Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
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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 ± 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	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.

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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 θ, and $\phi = 0° ...360°$; $\theta = 90°$, and $\phi = 0° ...360°$; for the XYZ sensors (in TEM-Cell at 4 kHz, 40 kHz, 400 kHz and 4 MHz).
- Receiving Pattern: Assessed for E-field polarizations θ, and $\phi = 0° ...360°$; $\theta = 90°$, and $\phi = 0° ...360°$; 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)			
x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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	18.6	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[1]:
±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

[1] 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)			
x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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[1]:

±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

[1] 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)			
x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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[1]:

±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

[1] 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)			
x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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
888	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[1]:
±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

[1] 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)			
x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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[1]:

±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

[1] 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)			
x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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[1]:
±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

[1] 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)			
x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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[1]:

±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

[1] 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)			
x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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[1]:
±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

[1] 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[1]:
±5.0dB for applied E-field < 2V/m
±1.0dB for applied E-field ≥ 2V/m

[1] 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	0.00	−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[1]:
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

[1] Calibration uncertainty not taken into account (shared risk 50%).

Frequency Response, H-field, Channel 1

	H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			
f/(Hz)	x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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	4.19	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[1]:
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

[1] Calibration uncertainty not taken into account (shared risk 50%).

Frequency Response, H-field, Channel 2

	H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			
f/(Hz)	x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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[1]:
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

[1] Calibration uncertainty not taken into account (shared risk 50%).

Frequency Response, H-field, Channel 3

	H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			
f/(Hz)	x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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[1]:
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

[1] Calibration uncertainty not taken into account (shared risk 50%).

Frequency Response, H-field, Channel 4

	H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			
f/(Hz)	x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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[1]:
±0.3 dB for applied H-fields at calibration points from 3 kHz to 10 MHz

[1] 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[1]:
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

[1] Calibration uncertainty not taken into account (shared risk 50%).

Frequency Response, H-field, Channel 6

	H-field/(A/m) Applied			H-field/(A/m) Reading			Difference/(dB)			
f/(Hz)	x	y	z	x	y	z	x	y	z	Tolerance/(dB)
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	−0.08	±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
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	3.87	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[1]:
±0.3 dB for applied H-fields at calibration points from 3 kHz to 10 MHz

[1] 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[1]:
±0.3dB for applied H-fields at calibration points from 3kHz to 10MHz

[1] 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[1]:
±0.3dB for applied E-fields at calibration points from 3kHz to 10MHz

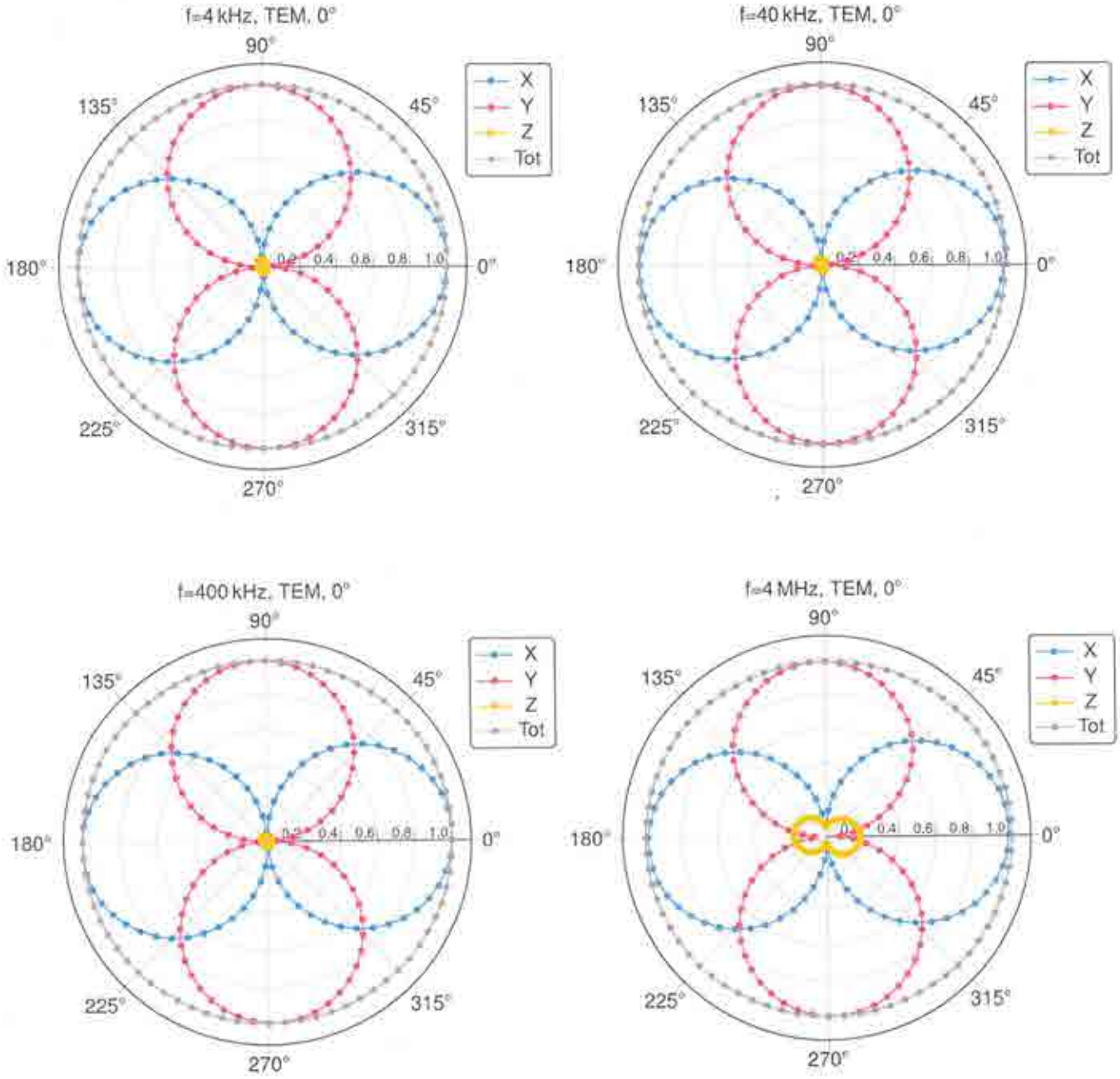
[1] Calibration uncertainty not taken into account (shared risk 50%).

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

June 05, 2025

Isotropy H-Field

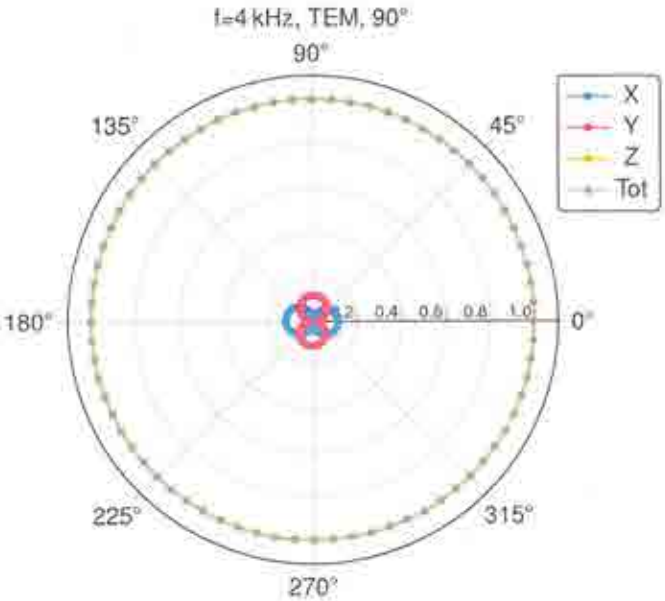
H-Field Receiving Pattern (ϕ), $\vartheta = 0°$

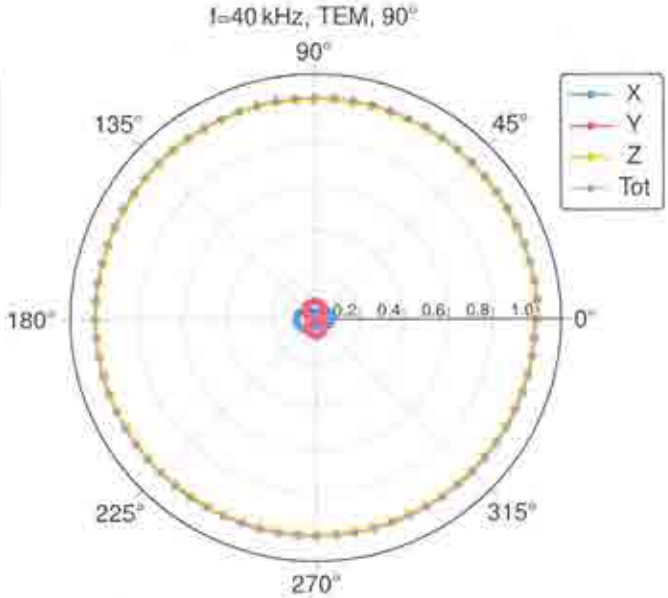


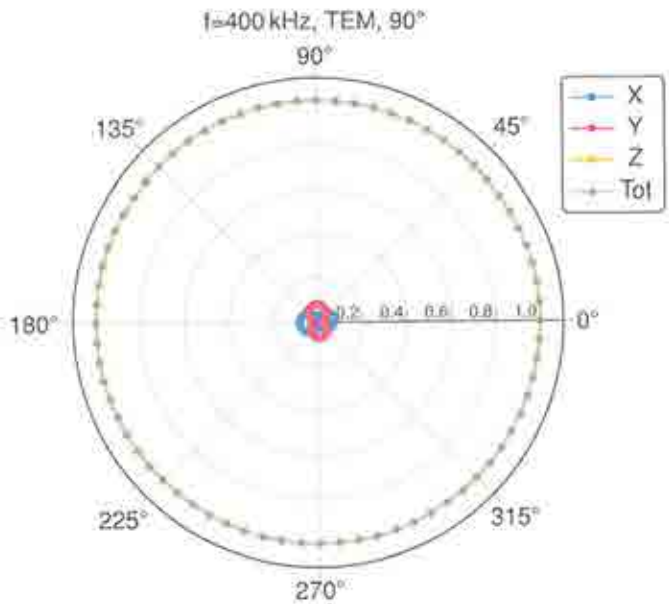
MAGPy-8H3D+E3DV2 SN:3059
MAGPy-DASV2 SN:3064

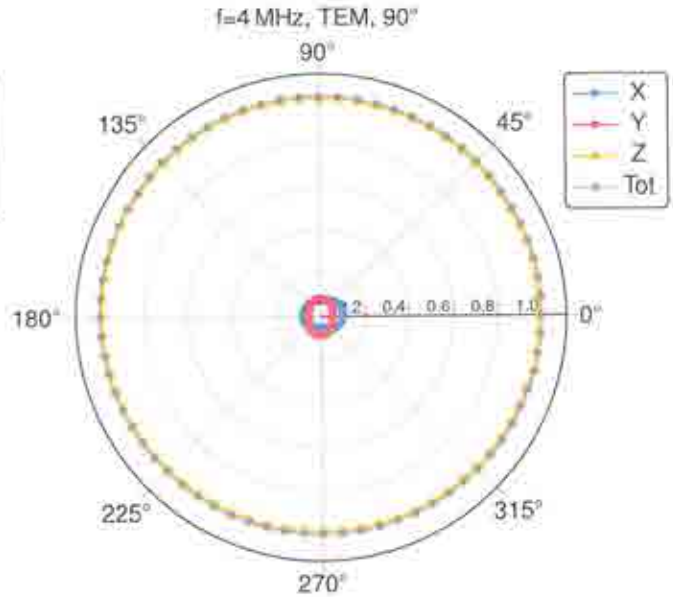
June 05, 2025

H-Field Receiving Pattern (ϕ), $\vartheta = 90°$





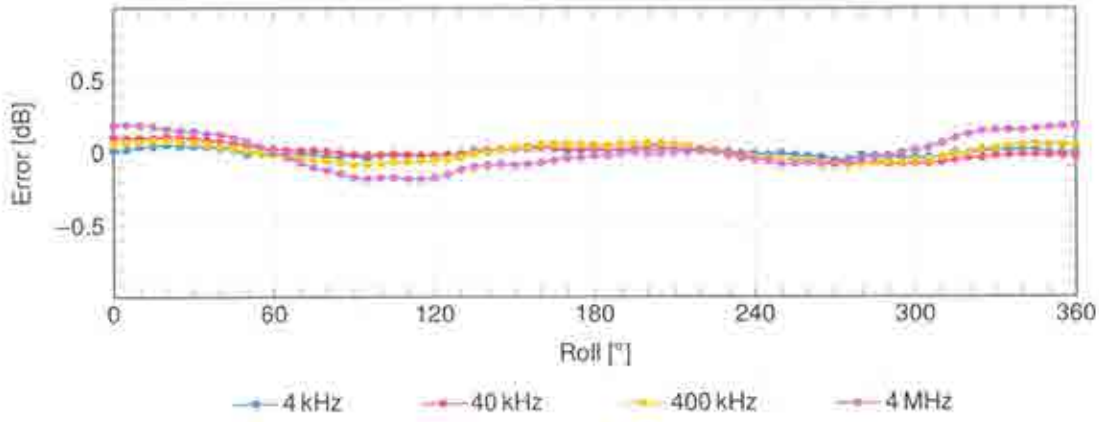




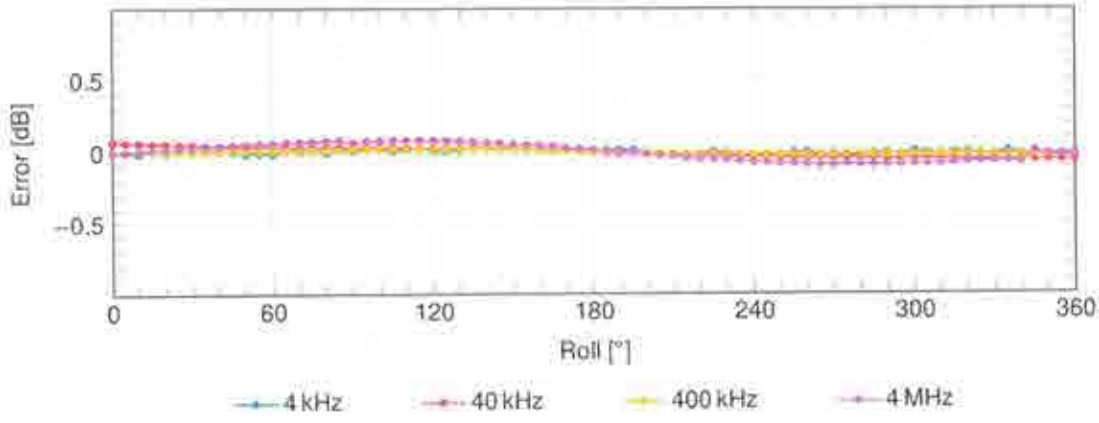
MAGPy-8H3D+E3DV2 SN:3059
MAGPy-DASV2 SN:3064

June 05, 2025

H-Field Receiving Pattern (ϕ), $\vartheta = 0°$



H-Field Receiving Pattern (ϕ), $\vartheta = 90°$



SPEAG axial deviation from the ideal response tolerance for H-field: ±0.6dB

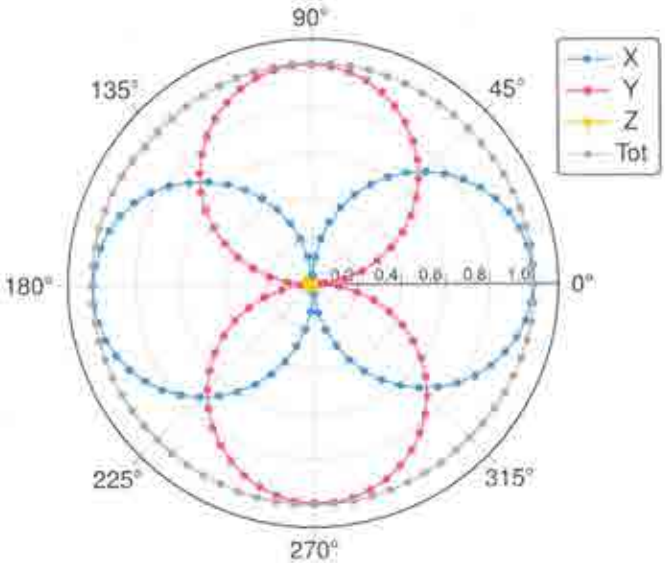
MAGPy-8H3D+E3DV2 SN:3059
MAGPy-DASV2 SN:3064

June 05, 2025

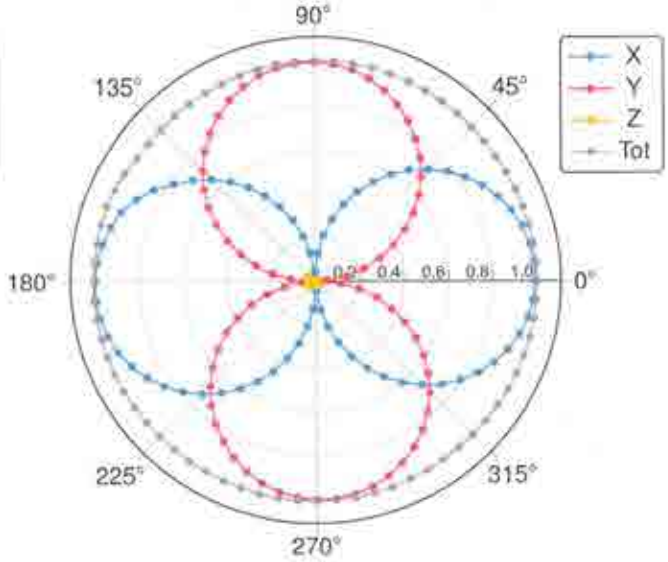
Isotropy E-Field

E-Field Receiving Pattern (ϕ), $\vartheta = 0°$

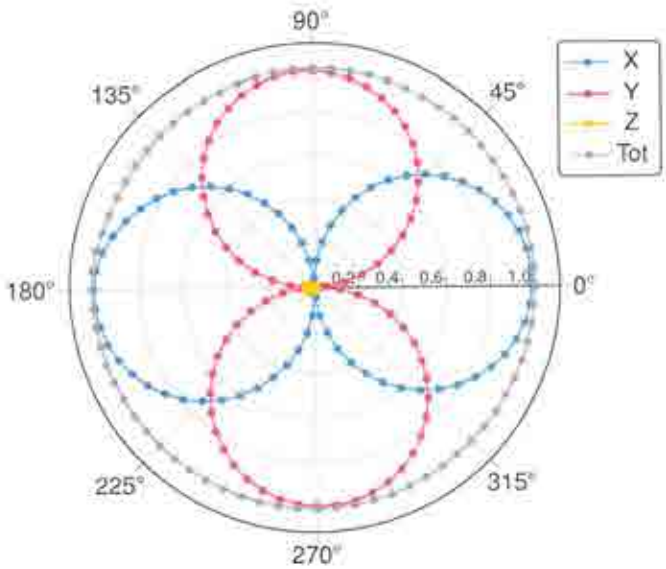
f=4 kHz, Plate Capacitor, 0°



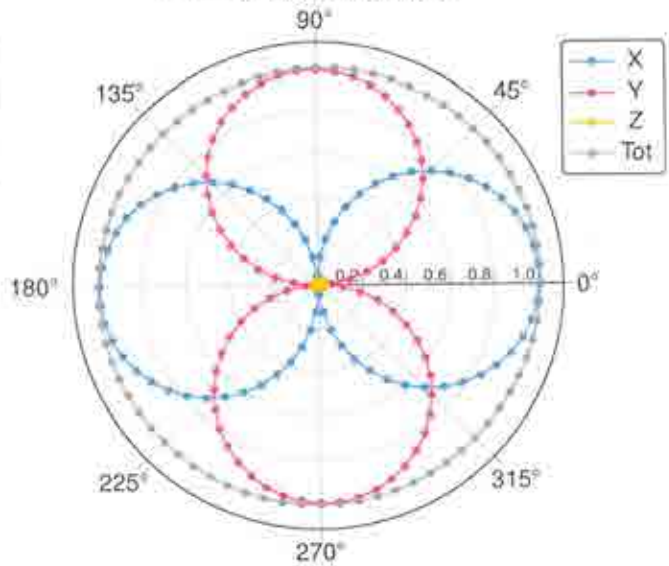
f=40 kHz, Plate Capacitor, 0°



f=400 kHz, Plate Capacitor, 0°



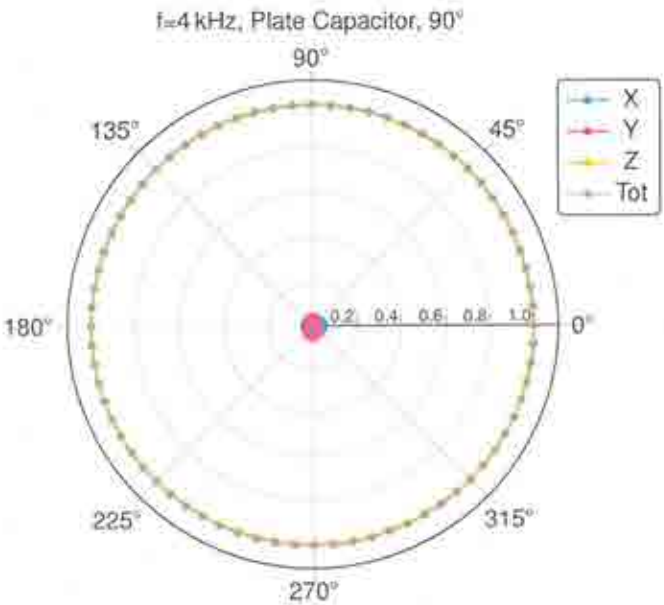
f=4 MHz, Plate Capacitor, 0°

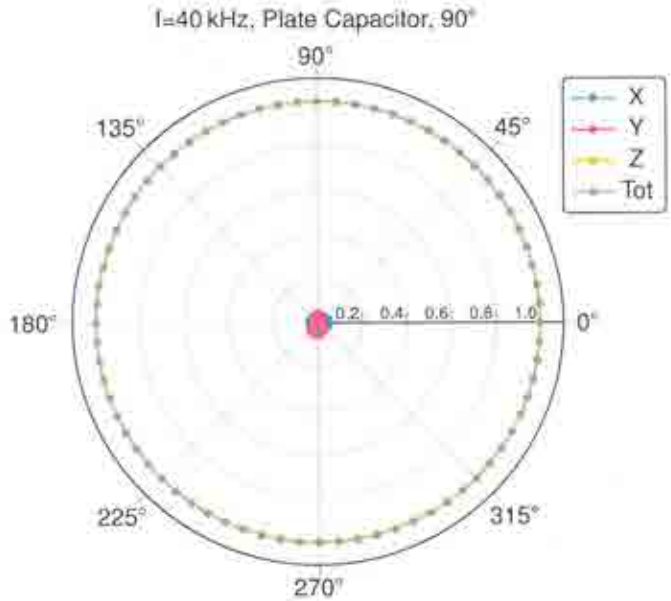


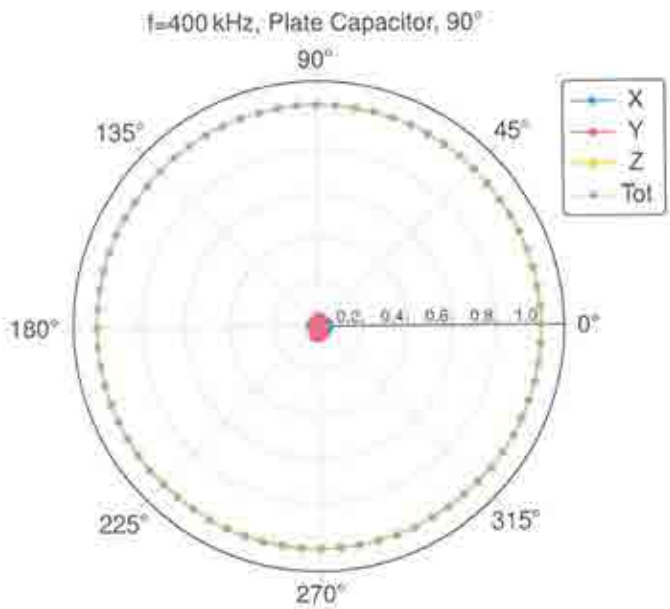
MAGPy-8H3D+E3DV2 SN:3059
MAGPy-DASV2 SN:3064

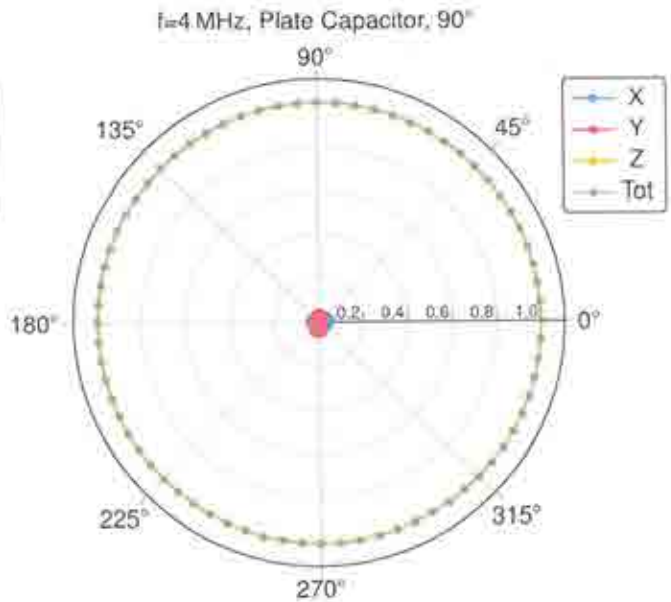
June 05, 2025

E-Field Receiving Pattern (ϕ), $\theta = 90°$





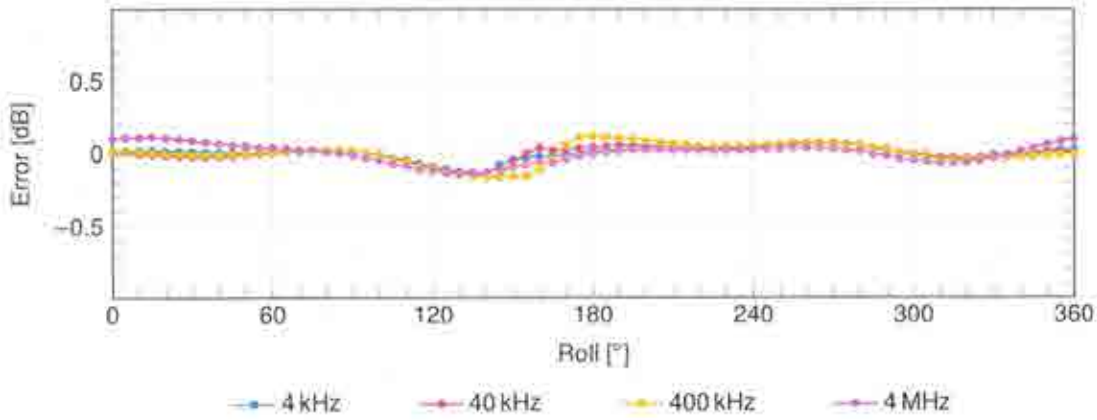




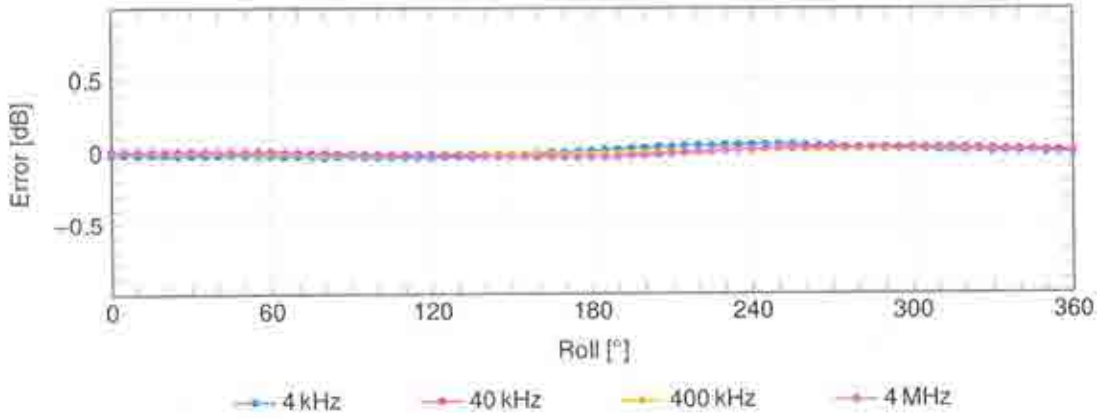
MAGPy-8H3D+E3DV2 SN:3059
MAGPy-DASV2 SN:3064

June 05, 2025

E-Field Receiving Pattern (ϕ), $\vartheta = 0°$



E-Field Receiving Pattern (ϕ), $\vartheta = 90°$



SPEAG axial deviation from the ideal response tolerance for E-field: ±0.8dB

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 0108

Client **Sporton**
Taoyuan City

Certificate No. **V-Coil350/85-1023_May25**

CALIBRATION CERTIFICATE

Object	V-Coil350/85V2 - SN: 1023
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 ± 3)°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

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

Issued: June 2, 2025

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

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 0108

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: 477 mm, y: 389 mm, z: 36.7 mm
	Grid resolutions	dx, dy, dz: 7.33 mm
Nominal frequency	85 kHz	

Calibrated Quantities

Distance (relative to source surface) (mm)	Peak H-field (A/m)	Uncertainty (k=2) (dB)
0	210	1.13
2	191	1.13

Appendix (Additional assessments outside the scope of SCS 0108)

Peak values of induced fields[1]

Distance (relative to source surface) (mm)	Induced peak current density, 1cm² area avg. (A/m²)	Induced peak E-field (V/m)			peak spatial SAR (mW/kg)	
		2mm cube avg.	Local	5mm line avg.	1g avg.	10g avg.
0	2.43	3.46	3.49	3.50	6.88	5.11
2	2.29	3.25	3.28	3.29	6.15	4.63

Voltage measurement

Total voltage (V)	Voltages at harmonics (dBc)
0.421	Highest harmonic: -39.4 2nd highest harmonic: -48.9

[1] determined for a virtual half-space phantom with tissue properties ε_r = 55, σ = 0.75 S/m, ρ=1000 kg/m³ and a 2 mm thick phantom shell

Measurement report

cDASY6 Module WPT Measurement Report

Device under test

Info:
V-Coil350/85

Serial number:
1023

Scenario:
Source Calibration

Tool info

DASY software version:
cDASY6 Module WPT 2.8.0.5184

Probe model, serial no. and configuration date:
MAGPy-8H3D+E3Dv2, WP000230, 2024/08/23

Software version:
2.8.8, *backend: 2.2.36*

Scan info

Center location:
x: -48.06 mm, y: -119.86 mm, z: 36.15 mm

Dimensions:
x: 477.0 mm, y: 388.8 mm, z: 36.7 mm

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

Completed on:
2025/05/27 16:31:30

Measurement results

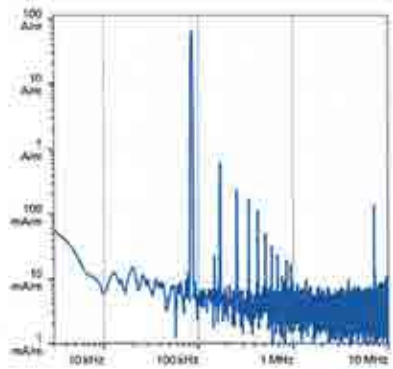
Maximum H-field [RMS]:
MAGNITUDE: 137.89 A/m
x: 120.12 A/m, y: 31.23 A/m, z: 60.08 A/m

Maximum H-field location relative to DUT:
x: 157.67 mm, y: 25.67 mm, z: 8.50 mm

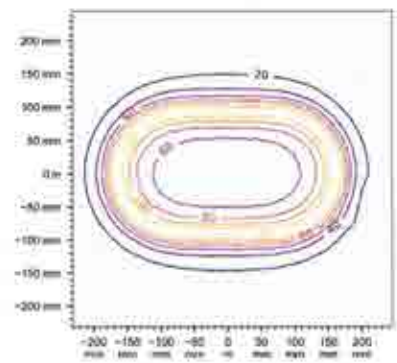
Distance to -20.0 dB boundary:
62.66 mm

Offset relative to DUT:
x: 0.00 m, y: 0.00 m, 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 homogeous phantom at the peak frequency *(f = 85.00 kHz, σ = 0.750 S/m, tissue density = 1,000 kg/m³)*

Distance [mm]	Peak incident fields [RMS] H_{inc} [A/m]	Peak E_{ind} [V/m, RMS] Cube avg.	Local	Line avg.	Peak J_{ind} [A/m², RMS] Surface avg.	psSAR [mW/kg] 1g avg.	10g avg.	H-field extent -20 dB radius [mm]	Warnings Sign	Vector potential	Boundary effect
0.00	210	3.46	3.49	3.50	2.43	6.88	5.11	182	1%	89%	38%
2.00	191	3.25	3.28	3.29	2.29	6.15	4.63	184	1%	89%	38%

Compliance evaluation (Field values at the peak frequency) *(f=85.00 kHz)*

Distance [mm]	ICNIRP 2010/2020 RL [RMS] pH_{inc} [A/m]	BR [RMS] pE_{ind} [V/m]	psSAR [mW/kg]	ICNIRP 1998 RL [RMS] pH_{inc} [A/m]	BR [RMS] pJ_{ind} [A/m²]	psSAR [mW/kg]	IEEE 2019 ERL [RMS] pH_{inc} [A/m]	DRL [RMS] pE_{ind} [V/m]	psSAR [mW/kg]	FCC MPE [RMS] pH_{inc} [A/m]	BR [RMS] pE_{ind} [V/m]	psSAR [mW/kg]	HC Code 6 RL [RMS] pH_{inc} [A/m]	BR [RMS] pE_{ind} [V/m]	psSAR [mW/kg]
0.00	210	3.46	5.11	210	2.43	5.11	210	3.50	5.11	210	N/A	6.88	210	3.49	6.88
2.00	191	3.25	4.63	191	2.29	4.63	191	3.29	4.63	191	N/A	6.15	191	3.28	6.15

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

Distance [mm]	ICNIRP 2010/2020 RL pH_{inc} NS	RL pH_{inc} TH	BR pE_{ind} NS	BR pE_{ind} TH	psSAR NS	psSAR TH	ICNIRP 1998 RL pH_{inc} N/A	BR pJ_{ind} NS	BR pJ_{ind} TH	psSAR NS	psSAR TH	IEEE 2019 ERL pH_{inc} NS	ERL pH_{inc} TH	DRL pE_{ind} NS	DRL pE_{ind} TH	psSAR NS	psSAR TH	FCC MPE pH_{inc} N/A	BR pE_{ind} N/A	psSAR TH	HC Code 6 RL pH_{inc} NS	RL pH_{inc} TH	BR pE_{ind} NS	BR pE_{ind} TH	psSAR NS	psSAR TH
0.00	20.0	N/A	-10.4	N/A	32.5	23.1	N/A	2.21	N/A	-14.1	N/A	7.37	N/A	N/A	7.37	N/A	-10.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2.00	19.2	N/A	-11.0	N/A	31.7	22.6	N/A	1.39	N/A	-14.7	N/A	6.55	N/A	N/A	6.55	N/A	-10.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Document generated at 2025/05/27 16:41:02, simulation performed at 2025/05/27 16:37:15 using Sim4Life version 8.0.1.15737

1/1