4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	16059	17241
Channel Y	16174	15934
Channel Z	16438	15805

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec
Input 10MΩ

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	0.80	-0.20	1.81	0.38
Channel Y	-0.87	-2.38	0.78	0.61
Channel Z	-0.59	-1.80	0.66	0.51

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	–0.01	-8	-9

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Accreditation No.: SCS 108

Client **Sporton (Auden)** **Certificate No: DAE4-1279_Jan13**

CALIBRATION CERTIFICATE

Object: DAE4 - SD 000 D04 BJ - SN: 1279

Calibration procedure(s): QA CAL-06.v25
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: January 28, 2013

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
Keithley Multimeter Type 2001	SN: 0810278	02-Oct-12 (No:12728)	Oct-13
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Auto DAE Calibration Unit	SE UWS 053 AA 1001	07-Jan-13 (in house check)	In house check: Jan-14
Calibrator Box V2.1	SE UMS 006 AA 1002	07-Jan-13 (in house check)	In house check: Jan-14

	Name	Function	Signature
Calibrated by:	R.Mayoraz	Technician	
Approved by:	Fin Bomholt	Deputy Technical Manager	

Issued: January 28, 2013

Glossary

DAE	data acquisition electronics
Connector angle	information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- *DC Voltage Measurement:* Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle*: The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
  - *DC Voltage Measurement Linearity:* Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
  - *Common mode sensitivity:* Influence of a positive or negative common mode voltage on the differential measurement.
  - *Channel separation:* Influence of a voltage on the neighbor channels not subject to an input voltage.
  - *AD Converter Values with inputs shorted:* Values on the internal AD converter corresponding to zero input voltage
  - *Input Offset Measurement*: Output voltage and statistical results over a large number of zero voltage measurements.
  - *Input Offset Current:* Typical value for information; Maximum channel input offset current, not considering the input resistance.
  - *Input resistance:* Typical value for information: DAE input resistance at the connector, during internal auto-zeroing and during measurement.
  - *Low Battery Alarm Voltage:* Typical value for information. Below this voltage, a battery alarm signal is generated.
  - *Power consumption:* Typical value for information. Supply currents in various operating modes.

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range:	1LSB =	6.1μV ,	full range =	-100...+300 mV
Low Range:	1LSB =	61nV ,	full range =	-1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	405.158 ± 0.02% (k=2)	404.952 ± 0.02% (k=2)	404.290 ± 0.02% (k=2)
Low Range	3.98094 ± 1.55% (k=2)	3.97626 ± 1.55% (k=2)	4.00118 ± 1.55% (k=2)

Connector Angle

Connector Angle to be used in DASY system	333.5 ° ± 1 °

Appendix

1. DC Voltage Linearity

High Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	199996.47	1.09	0.00
Channel X	+ Input	20003.76	2.93	0.01
Channel X	- Input	-19999.36	0.88	-0.00
Channel Y	+ Input	199994.58	-0.65	-0.00
Channel Y	+ Input	20001.07	0.39	0.00
Channel Y	- Input	-20001.20	-0.68	0.00
Channel Z	+ Input	199998.63	3.51	0.00
Channel Z	+ Input	20002.19	1.53	0.01
Channel Z	- Input	-20001.69	-1.19	0.01

Low Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	2001.94	0.86	0.04
Channel X	+ Input	200.87	-0.55	-0.27
Channel X	- Input	-198.32	0.30	-0.15
Channel Y	+ Input	2001.04	0.08	0.00
Channel Y	+ Input	201.54	0.20	0.10
Channel Y	- Input	-198.41	0.21	-0.10
Channel Z	+ Input	2000.79	-0.09	-0.00
Channel Z	+ Input	200.22	-0.99	-0.49
Channel Z	- Input	-199.65	-0.88	0.44

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	18.03	16.81
	- 200	-15.22	-17.01
Channel Y	200	8.11	8.20
	- 200	-9.46	-9.57
Channel Z	200	-1.17	-1.31
	- 200	-0.74	-0.94

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	2.26	-3.75
Channel Y	200	8.26	-	3.07
Channel Z	200	9.62	5.76	-

4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	15672	15869
Channel Y	16456	16271
Channel Z	15940	17304

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec
Input 10MΩ

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	3.57	2.24	4.78	0.51
Channel Y	-1.43	-3.30	0.43	0.71
Channel Z	0.74	-0.47	2.10	0.53

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	–0.01	-8	-9

EX-001

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Accreditation No.: SCS 108

Client **ATL (Auden)**

Certificate No: ER3-2256_Feb13

CALIBRATION CERTIFICATE

Object: ER3DV6R - SN:2256

Calibration procedure(s): QA CAL-02.v6, QA CAL-25.v4
Calibration procedure for E-field probes optimized for close near field evaluations in air

Calibration date: February 18, 2013

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
Power meter E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ER3DV6	SN: 2328	12-Oct-12 (No. ER3-2328_Oct12)	Oct-13
DAE4	SN: 789	18-Sep-12 (No. DAE4-789_Sep12)	Sep-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: February 20, 2013

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Accreditation No.: SCS 108

Glossary:

NORMx,y,z	sensitivity in free space
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

a) IEEE Std 1309-2005, " IEEE Standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz", December 2005
b) CTIA Test Plan for Hearing Aid Compatibility, April 2010.

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization $\vartheta = 0$ for XY sensors and $\vartheta = 90$ for Z sensor ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart).
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- *PAR:* PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- *Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z*: *A, B, C, D* are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. *VR* is the maximum calibration range expressed in RMS voltage across the diode.
- *Spherical isotropy (3D deviation from isotropy)*: in a locally homogeneous field realized using an open waveguide setup.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- *Connector Angle*: The angle is assessed using the information gained by determining the *NORMx* (no uncertainty required).

Probe ER3DV6R

SN:2256

Manufactured: March 15, 2001
Calibrated: February 18, 2013

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: ER3DV6R - SN:2256

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)	2.18	1.58	1.65	± 10.1 %
DCP (mV)[B]	99.3	100.9	101.0	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	195.6	±3.0 %
		Y	0.0	0.0	1.0		201.7	
		Z	0.0	0.0	1.0		195.2	
10011	UMTS-FDD (WCDMA)	X	3.31	67.2	19.1	2.91	116.4	±0.7 %
		Y	3.26	67.1	19.1		118.8	
		Z	3.24	66.7	18.4		113.6	
10012	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	2.71	67.3	18.5	1.87	118.2	±0.9 %
		Y	2.62	66.6	18.1		121.3	
		Z	2.90	68.5	18.8		115.0	
10021	GSM-FDD (TDMA, GMSK)	X	19.36	99.8	28.8	9.39	116.9	±2.7 %
		Y	21.56	100.0	28.3		125.2	
		Z	14.91	94.3	26.5		115.0	
10039	CDMA2000 (1xRTT, RC1)	X	4.88	67.0	19.5	4.57	117.5	±0.9 %
		Y	4.80	66.8	19.4		118.8	
		Z	4.86	67.3	19.3		149.6	
10081	CDMA2000 (1xRTT, RC3)	X	3.92	65.8	18.7	3.97	115.1	±0.7 %
		Y	3.93	66.2	18.9		116.7	
		Z	4.01	66.6	18.7		147.8	
10148	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	6.75	68.8	21.1	5.84	129.0	±2.5 %
		Y	6.70	68.5	20.8		131.9	
		Z	6.22	66.6	19.4		119.9	
10154	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	6.38	68.3	20.9	5.76	126.9	±2.2 %
		Y	6.24	67.7	20.4		128.5	
		Z	5.82	66.0	19.1		117.2	
10156	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	6.13	67.8	20.7	5.79	124.6	±1.9 %
		Y	6.03	67.4	20.3		125.7	
		Z	5.65	65.9	19.2		114.8	
10160	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	6.63	67.8	20.3	5.82	132.3	±1.4 %
		Y	6.66	68.1	20.5		133.1	
		Z	6.27	66.7	19.4		122.7	
10163	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	6.00	67.8	20.6	5.68	123.3	±1.9 %
		Y	5.84	67.1	20.1		124.2	
		Z	5.50	65.9	19.1		114.4	
10166	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	5.30	67.0	20.1	5.46	116.8	±1.7 %
		Y	5.13	66.3	19.6		117.7	
		Z	4.90	65.4	18.8		109.8	

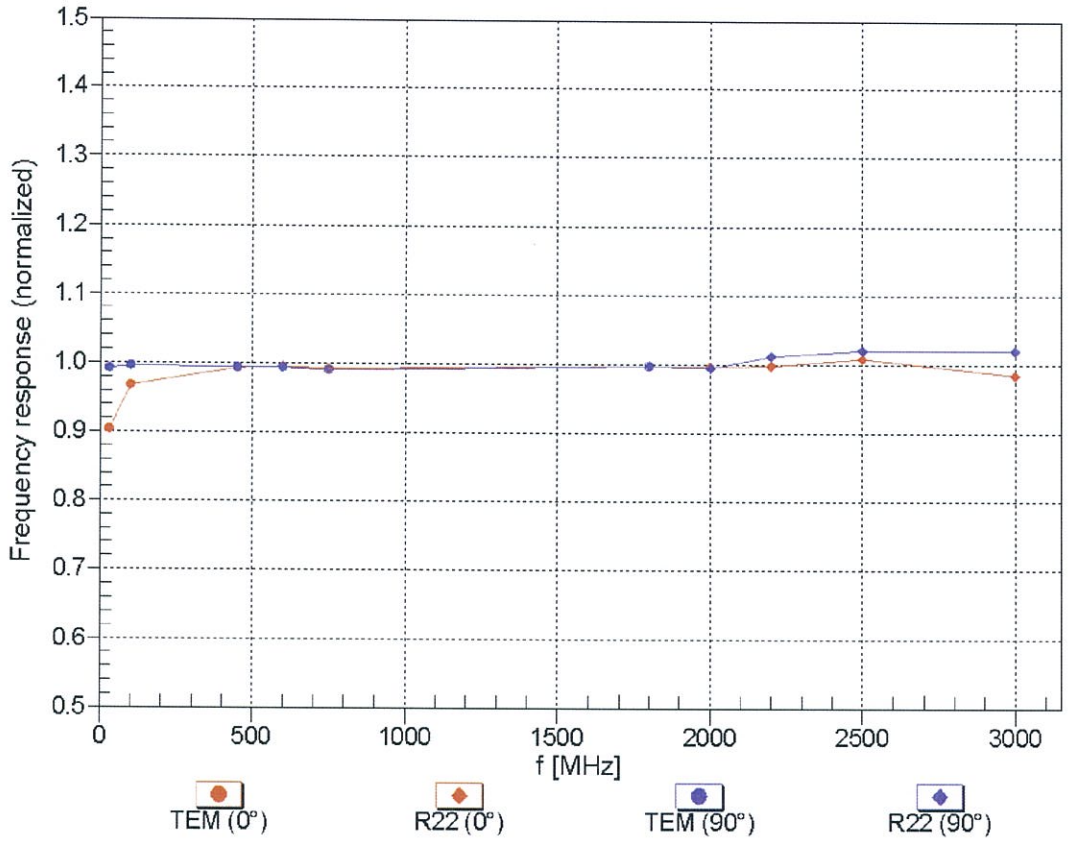
10169	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	5.26	67.4	20.5	5.73	112.2	±1.7 %
		Y	5.15	67.1	20.3		113.3	
		Z	5.28	67.8	20.4		146.7	
10175	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	5.25	67.3	20.4	5.73	112.0	±1.7 %
		Y	5.14	67.0	20.2		112.7	
		Z	5.25	67.6	20.3		146.9	
10177	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	5.24	67.3	20.5	5.73	111.7	±1.7 %
		Y	5.12	66.9	20.1		112.9	
		Z	5.24	67.6	20.3		147.2	
10181	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	5.25	67.3	20.4	5.73	112.0	±1.7 %
		Y	5.13	66.9	20.2		113.3	
		Z	5.26	67.7	20.3		147.7	
10184	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	5.27	67.5	20.6	5.73	111.7	±1.9 %
		Y	5.15	67.0	20.2		113.4	
		Z	5.30	67.8	20.4		147.8	
10187	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	5.23	67.2	20.4	5.73	112.2	±1.7 %
		Y	5.18	67.1	20.3		113.7	
		Z	5.25	67.6	20.2		146.9	
10276	CDMA2000 (1xRTT, RC1, 1/8 Rate)	X	10.59	82.0	32.6	12.97	51.5	±1.9 %
		Y	11.54	84.4	33.5		53.4	
		Z	10.08	80.8	31.3		48.6	

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.

Frequency Response of E-Field

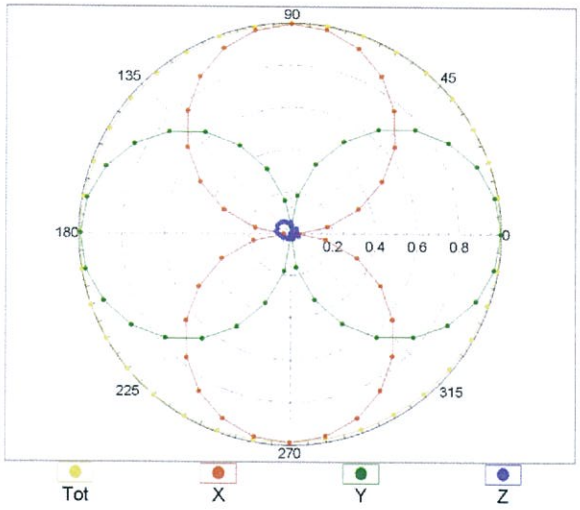
(TEM-Cell:ifi110 EXX, Waveguide: R22)



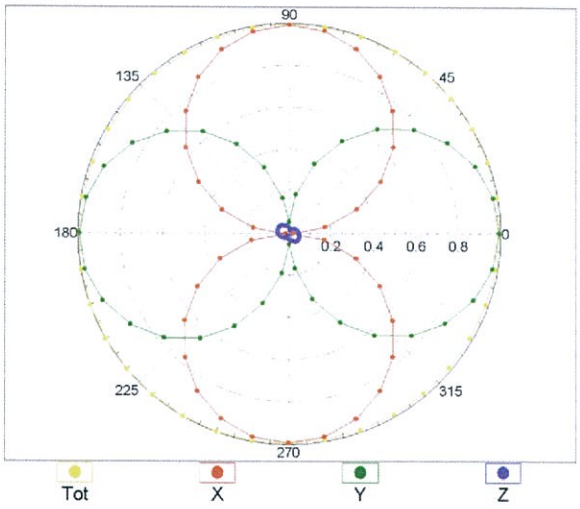
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM,0°

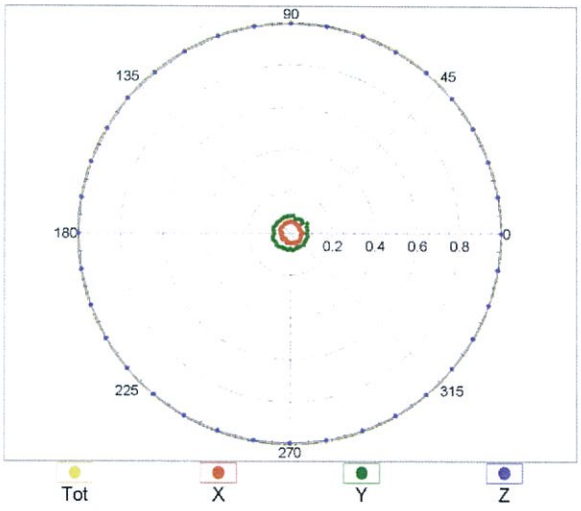


f=2500 MHz,R22,0°

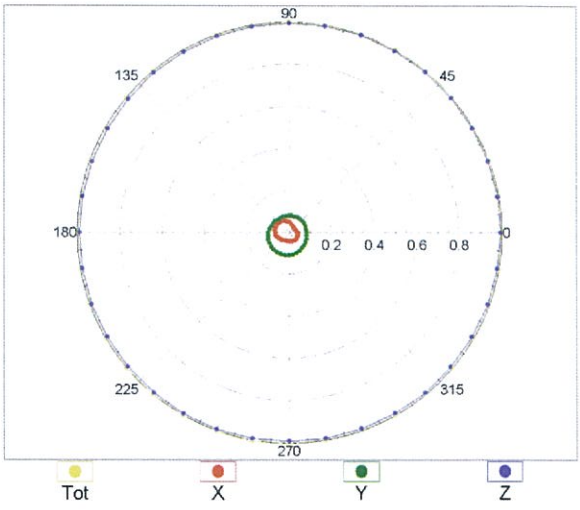


Receiving Pattern (ϕ), ϑ = 90°

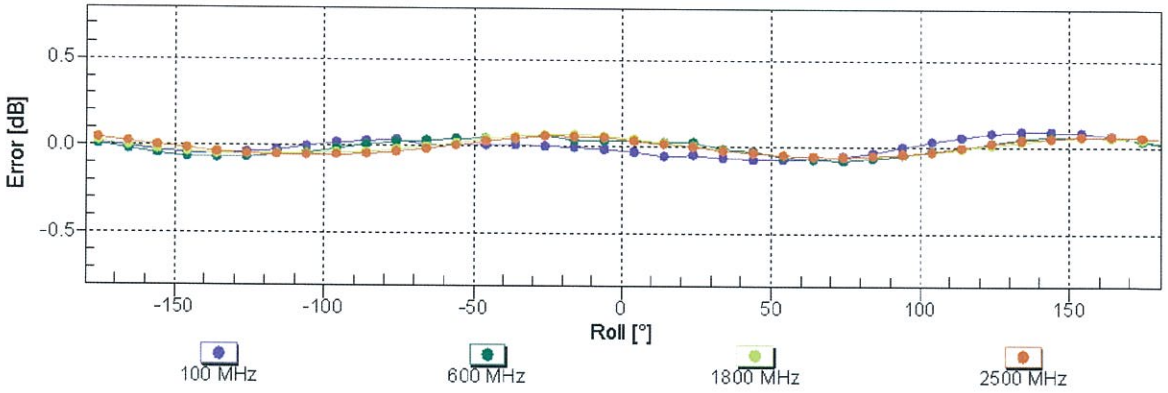
f=600 MHz,TEM,90°



f=2500 MHz,R22,90°

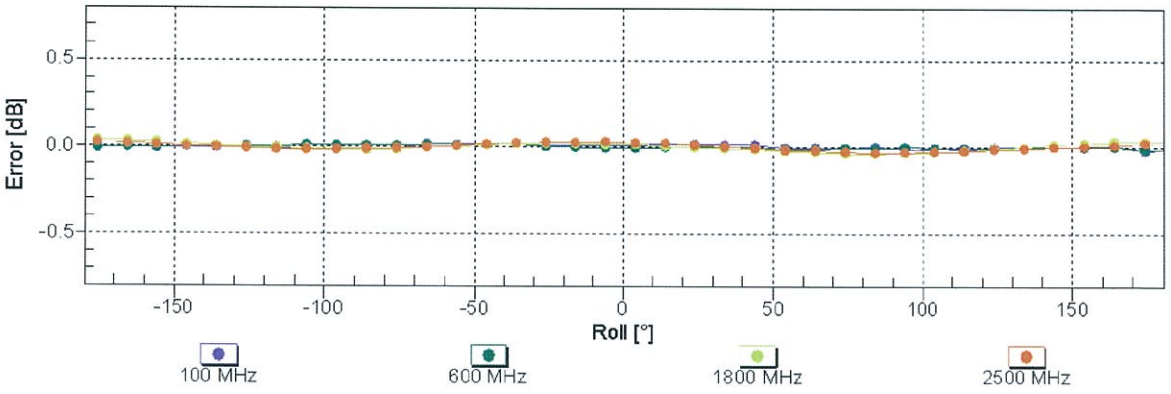


Receiving Pattern (ϕ), ϑ = 0°



Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

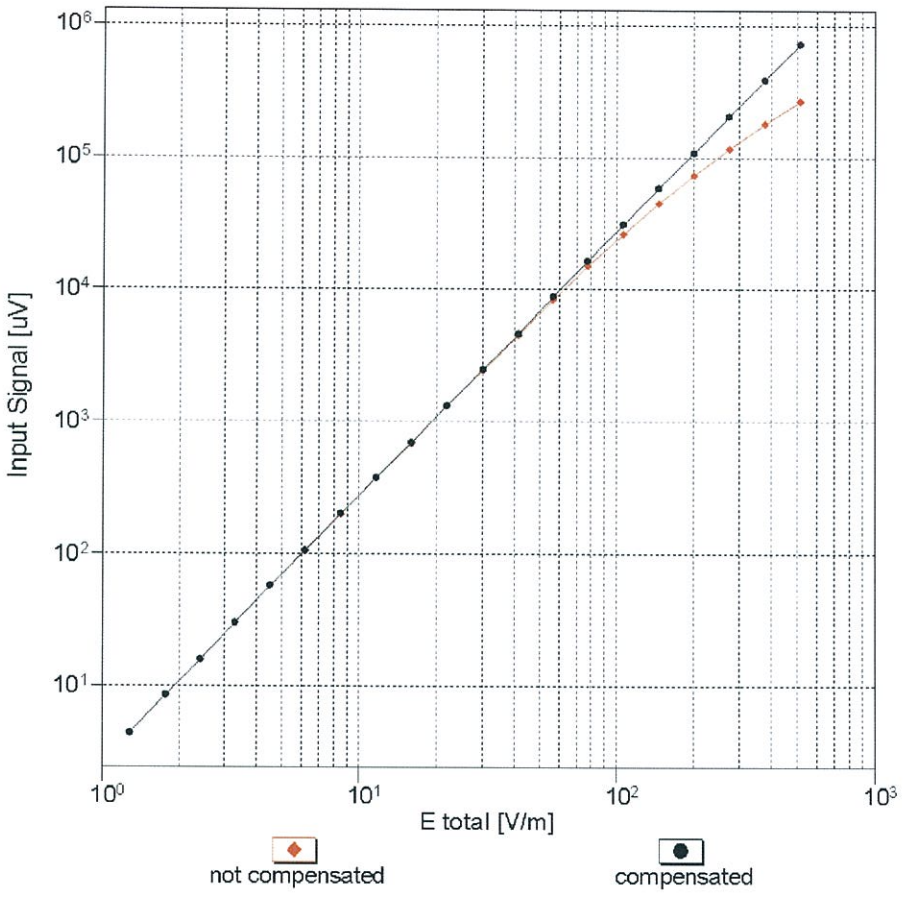
Receiving Pattern (ϕ), ϑ = 90°

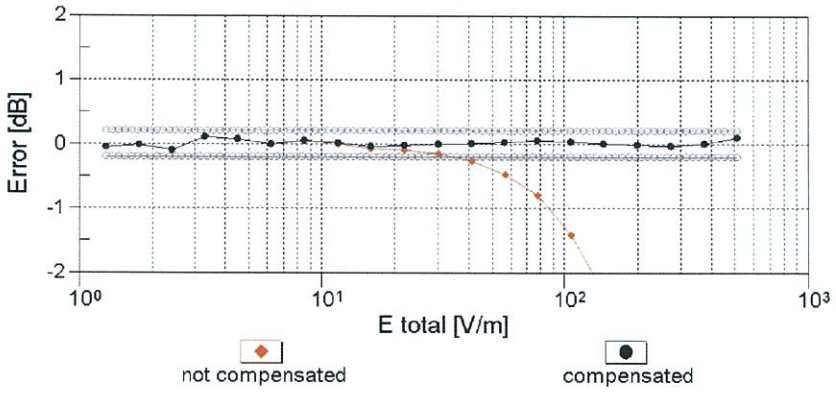


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(E-field)

(TEM cell , f = 900 MHz)

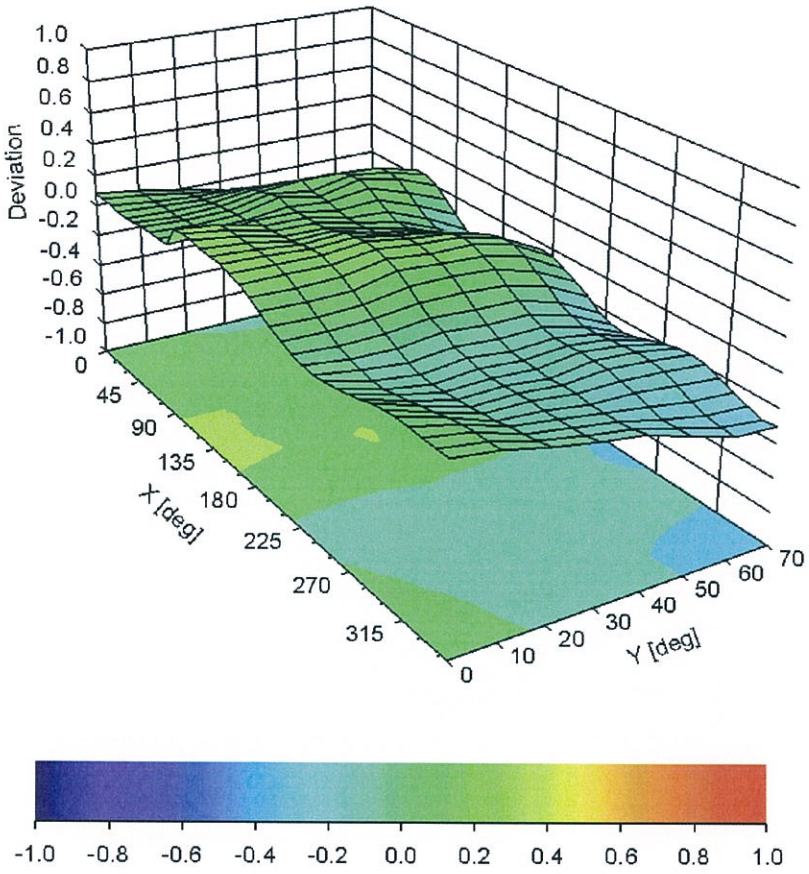




Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Deviation from Isotropy in Air

Error (ϕ, ϑ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

DASY/EASY - Parameters of Probe: ER3DV6R - SN:2256

Other Probe Parameters

Sensor Arrangement	Rectangular
Connector Angle (°)	-65.9
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	8 mm
Probe Tip to Sensor X Calibration Point	2.5 mm
Probe Tip to Sensor Y Calibration Point	2.5 mm
Probe Tip to Sensor Z Calibration Point	2.5 mm

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Accreditation No.: **SCS 108**

Client **Sporton-TW (Auden)**

Certificate No: ER3-2358_Jan14

CALIBRATION CERTIFICATE

Object	ER3DV6 - SN:2358
Calibration procedure(s)	QA CAL-02.v8, QA CAL-25.v6 Calibration procedure for E-field probes optimized for close near field evaluations in air
Calibration date:	January 30, 2014

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
Power meter E4419B	GB41293874	04-Apr-13 (No. 217-01733)	Apr-14
Power sensor E4412A	MY41498087	04-Apr-13 (No. 217-01733)	Apr-14
Reference 3 dB Attenuator	SN: S5054 (3c)	04-Apr-13 (No. 217-01737)	Apr-14
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-13 (No. 217-01735)	Apr-14
Reference 30 dB Attenuator	SN: S5129 (30b)	04-Apr-13 (No. 217-01738)	Apr-14
Reference Probe ER3DV6	SN: 2328	10-Oct-13 (No. ER3-2328_Oct13)	Oct-14
DAE4	SN: 789	15-May-13 (No. DAE4-789_May13)	May-14
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-13)	In house check: Apr-16
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-13)	In house check: Oct-14

	Name	Function	Signature
Calibrated by:	Israe El-Naouq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 31, 2014

Glossary:

NORMx,y,z	sensitivity in free space
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., ϑ = 0 is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

a) IEEE Std 1309-2005, " IEEE Standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz", December 2005
b) CTIA Test Plan for Hearing Aid Compatibility, April 2010.

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 for XY sensors and ϑ = 90 for Z sensor (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart).
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- *PAR:* PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- *Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z: A, B, C, D* are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. *VR* is the maximum calibration range expressed in RMS voltage across the diode.
- *Spherical isotropy (3D deviation from isotropy)*: in a locally homogeneous field realized using an open waveguide setup.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- *Connector Angle*: The angle is assessed using the information gained by determining the *NORMx* (no uncertainty required).

Probe ER3DV6

SN:2358

Manufactured: July 7, 2005
Calibrated: January 30, 2014

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: ER3DV6 - SN:2358

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)	1.71	1.56	1.59	± 10.1 %
DCP (mV)[B]	99.7	97.5	100.6	

Modulation Calibration Parameters

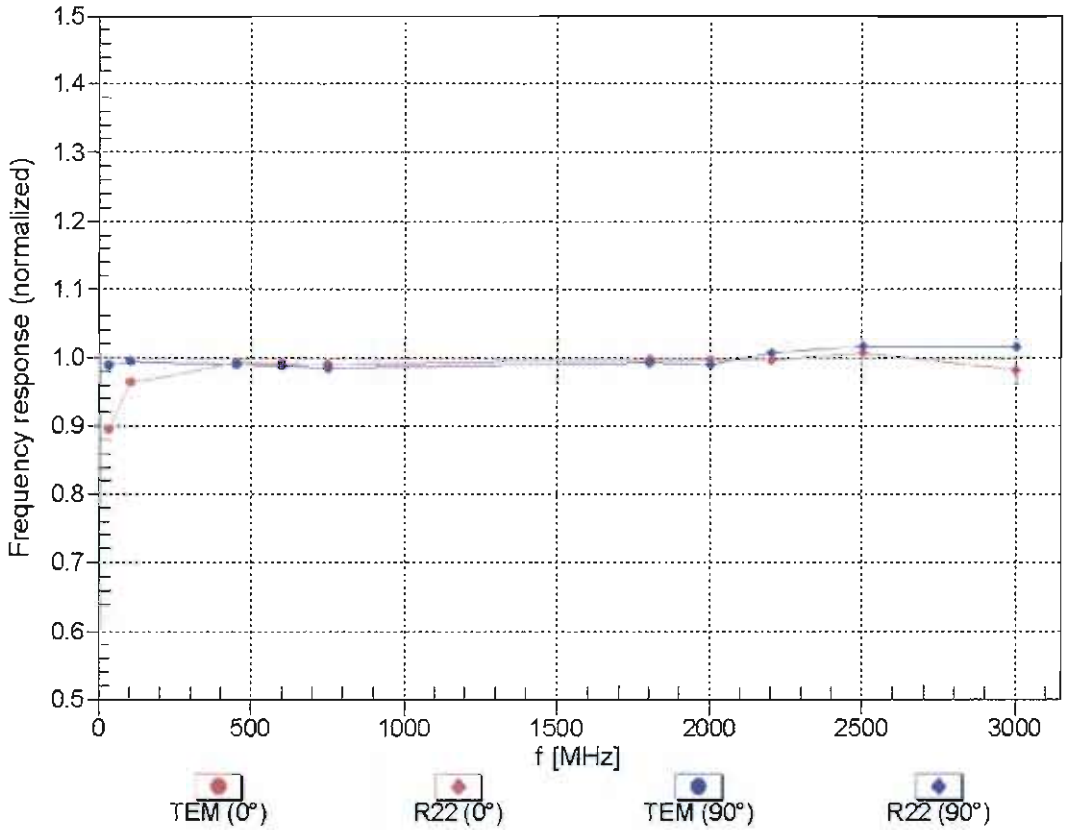
UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	168.1	±3.0 %
		Y	0.0	0.0	1.0		200.1	
		Z	0.0	0.0	1.0		184.6	
10011-CAA	UMTS-FDD (WCDMA)	X	3.53	68.7	20.5	2.91	136.6	±1.4 %
		Y	3.10	65.5	17.7		117.9	
		Z	3.14	66.0	17.8		146.0	
10012-CAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	3.23	70.8	21.0	1.87	139.8	±1.9 %
		Y	2.54	65.4	16.9		120.4	
		Z	2.91	68.2	18.1		149.4	
10021-DAA	GSM-FDD (TDMA, GMSK)	X	19.71	100.0	29.4	9.39	146.3	±2.5 %
		Y	19.96	99.5	28.9		125.1	
		Z	15.19	92.3	26.2		116.4	
10039-CAA	CDMA2000 (1xRTT, RC1)	X	5.11	68.2	20.6	4.57	139.6	±1.2 %
		Y	4.72	66.1	18.7		119.6	
		Z	4.71	66.7	18.9		145.4	
10081-CAA	CDMA2000 (1xRTT, RC3)	X	4.19	67.5	20.3	3.97	134.7	±0.9 %
		Y	3.75	64.7	17.8		116.1	
		Z	3.80	65.5	18.0		141.0	
10100-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	6.55	68.2	20.9	5.67	109.0	±2.2 %
		Y	6.59	68.1	20.3		131.5	
		Z	6.11	66.4	19.1		115.1	
10108-CAB	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	6.43	67.6	20.7	5.80	107.9	±2.2 %
		Y	6.47	67.7	20.2		130.0	
		Z	5.95	65.9	18.9		113.7	
10154-CAB	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	6.42	68.5	21.0	5.75	146.8	±2.2 %
		Y	6.17	67.2	20.0		128.5	
		Z	5.71	65.6	18.9		113.3	
10169-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	5.28	67.7	20.8	5.73	130.5	±1.9 %
		Y	5.05	66.3	19.7		114.0	
		Z	5.13	66.9	19.7		142.0	
10175-CAB	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	5.32	68.0	21.0	5.72	130.2	±1.9 %
		Y	5.04	66.2	19.6		114.0	
		Z	5.13	66.9	19.8		140.9	

10235-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	8.41	77.6	28.7	9.48	106.5	±2.2 %
		Y	10.27	83.5	31.4		133.7	
		Z	9.30	79.1	28.3		121.3	
10237-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	8.21	77.7	28.8	9.21	107.1	±2.2 %
		Y	10.03	83.6	31.5		133.5	
		Z	8.75	77.9	27.7		122.0	
10295-AAA	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	15.69	99.1	41.0	12.49	87.2	±2.5 %
		Y	16.45	99.6	40.7		110.9	
		Z	15.67	95.3	37.5		103.4	
10297-AAA	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	6.37	67.5	20.4	5.81	107.1	±2.2 %
		Y	6.49	67.7	20.2		131.1	
		Z	6.06	66.3	19.2		116.4	

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.

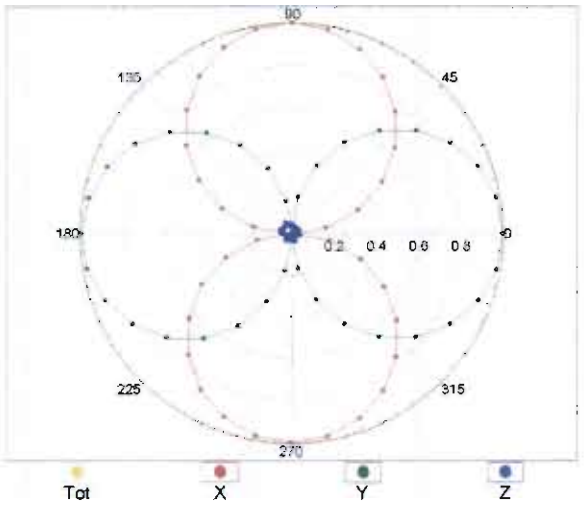
Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)



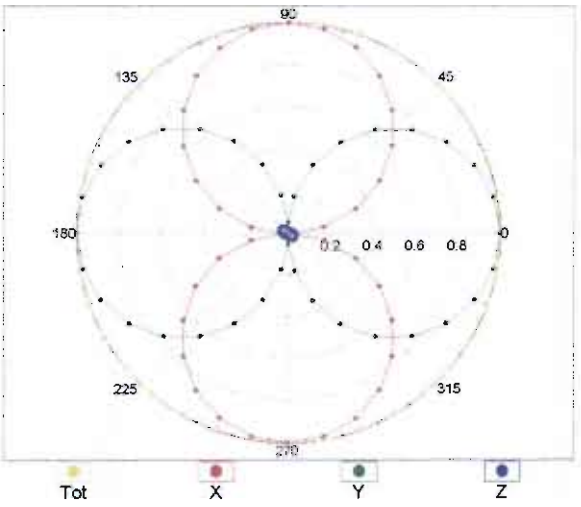
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM,0°

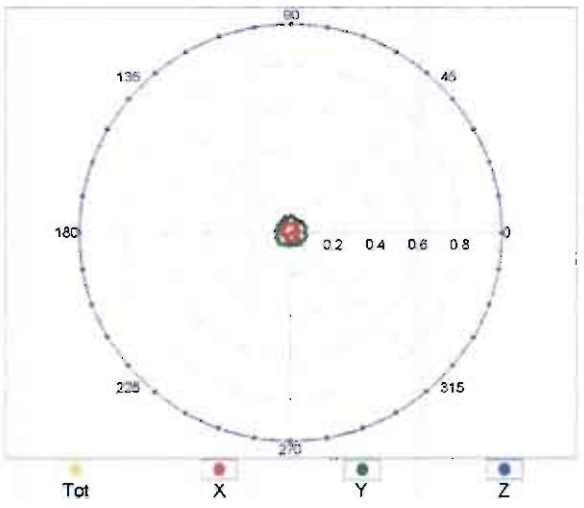


f=2500 MHz,R22,0°

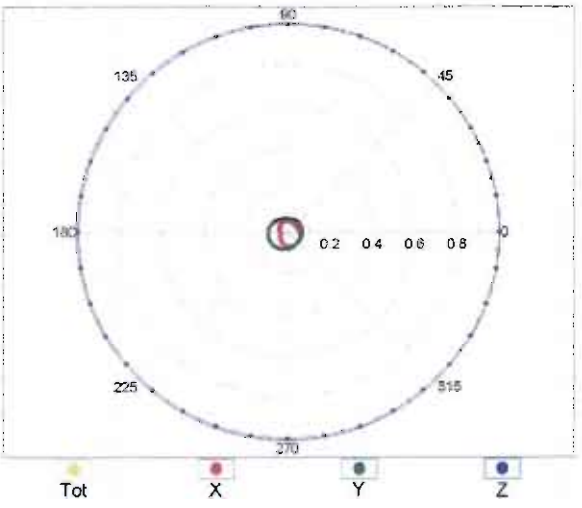


Receiving Pattern (ϕ), ϑ = 90°

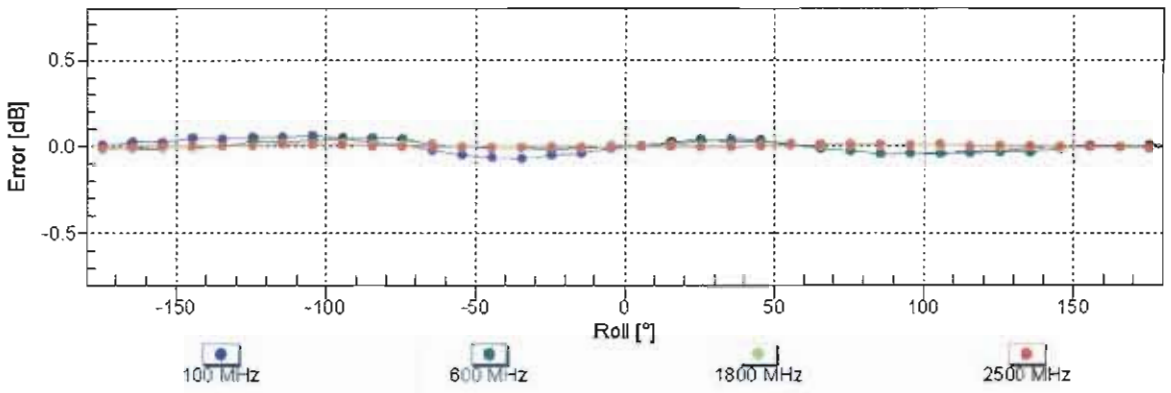
f=600 MHz,TEM,90°



f=2500 MHz,R22,90°

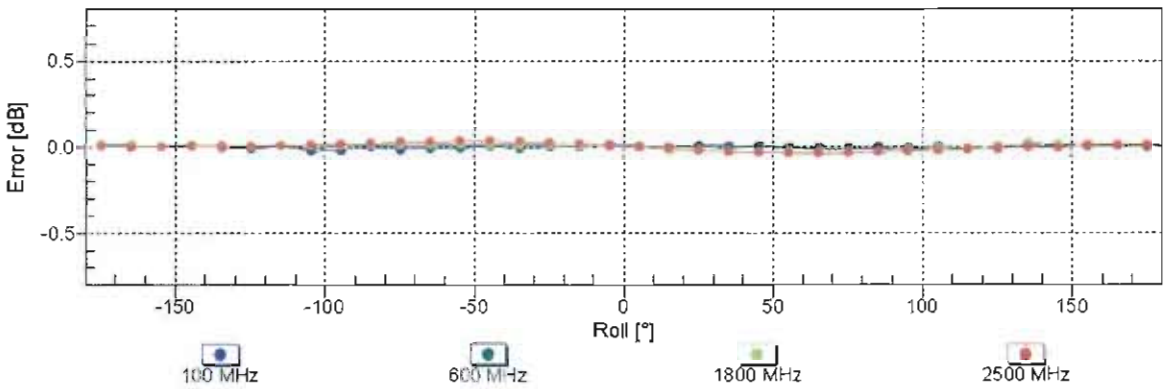


Receiving Pattern (ϕ), ϑ = 0°



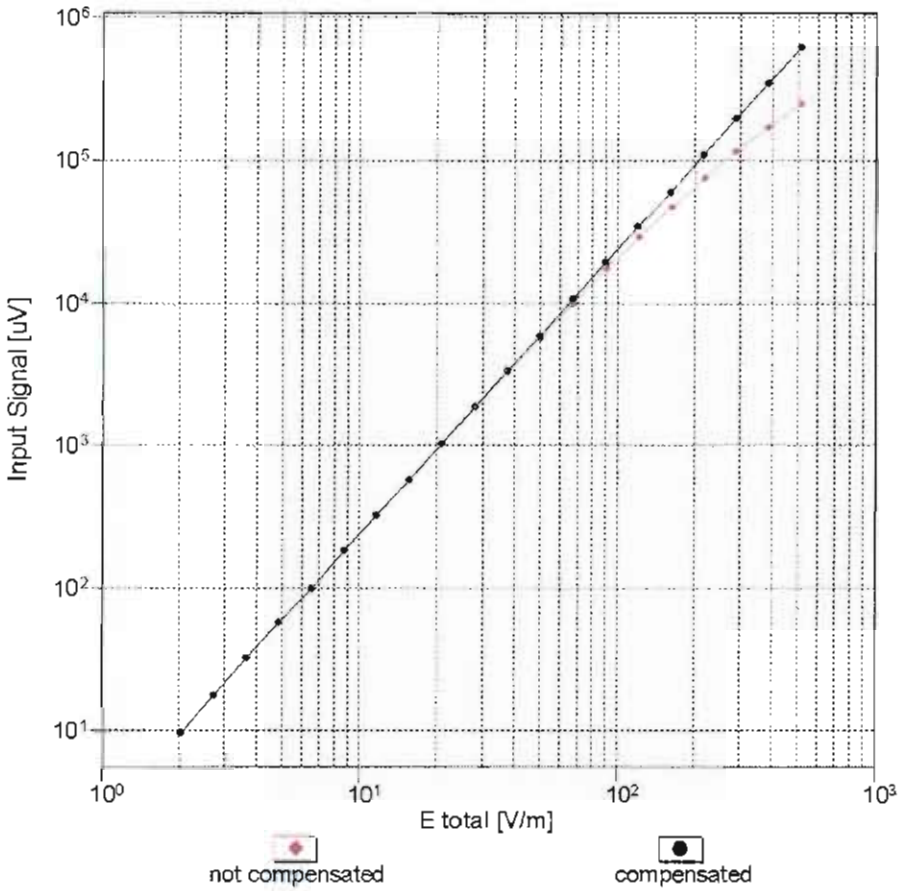
Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

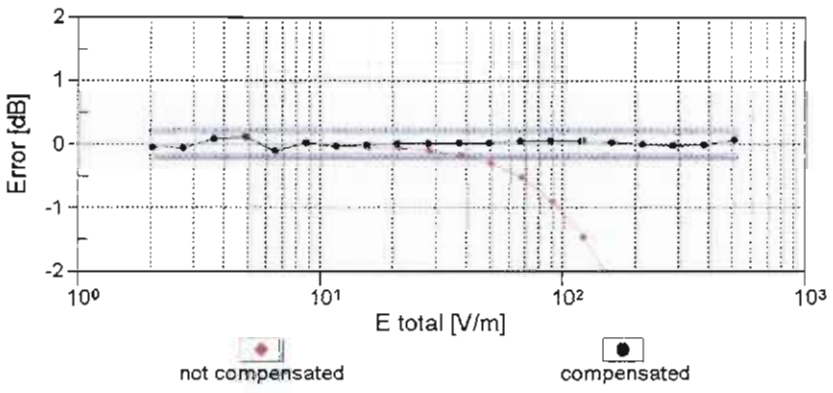
Receiving Pattern (ϕ), ϑ = 90°



Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(E-field)
(TEM cell , f = 900 MHz)

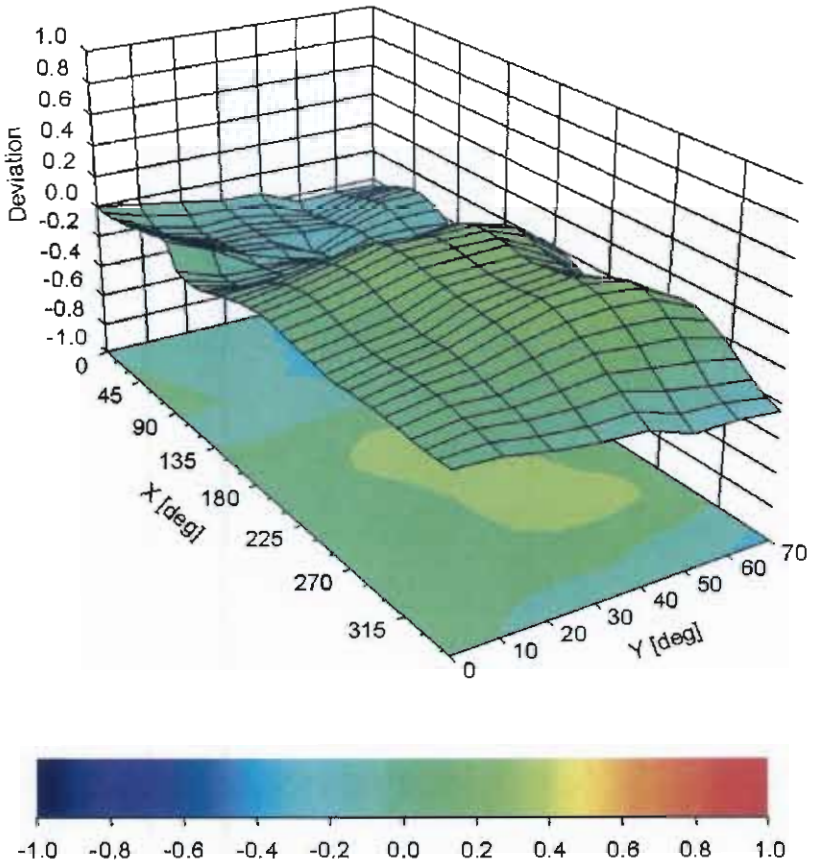




Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Deviation from Isotropy in Air

Error (ϕ, ϑ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

DASY/EASY - Parameters of Probe: ER3DV6 - SN:2358

Other Probe Parameters

Sensor Arrangement	Rectangular
Connector Angle (°)	-64.5
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	8 mm
Probe Tip to Sensor X Calibration Point	2.5 mm
Probe Tip to Sensor Y Calibration Point	2.5 mm
Probe Tip to Sensor Z Calibration Point	2.5 mm