



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

**UL Korea**  
Gyeonggi-do, Republic of Korea

Certificate No.

**MAGPy-8H3D-3071**

**CALIBRATION CERTIFICATE**

Object **MAGPy-8H3D+E3D SN:3071  
MAGPy-DAS SN:2050**

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

Calibration date **June 22, 2023**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Oscilloscope	SN: 110918	22-Oct-22 (No. 1335.8794K04)	Oct-23
Reference 20 dB Attenuator	SN: CC2552 (20x)	04-Apr-23 (No. 217-03527)	Apr-24
Type-N mismatch	SN: 310982 / 06327	04-Apr-23 (No. 217-03528)	Apr-24

Secondary Standards	ID	Check Date (in house)	Scheduled Check
Network Analyzer E5061B	SN: MY49810822	In house check: Nov-22	In house check: Nov-23
TEM Cell	SN: S6029i	In house check: Nov-22	N.A
Plate Capacitor	SN: 6028i	In house check: Nov-22	In house check: Nov-23
Resonator (160kHz)	SN: 6030i	In house check: Nov-22	In house check: Nov-23

	Name	Function	Signature
Calibrated by	Mischa Sabathy	Laboratory Engineer	<i>M. Sabathy</i>
Approved by	Sven Kühn	Technical Manager	<i>S. Kühn</i>
			Issued: June 22, 2023
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  $\vartheta$ , and  $\phi = 0^\circ \dots 360^\circ$ ;  $\vartheta = 90^\circ$ , and  $\phi = 0^\circ \dots 360^\circ$ ; for the XYZ sensors (in TEM-Cell at 4 kHz, 40 kHz, 400 kHz and 4 MHz).
- Receiving Pattern: Assessed for E-field polarizations  $\vartheta$ , and  $\phi = 0^\circ \dots 360^\circ$ ;  $\vartheta = 90^\circ$ , and  $\phi = 0^\circ \dots 360^\circ$ ; for the XYZ sensor (in parallel plate capacitor at 4 kHz, 40 kHz, 400 kHz and 4 MHz).

## Calibration Uncertainty

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

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

### Measurement Conditions

Unit Type	MAGPy-8H3D+E3D (SP MGY 303 AA)	3071
	MAGPy-DAS (SE UMS 303 AC)	2050
	MAGPy FPGA Board	WP000107
Adjustment Date	Last MAGPy Adjustment	June 22, 2023
Firmware SW Version	MAGPy Firmware	Ver. 1.00
Backend SW Version	MAGPy Backend	Ver. 1.0.2
Calibration SW Version	MAGACAP	Ver. 1.0

### Dynamic Range

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

H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			Tolerance/(dB)
x	y	z	x	y	z	x	y	z	
0.390	0.380	0.370	0.410	0.390	0.400	0.43	0.23	0.68	±1.00
0.530	0.520	0.500	0.540	0.530	0.510	0.16	0.17	0.17	±1.00
0.730	0.710	0.690	0.720	0.720	0.690	-0.12	0.12	0.00	±1.00
0.950	0.930	0.890	0.930	0.910	0.910	-0.18	-0.19	0.19	±1.00
1.29	1.26	1.21	1.27	1.24	1.24	-0.14	-0.14	0.21	±1.00
1.77	1.72	1.66	1.76	1.71	1.68	-0.05	-0.05	0.10	±1.00
2.35	2.30	2.21	2.34	2.28	2.23	-0.04	-0.08	0.08	±0.20
3.14	3.06	2.95	3.14	3.05	2.95	0.00	-0.03	0.00	±0.20
4.26	4.16	4.00	4.25	4.13	4.00	-0.02	-0.06	0.00	±0.20
5.76	5.62	5.41	5.74	5.61	5.42	-0.03	-0.02	0.02	±0.20
7.73	7.54	7.27	7.72	7.59	7.28	-0.01	0.06	0.01	±0.20
10.3	10.1	9.70	10.3	10.1	9.69	0.00	0.00	-0.01	±0.20
13.9	13.6	13.1	13.9	13.7	13.1	0.00	0.06	0.00	±0.20
18.8	18.4	17.7	18.8	18.4	17.6	0.00	0.00	-0.05	±0.20
25.4	24.8	23.9	25.4	24.8	23.9	0.00	0.00	0.00	±0.20
33.8	33.0	31.8	34.0	33.2	32.0	0.05	0.05	0.05	±0.20
45.6	44.6	43.0	45.8	44.8	43.1	0.04	0.04	0.02	±0.20
61.8	60.4	58.1	62.1	60.7	58.4	0.04	0.04	0.04	±0.20
85.0	83.0	79.9	84.7	82.8	79.6	-0.03	-0.02	-0.03	±0.20
111	109	105	111	108	104	0.00	-0.08	-0.08	±0.20
153	149	144	152	149	143	-0.06	0.00	-0.06	±0.20
212	207	199	211	206	199	-0.04	-0.04	0.00	±0.20
292	286	275	294	281	277	0.06	-0.15	0.06	±0.20
432	422	407	425	416	399	-0.14	-0.12	-0.17	±0.20
595	582	561	589	577	554	-0.09	-0.07	-0.11	±0.20
887	868	836	886	870	834	-0.01	0.02	-0.02	±0.20
1340	1310	1260	1350	1330	1280	0.06	0.13	0.14	±0.30
1830	1800	1730	1870	1840	1770	0.19	0.19	0.20	±0.30
2930	2880	2780	3030	2980	2870	0.29	0.30	0.28	±0.40
3580	3510	3390	3720	3650	3520	0.33	0.34	0.33	±0.50

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

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

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

**Dynamic Range, H-field, Channel 1**

H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			Tolerance/(dB)
x	y	z	x	y	z	x	y	z	
0.390	0.390	0.380	0.410	0.400	0.390	0.43	0.22	0.23	±1.00
0.530	0.520	0.520	0.550	0.550	0.520	0.32	0.49	0.00	±1.00
0.730	0.720	0.710	0.720	0.730	0.700	-0.12	0.12	-0.12	±1.00
0.950	0.940	0.920	0.940	0.930	0.930	-0.09	-0.09	0.09	±1.00
1.28	1.27	1.25	1.28	1.25	1.27	0.00	-0.14	0.14	±1.00
1.76	1.74	1.71	1.75	1.74	1.72	-0.05	0.00	0.05	±1.00
2.34	2.32	2.28	2.35	2.31	2.30	0.04	-0.04	0.08	±0.20
3.12	3.09	3.04	3.13	3.10	3.04	0.03	0.03	0.00	±0.20
4.24	4.20	4.14	4.26	4.19	4.14	0.04	-0.02	0.00	±0.20
5.74	5.67	5.59	5.74	5.69	5.59	0.00	0.03	0.00	±0.20
7.69	7.61	7.51	7.71	7.66	7.54	0.02	0.06	0.03	±0.20
10.3	10.2	10.0	10.3	10.2	10.1	0.00	0.00	0.09	±0.20
13.9	13.7	13.6	13.9	13.8	13.6	0.00	0.06	0.00	±0.20
18.7	18.5	18.3	18.7	18.5	18.3	0.00	0.00	0.00	±0.20
25.3	25.1	24.7	25.2	25.0	24.7	-0.03	-0.03	0.00	±0.20
33.7	33.3	32.8	33.8	33.5	33.0	0.03	0.05	0.05	±0.20
45.5	45.0	44.4	45.6	45.2	44.6	0.02	0.04	0.04	±0.20
61.5	61.0	60.0	61.8	61.3	60.4	0.04	0.04	0.06	±0.20
84.6	83.8	82.5	84.3	83.5	82.3	-0.03	-0.03	-0.02	±0.20
111	110	108	110	109	108	-0.08	-0.08	0.00	±0.20
152	151	149	152	150	148	0.00	-0.06	-0.06	±0.20
211	209	206	210	208	205	-0.04	-0.04	-0.04	±0.20
291	289	284	293	284	286	0.06	-0.15	0.06	±0.20
430	426	420	423	420	413	-0.14	-0.12	-0.15	±0.20
593	587	579	586	583	573	-0.10	-0.06	-0.09	±0.20
883	875	864	882	878	862	-0.01	0.03	-0.02	±0.20
1330	1320	1310	1350	1340	1320	0.13	0.13	0.07	±0.30
1820	1810	1790	1870	1860	1830	0.24	0.24	0.19	±0.30
2920	2900	2870	3020	3010	2970	0.29	0.32	0.30	±0.40
3570	3540	3500	3700	3690	3630	0.31	0.36	0.32	±0.50

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

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

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

**Dynamic Range, H-field, Channel 2**

H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			Tolerance/(dB)
x	y	z	x	y	z	x	y	z	
0.400	0.390	0.390	0.430	0.410	0.400	0.63	0.43	0.22	±1.00
0.540	0.530	0.520	0.560	0.540	0.550	0.32	0.16	0.49	±1.00
0.740	0.720	0.720	0.740	0.710	0.740	0.00	-0.12	0.24	±1.00
0.970	0.940	0.940	0.970	0.930	0.920	0.00	-0.09	-0.19	±1.00
1.31	1.27	1.27	1.32	1.27	1.25	0.07	0.00	-0.14	±1.00
1.80	1.75	1.74	1.79	1.73	1.73	-0.05	-0.10	-0.05	±1.00
2.39	2.33	2.32	2.43	2.32	2.31	0.14	-0.04	-0.04	±0.20
3.19	3.10	3.08	3.22	3.09	3.08	0.08	-0.03	0.00	±0.20
4.34	4.21	4.19	4.36	4.20	4.18	0.04	-0.02	-0.02	±0.20
5.86	5.70	5.67	5.86	5.69	5.65	0.00	-0.02	-0.03	±0.20
7.86	7.65	7.62	7.87	7.69	7.61	0.01	0.05	-0.01	±0.20
10.5	10.2	10.2	10.5	10.3	10.2	0.00	0.08	0.00	±0.20
14.2	13.8	13.7	14.2	13.9	13.8	0.00	0.06	0.06	±0.20
19.1	18.6	18.5	19.1	18.6	18.6	0.00	0.00	0.05	±0.20
25.8	25.1	25.0	25.8	25.2	25.1	0.00	0.03	0.03	±0.20
34.4	33.5	33.3	34.6	33.7	33.5	0.05	0.05	0.05	±0.20
46.4	45.2	45.0	46.7	45.4	45.2	0.06	0.04	0.04	±0.20
62.8	61.2	60.9	63.1	61.5	61.2	0.04	0.04	0.04	±0.20
86.4	84.2	83.7	86.1	83.9	83.4	-0.03	-0.03	-0.03	±0.20
113	110	110	113	110	109	0.00	0.00	-0.08	±0.20
156	151	151	155	151	150	-0.06	0.00	-0.06	±0.20
216	210	209	215	209	208	-0.04	-0.04	-0.04	±0.20
297	290	288	299	285	290	0.06	-0.15	0.06	±0.20
439	428	426	432	422	418	-0.14	-0.12	-0.16	±0.20
606	590	587	599	585	580	-0.10	-0.07	-0.10	±0.20
902	879	876	901	881	874	-0.01	0.02	-0.02	±0.20
1360	1330	1320	1380	1350	1340	0.13	0.13	0.13	±0.30
1860	1820	1820	1910	1870	1860	0.23	0.24	0.19	±0.30
2980	2920	2910	3080	3020	3010	0.29	0.29	0.29	±0.40
3640	3560	3550	3780	3700	3680	0.33	0.34	0.31	±0.50

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

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

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

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

H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			Tolerance/(dB)
x	y	z	x	y	z	x	y	z	
0.400	0.380	0.380	0.400	0.400	0.390	0.00	0.45	0.23	±1.00
0.540	0.520	0.510	0.520	0.540	0.490	-0.33	0.33	-0.35	±1.00
0.740	0.720	0.700	0.720	0.700	0.690	-0.24	-0.24	-0.12	±1.00
0.970	0.930	0.910	0.960	0.910	0.910	-0.09	-0.19	0.00	±1.00
1.31	1.26	1.23	1.31	1.25	1.24	0.00	-0.07	0.07	±1.00
1.80	1.73	1.69	1.79	1.74	1.69	-0.05	0.05	0.00	±1.00
2.39	2.31	2.25	2.38	2.32	2.25	-0.04	0.04	0.00	±0.20
3.18	3.07	3.00	3.19	3.08	3.00	0.03	0.03	0.00	±0.20
4.33	4.18	4.08	4.32	4.16	4.06	-0.02	-0.04	-0.04	±0.20
5.85	5.65	5.52	5.83	5.64	5.49	-0.03	-0.02	-0.05	±0.20
7.85	7.58	7.41	7.83	7.60	7.38	-0.02	0.02	-0.04	±0.20
10.5	10.1	9.89	10.5	10.1	9.87	0.00	0.00	-0.02	±0.20
14.2	13.7	13.4	14.2	13.7	13.3	0.00	0.00	-0.07	±0.20
19.1	18.5	18.0	19.1	18.4	18.0	0.00	-0.05	0.00	±0.20
25.8	24.9	24.3	25.8	24.9	24.4	0.00	0.00	0.04	±0.20
34.3	33.2	32.4	34.5	33.4	32.6	0.05	0.05	0.05	±0.20
46.4	44.8	43.8	46.5	45.1	44.0	0.02	0.06	0.04	±0.20
62.7	60.7	59.2	63.0	61.0	59.6	0.04	0.04	0.06	±0.20
86.3	83.4	81.4	86.0	83.1	81.1	-0.03	-0.03	-0.03	±0.20
113	109	107	112	109	106	-0.08	0.00	-0.08	±0.20
155	150	147	155	149	146	0.00	-0.06	-0.06	±0.20
215	208	203	214	207	202	-0.04	-0.04	-0.04	±0.20
297	287	281	299	283	282	0.06	-0.12	0.03	±0.20
438	424	415	431	418	407	-0.14	-0.12	-0.17	±0.20
605	585	572	598	579	564	-0.10	-0.09	-0.12	±0.20
901	871	852	900	872	850	-0.01	0.01	-0.02	±0.20
1360	1320	1290	1380	1330	1300	0.13	0.07	0.07	±0.30
1860	1800	1770	1900	1840	1800	0.18	0.19	0.15	±0.30
2980	2890	2830	3080	2970	2920	0.29	0.24	0.27	±0.40
3640	3520	3450	3780	3630	3580	0.33	0.27	0.32	±0.50

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

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

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

**Dynamic Range, H-field, Channel 4**

H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			Tolerance/(dB)
x	y	z	x	y	z	x	y	z	
0.400	0.390	0.380	0.400	0.410	0.390	0.00	0.43	0.23	±1.00
0.540	0.530	0.520	0.540	0.530	0.520	0.00	0.00	0.00	±1.00
0.740	0.730	0.710	0.720	0.720	0.700	-0.24	-0.12	-0.12	±1.00
0.970	0.950	0.930	0.950	0.940	0.920	-0.18	-0.09	-0.09	±1.00
1.30	1.29	1.25	1.31	1.29	1.25	0.07	0.00	0.00	±1.00
1.79	1.77	1.72	1.79	1.76	1.71	0.00	-0.05	-0.05	±1.00
2.38	2.35	2.29	2.38	2.34	2.30	0.00	-0.04	0.04	±0.20
3.18	3.13	3.05	3.17	3.13	3.06	-0.03	0.00	0.03	±0.20
4.32	4.26	4.14	4.31	4.24	4.15	-0.02	-0.04	0.02	±0.20
5.84	5.76	5.60	5.82	5.74	5.60	-0.03	-0.03	0.00	±0.20
7.82	7.72	7.52	7.83	7.74	7.53	0.01	0.02	0.01	±0.20
10.4	10.3	10.0	10.4	10.3	10.0	0.00	0.00	0.00	±0.20
14.1	13.9	13.6	14.1	13.9	13.6	0.00	0.00	0.00	±0.20
19.1	18.8	18.3	19.1	18.8	18.3	0.00	0.00	0.00	±0.20
25.7	25.4	24.7	25.7	25.4	24.7	0.00	0.00	0.00	±0.20
34.2	33.8	32.9	34.4	34.0	33.1	0.05	0.05	0.05	±0.20
46.2	45.7	44.4	46.5	45.9	44.6	0.06	0.04	0.04	±0.20
62.6	61.8	60.1	62.9	62.1	60.4	0.04	0.04	0.04	±0.20
86.0	85.0	82.6	85.7	84.7	82.3	-0.03	-0.03	-0.03	±0.20
112	111	108	112	111	108	0.00	0.00	0.00	±0.20
155	153	149	154	152	148	-0.06	-0.06	-0.06	±0.20
215	212	206	214	211	205	-0.04	-0.04	-0.04	±0.20
296	293	285	298	288	286	0.06	-0.15	0.03	±0.20
437	432	421	430	426	413	-0.14	-0.12	-0.17	±0.20
603	596	580	596	591	573	-0.10	-0.07	-0.11	±0.20
898	888	865	897	890	863	-0.01	0.02	-0.02	±0.20
1360	1340	1310	1370	1360	1320	0.06	0.13	0.07	±0.30
1860	1840	1790	1900	1890	1830	0.18	0.23	0.19	±0.30
2970	2940	2870	3070	3060	2970	0.29	0.35	0.30	±0.40
3630	3590	3510	3770	3740	3640	0.33	0.36	0.32	±0.50

SPEAG H-field linearity tolerance criteria<sup>1</sup>:  
±1.0dB for applied H-fields < 2.0 A/m  
±0.2dB for applied H-fields ≥ 2.0 A/m and < 1000 A/m  
±0.3dB for applied H-fields ≥ 1000 A/m and < 2000 A/m  
±0.4dB for applied H-fields ≥ 2000 A/m and < 3000 A/m  
±0.5dB for applied H-fields ≥ 3000 A/m

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

**Dynamic Range, H-field, Channel 5**

H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			Tolerance/(dB)
x	y	z	x	y	z	x	y	z	
0.400	0.390	0.390	0.410	0.410	0.390	0.21	0.43	0.00	±1.00
0.540	0.540	0.540	0.540	0.560	0.540	0.00	0.32	0.00	±1.00
0.740	0.730	0.740	0.730	0.740	0.730	-0.12	0.12	-0.12	±1.00
0.970	0.960	0.960	0.960	0.950	0.950	-0.09	-0.09	-0.09	±1.00
1.31	1.30	1.30	1.31	1.30	1.29	0.00	0.00	-0.07	±1.00
1.80	1.78	1.78	1.79	1.77	1.77	-0.05	-0.05	-0.05	±1.00
2.40	2.37	2.37	2.39	2.38	2.36	-0.04	0.04	-0.04	±0.20
3.19	3.15	3.16	3.19	3.18	3.15	0.00	0.08	-0.03	±0.20
4.34	4.28	4.29	4.34	4.30	4.28	0.00	0.04	-0.02	±0.20
5.87	5.79	5.81	5.87	5.81	5.81	0.00	0.03	0.00	±0.20
7.87	7.77	7.80	7.89	7.80	7.85	0.02	0.03	0.06	±0.20
10.5	10.4	10.4	10.5	10.4	10.5	0.00	0.00	0.08	±0.20
14.2	14.0	14.1	14.2	14.1	14.1	0.00	0.06	0.00	±0.20
19.2	18.9	19.0	19.2	18.9	19.0	0.00	0.00	0.00	±0.20
25.9	25.6	25.6	25.8	25.6	25.6	-0.03	0.00	0.00	±0.20
34.4	34.0	34.1	34.6	34.2	34.3	0.05	0.05	0.05	±0.20
46.5	46.0	46.1	46.7	46.2	46.3	0.04	0.04	0.04	±0.20
62.9	62.2	62.3	63.2	62.6	62.7	0.04	0.06	0.06	±0.20
86.5	85.6	85.7	86.2	85.3	85.4	-0.03	-0.03	-0.03	±0.20
113	112	112	113	112	112	0.00	0.00	0.00	±0.20
156	154	154	155	153	154	-0.06	-0.06	0.00	±0.20
216	214	214	215	213	213	-0.04	-0.04	-0.04	±0.20
298	295	295	300	290	297	0.06	-0.15	0.06	±0.20
440	435	436	433	429	428	-0.14	-0.12	-0.16	±0.20
606	600	602	600	594	594	-0.09	-0.09	-0.12	±0.20
903	894	897	903	895	895	0.00	0.01	-0.02	±0.20
1360	1350	1360	1380	1370	1370	0.13	0.13	0.06	±0.30
1870	1850	1860	1910	1900	1900	0.18	0.23	0.18	±0.30
2990	2960	2980	3090	3070	3080	0.29	0.32	0.29	±0.40
3650	3620	3640	3790	3760	3770	0.33	0.33	0.30	±0.50

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

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

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



**Dynamic Range, H-field, Channel 6**

H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			Tolerance/(dB)
x	y	z	x	y	z	x	y	z	
0.390	0.390	0.390	0.400	0.410	0.400	0.22	0.43	0.22	±1.00
0.540	0.540	0.530	0.550	0.550	0.530	0.16	0.16	0.00	±1.00
0.730	0.730	0.720	0.740	0.740	0.720	0.12	0.12	0.00	±1.00
0.950	0.960	0.940	0.930	0.960	0.940	-0.18	0.00	0.00	±1.00
1.29	1.29	1.28	1.27	1.31	1.27	-0.14	0.13	-0.07	±1.00
1.77	1.78	1.75	1.77	1.81	1.74	0.00	0.15	-0.05	±1.00
2.36	2.36	2.33	2.33	2.38	2.34	-0.11	0.07	0.04	±0.20
3.14	3.15	3.11	3.13	3.18	3.11	-0.03	0.08	0.00	±0.20
4.27	4.28	4.23	4.25	4.29	4.23	-0.04	0.02	0.00	±0.20
5.77	5.79	5.71	5.74	5.80	5.72	-0.05	0.01	0.02	±0.20
7.74	7.77	7.67	7.71	7.80	7.68	-0.03	0.03	0.01	±0.20
10.3	10.4	10.2	10.3	10.4	10.2	0.00	0.00	0.00	±0.20
14.0	14.0	13.8	13.9	14.1	13.8	-0.06	0.06	0.00	±0.20
18.9	18.9	18.7	18.8	18.9	18.6	-0.05	0.00	-0.05	±0.20
25.4	25.6	25.2	25.4	25.5	25.2	0.00	-0.03	0.00	±0.20
33.9	34.0	33.6	34.0	34.2	33.8	0.03	0.05	0.05	±0.20
45.7	45.9	45.4	45.9	46.1	45.6	0.04	0.04	0.04	±0.20
61.9	62.2	61.3	62.2	62.5	61.7	0.04	0.04	0.06	±0.20
85.1	85.5	84.3	84.8	85.2	84.0	-0.03	-0.03	-0.03	±0.20
111	112	110	111	112	110	0.00	0.00	0.00	±0.20
153	154	152	152	153	151	-0.06	-0.06	-0.06	±0.20
212	213	210	211	213	210	-0.04	0.00	0.00	±0.20
293	294	291	295	290	292	0.06	-0.12	0.03	±0.20
432	434	429	426	428	422	-0.12	-0.12	-0.14	±0.20
596	599	592	590	594	585	-0.09	-0.07	-0.10	±0.20
888	893	882	887	895	880	-0.01	0.02	-0.02	±0.20
1340	1350	1330	1360	1370	1350	0.13	0.13	0.13	±0.30
1840	1850	1830	1880	1900	1870	0.19	0.23	0.19	±0.30
2940	2960	2930	3040	3070	3030	0.29	0.32	0.29	±0.40
3590	3610	3580	3730	3760	3710	0.33	0.35	0.31	±0.50

SPEAG H-field linearity tolerance criteria<sup>1</sup>:  
±1.0 dB for applied H-fields < 2.0 A/m  
±0.2 dB for applied H-fields ≥ 2.0 A/m and < 1000 A/m  
±0.3 dB for applied H-fields ≥ 1000 A/m and < 2000 A/m  
±0.4 dB for applied H-fields ≥ 2000 A/m and < 3000 A/m  
±0.5 dB for applied H-fields ≥ 3000 A/m

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

**Dynamic Range, H-field, Channel 7**

H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			Tolerance/(dB)
x	y	z	x	y	z	x	y	z	
0.390	0.390	0.370	0.400	0.410	0.390	0.22	0.43	0.46	±1.00
0.530	0.530	0.510	0.550	0.540	0.530	0.32	0.16	0.33	±1.00
0.730	0.730	0.700	0.740	0.710	0.700	0.12	-0.24	0.00	±1.00
0.950	0.950	0.910	0.940	0.940	0.900	-0.09	-0.09	-0.10	±1.00
1.28	1.29	1.23	1.27	1.29	1.21	-0.07	0.00	-0.14	±1.00
1.75	1.76	1.69	1.74	1.76	1.68	-0.05	0.00	-0.05	±1.00
2.34	2.35	2.25	2.33	2.35	2.24	-0.04	0.00	-0.04	±0.20
3.11	3.13	3.00	3.10	3.13	2.99	-0.03	0.00	-0.03	±0.20
4.23	4.25	4.07	4.24	4.24	4.05	0.02	-0.02	-0.04	±0.20
5.72	5.75	5.51	5.72	5.74	5.49	0.00	-0.02	-0.03	±0.20
7.67	7.71	7.40	7.68	7.73	7.39	0.01	0.02	-0.01	±0.20
10.2	10.3	9.87	10.2	10.3	9.87	0.00	0.00	0.00	±0.20
13.8	13.9	13.3	13.8	13.9	13.3	0.00	0.00	0.00	±0.20
18.7	18.8	18.0	18.6	18.7	17.9	-0.05	-0.05	-0.05	±0.20
25.2	25.4	24.3	25.2	25.3	24.2	0.00	-0.03	-0.04	±0.20
33.6	33.8	32.3	33.8	33.9	32.5	0.05	0.03	0.05	±0.20
45.3	45.6	43.7	45.5	45.8	43.9	0.04	0.04	0.04	±0.20
61.3	61.7	59.1	61.6	62.0	59.5	0.04	0.04	0.06	±0.20
84.3	84.9	81.3	84.0	84.7	81.0	-0.03	-0.02	-0.03	±0.20
110	111	106	110	111	106	0.00	0.00	0.00	±0.20
152	153	146	151	152	146	-0.06	-0.06	0.00	±0.20
210	212	203	209	211	202	-0.04	-0.04	-0.04	±0.20
290	292	280	292	288	282	0.06	-0.12	0.06	±0.20
429	431	414	422	426	406	-0.14	-0.10	-0.17	±0.20
591	595	571	584	591	564	-0.10	-0.06	-0.11	±0.20
880	887	850	879	890	849	-0.01	0.03	-0.01	±0.20
1330	1340	1290	1340	1360	1300	0.07	0.13	0.07	±0.30
1820	1840	1760	1860	1890	1800	0.19	0.23	0.20	±0.30
2910	2940	2830	3010	3060	2920	0.29	0.35	0.27	±0.40
3560	3590	3450	3690	3740	3580	0.31	0.36	0.32	±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
0.360	0.210	0.080	0.360	0.190	0.070	0.00	-0.87	-1.16	±5.00	±5.00	±5.00
0.490	0.280	0.110	0.490	0.290	0.120	0.00	0.30	0.76	±5.00	±5.00	±5.00
0.660	0.390	0.150	0.670	0.390	0.150	0.13	0.00	0.00	±5.00	±5.00	±5.00
0.870	0.510	0.190	0.860	0.490	0.170	-0.10	-0.35	-0.97	±5.00	±5.00	±5.00
1.17	0.680	0.260	1.17	0.670	0.210	0.00	-0.13	-1.86	±5.00	±5.00	±5.00
1.61	0.940	0.350	1.62	0.930	0.370	0.05	-0.09	0.48	±5.00	±5.00	±5.00
2.14	1.25	0.470	2.16	1.25	0.450	0.08	0.00	-0.38	±1.00	±5.00	±5.00
2.86	1.67	0.630	2.85	1.67	0.600	-0.03	0.00	-0.42	±1.00	±5.00	±5.00
3.88	2.27	0.850	3.90	2.24	0.830	0.04	-0.12	-0.21	±1.00	±1.00	±5.00
5.25	3.06	1.15	5.26	3.04	1.10	0.02	-0.06	-0.39	±1.00	±1.00	±5.00
7.04	4.11	1.54	7.10	4.11	1.52	0.07	0.00	-0.11	±1.00	±1.00	±5.00
9.41	5.49	2.06	9.47	5.46	1.99	0.06	-0.05	-0.30	±1.00	±1.00	±1.00
12.7	7.42	2.79	12.8	7.37	2.70	0.07	-0.06	-0.28	±1.00	±1.00	±1.00
17.1	10.0	3.76	17.2	9.94	3.66	0.05	-0.05	-0.23	±1.00	±1.00	±1.00
23.2	13.5	5.07	23.2	13.4	4.92	0.00	-0.06	-0.26	±1.00	±1.00	±1.00
30.8	18.0	6.75	31.1	18.0	6.65	0.08	0.00	-0.13	±1.00	±1.00	±1.00
41.6	24.3	9.12	42.0	24.3	8.92	0.08	0.00	-0.19	±1.00	±1.00	±1.00
56.4	32.9	12.3	56.9	32.9	12.1	0.08	0.00	-0.14	±1.00	±1.00	±1.00
77.5	45.2	17.0	77.6	44.8	16.5	0.01	-0.08	-0.26	±1.00	±1.00	±1.00
101	59.2	22.2	102	58.7	21.6	0.09	-0.07	-0.24	±1.00	±1.00	±1.00
139	81.4	30.5	139	80.6	29.6	0.00	-0.09	-0.26	±1.00	±1.00	±1.00
193	113	42.3	194	112	41.1	0.04	-0.08	-0.25	±1.00	±1.00	±1.00
267	156	58.4	270	156	57.2	0.10	0.00	-0.18	±1.00	±1.00	±1.00
394	230	86.2	380	220	84.8	-0.31	-0.39	-0.14	±1.00	±1.00	±1.00
543	317	119	527	304	118	-0.26	-0.36	-0.07	±1.00	±1.00	±1.00
810	473	177	794	458	177	-0.17	-0.28	0.00	±1.00	±1.00	±1.00
1220	714	267	1220	702	271	0.00	-0.15	0.13	±1.00	±1.00	±1.00
1680	979	366	1690	974	375	0.05	-0.04	0.21	±1.00	±1.00	±1.00
2680	1570	586	2730	1580	579	0.16	0.06	-0.10	±1.00	±1.00	±1.00
3270	1910	716	3350	1930	711	0.21	0.09	-0.06	±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	1.48	1.48	1.48	1.48	1.47	1.48	0.00	-0.06	0.00	±0.3
3200	1.48	1.47	1.47	1.49	1.48	1.46	0.06	0.06	-0.06	±0.3
4000	1.47	1.47	1.47	1.47	1.47	1.47	0.00	0.00	0.00	±0.3
5200	1.46	1.46	1.46	1.46	1.47	1.45	0.00	0.06	-0.06	±0.3
6600	1.45	1.45	1.45	1.46	1.45	1.44	0.06	0.00	-0.06	±0.3
8200	1.44	1.44	1.44	1.43	1.44	1.44	-0.06	0.00	0.00	±0.3
9000	1.43	1.43	1.43	1.43	1.43	1.44	0.00	0.00	0.06	±0.3
10600	4.37	4.27	4.31	4.38	4.30	4.29	0.02	0.06	-0.04	±0.3
13400	4.39	4.33	4.32	4.41	4.33	4.33	0.04	0.00	0.02	±0.3
17000	4.39	4.33	4.31	4.41	4.32	4.33	0.04	-0.02	0.04	±0.3
21400	4.41	4.35	4.34	4.43	4.34	4.37	0.04	-0.02	0.06	±0.3
27200	4.41	4.35	4.33	4.42	4.36	4.34	0.02	0.02	0.02	±0.3
34400	4.40	4.36	4.34	4.41	4.35	4.35	0.02	-0.02	0.02	±0.3
40000	4.39	4.35	4.34	4.41	4.36	4.35	0.04	0.02	0.02	±0.3
43600	4.38	4.34	4.33	4.40	4.35	4.33	0.04	0.02	0.00	±0.3
55400	4.37	4.33	4.32	4.38	4.33	4.33	0.02	0.00	0.02	±0.3
70000	4.36	4.32	4.31	4.37	4.32	4.32	0.02	0.00	0.02	±0.3
88800	4.34	4.31	4.30	4.35	4.31	4.30	0.02	0.00	0.00	±0.3
112400	4.33	4.29	4.29	4.34	4.30	4.29	0.02	0.02	0.00	±0.3
142400	4.31	4.28	4.27	4.32	4.28	4.27	0.02	0.00	0.00	±0.3
161750	4.29	4.26	4.25	4.30	4.26	4.25	0.02	0.00	0.00	±0.3
180400	4.27	4.25	4.24	4.28	4.25	4.24	0.02	0.00	0.00	±0.3
228400	4.24	4.21	4.20	4.25	4.21	4.20	0.02	0.00	0.00	±0.3
289400	4.20	4.17	4.16	4.21	4.18	4.17	0.02	0.02	0.02	±0.3
366400	4.16	4.13	4.12	4.16	4.14	4.13	0.00	0.02	0.02	±0.3
400000	4.13	4.11	4.11	4.14	4.12	4.11	0.02	0.02	0.00	±0.3
464000	4.10	4.08	4.08	4.11	4.09	4.08	0.02	0.02	0.00	±0.3
587800	4.06	4.04	4.04	4.07	4.05	4.04	0.02	0.02	0.00	±0.3
744200	4.00	3.99	3.99	4.01	4.00	3.99	0.02	0.02	0.00	±0.3
942600	3.99	3.98	3.98	4.00	3.98	3.98	0.02	0.00	0.00	±0.3
1193600	3.96	3.95	3.95	3.97	3.95	3.95	0.02	0.00	0.00	±0.3
1511600	3.95	3.94	3.94	3.96	3.94	3.94	0.02	0.00	0.00	±0.3
1914400	3.93	3.92	3.92	3.94	3.93	3.92	0.02	0.02	0.00	±0.3
2424400	3.91	3.90	3.90	3.92	3.91	3.90	0.02	0.02	0.00	±0.3
3070200	3.89	3.88	3.87	3.89	3.88	3.87	0.00	0.00	0.00	±0.3
3888000	3.83	3.83	3.82	3.84	3.82	3.82	0.02	-0.02	0.00	±0.3
4000000	3.83	3.82	3.82	3.83	3.82	3.82	0.00	0.00	0.00	±0.3
4923800	3.76	3.75	3.75	3.75	3.76	3.75	-0.02	0.02	0.00	±0.3
6235400	3.64	3.63	3.62	3.65	3.64	3.62	0.02	0.02	0.00	±0.3
7896400	3.52	3.51	3.51	3.52	3.51	3.52	0.00	0.00	0.02	±0.3
10000000	3.39	3.38	3.39	3.39	3.40	3.39	0.00	0.05	0.00	±0.3

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

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

**Frequency Response, H-field, Channel 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	1.48	1.48	1.48	1.48	1.48	1.47	0.00	0.00	-0.06	±0.3
3200	1.48	1.47	1.47	1.48	1.49	1.46	0.00	0.12	-0.06	±0.3
4000	1.47	1.47	1.47	1.47	1.47	1.47	0.00	0.00	0.00	±0.3
5200	1.46	1.46	1.46	1.46	1.47	1.45	0.00	0.06	-0.06	±0.3
6600	1.45	1.45	1.45	1.45	1.45	1.45	0.00	0.00	0.00	±0.3
8200	1.44	1.44	1.44	1.43	1.44	1.44	-0.06	0.00	0.00	±0.3
9000	1.43	1.43	1.43	1.44	1.44	1.43	0.06	0.06	0.00	±0.3
10600	4.37	4.27	4.31	4.38	4.27	4.26	0.02	0.00	-0.10	±0.3
13400	4.39	4.33	4.32	4.41	4.34	4.30	0.04	0.02	-0.04	±0.3
17000	4.39	4.33	4.31	4.40	4.33	4.33	0.02	0.00	0.04	±0.3
21400	4.41	4.35	4.34	4.41	4.37	4.34	0.00	0.04	0.00	±0.3
27200	4.41	4.35	4.33	4.42	4.35	4.35	0.02	0.00	0.04	±0.3
34400	4.40	4.36	4.34	4.42	4.36	4.35	0.04	0.00	0.02	±0.3
40000	4.39	4.35	4.34	4.41	4.36	4.34	0.04	0.02	0.00	±0.3
43600	4.38	4.34	4.33	4.41	4.35	4.33	0.06	0.02	0.00	±0.3
55400	4.37	4.33	4.32	4.38	4.33	4.33	0.02	0.00	0.02	±0.3
70000	4.36	4.32	4.31	4.37	4.33	4.31	0.02	0.02	0.00	±0.3
88800	4.34	4.31	4.30	4.34	4.32	4.30	0.00	0.02	0.00	±0.3
112400	4.33	4.29	4.29	4.34	4.29	4.28	0.02	0.00	-0.02	±0.3
142400	4.31	4.28	4.27	4.32	4.28	4.27	0.02	0.00	0.00	±0.3
161750	4.29	4.26	4.25	4.30	4.26	4.25	0.02	0.00	0.00	±0.3
180400	4.27	4.25	4.24	4.28	4.25	4.24	0.02	0.00	0.00	±0.3
228400	4.24	4.21	4.20	4.25	4.22	4.21	0.02	0.02	0.02	±0.3
289400	4.20	4.17	4.16	4.20	4.18	4.17	0.00	0.02	0.02	±0.3
366400	4.16	4.13	4.12	4.16	4.14	4.13	0.00	0.02	0.02	±0.3
400000	4.13	4.11	4.11	4.15	4.11	4.11	0.04	0.00	0.00	±0.3
464000	4.10	4.08	4.08	4.11	4.09	4.08	0.02	0.02	0.00	±0.3
587800	4.06	4.04	4.04	4.06	4.05	4.04	0.00	0.02	0.00	±0.3
744200	4.00	3.99	3.99	4.01	4.00	3.99	0.02	0.02	0.00	±0.3
942600	3.99	3.98	3.98	4.00	3.99	3.98	0.02	0.02	0.00	±0.3
1193600	3.96	3.95	3.95	3.98	3.95	3.95	0.04	0.00	0.00	±0.3
1511600	3.95	3.94	3.94	3.96	3.94	3.93	0.02	0.00	-0.02	±0.3
1914400	3.93	3.92	3.92	3.93	3.92	3.92	0.00	0.00	0.00	±0.3
2424400	3.91	3.90	3.90	3.92	3.91	3.90	0.02	0.02	0.00	±0.3
3070200	3.89	3.88	3.87	3.89	3.88	3.88	0.00	0.00	0.02	±0.3
3888000	3.83	3.83	3.82	3.85	3.83	3.83	0.05	0.00	0.02	±0.3
4000000	3.83	3.82	3.82	3.84	3.82	3.82	0.02	0.00	0.00	±0.3
4923800	3.76	3.75	3.75	3.77	3.76	3.75	0.02	0.02	0.00	±0.3
6235400	3.64	3.63	3.62	3.64	3.63	3.63	0.00	0.00	0.02	±0.3
7896400	3.52	3.51	3.51	3.52	3.51	3.51	0.00	0.00	0.00	±0.3
10000000	3.39	3.38	3.39	3.39	3.39	3.39	0.00	0.03	0.00	±0.3

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

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

**Frequency Response, H-field, Channel 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	1.48	1.48	1.48	1.48	1.48	1.47	0.00	0.00	-0.06	±0.3
3200	1.48	1.47	1.47	1.49	1.48	1.45	0.06	0.06	-0.12	±0.3
4000	1.47	1.47	1.47	1.47	1.46	1.47	0.00	-0.06	0.00	±0.3
5200	1.46	1.46	1.46	1.46	1.47	1.45	0.00	0.06	-0.06	±0.3
6600	1.45	1.45	1.45	1.46	1.45	1.45	0.06	0.00	0.00	±0.3
8200	1.44	1.44	1.44	1.44	1.43	1.44	0.00	-0.06	0.00	±0.3
9000	1.43	1.43	1.43	1.44	1.43	1.43	0.06	0.00	0.00	±0.3
10600	4.37	4.27	4.31	4.38	4.29	4.25	0.02	0.04	-0.12	±0.3
13400	4.39	4.33	4.32	4.40	4.34	4.34	0.02	0.02	0.04	±0.3
17000	4.39	4.33	4.31	4.40	4.34	4.32	0.02	0.02	0.02	±0.3
21400	4.41	4.35	4.34	4.43	4.35	4.36	0.04	0.00	0.04	±0.3
27200	4.41	4.35	4.33	4.42	4.34	4.34	0.02	-0.02	0.02	±0.3
34400	4.40	4.36	4.34	4.42	4.36	4.35	0.04	0.00	0.02	±0.3
40000	4.39	4.35	4.34	4.41	4.36	4.34	0.04	0.02	0.00	±0.3
43600	4.38	4.34	4.33	4.40	4.35	4.34	0.04	0.02	0.02	±0.3
55400	4.37	4.33	4.32	4.38	4.34	4.33	0.02	0.02	0.02	±0.3
70000	4.36	4.32	4.31	4.37	4.32	4.31	0.02	0.00	0.00	±0.3
88800	4.34	4.31	4.30	4.35	4.32	4.30	0.02	0.02	0.00	±0.3
112400	4.33	4.29	4.29	4.34	4.30	4.29	0.02	0.02	0.00	±0.3
142400	4.31	4.28	4.27	4.32	4.28	4.27	0.02	0.00	0.00	±0.3
161750	4.29	4.26	4.25	4.29	4.26	4.25	0.00	0.00	0.00	±0.3
180400	4.27	4.25	4.24	4.28	4.25	4.24	0.02	0.00	0.00	±0.3
228400	4.24	4.21	4.20	4.25	4.22	4.20	0.02	0.02	0.00	±0.3
289400	4.20	4.17	4.16	4.21	4.18	4.17	0.02	0.02	0.02	±0.3
366400	4.16	4.13	4.12	4.17	4.14	4.13	0.02	0.02	0.02	±0.3
400000	4.13	4.11	4.11	4.14	4.11	4.11	0.02	0.00	0.00	±0.3
464000	4.10	4.08	4.08	4.11	4.09	4.08	0.02	0.02	0.00	±0.3
587800	4.06	4.04	4.04	4.07	4.05	4.04	0.02	0.02	0.00	±0.3
744200	4.00	3.99	3.99	4.01	4.00	3.99	0.02	0.02	0.00	±0.3
942600	3.99	3.98	3.98	4.00	3.98	3.98	0.02	0.00	0.00	±0.3
1193600	3.96	3.95	3.95	3.97	3.96	3.95	0.02	0.02	0.00	±0.3
1511600	3.95	3.94	3.94	3.96	3.95	3.94	0.02	0.02	0.00	±0.3
1914400	3.93	3.92	3.92	3.94	3.92	3.92	0.02	0.00	0.00	±0.3
2424400	3.91	3.90	3.90	3.92	3.91	3.90	0.02	0.02	0.00	±0.3
3070200	3.89	3.88	3.87	3.89	3.88	3.87	0.00	0.00	0.00	±0.3
3888000	3.83	3.83	3.82	3.84	3.83	3.82	0.02	0.00	0.00	±0.3
4000000	3.83	3.82	3.82	3.83	3.82	3.82	0.00	0.00	0.00	±0.3
4923800	3.76	3.75	3.75	3.77	3.76	3.75	0.02	0.02	0.00	±0.3
6235400	3.64	3.63	3.62	3.64	3.64	3.63	0.00	0.02	0.02	±0.3
7896400	3.52	3.51	3.51	3.52	3.51	3.51	0.00	0.00	0.00	±0.3
10000000	3.39	3.38	3.39	3.39	3.38	3.39	0.00	0.00	0.00	±0.3

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

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

**Frequency Response, H-field, Channel 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	1.48	1.48	1.48	1.48	1.47	1.48	0.00	-0.06	0.00	±0.3
3200	1.48	1.47	1.47	1.48	1.49	1.46	0.00	0.12	-0.06	±0.3
4000	1.47	1.47	1.47	1.47	1.48	1.47	0.00	0.06	0.00	±0.3
5200	1.46	1.46	1.46	1.46	1.47	1.45	0.00	0.06	-0.06	±0.3
6600	1.45	1.45	1.45	1.45	1.45	1.44	0.00	0.00	-0.06	±0.3
8200	1.44	1.44	1.44	1.44	1.44	1.44	0.00	0.00	0.00	±0.3
9000	1.43	1.43	1.43	1.44	1.43	1.44	0.06	0.00	0.06	±0.3
10600	4.37	4.27	4.31	4.39	4.26	4.26	0.04	-0.02	-0.10	±0.3
13400	4.39	4.33	4.32	4.41	4.34	4.32	0.04	0.02	0.00	±0.3
17000	4.39	4.33	4.31	4.40	4.33	4.31	0.02	0.00	0.00	±0.3
21400	4.41	4.35	4.34	4.41	4.33	4.33	0.00	-0.04	-0.02	±0.3
27200	4.41	4.35	4.33	4.41	4.35	4.33	0.00	0.00	0.00	±0.3
34400	4.40	4.36	4.34	4.41	4.36	4.36	0.02	0.00	0.04	±0.3
40000	4.39	4.35	4.34	4.41	4.36	4.34	0.04	0.02	0.00	±0.3
43600	4.38	4.34	4.33	4.39	4.35	4.33	0.02	0.02	0.00	±0.3
55400	4.37	4.33	4.32	4.38	4.33	4.33	0.02	0.00	0.02	±0.3
70000	4.36	4.32	4.31	4.37	4.32	4.30	0.02	0.00	-0.02	±0.3
88800	4.34	4.31	4.30	4.35	4.32	4.30	0.02	0.02	0.00	±0.3
112400	4.33	4.29	4.29	4.34	4.30	4.29	0.02	0.02	0.00	±0.3
142400	4.31	4.28	4.27	4.31	4.29	4.27	0.00	0.02	0.00	±0.3
161750	4.29	4.26	4.25	4.30	4.26	4.24	0.02	0.00	-0.02	±0.3
180400	4.27	4.25	4.24	4.28	4.25	4.24	0.02	0.00	0.00	±0.3
228400	4.24	4.21	4.20	4.25	4.22	4.20	0.02	0.02	0.00	±0.3
289400	4.20	4.17	4.16	4.21	4.18	4.16	0.02	0.02	0.00	±0.3
366400	4.16	4.13	4.12	4.16	4.14	4.13	0.00	0.02	0.02	±0.3
400000	4.13	4.11	4.11	4.14	4.12	4.11	0.02	0.02	0.00	±0.3
464000	4.10	4.08	4.08	4.11	4.09	4.08	0.02	0.02	0.00	±0.3
587800	4.06	4.04	4.04	4.07	4.05	4.03	0.02	0.02	-0.02	±0.3
744200	4.00	3.99	3.99	4.02	4.00	3.99	0.04	0.02	0.00	±0.3
942600	3.99	3.98	3.98	4.00	3.98	3.97	0.02	0.00	-0.02	±0.3
1193600	3.96	3.95	3.95	3.97	3.96	3.95	0.02	0.02	0.00	±0.3
1511600	3.95	3.94	3.94	3.96	3.94	3.94	0.02	0.00	0.00	±0.3
1914400	3.93	3.92	3.92	3.94	3.92	3.92	0.02	0.00	0.00	±0.3
2424400	3.91	3.90	3.90	3.92	3.91	3.90	0.02	0.02	0.00	±0.3
3070200	3.89	3.88	3.87	3.89	3.88	3.87	0.00	0.00	0.00	±0.3
3888000	3.83	3.83	3.82	3.84	3.83	3.82	0.02	0.00	0.00	±0.3
4000000	3.83	3.82	3.82	3.83	3.82	3.83	0.00	0.00	0.02	±0.3
4923800	3.76	3.75	3.75	3.77	3.75	3.76	0.02	0.00	0.02	±0.3
6235400	3.64	3.63	3.62	3.64	3.63	3.63	0.00	0.00	0.02	±0.3
7896400	3.52	3.51	3.51	3.52	3.51	3.52	0.00	0.00	0.02	±0.3
10000000	3.39	3.38	3.39	3.38	3.38	3.40	-0.03	0.00	0.03	±0.3

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

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

**Frequency Response, H-field, Channel 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	1.48	1.48	1.48	1.48	1.48	1.48	0.00	0.00	0.00	±0.3
3200	1.48	1.47	1.47	1.48	1.48	1.45	0.00	0.06	-0.12	±0.3
4000	1.47	1.47	1.47	1.47	1.47	1.47	0.00	0.00	0.00	±0.3
5200	1.46	1.46	1.46	1.46	1.47	1.45	0.00	0.06	-0.06	±0.3
6600	1.45	1.45	1.45	1.46	1.45	1.44	0.06	0.00	-0.06	±0.3
8200	1.44	1.44	1.44	1.43	1.44	1.44	-0.06	0.00	0.00	±0.3
9000	1.43	1.43	1.43	1.43	1.43	1.43	0.00	0.00	0.00	±0.3
10600	4.37	4.27	4.31	4.37	4.27	4.25	0.00	0.00	-0.12	±0.3
13400	4.39	4.33	4.32	4.40	4.34	4.32	0.02	0.02	0.00	±0.3
17000	4.39	4.33	4.31	4.39	4.33	4.32	0.00	0.00	0.02	±0.3
21400	4.41	4.35	4.34	4.42	4.37	4.33	0.02	0.04	-0.02	±0.3
27200	4.41	4.35	4.33	4.42	4.35	4.33	0.02	0.00	0.00	±0.3
34400	4.40	4.36	4.34	4.42	4.36	4.34	0.04	0.00	0.00	±0.3
40000	4.39	4.35	4.34	4.41	4.35	4.35	0.04	0.00	0.02	±0.3
43600	4.38	4.34	4.33	4.40	4.34	4.34	0.04	0.00	0.02	±0.3
55400	4.37	4.33	4.32	4.39	4.34	4.32	0.04	0.02	0.00	±0.3
70000	4.36	4.32	4.31	4.37	4.32	4.32	0.02	0.00	0.02	±0.3
88800	4.34	4.31	4.30	4.35	4.30	4.30	0.02	-0.02	0.00	±0.3
112400	4.33	4.29	4.29	4.34	4.30	4.29	0.02	0.02	0.00	±0.3
142400	4.31	4.28	4.27	4.31	4.28	4.26	0.00	0.00	-0.02	±0.3
161750	4.29	4.26	4.25	4.30	4.26	4.25	0.02	0.00	0.00	±0.3
180400	4.27	4.25	4.24	4.28	4.25	4.23	0.02	0.00	-0.02	±0.3
228400	4.24	4.21	4.20	4.25	4.22	4.20	0.02	0.02	0.00	±0.3
289400	4.20	4.17	4.16	4.21	4.18	4.17	0.02	0.02	0.02	±0.3
366400	4.16	4.13	4.12	4.17	4.14	4.13	0.02	0.02	0.02	±0.3
400000	4.13	4.11	4.11	4.14	4.12	4.11	0.02	0.02	0.00	±0.3
464000	4.10	4.08	4.08	4.11	4.08	4.07	0.02	0.00	-0.02	±0.3
587800	4.06	4.04	4.04	4.07	4.04	4.04	0.02	0.00	0.00	±0.3
744200	4.00	3.99	3.99	4.01	4.00	3.98	0.02	0.02	-0.02	±0.3
942600	3.99	3.98	3.98	4.00	3.99	3.98	0.02	0.02	0.00	±0.3
1193600	3.96	3.95	3.95	3.97	3.96	3.95	0.02	0.02	0.00	±0.3
1511600	3.95	3.94	3.94	3.96	3.94	3.94	0.02	0.00	0.00	±0.3
1914400	3.93	3.92	3.92	3.94	3.93	3.91	0.02	0.02	-0.02	±0.3
2424400	3.91	3.90	3.90	3.92	3.91	3.90	0.02	0.02	0.00	±0.3
3070200	3.89	3.88	3.87	3.89	3.88	3.87	0.00	0.00	0.00	±0.3
3888000	3.83	3.83	3.82	3.84	3.83	3.82	0.02	0.00	0.00	±0.3
4000000	3.83	3.82	3.82	3.83	3.82	3.82	0.00	0.00	0.00	±0.3
4923800	3.76	3.75	3.75	3.77	3.76	3.76	0.02	0.02	0.02	±0.3
6235400	3.64	3.63	3.62	3.64	3.63	3.63	0.00	0.00	0.02	±0.3
7896400	3.52	3.51	3.51	3.52	3.52	3.51	0.00	0.02	0.00	±0.3
10000000	3.39	3.38	3.39	3.39	3.39	3.39	0.00	0.03	0.00	±0.3

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

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



**Frequency Response, H-field, Channel 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	1.48	1.48	1.48	1.48	1.48	1.47	0.00	0.00	-0.06	±0.3
3200	1.48	1.47	1.47	1.47	1.48	1.45	-0.06	0.06	-0.12	±0.3
4000	1.47	1.47	1.47	1.47	1.47	1.47	0.00	0.00	0.00	±0.3
5200	1.46	1.46	1.46	1.46	1.47	1.46	0.00	0.06	0.00	±0.3
6600	1.45	1.45	1.45	1.46	1.45	1.44	0.06	0.00	-0.06	±0.3
8200	1.44	1.44	1.44	1.44	1.43	1.44	0.00	-0.06	0.00	±0.3
9000	1.43	1.43	1.43	1.44	1.43	1.43	0.06	0.00	0.00	±0.3
10600	4.37	4.27	4.31	4.38	4.28	4.28	0.02	0.02	-0.06	±0.3
13400	4.39	4.33	4.32	4.41	4.33	4.31	0.04	0.00	-0.02	±0.3
17000	4.39	4.33	4.31	4.39	4.34	4.32	0.00	0.02	0.02	±0.3
21400	4.41	4.35	4.34	4.40	4.35	4.33	-0.02	0.00	-0.02	±0.3
27200	4.41	4.35	4.33	4.43	4.36	4.34	0.04	0.02	0.02	±0.3
34400	4.40	4.36	4.34	4.42	4.37	4.35	0.04	0.02	0.02	±0.3
40000	4.39	4.35	4.34	4.41	4.36	4.34	0.04	0.02	0.00	±0.3
43600	4.38	4.34	4.33	4.40	4.36	4.33	0.04	0.04	0.00	±0.3
55400	4.37	4.33	4.32	4.39	4.34	4.32	0.04	0.02	0.00	±0.3
70000	4.36	4.32	4.31	4.37	4.32	4.31	0.02	0.00	0.00	±0.3
88800	4.34	4.31	4.30	4.35	4.31	4.30	0.02	0.00	0.00	±0.3
112400	4.33	4.29	4.29	4.34	4.30	4.29	0.02	0.02	0.00	±0.3
142400	4.31	4.28	4.27	4.32	4.27	4.27	0.02	-0.02	0.00	±0.3
161750	4.29	4.26	4.25	4.29	4.26	4.25	0.00	0.00	0.00	±0.3
180400	4.27	4.25	4.24	4.28	4.25	4.24	0.02	0.00	0.00	±0.3
228400	4.24	4.21	4.20	4.25	4.21	4.20	0.02	0.00	0.00	±0.3
289400	4.20	4.17	4.16	4.21	4.17	4.16	0.02	0.00	0.00	±0.3
366400	4.16	4.13	4.12	4.16	4.14	4.12	0.00	0.02	0.00	±0.3
400000	4.13	4.11	4.11	4.15	4.12	4.11	0.04	0.02	0.00	±0.3
464000	4.10	4.08	4.08	4.11	4.09	4.08	0.02	0.02	0.00	±0.3
587800	4.06	4.04	4.04	4.07	4.05	4.04	0.02	0.02	0.00	±0.3
744200	4.00	3.99	3.99	4.02	3.98	3.99	0.04	-0.02	0.00	±0.3
942600	3.99	3.98	3.98	4.00	3.97	3.98	0.02	-0.02	0.00	±0.3
1193600	3.96	3.95	3.95	3.97	3.95	3.95	0.02	0.00	0.00	±0.3
1511600	3.95	3.94	3.94	3.96	3.94	3.94	0.02	0.00	0.00	±0.3
1914400	3.93	3.92	3.92	3.94	3.92	3.92	0.02	0.00	0.00	±0.3
2424400	3.91	3.90	3.90	3.92	3.91	3.90	0.02	0.02	0.00	±0.3
3070200	3.89	3.88	3.87	3.89	3.88	3.88	0.00	0.00	0.02	±0.3
3888000	3.83	3.83	3.82	3.84	3.83	3.83	0.02	0.00	0.02	±0.3
4000000	3.83	3.82	3.82	3.83	3.83	3.82	0.00	0.02	0.00	±0.3
4923800	3.76	3.75	3.75	3.77	3.76	3.76	0.02	0.02	0.02	±0.3
6235400	3.64	3.63	3.62	3.64	3.63	3.63	0.00	0.00	0.02	±0.3
7896400	3.52	3.51	3.51	3.52	3.51	3.51	0.00	0.00	0.00	±0.3
10000000	3.39	3.38	3.39	3.39	3.38	3.39	0.00	0.00	0.00	±0.3

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

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

**Frequency Response, H-field, Channel 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	1.48	1.48	1.48	1.48	1.47	1.47	0.00	-0.06	-0.06	±0.3
3200	1.48	1.47	1.47	1.48	1.48	1.45	0.00	0.06	-0.12	±0.3
4000	1.47	1.47	1.47	1.47	1.46	1.47	0.00	-0.06	0.00	±0.3
5200	1.46	1.46	1.46	1.46	1.47	1.45	0.00	0.06	-0.06	±0.3
6600	1.45	1.45	1.45	1.45	1.45	1.43	0.00	0.00	-0.12	±0.3
8200	1.44	1.44	1.44	1.43	1.43	1.44	-0.06	-0.06	0.00	±0.3
9000	1.43	1.43	1.43	1.44	1.44	1.43	0.06	0.06	0.00	±0.3
10600	4.37	4.27	4.31	4.38	4.25	4.25	0.02	-0.04	-0.12	±0.3
13400	4.39	4.33	4.32	4.40	4.35	4.33	0.02	0.04	0.02	±0.3
17000	4.39	4.33	4.31	4.40	4.33	4.33	0.02	0.00	0.04	±0.3
21400	4.41	4.35	4.34	4.42	4.36	4.34	0.02	0.02	0.00	±0.3
27200	4.41	4.35	4.33	4.42	4.36	4.34	0.02	0.02	0.02	±0.3
34400	4.40	4.36	4.34	4.41	4.36	4.35	0.02	0.00	0.02	±0.3
40000	4.39	4.35	4.34	4.41	4.35	4.35	0.04	0.00	0.02	±0.3
43600	4.38	4.34	4.33	4.39	4.35	4.33	0.02	0.02	0.00	±0.3
55400	4.37	4.33	4.32	4.38	4.34	4.33	0.02	0.02	0.02	±0.3
70000	4.36	4.32	4.31	4.37	4.33	4.31	0.02	0.02	0.00	±0.3
88800	4.34	4.31	4.30	4.35	4.32	4.30	0.02	0.02	0.00	±0.3
112400	4.33	4.29	4.29	4.34	4.29	4.29	0.02	0.00	0.00	±0.3
142400	4.31	4.28	4.27	4.32	4.28	4.27	0.02	0.00	0.00	±0.3
161750	4.29	4.26	4.25	4.29	4.26	4.25	0.00	0.00	0.00	±0.3
180400	4.27	4.25	4.24	4.28	4.25	4.24	0.02	0.00	0.00	±0.3
228400	4.24	4.21	4.20	4.25	4.21	4.20	0.02	0.00	0.00	±0.3
289400	4.20	4.17	4.16	4.20	4.17	4.16	0.00	0.00	0.00	±0.3
366400	4.16	4.13	4.12	4.16	4.13	4.13	0.00	0.00	0.02	±0.3
400000	4.13	4.11	4.11	4.14	4.10	4.11	0.02	-0.02	0.00	±0.3
464000	4.10	4.08	4.08	4.11	4.10	4.08	0.02	0.04	0.00	±0.3
587800	4.06	4.04	4.04	4.07	4.04	4.03	0.02	0.00	-0.02	±0.3
744200	4.00	3.99	3.99	4.02	4.00	3.98	0.04	0.02	-0.02	±0.3
942600	3.99	3.98	3.98	4.00	3.98	3.97	0.02	0.00	-0.02	±0.3
1193600	3.96	3.95	3.95	3.97	3.96	3.95	0.02	0.02	0.00	±0.3
1511600	3.95	3.94	3.94	3.96	3.94	3.94	0.02	0.00	0.00	±0.3
1914400	3.93	3.92	3.92	3.94	3.92	3.91	0.02	0.00	-0.02	±0.3
2424400	3.91	3.90	3.90	3.92	3.90	3.90	0.02	0.00	0.00	±0.3
3070200	3.89	3.88	3.87	3.89	3.88	3.88	0.00	0.00	0.02	±0.3
3888000	3.83	3.83	3.82	3.84	3.82	3.82	0.02	-0.02	0.00	±0.3
4000000	3.83	3.82	3.82	3.83	3.82	3.82	0.00	0.00	0.00	±0.3
4923800	3.76	3.75	3.75	3.77	3.75	3.75	0.02	0.00	0.00	±0.3
6235400	3.64	3.63	3.62	3.64	3.63	3.63	0.00	0.00	0.02	±0.3
7896400	3.52	3.51	3.51	3.52	3.51	3.51	0.00	0.00	0.00	±0.3
10000000	3.39	3.38	3.39	3.39	3.39	3.39	0.00	0.03	0.00	±0.3

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

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

**Frequency Response, H-field, Channel 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	1.48	1.48	1.48	1.49	1.48	1.48	0.06	0.00	0.00	±0.3
3200	1.48	1.47	1.47	1.48	1.48	1.45	0.00	0.06	-0.12	±0.3
4000	1.47	1.47	1.47	1.47	1.47	1.46	0.00	0.00	-0.06	±0.3
5200	1.46	1.46	1.46	1.46	1.46	1.45	0.00	0.00	-0.06	±0.3
6600	1.45	1.45	1.45	1.45	1.45	1.45	0.00	0.00	0.00	±0.3
8200	1.44	1.44	1.44	1.43	1.44	1.44	-0.06	0.00	0.00	±0.3
9000	1.43	1.43	1.43	1.43	1.43	1.43	0.00	0.00	0.00	±0.3
10600	4.37	4.27	4.31	4.36	4.29	4.26	-0.02	0.04	-0.10	±0.3
13400	4.39	4.33	4.32	4.40	4.34	4.32	0.02	0.02	0.00	±0.3
17000	4.39	4.33	4.31	4.39	4.34	4.32	0.00	0.02	0.02	±0.3
21400	4.41	4.35	4.34	4.42	4.33	4.33	0.02	-0.04	-0.02	±0.3
27200	4.41	4.35	4.33	4.41	4.35	4.32	0.00	0.00	-0.02	±0.3
34400	4.40	4.36	4.34	4.42	4.36	4.35	0.04	0.00	0.02	±0.3
40000	4.39	4.35	4.34	4.41	4.35	4.35	0.04	0.00	0.02	±0.3
43600	4.38	4.34	4.33	4.39	4.35	4.33	0.02	0.02	0.00	±0.3
55400	4.37	4.33	4.32	4.39	4.34	4.32	0.04	0.02	0.00	±0.3
70000	4.36	4.32	4.31	4.37	4.33	4.31	0.02	0.02	0.00	±0.3
88800	4.34	4.31	4.30	4.35	4.31	4.30	0.02	0.00	0.00	±0.3
112400	4.33	4.29	4.29	4.33	4.30	4.29	0.00	0.02	0.00	±0.3
142400	4.31	4.28	4.27	4.31	4.28	4.27	0.00	0.00	0.00	±0.3
161750	4.29	4.26	4.25	4.30	4.26	4.25	0.02	0.00	0.00	±0.3
180400	4.27	4.25	4.24	4.28	4.25	4.24	0.02	0.00	0.00	±0.3
228400	4.24	4.21	4.20	4.25	4.21	4.20	0.02	0.00	0.00	±0.3
289400	4.20	4.17	4.16	4.21	4.18	4.16	0.02	0.02	0.00	±0.3
366400	4.16	4.13	4.12	4.17	4.13	4.12	0.02	0.00	0.00	±0.3
400000	4.13	4.11	4.11	4.14	4.11	4.10	0.02	0.00	-0.02	±0.3
464000	4.10	4.08	4.08	4.11	4.09	4.07	0.02	0.02	-0.02	±0.3
587800	4.06	4.04	4.04	4.07	4.05	4.03	0.02	0.02	-0.02	±0.3
744200	4.00	3.99	3.99	4.02	4.00	3.99	0.04	0.02	0.00	±0.3
942600	3.99	3.98	3.98	4.00	3.98	3.98	0.02	0.00	0.00	±0.3
1193600	3.96	3.95	3.95	3.97	3.96	3.95	0.02	0.02	0.00	±0.3
1511600	3.95	3.94	3.94	3.96	3.94	3.94	0.02	0.00	0.00	±0.3
1914400	3.93	3.92	3.92	3.94	3.93	3.92	0.02	0.02	0.00	±0.3
2424400	3.91	3.90	3.90	3.92	3.91	3.90	0.02	0.02	0.00	±0.3
3070200	3.89	3.88	3.87	3.89	3.88	3.88	0.00	0.00	0.02	±0.3
3888000	3.83	3.83	3.82	3.84	3.83	3.82	0.02	0.00	0.00	±0.3
4000000	3.83	3.82	3.82	3.83	3.82	3.83	0.00	0.00	0.02	±0.3
4923800	3.76	3.75	3.75	3.77	3.75	3.76	0.02	0.00	0.02	±0.3
6235400	3.64	3.63	3.62	3.64	3.63	3.63	0.00	0.00	0.02	±0.3
7896400	3.52	3.51	3.51	3.52	3.51	3.51	0.00	0.00	0.00	±0.3
10000000	3.39	3.38	3.39	3.39	3.37	3.38	0.00	-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, E-field, Channel 0**

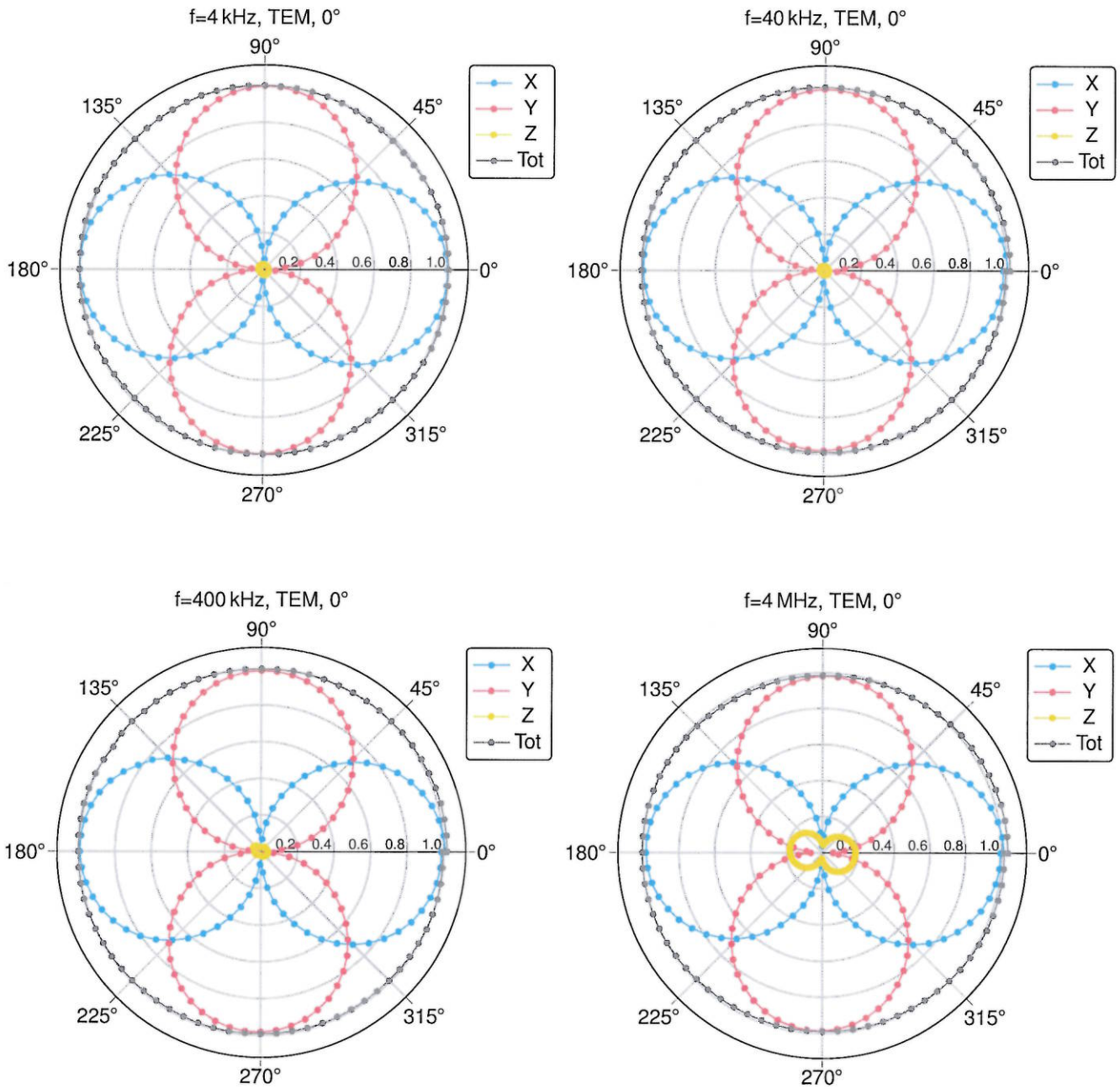
f/(Hz)	E-field/(V/m) Applied			E-field/(V/m) Reading			Difference/(dB)			Tolerance/(dB)
	x	y	z	x	y	z	x	y	z	
3000	165	165	167	166	166	167	0.05	0.05	0.00	±0.3
3200	164	164	171	164	162	174	0.00	-0.11	0.15	±0.3
4000	169	169	163	170	169	163	0.05	0.00	0.00	±0.3
5200	165	165	165	166	165	165	0.05	0.00	0.00	±0.3
6600	171	171	167	170	171	168	-0.05	0.00	0.05	±0.3
8200	159	159	163	160	159	163	0.05	0.00	0.00	±0.3
9000	167	167	167	168	168	168	0.05	0.05	0.05	±0.3
10600	168	168	164	169	168	164	0.05	0.00	0.00	±0.3
13400	165	165	165	165	165	165	0.00	0.00	0.00	±0.3
17000	163	163	166	164	164	166	0.05	0.05	0.00	±0.3
21400	166	166	166	167	166	166	0.05	0.00	0.00	±0.3
27200	164	164	165	165	164	165	0.05	0.00	0.00	±0.3
34400	167	167	164	168	167	165	0.05	0.00	0.05	±0.3
40000	168	168	166	169	168	166	0.05	0.00	0.00	±0.3
43600	167	167	166	167	167	166	0.00	0.00	0.00	±0.3
55400	167	167	167	168	168	167	0.05	0.05	0.00	±0.3
70000	166	166	166	167	166	166	0.05	0.00	0.00	±0.3
88800	167	167	167	168	168	167	0.05	0.05	0.00	±0.3
112400	168	168	168	168	168	168	0.00	0.00	0.00	±0.3
142400	168	168	168	169	169	168	0.05	0.05	0.00	±0.3
161750	168	168	169	169	169	169	0.05	0.05	0.00	±0.3
180400	170	170	169	170	170	169	0.00	0.00	0.00	±0.3
228400	170	170	170	171	170	170	0.05	0.00	0.00	±0.3
289400	171	171	171	172	172	171	0.05	0.05	0.00	±0.3
366400	173	173	172	173	173	172	0.00	0.00	0.00	±0.3
400000	173	173	173	173	173	173	0.00	0.00	0.00	±0.3
464000	174	174	174	174	174	174	0.00	0.00	0.00	±0.3
587800	175	175	175	176	175	175	0.05	0.00	0.00	±0.3
744200	175	175	175	175	175	175	0.00	0.00	0.00	±0.3
942600	176	176	175	176	176	175	0.00	0.00	0.00	±0.3
1193600	176	176	175	176	176	175	0.00	0.00	0.00	±0.3
1511600	175	175	174	175	175	174	0.00	0.00	0.00	±0.3
1914400	174	174	174	175	175	174	0.05	0.05	0.00	±0.3
2424400	174	174	173	174	174	173	0.00	0.00	0.00	±0.3
3070200	174	174	173	174	174	173	0.00	0.00	0.00	±0.3
3888000	174	174	173	174	174	173	0.00	0.00	0.00	±0.3
4000000	174	174	173	174	174	173	0.00	0.00	0.00	±0.3
4923800	175	175	174	175	175	174	0.00	0.00	0.00	±0.3
6235400	177	177	176	177	177	176	0.00	0.00	0.00	±0.3
7896400	182	182	181	182	182	181	0.00	0.00	0.00	±0.3
10000000	191	191	190	191	191	190	0.00	0.00	0.00	±0.3

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

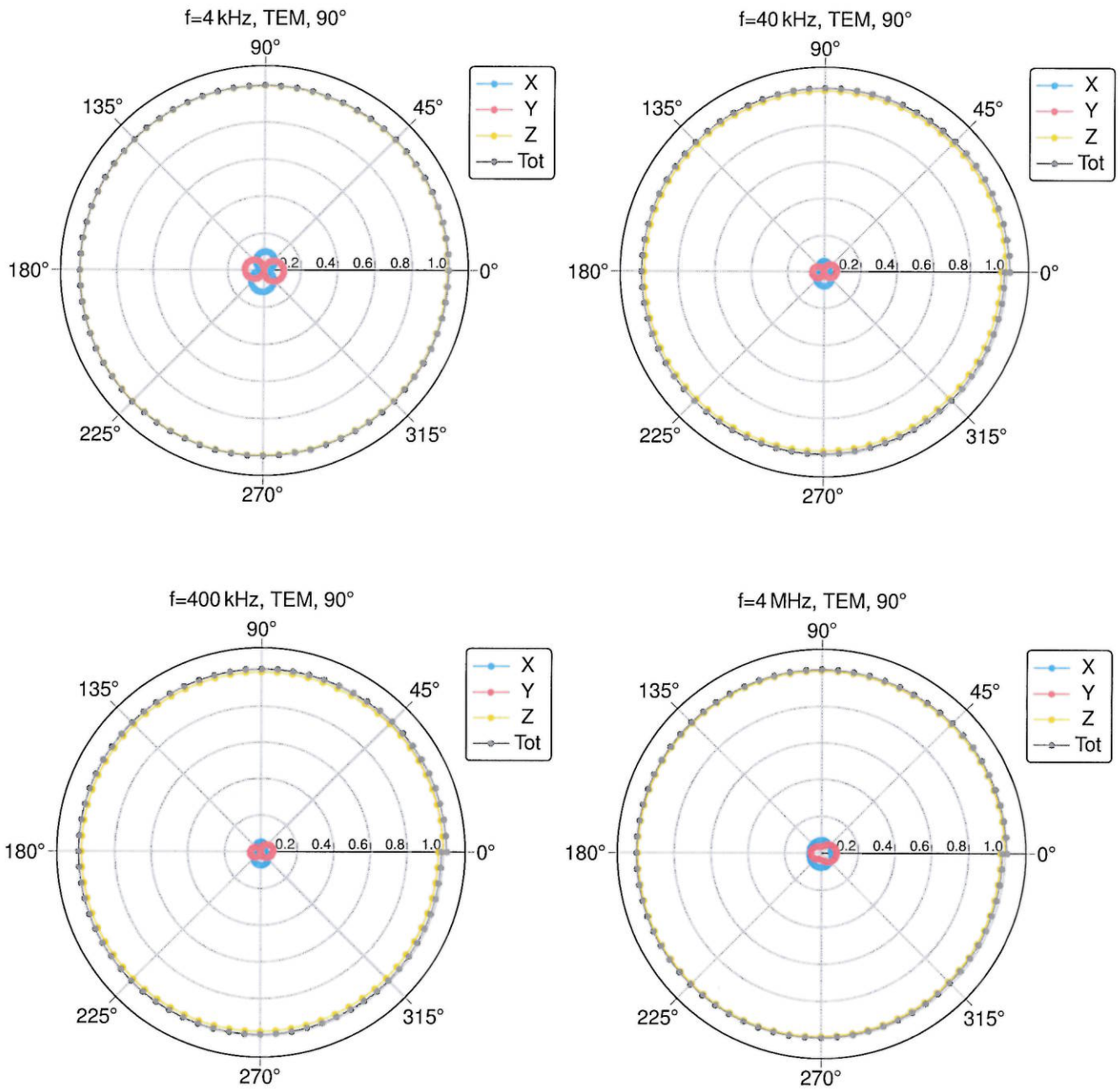
<sup>1</sup>Calibration uncertainty not taken into account (shared risk 50%).

### Isotropy H-Field

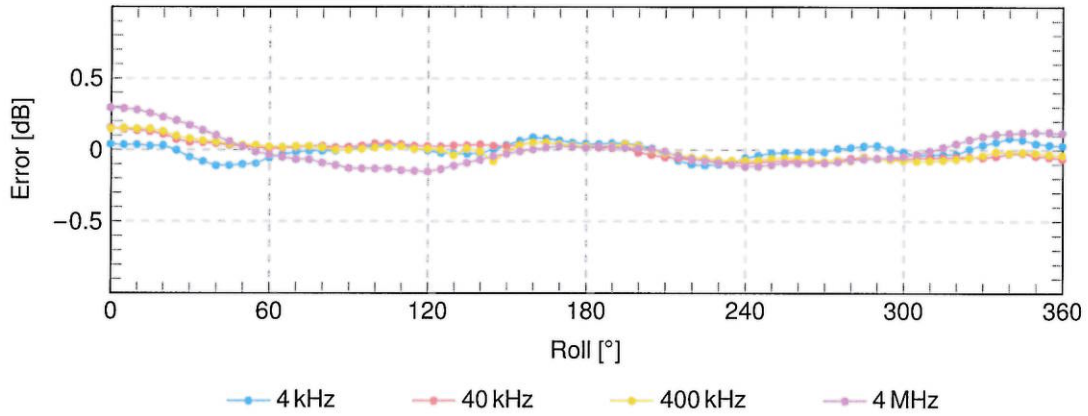
H-Field Receiving Pattern ( $\phi$ ),  $\vartheta = 0^\circ$



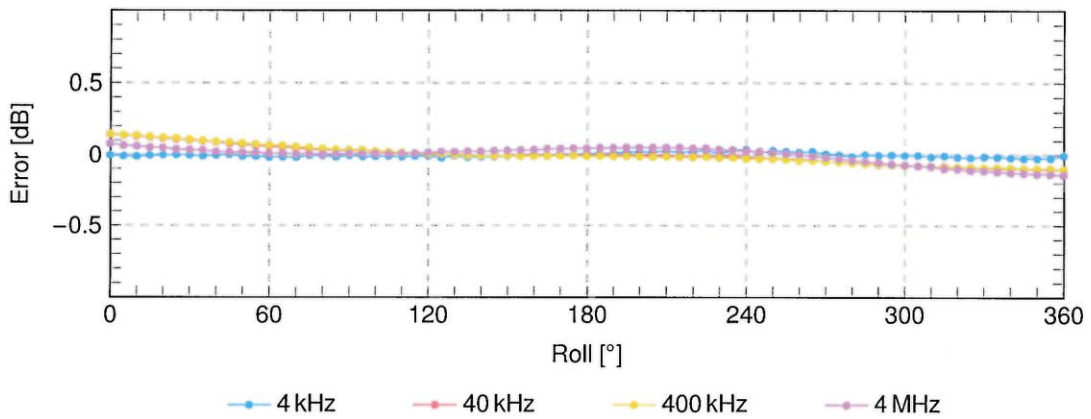
### H-Field Receiving Pattern ( $\phi$ ), $\vartheta = 90^\circ$



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



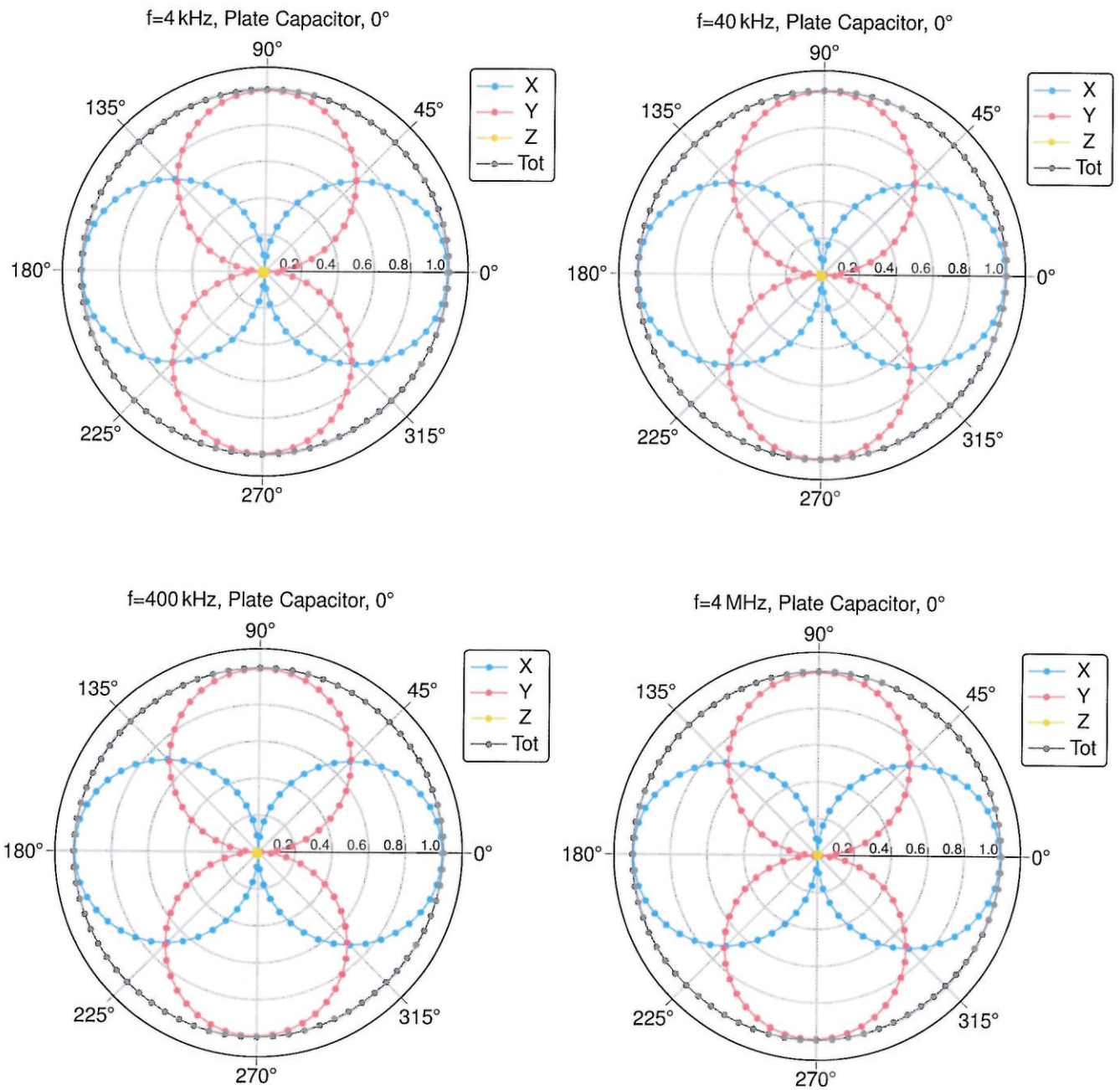
### H-Field Receiving Pattern ( $\phi$ ), $\vartheta = 90^\circ$



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

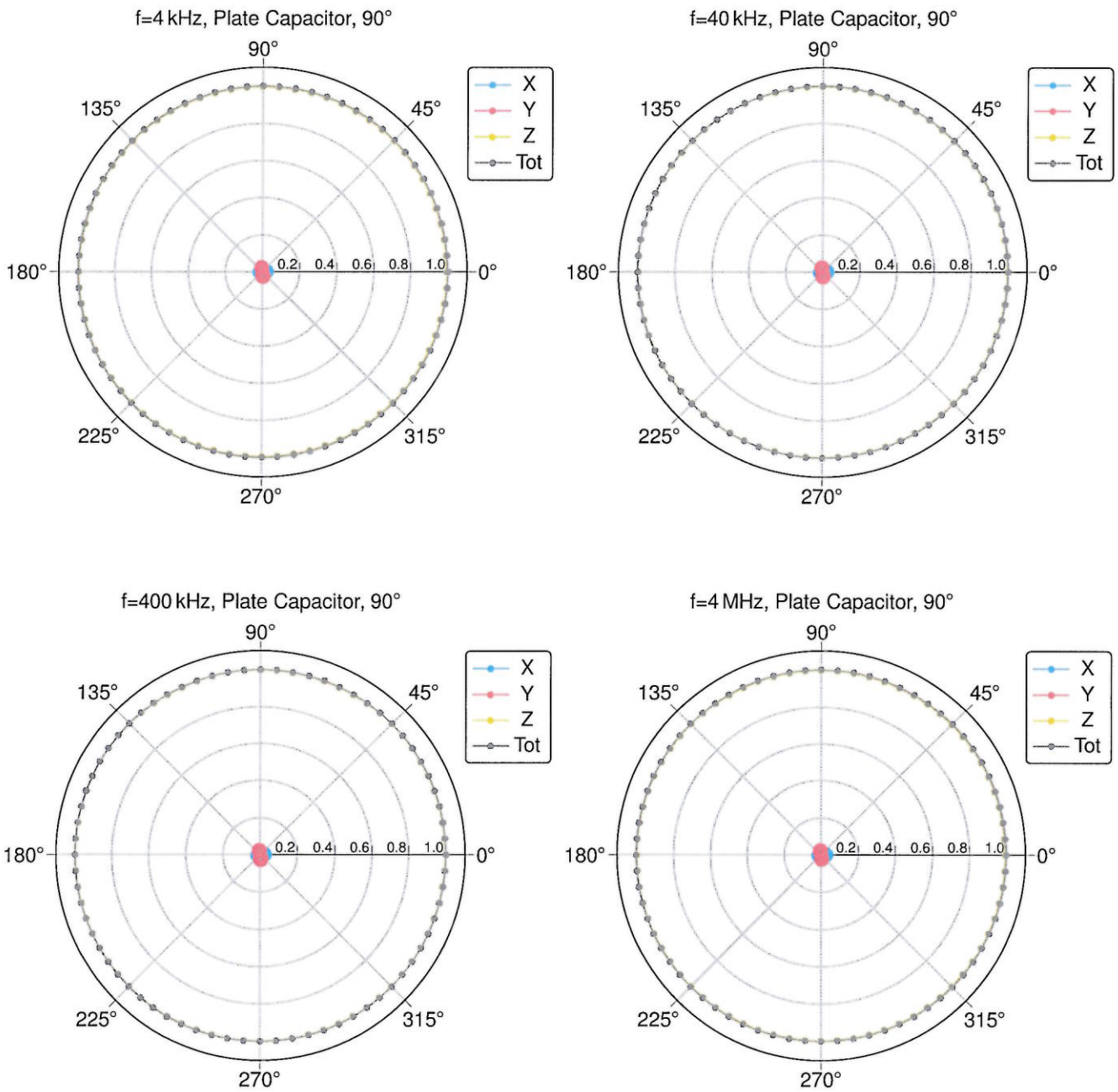
### Isotropy E-Field

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

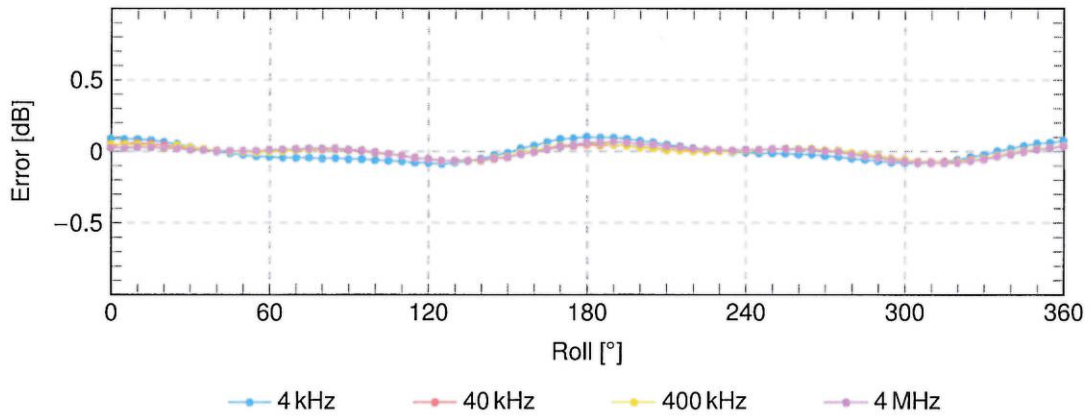




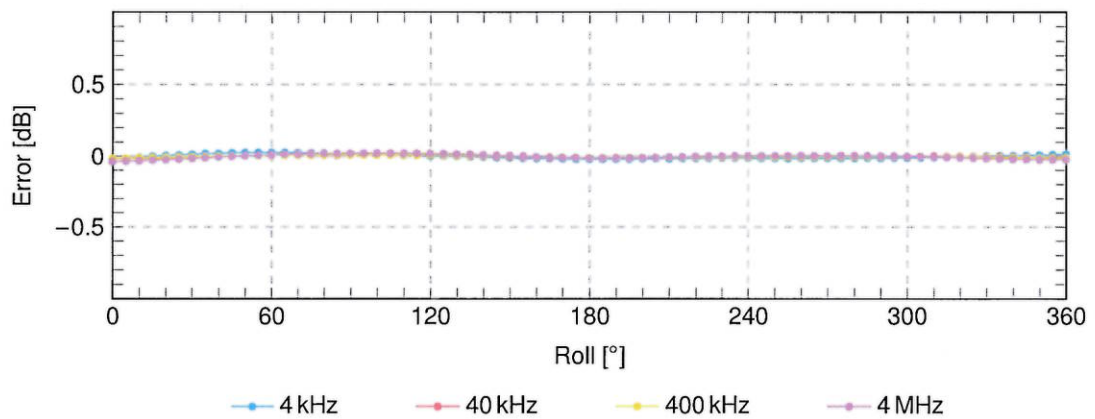
### E-Field Receiving Pattern ( $\phi$ ), $\vartheta = 90^\circ$



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



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



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