

DASY/EASY - Parameters of Probe: EF3DV3 - SN:4053

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$)	0.75	0.75	1.25	$\pm 10.1 \%$
DCP (mV) ^B	100.6	99.1	96.8	

Calibration results for Frequency Response (30 MHz – 6 GHz)

Frequency MHz	Target E-Field V/m	Measured E-field (En) V/m	Deviation E-normal in %	Measured E-field (Ep) V/m	Deviation E-normal in %	Unc (k=2) %
30	77.3	77.3	0.0%	77.5	0.2%	$\pm 5.1 \%$
100	77.3	78.2	1.1%	77.7	0.5%	$\pm 5.1 \%$
450	77.1	78.1	1.3%	77.5	0.5%	$\pm 5.1 \%$
600	77.2	77.8	0.8%	77.2	0.0%	$\pm 5.1 \%$
750	77.2	77.5	0.4%	76.9	-0.4%	$\pm 5.1 \%$
1800	143.2	139.4	-2.6%	139.3	-2.7%	$\pm 5.1 \%$
2000	135.1	131.7	-2.6%	131.6	-2.6%	$\pm 5.1 \%$
2200	127.9	123.9	-3.1%	125.0	-2.3%	$\pm 5.1 \%$
2500	125.6	122.8	-2.3%	123.7	-1.5%	$\pm 5.1 \%$
3000	79.5	75.9	-4.5%	77.0	-3.1%	$\pm 5.1 \%$
3500	256.4	248.6	-3.0%	246.2	-4.0%	$\pm 5.1 \%$
3700	249.5	239.3	-4.1%	238.7	-4.3%	$\pm 5.1 \%$
5200	50.4	50.7	0.6%	51.1	1.4%	$\pm 5.1 \%$
5500	49.7	49.2	-1.0%	48.1	-3.1%	$\pm 5.1 \%$
5800	48.8	48.4	-1.0%	49.6	1.6%	$\pm 5.1 \%$

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%.

^B Numerical linearization parameter: uncertainty not required.

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

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Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB/μV	C	D dB	VR mV	Max dev.	Max Unc ^E (k=2)
0	CW	X	0.00	0.00	1.00	0.00	125.8	± 3.3 %	± 4.7 %
		Y	0.00	0.00	1.00		166.3		
		Z	0.00	0.00	1.00		126.6		
10352-AAA	Pulse Waveform (200Hz, 10%)	X	2.88	65.68	10.01	10.00	60.0	± 2.2 %	± 9.6 %
		Y	9.68	81.06	17.44		60.0		
		Z	5.25	73.19	14.29		60.0		
10353-AAA	Pulse Waveform (200Hz, 20%)	X	1.41	62.87	7.66	6.99	80.0	± 1.0 %	± 9.6 %
		Y	20.00	89.34	18.65		80.0		
		Z	6.37	76.90	14.44		80.0		
10354-AAA	Pulse Waveform (200Hz, 40%)	X	0.65	61.38	5.89	3.98	95.0	± 0.9 %	± 9.6 %
		Y	20.00	90.14	17.57		95.0		
		Z	20.00	87.65	16.06		95.0		
10355-AAA	Pulse Waveform (200Hz, 60%)	X	0.33	60.74	4.89	2.22	120.0	± 0.9 %	± 9.6 %
		Y	20.00	90.83	16.61		120.0		
		Z	20.00	86.84	14.46		120.0		
10387-AAA	QPSK Waveform, 1 MHz	X	2.03	72.63	17.68	1.00	150.0	± 2.4 %	± 9.6 %
		Y	1.97	69.42	16.99		150.0		
		Z	2.01	69.31	17.07		150.0		
10388-AAA	QPSK Waveform, 10 MHz	X	2.42	71.12	17.57	0.00	150.0	± 1.0 %	± 9.6 %
		Y	2.75	71.90	17.83		150.0		
		Z	2.73	71.64	17.72		150.0		
10396-AAA	64-QAM Waveform, 100 kHz	X	2.80	72.50	19.78	3.01	150.0	± 0.7 %	± 9.6 %
		Y	3.53	74.20	20.64		150.0		
		Z	3.28	72.70	19.83		150.0		
10399-AAA	64-QAM Waveform, 40 MHz	X	3.51	67.95	16.41	0.00	150.0	± 1.4 %	± 9.6 %
		Y	3.70	68.26	16.61		150.0		
		Z	3.77	68.49	16.72		150.0		
10414-AAA	WLAN CCDF, 64-QAM, 40MHz	X	4.70	66.19	15.95	0.00	150.0	± 2.9 %	± 9.6 %
		Y	5.01	66.17	16.04		150.0		
		Z	4.93	65.71	15.81		150.0		

Note: For details on UID parameters see Appendix

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

^B Numerical linearization parameter: uncertainty not required.

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

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Sensor Frequency Model Parameters

	Sensor X	Sensor Y	Sensor Z
Frequency Corr. (LF)	0.05	-0.10	4.77
Frequency Corr. (HF)	2.82	2.82	2.82

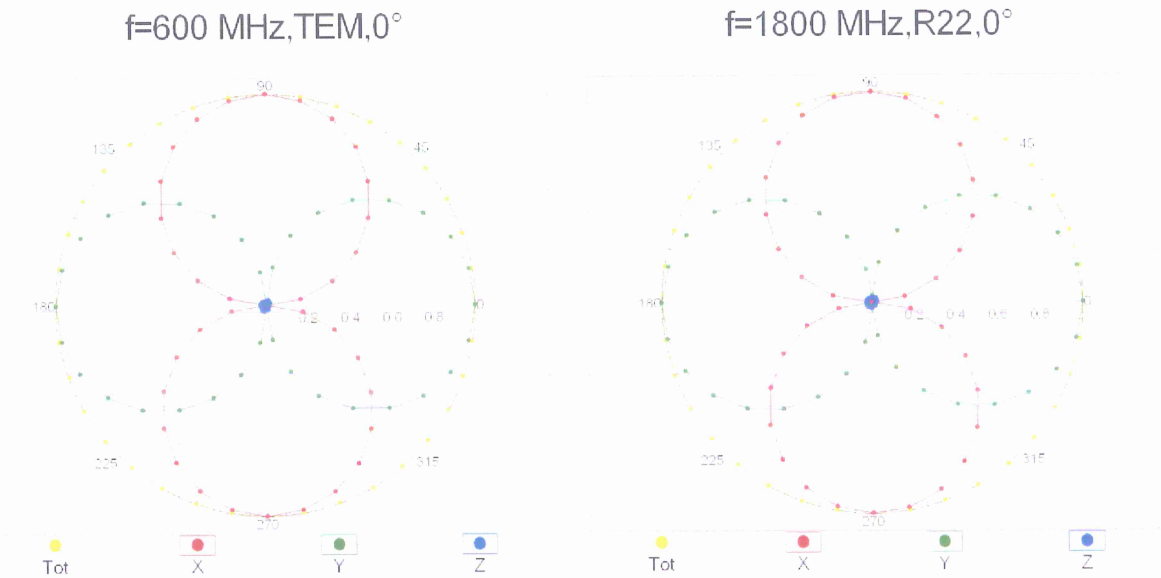
Sensor Model Parameters

	C1 fF	C2 fF	α V^{-1}	T1 $ms.V^{-2}$	T2 $ms.V^{-1}$	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
X	33.7	216.03	35.10	5.37	0.38	4.93	1.51	0.00	1.00
Y	55.3	366.40	37.14	13.68	0.52	5.05	0.92	0.35	1.01
Z	60.0	398.39	37.31	11.56	0.58	5.01	0.51	0.40	1.00

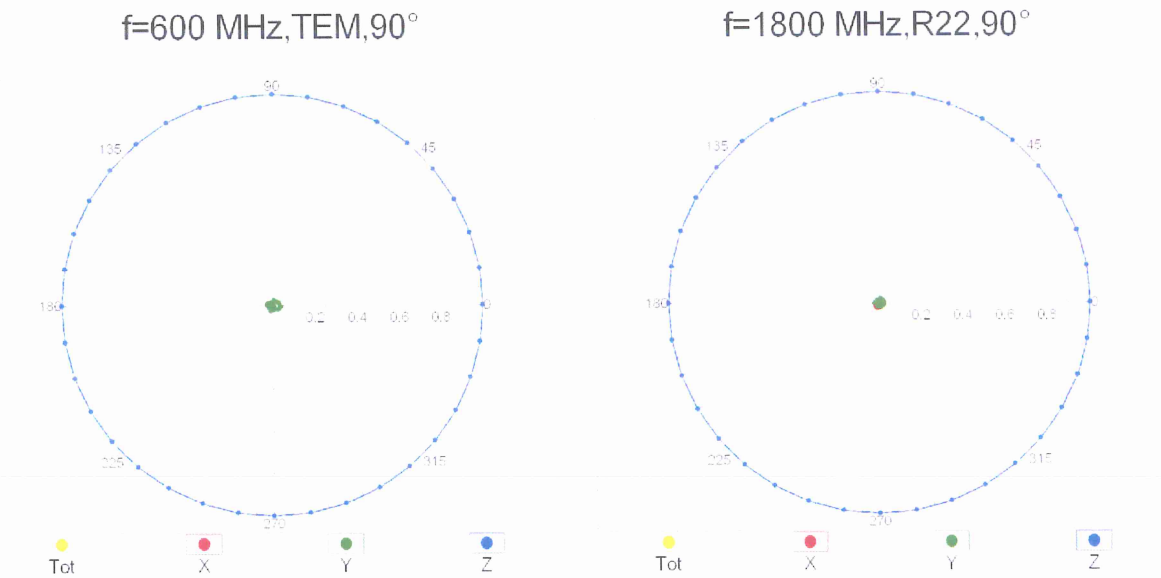
Other Probe Parameters

Sensor Arrangement	Rectangular
Connector Angle (°)	79.5
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	12 mm
Tip Length	25 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	1.5 mm
Probe Tip to Sensor Y Calibration Point	1.5 mm
Probe Tip to Sensor Z Calibration Point	1.5 mm

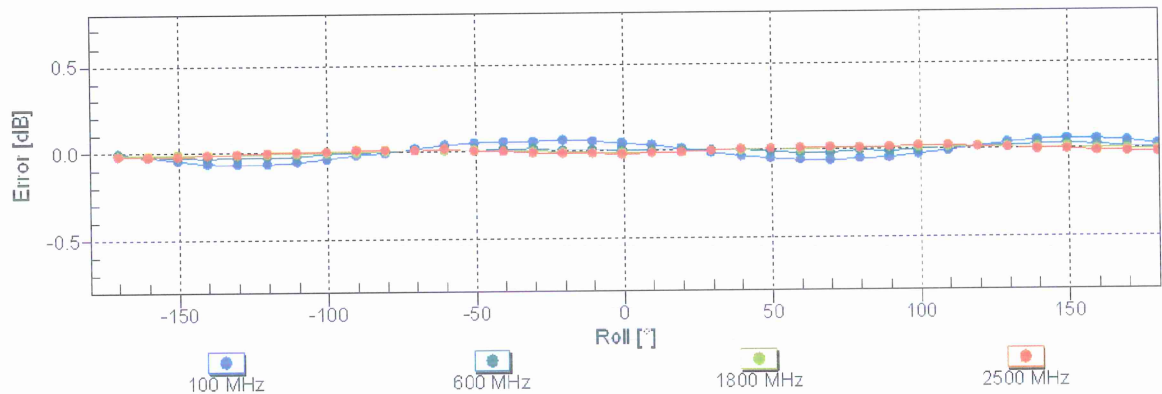
Receiving Pattern (ϕ), $\vartheta = 0^\circ$



Receiving Pattern (ϕ), $\vartheta = 90^\circ$

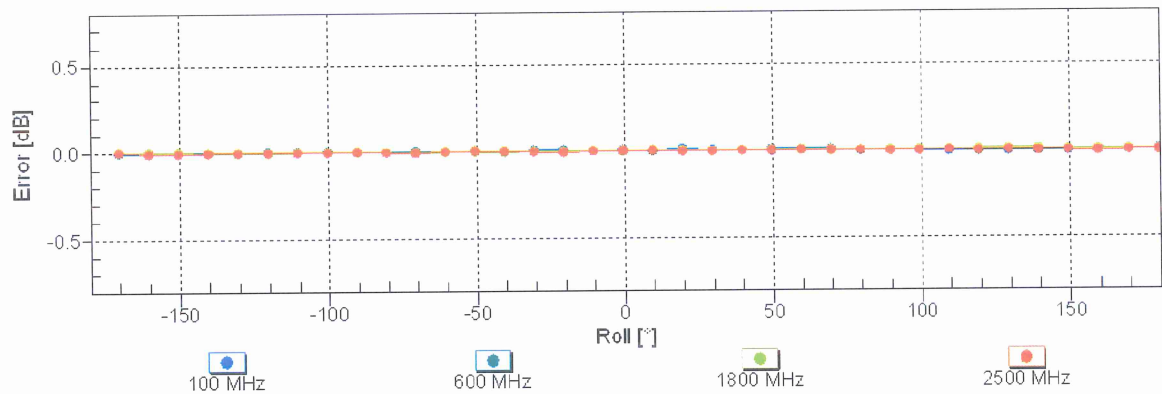


Receiving Pattern (ϕ), $\vartheta = 0^\circ$



Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

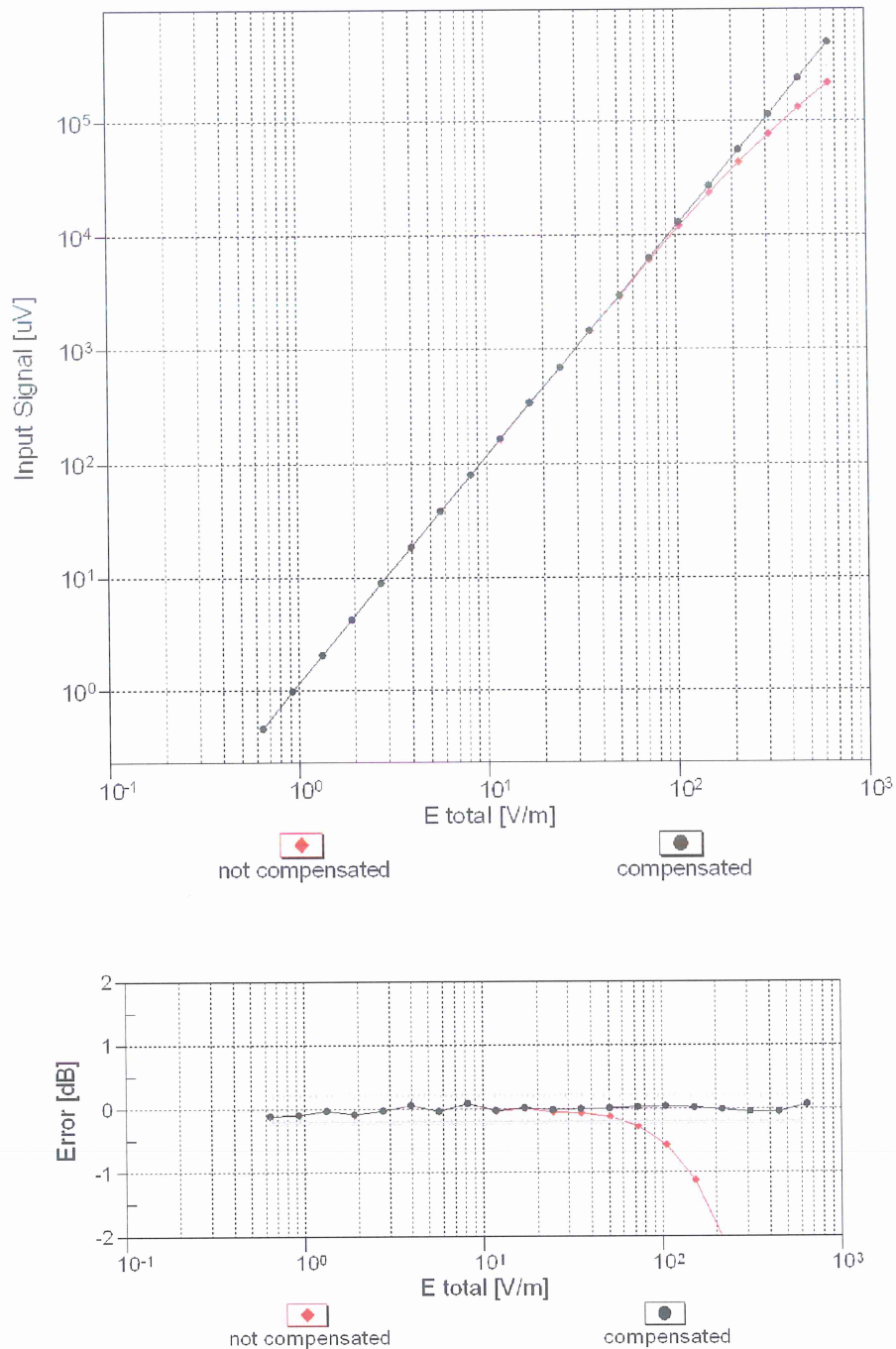
Receiving Pattern (ϕ), $\vartheta = 90^\circ$



Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

Dynamic Range f(E-field)

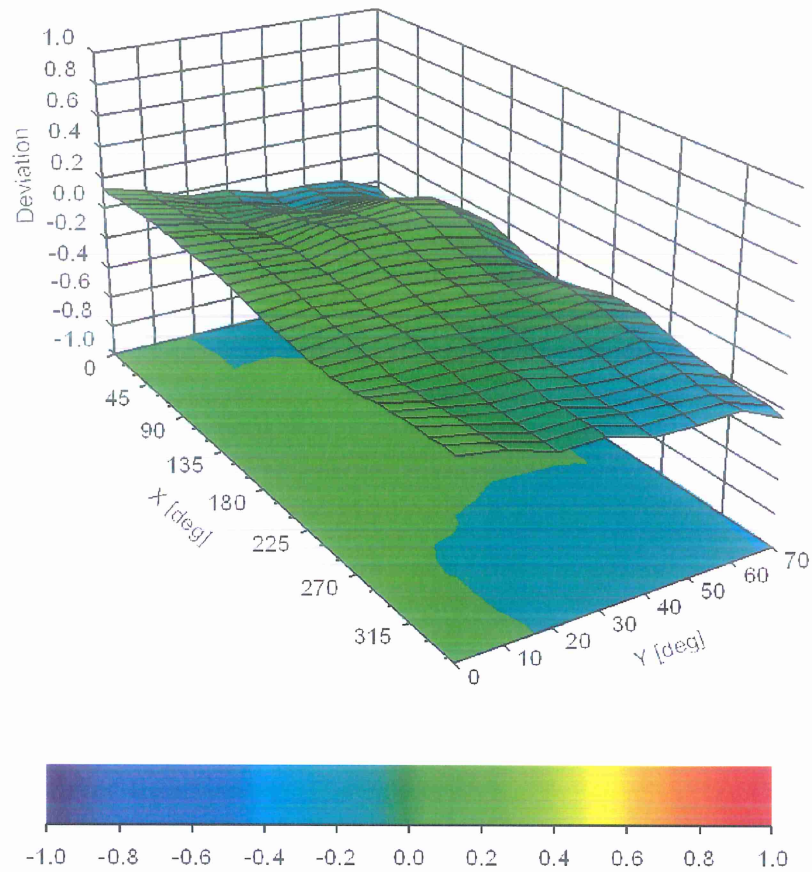
(TEM cell, $f = 900$ MHz)



Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Deviation from Isotropy in Air

Error (ϕ , θ), $f = 900$ MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ ($k=2$)