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Accreditation No.: SCS 0108

Client **PC Test**

Certificate No: ES3-3287_Sep16

CALIBRATION CERTIFICATE

Object	ES3DV3 - SN:3287
Calibration procedure(s)	QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	September 19, 2016

BN✓
09-28-2016

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 NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: S5277 (20x)	05-Apr-16 (No. 217-02293)	Apr-17
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Leif Klysner	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: September 20, 2016

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

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *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.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *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 ES3DV3

SN:3287

Manufactured: June 7, 2010
Calibrated: September 19, 2016

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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3287

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (μV/(V/m)^2)[A]	0.87	0.98	1.00	± 10.1 %
DCP (mV)[B]	101.9	101.4	106.1	

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	198.4	±3.5 %
		Y	0.0	0.0	1.0		189.6	
		Z	0.0	0.0	1.0		184.8	

Note: For details on UID parameters see Appendix.

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	65.67	459.4	34.07	29.08	2.68	5.077	2	0.308	1.009
Y	71.46	511.8	35.31	29.86	3.707	5.1	0.748	0.607	1.009
Z	50.48	357.3	34.55	27.84	2.262	5.1	1.583	0.279	1.01

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%.

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[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.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3287

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	41.9	0.89	6.96	6.96	6.96	0.44	1.36	± 12.0 %
835	41.5	0.90	6.67	6.67	6.67	0.29	1.69	± 12.0 %
1750	40.1	1.37	5.49	5.49	5.49	0.43	1.42	± 12.0 %
1900	40.0	1.40	5.27	5.27	5.27	0.41	1.45	± 12.0 %
2300	39.5	1.67	4.86	4.86	4.86	0.61	1.28	± 12.0 %
2450	39.2	1.80	4.54	4.54	4.54	0.47	1.51	± 12.0 %
2600	39.0	1.96	4.41	4.41	4.41	0.77	1.18	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3287

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	6.64	6.64	6.64	0.27	1.86	± 12.0 %
835	55.2	0.97	6.55	6.55	6.55	0.50	1.37	± 12.0 %
1750	53.4	1.49	5.11	5.11	5.11	0.33	1.85	± 12.0 %
1900	53.3	1.52	4.94	4.94	4.94	0.42	1.59	± 12.0 %
2300	52.9	1.81	4.55	4.55	4.55	0.55	1.42	± 12.0 %
2450	52.7	1.95	4.35	4.35	4.35	0.80	1.09	± 12.0 %
2600	52.5	2.16	4.12	4.12	4.12	0.80	1.10	± 12.0 %

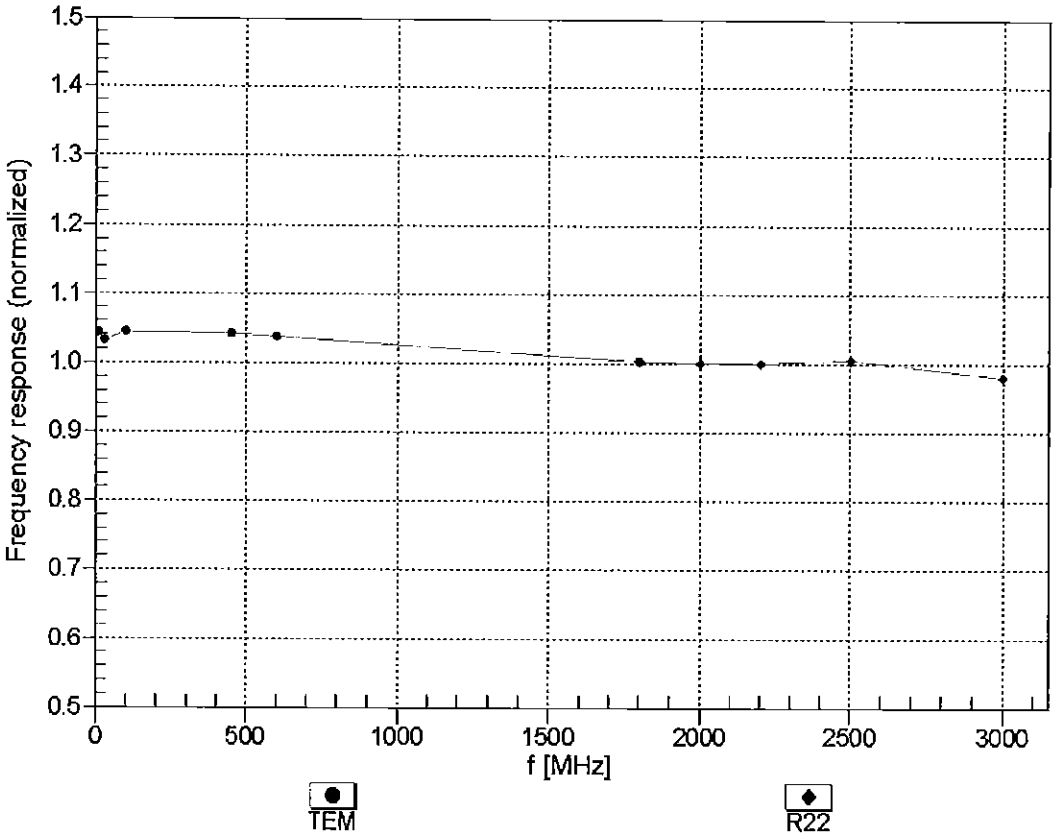
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

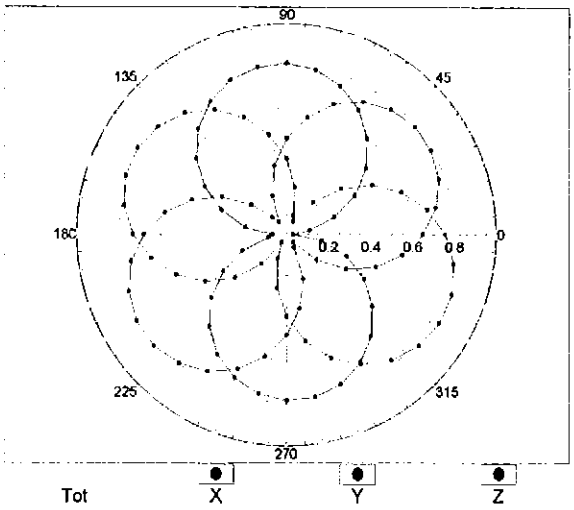
(TEM-Cell:ifi110 EXX, Waveguide: R22)



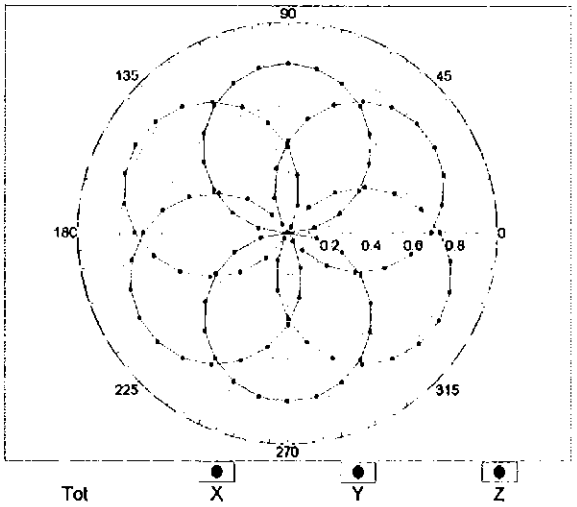
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

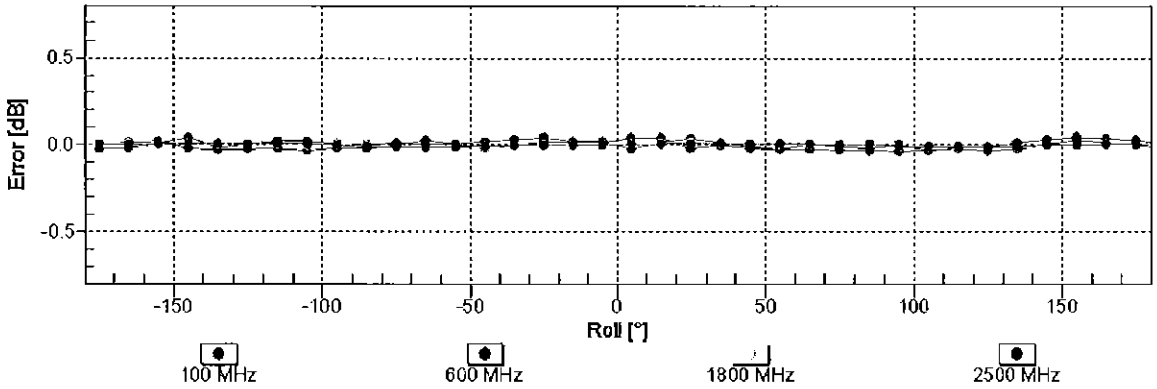
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

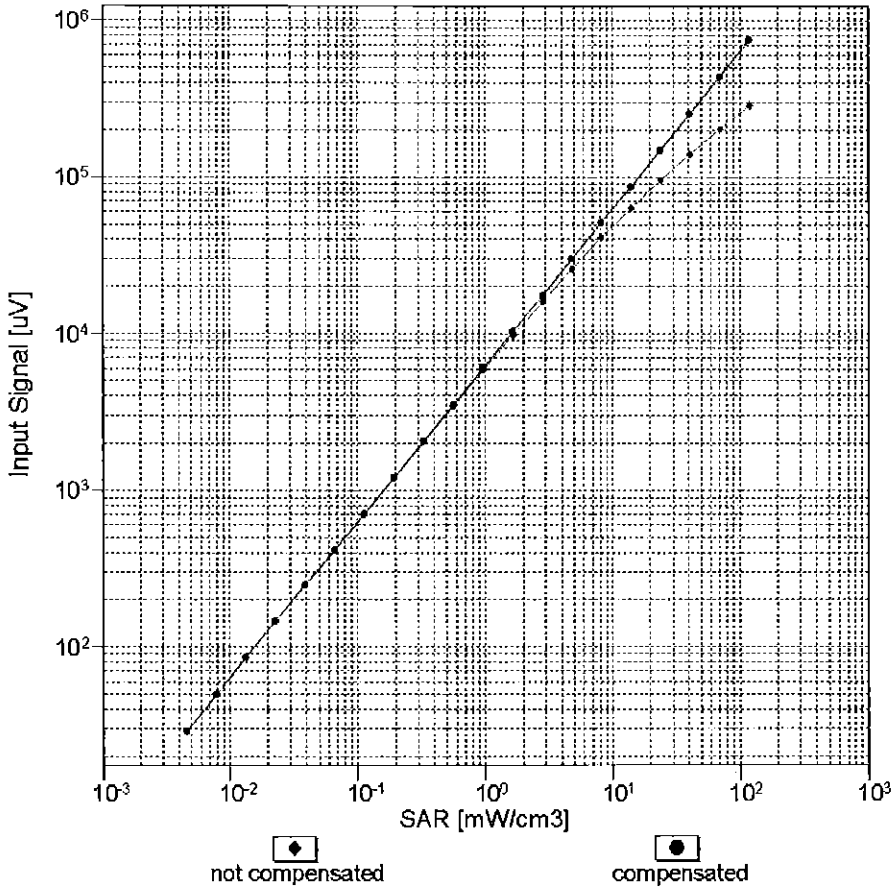


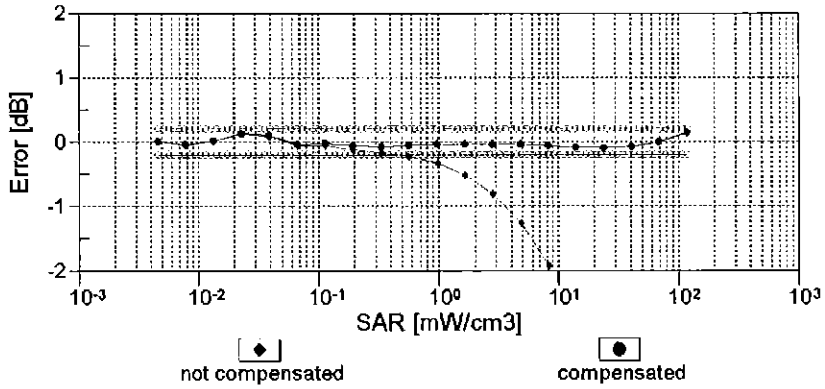


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})

(TEM cell , f_{eval}= 1900 MHz)

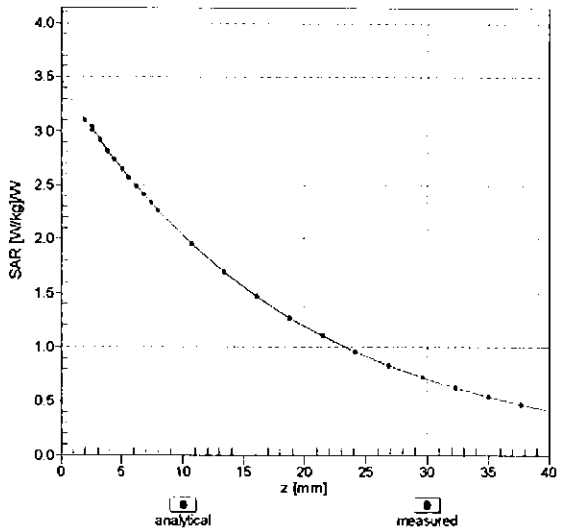




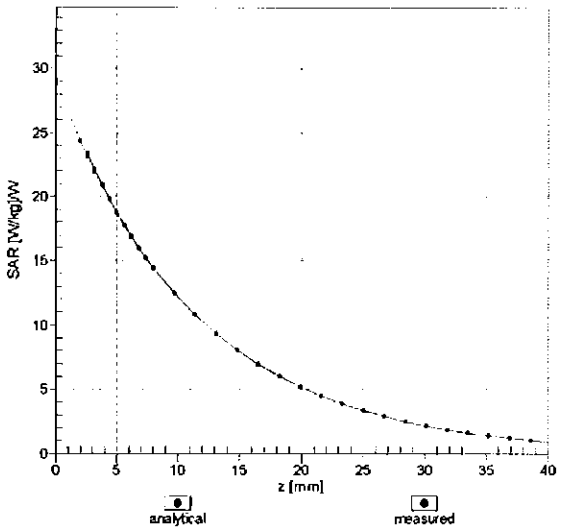
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

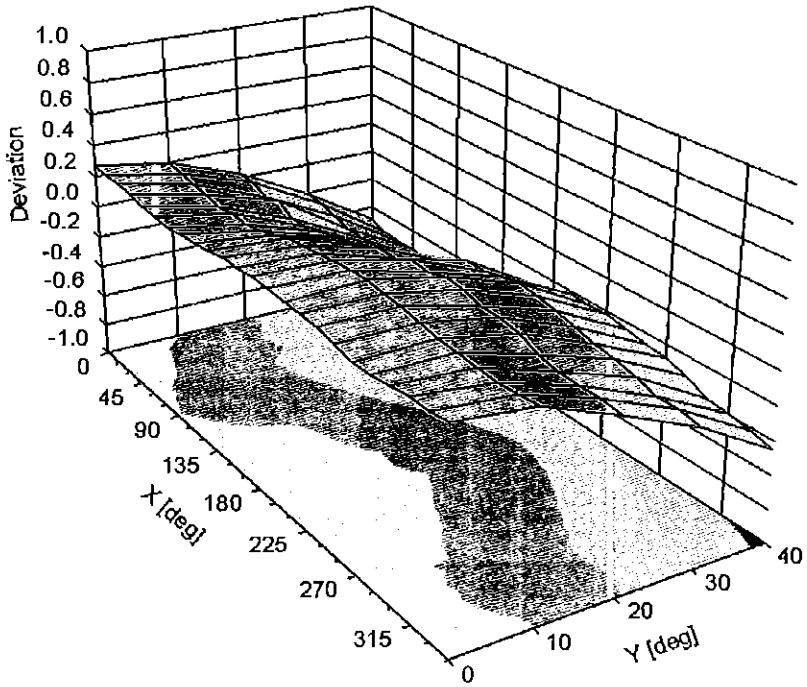


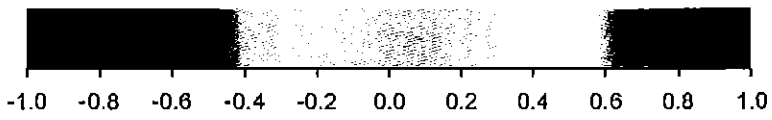
f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3287

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	84.9
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	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Max Unc[E] (k=2)
0	CW	X	0.00	0.00	1.00	0.00	198.4	± 3.5 %
		Y	0.00	0.00	1.00		189.6	
		Z	0.00	0.00	1.00		184.8	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	9.57	81.27	19.66	10.00	25.0	± 9.6 %
		Y	9.48	81.17	20.59		25.0	
		Z	11.44	84.72	20.81		25.0	
10011-CAB	UMTS-FDD (WCDMA)	X	1.41	73.12	18.60	0.00	150.0	± 9.6 %
		Y	1.09	67.36	15.29		150.0	
		Z	1.04	67.24	15.12		150.0	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.39	66.79	17.15	0.41	150.0	± 9.6 %
		Y	1.33	64.98	15.75		150.0	
		Z	1.31	64.97	15.66		150.0	
10013-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	X	5.20	67.40	17.54	1.46	150.0	± 9.6 %
		Y	5.27	67.18	17.41		150.0	
		Z	5.09	67.33	17.40		150.0	
10021-DAB	GSM-FDD (TDMA, GMSK)	X	25.12	98.64	27.15	9.39	50.0	± 9.6 %
		Y	16.05	91.61	25.96		50.0	
		Z	54.58	112.47	31.02		50.0	
10023-DAB	GPRS-FDD (TDMA, GMSK, TN 0)	X	21.90	96.28	26.48	9.57	50.0	± 9.6 %
		Y	15.04	90.31	25.57		50.0	
		Z	40.95	107.64	29.77		50.0	
10024-DAB	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00	118.44	30.60	6.56	60.0	± 9.6 %
		Y	56.85	112.42	30.28		60.0	
		Z	100.00	119.26	30.80		60.0	
10025-DAB	EDGE-FDD (TDMA, 8PSK, TN 0)	X	15.98	100.03	37.68	12.57	50.0	± 9.6 %
		Y	12.36	89.89	33.32		50.0	
		Z	14.92	100.13	38.33		50.0	
10026-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	19.89	102.72	35.15	9.56	60.0	± 9.6 %
		Y	15.11	94.49	32.22		60.0	
		Z	21.16	106.39	36.94		60.0	
10027-DAB	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	117.46	29.21	4.80	80.0	± 9.6 %
		Y	100.00	119.97	30.83		80.0	
		Z	100.00	118.35	29.47		80.0	
10028-DAB	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	117.97	28.63	3.55	100.0	± 9.6 %
		Y	100.00	119.91	29.91		100.0	
		Z	100.00	118.74	28.84		100.0	
10029-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	14.03	95.19	31.54	7.80	80.0	± 9.6 %
		Y	11.54	89.32	29.33		80.0	
		Z	13.09	95.17	31.96		80.0	
10030-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	100.00	117.04	29.36	5.30	70.0	± 9.6 %
		Y	100.00	119.78	31.12		70.0	
		Z	100.00	117.69	29.49		70.0	
10031-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	120.90	28.34	1.88	100.0	± 9.6 %
		Y	100.00	121.14	28.78		100.0	
		Z	100.00	119.84	27.78		100.0	

10032-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	128.75	30.50	1.17	100.0	± 9.6 %
		Y	100.00	125.19	29.33		100.0	
		Z	100.00	124.54	28.68		100.0	
10033-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	24.47	102.44	28.62	5.30	70.0	± 9.6 %
		Y	12.93	91.34	25.64		70.0	
		Z	20.22	99.06	27.27		70.0	
10034-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	15.75	99.73	26.60	1.88	100.0	± 9.6 %
		Y	6.06	84.29	21.90		100.0	
		Z	7.41	86.87	21.79		100.0	
10035-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	8.06	91.60	24.06	1.17	100.0	± 9.6 %
		Y	3.71	78.74	19.66		100.0	
		Z	4.06	80.00	19.16		100.0	
10036-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	31.59	106.91	29.95	5.30	70.0	± 9.6 %
		Y	14.71	93.73	26.48		70.0	
		Z	25.49	103.04	28.49		70.0	
10037-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	15.02	99.00	26.34	1.88	100.0	± 9.6 %
		Y	5.91	83.93	21.74		100.0	
		Z	6.95	86.01	21.48		100.0	
10038-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	8.64	92.97	24.58	1.17	100.0	± 9.6 %
		Y	3.82	79.37	19.97		100.0	
		Z	4.16	80.58	19.47		100.0	
10039-CAB	CDMA2000 (1xRTT, RC1)	X	3.32	80.83	20.52	0.00	150.0	± 9.6 %
		Y	1.99	71.59	16.56		150.0	
		Z	1.78	71.38	15.53		150.0	
10042-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	X	93.96	116.51	30.17	7.78	50.0	± 9.6 %
		Y	28.36	100.31	27.04		50.0	
		Z	100.00	118.01	30.46		50.0	
10044-CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.00	110.81	0.68	0.00	150.0	± 9.6 %
		Y	0.00	94.68	0.92		150.0	
		Z	0.01	95.27	0.89		150.0	
10048-CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	12.13	84.40	24.33	13.80	25.0	± 9.6 %
		Y	11.03	81.88	24.36		25.0	
		Z	15.47	90.17	26.32		25.0	
10049-CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	14.56	88.92	24.53	10.79	40.0	± 9.6 %
		Y	12.34	85.94	24.48		40.0	
		Z	20.46	95.78	26.73		40.0	
10056-CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	13.90	88.80	25.15	9.03	50.0	± 9.6 %
		Y	11.60	84.93	24.34		50.0	
		Z	15.96	92.01	26.12		50.0	
10058-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	10.54	89.79	28.95	6.55	100.0	± 9.6 %
		Y	9.17	85.43	27.21		100.0	
		Z	9.28	88.15	28.66		100.0	
10059-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.62	69.54	18.42	0.61	110.0	± 9.6 %
		Y	1.52	67.09	16.78		110.0	
		Z	1.47	67.00	16.67		110.0	
10060-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	100.00	133.57	34.76	1.30	110.0	± 9.6 %
		Y	47.37	119.92	31.34		110.0	
		Z	100.00	131.70	33.88		110.0	

10061-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	24.29	111.37	31.49	2.04	110.0	± 9.6 %
		Y	7.57	90.21	25.12		110.0	
		Z	8.96	94.42	26.47		110.0	
10062-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.94	67.26	16.92	0.49	100.0	± 9.6 %
		Y	4.99	66.94	16.70		100.0	
		Z	4.80	67.06	16.67		100.0	
10063-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.98	67.42	17.05	0.72	100.0	± 9.6 %
		Y	5.03	67.12	16.85		100.0	
		Z	4.84	67.22	16.80		100.0	
10064-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	5.33	67.75	17.30	0.86	100.0	± 9.6 %
		Y	5.40	67.50	17.13		100.0	
		Z	5.14	67.52	17.06		100.0	
10065-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	5.22	67.77	17.45	1.21	100.0	± 9.6 %
		Y	5.30	67.55	17.30		100.0	
		Z	5.05	67.55	17.23		100.0	
10066-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	5.28	67.89	17.67	1.46	100.0	± 9.6 %
		Y	5.37	67.69	17.54		100.0	
		Z	5.11	67.69	17.47		100.0	
10067-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.58	67.96	18.07	2.04	100.0	± 9.6 %
		Y	5.70	67.83	17.99		100.0	
		Z	5.44	67.94	17.97		100.0	
10068-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.73	68.36	18.44	2.55	100.0	± 9.6 %
		Y	5.86	68.26	18.38		100.0	
		Z	5.56	68.20	18.31		100.0	
10069-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.80	68.22	18.58	2.67	100.0	± 9.6 %
		Y	5.93	68.12	18.53		100.0	
		Z	5.64	68.21	18.51		100.0	
10071-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	5.34	67.61	17.91	1.99	100.0	± 9.6 %
		Y	5.43	67.44	17.80		100.0	
		Z	5.23	67.57	17.79		100.0	
10072-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	5.41	68.20	18.23	2.30	100.0	± 9.6 %
		Y	5.52	68.04	18.13		100.0	
		Z	5.28	68.10	18.11		100.0	
10073-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	5.54	68.52	18.63	2.83	100.0	± 9.6 %
		Y	5.67	68.41	18.56		100.0	
		Z	5.42	68.46	18.55		100.0	
10074-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	5.57	68.60	18.89	3.30	100.0	± 9.6 %
		Y	5.71	68.53	18.84		100.0	
		Z	5.46	68.55	18.80		100.0	
10075-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	5.74	69.13	19.40	3.82	90.0	± 9.6 %
		Y	5.91	69.12	19.39		90.0	
		Z	5.60	68.97	19.28		90.0	
10076-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	5.73	68.87	19.48	4.15	90.0	± 9.6 %
		Y	5.91	68.89	19.48		90.0	
		Z	5.64	68.84	19.44		90.0	
10077-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	5.76	68.96	19.58	4.30	90.0	± 9.6 %
		Y	5.95	68.98	19.59		90.0	
		Z	5.68	68.95	19.55		90.0	

10081-CAB	CDMA2000 (1xRTT, RC3)	X	1.45	73.74	17.54	0.00	150.0	± 9.6 %
		Y	1.01	66.70	13.93		150.0	
		Z	0.86	65.95	12.65		150.0	
10082-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	X	2.22	64.23	9.03	4.77	80.0	± 9.6 %
		Y	2.60	65.39	10.25		80.0	
		Z	2.07	64.06	8.86		80.0	
10090-DAB	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	118.52	30.65	6.56	60.0	± 9.6 %
		Y	54.54	111.83	30.17		60.0	
		Z	100.00	119.33	30.85		60.0	
10097-CAB	UMTS-FDD (HSDPA)	X	2.07	69.87	17.29	0.00	150.0	± 9.6 %
		Y	1.87	67.25	15.70		150.0	
		Z	1.83	67.53	15.55		150.0	
10098-CAB	UMTS-FDD (HSUPA, Subtest 2)	X	2.03	69.88	17.28	0.00	150.0	± 9.6 %
		Y	1.83	67.20	15.65		150.0	
		Z	1.80	67.49	15.52		150.0	
10099-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	19.79	102.55	35.10	9.56	60.0	± 9.6 %
		Y	15.06	94.38	32.19		60.0	
		Z	21.07	106.24	36.89		60.0	
10100-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.71	73.15	18.05	0.00	150.0	± 9.6 %
		Y	3.34	70.68	16.71		150.0	
		Z	3.15	70.31	16.60		150.0	
10101-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.53	68.94	16.73	0.00	150.0	± 9.6 %
		Y	3.44	67.88	16.03		150.0	
		Z	3.28	67.66	15.91		150.0	
10102-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.62	68.78	16.77	0.00	150.0	± 9.6 %
		Y	3.55	67.81	16.12		150.0	
		Z	3.38	67.61	16.00		150.0	
10103-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	9.03	78.84	21.45	3.98	65.0	± 9.6 %
		Y	8.52	77.08	20.81		65.0	
		Z	8.79	79.04	21.64		65.0	
10104-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	8.83	77.31	21.70	3.98	65.0	± 9.6 %
		Y	8.68	76.21	21.28		65.0	
		Z	8.45	77.10	21.68		65.0	
10105-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	8.12	75.63	21.27	3.98	65.0	± 9.6 %
		Y	7.58	73.53	20.37		65.0	
		Z	7.68	75.16	21.11		65.0	
10108-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	3.26	72.24	17.88	0.00	150.0	± 9.6 %
		Y	2.97	69.86	16.52		150.0	
		Z	2.76	69.54	16.43		150.0	
10109-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	3.21	68.83	16.74	0.00	150.0	± 9.6 %
		Y	3.12	67.65	15.97		150.0	
		Z	2.93	67.47	15.80		150.0	
10110-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.68	71.31	17.65	0.00	150.0	± 9.6 %
		Y	2.45	68.82	16.19		150.0	
		Z	2.25	68.65	16.05		150.0	
10111-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.94	69.70	17.25	0.00	150.0	± 9.6 %
		Y	2.81	68.04	16.25		150.0	
		Z	2.63	68.09	16.01		150.0	

10112-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	3.32	68.66	16.72	0.00	150.0	± 9.6 %
		Y	3.24	67.56	16.01		150.0	
		Z	3.06	67.45	15.85		150.0	
10113-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	3.09	69.65	17.28	0.00	150.0	± 9.6 %
		Y	2.97	68.11	16.35		150.0	
		Z	2.78	68.22	16.13		150.0	
10114-CAB	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	5.30	67.67	16.69	0.00	150.0	± 9.6 %
		Y	5.32	67.34	16.45		150.0	
		Z	5.18	67.41	16.46		150.0	
10115-CAB	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.68	67.95	16.83	0.00	150.0	± 9.6 %
		Y	5.74	67.75	16.66		150.0	
		Z	5.49	67.60	16.57		150.0	
10116-CAB	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.43	67.93	16.74	0.00	150.0	± 9.6 %
		Y	5.45	67.58	16.50		150.0	
		Z	5.29	67.63	16.50		150.0	
10117-CAB	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	5.31	67.69	16.73	0.00	150.0	± 9.6 %
		Y	5.33	67.35	16.48		150.0	
		Z	5.15	67.28	16.42		150.0	
10118-CAB	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.73	68.05	16.89	0.00	150.0	± 9.6 %
		Y	5.76	67.71	16.65		150.0	
		Z	5.58	67.82	16.69		150.0	
10119-CAB	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	X	5.40	67.88	16.73	0.00	150.0	± 9.6 %
		Y	5.42	67.54	16.49		150.0	
		Z	5.26	67.56	16.48		150.0	
10140-CAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.67	68.77	16.68	0.00	150.0	± 9.6 %
		Y	3.60	67.81	16.05		150.0	
		Z	3.42	67.62	15.92		150.0	
10141-CAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.79	68.75	16.79	0.00	150.0	± 9.6 %
		Y	3.72	67.84	16.19		150.0	
		Z	3.54	67.70	16.08		150.0	
10142-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	2.48	71.58	17.67	0.00	150.0	± 9.6 %
		Y	2.22	68.66	16.03		150.0	
		Z	2.02	68.57	15.71		150.0	
10143-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.90	70.86	17.43	0.00	150.0	± 9.6 %
		Y	2.68	68.61	16.20		150.0	
		Z	2.48	68.71	15.71		150.0	
10144-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.65	68.53	15.87	0.00	150.0	± 9.6 %
		Y	2.53	66.90	14.94		150.0	
		Z	2.29	66.75	14.27		150.0	
10145-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	2.00	71.65	16.48	0.00	150.0	± 9.6 %
		Y	1.64	67.49	14.42		150.0	
		Z	1.28	65.53	12.17		150.0	
10146-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	6.65	82.42	19.81	0.00	150.0	± 9.6 %
		Y	3.51	73.00	16.51		150.0	
		Z	2.73	70.16	13.72		150.0	
10147-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	11.62	90.60	22.70	0.00	150.0	± 9.6 %
		Y	4.34	76.22	18.03		150.0	
		Z	3.53	73.44	15.25		150.0	

10149-CAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	3.22	68.90	16.79	0.00	150.0	± 9.6 %
		Y	3.13	67.70	16.01		150.0	
		Z	2.94	67.52	15.84		150.0	
10150-CAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.33	68.71	16.76	0.00	150.0	± 9.6 %
		Y	3.25	67.61	16.05		150.0	
		Z	3.06	67.50	15.89		150.0	
10151-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	9.59	81.08	22.43	3.98	65.0	± 9.6 %
		Y	8.87	78.87	21.64		65.0	
		Z	9.33	81.38	22.62		65.0	
10152-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	8.50	77.58	21.63	3.98	65.0	± 9.6 %
		Y	8.30	76.31	21.16		65.0	
		Z	8.08	77.33	21.50		65.0	
10153-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	8.85	78.28	22.25	3.98	65.0	± 9.6 %
		Y	8.62	76.95	21.75		65.0	
		Z	8.48	78.15	22.17		65.0	
10154-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.77	71.95	18.01	0.00	150.0	± 9.6 %
		Y	2.51	69.32	16.50		150.0	
		Z	2.29	69.01	16.28		150.0	
10155-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.94	69.69	17.25	0.00	150.0	± 9.6 %
		Y	2.80	68.03	16.25		150.0	
		Z	2.63	68.10	16.02		150.0	
10156-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	2.40	72.31	17.91	0.00	150.0	± 9.6 %
		Y	2.09	68.89	16.05		150.0	
		Z	1.86	68.62	15.51		150.0	
10157-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.55	69.65	16.30	0.00	150.0	± 9.6 %
		Y	2.36	67.46	15.11		150.0	
		Z	2.12	67.25	14.30		150.0	
10158-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	3.10	69.70	17.32	0.00	150.0	± 9.6 %
		Y	2.97	68.15	16.39		150.0	
		Z	2.78	68.27	16.17		150.0	
10159-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.69	70.18	16.62	0.00	150.0	± 9.6 %
		Y	2.48	67.89	15.40		150.0	
		Z	2.22	67.66	14.56		150.0	
10160-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	3.10	70.43	17.35	0.00	150.0	± 9.6 %
		Y	2.94	68.69	16.29		150.0	
		Z	2.78	68.69	16.25		150.0	
10161-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	3.22	68.62	16.74	0.00	150.0	± 9.6 %
		Y	3.14	67.48	16.00		150.0	
		Z	2.96	67.42	15.82		150.0	
10162-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.32	68.61	16.76	0.00	150.0	± 9.6 %
		Y	3.24	67.49	16.04		150.0	
		Z	3.07	67.56	15.92		150.0	
10166-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	4.32	72.20	20.50	3.01	150.0	± 9.6 %
		Y	4.09	70.13	19.37		150.0	
		Z	3.89	71.03	19.86		150.0	
10167-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	6.13	77.20	21.71	3.01	150.0	± 9.6 %
		Y	5.31	73.40	20.02		150.0	
		Z	5.17	75.28	20.82		150.0	

10168-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	6.94	79.87	23.11	3.01	150.0	± 9.6 %
		Y	5.79	75.28	21.14		150.0	
		Z	5.82	77.80	22.20		150.0	
10169-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	4.47	76.31	22.20	3.01	150.0	± 9.6 %
		Y	3.93	72.42	20.26		150.0	
		Z	3.45	71.87	20.27		150.0	
10170-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	9.97	90.37	26.89	3.01	150.0	± 9.6 %
		Y	6.08	79.64	22.84		150.0	
		Z	5.69	81.07	23.66		150.0	
10171-AAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	6.58	81.51	22.72	3.01	150.0	± 9.6 %
		Y	4.82	74.69	19.94		150.0	
		Z	4.39	75.54	20.48		150.0	
10172-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	73.64	126.23	37.77	6.02	65.0	± 9.6 %
		Y	18.65	98.22	29.94		65.0	
		Z	50.70	122.38	37.42		65.0	
10173-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	94.74	123.96	35.21	6.02	65.0	± 9.6 %
		Y	22.61	98.04	28.47		65.0	
		Z	96.90	127.66	36.64		65.0	
10174-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	56.11	113.11	31.91	6.02	65.0	± 9.6 %
		Y	18.59	93.53	26.66		65.0	
		Z	65.46	118.77	33.84		65.0	
10175-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	4.37	75.74	21.85	3.01	150.0	± 9.6 %
		Y	3.86	71.99	19.97		150.0	
		Z	3.41	71.52	20.02		150.0	
10176-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	9.99	90.41	26.90	3.01	150.0	± 9.6 %
		Y	6.09	79.66	22.85		150.0	
		Z	5.70	81.10	23.67		150.0	
10177-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	4.43	76.02	22.00	3.01	150.0	± 9.6 %
		Y	3.90	72.21	20.10		150.0	
		Z	3.44	71.69	20.11		150.0	
10178-CAC	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	9.65	89.71	26.63	3.01	150.0	± 9.6 %
		Y	5.97	79.26	22.66		150.0	
		Z	5.62	80.80	23.53		150.0	
10179-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	7.97	85.43	24.54	3.01	150.0	± 9.6 %
		Y	5.36	76.88	21.19		150.0	
		Z	4.98	78.13	21.92		150.0	
10180-CAC	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	6.51	81.29	22.61	3.01	150.0	± 9.6 %
		Y	4.79	74.55	19.86		150.0	
		Z	4.38	75.44	20.42		150.0	
10181-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	4.42	75.99	21.99	3.01	150.0	± 9.6 %
		Y	3.90	72.19	20.09		150.0	
		Z	3.43	71.67	20.11		150.0	
10182-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	9.63	89.67	26.62	3.01	150.0	± 9.6 %
		Y	5.96	79.23	22.65		150.0	
		Z	5.61	80.77	23.51		150.0	
10183-AAA	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	6.50	81.25	22.60	3.01	150.0	± 9.6 %
		Y	4.78	74.53	19.85		150.0	
		Z	4.37	75.41	20.41		150.0	

10184-CAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	4.44	76.05	22.02	3.01	150.0	± 9.6 %
		Y	3.91	72.24	20.12		150.0	
		Z	3.45	71.72	20.13		150.0	
10185-CAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	9.70	89.80	26.67	3.01	150.0	± 9.6 %
		Y	5.99	79.32	22.68		150.0	
		Z	5.64	80.86	23.56		150.0	
10186-AAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	6.54	81.37	22.64	3.01	150.0	± 9.6 %
		Y	4.81	74.60	19.88		150.0	
		Z	4.39	75.50	20.45		150.0	
10187-CAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	4.45	76.10	22.07	3.01	150.0	± 9.6 %
		Y	3.92	72.26	20.15		150.0	
		Z	3.46	71.78	20.19		150.0	
10188-CAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	10.51	91.45	27.34	3.01	150.0	± 9.6 %
		Y	6.26	80.23	23.14		150.0	
		Z	5.89	81.76	24.00		150.0	
10189-AAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	6.85	82.27	23.07	3.01	150.0	± 9.6 %
		Y	4.94	75.14	20.19		150.0	
		Z	4.52	76.06	20.77		150.0	
10193-CAB	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.73	67.10	16.51	0.00	150.0	± 9.6 %
		Y	4.75	66.68	16.23		150.0	
		Z	4.57	66.79	16.16		150.0	
10194-CAB	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.94	67.48	16.62	0.00	150.0	± 9.6 %
		Y	4.96	67.08	16.34		150.0	
		Z	4.75	67.11	16.28		150.0	
10195-CAB	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.98	67.48	16.62	0.00	150.0	± 9.6 %
		Y	5.00	67.07	16.34		150.0	
		Z	4.79	67.14	16.30		150.0	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.76	67.21	16.55	0.00	150.0	± 9.6 %
		Y	4.78	66.80	16.27		150.0	
		Z	4.58	66.86	16.18		150.0	
10197-CAB	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.96	67.50	16.63	0.00	150.0	± 9.6 %
		Y	4.98	67.09	16.35		150.0	
		Z	4.76	67.14	16.30		150.0	
10198-CAB	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.99	67.50	16.63	0.00	150.0	± 9.6 %
		Y	5.01	67.09	16.35		150.0	
		Z	4.79	67.16	16.31		150.0	
10219-CAB	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.71	67.23	16.53	0.00	150.0	± 9.6 %
		Y	4.73	66.82	16.24		150.0	
		Z	4.53	66.87	16.14		150.0	
10220-CAB	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.96	67.50	16.63	0.00	150.0	± 9.6 %
		Y	4.98	67.10	16.35		150.0	
		Z	4.76	67.11	16.29		150.0	
10221-CAB	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.99	67.43	16.62	0.00	150.0	± 9.6 %
		Y	5.01	67.03	16.34		150.0	
		Z	4.80	67.09	16.30		150.0	
10222-CAB	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	5.29	67.72	16.73	0.00	150.0	± 9.6 %
		Y	5.31	67.38	16.49		150.0	
		Z	5.12	67.29	16.41		150.0	

10223-CAB	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.67	68.03	16.90	0.00	150.0	± 9.6 %
		Y	5.70	67.71	16.67		150.0	
		Z	5.43	67.50	16.54		150.0	
10224-CAB	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.35	67.84	16.72	0.00	150.0	± 9.6 %
		Y	5.37	67.51	16.48		150.0	
		Z	5.17	67.40	16.39		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	3.03	67.01	16.18	0.00	150.0	± 9.6 %
		Y	3.00	66.12	15.59		150.0	
		Z	2.84	66.23	15.31		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	100.00	125.13	35.58	6.02	65.0	± 9.6 %
		Y	23.60	98.91	28.82		65.0	
		Z	100.00	128.43	36.91		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	61.16	114.83	32.47	6.02	65.0	± 9.6 %
		Y	19.96	94.87	27.16		65.0	
		Z	73.77	120.96	34.46		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	72.18	126.53	38.01	6.02	65.0	± 9.6 %
		Y	21.44	101.40	31.05		65.0	
		Z	53.16	123.89	37.96		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	94.57	123.93	35.21	6.02	65.0	± 9.6 %
		Y	22.66	98.06	28.49		65.0	
		Z	96.87	127.65	36.65		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	56.39	113.28	31.99	6.02	65.0	± 9.6 %
		Y	19.26	94.16	26.88		65.0	
		Z	66.99	119.13	33.93		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	66.18	124.67	37.45	6.02	65.0	± 9.6 %
		Y	20.62	100.55	30.72		65.0	
		Z	48.89	122.07	37.41		65.0	
10232-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	94.69	123.96	35.21	6.02	65.0	± 9.6 %
		Y	22.64	98.05	28.48		65.0	
		Z	97.00	127.68	36.66		65.0	
10233-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	56.52	113.33	32.00	6.02	65.0	± 9.6 %
		Y	19.26	94.17	26.88		65.0	
		Z	67.07	119.16	33.94		65.0	
10234-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	60.26	122.59	36.81	6.02	65.0	± 9.6 %
		Y	19.81	99.63	30.34		65.0	
		Z	45.11	120.21	36.81		65.0	
10235-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	95.38	124.09	35.25	6.02	65.0	± 9.6 %
		Y	22.67	98.09	28.50		65.0	
		Z	97.77	127.84	36.70		65.0	
10236-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	57.18	113.50	32.04	6.02	65.0	± 9.6 %
		Y	19.38	94.26	26.90		65.0	
		Z	68.10	119.39	33.99		65.0	
10237-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	67.28	125.01	37.54	6.02	65.0	± 9.6 %
		Y	20.74	100.68	30.76		65.0	
		Z	49.59	122.38	37.49		65.0	
10238-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	95.00	124.02	35.23	6.02	65.0	± 9.6 %
		Y	22.64	98.06	28.49		65.0	
		Z	97.19	127.73	36.66		65.0	

10239-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	56.67	113.39	32.01	6.02	65.0	± 9.6 %
		Y	19.26	94.19	26.88		65.0	
		Z	67.13	119.19	33.94		65.0	
10240-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	67.00	124.93	37.52	6.02	65.0	± 9.6 %
		Y	20.68	100.63	30.74		65.0	
		Z	49.37	122.30	37.47		65.0	
10241-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	14.43	89.77	28.56	6.98	65.0	± 9.6 %
		Y	12.31	85.00	26.80		65.0	
		Z	13.89	90.56	28.94		65.0	
10242-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	13.70	88.57	28.03	6.98	65.0	± 9.6 %
		Y	10.82	82.08	25.53		65.0	
		Z	13.16	89.30	28.37		65.0	
10243-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	10.55	84.90	27.56	6.98	65.0	± 9.6 %
		Y	8.88	79.49	25.25		65.0	
		Z	9.99	85.03	27.70		65.0	
10244-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	11.43	83.67	22.47	3.98	65.0	± 9.6 %
		Y	9.78	80.48	21.64		65.0	
		Z	9.76	81.22	20.90		65.0	
10245-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	11.21	83.09	22.22	3.98	65.0	± 9.6 %
		Y	9.71	80.13	21.47		65.0	
		Z	9.48	80.50	20.58		65.0	
10246-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	10.58	85.22	23.00	3.98	65.0	± 9.6 %
		Y	8.86	81.57	21.94		65.0	
		Z	9.16	83.05	21.67		65.0	
10247-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	8.25	78.94	21.22	3.98	65.0	± 9.6 %
		Y	7.85	77.32	20.79		65.0	
		Z	7.47	77.61	20.18		65.0	
10248-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	8.20	78.37	20.99	3.98	65.0	± 9.6 %
		Y	7.89	76.93	20.61		65.0	
		Z	7.41	77.03	19.93		65.0	
10249-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	11.20	86.28	23.89	3.98	65.0	± 9.6 %
		Y	9.29	82.26	22.62		65.0	
		Z	10.48	85.66	23.36		65.0	
10250-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	8.93	80.25	22.81	3.98	65.0	± 9.6 %
		Y	8.46	78.37	22.14		65.0	
		Z	8.46	79.88	22.48		65.0	
10251-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	8.39	77.98	21.64	3.98	65.0	± 9.6 %
		Y	8.12	76.54	21.14		65.0	
		Z	7.98	77.74	21.34		65.0	
10252-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	10.53	84.51	23.78	3.98	65.0	± 9.6 %
		Y	9.19	81.18	22.63		65.0	
		Z	10.24	84.82	23.86		65.0	
10253-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	8.25	76.95	21.44	3.98	65.0	± 9.6 %
		Y	8.10	75.77	21.00		65.0	
		Z	7.89	76.78	21.28		65.0	
10254-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	8.62	77.66	22.02	3.98	65.0	± 9.6 %
		Y	8.44	76.43	21.56		65.0	
		Z	8.28	77.57	21.89		65.0	

10255-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	9.25	80.67	22.52	3.98	65.0	± 9.6 %
		Y	8.61	78.53	21.74		65.0	
		Z	9.00	80.97	22.67		65.0	
10256-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	10.45	81.80	21.06	3.98	65.0	± 9.6 %
		Y	9.25	79.43	20.63		65.0	
		Z	8.10	77.76	18.69		65.0	
10257-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	10.14	80.97	20.68	3.98	65.0	± 9.6 %
		Y	9.17	78.95	20.38		65.0	
		Z	7.78	76.81	18.23		65.0	
10258-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	9.51	83.16	21.76	3.98	65.0	± 9.6 %
		Y	8.34	80.46	21.12		65.0	
		Z	7.35	79.00	19.46		65.0	
10259-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	8.50	79.32	21.74	3.98	65.0	± 9.6 %
		Y	8.08	77.61	21.22		65.0	
		Z	7.86	78.44	21.00		65.0	
10260-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	8.50	79.04	21.65	3.98	65.0	± 9.6 %
		Y	8.14	77.44	21.18		65.0	
		Z	7.85	78.11	20.87		65.0	
10261-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	10.46	84.88	23.66	3.98	65.0	± 9.6 %
		Y	8.99	81.35	22.49		65.0	
		Z	9.90	84.54	23.31		65.0	
10262-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	8.92	80.22	22.77	3.98	65.0	± 9.6 %
		Y	8.45	78.35	22.11		65.0	
		Z	8.45	79.83	22.45		65.0	
10263-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	8.39	77.98	21.64	3.98	65.0	± 9.6 %
		Y	8.12	76.54	21.14		65.0	
		Z	7.97	77.72	21.33		65.0	
10264-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	10.46	84.37	23.71	3.98	65.0	± 9.6 %
		Y	9.15	81.08	22.57		65.0	
		Z	10.16	84.65	23.78		65.0	
10265-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	8.50	77.59	21.64	3.98	65.0	± 9.6 %
		Y	8.29	76.32	21.16		65.0	
		Z	8.08	77.33	21.51		65.0	
10266-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	8.85	78.27	22.25	3.98	65.0	± 9.6 %
		Y	8.62	76.95	21.75		65.0	
		Z	8.48	78.14	22.17		65.0	
10267-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	9.58	81.04	22.42	3.98	65.0	± 9.6 %
		Y	8.86	78.85	21.63		65.0	
		Z	9.31	81.34	22.60		65.0	
10268-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	8.89	76.95	21.70	3.98	65.0	± 9.6 %
		Y	8.78	75.95	21.31		65.0	
		Z	8.54	76.83	21.69		65.0	
10269-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	8.79	76.51	21.59	3.98	65.0	± 9.6 %
		Y	8.71	75.58	21.23		65.0	
		Z	8.47	76.42	21.58		65.0	
10270-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	8.98	78.26	21.47	3.98	65.0	± 9.6 %
		Y	8.66	76.86	20.96		65.0	
		Z	8.70	78.39	21.61		65.0	

10274-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.76	67.40	16.12	0.00	150.0	± 9.6 %
		Y	2.68	66.20	15.35		150.0	
		Z	2.61	66.55	15.21		150.0	
10275-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.97	71.33	17.64	0.00	150.0	± 9.6 %
		Y	1.71	67.84	15.61		150.0	
		Z	1.63	67.82	15.44		150.0	
10277-CAA	PHS (QPSK)	X	5.79	70.12	14.44	9.03	50.0	± 9.6 %
		Y	6.71	72.04	16.24		50.0	
		Z	5.20	69.01	13.39		50.0	
10278-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	10.14	81.72	21.64	9.03	50.0	± 9.6 %
		Y	10.00	81.13	22.16		50.0	
		Z	8.80	79.36	20.19		50.0	
10279-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	10.33	81.92	21.72	9.03	50.0	± 9.6 %
		Y	10.19	81.33	22.24		50.0	
		Z	8.92	79.53	20.27		50.0	
10290-AAB	CDMA2000, RC1, SO55, Full Rate	X	2.41	75.76	18.30	0.00	150.0	± 9.6 %
		Y	1.70	69.18	15.23		150.0	
		Z	1.46	68.58	14.00		150.0	
10291-AAB	CDMA2000, RC3, SO55, Full Rate	X	1.39	73.22	17.31	0.00	150.0	± 9.6 %
		Y	0.98	66.45	13.79		150.0	
		Z	0.85	65.74	12.53		150.0	
10292-AAB	CDMA2000, RC3, SO32, Full Rate	X	2.43	83.14	21.70	0.00	150.0	± 9.6 %
		Y	1.15	69.63	15.75		150.0	
		Z	1.04	69.40	14.71		150.0	
10293-AAB	CDMA2000, RC3, SO3, Full Rate	X	5.22	96.14	26.57	0.00	150.0	± 9.6 %
		Y	1.48	73.58	17.97		150.0	
		Z	1.47	74.43	17.37		150.0	
10295-AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	10.48	83.75	24.32	9.03	50.0	± 9.6 %
		Y	9.84	81.54	23.85		50.0	
		Z	11.88	86.37	24.91		50.0	
10297-AAA	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	3.28	72.37	17.95	0.00	150.0	± 9.6 %
		Y	2.98	69.95	16.59		150.0	
		Z	2.77	69.63	16.49		150.0	
10298-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	2.26	72.62	17.48	0.00	150.0	± 9.6 %
		Y	1.88	68.51	15.39		150.0	
		Z	1.59	67.65	14.14		150.0	
10299-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	6.40	81.89	20.37	0.00	150.0	± 9.6 %
		Y	3.78	73.44	17.26		150.0	
		Z	3.62	73.66	16.18		150.0	
10300-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	3.72	72.73	16.07	0.00	150.0	± 9.6 %
		Y	2.96	68.88	14.55		150.0	
		Z	2.44	67.52	12.75		150.0	
10301-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	5.70	68.03	18.84	4.17	80.0	± 9.6 %
		Y	5.77	67.36	18.35		80.0	
		Z	5.64	68.37	18.74		80.0	
10302-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	6.21	68.72	19.60	4.96	80.0	± 9.6 %
		Y	6.41	68.65	19.47		80.0	
		Z	6.13	69.05	19.54		80.0	

10303-AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	6.07	68.83	19.70	4.96	80.0	± 9.6 %
		Y	6.30	68.82	19.58		80.0	
		Z	5.97	69.08	19.56		80.0	
10304-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	5.71	68.13	18.89	4.17	80.0	± 9.6 %
		Y	5.89	68.01	18.73		80.0	
		Z	5.61	68.35	18.73		80.0	
10305-AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	6.90	74.81	23.11	6.02	50.0	± 9.6 %
		Y	9.48	82.28	26.60		50.0	
		Z	9.03	82.45	26.20		50.0	
10306-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	6.40	71.34	21.64	6.02	50.0	± 9.6 %
		Y	6.75	71.50	21.57		50.0	
		Z	6.43	72.04	21.56		50.0	
10307-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	6.49	72.10	21.82	6.02	50.0	± 9.6 %
		Y	6.85	72.21	21.70		50.0	
		Z	6.50	72.67	21.67		50.0	
10308-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	6.53	72.49	22.02	6.02	50.0	± 9.6 %
		Y	6.89	72.58	21.88		50.0	
		Z	6.59	73.18	21.92		50.0	
10309-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	6.52	71.66	21.81	6.02	50.0	± 9.6 %
		Y	6.86	71.77	21.70		50.0	
		Z	6.53	72.35	21.74		50.0	
10310-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	6.41	71.57	21.66	6.02	50.0	± 9.6 %
		Y	6.75	71.71	21.56		50.0	
		Z	6.45	72.29	21.59		50.0	
10311-AAA	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.66	71.55	17.51	0.00	150.0	± 9.6 %
		Y	3.33	69.32	16.27		150.0	
		Z	3.12	68.94	16.14		150.0	
10313-AAA	iDEN 1:3	X	8.19	79.62	19.16	6.99	70.0	± 9.6 %
		Y	7.35	77.72	18.90		70.0	
		Z	8.21	80.46	19.57		70.0	
10314-AAA	iDEN 1:6	X	11.35	86.83	24.06	10.00	30.0	± 9.6 %
		Y	8.72	81.68	22.69		30.0	
		Z	10.81	87.34	24.49		30.0	
10315-AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.24	66.34	16.99	0.17	150.0	± 9.6 %
		Y	1.18	64.44	15.46		150.0	
		Z	1.17	64.45	15.36		150.0	
10316-AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	X	4.83	67.25	16.68	0.17	150.0	± 9.6 %
		Y	4.86	66.88	16.43		150.0	
		Z	4.68	66.99	16.39		150.0	
10317-AAB	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.83	67.25	16.68	0.17	150.0	± 9.6 %
		Y	4.86	66.88	16.43		150.0	
		Z	4.68	66.99	16.39		150.0	
10400-AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.96	67.54	16.61	0.00	150.0	± 9.6 %
		Y	4.98	67.13	16.32		150.0	
		Z	4.75	67.19	16.29		150.0	
10401-AAC	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.54	67.49	16.61	0.00	150.0	± 9.6 %
		Y	5.56	67.14	16.37		150.0	
		Z	5.45	67.43	16.49		150.0	

10402-AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.87	68.11	16.75	0.00	150.0	± 9.6 %
		Y	5.89	67.80	16.54		150.0	
		Z	5.70	67.70	16.47		150.0	
10403-AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	2.41	75.76	18.30	0.00	115.0	± 9.6 %
		Y	1.70	69.18	15.23		115.0	
		Z	1.46	68.58	14.00		115.0	
10404-AAB	CDMA2000 (1xEV-DO, Rev. A)	X	2.41	75.76	18.30	0.00	115.0	± 9.6 %
		Y	1.70	69.18	15.23		115.0	
		Z	1.46	68.58	14.00		115.0	
10406-AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	100.00	120.32	30.30	0.00	100.0	± 9.6 %
		Y	37.67	108.93	28.46		100.0	
		Z	100.00	119.28	29.39		100.0	
10410-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	118.51	29.90	3.23	80.0	± 9.6 %
		Y	100.00	119.74	30.88		80.0	
		Z	100.00	120.99	30.71		80.0	
10415-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.06	64.54	16.02	0.00	150.0	± 9.6 %
		Y	1.03	62.90	14.57		150.0	
		Z	1.03	63.04	14.51		150.0	
10416-AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	X	4.73	67.12	16.55	0.00	150.0	± 9.6 %
		Y	4.75	66.70	16.25		150.0	
		Z	4.58	66.83	16.23		150.0	
10417-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.73	67.12	16.55	0.00	150.0	± 9.6 %
		Y	4.75	66.70	16.25		150.0	
		Z	4.58	66.83	16.23		150.0	
10418-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	X	4.72	67.27	16.56	0.00	150.0	± 9.6 %
		Y	4.73	66.83	16.25		150.0	
		Z	4.56	66.98	16.24		150.0	
10419-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.75	67.23	16.56	0.00	150.0	± 9.6 %
		Y	4.76	66.80	16.26		150.0	
		Z	4.59	66.94	16.24		150.0	
10422-AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.87	67.22	16.56	0.00	150.0	± 9.6 %
		Y	4.89	66.82	16.28		150.0	
		Z	4.71	66.94	16.26		150.0	
10423-AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	5.09	67.62	16.71	0.00	150.0	± 9.6 %
		Y	5.12	67.23	16.44		150.0	
		Z	4.88	67.27	16.38		150.0	
10424-AAA	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	5.00	67.56	16.68	0.00	150.0	± 9.6 %
		Y	5.02	67.15	16.39		150.0	
		Z	4.80	67.22	16.35		150.0	
10425-AAA	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.55	67.83	16.78	0.00	150.0	± 9.6 %
		Y	5.59	67.55	16.57		150.0	
		Z	5.40	67.57	16.55		150.0	
10426-AAA	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.56	67.88	16.79	0.00	150.0	± 9.6 %
		Y	5.60	67.58	16.58		150.0	
		Z	5.41	67.59	16.56		150.0	

10427-AAA	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.59	67.91	16.80	0.00	150.0	± 9.6 %
		Y	5.63	67.61	16.59		150.0	
		Z	5.42	67.56	16.54		150.0	
10430-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.54	71.07	18.70	0.00	150.0	± 9.6 %
		Y	4.46	69.99	18.11		150.0	
		Z	4.20	70.41	17.89		150.0	
10431-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.50	67.77	16.69	0.00	150.0	± 9.6 %
		Y	4.51	67.23	16.34		150.0	
		Z	4.26	67.36	16.21		150.0	
10432-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.78	67.63	16.67	0.00	150.0	± 9.6 %
		Y	4.80	67.18	16.37		150.0	
		Z	4.56	67.25	16.29		150.0	
10433-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	5.01	67.62	16.71	0.00	150.0	± 9.6 %
		Y	5.04	67.21	16.43		150.0	
		Z	4.81	67.25	16.37		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.66	71.93	18.79	0.00	150.0	± 9.6 %
		Y	4.53	70.61	18.11		150.0	
		Z	4.27	71.15	17.82		150.0	
10435-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	118.35	29.82	3.23	80.0	± 9.6 %
		Y	100.00	119.61	30.82		80.0	
		Z	100.00	120.81	30.62		80.0	
10447-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.85	68.02	16.38	0.00	150.0	± 9.6 %
		Y	3.83	67.22	15.92		150.0	
		Z	3.54	67.32	15.53		150.0	
10448-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	X	4.31	67.56	16.56	0.00	150.0	± 9.6 %
		Y	4.32	66.99	16.19		150.0	
		Z	4.10	67.13	16.07		150.0	
10449-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	X	4.56	67.47	16.59	0.00	150.0	± 9.6 %
		Y	4.57	66.98	16.26		150.0	
		Z	4.37	67.07	16.19		150.0	
10450-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.73	67.38	16.58	0.00	150.0	± 9.6 %
		Y	4.74	66.94	16.27		150.0	
		Z	4.56	67.01	16.22		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	3.81	68.42	16.23	0.00	150.0	± 9.6 %
		Y	3.77	67.50	15.73		150.0	
		Z	3.44	67.49	15.16		150.0	
10456-AAA	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.40	68.45	16.93	0.00	150.0	± 9.6 %
		Y	6.44	68.23	16.77		150.0	
		Z	6.27	68.12	16.71		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.89	65.77	16.30	0.00	150.0	± 9.6 %
		Y	3.90	65.36	15.99		150.0	
		Z	3.82	65.47	15.93		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.60	67.53	15.71	0.00	150.0	± 9.6 %
		Y	3.56	66.59	15.22		150.0	
		Z	3.27	66.88	14.62		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.70	65.53	16.21	0.00	150.0	± 9.6 %
		Y	4.63	64.60	15.71		150.0	
		Z	4.27	64.85	15.38		150.0	

10460-AAA	UMTS-FDD (WCDMA, AMR)	X	1.28	75.29	20.20	0.00	150.0	± 9.6 %
		Y	0.92	67.71	15.91		150.0	
		Z	0.90	67.71	15.78		150.0	
10461-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	122.97	32.01	3.29	80.0	± 9.6 %
		Y	100.00	121.34	31.70		80.0	
		Z	100.00	125.58	32.88		80.0	
10462-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	108.03	24.84	3.23	80.0	± 9.6 %
		Y	100.00	109.86	26.18		80.0	
		Z	100.00	108.99	24.93		80.0	
10463-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	105.21	23.49	3.23	80.0	± 9.6 %
		Y	47.92	99.26	23.13		80.0	
		Z	100.00	105.71	23.36		80.0	
10464-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	121.12	31.00	3.23	80.0	± 9.6 %
		Y	100.00	119.76	30.82		80.0	
		Z	100.00	123.61	31.80		80.0	
10465-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	107.54	24.59	3.23	80.0	± 9.6 %
		Y	92.10	108.50	25.75		80.0	
		Z	100.00	108.47	24.68		80.0	
10466-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	104.76	23.28	3.23	80.0	± 9.6 %
		Y	27.79	92.79	21.40		80.0	
		Z	53.71	98.96	21.73		80.0	
10467-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	121.32	31.10	3.23	80.0	± 9.6 %
		Y	100.00	119.93	30.90		80.0	
		Z	100.00	123.83	31.91		80.0	
10468-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	107.68	24.66	3.23	80.0	± 9.6 %
		Y	100.00	109.58	26.02		80.0	
		Z	100.00	108.64	24.75		80.0	
10469-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	104.76	23.27	3.23	80.0	± 9.6 %
		Y	28.45	93.06	21.47		80.0	
		Z	57.15	99.60	21.88		80.0	
10470-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	121.35	31.10	3.23	80.0	± 9.6 %
		Y	100.00	119.95	30.90		80.0	
		Z	100.00	123.86	31.91		80.0	
10471-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	107.63	24.63	3.23	80.0	± 9.6 %
		Y	100.00	109.54	26.00		80.0	
		Z	100.00	108.59	24.73		80.0	
10472-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	104.72	23.24	3.23	80.0	± 9.6 %
		Y	28.52	93.08	21.46		80.0	
		Z	57.07	99.54	21.85		80.0	
10473-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	121.32	31.09	3.23	80.0	± 9.6 %
		Y	100.00	119.92	30.89		80.0	
		Z	100.00	123.84	31.90		80.0	
10474-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	107.64	24.63	3.23	80.0	± 9.6 %
		Y	100.00	109.55	26.00		80.0	
		Z	100.00	108.60	24.73		80.0	
10475-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	104.73	23.25	3.23	80.0	± 9.6 %
		Y	28.13	92.93	21.42		80.0	
		Z	55.36	99.25	21.78		80.0	

10477-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	107.49	24.56	3.23	80.0	± 9.6 %
		Y	96.57	109.01	25.85		80.0	
		Z	100.00	108.42	24.64		80.0	
10478-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	104.68	23.23	3.23	80.0	± 9.6 %
		Y	27.68	92.72	21.36		80.0	
		Z	53.23	98.81	21.67		80.0	
10479-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	26.63	104.01	29.13	3.23	80.0	± 9.6 %
		Y	9.63	86.48	23.96		80.0	
		Z	24.30	102.59	28.22		80.0	
10480-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	38.31	102.90	27.02	3.23	80.0	± 9.6 %
		Y	11.50	85.06	22.20		80.0	
		Z	29.11	98.49	25.10		80.0	
10481-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	30.40	98.59	25.52	3.23	80.0	± 9.6 %
		Y	10.74	83.47	21.41		80.0	
		Z	20.94	92.98	23.18		80.0	
10482-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	8.51	84.82	22.25	2.23	80.0	± 9.6 %
		Y	5.60	77.58	19.80		80.0	
		Z	5.41	78.09	19.19		80.0	
10483-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	14.01	88.92	23.41	2.23	80.0	± 9.6 %
		Y	8.14	80.18	20.73		80.0	
		Z	9.32	82.50	20.44		80.0	
10484-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	12.47	87.00	22.82	2.23	80.0	± 9.6 %
		Y	7.81	79.33	20.43		80.0	
		Z	8.26	80.64	19.81		80.0	
10485-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	8.06	84.25	22.66	2.23	80.0	± 9.6 %
		Y	5.75	77.87	20.37		80.0	
		Z	5.68	79.10	20.42		80.0	
10486-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.66	75.87	19.43	2.23	80.0	± 9.6 %
		Y	4.94	72.86	18.29		80.0	
		Z	4.62	73.05	17.69		80.0	
10487-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.56	75.25	19.19	2.23	80.0	± 9.6 %
		Y	4.94	72.51	18.16		80.0	
		Z	4.56	72.51	17.46		80.0	
10488-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	7.10	80.82	21.84	2.23	80.0	± 9.6 %
		Y	5.79	76.47	20.13		80.0	
		Z	5.49	77.19	20.36		80.0	
10489-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.34	73.87	19.44	2.23	80.0	± 9.6 %
		Y	5.00	71.87	18.57		80.0	
		Z	4.68	72.17	18.47		80.0	
10490-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.35	73.36	19.26	2.23	80.0	± 9.6 %
		Y	5.06	71.53	18.46		80.0	
		Z	4.74	71.87	18.36		80.0	
10491-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.36	77.12	20.56	2.23	80.0	± 9.6 %
		Y	5.66	74.28	19.36		80.0	
		Z	5.31	74.67	19.54		80.0	
10492-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.41	72.24	18.98	2.23	80.0	± 9.6 %
		Y	5.23	70.84	18.33		80.0	
		Z	4.89	71.01	18.29		80.0	

10493-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.44	71.94	18.88	2.23	80.0	± 9.6 %
		Y	5.28	70.63	18.27		80.0	
		Z	4.94	70.81	18.22		80.0	
10494-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	7.43	79.70	21.31	2.23	80.0	± 9.6 %
		Y	6.30	76.13	19.88		80.0	
		Z	5.88	76.40	20.05		80.0	
10495-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.56	72.97	19.25	2.23	80.0	± 9.6 %
		Y	5.33	71.45	18.55		80.0	
		Z	4.97	71.48	18.50		80.0	
10496-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.54	72.39	19.06	2.23	80.0	± 9.6 %
		Y	5.37	71.03	18.42		80.0	
		Z	5.01	71.08	18.38		80.0	
10497-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	7.31	82.38	20.82	2.23	80.0	± 9.6 %
		Y	4.87	75.75	18.64		80.0	
		Z	4.03	73.68	16.68		80.0	
10498-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.73	73.29	16.69	2.23	80.0	± 9.6 %
		Y	4.12	70.77	15.97		80.0	
		Z	2.73	66.24	12.60		80.0	
10499-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.59	72.54	16.27	2.23	80.0	± 9.6 %
		Y	4.10	70.38	15.70		80.0	
		Z	2.62	65.47	12.11		80.0	
10500-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	7.19	81.83	22.01	2.23	80.0	± 9.6 %
		Y	5.57	76.69	20.07		80.0	
		Z	5.44	77.85	20.24		80.0	
10501-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.46	74.81	19.33	2.23	80.0	± 9.6 %
		Y	4.94	72.30	18.33		80.0	
		Z	4.65	72.67	17.97		80.0	
10502-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.46	74.43	19.15	2.23	80.0	± 9.6 %
		Y	4.98	72.05	18.20		80.0	
		Z	4.68	72.41	17.81		80.0	
10503-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.99	80.56	21.73	2.23	80.0	± 9.6 %
		Y	5.72	76.28	20.04		80.0	
		Z	5.42	76.98	20.27		80.0	
10504-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.31	73.78	19.39	2.23	80.0	± 9.6 %
		Y	4.98	71.79	18.52		80.0	
		Z	4.66	72.08	18.42		80.0	
10505-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.32	73.26	19.21	2.23	80.0	± 9.6 %
		Y	5.03	71.44	18.41		80.0	
		Z	4.72	71.78	18.31		80.0	
10506-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	7.35	79.52	21.23	2.23	80.0	± 9.6 %
		Y	6.24	75.99	19.82		80.0	
		Z	5.83	76.25	19.98		80.0	
10507-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.53	72.90	19.22	2.23	80.0	± 9.6 %
		Y	5.31	71.39	18.51		80.0	
		Z	4.95	71.42	18.47		80.0	

10508-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.52	72.31	19.02	2.23	80.0	± 9.6 %
		Y	5.35	70.96	18.38		80.0	
		Z	4.99	71.02	18.34		80.0	
10509-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.86	76.40	20.08	2.23	80.0	± 9.6 %
		Y	6.23	74.05	19.09		80.0	
		Z	5.83	74.13	19.18		80.0	
10510-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.89	72.04	18.91	2.23	80.0	± 9.6 %
		Y	5.75	70.91	18.36		80.0	
		Z	5.36	70.80	18.32		80.0	
10511-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.86	71.58	18.77	2.23	80.0	± 9.6 %
		Y	5.75	70.55	18.27		80.0	
		Z	5.39	70.48	18.23		80.0	
10512-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	7.85	79.24	20.97	2.23	80.0	± 9.6 %
		Y	6.75	76.04	19.69		80.0	
		Z	6.30	76.05	19.77		80.0	
10513-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.88	72.72	19.16	2.23	80.0	± 9.6 %
		Y	5.70	71.43	18.55		80.0	
		Z	5.29	71.21	18.47		80.0	
10514-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.77	72.00	18.94	2.23	80.0	± 9.6 %
		Y	5.64	70.86	18.38		80.0	
		Z	5.26	70.69	18.32		80.0	
10515-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	1.03	64.88	16.19	0.00	150.0	± 9.6 %
		Y	0.99	63.07	14.62		150.0	
		Z	0.99	63.20	14.56		150.0	
10516-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	1.64	91.04	26.85	0.00	150.0	± 9.6 %
		Y	0.59	69.22	16.60		150.0	
		Z	0.59	69.23	16.57		150.0	
10517-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.96	68.68	17.89	0.00	150.0	± 9.6 %
		Y	0.84	64.94	15.18		150.0	
		Z	0.84	64.94	15.09		150.0	
10518-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.73	67.22	16.54	0.00	150.0	± 9.6 %
		Y	4.75	66.79	16.24		150.0	
		Z	4.57	66.91	16.20		150.0	
10519-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.96	67.51	16.67	0.00	150.0	± 9.6 %
		Y	4.99	67.12	16.39		150.0	
		Z	4.76	67.15	16.33		150.0	
10520-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.82	67.52	16.62	0.00	150.0	± 9.6 %
		Y	4.84	67.09	16.32		150.0	
		Z	4.61	67.11	16.25		150.0	
10521-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.75	67.54	16.61	0.00	150.0	± 9.6 %
		Y	4.77	67.10	16.31		150.0	
		Z	4.54	67.10	16.23		150.0	
10522-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.79	67.47	16.62	0.00	150.0	± 9.6 %
		Y	4.80	67.00	16.30		150.0	
		Z	4.60	67.19	16.31		150.0	

10523-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.66	67.41	16.50	0.00	150.0	± 9.6 %
		Y	4.67	66.95	16.18		150.0	
		Z	4.48	67.04	16.16		150.0	
10524-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.74	67.44	16.62	0.00	150.0	± 9.6 %
		Y	4.76	66.99	16.31		150.0	
		Z	4.54	67.10	16.28		150.0	
10525-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.69	66.48	16.21	0.00	150.0	± 9.6 %
		Y	4.70	66.02	15.89		150.0	
		Z	4.53	66.15	15.87		150.0	
10526-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.91	66.90	16.35	0.00	150.0	± 9.6 %
		Y	4.91	66.43	16.04		150.0	
		Z	4.70	66.52	16.01		150.0	
10527-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.82	66.89	16.32	0.00	150.0	± 9.6 %
		Y	4.83	66.42	16.00		150.0	
		Z	4.62	66.47	15.95		150.0	
10528-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.84	66.91	16.35	0.00	150.0	± 9.6 %
		Y	4.85	66.44	16.03		150.0	
		Z	4.63	66.49	15.99		150.0	
10529-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.84	66.91	16.35	0.00	150.0	± 9.6 %
		Y	4.85	66.44	16.03		150.0	
		Z	4.63	66.49	15.99		150.0	
10531-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.86	67.08	16.39	0.00	150.0	± 9.6 %
		Y	4.87	66.60	16.06		150.0	
		Z	4.63	66.60	16.00		150.0	
10532-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.71	66.97	16.35	0.00	150.0	± 9.6 %
		Y	4.72	66.49	16.02		150.0	
		Z	4.49	66.45	15.93		150.0	
10533-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.86	66.93	16.33	0.00	150.0	± 9.6 %
		Y	4.87	66.45	16.01		150.0	
		Z	4.64	66.54	15.97		150.0	
10534-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.34	67.03	16.36	0.00	150.0	± 9.6 %
		Y	5.36	66.66	16.11		150.0	
		Z	5.17	66.62	16.06		150.0	
10535-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.42	67.17	16.42	0.00	150.0	± 9.6 %
		Y	5.43	66.80	16.16		150.0	
		Z	5.24	66.80	16.14		150.0	
10536-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.29	67.18	16.41	0.00	150.0	± 9.6 %
		Y	5.30	66.78	16.13		150.0	
		Z	5.11	66.74	16.09		150.0	
10537-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	5.35	67.14	16.39	0.00	150.0	± 9.6 %
		Y	5.36	66.75	16.12		150.0	
		Z	5.16	66.71	16.08		150.0	
10538-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.47	67.20	16.46	0.00	150.0	± 9.6 %
		Y	5.49	66.85	16.21		150.0	
		Z	5.26	66.74	16.13		150.0	
10540-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	5.36	67.15	16.45	0.00	150.0	± 9.6 %
		Y	5.38	66.77	16.18		150.0	
		Z	5.19	66.76	16.16		150.0	

10541-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.35	67.08	16.42	0.00	150.0	± 9.6 %
		Y	5.38	66.75	16.17		150.0	
		Z	5.16	66.62	16.08		150.0	
10542-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.49	67.08	16.42	0.00	150.0	± 9.6 %
		Y	5.51	66.73	16.18		150.0	
		Z	5.31	66.69	16.13		150.0	
10543-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.58	67.09	16.44	0.00	150.0	± 9.6 %
		Y	5.61	66.77	16.21		150.0	
		Z	5.39	66.74	16.17		150.0	
10544-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.61	67.12	16.33	0.00	150.0	± 9.6 %
		Y	5.62	66.77	16.09		150.0	
		Z	5.48	66.74	16.05		150.0	
10545-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.83	67.51	16.46	0.00	150.0	± 9.6 %
		Y	5.84	67.15	16.22		150.0	
		Z	5.68	67.16	16.22		150.0	
10546-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.72	67.42	16.44	0.00	150.0	± 9.6 %
		Y	5.73	67.08	16.20		150.0	
		Z	5.55	66.95	16.13		150.0	
10547-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.81	67.48	16.46	0.00	150.0	± 9.6 %
		Y	5.83	67.17	16.24		150.0	
		Z	5.62	66.99	16.14		150.0	
10548-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	6.10	68.50	16.94	0.00	150.0	± 9.6 %
		Y	6.15	68.24	16.74		150.0	
		Z	5.89	67.98	16.61		150.0	
10550-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.74	67.36	16.42	0.00	150.0	± 9.6 %
		Y	5.75	67.01	16.18		150.0	
		Z	5.57	66.96	16.14		150.0	
10551-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.76	67.47	16.43	0.00	150.0	± 9.6 %
		Y	5.78	67.14	16.20		150.0	
		Z	5.58	67.00	16.12		150.0	
10552-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.66	67.23	16.33	0.00	150.0	± 9.6 %
		Y	5.67	66.89	16.10		150.0	
		Z	5.49	66.80	16.03		150.0	
10553-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.75	67.26	16.37	0.00	150.0	± 9.6 %
		Y	5.76	66.93	16.14		150.0	
		Z	5.58	66.84	16.08		150.0	
10554-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	6.01	67.49	16.42	0.00	150.0	± 9.6 %
		Y	6.02	67.17	16.20		150.0	
		Z	5.89	67.10	16.15		150.0	
10555-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	6.17	67.85	16.56	0.00	150.0	± 9.6 %
		Y	6.20	67.56	16.36		150.0	
		Z	6.02	67.41	16.28		150.0	
10556-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	6.18	67.83	16.55	0.00	150.0	± 9.6 %
		Y	6.19	67.51	16.33		150.0	
		Z	6.04	67.46	16.30		150.0	
10557-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	6.17	67.82	16.57	0.00	150.0	± 9.6 %
		Y	6.19	67.52	16.36		150.0	
		Z	6.00	67.36	16.27		150.0	

10558-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	6.23	68.01	16.68	0.00	150.0	± 9.6 %
		Y	6.25	67.72	16.47		150.0	
		Z	6.05	67.53	16.37		150.0	
10560-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	6.22	67.85	16.63	0.00	150.0	± 9.6 %
		Y	6.25	67.56	16.43		150.0	
		Z	6.05	67.37	16.33		150.0	
10561-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	6.13	67.79	16.64	0.00	150.0	± 9.6 %
		Y	6.15	67.49	16.43		150.0	
		Z	5.97	67.35	16.35		150.0	
10562-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	6.29	68.28	16.89	0.00	150.0	± 9.6 %
		Y	6.33	68.01	16.70		150.0	
		Z	6.10	67.74	16.55		150.0	
10563-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.57	68.63	17.00	0.00	150.0	± 9.6 %
		Y	6.57	68.27	16.77		150.0	
		Z	6.35	68.10	16.68		150.0	
10564-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	X	5.07	67.31	16.69	0.46	150.0	± 9.6 %
		Y	5.10	66.95	16.44		150.0	
		Z	4.91	67.04	16.40		150.0	
10565-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	X	5.34	67.80	17.01	0.46	150.0	± 9.6 %
		Y	5.38	67.46	16.78		150.0	
		Z	5.14	67.47	16.71		150.0	
10566-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	X	5.17	67.69	16.85	0.46	150.0	± 9.6 %
		Y	5.21	67.33	16.61		150.0	
		Z	4.97	67.33	16.54		150.0	
10567-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	X	5.20	68.09	17.20	0.46	150.0	± 9.6 %
		Y	5.23	67.71	16.94		150.0	
		Z	5.00	67.68	16.86		150.0	
10568-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	X	5.08	67.38	16.59	0.46	150.0	± 9.6 %
		Y	5.11	67.01	16.33		150.0	
		Z	4.90	67.16	16.34		150.0	
10569-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	X	5.14	68.11	17.22	0.46	150.0	± 9.6 %
		Y	5.16	67.71	16.95		150.0	
		Z	4.96	67.77	16.91		150.0	
10570-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	X	5.18	67.92	17.15	0.46	150.0	± 9.6 %
		Y	5.21	67.52	16.88		150.0	
		Z	4.99	67.63	16.86		150.0	
10571-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.45	67.97	17.69	0.46	130.0	± 9.6 %
		Y	1.38	65.84	16.15		130.0	
		Z	1.34	65.80	16.05		130.0	
10572-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.49	68.86	18.18	0.46	130.0	± 9.6 %
		Y	1.40	66.47	16.51		130.0	
		Z	1.36	66.39	16.40		130.0	
10573-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	100.00	149.30	40.22	0.46	130.0	± 9.6 %
		Y	3.11	88.03	23.54		130.0	
		Z	3.23	89.37	24.00		130.0	
10574-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	2.21	80.01	23.13	0.46	130.0	± 9.6 %
		Y	1.65	72.75	19.44		130.0	
		Z	1.56	72.33	19.21		130.0	

10575-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	X	4.88	67.15	16.77	0.46	130.0	± 9.6 %
		Y	4.92	66.81	16.54		130.0	
		Z	4.73	66.93	16.51		130.0	
10576-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	X	4.91	67.32	16.84	0.46	130.0	± 9.6 %
		Y	4.94	66.97	16.61		130.0	
		Z	4.75	67.08	16.56		130.0	
10577-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	X	5.15	67.65	17.01	0.46	130.0	± 9.6 %
		Y	5.20	67.33	16.79		130.0	
		Z	4.96	67.36	16.73		130.0	
10578-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	X	5.05	67.86	17.13	0.46	130.0	± 9.6 %
		Y	5.09	67.50	16.89		130.0	
		Z	4.85	67.51	16.82		130.0	
10579-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	X	4.82	67.24	16.51	0.46	130.0	± 9.6 %
		Y	4.87	66.90	16.27		130.0	
		Z	4.63	66.89	16.19		130.0	
10580-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	X	4.86	67.17	16.48	0.46	130.0	± 9.6 %
		Y	4.91	66.83	16.25		130.0	
		Z	4.68	66.92	16.22		130.0	
10581-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	X	4.96	67.97	17.11	0.46	130.0	± 9.6 %
		Y	5.00	67.61	16.86		130.0	
		Z	4.76	67.57	16.77		130.0	
10582-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	X	4.78	66.97	16.29	0.46	130.0	± 9.6 %
		Y	4.83	66.64	16.06		130.0	
		Z	4.58	66.67	16.00		130.0	
10583-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.88	67.15	16.77	0.46	130.0	± 9.6 %
		Y	4.92	66.81	16.54		130.0	
		Z	4.73	66.93	16.51		130.0	
10584-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.91	67.32	16.84	0.46	130.0	± 9.6 %
		Y	4.94	66.97	16.61		130.0	
		Z	4.75	67.08	16.56		130.0	
10585-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	5.15	67.65	17.01	0.46	130.0	± 9.6 %
		Y	5.20	67.33	16.79		130.0	
		Z	4.96	67.36	16.73		130.0	
10586-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	5.05	67.86	17.13	0.46	130.0	± 9.6 %
		Y	5.09	67.50	16.89		130.0	
		Z	4.85	67.51	16.82		130.0	
10587-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.82	67.24	16.51	0.46	130.0	± 9.6 %
		Y	4.87	66.90	16.27		130.0	
		Z	4.63	66.89	16.19		130.0	
10588-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.86	67.17	16.48	0.46	130.0	± 9.6 %
		Y	4.91	66.83	16.25		130.0	
		Z	4.68	66.92	16.22		130.0	
10589-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.96	67.97	17.11	0.46	130.0	± 9.6 %
		Y	5.00	67.61	16.86		130.0	
		Z	4.76	67.57	16.77		130.0	
10590-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.78	66.97	16.29	0.46	130.0	± 9.6 %
		Y	4.83	66.64	16.06		130.0	
		Z	4.58	66.67	16.00		130.0	

10591-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	5.03	67.20	16.86	0.46	130.0	± 9.6 %
		Y	5.07	66.88	16.64		130.0	
		Z	4.88	66.97	16.60		130.0	
10592-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	5.21	67.55	16.98	0.46	130.0	± 9.6 %
		Y	5.26	67.23	16.76		130.0	
		Z	5.03	67.30	16.73		130.0	
10593-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	5.14	67.52	16.89	0.46	130.0	± 9.6 %
		Y	5.19	67.20	16.68		130.0	
		Z	4.96	67.23	16.62		130.0	
10594-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	5.19	67.66	17.03	0.46	130.0	± 9.6 %
		Y	5.24	67.33	16.81		130.0	
		Z	5.01	67.38	16.76		130.0	
10595-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	5.17	67.65	16.95	0.46	130.0	± 9.6 %
		Y	5.23	67.33	16.73		130.0	
		Z	4.98	67.35	16.67		130.0	
10596-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	5.11	67.64	16.94	0.46	130.0	± 9.6 %
		Y	5.16	67.30	16.71		130.0	
		Z	4.92	67.35	16.67		130.0	
10597-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	5.06	67.59	16.86	0.46	130.0	± 9.6 %
		Y	5.11	67.26	16.64		130.0	
		Z	4.87	67.26	16.56		130.0	
10598-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	5.05	67.87	17.14	0.46	130.0	± 9.6 %
		Y	5.09	67.53	16.91		130.0	
		Z	4.85	67.47	16.80		130.0	
10599-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.68	67.76	17.01	0.46	130.0	± 9.6 %
		Y	5.74	67.54	16.84		130.0	
		Z	5.54	67.51	16.80		130.0	
10600-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.91	68.42	17.31	0.46	130.0	± 9.6 %
		Y	6.00	68.29	17.19		130.0	
		Z	5.69	67.96	17.01		130.0	
10601-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.75	68.03	17.13	0.46	130.0	± 9.6 %
		Y	5.81	67.81	16.96		130.0	
		Z	5.57	67.70	16.89		130.0	
10602-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.85	68.05	17.05	0.46	130.0	± 9.6 %
		Y	5.93	67.91	16.93		130.0	
		Z	5.67	67.73	16.83		130.0	
10603-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.97	68.46	17.38	0.46	130.0	± 9.6 %
		Y	6.05	68.29	17.25		130.0	
		Z	5.74	68.01	17.09		130.0	
10604-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.70	67.75	17.03	0.46	130.0	± 9.6 %
		Y	5.76	67.53	16.86		130.0	
		Z	5.55	67.48	16.81		130.0	
10605-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.80	68.03	17.16	0.46	130.0	± 9.6 %
		Y	5.86	67.81	17.00		130.0	
		Z	5.67	67.84	17.00		130.0	
10606-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.58	67.53	16.79	0.46	130.0	± 9.6 %
		Y	5.62	67.26	16.60		130.0	
		Z	5.41	67.19	16.54		130.0	

10607-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.86	66.52	16.48	0.46	130.0	± 9.6 %
		Y	4.89	66.14	16.23		130.0	
		Z	4.71	66.27	16.21		130.0	
10608-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	5.09	66.96	16.64	0.46	130.0	± 9.6 %
		Y	5.12	66.58	16.39		130.0	
		Z	4.90	66.67	16.37		130.0	
10609-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.98	66.85	16.52	0.46	130.0	± 9.6 %
		Y	5.01	66.47	16.26		130.0	
		Z	4.79	66.53	16.22		130.0	
10610-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	5.03	67.01	16.67	0.46	130.0	± 9.6 %
		Y	5.06	66.63	16.42		130.0	
		Z	4.84	66.68	16.37		130.0	
10611-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.96	66.86	16.54	0.46	130.0	± 9.6 %
		Y	4.99	66.50	16.29		130.0	
		Z	4.76	66.50	16.23		130.0	
10612-AAA	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.97	67.00	16.58	0.46	130.0	± 9.6 %
		Y	5.01	66.61	16.31		130.0	
		Z	4.77	66.66	16.28		130.0	
10613-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.99	66.94	16.49	0.46	130.0	± 9.6 %
		Y	5.03	66.55	16.23		130.0	
		Z	4.77	66.56	16.17		130.0	
10614-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.92	67.15	16.73	0.46	130.0	± 9.6 %
		Y	4.95	66.76	16.47		130.0	
		Z	4.71	66.71	16.38		130.0	
10615-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.95	66.65	16.31	0.46	130.0	± 9.6 %
		Y	4.99	66.28	16.06		130.0	
		Z	4.76	66.36	16.03		130.0	
10616-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.51	67.07	16.65	0.46	130.0	± 9.6 %
		Y	5.55	66.78	16.45		130.0	
		Z	5.35	66.74	16.40		130.0	
10617-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.58	67.18	16.67	0.46	130.0	± 9.6 %
		Y	5.62	66.89	16.46		130.0	
		Z	5.43	66.92	16.46		130.0	
10618-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	5.47	67.27	16.74	0.46	130.0	± 9.6 %
		Y	5.50	66.95	16.52		130.0	
		Z	5.31	66.92	16.47		130.0	
10619-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.49	67.07	16.57	0.46	130.0	± 9.6 %
		Y	5.52	66.76	16.36		130.0	
		Z	5.33	66.76	16.33		130.0	
10620-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.62	67.19	16.68	0.46	130.0	± 9.6 %
		Y	5.67	66.93	16.49		130.0	
		Z	5.42	66.79	16.40		130.0	
10621-AAA	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.59	67.25	16.82	0.46	130.0	± 9.6 %
		Y	5.63	66.98	16.62		130.0	
		Z	5.41	66.88	16.56		130.0	
10622-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.58	67.35	16.86	0.46	130.0	± 9.6 %
		Y	5.62	67.06	16.66		130.0	
		Z	5.43	67.06	16.64		130.0	

10623-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.48	66.99	16.57	0.46	130.0	± 9.6 %
		Y	5.54	66.75	16.40		130.0	
		Z	5.31	66.61	16.29		130.0	
10624-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.65	67.09	16.68	0.46	130.0	± 9.6 %
		Y	5.69	66.81	16.49		130.0	
		Z	5.50	66.79	16.45		130.0	
10625-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	6.03	68.01	17.18	0.46	130.0	± 9.6 %
		Y	6.05	67.65	16.95		130.0	
		Z	5.88	67.81	17.01		130.0	
10626-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.76	67.09	16.57	0.46	130.0	± 9.6 %
		Y	5.79	66.81	16.38		130.0	
		Z	5.64	66.79	16.35		130.0	
10627-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	6.01	67.60	16.77	0.46	130.0	± 9.6 %
		Y	6.04	67.32	16.58		130.0	
		Z	5.89	67.37	16.60		130.0	
10628-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.83	67.28	16.56	0.46	130.0	± 9.6 %
		Y	5.87	67.01	16.37		130.0	
		Z	5.69	66.92	16.32		130.0	
10629-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.93	67.36	16.58	0.46	130.0	± 9.6 %
		Y	5.99	67.16	16.43		130.0	
		Z	5.77	67.00	16.35		130.0	
10630-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	6.47	69.11	17.45	0.46	130.0	± 9.6 %
		Y	6.56	68.99	17.34		130.0	
		Z	6.24	68.58	17.14		130.0	
10631-AAA	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	6.36	68.89	17.53	0.46	130.0	± 9.6 %
		Y	6.44	68.71	17.39		130.0	
		Z	6.09	68.24	17.15		130.0	
10632-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	6.00	67.73	16.97	0.46	130.0	± 9.6 %
		Y	6.05	67.48	16.79		130.0	
		Z	5.85	67.39	16.74		130.0	
10633-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.95	67.59	16.73	0.46	130.0	± 9.6 %
		Y	6.01	67.38	16.58		130.0	
		Z	5.74	67.05	16.41		130.0	
10634-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.92	67.56	16.78	0.46	130.0	± 9.6 %
		Y	5.98	67.34	16.62		130.0	
		Z	5.72	67.07	16.47		130.0	
10635-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.80	66.87	16.18	0.46	130.0	± 9.6 %
		Y	5.85	66.64	16.01		130.0	
		Z	5.62	66.48	15.93		130.0	
10636-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	6.16	67.47	16.65	0.46	130.0	± 9.6 %
		Y	6.19	67.22	16.49		130.0	
		Z	6.06	67.16	16.44		130.0	
10637-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.34	67.89	16.84	0.46	130.0	± 9.6 %
		Y	6.39	67.69	16.69		130.0	
		Z	6.22	67.55	16.62		130.0	
10638-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.33	67.82	16.78	0.46	130.0	± 9.6 %
		Y	6.36	67.57	16.61		130.0	
		Z	6.21	67.52	16.58		130.0	

10639-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.34	67.88	16.86	0.46	130.0	± 9.6 %
		Y	6.38	67.64	16.70		130.0	
		Z	6.19	67.47	16.60		130.0	
10640-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.37	67.96	16.84	0.46	130.0	± 9.6 %
		Y	6.42	67.75	16.69		130.0	
		Z	6.20	67.51	16.57		130.0	
10641-AAA	IEEE 1602.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.36	67.66	16.71	0.46	130.0	± 9.6 %
		Y	6.40	67.44	16.56		130.0	
		Z	6.24	67.40	16.53		130.0	
10642-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.44	68.03	17.05	0.46	130.0	± 9.6 %
		Y	6.49	67.81	16.91		130.0	
		Z	6.28	67.62	16.80		130.0	
10643-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.26	67.70	16.80	0.46	130.0	± 9.6 %
		Y	6.31	67.48	16.64		130.0	
		Z	6.12	67.34	16.57		130.0	
10644-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.50	68.41	17.18	0.46	130.0	± 9.6 %
		Y	6.57	68.25	17.05		130.0	
		Z	6.29	67.86	16.85		130.0	
10645-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.78	68.77	17.29	0.46	130.0	± 9.6 %
		Y	6.81	68.48	17.11		130.0	
		Z	6.68	68.60	17.18		130.0	
10646-AAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	X	37.14	116.21	38.03	9.30	60.0	± 9.6 %
		Y	19.95	100.33	33.06		60.0	
		Z	62.05	131.91	43.22		60.0	
10647-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	38.52	117.84	38.64	9.30	60.0	± 9.6 %
		Y	20.25	101.35	33.50		60.0	
		Z	63.43	133.45	43.81		60.0	
10648-AAA	CDMA2000 (1x Advanced)	X	1.03	68.68	14.68	0.00	150.0	± 9.6 %
		Y	0.85	64.54	12.30		150.0	
		Z	0.71	63.65	10.90		150.0	

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

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

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Accreditation No.: SCS 0108

Client **PC Test**

Certificate No: ES3-3318_Feb16

CALIBRATION CERTIFICATE

Object: ES3DV3 - SN:3318

Calibration procedure(s): QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

BN ✓ 05/01/2016

Calibration date: February 19, 2016

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	01-Apr-15 (No. 217-02128)	Mar-16
Power sensor E4412A	MY41498087	01-Apr-15 (No. 217-02128)	Mar-16
Reference 3 dB Attenuator	SN: S5054 (3c)	01-Apr-15 (No. 217-02129)	Mar-16
Reference 20 dB Attenuator	SN: S5277 (20x)	01-Apr-15 (No. 217-02132)	Mar-16
Reference 30 dB Attenuator	SN: S5129 (30b)	01-Apr-15 (No. 217-02133)	Mar-16
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
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-15)	In house check: Oct-16

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

Issued: February 20, 2016

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

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *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.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *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 ES3DV3

SN:3318

Manufactured: January 10, 2012
Calibrated: February 19, 2016

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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3318

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	1.16	0.93	1.29	± 10.1 %
DCP (mV)[B]	102.2	104.2	103.7	

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	199.2	±3.5 %
		Y	0.0	0.0	1.0		176.5	
		Z	0.0	0.0	1.0		194.6	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	3.19	63.2	12.6	10.00	42.3	±1.4 %
		Y	19.74	82.9	18.6		35.5	
		Z	4.87	67.6	14.6		43.3	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	2.99	68.6	18.5	1.87	141.3	±0.9 %
		Y	3.46	71.1	19.6		145.1	
		Z	3.19	70.2	19.5		144.7	
10100-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	6.30	67.0	19.4	5.67	128.2	±1.4 %
		Y	6.32	67.0	19.2		129.9	
		Z	6.36	67.5	19.8		131.3	
10103-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	11.31	78.0	27.3	9.29	146.7	±3.5 %
		Y	9.35	72.8	24.3		141.3	
		Z	11.02	76.9	26.7		131.7	
10108-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	6.22	66.7	19.4	5.80	126.2	±1.4 %
		Y	6.20	66.5	19.1		128.1	
		Z	6.27	67.1	19.7		131.1	
10151-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	10.46	76.6	26.8	9.28	138.8	±3.3 %
		Y	8.80	72.0	24.0		134.3	
		Z	10.01	75.0	25.9		122.1	
10154-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	6.12	67.0	19.6	5.75	146.0	±1.7 %
		Y	6.15	67.1	19.5		148.7	
		Z	5.95	66.5	19.4		127.4	
10160-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	6.33	66.7	19.4	5.82	127.2	±1.4 %
		Y	6.33	66.6	19.2		128.2	
		Z	6.38	67.1	19.7		133.6	
10169-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	5.10	67.2	20.0	5.73	147.9	±1.2 %
		Y	4.85	66.3	19.3		127.1	
		Z	4.97	66.7	19.8		133.9	
10172-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	8.71	78.3	27.8	9.21	127.5	±3.0 %
		Y	7.52	74.8	25.7		144.7	
		Z	10.09	81.9	29.5		136.4	
10175-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	5.09	67.2	20.0	5.72	146.9	±1.2 %
		Y	4.97	66.9	19.6		140.9	
		Z	4.95	66.6	19.7		133.1	

10181-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	5.11	67.3	20.0	5.72	146.8	±1.2 %
		Y	5.03	67.2	19.8		147.0	
		Z	5.00	66.8	19.8		135.0	
10237-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	8.73	78.3	27.8	9.21	126.7	±3.0 %
		Y	7.60	75.1	25.9		146.1	
		Z	10.76	83.8	30.4		143.4	
10252-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	9.61	75.3	26.2	9.24	129.4	±3.3 %
		Y	8.55	72.3	24.3		143.1	
		Z	11.05	79.1	28.1		146.1	
10267-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	10.44	76.5	26.8	9.30	137.7	±3.3 %
		Y	8.62	71.3	23.6		125.8	
		Z	10.24	75.6	26.2		125.3	
10297-AAA	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	6.51	67.8	20.0	5.81	148.5	±1.7 %
		Y	6.42	67.3	19.6		144.3	
		Z	6.31	67.3	19.8		134.7	
10311-AAA	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	6.80	67.4	19.9	6.06	128.6	±1.4 %
		Y	6.69	66.9	19.4		125.3	
		Z	6.91	68.0	20.3		140.1	

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%.

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 6 and 7).
[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.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3318

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	41.9	0.89	6.48	6.48	6.48	0.54	1.35	± 12.0 %
835	41.5	0.90	6.23	6.23	6.23	0.70	1.21	± 12.0 %
1750	40.1	1.37	5.34	5.34	5.34	0.72	1.27	± 12.0 %
1900	40.0	1.40	5.13	5.13	5.13	0.80	1.18	± 12.0 %
2300	39.5	1.67	4.78	4.78	4.78	0.76	1.29	± 12.0 %
2450	39.2	1.80	4.57	4.57	4.57	0.59	1.49	± 12.0 %
2600	39.0	1.96	4.40	4.40	4.40	0.80	1.31	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3318

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	6.19	6.19	6.19	0.50	1.51	± 12.0 %
835	55.2	0.97	6.11	6.11	6.11	0.47	1.56	± 12.0 %
1750	53.4	1.49	5.02	5.02	5.02	0.49	1.55	± 12.0 %
1900	53.3	1.52	4.81	4.81	4.81	0.80	1.24	± 12.0 %
2300	52.9	1.81	4.55	4.55	4.55	0.80	1.27	± 12.0 %
2450	52.7	1.95	4.45	4.45	4.45	0.80	1.16	± 12.0 %
2600	52.5	2.16	4.18	4.18	4.18	0.80	1.13	± 12.0 %

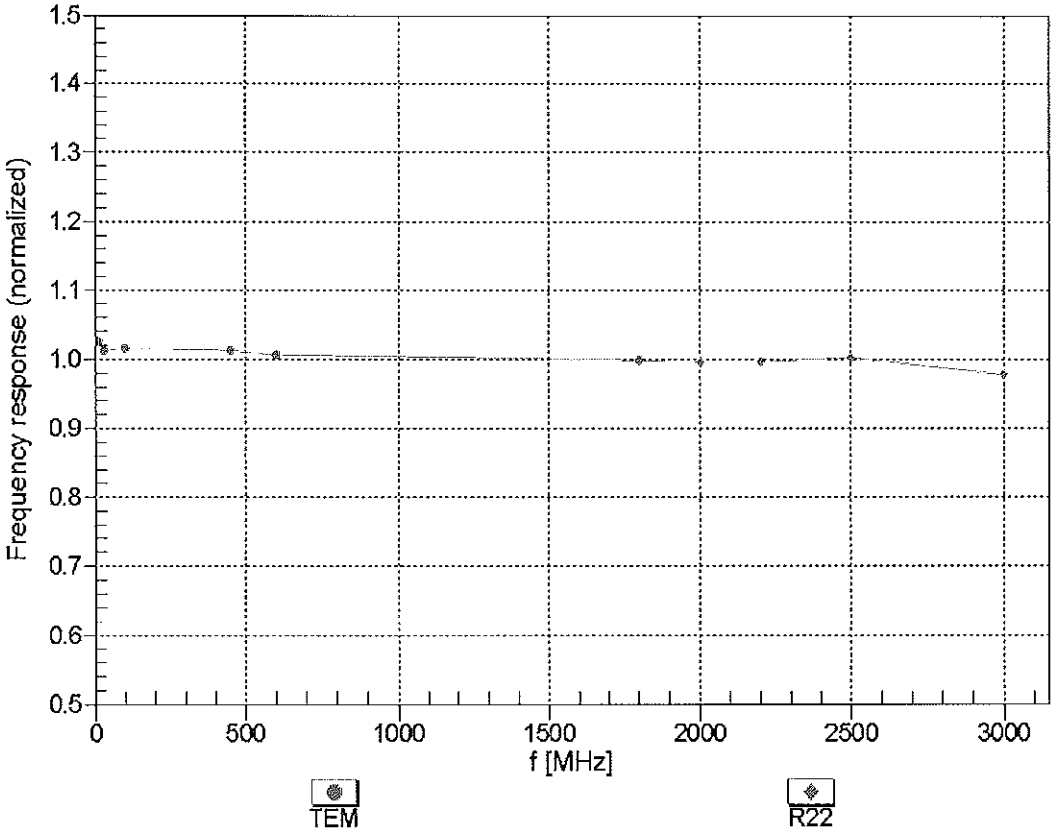
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

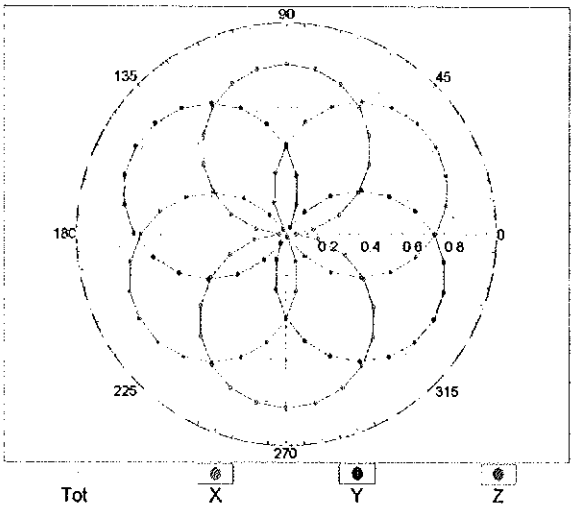
(TEM-Cell:ifi110 EXX, Waveguide: R22)



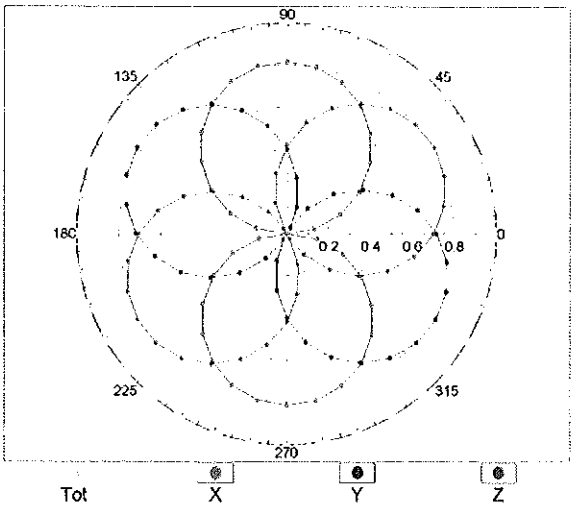
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

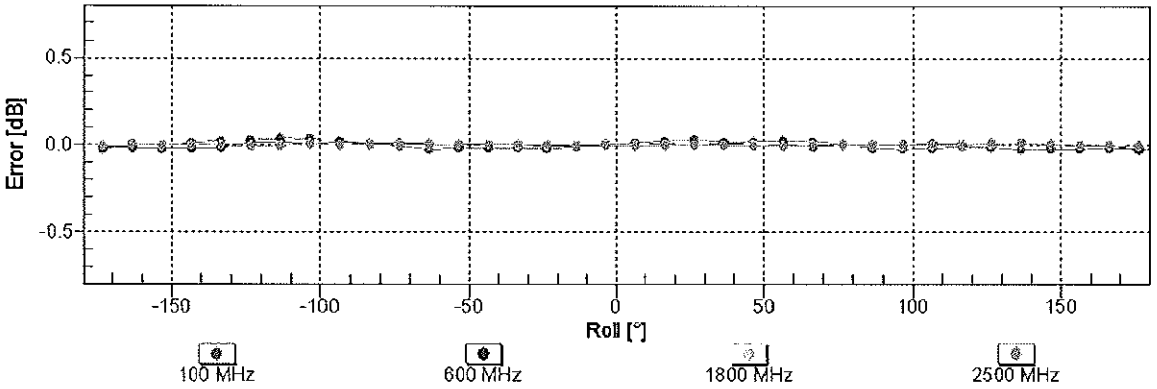
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

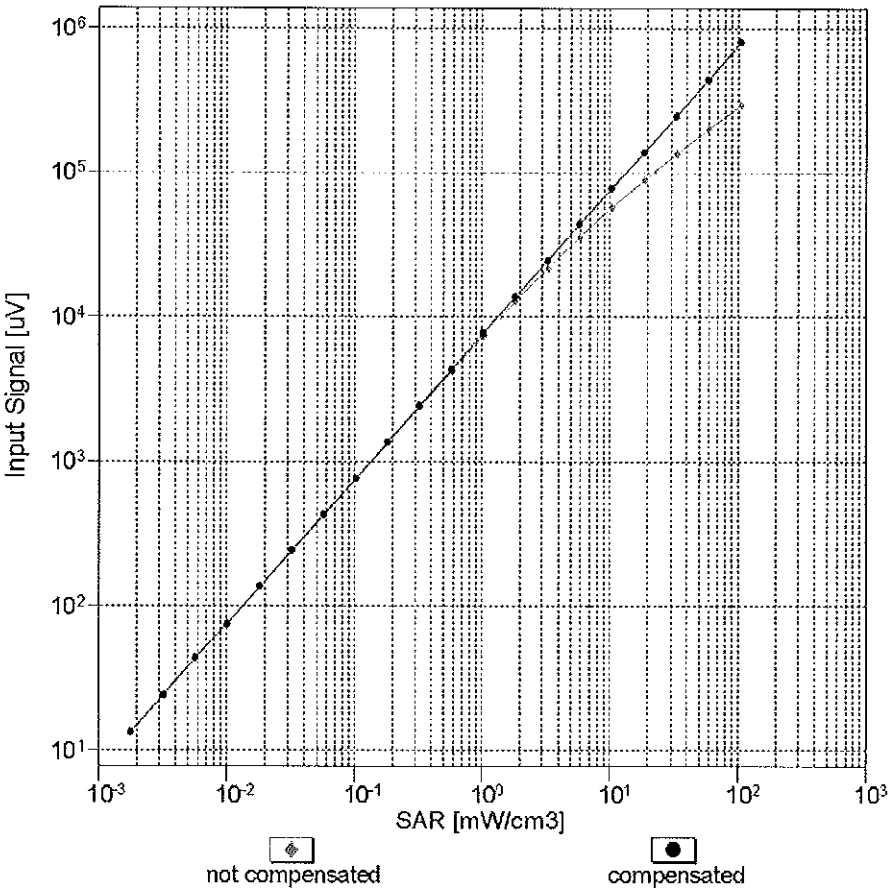


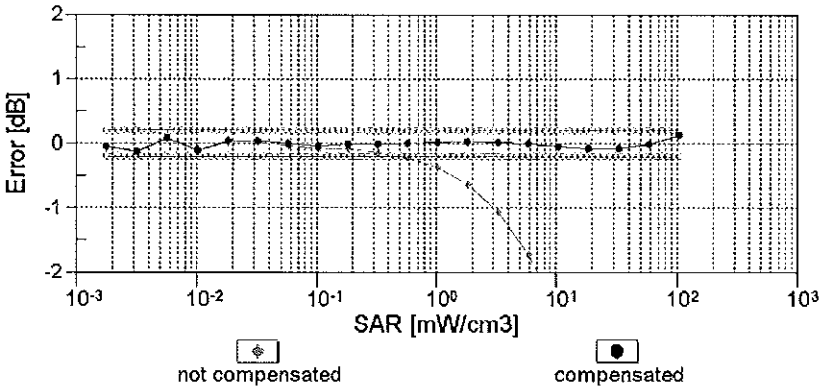


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})

(TEM cell , f_{eval}= 1900 MHz)

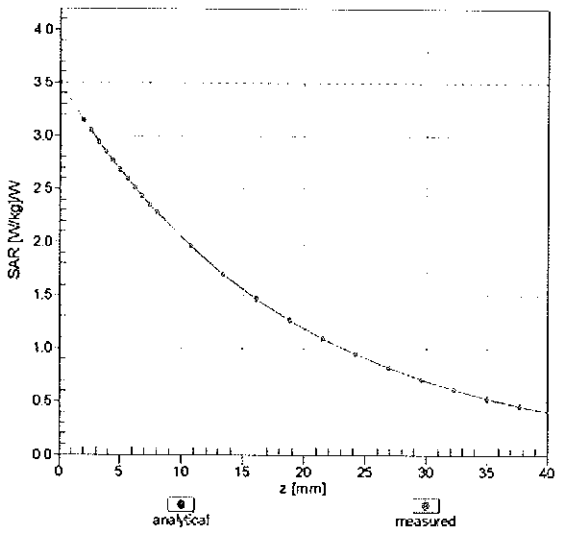




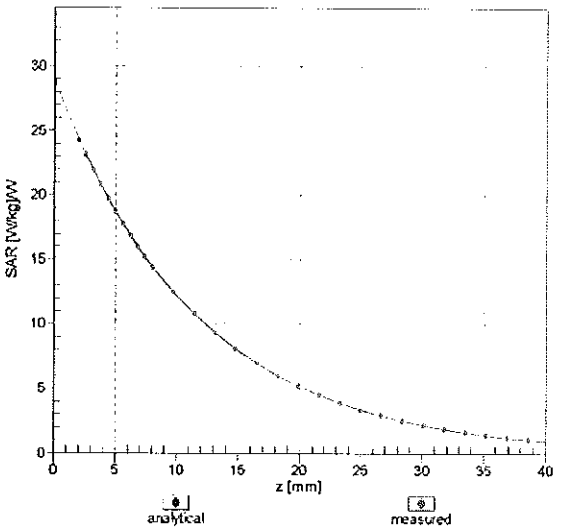
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

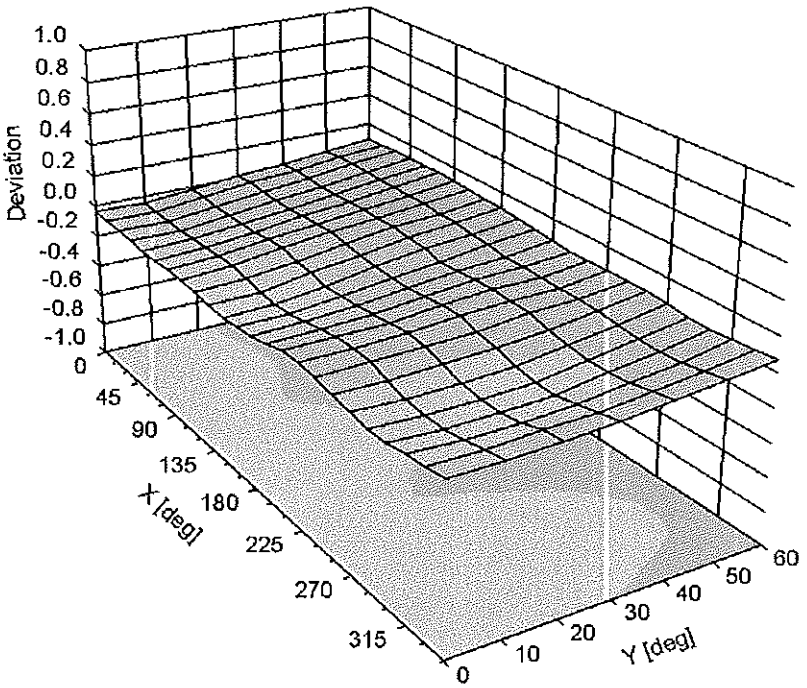


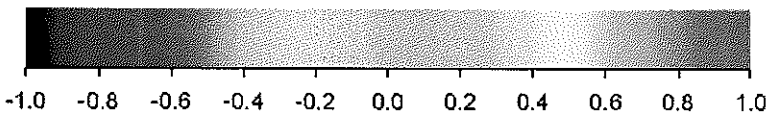
f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3318

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	76.5
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	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

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Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client **PC Test**

Certificate No: ES3-3022_Jul16

CALIBRATION CERTIFICATE

Object	ES3DV2 - SN:3022
Calibration procedure(s)	QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	July 19, 2016

BM ✓
07/27/2016

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 NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: S5277 (20x)	05-Apr-16 (No. 217-02293)	Apr-17
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	**Claudio Leubler**	**Laboratory Technician**	
Approved by:	**Katja Pokovic**	**Technical Manager**	

Issued: July 19, 2016

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

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *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.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *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 ES3DV2

SN:3022

Manufactured: April 15, 2003
Calibrated: July 19, 2016

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

DASY/EASY - Parameters of Probe: ES3DV2 - SN:3022

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.99	1.04	0.95	± 10.1 %
DCP (mV)[B]	102.3	100.0	101.8	

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	204.0	±3.3 %
		Y	0.0	0.0	1.0		188.8	
		Z	0.0	0.0	1.0		209.9	

Note: For details on UID parameters see Appendix.

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	58.89	429.7	36.49	29.69	3.141	5.1	0	0.551	1.012
Y	53.83	392.1	36.34	29.42	2.866	5.1	0.704	0.458	1.009
Z	50.44	364.8	35.93	29	2.624	5.1	0.36	0.436	1.009

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%.

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[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.

DASY/EASY - Parameters of Probe: ES3DV2 - SN:3022

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	41.9	0.89	6.38	6.38	6.38	0.24	2.07	± 12.0 %
835	41.5	0.90	6.13	6.13	6.13	0.34	1.69	± 12.0 %
1750	40.1	1.37	5.15	5.15	5.15	0.43	1.50	± 12.0 %
1900	40.0	1.40	4.96	4.96	4.96	0.35	1.64	± 12.0 %
2300	39.5	1.67	4.63	4.63	4.63	0.42	1.56	± 12.0 %
2450	39.2	1.80	4.27	4.27	4.27	0.57	1.40	± 12.0 %
2600	39.0	1.96	4.16	4.16	4.16	0.70	1.27	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: ES3DV2 - SN:3022

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	6.10	6.10	6.10	0.51	1.30	± 12.0 %
835	55.2	0.97	6.09	6.09	6.09	0.32	1.70	± 12.0 %
1750	53.4	1.49	4.78	4.78	4.78	0.42	1.61	± 12.0 %
1900	53.3	1.52	4.59	4.59	4.59	0.50	1.54	± 12.0 %
2300	52.9	1.81	4.32	4.32	4.32	0.69	1.25	± 12.0 %
2450	52.7	1.95	4.13	4.13	4.13	0.80	1.12	± 12.0 %
2600	52.5	2.16	3.94	3.94	3.94	0.74	1.13	± 12.0 %

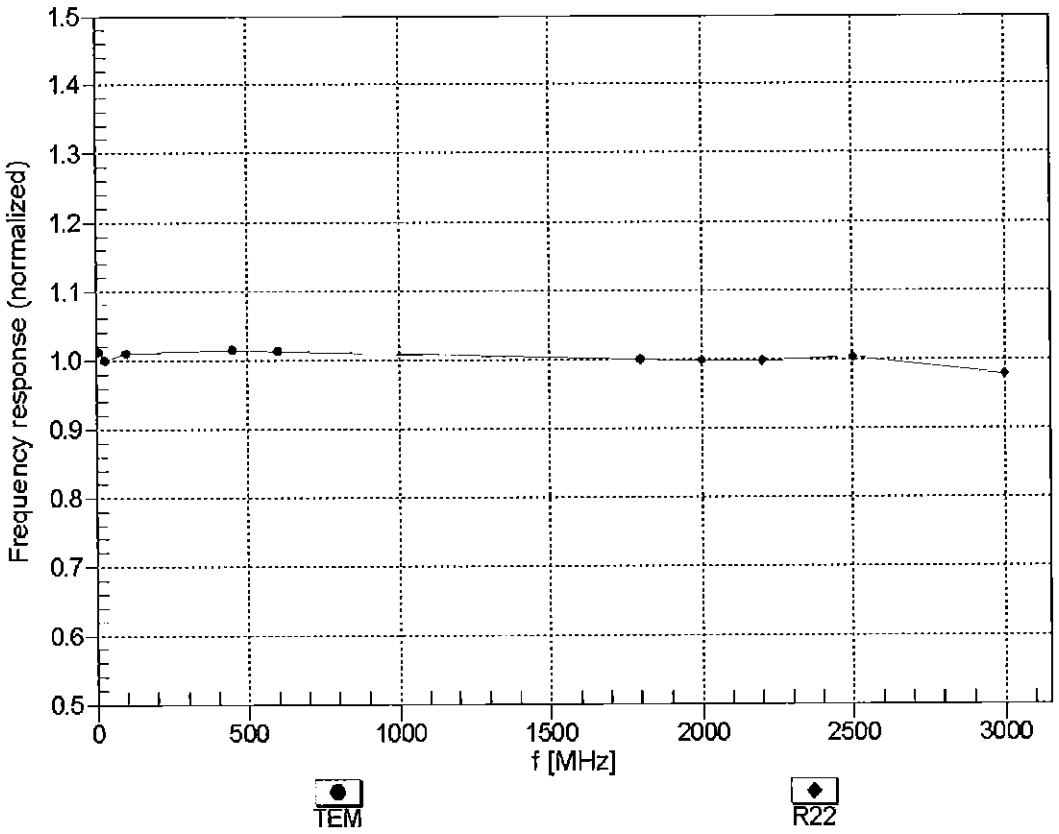
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

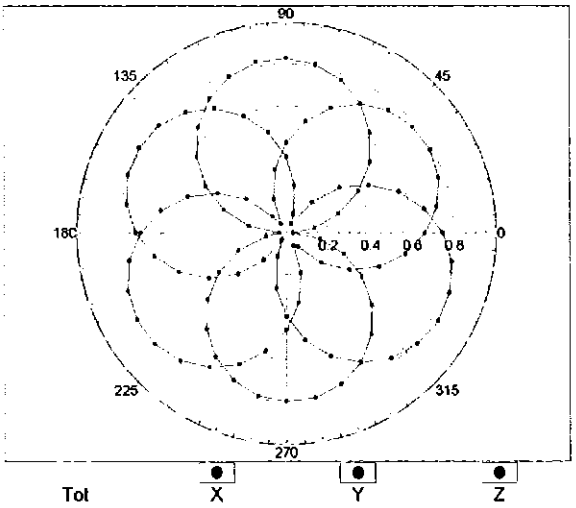
(TEM-Cell:ifi110 EXX, Waveguide: R22)



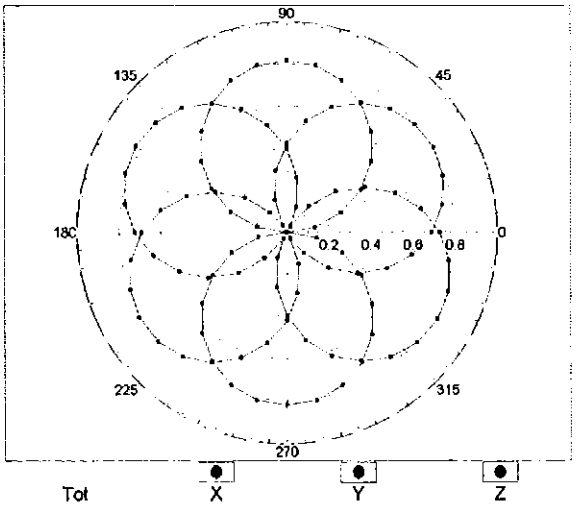
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

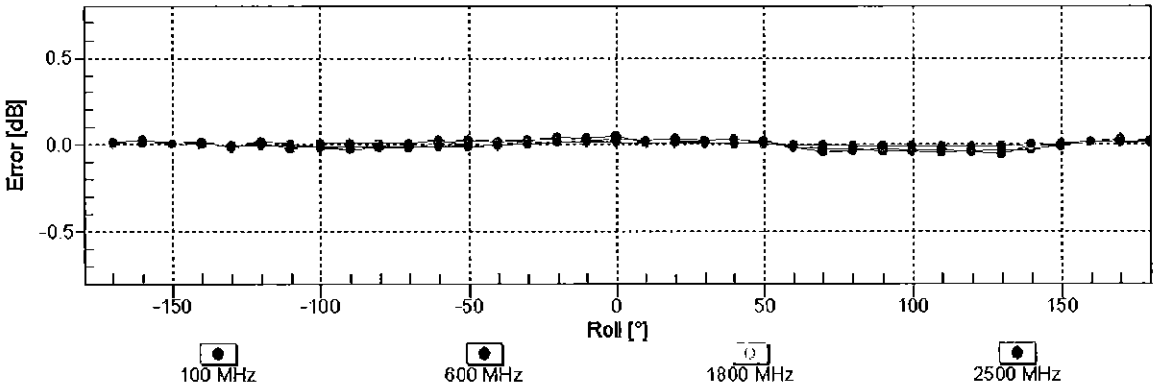
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

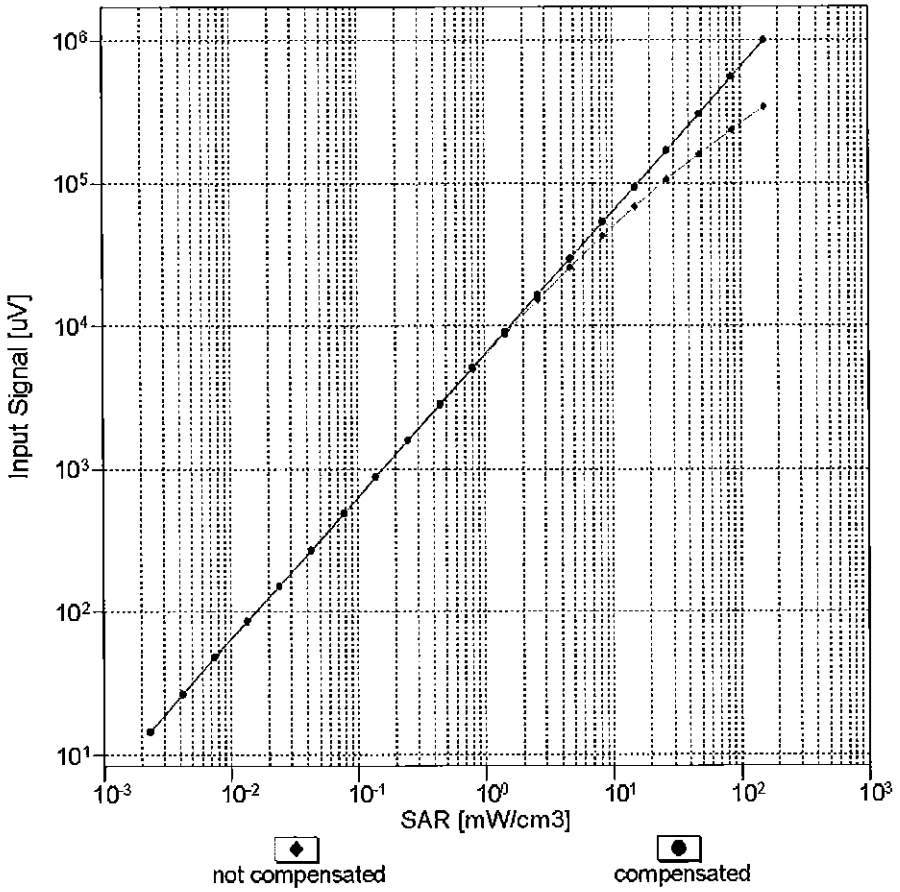


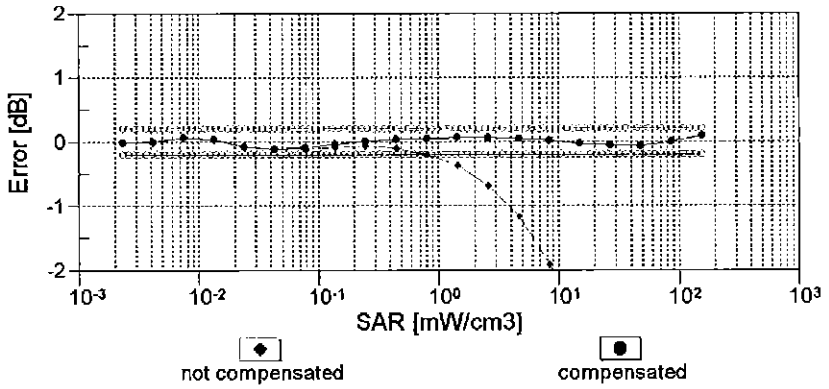


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})

(TEM cell , f_{eval}= 1900 MHz)

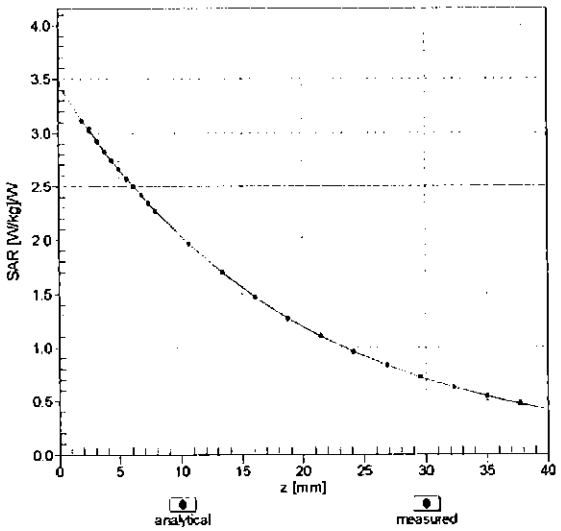




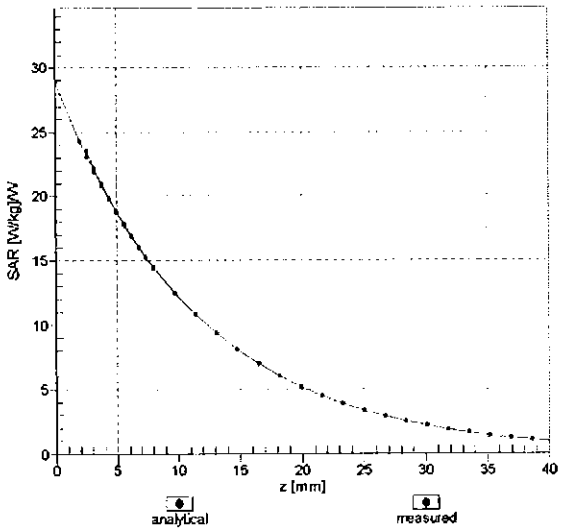
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

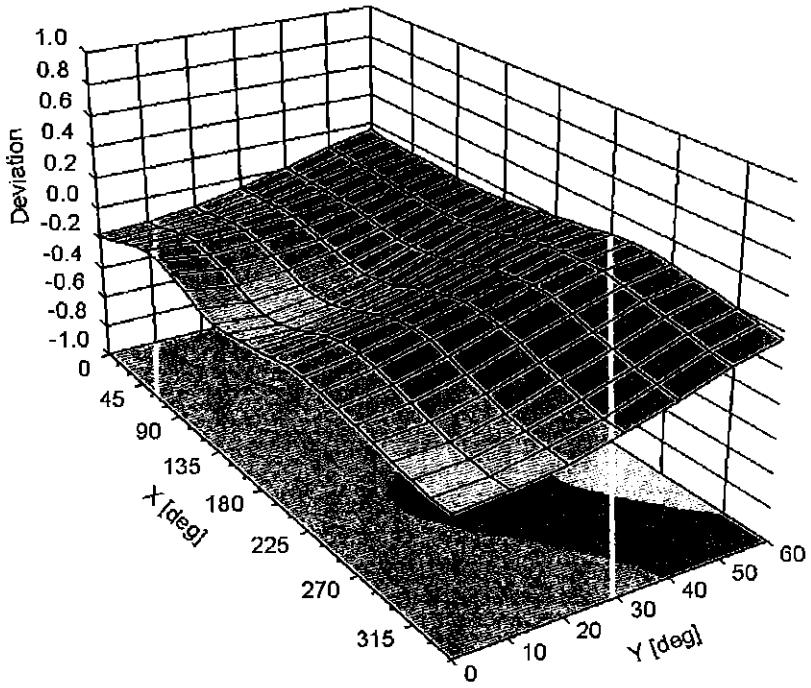


f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz



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

DASY/EASY - Parameters of Probe: ES3DV2 - SN:3022

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	99.7
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	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Max Unc[E] (k=2)
0	CW	X	0.00	0.00	1.00	0.00	204.0	± 3.3 %
		Y	0.00	0.00	1.00		188.8	
		Z	0.00	0.00	1.00		209.9	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	10.04	82.57	20.76	10.00	25.0	± 9.6 %
		Y	10.73	83.77	21.02		25.0	
		Z	10.90	83.99	20.87		25.0	
10011-CAB	UMTS-FDD (WCDMA)	X	1.12	68.12	15.80	0.00	150.0	± 9.6 %
		Y	1.05	66.98	15.07		150.0	
		Z	1.10	68.19	15.77		150.0	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.34	65.20	16.01	0.41	150.0	± 9.6 %
		Y	1.32	64.81	15.67		150.0	
		Z	1.33	65.29	16.02		150.0	
10013-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	X	5.20	67.28	17.55	1.46	150.0	± 9.6 %
		Y	5.15	67.26	17.47		150.0	
		Z	5.12	67.39	17.54		150.0	
10021-DAB	GSM-FDD (TDMA, GMSK)	X	21.17	96.89	27.34	9.39	50.0	± 9.6 %
		Y	31.41	103.93	29.32		50.0	
		Z	35.00	105.46	29.48		50.0	
10023-DAB	GPRS-FDD (TDMA, GMSK, TN 0)	X	18.97	94.85	26.74	9.57	50.0	± 9.6 %
		Y	26.05	100.58	28.37		50.0	
		Z	28.47	101.84	28.47		50.0	
10024-DAB	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00	120.85	31.99	6.56	60.0	± 9.6 %
		Y	100.00	120.62	31.75		60.0	
		Z	100.00	120.02	31.34		60.0	
10025-DAB	EDGE-FDD (TDMA, 8PSK, TN 0)	X	17.56	103.12	39.40	12.57	50.0	± 9.6 %
		Y	14.67	97.75	37.12		50.0	
		Z	18.25	105.68	40.52		50.0	
10026-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	18.29	101.23	35.12	9.56	60.0	± 9.6 %
		Y	16.46	98.83	34.20		60.0	
		Z	20.10	104.74	36.45		60.0	
10027-DAB	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	119.73	30.48	4.80	80.0	± 9.6 %
		Y	100.00	119.52	30.28		80.0	
		Z	100.00	119.08	29.96		80.0	
10028-DAB	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	119.97	29.73	3.55	100.0	± 9.6 %
		Y	100.00	119.74	29.53		100.0	
		Z	100.00	119.49	29.32		100.0	
10029-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	12.76	93.34	31.27	7.80	80.0	± 9.6 %
		Y	11.53	91.16	30.39		80.0	
		Z	13.01	94.76	31.89		80.0	
10030-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	100.00	119.30	30.64	5.30	70.0	± 9.6 %
		Y	100.00	118.98	30.37		70.0	
		Z	100.00	118.44	30.00		70.0	
10031-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	121.44	28.74	1.88	100.0	± 9.6 %
		Y	100.00	120.69	28.34		100.0	
		Z	100.00	120.87	28.33		100.0	

10032-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	126.29	29.65	1.17	100.0	± 9.6 %
		Y	100.00	125.01	29.05		100.0	
		Z	100.00	126.01	29.38		100.0	
10033-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	15.01	94.18	26.31	5.30	70.0	± 9.6 %
		Y	15.70	94.82	26.30		70.0	
		Z	18.31	97.29	26.87		70.0	
10034-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	6.96	86.30	22.21	1.88	100.0	± 9.6 %
		Y	6.66	85.32	21.56		100.0	
		Z	8.37	88.58	22.43		100.0	
10035-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	4.14	80.42	19.91	1.17	100.0	± 9.6 %
		Y	3.83	79.03	19.06		100.0	
		Z	4.65	81.85	19.90		100.0	
10036-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	17.57	97.01	27.25	5.30	70.0	± 9.6 %
		Y	18.86	98.07	27.36		70.0	
		Z	22.45	100.84	27.98		70.0	
10037-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	6.70	85.80	22.01	1.88	100.0	± 9.6 %
		Y	6.31	84.57	21.28		100.0	
		Z	7.83	87.67	22.11		100.0	
10038-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	4.26	81.08	20.23	1.17	100.0	± 9.6 %
		Y	3.94	79.65	19.38		100.0	
		Z	4.79	82.53	20.23		100.0	
10039-CAB	CDMA2000 (1xRTT, RC1)	X	2.02	72.60	16.60	0.00	150.0	± 9.6 %
		Y	1.82	71.28	15.70		150.0	
		Z	1.96	72.82	16.21		150.0	
10042-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	X	52.74	109.86	29.28	7.78	50.0	± 9.6 %
		Y	100.00	119.48	31.50		50.0	
		Z	100.00	118.79	31.03		50.0	
10044-CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.01	106.98	1.62	0.00	150.0	± 9.6 %
		Y	0.01	93.06	0.03		150.0	
		Z	0.01	104.47	1.40		150.0	
10048-CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	11.70	83.99	24.83	13.80	25.0	± 9.6 %
		Y	13.25	86.85	25.74		25.0	
		Z	13.41	87.23	25.62		25.0	
10049-CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	13.87	88.69	25.11	10.79	40.0	± 9.6 %
		Y	16.44	92.06	26.12		40.0	
		Z	17.05	92.62	26.04		40.0	
10056-CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	12.83	87.49	25.06	9.03	50.0	± 9.6 %
		Y	13.49	88.62	25.29		50.0	
		Z	14.51	90.06	25.62		50.0	
10058-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	9.53	87.74	28.51	6.55	100.0	± 9.6 %
		Y	8.70	85.87	27.73		100.0	
		Z	9.39	88.23	28.78		100.0	
10059-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.52	67.35	17.07	0.61	110.0	± 9.6 %
		Y	1.48	66.83	16.68		110.0	
		Z	1.50	67.47	17.09		110.0	
10060-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	100.00	132.17	34.30	1.30	110.0	± 9.6 %
		Y	69.75	126.35	32.85		110.0	
		Z	100.00	132.44	34.30		110.0	

10061-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	8.82	93.73	26.45	2.04	110.0	± 9.6 %
		Y	7.76	91.56	25.66		110.0	
		Z	10.12	96.51	27.28		110.0	
10062-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.91	67.02	16.82	0.49	100.0	± 9.6 %
		Y	4.86	66.98	16.74		100.0	
		Z	4.83	67.10	16.81		100.0	
10063-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.96	67.18	16.96	0.72	100.0	± 9.6 %
		Y	4.90	67.15	16.88		100.0	
		Z	4.87	67.27	16.95		100.0	
10064-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	5.29	67.53	17.24	0.86	100.0	± 9.6 %
		Y	5.22	67.47	17.15		100.0	
		Z	5.17	67.57	17.20		100.0	
10065-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	5.20	67.58	17.41	1.21	100.0	± 9.6 %
		Y	5.13	67.52	17.33		100.0	
		Z	5.09	67.62	17.38		100.0	
10066-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	5.26	67.72	17.65	1.46	100.0	± 9.6 %
		Y	5.19	67.65	17.56		100.0	
		Z	5.15	67.76	17.62		100.0	
10067-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.59	67.91	18.12	2.04	100.0	± 9.6 %
		Y	5.52	67.87	18.04		100.0	
		Z	5.48	68.01	18.12		100.0	
10068-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.74	68.29	18.51	2.55	100.0	± 9.6 %
		Y	5.66	68.19	18.40		100.0	
		Z	5.60	68.29	18.47		100.0	
10069-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.82	68.25	18.70	2.67	100.0	± 9.6 %
		Y	5.74	68.18	18.59		100.0	
		Z	5.69	68.31	18.68		100.0	
10071-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	5.36	67.54	17.95	1.99	100.0	± 9.6 %
		Y	5.31	67.51	17.87		100.0	
		Z	5.27	67.64	17.94		100.0	
10072-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	5.43	68.12	18.28	2.30	100.0	± 9.6 %
		Y	5.37	68.06	18.19		100.0	
		Z	5.33	68.18	18.27		100.0	
10073-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	5.58	68.50	18.72	2.83	100.0	± 9.6 %
		Y	5.51	68.43	18.63		100.0	
		Z	5.47	68.57	18.71		100.0	
10074-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	5.62	68.59	18.98	3.30	100.0	± 9.6 %
		Y	5.56	68.52	18.88		100.0	
		Z	5.52	68.67	18.97		100.0	
10075-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	5.79	69.12	19.51	3.82	90.0	± 9.6 %
		Y	5.71	68.97	19.36		90.0	
		Z	5.67	69.11	19.45		90.0	
10076-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	5.81	68.94	19.64	4.15	90.0	± 9.6 %
		Y	5.74	68.81	19.51		90.0	
		Z	5.71	68.99	19.62		90.0	
10077-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	5.85	69.04	19.75	4.30	90.0	± 9.6 %
		Y	5.79	68.92	19.62		90.0	
		Z	5.76	69.10	19.74		90.0	

10081-CAB	CDMA2000 (1xRTT, RC3)	X	0.98	67.14	13.79	0.00	150.0	± 9.6 %
		Y	0.89	65.95	12.85		150.0	
		Z	0.92	66.89	13.19		150.0	
10082-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	X	2.40	65.02	9.82	4.77	80.0	± 9.6 %
		Y	2.29	64.68	9.51		80.0	
		Z	2.21	64.49	9.27		80.0	
10090-DAB	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	120.93	32.05	6.56	60.0	± 9.6 %
		Y	100.00	120.70	31.81		60.0	
		Z	100.00	120.10	31.40		60.0	
10097-CAB	UMTS-FDD (HSDPA)	X	1.89	67.68	15.91	0.00	150.0	± 9.6 %
		Y	1.84	67.30	15.56		150.0	
		Z	1.88	67.98	15.90		150.0	
10098-CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.86	67.66	15.88	0.00	150.0	± 9.6 %
		Y	1.81	67.25	15.52		150.0	
		Z	1.84	67.95	15.88		150.0	
10099-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	18.21	101.08	35.07	9.56	60.0	± 9.6 %
		Y	16.42	98.73	34.16		60.0	
		Z	20.01	104.58	36.39		60.0	
10100-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.29	70.69	16.89	0.00	150.0	± 9.6 %
		Y	3.17	70.13	16.59		150.0	
		Z	3.21	70.63	16.88		150.0	
10101-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.39	67.84	16.15	0.00	150.0	± 9.6 %
		Y	3.32	67.56	15.95		150.0	
		Z	3.31	67.79	16.11		150.0	
10102-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.49	67.75	16.22	0.00	150.0	± 9.6 %
		Y	3.42	67.52	16.05		150.0	
		Z	3.41	67.72	16.18		150.0	
10103-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	8.57	77.88	21.29	3.98	65.0	± 9.6 %
		Y	8.37	77.72	21.21		65.0	
		Z	8.66	78.64	21.59		65.0	
10104-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	8.60	76.75	21.67	3.98	65.0	± 9.6 %
		Y	8.45	76.61	21.56		65.0	
		Z	8.51	77.09	21.79		65.0	
10105-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	7.66	74.39	20.91	3.98	65.0	± 9.6 %
		Y	7.76	74.87	21.08		65.0	
		Z	8.12	76.10	21.64		65.0	
10108-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.91	69.93	16.73	0.00	150.0	± 9.6 %
		Y	2.79	69.40	16.43		150.0	
		Z	2.82	69.90	16.73		150.0	
10109-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	3.05	67.65	16.07	0.00	150.0	± 9.6 %
		Y	2.98	67.37	15.86		150.0	
		Z	2.97	67.64	16.02		150.0	
10110-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.39	69.06	16.42	0.00	150.0	± 9.6 %
		Y	2.28	68.50	16.06		150.0	
		Z	2.30	69.09	16.40		150.0	
10111-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.74	68.19	16.31	0.00	150.0	± 9.6 %
		Y	2.67	67.98	16.09		150.0	
		Z	2.67	68.35	16.26		150.0	

10112-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	3.17	67.58	16.10	0.00	150.0	± 9.6 %
		Y	3.10	67.35	15.91		150.0	
		Z	3.09	67.60	16.06		150.0	
10113-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.89	68.27	16.41	0.00	150.0	± 9.6 %
		Y	2.82	68.11	16.22		150.0	
		Z	2.82	68.46	16.37		150.0	
10114-CAB	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	5.27	67.35	16.58	0.00	150.0	± 9.6 %
		Y	5.24	67.34	16.54		150.0	
		Z	5.22	67.46	16.61		150.0	
10115-CAB	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.65	67.73	16.78	0.00	150.0	± 9.6 %
		Y	5.58	67.62	16.69		150.0	
		Z	5.52	67.64	16.71		150.0	
10116-CAB	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.41	67.65	16.65	0.00	150.0	± 9.6 %
		Y	5.36	67.61	16.60		150.0	
		Z	5.32	67.69	16.65		150.0	
10117-CAB	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	5.27	67.34	16.59	0.00	150.0	± 9.6 %
		Y	5.21	67.24	16.50		150.0	
		Z	5.18	67.31	16.55		150.0	
10118-CAB	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.74	67.93	16.89	0.00	150.0	± 9.6 %
		Y	5.69	67.90	16.84		150.0	
		Z	5.63	67.91	16.86		150.0	
10119-CAB	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	X	5.38	67.60	16.65	0.00	150.0	± 9.6 %
		Y	5.33	67.54	16.58		150.0	
		Z	5.30	67.63	16.64		150.0	
10140-CAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.53	67.76	16.14	0.00	150.0	± 9.6 %
		Y	3.46	67.52	15.97		150.0	
		Z	3.45	67.73	16.10		150.0	
10141-CAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.65	67.80	16.28	0.00	150.0	± 9.6 %
		Y	3.58	67.60	16.13		150.0	
		Z	3.57	67.80	16.26		150.0	
10142-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	2.16	69.01	16.19	0.00	150.0	± 9.6 %
		Y	2.05	68.42	15.76		150.0	
		Z	2.08	69.10	16.09		150.0	
10143-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.60	68.85	16.14	0.00	150.0	± 9.6 %
		Y	2.52	68.61	15.83		150.0	
		Z	2.53	69.08	15.98		150.0	
10144-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.44	67.03	14.81	0.00	150.0	± 9.6 %
		Y	2.34	66.65	14.40		150.0	
		Z	2.32	67.00	14.49		150.0	
10145-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.49	66.91	13.54	0.00	150.0	± 9.6 %
		Y	1.35	65.78	12.56		150.0	
		Z	1.32	65.90	12.39		150.0	
10146-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	3.04	72.14	15.77	0.00	150.0	± 9.6 %
		Y	2.51	69.11	13.64		150.0	
		Z	2.25	68.26	13.01		150.0	
10147-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	3.86	75.64	17.39	0.00	150.0	± 9.6 %
		Y	3.09	71.90	15.02		150.0	
		Z	2.75	70.85	14.33		150.0	

10149-CAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	3.06	67.70	16.11	0.00	150.0	± 9.6 %
		Y	2.98	67.43	15.90		150.0	
		Z	2.97	67.69	16.06		150.0	
10150-CAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.18	67.63	16.14	0.00	150.0	± 9.6 %
		Y	3.11	67.40	15.95		150.0	
		Z	3.09	67.65	16.10		150.0	
10151-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	9.07	80.10	22.26	3.98	65.0	± 9.6 %
		Y	9.07	80.39	22.34		65.0	
		Z	9.34	81.28	22.69		65.0	
10152-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	8.23	76.96	21.53	3.98	65.0	± 9.6 %
		Y	8.06	76.77	21.37		65.0	
		Z	8.14	77.34	21.61		65.0	
10153-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	8.57	77.63	22.13	3.98	65.0	± 9.6 %
		Y	8.45	77.59	22.04		65.0	
		Z	8.54	78.14	22.27		65.0	
10154-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.44	69.46	16.67	0.00	150.0	± 9.6 %
		Y	2.33	68.89	16.32		150.0	
		Z	2.35	69.46	16.63		150.0	
10155-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.74	68.19	16.32	0.00	150.0	± 9.6 %
		Y	2.67	67.99	16.10		150.0	
		Z	2.67	68.37	16.27		150.0	
10156-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	2.02	69.21	16.12	0.00	150.0	± 9.6 %
		Y	1.90	68.51	15.60		150.0	
		Z	1.93	69.24	15.92		150.0	
10157-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.28	67.66	14.94	0.00	150.0	± 9.6 %
		Y	2.17	67.19	14.46		150.0	
		Z	2.16	67.60	14.55		150.0	
10158-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.89	68.31	16.45	0.00	150.0	± 9.6 %
		Y	2.83	68.16	16.26		150.0	
		Z	2.82	68.52	16.41		150.0	
10159-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.38	68.04	15.20	0.00	150.0	± 9.6 %
		Y	2.27	67.61	14.73		150.0	
		Z	2.27	68.00	14.80		150.0	
10160-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.92	69.02	16.56	0.00	150.0	± 9.6 %
		Y	2.83	68.66	16.32		150.0	
		Z	2.84	69.11	16.57		150.0	
10161-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	3.07	67.53	16.08	0.00	150.0	± 9.6 %
		Y	3.00	67.32	15.88		150.0	
		Z	2.99	67.59	16.03		150.0	
10162-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.18	67.61	16.15	0.00	150.0	± 9.6 %
		Y	3.11	67.44	15.98		150.0	
		Z	3.10	67.72	16.13		150.0	
10166-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.81	69.85	19.56	3.01	150.0	± 9.6 %
		Y	3.78	69.99	19.42		150.0	
		Z	3.66	69.89	19.45		150.0	
10167-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	4.68	72.67	20.04	3.01	150.0	± 9.6 %
		Y	4.76	73.21	20.01		150.0	
		Z	4.49	72.88	19.97		150.0	

10168-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	5.08	74.47	21.14	3.01	150.0	± 9.6 %
		Y	5.27	75.45	21.32		150.0	
		Z	4.93	74.94	21.19		150.0	
10169-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	3.25	70.08	19.73	3.01	150.0	± 9.6 %
		Y	3.26	70.19	19.53		150.0	
		Z	3.03	69.42	19.31		150.0	
10170-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	4.40	75.71	21.91	3.01	150.0	± 9.6 %
		Y	4.68	76.90	22.11		150.0	
		Z	4.09	75.21	21.59		150.0	
10171-AAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	3.73	72.12	19.46	3.01	150.0	± 9.6 %
		Y	3.80	72.44	19.27		150.0	
		Z	3.44	71.51	19.05		150.0	
10172-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	22.19	104.91	32.74	6.02	65.0	± 9.6 %
		Y	18.18	101.07	31.34		65.0	
		Z	23.33	107.18	33.39		65.0	
10173-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	26.74	104.16	30.89	6.02	65.0	± 9.6 %
		Y	32.12	107.29	31.48		65.0	
		Z	33.23	109.04	32.12		65.0	
10174-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	21.53	98.95	28.85	6.02	65.0	± 9.6 %
		Y	25.96	102.12	29.48		65.0	
		Z	25.02	102.54	29.73		65.0	
10175-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	3.22	69.80	19.51	3.01	150.0	± 9.6 %
		Y	3.21	69.86	19.28		150.0	
		Z	3.00	69.15	19.09		150.0	
10176-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	4.40	75.73	21.92	3.01	150.0	± 9.6 %
		Y	4.69	76.92	22.12		150.0	
		Z	4.10	75.24	21.60		150.0	
10177-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	3.24	69.95	19.60	3.01	150.0	± 9.6 %
		Y	3.24	70.02	19.38		150.0	
		Z	3.03	69.29	19.17		150.0	
10178-CAC	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	4.36	75.49	21.79	3.01	150.0	± 9.6 %
		Y	4.63	76.65	21.98		150.0	
		Z	4.06	75.04	21.49		150.0	
10179-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	4.04	73.85	20.58	3.01	150.0	± 9.6 %
		Y	4.20	74.52	20.55		150.0	
		Z	3.75	73.30	20.21		150.0	
10180-CAC	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	3.72	72.05	19.41	3.01	150.0	± 9.6 %
		Y	3.79	72.35	19.21		150.0	
		Z	3.43	71.45	19.01		150.0	
10181-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	3.24	69.93	19.59	3.01	150.0	± 9.6 %
		Y	3.24	70.01	19.37		150.0	
		Z	3.02	69.27	19.16		150.0	
10182-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	4.35	75.47	21.78	3.01	150.0	± 9.6 %
		Y	4.62	76.63	21.97		150.0	
		Z	4.06	75.02	21.48		150.0	
10183-AAA	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	3.71	72.02	19.40	3.01	150.0	± 9.6 %
		Y	3.78	72.33	19.20		150.0	
		Z	3.43	71.43	18.99		150.0	

10184-CAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	3.25	69.97	19.61	3.01	150.0	± 9.6 %
		Y	3.25	70.05	19.39		150.0	
		Z	3.03	69.31	19.18		150.0	
10185-CAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	4.37	75.54	21.81	3.01	150.0	± 9.6 %
		Y	4.65	76.71	22.01		150.0	
		Z	4.08	75.08	21.52		150.0	
10186-AAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	3.73	72.09	19.43	3.01	150.0	± 9.6 %
		Y	3.80	72.40	19.24		150.0	
		Z	3.45	71.50	19.03		150.0	
10187-CAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	3.25	70.01	19.66	3.01	150.0	± 9.6 %
		Y	3.26	70.10	19.45		150.0	
		Z	3.04	69.36	19.24		150.0	
10188-CAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	4.50	76.15	22.16	3.01	150.0	± 9.6 %
		Y	4.81	77.45	22.42		150.0	
		Z	4.19	75.67	21.86		150.0	
10189-AAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	3.80	72.49	19.69	3.01	150.0	± 9.6 %
		Y	3.89	72.86	19.52		150.0	
		Z	3.52	71.89	19.29		150.0	
10193-CAB	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.68	66.74	16.32	0.00	150.0	± 9.6 %
		Y	4.63	66.69	16.23		150.0	
		Z	4.59	66.82	16.29		150.0	
10194-CAB	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.87	67.10	16.44	0.00	150.0	± 9.6 %
		Y	4.81	67.03	16.35		150.0	
		Z	4.77	67.14	16.42		150.0	
10195-CAB	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.91	67.12	16.45	0.00	150.0	± 9.6 %
		Y	4.85	67.06	16.37		150.0	
		Z	4.81	67.17	16.44		150.0	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.69	66.83	16.36	0.00	150.0	± 9.6 %
		Y	4.63	66.77	16.26		150.0	
		Z	4.60	66.89	16.31		150.0	
10197-CAB	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.89	67.12	16.45	0.00	150.0	± 9.6 %
		Y	4.82	67.05	16.37		150.0	
		Z	4.78	67.16	16.43		150.0	
10198-CAB	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.92	67.13	16.46	0.00	150.0	± 9.6 %
		Y	4.85	67.08	16.38		150.0	
		Z	4.81	67.19	16.45		150.0	
10219-CAB	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.64	66.84	16.32	0.00	150.0	± 9.6 %
		Y	4.58	66.78	16.22		150.0	
		Z	4.55	66.90	16.27		150.0	
10220-CAB	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.89	67.11	16.45	0.00	150.0	± 9.6 %
		Y	4.82	67.03	16.36		150.0	
		Z	4.78	67.14	16.42		150.0	
10221-CAB	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.92	67.07	16.45	0.00	150.0	± 9.6 %
		Y	4.86	67.01	16.37		150.0	
		Z	4.82	67.12	16.43		150.0	
10222-CAB	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	5.25	67.35	16.59	0.00	150.0	± 9.6 %
		Y	5.19	67.24	16.50		150.0	
		Z	5.15	67.31	16.55		150.0	

10223-CAB	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.61	67.69	16.79	0.00	150.0	± 9.6 %
		Y	5.51	67.48	16.64		150.0	
		Z	5.47	67.56	16.70		150.0	
10224-CAB	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.29	67.44	16.56	0.00	150.0	± 9.6 %
		Y	5.23	67.35	16.47		150.0	
		Z	5.20	67.43	16.53		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	2.93	66.24	15.61	0.00	150.0	± 9.6 %
		Y	2.88	66.11	15.40		150.0	
		Z	2.86	66.35	15.49		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	28.11	105.20	31.28	6.02	65.0	± 9.6 %
		Y	34.48	108.73	31.97		65.0	
		Z	35.55	110.42	32.58		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	23.67	100.73	29.46	6.02	65.0	± 9.6 %
		Y	28.79	104.06	30.12		65.0	
		Z	29.74	105.65	30.68		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	25.49	108.07	33.77	6.02	65.0	± 9.6 %
		Y	25.69	108.19	33.55		65.0	
		Z	28.56	111.54	34.73		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	26.78	104.17	30.90	6.02	65.0	± 9.6 %
		Y	32.21	107.33	31.50		65.0	
		Z	33.28	109.05	32.13		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	22.70	99.90	29.14	6.02	65.0	± 9.6 %
		Y	27.15	102.91	29.72		65.0	
		Z	28.07	104.53	30.30		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	24.36	107.06	33.41	6.02	65.0	± 9.6 %
		Y	24.27	106.95	33.12		65.0	
		Z	26.96	110.27	34.30		65.0	
10232-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	26.76	104.17	30.90	6.02	65.0	± 9.6 %
		Y	32.18	107.32	31.49		65.0	
		Z	33.27	109.06	32.13		65.0	
10233-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	22.70	99.91	29.15	6.02	65.0	± 9.6 %
		Y	27.14	102.92	29.72		65.0	
		Z	28.07	104.54	30.30		65.0	
10234-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	23.29	105.99	32.99	6.02	65.0	± 9.6 %
		Y	23.00	105.71	32.65		65.0	
		Z	25.54	108.99	33.83		65.0	
10235-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	26.83	104.23	30.92	6.02	65.0	± 9.6 %
		Y	32.29	107.40	31.52		65.0	
		Z	33.41	109.14	32.15		65.0	
10236-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	22.90	100.05	29.18	6.02	65.0	± 9.6 %
		Y	27.39	103.06	29.76		65.0	
		Z	28.37	104.70	30.34		65.0	
10237-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	24.55	107.24	33.46	6.02	65.0	± 9.6 %
		Y	24.44	107.11	33.17		65.0	
		Z	27.21	110.48	34.36		65.0	
10238-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	26.76	104.18	30.90	6.02	65.0	± 9.6 %
		Y	32.18	107.33	31.50		65.0	
		Z	33.28	109.07	32.13		65.0	

10239-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	22.70	99.93	29.15	6.02	65.0	± 9.6 %
		Y	27.12	102.93	29.73		65.0	
		Z	28.06	104.54	30.31		65.0	
10240-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	24.47	107.18	33.44	6.02	65.0	± 9.6 %
		Y	24.36	107.06	33.15		65.0	
		Z	27.11	110.42	34.34		65.0	
10241-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	11.77	85.84	27.41	6.98	65.0	± 9.6 %
		Y	12.07	86.61	27.47		65.0	
		Z	12.08	87.42	27.86		65.0	
10242-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	10.89	84.05	26.62	6.98	65.0	± 9.6 %
		Y	11.66	85.82	27.08		65.0	
		Z	11.06	85.44	27.01		65.0	
10243-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	9.09	81.73	26.56	6.98	65.0	± 9.6 %
		Y	9.43	82.84	26.80		65.0	
		Z	9.04	82.62	26.81		65.0	
10244-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	9.26	80.29	21.29	3.98	65.0	± 9.6 %
		Y	9.13	79.89	20.69		65.0	
		Z	8.77	79.44	20.31		65.0	
10245-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	9.14	79.83	21.06	3.98	65.0	± 9.6 %
		Y	8.96	79.34	20.43		65.0	
		Z	8.57	78.82	20.02		65.0	
10246-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	8.98	82.32	21.90	3.98	65.0	± 9.6 %
		Y	8.86	82.21	21.62		65.0	
		Z	9.12	82.83	21.67		65.0	
10247-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	7.66	77.47	20.57	3.98	65.0	± 9.6 %
		Y	7.50	77.27	20.26		65.0	
		Z	7.51	77.52	20.21		65.0	
10248-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	7.66	77.05	20.39	3.98	65.0	± 9.6 %
		Y	7.46	76.74	20.03		65.0	
		Z	7.45	76.97	19.98		65.0	
10249-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	9.79	83.92	23.10	3.98	65.0	± 9.6 %
		Y	9.86	84.24	23.05		65.0	
		Z	10.43	85.45	23.38		65.0	
10250-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	8.46	79.16	22.44	3.98	65.0	± 9.6 %
		Y	8.39	79.24	22.37		65.0	
		Z	8.51	79.84	22.56		65.0	
10251-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	8.10	77.30	21.43	3.98	65.0	± 9.6 %
		Y	7.94	77.16	21.24		65.0	
		Z	8.04	77.74	21.43		65.0	
10252-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	9.65	82.98	23.38	3.98	65.0	± 9.6 %
		Y	9.72	83.40	23.47		65.0	
		Z	10.23	84.68	23.92		65.0	
10253-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	8.03	76.40	21.33	3.98	65.0	± 9.6 %
		Y	7.88	76.23	21.16		65.0	
		Z	7.96	76.80	21.39		65.0	
10254-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	8.38	77.08	21.89	3.98	65.0	± 9.6 %
		Y	8.26	77.03	21.78		65.0	
		Z	8.34	77.57	21.99		65.0	

10255-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	8.79	79.75	22.35	3.98	65.0	± 9.6 %
		Y	8.77	79.99	22.39		65.0	
		Z	9.03	80.91	22.75		65.0	
10256-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	8.34	78.29	19.75	3.98	65.0	± 9.6 %
		Y	7.87	77.13	18.78		65.0	
		Z	7.38	76.27	18.18		65.0	
10257-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	8.16	77.60	19.40	3.98	65.0	± 9.6 %
		Y	7.65	76.36	18.38		65.0	
		Z	7.14	75.45	17.75		65.0	
10258-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	7.81	79.68	20.34	3.98	65.0	± 9.6 %
		Y	7.44	78.93	19.74		65.0	
		Z	7.33	78.78	19.45		65.0	
10259-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	7.98	78.07	21.22	3.98	65.0	± 9.6 %
		Y	7.85	77.97	21.00		65.0	
		Z	7.91	78.38	21.05		65.0	
10260-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	8.00	77.82	21.14	3.98	65.0	± 9.6 %
		Y	7.85	77.69	20.90		65.0	
		Z	7.89	78.05	20.93		65.0	
10261-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	9.39	82.95	23.03	3.98	65.0	± 9.6 %
		Y	9.40	83.20	22.99		65.0	
		Z	9.89	84.39	23.35		65.0	
10262-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	8.45	79.12	22.41	3.98	65.0	± 9.6 %
		Y	8.37	79.19	22.33		65.0	
		Z	8.49	79.79	22.52		65.0	
10263-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	8.09	77.29	21.43	3.98	65.0	± 9.6 %
		Y	7.93	77.15	21.23		65.0	
		Z	8.03	77.72	21.42		65.0	
10264-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	9.59	82.85	23.31	3.98	65.0	± 9.6 %
		Y	9.65	83.25	23.39		65.0	
		Z	10.15	84.52	23.84		65.0	
10265-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	8.23	76.96	21.54	3.98	65.0	± 9.6 %
		Y	8.05	76.77	21.37		65.0	
		Z	8.14	77.34	21.62		65.0	
10266-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	8.57	77.63	22.13	3.98	65.0	± 9.6 %
		Y	8.45	77.58	22.04		65.0	
		Z	8.54	78.13	22.27		65.0	
10267-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	9.05	80.07	22.24	3.98	65.0	± 9.6 %
		Y	9.05	80.35	22.33		65.0	
		Z	9.32	81.24	22.68		65.0	
10268-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	8.69	76.48	21.68	3.98	65.0	± 9.6 %
		Y	8.55	76.37	21.58		65.0	
		Z	8.60	76.83	21.80		65.0	
10269-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	8.62	76.09	21.59	3.98	65.0	± 9.6 %
		Y	8.49	75.98	21.48		65.0	
		Z	8.53	76.42	21.69		65.0	
10270-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	8.67	77.60	21.41	3.98	65.0	± 9.6 %
		Y	8.63	77.77	21.46		65.0	
		Z	8.74	78.33	21.70		65.0	

10274-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.68	66.49	15.46	0.00	150.0	± 9.6 %
		Y	2.64	66.36	15.25		150.0	
		Z	2.64	66.72	15.41		150.0	
10275-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.72	68.30	15.90	0.00	150.0	± 9.6 %
		Y	1.64	67.59	15.43		150.0	
		Z	1.68	68.42	15.88		150.0	
10277-CAA	PHS (QPSK)	X	6.02	70.66	14.97	9.03	50.0	± 9.6 %
		Y	5.73	70.04	14.38		50.0	
		Z	5.47	69.48	13.86		50.0	
10278-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	9.23	79.88	21.13	9.03	50.0	± 9.6 %
		Y	8.97	79.40	20.65		50.0	
		Z	8.63	78.73	20.10		50.0	
10279-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	9.39	80.07	21.21	9.03	50.0	± 9.6 %
		Y	9.09	79.55	20.72		50.0	
		Z	8.75	78.88	20.18		50.0	
10290-AAB	CDMA2000, RC1, SO55, Full Rate	X	1.67	69.78	15.10	0.00	150.0	± 9.6 %
		Y	1.51	68.57	14.20		150.0	
		Z	1.56	69.54	14.49		150.0	
10291-AAB	CDMA2000, RC3, SO55, Full Rate	X	0.96	66.88	13.65	0.00	150.0	± 9.6 %
		Y	0.87	65.74	12.73		150.0	
		Z	0.90	66.64	13.05		150.0	
10292-AAB	CDMA2000, RC3, SO32, Full Rate	X	1.19	70.85	15.94	0.00	150.0	± 9.6 %
		Y	1.05	69.19	14.82		150.0	
		Z	1.18	71.28	15.64		150.0	
10293-AAB	CDMA2000, RC3, SO3, Full Rate	X	1.65	75.83	18.54	0.00	150.0	± 9.6 %
		Y	1.46	74.00	17.41		150.0	
		Z	1.83	77.80	18.80		150.0	
10295-AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	11.15	84.56	24.72	9.03	50.0	± 9.6 %
		Y	11.48	85.16	24.70		50.0	
		Z	12.19	86.43	24.99		50.0	
10297-AAA	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.92	70.02	16.79	0.00	150.0	± 9.6 %
		Y	2.80	69.49	16.50		150.0	
		Z	2.83	70.00	16.80		150.0	
10298-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.78	68.61	15.11	0.00	150.0	± 9.6 %
		Y	1.64	67.69	14.36		150.0	
		Z	1.65	68.26	14.51		150.0	
10299-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	3.45	73.44	17.11	0.00	150.0	± 9.6 %
		Y	3.15	71.73	15.70		150.0	
		Z	2.95	71.40	15.41		150.0	
10300-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	2.57	68.19	14.01	0.00	150.0	± 9.6 %
		Y	2.33	66.78	12.69		150.0	
		Z	2.15	66.31	12.30		150.0	
10301-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	5.86	68.43	18.97	4.17	80.0	± 9.6 %
		Y	5.73	68.29	18.79		80.0	
		Z	5.73	68.54	18.89		80.0	
10302-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	6.41	69.39	19.93	4.96	80.0	± 9.6 %
		Y	6.18	68.69	19.41		80.0	
		Z	6.26	69.42	19.81		80.0	

10303-AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	6.28	69.56	20.03	4.96	80.0	± 9.6 %
		Y	6.03	68.73	19.43		80.0	
		Z	6.12	69.51	19.85		80.0	
10304-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	5.87	68.66	19.11	4.17	80.0	± 9.6 %
		Y	5.66	68.03	18.63		80.0	
		Z	5.73	68.70	18.98		80.0	
10305-AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	10.87	86.28	28.15	6.02	50.0	± 9.6 %
		Y	9.20	82.14	26.05		50.0	
		Z	10.60	85.84	27.56		50.0	
10306-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	6.93	73.07	22.34	6.02	50.0	± 9.6 %
		Y	7.13	74.84	23.24		50.0	
		Z	6.73	72.91	22.01		50.0	
10307-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	7.09	73.92	22.53	6.02	50.0	± 9.6 %
		Y	7.45	76.22	23.67		50.0	
		Z	7.88	78.04	24.53		50.0	
10308-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	7.18	74.44	22.78	6.02	50.0	± 9.6 %
		Y	7.63	77.00	24.03		50.0	
		Z	8.15	79.07	24.99		50.0	
10309-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	7.07	73.44	22.54	6.02	50.0	± 9.6 %
		Y	7.26	75.20	23.43		50.0	
		Z	6.83	73.23	22.20		50.0	
10310-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	6.97	73.37	22.38	6.02	50.0	± 9.6 %
		Y	7.25	75.39	23.40		50.0	
		Z	6.76	73.19	22.05		50.0	
10311-AAA	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.27	69.28	16.42	0.00	150.0	± 9.6 %
		Y	3.15	68.78	16.15		150.0	
		Z	3.18	69.23	16.41		150.0	
10313-AAA	iDEN 1:3	X	7.81	79.31	19.48	6.99	70.0	± 9.6 %
		Y	7.89	79.65	19.53		70.0	
		Z	8.30	80.53	19.77		70.0	
10314-AAA	iDEN 1:6	X	9.30	83.83	23.52	10.00	30.0	± 9.6 %
		Y	10.04	85.52	24.09		30.0	
		Z	10.56	86.64	24.39		30.0	
10315-AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.19	64.66	15.72	0.17	150.0	± 9.6 %
		Y	1.18	64.30	15.38		150.0	
		Z	1.18	64.77	15.73		150.0	
10316-AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	X	4.79	66.96	16.55	0.17	150.0	± 9.6 %
		Y	4.74	66.91	16.46		150.0	
		Z	4.70	67.03	16.53		150.0	
10317-AAB	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.79	66.96	16.55	0.17	150.0	± 9.6 %
		Y	4.74	66.91	16.46		150.0	
		Z	4.70	67.03	16.53		150.0	
10400-AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.88	67.18	16.45	0.00	150.0	± 9.6 %
		Y	4.81	67.10	16.35		150.0	
		Z	4.77	67.22	16.43		150.0	
10401-AAC	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.55	67.37	16.61	0.00	150.0	± 9.6 %
		Y	5.52	67.37	16.57		150.0	
		Z	5.50	67.52	16.66		150.0	

10402-AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.84	67.79	16.66	0.00	150.0	± 9.6 %
		Y	5.77	67.68	16.57		150.0	
		Z	5.73	67.71	16.60		150.0	
10403-AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	1.67	69.78	15.10	0.00	115.0	± 9.6 %
		Y	1.51	68.57	14.20		115.0	
		Z	1.56	69.54	14.49		115.0	
10404-AAB	CDMA2000 (1xEV-DO, Rev. A)	X	1.67	69.78	15.10	0.00	115.0	± 9.6 %
		Y	1.51	68.57	14.20		115.0	
		Z	1.56	69.54	14.49		115.0	
10406-AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	33.75	112.39	30.22	0.00	100.0	± 9.6 %
		Y	100.00	123.27	31.37		100.0	
		Z	100.00	125.51	32.14		100.0	
10410-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.74	63.66	8.04	2.23	80.0	± 9.6 %
		Y	1.38	61.77	6.59		80.0	
		Z	1.19	61.18	6.06		80.0	
10415-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.04	63.16	14.84	0.00	150.0	± 9.6 %
		Y	1.03	62.86	14.52		150.0	
		Z	1.04	63.27	14.85		150.0	
10416-AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	X	4.68	66.78	16.37	0.00	150.0	± 9.6 %
		Y	4.63	66.73	16.29		150.0	
		Z	4.60	66.86	16.36		150.0	
10417-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.68	66.78	16.37	0.00	150.0	± 9.6 %
		Y	4.63	66.73	16.29		150.0	
		Z	4.60	66.86	16.36		150.0	
10418-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	X	4.67	66.92	16.38	0.00	150.0	± 9.6 %
		Y	4.62	66.87	16.30		150.0	
		Z	4.59	67.02	16.38		150.0	
10419-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.69	66.88	16.39	0.00	150.0	± 9.6 %
		Y	4.64	66.83	16.30		150.0	
		Z	4.61	66.97	16.38		150.0	
10422-AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.82	66.89	16.41	0.00	150.0	± 9.6 %
		Y	4.76	66.85	16.33		150.0	
		Z	4.73	66.97	16.40		150.0	
10423-AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	5.01	67.26	16.54	0.00	150.0	± 9.6 %
		Y	4.94	67.19	16.45		150.0	
		Z	4.90	67.30	16.52		150.0	
10424-AAA	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.92	67.19	16.51	0.00	150.0	± 9.6 %
		Y	4.86	67.13	16.42		150.0	
		Z	4.82	67.25	16.49		150.0	
10425-AAA	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.54	67.62	16.72	0.00	150.0	± 9.6 %
		Y	5.49	67.58	16.67		150.0	
		Z	5.45	67.65	16.72		150.0	
10426-AAA	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.55	67.65	16.73	0.00	150.0	± 9.6 %
		Y	5.49	67.60	16.67		150.0	
		Z	5.46	67.70	16.74		150.0	

10427-AAA	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.55	67.61	16.71	0.00	150.0	± 9.6 %
		Y	5.50	67.55	16.64		150.0	
		Z	5.46	67.63	16.70		150.0	
10430-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.31	70.12	18.04	0.00	150.0	± 9.6 %
		Y	4.29	70.45	18.10		150.0	
		Z	4.23	70.56	18.06		150.0	
10431-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.40	67.33	16.41	0.00	150.0	± 9.6 %
		Y	4.32	67.26	16.29		150.0	
		Z	4.28	67.42	16.36		150.0	
10432-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.69	67.23	16.46	0.00	150.0	± 9.6 %
		Y	4.62	67.16	16.36		150.0	
		Z	4.58	67.29	16.43		150.0	
10433-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.94	67.23	16.53	0.00	150.0	± 9.6 %
		Y	4.87	67.16	16.44		150.0	
		Z	4.83	67.28	16.51		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.38	70.81	18.01	0.00	150.0	± 9.6 %
		Y	4.37	71.21	18.05		150.0	
		Z	4.31	71.34	18.00		150.0	
10435-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.74	63.61	8.01	2.23	80.0	± 9.6 %
		Y	1.38	61.75	6.57		80.0	
		Z	1.19	61.16	6.05		80.0	
10447-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.70	67.35	15.86	0.00	150.0	± 9.6 %
		Y	3.61	67.22	15.64		150.0	
		Z	3.57	67.43	15.68		150.0	
10448-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	X	4.22	67.10	16.27	0.00	150.0	± 9.6 %
		Y	4.15	67.03	16.14		150.0	
		Z	4.12	67.20	16.22		150.0	
10449-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	X	4.49	67.04	16.35	0.00	150.0	± 9.6 %
		Y	4.42	66.97	16.25		150.0	
		Z	4.39	67.11	16.33		150.0	
10450-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.67	66.98	16.38	0.00	150.0	± 9.6 %
		Y	4.62	66.91	16.28		150.0	
		Z	4.59	67.03	16.35		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	3.62	67.60	15.58	0.00	150.0	± 9.6 %
		Y	3.51	67.42	15.29		150.0	
		Z	3.46	67.61	15.30		150.0	
10456-AAA	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.40	68.21	16.89	0.00	150.0	± 9.6 %
		Y	6.35	68.13	16.82		150.0	
		Z	6.32	68.18	16.86		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.88	65.40	16.09	0.00	150.0	± 9.6 %
		Y	3.86	65.36	15.99		150.0	
		Z	3.84	65.49	16.07		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.45	66.95	15.09	0.00	150.0	± 9.6 %
		Y	3.34	66.77	14.75		150.0	
		Z	3.29	66.99	14.74		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.59	65.33	15.97	0.00	150.0	± 9.6 %
		Y	4.51	65.40	15.82		150.0	
		Z	4.40	65.36	15.73		150.0	

10460-AAA	UMTS-FDD (WCDMA, AMR)	X	0.97	68.70	16.53	0.00	150.0	± 9.6 %
		Y	0.90	67.40	15.70		150.0	
		Z	0.96	68.91	16.58		150.0	
10461-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	126.27	33.67	3.29	80.0	± 9.6 %
		Y	100.00	124.73	32.73		80.0	
		Z	100.00	126.11	33.20		80.0	
10462-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	112.85	27.19	3.23	80.0	± 9.6 %
		Y	100.00	110.14	25.73		80.0	
		Z	100.00	110.66	25.78		80.0	
10463-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	110.01	25.82	3.23	80.0	± 9.6 %
		Y	45.24	98.68	22.35		80.0	
		Z	41.40	98.10	22.11		80.0	
10464-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.60	32.74	3.23	80.0	± 9.6 %
		Y	100.00	122.85	31.70		80.0	
		Z	100.00	124.18	32.14		80.0	
10465-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	112.39	26.96	3.23	80.0	± 9.6 %
		Y	100.00	109.65	25.48		80.0	
		Z	100.00	110.15	25.54		80.0	
10466-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	109.56	25.60	3.23	80.0	± 9.6 %
		Y	20.93	90.10	20.10		80.0	
		Z	19.90	90.01	19.99		80.0	
10467-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.80	32.83	3.23	80.0	± 9.6 %
		Y	100.00	123.06	31.80		80.0	
		Z	100.00	124.41	32.25		80.0	
10468-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	112.54	27.03	3.23	80.0	± 9.6 %
		Y	100.00	109.81	25.56		80.0	
		Z	100.00	110.32	25.61		80.0	
10469-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	109.58	25.60	3.23	80.0	± 9.6 %
		Y	21.63	90.47	20.19		80.0	
		Z	20.63	90.40	20.09		80.0	
10470-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.83	32.83	3.23	80.0	± 9.6 %
		Y	100.00	123.09	31.81		80.0	
		Z	100.00	124.44	32.25		80.0	
10471-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	112.50	27.01	3.23	80.0	± 9.6 %
		Y	100.00	109.76	25.53		80.0	
		Z	100.00	110.28	25.59		80.0	
10472-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	109.54	25.58	3.23	80.0	± 9.6 %
		Y	21.62	90.44	20.17		80.0	
		Z	20.65	90.38	20.07		80.0	
10473-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	124.81	32.82	3.23	80.0	± 9.6 %
		Y	100.00	123.06	31.79		80.0	
		Z	100.00	124.41	32.24		80.0	
10474-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	112.51	27.01	3.23	80.0	± 9.6 %
		Y	100.00	109.77	25.53		80.0	
		Z	100.00	110.28	25.59		80.0	
10475-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	109.55	25.58	3.23	80.0	± 9.6 %
		Y	21.21	90.24	20.12		80.0	
		Z	20.25	90.19	20.02		80.0	

10477-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	112.36	26.94	3.23	80.0	± 9.6 %
		Y	100.00	109.61	25.45		80.0	
		Z	100.00	110.11	25.51		80.0	
10478-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	109.50	25.56	3.23	80.0	± 9.6 %
		Y	20.76	89.98	20.04		80.0	
		Z	19.84	89.93	19.94		80.0	
10479-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	58.51	99.71	21.84	1.99	80.0	± 9.6 %
		Y	2.83	68.12	11.73		80.0	
		Z	2.02	65.19	10.20		80.0	
10480-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.94	62.29	8.97	1.99	80.0	± 9.6 %
		Y	1.48	60.00	7.15		80.0	
		Z	1.40	60.00	6.83		80.0	
10481-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.69	60.76	7.96	1.99	80.0	± 9.6 %
		Y	1.51	60.00	6.93		80.0	
		Z	1.42	60.00	6.60		80.0	
10482-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.22	79.53	19.48	1.99	80.0	± 9.6 %
		Y	5.67	78.20	18.70		80.0	
		Z	6.21	79.55	18.96		80.0	
10483-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	9.79	83.22	20.89	1.99	80.0	± 9.6 %
		Y	8.22	80.16	19.24		80.0	
		Z	7.74	79.40	18.72		80.0	
10484-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	8.79	81.50	20.33	1.99	80.0	± 9.6 %
		Y	7.36	78.50	18.69		80.0	
		Z	6.86	77.66	18.14		80.0	
10485-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.82	81.36	20.95	1.99	80.0	± 9.6 %
		Y	6.50	80.76	20.54		80.0	
		Z	7.40	82.92	21.18		80.0	
10486-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.82	73.42	17.80	1.99	80.0	± 9.6 %
		Y	4.63	72.97	17.36		80.0	
		Z	4.74	73.53	17.43		80.0	
10487-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.75	72.86	17.59	1.99	80.0	± 9.6 %
		Y	4.55	72.39	17.14		80.0	
		Z	4.62	72.85	17.16		80.0	
10488-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.33	79.06	20.79	1.99	80.0	± 9.6 %
		Y	6.06	78.64	20.56		80.0	
		Z	6.53	80.22	21.14		80.0	
10489-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.90	72.77	18.64	1.99	80.0	± 9.6 %
		Y	4.78	72.60	18.46		80.0	
		Z	4.87	73.25	18.68		80.0	
10490-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.94	72.37	18.52	1.99	80.0	± 9.6 %
		Y	4.82	72.23	18.34		80.0	
		Z	4.89	72.83	18.55		80.0	
10491-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.76	75.71	19.73	1.99	80.0	± 9.6 %
		Y	5.56	75.41	19.57		80.0	
		Z	5.77	76.39	19.98		80.0	
10492-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.05	71.42	18.41	1.99	80.0	± 9.6 %
		Y	4.93	71.27	18.27		80.0	
		Z	4.97	71.74	18.46		80.0	

10493-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.09	71.18	18.33	1.99	80.0	± 9.6 %
		Y	4.98	71.04	18.20		80.0	
		Z	5.01	71.48	18.38		80.0	
10494-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.53	77.72	20.27	1.99	80.0	± 9.6 %
		Y	6.28	77.34	20.10		80.0	
		Z	6.58	78.46	20.55		80.0	
10495-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.16	72.02	18.64	1.99	80.0	± 9.6 %
		Y	5.03	71.83	18.50		80.0	
		Z	5.08	72.30	18.71		80.0	
10496-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.18	71.54	18.50	1.99	80.0	± 9.6 %
		Y	5.05	71.37	18.37		80.0	
		Z	5.08	71.80	18.56		80.0	
10497-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.22	73.94	16.64	1.99	80.0	± 9.6 %
		Y	3.52	71.56	15.30		80.0	
		Z	3.45	71.36	14.94		80.0	
10498-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.80	66.23	12.64	1.99	80.0	± 9.6 %
		Y	2.34	64.22	11.27		80.0	
		Z	2.12	63.36	10.55		80.0	
10499-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.72	65.59	12.23	1.99	80.0	± 9.6 %
		Y	2.26	63.61	10.85		80.0	
		Z	2.04	62.73	10.11		80.0	
10500-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.32	79.75	20.69	1.99	80.0	± 9.6 %
		Y	6.07	79.31	20.38		80.0	
		Z	6.73	81.21	20.99		80.0	
10501-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.85	73.09	18.10	1.99	80.0	± 9.6 %
		Y	4.71	72.83	17.79		80.0	
		Z	4.82	73.48	17.94		80.0	
10502-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.86	72.75	17.93	1.99	80.0	± 9.6 %
		Y	4.72	72.50	17.62		80.0	
		Z	4.81	73.08	17.74		80.0	
10503-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.23	78.82	20.68	1.99	80.0	± 9.6 %
		Y	5.95	78.37	20.44		80.0	
		Z	6.42	79.94	21.02		80.0	
10504-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.87	72.67	18.59	1.99	80.0	± 9.6 %
		Y	4.75	72.49	18.40		80.0	
		Z	4.84	73.13	18.62		80.0	
10505-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.91	72.27	18.46	1.99	80.0	± 9.6 %
		Y	4.79	72.12	18.28		80.0	
		Z	4.86	72.72	18.49		80.0	
10506-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.46	77.55	20.19	1.99	80.0	± 9.6 %
		Y	6.21	77.15	20.02		80.0	
		Z	6.51	78.26	20.46		80.0	
10507-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.14	71.96	18.61	1.99	80.0	± 9.6 %
		Y	5.01	71.75	18.46		80.0	
		Z	5.06	72.23	18.67		80.0	

10508-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.16	71.47	18.46	1.99	80.0	± 9.6 %
		Y	5.03	71.29	18.32		80.0	
		Z	5.06	71.72	18.51		80.0	
10509-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.14	74.73	19.20	1.99	80.0	± 9.6 %
		Y	5.97	74.49	19.09		80.0	
		Z	6.10	75.16	19.39		80.0	
10510-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.51	71.17	18.39	1.99	80.0	± 9.6 %
		Y	5.39	70.97	18.27		80.0	
		Z	5.40	71.31	18.44		80.0	
10511-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.51	70.78	18.29	1.99	80.0	± 9.6 %
		Y	5.39	70.61	18.18		80.0	
		Z	5.40	70.92	18.33		80.0	
10512-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	6.82	76.98	19.86	1.99	80.0	± 9.6 %
		Y	6.58	76.61	19.70		80.0	
		Z	6.81	77.47	20.06		80.0	
10513-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.48	71.72	18.59	1.99	80.0	± 9.6 %
		Y	5.34	71.47	18.45		80.0	
		Z	5.36	71.82	18.62		80.0	
10514-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.41	71.11	18.42	1.99	80.0	± 9.6 %
		Y	5.28	70.89	18.29		80.0	
		Z	5.30	71.22	18.45		80.0	
10515-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	1.00	63.36	14.91	0.00	150.0	± 9.6 %
		Y	0.99	63.02	14.56		150.0	
		Z	1.00	63.47	14.92		150.0	
10516-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.68	71.55	17.93	0.00	150.0	± 9.6 %
		Y	0.59	68.73	16.35		150.0	
		Z	0.68	71.90	18.11		150.0	
10517-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.87	65.47	15.63	0.00	150.0	± 9.6 %
		Y	0.84	64.73	15.06		150.0	
		Z	0.86	65.56	15.65		150.0	
10518-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.68	66.86	16.35	0.00	150.0	± 9.6 %
		Y	4.62	66.81	16.27		150.0	
		Z	4.59	66.94	16.34		150.0	
10519-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.89	67.14	16.50	0.00	150.0	± 9.6 %
		Y	4.82	67.07	16.40		150.0	
		Z	4.78	67.18	16.46		150.0	
10520-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.74	67.11	16.42	0.00	150.0	± 9.6 %
		Y	4.67	67.03	16.32		150.0	
		Z	4.63	67.14	16.38		150.0	
10521-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.67	67.11	16.40	0.00	150.0	± 9.6 %
		Y	4.60	67.02	16.30		150.0	
		Z	4.56	67.13	16.37		150.0	
10522-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.72	67.12	16.45	0.00	150.0	± 9.6 %
		Y	4.66	67.08	16.37		150.0	
		Z	4.62	67.23	16.46		150.0	

10523-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.59	67.00	16.30	0.00	150.0	± 9.6 %
		Y	4.53	66.94	16.21		150.0	
		Z	4.50	67.08	16.29		150.0	
10524-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.67	67.07	16.44	0.00	150.0	± 9.6 %
		Y	4.60	67.01	16.35		150.0	
		Z	4.56	67.14	16.42		150.0	
10525-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.63	66.09	16.01	0.00	150.0	± 9.6 %
		Y	4.58	66.04	15.93		150.0	
		Z	4.55	66.18	16.00		150.0	
10526-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.83	66.49	16.16	0.00	150.0	± 9.6 %
		Y	4.76	66.42	16.07		150.0	
		Z	4.72	66.55	16.15		150.0	
10527-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.74	66.45	16.11	0.00	150.0	± 9.6 %
		Y	4.68	66.38	16.02		150.0	
		Z	4.64	66.51	16.09		150.0	
10528-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.76	66.47	16.14	0.00	150.0	± 9.6 %
		Y	4.69	66.40	16.05		150.0	
		Z	4.66	66.53	16.12		150.0	
10529-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.76	66.47	16.14	0.00	150.0	± 9.6 %
		Y	4.69	66.40	16.05		150.0	
		Z	4.66	66.53	16.12		150.0	
10531-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.77	66.61	16.17	0.00	150.0	± 9.6 %
		Y	4.69	66.52	16.07		150.0	
		Z	4.65	66.64	16.14		150.0	
10532-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.62	66.47	16.10	0.00	150.0	± 9.6 %
		Y	4.55	66.36	16.00		150.0	
		Z	4.51	66.48	16.07		150.0	
10533-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.77	66.50	16.12	0.00	150.0	± 9.6 %
		Y	4.70	66.43	16.03		150.0	
		Z	4.67	66.57	16.11		150.0	
10534-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.29	66.64	16.21	0.00	150.0	± 9.6 %
		Y	5.24	66.57	16.14		150.0	
		Z	5.20	66.65	16.19		150.0	
10535-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.36	66.79	16.27	0.00	150.0	± 9.6 %
		Y	5.31	66.74	16.21		150.0	
		Z	5.28	66.85	16.28		150.0	
10536-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.23	66.76	16.24	0.00	150.0	± 9.6 %
		Y	5.17	66.68	16.16		150.0	
		Z	5.14	66.78	16.23		150.0	
10537-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	5.29	66.75	16.24	0.00	150.0	± 9.6 %
		Y	5.23	66.66	16.16		150.0	
		Z	5.20	66.75	16.22		150.0	
10538-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.40	66.82	16.31	0.00	150.0	± 9.6 %
		Y	5.33	66.70	16.22		150.0	
		Z	5.29	66.77	16.27		150.0	
10540-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	5.31	66.77	16.31	0.00	150.0	± 9.6 %
		Y	5.26	66.70	16.23		150.0	
		Z	5.22	66.80	16.30		150.0	

10541-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.28	66.64	16.23	0.00	150.0	± 9.6 %
		Y	5.22	66.56	16.15		150.0	
		Z	5.19	66.65	16.21		150.0	
10542-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.44	66.72	16.29	0.00	150.0	± 9.6 %
		Y	5.38	66.64	16.21		150.0	
		Z	5.35	66.72	16.27		150.0	
10543-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.53	66.75	16.32	0.00	150.0	± 9.6 %
		Y	5.47	66.70	16.26		150.0	
		Z	5.43	66.78	16.32		150.0	
10544-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.58	66.73	16.19	0.00	150.0	± 9.6 %
		Y	5.54	66.67	16.13		150.0	
		Z	5.51	66.75	16.18		150.0	
10545-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.81	67.22	16.38	0.00	150.0	± 9.6 %
		Y	5.76	67.15	16.31		150.0	
		Z	5.72	67.23	16.37		150.0	
10546-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.68	67.02	16.30	0.00	150.0	± 9.6 %
		Y	5.62	66.92	16.22		150.0	
		Z	5.58	66.98	16.26		150.0	
10547-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.76	67.10	16.33	0.00	150.0	± 9.6 %
		Y	5.70	67.00	16.25		150.0	
		Z	5.65	67.02	16.27		150.0	
10548-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	6.17	68.50	17.00	0.00	150.0	± 9.6 %
		Y	6.07	68.26	16.85		150.0	
		Z	5.98	68.20	16.84		150.0	
10550-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.69	66.98	16.29	0.00	150.0	± 9.6 %
		Y	5.64	66.92	16.22		150.0	
		Z	5.61	67.01	16.29		150.0	
10551-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.70	67.05	16.28	0.00	150.0	± 9.6 %
		Y	5.64	66.94	16.20		150.0	
		Z	5.61	67.02	16.25		150.0	
10552-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.60	66.80	16.17	0.00	150.0	± 9.6 %
		Y	5.55	66.72	16.10		150.0	
		Z	5.52	66.80	16.15		150.0	
10553-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.70	66.86	16.23	0.00	150.0	± 9.6 %
		Y	5.64	66.77	16.15		150.0	
		Z	5.60	66.84	16.20		150.0	
10554-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.99	67.13	16.30	0.00	150.0	± 9.6 %
		Y	5.95	67.06	16.23		150.0	
		Z	5.92	67.12	16.27		150.0	
10555-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	6.14	67.48	16.45	0.00	150.0	± 9.6 %
		Y	6.10	67.40	16.38		150.0	
		Z	6.07	67.46	16.42		150.0	
10556-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	6.16	67.50	16.45	0.00	150.0	± 9.6 %
		Y	6.11	67.42	16.38		150.0	
		Z	6.08	67.49	16.43		150.0	
10557-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	6.13	67.44	16.44	0.00	150.0	± 9.6 %
		Y	6.08	67.33	16.36		150.0	
		Z	6.04	67.39	16.40		150.0	

10558-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	6.20	67.65	16.56	0.00	150.0	± 9.6 %
		Y	6.14	67.52	16.46		150.0	
		Z	6.10	67.56	16.50		150.0	
10560-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	6.18	67.44	16.49	0.00	150.0	± 9.6 %
		Y	6.12	67.33	16.41		150.0	
		Z	6.08	67.39	16.45		150.0	
10561-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	6.10	67.42	16.52	0.00	150.0	± 9.6 %
		Y	6.05	67.32	16.44		150.0	
		Z	6.01	67.38	16.49		150.0	
10562-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	6.28	67.96	16.80	0.00	150.0	± 9.6 %
		Y	6.20	67.79	16.67		150.0	
		Z	6.15	67.80	16.70		150.0	
10563-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.68	68.69	17.11	0.00	150.0	± 9.6 %
		Y	6.58	68.48	16.98		150.0	
		Z	6.41	68.18	16.85		150.0	
10564-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	X	5.03	67.01	16.56	0.46	150.0	± 9.6 %
		Y	4.97	66.94	16.46		150.0	
		Z	4.93	67.07	16.53		150.0	
10565-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	X	5.28	67.47	16.87	0.46	150.0	± 9.6 %
		Y	5.21	67.40	16.78		150.0	
		Z	5.16	67.50	16.84		150.0	
10566-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	X	5.11	67.35	16.71	0.46	150.0	± 9.6 %
		Y	5.04	67.26	16.61		150.0	
		Z	5.00	67.36	16.67		150.0	
10567-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	X	5.13	67.69	17.02	0.46	150.0	± 9.6 %
		Y	5.07	67.63	16.95		150.0	
		Z	5.02	67.71	16.99		150.0	
10568-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	X	5.03	67.13	16.49	0.46	150.0	± 9.6 %
		Y	4.96	67.05	16.39		150.0	
		Z	4.92	67.19	16.48		150.0	
10569-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	X	5.07	67.71	17.04	0.46	150.0	± 9.6 %
		Y	5.02	67.69	16.99		150.0	
		Z	4.98	67.79	17.05		150.0	
10570-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	X	5.12	67.58	17.00	0.46	150.0	± 9.6 %
		Y	5.05	67.55	16.93		150.0	
		Z	5.01	67.66	16.99		150.0	
10571-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.38	66.08	16.43	0.46	130.0	± 9.6 %
		Y	1.35	65.63	16.06		130.0	
		Z	1.37	66.19	16.44		130.0	
10572-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.41	66.72	16.79	0.46	130.0	± 9.6 %
		Y	1.38	66.24	16.41		130.0	
		Z	1.39	66.84	16.81		130.0	
10573-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	4.59	94.97	25.99	0.46	130.0	± 9.6 %
		Y	2.81	86.76	23.19		130.0	
		Z	5.35	97.84	26.86		130.0	
10574-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.66	73.23	19.83	0.46	130.0	± 9.6 %
		Y	1.58	72.19	19.23		130.0	
		Z	1.66	73.54	19.96		130.0	

10575-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	X	4.85	66.89	16.67	0.46	130.0	± 9.6 %
		Y	4.79	66.84	16.58		130.0	
		Z	4.76	66.97	16.65		130.0	
10576-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	X	4.87	67.04	16.72	0.46	130.0	± 9.6 %
		Y	4.81	67.00	16.64		130.0	
		Z	4.78	67.12	16.70		130.0	
10577-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	X	5.09	67.36	16.90	0.46	130.0	± 9.6 %
		Y	5.03	67.30	16.81		130.0	
		Z	4.98	67.40	16.87		130.0	
10578-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	X	4.99	67.51	16.98	0.46	130.0	± 9.6 %
		Y	4.92	67.46	16.91		130.0	
		Z	4.88	67.55	16.96		130.0	
10579-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	X	4.77	66.93	16.38	0.46	130.0	± 9.6 %
		Y	4.70	66.80	16.25		130.0	
		Z	4.66	66.93	16.33		130.0	
10580-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	X	4.82	66.92	16.39	0.46	130.0	± 9.6 %
		Y	4.75	66.82	16.27		130.0	
		Z	4.71	66.97	16.36		130.0	
10581-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	X	4.89	67.58	16.94	0.46	130.0	± 9.6 %
		Y	4.83	67.51	16.86		130.0	
		Z	4.78	67.62	16.91		130.0	
10582-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	X	4.73	66.71	16.20	0.46	130.0	± 9.6 %
		Y	4.65	66.57	16.05		130.0	
		Z	4.61	66.72	16.14		130.0	
10583-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.85	66.89	16.67	0.46	130.0	± 9.6 %
		Y	4.79	66.84	16.58		130.0	
		Z	4.76	66.97	16.65		130.0	
10584-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.87	67.04	16.72	0.46	130.0	± 9.6 %
		Y	4.81	67.00	16.64		130.0	
		Z	4.78	67.12	16.70		130.0	
10585-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	5.09	67.36	16.90	0.46	130.0	± 9.6 %
		Y	5.03	67.30	16.81		130.0	
		Z	4.98	67.40	16.87		130.0	
10586-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.99	67.51	16.98	0.46	130.0	± 9.6 %
		Y	4.92	67.46	16.91		130.0	
		Z	4.88	67.55	16.96		130.0	
10587-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.77	66.93	16.38	0.46	130.0	± 9.6 %
		Y	4.70	66.80	16.25		130.0	
		Z	4.66	66.93	16.33		130.0	
10588-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.82	66.92	16.39	0.46	130.0	± 9.6 %
		Y	4.75	66.82	16.27		130.0	
		Z	4.71	66.97	16.36		130.0	
10589-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.89	67.58	16.94	0.46	130.0	± 9.6 %
		Y	4.83	67.51	16.86		130.0	
		Z	4.78	67.62	16.91		130.0	
10590-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.73	66.71	16.20	0.46	130.0	± 9.6 %
		Y	4.65	66.57	16.05		130.0	
		Z	4.61	66.72	16.14		130.0	

10591-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.99	66.93	16.75	0.46	130.0	± 9.6 %
		Y	4.94	66.89	16.67		130.0	
		Z	4.90	67.00	16.73		130.0	
10592-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	5.16	67.28	16.88	0.46	130.0	± 9.6 %
		Y	5.10	67.23	16.80		130.0	
		Z	5.06	67.34	16.86		130.0	
10593-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	5.09	67.23	16.79	0.46	130.0	± 9.6 %
		Y	5.02	67.16	16.69		130.0	
		Z	4.98	67.26	16.75		130.0	
10594-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	5.14	67.37	16.92	0.46	130.0	± 9.6 %
		Y	5.08	67.31	16.84		130.0	
		Z	5.03	67.42	16.90		130.0	
10595-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	5.12	67.34	16.83	0.46	130.0	± 9.6 %
		Y	5.05	67.27	16.74		130.0	
		Z	5.00	67.38	16.80		130.0	
10596-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	5.06	67.35	16.84	0.46	130.0	± 9.6 %
		Y	4.99	67.28	16.75		130.0	
		Z	4.94	67.40	16.81		130.0	
10597-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	5.01	67.28	16.74	0.46	130.0	± 9.6 %
		Y	4.94	67.19	16.64		130.0	
		Z	4.89	67.30	16.70		130.0	
10598-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.98	67.50	16.98	0.46	130.0	± 9.6 %
		Y	4.92	67.42	16.89		130.0	
		Z	4.87	67.51	16.94		130.0	
10599-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.68	67.56	16.98	0.46	130.0	± 9.6 %
		Y	5.62	67.48	16.90		130.0	
		Z	5.58	67.56	16.95		130.0	
10600-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.91	68.28	17.31	0.46	130.0	± 9.6 %
		Y	5.82	68.12	17.19		130.0	
		Z	5.76	68.13	17.22		130.0	
10601-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.74	67.85	17.11	0.46	130.0	± 9.6 %
		Y	5.67	67.74	17.02		130.0	
		Z	5.62	67.80	17.06		130.0	
10602-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.82	67.84	17.03	0.46	130.0	± 9.6 %
		Y	5.76	67.75	16.94		130.0	
		Z	5.72	67.86	17.02		130.0	
10603-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.89	68.08	17.27	0.46	130.0	± 9.6 %
		Y	5.84	68.02	17.20		130.0	
		Z	5.78	68.09	17.25		130.0	
10604-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.68	67.52	16.98	0.46	130.0	± 9.6 %
		Y	5.62	67.43	16.90		130.0	
		Z	5.58	67.52	16.96		130.0	
10605-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.81	67.91	17.18	0.46	130.0	± 9.6 %
		Y	5.76	67.86	17.11		130.0	
		Z	5.72	67.97	17.19		130.0	
10606-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.56	67.28	16.74	0.46	130.0	± 9.6 %
		Y	5.50	67.19	16.64		130.0	
		Z	5.45	67.23	16.68		130.0	

10607-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.82	66.21	16.35	0.46	130.0	± 9.6 %
		Y	4.77	66.17	16.27		130.0	
		Z	4.73	66.30	16.34		130.0	
10608-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	5.03	66.64	16.51	0.46	130.0	± 9.6 %
		Y	4.96	66.59	16.44		130.0	
		Z	4.92	66.71	16.51		130.0	
10609-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.92	66.52	16.38	0.46	130.0	± 9.6 %
		Y	4.85	66.45	16.28		130.0	
		Z	4.81	66.57	16.36		130.0	
10610-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.97	66.66	16.53	0.46	130.0	± 9.6 %
		Y	4.90	66.60	16.44		130.0	
		Z	4.86	66.72	16.51		130.0	
10611-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.89	66.50	16.39	0.46	130.0	± 9.6 %
		Y	4.82	66.42	16.30		130.0	
		Z	4.78	66.54	16.37		130.0	
10612-AAA	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.91	66.67	16.44	0.46	130.0	± 9.6 %
		Y	4.84	66.58	16.34		130.0	
		Z	4.80	66.72	16.42		130.0	
10613-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.92	66.59	16.35	0.46	130.0	± 9.6 %
		Y	4.84	66.48	16.24		130.0	
		Z	4.80	66.60	16.31		130.0	
10614-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.85	66.73	16.55	0.46	130.0	± 9.6 %
		Y	4.78	66.65	16.46		130.0	
		Z	4.74	66.75	16.52		130.0	
10615-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.90	66.35	16.19	0.46	130.0	± 9.6 %
		Y	4.82	66.26	16.08		130.0	
		Z	4.79	66.40	16.17		130.0	
10616-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.48	66.77	16.56	0.46	130.0	± 9.6 %
		Y	5.43	66.70	16.49		130.0	
		Z	5.39	66.77	16.54		130.0	
10617-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.54	66.89	16.59	0.46	130.0	± 9.6 %
		Y	5.50	66.89	16.55		130.0	
		Z	5.47	67.00	16.62		130.0	
10618-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	5.44	66.95	16.63	0.46	130.0	± 9.6 %
		Y	5.38	66.88	16.56		130.0	
		Z	5.34	66.97	16.62		130.0	
10619-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.46	66.79	16.49	0.46	130.0	± 9.6 %
		Y	5.41	66.74	16.43		130.0	
		Z	5.37	66.83	16.49		130.0	
10620-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.58	66.89	16.60	0.46	130.0	± 9.6 %
		Y	5.50	66.78	16.50		130.0	
		Z	5.46	66.84	16.55		130.0	
10621-AAA	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.54	66.90	16.71	0.46	130.0	± 9.6 %
		Y	5.48	66.84	16.65		130.0	
		Z	5.45	66.92	16.70		130.0	
10622-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.55	67.07	16.78	0.46	130.0	± 9.6 %
		Y	5.51	67.04	16.74		130.0	
		Z	5.47	67.13	16.79		130.0	

10623-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.43	66.63	16.45	0.46	130.0	± 9.6 %
		Y	5.38	66.55	16.37		130.0	
		Z	5.34	66.65	16.44		130.0	
10624-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.63	66.84	16.62	0.46	130.0	± 9.6 %
		Y	5.58	66.77	16.54		130.0	
		Z	5.53	66.84	16.59		130.0	
10625-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	6.11	68.13	17.31	0.46	130.0	± 9.6 %
		Y	6.03	68.00	17.21		130.0	
		Z	5.95	67.97	17.21		130.0	
10626-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.74	66.79	16.49	0.46	130.0	± 9.6 %
		Y	5.71	66.73	16.43		130.0	
		Z	5.68	66.81	16.48		130.0	
10627-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	6.03	67.45	16.78	0.46	130.0	± 9.6 %
		Y	5.99	67.40	16.72		130.0	
		Z	5.95	67.48	16.78		130.0	
10628-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.82	66.99	16.49	0.46	130.0	± 9.6 %
		Y	5.76	66.89	16.41		130.0	
		Z	5.73	66.96	16.46		130.0	
10629-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.90	67.05	16.51	0.46	130.0	± 9.6 %
		Y	5.85	66.99	16.45		130.0	
		Z	5.82	67.07	16.50		130.0	
10630-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	6.61	69.31	17.64	0.46	130.0	± 9.6 %
		Y	6.48	69.02	17.45		130.0	
		Z	6.38	68.93	17.44		130.0	
10631-AAA	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	6.34	68.62	17.47	0.46	130.0	± 9.6 %
		Y	6.23	68.40	17.34		130.0	
		Z	6.16	68.34	17.32		130.0	
10632-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.98	67.43	16.90	0.46	130.0	± 9.6 %
		Y	5.94	67.41	16.86		130.0	
		Z	5.90	67.48	16.91		130.0	
10633-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.89	67.17	16.60	0.46	130.0	± 9.6 %
		Y	5.82	67.02	16.49		130.0	
		Z	5.77	67.05	16.53		130.0	
10634-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.86	67.13	16.64	0.46	130.0	± 9.6 %
		Y	5.80	67.03	16.56		130.0	
		Z	5.75	67.07	16.59		130.0	
10635-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.76	66.56	16.11	0.46	130.0	± 9.6 %
		Y	5.69	66.42	16.00		130.0	
		Z	5.65	66.49	16.06		130.0	
10636-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	6.17	67.20	16.60	0.46	130.0	± 9.6 %
		Y	6.13	67.14	16.54		130.0	
		Z	6.10	67.19	16.58		130.0	
10637-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.35	67.63	16.79	0.46	130.0	± 9.6 %
		Y	6.31	67.57	16.73		130.0	
		Z	6.27	67.63	16.78		130.0	
10638-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.35	67.61	16.76	0.46	130.0	± 9.6 %
		Y	6.31	67.54	16.70		130.0	
		Z	6.27	67.60	16.74		130.0	

10639-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.33	67.57	16.79	0.46	130.0	± 9.6 %
		Y	6.28	67.47	16.71		130.0	
		Z	6.24	67.51	16.74		130.0	
10640-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.37	67.69	16.79	0.46	130.0	± 9.6 %
		Y	6.30	67.53	16.68		130.0	
		Z	6.25	67.55	16.71		130.0	
10641-AAA	IEEE 1602.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.36	67.41	16.67	0.46	130.0	± 9.6 %
		Y	6.32	67.35	16.61		130.0	
		Z	6.29	67.45	16.68		130.0	
10642-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.41	67.68	16.96	0.46	130.0	± 9.6 %
		Y	6.36	67.61	16.90		130.0	
		Z	6.32	67.64	16.93		130.0	
10643-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.25	67.42	16.75	0.46	130.0	± 9.6 %
		Y	6.20	67.33	16.66		130.0	
		Z	6.17	67.40	16.71		130.0	
10644-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.50	68.17	17.14	0.46	130.0	± 9.6 %
		Y	6.41	67.95	16.99		130.0	
		Z	6.34	67.93	17.00		130.0	
10645-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.97	69.08	17.55	0.46	130.0	± 9.6 %
		Y	6.97	69.13	17.54		130.0	
		Z	6.77	68.78	17.39		130.0	

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

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

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The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client **PC Test**

Certificate No: ES3-3213_Feb16

CALIBRATION CERTIFICATE

Object	ES3DV3 - SN:3213
Calibration procedure(s)	QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	February 19, 2016

BN ✓ 03/01/2016

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	01-Apr-15 (No. 217-02128)	Mar-16
Power sensor E4412A	MY41498087	01-Apr-15 (No. 217-02128)	Mar-16
Reference 3 dB Attenuator	SN: S5054 (3c)	01-Apr-15 (No. 217-02129)	Mar-16
Reference 20 dB Attenuator	SN: S5277 (20x)	01-Apr-15 (No. 217-02132)	Mar-16
Reference 30 dB Attenuator	SN: S5129 (30b)	01-Apr-15 (No. 217-02133)	Mar-16
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
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-15)	In house check: Oct-16

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

Issued: February 20, 2016

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

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *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.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *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 ES3DV3

SN:3213

Manufactured: October 14, 2008
Calibrated: February 19, 2016

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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3213

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	1.50	1.38	1.34	± 10.1 %
DCP (mV)[B]	99.8	101.9	99.8	

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	195.2	±3.5 %
		Y	0.0	0.0	1.0		214.0	
		Z	0.0	0.0	1.0		215.1	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	5.06	68.1	14.5	10.00	42.1	±0.9 %
		Y	11.23	76.3	17.0		39.8	
		Z	6.02	70.0	14.9		39.7	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	3.09	69.2	18.8	1.87	137.2	±0.7 %
		Y	3.15	70.3	19.6		133.1	
		Z	2.82	67.6	18.0		132.3	
10100-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	6.22	66.6	19.2	5.67	125.7	±1.7 %
		Y	6.51	68.0	20.1		146.0	
		Z	6.41	67.3	19.6		143.7	
10103-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	10.84	76.7	26.6	9.29	143.8	±3.3 %
		Y	10.81	77.3	27.2		137.5	
		Z	10.28	75.3	25.8		136.3	
10108-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	6.44	67.4	19.8	5.80	148.4	±1.7 %
		Y	6.38	67.6	20.0		142.8	
		Z	6.32	67.1	19.5		141.5	
10151-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	10.08	75.4	26.1	9.28	137.0	±3.3 %
		Y	10.08	76.2	26.8		131.6	
		Z	9.63	74.3	25.4		130.7	
10154-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	6.09	66.7	19.5	5.75	144.2	±1.4 %
		Y	6.07	67.1	19.8		139.5	
		Z	5.98	66.4	19.3		137.4	
10160-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	6.59	67.5	19.8	5.82	149.8	±1.7 %
		Y	6.51	67.6	20.1		146.2	
		Z	6.44	67.0	19.5		145.3	
10169-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	5.13	67.0	19.8	5.73	146.8	±1.4 %
		Y	5.10	67.4	20.2		144.4	
		Z	4.99	66.5	19.5		141.2	
10172-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	8.31	76.6	26.9	9.21	125.5	±3.3 %
		Y	10.61	84.9	31.4		149.4	
		Z	8.76	78.4	27.8		143.6	
10175-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	5.05	66.6	19.6	5.72	144.9	±1.4 %
		Y	5.06	67.2	20.1		142.1	
		Z	4.99	66.5	19.5		140.5	

10181-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	5.12	66.9	19.8	5.72	145.1	±1.4 %
		Y	5.09	67.3	20.2		143.7	
		Z	5.00	66.6	19.5		140.2	
10237-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	8.18	76.1	26.7	9.21	124.8	±3.3 %
		Y	10.45	84.4	31.2		148.6	
		Z	8.75	78.3	27.7		143.4	
10252-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	9.24	74.1	25.5	9.24	126.6	±2.7 %
		Y	9.21	74.8	26.2		122.2	
		Z	9.78	76.0	26.5		147.7	
10267-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	9.92	75.0	25.9	9.30	133.4	±3.3 %
		Y	9.95	75.8	26.6		128.8	
		Z	9.55	74.0	25.3		127.2	
10297-AAA	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	6.43	67.3	19.8	5.81	146.2	±1.4 %
		Y	6.42	67.7	20.1		141.6	
		Z	6.28	66.9	19.5		140.2	
10311-AAA	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	6.70	66.9	19.5	6.06	128.1	±1.7 %
		Y	6.97	68.2	20.4		147.3	
		Z	6.91	67.7	20.0		146.2	

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%.

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 6 and 7).
[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.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3213

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	41.9	0.89	6.43	6.43	6.43	0.55	1.36	± 12.0 %
835	41.5	0.90	6.18	6.18	6.18	0.58	1.33	± 12.0 %
1750	40.1	1.37	5.23	5.23	5.23	0.80	1.14	± 12.0 %
1900	40.0	1.40	5.05	5.05	5.05	0.60	1.30	± 12.0 %
2300	39.5	1.67	4.78	4.78	4.78	0.59	1.41	± 12.0 %
2450	39.2	1.80	4.58	4.58	4.58	0.75	1.30	± 12.0 %
2600	39.0	1.96	4.38	4.38	4.38	0.71	1.38	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.
[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3213

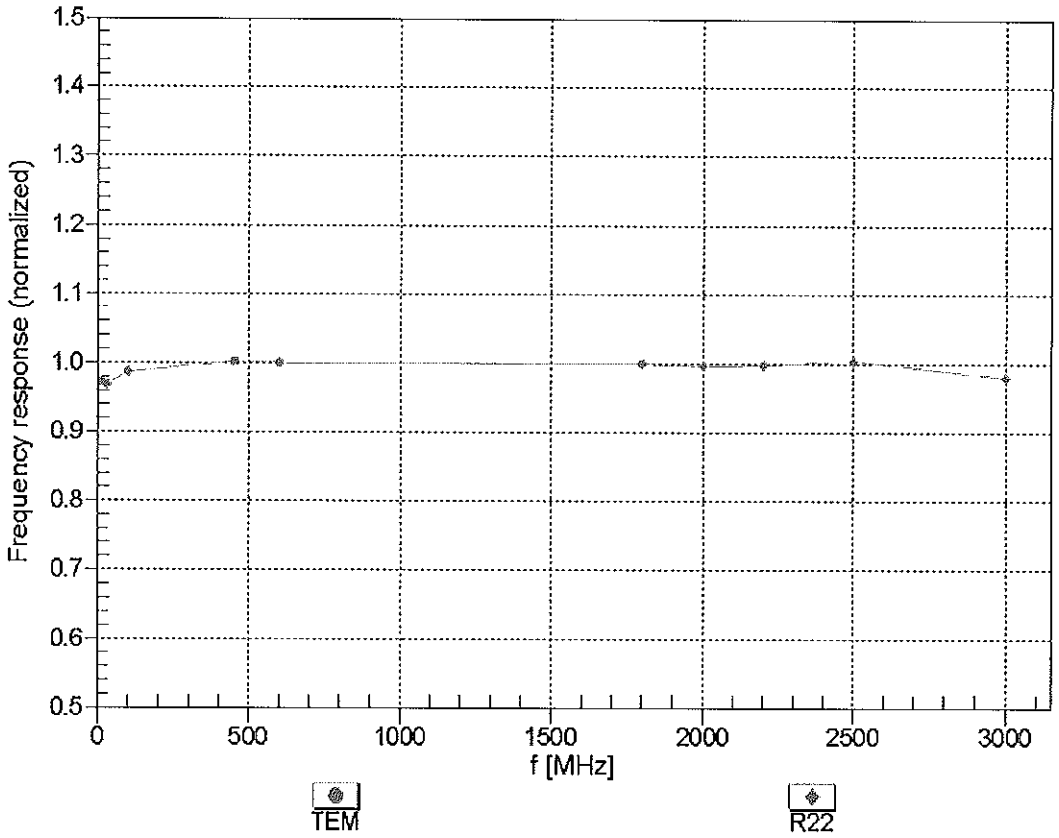
Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	5.98	5.98	5.98	0.60	1.31	± 12.0 %
835	55.2	0.97	6.00	6.00	6.00	0.36	1.70	± 12.0 %
1750	53.4	1.49	4.94	4.94	4.94	0.48	1.57	± 12.0 %
1900	53.3	1.52	4.78	4.78	4.78	0.52	1.55	± 12.0 %
2300	52.9	1.81	4.50	4.50	4.50	0.74	1.34	± 12.0 %
2450	52.7	1.95	4.41	4.41	4.41	0.80	1.20	± 12.0 %
2600	52.5	2.16	4.21	4.21	4.21	0.90	1.05	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.
[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

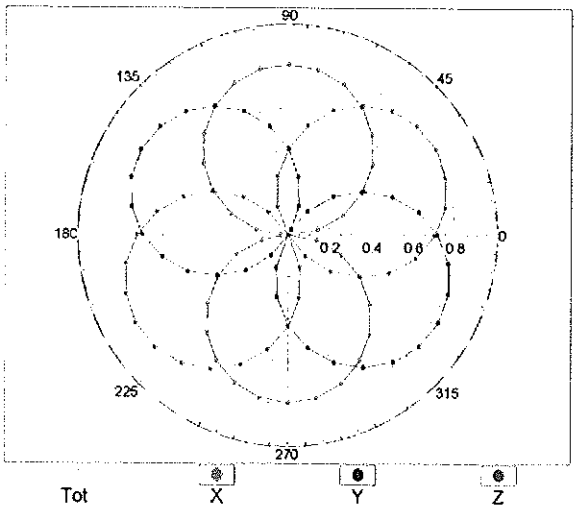
(TEM-Cell:ifi110 EXX, Waveguide: R22)



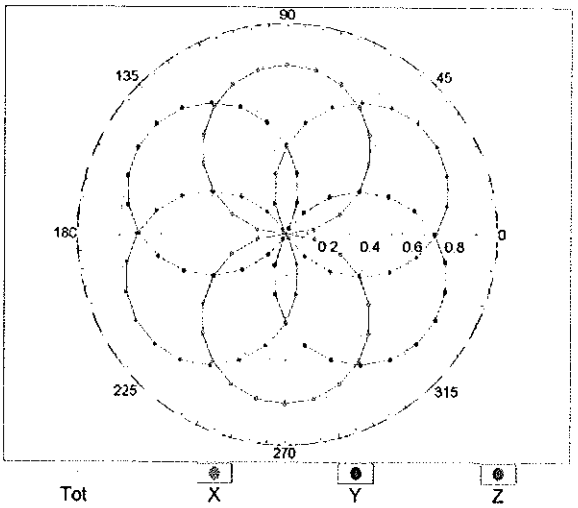
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

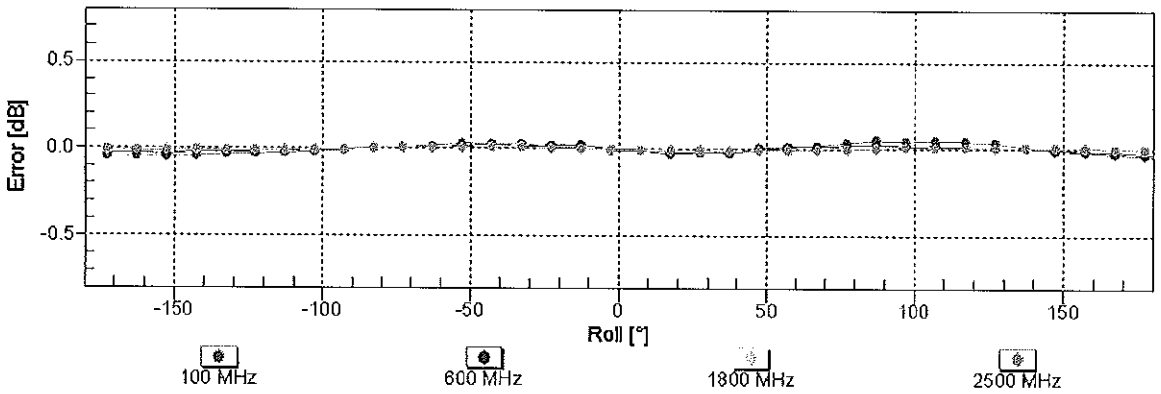
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

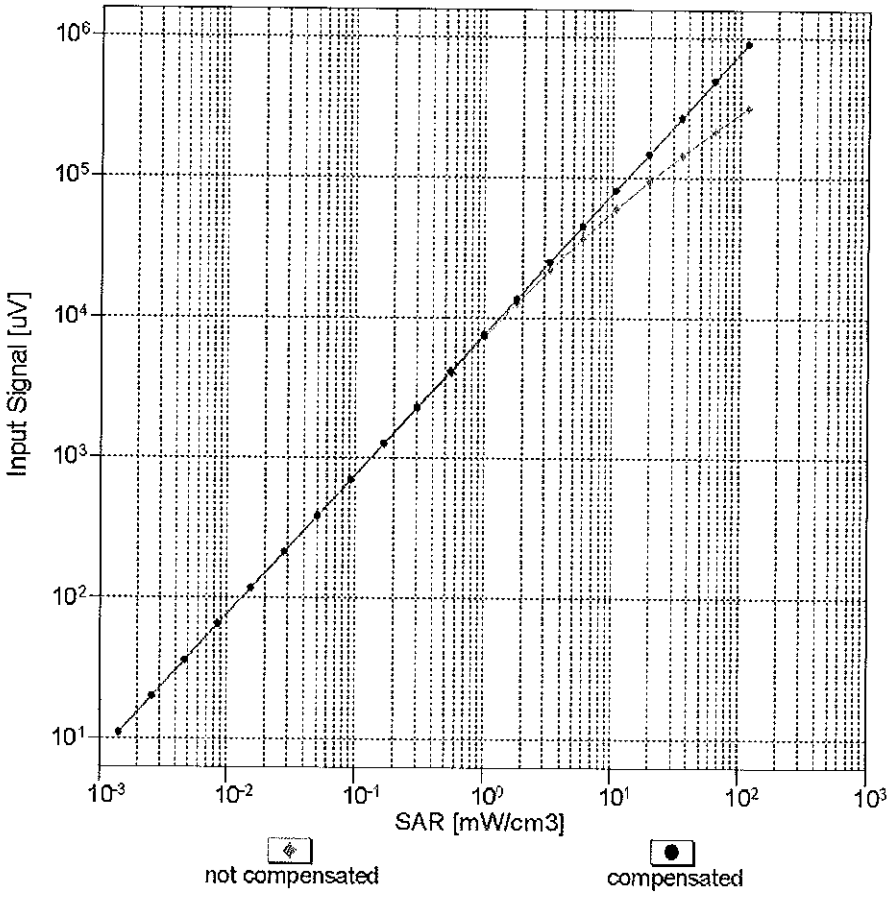


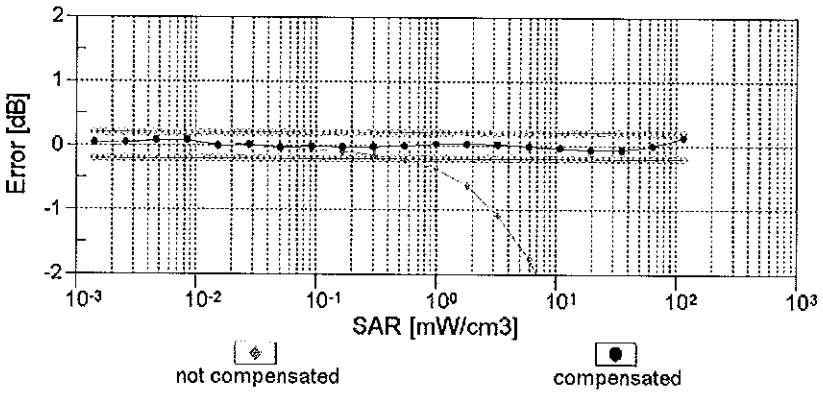


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})

(TEM cell , f_{eval}= 1900 MHz)

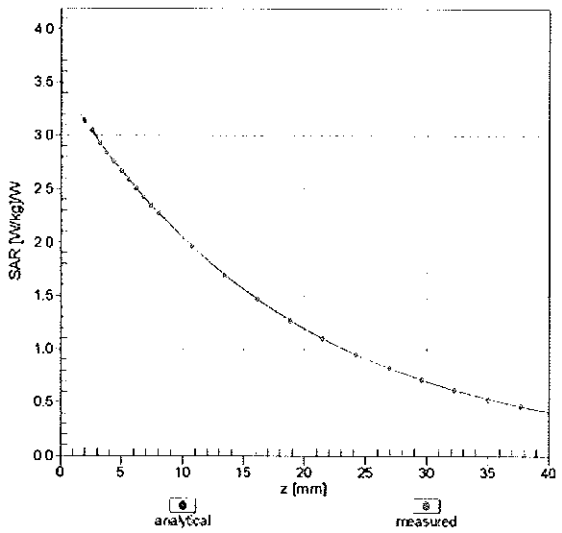




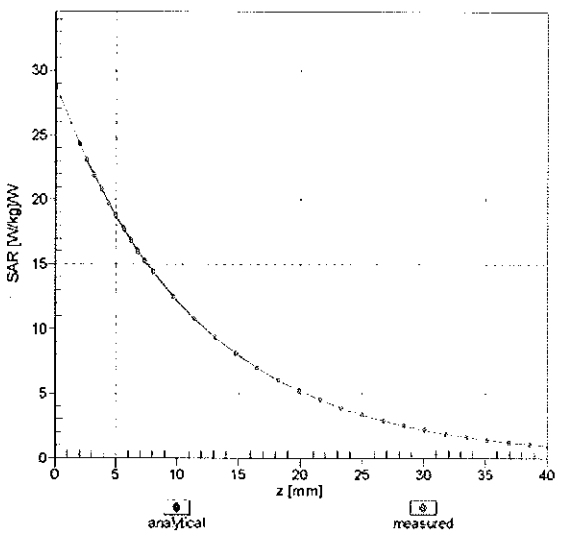
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

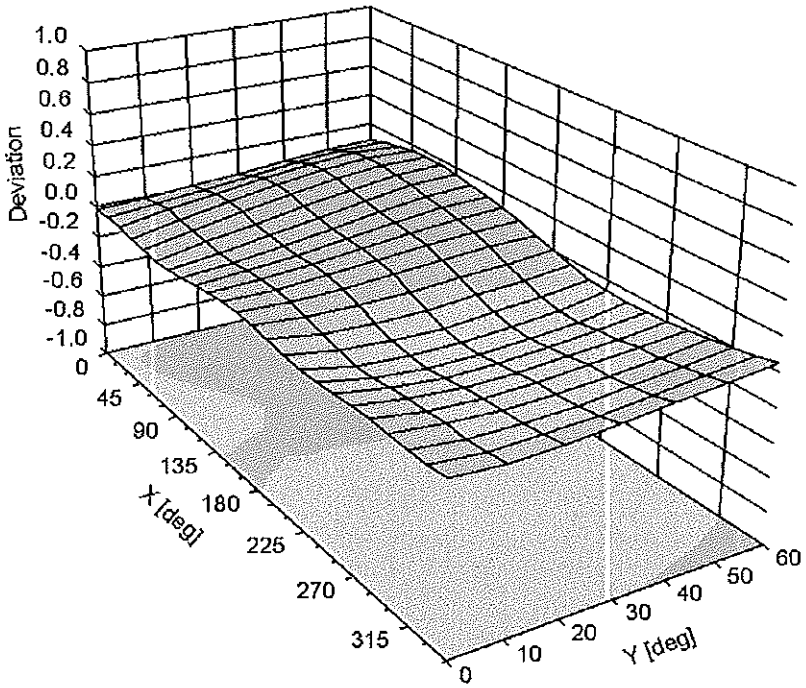


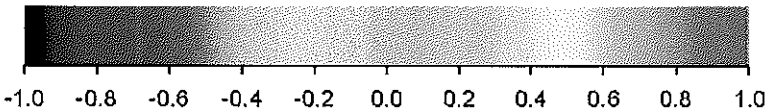
f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3213

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	97.2
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	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

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Accreditation No.: SCS 0108

Client **PC Test**

Certificate No: EX3-7357_Apr16

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:7357
Calibration procedure(s)	QA CAL-01.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	April 19, 2016

BN 04/26/16

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 NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: S5277 (20x)	05-Apr-16 (No. 217-02293)	Apr-17
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (No. 217-02285/02284)	In house check: Jun-16
Power sensor E4412A	SN: MY41498087	06-Apr-16 (No. 217-02285)	In house check: Jun-16
Power sensor E4412A	SN: 000110210	06-Apr-16 (No. 217-02284)	In house check: Jun-16
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Apr-13)	In house check: Jun-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	**Leif Klysner**	**Laboratory Technician**	
Approved by:	**Katja Pokovic**	**Technical Manager**	

Issued: April 21, 2016

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

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *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.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *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 EX3DV4

SN:7357

Manufactured: February 5, 2015
Calibrated: April 19, 2016

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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7357

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.41	0.49	0.41	± 10.1 %
DCP (mV)[B]	100.8	97.2	96.9	

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	153.4	±3.5 %
		Y	0.0	0.0	1.0		128.2	
		Z	0.0	0.0	1.0		136.1	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	0.91	56.3	8.7	10.00	47.8	±0.9 %
		Y	4.06	72.5	15.7		44.9	
		Z	1.42	61.4	10.6		43.6	
10062-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	10.02	67.8	20.9	8.68	112.1	±2.7 %
		Y	10.67	69.9	22.4		141.6	
		Z	10.36	68.8	21.5		139.7	
10117-CAB	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	10.12	68.1	20.6	8.07	121.4	±2.2 %
		Y	10.75	69.9	21.9		149.3	
		Z	10.43	68.9	21.1		147.5	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	9.77	67.9	20.6	8.10	116.1	±2.2 %
		Y	10.28	69.5	21.8		141.5	
		Z	10.05	68.6	21.0		138.3	
10400-AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	10.02	68.1	20.9	8.37	116.5	±2.2 %
		Y	10.56	69.7	22.1		142.1	
		Z	10.23	68.6	21.2		137.4	
10401-AAC	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	10.73	68.6	21.1	8.60	123.1	±2.5 %
		Y	10.37	67.9	21.0		99.7	
		Z	11.03	69.3	21.6		147.8	
10402-AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	10.70	68.5	20.9	8.53	121.8	±2.2 %
		Y	10.46	68.2	21.0		99.9	
		Z	10.94	69.1	21.3		146.0	

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%.

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[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.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7357

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
5250	35.9	4.71	5.10	5.10	5.10	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.41	4.41	4.41	0.50	1.80	± 13.1 %
5750	35.4	5.22	4.65	4.65	4.65	0.50	1.80	± 13.1 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7357

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	9.90	9.90	9.90	0.53	0.80	± 12.0 %
835	55.2	0.97	9.82	9.82	9.82	0.46	0.80	± 12.0 %
1750	53.4	1.49	8.06	8.06	8.06	0.39	0.80	± 12.0 %
1900	53.3	1.52	7.84	7.84	7.84	0.40	0.80	± 12.0 %
2300	52.9	1.81	7.20	7.20	7.20	0.38	0.86	± 12.0 %
2450	52.7	1.95	7.14	7.14	7.14	0.30	0.90	± 12.0 %
2600	52.5	2.16	6.82	6.82	6.82	0.29	0.95	± 12.0 %
5250	48.9	5.36	4.28	4.28	4.28	0.50	1.90	± 13.1 %
5600	48.5	5.77	3.63	3.63	3.63	0.60	1.90	± 13.1 %
5750	48.3	5.94	3.77	3.77	3.77	0.60	1.90	± 13.1 %

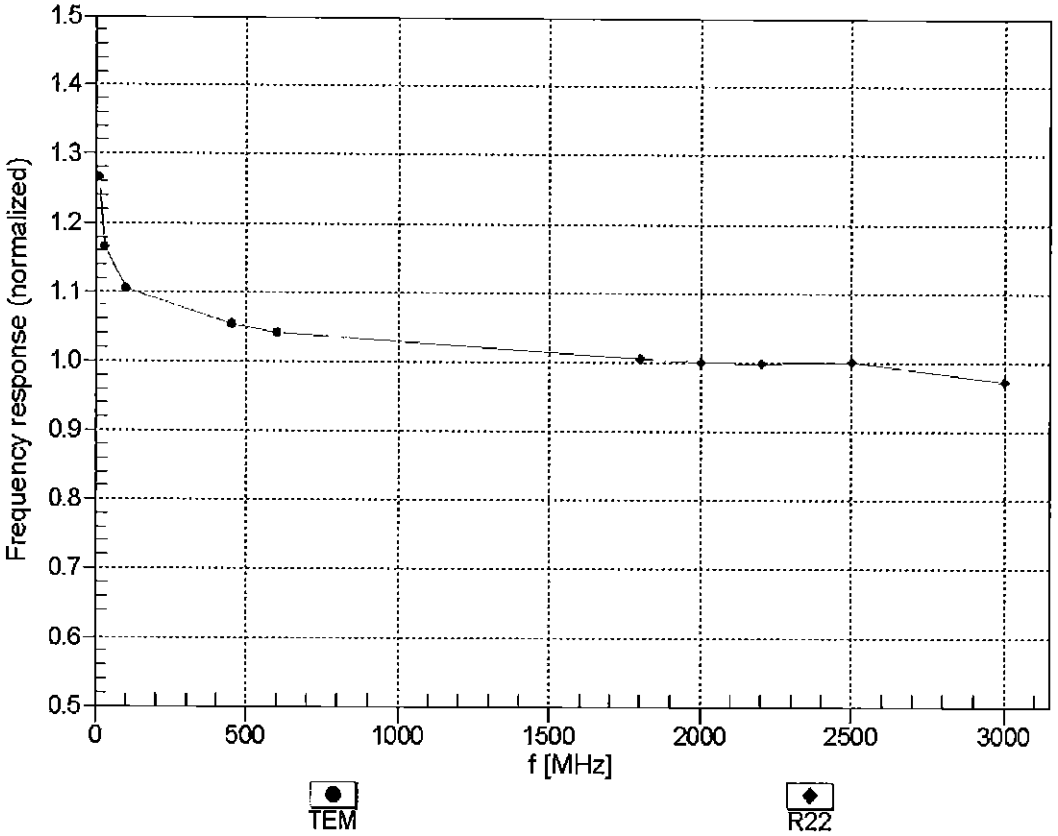
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

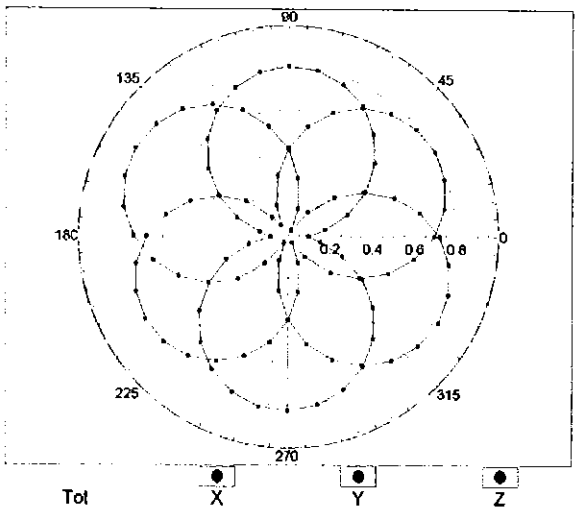
(TEM-Cell:ifi110 EXX, Waveguide: R22)



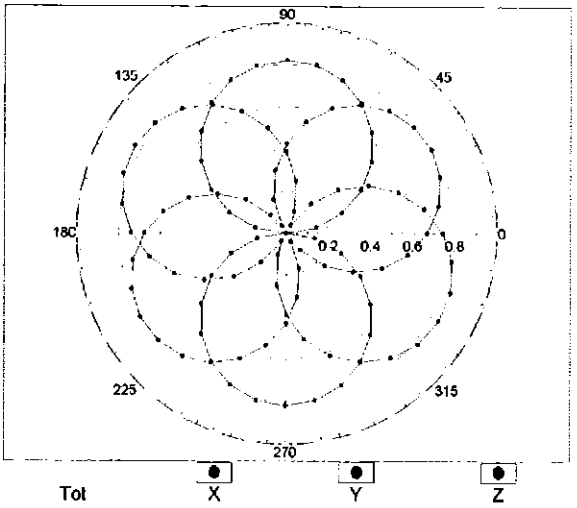
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

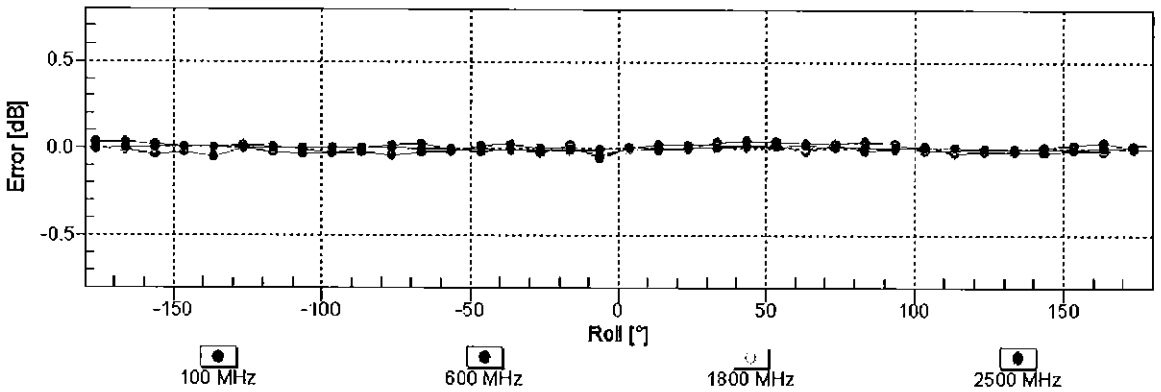
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

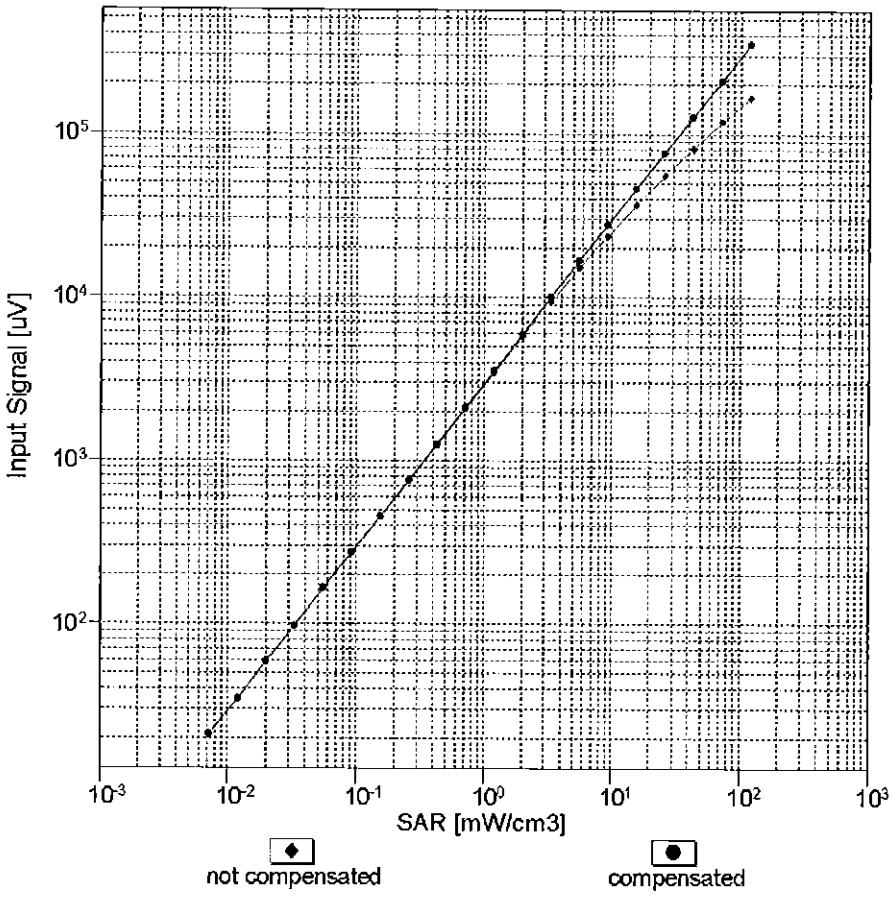


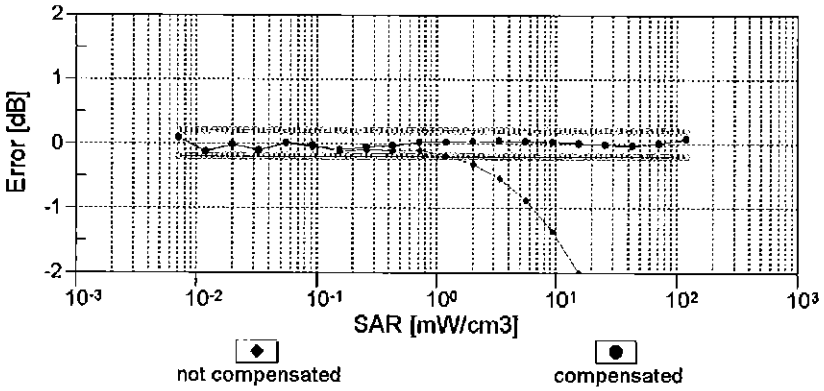


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})

(TEM cell , f_{eval}= 1900 MHz)

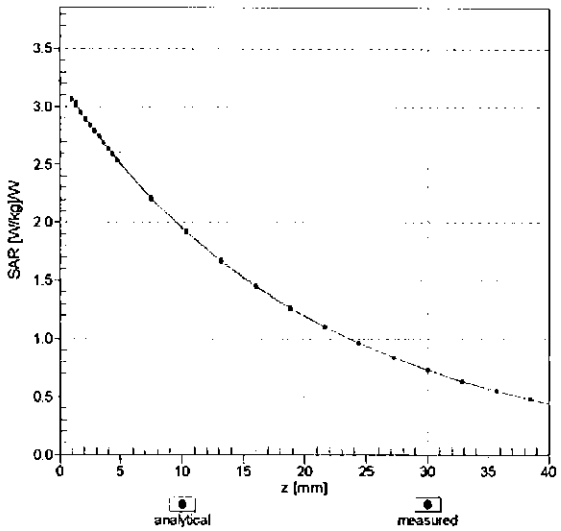




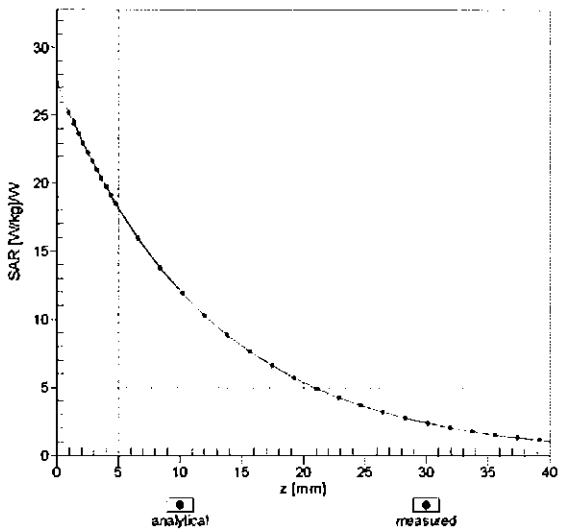
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (M_convF)

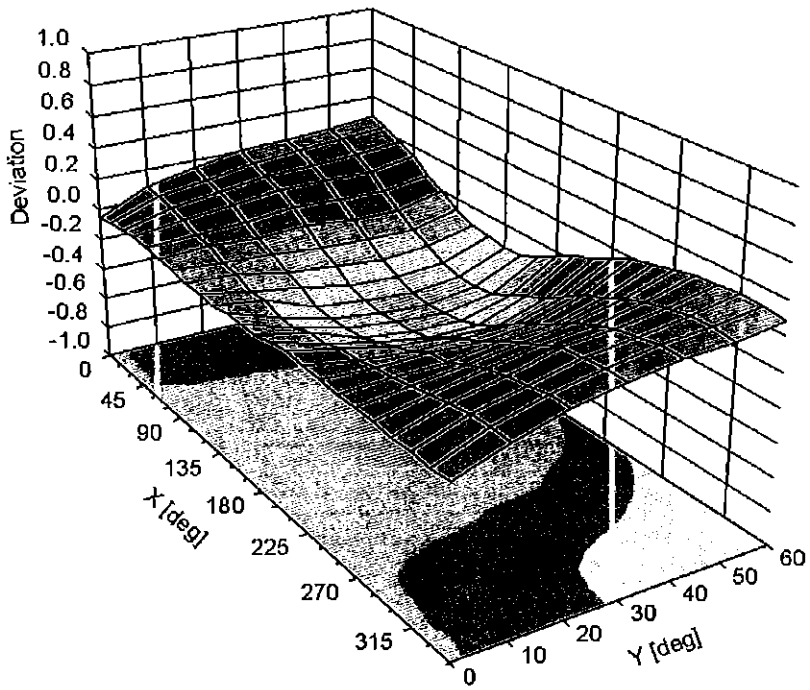


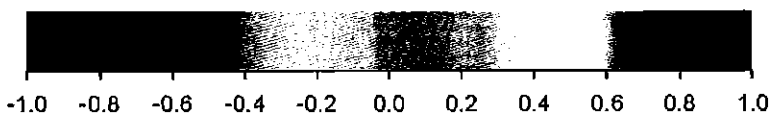
f = 1900 MHz,WGLS R22 (M_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7357

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	13.5
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

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

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client **PC Test**

Certificate No: EX3-7409_May16

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:7409
Calibration procedure(s)	QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	May 17, 2016

BN ✓ 05/23/16

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 NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: S5277 (20x)	05-Apr-16 (No. 217-02293)	Apr-17
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (No. 217-02285/02284)	In house check: Jun-16
Power sensor E4412A	SN: MY41498087	06-Apr-16 (No. 217-02285)	In house check: Jun-16
Power sensor E4412A	SN: 000110210	06-Apr-16 (No. 217-02284)	In house check: Jun-16
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Apr-13)	In house check: Jun-16
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	M.Weber
Approved by:	Katja Pokovic	Technical Manager	

Issued: May 18, 2016

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

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
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- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *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.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *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 EX3DV4

SN:7409

Manufactured: November 24, 2015
Calibrated: May 17, 2016

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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7409

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (μV/(V/m)^2)[A]	0.39	0.34	0.39	± 10.1 %
DCP (mV)[B]	106.3	102.2	99.4	

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	141.2	±3.3 %
		Y	0.0	0.0	1.0		127.3	
		Z	0.0	0.0	1.0		131.8	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	0.39	53.8	5.5	10.00	42.5	±1.2 %
		Y	0.55	54.7	5.9		41.8	
		Z	0.85	58.7	9.1		41.6	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	3.55	75.3	22.2	1.87	149.7	±0.7 %
		Y	3.32	72.6	21.0		139.7	
		Z	2.84	68.8	19.0		144.7	
10100-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	5.98	66.6	19.3	5.67	113.6	±0.9 %
		Y	6.17	66.7	19.4		107.1	
		Z	6.13	66.1	18.8		110.9	
10103-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	6.59	66.2	21.1	9.29	123.5	±1.4 %
		Y	7.27	67.9	22.1		121.1	
		Z	7.01	66.4	21.1		119.9	
10108-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	5.72	66.1	19.2	5.80	111.4	±1.2 %
		Y	6.34	67.6	20.0		149.2	
		Z	6.02	65.9	19.0		109.0	
10151-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	6.27	66.1	21.2	9.28	116.8	±1.4 %
		Y	6.89	67.6	22.1		114.7	
		Z	6.69	66.0	21.0		116.4	
10154-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	5.37	65.9	19.1	5.75	107.3	±1.2 %
		Y	5.98	67.2	19.9		143.3	
		Z	6.01	66.7	19.4		149.2	
10160-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	5.76	66.2	19.2	5.82	109.5	±1.2 %
		Y	6.43	67.6	20.0		148.3	
		Z	6.05	65.6	18.7		107.5	
10169-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	4.24	65.6	19.3	5.73	127.4	±0.9 %
		Y	4.54	66.4	19.8		120.4	
		Z	4.62	65.9	19.3		123.8	
10172-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	4.91	68.0	22.7	9.21	126.7	±1.4 %
		Y	5.24	68.8	23.3		124.0	
		Z	5.35	68.1	22.5		125.0	
10175-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	4.27	65.8	19.4	5.72	128.9	±0.9 %
		Y	4.52	66.2	19.7		121.2	
		Z	4.63	65.9	19.3		125.2	

10181-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	4.26	65.7	19.4	5.72	125.9	±0.9 %
		Y	4.47	66.0	19.5		120.6	
		Z	4.60	65.7	19.2		123.0	
10237-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	4.89	67.9	22.6	9.21	125.9	±1.7 %
		Y	5.26	69.0	23.4		123.8	
		Z	5.32	67.8	22.3		124.3	
10252-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	6.04	66.8	21.7	9.24	149.2	±1.4 %
		Y	6.64	68.1	22.6		148.9	
		Z	6.48	66.5	21.4		147.5	
10267-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	6.27	66.1	21.2	9.30	119.1	±1.4 %
		Y	6.88	67.4	22.0		115.9	
		Z	6.73	66.1	21.1		117.6	
10297-AAA	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	5.71	66.0	19.2	5.81	110.7	±0.9 %
		Y	6.41	67.8	20.2		149.8	
		Z	5.98	65.7	18.9		107.9	
10311-AAA	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	6.23	66.3	19.4	6.06	112.8	±0.9 %
		Y	6.51	66.6	19.5		107.4	
		Z	6.49	66.1	19.0		109.4	

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%.

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 6 and 7).
[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.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7409

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	41.9	0.89	10.73	10.73	10.73	0.62	0.83	± 12.0 %
835	41.5	0.90	10.04	10.04	10.04	0.45	0.93	± 12.0 %
1750	40.1	1.37	8.05	8.05	8.05	0.38	0.80	± 12.0 %
1900	40.0	1.40	7.69	7.69	7.69	0.41	0.80	± 12.0 %
2300	39.5	1.67	7.22	7.22	7.22	0.25	0.92	± 12.0 %
2450	39.2	1.80	6.90	6.90	6.90	0.30	0.93	± 12.0 %
2600	39.0	1.96	6.77	6.77	6.77	0.32	0.83	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7409

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	9.46	9.46	9.46	0.52	0.80	± 12.0 %
835	55.2	0.97	9.33	9.33	9.33	0.34	1.04	± 12.0 %
1750	53.4	1.49	7.72	7.72	7.72	0.44	0.80	± 12.0 %
1900	53.3	1.52	7.47	7.47	7.47	0.43	0.80	± 12.0 %
2300	52.9	1.81	7.22	7.22	7.22	0.36	0.85	± 12.0 %
2450	52.7	1.95	7.10	7.10	7.10	0.39	0.80	± 12.0 %
2600	52.5	2.16	6.83	6.83	6.83	0.39	0.86	± 12.0 %

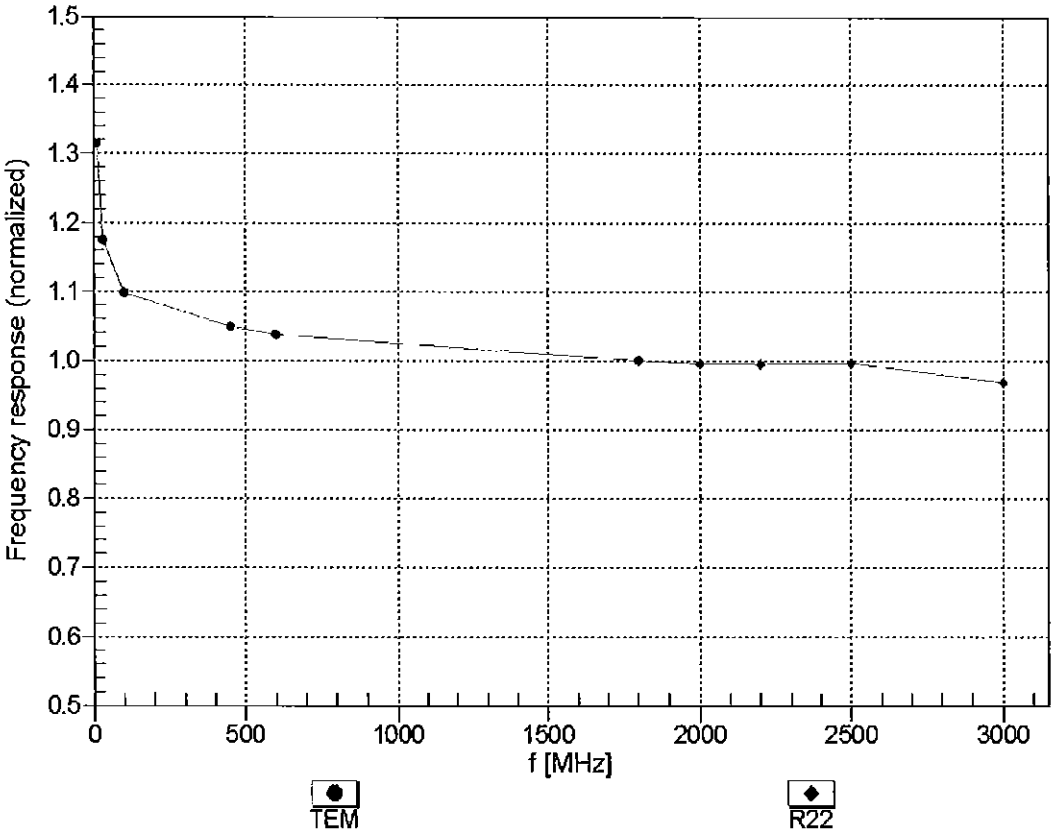
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

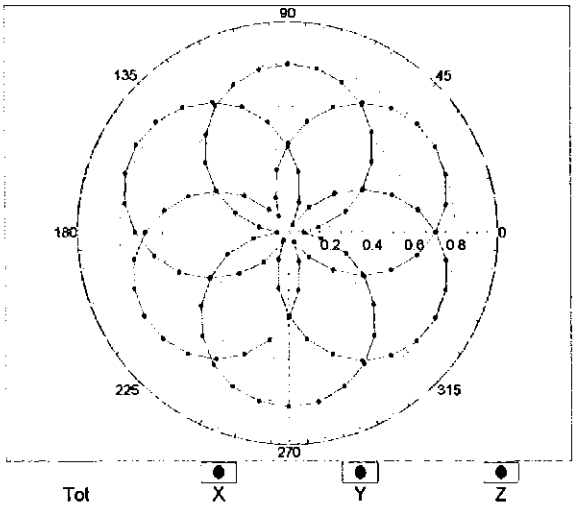
(TEM-Cell:ifi110 EXX, Waveguide: R22)



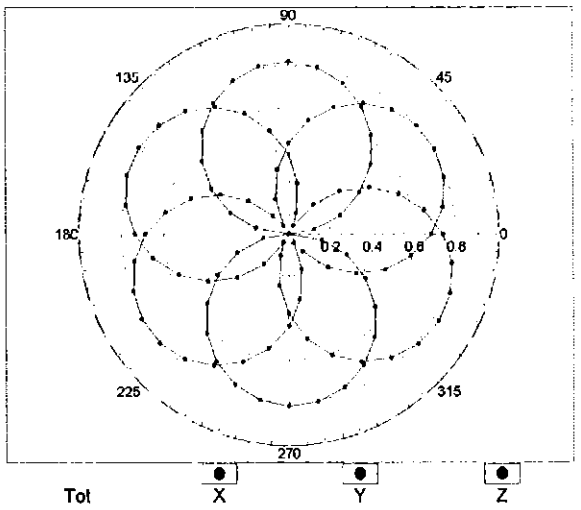
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

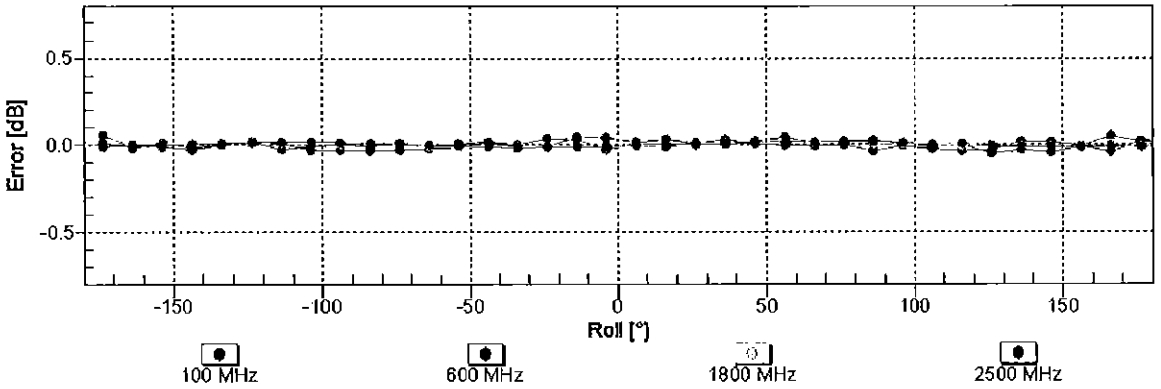
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

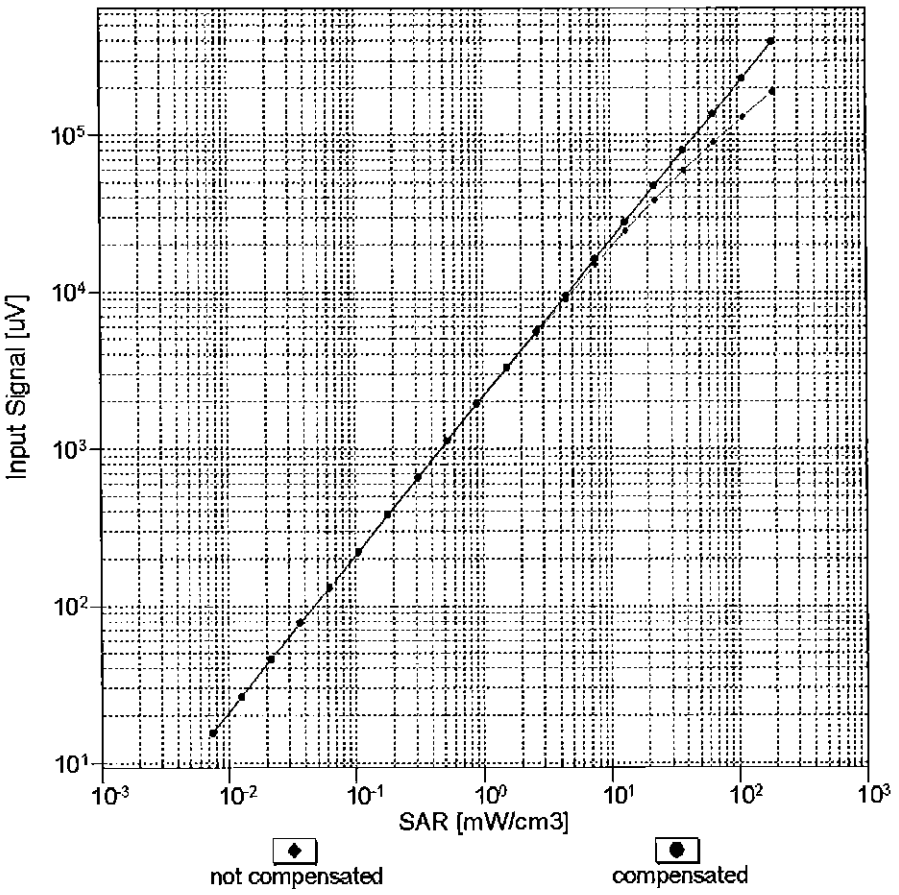


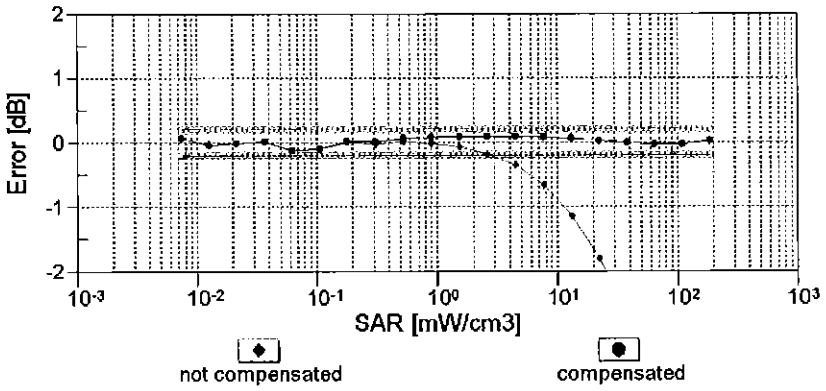


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR$_{head}$)

(TEM cell , f_{eval}= 1900 MHz)

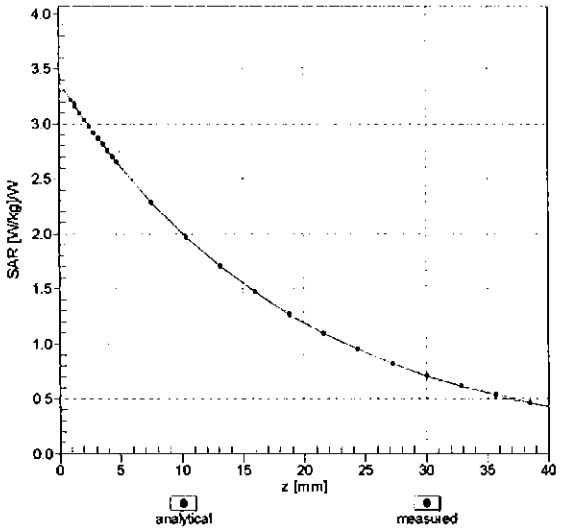




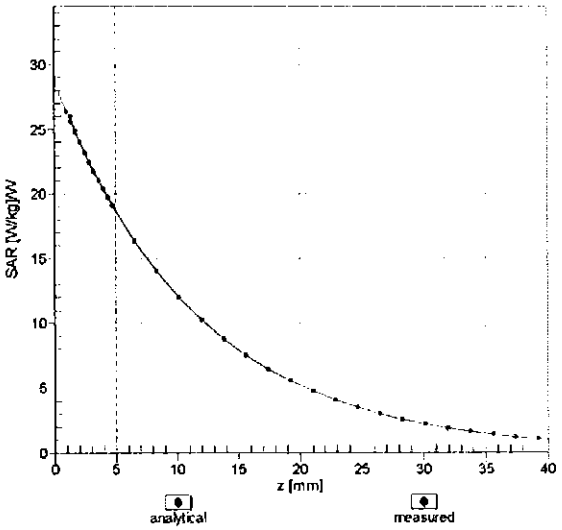
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

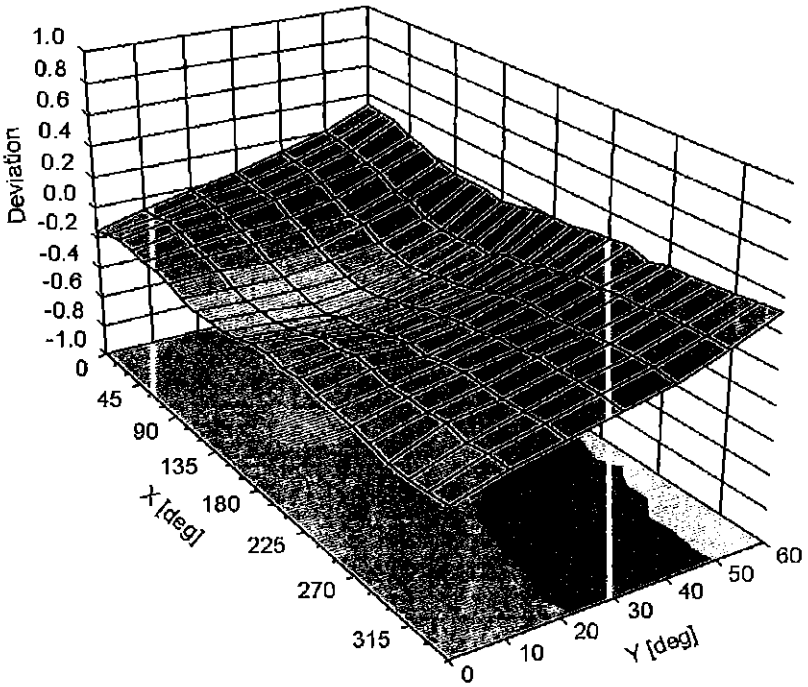


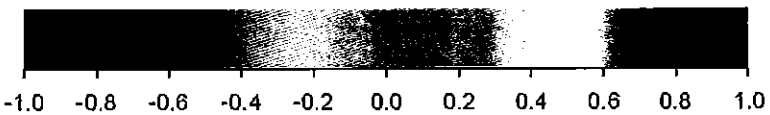
f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7409

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	36.2
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

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

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client PC Test

Certificate No: ES3-3319_Mar16

CALIBRATION CERTIFICATE

Object	ES3DV3 - SN:3319
Calibration procedure(s)	QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	March 18, 2016

BN 03/30/2016

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	01-Apr-15 (No. 217-02128)	Mar-16
Power sensor E4412A	MY41498087	01-Apr-15 (No. 217-02128)	Mar-16
Reference 3 dB Attenuator	SN: S5054 (3c)	01-Apr-15 (No. 217-02129)	Mar-16
Reference 20 dB Attenuator	SN: S5277 (20x)	01-Apr-15 (No. 217-02132)	Mar-16
Reference 30 dB Attenuator	SN: S5129 (30b)	01-Apr-15 (No. 217-02133)	Mar-16
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
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-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Leif Klysner	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: March 21, 2016

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

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *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.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *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 ES3DV3

SN:3319

Manufactured: January 10, 2012
Calibrated: March 18, 2016

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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3319

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	1.12	1.08	1.16	± 10.1 %
DCP (mV)[B]	104.1	104.5	103.7	

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	203.1	±3.5 %
		Y	0.0	0.0	1.0		203.8	
		Z	0.0	0.0	1.0		200.4	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	2.29	60.1	11.2	10.00	42.0	±1.2 %
		Y	1.95	58.7	10.4		42.0	
		Z	3.15	62.5	12.1		42.9	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	3.45	71.5	19.9	1.87	122.0	±0.5 %
		Y	2.88	68.4	18.6		122.8	
		Z	3.35	70.8	19.5		120.5	
10100-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	6.39	67.3	19.5	5.67	132.3	±1.2 %
		Y	6.54	68.2	20.1		134.5	
		Z	6.40	67.4	19.6		130.2	
10103-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	10.41	75.3	25.6	9.29	124.2	±2.2 %
		Y	10.45	76.3	26.6		122.6	
		Z	10.82	75.9	25.8		124.8	
10108-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	6.30	67.1	19.5	5.80	130.7	±1.2 %
		Y	6.35	67.5	19.9		131.5	
		Z	6.33	67.1	19.6		128.5	
10151-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	9.70	74.1	25.2	9.28	118.8	±2.2 %
		Y	9.65	74.9	26.0		117.1	
		Z	10.15	75.0	25.5		119.2	
10154-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	6.00	66.6	19.3	5.75	127.4	±1.2 %
		Y	6.01	66.9	19.6		128.9	
		Z	6.02	66.6	19.3		125.6	
10160-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	6.45	67.2	19.6	5.82	132.2	±1.2 %
		Y	6.47	67.5	19.9		133.5	
		Z	6.45	67.1	19.5		130.0	
10169-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	4.76	65.7	19.0	5.73	110.8	±0.9 %
		Y	4.80	66.3	19.5		112.0	
		Z	4.84	65.9	19.1		109.2	
10172-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	8.98	78.7	27.7	9.21	132.0	±2.5 %
		Y	9.71	82.4	30.0		132.2	
		Z	9.79	80.4	28.4		133.4	
10175-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	4.76	65.6	19.0	5.72	109.8	±0.9 %
		Y	4.76	66.1	19.4		111.4	
		Z	4.83	65.8	19.1		108.9	

10181-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	4.77	65.7	19.1	5.72	109.2	±0.9 %
		Y	4.78	66.2	19.4		111.9	
		Z	5.24	67.7	20.2		149.0	
10237-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	8.93	78.5	27.6	9.21	131.4	±2.5 %
		Y	9.48	81.7	29.7		131.7	
		Z	9.69	80.3	28.3		131.6	
10252-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	8.94	73.0	24.7	9.24	111.2	±2.2 %
		Y	9.05	74.3	25.9		111.8	
		Z	9.29	73.6	24.9		111.3	
10267-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	9.62	73.9	25.1	9.30	117.4	±2.2 %
		Y	9.73	75.1	26.1		118.2	
		Z	10.08	74.8	25.5		118.2	
10297-AAA	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	6.31	67.1	19.6	5.81	128.6	±1.2 %
		Y	6.39	67.6	20.0		132.2	
		Z	6.33	67.1	19.6		127.2	
10311-AAA	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	6.87	67.6	19.9	6.06	132.8	±1.4 %
		Y	6.96	68.2	20.3		137.0	
		Z	6.88	67.6	19.9		131.3	

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%.

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 6 and 7).
[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.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3319

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	41.9	0.89	6.44	6.44	6.44	0.49	1.80	± 12.0 %
835	41.5	0.90	6.16	6.16	6.16	0.46	1.80	± 12.0 %
1750	40.1	1.37	5.20	5.20	5.20	0.51	1.45	± 12.0 %
1900	40.0	1.40	5.03	5.03	5.03	0.58	1.40	± 12.0 %
2300	39.5	1.67	4.69	4.69	4.69	0.80	1.21	± 12.0 %
2450	39.2	1.80	4.47	4.47	4.47	0.75	1.32	± 12.0 %
2600	39.0	1.96	4.33	4.33	4.33	0.80	1.31	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3319

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	6.06	6.06	6.06	0.47	1.45	± 12.0 %
835	55.2	0.97	6.04	6.04	6.04	0.63	1.27	± 12.0 %
1750	53.4	1.49	4.91	4.91	4.91	0.46	1.66	± 12.0 %
1900	53.3	1.52	4.70	4.70	4.70	0.80	1.24	± 12.0 %
2300	52.9	1.81	4.36	4.36	4.36	0.74	1.33	± 12.0 %
2450	52.7	1.95	4.20	4.20	4.20	0.80	1.25	± 12.0 %
2600	52.5	2.16	3.99	3.99	3.99	0.80	1.20	± 12.0 %

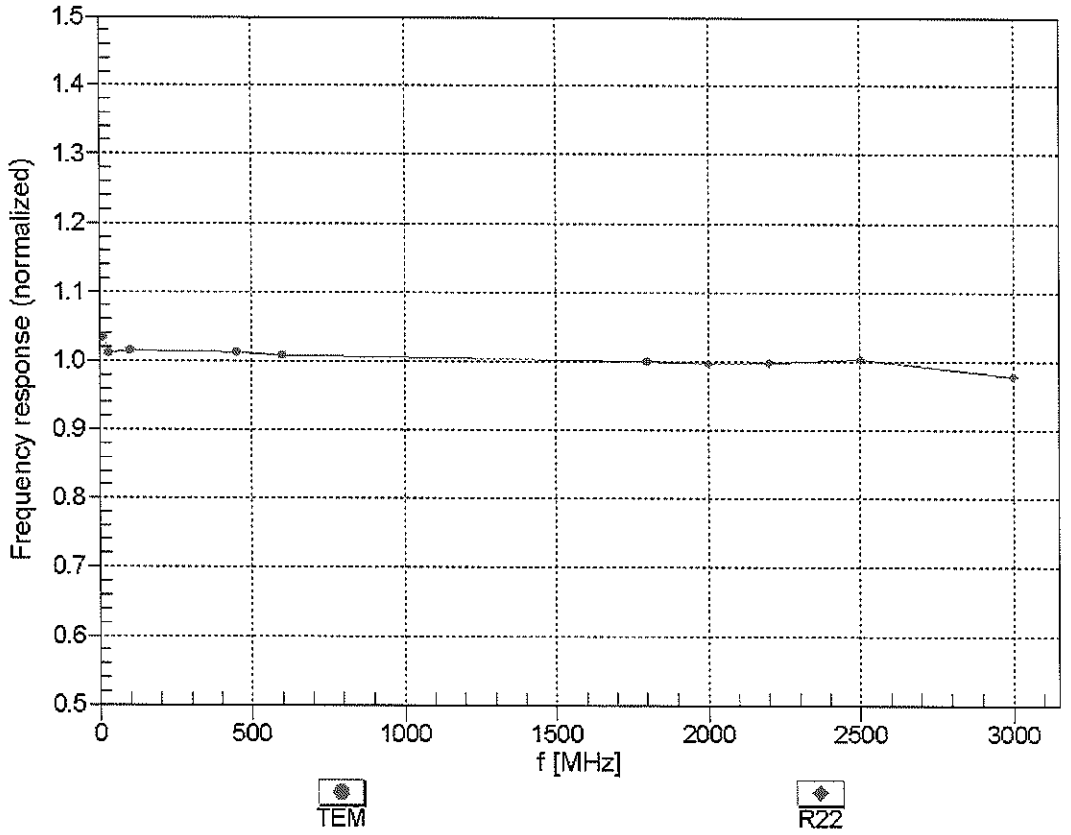
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

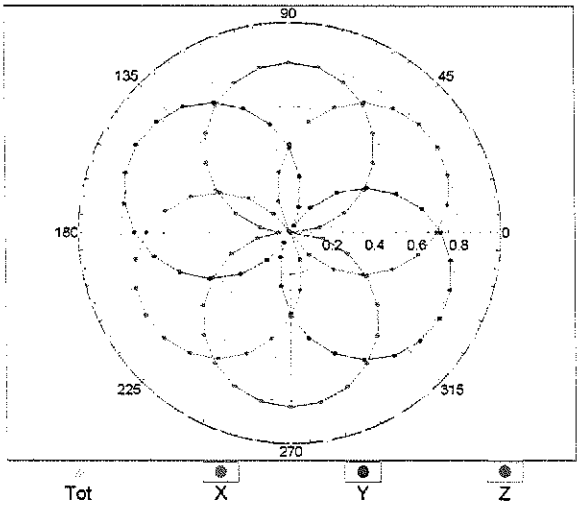
(TEM-Cell:ifi110 EXX, Waveguide: R22)



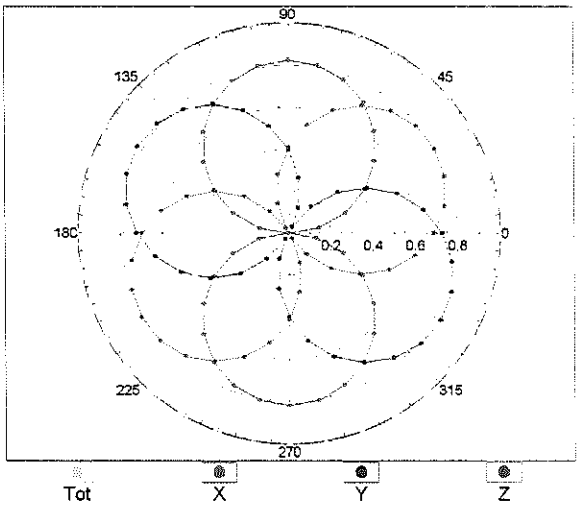
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

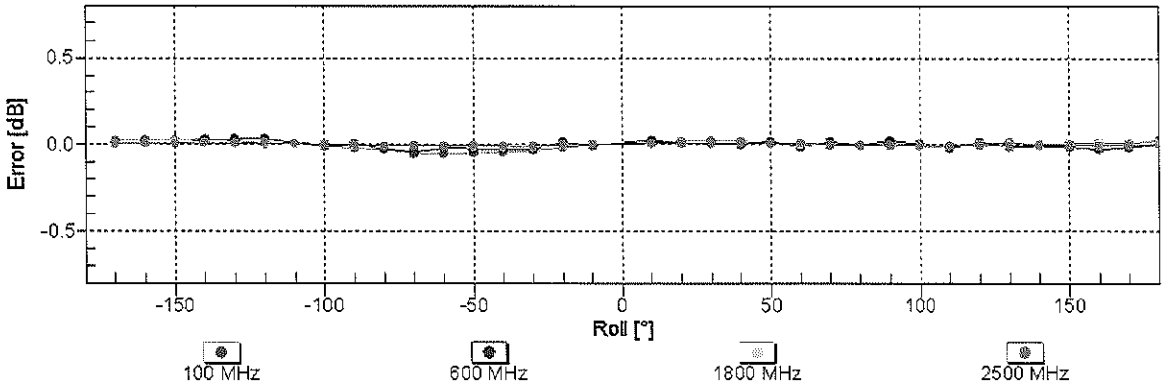
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

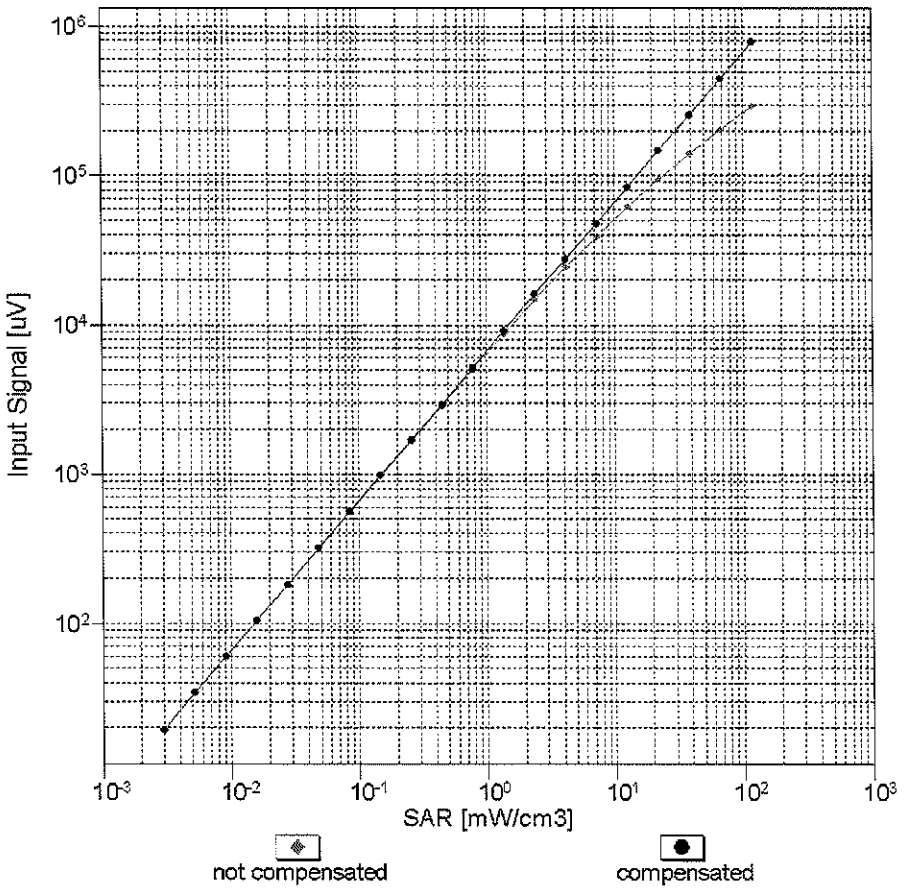


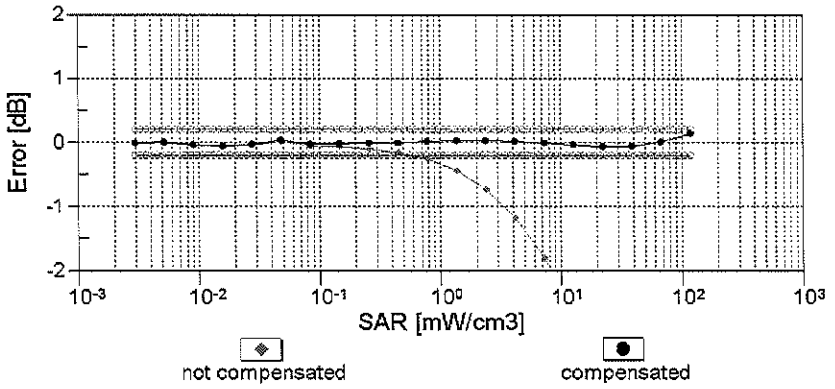


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})

(TEM cell , f_{eval}= 1900 MHz)

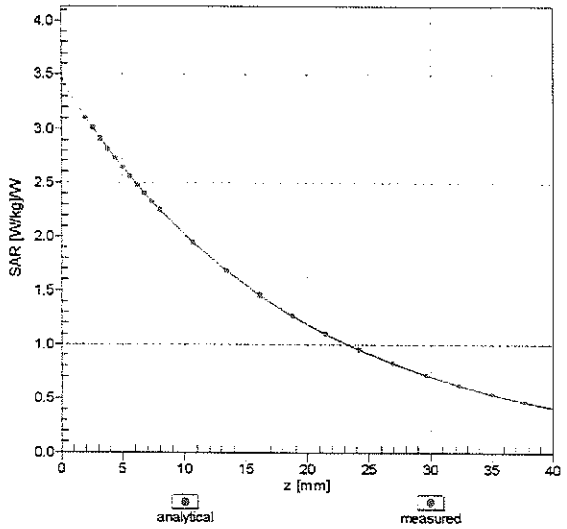




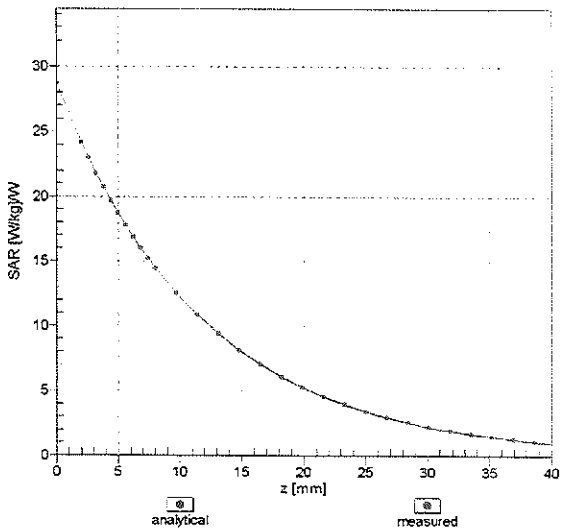
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

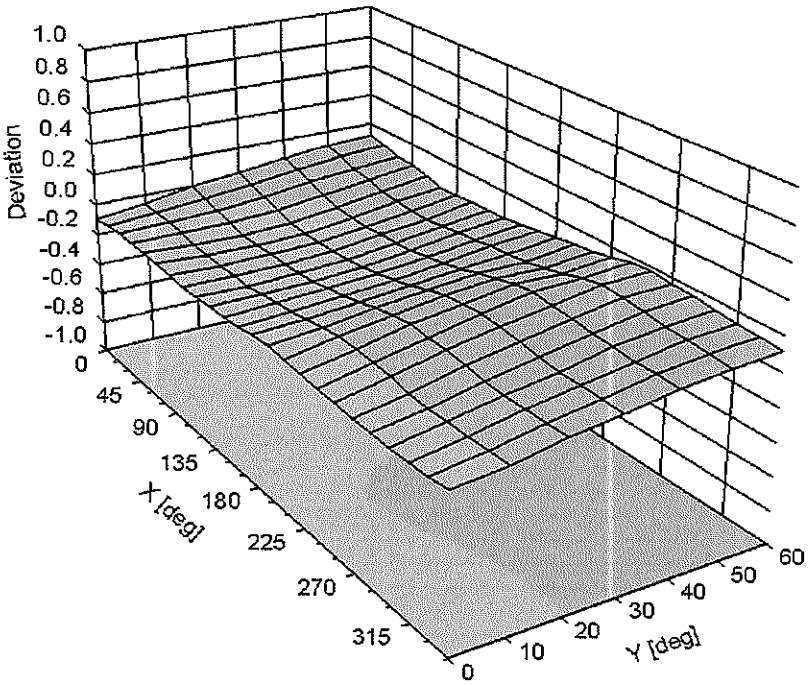


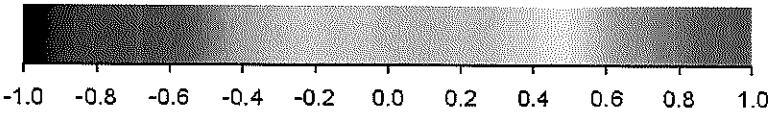
f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3319

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	60
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	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

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

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client **PC Test**

Certificate No: EX3-7410_Jul16

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:7410
Calibration procedure(s)	QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	July 25, 2016

BN ✓
08/04/2016

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 NRP	SN: 104778	06-Apr-16 (No. 217-02288/02289)	Apr-17
Power sensor NRP-Z91	SN: 103244	06-Apr-16 (No. 217-02288)	Apr-17
Power sensor NRP-Z91	SN: 103245	06-Apr-16 (No. 217-02289)	Apr-17
Reference 20 dB Attenuator	SN: S5277 (20x)	05-Apr-16 (No. 217-02293)	Apr-17
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	**Michael Weber**	**Laboratory Technician**	M.Weber
Approved by:	**Katja Pokovic**	**Technical Manager**	

Issued: July 27, 2016

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

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *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.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *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 EX3DV4

SN:7410

Manufactured: November 24, 2015
Calibrated: July 25, 2016

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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7410

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.42	0.48	0.44	± 10.1 %
DCP (mV)[B]	97.4	99.9	97.1	

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	148.7	±2.5 %
		Y	0.0	0.0	1.0		155.2	
		Z	0.0	0.0	1.0		152.3	

Note: For details on UID parameters see Appendix.

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	48.41	366.5	36.58	12.47	0.954	4.961	0	0.406	1.003
Y	51.56	389.6	36.52	11.42	0.862	4.986	0.508	0.351	1.004
Z	61.39	470.2	37.3	11.14	1.039	4.997	0	0.506	1.005

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%.

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[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.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7410

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	41.9	0.89	10.05	10.05	10.05	0.58	0.80	± 12.0 %
835	41.5	0.90	9.68	9.68	9.68	0.54	0.81	± 12.0 %
1750	40.1	1.37	8.41	8.41	8.41	0.39	0.80	± 12.0 %
1900	40.0	1.40	8.05	8.05	8.05	0.37	0.80	± 12.0 %
2300	39.5	1.67	7.73	7.73	7.73	0.33	0.88	± 12.0 %
2450	39.2	1.80	7.37	7.37	7.37	0.31	0.92	± 12.0 %
2600	39.0	1.96	7.11	7.11	7.11	0.36	0.84	± 12.0 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7410

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	9.93	9.93	9.93	0.35	1.05	± 12.0 %
835	55.2	0.97	9.72	9.72	9.72	0.47	0.80	± 12.0 %
1750	53.4	1.49	7.95	7.95	7.95	0.43	0.80	± 12.0 %
1900	53.3	1.52	7.64	7.64	7.64	0.39	0.80	± 12.0 %
2300	52.9	1.81	7.46	7.46	7.46	0.45	0.80	± 12.0 %
2450	52.7	1.95	7.40	7.40	7.40	0.35	0.80	± 12.0 %
2600	52.5	2.16	7.03	7.03	7.03	0.30	0.80	± 12.0 %

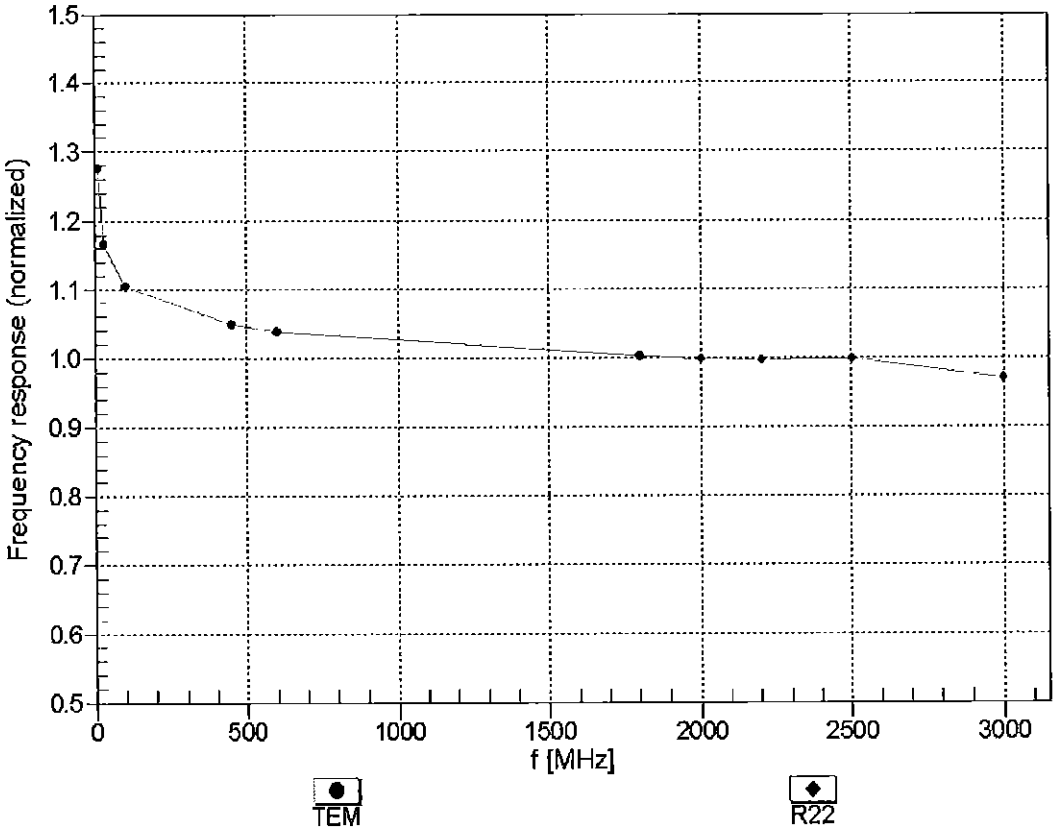
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

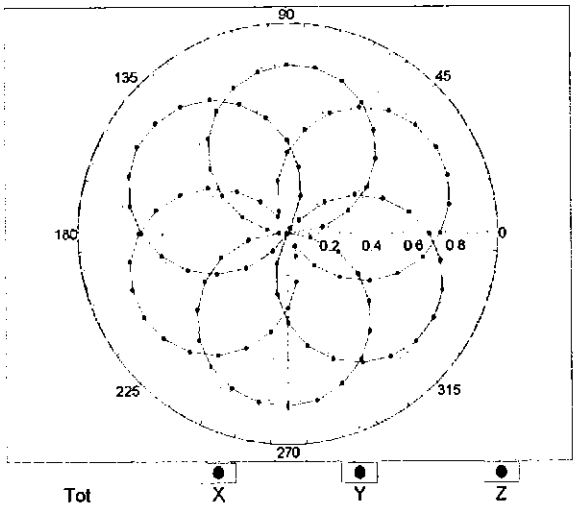
(TEM-Cell:ifi110 EXX, Waveguide: R22)



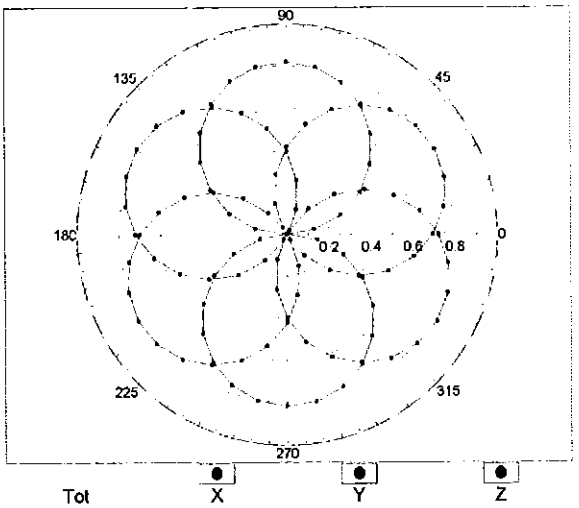
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

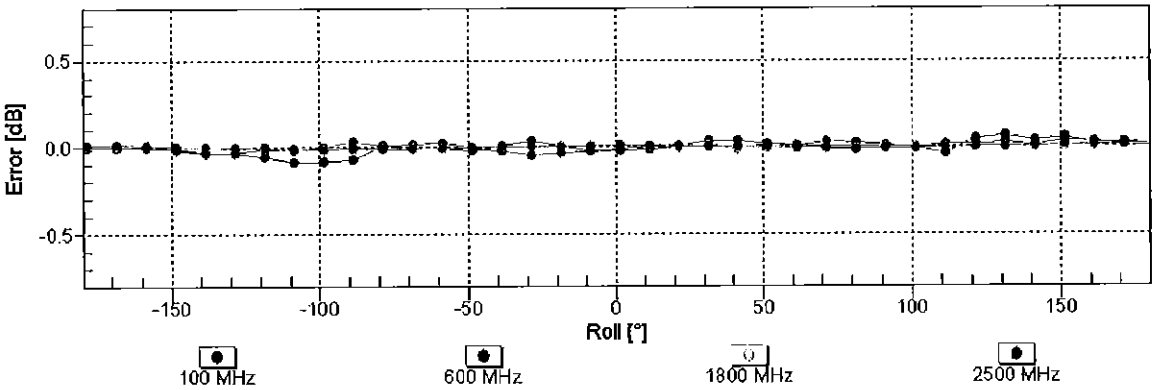
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

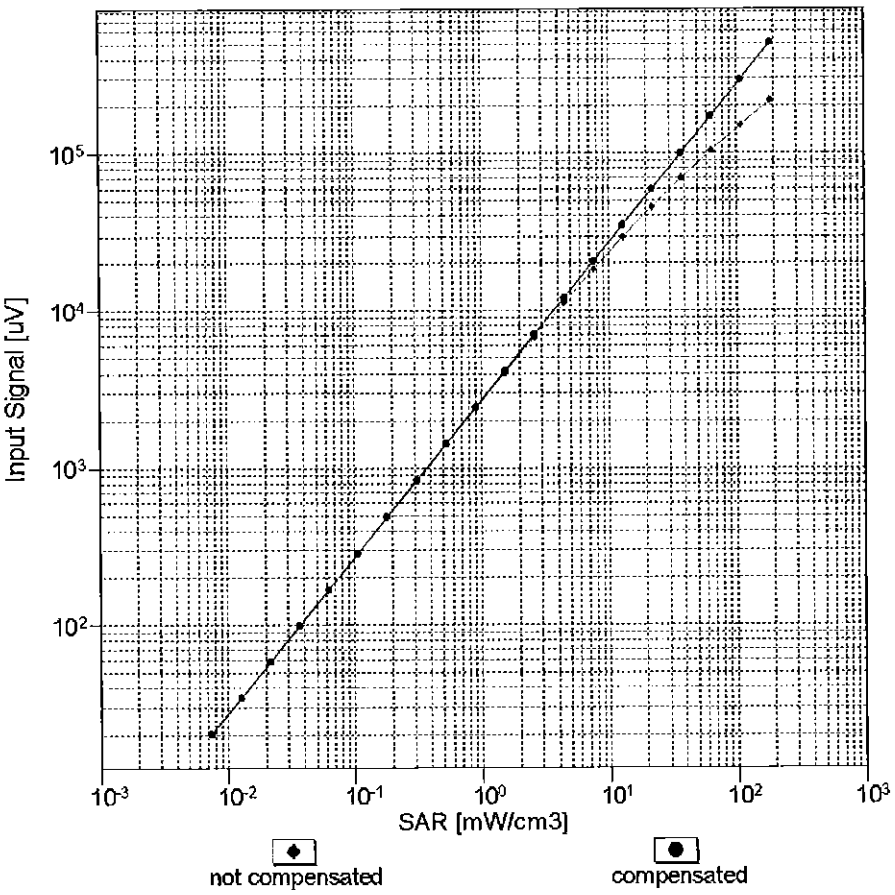


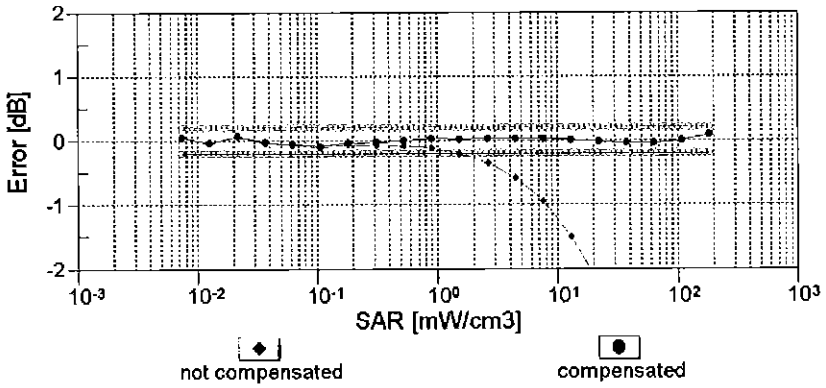


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})

(TEM cell , f_{eval}= 1900 MHz)

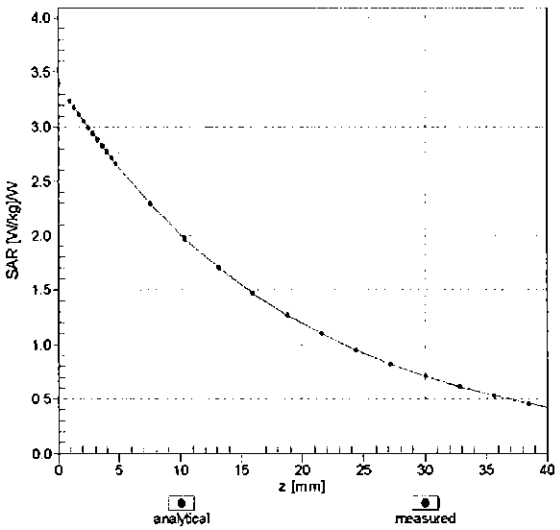




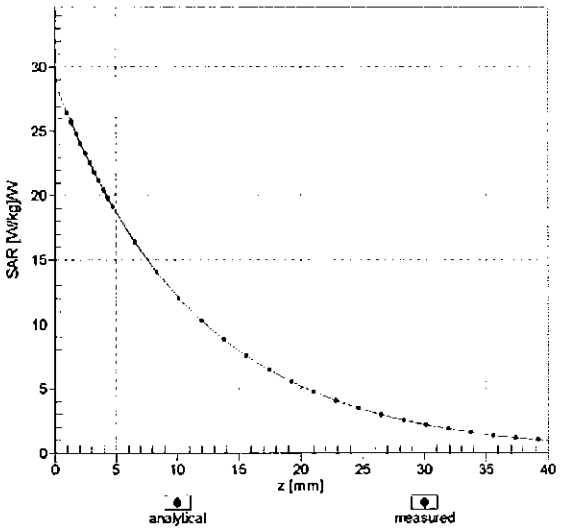
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

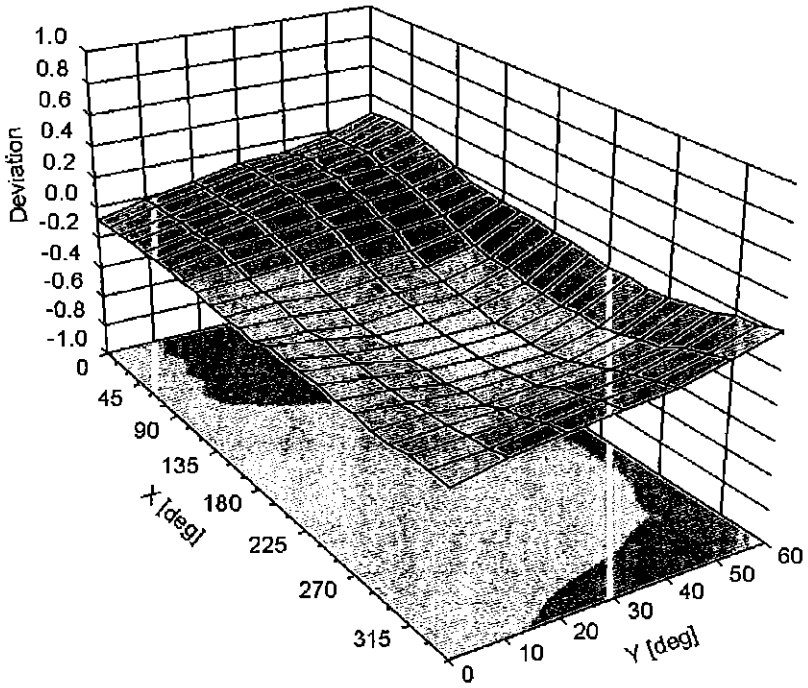


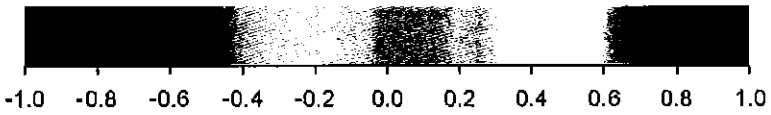
f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7410

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	1.5
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Max Unc[E] (k=2)
0	CW	X	0.00	0.00	1.00	0.00	148.7	± 2.5 %
		Y	0.00	0.00	1.00		155.2	
		Z	0.00	0.00	1.00		152.3	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	2.43	65.21	10.17	10.00	20.0	± 9.6 %
		Y	2.50	65.70	10.39		20.0	
		Z	2.85	67.36	11.61		20.0	
10011-CAB	UMTS-FDD (WCDMA)	X	1.09	68.25	15.97	0.00	150.0	± 9.6 %
		Y	1.24	70.76	17.39		150.0	
		Z	1.10	67.70	15.71		150.0	
10012-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.18	63.82	15.30	0.41	150.0	± 9.6 %
		Y	1.19	64.46	15.91		150.0	
		Z	1.18	63.56	15.24		150.0	
10013-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	X	4.85	66.42	16.89	1.46	150.0	± 9.6 %
		Y	4.89	66.57	17.08		150.0	
		Z	4.98	66.33	16.97		150.0	
10021-DAB	GSM-FDD (TDMA, GMSK)	X	7.58	78.77	16.90	9.39	50.0	± 9.6 %
		Y	17.86	89.55	20.42		50.0	
		Z	41.06	101.79	24.54		50.0	
10023-DAB	GPRS-FDD (TDMA, GMSK, TN 0)	X	6.69	77.05	16.32	9.57	50.0	± 9.6 %
		Y	13.04	85.58	19.26		50.0	
		Z	25.47	95.55	22.91		50.0	
10024-DAB	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	8.74	81.57	16.60	6.56	60.0	± 9.6 %
		Y	100.00	108.03	23.63		60.0	
		Z	100.00	111.32	25.30		60.0	
10025-DAB	EDGE-FDD (TDMA, 8PSK, TN 0)	X	4.47	70.15	24.88	12.57	50.0	± 9.6 %
		Y	10.89	98.18	38.43		50.0	
		Z	4.49	70.03	25.10		50.0	
10026-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	8.34	87.45	29.94	9.56	60.0	± 9.6 %
		Y	10.91	95.48	33.60		60.0	
		Z	8.51	87.76	30.38		60.0	
10027-DAB	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	41.47	97.27	19.98	4.80	80.0	± 9.6 %
		Y	100.00	107.82	22.77		80.0	
		Z	100.00	111.23	24.44		80.0	
10028-DAB	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	105.76	21.32	3.55	100.0	± 9.6 %
		Y	100.00	108.92	22.59		100.0	
		Z	100.00	112.30	24.21		100.0	
10029-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	5.53	79.01	25.60	7.80	80.0	± 9.6 %
		Y	6.25	82.85	27.73		80.0	
		Z	5.71	79.47	26.07		80.0	
10030-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	6.23	78.34	14.97	5.30	70.0	± 9.6 %
		Y	100.00	106.49	22.48		70.0	
		Z	100.00	109.96	24.20		70.0	
10031-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	104.45	19.64	1.88	100.0	± 9.6 %
		Y	100.00	108.59	21.21		100.0	
		Z	100.00	112.40	22.95		100.0	

10032-CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	100.00	110.63	21.37	1.17	100.0	± 9.6 %
		Y	100.00	118.45	24.27		100.0	
		Z	100.00	119.90	25.08		100.0	
10033-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	4.68	78.17	18.99	5.30	70.0	± 9.6 %
		Y	7.85	87.36	22.81		70.0	
		Z	6.11	84.09	22.37		70.0	
10034-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	2.20	72.10	15.84	1.88	100.0	± 9.6 %
		Y	3.02	77.54	18.56		100.0	
		Z	2.34	73.73	17.65		100.0	
10035-CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	1.76	70.56	15.16	1.17	100.0	± 9.6 %
		Y	2.26	74.85	17.46		100.0	
		Z	1.79	71.09	16.41		100.0	
10036-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	5.38	80.36	19.85	5.30	70.0	± 9.6 %
		Y	10.10	91.41	24.17		70.0	
		Z	7.37	87.30	23.55		70.0	
10037-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	2.10	71.54	15.58	1.88	100.0	± 9.6 %
		Y	2.84	76.78	18.24		100.0	
		Z	2.25	73.29	17.43		100.0	
10038-CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	1.77	70.87	15.40	1.17	100.0	± 9.6 %
		Y	2.29	75.33	17.77		100.0	
		Z	1.81	71.42	16.65		100.0	
10039-CAB	CDMA2000 (1xRTT, RC1)	X	2.26	75.07	17.20	0.00	150.0	± 9.6 %
		Y	2.99	79.22	19.11		150.0	
		Z	2.13	73.17	17.12		150.0	
10042-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	X	4.99	74.55	14.33	7.78	50.0	± 9.6 %
		Y	13.44	85.55	17.97		50.0	
		Z	42.42	100.06	22.60		50.0	
10044-CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.00	97.63	0.45	0.00	150.0	± 9.6 %
		Y	0.00	105.63	0.06		150.0	
		Z	0.00	96.62	1.01		150.0	
10048-CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	5.59	71.38	15.61	13.80	25.0	± 9.6 %
		Y	7.04	74.56	16.88		25.0	
		Z	9.46	79.38	19.30		25.0	
10049-CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	5.69	73.97	15.42	10.79	40.0	± 9.6 %
		Y	7.55	77.84	16.94		40.0	
		Z	10.67	83.35	19.52		40.0	
10056-CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	7.92	80.69	20.07	9.03	50.0	± 9.6 %
		Y	12.20	88.23	23.05		50.0	
		Z	10.66	86.87	23.26		50.0	
10058-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	4.35	74.75	23.16	6.55	100.0	± 9.6 %
		Y	4.67	77.08	24.63		100.0	
		Z	4.50	75.20	23.59		100.0	
10059-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.21	64.69	15.68	0.61	110.0	± 9.6 %
		Y	1.23	65.53	16.44		110.0	
		Z	1.21	64.46	15.69		110.0	
10060-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	4.17	88.85	22.71	1.30	110.0	± 9.6 %
		Y	67.79	132.65	34.60		110.0	
		Z	4.39	90.74	23.85		110.0	

10061-CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	2.24	74.92	19.41	2.04	110.0	± 9.6 %
		Y	2.89	80.48	22.16		110.0	
		Z	2.29	75.62	20.19		110.0	
10062-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.68	66.56	16.48	0.49	100.0	± 9.6 %
		Y	4.72	66.69	16.64		100.0	
		Z	4.82	66.46	16.52		100.0	
10063-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.69	66.60	16.53	0.72	100.0	± 9.6 %
		Y	4.73	66.75	16.71		100.0	
		Z	4.83	66.52	16.60		100.0	
10064-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	4.97	66.86	16.74	0.86	100.0	± 9.6 %
		Y	5.03	67.01	16.92		100.0	
		Z	5.16	66.85	16.84		100.0	
10065-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	4.83	66.69	16.78	1.21	100.0	± 9.6 %
		Y	4.88	66.88	16.98		100.0	
		Z	5.00	66.71	16.90		100.0	
10066-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	4.83	66.66	16.89	1.46	100.0	± 9.6 %
		Y	4.89	66.87	17.11		100.0	
		Z	5.02	66.70	17.03		100.0	
10067-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.11	66.77	17.26	2.04	100.0	± 9.6 %
		Y	5.17	66.95	17.49		100.0	
		Z	5.29	66.72	17.39		100.0	
10068-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.15	66.79	17.44	2.55	100.0	± 9.6 %
		Y	5.22	67.02	17.70		100.0	
		Z	5.36	66.88	17.63		100.0	
10069-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.23	66.78	17.61	2.67	100.0	± 9.6 %
		Y	5.30	67.00	17.88		100.0	
		Z	5.43	66.80	17.79		100.0	
10071-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	4.93	66.44	17.12	1.99	100.0	± 9.6 %
		Y	4.97	66.61	17.34		100.0	
		Z	5.06	66.38	17.23		100.0	
10072-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	4.90	66.71	17.28	2.30	100.0	± 9.6 %
		Y	4.95	66.92	17.53		100.0	
		Z	5.05	66.71	17.42		100.0	
10073-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	4.94	66.81	17.53	2.83	100.0	± 9.6 %
		Y	5.00	67.03	17.80		100.0	
		Z	5.09	66.79	17.68		100.0	
10074-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	4.92	66.68	17.64	3.30	100.0	± 9.6 %
		Y	4.97	66.89	17.92		100.0	
		Z	5.05	66.64	17.81		100.0	
10075-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	4.96	66.78	17.91	3.82	90.0	± 9.6 %
		Y	5.01	67.04	18.23		90.0	
		Z	5.11	66.84	18.14		90.0	
10076-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	4.97	66.56	18.00	4.15	90.0	± 9.6 %
		Y	5.01	66.78	18.31		90.0	
		Z	5.08	66.50	18.18		90.0	
10077-CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	4.99	66.62	18.09	4.30	90.0	± 9.6 %
		Y	5.03	66.84	18.39		90.0	
		Z	5.10	66.53	18.25		90.0	

10081-CAB	CDMA2000 (1xRTT, RC3)	X	0.95	67.59	13.64	0.00	150.0	± 9.6 %
		Y	1.16	70.64	15.38		150.0	
		Z	1.00	67.16	14.09		150.0	
10082-CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	X	0.60	57.37	2.77	4.77	80.0	± 9.6 %
		Y	0.75	60.00	4.53		80.0	
		Z	0.77	60.00	4.83		80.0	
10090-DAB	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	8.51	81.27	16.52	6.56	60.0	± 9.6 %
		Y	100.00	108.05	23.66		60.0	
		Z	100.00	111.34	25.32		60.0	
10097-CAB	UMTS-FDD (HSDPA)	X	1.90	68.28	16.17	0.00	150.0	± 9.6 %
		Y	1.99	69.20	16.79		150.0	
		Z	1.89	67.54	15.97		150.0	
10098-CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.86	68.23	16.14	0.00	150.0	± 9.6 %
		Y	1.95	69.19	16.78		150.0	
		Z	1.85	67.50	15.94		150.0	
10099-DAB	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	8.38	87.52	29.95	9.56	60.0	± 9.6 %
		Y	10.98	95.58	33.62		60.0	
		Z	8.55	87.83	30.39		60.0	
10100-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.23	70.79	17.06	0.00	150.0	± 9.6 %
		Y	3.41	71.78	17.57		150.0	
		Z	3.32	70.68	16.93		150.0	
10101-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.30	67.71	16.16	0.00	150.0	± 9.6 %
		Y	3.37	68.16	16.45		150.0	
		Z	3.40	67.70	16.13		150.0	
10102-CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.40	67.69	16.25	0.00	150.0	± 9.6 %
		Y	3.47	68.06	16.51		150.0	
		Z	3.50	67.64	16.22		150.0	
10103-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	5.69	73.19	19.02	3.98	65.0	± 9.6 %
		Y	6.17	74.96	19.98		65.0	
		Z	5.81	73.32	19.29		65.0	
10104-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	6.05	72.46	19.54	3.98	65.0	± 9.6 %
		Y	6.18	73.22	20.12		65.0	
		Z	6.17	72.56	19.81		65.0	
10105-CAB	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	5.63	70.95	19.16	3.98	65.0	± 9.6 %
		Y	5.99	72.46	20.09		65.0	
		Z	5.69	70.87	19.35		65.0	
10108-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.83	70.04	16.91	0.00	150.0	± 9.6 %
		Y	2.98	71.00	17.43		150.0	
		Z	2.93	69.87	16.76		150.0	
10109-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	2.96	67.63	16.10	0.00	150.0	± 9.6 %
		Y	3.03	68.09	16.42		150.0	
		Z	3.07	67.52	16.08		150.0	
10110-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.30	69.18	16.55	0.00	150.0	± 9.6 %
		Y	2.44	70.23	17.16		150.0	
		Z	2.41	68.88	16.42		150.0	
10111-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.70	68.70	16.54	0.00	150.0	± 9.6 %
		Y	2.78	69.16	16.89		150.0	
		Z	2.78	68.21	16.45		150.0	

10112-CAC	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	3.08	67.62	16.16	0.00	150.0	± 9.6 %
		Y	3.15	68.01	16.44		150.0	
		Z	3.19	67.46	16.12		150.0	
10113-CAC	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.86	68.84	16.66	0.00	150.0	± 9.6 %
		Y	2.93	69.21	16.97		150.0	
		Z	2.94	68.29	16.56		150.0	
10114-CAB	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	5.18	67.28	16.58	0.00	150.0	± 9.6 %
		Y	5.20	67.36	16.66		150.0	
		Z	5.26	67.11	16.50		150.0	
10115-CAB	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.47	67.42	16.65	0.00	150.0	± 9.6 %
		Y	5.52	67.56	16.76		150.0	
		Z	5.64	67.43	16.67		150.0	
10116-CAB	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.28	67.48	16.61	0.00	150.0	± 9.6 %
		Y	5.31	67.60	16.71		150.0	
		Z	5.39	67.39	16.57		150.0	
10117-CAB	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	5.14	67.13	16.52	0.00	150.0	± 9.6 %
		Y	5.17	67.25	16.63		150.0	
		Z	5.27	67.13	16.53		150.0	
10118-CAB	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.56	67.64	16.77	0.00	150.0	± 9.6 %
		Y	5.61	67.77	16.88		150.0	
		Z	5.71	67.60	16.76		150.0	
10119-CAB	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	X	5.25	67.43	16.59	0.00	150.0	± 9.6 %
		Y	5.28	67.53	16.69		150.0	
		Z	5.37	67.34	16.56		150.0	
10140-CAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.44	67.68	16.16	0.00	150.0	± 9.6 %
		Y	3.51	68.06	16.42		150.0	
		Z	3.55	67.64	16.14		150.0	
10141-CAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.56	67.79	16.34	0.00	150.0	± 9.6 %
		Y	3.63	68.11	16.56		150.0	
		Z	3.67	67.69	16.30		150.0	
10142-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	2.09	69.36	16.32	0.00	150.0	± 9.6 %
		Y	2.25	70.57	17.05		150.0	
		Z	2.19	68.88	16.26		150.0	
10143-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.61	69.75	16.40	0.00	150.0	± 9.6 %
		Y	2.72	70.39	16.89		150.0	
		Z	2.67	69.00	16.41		150.0	
10144-CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.32	67.05	14.58	0.00	150.0	± 9.6 %
		Y	2.43	67.76	15.14		150.0	
		Z	2.46	66.90	14.91		150.0	
10145-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.34	66.28	12.62	0.00	150.0	± 9.6 %
		Y	1.54	68.26	13.94		150.0	
		Z	1.57	67.41	14.13		150.0	
10146-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	1.64	64.60	10.83	0.00	150.0	± 9.6 %
		Y	2.05	67.15	12.43		150.0	
		Z	2.36	68.27	13.85		150.0	
10147-CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	1.86	66.07	11.71	0.00	150.0	± 9.6 %
		Y	2.50	69.63	13.73		150.0	
		Z	2.82	70.78	15.17		150.0	

10149-CAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	2.97	67.70	16.15	0.00	150.0	± 9.6 %
		Y	3.04	68.16	16.47		150.0	
		Z	3.08	67.58	16.13		150.0	
10150-CAB	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.09	67.68	16.20	0.00	150.0	± 9.6 %
		Y	3.16	68.07	16.48		150.0	
		Z	3.20	67.52	16.17		150.0	
10151-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	5.99	75.51	20.02	3.98	65.0	± 9.6 %
		Y	6.36	76.99	20.90		65.0	
		Z	6.09	75.53	20.32		65.0	
10152-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	5.54	72.18	19.10	3.98	65.0	± 9.6 %
		Y	5.71	73.12	19.80		65.0	
		Z	5.69	72.36	19.51		65.0	
10153-CAB	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	5.91	73.18	19.92	3.98	65.0	± 9.6 %
		Y	6.05	73.98	20.54		65.0	
		Z	6.01	73.15	20.24		65.0	
10154-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.36	69.70	16.86	0.00	150.0	± 9.6 %
		Y	2.51	70.74	17.47		150.0	
		Z	2.47	69.42	16.75		150.0	
10155-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.70	68.72	16.55	0.00	150.0	± 9.6 %
		Y	2.78	69.17	16.90		150.0	
		Z	2.78	68.20	16.45		150.0	
10156-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	1.96	69.66	16.22	0.00	150.0	± 9.6 %
		Y	2.14	71.11	17.09		150.0	
		Z	2.06	69.17	16.26		150.0	
10157-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.18	67.85	14.74	0.00	150.0	± 9.6 %
		Y	2.32	68.78	15.42		150.0	
		Z	2.31	67.60	15.12		150.0	
10158-CAC	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.87	68.91	16.71	0.00	150.0	± 9.6 %
		Y	2.94	69.28	17.02		150.0	
		Z	2.94	68.35	16.60		150.0	
10159-CAC	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.31	68.41	15.07	0.00	150.0	± 9.6 %
		Y	2.45	69.32	15.74		150.0	
		Z	2.44	68.13	15.45		150.0	
10160-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.82	69.05	16.65	0.00	150.0	± 9.6 %
		Y	2.93	69.73	17.07		150.0	
		Z	2.91	68.73	16.50		150.0	
10161-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	2.99	67.64	16.15	0.00	150.0	± 9.6 %
		Y	3.06	68.03	16.44		150.0	
		Z	3.09	67.43	16.12		150.0	
10162-CAB	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.10	67.78	16.25	0.00	150.0	± 9.6 %
		Y	3.17	68.13	16.52		150.0	
		Z	3.20	67.48	16.19		150.0	
10166-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.36	68.36	18.51	3.01	150.0	± 9.6 %
		Y	3.53	69.30	19.09		150.0	
		Z	3.62	68.52	18.65		150.0	
10167-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	3.90	70.55	18.73	3.01	150.0	± 9.6 %
		Y	4.29	72.16	19.56		150.0	
		Z	4.34	70.90	18.97		150.0	

10168-CAC	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	4.33	72.84	20.14	3.01	150.0	± 9.6 %
		Y	4.76	74.39	20.88		150.0	
		Z	4.75	72.87	20.21		150.0	
10169-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	2.65	67.13	17.99	3.01	150.0	± 9.6 %
		Y	2.87	68.82	18.95		150.0	
		Z	3.02	68.58	18.68		150.0	
10170-CAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	3.33	71.93	20.05	3.01	150.0	± 9.6 %
		Y	3.91	74.96	21.42		150.0	
		Z	4.03	74.00	20.87		150.0	
10171-AAB	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	2.78	68.15	17.28	3.01	150.0	± 9.6 %
		Y	3.20	70.75	18.58		150.0	
		Z	3.32	69.91	18.08		150.0	
10172-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	4.63	78.31	22.72	6.02	65.0	± 9.6 %
		Y	7.76	88.95	27.14		65.0	
		Z	5.95	81.91	24.44		65.0	
10173-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	6.69	82.24	22.42	6.02	65.0	± 9.6 %
		Y	11.56	92.23	26.20		65.0	
		Z	9.46	87.18	24.62		65.0	
10174-CAB	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	5.13	77.25	20.10	6.02	65.0	± 9.6 %
		Y	9.30	87.37	24.03		65.0	
		Z	7.14	81.53	22.17		65.0	
10175-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	2.62	66.84	17.74	3.01	150.0	± 9.6 %
		Y	2.84	68.52	18.71		150.0	
		Z	2.98	68.24	18.41		150.0	
10176-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	3.33	71.95	20.06	3.01	150.0	± 9.6 %
		Y	3.91	74.99	21.43		150.0	
		Z	4.04	74.03	20.88		150.0	
10177-CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	2.64	66.99	17.84	3.01	150.0	± 9.6 %
		Y	2.86	68.68	18.80		150.0	
		Z	3.01	68.43	18.53		150.0	
10178-CAC	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	3.30	71.73	19.93	3.01	150.0	± 9.6 %
		Y	3.87	74.74	21.30		150.0	
		Z	3.98	73.72	20.71		150.0	
10179-CAC	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	3.02	69.89	18.51	3.01	150.0	± 9.6 %
		Y	3.52	72.74	19.87		150.0	
		Z	3.63	71.76	19.30		150.0	
10180-CAC	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	2.77	68.08	17.23	3.01	150.0	± 9.6 %
		Y	3.19	70.67	18.53		150.0	
		Z	3.31	69.81	18.01		150.0	
10181-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	2.64	66.97	17.83	3.01	150.0	± 9.6 %
		Y	2.85	68.66	18.79		150.0	
		Z	3.00	68.41	18.52		150.0	
10182-CAB	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	3.30	71.71	19.92	3.01	150.0	± 9.6 %
		Y	3.86	74.72	21.29		150.0	
		Z	3.97	73.69	20.70		150.0	
10183-AAA	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	2.76	68.06	17.22	3.01	150.0	± 9.6 %
		Y	3.18	70.65	18.52		150.0	
		Z	3.30	69.79	18.00		150.0	

10184-CAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	2.65	67.01	17.86	3.01	150.0	± 9.6 %
		Y	2.87	68.70	18.82		150.0	
		Z	3.01	68.45	18.54		150.0	
10185-CAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	3.31	71.78	19.96	3.01	150.0	± 9.6 %
		Y	3.88	74.79	21.33		150.0	
		Z	3.99	73.77	20.74		150.0	
10186-AAC	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	2.78	68.12	17.26	3.01	150.0	± 9.6 %
		Y	3.20	70.72	18.55		150.0	
		Z	3.32	69.86	18.04		150.0	
10187-CAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	2.65	67.06	17.91	3.01	150.0	± 9.6 %
		Y	2.87	68.75	18.88		150.0	
		Z	3.02	68.48	18.58		150.0	
10188-CAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	3.41	72.42	20.36	3.01	150.0	± 9.6 %
		Y	4.01	75.49	21.72		150.0	
		Z	4.14	74.52	21.17		150.0	
10189-AAC	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	2.83	68.50	17.53	3.01	150.0	± 9.6 %
		Y	3.27	71.16	18.84		150.0	
		Z	3.39	70.29	18.33		150.0	
10193-CAB	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.57	66.69	16.29	0.00	150.0	± 9.6 %
		Y	4.60	66.79	16.40		150.0	
		Z	4.69	66.53	16.28		150.0	
10194-CAB	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.74	67.01	16.41	0.00	150.0	± 9.6 %
		Y	4.78	67.12	16.52		150.0	
		Z	4.88	66.90	16.40		150.0	
10195-CAB	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.78	67.04	16.43	0.00	150.0	± 9.6 %
		Y	4.82	67.14	16.54		150.0	
		Z	4.93	66.91	16.40		150.0	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.57	66.76	16.31	0.00	150.0	± 9.6 %
		Y	4.61	66.86	16.43		150.0	
		Z	4.71	66.63	16.32		150.0	
10197-CAB	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.75	67.03	16.42	0.00	150.0	± 9.6 %
		Y	4.80	67.14	16.54		150.0	
		Z	4.90	66.92	16.41		150.0	
10198-CAB	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	X	4.78	67.05	16.44	0.00	150.0	± 9.6 %
		Y	4.83	67.16	16.55		150.0	
		Z	4.93	66.92	16.41		150.0	
10219-CAB	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.52	66.77	16.27	0.00	150.0	± 9.6 %
		Y	4.56	66.88	16.40		150.0	
		Z	4.66	66.64	16.28		150.0	
10220-CAB	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.75	67.00	16.41	0.00	150.0	± 9.6 %
		Y	4.79	67.11	16.53		150.0	
		Z	4.90	66.91	16.40		150.0	
10221-CAB	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.79	66.98	16.42	0.00	150.0	± 9.6 %
		Y	4.83	67.08	16.53		150.0	
		Z	4.94	66.86	16.40		150.0	
10222-CAB	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	X	5.12	67.14	16.52	0.00	150.0	± 9.6 %
		Y	5.15	67.26	16.62		150.0	
		Z	5.25	67.15	16.53		150.0	

10223-CAB	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.42	67.35	16.64	0.00	150.0	± 9.6 %
		Y	5.46	67.44	16.73		150.0	
		Z	5.63	67.50	16.73		150.0	
10224-CAB	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.16	67.26	16.51	0.00	150.0	± 9.6 %
		Y	5.20	67.37	16.61		150.0	
		Z	5.30	67.25	16.51		150.0	
10225-CAB	UMTS-FDD (HSPA+)	X	2.85	66.34	15.56	0.00	150.0	± 9.6 %
		Y	2.90	66.62	15.85		150.0	
		Z	2.95	66.07	15.65		150.0	
10226-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	7.03	83.16	22.84	6.02	65.0	± 9.6 %
		Y	12.37	93.52	26.70		65.0	
		Z	9.98	88.21	25.07		65.0	
10227-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	6.67	81.24	21.58	6.02	65.0	± 9.6 %
		Y	10.92	89.92	24.91		65.0	
		Z	9.08	85.42	23.57		65.0	
10228-CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	5.82	82.70	24.42	6.02	65.0	± 9.6 %
		Y	8.66	91.29	28.01		65.0	
		Z	7.51	86.59	26.22		65.0	
10229-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	6.74	82.34	22.46	6.02	65.0	± 9.6 %
		Y	11.64	92.33	26.24		65.0	
		Z	9.52	87.27	24.66		65.0	
10230-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	6.38	80.48	21.23	6.02	65.0	± 9.6 %
		Y	10.29	88.87	24.49		65.0	
		Z	8.67	84.58	23.21		65.0	
10231-CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	5.61	81.97	24.07	6.02	65.0	± 9.6 %
		Y	8.28	90.36	27.61		65.0	
		Z	7.23	85.81	25.86		65.0	
10232-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	6.73	82.32	22.45	6.02	65.0	± 9.6 %
		Y	11.62	92.32	26.23		65.0	
		Z	9.51	87.25	24.65		65.0	
10233-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	X	6.37	80.46	21.22	6.02	65.0	± 9.6 %
		Y	10.27	88.86	24.48		65.0	
		Z	8.66	84.57	23.20		65.0	
10234-CAB	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	5.44	81.28	23.70	6.02	65.0	± 9.6 %
		Y	7.95	89.46	27.19		65.0	
		Z	6.99	85.05	25.48		65.0	
10235-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	6.73	82.33	22.46	6.02	65.0	± 9.6 %
		Y	11.64	92.36	26.25		65.0	
		Z	9.51	87.27	24.66		65.0	
10236-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	6.42	80.55	21.25	6.02	65.0	± 9.6 %
		Y	10.39	89.01	24.53		65.0	
		Z	8.73	84.68	23.23		65.0	
10237-CAB	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	5.61	82.00	24.08	6.02	65.0	± 9.6 %
		Y	8.30	90.45	27.64		65.0	
		Z	7.24	85.86	25.88		65.0	
10238-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	6.71	82.29	22.44	6.02	65.0	± 9.6 %
		Y	11.60	92.30	26.22		65.0	
		Z	9.48	87.23	24.64		65.0	

10239-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	6.35	80.43	21.21	6.02	65.0	± 9.6 %
		Y	10.24	88.83	24.48		65.0	
		Z	8.64	84.54	23.19		65.0	
10240-CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	5.60	81.96	24.07	6.02	65.0	± 9.6 %
		Y	8.27	90.39	27.62		65.0	
		Z	7.22	85.81	25.86		65.0	
10241-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	6.85	77.04	23.11	6.98	65.0	± 9.6 %
		Y	7.49	79.26	24.40		65.0	
		Z	7.25	77.10	23.54		65.0	
10242-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	6.14	74.82	22.06	6.98	65.0	± 9.6 %
		Y	7.20	78.43	23.97		65.0	
		Z	6.54	74.89	22.49		65.0	
10243-CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	5.23	72.34	21.79	6.98	65.0	± 9.6 %
		Y	5.93	75.45	23.61		65.0	
		Z	5.51	72.34	22.13		65.0	
10244-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	4.40	70.43	15.58	3.98	65.0	± 9.6 %
		Y	5.04	72.95	17.16		65.0	
		Z	5.35	73.61	18.17		65.0	
10245-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	4.37	70.09	15.38	3.98	65.0	± 9.6 %
		Y	4.97	72.51	16.92		65.0	
		Z	5.33	73.32	18.00		65.0	
10246-CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	4.30	73.38	17.22	3.98	65.0	± 9.6 %
		Y	5.07	76.58	19.00		65.0	
		Z	5.01	76.04	19.34		65.0	
10247-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	4.52	71.33	17.06	3.98	65.0	± 9.6 %
		Y	4.81	72.85	18.15		65.0	
		Z	4.88	72.58	18.50		65.0	
10248-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	4.56	70.99	16.90	3.98	65.0	± 9.6 %
		Y	4.85	72.43	17.96		65.0	
		Z	4.96	72.25	18.34		65.0	
10249-CAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	5.28	76.52	19.41	3.98	65.0	± 9.6 %
		Y	6.13	79.64	21.06		65.0	
		Z	5.67	77.77	20.67		65.0	
10250-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	5.47	74.06	19.88	3.98	65.0	± 9.6 %
		Y	5.68	75.16	20.68		65.0	
		Z	5.59	74.19	20.44		65.0	
10251-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	5.28	72.27	18.76	3.98	65.0	± 9.6 %
		Y	5.49	73.33	19.56		65.0	
		Z	5.45	72.47	19.36		65.0	
10252-CAB	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	5.85	77.24	20.65	3.98	65.0	± 9.6 %
		Y	6.43	79.46	21.88		65.0	
		Z	5.97	77.37	21.15		65.0	
10253-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	5.44	71.73	18.89	3.98	65.0	± 9.6 %
		Y	5.58	72.56	19.56		65.0	
		Z	5.55	71.76	19.29		65.0	
10254-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	5.78	72.64	19.62	3.98	65.0	± 9.6 %
		Y	5.90	73.38	20.24		65.0	
		Z	5.86	72.55	19.96		65.0	

10255-CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	5.76	75.01	20.03	3.98	65.0	± 9.6 %
		Y	6.07	76.37	20.89		65.0	
		Z	5.82	74.90	20.31		65.0	
10256-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	3.47	67.17	13.03	3.98	65.0	± 9.6 %
		Y	3.94	69.35	14.53		65.0	
		Z	4.53	71.23	16.27		65.0	
10257-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	3.45	66.80	12.77	3.98	65.0	± 9.6 %
		Y	3.89	68.84	14.21		65.0	
		Z	4.52	70.83	16.01		65.0	
10258-CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	3.34	69.51	14.70	3.98	65.0	± 9.6 %
		Y	3.87	72.27	16.41		65.0	
		Z	4.23	73.43	17.64		65.0	
10259-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	4.89	72.37	18.09	3.98	65.0	± 9.6 %
		Y	5.16	73.74	19.08		65.0	
		Z	5.16	73.13	19.18		65.0	
10260-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	4.94	72.20	18.03	3.98	65.0	± 9.6 %
		Y	5.20	73.52	18.99		65.0	
		Z	5.23	73.01	19.14		65.0	
10261-CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	5.30	76.20	19.69	3.98	65.0	± 9.6 %
		Y	5.96	78.79	21.13		65.0	
		Z	5.56	76.94	20.65		65.0	
10262-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	5.46	74.01	19.83	3.98	65.0	± 9.6 %
		Y	5.67	75.12	20.64		65.0	
		Z	5.58	74.15	20.41		65.0	
10263-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	5.28	72.25	18.75	3.98	65.0	± 9.6 %
		Y	5.48	73.31	19.56		65.0	
		Z	5.44	72.46	19.36		65.0	
10264-CAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	5.80	77.07	20.56	3.98	65.0	± 9.6 %
		Y	6.38	79.29	21.79		65.0	
		Z	5.93	77.23	21.07		65.0	
10265-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	5.54	72.19	19.11	3.98	65.0	± 9.6 %
		Y	5.71	73.12	19.81		65.0	
		Z	5.69	72.36	19.52		65.0	
10266-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	5.90	73.17	19.91	3.98	65.0	± 9.6 %
		Y	6.05	73.96	20.53		65.0	
		Z	6.01	73.14	20.23		65.0	
10267-CAB	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	5.98	75.47	20.01	3.98	65.0	± 9.6 %
		Y	6.35	76.95	20.89		65.0	
		Z	6.08	75.49	20.30		65.0	
10268-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	6.21	72.40	19.64	3.98	65.0	± 9.6 %
		Y	6.32	73.04	20.16		65.0	
		Z	6.32	72.39	19.87		65.0	
10269-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	6.21	72.06	19.55	3.98	65.0	± 9.6 %
		Y	6.30	72.64	20.05		65.0	
		Z	6.29	72.00	19.77		65.0	
10270-CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	6.09	73.71	19.47	3.98	65.0	± 9.6 %
		Y	6.28	74.60	20.08		65.0	
		Z	6.17	73.66	19.67		65.0	

10274-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.64	66.74	15.50	0.00	150.0	± 9.6 %
		Y	2.69	67.10	15.83		150.0	
		Z	2.68	66.27	15.47		150.0	
10275-CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.68	68.56	16.07	0.00	150.0	± 9.6 %
		Y	1.82	70.02	16.93		150.0	
		Z	1.71	68.06	15.90		150.0	
10277-CAA	PHS (QPSK)	X	2.36	61.61	7.31	9.03	50.0	± 9.6 %
		Y	2.39	61.94	7.61		50.0	
		Z	2.65	62.95	8.78		50.0	
10278-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	3.91	68.51	13.42	9.03	50.0	± 9.6 %
		Y	4.49	70.95	14.83		50.0	
		Z	5.58	74.75	17.31		50.0	
10279-CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	4.01	68.77	13.58	9.03	50.0	± 9.6 %
		Y	4.63	71.27	15.02		50.0	
		Z	5.76	75.05	17.47		50.0	
10290-AAB	CDMA2000, RC1, SO55, Full Rate	X	1.64	70.48	14.99	0.00	150.0	± 9.6 %
		Y	2.03	73.52	16.59		150.0	
		Z	1.73	69.96	15.45		150.0	
10291-AAB	CDMA2000, RC3, SO55, Full Rate	X	0.93	67.30	13.49	0.00	150.0	± 9.6 %
		Y	1.12	70.21	15.17		150.0	
		Z	0.98	66.89	13.94		150.0	
10292-AAB	CDMA2000, RC3, SO32, Full Rate	X	1.38	73.80	16.83	0.00	150.0	± 9.6 %
		Y	2.07	80.16	19.66		150.0	
		Z	1.24	71.27	16.43		150.0	
10293-AAB	CDMA2000, RC3, SO3, Full Rate	X	3.07	85.81	21.79	0.00	150.0	± 9.6 %
		Y	6.07	96.86	25.67		150.0	
		Z	1.83	77.45	19.50		150.0	
10295-AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	6.96	78.18	20.42	9.03	50.0	± 9.6 %
		Y	7.83	81.11	22.06		50.0	
		Z	6.78	78.87	21.87		50.0	
10297-AAA	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.84	70.16	16.98	0.00	150.0	± 9.6 %
		Y	3.00	71.12	17.50		150.0	
		Z	2.95	69.98	16.83		150.0	
10298-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.69	68.82	14.85	0.00	150.0	± 9.6 %
		Y	1.92	70.71	16.01		150.0	
		Z	1.84	68.81	15.45		150.0	
10299-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	2.19	67.55	13.30	0.00	150.0	± 9.6 %
		Y	2.73	70.37	14.89		150.0	
		Z	2.77	69.78	15.28		150.0	
10300-AAB	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	1.74	63.95	10.77	0.00	150.0	± 9.6 %
		Y	2.00	65.46	11.83		150.0	
		Z	2.23	65.89	12.71		150.0	
10301-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	4.62	64.90	17.27	4.17	50.0	± 9.6 %
		Y	4.66	64.93	17.38		50.0	
		Z	4.85	64.86	17.39		50.0	
10302-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	5.11	65.59	18.02	4.96	50.0	± 9.6 %
		Y	5.22	65.96	18.33		50.0	
		Z	5.33	65.52	18.12		50.0	

10303-AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	4.86	65.21	17.85	4.96	50.0	± 9.6 %
		Y	4.96	65.60	18.18		50.0	
		Z	5.09	65.21	18.01		50.0	
10304-AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	4.67	65.13	17.38	4.17	50.0	± 9.6 %
		Y	4.77	65.45	17.65		50.0	
		Z	4.88	65.05	17.48		50.0	
10305-AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	4.29	66.71	19.24	6.02	35.0	± 9.6 %
		Y	4.41	67.36	19.84		35.0	
		Z	4.48	66.53	19.55		35.0	
10306-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	4.61	65.80	18.84	6.02	35.0	± 9.6 %
		Y	4.71	66.29	19.31		35.0	
		Z	4.82	65.72	19.10		35.0	
10307-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	4.52	65.99	18.83	6.02	35.0	± 9.6 %
		Y	4.62	66.53	19.33		35.0	
		Z	4.74	65.99	19.12		35.0	
10308-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	4.49	66.16	18.95	6.02	35.0	± 9.6 %
		Y	4.60	66.71	19.46		35.0	
		Z	4.69	66.08	19.21		35.0	
10309-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	4.66	66.00	18.97	6.02	35.0	± 9.6 %
		Y	4.78	66.55	19.48		35.0	
		Z	4.90	66.00	19.26		35.0	
10310-AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	4.56	65.87	18.82	6.02	35.0	± 9.6 %
		Y	4.66	66.36	19.30		35.0	
		Z	4.77	65.77	19.06		35.0	
10311-AAA	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.21	69.42	16.61	0.00	150.0	± 9.6 %
		Y	3.37	70.28	17.06		150.0	
		Z	3.31	69.30	16.49		150.0	
10313-AAA	iDEN 1:3	X	2.81	69.11	14.09	6.99	70.0	± 9.6 %
		Y	3.08	70.97	15.07		70.0	
		Z	2.93	70.30	15.05		70.0	
10314-AAA	iDEN 1:6	X	3.62	73.54	18.63	10.00	30.0	± 9.6 %
		Y	4.32	76.97	20.16		30.0	
		Z	3.95	75.50	19.89		30.0	
10315-AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.10	63.87	15.37	0.17	150.0	± 9.6 %
		Y	1.11	64.51	15.98		150.0	
		Z	1.10	63.55	15.25		150.0	
10316-AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	X	4.59	66.60	16.30	0.17	150.0	± 9.6 %
		Y	4.63	66.74	16.45		150.0	
		Z	4.73	66.50	16.32		150.0	
10317-AAB	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.59	66.60	16.30	0.17	150.0	± 9.6 %
		Y	4.63	66.74	16.45		150.0	
		Z	4.73	66.50	16.32		150.0	
10400-AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.73	67.05	16.39	0.00	150.0	± 9.6 %
		Y	4.78	67.18	16.53		150.0	
		Z	4.89	66.94	16.38		150.0	
10401-AAC	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.44	67.25	16.56	0.00	150.0	± 9.6 %
		Y	5.46	67.32	16.65		150.0	
		Z	5.53	67.04	16.47		150.0	

10402-AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.69	67.53	16.56	0.00	150.0	± 9.6 %
		Y	5.72	67.65	16.66		150.0	
		Z	5.83	67.58	16.59		150.0	
10403-AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	1.64	70.48	14.99	0.00	115.0	± 9.6 %
		Y	2.03	73.52	16.59		115.0	
		Z	1.73	69.96	15.45		115.0	
10404-AAB	CDMA2000 (1xEV-DO, Rev. A)	X	1.64	70.48	14.99	0.00	115.0	± 9.6 %
		Y	2.03	73.52	16.59		115.0	
		Z	1.73	69.96	15.45		115.0	
10406-AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	13.26	97.32	24.83	0.00	100.0	± 9.6 %
		Y	100.00	124.36	31.36		100.0	
		Z	10.91	94.13	24.60		100.0	
10410-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	0.72	60.00	3.04	2.23	80.0	± 9.6 %
		Y	0.68	60.00	3.38		80.0	
		Z	0.75	60.00	4.37		80.0	
10415-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.03	63.28	15.02	0.00	150.0	± 9.6 %
		Y	1.04	63.86	15.57		150.0	
		Z	1.03	62.95	14.84		150.0	
10416-AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	X	4.57	66.73	16.35	0.00	150.0	± 9.6 %
		Y	4.60	66.83	16.47		150.0	
		Z	4.69	66.56	16.32		150.0	
10417-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.57	66.73	16.35	0.00	150.0	± 9.6 %
		Y	4.60	66.83	16.47		150.0	
		Z	4.69	66.56	16.32		150.0	
10418-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	X	4.56	66.90	16.38	0.00	150.0	± 9.6 %
		Y	4.60	66.99	16.49		150.0	
		Z	4.67	66.70	16.33		150.0	
10419-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.58	66.84	16.38	0.00	150.0	± 9.6 %
		Y	4.62	66.94	16.49		150.0	
		Z	4.70	66.66	16.34		150.0	
10422-AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.70	66.83	16.39	0.00	150.0	± 9.6 %
		Y	4.73	66.93	16.50		150.0	
		Z	4.83	66.67	16.35		150.0	
10423-AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.86	67.15	16.50	0.00	150.0	± 9.6 %
		Y	4.91	67.26	16.61		150.0	
		Z	5.03	67.05	16.49		150.0	
10424-AAA	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.78	67.10	16.47	0.00	150.0	± 9.6 %
		Y	4.83	67.22	16.59		150.0	
		Z	4.94	66.98	16.45		150.0	
10425-AAA	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.39	67.41	16.65	0.00	150.0	± 9.6 %
		Y	5.43	67.52	16.75		150.0	
		Z	5.52	67.33	16.61		150.0	
10426-AAA	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.40	67.45	16.67	0.00	150.0	± 9.6 %
		Y	5.43	67.53	16.75		150.0	
		Z	5.53	67.36	16.63		150.0	

10427-AAA	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.41	67.42	16.64	0.00	150.0	± 9.6 %
		Y	5.44	67.51	16.73		150.0	
		Z	5.55	67.37	16.63		150.0	
10430-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.45	71.73	18.77	0.00	150.0	± 9.6 %
		Y	4.40	71.27	18.63		150.0	
		Z	4.47	70.59	18.48		150.0	
10431-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.25	67.32	16.37	0.00	150.0	± 9.6 %
		Y	4.31	67.47	16.53		150.0	
		Z	4.42	67.11	16.39		150.0	
10432-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.55	67.17	16.43	0.00	150.0	± 9.6 %
		Y	4.60	67.29	16.56		150.0	
		Z	4.71	67.02	16.42		150.0	
10433-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.80	67.14	16.50	0.00	150.0	± 9.6 %
		Y	4.84	67.25	16.61		150.0	
		Z	4.95	67.03	16.48		150.0	
10434-AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.61	72.82	18.83	0.00	150.0	± 9.6 %
		Y	4.55	72.29	18.69		150.0	
		Z	4.58	71.41	18.52		150.0	
10435-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	0.73	60.00	3.01	2.23	80.0	± 9.6 %
		Y	0.68	60.00	3.36		80.0	
		Z	0.75	60.00	4.36		80.0	
10447-AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.55	67.41	15.73	0.00	150.0	± 9.6 %
		Y	3.63	67.67	16.01		150.0	
		Z	3.73	67.17	15.91		150.0	
10448-AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	X	4.09	67.11	16.23	0.00	150.0	± 9.6 %
		Y	4.15	67.25	16.40		150.0	
		Z	4.24	66.89	16.24		150.0	
10449-AAA	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	X	4.36	67.00	16.34	0.00	150.0	± 9.6 %
		Y	4.41	67.13	16.47		150.0	
		Z	4.50	66.84	16.32		150.0	
10450-AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.56	66.91	16.35	0.00	150.0	± 9.6 %
		Y	4.60	67.03	16.48		150.0	
		Z	4.68	66.78	16.33		150.0	
10451-AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	3.45	67.62	15.36	0.00	150.0	± 9.6 %
		Y	3.55	67.96	15.70		150.0	
		Z	3.66	67.46	15.67		150.0	
10456-AAA	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.26	67.94	16.78	0.00	150.0	± 9.6 %
		Y	6.28	68.03	16.86		150.0	
		Z	6.38	67.96	16.79		150.0	
10457-AAA	UMTS-FDD (DC-HSDPA)	X	3.82	65.36	16.06	0.00	150.0	± 9.6 %
		Y	3.83	65.45	16.19		150.0	
		Z	3.87	65.19	16.05		150.0	
10458-AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.25	66.87	14.70	0.00	150.0	± 9.6 %
		Y	3.37	67.28	15.13		150.0	
		Z	3.47	66.67	15.15		150.0	
10459-AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.42	65.45	15.79	0.00	150.0	± 9.6 %
		Y	4.47	65.46	15.97		150.0	
		Z	4.68	65.26	16.05		150.0	

10460-AAA	UMTS-FDD (WCDMA, AMR)	X	0.97	69.30	16.98	0.00	150.0	± 9.6 %
		Y	1.12	72.49	18.75		150.0	
		Z	0.95	68.36	16.51		150.0	
10461-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.00	70.76	15.49	3.29	80.0	± 9.6 %
		Y	8.58	90.35	22.50		80.0	
		Z	5.73	83.80	20.83		80.0	
10462-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.92	60.00	7.79	3.23	80.0	± 9.6 %
		Y	1.03	61.08	8.56		80.0	
		Z	1.56	63.86	10.58		80.0	
10463-AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.94	60.00	7.31	3.23	80.0	± 9.6 %
		Y	0.94	60.00	7.51		80.0	
		Z	1.28	61.47	8.99		80.0	
10464-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.64	68.18	13.89	3.23	80.0	± 9.6 %
		Y	5.92	84.53	20.09		80.0	
		Z	4.51	80.04	19.05		80.0	
10465-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.92	60.00	7.73	3.23	80.0	± 9.6 %
		Y	0.98	60.61	8.25		80.0	
		Z	1.45	63.13	10.17		80.0	
10466-AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.94	60.00	7.26	3.23	80.0	± 9.6 %
		Y	0.94	60.00	7.46		80.0	
		Z	1.23	61.06	8.73		80.0	
10467-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.68	68.56	14.08	3.23	80.0	± 9.6 %
		Y	6.58	85.94	20.55		80.0	
		Z	4.80	80.91	19.37		80.0	
10468-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.91	60.00	7.74	3.23	80.0	± 9.6 %
		Y	0.99	60.72	8.32		80.0	
		Z	1.47	63.29	10.26		80.0	
10469-AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.94	60.00	7.26	3.23	80.0	± 9.6 %
		Y	0.94	60.00	7.45		80.0	
		Z	1.22	61.07	8.73		80.0	
10470-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.67	68.54	14.07	3.23	80.0	± 9.6 %
		Y	6.57	85.96	20.55		80.0	
		Z	4.78	80.90	19.36		80.0	
10471-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.91	60.00	7.73	3.23	80.0	± 9.6 %
		Y	0.98	60.68	8.29		80.0	
		Z	1.46	63.25	10.23		80.0	
10472-AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.94	60.00	7.25	3.23	80.0	± 9.6 %
		Y	0.94	60.00	7.44		80.0	
		Z	1.22	61.03	8.70		80.0	
10473-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.67	68.52	14.05	3.23	80.0	± 9.6 %
		Y	6.55	85.90	20.53		80.0	
		Z	4.77	80.86	19.34		80.0	
10474-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.91	60.00	7.73	3.23	80.0	± 9.6 %
		Y	0.98	60.66	8.27		80.0	
		Z	1.46	63.22	10.22		80.0	
10475-AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.94	60.00	7.25	3.23	80.0	± 9.6 %
		Y	0.94	60.00	7.44		80.0	
		Z	1.22	61.02	8.70		80.0	

10477-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.91	60.00	7.71	3.23	80.0	± 9.6 %
		Y	0.97	60.55	8.20		80.0	
		Z	1.44	63.08	10.13		80.0	
10478-AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.94	60.00	7.24	3.23	80.0	± 9.6 %
		Y	0.94	60.00	7.43		80.0	
		Z	1.21	60.99	8.67		80.0	
10479-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	0.95	60.00	5.82	1.99	80.0	± 9.6 %
		Y	0.92	60.00	6.29		80.0	
		Z	0.98	60.00	7.60		80.0	
10480-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.29	60.00	5.13	1.99	80.0	± 9.6 %
		Y	1.24	60.00	5.53		80.0	
		Z	1.27	60.00	6.83		80.0	
10481-AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.38	60.00	4.87	1.99	80.0	± 9.6 %
		Y	1.30	60.00	5.29		80.0	
		Z	1.30	60.00	6.60		80.0	
10482-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.80	65.32	12.67	1.99	80.0	± 9.6 %
		Y	2.45	69.59	15.01		80.0	
		Z	2.44	68.90	15.30		80.0	
10483-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.00	63.35	11.20	1.99	80.0	± 9.6 %
		Y	2.66	66.99	13.38		80.0	
		Z	3.12	68.57	14.87		80.0	
10484-AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.01	63.13	11.12	1.99	80.0	± 9.6 %
		Y	2.60	66.51	13.20		80.0	
		Z	3.09	68.18	14.73		80.0	
10485-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.39	68.72	15.30	1.99	80.0	± 9.6 %
		Y	3.15	73.04	17.51		80.0	
		Z	2.83	70.70	16.85		80.0	
10486-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.42	65.67	13.59	1.99	80.0	± 9.6 %
		Y	2.81	68.02	15.07		80.0	
		Z	2.84	67.42	15.25		80.0	
10487-AAA	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.44	65.45	13.49	1.99	80.0	± 9.6 %
		Y	2.81	67.66	14.91		80.0	
		Z	2.87	67.19	15.16		80.0	
10488-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.96	69.84	16.73	1.99	80.0	± 9.6 %
		Y	3.52	72.86	18.30		80.0	
		Z	3.28	70.80	17.48		80.0	
10489-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.01	67.19	15.77	1.99	80.0	± 9.6 %
		Y	3.26	68.65	16.74		80.0	
		Z	3.22	67.65	16.42		80.0	
10490-AAA	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.11	67.12	15.78	1.99	80.0	± 9.6 %
		Y	3.35	68.47	16.70		80.0	
		Z	3.33	67.53	16.40		80.0	
10491-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.29	69.03	16.67	1.99	80.0	± 9.6 %
		Y	3.67	71.05	17.79		80.0	
		Z	3.54	69.64	17.16		80.0	
10492-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.43	66.97	16.12	1.99	80.0	± 9.6 %
		Y	3.61	67.99	16.83		80.0	
		Z	3.61	67.22	16.52		80.0	

10493-AAA	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.50	66.90	16.11	1.99	80.0	± 9.6 %
		Y	3.67	67.85	16.79		80.0	
		Z	3.69	67.13	16.51		80.0	
10494-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.51	70.19	16.96	1.99	80.0	± 9.6 %
		Y	4.05	72.69	18.25		80.0	
		Z	3.84	71.09	17.53		80.0	
10495-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.46	67.32	16.29	1.99	80.0	± 9.6 %
		Y	3.65	68.43	17.04		80.0	
		Z	3.64	67.68	16.71		80.0	
10496-AAA	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.55	67.15	16.28	1.99	80.0	± 9.6 %
		Y	3.72	68.14	16.96		80.0	
		Z	3.73	67.44	16.66		80.0	
10497-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.19	60.95	9.43	1.99	80.0	± 9.6 %
		Y	1.47	63.55	11.23		80.0	
		Z	1.77	65.18	12.83		80.0	
10498-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.30	60.00	8.07	1.99	80.0	± 9.6 %
		Y	1.31	60.00	8.51		80.0	
		Z	1.65	61.76	10.34		80.0	
10499-AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.33	60.00	7.95	1.99	80.0	± 9.6 %
		Y	1.33	60.00	8.38		80.0	
		Z	1.65	61.45	10.06		80.0	
10500-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.61	69.10	15.88	1.99	80.0	± 9.6 %
		Y	3.24	72.69	17.76		80.0	
		Z	2.96	70.41	17.01		80.0	
10501-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.69	66.46	14.53	1.99	80.0	± 9.6 %
		Y	3.03	68.43	15.80		80.0	
		Z	3.01	67.53	15.72		80.0	
10502-AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.75	66.36	14.44	1.99	80.0	± 9.6 %
		Y	3.08	68.25	15.67		80.0	
		Z	3.08	67.43	15.64		80.0	
10503-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.92	69.64	16.62	1.99	80.0	± 9.6 %
		Y	3.47	72.63	18.19		80.0	
		Z	3.23	70.60	17.38		80.0	
10504-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.99	67.09	15.71	1.99	80.0	± 9.6 %
		Y	3.24	68.56	16.68		80.0	
		Z	3.21	67.57	16.36		80.0	
10505-AAA	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.10	67.03	15.72	1.99	80.0	± 9.6 %
		Y	3.33	68.38	16.64		80.0	
		Z	3.31	67.44	16.35		80.0	
10506-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.48	70.04	16.88	1.99	80.0	± 9.6 %
		Y	4.01	72.53	18.17		80.0	
		Z	3.80	70.94	17.46		80.0	
10507-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.44	67.26	16.25	1.99	80.0	± 9.6 %
		Y	3.63	68.37	17.00		80.0	
		Z	3.63	67.61	16.67		80.0	

10508-AAA	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.54	67.08	16.23	1.99	80.0	± 9.6 %
		Y	3.71	68.07	16.92		80.0	
		Z	3.72	67.37	16.62		80.0	
10509-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.89	69.27	16.68	1.99	80.0	± 9.6 %
		Y	4.25	70.96	17.61		80.0	
		Z	4.15	69.90	17.10		80.0	
10510-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.95	67.24	16.43	1.99	80.0	± 9.6 %
		Y	4.11	68.10	17.01		80.0	
		Z	4.14	67.56	16.74		80.0	
10511-AAA	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.02	67.05	16.41	1.99	80.0	± 9.6 %
		Y	4.16	67.82	16.95		80.0	
		Z	4.19	67.31	16.70		80.0	
10512-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.97	70.39	16.94	1.99	80.0	± 9.6 %
		Y	4.51	72.66	18.09		80.0	
		Z	4.31	71.32	17.48		80.0	
10513-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.83	67.43	16.48	1.99	80.0	± 9.6 %
		Y	4.01	68.42	17.12		80.0	
		Z	4.02	67.86	16.84		80.0	
10514-AAA	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.87	67.11	16.42	1.99	80.0	± 9.6 %
		Y	4.02	67.96	17.01		80.0	
		Z	4.04	67.44	16.74		80.0	
10515-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	1.00	63.49	15.10	0.00	150.0	± 9.6 %
		Y	1.01	64.14	15.70		150.0	
		Z	1.00	63.14	14.91		150.0	
10516-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.67	72.17	18.58	0.00	150.0	± 9.6 %
		Y	1.03	81.20	22.83		150.0	
		Z	0.63	70.53	17.66		150.0	
10517-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.86	65.66	15.91	0.00	150.0	± 9.6 %
		Y	0.90	67.17	16.99		150.0	
		Z	0.86	65.18	15.61		150.0	
10518-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.56	66.81	16.33	0.00	150.0	± 9.6 %
		Y	4.60	66.91	16.45		150.0	
		Z	4.69	66.64	16.31		150.0	
10519-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.75	67.04	16.45	0.00	150.0	± 9.6 %
		Y	4.79	67.15	16.57		150.0	
		Z	4.90	66.93	16.45		150.0	
10520-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.60	67.00	16.38	0.00	150.0	± 9.6 %
		Y	4.64	67.13	16.50		150.0	
		Z	4.75	66.91	16.37		150.0	
10521-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.53	67.00	16.36	0.00	150.0	± 9.6 %
		Y	4.58	67.13	16.49		150.0	
		Z	4.69	66.92	16.36		150.0	
10522-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.59	67.10	16.45	0.00	150.0	± 9.6 %
		Y	4.64	67.21	16.57		150.0	
		Z	4.73	66.89	16.39		150.0	

10523-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.47	66.97	16.30	0.00	150.0	± 9.6 %
		Y	4.51	67.08	16.42		150.0	
		Z	4.60	66.79	16.26		150.0	
10524-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.53	67.01	16.42	0.00	150.0	± 9.6 %
		Y	4.58	67.13	16.54		150.0	
		Z	4.68	66.85	16.38		150.0	
10525-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.53	66.07	16.01	0.00	150.0	± 9.6 %
		Y	4.56	66.17	16.13		150.0	
		Z	4.64	65.88	15.97		150.0	
10526-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.69	66.43	16.15	0.00	150.0	± 9.6 %
		Y	4.74	66.55	16.27		150.0	
		Z	4.84	66.29	16.12		150.0	
10527-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.61	66.39	16.10	0.00	150.0	± 9.6 %
		Y	4.66	66.53	16.22		150.0	
		Z	4.76	66.26	16.07		150.0	
10528-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.63	66.41	16.13	0.00	150.0	± 9.6 %
		Y	4.68	66.54	16.25		150.0	
		Z	4.77	66.28	16.10		150.0	
10529-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.63	66.41	16.13	0.00	150.0	± 9.6 %
		Y	4.68	66.54	16.25		150.0	
		Z	4.77	66.28	16.10		150.0	
10531-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.62	66.51	16.14	0.00	150.0	± 9.6 %
		Y	4.68	66.66	16.28		150.0	
		Z	4.79	66.43	16.13		150.0	
10532-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.48	66.37	16.08	0.00	150.0	± 9.6 %
		Y	4.53	66.52	16.22		150.0	
		Z	4.63	66.29	16.07		150.0	
10533-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.64	66.46	16.12	0.00	150.0	± 9.6 %
		Y	4.69	66.59	16.24		150.0	
		Z	4.79	66.30	16.08		150.0	
10534-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.17	66.49	16.17	0.00	150.0	± 9.6 %
		Y	5.20	66.61	16.28		150.0	
		Z	5.29	66.44	16.16		150.0	
10535-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.24	66.68	16.26	0.00	150.0	± 9.6 %
		Y	5.27	66.78	16.35		150.0	
		Z	5.36	66.58	16.21		150.0	
10536-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.10	66.63	16.22	0.00	150.0	± 9.6 %
		Y	5.14	66.75	16.32		150.0	
		Z	5.23	66.57	16.19		150.0	
10537-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	5.16	66.59	16.20	0.00	150.0	± 9.6 %
		Y	5.20	66.71	16.30		150.0	
		Z	5.30	66.55	16.18		150.0	
10538-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.25	66.60	16.25	0.00	150.0	± 9.6 %
		Y	5.29	66.73	16.35		150.0	
		Z	5.41	66.62	16.26		150.0	
10540-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	5.19	66.63	16.28	0.00	150.0	± 9.6 %
		Y	5.22	66.75	16.38		150.0	
		Z	5.31	66.56	16.24		150.0	

10541-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.15	66.49	16.20	0.00	150.0	± 9.6 %
		Y	5.19	66.61	16.30		150.0	
		Z	5.29	66.47	16.19		150.0	
10542-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.31	66.56	16.24	0.00	150.0	± 9.6 %
		Y	5.35	66.67	16.34		150.0	
		Z	5.44	66.51	16.23		150.0	
10543-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.38	66.59	16.28	0.00	150.0	± 9.6 %
		Y	5.43	66.70	16.38		150.0	
		Z	5.53	66.52	16.25		150.0	
10544-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.48	66.59	16.16	0.00	150.0	± 9.6 %
		Y	5.51	66.70	16.25		150.0	
		Z	5.57	66.55	16.14		150.0	
10545-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.68	67.02	16.33	0.00	150.0	± 9.6 %
		Y	5.71	67.13	16.41		150.0	
		Z	5.79	66.97	16.29		150.0	
10546-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.54	66.80	16.23	0.00	150.0	± 9.6 %
		Y	5.58	66.93	16.33		150.0	
		Z	5.67	66.84	16.25		150.0	
10547-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.61	66.84	16.24	0.00	150.0	± 9.6 %
		Y	5.65	66.96	16.34		150.0	
		Z	5.76	66.91	16.27		150.0	
10548-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	5.87	67.78	16.68	0.00	150.0	± 9.6 %
		Y	5.93	67.99	16.82		150.0	
		Z	6.09	68.03	16.80		150.0	
10550-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.57	66.83	16.25	0.00	150.0	± 9.6 %
		Y	5.60	66.93	16.34		150.0	
		Z	5.69	66.78	16.23		150.0	
10551-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.58	66.87	16.23	0.00	150.0	± 9.6 %
		Y	5.61	66.98	16.33		150.0	
		Z	5.71	66.88	16.24		150.0	
10552-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.49	66.66	16.14	0.00	150.0	± 9.6 %
		Y	5.52	66.77	16.23		150.0	
		Z	5.61	66.64	16.13		150.0	
10553-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.57	66.69	16.19	0.00	150.0	± 9.6 %
		Y	5.61	66.81	16.28		150.0	
		Z	5.70	66.69	16.18		150.0	
10554-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.89	66.95	16.25	0.00	150.0	± 9.6 %
		Y	5.91	67.05	16.33		150.0	
		Z	5.98	66.93	16.24		150.0	
10555-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	6.02	67.25	16.37	0.00	150.0	± 9.6 %
		Y	6.05	67.36	16.46		150.0	
		Z	6.13	67.27	16.38		150.0	
10556-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	6.04	67.30	16.39	0.00	150.0	± 9.6 %
		Y	6.07	67.41	16.48		150.0	
		Z	6.14	67.28	16.38		150.0	
10557-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	6.00	67.20	16.36	0.00	150.0	± 9.6 %
		Y	6.03	67.32	16.45		150.0	
		Z	6.12	67.24	16.38		150.0	

10558-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	6.05	67.36	16.45	0.00	150.0	± 9.6 %
		Y	6.09	67.49	16.55		150.0	
		Z	6.19	67.44	16.49		150.0	
10560-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	6.04	67.20	16.41	0.00	150.0	± 9.6 %
		Y	6.08	67.33	16.51		150.0	
		Z	6.17	67.26	16.44		150.0	
10561-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	5.97	67.18	16.44	0.00	150.0	± 9.6 %
		Y	6.00	67.30	16.54		150.0	
		Z	6.09	67.21	16.46		150.0	
10562-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	6.09	67.54	16.62	0.00	150.0	± 9.6 %
		Y	6.13	67.71	16.74		150.0	
		Z	6.25	67.71	16.71		150.0	
10563-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.28	67.73	16.67	0.00	150.0	± 9.6 %
		Y	6.42	68.15	16.91		150.0	
		Z	6.58	68.23	16.91		150.0	
10564-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)	X	4.88	66.82	16.44	0.46	150.0	± 9.6 %
		Y	4.92	66.94	16.57		150.0	
		Z	5.01	66.71	16.44		150.0	
10565-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle)	X	5.11	67.29	16.78	0.46	150.0	± 9.6 %
		Y	5.15	67.40	16.89		150.0	
		Z	5.28	67.22	16.79		150.0	
10566-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle)	X	4.94	67.12	16.58	0.46	150.0	± 9.6 %
		Y	4.99	67.26	16.71		150.0	
		Z	5.10	67.06	16.60		150.0	
10567-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle)	X	4.97	67.55	16.96	0.46	150.0	± 9.6 %
		Y	5.01	67.64	17.06		150.0	
		Z	5.13	67.47	16.96		150.0	
10568-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle)	X	4.84	66.85	16.31	0.46	150.0	± 9.6 %
		Y	4.89	67.01	16.47		150.0	
		Z	5.00	66.75	16.32		150.0	
10569-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle)	X	4.93	67.64	17.02	0.46	150.0	± 9.6 %
		Y	4.96	67.70	17.10		150.0	
		Z	5.06	67.47	16.97		150.0	
10570-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle)	X	4.97	67.50	16.96	0.46	150.0	± 9.6 %
		Y	5.01	67.58	17.05		150.0	
		Z	5.12	67.34	16.93		150.0	
10571-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.16	64.12	15.40	0.46	130.0	± 9.6 %
		Y	1.18	64.87	16.09		130.0	
		Z	1.16	63.87	15.37		130.0	
10572-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.17	64.68	15.75	0.46	130.0	± 9.6 %
		Y	1.19	65.49	16.47		130.0	
		Z	1.17	64.40	15.71		130.0	
10573-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	1.55	80.94	21.57	0.46	130.0	± 9.6 %
		Y	4.30	99.88	28.41		130.0	
		Z	1.40	79.23	21.07		130.0	
10574-AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.27	70.25	18.64	0.46	130.0	± 9.6 %
		Y	1.37	72.33	19.95		130.0	
		Z	1.25	69.67	18.44		130.0	

10575-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	X	4.64	66.50	16.38	0.46	130.0	± 9.6 %
		Y	4.68	66.64	16.54		130.0	
		Z	4.77	66.40	16.42		130.0	
10576-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	X	4.66	66.68	16.46	0.46	130.0	± 9.6 %
		Y	4.71	66.81	16.61		130.0	
		Z	4.80	66.57	16.49		130.0	
10577-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	X	4.86	66.97	16.63	0.46	130.0	± 9.6 %
		Y	4.92	67.11	16.78		130.0	
		Z	5.04	66.92	16.68		130.0	
10578-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	X	4.77	67.15	16.75	0.46	130.0	± 9.6 %
		Y	4.81	67.28	16.88		130.0	
		Z	4.93	67.09	16.78		130.0	
10579-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	X	4.52	66.35	15.99	0.46	130.0	± 9.6 %
		Y	4.58	66.57	16.20		130.0	
		Z	4.69	66.37	16.09		130.0	
10580-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	X	4.56	66.39	16.01	0.46	130.0	± 9.6 %
		Y	4.62	66.60	16.22		130.0	
		Z	4.73	66.35	16.08		130.0	
10581-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	X	4.66	67.17	16.68	0.46	130.0	± 9.6 %
		Y	4.71	67.31	16.82		130.0	
		Z	4.82	67.12	16.71		130.0	
10582-AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	X	4.46	66.10	15.77	0.46	130.0	± 9.6 %
		Y	4.52	66.34	16.00		130.0	
		Z	4.64	66.12	15.87		130.0	
10583-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.64	66.50	16.38	0.46	130.0	± 9.6 %
		Y	4.68	66.64	16.54		130.0	
		Z	4.77	66.40	16.42		130.0	
10584-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.66	66.68	16.46	0.46	130.0	± 9.6 %
		Y	4.71	66.81	16.61		130.0	
		Z	4.80	66.57	16.49		130.0	
10585-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	4.86	66.97	16.63	0.46	130.0	± 9.6 %
		Y	4.92	67.11	16.78		130.0	
		Z	5.04	66.92	16.68		130.0	
10586-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.77	67.15	16.75	0.46	130.0	± 9.6 %
		Y	4.81	67.28	16.88		130.0	
		Z	4.93	67.09	16.78		130.0	
10587-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.52	66.35	15.99	0.46	130.0	± 9.6 %
		Y	4.58	66.57	16.20		130.0	
		Z	4.69	66.37	16.09		130.0	
10588-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.56	66.39	16.01	0.46	130.0	± 9.6 %
		Y	4.62	66.60	16.22		130.0	
		Z	4.73	66.35	16.08		130.0	
10589-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.66	67.17	16.68	0.46	130.0	± 9.6 %
		Y	4.71	67.31	16.82		130.0	
		Z	4.82	67.12	16.71		130.0	
10590-AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.46	66.10	15.77	0.46	130.0	± 9.6 %
		Y	4.52	66.34	16.00		130.0	
		Z	4.64	66.12	15.87		130.0	

10591-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.79	66.58	16.49	0.46	130.0	± 9.6 %
		Y	4.83	66.70	16.64		130.0	
		Z	4.93	66.49	16.53		130.0	
10592-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	4.94	66.91	16.63	0.46	130.0	± 9.6 %
		Y	4.99	67.04	16.77		130.0	
		Z	5.10	66.84	16.66		130.0	
10593-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.86	66.81	16.50	0.46	130.0	± 9.6 %
		Y	4.91	66.96	16.65		130.0	
		Z	5.03	66.77	16.55		130.0	
10594-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	4.92	66.99	16.66	0.46	130.0	± 9.6 %
		Y	4.97	67.12	16.80		130.0	
		Z	5.08	66.92	16.70		130.0	
10595-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	4.88	66.93	16.55	0.46	130.0	± 9.6 %
		Y	4.93	67.07	16.70		130.0	
		Z	5.05	66.89	16.60		130.0	
10596-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	4.82	66.92	16.54	0.46	130.0	± 9.6 %
		Y	4.87	67.07	16.71		130.0	
		Z	4.99	66.87	16.59		130.0	
10597-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	4.77	66.81	16.42	0.46	130.0	± 9.6 %
		Y	4.82	66.99	16.59		130.0	
		Z	4.94	66.80	16.49		130.0	
10598-AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.75	67.07	16.71	0.46	130.0	± 9.6 %
		Y	4.80	67.22	16.86		130.0	
		Z	4.92	67.06	16.77		130.0	
10599-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.47	67.15	16.72	0.46	130.0	± 9.6 %
		Y	5.50	67.24	16.83		130.0	
		Z	5.61	67.15	16.76		130.0	
10600-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.60	67.56	16.89	0.46	130.0	± 9.6 %
		Y	5.65	67.71	17.03		130.0	
		Z	5.81	67.73	17.02		130.0	
10601-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.49	67.30	16.78	0.46	130.0	± 9.6 %
		Y	5.53	67.44	16.92		130.0	
		Z	5.66	67.37	16.85		130.0	
10602-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.59	67.33	16.71	0.46	130.0	± 9.6 %
		Y	5.62	67.44	16.84		130.0	
		Z	5.75	67.36	16.76		130.0	
10603-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.67	67.64	17.01	0.46	130.0	± 9.6 %
		Y	5.71	67.76	17.13		130.0	
		Z	5.85	67.70	17.06		130.0	
10604-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.48	67.14	16.74	0.46	130.0	± 9.6 %
		Y	5.50	67.20	16.84		130.0	
		Z	5.62	67.10	16.76		130.0	
10605-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.59	67.44	16.88	0.46	130.0	± 9.6 %
		Y	5.62	67.56	17.01		130.0	
		Z	5.72	67.39	16.90		130.0	
10606-AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.32	66.74	16.39	0.46	130.0	± 9.6 %
		Y	5.38	66.94	16.57		130.0	
		Z	5.49	66.84	16.49		130.0	

10607-AAA	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.63	65.90	16.12	0.46	130.0	± 9.6 %
		Y	4.67	66.03	16.27		130.0	
		Z	4.76	65.78	16.13		130.0	
10608-AAA	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.81	66.29	16.28	0.46	130.0	± 9.6 %
		Y	4.87	66.45	16.44		130.0	
		Z	4.97	66.21	16.30		130.0	
10609-AAA	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.70	66.13	16.11	0.46	130.0	± 9.6 %
		Y	4.75	66.30	16.28		130.0	
		Z	4.86	66.07	16.15		130.0	
10610-AAA	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.75	66.30	16.28	0.46	130.0	± 9.6 %
		Y	4.80	66.46	16.44		130.0	
		Z	4.91	66.23	16.31		130.0	
10611-AAA	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.66	66.09	16.12	0.46	130.0	± 9.6 %
		Y	4.72	66.26	16.29		130.0	
		Z	4.83	66.05	16.17		130.0	
10612-AAA	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.67	66.22	16.15	0.46	130.0	± 9.6 %
		Y	4.73	66.43	16.33		130.0	
		Z	4.84	66.19	16.19		130.0	
10613-AAA	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.67	66.11	16.03	0.46	130.0	± 9.6 %
		Y	4.74	66.32	16.22		130.0	
		Z	4.86	66.11	16.10		130.0	
10614-AAA	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.62	66.33	16.29	0.46	130.0	± 9.6 %
		Y	4.68	66.50	16.45		130.0	
		Z	4.79	66.30	16.34		130.0	
10615-AAA	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.66	65.90	15.87	0.46	130.0	± 9.6 %
		Y	4.72	66.09	16.06		130.0	
		Z	4.83	65.85	15.93		130.0	
10616-AAA	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.28	66.38	16.32	0.46	130.0	± 9.6 %
		Y	5.33	66.52	16.45		130.0	
		Z	5.43	66.39	16.36		130.0	
10617-AAA	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.35	66.56	16.38	0.46	130.0	± 9.6 %
		Y	5.39	66.69	16.51		130.0	
		Z	5.48	66.48	16.37		130.0	
10618-AAA	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	5.24	66.57	16.40	0.46	130.0	± 9.6 %
		Y	5.28	66.70	16.53		130.0	
		Z	5.38	66.55	16.43		130.0	
10619-AAA	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.25	66.36	16.23	0.46	130.0	± 9.6 %
		Y	5.30	66.53	16.38		130.0	
		Z	5.40	66.37	16.27		130.0	
10620-AAA	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	5.34	66.40	16.30	0.46	130.0	± 9.6 %
		Y	5.39	66.57	16.45		130.0	
		Z	5.52	66.49	16.38		130.0	
10621-AAA	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.35	66.56	16.51	0.46	130.0	± 9.6 %
		Y	5.38	66.67	16.62		130.0	
		Z	5.49	66.56	16.54		130.0	
10622-AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.36	66.72	16.58	0.46	130.0	± 9.6 %
		Y	5.40	66.85	16.70		130.0	
		Z	5.49	66.68	16.58		130.0	

10623-AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.23	66.22	16.20	0.46	130.0	± 9.6 %
		Y	5.27	66.37	16.34		130.0	
		Z	5.38	66.24	16.24		130.0	
10624-AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.42	66.43	16.37	0.46	130.0	± 9.6 %
		Y	5.47	66.57	16.50		130.0	
		Z	5.57	66.43	16.41		130.0	
10625-AAA	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	5.78	67.38	16.89	0.46	130.0	± 9.6 %
		Y	5.86	67.62	17.07		130.0	
		Z	5.99	67.53	16.99		130.0	
10626-AAA	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.58	66.44	16.28	0.46	130.0	± 9.6 %
		Y	5.61	66.57	16.40		130.0	
		Z	5.69	66.43	16.30		130.0	
10627-AAA	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.83	67.02	16.53	0.46	130.0	± 9.6 %
		Y	5.86	67.15	16.65		130.0	
		Z	5.95	67.00	16.54		130.0	
10628-AAA	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.61	66.51	16.21	0.46	130.0	± 9.6 %
		Y	5.66	66.69	16.36		130.0	
		Z	5.75	66.60	16.27		130.0	
10629-AAA	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.68	66.56	16.23	0.46	130.0	± 9.6 %
		Y	5.75	66.79	16.40		130.0	
		Z	5.84	66.66	16.30		130.0	
10630-AAA	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	6.13	68.08	16.98	0.46	130.0	± 9.6 %
		Y	6.22	68.39	17.20		130.0	
		Z	6.43	68.55	17.23		130.0	
10631-AAA	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	6.03	67.90	17.10	0.46	130.0	± 9.6 %
		Y	6.09	68.10	17.24		130.0	
		Z	6.28	68.23	17.28		130.0	
10632-AAA	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.80	67.10	16.72	0.46	130.0	± 9.6 %
		Y	5.83	67.19	16.81		130.0	
		Z	5.93	67.09	16.72		130.0	
10633-AAA	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.67	66.68	16.33	0.46	130.0	± 9.6 %
		Y	5.72	66.84	16.46		130.0	
		Z	5.85	66.86	16.43		130.0	
10634-AAA	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.66	66.72	16.41	0.46	130.0	± 9.6 %
		Y	5.70	66.87	16.53		130.0	
		Z	5.82	66.84	16.49		130.0	
10635-AAA	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.53	66.00	15.77	0.46	130.0	± 9.6 %
		Y	5.59	66.22	15.94		130.0	
		Z	5.70	66.15	15.87		130.0	
10636-AAA	IEEE 1602.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	6.00	66.81	16.37	0.46	130.0	± 9.6 %
		Y	6.03	66.94	16.49		130.0	
		Z	6.10	66.84	16.41		130.0	
10637-AAA	IEEE 1602.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.16	67.20	16.55	0.46	130.0	± 9.6 %
		Y	6.19	67.33	16.66		130.0	
		Z	6.27	67.24	16.58		130.0	
10638-AAA	IEEE 1602.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.15	67.16	16.50	0.46	130.0	± 9.6 %
		Y	6.19	67.30	16.62		130.0	
		Z	6.27	67.20	16.54		130.0	

10639-AAA	IEEE 1602.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.13	67.11	16.52	0.46	130.0	± 9.6 %
		Y	6.17	67.26	16.65		130.0	
		Z	6.27	67.22	16.60		130.0	
10640-AAA	IEEE 1602.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.13	67.11	16.46	0.46	130.0	± 9.6 %
		Y	6.18	67.29	16.61		130.0	
		Z	6.30	67.29	16.57		130.0	
10641-AAA	IEEE 1602.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.18	67.03	16.44	0.46	130.0	± 9.6 %
		Y	6.21	67.15	16.56		130.0	
		Z	6.29	67.03	16.46		130.0	
10642-AAA	IEEE 1602.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.22	67.29	16.75	0.46	130.0	± 9.6 %
		Y	6.26	67.42	16.86		130.0	
		Z	6.36	67.38	16.81		130.0	
10643-AAA	IEEE 1602.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.06	66.96	16.47	0.46	130.0	± 9.6 %
		Y	6.09	67.11	16.60		130.0	
		Z	6.19	67.03	16.53		130.0	
10644-AAA	IEEE 1602.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.21	67.43	16.73	0.46	130.0	± 9.6 %
		Y	6.27	67.66	16.90		130.0	
		Z	6.42	67.74	16.91		130.0	
10645-AAA	IEEE 1602.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.50	67.90	16.92	0.46	130.0	± 9.6 %
		Y	6.70	68.50	17.27		130.0	
		Z	6.78	68.33	17.14		130.0	

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

Calibration Laboratory of
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Accreditation No.: SCS 0108

Client **PC Test**

Certificate No: EX3-3914_Feb16

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:3914
Calibration procedure(s)	QA CAL-01.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	February 22, 2016

BN
03/01/2016

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	01-Apr-15 (No. 217-02128)	Mar-16
Power sensor E4412A	MY41498087	01-Apr-15 (No. 217-02128)	Mar-16
Reference 3 dB Attenuator	SN: S5054 (3c)	01-Apr-15 (No. 217-02129)	Mar-16
Reference 20 dB Attenuator	SN: S5277 (20x)	01-Apr-15 (No. 217-02132)	Mar-16
Reference 30 dB Attenuator	SN: S5129 (30b)	01-Apr-15 (No. 217-02133)	Mar-16
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
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-15)	In house check: Oct-16

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

Issued: February 22, 2016

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

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *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.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *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 EX3DV4

SN:3914

Manufactured: December 18, 2012
Calibrated: February 22, 2016

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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3914

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.48	0.42	0.46	± 10.1 %
DCP (mV)[B]	100.1	102.6	97.6	

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	137.4	±2.7 %
		Y	0.0	0.0	1.0		139.7	
		Z	0.0	0.0	1.0		133.7	
10010-CAA	SAR Validation (Square, 100ms, 10ms)	X	4.02	69.7	14.2	10.00	41.0	±0.9 %
		Y	2.42	64.8	12.4		41.8	
		Z	2.11	63.9	12.8		44.9	
10062-CAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	10.26	68.5	21.3	8.68	127.9	±3.3 %
		Y	10.16	68.6	21.4		127.8	
		Z	10.42	68.8	21.4		144.6	
10117-CAB	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	10.15	68.2	20.7	8.07	129.4	±3.3 %
		Y	10.18	68.5	20.9		131.7	
		Z	10.42	68.8	20.9		148.3	
10196-CAB	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	10.13	68.8	21.1	8.10	146.4	±2.7 %
		Y	9.80	68.3	20.9		126.3	
		Z	9.98	68.3	20.8		139.8	
10400-AAC	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	10.33	68.8	21.3	8.37	145.0	±2.7 %
		Y	10.13	68.7	21.3		132.0	
		Z	10.21	68.5	21.0		140.2	
10401-AAC	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	10.67	68.4	21.1	8.60	125.8	±3.3 %
		Y	10.92	69.3	21.6		140.7	
		Z	10.94	69.0	21.3		148.7	
10402-AAC	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	10.64	68.4	20.8	8.53	125.5	±3.3 %
		Y	11.11	69.7	21.6		142.1	
		Z	10.93	69.0	21.1		149.2	

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%.

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[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.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3914

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
5250	35.9	4.71	5.07	5.07	5.07	0.35	1.80	± 13.1 %
5600	35.5	5.07	4.66	4.66	4.66	0.40	1.80	± 13.1 %
5750	35.4	5.22	4.74	4.74	4.74	0.40	1.80	± 13.1 %

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3914

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	55.5	0.96	9.57	9.57	9.57	0.47	0.85	± 12.0 %
835	55.2	0.97	9.44	9.44	9.44	0.47	0.85	± 12.0 %
1750	53.4	1.49	7.82	7.82	7.82	0.42	0.83	± 12.0 %
1900	53.3	1.52	7.50	7.50	7.50	0.45	0.80	± 12.0 %
2300	52.9	1.81	7.27	7.27	7.27	0.48	0.80	± 12.0 %
2450	52.7	1.95	7.22	7.22	7.22	0.46	0.80	± 12.0 %
2600	52.5	2.16	6.90	6.90	6.90	0.32	0.99	± 12.0 %
5250	48.9	5.36	4.32	4.32	4.32	0.50	1.90	± 13.1 %
5600	48.5	5.77	3.63	3.63	3.63	0.60	1.90	± 13.1 %
5750	48.3	5.94	3.86	3.86	3.86	0.60	1.90	± 13.1 %

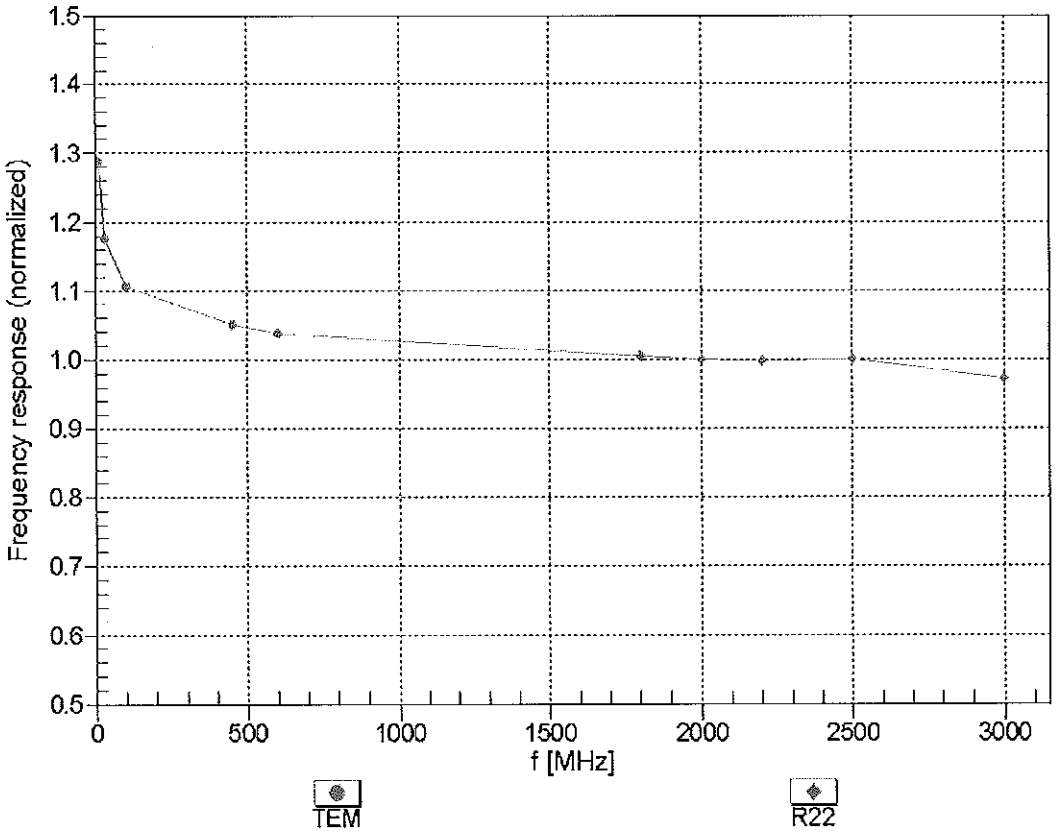
[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

Frequency Response of E-Field

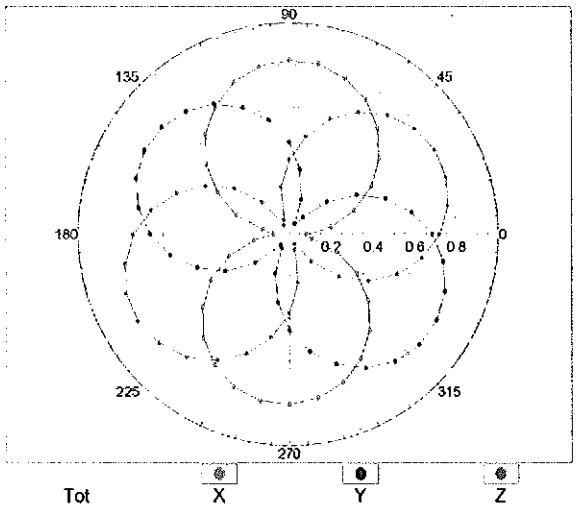
(TEM-Cell:ifi110 EXX, Waveguide: R22)



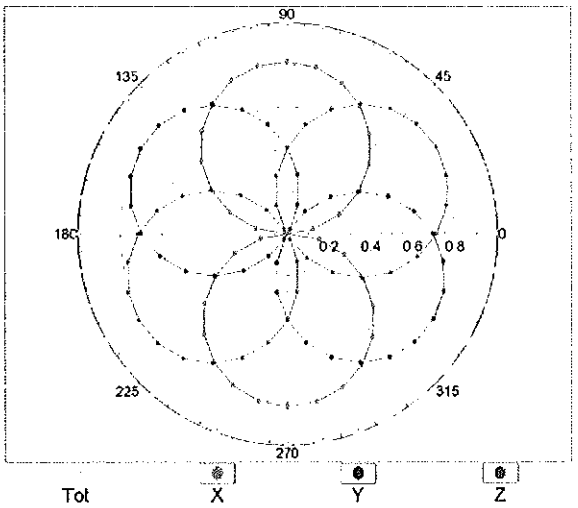
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

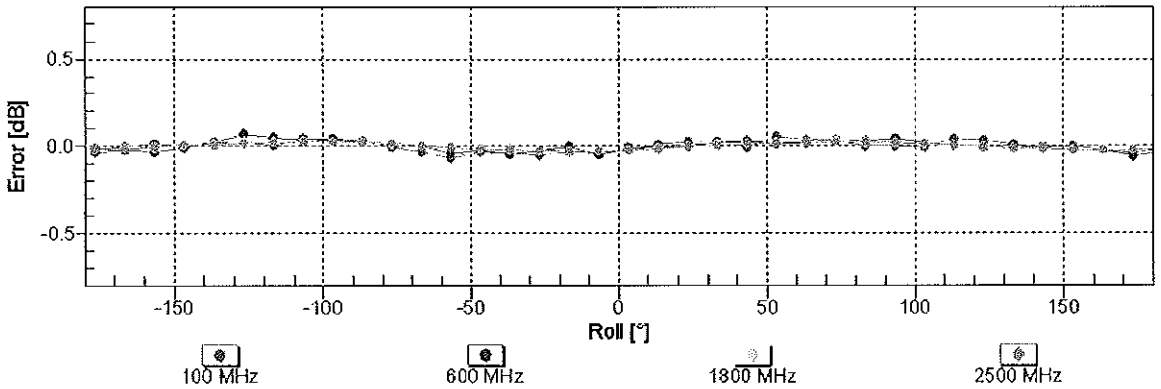
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

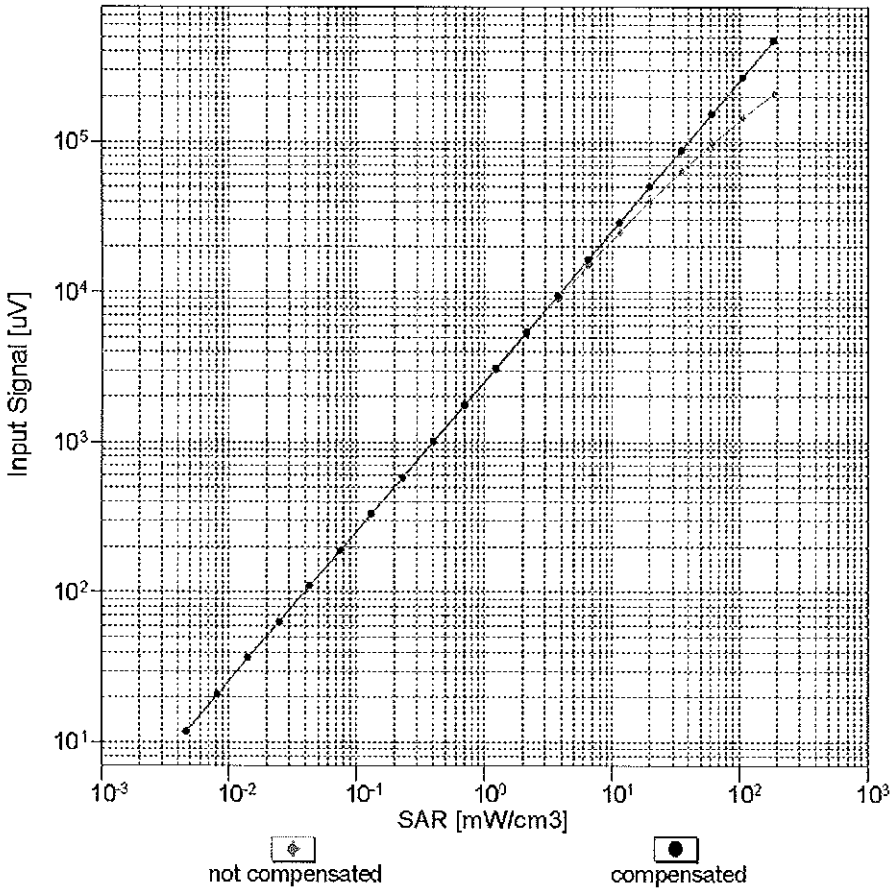


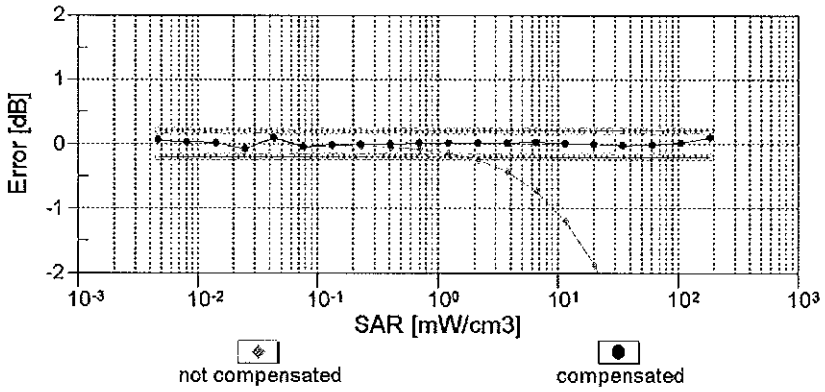


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})

(TEM cell , f_{eval}= 1900 MHz)

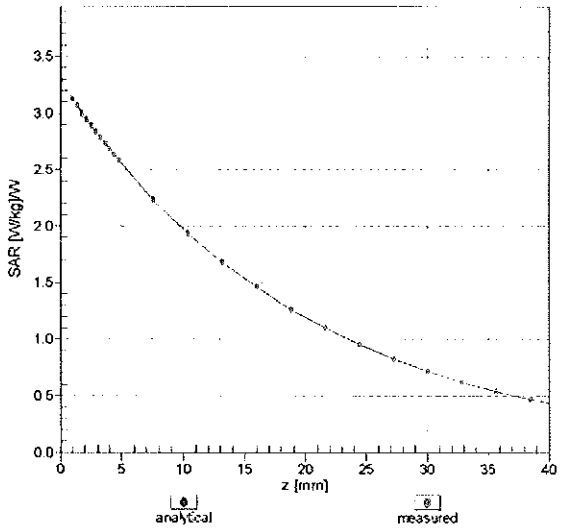




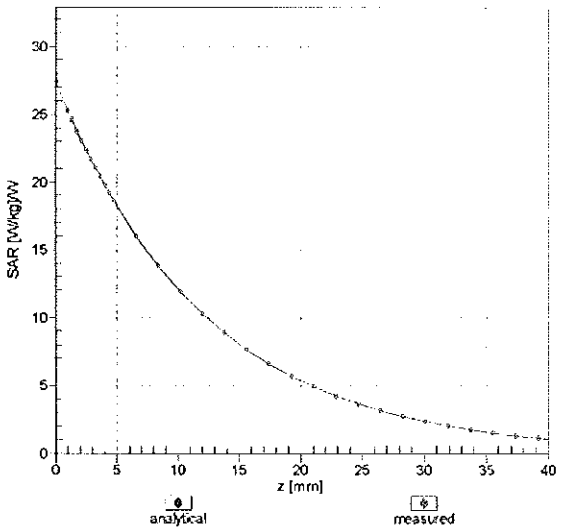
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (M_convF)

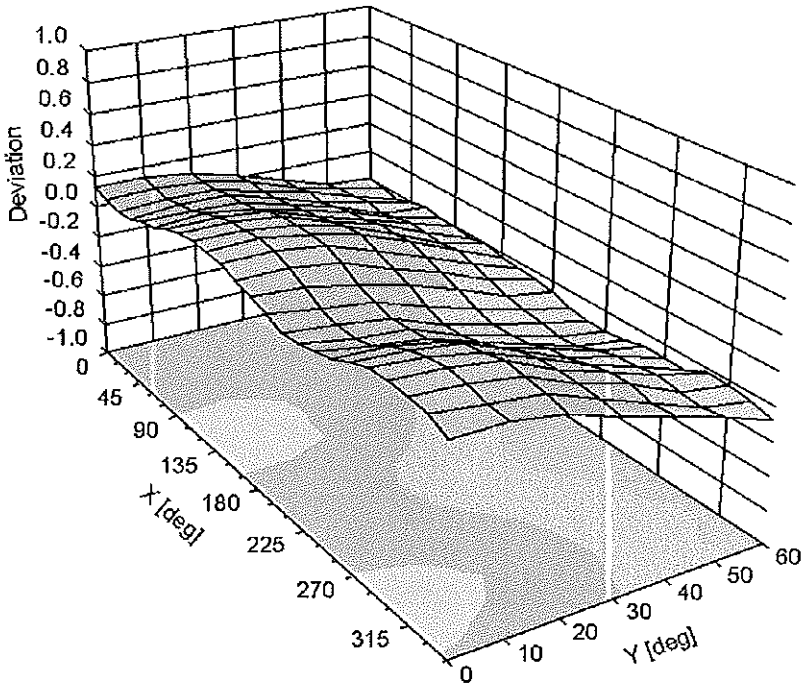


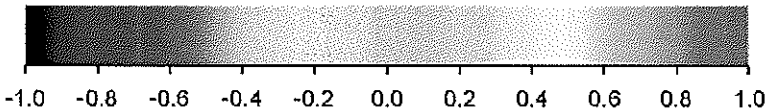
f = 1900 MHz,WGLS R22 (M_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3914

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	133.3
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

APPENDIX D: SAR TISSUE SPECIFICATIONS

Measurement Procedure for Tissue verification:

1) The network analyzer and probe system was configured and calibrated.
2) The probe was immersed in the tissue. The tissue was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
3) The complex admittance with respect to the probe aperture was measured
4) The complex relative permittivity ε' can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\varepsilon_r\varepsilon_0}{[\ln(b/a)]^2}\int_a^b\int_a^b\int_0^\pi \cos\phi' \frac{\exp\left[-j\omega r(\mu_0\varepsilon_r^{'}\varepsilon_0)^{1/2}\right]}{r} d\phi' d\rho' d\rho$$

where Y is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively, $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$, ω is the angular frequency, and $j = \sqrt{-1}$.

Table D-I
Composition of the Tissue Equivalent Matter

Frequency (MHz)	750	750	835	835	1750	1750	1900	1900	2450	2450	5250-5750	5250-5750
Tissue	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Ingredients (% by weight)												
Bactericide	See page 2-3	See page 2	0.1	0.1					See page 4		See page 5	
DGBE					47	31	44.92	29.44		26.7		
HEC			1	1								
NaCl			1.45	0.94	0.4	0.2	0.18	0.39		0.1		
Sucrose			57	44.9								
Polysorbate (Tween) 80												20
Water			40.45	53.06	52.6	68.8	54.9	70.17		73.2		80

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2 Composition / Information on ingredients

The Item is composed of the following ingredients:

H_2O	Water, 35 – 58%
Sucrose	Sugar, white, refined, 40 – 60%
NaCl	Sodium Chloride, 0 – 6%
Hydroxyethyl-cellulose	Medium Viscosity (CAS# 9004-62-0), <0.3%
Preventol-D7	Preservative: aqueous preparation, (CAS# 55965-84-9), containing 5-chloro-2-methyl-3(2H)-isothiazolone and 2-methyyl-3(2H)-isothiazolone, 0.1 – 0.7%
	Relevant for safety; Refer to the respective Safety Data Sheet*.

Figure D-1
Composition of 750 MHz Head and Body Tissue Equivalent Matter

Note: 750MHz liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

Measurement Certificate / Material Test

Item Name	**Body Tissue Simulating Liquid (MSL750V2)**
Product No.	SL AAM 075 AA (Charge: 150223-3)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated OCP probe.

Setup Validation

Validation results were within ± 2.5% towards the target values of Methanol.

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

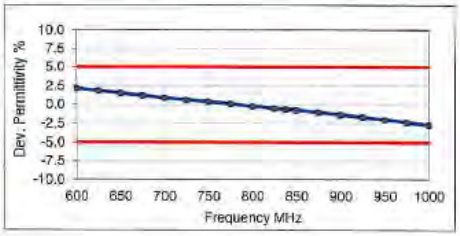
Test Condition

Ambient	Environment temperatur (22 ± 3)°C and humidity < 70%.
TSL Temperature	22°C
Test Date	25-Feb-15
Operator	IEN

Additional Information

TSL Density	1.212 g/cm^3
TSL Heat-capacity	3.006 kJ/(kg*K)

	Measured			Target		Diff.to Target [%]	
f [MHz]	HP-e'	HP-e''	sigma	eps	sigma	Δ-eps	Δ-sigma
600	57.3	24.76	0.83	56.1	0.95	2.2	-13.2
625	57.1	24.43	0.85	56.0	0.95	1.8	-11.0
650	56.8	24.09	0.87	55.9	0.96	1.5	-8.8
675	56.5	23.80	0.89	55.8	0.96	1.2	-6.7
700	56.2	23.51	0.92	55.7	0.96	0.9	-4.6
725	56.0	23.28	0.94	55.6	0.96	0.6	-2.4
750	55.7	23.06	0.96	55.5	0.96	0.4	-0.1
775	55.5	22.87	0.99	55.4	0.97	0.1	2.1
800	55.2	22.68	1.01	55.3	0.97	-0.2	4.4
825	55.0	22.52	1.03	55.2	0.98	-0.5	5.7
838	54.9	22.44	1.05	55.2	0.98	-0.6	6.3
850	54.8	22.36	1.06	55.2	0.99	-0.7	7.0
875	54.5	22.24	1.08	55.1	1.02	-1.0	6.2
900	54.3	22.12	1.11	55.0	1.05	-1.3	5.5
925	54.1	22.01	1.13	55.0	1.06	-1.6	6.5
950	53.9	21.89	1.16	54.9	1.08	-2.0	7.6
975	53.6	21.81	1.18	54.9	1.09	-2.3	8.6
1000	53.4	21.73	1.21	54.8	1.10	-2.7	10.1



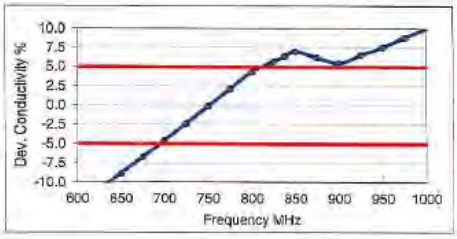


Figure D-2
750MHz Body Tissue Equivalent Matter

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Measurement Certificate / Material Test

Item Name	**Head Tissue Simulating Liquid (HSL750V2)**
Product No.	SL AAH 075 AA (Charge: 150213-1)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated OCP probe.

Setup Validation

Validation results were within ± 2.5% towards the target values of Methanol.

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

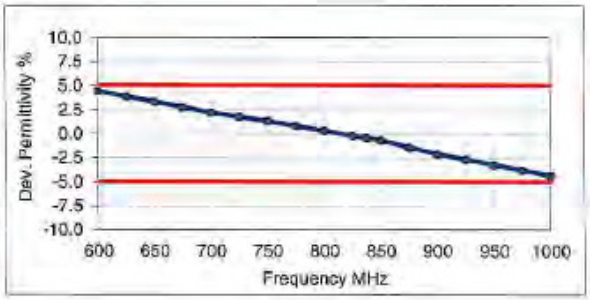
Test Condition

Ambient	Environment temperatur (22 ± 3)°C and humidity < 70%.
TSL Temperature	22°C
Test Date	18-Feb-15
Operator	IEN

Additional Information

TSL Density	1.284 g/cm^3
TSL Heat-capacity	2.701 kJ/(kg*K)

	Measured			Target		Diff.to Target [%]	
f [MHz]	HP-e'	HP-e"	sigma	eps	sigma	Δ-eps	Δ-sigma
600	44.6	22.42	0.75	42.7	0.88	4.5	-15.1
625	44.3	22.20	0.77	42.6	0.88	3.9	-12.7
650	43.9	21.98	0.79	42.5	0.89	3.3	-10.3
675	43.5	21.75	0.82	42.3	0.89	2.8	-8.0
700	43.1	21.53	0.84	42.2	0.89	2.2	-5.7
725	42.8	21.36	0.86	42.1	0.89	1.6	-3.3
750	42.5	21.22	0.89	41.9	0.89	1.3	-0.9
775	42.2	21.06	0.91	41.8	0.90	0.8	1.4
800	41.8	20.90	0.93	41.7	0.90	0.3	3.7
825	41.5	20.77	0.95	41.6	0.91	-0.2	5.1
838	41.4	20.71	0.96	41.5	0.91	-0.4	5.8
850	41.2	20.65	0.98	41.5	0.92	-0.7	6.6
875	40.9	20.53	1.00	41.5	0.94	-1.4	6.0
900	40.6	20.42	1.02	41.5	0.97	-2.1	5.4
925	40.4	20.32	1.05	41.5	0.98	-2.6	6.5
950	40.1	20.22	1.07	41.4	0.99	-3.2	7.5
975	39.8	20.14	1.09	41.4	1.00	-3.8	8.7
1000	39.5	20.05	1.12	41.3	1.01	-4.3	9.9



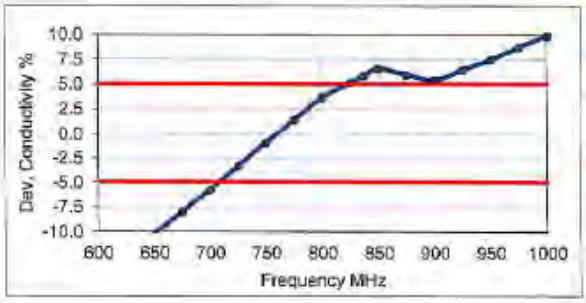


Figure D-3
750MHz Head Tissue Equivalent Matter

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2 Composition / Information on ingredients

The Item is composed of the following ingredients:

H2O	Water, 52 – 75%
C8H18O3	Diethylene glycol monobutyl ether (DGBE), 25 – 48% (CAS-No. 112-34-5, EC-No. 203-961-6, EC-index-No. 603-096-00-8) Relevant for safety; Refer to the respective Safety Data Sheet*.
NaCl	Sodium Chloride, <1.0%

Figure D-4
Composition of 2.4 GHz Head Tissue Equivalent Matter

Note: 2.4 GHz head liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

Measurement Certificate / Material Test

Item Name	**Head Tissue Simulating Liquid (HSL2450V2)**
Product No.	SL AAH 245 BA (Charge: 150206-3)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated OCP probe.

Setup Validation

Validation results were within ± 2.5% towards the target values of Methanol.

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

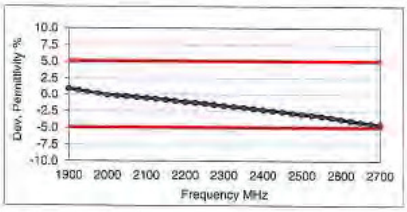
Test Condition

Ambient	Environment temperatur (22 ± 3)°C and humidity < 70%.
TSL Temperature	23°C
Test Date	11-Feb-15
Operator	IEN

Additional Information

TSL Density	0.988 g/cm^3
TSL Heat-capacity	3.680 kJ/(kg*K)

	Measured			Target		Diff.to Target [%]	
f [MHz]	HP-e'	HP-e''	sigma	eps	sigma	Δ-eps	Δ-sigma
1900	40.4	11.89	1.26	40.0	1.40	1.0	-10.2
1925	40.3	11.98	1.28	40.0	1.40	0.7	-8.3
1950	40.2	12.07	1.31	40.0	1.40	0.4	-6.4
1975	40.1	12.15	1.34	40.0	1.40	0.2	-4.6
2000	40.0	12.23	1.36	40.0	1.40	-0.1	-2.8
2025	39.9	12.32	1.39	40.0	1.42	-0.2	-2.4
2050	39.8	12.41	1.42	39.9	1.44	-0.3	-2.0
2075	39.7	12.50	1.44	39.9	1.47	-0.4	-1.6
2100	39.6	12.59	1.47	39.8	1.49	-0.5	-1.2
2125	39.5	12.66	1.50	39.8	1.51	-0.7	-0.9
2150	39.4	12.73	1.52	39.7	1.53	-0.8	-0.7
2175	39.3	12.83	1.55	39.7	1.56	-0.9	-0.2
2200	39.2	12.92	1.58	39.6	1.58	-1.1	0.2
2225	39.1	13.00	1.61	39.6	1.60	-1.2	0.6
2250	39.0	13.08	1.64	39.6	1.62	-1.3	0.9
2275	38.9	13.17	1.67	39.5	1.64	-1.5	1.4
2300	38.8	13.26	1.70	39.5	1.67	-1.7	1.8
2325	38.7	13.34	1.73	39.4	1.69	-1.8	2.2
2350	38.6	13.42	1.75	39.4	1.71	-2.0	2.5
2375	38.5	13.50	1.78	39.3	1.73	-2.1	2.9
2400	38.4	13.58	1.81	39.3	1.76	-2.3	3.3
2425	38.3	13.65	1.84	39.2	1.78	-2.4	3.6
2450	38.2	13.73	1.87	39.2	1.80	-2.6	3.9
2475	38.1	13.80	1.90	39.2	1.83	-2.8	4.0
2500	38.0	13.87	1.93	39.1	1.85	-3.0	4.0
2525	37.9	13.90	1.95	39.1	1.88	-3.1	3.8
2550	37.8	13.93	1.98	39.1	1.91	-3.2	3.5
2575	37.7	14.05	2.01	39.0	1.94	-3.5	4.0
2600	37.6	14.17	2.05	39.0	1.96	-3.7	4.4
2625	37.4	14.23	2.08	39.0	1.99	-3.9	4.4
2650	37.3	14.29	2.11	38.9	2.02	-4.1	4.4
2675	37.2	14.37	2.14	38.9	2.05	-4.3	4.6
2700	37.1	14.45	2.17	38.9	2.07	-4.5	4.7



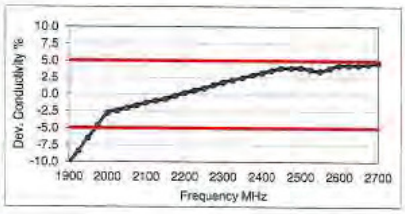


Figure D-5
2.4 GHz Head Tissue Equivalent Matter

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2 Composition / Information on ingredients

The Item is composed of the following ingredients:

Water	50 – 65%
Mineral oil	10 – 30%
Emulsifiers	8 – 25%
Sodium salt	0 – 1.5%

Figure D-6
Composition of 5 GHz Head Tissue Equivalent Matter

Note: 5GHz head liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

Measurement Certificate / Material Test

Item Name	**Head Tissue Simulating Liquid (HBBL3500-5800V5)**
Product No.	SL AAH 502 AE (Charge: 141104-1)
Manufacturer	SPEAG

Measurement Method

TSL dielectric parameters measured using calibrated OCP probe.

Setup Validation

Validation results were within ± 2.5% towards the target values of Methanol.

Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

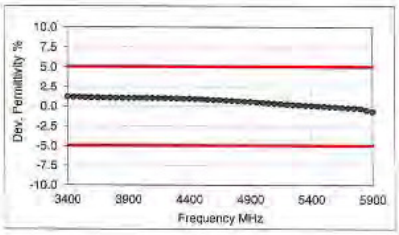
Test Condition

Ambient	Environment temperatur (22 ± 3)°C and humidity < 70%.
TSL Temperature	22°C
Test Date	25-Feb-15
Operator	IEN

Additional Information

TSL Density	0.985 g/cm³
TSL Heat-capacity	3.383 kJ/(kg*K)

	Measured			Target		Diff.to Target [%]	
f [MHz]	HP-e'	HP-e''	sigma	eps	sigma	Δ-eps	Δ-sigma
3400	38.5	15.11	2.86	38.0	2.81	1.2	1.8
3500	38.4	15.08	2.94	37.9	2.91	1.2	0.9
3600	38.2	15.07	3.02	37.8	3.02	1.0	0.2
3700	38.1	15.05	3.10	37.7	3.12	1.1	-0.6
3800	38.0	15.04	3.18	37.6	3.22	1.1	-1.2
3900	37.9	15.05	3.27	37.5	3.32	1.1	-1.6
4000	37.8	15.07	3.35	37.4	3.43	1.2	-2.2
4100	37.6	15.09	3.44	37.2	3.53	1.0	-2.5
4200	37.5	15.14	3.54	37.1	3.63	1.0	-2.5
4300	37.4	15.18	3.63	37.0	3.73	1.0	-2.7
4400	37.3	15.24	3.73	36.9	3.84	1.1	-2.7
4500	37.1	15.29	3.83	36.8	3.94	0.9	-2.7
4600	37.0	15.37	3.93	36.7	4.04	0.9	-2.7
4700	36.8	15.42	4.03	36.6	4.14	0.7	-2.7
4800	36.7	15.47	4.13	36.4	4.25	0.7	-2.7
4850	36.6	15.50	4.18	36.4	4.30	0.6	-2.7
4900	36.5	15.54	4.24	36.3	4.35	0.5	-2.5
4950	36.5	15.55	4.28	36.3	4.40	0.6	-2.7
5000	36.4	15.59	4.34	36.2	4.45	0.5	-2.5
5050	36.3	15.62	4.39	36.2	4.50	0.4	-2.5
5100	36.2	15.66	4.44	36.1	4.55	0.3	-2.5
5150	36.2	15.67	4.49	36.0	4.60	0.4	-2.5
5200	36.1	15.71	4.55	36.0	4.66	0.3	-2.3
5250	36.0	15.73	4.59	35.9	4.71	0.2	-2.5
5300	35.9	15.76	4.65	35.9	4.76	0.1	-2.3
5350	35.9	15.78	4.70	35.8	4.81	0.2	-2.3
5400	35.8	15.81	4.75	35.8	4.86	0.1	-2.3
5450	35.7	15.82	4.80	35.7	4.91	0.0	-2.3
5500	35.6	15.84	4.85	35.6	4.96	-0.1	-2.3
5550	35.6	15.87	4.90	35.6	5.01	0.0	-2.3
5600	35.5	15.90	4.95	35.5	5.07	-0.1	-2.3
5650	35.4	15.94	5.01	35.5	5.12	-0.2	-2.1
5700	35.4	15.96	5.06	35.4	5.17	0.0	-2.1
5750	35.3	16.00	5.12	35.4	5.22	-0.2	-1.9
5800	35.2	16.01	5.16	35.3	5.27	-0.3	-2.1
5850	35.1	16.04	5.22	35.3	5.34	-0.6	-2.2
5900	35.1	16.06	5.27	35.3	5.40	-0.6	-2.4



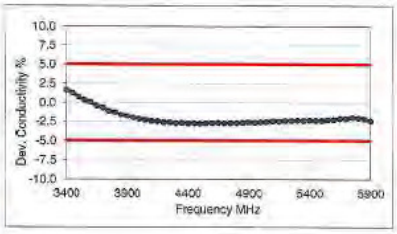


Figure D-7
5GHz Head Tissue Equivalent Matter

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APPENDIX E: SAR SYSTEM VALIDATION

Per FCC KDB Publication 865664 D02v01r02, SAR system validation status should be documented to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue- equivalent media for system validation, according to the procedures outlined in FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.

Table E-I
SAR System Validation Summary – 1g

SAR SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE TYPE	PROBE CAL. POINT		COND. (σ)	PERM. (εr)	CW VALIDATION SENSITIVITY	CW VALIDATION PROBE LINEARITY	CW VALIDATION PROBE ISOTROPY	MOD. VALIDATION MOD. TYPE	MOD. VALIDATION DUTY FACTOR	MOD. VALIDATION PAR
G	750	9/30/2016	3287	ES3DV3	750	Head	0.881	41.020	PASS	PASS	PASS	N/A	N/A	N/A
J	835	3/9/2016	3318	ES3DV3	835	Head	0.891	40.164	PASS	PASS	PASS	GMSK	PASS	N/A
A	1750	9/7/2016	3022	ES3DV2	1750	Head	1.338	38.815	PASS	PASS	PASS	N/A	N/A	N/A
J	1900	3/11/2016	3318	ES3DV3	1900	Head	1.405	39.979	PASS	PASS	PASS	GMSK	PASS	N/A
G	1900	9/29/2016	3287	ES3DV3	1900	Head	1.395	38.777	PASS	PASS	PASS	GMSK	PASS	N/A
D	2450	5/9/2016	3213	ES3DV3	2450	Head	1.819	40.155	PASS	PASS	PASS	OFDM	N/A	PASS
J	5250	4/25/2016	7357	EX3DV4	5250	Head	4.508	34.565	PASS	PASS	PASS	OFDM	N/A	PASS
J	5600	4/25/2016	7357	EX3DV4	5600	Head	4.852	34.028	PASS	PASS	PASS	OFDM	N/A	PASS
J	5750	4/25/2016	7357	EX3DV4	5750	Head	5.021	33.850	PASS	PASS	PASS	OFDM	N/A	PASS
K	750	5/25/2016	7409	EX3DV4	750	Body	0.977	56.135	PASS	PASS	PASS	N/A	N/A	N/A
H	835	4/7/2016	3319	ES3DV3	835	Body	1.000	54.246	PASS	PASS	PASS	GMSK	PASS	N/A
C	1750	9/7/2016	7410	EX3DV4	1750	Body	1.501	51.691	PASS	PASS	PASS	N/A	N/A	N/A
G	1900	9/29/2016	3287	ES3DV3	1900	Body	1.547	51.110	PASS	PASS	PASS	GMSK	PASS	N/A
K	1900	5/24/2016	7409	EX3DV4	1900	Body	1.583	51.303	PASS	PASS	PASS	GMSK	PASS	N/A
G	2450	9/28/2016	3287	ES3DV3	2450	Body	2.030	50.891	PASS	PASS	PASS	OFDM	N/A	PASS
D	5250	3/1/2016	3914	EX3DV4	5250	Body	5.438	47.912	PASS	PASS	PASS	OFDM	N/A	PASS
D	5600	3/1/2016	3914	EX3DV4	5600	Body	5.895	47.321	PASS	PASS	PASS	OFDM	N/A	PASS
D	5750	3/1/2016	3914	EX3DV4	5750	Body	6.111	47.085	PASS	PASS	PASS	OFDM	N/A	PASS

Table E-II
SAR System Validation Summary – 10g

SAR SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE TYPE	PROBE CAL. POINT		COND. (σ)	PERM. (εr)	CW VALIDATION SENSITIVITY	CW VALIDATION PROBE LINEARITY	CW VALIDATION PROBE ISOTROPY	MOD. VALIDATION MOD. TYPE	MOD. VALIDATION DUTY FACTOR	MOD. VALIDATION PAR
C	1750	9/7/2016	7410	EX3DV4	1750	Body	1.501	51.691	PASS	PASS	PASS	N/A	N/A	N/A
G	1900	9/29/2016	3287	ES3DV3	1900	Body	1.547	51.110	PASS	PASS	PASS	GMSK	PASS	N/A
D	5250	3/1/2016	3914	EX3DV4	5250	Body	5.438	47.912	PASS	PASS	PASS	OFDM	N/A	PASS
D	5600	3/1/2016	3914	EX3DV4	5600	Body	5.895	47.321	PASS	PASS	PASS	OFDM	N/A	PASS

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to FCC KDB Publication 865664 D01v01r04.

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APPENDIX G: SENSOR TRIGGERING DATA SUMMARY

A3LSMS727VL Sensor Triggering Data Summary

Per FCC KDB Publication 616217 D04v01r02, this device was tested by the manufacturer to determine the proximity sensor triggering distances for all applicable sides of the device. The measured output power at distances within ± 5 mm of the triggering points (or until touching the phantom) is included for back side and front side per Step i) in Section 6.2 of the KDB. The technical descriptions in the filing contain the complete set of triggering data required by Section 6 of FCC KDB Publication 616217 D04v01r02.

To ensure all production units are compliant, it is necessary to test SAR at a distance 1 mm less than the smallest distance between the device and SAR phantom (determined from the sensor triggering tests according to FCC KDB 616217 D04v01r02) with the device at the maximum output power (without power reduction). These SAR tests are included in addition to the SAR tests for the device touching the SAR phantom (at the reduced output power level).

The operational description contains information explaining how this device remains compliant in the event of a sensor malfunction.

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Back Side

Moving device toward the phantom:

KDB 616217 6.2.f Measured Power [dBm]										
Distance[mm]	9	8	7	6	5	4	3	2	1	0
CDMA BC1	23.96	23.84	24.11	23.87	24.15	21.89	21.99	22.12	21.92	21.94
LTE FDD 4	23.89	23.95	23.77	23.66	23.63	21.90	21.85	21.85	21.82	21.87
LTE FDD 2	23.79	23.95	23.77	23.86	23.89	21.62	21.68	21.74	21.69	21.95

Moving device away from the phantom:

KDB 616217 6.2.h Measured Power [dBm]										
Distance[mm]	9	8	7	6	5	4	3	2	1	0
CDMA BC1	24.07	23.80	23.93	24.04	24.01	21.94	22.03	21.93	22.14	22.00
LTE FDD 4	23.81	23.64	23.64	23.81	23.61	21.63	21.91	21.63	21.77	21.62
LTE FDD 2	23.67	23.77	23.88	23.62	23.86	21.89	21.83	21.87	21.63	21.68

Based on the most conservative measured triggering distance of 4 mm, additional SAR measurements were required at 3 mm from the back side.

Front Side

Moving device toward the phantom:

KDB 616217 6.2.f Measured Power [dBm]									
Distance[mm]	8	7	6	5	4	3	2	1	0
CDMA BC1	23.83	23.80	23.88	24.07	23.94	22.06	22.05	22.09	22.03
LTE FDD 4	23.74	23.89	23.73	23.61	23.87	21.64	21.69	21.76	21.77
LTE FDD 2	23.65	23.88	23.65	23.66	23.74	21.85	21.76	21.63	21.86

Moving device away from the phantom:

KDB 616217 6.2.h Measured Power [dBm]									
Distance[mm]	8	7	6	5	4	3	2	1	0
CDMA BC1	23.97	23.81	24.10	23.88	23.86	21.88	21.93	22.10	21.81
LTE FDD 4	23.62	23.85	23.63	23.93	23.84	21.91	21.87	21.90	21.76
LTE FDD 2	23.95	23.68	23.74	23.92	23.64	21.79	21.86	21.79	21.76

Based on the most conservative measured triggering distance of 3 mm, additional SAR measurements were required at 2 mm from the front side.

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