



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  
**Sporton**  
Taoyuan City

Certificate No. **MAGPy-8H3D-3059\_Jun25**

## CALIBRATION CERTIFICATE

Object **MAGPy-8H3D+E3DV2 SN:3059  
MAGPy-DASV2 SN:3064**

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

Calibration date **June 05, 2025**

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-25 (No. 217-04284)      | Mar-26                |
| Type-N mismatch            | SN: L1119        | 26-Mar-25 (No. 217-04292)      | Mar-26                |

| Secondary Standards     | ID             | Check Date (in house)  | Scheduled Check        |
|-------------------------|----------------|------------------------|------------------------|
| Network Analyzer E5061B | SN: MY49810822 | In house check: Nov-24 | In house check: Nov-25 |
| TEM Cell                | SN: S6029i     | In house check: Nov-24 | In house check: Nov-25 |
| Plate Capacitor         | SN: 6028i      | In house check: Nov-24 | In house check: Nov-25 |
| Resonator (160kHz)      | SN: 6030i      | In house check: Nov-24 | In house check: Nov-25 |

|               |                  |                       |           |
|---------------|------------------|-----------------------|-----------|
|               | Name             | Function              | Signature |
| Calibrated by | Krešimir Franjić | Laboratory Technician |           |
| Approved by   | Sven Kühn        | Technical Manager     |           |

Issued: June 05, 2025

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



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  $\theta$ , and  $\phi = 0^\circ \dots 360^\circ$ ;  $\theta = 90^\circ$ , 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  $\theta$ , and  $\phi = 0^\circ \dots 360^\circ$ ;  $\theta = 90^\circ$ , 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) | 3059          |
|                        | MAGPy-DASV2 (SE UMS 303 AE)      | 3064          |
|                        | MAGPy FPGA Board                 | WP000211      |
| Adjustment Date        | Last MAGPy Adjustment            | June 05, 2025 |
| 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     |                |
| 0.400                 | 0.380 | 0.360 | 0.390                 | 0.400 | 0.370 | -0.22           | 0.45  | 0.24  | ±1.00          |
| 0.540                 | 0.520 | 0.490 | 0.530                 | 0.530 | 0.500 | -0.16           | 0.17  | 0.18  | ±1.00          |
| 0.740                 | 0.710 | 0.680 | 0.740                 | 0.710 | 0.680 | 0.00            | 0.00  | 0.00  | ±1.00          |
| 0.970                 | 0.930 | 0.880 | 0.970                 | 0.910 | 0.890 | 0.00            | -0.19 | 0.10  | ±1.00          |
| 1.31                  | 1.26  | 1.19  | 1.31                  | 1.24  | 1.21  | 0.00            | -0.14 | 0.14  | ±1.00          |
| 1.80                  | 1.73  | 1.64  | 1.79                  | 1.73  | 1.66  | -0.05           | 0.00  | 0.11  | ±1.00          |
| 2.39                  | 2.31  | 2.18  | 2.38                  | 2.30  | 2.21  | -0.04           | -0.04 | 0.12  | ±0.20          |
| 3.19                  | 3.08  | 2.91  | 3.18                  | 3.09  | 2.94  | -0.03           | 0.03  | 0.09  | ±0.20          |
| 4.33                  | 4.18  | 3.94  | 4.32                  | 4.19  | 3.97  | -0.02           | 0.02  | 0.07  | ±0.20          |
| 5.85                  | 5.66  | 5.33  | 5.85                  | 5.67  | 5.34  | 0.00            | 0.02  | 0.02  | ±0.20          |
| 7.85                  | 7.61  | 7.18  | 7.85                  | 7.62  | 7.19  | 0.00            | 0.01  | 0.01  | ±0.20          |
| 10.5                  | 10.2  | 9.58  | 10.5                  | 10.2  | 9.58  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 14.1                  | 13.7  | 12.9  | 14.1                  | 13.8  | 13.0  | 0.00            | 0.06  | 0.07  | ±0.20          |
| 19.1                  | 18.5  | 17.4  | 19.0                  | 18.8  | 17.5  | -0.05           | 0.05  | 0.05  | ±0.20          |
| 25.7                  | 25.0  | 23.6  | 25.7                  | 25.1  | 23.6  | 0.00            | 0.03  | 0.00  | ±0.20          |
| 34.3                  | 33.4  | 31.5  | 34.5                  | 33.6  | 31.7  | 0.05            | 0.05  | 0.05  | ±0.20          |
| 46.2                  | 45.1  | 42.5  | 46.5                  | 45.4  | 42.8  | 0.06            | 0.06  | 0.06  | ±0.20          |
| 62.8                  | 61.2  | 57.8  | 63.1                  | 61.5  | 58.0  | 0.04            | 0.04  | 0.03  | ±0.20          |
| 86.1                  | 84.1  | 79.4  | 85.8                  | 83.8  | 79.1  | -0.03           | -0.03 | -0.03 | ±0.20          |
| 113                   | 110   | 104   | 112                   | 110   | 104   | -0.08           | 0.00  | 0.00  | ±0.20          |
| 155                   | 151   | 143   | 154                   | 151   | 142   | -0.06           | 0.00  | -0.06 | ±0.20          |
| 214                   | 210   | 198   | 214                   | 209   | 198   | 0.00            | -0.04 | 0.00  | ±0.20          |
| 296                   | 290   | 275   | 298                   | 285   | 270   | 0.06            | -0.15 | -0.16 | ±0.20          |
| 438                   | 427   | 405   | 432                   | 422   | 400   | -0.12           | -0.10 | -0.11 | ±0.20          |
| 604                   | 589   | 559   | 600                   | 586   | 556   | -0.06           | -0.04 | -0.05 | ±0.20          |
| 902                   | 879   | 836   | 906                   | 883   | 839   | 0.04            | 0.04  | 0.03  | ±0.20          |
| 1370                  | 1330  | 1270  | 1390                  | 1350  | 1290  | 0.13            | 0.13  | 0.14  | ±0.30          |
| 1860                  | 1810  | 1720  | 1920                  | 1860  | 1770  | 0.28            | 0.24  | 0.25  | ±0.30          |
| 3040                  | 2940  | 2810  | 3150                  | 3060  | 2920  | 0.31            | 0.35  | 0.33  | ±0.50          |
| 3610                  | 3490  | 3340  | 3770                  | 3650  | 3480  | 0.38            | 0.39  | 0.36  | ±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     |                |
| 0.400                 | 0.380 | 0.380 | 0.420                 | 0.400 | 0.400 | 0.42            | 0.45  | 0.45  | ±1.00          |
| 0.540                 | 0.520 | 0.510 | 0.570                 | 0.540 | 0.540 | 0.47            | 0.33  | 0.50  | ±1.00          |
| 0.740                 | 0.720 | 0.700 | 0.750                 | 0.740 | 0.710 | 0.12            | 0.24  | 0.12  | ±1.00          |
| 0.970                 | 0.940 | 0.920 | 0.980                 | 0.950 | 0.910 | 0.09            | 0.09  | -0.09 | ±1.00          |
| 1.31                  | 1.27  | 1.24  | 1.34                  | 1.26  | 1.24  | 0.20            | -0.07 | 0.00  | ±1.00          |
| 1.80                  | 1.75  | 1.70  | 1.81                  | 1.74  | 1.70  | 0.05            | -0.05 | 0.00  | ±1.00          |
| 2.40                  | 2.33  | 2.27  | 2.42                  | 2.33  | 2.28  | 0.07            | 0.00  | 0.04  | ±0.20          |
| 3.20                  | 3.11  | 3.03  | 3.21                  | 3.11  | 3.03  | 0.03            | 0.00  | 0.00  | ±0.20          |
| 4.35                  | 4.22  | 4.11  | 4.34                  | 4.24  | 4.13  | -0.02           | 0.04  | 0.04  | ±0.20          |
| 5.87                  | 5.72  | 5.55  | 5.86                  | 5.73  | 5.59  | -0.01           | 0.02  | 0.06  | ±0.20          |
| 7.88                  | 7.68  | 7.47  | 7.88                  | 7.70  | 7.51  | 0.00            | 0.02  | 0.05  | ±0.20          |
| 10.5                  | 10.3  | 9.97  | 10.5                  | 10.3  | 10.0  | 0.00            | 0.00  | 0.03  | ±0.20          |
| 14.2                  | 13.9  | 13.5  | 14.2                  | 13.9  | 13.5  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 19.1                  | 18.7  | 18.1  | 19.1                  | 18.7  | 18.2  | 0.00            | 0.00  | 0.05  | ±0.20          |
| 25.8                  | 25.2  | 24.5  | 25.8                  | 25.3  | 24.6  | 0.00            | 0.03  | 0.04  | ±0.20          |
| 34.4                  | 33.8  | 32.8  | 34.6                  | 33.9  | 33.0  | 0.05            | 0.03  | 0.05  | ±0.20          |
| 46.4                  | 45.6  | 44.3  | 46.7                  | 45.8  | 44.5  | 0.06            | 0.04  | 0.04  | ±0.20          |
| 63.0                  | 61.8  | 60.1  | 63.3                  | 62.1  | 60.4  | 0.04            | 0.04  | 0.04  | ±0.20          |
| 86.4                  | 84.9  | 82.6  | 86.0                  | 84.7  | 82.3  | -0.04           | -0.02 | -0.03 | ±0.20          |
| 113                   | 111   | 108   | 113                   | 111   | 108   | 0.00            | 0.00  | 0.00  | ±0.20          |
| 155                   | 153   | 149   | 155                   | 152   | 148   | 0.00            | -0.06 | -0.06 | ±0.20          |
| 215                   | 212   | 206   | 214                   | 211   | 206   | -0.04           | -0.04 | 0.00  | ±0.20          |
| 297                   | 293   | 286   | 299                   | 288   | 281   | 0.06            | -0.15 | -0.15 | ±0.20          |
| 439                   | 432   | 422   | 434                   | 427   | 417   | -0.10           | -0.10 | -0.10 | ±0.20          |
| 606                   | 595   | 582   | 602                   | 592   | 578   | -0.06           | -0.04 | -0.06 | ±0.20          |
| 905                   | 887   | 870   | 909                   | 892   | 873   | 0.04            | 0.05  | 0.03  | ±0.20          |
| 1370                  | 1340  | 1320  | 1390                  | 1370  | 1340  | 0.13            | 0.19  | 0.13  | ±0.30          |
| 1870                  | 1830  | 1800  | 1920                  | 1880  | 1850  | 0.23            | 0.23  | 0.24  | ±0.30          |
| 3050                  | 2970  | 2920  | 3160                  | 3090  | 3030  | 0.31            | 0.34  | 0.32  | ±0.50          |
| 3630                  | 3530  | 3470  | 3780                  | 3690  | 3620  | 0.35            | 0.39  | 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 2

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.400                 | 0.380 | 0.380 | 0.400                 | 0.400 | 0.400 | 0.00            | 0.45  | 0.45  | ±1.00          |
| 0.540                 | 0.520 | 0.520 | 0.530                 | 0.540 | 0.540 | -0.16           | 0.33  | 0.33  | ±1.00          |
| 0.740                 | 0.720 | 0.710 | 0.730                 | 0.730 | 0.730 | -0.12           | 0.12  | 0.24  | ±1.00          |
| 0.970                 | 0.940 | 0.930 | 0.970                 | 0.950 | 0.930 | 0.00            | 0.09  | 0.00  | ±1.00          |
| 1.31                  | 1.27  | 1.26  | 1.32                  | 1.28  | 1.24  | 0.07            | 0.07  | -0.14 | ±1.00          |
| 1.80                  | 1.74  | 1.72  | 1.80                  | 1.73  | 1.71  | 0.00            | -0.05 | -0.05 | ±1.00          |
| 2.40                  | 2.32  | 2.30  | 2.38                  | 2.31  | 2.30  | -0.07           | -0.04 | 0.00  | ±0.20          |
| 3.20                  | 3.10  | 3.06  | 3.19                  | 3.10  | 3.05  | -0.03           | 0.00  | -0.03 | ±0.20          |
| 4.34                  | 4.22  | 4.15  | 4.34                  | 4.21  | 4.16  | 0.00            | -0.02 | 0.02  | ±0.20          |
| 5.86                  | 5.71  | 5.62  | 5.86                  | 5.71  | 5.63  | 0.00            | 0.00  | 0.02  | ±0.20          |
| 7.87                  | 7.67  | 7.56  | 7.87                  | 7.67  | 7.57  | 0.00            | 0.00  | 0.01  | ±0.20          |
| 10.5                  | 10.2  | 10.1  | 10.5                  | 10.2  | 10.1  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 14.2                  | 13.8  | 13.6  | 14.2                  | 13.8  | 13.7  | 0.00            | 0.00  | 0.06  | ±0.20          |
| 19.1                  | 18.7  | 18.4  | 19.1                  | 18.7  | 18.4  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 25.8                  | 25.2  | 24.8  | 25.8                  | 25.2  | 24.9  | 0.00            | 0.00  | 0.03  | ±0.20          |
| 34.4                  | 33.7  | 33.1  | 34.5                  | 33.9  | 33.4  | 0.03            | 0.05  | 0.08  | ±0.20          |
| 46.3                  | 45.5  | 44.8  | 46.6                  | 45.7  | 45.0  | 0.06            | 0.04  | 0.04  | ±0.20          |
| 62.9                  | 61.7  | 60.8  | 63.2                  | 62.0  | 61.1  | 0.04            | 0.04  | 0.04  | ±0.20          |
| 86.3                  | 84.8  | 83.6  | 85.9                  | 84.5  | 83.3  | -0.04           | -0.03 | -0.03 | ±0.20          |
| 113                   | 111   | 109   | 112                   | 111   | 109   | -0.08           | 0.00  | 0.00  | ±0.20          |
| 155                   | 153   | 150   | 155                   | 152   | 150   | 0.00            | -0.06 | 0.00  | ±0.20          |
| 215                   | 211   | 209   | 214                   | 211   | 208   | -0.04           | 0.00  | -0.04 | ±0.20          |
| 297                   | 292   | 290   | 298                   | 287   | 284   | 0.03            | -0.15 | -0.18 | ±0.20          |
| 438                   | 431   | 427   | 433                   | 426   | 422   | -0.10           | -0.10 | -0.10 | ±0.20          |
| 605                   | 594   | 589   | 601                   | 591   | 586   | -0.06           | -0.04 | -0.04 | ±0.20          |
| 904                   | 886   | 881   | 908                   | 891   | 884   | 0.04            | 0.05  | 0.03  | ±0.20          |
| 1370                  | 1340  | 1330  | 1390                  | 1360  | 1360  | 0.13            | 0.13  | 0.19  | ±0.30          |
| 1870                  | 1820  | 1820  | 1920                  | 1880  | 1870  | 0.23            | 0.28  | 0.24  | ±0.30          |
| 3040                  | 2970  | 2960  | 3160                  | 3090  | 3070  | 0.34            | 0.34  | 0.32  | ±0.50          |
| 3620                  | 3520  | 3510  | 3780                  | 3680  | 3670  | 0.38            | 0.39  | 0.39  | ±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 3

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.390                 | 0.380 | 0.370 | 0.410                 | 0.400 | 0.380 | 0.43            | 0.45  | 0.23  | ±1.00          |
| 0.530                 | 0.520 | 0.500 | 0.540                 | 0.540 | 0.520 | 0.16            | 0.33  | 0.34  | ±1.00          |
| 0.730                 | 0.720 | 0.690 | 0.730                 | 0.710 | 0.710 | 0.00            | -0.12 | 0.25  | ±1.00          |
| 0.950                 | 0.940 | 0.900 | 0.960                 | 0.930 | 0.920 | 0.09            | -0.09 | 0.19  | ±1.00          |
| 1.29                  | 1.27  | 1.22  | 1.31                  | 1.28  | 1.23  | 0.13            | 0.07  | 0.07  | ±1.00          |
| 1.77                  | 1.74  | 1.67  | 1.77                  | 1.74  | 1.70  | 0.00            | 0.00  | 0.15  | ±1.00          |
| 2.36                  | 2.33  | 2.23  | 2.37                  | 2.33  | 2.24  | 0.04            | 0.00  | 0.04  | ±0.20          |
| 3.14                  | 3.11  | 2.98  | 3.15                  | 3.10  | 2.97  | 0.03            | -0.03 | -0.03 | ±0.20          |
| 4.26                  | 4.22  | 4.04  | 4.26                  | 4.20  | 4.05  | 0.00            | -0.04 | 0.02  | ±0.20          |
| 5.76                  | 5.71  | 5.46  | 5.74                  | 5.70  | 5.51  | -0.03           | -0.02 | 0.08  | ±0.20          |
| 7.73                  | 7.67  | 7.35  | 7.71                  | 7.71  | 7.40  | -0.02           | 0.05  | 0.06  | ±0.20          |
| 10.3                  | 10.2  | 9.80  | 10.3                  | 10.3  | 9.87  | 0.00            | 0.08  | 0.06  | ±0.20          |
| 13.9                  | 13.8  | 13.2  | 13.9                  | 13.9  | 13.3  | 0.00            | 0.06  | 0.07  | ±0.20          |
| 18.8                  | 18.7  | 17.8  | 18.8                  | 18.7  | 17.9  | 0.00            | 0.00  | 0.05  | ±0.20          |
| 25.3                  | 25.2  | 24.1  | 25.3                  | 25.3  | 24.1  | 0.00            | 0.03  | 0.00  | ±0.20          |
| 33.8                  | 33.7  | 32.2  | 33.9                  | 33.9  | 32.4  | 0.03            | 0.05  | 0.05  | ±0.20          |
| 45.5                  | 45.5  | 43.5  | 45.8                  | 45.7  | 43.7  | 0.06            | 0.04  | 0.04  | ±0.20          |
| 61.8                  | 61.8  | 59.1  | 62.1                  | 62.1  | 59.3  | 0.04            | 0.04  | 0.03  | ±0.20          |
| 84.8                  | 84.8  | 81.2  | 84.5                  | 84.5  | 80.9  | -0.03           | -0.03 | -0.03 | ±0.20          |
| 111                   | 111   | 106   | 110                   | 111   | 106   | -0.08           | 0.00  | 0.00  | ±0.20          |
| 152                   | 153   | 146   | 152                   | 152   | 146   | 0.00            | -0.06 | 0.00  | ±0.20          |
| 211                   | 211   | 203   | 211                   | 211   | 203   | 0.00            | 0.00  | 0.00  | ±0.20          |
| 292                   | 293   | 281   | 293                   | 287   | 276   | 0.03            | -0.18 | -0.16 | ±0.20          |
| 431                   | 431   | 415   | 426                   | 426   | 410   | -0.10           | -0.10 | -0.11 | ±0.20          |
| 594                   | 594   | 572   | 591                   | 591   | 569   | -0.04           | -0.04 | -0.05 | ±0.20          |
| 889                   | 886   | 855   | 893                   | 890   | 859   | 0.05            | 0.04  | 0.04  | ±0.20          |
| 1350                  | 1340  | 1290  | 1370                  | 1360  | 1320  | 0.13            | 0.13  | 0.20  | ±0.30          |
| 1830                  | 1830  | 1760  | 1890                  | 1870  | 1820  | 0.28            | 0.19  | 0.29  | ±0.30          |
| 2990                  | 2970  | 2870  | 3110                  | 3060  | 2980  | 0.34            | 0.26  | 0.33  | ±0.40          |
| 3560                  | 3520  | 3410  | 3720                  | 3630  | 3560  | 0.38            | 0.27  | 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 4

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.390                 | 0.390 | 0.380 | 0.410                 | 0.400 | 0.380 | 0.43            | 0.22  | 0.00  | ±1.00          |
| 0.530                 | 0.530 | 0.520 | 0.560                 | 0.540 | 0.520 | 0.48            | 0.16  | 0.00  | ±1.00          |
| 0.730                 | 0.720 | 0.710 | 0.750                 | 0.740 | 0.700 | 0.23            | 0.24  | -0.12 | ±1.00          |
| 0.950                 | 0.950 | 0.920 | 0.950                 | 0.940 | 0.930 | 0.00            | -0.09 | 0.09  | ±1.00          |
| 1.28                  | 1.28  | 1.25  | 1.28                  | 1.27  | 1.26  | 0.00            | -0.07 | 0.07  | ±1.00          |
| 1.76                  | 1.76  | 1.72  | 1.76                  | 1.76  | 1.73  | 0.00            | 0.00  | 0.05  | ±1.00          |
| 2.35                  | 2.34  | 2.29  | 2.34                  | 2.34  | 2.30  | -0.04           | 0.00  | 0.04  | ±0.20          |
| 3.13                  | 3.13  | 3.05  | 3.14                  | 3.13  | 3.06  | 0.03            | 0.00  | 0.03  | ±0.20          |
| 4.25                  | 4.25  | 4.14  | 4.24                  | 4.25  | 4.16  | -0.02           | 0.00  | 0.04  | ±0.20          |
| 5.74                  | 5.76  | 5.60  | 5.72                  | 5.75  | 5.62  | -0.03           | -0.02 | 0.03  | ±0.20          |
| 7.71                  | 7.74  | 7.53  | 7.68                  | 7.75  | 7.56  | -0.03           | 0.01  | 0.03  | ±0.20          |
| 10.3                  | 10.3  | 10.1  | 10.2                  | 10.3  | 10.1  | -0.08           | 0.00  | 0.00  | ±0.20          |
| 13.9                  | 14.0  | 13.6  | 13.9                  | 14.0  | 13.6  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 18.7                  | 18.8  | 18.3  | 18.7                  | 18.9  | 18.3  | 0.00            | 0.05  | 0.00  | ±0.20          |
| 25.2                  | 25.4  | 24.7  | 25.2                  | 25.5  | 24.7  | 0.00            | 0.03  | 0.00  | ±0.20          |
| 33.6                  | 34.0  | 33.0  | 33.8                  | 34.1  | 33.2  | 0.05            | 0.03  | 0.05  | ±0.20          |
| 45.4                  | 45.9  | 44.6  | 45.7                  | 46.1  | 44.8  | 0.06            | 0.04  | 0.04  | ±0.20          |
| 61.6                  | 62.3  | 60.6  | 61.9                  | 62.6  | 60.9  | 0.04            | 0.04  | 0.04  | ±0.20          |
| 84.5                  | 85.5  | 83.3  | 84.2                  | 85.3  | 83.0  | -0.03           | -0.02 | -0.03 | ±0.20          |
| 110                   | 112   | 109   | 110                   | 112   | 109   | 0.00            | 0.00  | 0.00  | ±0.20          |
| 152                   | 154   | 150   | 151                   | 153   | 149   | -0.06           | -0.06 | -0.06 | ±0.20          |
| 210                   | 213   | 208   | 210                   | 213   | 208   | 0.00            | 0.00  | 0.00  | ±0.20          |
| 291                   | 295   | 288   | 292                   | 290   | 283   | 0.03            | -0.15 | -0.15 | ±0.20          |
| 429                   | 435   | 425   | 424                   | 430   | 420   | -0.10           | -0.10 | -0.10 | ±0.20          |
| 592                   | 599   | 587   | 589                   | 597   | 584   | -0.04           | -0.03 | -0.04 | ±0.20          |
| 885                   | 894   | 877   | 889                   | 899   | 881   | 0.04            | 0.05  | 0.04  | ±0.20          |
| 1340                  | 1350  | 1330  | 1360                  | 1380  | 1350  | 0.13            | 0.19  | 0.13  | ±0.30          |
| 1830                  | 1840  | 1810  | 1880                  | 1900  | 1860  | 0.23            | 0.28  | 0.24  | ±0.30          |
| 2980                  | 3000  | 2940  | 3090                  | 3120  | 3060  | 0.31            | 0.34  | 0.35  | ±0.40          |
| 3550                  | 3550  | 3500  | 3700                  | 3720  | 3660  | 0.36            | 0.41  | 0.39  | ±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 5

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.390                 | 0.390 | 0.390 | 0.400                 | 0.400 | 0.410 | 0.22            | 0.22  | 0.43  | ±1.00          |
| 0.530                 | 0.530 | 0.530 | 0.530                 | 0.550 | 0.550 | 0.00            | 0.32  | 0.32  | ±1.00          |
| 0.730                 | 0.730 | 0.730 | 0.730                 | 0.740 | 0.750 | 0.00            | 0.12  | 0.23  | ±1.00          |
| 0.950                 | 0.950 | 0.960 | 0.950                 | 0.960 | 0.970 | 0.00            | 0.09  | 0.09  | ±1.00          |
| 1.29                  | 1.29  | 1.29  | 1.31                  | 1.29  | 1.31  | 0.13            | 0.00  | 0.13  | ±1.00          |
| 1.77                  | 1.77  | 1.77  | 1.78                  | 1.78  | 1.80  | 0.05            | 0.05  | 0.15  | ±1.00          |
| 2.36                  | 2.36  | 2.37  | 2.37                  | 2.39  | 2.39  | 0.04            | 0.11  | 0.07  | ±0.20          |
| 3.15                  | 3.15  | 3.16  | 3.16                  | 3.18  | 3.18  | 0.03            | 0.08  | 0.05  | ±0.20          |
| 4.28                  | 4.28  | 4.28  | 4.29                  | 4.31  | 4.31  | 0.02            | 0.06  | 0.06  | ±0.20          |
| 5.77                  | 5.79  | 5.79  | 5.79                  | 5.83  | 5.81  | 0.03            | 0.06  | 0.03  | ±0.20          |
| 7.75                  | 7.78  | 7.79  | 7.77                  | 7.83  | 7.81  | 0.02            | 0.06  | 0.02  | ±0.20          |
| 10.3                  | 10.4  | 10.4  | 10.4                  | 10.5  | 10.4  | 0.08            | 0.08  | 0.00  | ±0.20          |
| 14.0                  | 14.1  | 14.0  | 14.0                  | 14.1  | 14.1  | 0.00            | 0.00  | 0.06  | ±0.20          |
| 18.8                  | 18.9  | 18.9  | 18.8                  | 19.0  | 19.0  | 0.00            | 0.05  | 0.05  | ±0.20          |
| 25.4                  | 25.6  | 25.6  | 25.4                  | 25.7  | 25.6  | 0.00            | 0.03  | 0.00  | ±0.20          |
| 33.9                  | 34.2  | 34.1  | 34.0                  | 34.4  | 34.4  | 0.03            | 0.05  | 0.08  | ±0.20          |
| 45.6                  | 46.2  | 46.1  | 45.9                  | 46.4  | 46.4  | 0.06            | 0.04  | 0.06  | ±0.20          |
| 62.0                  | 62.6  | 62.7  | 62.3                  | 63.0  | 62.9  | 0.04            | 0.06  | 0.03  | ±0.20          |
| 85.0                  | 86.0  | 86.1  | 84.7                  | 85.8  | 85.8  | -0.03           | -0.02 | -0.03 | ±0.20          |
| 111                   | 113   | 113   | 111                   | 112   | 112   | 0.00            | -0.08 | -0.08 | ±0.20          |
| 153                   | 155   | 155   | 152                   | 154   | 155   | -0.06           | -0.06 | 0.00  | ±0.20          |
| 211                   | 214   | 215   | 211                   | 214   | 215   | 0.00            | 0.00  | 0.00  | ±0.20          |
| 293                   | 297   | 298   | 294                   | 291   | 293   | 0.03            | -0.18 | -0.15 | ±0.20          |
| 432                   | 437   | 440   | 427                   | 432   | 434   | -0.10           | -0.10 | -0.12 | ±0.20          |
| 596                   | 603   | 607   | 593                   | 599   | 603   | -0.04           | -0.06 | -0.06 | ±0.20          |
| 891                   | 899   | 907   | 895                   | 903   | 910   | 0.04            | 0.04  | 0.03  | ±0.20          |
| 1350                  | 1360  | 1370  | 1370                  | 1380  | 1400  | 0.13            | 0.13  | 0.19  | ±0.30          |
| 1840                  | 1850  | 1870  | 1890                  | 1900  | 1920  | 0.23            | 0.23  | 0.23  | ±0.30          |
| 3000                  | 3010  | 3050  | 3120                  | 3130  | 3160  | 0.34            | 0.34  | 0.31  | ±0.50          |
| 3570                  | 3580  | 3620  | 3730                  | 3730  | 3780  | 0.38            | 0.36  | 0.38  | ±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 6

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.400                 | 0.390 | 0.380 | 0.410                 | 0.410 | 0.390 | 0.21            | 0.43  | 0.23  | ±1.00          |
| 0.540                 | 0.530 | 0.520 | 0.550                 | 0.560 | 0.530 | 0.16            | 0.48  | 0.17  | ±1.00          |
| 0.740                 | 0.730 | 0.720 | 0.750                 | 0.760 | 0.710 | 0.12            | 0.35  | -0.12 | ±1.00          |
| 0.970                 | 0.960 | 0.940 | 0.980                 | 0.980 | 0.920 | 0.09            | 0.18  | -0.19 | ±1.00          |
| 1.31                  | 1.30  | 1.27  | 1.32                  | 1.30  | 1.25  | 0.07            | 0.00  | -0.14 | ±1.00          |
| 1.80                  | 1.78  | 1.74  | 1.80                  | 1.78  | 1.72  | 0.00            | 0.00  | -0.10 | ±1.00          |
| 2.39                  | 2.38  | 2.32  | 2.37                  | 2.38  | 2.29  | -0.07           | 0.00  | -0.11 | ±0.20          |
| 3.19                  | 3.17  | 3.09  | 3.16                  | 3.19  | 3.06  | -0.08           | 0.05  | -0.08 | ±0.20          |
| 4.33                  | 4.31  | 4.19  | 4.32                  | 4.31  | 4.16  | -0.02           | 0.00  | -0.06 | ±0.20          |
| 5.84                  | 5.83  | 5.66  | 5.83                  | 5.84  | 5.65  | -0.01           | 0.01  | -0.02 | ±0.20          |
| 7.84                  | 7.84  | 7.63  | 7.86                  | 7.85  | 7.61  | 0.02            | 0.01  | -0.02 | ±0.20          |
| 10.5                  | 10.5  | 10.2  | 10.5                  | 10.5  | 10.2  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 14.1                  | 14.2  | 13.7  | 14.1                  | 14.2  | 13.8  | 0.00            | 0.00  | 0.06  | ±0.20          |
| 19.1                  | 19.1  | 18.5  | 19.1                  | 19.1  | 18.6  | 0.00            | 0.00  | 0.05  | ±0.20          |
| 25.7                  | 25.8  | 25.0  | 25.7                  | 25.8  | 25.0  | 0.00            | 0.00  | 0.00  | ±0.20          |
| 34.2                  | 34.4  | 33.4  | 34.4                  | 34.6  | 33.6  | 0.05            | 0.05  | 0.05  | ±0.20          |
| 46.2                  | 46.5  | 45.2  | 46.5                  | 46.7  | 45.4  | 0.06            | 0.04  | 0.04  | ±0.20          |
| 62.7                  | 63.1  | 61.3  | 63.0                  | 63.4  | 61.6  | 0.04            | 0.04  | 0.04  | ±0.20          |
| 86.0                  | 86.7  | 84.3  | 85.7                  | 86.4  | 84.0  | -0.03           | -0.03 | -0.03 | ±0.20          |
| 112                   | 114   | 110   | 112                   | 113   | 110   | 0.00            | -0.08 | 0.00  | ±0.20          |
| 155                   | 156   | 152   | 154                   | 155   | 151   | -0.06           | -0.06 | -0.06 | ±0.20          |
| 214                   | 216   | 211   | 214                   | 215   | 210   | 0.00            | -0.04 | -0.04 | ±0.20          |
| 296                   | 299   | 292   | 298                   | 294   | 287   | 0.06            | -0.15 | -0.15 | ±0.20          |
| 437                   | 440   | 431   | 432                   | 435   | 425   | -0.10           | -0.10 | -0.12 | ±0.20          |
| 603                   | 607   | 594   | 600                   | 604   | 591   | -0.04           | -0.04 | -0.04 | ±0.20          |
| 901                   | 906   | 888   | 906                   | 910   | 892   | 0.05            | 0.04  | 0.04  | ±0.20          |
| 1370                  | 1370  | 1340  | 1390                  | 1400  | 1370  | 0.13            | 0.19  | 0.19  | ±0.30          |
| 1860                  | 1870  | 1830  | 1920                  | 1920  | 1890  | 0.28            | 0.23  | 0.28  | ±0.30          |
| 3040                  | 3040  | 2980  | 3150                  | 3160  | 3100  | 0.31            | 0.34  | 0.34  | ±0.50          |
| 3610                  | 3600  | 3540  | 3770                  | 3760  | 3700  | 0.38            | 0.38  | 0.38  | ±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 7

| H-field/(A/m) Applied |       |       | H-field/(A/m) Reading |       |       | Difference/(dB) |       |       | Tolerance/(dB) |
|-----------------------|-------|-------|-----------------------|-------|-------|-----------------|-------|-------|----------------|
| x                     | y     | z     | x                     | y     | z     | x               | y     | z     |                |
| 0.400                 | 0.380 | 0.370 | 0.420                 | 0.410 | 0.390 | 0.42            | 0.66  | 0.46  | ±1.00          |
| 0.540                 | 0.520 | 0.500 | 0.570                 | 0.540 | 0.520 | 0.47            | 0.33  | 0.34  | ±1.00          |
| 0.740                 | 0.720 | 0.690 | 0.750                 | 0.720 | 0.690 | 0.12            | 0.00  | 0.00  | ±1.00          |
| 0.970                 | 0.930 | 0.900 | 0.960                 | 0.950 | 0.900 | -0.09           | 0.18  | 0.00  | ±1.00          |
| 1.31                  | 1.27  | 1.22  | 1.29                  | 1.27  | 1.23  | -0.13           | 0.00  | 0.07  | ±1.00          |
| 1.79                  | 1.74  | 1.68  | 1.79                  | 1.76  | 1.68  | 0.00            | 0.10  | 0.00  | ±1.00          |
| 2.39                  | 2.32  | 2.24  | 2.38                  | 2.35  | 2.23  | -0.04           | 0.11  | -0.04 | ±0.20          |
| 3.19                  | 3.10  | 2.98  | 3.17                  | 3.11  | 2.98  | -0.05           | 0.03  | 0.00  | ±0.20          |
| 4.32                  | 4.20  | 4.04  | 4.29                  | 4.23  | 4.06  | -0.06           | 0.06  | 0.04  | ±0.20          |
| 5.84                  | 5.69  | 5.47  | 5.81                  | 5.73  | 5.49  | -0.04           | 0.06  | 0.03  | ±0.20          |
| 7.84                  | 7.65  | 7.36  | 7.82                  | 7.69  | 7.39  | -0.02           | 0.05  | 0.04  | ±0.20          |
| 10.5                  | 10.2  | 9.82  | 10.5                  | 10.3  | 9.89  | 0.00            | 0.08  | 0.06  | ±0.20          |
| 14.1                  | 13.8  | 13.3  | 14.2                  | 13.8  | 13.3  | 0.06            | 0.00  | 0.00  | ±0.20          |
| 19.0                  | 18.6  | 17.9  | 19.1                  | 18.7  | 18.0  | 0.05            | 0.05  | 0.05  | ±0.20          |
| 25.6                  | 25.1  | 24.2  | 25.7                  | 25.2  | 24.2  | 0.03            | 0.03  | 0.00  | ±0.20          |
| 34.2                  | 33.6  | 32.3  | 34.4                  | 33.8  | 32.5  | 0.05            | 0.05  | 0.05  | ±0.20          |
| 46.1                  | 45.4  | 43.6  | 46.4                  | 45.6  | 43.9  | 0.06            | 0.04  | 0.06  | ±0.20          |
| 62.7                  | 61.6  | 59.2  | 63.0                  | 61.9  | 59.5  | 0.04            | 0.04  | 0.04  | ±0.20          |
| 86.0                  | 84.6  | 81.4  | 85.6                  | 84.3  | 81.1  | -0.04           | -0.03 | -0.03 | ±0.20          |
| 112                   | 111   | 107   | 112                   | 110   | 106   | 0.00            | -0.08 | -0.08 | ±0.20          |
| 154                   | 152   | 146   | 154                   | 152   | 146   | 0.00            | 0.00  | 0.00  | ±0.20          |
| 214                   | 211   | 203   | 213                   | 210   | 203   | -0.04           | -0.04 | 0.00  | ±0.20          |
| 296                   | 292   | 282   | 297                   | 287   | 277   | 0.03            | -0.15 | -0.16 | ±0.20          |
| 437                   | 430   | 416   | 432                   | 425   | 410   | -0.10           | -0.10 | -0.13 | ±0.20          |
| 602                   | 593   | 573   | 600                   | 589   | 570   | -0.03           | -0.06 | -0.05 | ±0.20          |
| 900                   | 884   | 857   | 905                   | 887   | 860   | 0.05            | 0.03  | 0.03  | ±0.20          |
| 1360                  | 1340  | 1300  | 1390                  | 1360  | 1320  | 0.19            | 0.13  | 0.13  | ±0.30          |
| 1860                  | 1820  | 1770  | 1910                  | 1870  | 1820  | 0.23            | 0.24  | 0.24  | ±0.30          |
| 3030                  | 2960  | 2880  | 3150                  | 3080  | 2990  | 0.34            | 0.35  | 0.33  | ±0.50          |
| 3610                  | 3520  | 3420  | 3770                  | 3670  | 3570  | 0.38            | 0.36  | 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, 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     |
| 0.380                 | 0.230 | 0.100 | 0.390                 | 0.230 | 0.100 | 0.23            | 0.00  | 0.00  | ±5.00          | ±5.00 | ±5.00 |
| 0.510                 | 0.310 | 0.140 | 0.520                 | 0.310 | 0.100 | 0.17            | 0.00  | -2.92 | ±5.00          | ±5.00 | ±5.00 |
| 0.710                 | 0.430 | 0.190 | 0.710                 | 0.440 | 0.180 | 0.00            | 0.20  | -0.47 | ±5.00          | ±5.00 | ±5.00 |
| 0.920                 | 0.560 | 0.250 | 0.940                 | 0.550 | 0.240 | 0.19            | -0.16 | -0.35 | ±5.00          | ±5.00 | ±5.00 |
| 1.25                  | 0.760 | 0.340 | 1.26                  | 0.730 | 0.320 | 0.07            | -0.35 | -0.53 | ±5.00          | ±5.00 | ±5.00 |
| 1.72                  | 1.05  | 0.460 | 1.75                  | 1.04  | 0.420 | 0.15            | -0.08 | -0.79 | ±5.00          | ±5.00 | ±5.00 |
| 2.29                  | 1.39  | 0.620 | 2.30                  | 1.39  | 0.610 | 0.04            | 0.00  | -0.14 | ±1.00          | ±5.00 | ±5.00 |
| 3.06                  | 1.86  | 0.820 | 3.12                  | 1.85  | 0.790 | 0.17            | -0.05 | -0.32 | ±1.00          | ±5.00 | ±5.00 |
| 4.16                  | 2.53  | 1.11  | 4.20                  | 2.54  | 1.09  | 0.08            | 0.03  | -0.16 | ±1.00          | ±1.00 | ±5.00 |
| 5.63                  | 3.42  | 1.50  | 5.72                  | 3.45  | 1.49  | 0.14            | 0.08  | -0.06 | ±1.00          | ±1.00 | ±5.00 |
| 7.57                  | 4.60  | 2.02  | 7.69                  | 4.63  | 2.00  | 0.14            | 0.06  | -0.09 | ±1.00          | ±1.00 | ±1.00 |
| 10.1                  | 6.14  | 2.69  | 10.2                  | 6.22  | 2.63  | 0.09            | 0.11  | -0.20 | ±1.00          | ±1.00 | ±1.00 |
| 13.7                  | 8.30  | 3.64  | 13.8                  | 8.40  | 3.59  | 0.06            | 0.10  | -0.12 | ±1.00          | ±1.00 | ±1.00 |
| 18.4                  | 11.2  | 4.90  | 18.7                  | 11.3  | 4.79  | 0.14            | 0.08  | -0.20 | ±1.00          | ±1.00 | ±1.00 |
| 24.9                  | 15.1  | 6.61  | 25.2                  | 15.2  | 6.47  | 0.10            | 0.06  | -0.19 | ±1.00          | ±1.00 | ±1.00 |
| 33.3                  | 20.2  | 8.82  | 33.8                  | 20.4  | 8.70  | 0.13            | 0.09  | -0.12 | ±1.00          | ±1.00 | ±1.00 |
| 44.9                  | 27.3  | 11.9  | 45.6                  | 27.6  | 11.8  | 0.13            | 0.09  | -0.07 | ±1.00          | ±1.00 | ±1.00 |
| 60.9                  | 37.0  | 16.1  | 61.7                  | 37.4  | 15.9  | 0.11            | 0.09  | -0.11 | ±1.00          | ±1.00 | ±1.00 |
| 83.7                  | 50.8  | 22.1  | 84.0                  | 50.9  | 21.7  | 0.03            | 0.02  | -0.16 | ±1.00          | ±1.00 | ±1.00 |
| 110                   | 66.5  | 28.9  | 110                   | 66.6  | 28.3  | 0.00            | 0.01  | -0.18 | ±1.00          | ±1.00 | ±1.00 |
| 151                   | 91.4  | 39.8  | 151                   | 91.4  | 39.0  | 0.00            | 0.00  | -0.18 | ±1.00          | ±1.00 | ±1.00 |
| 208                   | 127   | 55.1  | 208                   | 127   | 54.0  | 0.00            | 0.00  | -0.18 | ±1.00          | ±1.00 | ±1.00 |
| 289                   | 175   | 76.2  | 289                   | 176   | 75.2  | 0.00            | 0.05  | -0.11 | ±1.00          | ±1.00 | ±1.00 |
| 425                   | 258   | 113   | 402                   | 248   | 112   | -0.48           | -0.34 | -0.08 | ±1.00          | ±1.00 | ±1.00 |
| 586                   | 356   | 155   | 557                   | 344   | 155   | -0.44           | -0.30 | 0.00  | ±1.00          | ±1.00 | ±1.00 |
| 874                   | 531   | 232   | 839                   | 518   | 234   | -0.35           | -0.22 | 0.07  | ±1.00          | ±1.00 | ±1.00 |
| 1320                  | 803   | 351   | 1290                  | 794   | 360   | -0.20           | -0.10 | 0.22  | ±1.00          | ±1.00 | ±1.00 |
| 1800                  | 1090  | 479   | 1770                  | 1090  | 472   | -0.15           | 0.00  | -0.13 | ±1.00          | ±1.00 | ±1.00 |
| 2930                  | 1780  | 782   | 2910                  | 1800  | 779   | -0.06           | 0.10  | -0.03 | ±1.00          | ±1.00 | ±1.00 |
| 3480                  | 2110  | 929   | 3480                  | 2140  | 932   | 0.00            | 0.12  | 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                  | 1.55 | 1.54 | 0.06            | 0.06  | 0.00  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.54 | 1.52                  | 1.55 | 1.53 | -0.11           | 0.06  | -0.06 | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.54                  | 1.54 | 1.54 | 0.06            | 0.06  | 0.06  | ±0.3           |
| 5200     | 1.53                  | 1.53 | 1.53 | 1.52                  | 1.54 | 1.54 | -0.06           | 0.06  | 0.06  | ±0.3           |
| 6600     | 1.52                  | 1.52 | 1.52 | 1.52                  | 1.52 | 1.52 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 8200     | 1.51                  | 1.51 | 1.51 | 1.51                  | 1.52 | 1.50 | 0.00            | 0.06  | -0.06 | ±0.3           |
| 9000     | 1.50                  | 1.50 | 1.50 | 1.51                  | 1.50 | 1.50 | 0.06            | 0.00  | 0.00  | ±0.3           |
| 10600    | 4.23                  | 4.17 | 4.16 | 4.23                  | 4.18 | 4.18 | 0.00            | 0.02  | 0.04  | ±0.3           |
| 13400    | 4.23                  | 4.19 | 4.18 | 4.25                  | 4.18 | 4.17 | 0.04            | -0.02 | -0.02 | ±0.3           |
| 17000    | 4.23                  | 4.19 | 4.18 | 4.25                  | 4.20 | 4.18 | 0.04            | 0.02  | 0.00  | ±0.3           |
| 21400    | 4.26                  | 4.21 | 4.20 | 4.27                  | 4.21 | 4.22 | 0.02            | 0.00  | 0.04  | ±0.3           |
| 27200    | 4.25                  | 4.20 | 4.19 | 4.27                  | 4.21 | 4.18 | 0.04            | 0.02  | -0.02 | ±0.3           |
| 34400    | 4.25                  | 4.22 | 4.21 | 4.26                  | 4.22 | 4.21 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 40000    | 4.25                  | 4.21 | 4.20 | 4.26                  | 4.22 | 4.21 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 43600    | 4.24                  | 4.21 | 4.20 | 4.25                  | 4.21 | 4.20 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 55400    | 4.23                  | 4.20 | 4.19 | 4.24                  | 4.21 | 4.20 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 70000    | 4.22                  | 4.19 | 4.18 | 4.23                  | 4.19 | 4.18 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 88800    | 4.21                  | 4.18 | 4.17 | 4.22                  | 4.18 | 4.17 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 112400   | 4.20                  | 4.17 | 4.16 | 4.21                  | 4.17 | 4.16 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 142400   | 4.18                  | 4.16 | 4.15 | 4.19                  | 4.15 | 4.15 | 0.02            | -0.02 | 0.00  | ±0.3           |
| 161750   | 4.17                  | 4.14 | 4.13 | 4.18                  | 4.15 | 4.13 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 180400   | 4.15                  | 4.13 | 4.12 | 4.16                  | 4.13 | 4.12 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 228400   | 4.12                  | 4.10 | 4.09 | 4.13                  | 4.10 | 4.09 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 289400   | 4.08                  | 4.07 | 4.06 | 4.09                  | 4.06 | 4.06 | 0.02            | -0.02 | 0.00  | ±0.3           |
| 366400   | 4.04                  | 4.03 | 4.02 | 4.05                  | 4.03 | 4.02 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 400000   | 4.03                  | 4.01 | 4.01 | 4.03                  | 4.02 | 4.01 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 464000   | 4.01                  | 3.99 | 3.98 | 4.01                  | 3.99 | 3.98 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 587800   | 3.95                  | 3.94 | 3.93 | 3.96                  | 3.94 | 3.93 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 744200   | 3.91                  | 3.90 | 3.89 | 3.92                  | 3.90 | 3.89 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 942600   | 3.90                  | 3.88 | 3.88 | 3.90                  | 3.89 | 3.88 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 1193600  | 3.87                  | 3.86 | 3.85 | 3.87                  | 3.86 | 3.85 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1511600  | 3.86                  | 3.85 | 3.84 | 3.87                  | 3.84 | 3.84 | 0.02            | -0.02 | 0.00  | ±0.3           |
| 1914400  | 3.85                  | 3.84 | 3.83 | 3.86                  | 3.84 | 3.83 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 2424400  | 3.83                  | 3.81 | 3.81 | 3.84                  | 3.82 | 3.81 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 3070200  | 3.80                  | 3.78 | 3.78 | 3.80                  | 3.77 | 3.78 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 3888000  | 3.75                  | 3.73 | 3.73 | 3.75                  | 3.73 | 3.72 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 4000000  | 3.73                  | 3.72 | 3.71 | 3.75                  | 3.74 | 3.71 | 0.05            | 0.05  | 0.00  | ±0.3           |
| 4923800  | 3.67                  | 3.65 | 3.65 | 3.67                  | 3.66 | 3.64 | 0.00            | 0.02  | -0.02 | ±0.3           |
| 6235400  | 3.56                  | 3.54 | 3.54 | 3.56                  | 3.53 | 3.53 | 0.00            | -0.02 | -0.02 | ±0.3           |
| 7896400  | 3.42                  | 3.41 | 3.40 | 3.42                  | 3.40 | 3.40 | 0.06            | -0.03 | 0.00  | ±0.3           |
| 10000000 | 3.26                  | 3.25 | 3.24 | 3.23                  | 3.24 | 3.25 | -0.08           | -0.03 | 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 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 | 1.55                  | 1.55 | 1.54 | 0.06            | 0.06  | 0.00  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.54 | 1.53                  | 1.55 | 1.52 | -0.06           | 0.06  | -0.11 | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.53                  | 1.53 | 1.53 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 5200     | 1.53                  | 1.53 | 1.53 | 1.52                  | 1.53 | 1.54 | -0.06           | 0.00  | 0.06  | ±0.3           |
| 6600     | 1.52                  | 1.52 | 1.52 | 1.52                  | 1.52 | 1.52 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 8200     | 1.51                  | 1.51 | 1.51 | 1.51                  | 1.52 | 1.50 | 0.00            | 0.06  | -0.06 | ±0.3           |
| 9000     | 1.50                  | 1.50 | 1.50 | 1.51                  | 1.50 | 1.50 | 0.06            | 0.00  | 0.00  | ±0.3           |
| 10600    | 4.23                  | 4.17 | 4.16 | 4.25                  | 4.19 | 4.16 | 0.04            | 0.04  | 0.00  | ±0.3           |
| 13400    | 4.23                  | 4.18 | 4.18 | 4.25                  | 4.20 | 4.19 | 0.04            | 0.02  | 0.02  | ±0.3           |
| 17000    | 4.23                  | 4.19 | 4.18 | 4.24                  | 4.20 | 4.20 | 0.02            | 0.02  | 0.04  | ±0.3           |
| 21400    | 4.26                  | 4.21 | 4.20 | 4.26                  | 4.20 | 4.21 | 0.00            | -0.02 | 0.02  | ±0.3           |
| 27200    | 4.25                  | 4.20 | 4.19 | 4.26                  | 4.20 | 4.20 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 34400    | 4.25                  | 4.22 | 4.21 | 4.25                  | 4.23 | 4.20 | 0.00            | 0.02  | -0.02 | ±0.3           |
| 40000    | 4.25                  | 4.21 | 4.20 | 4.25                  | 4.21 | 4.19 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 43600    | 4.24                  | 4.21 | 4.20 | 4.26                  | 4.21 | 4.20 | 0.04            | 0.00  | 0.00  | ±0.3           |
| 55400    | 4.23                  | 4.20 | 4.19 | 4.23                  | 4.21 | 4.19 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 70000    | 4.22                  | 4.19 | 4.18 | 4.23                  | 4.20 | 4.18 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 88800    | 4.21                  | 4.18 | 4.17 | 4.22                  | 4.18 | 4.17 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 112400   | 4.20                  | 4.17 | 4.16 | 4.20                  | 4.17 | 4.16 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 142400   | 4.18                  | 4.16 | 4.15 | 4.19                  | 4.16 | 4.15 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 161750   | 4.17                  | 4.14 | 4.13 | 4.17                  | 4.14 | 4.13 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 180400   | 4.15                  | 4.13 | 4.12 | 4.16                  | 4.13 | 4.12 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 228400   | 4.12                  | 4.10 | 4.09 | 4.13                  | 4.09 | 4.09 | 0.02            | -0.02 | 0.00  | ±0.3           |
| 289400   | 4.08                  | 4.07 | 4.06 | 4.09                  | 4.07 | 4.06 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 366400   | 4.04                  | 4.03 | 4.02 | 4.05                  | 4.03 | 4.02 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 400000   | 4.03                  | 4.01 | 4.01 | 4.03                  | 4.01 | 4.01 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 464000   | 4.01                  | 3.99 | 3.98 | 4.02                  | 3.99 | 3.99 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 587800   | 3.95                  | 3.94 | 3.93 | 3.96                  | 3.94 | 3.93 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 744200   | 3.91                  | 3.90 | 3.89 | 3.91                  | 3.90 | 3.89 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 942600   | 3.90                  | 3.88 | 3.88 | 3.90                  | 3.88 | 3.88 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1193600  | 3.87                  | 3.86 | 3.85 | 3.87                  | 3.85 | 3.86 | 0.00            | -0.02 | 0.02  | ±0.3           |
| 1511600  | 3.86                  | 3.85 | 3.84 | 3.86                  | 3.85 | 3.84 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1914400  | 3.85                  | 3.84 | 3.83 | 3.85                  | 3.83 | 3.83 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 2424400  | 3.83                  | 3.81 | 3.81 | 3.83                  | 3.81 | 3.81 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 3070200  | 3.80                  | 3.78 | 3.78 | 3.80                  | 3.79 | 3.78 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 3888000  | 3.75                  | 3.73 | 3.73 | 3.75                  | 3.73 | 3.73 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 4000000  | 3.73                  | 3.72 | 3.71 | 3.73                  | 3.71 | 3.70 | 0.00            | -0.02 | -0.02 | ±0.3           |
| 4923800  | 3.67                  | 3.65 | 3.65 | 3.67                  | 3.65 | 3.65 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 6235400  | 3.56                  | 3.54 | 3.54 | 3.56                  | 3.54 | 3.55 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 7896400  | 3.42                  | 3.41 | 3.40 | 3.42                  | 3.40 | 3.39 | 0.00            | -0.03 | -0.03 | ±0.3           |
| 10000000 | 3.26                  | 3.25 | 3.24 | 3.25                  | 3.22 | 3.22 | -0.03           | -0.08 | -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 | 1.55 | 0.06            | 0.06  | 0.06  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.54 | 1.53                  | 1.54 | 1.52 | -0.06           | 0.00  | -0.11 | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.54                  | 1.54 | 1.54 | 0.06            | 0.06  | 0.06  | ±0.3           |
| 5200     | 1.53                  | 1.53 | 1.53 | 1.52                  | 1.54 | 1.53 | -0.06           | 0.06  | 0.00  | ±0.3           |
| 6600     | 1.52                  | 1.52 | 1.52 | 1.53                  | 1.52 | 1.52 | 0.06            | 0.00  | 0.00  | ±0.3           |
| 8200     | 1.51                  | 1.51 | 1.51 | 1.51                  | 1.52 | 1.50 | 0.00            | 0.06  | -0.06 | ±0.3           |
| 9000     | 1.50                  | 1.50 | 1.50 | 1.50                  | 1.51 | 1.50 | 0.00            | 0.06  | 0.00  | ±0.3           |
| 10600    | 4.23                  | 4.17 | 4.16 | 4.20                  | 4.17 | 4.15 | -0.06           | 0.00  | -0.02 | ±0.3           |
| 13400    | 4.23                  | 4.19 | 4.18 | 4.24                  | 4.21 | 4.19 | 0.02            | 0.04  | 0.02  | ±0.3           |
| 17000    | 4.23                  | 4.19 | 4.18 | 4.24                  | 4.20 | 4.17 | 0.02            | 0.02  | -0.02 | ±0.3           |
| 21400    | 4.26                  | 4.21 | 4.20 | 4.28                  | 4.21 | 4.20 | 0.04            | 0.00  | 0.00  | ±0.3           |
| 27200    | 4.25                  | 4.20 | 4.19 | 4.27                  | 4.21 | 4.19 | 0.04            | 0.02  | 0.00  | ±0.3           |
| 34400    | 4.25                  | 4.22 | 4.21 | 4.27                  | 4.22 | 4.21 | 0.04            | 0.00  | 0.00  | ±0.3           |
| 40000    | 4.25                  | 4.21 | 4.20 | 4.26                  | 4.20 | 4.21 | 0.02            | -0.02 | 0.02  | ±0.3           |
| 43600    | 4.24                  | 4.21 | 4.20 | 4.26                  | 4.22 | 4.21 | 0.04            | 0.02  | 0.02  | ±0.3           |
| 55400    | 4.23                  | 4.20 | 4.19 | 4.25                  | 4.20 | 4.20 | 0.04            | 0.00  | 0.02  | ±0.3           |
| 70000    | 4.22                  | 4.19 | 4.18 | 4.23                  | 4.20 | 4.18 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 88800    | 4.21                  | 4.18 | 4.17 | 4.22                  | 4.18 | 4.17 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 112400   | 4.20                  | 4.17 | 4.16 | 4.21                  | 4.17 | 4.17 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 142400   | 4.18                  | 4.16 | 4.15 | 4.19                  | 4.16 | 4.16 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 161750   | 4.17                  | 4.14 | 4.13 | 4.18                  | 4.14 | 4.13 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 180400   | 4.15                  | 4.13 | 4.12 | 4.16                  | 4.13 | 4.13 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 228400   | 4.12                  | 4.10 | 4.09 | 4.14                  | 4.09 | 4.09 | 0.04            | -0.02 | 0.00  | ±0.3           |
| 289400   | 4.08                  | 4.07 | 4.06 | 4.10                  | 4.07 | 4.06 | 0.04            | 0.00  | 0.00  | ±0.3           |
| 366400   | 4.04                  | 4.03 | 4.02 | 4.05                  | 4.03 | 4.02 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 400000   | 4.03                  | 4.01 | 4.01 | 4.03                  | 4.01 | 4.01 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 464000   | 4.01                  | 3.99 | 3.98 | 4.02                  | 3.99 | 3.99 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 587800   | 3.95                  | 3.94 | 3.93 | 3.96                  | 3.94 | 3.93 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 744200   | 3.91                  | 3.90 | 3.89 | 3.92                  | 3.90 | 3.89 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 942600   | 3.90                  | 3.88 | 3.88 | 3.90                  | 3.89 | 3.88 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 1193600  | 3.87                  | 3.86 | 3.85 | 3.87                  | 3.86 | 3.85 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1511600  | 3.86                  | 3.85 | 3.84 | 3.86                  | 3.85 | 3.84 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1914400  | 3.85                  | 3.84 | 3.83 | 3.85                  | 3.84 | 3.82 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 2424400  | 3.83                  | 3.81 | 3.81 | 3.83                  | 3.82 | 3.82 | 0.00            | 0.02  | 0.02  | ±0.3           |
| 3070200  | 3.80                  | 3.78 | 3.78 | 3.81                  | 3.77 | 3.78 | 0.02            | -0.02 | 0.00  | ±0.3           |
| 3888000  | 3.75                  | 3.73 | 3.73 | 3.75                  | 3.73 | 3.72 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 4000000  | 3.73                  | 3.72 | 3.71 | 3.74                  | 3.73 | 3.72 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 4923800  | 3.67                  | 3.65 | 3.65 | 3.67                  | 3.65 | 3.65 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 6235400  | 3.56                  | 3.54 | 3.54 | 3.55                  | 3.53 | 3.53 | -0.02           | -0.02 | -0.02 | ±0.3           |
| 7896400  | 3.42                  | 3.41 | 3.40 | 3.43                  | 3.40 | 3.39 | 0.03            | -0.03 | -0.03 | ±0.3           |
| 10000000 | 3.26                  | 3.25 | 3.24 | 3.29                  | 3.24 | 3.18 | 0.08            | -0.03 | -0.16 | ±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                  | 1.55 | 1.55 | 0.06            | 0.06  | 0.06  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.54 | 1.52                  | 1.55 | 1.52 | -0.11           | 0.06  | -0.11 | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.54                  | 1.54 | 1.53 | 0.06            | 0.06  | 0.00  | ±0.3           |
| 5200     | 1.53                  | 1.53 | 1.53 | 1.52                  | 1.54 | 1.53 | -0.06           | 0.06  | 0.00  | ±0.3           |
| 6600     | 1.52                  | 1.52 | 1.52 | 1.53                  | 1.52 | 1.52 | 0.06            | 0.00  | 0.00  | ±0.3           |
| 8200     | 1.51                  | 1.51 | 1.51 | 1.50                  | 1.51 | 1.50 | -0.06           | 0.00  | -0.06 | ±0.3           |
| 9000     | 1.50                  | 1.50 | 1.50 | 1.50                  | 1.51 | 1.50 | 0.00            | 0.06  | 0.00  | ±0.3           |
| 10600    | 4.23                  | 4.17 | 4.16 | 4.21                  | 4.17 | 4.15 | -0.04           | 0.00  | -0.02 | ±0.3           |
| 13400    | 4.23                  | 4.19 | 4.18 | 4.23                  | 4.21 | 4.17 | 0.00            | 0.04  | -0.02 | ±0.3           |
| 17000    | 4.23                  | 4.19 | 4.18 | 4.23                  | 4.19 | 4.18 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 21400    | 4.26                  | 4.21 | 4.20 | 4.26                  | 4.23 | 4.20 | 0.00            | 0.04  | 0.00  | ±0.3           |
| 27200    | 4.25                  | 4.20 | 4.19 | 4.26                  | 4.21 | 4.19 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 34400    | 4.25                  | 4.22 | 4.21 | 4.27                  | 4.22 | 4.22 | 0.04            | 0.00  | 0.02  | ±0.3           |
| 40000    | 4.25                  | 4.21 | 4.20 | 4.26                  | 4.22 | 4.20 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 43600    | 4.24                  | 4.21 | 4.20 | 4.26                  | 4.21 | 4.19 | 0.04            | 0.00  | -0.02 | ±0.3           |
| 55400    | 4.23                  | 4.20 | 4.19 | 4.24                  | 4.21 | 4.19 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 70000    | 4.22                  | 4.19 | 4.18 | 4.23                  | 4.19 | 4.18 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 88800    | 4.21                  | 4.18 | 4.17 | 4.22                  | 4.18 | 4.18 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 112400   | 4.20                  | 4.17 | 4.16 | 4.21                  | 4.17 | 4.17 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 142400   | 4.18                  | 4.16 | 4.15 | 4.19                  | 4.16 | 4.15 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 161750   | 4.17                  | 4.14 | 4.13 | 4.17                  | 4.14 | 4.13 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 180400   | 4.15                  | 4.13 | 4.12 | 4.16                  | 4.13 | 4.13 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 228400   | 4.12                  | 4.10 | 4.09 | 4.13                  | 4.10 | 4.09 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 289400   | 4.08                  | 4.07 | 4.06 | 4.09                  | 4.06 | 4.06 | 0.02            | -0.02 | 0.00  | ±0.3           |
| 366400   | 4.04                  | 4.03 | 4.02 | 4.05                  | 4.03 | 4.02 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 400000   | 4.03                  | 4.01 | 4.01 | 4.03                  | 4.02 | 4.01 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 464000   | 4.01                  | 3.99 | 3.98 | 4.02                  | 4.00 | 3.99 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 587800   | 3.95                  | 3.94 | 3.93 | 3.96                  | 3.95 | 3.93 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 744200   | 3.91                  | 3.90 | 3.89 | 3.92                  | 3.90 | 3.89 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 942600   | 3.90                  | 3.88 | 3.88 | 3.90                  | 3.89 | 3.87 | 0.00            | 0.02  | -0.02 | ±0.3           |
| 1193600  | 3.87                  | 3.86 | 3.85 | 3.87                  | 3.86 | 3.86 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 1511600  | 3.86                  | 3.85 | 3.84 | 3.86                  | 3.85 | 3.84 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1914400  | 3.85                  | 3.84 | 3.83 | 3.85                  | 3.83 | 3.82 | 0.00            | -0.02 | -0.02 | ±0.3           |
| 2424400  | 3.83                  | 3.81 | 3.81 | 3.83                  | 3.81 | 3.81 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 3070200  | 3.80                  | 3.78 | 3.78 | 3.80                  | 3.79 | 3.78 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 3888000  | 3.75                  | 3.73 | 3.73 | 3.74                  | 3.74 | 3.72 | -0.02           | 0.02  | -0.02 | ±0.3           |
| 4000000  | 3.73                  | 3.72 | 3.71 | 3.73                  | 3.71 | 3.71 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 4923800  | 3.67                  | 3.65 | 3.65 | 3.67                  | 3.65 | 3.65 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 6235400  | 3.56                  | 3.54 | 3.54 | 3.56                  | 3.54 | 3.53 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 7896400  | 3.42                  | 3.41 | 3.40 | 3.42                  | 3.42 | 3.39 | 0.00            | 0.03  | -0.03 | ±0.3           |
| 10000000 | 3.26                  | 3.25 | 3.24 | 3.30                  | 3.26 | 3.22 | 0.11            | 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, 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 | 1.55                  | 1.54 | 1.54 | 0.06            | 0.00  | 0.00  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.54 | 1.52                  | 1.54 | 1.52 | -0.11           | 0.00  | -0.11 | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.53                  | 1.53 | 1.53 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 5200     | 1.53                  | 1.53 | 1.53 | 1.52                  | 1.54 | 1.53 | -0.06           | 0.06  | 0.00  | ±0.3           |
| 6600     | 1.52                  | 1.52 | 1.52 | 1.52                  | 1.52 | 1.52 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 8200     | 1.51                  | 1.51 | 1.51 | 1.51                  | 1.51 | 1.50 | 0.00            | 0.00  | -0.06 | ±0.3           |
| 9000     | 1.50                  | 1.50 | 1.50 | 1.50                  | 1.50 | 1.50 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 10600    | 4.23                  | 4.17 | 4.16 | 4.24                  | 4.14 | 4.17 | 0.02            | -0.06 | 0.02  | ±0.3           |
| 13400    | 4.23                  | 4.19 | 4.18 | 4.23                  | 4.19 | 4.19 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 17000    | 4.23                  | 4.19 | 4.18 | 4.24                  | 4.19 | 4.18 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 21400    | 4.26                  | 4.21 | 4.20 | 4.25                  | 4.21 | 4.18 | -0.02           | 0.00  | -0.04 | ±0.3           |
| 27200    | 4.25                  | 4.20 | 4.19 | 4.25                  | 4.20 | 4.20 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 34400    | 4.25                  | 4.22 | 4.21 | 4.26                  | 4.22 | 4.21 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 40000    | 4.25                  | 4.21 | 4.20 | 4.25                  | 4.21 | 4.21 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 43600    | 4.24                  | 4.21 | 4.20 | 4.25                  | 4.21 | 4.20 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 55400    | 4.23                  | 4.20 | 4.19 | 4.24                  | 4.20 | 4.20 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 70000    | 4.22                  | 4.19 | 4.18 | 4.23                  | 4.20 | 4.19 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 88800    | 4.21                  | 4.18 | 4.17 | 4.22                  | 4.19 | 4.18 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 112400   | 4.20                  | 4.17 | 4.16 | 4.20                  | 4.17 | 4.16 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 142400   | 4.18                  | 4.16 | 4.15 | 4.19                  | 4.16 | 4.15 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 161750   | 4.17                  | 4.14 | 4.13 | 4.17                  | 4.14 | 4.14 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 180400   | 4.15                  | 4.13 | 4.12 | 4.16                  | 4.13 | 4.12 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 228400   | 4.12                  | 4.10 | 4.09 | 4.12                  | 4.09 | 4.09 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 289400   | 4.08                  | 4.07 | 4.06 | 4.09                  | 4.06 | 4.06 | 0.02            | -0.02 | 0.00  | ±0.3           |
| 366400   | 4.04                  | 4.03 | 4.02 | 4.04                  | 4.03 | 4.02 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 400000   | 4.03                  | 4.01 | 4.01 | 4.03                  | 4.01 | 4.01 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 464000   | 4.01                  | 3.99 | 3.98 | 4.01                  | 3.99 | 3.99 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 587800   | 3.95                  | 3.94 | 3.93 | 3.96                  | 3.93 | 3.93 | 0.02            | -0.02 | 0.00  | ±0.3           |
| 744200   | 3.91                  | 3.90 | 3.89 | 3.91                  | 3.90 | 3.89 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 942600   | 3.90                  | 3.88 | 3.88 | 3.90                  | 3.88 | 3.87 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 1193600  | 3.87                  | 3.86 | 3.85 | 3.87                  | 3.85 | 3.86 | 0.00            | -0.02 | 0.02  | ±0.3           |
| 1511600  | 3.86                  | 3.85 | 3.84 | 3.86                  | 3.84 | 3.84 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 1914400  | 3.85                  | 3.84 | 3.83 | 3.85                  | 3.84 | 3.82 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 2424400  | 3.83                  | 3.81 | 3.81 | 3.83                  | 3.81 | 3.82 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 3070200  | 3.80                  | 3.78 | 3.78 | 3.80                  | 3.79 | 3.78 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 3888000  | 3.75                  | 3.73 | 3.73 | 3.75                  | 3.73 | 3.72 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 4000000  | 3.73                  | 3.72 | 3.71 | 3.73                  | 3.72 | 3.71 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 4923800  | 3.67                  | 3.65 | 3.65 | 3.68                  | 3.65 | 3.65 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 6235400  | 3.56                  | 3.54 | 3.54 | 3.56                  | 3.54 | 3.53 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 7896400  | 3.42                  | 3.41 | 3.40 | 3.42                  | 3.40 | 3.38 | 0.00            | -0.03 | -0.05 | ±0.3           |
| 10000000 | 3.26                  | 3.25 | 3.24 | 3.26                  | 3.21 | 3.22 | 0.00            | -0.11 | -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 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 | 1.54 | 1.53                  | 1.54 | 1.52 | -0.06           | 0.00  | -0.11 | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.54                  | 1.53 | 1.54 | 0.06            | 0.00  | 0.06  | ±0.3           |
| 5200     | 1.53                  | 1.53 | 1.53 | 1.52                  | 1.54 | 1.54 | -0.06           | 0.06  | 0.06  | ±0.3           |
| 6600     | 1.52                  | 1.52 | 1.52 | 1.52                  | 1.52 | 1.53 | 0.00            | 0.00  | 0.06  | ±0.3           |
| 8200     | 1.51                  | 1.51 | 1.51 | 1.51                  | 1.52 | 1.50 | 0.00            | 0.06  | -0.06 | ±0.3           |
| 9000     | 1.50                  | 1.50 | 1.50 | 1.50                  | 1.50 | 1.50 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 10600    | 4.23                  | 4.17 | 4.16 | 4.23                  | 4.18 | 4.20 | 0.00            | 0.02  | 0.08  | ±0.3           |
| 13400    | 4.23                  | 4.19 | 4.18 | 4.25                  | 4.19 | 4.18 | 0.04            | 0.00  | 0.00  | ±0.3           |
| 17000    | 4.23                  | 4.19 | 4.18 | 4.24                  | 4.18 | 4.17 | 0.02            | -0.02 | -0.02 | ±0.3           |
| 21400    | 4.26                  | 4.21 | 4.20 | 4.26                  | 4.21 | 4.20 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 27200    | 4.25                  | 4.20 | 4.19 | 4.26                  | 4.19 | 4.18 | 0.02            | -0.02 | -0.02 | ±0.3           |
| 34400    | 4.25                  | 4.22 | 4.21 | 4.27                  | 4.21 | 4.21 | 0.04            | -0.02 | 0.00  | ±0.3           |
| 40000    | 4.25                  | 4.21 | 4.20 | 4.25                  | 4.21 | 4.20 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 43600    | 4.24                  | 4.21 | 4.20 | 4.25                  | 4.21 | 4.21 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 55400    | 4.23                  | 4.20 | 4.19 | 4.24                  | 4.21 | 4.19 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 70000    | 4.22                  | 4.19 | 4.18 | 4.23                  | 4.20 | 4.18 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 88800    | 4.21                  | 4.18 | 4.17 | 4.22                  | 4.18 | 4.18 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 112400   | 4.20                  | 4.17 | 4.16 | 4.20                  | 4.17 | 4.17 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 142400   | 4.18                  | 4.16 | 4.15 | 4.18                  | 4.16 | 4.15 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 161750   | 4.17                  | 4.14 | 4.13 | 4.17                  | 4.14 | 4.13 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 180400   | 4.15                  | 4.13 | 4.12 | 4.16                  | 4.13 | 4.12 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 228400   | 4.12                  | 4.10 | 4.09 | 4.12                  | 4.09 | 4.09 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 289400   | 4.08                  | 4.07 | 4.06 | 4.08                  | 4.07 | 4.06 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 366400   | 4.04                  | 4.03 | 4.02 | 4.04                  | 4.03 | 4.02 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 400000   | 4.03                  | 4.01 | 4.01 | 4.03                  | 4.01 | 4.01 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 464000   | 4.01                  | 3.99 | 3.98 | 4.01                  | 3.99 | 3.99 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 587800   | 3.95                  | 3.94 | 3.93 | 3.96                  | 3.94 | 3.93 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 744200   | 3.91                  | 3.90 | 3.89 | 3.90                  | 3.90 | 3.89 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 942600   | 3.90                  | 3.88 | 3.88 | 3.89                  | 3.88 | 3.88 | -0.02           | 0.00  | 0.00  | ±0.3           |
| 1193600  | 3.87                  | 3.86 | 3.85 | 3.85                  | 3.86 | 3.85 | -0.05           | 0.00  | 0.00  | ±0.3           |
| 1511600  | 3.86                  | 3.85 | 3.84 | 3.86                  | 3.84 | 3.84 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 1914400  | 3.85                  | 3.84 | 3.83 | 3.85                  | 3.83 | 3.82 | 0.00            | -0.02 | -0.02 | ±0.3           |
| 2424400  | 3.83                  | 3.81 | 3.81 | 3.82                  | 3.82 | 3.81 | -0.02           | 0.02  | 0.00  | ±0.3           |
| 3070200  | 3.80                  | 3.78 | 3.78 | 3.80                  | 3.78 | 3.78 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 3888000  | 3.75                  | 3.73 | 3.73 | 3.75                  | 3.73 | 3.73 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 4000000  | 3.73                  | 3.72 | 3.71 | 3.73                  | 3.72 | 3.71 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 4923800  | 3.67                  | 3.65 | 3.65 | 3.67                  | 3.65 | 3.64 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 6235400  | 3.56                  | 3.54 | 3.54 | 3.56                  | 3.54 | 3.53 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 7896400  | 3.42                  | 3.41 | 3.40 | 3.43                  | 3.42 | 3.38 | 0.03            | 0.03  | -0.05 | ±0.3           |
| 10000000 | 3.26                  | 3.25 | 3.24 | 3.30                  | 3.24 | 3.21 | 0.11            | -0.03 | -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 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 | 1.54 | 1.52                  | 1.54 | 1.52 | -0.11           | 0.00  | -0.11 | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.53                  | 1.54 | 1.53 | 0.00            | 0.06  | 0.00  | ±0.3           |
| 5200     | 1.53                  | 1.53 | 1.53 | 1.51                  | 1.54 | 1.54 | -0.11           | 0.06  | 0.06  | ±0.3           |
| 6600     | 1.52                  | 1.52 | 1.52 | 1.52                  | 1.52 | 1.52 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 8200     | 1.51                  | 1.51 | 1.51 | 1.51                  | 1.52 | 1.50 | 0.00            | 0.06  | -0.06 | ±0.3           |
| 9000     | 1.50                  | 1.50 | 1.50 | 1.51                  | 1.51 | 1.50 | 0.06            | 0.06  | 0.00  | ±0.3           |
| 10600    | 4.23                  | 4.17 | 4.16 | 4.25                  | 4.17 | 4.12 | 0.04            | 0.00  | -0.06 | ±0.3           |
| 13400    | 4.23                  | 4.19 | 4.18 | 4.25                  | 4.20 | 4.18 | 0.04            | 0.02  | 0.00  | ±0.3           |
| 17000    | 4.23                  | 4.19 | 4.18 | 4.24                  | 4.20 | 4.18 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 21400    | 4.26                  | 4.21 | 4.20 | 4.27                  | 4.19 | 4.21 | 0.02            | -0.04 | 0.02  | ±0.3           |
| 27200    | 4.25                  | 4.20 | 4.19 | 4.25                  | 4.20 | 4.21 | 0.00            | 0.00  | 0.04  | ±0.3           |
| 34400    | 4.25                  | 4.22 | 4.21 | 4.26                  | 4.22 | 4.21 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 40000    | 4.25                  | 4.21 | 4.20 | 4.25                  | 4.22 | 4.21 | 0.00            | 0.02  | 0.02  | ±0.3           |
| 43600    | 4.24                  | 4.21 | 4.20 | 4.26                  | 4.21 | 4.20 | 0.04            | 0.00  | 0.00  | ±0.3           |
| 55400    | 4.23                  | 4.20 | 4.19 | 4.23                  | 4.21 | 4.20 | 0.00            | 0.02  | 0.02  | ±0.3           |
| 70000    | 4.22                  | 4.19 | 4.18 | 4.23                  | 4.19 | 4.19 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 88800    | 4.21                  | 4.18 | 4.17 | 4.22                  | 4.18 | 4.18 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 112400   | 4.20                  | 4.17 | 4.16 | 4.20                  | 4.17 | 4.17 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 142400   | 4.18                  | 4.16 | 4.15 | 4.18                  | 4.16 | 4.15 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 161750   | 4.17                  | 4.14 | 4.13 | 4.17                  | 4.14 | 4.14 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 180400   | 4.15                  | 4.13 | 4.12 | 4.15                  | 4.13 | 4.13 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 228400   | 4.12                  | 4.10 | 4.09 | 4.13                  | 4.10 | 4.09 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 289400   | 4.08                  | 4.07 | 4.06 | 4.09                  | 4.07 | 4.06 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 366400   | 4.04                  | 4.03 | 4.02 | 4.04                  | 4.03 | 4.03 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 400000   | 4.03                  | 4.01 | 4.01 | 4.03                  | 4.02 | 4.01 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 464000   | 4.01                  | 3.99 | 3.98 | 4.01                  | 3.99 | 3.99 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 567800   | 3.95                  | 3.94 | 3.93 | 3.96                  | 3.94 | 3.93 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 744200   | 3.91                  | 3.90 | 3.89 | 3.91                  | 3.90 | 3.89 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 942600   | 3.90                  | 3.88 | 3.88 | 3.90                  | 3.88 | 3.87 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 1193600  | 3.87                  | 3.86 | 3.85 | 3.87                  | 3.86 | 3.85 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1511600  | 3.86                  | 3.85 | 3.84 | 3.86                  | 3.85 | 3.84 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1914400  | 3.85                  | 3.84 | 3.83 | 3.85                  | 3.83 | 3.83 | 0.00            | -0.02 | 0.00  | ±0.3           |
| 2424400  | 3.83                  | 3.81 | 3.81 | 3.82                  | 3.82 | 3.81 | -0.02           | 0.02  | 0.00  | ±0.3           |
| 3070200  | 3.80                  | 3.78 | 3.78 | 3.80                  | 3.78 | 3.77 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 3888000  | 3.75                  | 3.73 | 3.73 | 3.75                  | 3.73 | 3.73 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 4000000  | 3.73                  | 3.72 | 3.71 | 3.72                  | 3.73 | 3.71 | -0.02           | 0.02  | 0.00  | ±0.3           |
| 4923800  | 3.67                  | 3.65 | 3.65 | 3.68                  | 3.66 | 3.65 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 6235400  | 3.56                  | 3.54 | 3.54 | 3.55                  | 3.53 | 3.53 | -0.02           | -0.02 | -0.02 | ±0.3           |
| 7896400  | 3.42                  | 3.41 | 3.40 | 3.43                  | 3.41 | 3.39 | 0.03            | 0.00  | -0.03 | ±0.3           |
| 10000000 | 3.26                  | 3.25 | 3.24 | 3.37                  | 3.26 | 3.17 | 0.29            | 0.03  | -0.19 | ±0.3           |

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

<sup>†</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 | 1.55 | 0.06            | 0.06  | 0.06  | ±0.3           |
| 3200     | 1.54                  | 1.54 | 1.54 | 1.52                  | 1.54 | 1.52 | -0.11           | 0.00  | -0.11 | ±0.3           |
| 4000     | 1.53                  | 1.53 | 1.53 | 1.53                  | 1.54 | 1.54 | 0.00            | 0.06  | 0.06  | ±0.3           |
| 5200     | 1.53                  | 1.53 | 1.53 | 1.52                  | 1.54 | 1.54 | -0.06           | 0.06  | 0.06  | ±0.3           |
| 6600     | 1.52                  | 1.52 | 1.52 | 1.52                  | 1.52 | 1.53 | 0.00            | 0.00  | 0.06  | ±0.3           |
| 8200     | 1.51                  | 1.51 | 1.51 | 1.51                  | 1.52 | 1.50 | 0.00            | 0.06  | -0.06 | ±0.3           |
| 9000     | 1.50                  | 1.50 | 1.50 | 1.50                  | 1.50 | 1.50 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 10600    | 4.23                  | 4.17 | 4.16 | 4.23                  | 4.19 | 4.17 | 0.00            | 0.04  | 0.02  | ±0.3           |
| 13400    | 4.23                  | 4.19 | 4.18 | 4.23                  | 4.20 | 4.18 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 17000    | 4.23                  | 4.19 | 4.18 | 4.24                  | 4.20 | 4.18 | 0.02            | 0.02  | 0.00  | ±0.3           |
| 21400    | 4.26                  | 4.21 | 4.20 | 4.26                  | 4.22 | 4.20 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 27200    | 4.25                  | 4.20 | 4.19 | 4.24                  | 4.22 | 4.19 | -0.02           | 0.04  | 0.00  | ±0.3           |
| 34400    | 4.25                  | 4.22 | 4.21 | 4.26                  | 4.23 | 4.22 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 40000    | 4.25                  | 4.21 | 4.20 | 4.25                  | 4.22 | 4.20 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 43600    | 4.24                  | 4.21 | 4.20 | 4.25                  | 4.23 | 4.21 | 0.02            | 0.04  | 0.02  | ±0.3           |
| 55400    | 4.23                  | 4.20 | 4.19 | 4.24                  | 4.20 | 4.20 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 70000    | 4.22                  | 4.19 | 4.18 | 4.24                  | 4.21 | 4.19 | 0.04            | 0.04  | 0.02  | ±0.3           |
| 88800    | 4.21                  | 4.18 | 4.17 | 4.23                  | 4.19 | 4.17 | 0.04            | 0.02  | 0.00  | ±0.3           |
| 112400   | 4.20                  | 4.17 | 4.16 | 4.21                  | 4.18 | 4.17 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 142400   | 4.18                  | 4.16 | 4.15 | 4.20                  | 4.17 | 4.15 | 0.04            | 0.02  | 0.00  | ±0.3           |
| 161750   | 4.17                  | 4.14 | 4.13 | 4.17                  | 4.15 | 4.14 | 0.00            | 0.02  | 0.02  | ±0.3           |
| 180400   | 4.15                  | 4.13 | 4.12 | 4.15                  | 4.14 | 4.12 | 0.00            | 0.02  | 0.00  | ±0.3           |
| 228400   | 4.12                  | 4.10 | 4.09 | 4.14                  | 4.11 | 4.09 | 0.04            | 0.02  | 0.00  | ±0.3           |
| 289400   | 4.08                  | 4.07 | 4.06 | 4.10                  | 4.06 | 4.06 | 0.04            | -0.02 | 0.00  | ±0.3           |
| 366400   | 4.04                  | 4.03 | 4.02 | 4.05                  | 4.04 | 4.03 | 0.02            | 0.02  | 0.02  | ±0.3           |
| 400000   | 4.03                  | 4.01 | 4.01 | 4.05                  | 4.01 | 4.01 | 0.04            | 0.00  | 0.00  | ±0.3           |
| 464000   | 4.01                  | 3.99 | 3.98 | 4.01                  | 3.99 | 3.99 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 587800   | 3.95                  | 3.94 | 3.93 | 3.96                  | 3.94 | 3.94 | 0.02            | 0.00  | 0.02  | ±0.3           |
| 744200   | 3.91                  | 3.90 | 3.89 | 3.91                  | 3.90 | 3.90 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 942600   | 3.90                  | 3.88 | 3.88 | 3.91                  | 3.89 | 3.87 | 0.02            | 0.02  | -0.02 | ±0.3           |
| 1193600  | 3.87                  | 3.86 | 3.85 | 3.87                  | 3.86 | 3.86 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 1511600  | 3.86                  | 3.85 | 3.84 | 3.86                  | 3.85 | 3.84 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 1914400  | 3.85                  | 3.84 | 3.83 | 3.85                  | 3.84 | 3.82 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 2424400  | 3.83                  | 3.81 | 3.81 | 3.83                  | 3.82 | 3.82 | 0.00            | 0.02  | 0.02  | ±0.3           |
| 3070200  | 3.80                  | 3.78 | 3.78 | 3.80                  | 3.78 | 3.78 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 3888000  | 3.75                  | 3.73 | 3.73 | 3.75                  | 3.73 | 3.72 | 0.00            | 0.00  | -0.02 | ±0.3           |
| 4000000  | 3.73                  | 3.72 | 3.71 | 3.72                  | 3.73 | 3.71 | -0.02           | 0.02  | 0.00  | ±0.3           |
| 4923800  | 3.67                  | 3.65 | 3.65 | 3.68                  | 3.65 | 3.65 | 0.02            | 0.00  | 0.00  | ±0.3           |
| 6235400  | 3.56                  | 3.54 | 3.54 | 3.56                  | 3.54 | 3.54 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 7896400  | 3.42                  | 3.41 | 3.40 | 3.41                  | 3.40 | 3.39 | -0.03           | -0.03 | -0.03 | ±0.3           |
| 10000000 | 3.26                  | 3.25 | 3.24 | 3.26                  | 3.23 | 3.27 | 0.00            | -0.05 | 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, E-field, Channel 0

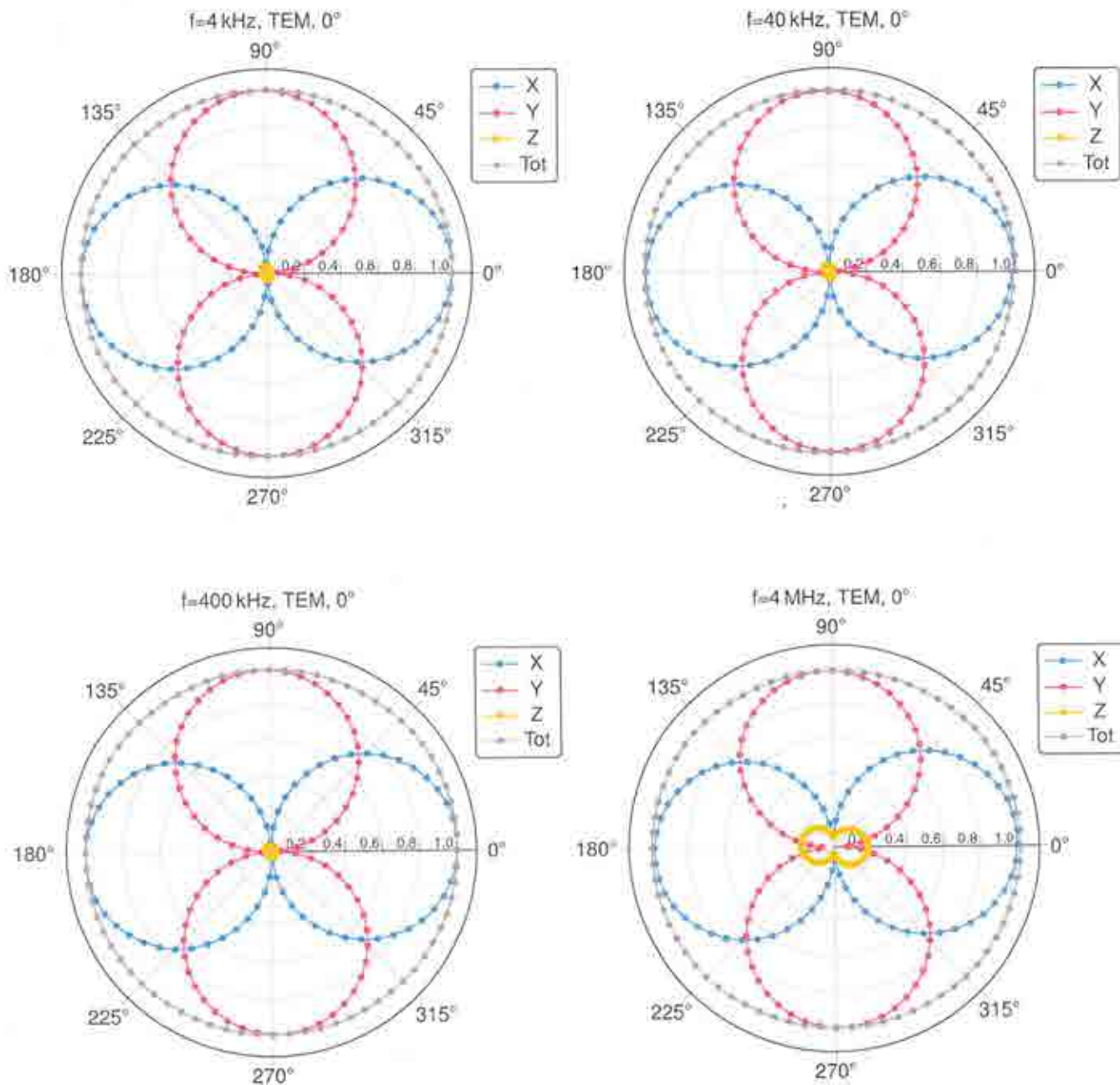
| f/(Hz)   | E-field/(V/m) Applied |      |      | E-field/(V/m) Reading |      |      | Difference/(dB) |       |       | Tolerance/(dB) |
|----------|-----------------------|------|------|-----------------------|------|------|-----------------|-------|-------|----------------|
|          | x                     | y    | z    | x                     | y    | z    | x               | y     | z     |                |
| 3000     | 84.6                  | 84.6 | 88.0 | 84.6                  | 84.6 | 88.0 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 3200     | 86.2                  | 86.2 | 80.3 | 86.4                  | 85.8 | 79.2 | 0.02            | -0.04 | -0.12 | ±0.3           |
| 4000     | 83.9                  | 83.9 | 88.0 | 83.9                  | 83.9 | 88.0 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 5200     | 81.8                  | 81.8 | 85.0 | 81.7                  | 82.0 | 85.7 | -0.01           | 0.02  | 0.07  | ±0.3           |
| 6600     | 81.9                  | 81.9 | 82.1 | 82.0                  | 81.8 | 82.3 | 0.01            | -0.01 | 0.02  | ±0.3           |
| 8200     | 78.0                  | 78.0 | 82.1 | 77.9                  | 78.2 | 82.2 | -0.01           | 0.02  | 0.01  | ±0.3           |
| 9000     | 83.4                  | 83.4 | 83.5 | 83.5                  | 83.4 | 83.6 | 0.01            | 0.00  | 0.01  | ±0.3           |
| 10600    | 82.6                  | 82.6 | 81.7 | 82.7                  | 82.9 | 81.8 | 0.01            | 0.03  | 0.01  | ±0.3           |
| 13400    | 85.7                  | 85.7 | 79.6 | 85.8                  | 85.8 | 79.5 | 0.01            | 0.01  | -0.01 | ±0.3           |
| 17000    | 84.9                  | 84.9 | 78.2 | 84.9                  | 84.9 | 78.3 | 0.00            | 0.00  | -0.01 | ±0.3           |
| 21400    | 83.1                  | 83.1 | 82.6 | 83.1                  | 83.1 | 82.5 | 0.00            | 0.00  | -0.01 | ±0.3           |
| 27200    | 83.9                  | 83.9 | 80.4 | 83.8                  | 83.9 | 80.4 | -0.01           | 0.00  | 0.00  | ±0.3           |
| 34400    | 82.5                  | 82.5 | 79.4 | 82.6                  | 82.6 | 79.6 | 0.01            | 0.01  | 0.02  | ±0.3           |
| 40000    | 83.2                  | 83.2 | 82.1 | 83.2                  | 83.2 | 82.2 | 0.00            | 0.00  | 0.01  | ±0.3           |
| 43600    | 82.5                  | 82.5 | 81.3 | 82.5                  | 82.6 | 81.3 | 0.00            | 0.01  | 0.00  | ±0.3           |
| 55400    | 82.3                  | 82.3 | 81.3 | 82.3                  | 82.3 | 81.3 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 70000    | 83.1                  | 83.1 | 81.4 | 83.1                  | 83.2 | 81.4 | 0.00            | 0.01  | 0.00  | ±0.3           |
| 88800    | 82.2                  | 82.2 | 82.1 | 82.2                  | 82.2 | 82.2 | 0.00            | 0.00  | 0.01  | ±0.3           |
| 112400   | 82.6                  | 82.6 | 81.7 | 82.7                  | 82.7 | 81.8 | 0.01            | 0.01  | 0.01  | ±0.3           |
| 142400   | 82.6                  | 82.6 | 82.1 | 82.6                  | 82.7 | 82.2 | 0.00            | 0.01  | 0.01  | ±0.3           |
| 161750   | 82.7                  | 82.7 | 82.1 | 82.7                  | 82.7 | 82.2 | 0.00            | 0.00  | 0.01  | ±0.3           |
| 180400   | 83.0                  | 83.0 | 82.1 | 83.0                  | 83.0 | 82.2 | 0.00            | 0.00  | 0.01  | ±0.3           |
| 228400   | 83.1                  | 83.1 | 82.2 | 83.1                  | 83.1 | 82.3 | 0.00            | 0.00  | 0.01  | ±0.3           |
| 289400   | 83.3                  | 83.3 | 82.6 | 83.4                  | 83.4 | 82.8 | 0.01            | 0.01  | 0.02  | ±0.3           |
| 366400   | 83.5                  | 83.5 | 82.7 | 83.5                  | 83.5 | 82.8 | 0.00            | 0.00  | 0.01  | ±0.3           |
| 400000   | 83.8                  | 83.8 | 82.7 | 83.8                  | 83.8 | 82.9 | 0.00            | 0.00  | 0.02  | ±0.3           |
| 464000   | 84.0                  | 84.0 | 83.0 | 84.1                  | 84.1 | 83.1 | 0.01            | 0.01  | 0.01  | ±0.3           |
| 587800   | 84.0                  | 84.0 | 83.0 | 84.1                  | 84.1 | 83.1 | 0.01            | 0.01  | 0.01  | ±0.3           |
| 744200   | 84.1                  | 84.1 | 83.0 | 84.2                  | 84.1 | 83.1 | 0.01            | 0.00  | 0.01  | ±0.3           |
| 942600   | 84.1                  | 84.1 | 83.1 | 84.2                  | 84.1 | 83.2 | 0.01            | 0.00  | 0.01  | ±0.3           |
| 1193600  | 83.8                  | 83.8 | 82.7 | 83.9                  | 83.8 | 82.8 | 0.01            | 0.00  | 0.01  | ±0.3           |
| 1511600  | 83.3                  | 83.3 | 82.3 | 83.4                  | 83.4 | 82.3 | 0.01            | 0.01  | 0.00  | ±0.3           |
| 1914400  | 82.9                  | 82.9 | 82.0 | 83.0                  | 83.0 | 82.1 | 0.01            | 0.01  | 0.01  | ±0.3           |
| 2424400  | 82.6                  | 82.6 | 81.8 | 82.7                  | 82.7 | 81.8 | 0.01            | 0.01  | 0.00  | ±0.3           |
| 3070200  | 82.5                  | 82.5 | 81.5 | 82.5                  | 82.5 | 81.6 | 0.00            | 0.00  | 0.01  | ±0.3           |
| 3888000  | 82.6                  | 82.6 | 81.8 | 82.7                  | 82.7 | 81.8 | 0.01            | 0.01  | 0.00  | ±0.3           |
| 4000000  | 82.4                  | 82.4 | 81.7 | 82.5                  | 82.5 | 81.8 | 0.01            | 0.01  | 0.01  | ±0.3           |
| 4923800  | 83.0                  | 83.0 | 82.5 | 83.1                  | 83.1 | 82.5 | 0.01            | 0.01  | 0.00  | ±0.3           |
| 6235400  | 85.7                  | 85.7 | 85.0 | 85.7                  | 85.7 | 85.0 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 7896400  | 88.5                  | 88.5 | 88.0 | 88.5                  | 88.5 | 88.0 | 0.00            | 0.00  | 0.00  | ±0.3           |
| 10000000 | 96.8                  | 96.8 | 96.2 | 96.8                  | 96.8 | 96.3 | 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

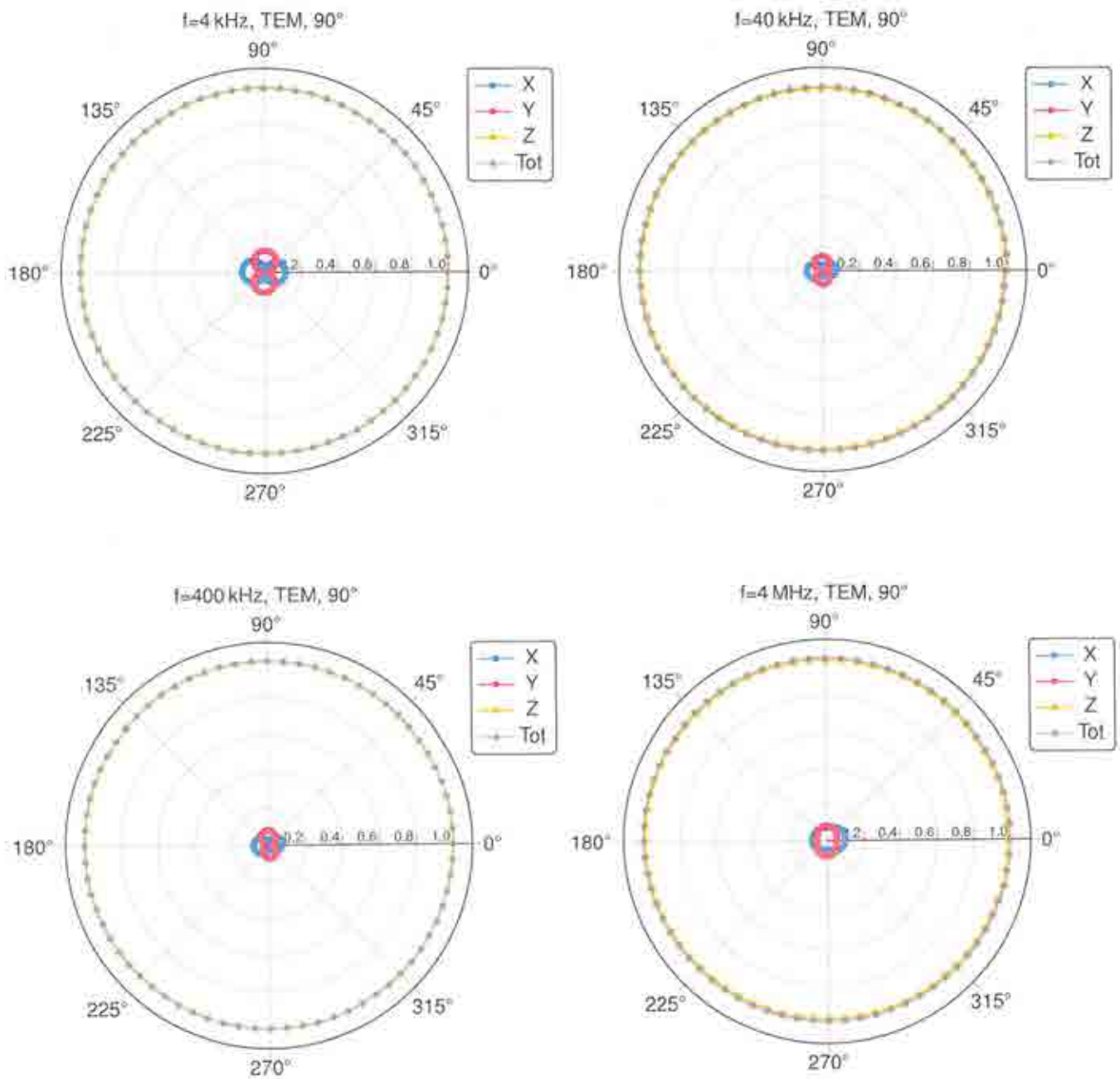
<sup>1</sup> Calibration uncertainty not taken into account (shared risk 50%)

## Isotropy H-Field

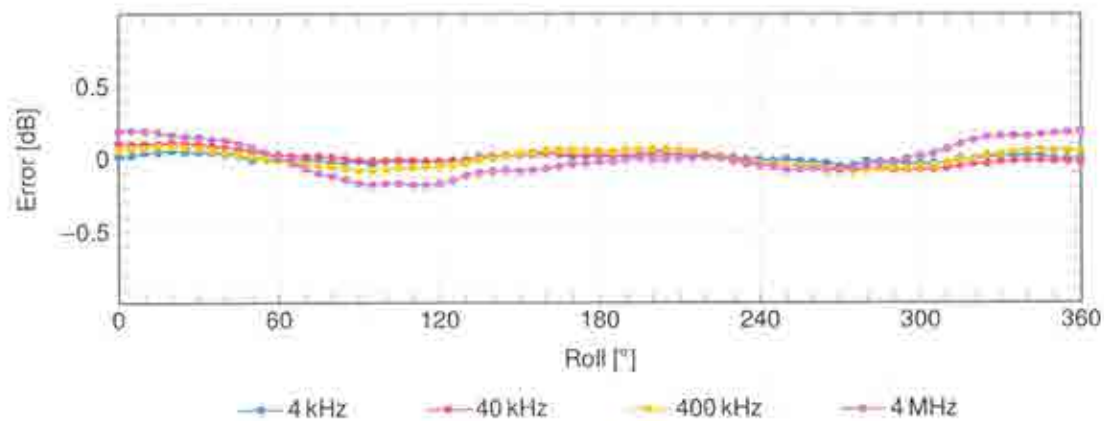
### H-Field Receiving Pattern ( $\psi$ ), $\vartheta = 0^\circ$



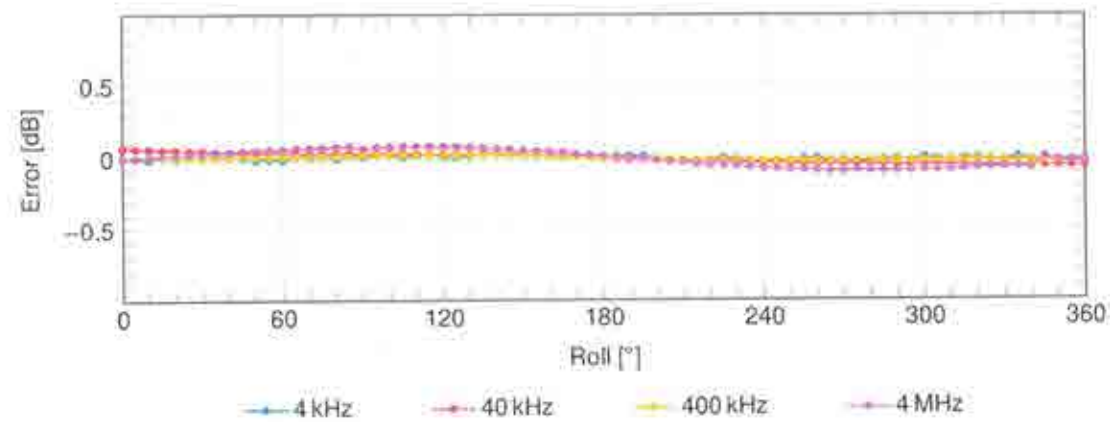
### H-Field Receiving Pattern ( $\phi$ ), $\vartheta = 90^\circ$



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



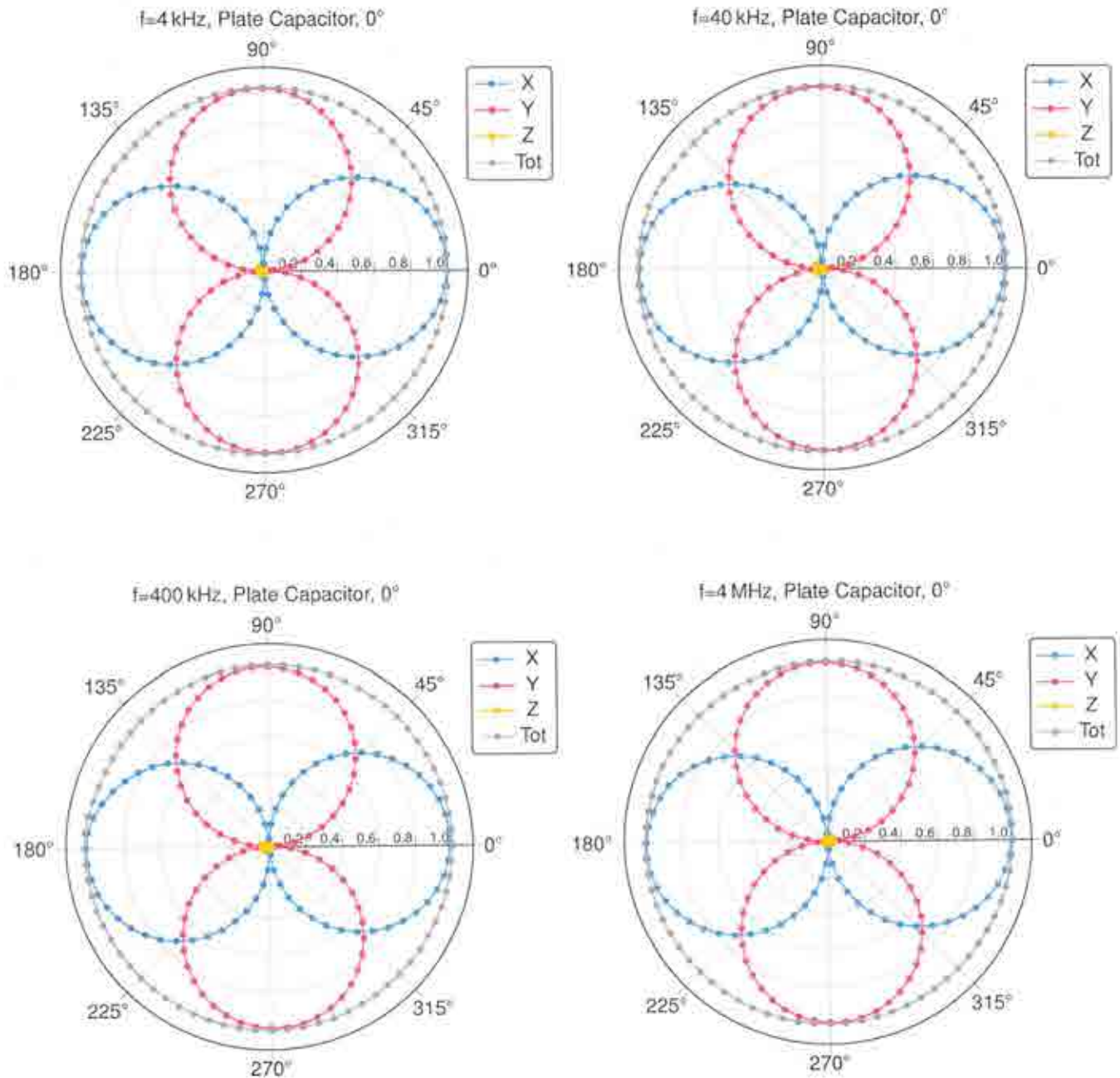
H-Field Receiving Pattern ( $\phi$ ),  $\theta = 90^\circ$



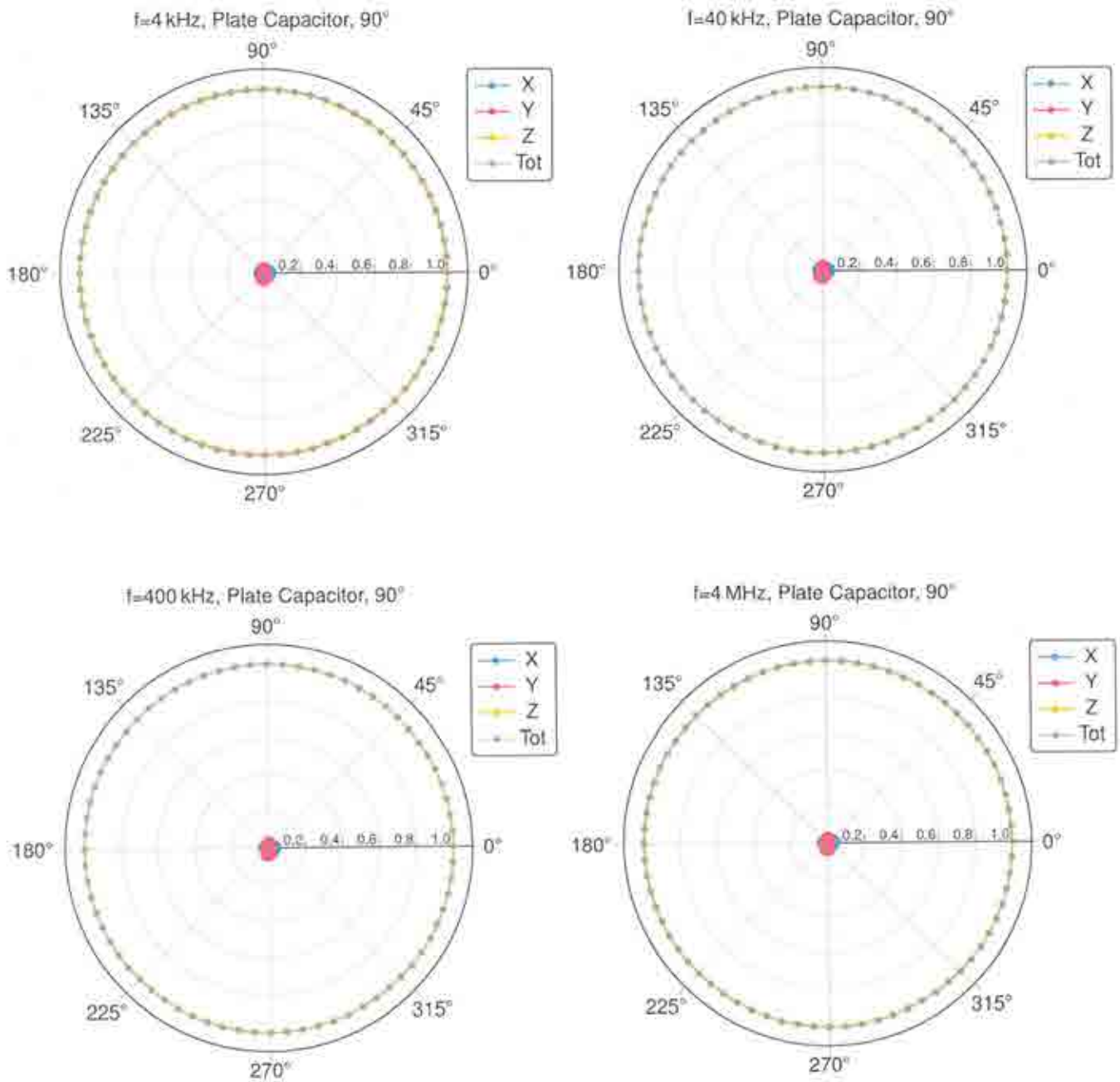
SPEAG axial deviation from the ideal response tolerance for H-field:  $\pm 0.6$  dB

## Isotropy E-Field

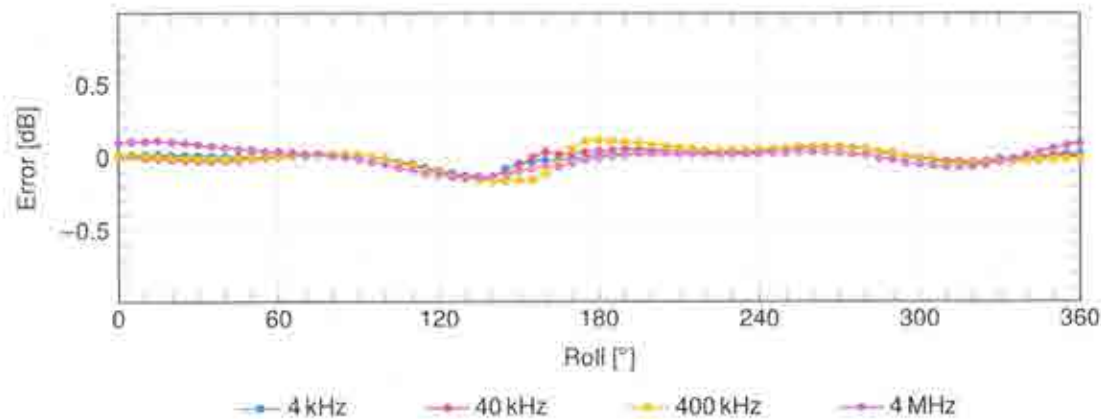
### E-Field Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$



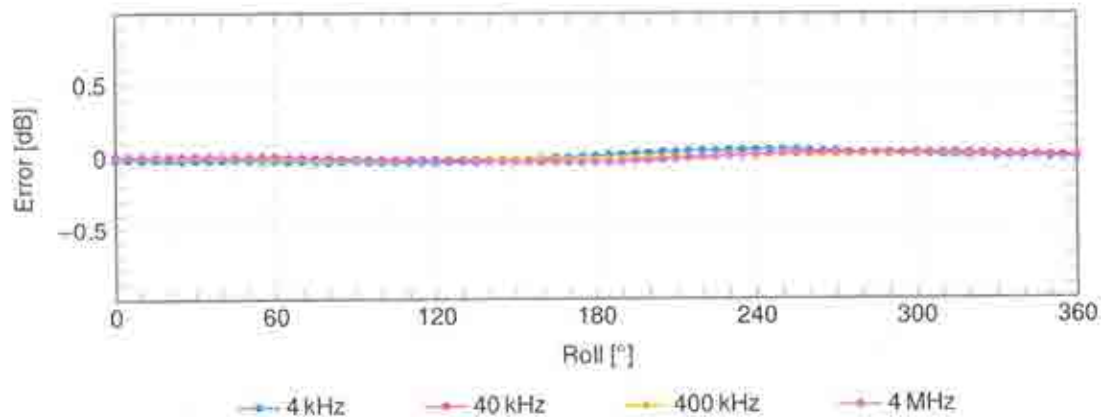
### E-Field Receiving Pattern ( $\phi$ ), $\theta = 90^\circ$



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



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 **Sporton**  
**Taoyuan City**

Certificate No. **V-Coil50/400-1018\_May25**

## CALIBRATION CERTIFICATE

Object **V-Coil50/400V2 - SN: 1018**

Calibration procedure(s) **QA CAL-47.v13**  
**Calibration Procedure for WPT Verification & Validation Sources**

Calibration date: **May 27, 2025**

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  $< 75\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards  | ID #          | Cal Date (Certificate No.)        | Scheduled Calibration |
|--------------------|---------------|-----------------------------------|-----------------------|
| MAGPy-8H3D+E3D/DAS | SN: 3090/3078 | 22-Aug-24 (MAGPy-8H3D-3090_Aug24) | Aug-25                |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---------------------|------|-----------------------|-----------------|
|---------------------|------|-----------------------|-----------------|

|                |                  |                       |
|----------------|------------------|-----------------------|
| Calibrated by: | Name             | Function              |
|                | Krešimir Franjić | Laboratory Technician |

Signature

|              |           |                   |
|--------------|-----------|-------------------|
| Approved by: | Name      | Function          |
|              | Sven Kühn | Technical Manager |

Issued: June 2, 2025

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



## Glossary:

|     |                           |
|-----|---------------------------|
| WPT | wireless power transfer   |
| V&V | verification & validation |

## Calibration is Performed According to the Following Standards:

- Internal procedure QA CAL-47 Calibration procedure for WPT verification & validation sources from 3 kHz to 10 MHz
- IEC/IEEE 63164, "Assessment methods of the human exposure to electric and magnetic fields from wireless power transfer systems – Models, instrumentation, measurement and computational methods and procedures (Frequency range 3 kHz to 30 MHz)", draft standard, 2023

## Additional Documentation:

- a) cDASY6/DASY8 Module WPT Manual

## Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* The V&V source is switched on for at least 30 minutes.
- *Source Positioning:* The V&V source is placed in the center of the UniPV1 phantom such that the source surface is parallel to phantom surface. The probe location used for DUT teaching is the top center of the coil (marked on the source casing). The probe distance is verified using mechanical gauges placed on the source surface.
- *H-field distribution:* H-field is measured in the volume above the V&V source in a rectilinear grid with a uniform grid step of 7.33 mm.

## Calibrated Quantity

- Spatial peak of H-field (RMS value) at  $d$  mm from the DUT surface (extrapolated from measurements)

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

|                   |                   |                                  |
|-------------------|-------------------|----------------------------------|
| Software version  | cDASY6 Module WPT | 2.8.0.5184                       |
|                   | Notebook GUI      | 2.8.2.2                          |
|                   | Sim4Life          | 8.0.1                            |
| Scan setup        | Grid dimensions   | x: 125 mm, y: 125 mm, z: 36.7 mm |
|                   | Grid resolutions  | dx, dy, dz: 7.33 mm              |
| Nominal frequency | 400 kHz           |                                  |

## Calibrated Quantities

| Distance (relative to source surface) (mm) | Peak H-field (A/m) | Uncertainty (k=2) (dB) |
|--------------------------------------------|--------------------|------------------------|
| 0                                          | 270                | 1.13                   |
| 2                                          | 238                | 1.13                   |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Peak values of induced fields<sup>1</sup>

| Distance<br>(relative to<br>source surface)<br>(mm) | Induced<br>peak current<br>density, 1cm <sup>2</sup> area<br>avg. (A/m <sup>2</sup> ) | Induced peak E-field (V/m) |       |                  | peak spatial SAR (mW/kg) |          |
|-----------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------|-------|------------------|--------------------------|----------|
|                                                     |                                                                                       | 2mm cube<br>avg.           | Local | 5mm line<br>avg. | 1g avg.                  | 10g avg. |
| 0                                                   | 2.69                                                                                  | 4.27                       | 4.38  | 4.39             | 7.12                     | 3.52     |
| 2                                                   | 2.28                                                                                  | 3.66                       | 3.76  | 3.77             | 5.16                     | 2.59     |

### Voltage measurement

| Total voltage (V) | Voltages at harmonics (dBc)                                        |
|-------------------|--------------------------------------------------------------------|
| 0.402             | Highest harmonic: -33.6<br>2 <sup>nd</sup> highest harmonic: -33.8 |

<sup>1</sup> determined for a virtual half-space phantom with tissue properties  $\epsilon_r = 55$ ,  $\sigma = 0.75$  S/m,  $\rho = 1000$  kg/m<sup>3</sup> and a 2 mm thick phantom shell

# Measurement report

## cDASY6 Module WPT Measurement Report

### Device under test

Info:  
V-Coil50/400

Serial number:  
1018

Scenario:  
Source Calibration

### Tool Info

DASY software version:  
cDASY6 Module WPT 2.8.0.5184

Probe model, serial no. and configuration date:  
MAGPy-8H30+E3Dv2, WP000230, 2024/08/23

Software version:  
2.8.8, backend: 2.2.36

### Scan Info

Center location:  
x: -149.47 mm, y: -282.66 mm, z: 36.75 mm

Dimensions:  
x: 124.0 mm, y: 125.0 mm, z: 36.7 mm

Resolution:  
x: 7.33 mm, y: 7.33 mm, z: 7.33 mm

Completed on:  
2025/05/27 12:28:43

### Measurement results

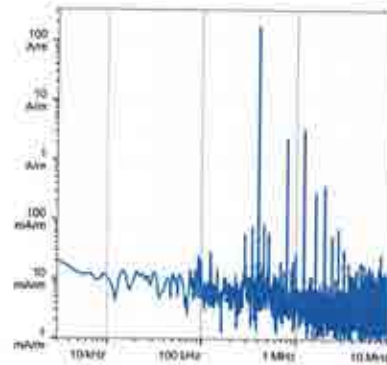
Maximum H-field [rms]:  
MAGNITUDE: 133.08 A/m  
x: 20.73 A/m, y: 15.23 A/m, z: 130.57 A/m

Maximum H-field location relative to DUT:  
x: -3.63 mm, y: 3.70 mm, z: 8.50 mm

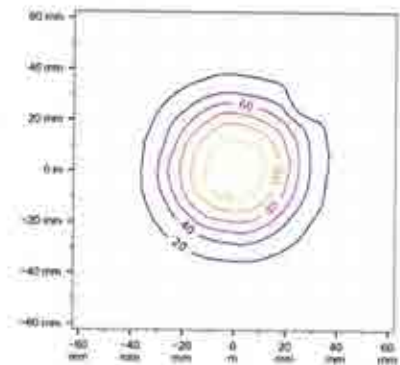
Distance to -20.0 dB boundary:  
36.67 mm

Offset relative to DUT:  
x: 36.70 mm, y: 36.70 mm, z: 1.00 mm

### H-field magnitude [rms] at center location



### H-field magnitude [rms] at lowest plane



### Incident fields and induced fields in the homogeneous phantom at the peak frequency ( $f = 400.00$ kHz, $\alpha = 0.750$ Sin, tissue density = $1,000 \text{ kg/m}^3$ )

| Distance [mm] | Peak incident fields [rms] | Peak $E_{\text{ind}}$ [V/m, rms] |       |           | Peak $J_{\text{ind}}$ [A/m <sup>2</sup> , rms] | psSAR [mW/kg] |          | H-field extent     | Signs | Vector potential | Warnings! Boundary effect |
|---------------|----------------------------|----------------------------------|-------|-----------|------------------------------------------------|---------------|----------|--------------------|-------|------------------|---------------------------|
|               | $H_{\text{inc}}$ [A/m]     | Cube avg.                        | Local | Line avg. | Surface avg.                                   | 1g avg.       | 10g avg. | -20 dB radius [mm] |       |                  |                           |
| 0.00          | 270                        | 4.27                             | 4.38  | 4.39      | 2.69                                           | 7.12          | 3.52     | 39.0               | 1%    | 8%               | 10%                       |
| 2.00          | 238                        | 3.66                             | 3.76  | 3.77      | 2.28                                           | 5.16          | 2.59     | 39.2               | 1%    | 6%               | 21%                       |

### Compliance evaluation (Field values at the peak frequency) ( $f = 400.00$ kHz)

| Distance [mm] | ICNIRP 2010/2020       |                        |               | ICNIRP 1998            |                                      |               | IEEE 2019              |                        |               | FCC                    |                        |               | HC Code 6              |                        |               |
|---------------|------------------------|------------------------|---------------|------------------------|--------------------------------------|---------------|------------------------|------------------------|---------------|------------------------|------------------------|---------------|------------------------|------------------------|---------------|
|               | RL [rms]               |                        | BR [rms]      | RL [rms]               |                                      | BR [rms]      | ERL [rms]              |                        | DRL [rms]     | MPE [rms]              |                        | BR [rms]      | RL [rms]               |                        | BR [rms]      |
|               | $H_{\text{inc}}$ [A/m] | $E_{\text{ind}}$ [V/m] | psSAR [mW/kg] | $H_{\text{inc}}$ [A/m] | $J_{\text{ind}}$ [A/m <sup>2</sup> ] | psSAR [mW/kg] | $H_{\text{inc}}$ [A/m] | $E_{\text{ind}}$ [V/m] | psSAR [mW/kg] | $H_{\text{inc}}$ [A/m] | $E_{\text{ind}}$ [V/m] | psSAR [mW/kg] | $H_{\text{inc}}$ [A/m] | $E_{\text{ind}}$ [V/m] | psSAR [mW/kg] |
| 0.00          | 270                    | 4.27                   | 3.52          | 270                    | 2.69                                 | 3.52          | 270                    | 4.39                   | 3.52          | 270                    | N/A                    | 7.12          | 270                    | 4.38                   | 7.12          |
| 2.00          | 238                    | 3.66                   | 2.59          | 238                    | 2.28                                 | 2.59          | 238                    | 3.77                   | 2.59          | 238                    | N/A                    | 5.16          | 238                    | 3.76                   | 5.16          |

### Compliance evaluation (Exposure ratios) (ratios in dB)

| Distance [mm] | ICNIRP 2010/2020 |                  |       | ICNIRP 1998      |                  |       | IEEE 2019        |                  |       | FCC              |                  |       | HC Code 6        |                  |       |       |
|---------------|------------------|------------------|-------|------------------|------------------|-------|------------------|------------------|-------|------------------|------------------|-------|------------------|------------------|-------|-------|
|               | RL               |                  | BR    | RL               |                  | BR    | ERL              |                  | DRL   | MPE              |                  | BR    | RL               |                  | BR    |       |
|               | $H_{\text{inc}}$ | $E_{\text{ind}}$ | psSAR | $H_{\text{inc}}$ | $J_{\text{ind}}$ | psSAR | $H_{\text{inc}}$ | $E_{\text{ind}}$ | psSAR | $H_{\text{inc}}$ | $E_{\text{ind}}$ | psSAR | $H_{\text{inc}}$ | $E_{\text{ind}}$ | psSAR | psSAR |
| 0.00          | NS               | TH               | TH    | NS               | NS               | TH    | NS               | TH               | TH    | N/A              | N/A              | TH    | NS               | TH               | NS    | TH    |
| 2.00          | 22.2             | 26.9             | -22.0 | 43.4             | 10.5             | -27.5 | 4.39             | 9.46             | -25.6 | 44.4             | N/A              | -23.5 | 9.55             | 43.4             | -21.8 | -23.5 |
|               | 21.1             | 25.8             | -23.4 | 42.3             | 9.11             | -28.9 | 3.27             | 8.33             | -26.9 | 43.3             | N/A              | -24.9 | 8.43             | 42.3             | -23.1 | -24.9 |

Document generated at 2025/05/27 12:31:21, simulation performed at 2025/05/27 12:27:59 using Sim4Life version 8.0.1.15737.