ±1.00          |
| 2.35                  | 2.30  | 2.30  | 2.37                  | 2.30  | 2.29  | 0.07            | 0.00  | -0.04 | ±0.20          |
| 3.14                  | 3.07  | 3.07  | 3.17                  | 3.07  | 3.06  | 0.08            | 0.00  | -0.03 | ±0.20          |
| 4.26                  | 4.16  | 4.17  | 4.28                  | 4.17  | 4.17  | 0.04            | 0.02  | 0.00  | ±0.20          |
| 5.77                  | 5.64  | 5.64  | 5.78                  | 5.64  | 5.65  | 0.02            | 0.00  | 0.02  | ±0.20          |
| 7.75                  | 7.58  | 7.59  | 7.77                  | 7.59  | 7.59  | 0.02            | 0.01  | 0.00  | ±0.20          |
| 10.4                  | 10.1  | 10.1  | 10.4                  | 10.1  | 10.2  | 0.00            | 0.00  | 0.09  | ±0.20          |
| 14.0                  | 13.7  | 13.7  | 14.0                  | 13.7  | 13.7  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 18.9                  | 18.4  | 18.4  | 18.9                  | 18.5  | 18.5  | 0.00            | 0.05  | 0.05  | ±0.20          |
| 25.5                  | 24.9  | 24.9  | 25.5                  | 24.9  | 25.0  | 0.00            | 0.00  | 0.03  | ±0.20          |
| 34.1                  | 33.3  | 33.3  | 34.2                  | 33.5  | 33.5  | 0.03            | 0.05  | 0.05  | ±0.20          |
| 46.0                  | 45.0  | 45.0  | 46.2                  | 45.2  | 45.2  | 0.04            | 0.04  | 0.04  | ±0.20          |
| 62.5                  | 61.0  | 61.0  | 62.7                  | 61.3  | 61.3  | 0.03            | 0.04  | 0.04  | ±0.20          |
| 85.8                  | 83.8  | 83.9  | 85.5                  | 83.5  | 83.5  | -0.03           | -0.03 | -0.04 | ±0.20          |
| 112                   | 110   | 110   | 112                   | 109   | 109   | 0.00            | -0.08 | -0.08 | ±0.20          |
| 154                   | 151   | 151   | 154                   | 150   | 150   | 0.00            | -0.06 | -0.06 | ±0.20          |
| 214                   | 209   | 209   | 214                   | 209   | 208   | 0.00            | 0.00  | -0.04 | ±0.20          |
| 296                   | 290   | 289   | 298                   | 284   | 284   | 0.06            | -0.18 | -0.15 | ±0.20          |
| 438                   | 427   | 426   | 432                   | 421   | 421   | -0.12           | -0.12 | -0.10 | ±0.20          |
| 603                   | 588   | 587   | 600                   | 584   | 583   | -0.04           | -0.06 | -0.06 | ±0.20          |
| 901                   | 877   | 874   | 905                   | 879   | 878   | 0.04            | 0.02  | 0.04  | ±0.20          |
| 1360                  | 1330  | 1320  | 1390                  | 1350  | 1340  | 0.19            | 0.13  | 0.13  | ±0.30          |
| 1860                  | 1800  | 1790  | 1910                  | 1850  | 1850  | 0.23            | 0.24  | 0.29  | ±0.30          |
| 3050                  | 2960  | 2940  | 3170                  | 3070  | 3060  | 0.34            | 0.32  | 0.35  | ±0.50          |
| 3720                  | 3600  | 3570  | 3880                  | 3750  | 3730  | 0.37            | 0.35  | 0.38  | ±0.50          |

### SPEAG H-field linearity tolerance criteria<sup>1</sup>:

- ±1.0dB for applied H-fields < 2.0 A/m
- ±0.2dB for applied H-fields ≥ 2.0 A/m and < 1000 A/m
- ±0.3dB for applied H-fields ≥ 1000 A/m and < 2000 A/m
- ±0.4dB for applied H-fields ≥ 2000 A/m and < 3000 A/m
- ±0.5dB for applied H-fields ≥ 3000 A/m

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).

## Dynamic Range, H-field, Channel 2

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.380                 | 0.380 | 0.380 | 0.400                 | 0.400 | 0.400 | 0.45            | 0.45  | 0.45  | ±1.00          |
| 0.520                 | 0.510 | 0.520 | 0.530                 | 0.530 | 0.550 | 0.17            | 0.33  | 0.49  | ±1.00          |
| 0.710                 | 0.710 | 0.710 | 0.690                 | 0.710 | 0.730 | -0.25           | 0.00  | 0.24  | ±1.00          |
| 0.930                 | 0.920 | 0.930 | 0.920                 | 0.910 | 0.930 | -0.09           | -0.09 | 0.00  | ±1.00          |
| 1.26                  | 1.25  | 1.26  | 1.26                  | 1.24  | 1.26  | 0.00            | -0.07 | 0.00  | ±1.00          |
| 1.72                  | 1.71  | 1.72  | 1.72                  | 1.72  | 1.74  | 0.00            | 0.05  | 0.10  | ±1.00          |
| 2.30                  | 2.29  | 2.30  | 2.30                  | 2.27  | 2.31  | 0.00            | -0.08 | 0.04  | ±0.20          |
| 3.07                  | 3.05  | 3.07  | 3.08                  | 3.04  | 3.08  | 0.03            | -0.03 | 0.03  | ±0.20          |
| 4.16                  | 4.14  | 4.17  | 4.19                  | 4.16  | 4.18  | 0.06            | 0.04  | 0.02  | ±0.20          |
| 5.64                  | 5.61  | 5.63  | 5.64                  | 5.61  | 5.67  | 0.00            | 0.00  | 0.06  | ±0.20          |
| 7.57                  | 7.54  | 7.58  | 7.58                  | 7.55  | 7.62  | 0.01            | 0.01  | 0.05  | ±0.20          |
| 10.1                  | 10.1  | 10.1  | 10.1                  | 10.1  | 10.2  | 0.00            | 0.00  | 0.09  | ±0.20          |
| 13.7                  | 13.6  | 13.7  | 13.7                  | 13.6  | 13.7  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 18.4                  | 18.3  | 18.4  | 18.4                  | 18.4  | 18.4  | 0.00            | 0.05  | 0.00  | ±0.20          |
| 24.9                  | 24.8  | 24.9  | 24.9                  | 24.8  | 24.9  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 33.3                  | 33.1  | 33.2  | 33.4                  | 33.2  | 33.4  | 0.03            | 0.03  | 0.05  | ±0.20          |
| 44.9                  | 44.7  | 44.9  | 45.2                  | 45.0  | 45.1  | 0.06            | 0.06  | 0.04  | ±0.20          |
| 61.0                  | 60.7  | 61.0  | 61.2                  | 60.9  | 61.3  | 0.03            | 0.03  | 0.04  | ±0.20          |
| 83.8                  | 83.4  | 83.8  | 83.5                  | 83.1  | 83.4  | -0.03           | -0.03 | -0.04 | ±0.20          |
| 110                   | 109   | 110   | 109                   | 109   | 109   | -0.08           | 0.00  | -0.08 | ±0.20          |
| 151                   | 150   | 151   | 150                   | 149   | 150   | -0.06           | -0.06 | -0.06 | ±0.20          |
| 209                   | 208   | 209   | 209                   | 207   | 208   | 0.00            | -0.04 | -0.04 | ±0.20          |
| 290                   | 288   | 289   | 291                   | 283   | 283   | 0.03            | -0.15 | -0.18 | ±0.20          |
| 428                   | 425   | 426   | 422                   | 419   | 420   | -0.12           | -0.12 | -0.12 | ±0.20          |
| 589                   | 585   | 586   | 586                   | 582   | 583   | -0.04           | -0.04 | -0.04 | ±0.20          |
| 880                   | 873   | 873   | 884                   | 876   | 877   | 0.04            | 0.03  | 0.04  | ±0.20          |
| 1330                  | 1320  | 1320  | 1350                  | 1340  | 1340  | 0.13            | 0.13  | 0.13  | ±0.30          |
| 1810                  | 1790  | 1790  | 1860                  | 1840  | 1840  | 0.24            | 0.24  | 0.24  | ±0.30          |
| 2980                  | 2950  | 2940  | 3100                  | 3060  | 3050  | 0.34            | 0.32  | 0.32  | ±0.40          |
| 3630                  | 3580  | 3570  | 3790                  | 3740  | 3720  | 0.37            | 0.38  | 0.36  | ±0.50          |

### SPEAG H-field linearity tolerance criteria<sup>1</sup>:

- ±1.0dB for applied H-fields < 2.0 A/m
- ±0.2dB for applied H-fields ≥ 2.0 A/m and < 1000 A/m
- ±0.3dB for applied H-fields ≥ 1000 A/m and < 2000 A/m
- ±0.4dB for applied H-fields ≥ 2000 A/m and < 3000 A/m
- ±0.5dB for applied H-fields ≥ 3000 A/m

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).



### Dynamic Range, H-field, Channel 3

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.380                 | 0.380 | 0.380 | 0.420                 | 0.400 | 0.350 | 0.87            | 0.45  | -0.71 | ±1.00          |
| 0.520                 | 0.510 | 0.510 | 0.550                 | 0.540 | 0.500 | 0.49            | 0.50  | -0.17 | ±1.00          |
| 0.710                 | 0.710 | 0.710 | 0.730                 | 0.720 | 0.700 | 0.24            | 0.12  | -0.12 | ±1.00          |
| 0.930                 | 0.920 | 0.920 | 0.950                 | 0.920 | 0.930 | 0.18            | 0.00  | 0.09  | ±1.00          |
| 1.26                  | 1.25  | 1.25  | 1.29                  | 1.25  | 1.25  | 0.20            | 0.00  | 0.00  | ±1.00          |
| 1.72                  | 1.71  | 1.71  | 1.75                  | 1.73  | 1.70  | 0.15            | 0.10  | -0.05 | ±1.00          |
| 2.30                  | 2.28  | 2.28  | 2.31                  | 2.29  | 2.28  | 0.04            | 0.04  | 0.00  | ±0.20          |
| 3.07                  | 3.05  | 3.05  | 3.08                  | 3.06  | 3.04  | 0.03            | 0.03  | -0.03 | ±0.20          |
| 4.16                  | 4.13  | 4.14  | 4.17                  | 4.14  | 4.14  | 0.02            | 0.02  | 0.00  | ±0.20          |
| 5.64                  | 5.60  | 5.60  | 5.65                  | 5.61  | 5.60  | 0.02            | 0.02  | 0.00  | ±0.20          |
| 7.57                  | 7.52  | 7.53  | 7.58                  | 7.55  | 7.53  | 0.01            | 0.03  | 0.00  | ±0.20          |
| 10.1                  | 10.0  | 10.0  | 10.1                  | 10.1  | 10.1  | 0.00            | 0.09  | 0.09  | ±0.20          |
| 13.7                  | 13.6  | 13.6  | 13.7                  | 13.6  | 13.6  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 18.4                  | 18.3  | 18.3  | 18.4                  | 18.3  | 18.4  | 0.00            | 0.00  | 0.05  | ±0.20          |
| 24.9                  | 24.7  | 24.7  | 24.9                  | 24.8  | 24.8  | 0.00            | 0.04  | 0.04  | ±0.20          |
| 33.3                  | 33.0  | 33.0  | 33.4                  | 33.2  | 33.2  | 0.03            | 0.05  | 0.05  | ±0.20          |
| 44.9                  | 44.6  | 44.6  | 45.2                  | 44.9  | 44.8  | 0.06            | 0.06  | 0.04  | ±0.20          |
| 61.0                  | 60.6  | 60.6  | 61.2                  | 60.8  | 60.9  | 0.03            | 0.03  | 0.04  | ±0.20          |
| 83.8                  | 83.2  | 83.2  | 83.5                  | 82.9  | 82.9  | -0.03           | -0.03 | -0.03 | ±0.20          |
| 110                   | 109   | 109   | 109                   | 109   | 108   | -0.08           | 0.00  | -0.08 | ±0.20          |
| 151                   | 150   | 150   | 150                   | 149   | 149   | -0.06           | -0.06 | -0.06 | ±0.20          |
| 209                   | 207   | 207   | 209                   | 207   | 207   | 0.00            | 0.00  | 0.00  | ±0.20          |
| 290                   | 287   | 287   | 291                   | 282   | 282   | 0.03            | -0.15 | -0.15 | ±0.20          |
| 427                   | 424   | 423   | 422                   | 418   | 417   | -0.10           | -0.12 | -0.12 | ±0.20          |
| 589                   | 584   | 582   | 586                   | 580   | 579   | -0.04           | -0.06 | -0.04 | ±0.20          |
| 880                   | 871   | 867   | 883                   | 873   | 871   | 0.03            | 0.02  | 0.04  | ±0.20          |
| 1330                  | 1320  | 1310  | 1350                  | 1340  | 1330  | 0.13            | 0.13  | 0.13  | ±0.30          |
| 1810                  | 1790  | 1780  | 1860                  | 1840  | 1830  | 0.24            | 0.24  | 0.24  | ±0.30          |
| 2980                  | 2940  | 2920  | 3100                  | 3030  | 3030  | 0.34            | 0.26  | 0.32  | ±0.40          |
| 3630                  | 3570  | 3540  | 3790                  | 3690  | 3700  | 0.37            | 0.29  | 0.38  | ±0.50          |

#### SPEAG H-field linearity tolerance criteria<sup>1</sup>:

- ±1.0dB for applied H-fields < 2.0 A/m
- ±0.2dB for applied H-fields ≥ 2.0 A/m and < 1000 A/m
- ±0.3dB for applied H-fields ≥ 1000 A/m and < 2000 A/m
- ±0.4dB for applied H-fields ≥ 2000 A/m and < 3000 A/m
- ±0.5dB for applied H-fields ≥ 3000 A/m

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).

## Dynamic Range, H-field, Channel 4

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.380                 | 0.380 | 0.380 | 0.390                 | 0.410 | 0.400 | 0.23            | 0.66  | 0.45  | ±1.00          |
| 0.510                 | 0.520 | 0.520 | 0.540                 | 0.530 | 0.530 | 0.50            | 0.17  | 0.17  | ±1.00          |
| 0.700                 | 0.720 | 0.710 | 0.730                 | 0.730 | 0.720 | 0.36            | 0.12  | 0.12  | ±1.00          |
| 0.920                 | 0.940 | 0.930 | 0.940                 | 0.940 | 0.930 | 0.19            | 0.00  | 0.00  | ±1.00          |
| 1.24                  | 1.27  | 1.25  | 1.25                  | 1.26  | 1.25  | 0.07            | -0.07 | 0.00  | ±1.00          |
| 1.71                  | 1.74  | 1.72  | 1.70                  | 1.74  | 1.71  | -0.05           | 0.00  | -0.05 | ±1.00          |
| 2.28                  | 2.32  | 2.30  | 2.28                  | 2.31  | 2.30  | 0.00            | -0.04 | 0.00  | ±0.20          |
| 3.04                  | 3.10  | 3.07  | 3.06                  | 3.09  | 3.07  | 0.06            | -0.03 | 0.00  | ±0.20          |
| 4.13                  | 4.21  | 4.16  | 4.13                  | 4.22  | 4.17  | 0.00            | 0.02  | 0.02  | ±0.20          |
| 5.59                  | 5.70  | 5.62  | 5.58                  | 5.71  | 5.64  | -0.02           | 0.02  | 0.03  | ±0.20          |
| 7.51                  | 7.65  | 7.56  | 7.52                  | 7.67  | 7.58  | 0.01            | 0.02  | 0.02  | ±0.20          |
| 10.0                  | 10.2  | 10.1  | 10.1                  | 10.2  | 10.1  | 0.09            | 0.00  | 0.00  | ±0.20          |
| 13.6                  | 13.8  | 13.6  | 13.6                  | 13.8  | 13.7  | 0.00            | 0.00  | 0.06  | ±0.20          |
| 18.3                  | 18.6  | 18.4  | 18.4                  | 18.7  | 18.4  | 0.05            | 0.05  | 0.00  | ±0.20          |
| 24.7                  | 25.1  | 24.9  | 24.7                  | 25.2  | 24.9  | 0.00            | 0.03  | 0.00  | ±0.20          |
| 33.0                  | 33.6  | 33.2  | 33.1                  | 33.8  | 33.4  | 0.03            | 0.05  | 0.05  | ±0.20          |
| 44.5                  | 45.4  | 44.8  | 44.8                  | 45.7  | 45.1  | 0.06            | 0.06  | 0.06  | ±0.20          |
| 60.5                  | 61.6  | 60.9  | 60.7                  | 61.9  | 61.2  | 0.03            | 0.04  | 0.04  | ±0.20          |
| 83.1                  | 84.7  | 83.6  | 82.8                  | 84.3  | 83.2  | -0.03           | -0.04 | -0.04 | ±0.20          |
| 109                   | 111   | 109   | 108                   | 110   | 109   | -0.08           | -0.08 | 0.00  | ±0.20          |
| 149                   | 152   | 150   | 149                   | 152   | 150   | 0.00            | 0.00  | 0.00  | ±0.20          |
| 207                   | 211   | 208   | 207                   | 211   | 208   | 0.00            | 0.00  | 0.00  | ±0.20          |
| 287                   | 292   | 288   | 289                   | 287   | 283   | 0.06            | -0.15 | -0.15 | ±0.20          |
| 424                   | 431   | 425   | 418                   | 425   | 419   | -0.12           | -0.12 | -0.12 | ±0.20          |
| 584                   | 594   | 585   | 581                   | 590   | 581   | -0.04           | -0.06 | -0.06 | ±0.20          |
| 873                   | 886   | 872   | 876                   | 889   | 874   | 0.03            | 0.03  | 0.02  | ±0.20          |
| 1320                  | 1340  | 1320  | 1340                  | 1360  | 1340  | 0.13            | 0.13  | 0.13  | ±0.30          |
| 1800                  | 1820  | 1790  | 1850                  | 1870  | 1840  | 0.24            | 0.24  | 0.24  | ±0.30          |
| 2960                  | 2990  | 2930  | 3070                  | 3100  | 3050  | 0.32            | 0.31  | 0.35  | ±0.40          |
| 3600                  | 3640  | 3560  | 3760                  | 3790  | 3710  | 0.38            | 0.35  | 0.36  | ±0.50          |

### SPEAG H-field linearity tolerance criteria<sup>1</sup>:

- ±1.0dB for applied H-fields < 2.0 A/m
- ±0.2dB for applied H-fields ≥ 2.0 A/m and < 1000 A/m
- ±0.3dB for applied H-fields ≥ 1000 A/m and < 2000 A/m
- ±0.4dB for applied H-fields ≥ 2000 A/m and < 3000 A/m
- ±0.5dB for applied H-fields ≥ 3000 A/m

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).

## Dynamic Range, H-field, Channel 5

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.380                 | 0.390 | 0.390 | 0.400                 | 0.410 | 0.390 | 0.45            | 0.43  | 0.00  | ±1.00          |
| 0.520                 | 0.530 | 0.530 | 0.540                 | 0.540 | 0.530 | 0.33            | 0.16  | 0.00  | ±1.00          |
| 0.720                 | 0.720 | 0.730 | 0.720                 | 0.710 | 0.720 | 0.00            | -0.12 | -0.12 | ±1.00          |
| 0.930                 | 0.940 | 0.950 | 0.940                 | 0.930 | 0.940 | 0.09            | -0.09 | -0.09 | ±1.00          |
| 1.27                  | 1.28  | 1.28  | 1.26                  | 1.28  | 1.28  | -0.07           | 0.00  | 0.00  | ±1.00          |
| 1.74                  | 1.76  | 1.76  | 1.73                  | 1.77  | 1.75  | -0.05           | 0.05  | -0.05 | ±1.00          |
| 2.32                  | 2.34  | 2.35  | 2.32                  | 2.35  | 2.34  | 0.00            | 0.04  | -0.04 | ±0.20          |
| 3.10                  | 3.13  | 3.13  | 3.10                  | 3.14  | 3.13  | 0.00            | 0.03  | 0.00  | ±0.20          |
| 4.20                  | 4.24  | 4.25  | 4.21                  | 4.26  | 4.24  | 0.02            | 0.04  | -0.02 | ±0.20          |
| 5.69                  | 5.74  | 5.75  | 5.71                  | 5.75  | 5.75  | 0.03            | 0.02  | 0.00  | ±0.20          |
| 7.64                  | 7.72  | 7.73  | 7.67                  | 7.75  | 7.75  | 0.03            | 0.03  | 0.02  | ±0.20          |
| 10.2                  | 10.3  | 10.3  | 10.2                  | 10.3  | 10.3  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 13.8                  | 13.9  | 13.9  | 13.8                  | 14.0  | 14.0  | 0.00            | 0.06  | 0.06  | ±0.20          |
| 18.6                  | 18.8  | 18.8  | 18.7                  | 18.8  | 18.8  | 0.05            | 0.00  | 0.00  | ±0.20          |
| 25.1                  | 25.4  | 25.4  | 25.2                  | 25.4  | 25.4  | 0.03            | 0.00  | 0.00  | ±0.20          |
| 33.6                  | 33.9  | 33.9  | 33.7                  | 34.1  | 34.1  | 0.03            | 0.05  | 0.05  | ±0.20          |
| 45.3                  | 45.8  | 45.8  | 45.6                  | 46.1  | 46.0  | 0.06            | 0.06  | 0.04  | ±0.20          |
| 61.5                  | 62.2  | 62.2  | 61.8                  | 62.4  | 62.5  | 0.04            | 0.03  | 0.04  | ±0.20          |
| 84.6                  | 85.4  | 85.4  | 84.2                  | 85.0  | 85.1  | -0.04           | -0.04 | -0.03 | ±0.20          |
| 111                   | 112   | 112   | 110                   | 111   | 111   | -0.08           | -0.08 | -0.08 | ±0.20          |
| 152                   | 154   | 154   | 152                   | 153   | 153   | 0.00            | -0.06 | -0.06 | ±0.20          |
| 211                   | 213   | 213   | 211                   | 212   | 212   | 0.00            | -0.04 | -0.04 | ±0.20          |
| 292                   | 295   | 295   | 294                   | 289   | 289   | 0.06            | -0.18 | -0.18 | ±0.20          |
| 431                   | 435   | 434   | 425                   | 429   | 428   | -0.12           | -0.12 | -0.12 | ±0.20          |
| 595                   | 599   | 598   | 591                   | 595   | 594   | -0.06           | -0.06 | -0.06 | ±0.20          |
| 888                   | 894   | 890   | 891                   | 896   | 894   | 0.03            | 0.02  | 0.04  | ±0.20          |
| 1340                  | 1350  | 1340  | 1370                  | 1370  | 1370  | 0.19            | 0.13  | 0.19  | ±0.30          |
| 1830                  | 1840  | 1830  | 1880                  | 1890  | 1880  | 0.23            | 0.23  | 0.23  | ±0.30          |
| 3010                  | 3020  | 3000  | 3120                  | 3130  | 3110  | 0.31            | 0.31  | 0.31  | ±0.50          |
| 3670                  | 3670  | 3640  | 3820                  | 3820  | 3800  | 0.35            | 0.35  | 0.37  | ±0.50          |

### SPEAG H-field linearity tolerance criteria<sup>1</sup>:

- ±1.0dB for applied H-fields < 2.0 A/m
- ±0.2dB for applied H-fields ≥ 2.0 A/m and < 1000 A/m
- ±0.3dB for applied H-fields ≥ 1000 A/m and < 2000 A/m
- ±0.4dB for applied H-fields ≥ 2000 A/m and < 3000 A/m
- ±0.5dB for applied H-fields ≥ 3000 A/m

<sup>1</sup>Calibration uncertainty not taken into account (shared risk 50%).



## Dynamic Range, H-field, Channel 6

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.390                 | 0.390 | 0.380 | 0.400                 | 0.400 | 0.390 | 0.22            | 0.22  | 0.23  | ±1.00          |
| 0.530                 | 0.530 | 0.520 | 0.520                 | 0.550 | 0.530 | -0.17           | 0.32  | 0.17  | ±1.00          |
| 0.730                 | 0.730 | 0.720 | 0.710                 | 0.750 | 0.730 | -0.24           | 0.23  | 0.12  | ±1.00          |
| 0.950                 | 0.950 | 0.940 | 0.950                 | 0.950 | 0.940 | 0.00            | 0.00  | 0.00  | ±1.00          |
| 1.28                  | 1.28  | 1.27  | 1.29                  | 1.28  | 1.27  | 0.07            | 0.00  | 0.00  | ±1.00          |
| 1.76                  | 1.76  | 1.74  | 1.77                  | 1.76  | 1.75  | 0.05            | 0.00  | 0.05  | ±1.00          |
| 2.35                  | 2.34  | 2.32  | 2.34                  | 2.36  | 2.33  | -0.04           | 0.07  | 0.04  | ±0.20          |
| 3.14                  | 3.13  | 3.10  | 3.14                  | 3.14  | 3.11  | 0.00            | 0.03  | 0.03  | ±0.20          |
| 4.26                  | 4.25  | 4.20  | 4.27                  | 4.27  | 4.22  | 0.02            | 0.04  | 0.04  | ±0.20          |
| 5.77                  | 5.75  | 5.68  | 5.76                  | 5.78  | 5.70  | -0.02           | 0.05  | 0.03  | ±0.20          |
| 7.74                  | 7.73  | 7.64  | 7.76                  | 7.76  | 7.67  | 0.02            | 0.03  | 0.03  | ±0.20          |
| 10.3                  | 10.3  | 10.2  | 10.4                  | 10.3  | 10.2  | 0.08            | 0.00  | 0.00  | ±0.20          |
| 14.0                  | 13.9  | 13.8  | 14.0                  | 14.0  | 13.8  | 0.00            | 0.06  | 0.00  | ±0.20          |
| 18.8                  | 18.8  | 18.6  | 18.9                  | 18.9  | 18.6  | 0.05            | 0.05  | 0.00  | ±0.20          |
| 25.4                  | 25.4  | 25.1  | 25.4                  | 25.4  | 25.1  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 34.0                  | 33.9  | 33.5  | 34.1                  | 34.1  | 33.7  | 0.03            | 0.05  | 0.05  | ±0.20          |
| 45.9                  | 45.9  | 45.3  | 46.2                  | 46.1  | 45.5  | 0.06            | 0.04  | 0.04  | ±0.20          |
| 62.4                  | 62.3  | 61.5  | 62.6                  | 62.5  | 61.7  | 0.03            | 0.03  | 0.03  | ±0.20          |
| 85.7                  | 85.5  | 84.4  | 85.4                  | 85.2  | 84.1  | -0.03           | -0.03 | -0.03 | ±0.20          |
| 112                   | 112   | 110   | 112                   | 112   | 110   | 0.00            | 0.00  | 0.00  | ±0.20          |
| 154                   | 154   | 152   | 154                   | 153   | 151   | 0.00            | -0.06 | -0.06 | ±0.20          |
| 214                   | 213   | 210   | 213                   | 213   | 210   | -0.04           | 0.00  | 0.00  | ±0.20          |
| 296                   | 295   | 291   | 298                   | 290   | 286   | 0.06            | -0.15 | -0.15 | ±0.20          |
| 437                   | 435   | 429   | 431                   | 430   | 423   | -0.12           | -0.10 | -0.12 | ±0.20          |
| 603                   | 600   | 590   | 599                   | 596   | 587   | -0.06           | -0.06 | -0.04 | ±0.20          |
| 900                   | 895   | 880   | 903                   | 897   | 884   | 0.03            | 0.02  | 0.04  | ±0.20          |
| 1360                  | 1350  | 1330  | 1380                  | 1380  | 1350  | 0.13            | 0.19  | 0.13  | ±0.30          |
| 1850                  | 1840  | 1810  | 1910                  | 1890  | 1860  | 0.28            | 0.23  | 0.24  | ±0.30          |
| 3050                  | 3020  | 2960  | 3170                  | 3140  | 3080  | 0.34            | 0.34  | 0.35  | ±0.50          |
| 3710                  | 3670  | 3590  | 3870                  | 3830  | 3750  | 0.37            | 0.37  | 0.38  | ±0.50          |

### SPEAG H-field linearity tolerance criteria<sup>1</sup>:

- ±1.0dB for applied H-fields < 2.0 A/m
- ±0.2dB for applied H-fields ≥ 2.0 A/m and < 1000 A/m
- ±0.3dB for applied H-fields ≥ 1000 A/m and < 2000 A/m
- ±0.4dB for applied H-fields ≥ 2000 A/m and < 3000 A/m
- ±0.5dB for applied H-fields ≥ 3000 A/m

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).

## Dynamic Range, H-field, Channel 7

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.390                 | 0.380 | 0.370 | 0.410                 | 0.400 | 0.400 | 0.43            | 0.45  | 0.68  | ±1.00          |
| 0.530                 | 0.510 | 0.510 | 0.530                 | 0.520 | 0.540 | 0.00            | 0.17  | 0.50  | ±1.00          |
| 0.720                 | 0.710 | 0.700 | 0.720                 | 0.700 | 0.700 | 0.00            | -0.12 | 0.00  | ±1.00          |
| 0.940                 | 0.920 | 0.910 | 0.950                 | 0.930 | 0.910 | 0.09            | 0.09  | 0.00  | ±1.00          |
| 1.28                  | 1.25  | 1.24  | 1.28                  | 1.28  | 1.25  | 0.00            | 0.21  | 0.07  | ±1.00          |
| 1.76                  | 1.72  | 1.70  | 1.75                  | 1.74  | 1.69  | -0.05           | 0.10  | -0.05 | ±1.00          |
| 2.34                  | 2.29  | 2.26  | 2.34                  | 2.33  | 2.27  | 0.00            | 0.15  | 0.04  | ±0.20          |
| 3.13                  | 3.06  | 3.02  | 3.13                  | 3.11  | 3.02  | 0.00            | 0.14  | 0.00  | ±0.20          |
| 4.24                  | 4.15  | 4.10  | 4.26                  | 4.20  | 4.10  | 0.04            | 0.10  | 0.00  | ±0.20          |
| 5.75                  | 5.62  | 5.54  | 5.75                  | 5.67  | 5.54  | 0.00            | 0.08  | 0.00  | ±0.20          |
| 7.72                  | 7.55  | 7.46  | 7.72                  | 7.60  | 7.45  | 0.00            | 0.06  | -0.01 | ±0.20          |
| 10.3                  | 10.1  | 9.95  | 10.3                  | 10.1  | 10.0  | 0.00            | 0.00  | 0.04  | ±0.20          |
| 13.9                  | 13.6  | 13.4  | 13.9                  | 13.7  | 13.5  | 0.00            | 0.06  | 0.06  | ±0.20          |
| 18.8                  | 18.4  | 18.1  | 18.8                  | 18.4  | 18.2  | 0.00            | 0.00  | 0.05  | ±0.20          |
| 25.4                  | 24.8  | 24.5  | 25.4                  | 24.8  | 24.5  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 33.9                  | 33.1  | 32.7  | 34.0                  | 33.3  | 32.9  | 0.03            | 0.05  | 0.05  | ±0.20          |
| 45.8                  | 44.8  | 44.2  | 46.0                  | 45.0  | 44.4  | 0.04            | 0.04  | 0.04  | ±0.20          |
| 62.2                  | 60.8  | 60.0  | 62.4                  | 61.0  | 60.3  | 0.03            | 0.03  | 0.04  | ±0.20          |
| 85.4                  | 83.5  | 82.4  | 85.1                  | 83.1  | 82.1  | -0.03           | -0.04 | -0.03 | ±0.20          |
| 112                   | 109   | 108   | 111                   | 109   | 107   | -0.08           | 0.00  | -0.08 | ±0.20          |
| 154                   | 150   | 148   | 153                   | 150   | 148   | -0.06           | 0.00  | 0.00  | ±0.20          |
| 213                   | 208   | 205   | 213                   | 208   | 205   | 0.00            | 0.00  | 0.00  | ±0.20          |
| 295                   | 288   | 284   | 297                   | 283   | 279   | 0.06            | -0.15 | -0.15 | ±0.20          |
| 436                   | 425   | 419   | 430                   | 419   | 413   | -0.12           | -0.12 | -0.13 | ±0.20          |
| 601                   | 586   | 576   | 597                   | 582   | 572   | -0.06           | -0.06 | -0.06 | ±0.20          |
| 897                   | 874   | 859   | 900                   | 876   | 862   | 0.03            | 0.02  | 0.03  | ±0.20          |
| 1360                  | 1320  | 1300  | 1380                  | 1340  | 1320  | 0.13            | 0.13  | 0.13  | ±0.30          |
| 1850                  | 1800  | 1760  | 1900                  | 1850  | 1810  | 0.23            | 0.24  | 0.24  | ±0.30          |
| 3040                  | 2950  | 2890  | 3160                  | 3060  | 3000  | 0.34            | 0.32  | 0.32  | ±0.50          |
| 3700                  | 3580  | 3510  | 3860                  | 3740  | 3660  | 0.37            | 0.38  | 0.36  | ±0.50          |

### SPEAG H-field linearity tolerance criteria<sup>1</sup>:

- ±1.0dB for applied H-fields < 2.0 A/m
- ±0.2dB for applied H-fields ≥ 2.0 A/m and < 1000 A/m
- ±0.3dB for applied H-fields ≥ 1000 A/m and < 2000 A/m
- ±0.4dB for applied H-fields ≥ 2000 A/m and < 3000 A/m
- ±0.5dB for applied H-fields ≥ 3000 A/m

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).

## Dynamic Range, E-field, Channel 0

| E-field/(V/m) Applied |       |       | E-field/(V/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |       |       |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|-------|-------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     | x              | y     | z     |
| 0.330                 | 0.200 | 0.090 | 0.340                 | 0.210 | 0.070 | 0.26            | 0.42  | -2.18 | ±5.00          | ±5.00 | ±5.00 |
| 0.440                 | 0.280 | 0.120 | 0.450                 | 0.290 | 0.140 | 0.20            | 0.30  | 1.34  | ±5.00          | ±5.00 | ±5.00 |
| 0.610                 | 0.380 | 0.170 | 0.630                 | 0.390 | 0.150 | 0.28            | 0.23  | -1.09 | ±5.00          | ±5.00 | ±5.00 |
| 0.800                 | 0.500 | 0.220 | 0.820                 | 0.470 | 0.200 | 0.21            | -0.54 | -0.83 | ±5.00          | ±5.00 | ±5.00 |
| 1.08                  | 0.670 | 0.300 | 1.08                  | 0.670 | 0.310 | 0.00            | 0.00  | 0.28  | ±5.00          | ±5.00 | ±5.00 |
| 1.48                  | 0.920 | 0.410 | 1.49                  | 0.920 | 0.400 | 0.06            | 0.00  | -0.21 | ±5.00          | ±5.00 | ±5.00 |
| 1.97                  | 1.23  | 0.550 | 1.97                  | 1.24  | 0.530 | 0.00            | 0.07  | -0.32 | ±5.00          | ±5.00 | ±5.00 |
| 2.64                  | 1.64  | 0.740 | 2.65                  | 1.64  | 0.740 | 0.03            | 0.00  | 0.00  | ±1.00          | ±5.00 | ±5.00 |
| 3.58                  | 2.22  | 1.00  | 3.59                  | 2.22  | 0.970 | 0.02            | 0.00  | -0.26 | ±1.00          | ±1.00 | ±5.00 |
| 4.84                  | 3.01  | 1.35  | 4.85                  | 2.99  | 1.30  | 0.02            | -0.06 | -0.33 | ±1.00          | ±1.00 | ±5.00 |
| 6.51                  | 4.05  | 1.82  | 6.54                  | 4.02  | 1.76  | 0.04            | -0.06 | -0.29 | ±1.00          | ±1.00 | ±5.00 |
| 8.68                  | 5.40  | 2.43  | 8.72                  | 5.38  | 2.39  | 0.04            | -0.03 | -0.14 | ±1.00          | ±1.00 | ±1.00 |
| 11.7                  | 7.30  | 3.28  | 11.8                  | 7.30  | 3.22  | 0.07            | 0.00  | -0.16 | ±1.00          | ±1.00 | ±1.00 |
| 15.8                  | 9.85  | 4.42  | 15.9                  | 9.79  | 4.34  | 0.05            | -0.05 | -0.16 | ±1.00          | ±1.00 | ±1.00 |
| 21.4                  | 13.3  | 5.97  | 21.5                  | 13.2  | 5.85  | 0.04            | -0.07 | -0.18 | ±1.00          | ±1.00 | ±1.00 |
| 28.6                  | 17.8  | 7.98  | 28.8                  | 17.8  | 7.85  | 0.06            | 0.00  | -0.14 | ±1.00          | ±1.00 | ±1.00 |
| 38.6                  | 24.0  | 10.8  | 38.9                  | 24.0  | 10.6  | 0.07            | 0.00  | -0.16 | ±1.00          | ±1.00 | ±1.00 |
| 52.4                  | 32.6  | 14.6  | 52.8                  | 32.6  | 14.4  | 0.07            | 0.00  | -0.12 | ±1.00          | ±1.00 | ±1.00 |
| 72.0                  | 44.8  | 20.1  | 71.8                  | 44.4  | 19.6  | -0.02           | -0.08 | -0.22 | ±1.00          | ±1.00 | ±1.00 |
| 94.1                  | 58.5  | 26.3  | 94.1                  | 58.1  | 25.7  | 0.00            | -0.06 | -0.20 | ±1.00          | ±1.00 | ±1.00 |
| 129                   | 80.5  | 36.2  | 129                   | 79.9  | 35.4  | 0.00            | -0.06 | -0.19 | ±1.00          | ±1.00 | ±1.00 |
| 179                   | 112   | 50.1  | 180                   | 111   | 49.1  | 0.05            | -0.08 | -0.18 | ±1.00          | ±1.00 | ±1.00 |
| 249                   | 155   | 69.5  | 251                   | 155   | 68.6  | 0.07            | 0.00  | -0.11 | ±1.00          | ±1.00 | ±1.00 |
| 366                   | 228   | 103   | 356                   | 218   | 102   | -0.24           | -0.39 | -0.08 | ±1.00          | ±1.00 | ±1.00 |
| 505                   | 314   | 141   | 495                   | 304   | 141   | -0.17           | -0.28 | 0.00  | ±1.00          | ±1.00 | ±1.00 |
| 753                   | 468   | 211   | 746                   | 458   | 213   | -0.08           | -0.19 | 0.08  | ±1.00          | ±1.00 | ±1.00 |
| 1140                  | 708   | 319   | 1140                  | 702   | 327   | 0.00            | -0.07 | 0.22  | ±1.00          | ±1.00 | ±1.00 |
| 1550                  | 963   | 435   | 1580                  | 966   | 451   | 0.17            | 0.03  | 0.31  | ±1.00          | ±1.00 | ±1.00 |
| 2540                  | 1580  | 716   | 2620                  | 1600  | 713   | 0.27            | 0.11  | -0.04 | ±1.00          | ±1.00 | ±1.00 |
| 3090                  | 1920  | 871   | 3200                  | 1960  | 874   | 0.30            | 0.18  | 0.03  | ±1.00          | ±1.00 | ±1.00 |

SPEAG E-field linearity tolerance criteria<sup>1</sup>:

±5.0dB for applied E-field < 2V/m

±1.0dB for applied E-field ≥ 2V/m

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).

## Frequency Response

### Frequency Response, H-field, Channel 0

| f/(Hz)   | H-field/(A/m) Applied |      |      | H-field/(A/m) Reading |      |      | Difference/(dB) |       |       | Tolerance/(dB) |
|----------|-----------------------|------|------|-----------------------|------|------|-----------------|-------|-------|----------------|
|          | x                     | y    | z    | x                     | y    | z    | x               | y     | z     |                |
| 3000     | 1.54                  | 1.54 | 1.54 | 1.55                  | 1.54 | 1.54 | 0.06            | 0.00  | 0.00  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.53 | 1.54                  | 1.56 | 1.54 | 0.00            | 0.11  | 0.06  | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.54                  | 1.53 | 1.53 | 0.06            | 0.00  | 0.00  | ±0.3           |
| 5200     | 1.52                  | 1.52 | 1.51 | 1.52                  | 1.52 | 1.53 | 0.00            | 0.00  | 0.11  | ±0.3           |
| 6600     | 1.51                  | 1.51 | 1.50 | 1.52                  | 1.50 | 1.51 | 0.06            | -0.06 | 0.06  | ±0.3           |
| 8200     | 1.50                  | 1.50 | 1.49 | 1.51                  | 1.49 | 1.50 | 0.06            | -0.06 | 0.06  | ±0.3           |
| 9000     | 1.49                  | 1.49 | 1.49 | 1.50                  | 1.49 | 1.49 | 0.06            | 0.00  | 0.00  | ±0.3           |
| 10600    | 4.36                  | 4.26 | 4.24 | 4.38                  | 4.31 | 4.31 | 0.04            | 0.10  | 0.14  | ±0.3           |
| 13400    | 4.38                  | 4.33 | 4.31 | 4.41                  | 4.35 | 4.33 | 0.06            | 0.04  | 0.04  | ±0.3           |
| 17000    | 4.39                  | 4.32 | 4.30 | 4.41                  | 4.35 | 4.33 | 0.04            | 0.06  | 0.06  | ±0.3           |
| 21400    | 4.41                  | 4.34 | 4.33 | 4.43                  | 4.35 | 4.35 | 0.04            | 0.02  | 0.04  | ±0.3           |
| 27200    | 4.41                  | 4.34 | 4.32 | 4.43                  | 4.36 | 4.35 | 0.04            | 0.04  | 0.06  | ±0.3           |
| 34400    | 4.41                  | 4.35 | 4.33 | 4.43                  | 4.37 | 4.35 | 0.04            | 0.04  | 0.04  | ±0.3           |
| 40000    | 4.40                  | 4.34 | 4.33 | 4.43                  | 4.37 | 4.35 | 0.06            | 0.06  | 0.04  | ±0.3           |
| 43600    | 4.39                  | 4.34 | 4.32 | 4.41                  | 4.36 | 4.33 | 0.04            | 0.04  | 0.02  | ±0.3           |
| 55400    | 4.38                  | 4.32 | 4.31 | 4.40                  | 4.34 | 4.33 | 0.04            | 0.04  | 0.04  | ±0.3           |
| 70000    | 4.37                  | 4.32 | 4.30 | 4.38                  | 4.33 | 4.31 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 88800    | 4.35                  | 4.30 | 4.29 | 4.37                  | 4.31 | 4.30 | 0.04            | 0.02  | 0.02  | ±0.3           |
| 112400   | 4.34                  | 4.29 | 4.28 | 4.36                  | 4.29 | 4.29 | 0.04            | 0.00  | 0.02  | ±0.3           |
| 142400   | 4.32                  | 4.27 | 4.26 | 4.33                  | 4.28 | 4.26 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 161750   | 4.30                  | 4.25 | 4.24 | 4.30                  | 4.26 | 4.24 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 180400   | 4.29                  | 4.25 | 4.23 | 4.29                  | 4.25 | 4.23 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 228400   | 4.26                  | 4.21 | 4.20 | 4.26                  | 4.22 | 4.20 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 289400   | 4.22                  | 4.18 | 4.17 | 4.21                  | 4.18 | 4.17 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 366400   | 4.18                  | 4.14 | 4.13 | 4.18                  | 4.14 | 4.13 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 400000   | 4.16                  | 4.12 | 4.11 | 4.16                  | 4.12 | 4.11 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 464000   | 4.13                  | 4.09 | 4.08 | 4.13                  | 4.10 | 4.08 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 587800   | 4.09                  | 4.05 | 4.04 | 4.09                  | 4.05 | 4.04 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 744200   | 4.03                  | 4.00 | 3.99 | 4.03                  | 4.00 | 3.99 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 942600   | 4.02                  | 3.99 | 3.98 | 4.02                  | 3.99 | 3.98 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1193600  | 4.00                  | 3.97 | 3.96 | 3.99                  | 3.97 | 3.96 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 1511600  | 3.99                  | 3.96 | 3.95 | 3.99                  | 3.96 | 3.95 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1914400  | 3.98                  | 3.94 | 3.94 | 3.97                  | 3.95 | 3.93 | -0.02           | 0.02  | -0.02 | ±0.3           |
| 2424400  | 3.96                  | 3.93 | 3.92 | 3.96                  | 3.93 | 3.92 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 3070200  | 3.94                  | 3.90 | 3.89 | 3.94                  | 3.90 | 3.89 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 3888000  | 3.88                  | 3.85 | 3.84 | 3.88                  | 3.85 | 3.83 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 4000000  | 3.87                  | 3.84 | 3.83 | 3.87                  | 3.83 | 3.82 | 0.00            | -0.02 | -0.02 | ±0.3           |
| 4923800  | 3.81                  | 3.78 | 3.77 | 3.80                  | 3.77 | 3.77 | -0.02           | -0.02 | 0.00  | ±0.3           |
| 6235400  | 3.70                  | 3.67 | 3.66 | 3.69                  | 3.66 | 3.65 | -0.02           | -0.02 | -0.02 | ±0.3           |
| 7896400  | 3.56                  | 3.52 | 3.52 | 3.55                  | 3.52 | 3.51 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 10000000 | 3.41                  | 3.38 | 3.38 | 3.41                  | 3.38 | 3.35 | 0.00            | 0.00  | -0.08 | ±0.3           |

SPEAG H-field frequency response tolerance criteria<sup>1</sup>:  
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

<sup>1</sup>Calibration uncertainty not taken into account (shared risk 50%).

## Frequency Response, H-field, Channel 1

| f/(Hz)   | H-field/(A/m) Applied |      |      | H-field/(A/m) Reading |      |      | Difference/(dB) |       |       | Tolerance/(dB) |
|----------|-----------------------|------|------|-----------------------|------|------|-----------------|-------|-------|----------------|
|          | x                     | y    | z    | x                     | y    | z    | x               | y     | z     |                |
| 3000     | 1.54                  | 1.54 | 1.54 | 1.56                  | 1.55 | 1.55 | 0.11            | 0.06  | 0.06  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.53 | 1.53                  | 1.57 | 1.54 | -0.06           | 0.17  | 0.06  | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.54                  | 1.53 | 1.54 | 0.06            | 0.00  | 0.06  | ±0.3           |
| 5200     | 1.52                  | 1.52 | 1.51 | 1.53                  | 1.52 | 1.53 | 0.06            | 0.00  | 0.11  | ±0.3           |
| 6600     | 1.51                  | 1.51 | 1.50 | 1.53                  | 1.51 | 1.51 | 0.11            | 0.00  | 0.06  | ±0.3           |
| 8200     | 1.50                  | 1.50 | 1.49 | 1.51                  | 1.50 | 1.50 | 0.06            | 0.00  | 0.06  | ±0.3           |
| 9000     | 1.49                  | 1.49 | 1.49 | 1.50                  | 1.50 | 1.50 | 0.06            | 0.06  | 0.06  | ±0.3           |
| 10600    | 4.36                  | 4.26 | 4.24 | 4.38                  | 4.27 | 4.31 | 0.04            | 0.02  | 0.14  | ±0.3           |
| 13400    | 4.38                  | 4.33 | 4.31 | 4.42                  | 4.34 | 4.34 | 0.08            | 0.02  | 0.06  | ±0.3           |
| 17000    | 4.39                  | 4.32 | 4.30 | 4.41                  | 4.34 | 4.33 | 0.04            | 0.04  | 0.06  | ±0.3           |
| 21400    | 4.41                  | 4.34 | 4.33 | 4.44                  | 4.37 | 4.36 | 0.06            | 0.06  | 0.06  | ±0.3           |
| 27200    | 4.41                  | 4.34 | 4.32 | 4.43                  | 4.36 | 4.34 | 0.04            | 0.04  | 0.04  | ±0.3           |
| 34400    | 4.41                  | 4.35 | 4.33 | 4.42                  | 4.37 | 4.36 | 0.02            | 0.04  | 0.06  | ±0.3           |
| 40000    | 4.40                  | 4.34 | 4.33 | 4.42                  | 4.36 | 4.35 | 0.04            | 0.04  | 0.04  | ±0.3           |
| 43600    | 4.39                  | 4.34 | 4.32 | 4.41                  | 4.36 | 4.33 | 0.04            | 0.04  | 0.02  | ±0.3           |
| 55400    | 4.38                  | 4.32 | 4.31 | 4.39                  | 4.34 | 4.33 | 0.02            | 0.04  | 0.04  | ±0.3           |
| 70000    | 4.37                  | 4.32 | 4.30 | 4.39                  | 4.33 | 4.31 | 0.04            | 0.02  | 0.02  | ±0.3           |
| 88800    | 4.35                  | 4.30 | 4.29 | 4.36                  | 4.32 | 4.30 | 0.02            | 0.04  | 0.02  | ±0.3           |
| 112400   | 4.34                  | 4.29 | 4.28 | 4.35                  | 4.30 | 4.29 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 142400   | 4.32                  | 4.27 | 4.26 | 4.33                  | 4.27 | 4.27 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 161750   | 4.30                  | 4.25 | 4.24 | 4.31                  | 4.26 | 4.25 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 180400   | 4.29                  | 4.25 | 4.23 | 4.29                  | 4.24 | 4.24 | 0.00            | -0.02 | 0.02  | ±0.3           |
| 228400   | 4.26                  | 4.21 | 4.20 | 4.26                  | 4.21 | 4.20 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 289400   | 4.22                  | 4.18 | 4.17 | 4.22                  | 4.17 | 4.17 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 366400   | 4.18                  | 4.14 | 4.13 | 4.18                  | 4.12 | 4.13 | 0.00            | -0.04 | 0.00  | ±0.3           |
| 400000   | 4.16                  | 4.12 | 4.11 | 4.15                  | 4.12 | 4.11 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 464000   | 4.13                  | 4.09 | 4.08 | 4.12                  | 4.09 | 4.09 | -0.02           | 0.00  | 0.02  | ±0.3           |
| 587800   | 4.09                  | 4.05 | 4.04 | 4.08                  | 4.05 | 4.04 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 744200   | 4.03                  | 4.00 | 3.99 | 4.03                  | 3.99 | 4.00 | 0.00            | -0.02 | 0.02  | ±0.3           |
| 942600   | 4.02                  | 3.99 | 3.98 | 4.01                  | 3.99 | 3.99 | -0.02           | 0.00  | 0.02  | ±0.3           |
| 1193600  | 4.00                  | 3.97 | 3.96 | 3.99                  | 3.96 | 3.96 | -0.02           | -0.02 | 0.00  | ±0.3           |
| 1511600  | 3.99                  | 3.96 | 3.95 | 3.99                  | 3.96 | 3.96 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 1914400  | 3.98                  | 3.94 | 3.94 | 3.98                  | 3.94 | 3.94 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 2424400  | 3.96                  | 3.93 | 3.92 | 3.96                  | 3.92 | 3.92 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 3070200  | 3.94                  | 3.90 | 3.89 | 3.93                  | 3.90 | 3.89 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 3888000  | 3.88                  | 3.85 | 3.84 | 3.88                  | 3.84 | 3.84 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 4000000  | 3.87                  | 3.84 | 3.83 | 3.87                  | 3.83 | 3.83 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 4923800  | 3.81                  | 3.78 | 3.77 | 3.80                  | 3.77 | 3.77 | -0.02           | -0.02 | 0.00  | ±0.3           |
| 6235400  | 3.70                  | 3.67 | 3.66 | 3.69                  | 3.66 | 3.66 | -0.02           | -0.02 | 0.00  | ±0.3           |
| 7896400  | 3.56                  | 3.52 | 3.52 | 3.55                  | 3.52 | 3.51 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 10000000 | 3.41                  | 3.38 | 3.38 | 3.40                  | 3.38 | 3.36 | -0.03           | 0.00  | -0.05 | ±0.3           |

SPEAG H-field frequency response tolerance criteria<sup>1</sup>:  
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).

## Frequency Response, H-field, Channel 2

| f/(Hz)   | H-field/(A/m) Applied |      |      | H-field/(A/m) Reading |      |      | Difference/(dB) |       |       | Tolerance/(dB) |
|----------|-----------------------|------|------|-----------------------|------|------|-----------------|-------|-------|----------------|
|          | x                     | y    | z    | x                     | y    | z    | x               | y     | z     |                |
| 3000     | 1.54                  | 1.54 | 1.54 | 1.55                  | 1.55 | 1.54 | 0.06            | 0.06  | 0.00  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.53 | 1.52                  | 1.57 | 1.53 | -0.11           | 0.17  | 0.00  | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.54                  | 1.54 | 1.53 | 0.06            | 0.06  | 0.00  | ±0.3           |
| 5200     | 1.52                  | 1.52 | 1.51 | 1.52                  | 1.52 | 1.52 | 0.00            | 0.00  | 0.06  | ±0.3           |
| 6600     | 1.51                  | 1.51 | 1.50 | 1.52                  | 1.51 | 1.51 | 0.06            | 0.00  | 0.06  | ±0.3           |
| 8200     | 1.50                  | 1.50 | 1.49 | 1.50                  | 1.49 | 1.50 | 0.00            | -0.06 | 0.06  | ±0.3           |
| 9000     | 1.49                  | 1.49 | 1.49 | 1.50                  | 1.50 | 1.49 | 0.06            | 0.06  | 0.00  | ±0.3           |
| 10600    | 4.36                  | 4.26 | 4.24 | 4.38                  | 4.29 | 4.27 | 0.04            | 0.06  | 0.06  | ±0.3           |
| 13400    | 4.38                  | 4.33 | 4.31 | 4.42                  | 4.35 | 4.32 | 0.08            | 0.04  | 0.02  | ±0.3           |
| 17000    | 4.39                  | 4.32 | 4.30 | 4.41                  | 4.34 | 4.33 | 0.04            | 0.04  | 0.06  | ±0.3           |
| 21400    | 4.41                  | 4.34 | 4.33 | 4.44                  | 4.35 | 4.35 | 0.06            | 0.02  | 0.04  | ±0.3           |
| 27200    | 4.41                  | 4.34 | 4.32 | 4.42                  | 4.35 | 4.33 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 34400    | 4.41                  | 4.35 | 4.33 | 4.43                  | 4.36 | 4.35 | 0.04            | 0.02  | 0.04  | ±0.3           |
| 40000    | 4.40                  | 4.34 | 4.33 | 4.42                  | 4.36 | 4.34 | 0.04            | 0.04  | 0.02  | ±0.3           |
| 43600    | 4.39                  | 4.34 | 4.32 | 4.41                  | 4.35 | 4.34 | 0.04            | 0.02  | 0.04  | ±0.3           |
| 55400    | 4.38                  | 4.32 | 4.31 | 4.40                  | 4.34 | 4.33 | 0.04            | 0.04  | 0.04  | ±0.3           |
| 70000    | 4.37                  | 4.32 | 4.30 | 4.38                  | 4.33 | 4.31 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 88800    | 4.35                  | 4.30 | 4.29 | 4.37                  | 4.31 | 4.29 | 0.04            | 0.02  | 0.00  | ±0.3           |
| 112400   | 4.34                  | 4.29 | 4.28 | 4.35                  | 4.29 | 4.28 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 142400   | 4.32                  | 4.27 | 4.26 | 4.33                  | 4.28 | 4.26 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 161750   | 4.30                  | 4.25 | 4.24 | 4.30                  | 4.26 | 4.25 | 0.00            | 0.02  | 0.02  | ±0.3           |
| 180400   | 4.29                  | 4.25 | 4.23 | 4.29                  | 4.25 | 4.24 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 228400   | 4.26                  | 4.21 | 4.20 | 4.26                  | 4.21 | 4.20 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 289400   | 4.22                  | 4.18 | 4.17 | 4.22                  | 4.18 | 4.16 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 366400   | 4.18                  | 4.14 | 4.13 | 4.18                  | 4.14 | 4.12 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 400000   | 4.16                  | 4.12 | 4.11 | 4.16                  | 4.12 | 4.11 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 464000   | 4.13                  | 4.09 | 4.08 | 4.13                  | 4.09 | 4.08 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 587800   | 4.09                  | 4.05 | 4.04 | 4.08                  | 4.05 | 4.04 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 744200   | 4.03                  | 4.00 | 3.99 | 4.03                  | 4.00 | 4.00 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 942600   | 4.02                  | 3.99 | 3.98 | 4.01                  | 3.99 | 3.98 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 1193600  | 4.00                  | 3.97 | 3.96 | 3.99                  | 3.96 | 3.96 | -0.02           | -0.02 | 0.00  | ±0.3           |
| 1511600  | 3.99                  | 3.96 | 3.95 | 3.98                  | 3.95 | 3.95 | -0.02           | -0.02 | 0.00  | ±0.3           |
| 1914400  | 3.98                  | 3.94 | 3.94 | 3.97                  | 3.94 | 3.93 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 2424400  | 3.96                  | 3.93 | 3.92 | 3.96                  | 3.92 | 3.92 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 3070200  | 3.94                  | 3.90 | 3.89 | 3.93                  | 3.90 | 3.89 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 3888000  | 3.88                  | 3.85 | 3.84 | 3.86                  | 3.84 | 3.83 | -0.04           | -0.02 | -0.02 | ±0.3           |
| 4000000  | 3.87                  | 3.84 | 3.83 | 3.86                  | 3.83 | 3.83 | -0.02           | -0.02 | 0.00  | ±0.3           |
| 4923800  | 3.81                  | 3.78 | 3.77 | 3.80                  | 3.76 | 3.77 | -0.02           | -0.05 | 0.00  | ±0.3           |
| 6235400  | 3.70                  | 3.67 | 3.66 | 3.68                  | 3.65 | 3.66 | -0.05           | -0.05 | 0.00  | ±0.3           |
| 7896400  | 3.56                  | 3.52 | 3.52 | 3.54                  | 3.52 | 3.52 | -0.05           | 0.00  | 0.00  | ±0.3           |
| 10000000 | 3.41                  | 3.38 | 3.38 | 3.40                  | 3.37 | 3.38 | -0.03           | -0.03 | 0.00  | ±0.3           |

SPEAG H-field frequency response tolerance criteria<sup>1</sup>:  
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).



### Frequency Response, H-field, Channel 3

| f/(Hz)   | H-field/(A/m) Applied |      |      | H-field/(A/m) Reading |      |      | Difference/(dB) |       |      | Tolerance/(dB) |
|----------|-----------------------|------|------|-----------------------|------|------|-----------------|-------|------|----------------|
|          | x                     | y    | z    | x                     | y    | z    | x               | y     | z    |                |
| 3000     | 1.54                  | 1.54 | 1.54 | 1.55                  | 1.56 | 1.55 | 0.06            | 0.11  | 0.06 | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.53 | 1.52                  | 1.56 | 1.54 | -0.11           | 0.11  | 0.06 | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.53                  | 1.54 | 1.55 | 0.00            | 0.06  | 0.11 | ±0.3           |
| 5200     | 1.52                  | 1.52 | 1.51 | 1.51                  | 1.52 | 1.54 | -0.06           | 0.00  | 0.17 | ±0.3           |
| 6600     | 1.51                  | 1.51 | 1.50 | 1.51                  | 1.51 | 1.52 | 0.00            | 0.00  | 0.12 | ±0.3           |
| 8200     | 1.50                  | 1.50 | 1.49 | 1.50                  | 1.50 | 1.50 | 0.00            | 0.00  | 0.06 | ±0.3           |
| 9000     | 1.49                  | 1.49 | 1.49 | 1.49                  | 1.50 | 1.50 | 0.00            | 0.06  | 0.06 | ±0.3           |
| 10600    | 4.36                  | 4.26 | 4.24 | 4.41                  | 4.28 | 4.30 | 0.10            | 0.04  | 0.12 | ±0.3           |
| 13400    | 4.38                  | 4.33 | 4.31 | 4.41                  | 4.36 | 4.33 | 0.06            | 0.06  | 0.04 | ±0.3           |
| 17000    | 4.39                  | 4.32 | 4.30 | 4.42                  | 4.34 | 4.32 | 0.06            | 0.04  | 0.04 | ±0.3           |
| 21400    | 4.41                  | 4.34 | 4.33 | 4.44                  | 4.37 | 4.36 | 0.06            | 0.06  | 0.06 | ±0.3           |
| 27200    | 4.41                  | 4.34 | 4.32 | 4.44                  | 4.37 | 4.34 | 0.06            | 0.06  | 0.04 | ±0.3           |
| 34400    | 4.41                  | 4.35 | 4.33 | 4.42                  | 4.38 | 4.36 | 0.02            | 0.06  | 0.06 | ±0.3           |
| 40000    | 4.40                  | 4.34 | 4.33 | 4.42                  | 4.37 | 4.36 | 0.04            | 0.06  | 0.06 | ±0.3           |
| 43600    | 4.39                  | 4.34 | 4.32 | 4.43                  | 4.35 | 4.34 | 0.08            | 0.02  | 0.04 | ±0.3           |
| 55400    | 4.38                  | 4.32 | 4.31 | 4.40                  | 4.34 | 4.33 | 0.04            | 0.04  | 0.04 | ±0.3           |
| 70000    | 4.37                  | 4.32 | 4.30 | 4.38                  | 4.33 | 4.32 | 0.02            | 0.02  | 0.04 | ±0.3           |
| 88800    | 4.35                  | 4.30 | 4.29 | 4.36                  | 4.31 | 4.31 | 0.02            | 0.02  | 0.04 | ±0.3           |
| 112400   | 4.34                  | 4.29 | 4.28 | 4.34                  | 4.30 | 4.29 | 0.00            | 0.02  | 0.02 | ±0.3           |
| 142400   | 4.32                  | 4.27 | 4.26 | 4.33                  | 4.30 | 4.27 | 0.02            | 0.06  | 0.02 | ±0.3           |
| 161750   | 4.30                  | 4.25 | 4.24 | 4.31                  | 4.26 | 4.25 | 0.02            | 0.02  | 0.02 | ±0.3           |
| 180400   | 4.29                  | 4.25 | 4.23 | 4.29                  | 4.25 | 4.24 | 0.00            | 0.00  | 0.02 | ±0.3           |
| 228400   | 4.26                  | 4.21 | 4.20 | 4.24                  | 4.22 | 4.21 | -0.04           | 0.02  | 0.02 | ±0.3           |
| 289400   | 4.22                  | 4.18 | 4.17 | 4.22                  | 4.19 | 4.17 | 0.00            | 0.02  | 0.00 | ±0.3           |
| 366400   | 4.18                  | 4.14 | 4.13 | 4.18                  | 4.14 | 4.13 | 0.00            | 0.00  | 0.00 | ±0.3           |
| 400000   | 4.16                  | 4.12 | 4.11 | 4.16                  | 4.12 | 4.11 | 0.00            | 0.00  | 0.00 | ±0.3           |
| 464000   | 4.13                  | 4.09 | 4.08 | 4.13                  | 4.10 | 4.08 | 0.00            | 0.02  | 0.00 | ±0.3           |
| 587800   | 4.09                  | 4.05 | 4.04 | 4.08                  | 4.05 | 4.04 | -0.02           | 0.00  | 0.00 | ±0.3           |
| 744200   | 4.03                  | 4.00 | 3.99 | 4.03                  | 4.01 | 4.00 | 0.00            | 0.02  | 0.02 | ±0.3           |
| 942600   | 4.02                  | 3.99 | 3.98 | 4.01                  | 3.99 | 3.99 | -0.02           | 0.00  | 0.02 | ±0.3           |
| 1193600  | 4.00                  | 3.97 | 3.96 | 4.00                  | 3.97 | 3.96 | 0.00            | 0.00  | 0.00 | ±0.3           |
| 1511600  | 3.99                  | 3.96 | 3.95 | 3.99                  | 3.96 | 3.95 | 0.00            | 0.00  | 0.00 | ±0.3           |
| 1914400  | 3.98                  | 3.94 | 3.94 | 3.97                  | 3.95 | 3.94 | -0.02           | 0.02  | 0.00 | ±0.3           |
| 2424400  | 3.96                  | 3.93 | 3.92 | 3.95                  | 3.93 | 3.92 | -0.02           | 0.00  | 0.00 | ±0.3           |
| 3070200  | 3.94                  | 3.90 | 3.89 | 3.92                  | 3.91 | 3.89 | -0.04           | 0.02  | 0.00 | ±0.3           |
| 3888000  | 3.88                  | 3.85 | 3.84 | 3.88                  | 3.85 | 3.84 | 0.00            | 0.00  | 0.00 | ±0.3           |
| 4000000  | 3.87                  | 3.84 | 3.83 | 3.87                  | 3.84 | 3.83 | 0.00            | 0.00  | 0.00 | ±0.3           |
| 4923800  | 3.81                  | 3.78 | 3.77 | 3.80                  | 3.79 | 3.77 | -0.02           | 0.02  | 0.00 | ±0.3           |
| 6235400  | 3.70                  | 3.67 | 3.66 | 3.68                  | 3.66 | 3.66 | -0.05           | -0.02 | 0.00 | ±0.3           |
| 7896400  | 3.56                  | 3.52 | 3.52 | 3.55                  | 3.53 | 3.52 | -0.02           | 0.02  | 0.00 | ±0.3           |
| 10000000 | 3.41                  | 3.38 | 3.38 | 3.40                  | 3.38 | 3.38 | -0.03           | 0.00  | 0.00 | ±0.3           |

SPEAG H-field frequency response tolerance criteria<sup>1</sup>:  
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).

## Frequency Response, H-field, Channel 4

| f/(Hz)   | H-field/(A/m) Applied |      |      | H-field/(A/m) Reading |      |      | Difference/(dB) |       |       | Tolerance/(dB) |
|----------|-----------------------|------|------|-----------------------|------|------|-----------------|-------|-------|----------------|
|          | x                     | y    | z    | x                     | y    | z    | x               | y     | z     |                |
| 3000     | 1.54                  | 1.54 | 1.54 | 1.56                  | 1.55 | 1.55 | 0.11            | 0.06  | 0.06  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.53 | 1.53                  | 1.57 | 1.54 | -0.06           | 0.17  | 0.06  | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.54                  | 1.54 | 1.53 | 0.06            | 0.06  | 0.00  | ±0.3           |
| 5200     | 1.52                  | 1.52 | 1.51 | 1.52                  | 1.52 | 1.53 | 0.00            | 0.00  | 0.11  | ±0.3           |
| 6600     | 1.51                  | 1.51 | 1.50 | 1.52                  | 1.51 | 1.52 | 0.06            | 0.00  | 0.12  | ±0.3           |
| 8200     | 1.50                  | 1.50 | 1.49 | 1.50                  | 1.50 | 1.50 | 0.00            | 0.00  | 0.06  | ±0.3           |
| 9000     | 1.49                  | 1.49 | 1.49 | 1.50                  | 1.50 | 1.50 | 0.06            | 0.06  | 0.06  | ±0.3           |
| 10600    | 4.36                  | 4.26 | 4.24 | 4.39                  | 4.32 | 4.29 | 0.06            | 0.12  | 0.10  | ±0.3           |
| 13400    | 4.38                  | 4.33 | 4.31 | 4.39                  | 4.35 | 4.33 | 0.02            | 0.04  | 0.04  | ±0.3           |
| 17000    | 4.39                  | 4.32 | 4.30 | 4.42                  | 4.35 | 4.33 | 0.06            | 0.06  | 0.06  | ±0.3           |
| 21400    | 4.41                  | 4.34 | 4.33 | 4.45                  | 4.36 | 4.33 | 0.08            | 0.04  | 0.00  | ±0.3           |
| 27200    | 4.41                  | 4.34 | 4.32 | 4.42                  | 4.36 | 4.34 | 0.02            | 0.04  | 0.04  | ±0.3           |
| 34400    | 4.41                  | 4.35 | 4.33 | 4.43                  | 4.36 | 4.35 | 0.04            | 0.02  | 0.04  | ±0.3           |
| 40000    | 4.40                  | 4.34 | 4.33 | 4.41                  | 4.37 | 4.35 | 0.02            | 0.06  | 0.04  | ±0.3           |
| 43600    | 4.39                  | 4.34 | 4.32 | 4.40                  | 4.37 | 4.33 | 0.02            | 0.06  | 0.02  | ±0.3           |
| 55400    | 4.38                  | 4.32 | 4.31 | 4.39                  | 4.34 | 4.32 | 0.02            | 0.04  | 0.02  | ±0.3           |
| 70000    | 4.37                  | 4.32 | 4.30 | 4.38                  | 4.33 | 4.31 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 88800    | 4.35                  | 4.30 | 4.29 | 4.36                  | 4.32 | 4.30 | 0.02            | 0.04  | 0.02  | ±0.3           |
| 112400   | 4.34                  | 4.29 | 4.28 | 4.34                  | 4.30 | 4.28 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 142400   | 4.32                  | 4.27 | 4.26 | 4.32                  | 4.26 | 4.27 | 0.00            | -0.02 | 0.02  | ±0.3           |
| 161750   | 4.30                  | 4.25 | 4.24 | 4.30                  | 4.26 | 4.25 | 0.00            | 0.02  | 0.02  | ±0.3           |
| 180400   | 4.29                  | 4.25 | 4.23 | 4.28                  | 4.25 | 4.23 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 228400   | 4.26                  | 4.21 | 4.20 | 4.29                  | 4.22 | 4.20 | 0.06            | 0.02  | 0.00  | ±0.3           |
| 289400   | 4.22                  | 4.18 | 4.17 | 4.21                  | 4.17 | 4.17 | -0.02           | -0.02 | 0.00  | ±0.3           |
| 366400   | 4.18                  | 4.14 | 4.13 | 4.17                  | 4.14 | 4.13 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 400000   | 4.16                  | 4.12 | 4.11 | 4.15                  | 4.12 | 4.11 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 464000   | 4.13                  | 4.09 | 4.08 | 4.12                  | 4.09 | 4.08 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 587800   | 4.09                  | 4.05 | 4.04 | 4.08                  | 4.05 | 4.04 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 744200   | 4.03                  | 4.00 | 3.99 | 4.02                  | 4.00 | 4.00 | -0.02           | 0.00  | 0.02  | ±0.3           |
| 942600   | 4.02                  | 3.99 | 3.98 | 4.01                  | 3.99 | 3.98 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 1193600  | 4.00                  | 3.97 | 3.96 | 3.98                  | 3.96 | 3.96 | -0.04           | -0.02 | 0.00  | ±0.3           |
| 1511600  | 3.99                  | 3.96 | 3.95 | 3.98                  | 3.96 | 3.96 | -0.02           | 0.00  | 0.02  | ±0.3           |
| 1914400  | 3.98                  | 3.94 | 3.94 | 3.97                  | 3.94 | 3.93 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 2424400  | 3.96                  | 3.93 | 3.92 | 3.95                  | 3.93 | 3.91 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 3070200  | 3.94                  | 3.90 | 3.89 | 3.93                  | 3.90 | 3.89 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 3888000  | 3.88                  | 3.85 | 3.84 | 3.87                  | 3.85 | 3.83 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 4000000  | 3.87                  | 3.84 | 3.83 | 3.86                  | 3.83 | 3.82 | -0.02           | -0.02 | -0.02 | ±0.3           |
| 4923800  | 3.81                  | 3.78 | 3.77 | 3.79                  | 3.77 | 3.77 | -0.05           | -0.02 | 0.00  | ±0.3           |
| 6235400  | 3.70                  | 3.67 | 3.66 | 3.69                  | 3.67 | 3.66 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 7896400  | 3.56                  | 3.52 | 3.52 | 3.54                  | 3.53 | 3.51 | -0.05           | 0.02  | -0.02 | ±0.3           |
| 10000000 | 3.41                  | 3.38 | 3.38 | 3.38                  | 3.38 | 3.38 | -0.08           | 0.00  | 0.00  | ±0.3           |

SPEAG H-field frequency response tolerance criteria<sup>1</sup>:  
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

<sup>1</sup>Calibration uncertainty not taken into account (shared risk 50%).

## Frequency Response, H-field, Channel 5

| f/(Hz)   | H-field/(A/m) Applied |      |      | H-field/(A/m) Reading |      |      | Difference/(dB) |       |       | Tolerance/(dB) |
|----------|-----------------------|------|------|-----------------------|------|------|-----------------|-------|-------|----------------|
|          | x                     | y    | z    | x                     | y    | z    | x               | y     | z     |                |
| 3000     | 1.54                  | 1.54 | 1.54 | 1.55                  | 1.55 | 1.54 | 0.06            | 0.06  | 0.00  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.53 | 1.52                  | 1.57 | 1.54 | -0.11           | 0.17  | 0.06  | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.53                  | 1.53 | 1.54 | 0.00            | 0.00  | 0.06  | ±0.3           |
| 5200     | 1.52                  | 1.52 | 1.51 | 1.53                  | 1.52 | 1.53 | 0.06            | 0.00  | 0.11  | ±0.3           |
| 6600     | 1.51                  | 1.51 | 1.50 | 1.52                  | 1.51 | 1.51 | 0.06            | 0.00  | 0.06  | ±0.3           |
| 8200     | 1.50                  | 1.50 | 1.49 | 1.51                  | 1.50 | 1.50 | 0.06            | 0.00  | 0.06  | ±0.3           |
| 9000     | 1.49                  | 1.49 | 1.49 | 1.49                  | 1.50 | 1.50 | 0.00            | 0.06  | 0.06  | ±0.3           |
| 10600    | 4.36                  | 4.26 | 4.24 | 4.39                  | 4.28 | 4.29 | 0.06            | 0.04  | 0.10  | ±0.3           |
| 13400    | 4.38                  | 4.33 | 4.31 | 4.41                  | 4.33 | 4.33 | 0.06            | 0.00  | 0.04  | ±0.3           |
| 17000    | 4.39                  | 4.32 | 4.30 | 4.42                  | 4.35 | 4.33 | 0.06            | 0.06  | 0.06  | ±0.3           |
| 21400    | 4.41                  | 4.34 | 4.33 | 4.42                  | 4.38 | 4.34 | 0.02            | 0.08  | 0.02  | ±0.3           |
| 27200    | 4.41                  | 4.34 | 4.32 | 4.44                  | 4.36 | 4.34 | 0.06            | 0.04  | 0.04  | ±0.3           |
| 34400    | 4.41                  | 4.35 | 4.33 | 4.43                  | 4.37 | 4.35 | 0.04            | 0.04  | 0.04  | ±0.3           |
| 40000    | 4.40                  | 4.34 | 4.33 | 4.43                  | 4.37 | 4.34 | 0.06            | 0.06  | 0.02  | ±0.3           |
| 43600    | 4.39                  | 4.34 | 4.32 | 4.42                  | 4.36 | 4.35 | 0.06            | 0.04  | 0.06  | ±0.3           |
| 55400    | 4.38                  | 4.32 | 4.31 | 4.39                  | 4.34 | 4.32 | 0.02            | 0.04  | 0.02  | ±0.3           |
| 70000    | 4.37                  | 4.32 | 4.30 | 4.39                  | 4.33 | 4.31 | 0.04            | 0.02  | 0.02  | ±0.3           |
| 88800    | 4.35                  | 4.30 | 4.29 | 4.37                  | 4.31 | 4.29 | 0.04            | 0.02  | 0.00  | ±0.3           |
| 112400   | 4.34                  | 4.29 | 4.28 | 4.35                  | 4.29 | 4.29 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 142400   | 4.32                  | 4.27 | 4.26 | 4.33                  | 4.27 | 4.26 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 161750   | 4.30                  | 4.25 | 4.24 | 4.31                  | 4.26 | 4.25 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 180400   | 4.29                  | 4.25 | 4.23 | 4.29                  | 4.25 | 4.24 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 228400   | 4.26                  | 4.21 | 4.20 | 4.27                  | 4.21 | 4.20 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 289400   | 4.22                  | 4.18 | 4.17 | 4.22                  | 4.18 | 4.17 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 366400   | 4.18                  | 4.14 | 4.13 | 4.17                  | 4.13 | 4.13 | -0.02           | -0.02 | 0.00  | ±0.3           |
| 400000   | 4.16                  | 4.12 | 4.11 | 4.16                  | 4.12 | 4.11 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 464000   | 4.13                  | 4.09 | 4.08 | 4.13                  | 4.09 | 4.08 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 587800   | 4.09                  | 4.05 | 4.04 | 4.08                  | 4.05 | 4.04 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 744200   | 4.03                  | 4.00 | 3.99 | 4.03                  | 4.00 | 3.99 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 942600   | 4.02                  | 3.99 | 3.98 | 4.01                  | 3.99 | 3.98 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 1193600  | 4.00                  | 3.97 | 3.96 | 3.99                  | 3.97 | 3.96 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 1511600  | 3.99                  | 3.96 | 3.95 | 3.98                  | 3.97 | 3.95 | -0.02           | 0.02  | 0.00  | ±0.3           |
| 1914400  | 3.98                  | 3.94 | 3.94 | 3.97                  | 3.94 | 3.93 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 2424400  | 3.96                  | 3.93 | 3.92 | 3.96                  | 3.92 | 3.92 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 3070200  | 3.94                  | 3.90 | 3.89 | 3.93                  | 3.90 | 3.89 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 3888000  | 3.88                  | 3.85 | 3.84 | 3.88                  | 3.85 | 3.83 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 4000000  | 3.87                  | 3.84 | 3.83 | 3.87                  | 3.84 | 3.83 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 4923800  | 3.81                  | 3.78 | 3.77 | 3.80                  | 3.77 | 3.76 | -0.02           | -0.02 | -0.02 | ±0.3           |
| 6235400  | 3.70                  | 3.67 | 3.66 | 3.69                  | 3.67 | 3.65 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 7896400  | 3.56                  | 3.52 | 3.52 | 3.55                  | 3.52 | 3.51 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 10000000 | 3.41                  | 3.38 | 3.38 | 3.41                  | 3.37 | 3.38 | 0.00            | -0.03 | 0.00  | ±0.3           |

SPEAG H-field frequency response tolerance criteria<sup>1</sup>:  
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

<sup>1</sup>Calibration uncertainty not taken into account (shared risk 50%).

## Frequency Response, H-field, Channel 6

| f/(Hz)   | H-field/(A/m) Applied |      |      | H-field/(A/m) Reading |      |      | Difference/(dB) |       |       | Tolerance/(dB) |
|----------|-----------------------|------|------|-----------------------|------|------|-----------------|-------|-------|----------------|
|          | x                     | y    | z    | x                     | y    | z    | x               | y     | z     |                |
| 3000     | 1.54                  | 1.54 | 1.54 | 1.55                  | 1.55 | 1.55 | 0.06            | 0.06  | 0.06  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.53 | 1.52                  | 1.57 | 1.54 | -0.11           | 0.17  | 0.06  | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.54                  | 1.53 | 1.54 | 0.06            | 0.00  | 0.06  | ±0.3           |
| 5200     | 1.52                  | 1.52 | 1.51 | 1.52                  | 1.52 | 1.53 | 0.00            | 0.00  | 0.11  | ±0.3           |
| 6600     | 1.51                  | 1.51 | 1.50 | 1.51                  | 1.51 | 1.52 | 0.00            | 0.00  | 0.12  | ±0.3           |
| 8200     | 1.50                  | 1.50 | 1.49 | 1.50                  | 1.50 | 1.50 | 0.00            | 0.00  | 0.06  | ±0.3           |
| 9000     | 1.49                  | 1.49 | 1.49 | 1.49                  | 1.50 | 1.50 | 0.00            | 0.06  | 0.06  | ±0.3           |
| 10600    | 4.36                  | 4.26 | 4.24 | 4.41                  | 4.29 | 4.30 | 0.10            | 0.06  | 0.12  | ±0.3           |
| 13400    | 4.38                  | 4.33 | 4.31 | 4.42                  | 4.36 | 4.32 | 0.08            | 0.06  | 0.02  | ±0.3           |
| 17000    | 4.39                  | 4.32 | 4.30 | 4.41                  | 4.35 | 4.32 | 0.04            | 0.06  | 0.04  | ±0.3           |
| 21400    | 4.41                  | 4.34 | 4.33 | 4.43                  | 4.36 | 4.37 | 0.04            | 0.04  | 0.08  | ±0.3           |
| 27200    | 4.41                  | 4.34 | 4.32 | 4.44                  | 4.36 | 4.35 | 0.06            | 0.04  | 0.06  | ±0.3           |
| 34400    | 4.41                  | 4.35 | 4.33 | 4.43                  | 4.36 | 4.35 | 0.04            | 0.02  | 0.04  | ±0.3           |
| 40000    | 4.40                  | 4.34 | 4.33 | 4.43                  | 4.37 | 4.35 | 0.06            | 0.06  | 0.04  | ±0.3           |
| 43600    | 4.39                  | 4.34 | 4.32 | 4.42                  | 4.35 | 4.34 | 0.06            | 0.02  | 0.04  | ±0.3           |
| 55400    | 4.38                  | 4.32 | 4.31 | 4.39                  | 4.35 | 4.33 | 0.02            | 0.06  | 0.04  | ±0.3           |
| 70000    | 4.37                  | 4.32 | 4.30 | 4.39                  | 4.34 | 4.32 | 0.04            | 0.04  | 0.04  | ±0.3           |
| 88800    | 4.35                  | 4.30 | 4.29 | 4.37                  | 4.31 | 4.30 | 0.04            | 0.02  | 0.02  | ±0.3           |
| 112400   | 4.34                  | 4.29 | 4.28 | 4.35                  | 4.29 | 4.28 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 142400   | 4.32                  | 4.27 | 4.26 | 4.33                  | 4.28 | 4.27 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 161750   | 4.30                  | 4.25 | 4.24 | 4.31                  | 4.26 | 4.25 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 180400   | 4.29                  | 4.25 | 4.23 | 4.29                  | 4.25 | 4.24 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 228400   | 4.26                  | 4.21 | 4.20 | 4.22                  | 4.22 | 4.21 | -0.08           | 0.02  | 0.02  | ±0.3           |
| 289400   | 4.22                  | 4.18 | 4.17 | 4.22                  | 4.18 | 4.17 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 366400   | 4.18                  | 4.14 | 4.13 | 4.18                  | 4.14 | 4.13 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 400000   | 4.16                  | 4.12 | 4.11 | 4.16                  | 4.12 | 4.11 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 464000   | 4.13                  | 4.09 | 4.08 | 4.13                  | 4.09 | 4.08 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 587800   | 4.09                  | 4.05 | 4.04 | 4.09                  | 4.05 | 4.04 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 744200   | 4.03                  | 4.00 | 3.99 | 4.03                  | 4.00 | 3.99 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 942600   | 4.02                  | 3.99 | 3.98 | 4.02                  | 3.98 | 3.98 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 1193600  | 4.00                  | 3.97 | 3.96 | 3.99                  | 3.96 | 3.96 | -0.02           | -0.02 | 0.00  | ±0.3           |
| 1511600  | 3.99                  | 3.96 | 3.95 | 3.98                  | 3.96 | 3.95 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 1914400  | 3.98                  | 3.94 | 3.94 | 3.97                  | 3.94 | 3.93 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 2424400  | 3.96                  | 3.93 | 3.92 | 3.96                  | 3.93 | 3.92 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 3070200  | 3.94                  | 3.90 | 3.89 | 3.93                  | 3.90 | 3.89 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 3888000  | 3.88                  | 3.85 | 3.84 | 3.88                  | 3.85 | 3.83 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 4000000  | 3.87                  | 3.84 | 3.83 | 3.87                  | 3.84 | 3.82 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 4923800  | 3.81                  | 3.78 | 3.77 | 3.80                  | 3.77 | 3.76 | -0.02           | -0.02 | -0.02 | ±0.3           |
| 6235400  | 3.70                  | 3.67 | 3.66 | 3.69                  | 3.67 | 3.65 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 7896400  | 3.56                  | 3.52 | 3.52 | 3.55                  | 3.50 | 3.51 | -0.02           | -0.05 | -0.02 | ±0.3           |
| 10000000 | 3.41                  | 3.38 | 3.38 | 3.40                  | 3.38 | 3.37 | -0.03           | 0.00  | -0.03 | ±0.3           |

SPEAG H-field frequency response tolerance criteria<sup>1</sup>:  
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).

## Frequency Response, H-field, Channel 7

| f/(Hz)   | H-field/(A/m) Applied |      |      | H-field/(A/m) Reading |      |      | Difference/(dB) |       |       | Tolerance/(dB) |
|----------|-----------------------|------|------|-----------------------|------|------|-----------------|-------|-------|----------------|
|          | x                     | y    | z    | x                     | y    | z    | x               | y     | z     |                |
| 3000     | 1.54                  | 1.54 | 1.54 | 1.55                  | 1.55 | 1.54 | 0.06            | 0.06  | 0.00  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.53 | 1.53                  | 1.57 | 1.54 | -0.06           | 0.17  | 0.06  | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.54                  | 1.53 | 1.54 | 0.06            | 0.00  | 0.06  | ±0.3           |
| 5200     | 1.52                  | 1.52 | 1.51 | 1.53                  | 1.52 | 1.53 | 0.06            | 0.00  | 0.11  | ±0.3           |
| 6600     | 1.51                  | 1.51 | 1.50 | 1.53                  | 1.51 | 1.52 | 0.11            | 0.00  | 0.12  | ±0.3           |
| 8200     | 1.50                  | 1.50 | 1.49 | 1.51                  | 1.49 | 1.50 | 0.06            | -0.06 | 0.06  | ±0.3           |
| 9000     | 1.49                  | 1.49 | 1.49 | 1.50                  | 1.50 | 1.50 | 0.06            | 0.06  | 0.06  | ±0.3           |
| 10600    | 4.36                  | 4.26 | 4.24 | 4.40                  | 4.27 | 4.30 | 0.08            | 0.02  | 0.12  | ±0.3           |
| 13400    | 4.38                  | 4.33 | 4.31 | 4.42                  | 4.35 | 4.34 | 0.08            | 0.04  | 0.06  | ±0.3           |
| 17000    | 4.39                  | 4.32 | 4.30 | 4.41                  | 4.36 | 4.34 | 0.04            | 0.08  | 0.08  | ±0.3           |
| 21400    | 4.41                  | 4.34 | 4.33 | 4.42                  | 4.37 | 4.36 | 0.02            | 0.06  | 0.06  | ±0.3           |
| 27200    | 4.41                  | 4.34 | 4.32 | 4.43                  | 4.37 | 4.34 | 0.04            | 0.06  | 0.04  | ±0.3           |
| 34400    | 4.41                  | 4.35 | 4.33 | 4.42                  | 4.36 | 4.35 | 0.02            | 0.02  | 0.04  | ±0.3           |
| 40000    | 4.40                  | 4.34 | 4.33 | 4.43                  | 4.37 | 4.35 | 0.06            | 0.06  | 0.04  | ±0.3           |
| 43600    | 4.39                  | 4.34 | 4.32 | 4.42                  | 4.36 | 4.34 | 0.06            | 0.04  | 0.04  | ±0.3           |
| 55400    | 4.38                  | 4.32 | 4.31 | 4.40                  | 4.34 | 4.33 | 0.04            | 0.04  | 0.04  | ±0.3           |
| 70000    | 4.37                  | 4.32 | 4.30 | 4.39                  | 4.33 | 4.31 | 0.04            | 0.02  | 0.02  | ±0.3           |
| 88800    | 4.35                  | 4.30 | 4.29 | 4.37                  | 4.31 | 4.30 | 0.04            | 0.02  | 0.02  | ±0.3           |
| 112400   | 4.34                  | 4.29 | 4.28 | 4.34                  | 4.29 | 4.29 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 142400   | 4.32                  | 4.27 | 4.26 | 4.33                  | 4.27 | 4.27 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 161750   | 4.30                  | 4.25 | 4.24 | 4.30                  | 4.26 | 4.25 | 0.00            | 0.02  | 0.02  | ±0.3           |
| 180400   | 4.29                  | 4.25 | 4.23 | 4.29                  | 4.25 | 4.23 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 228400   | 4.26                  | 4.21 | 4.20 | 4.27                  | 4.21 | 4.21 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 289400   | 4.22                  | 4.18 | 4.17 | 4.21                  | 4.18 | 4.17 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 366400   | 4.18                  | 4.14 | 4.13 | 4.18                  | 4.14 | 4.13 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 400000   | 4.16                  | 4.12 | 4.11 | 4.15                  | 4.12 | 4.11 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 464000   | 4.13                  | 4.09 | 4.08 | 4.13                  | 4.09 | 4.08 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 587800   | 4.09                  | 4.05 | 4.04 | 4.08                  | 4.05 | 4.04 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 744200   | 4.03                  | 4.00 | 3.99 | 4.03                  | 4.00 | 4.00 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 942600   | 4.02                  | 3.99 | 3.98 | 4.01                  | 3.99 | 3.98 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 1193600  | 4.00                  | 3.97 | 3.96 | 3.99                  | 3.97 | 3.96 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 1511600  | 3.99                  | 3.96 | 3.95 | 3.99                  | 3.96 | 3.95 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1914400  | 3.98                  | 3.94 | 3.94 | 3.98                  | 3.94 | 3.93 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 2424400  | 3.96                  | 3.93 | 3.92 | 3.96                  | 3.93 | 3.92 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 3070200  | 3.94                  | 3.90 | 3.89 | 3.92                  | 3.90 | 3.89 | -0.04           | 0.00  | 0.00  | ±0.3           |
| 3888000  | 3.88                  | 3.85 | 3.84 | 3.87                  | 3.84 | 3.83 | -0.02           | -0.02 | -0.02 | ±0.3           |
| 4000000  | 3.87                  | 3.84 | 3.83 | 3.87                  | 3.83 | 3.82 | 0.00            | -0.02 | -0.02 | ±0.3           |
| 4923800  | 3.81                  | 3.78 | 3.77 | 3.80                  | 3.77 | 3.76 | -0.02           | -0.02 | -0.02 | ±0.3           |
| 6235400  | 3.70                  | 3.67 | 3.66 | 3.69                  | 3.67 | 3.65 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 7896400  | 3.56                  | 3.52 | 3.52 | 3.55                  | 3.52 | 3.51 | -0.02           | 0.00  | -0.02 | ±0.3           |
| 10000000 | 3.41                  | 3.38 | 3.38 | 3.40                  | 3.37 | 3.40 | -0.03           | -0.03 | 0.05  | ±0.3           |

SPEAG H-field frequency response tolerance criteria<sup>1</sup>:  
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

<sup>1</sup>Calibration uncertainty not taken into account (shared risk 50%).

## Frequency Response, E-field, Channel 0

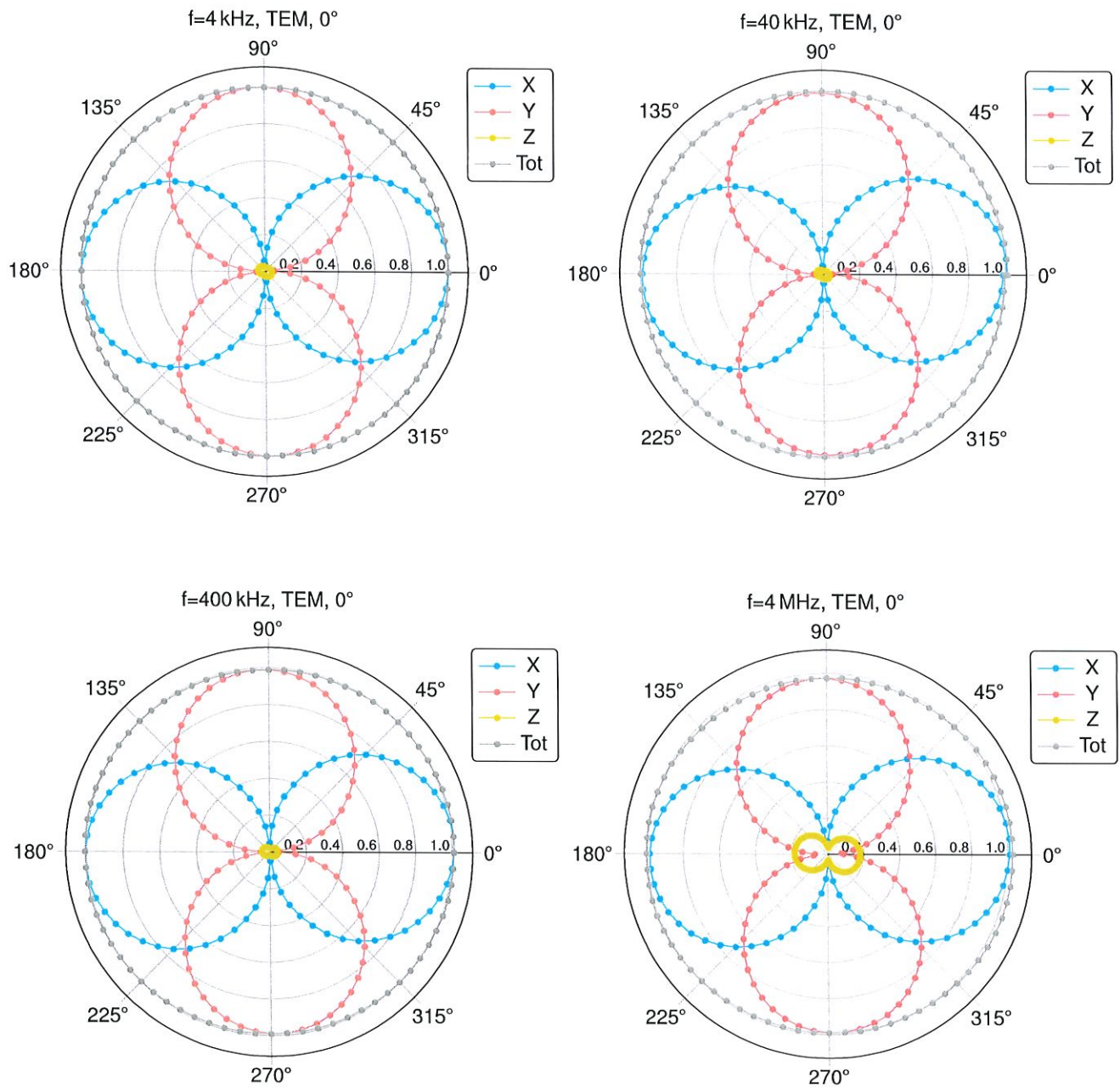
| f/(Hz)   | E-field/(V/m) Applied |      |      | E-field/(V/m) Reading |      |      | Difference/(dB) |       |       | Tolerance/(dB) |
|----------|-----------------------|------|------|-----------------------|------|------|-----------------|-------|-------|----------------|
|          | x                     | y    | z    | x                     | y    | z    | x               | y     | z     |                |
| 3000     | 82.8                  | 82.8 | 83.7 | 82.7                  | 82.8 | 83.7 | -0.01           | 0.00  | 0.00  | ±0.3           |
| 3200     | 82.2                  | 82.2 | 79.2 | 82.5                  | 81.6 | 79.8 | 0.03            | -0.06 | 0.07  | ±0.3           |
| 4000     | 85.7                  | 85.7 | 82.9 | 85.7                  | 85.6 | 82.9 | 0.00            | -0.01 | 0.00  | ±0.3           |
| 5200     | 80.3                  | 80.3 | 80.0 | 80.7                  | 80.8 | 79.3 | 0.04            | 0.05  | -0.08 | ±0.3           |
| 6600     | 80.0                  | 80.0 | 78.3 | 80.1                  | 80.2 | 78.4 | 0.01            | 0.02  | 0.01  | ±0.3           |
| 8200     | 79.5                  | 79.5 | 77.6 | 79.8                  | 79.1 | 77.7 | 0.03            | -0.04 | 0.01  | ±0.3           |
| 9000     | 79.9                  | 79.9 | 80.0 | 79.9                  | 80.0 | 80.0 | 0.00            | 0.01  | 0.00  | ±0.3           |
| 10600    | 81.5                  | 81.5 | 77.7 | 81.5                  | 81.5 | 77.6 | 0.00            | 0.00  | -0.01 | ±0.3           |
| 13400    | 80.1                  | 80.1 | 79.2 | 80.1                  | 80.1 | 79.1 | 0.00            | 0.00  | -0.01 | ±0.3           |
| 17000    | 79.2                  | 79.2 | 79.8 | 79.2                  | 79.2 | 79.8 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 21400    | 77.2                  | 77.2 | 77.7 | 77.2                  | 77.2 | 77.6 | 0.00            | 0.00  | -0.01 | ±0.3           |
| 27200    | 77.6                  | 77.6 | 77.0 | 77.7                  | 77.7 | 77.1 | 0.01            | 0.01  | 0.01  | ±0.3           |
| 34400    | 79.5                  | 79.5 | 78.1 | 79.5                  | 79.5 | 78.1 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 40000    | 79.0                  | 79.0 | 78.7 | 79.0                  | 79.1 | 78.7 | 0.00            | 0.01  | 0.00  | ±0.3           |
| 43600    | 79.4                  | 79.4 | 78.4 | 79.4                  | 79.5 | 78.5 | 0.00            | 0.01  | 0.01  | ±0.3           |
| 55400    | 78.9                  | 78.9 | 77.8 | 78.9                  | 78.9 | 77.8 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 70000    | 79.4                  | 79.4 | 78.2 | 79.4                  | 79.4 | 78.2 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 88800    | 79.2                  | 79.2 | 78.4 | 79.2                  | 79.2 | 78.5 | 0.00            | 0.00  | 0.01  | ±0.3           |
| 112400   | 79.1                  | 79.1 | 78.3 | 79.1                  | 79.1 | 78.3 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 142400   | 79.5                  | 79.5 | 78.5 | 79.5                  | 79.5 | 78.5 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 161750   | 79.9                  | 79.9 | 79.1 | 79.9                  | 79.9 | 79.1 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 180400   | 80.2                  | 80.2 | 79.3 | 80.2                  | 80.2 | 79.3 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 228400   | 80.9                  | 80.9 | 79.7 | 80.9                  | 80.9 | 79.7 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 289400   | 80.9                  | 80.9 | 80.0 | 80.9                  | 80.9 | 80.0 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 366400   | 81.0                  | 81.0 | 80.1 | 81.0                  | 81.0 | 80.1 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 400000   | 81.3                  | 81.3 | 80.3 | 81.3                  | 81.3 | 80.3 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 464000   | 81.9                  | 81.9 | 80.8 | 81.9                  | 81.9 | 80.8 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 587800   | 82.1                  | 82.1 | 81.0 | 82.2                  | 82.1 | 81.0 | 0.01            | 0.00  | 0.00  | ±0.3           |
| 744200   | 82.1                  | 82.1 | 81.0 | 82.1                  | 82.1 | 80.9 | 0.00            | 0.00  | -0.01 | ±0.3           |
| 942600   | 82.2                  | 82.2 | 81.1 | 82.2                  | 82.2 | 81.1 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1193600  | 82.4                  | 82.4 | 81.1 | 82.4                  | 82.4 | 81.1 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1511600  | 82.0                  | 82.0 | 81.0 | 82.0                  | 82.0 | 80.9 | 0.00            | 0.00  | -0.01 | ±0.3           |
| 1914400  | 81.7                  | 81.7 | 80.7 | 81.7                  | 81.7 | 80.7 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 2424400  | 81.5                  | 81.5 | 80.6 | 81.5                  | 81.5 | 80.6 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 3070200  | 81.6                  | 81.6 | 80.8 | 81.6                  | 81.6 | 80.8 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 3888000  | 81.8                  | 81.8 | 80.9 | 81.8                  | 81.8 | 80.9 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 4000000  | 81.9                  | 81.9 | 81.1 | 81.9                  | 81.9 | 81.1 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 4923800  | 82.5                  | 82.5 | 81.7 | 82.4                  | 82.5 | 81.7 | -0.01           | 0.00  | 0.00  | ±0.3           |
| 6235400  | 83.6                  | 83.6 | 82.5 | 83.6                  | 83.6 | 82.5 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 7896400  | 86.8                  | 86.8 | 86.3 | 86.8                  | 86.8 | 86.3 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 10000000 | 94.4                  | 94.4 | 93.8 | 94.4                  | 94.4 | 93.7 | 0.00            | 0.00  | -0.01 | ±0.3           |

SPEAG E-field frequency response tolerance criteria<sup>1</sup>:  
±0.3dB for applied E-fields at calibration points from 3kHz to 10MHz

<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%).

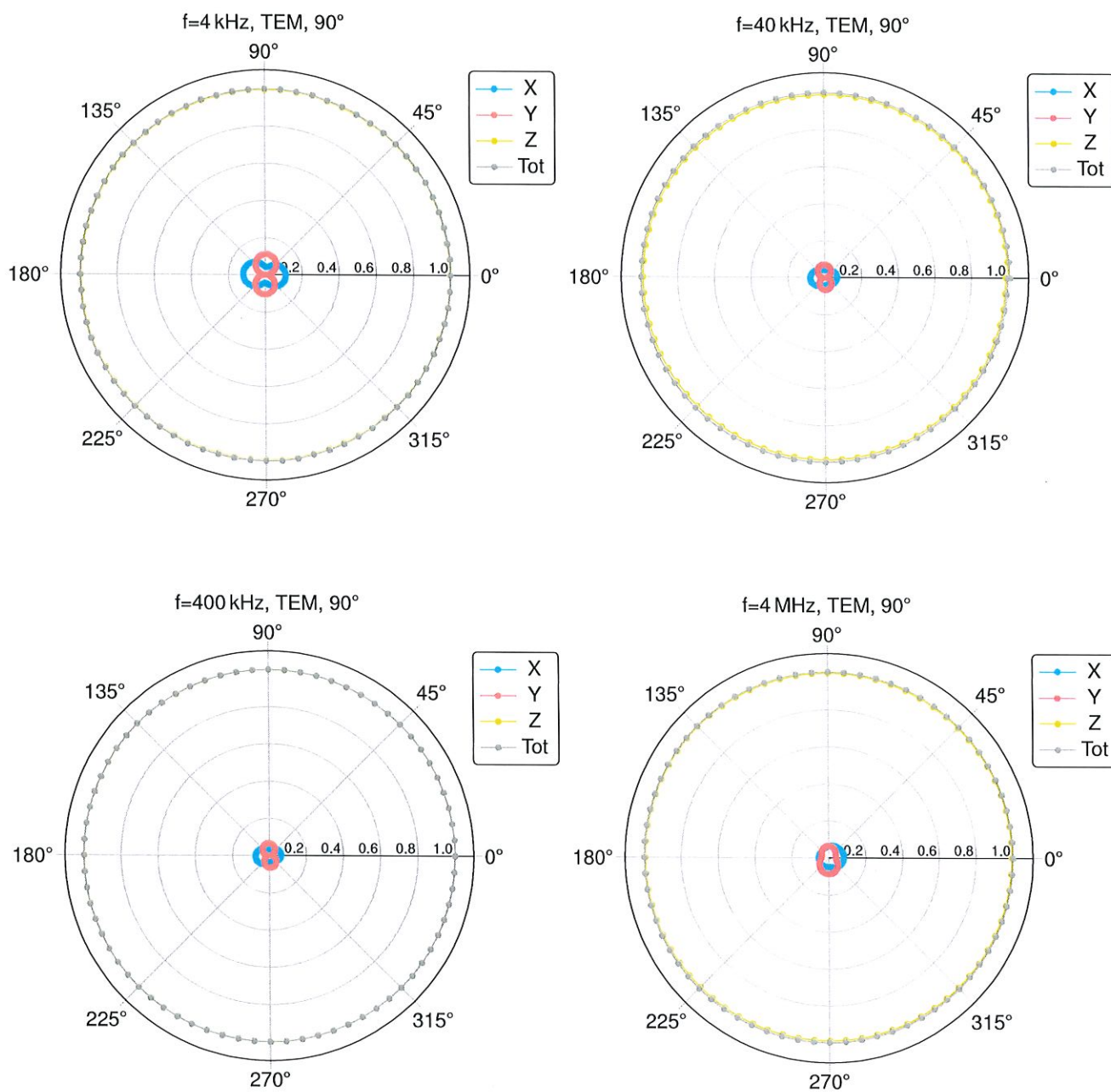
## Isotropy H-Field

### H-Field Receiving Pattern ( $\phi$ ), $\vartheta = 0^\circ$



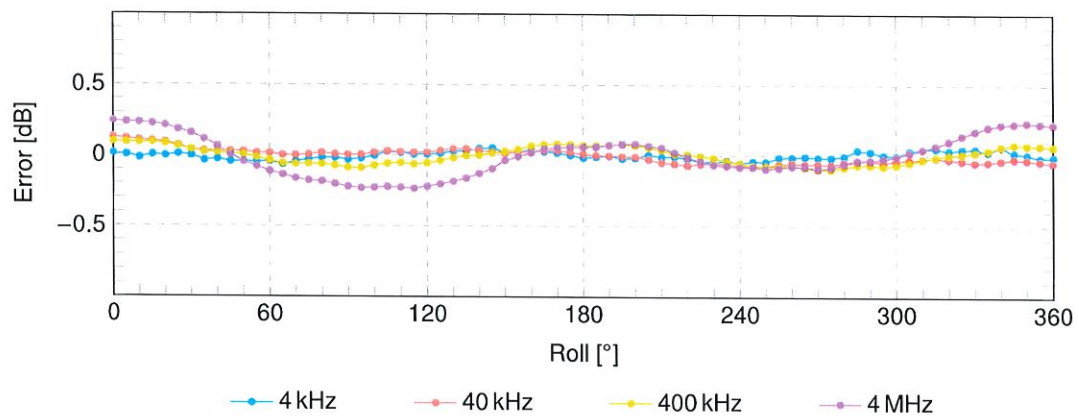


### H-Field Receiving Pattern ( $\phi$ ), $\vartheta = 90^\circ$

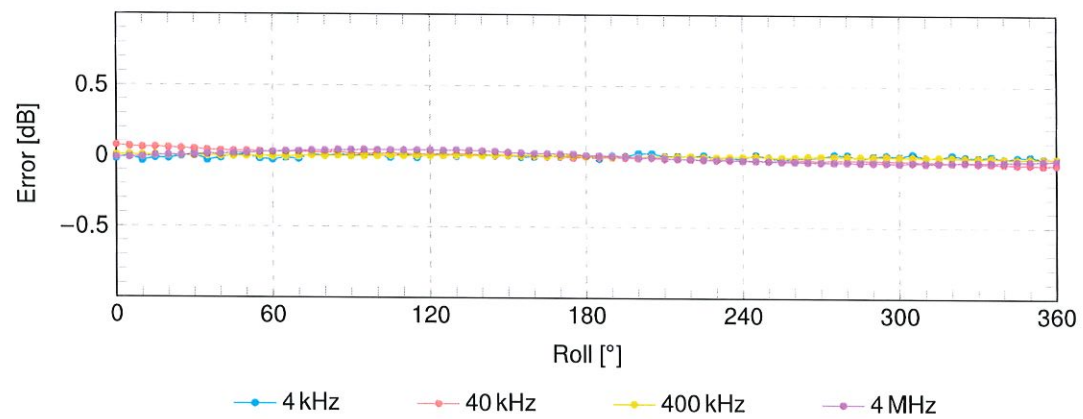




### H-Field Receiving Pattern ( $\phi$ ), $\vartheta = 0^\circ$



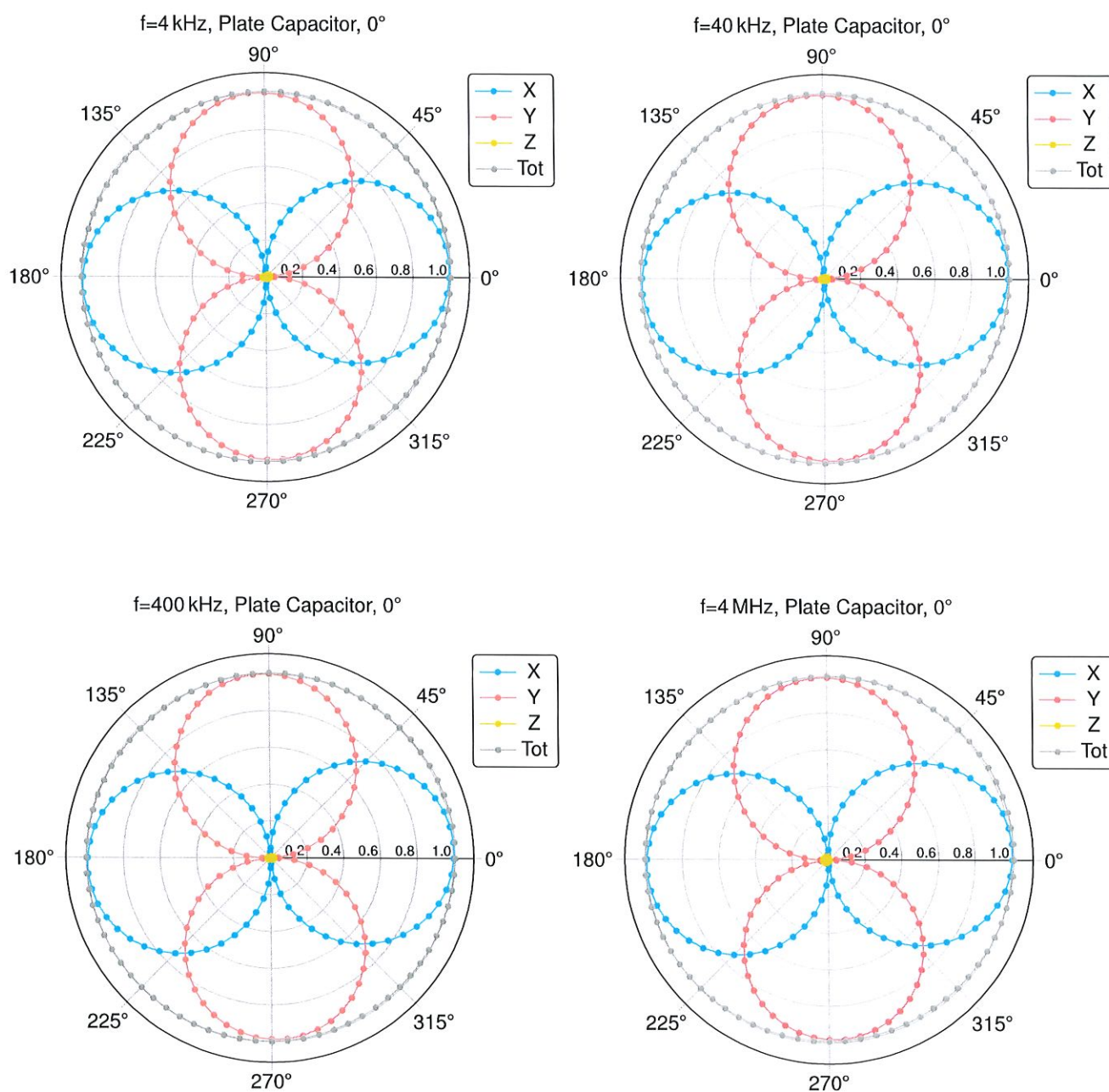
### H-Field Receiving Pattern ( $\phi$ ), $\vartheta = 90^\circ$



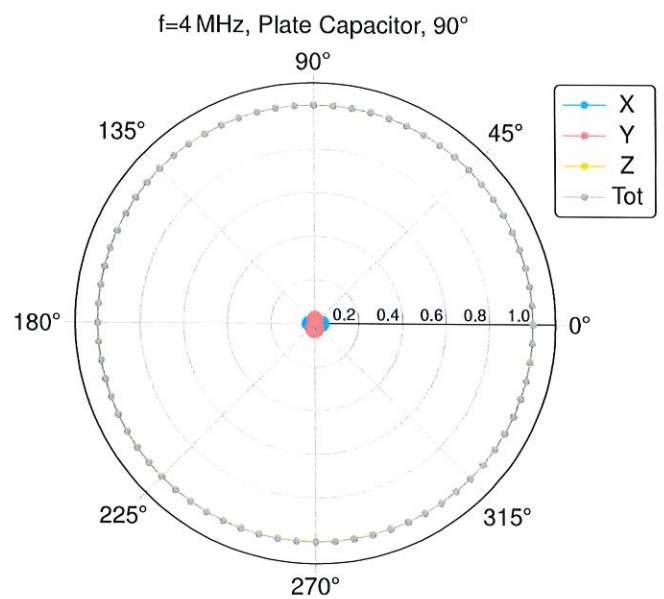
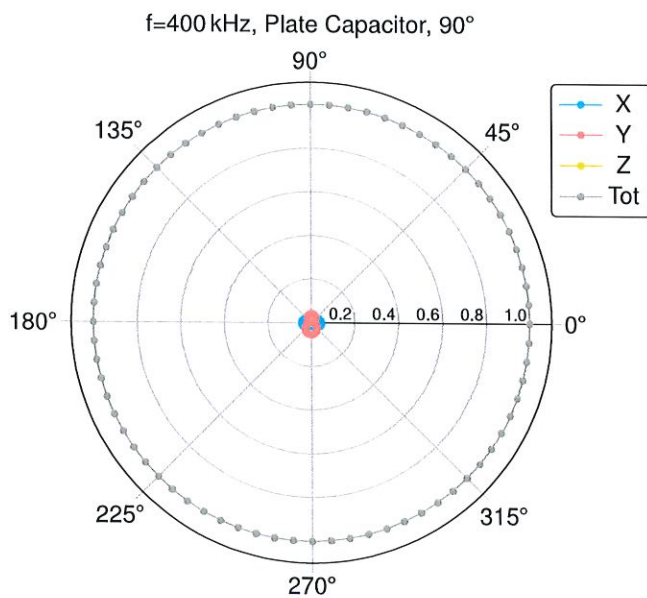
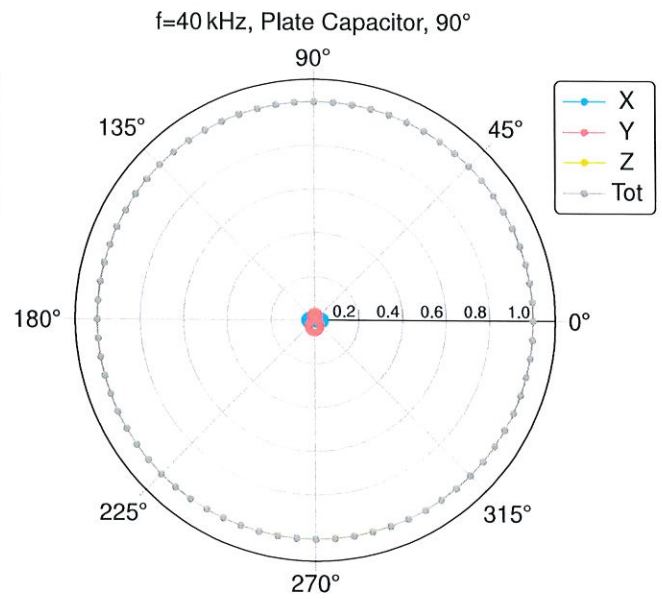
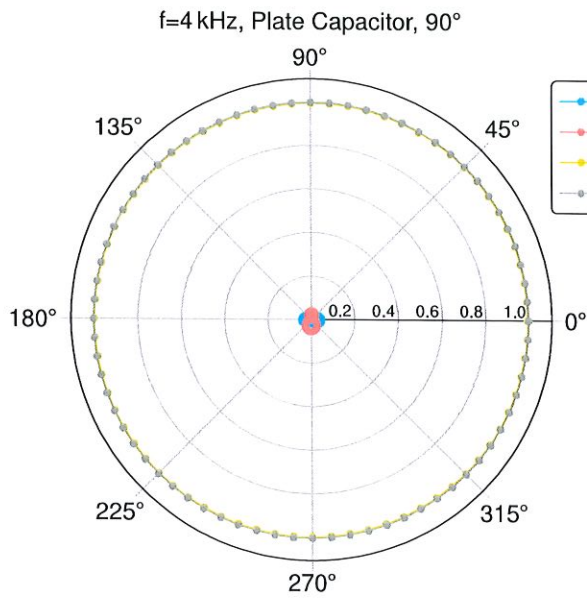
SPEAG axial deviation from the ideal response tolerance for H-field:  $\pm 0.6$  dB

## Isotropy E-Field

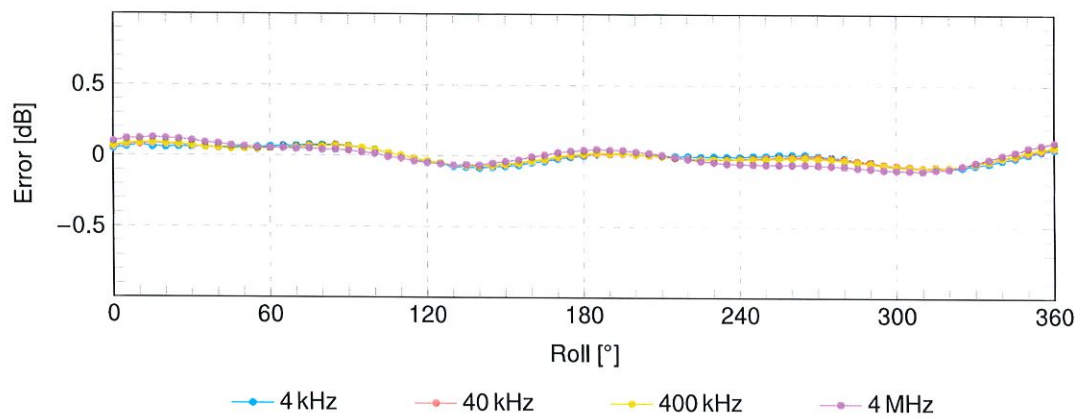
### E-Field Receiving Pattern ( $\phi$ ), $\vartheta = 0^\circ$



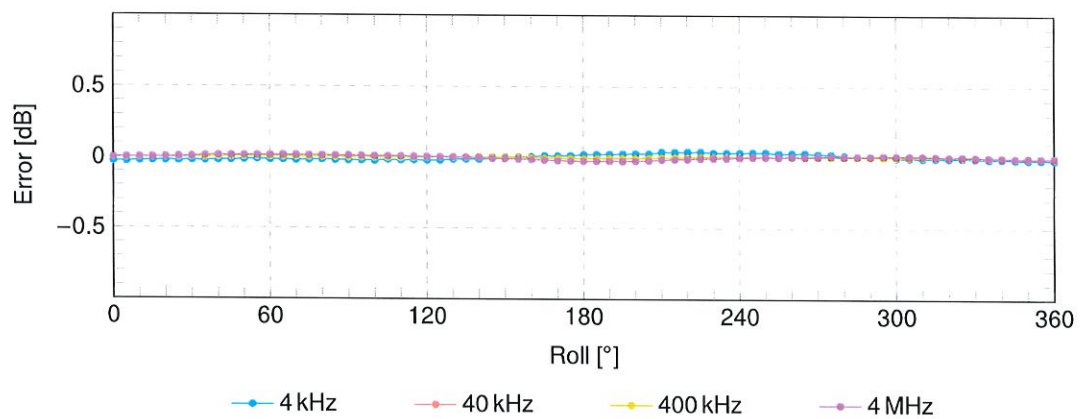
**E-Field Receiving Pattern ( $\phi$ ),  $\vartheta = 90^\circ$**



### E-Field Receiving Pattern ( $\phi$ ), $\vartheta = 0^\circ$



### E-Field Receiving Pattern ( $\phi$ ), $\vartheta = 90^\circ$



SPEAG axial deviation from the ideal response tolerance for E-field:  $\pm 0.8$  dB



Client

**WSCT**

**Certificate No: 24J02Z000487**

## CALIBRATION CERTIFICATE

Object **EX3DV4 - SN : 7391**

Calibration Procedure(s) **FF-Z11-004-02**  
**Calibration Procedures for Dosimetric E-field Probes**

Calibration date: **August 29, 2024**

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards        | ID #               | Cal Date(Calibrated by, Certificate No.)  | Scheduled Calibration |
|--------------------------|--------------------|-------------------------------------------|-----------------------|
| Power Meter NRP2         | 106277             | 19-Oct-23(CTTL, No.J23X11026)             | Oct-24                |
| Power sensor NRP8S       | 104291             | 19-Oct-23(CTTL, No.J23X11026)             | Oct-24                |
| Power sensor NRP8S       | 104292             | 19-Oct-23(CTTL, No.J23X11026)             | Oct-24                |
| Reference 10dBAttenuator | 18N50W-10dB        | 19-Jan-23(CTTL, No.J23X00212)             | Jan-25                |
| Reference 20dBAttenuator | 18N50W-20dB        | 19-Jan-23(CTTL, No.J23X00211)             | Jan-25                |
| Reference Probe EX3DV4   | SN 7307            | 28-May-24(SPEAG, No.EX-7307_May24)        | May-25                |
| DAE4                     | SN 771             | 19-Jan-24(SPEAG, No.DAE4-771_Jan24)       | Jan-25                |
| Secondary Standards      | ID #               | Cal Date(Calibrated by, Certificate No.)  | Scheduled Calibration |
| SignalGenerator MG3700A  | 6201052605         | 12-Jun-24(CTTL, No.24J02X005419)          | Jun-25                |
| SignalGenerator APSIN26G | 181-33A6D0700-1959 | 26-Mar-24(CTTL, No.24J02X002468)          | Mar-25                |
| Network Analyzer E5071C  | MY46110673         | 25-Dec-23(CTTL, No.J23X13425)             | Dec-24                |
| Reference 10dBAttenuator | BT0520             | 11-May-23(CTTL, No.J23X04061)             | May-25                |
| Reference 20dBAttenuator | BT0267             | 11-May-23(CTTL, No.J23X04062)             | May-25                |
| OCP DAK-12               | SN 1174            | 25-Oct-23(SPEAG, No.OCP-DAK12-1174_Oct23) | Oct-24                |

|                | Name        | Function           | Signature                                                                             |
|----------------|-------------|--------------------|---------------------------------------------------------------------------------------|
| Calibrated by: | Yu Zongying | SAR Test Engineer  |  |
| Reviewed by:   | Lin Jun     | SAR Test Engineer  |  |
| Approved by:   | Qi Dianyuan | SAR Project Leader |  |

Issued: September 07, 2024

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.





Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China

Tel: +86-10-62304633-2117

E-mail: emf@caict.ac.cn

<http://www.caict.ac.cn>**Glossary:**

|                       |                                                                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| TSL                   | tissue simulating liquid                                                                                                                    |
| NORM <sub>x,y,z</sub> | sensitivity in free space                                                                                                                   |
| ConvF                 | sensitivity in TSL / NORM <sub>x,y,z</sub>                                                                                                  |
| DCP                   | diode compression point                                                                                                                     |
| CF                    | crest factor (1/duty_cycle) of the RF signal                                                                                                |
| A,B,C,D               | modulation dependent linearization parameters                                                                                               |
| Polarization $\Phi$   | $\Phi$ rotation around probe axis                                                                                                           |
| Polarization $\theta$ | $\theta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i<br>$\theta=0$ is normal to probe axis |

Connector Angle information used in DASY system to align probe sensor X to the robot coordinate system

**Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Methods Applied and Interpretation of Parameters:**

- NORM<sub>x,y,z</sub>:** Assessed for E-field polarization  $\theta=0$  ( $f \leq 900\text{MHz}$  in TEM-cell;  $f > 1800\text{MHz}$ : waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not effect the  $E^2$ -field uncertainty inside TSL (see below ConvF).
- NORM(f)<sub>x,y,z</sub> = NORM<sub>x,y,z</sub> \* frequency\_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP<sub>x,y,z</sub>:** DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- PAR:** PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics.
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; VR<sub>x,y,z</sub>:** A,B,C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters:** Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800\text{MHz}$ ) and inside waveguide using analytical field distributions based on power measurements for  $f > 800\text{MHz}$ . The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty valued are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50\text{MHz}$  to  $\pm 100\text{MHz}$ .
- Spherical isotropy (3D deviation from isotropy):** in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset:** The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle:** The angle is assessed using the information gained by determining the NORM<sub>x</sub> (no uncertainty required).



Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China  
Tel: +86-10-62304633-2117  
E-mail: emf@caict.ac.cn <http://www.caict.ac.cn>

## DASY/EASY – Parameters of Probe: EX3DV4 – SN: 7391

### Basic Calibration Parameters

|                                      | Sensor X | Sensor Y | Sensor Z | Unc ( $k=2$ ) |
|--------------------------------------|----------|----------|----------|---------------|
| Norm( $\mu V/(V/m)^2$ ) <sup>A</sup> | 0.35     | 0.32     | 0.34     | ±10.0%        |
| DCP(mV) <sup>B</sup>                 | 101.8    | 106.3    | 99.8     |               |

### Calibration Results for Modulation Response

| UID       | Communication System Name   |   | A<br>dB | B<br>dB $\sqrt{\mu V}$ | C      | D<br>dB | VR<br>mV | Max<br>Dev. | Max<br>Unc <sup>E</sup><br>( $k=2$ ) |
|-----------|-----------------------------|---|---------|------------------------|--------|---------|----------|-------------|--------------------------------------|
| 0         | CW                          | X | 0.0     | 0.0                    | 1.0    | 0.00    | 146.3    | ±2.7%       | ±4.7%                                |
|           |                             | Y | 0.0     | 0.0                    | 1.0    |         | 141.5    |             |                                      |
|           |                             | Z | 0.0     | 0.0                    | 1.0    |         | 143.2    |             |                                      |
| 10352-AAA | Pulse Waveform (200Hz, 10%) | X | 1.32    | 60.00                  | 4.99   | 10.00   | 60       | ±5.2%       | ±9.6%                                |
|           |                             | Y | 1.47    | 60.85                  | 6.63   |         | 60       |             |                                      |
|           |                             | Z | 1.31    | 60.00                  | 5.20   |         | 60       |             |                                      |
| 10353-AAA | Pulse Waveform (200Hz, 20%) | X | 36.00   | 72.00                  | 7.00   | 6.99    | 80       | ±4.2%       | ±9.6%                                |
|           |                             | Y | 0.82    | 60.00                  | 4.99   |         | 80       |             |                                      |
|           |                             | Z | 14.00   | 70.00                  | 7.00   |         | 80       |             |                                      |
| 10354-AAA | Pulse Waveform (200Hz, 40%) | X | 0.00    | 69.19                  | 37.94  | 3.98    | 95       | ±4.6%       | ±9.6%                                |
|           |                             | Y | 0.05    | 60.00                  | 100.00 |         | 95       |             |                                      |
|           |                             | Z | 0.00    | 69.91                  | 38.60  |         | 95       |             |                                      |
| 10355-AAA | Pulse Waveform (200Hz, 60%) | X | 0.00    | 92.27                  | 100.00 | 2.22    | 120      | ±5.5%       | ±9.6%                                |
|           |                             | Y | 0.02    | 60.00                  | 100.00 |         | 120      |             |                                      |
|           |                             | Z | 0.00    | 90.64                  | 99.97  |         | 120      |             |                                      |
| 10387-AAA | QPSK Waveform, 1 MHz        | X | 20.00   | 126.25                 | 38.29  | 1.00    | 150      | ±3.6%       | ±9.6%                                |
|           |                             | Y | 20.00   | 123.70                 | 37.08  |         | 150      |             |                                      |
|           |                             | Z | 20.00   | 132.56                 | 41.66  |         | 150      |             |                                      |
| 10388-AAA | QPSK Waveform, 10 MHz       | X | 20.00   | 118.30                 | 36.15  | 0.00    | 150      | ±3.3%       | ±9.6%                                |
|           |                             | Y | 20.00   | 116.69                 | 35.33  |         | 150      |             |                                      |
|           |                             | Z | 20.00   | 121.31                 | 37.90  |         | 150      |             |                                      |
| 10396-AAA | 64-QAM Waveform, 100 kHz    | X | 10.12   | 112.49                 | 39.41  | 3.01    | 150      | ±2.2%       | ±9.6%                                |
|           |                             | Y | 6.92    | 101.30                 | 35.39  |         | 150      |             |                                      |
|           |                             | Z | 20.00   | 130.56                 | 45.18  |         | 150      |             |                                      |
| 10414-AAA | WLAN CCDF, 64-QAM, 40MHz    | X | 5.24    | 69.75                  | 18.68  | 0.00    | 150      | ±3.7%       | ±9.6%                                |
|           |                             | Y | 5.14    | 69.21                  | 18.25  |         | 150      |             |                                      |
|           |                             | Z | 5.28    | 70.02                  | 18.92  |         | 150      |             |                                      |

Note: For details on UID parameters see Appendix

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution Corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of Norm X, Y, Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Page 5).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.





Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China  
Tel: +86-10-62304633-2117  
E-mail: emf@caict.ac.cn <http://www.caict.ac.cn>

## DASY/EASY – Parameters of Probe: EX3DV4 – SN: 7391

### Sensor Model Parameters

|   | C1<br>fF | C2<br>fF | $\alpha$<br>V <sup>-1</sup> | T1<br>ms.V <sup>-2</sup> | T2<br>ms.V <sup>-1</sup> | T3<br>ms | T4<br>V <sup>-2</sup> | T5<br>V <sup>-1</sup> | T6   |
|---|----------|----------|-----------------------------|--------------------------|--------------------------|----------|-----------------------|-----------------------|------|
| X | 31.12    | 230.42   | 36.27                       | 4.26                     | 0.00                     | 4.90     | 0.00                  | 0.17                  | 1.02 |
| Y | 30.26    | 220.54   | 35.20                       | 5.72                     | 0.00                     | 5.03     | 0.25                  | 0.13                  | 1.02 |
| Z | 30.51    | 224.99   | 36.20                       | 5.41                     | 0.00                     | 4.93     | 0.28                  | 0.15                  | 1.02 |

### Other Probe Parameters

|                                               |            |
|-----------------------------------------------|------------|
| Sensor Arrangement                            | Triangular |
| Connector Angle (°)                           | 118.6      |
| Mechanical Surface Detection Mode             | enabled    |
| Optical Surface Detection Mode                | disable    |
| Probe Overall Length                          | 337mm      |
| Probe Body Diameter                           | 10mm       |
| Tip Length                                    | 9mm        |
| Tip Diameter                                  | 2.5mm      |
| Probe Tip to Sensor X Calibration Point       | 1mm        |
| Probe Tip to Sensor Y Calibration Point       | 1mm        |
| Probe Tip to Sensor Z Calibration Point       | 1mm        |
| Recommended Measurement Distance from Surface | 1.4mm      |