Appendix No.: SYBH(Z-SAR)20181114006001-2C

## Appendix C. Calibration Certificate

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





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

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Multilateral Agreement for the recognition of calibration certificates

Client Huawei-SZ (Auden)

Certificate No: EX3-7381 Sep18

Accreditation No.: SCS 0108

### CALIBRATION CERTIFICATE

Object EX3DV4 - SN:7381

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: September 28, 2018

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	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-18 (No. 217-02682)	Apr-19
Reference Probe ES3DV2	SN: 3013	30-Dec-17 (No. ES3-3013_Dec17)	Dec-18
DAE4	SN; 660	21-Dec-17 (No. DAE4-660_Dec17)	Dec-18
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-18)	In house check: Jun-20
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-17)	In house check: Oct-18

Name Function Signature
Calibrated by: Michael Weber Laboratory Technician

Approved by: Katja Pokovic Technical Manager

Issued: September 29, 2018

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

Certificate No: EX3-7381\_Sep18

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Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland





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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 modulation dependent linearization parameters

Polarization φ rotation around probe axis

Polarization 9 9 rotation around an axis that is in the plane normal to probe axis (at measurement center),

i.e., 9 = 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, ", "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from handheld and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016

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:

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- NORMx,y,z: Assessed for E-field polarization 9 = 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 E²-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:7381

Manufactured: April 13, 2015

Repaired:

September 20, 2018

Calibrated:

September 28, 2018

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

### **Basic Calibration Parameters**

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm $(\mu V/(V/m)^2)^A$	0.64	0.53	0.36	± 10.1 %
DCP (mV) <sup>B</sup>	95.1	93.1	95.0	= 1011 /0

### **Modulation Calibration Parameters**

UID	Communication System Name		Α	В	С	D	VR	Unc
			dB	dB√μV		dB	mV	(k=2)
0	CW	X	0.0	0.0	1.0	0.00	182.9	±3.0 %
		Y	0.0	0.0	1.0		190.3	
<del></del>		Z	0.0	0.0	1.0		176.1	

Note: For details on UID parameters see Appendix.

### **Sensor Model Parameters**

	C1 fF	C2 fF	α V <sup>-1</sup>	T1 ms.V <sup>-2</sup>	T2 ms.V <sup>-1</sup>	T3 ms	T4 V <sup>-2</sup>	T5 V⁻¹	Т6
X	35.70	266.3	35.57	9.330	0.900	5.00	0.100	0.005	1.020
Y	40.50	334.6	44.32	5.164	0.417	5.10	0.100	0.600	1.014
Z	52.87	417.1	39.84	7.817	0.237	5.10	0.291	0.427	1.011

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%.

<sup>&</sup>lt;sup>A</sup> The uncertainties of Norm X,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Pages 5 and 6).

<sup>&</sup>lt;sup>B</sup> 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.

## Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) F	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	41.9	0.89	10.66	10.66	10.66	0.40	0.92	± 12.0 %
850	41.5	0.92	10.30	10.30	10.30	0.34	0.98	± 12.0 %
1750	40.1	1.37	8.79	8.79	8.79	0.38	0.84	± 12.0 %
1900	40.0	1.40	8.32	8.32	8.32	0.34	0.87	± 12.0 %
2000	40.0	1.40	8.15	8.15	8.15	0.34	0.85	± 12.0 %
2300	39.5	1.67	7.95	7.95	7.95	0.35	0.90	± 12.0 %
2450	39.2	1.80	7.61	7.61	7.61	0.25	1.18	± 12.0 %
2600	39.0	1.96	7.35	7.35	7.35	0.29	1.15	± 12.0 %
5250	35.9	4.71	5.67	5.67	5.67	0.40	1.80	± 13.1 %
5600	35.5	5.07	5.04	5.04	5.04	0.40	1.80	± 13.1 %
5800	35.3	5.27	5.23	5.23	5.23	0.40	1.80	± 13.1 %

 $<sup>^{\</sup>rm C}$  Frequency validity above 300 MHz of  $\pm$  100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to  $\pm$  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  $\pm$  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  $\pm$  110 MHz.

<sup>&</sup>lt;sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to  $\pm$  10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to  $\pm$  5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is

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.

## Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) F	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55.5	0.96	10.74	10.74	10.74	0.24	1.24	± 12.0 %
850	55.2	0.99	10.46	10.46	10.46	0.25	1.17	± 12.0 %
1750	53.4	1.49	8.61	8.61	8.61	0.27	1.03	± 12.0 %
1900	53.3	1.52	8.22	8.22	8.22	0.31	0.95	± 12.0 %
2300	52.9	1.81	8.03	8.03	8.03	0.36	0.93	± 12.0 %
2450	52.7	1.95	7.76	7.76	7.76	0.41	0.90	± 12.0 %
2600	52.5	2.16	7.53	7.53	7.53	0.42	0.88	± 12.0 %
5250	48.9	5.36	4.75	4.75	4.75	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.26	4.26	4.26	0.50	1.90	± 13.1 %
5750	48.3	5.94	4.37	4.37	4.37	0.50	1.90	± 13.1 %

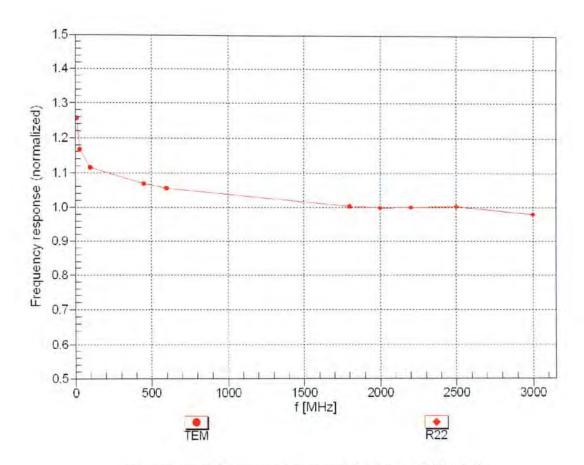
<sup>&</sup>lt;sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency 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.

<sup>&</sup>lt;sup>E</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\varepsilon$  and  $\sigma$ ) can be relaxed to  $\pm$  10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\varepsilon$  and  $\sigma$ ) is restricted to  $\pm$  5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

the ConvF uncertainty for indicated target tissue parameters.

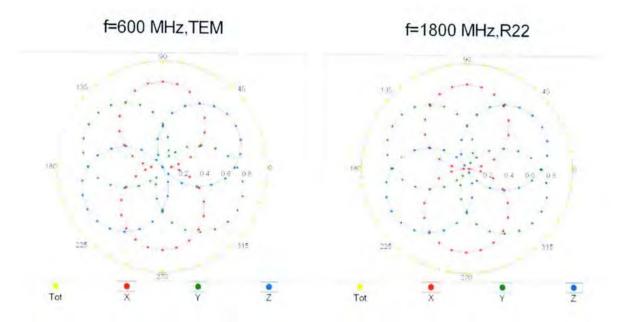
Galpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the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

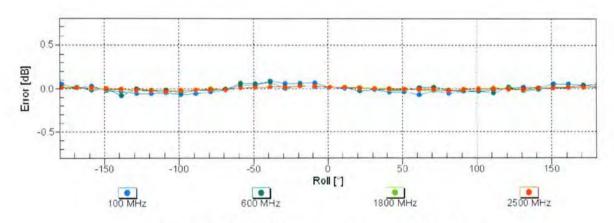
# Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)



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

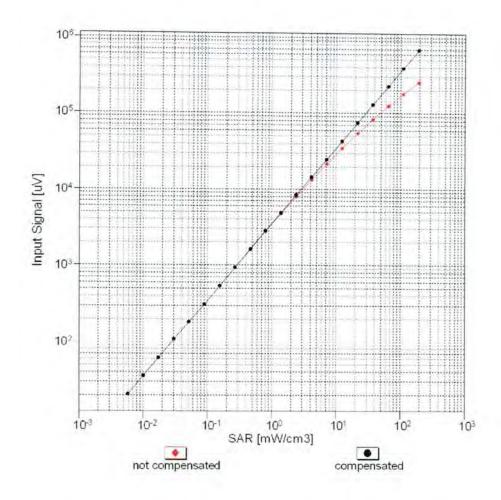
# Receiving Pattern ( $\phi$ ), $\vartheta = 0^{\circ}$

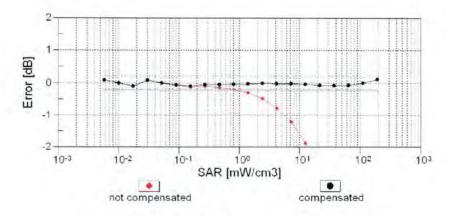




Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

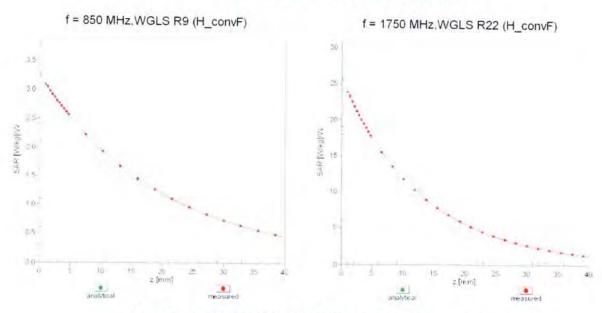
## Dynamic Range f(SAR<sub>head</sub>) (TEM cell , f<sub>eval</sub>= 1900 MHz)



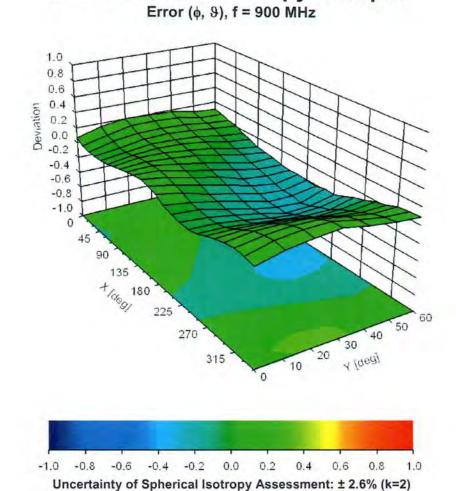


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

# **Conversion Factor Assessment**



# Deviation from Isotropy in Liquid



### **Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	131.3
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

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Appendix: Modulation Calibration Parameters

UID	Communication System Name		A dB	B dBõV	С	D dB	VR mV	Max Unc <sup>E</sup> (k=2)
0	CW	X	0.00	0.00	1.00	0.00	182.9	± 3.0 %
		Υ	0.00	0.00	1.00		190.3	
10010-	CAD Validation (Co.	Z	0.00	0.00	1.00		176.1	
CAA	SAR Validation (Square, 100ms, 10ms)	X	11.00	70.00	30.00	10.00	20.0	± 9.6 %
		Y	1.35	61.38	6.83		20.0	
		Z	1.92	65.21	9.46		20.0	
10011- CAB	UMTS-FDD (WCDMA)	X	1.15	67.14	15.68	0.00	150.0	± 9.6 %
		Y	100.00	216.99	69.51		150.0	
10012-	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1	X	13.47 1.32	117.54 63.81	34.62 15.29	0.41	150.0	1000/
CAB	Mbps)		DOM:		2200	0.41	150.0	± 9.6 %
		Υ	8.14	128.56	47.42		150.0	
10010	1555 000 11 1155	Z	1.30	68.66	19.76	- 2 - 2 - 2 - 2	150.0	
10013- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps)	X	4.87	66.86	17.13	1.46	150.0	± 9.6 %
		Y	5.04	69.28	20.04		150.0	
10004	COM EDD /TDMA CMOKS	Z	4.98	67.22	18.07	0.00	150.0	1000
10021- DAC	GSM-FDD (TDMA, GMSK)	X	100.00	118.25	30.34	9.39	50.0	± 9.6 %
		Y	100.00	110.03	24.78		50.0	
10023-	GPRS-FDD (TDMA, GMSK, TN 0)	Z	100.00	115.56 117.75	27.47 30.17	9.57	50.0	± 9.6 %
DAC	GFR3-FDD (TDIVIA, GWISK, TIVU)	Y	100.00	109.01	24.39	9.57	50.0	± 9.0 %
		Z	100.00	114.64	27.11		50.0	
10024- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00	120.69	30.13	6.56	60.0	± 9.6 %
Dito		Y	100.00	126.91	30.65		60.0	
		Z	100.00	125.28	30.48		60.0	
10025- DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	×	24.11	122.63	48.01	12.57	50.0	± 9.6 %
		Y	4.60	78.41	33.03		50.0	
		Z	4.28	74.19	30.01		50.0	
10026- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	9.91	93.59	33.79	9.56	60.0	± 9.6 %
		Y	18.52	123.39	47.38		60.0	
	0000 500 (5011) 01101 51101	Z	9.47	98.14	37.01	100	60.0	1000
10027- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	125.06	31.17	4.80	80.0	± 9.6 %
		Y	100.00	479.59	170.55		80.0	
10028- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	Z	100.00	147.30 130.95	38.75 32.97	3.55	80.0 100.0	± 9.6 %
DAG		Y	0.12	60.00	30.00		100.0	
		Z	100.00	195.98	57.32		100.0	
10029- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	5.53	79.72	27.05	7.80	80.0	± 9.6 %
		Y	6.59	94.20	36.35		80.0	
		Z	5.37	83.49	30.07		80.0	
10030- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	100.00	120.91	29.62	5.30	70.0	± 9.6 %
		Y	100.00	196.62	58.60		70.0	
		Z	100.00	130.24	32.03		70.0	
10031- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	139.36	35.10	1.88	100.0	± 9.6 %
		Y	0.07	60.00	30.00		100.0	
		Z	99.99	150.00	30.00		100.0	

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10032-	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	97.94	152.13	39.63	1.17	100.0	± 9.6 %
CAA		V	0.00	00.00	20.00		100.0	
		Y	0.06	60.00	30.00		100.0	
10033- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	0.05 7.66	60.00 86.59	30.00 22.86	5.30	70.0	± 9.6 %
		Y	100.00	149.72	43.17		70.0	
1000		Z	100.00	144.67	41.53		70.0	
10034- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	2.79	75.44	17.50	1.88	100.0	± 9.6 %
		Y	100.00	170.78	50.20		100.0	
		Z	100.00	143.95	39.60		100.0	
10035- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Х	2.09	72.81	16.27	1.17	100.0	± 9.6 %
		Y	100.00	180.10	53.53		100.0	
10000	1555 000 45 4 BL 1 1 1 10 10 BBOW BLUE	Z	100.00	143.34	38.92		100.0	
10036- CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	9.07	89.46	23.88	5.30	70.0	± 9.6 %
		Y	100.00	150.95	43.71		70.0	
10027	IEEE 000 45 4 Bluster to 0 BBOX BUST	Z	100.00	145.42	41.88		70.0	
10037- CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	2.56	74.36	17.07	1.88	100.0	± 9.6 %
		Y	100.00	172.04	50.66		100.0	
10038-	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Z	100.00	144.18	39.64	3.15	100.0	
CAA	IEEE 602.15.1 Bidetooth (8-DPSK, DH5)	X	2.07	72.81	16,39	1.17	100.0	± 9.6 %
		Y	100.00	183.38	54.93		100.0	
10039-	CDMA2000 (1xRTT, RC1)	X	100.00	144.60	39.47	0.00	100.0	
CAB	CDMA2000 (IXRTI, RCI)		1.85	72.59	15.95	0.00	150.0	± 9.6 %
		Y	100.00	175.27	51.06		150.0	
10042- CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4- DQPSK, Halfrate)	Z X	100.00	134.81 117.39	35.14 29.00	7.78	150.0 50.0	± 9.6 %
	Dan Str. Hamato)	Y	100.00	104.70	21.46		50.0	
		Z	100.00	112.98	25.44		50.0	
10044- CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.13	60.00	15.99	0.00	150.0	± 9.6 %
		Y	0.00	60.00	0.00		150.0	
		Z	0.00	128.20	45.27		150.0	
10048- CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	28.69	95.37	25.31	13.80	25.0	± 9.6 %
		Y	100.00	103.96	23.93		25.0	
		Z	100.00	108.81	26.14		25.0	
10049- CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	×	67.71	110.77	28.63	10.79	40.0	± 9.6 %
		Y	100.00	106.44	23.68		40.0	
100EC	LIMTS TOD /TO COSTILL 1 00 11	Z	260.43	123.05	28.63		40.0	
10056- CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	23.23	98.98	27.11	9.03	50.0	± 9.6 %
		Y	100.00	126.19	33.96		50.0	
10058-	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	Z	100.00	130.47	36.35		50.0	
DAC	LUGE-FUU (TUINA, 8PSK, TN 0-1-2-3)	X	4.23	74.26	23.86	6.55	100.0	± 9.6 %
		Y	4.66	85.66	32.29		100.0	
10059- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	Z X	1.34	77.76 64.54	26.79 15.70	0.61	100.0 110.0	± 9.6 %
	5-1	Y	100.00	203.81	66.88		110.0	
		Z	1.40	71.11	21.17		110.0	
10060- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	2.40	81.52	22.07	1.30	110.0	± 9.6 %
2/10		14						
		Y	100.00	335.12	116.68		110.0	

10061- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	2.14	73.59	19.82	2.04	110.0	± 9.6 %
		Y	100.00	209.14	68.58		110.0	
10062-	IEEE 000 44-# 1475 5 000	Z	100.00	164.99	49.53		110.0	
CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.67	66.83	16.58	0.49	100.0	± 9.6 %
		Y	4.94	69.77	19.74		100.0	
		Z	4.83	67.37	17.56		100.0	
10063- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.68	66.91	16.66	0.72	100.0	± 9.6 %
		Y	4.97	69.94	19.88		100.0	
		Z	4.84	67.48	17.68		100.0	
10064- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	4.92	67.11	16.86	0.86	100.0	± 9.6 %
		Y	5.20	69.91	19.90		100.0	
		Z	5.15	67.73	17.88		100.0	
10065- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	4.80	66.96	16.93	1.21	100.0	± 9.6 %
		Y	5.05	69.80	20.06		100.0	
		Z	5.00	67.63	18.00		100.0	
10066- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	Х	4.81	66.96	17.07	1.46	100.0	± 9.6 %
	and have been also as a second	Y	5.03	69.72	20.18		100.0	
		Z	5.01	67.62	18.17		100.0	
10067- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.11	67.25	17.56	2.04	100.0	± 9.6 %
		Y	5.28	69.64	20.42		100.0	
		Z	5.27	67.63	18.52		100.0	
10068- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	Х	5.15	67.19	17.73	2.55	100.0	± 9.6 %
		Y	5.27	69.40	20.50		100.0	
		Z	5.32	67.71	18.76		100.0	
10069- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.22	67.25	17.93	2.67	100.0	± 9.6 %
		Y	5.32	69.35	20.65		100.0	
		Z	5.39	67.63	18.91		100.0	
10071- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	4.97	66.94	17.42	1.99	100.0	± 9.6 %
		Y	5.09	69.17	20.23		100.0	
		Z	5.06	67.25	18.35		100.0	
10072- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	4.93	67.18	17.61	2.30	100.0	± 9.6 %
		Y	5.09	69.69	20.59		100.0	
	I. a P	Z	5.05	67.65	18.62		100.0	1000
10073- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	5.01	67.39	17.95	2.83	100.0	± 9.6 %
		Y	5.13	69.81	20.90		100.0	
		Z	5.08	67.74	18.93		100.0	
10074- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	5.03	67.37	18.12	3.30	100.0	± 9.6 %
		Y	5.08	69.54	20.94		100.0	
		Z	5.03	67.52	19.03		100.0	
10075- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	5.07	67.44	18.41	3.82	90.0	±9.6 %
		Y	5.07	69.45	21.15		90.0	
		Z	5.05	67.62	19.36	ILTER	90.0	
10076- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	5.12	67.36	18.60	4.15	90.0	± 9.6 %
		Y	5.05	69.03	21.16		90.0	
		Z	5.02	67.23	19.38		90.0	
10077- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	5.15	67.48	18.73	4.30	90.0	± 9.6 %
	1	Υ	5.08	69.11	21.25		90.0	

10081- CAB	CDMA2000 (1xRTT, RC3)	X	0.98	67.39	13.56	0.00	150.0	± 9.6 %
0/10		Y	100.00	268.60	86.44		150.0	
		Z	100.00	140.60	36.25		150.0	
10082- CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4- DQPSK, Fullrate)	X	0.96	61.09	6.58	4.77	80.0	± 9.6 %
-		Y	0.08	145.72	12.60		80.0	
		Z	2.70	64.54	4.89		80.0	
10090- DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	120.61	30.11	6.56	60.0	± 9.6 %
		Y	100.00	127.43	30.91		60.0	
		Z	100.00	125.37	30.55		60.0	
10097- CAB	UMTS-FDD (HSDPA)	X	1.96	68.20	16.00	0.00	150.0	± 9.6 %
		Y	100.00	158.98	47.61		150.0	
		Z	2.97	77.93	21.56		150.0	
10098- CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.93	68.14	15.98	0.00	150.0	± 9.6 %
		Y	100.00	160.08	48.01		150.0	
		Z	2.95	78.23	21.69		150.0	1
10099- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	9.97	93.70	33.82	9,56	60.0	± 9.6 %
		Y	18.92	123.97	47.55		60.0	
		Z	9.57	98.41	37.10		60.0	
10100- CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.10	69.89	16.90	0.00	150.0	± 9.6 %
		Y	100.00	142.36	42.01		150.0	
		Z	4.57	77.73	20.76		150.0	
10101- CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.27	67.42	16.09	0.00	150.0	± 9.6 %
		Y	5.41	81.04	24.37		150.0	
		Z	3.67	70.29	18.08		150.0	
10102- CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.37	67.42	16.17	0.00	150.0	± 9.6 %
		Y	5.17	79.39	23.76		150.0	
		Z	3.74	70.00	18.04		150.0	
10103- CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	6.34	75.72	20.70	3.98	65.0	± 9.6 %
		Y	11.34	93.43	29.74		65.0	
		Z	6.86	79.59	23.23		65.0	
10104- CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	6.17	73.27	20.31	3.98	65.0	± 9.6 %
		Y	6.54	79.22	25.10		65.0	
		Z	5.98	74.59	21.93		65.0	
10105- CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	6.14	73.03	20.50	3.98	65.0	± 9.6 %
		Y	6.17	77.48	24.57		65.0	
*****		Z	5.62	73.01	21.49		65.0	
10108- CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.70	69.19	16.71	0.00	150.0	± 9.6 %
		Y	100.00	147.33	43.88		150.0	
10100		Z	4.03	77.32	20.88		150.0	
10109- CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	2.91	67.36	15.96	0.00	150.0	± 9.6 %
		Y	7.00	89.30	27.63		150.0	
70.77		Z	3.38	70.77	18.36		150.0	
10110- CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	2.20	68.47	16.29	0.00	150.0	± 9.6 %
		Y	100.00	154.17	46.09		150.0	
10111	LTE EDD (OC EDLA 1000) DE TIE	Z	3.51	77.96	21.32		150.0	
10111- CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.63	68.40	16.20	0.00	150.0	± 9.6 %
		Y	100.00	146.51	43.54		150.0	
		Z	3.37	73.66	19.68		150.0	

10112- CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	3.04	67.42	16.03	0.00	150.0	± 9.6 %
		Y	6.33	86.22	26.47		150.0	
		Z	3.47	70.42	18.24		150.0	
10113- CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	Х	2.77	68.55	16.31	0.00	150.0	± 9.6 %
		Y	100.00	145.16	43.16		150.0	
		Z	3.48	73.29	19.55		150.0	
10114- CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	5.13	67.26	16.58	0.00	150.0	± 9.6 %
		Y	5.49	70.06	19.49		150.0	
		Z	5.32	67.96	17.43		150.0	
10115- CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.38	67.34	16.61	0.00	150.0	± 9.6 %
		Y	5.80	70.16	19.48		150.0	
		Z	5.63	68.08	17.48		150.0	
10116- CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.21	67,45	16.60	0.00	150.0	± 9.6 %
		Y	5.64	70.43	19.57		150.0	
		Z	5.45	68.24	17.49		150.0	
10117- CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	5.12	67.21	16.57	0.00	150.0	± 9.6 %
		Y	5.47	69.94	19.45		150.0	
3.6.4.1.1.1		Z	5.28	67.79	17.36		150.0	
10118- CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	X	5.45	67.52	16.71	0.00	150.0	± 9.6 %
		Y	6.03	70.88	19.83		150.0	
		Z	5.79	68.53	17.71		150.0	
10119- CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	Х	5.21	67.44	16.61	0.00	150.0	± 9.6 %
		Y	5.72	70.73	19.73		150.0	
		Z	5.43	68.21	17.49		150.0	
10140- CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.39	67.46	16.10	0.00	150.0	± 9.6 %
		Y	5.27	79.54	23.68		150.0	
		Z	3.78	69.96	17.93		150.0	
10141- CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.52	67.59	16.26	0.00	150.0	± 9.6 %
		Y	5.20	78.65	23.40		150.0	
		Z	3.88	69.88	18.01		150.0	
10142- CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	1.98	68.60	15.86	0.00	150.0	± 9.6 %
		Y	100.00	156.00	46.00		150.0	
		Z	3.90	81.59	22.46		150.0	
10143- CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.47	69.21	15.74	0.00	150.0	± 9.6 %
		Y	100.00	143.49	41.14		150.0	
recorded to		Z	3.95	77.99	20.86		150.0	
10144- CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.20	66.71	13.99	0.00	150.0	± 9.6 %
		Y	100.00	137.29	38.21		150.0	
		Z	3.05	72.40	17.90		150.0	
10145- CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.17	64.72	11.17	0.00	150.0	± 9.6 %
		Y	100.00	137.82	35.15		150.0	
		Z	14.17	100.72	25.63		150.0	
10146- CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	9.35	88.35	20.34	0.00	150.0	± 9.6 %
		Y	100.00	121.34	29.35		150.0	
		Z	100.00	120.70	29.90		150.0	
10147- CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	100.00	118.16	28.11	0.00	150.0	± 9.6 %
		Y	100.00	123.93	30.58		150.0	
		Z	100.00	122.09	30.61		150.0	

10149- CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	2.92	67.41	16.01	0.00	150.0	± 9.6 %
		Y	7.11	89.66	27.79		150.0	
		Z	3.39	70.87	18.42		150.0	
10150- CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.04	67.47	16.07	0.00	150.0	± 9.6 %
		Y	6.40	86.49	26.60		150.0	
		Z	3.48	70.50	18.29		150.0	
10151- CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	6.38	77.45	21.42	3.98	65.0	± 9.6 %
		Y	30.78	118.12	37.83		65.0	
		Z	7.72	84.02	25.22		65.0	
10152- CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	5.68	73.18	19.88	3.98	65.0	± 9.6 %
		Y	6.90	82.70	26.24		65.0	
		Z	5.64	75.17	21.99		65.0	
10153- CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	6.05	74.13	20.62	3.98	65.0	± 9.6 %
		Y	7.36	83.86	27.11		65.0	
		Z	5.95	75.97	22.70		65.0	
10154- CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.23	68.75	16.47	0.00	150.0	± 9.6 %
		Y	100.00	154.70	46.35		150.0	
		Z	3.72	79.10	21.86		150.0	
10155- CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.64	68.43	16.23	0.00	150.0	± 9.6 %
		Y	100.00	146.60	43.58		150.0	
		Z	3.37	73.67	19.69		150.0	
10156- CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	1.81	68.60	15.53	0.00	150.0	± 9.6 %
		Y	100.00	158.65	46.50		150.0	
		Z	4.86	86.74	24.11		150.0	
10157- CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.04	67.24	13.96	0.00	150.0	± 9.6 %
		Y	100.00	138.28	38.00		150.0	
		Z	3.49	76.44	19.40		150.0	
10158- CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.78	68.62	16.36	0.00	150.0	± 9.6 %
		Y	100.00	145.31	43.23		150.0	
		Z	3.50	73.41	19.62		150.0	
10159- CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.12	67.57	14.15	0.00	150.0	± 9.6 %
		Y	100.00	138.27	38.10		150.0	
		Z	3.75	77.32	19.82		150.0	
10160- CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.75	68.61	16.52	0.00	150.0	± 9,6 %
		Y	100.00	145.25	43.24		150.0	
20,700		Z	3.71	74.81	20.04		150.0	
10161- CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	2.93	67.45	15.96	0.00	150.0	± 9.6 %
		Y	7.41	90.31	27.93		150.0	
		Z	3.39	70.63	18.34		150.0	
10162- CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	3.04	67.65	16.09	0.00	150.0	± 9.6 %
		Y	7.27	89.25	27.52		150.0	
		Z	3.49	70.61	18.35		150.0	
10166- CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.25	68.78	19.90	3.01	150.0	± 9.6 %
		Y	5.76	85.66	29.21		150.0	
		Z	3.95	72.47	21.60		150.0	
10167-	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	Х	3.43	70.84	20.33	3.01	150.0	± 9.6 %
CAF	10-QAIVI)							
CAF	10-QAIVI)	Y	13.83	102.81	33.84		150.0	

10168- CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	Х	3.73	72.85	21.65	3.01	150.0	± 9.6 %
		Y	29.00	120.66	39.75		150.0	
		Z	6.02	80.26	24.36		150.0	
10169- CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	Х	2.39	65.72	18.67	3.01	150.0	± 9.6 %
		Y	4.79	85.18	29.52		150.0	
		Z	3.29	72.66	21.97		150.0	
10170- CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	2.43	68.34	20.24	3.01	150.0	±9.6 %
		Y	31.37	128.86	43.10		150.0	
		Z	5.45	83.37	26.16		150.0	
10171- AAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	2.19	66.35	18.30	3.01	150.0	± 9.6 %
		Y	11.64	103.05	34.00		150.0	
		Z	4.06	76.52	22.29		150.0	
10172- CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	4.72	83.25	27.75	6.02	65.0	± 9.6 %
		Y	100.00	168.92	55.74		65.0	
		Z	20.60	118.40	39.79		65.0	
10173- CAG		×	6.53	90.17	28.92	6.02	65.0	±9.6 %
		Y	100.00	154.09	48.32		65.0	
		Z	100.00	143.61	43.42		65.0	
10174- CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	6.38	89.02	27.96	6.02	65.0	± 9.6 %
		Y	100.00	150.07	46.22		65.0	
		Z	100.00	140.29	41.73		65.0	
10175- CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	2.38	65.57	18.50	3.01	150.0	±9.6 %
		Y	4.68	84.38	29.06		150.0	
		Z	3.23	72.21	21.65		150.0	
10176- CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	2.43	68.36	20.25	3.01	150.0	± 9.6 %
		Y	31.64	129.04	43.15		150.0	
		Z	5.46	83.41	26.18		150.0	
10177- CAI	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	2.39	65.66	18.56	3.01	150.0	± 9.6 %
		Y	4.73	84.67	29.20		150.0	
		Z	3.27	72.44	21.78		150.0	
10178- CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	2.42	68.28	20.19	3.01	150.0	± 9.6 %
		Y	29.59	127.38	42.66		150.0	
		Z	5.36	82.95	25.97		150.0	
10179- CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	Х	2.30	67.45	19.26	3.01	150.0	± 9.6 %
		Y	20.22	116.68	38.77		150.0	
		Z	4.72	79.90	24.13		150.0	
10180- CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM)	X	2.19	66.34	18.28	3.01	150.0	± 9.6 %
		Y	11.48	102.68	33.86		150.0	
		Z	4.04	76.38	22.21		150.0	
10181- CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	2.39	65.64	18.56	3.01	150.0	± 9.6 %
		Y	4.72	84.64	29.19		150.0	
		Z	3.26	72.41	21.77		150.0	
10182- CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	2.42	68.26	20.18	3.01	150.0	± 9.6 %
		Y	29.40	127.23	42.62		150.0	
		Z	5.34	82.91	25.95		150.0	
10183- AAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	2.19	66.32	18.27	3.01	150.0	± 9.6 %
- TOTAL		Y	11 11	102.56	33.82		150.0	
		T	11.41	102.50	33.02		130.0	

10184- CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	2.39	65.67	18.57	3.01	150.0	± 9.6 %
		Y	4.75	84.73	29.22		150.0	
		Z	3.28	72.47	21.80		150.0	
10185- CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	2.43	68.31	20.21	3.01	150.0	± 9.6 %
		Y	29.95	127.65	42.74		150.0	
	I Control of the cont	Z	5.38	83.03	26.00		150.0	
10186- AAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64- QAM)	X	2.19	66.37	18.30	3.01	150.0	± 9.6 %
		Y	11.59	102.87	33.93		150.0	
		Z	4.06	76.45	22.25		150.0	
10187- CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	2.40	65.71	18.63	3.01	150.0	± 9.6 %
		Y	4.77	84.88	29.34		150.0	
		Z	3.28	72.52	21.86		150.0	
10188- CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	2.46	68.61	20.45	3.01	150.0	± 9.6 %
		Y	36.87	132.92	44.31		150.0	
		Z	5.68	84.25	26.59		150.0	
10189- AAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	2.22	66.60	18.50	3.01	150.0	± 9.6 %
		Y	12.77	105.22	34.79		150.0	
		Z	4.20	77.17	22.65	1	150.0	
10193- CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.54	66.91	16.29	0.00	150.0	± 9.6 %
		Y	4.88	70.16	19.56		150.0	
74040		Z	4.69	67.38	17.19		150.0	
10194- CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.68	67.14	16.42	0.00	150.0	± 9.6 %
		Y	5.05	70.39	19.65		150.0	
		Z	4.88	67.73	17.31		150.0	
10195- CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.71	67.16	16.43	0.00	150,0	± 9.6 %
		Y	5.08	70.37	19.63		150.0	
10100		Z	4.92	67.74	17.32		150.0	
10196- CAC	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.52	66.90	16.28	0.00	150.0	± 9.6 %
		Y	4.88	70.24	19.59		150.0	
		Z	4.70	67.48	17.23		150.0	
10197- CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	Х	4.69	67.15	16.43	0.00	150.0	± 9.6 %
		Y	5.06	70.40	19.65		150.0	
10100	V===	Z	4.89	67.75	17.33		150.0	
10198- CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64- QAM)	Х	4.71	67.16	16.44	0.00	150.0	± 9.6 %
		Y	5.08	70.40	19.65		150.0	
10010	UEEE agg 44 See 14	Z	4.92	67.77	17.33		150.0	
10219- CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.48	66.94	16.25	0.00	150.0	± 9.6 %
		Υ	4.87	70.47	19.67		150.0	
10000	JEEF OOD 44 WITH	Z	4.66	67.53	17.22		150.0	
10220- CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	X	4.68	67.11	16.41	0.00	150.0	± 9.6 %
		Y	5.04	70.33	19.63		150.0	
10001	IEEE 000 44- (UTA)	Z	4.89	67.72	17.32		150.0	
10221- CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.72	67.10	16.42	0.00	150.0	± 9.6 %
		Y	5.07	70.22	19.58		150.0	
10222-	IEEE 802.11n (HT Mixed, 15 Mbps,	Z	4.93	67.67	17.31		150.0	
CAC	BPSK)	X	5.09	67.19	16.55	0.00	150.0	± 9.6 %
		Y	5.44	69.94	19.44		150.0	
		Z	5.25	67.80	17.36		150.0	

10223- CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	X	5.36	67.39	16.66	0.00	150.0	± 9.6 %
		Y	5.79	70.24	19.55		150.0	
		Z	5.58	68.01	17.47		150.0	
10224- CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	X	5.13	67.31	16.54	0.00	150.0	± 9.6 %
		Y	5.50	70.13	19.45		150.0	
		Z	5.31	67.93	17.35		150.0	
10225- CAB	UMTS-FDD (HSPA+)	X	2.82	66.39	15.24	0.00	150.0	± 9.6 %
		Y	5.39	83.22	25.04		150.0	
		Z	3.10	68.52	17.43		150.0	
10226- CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	6.82	91.13	29.34	6.02	65.0	± 9.6 %
		Y	100.00	154.35	48.49		65.0	
		Z	100.00	143.89	43.61		65.0	
10227- CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	Х	7.64	92.49	29.17	6.02	65.0	± 9.6 %
		Y	100.00	150.17	46.35		65.0	
		Z	100.00	140.23	41.76		65.0	
	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	5.03	84.39	28.13	6.02	65.0	± 9.6 %
		Y	100.00	171.17	56.77		65.0	
		Z	36.11	132.10	43.75		65.0	
10229- CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	6.57	90.27	28.96	6.02	65.0	± 9.6 %
		Y	100.00	154.02	48.30		65.0	
		Z	100.00	143.56	43.42		65.0	
10230- CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	7.22	91.34	28.71	6.02	65.0	± 9.6 %
		Y	100.00	150.07	46.27		65.0	
		Z	100.00	140.03	41.62		65.0	
10231- CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	4.90	83.79	27.84	6.02	65.0	± 9.6 %
21.15		Y	100.00	170.98	56.64		65.0	
		Z	31.84	129.00	42.83		65.0	
10232- CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	X	6.56	90.24	28.95	6.02	65.0	± 9.6 %
		Y	100.00	154.06	48.32		65.0	
		Z	100.00	143.59	43.42		65.0	
10233- CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM)	X	7.19	91.28	28.70	6.02	65.0	± 9.6 %
		Y	100.00	150.12	46.29		65.0	
		Z	100.00	140.06	41.63		65.0	
10234- CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	×	4.81	83.37	27.58	6.02	65.0	± 9.6 %
		Y	100.00	170.48	56.34		65.0	
		Z	29.21	126.68	42.05		65.0	
10235- CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	×	6.56	90.26	28.96	6.02	65.0	± 9.6 %
		Y	100.00	154.09	48.33		65.0	
	the state of the s	Z	100.00	143.62	43.44	1 7 7 1	65.0	
10236- CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	7.30	91.54	28.78	6.02	65.0	± 9.6 %
		Y	100.00	149.96	46.22		65.0	
		Z	100.00	139.96	41.59		65.0	
10237- CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	4.89	83.82	27.85	6.02	65.0	± 9.6 %
		Y	100.00	171.08	56.68		65.0	
		Z	32.39	129.46	42.96		65.0	
10238- CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	×	6.54	90.21	28.94	6.02	65.0	± 9.6 %
		Y	100.00	154.11	48.34		65.0	
		Z	100.00	143.62				

10239- CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	7.16	91.22	28.68	6.02	65.0	± 9.6 %
		Y	100.00	150.18	46.31		65.0	
		Z	100.00	140.11	41.65		65.0	
10240- CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	4.89	83.79	27.85	6.02	65.0	± 9.6 %
01.11	3. 5.17	Y	100.00	171.14	56.70		65.0	
		Z	32.07	129.26	42.91		65.0	
10241- CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	6.89	80.86	26.48	6.98	65.0	± 9.6 %
		Y	15.14	102.74	36.01		65.0	
		Z	7.96	83.07	27.57		65.0	
10242- CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	6.80	80.72	26.37	6.98	65.0	± 9.6 %
		Y	14.33	101.02	35.18		65.0	
		Z	7.38	81.22	26.68		65.0	
10243- CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	5.93	77.53	25.75	6.98	65.0	± 9.6 %
		Y	7.95	88.70	32.02		65.0	
2. 3.1		Z	5.71	76.44	25.56		65.0	1 - 2
10244- CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	×	6.09	77.33	19.18	3.98	65.0	± 9.6 %
		Y	100.00	128.91	35.76		65.0	
	I He La Tarana Area Area Carana	Z	12.63	92.71	26.45		65.0	
10245- CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	5.77	76.20	18.64	3.98	65.0	± 9.6 %
		Y	100.00	128.15	35.42		65.0	
		Z	11.34	90.40	25.59		65.0	
10246- CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	4.45	74.40	17.70	3.98	65.0	± 9.6 %
		Y	100.00	136.14	38.09		65.0	
72270		Z	22.41	107.23	31.00		65.0	
10247- CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	×	4.56	71.86	17.13	3.98	65.0	± 9.6 %
		Y	73.33	128.51	37.19		65.0	
112 2112 2		Z	5.99	80.00	22.59		65.0	
10248- CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	4.51	71.27	16.84	3.98	65.0	± 9.6 %
		Y	26.38	109.01	31.99	3	65.0	
		Z	5.74	78.49	21.91		65.0	
10249- CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	5.66	78.41	20.44	3.98	65.0	± 9.6 %
		Y	100.00	142.87	42.05		65.0	
10050		Z	18.21	104.78	31.43		65.0	
10250- CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	5.61	74.95	20.41	3.98	65.0	± 9.6 %
		Y	13.54	100.79	32.79		65.0	
100=:	V == === 0== == 100	Z	6.07	79.55	24.03		65.0	
10251- CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	5.38	73.15	19.26	3.98	65.0	± 9.6 %
		Y	8.77	89.12	28.04		65.0	
40050	175 755 150 5511	Z	5.62	76.39	22.24		65.0	
10252- CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	6.27	79.36	22.01	3.98	65.0	± 9.6 %
		Υ	100.00	147.00	45.24		65.0	
10050	LITE TOD (OO EDIL)	Z	9.92	92.18	28.37		65.0	
10253- CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	5.61	72.83	19.63	3.98	65.0	± 9.6 %
		Y	6.66	81.73	25.73		65.0	
10254	LTE TOD (SO FOLK FOR ST.	Z	5.44	74.31	21.61		65.0	
10254- CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	×	5.93	73.65	20.27	3.98	65.0	± 9.6 %
		Y	7.09	82.86	26.51		65.0	
		Z	5.76	75.13	22.28		65.0	

10255- CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	6.13	76.89	21.33	3.98	65.0	± 9.6 %
		Y	22.24	111.88	36.31		65.0	
		Z	6.94	82.22	24.80		65.0	
10256- CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	Х	4.46	72.23	15.83	3.98	65.0	± 9.6 %
		Y	100.00	121.25	31.39		65.0	
		Z	11.37	89.76	24.19		65.0	
10257- CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	4.16	70.86	15.07	3.98	65.0	± 9.6 %
		Y	100.00	119.86	30.76		65.0	
		Z	9.33	85.94	22.74		65.0	
10258- CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	3.29	69.56	14.55	3.98	65.0	± 9.6 %
		Y	100.00	127.44	33.46		65.0	
		Z	15.22	98.84	27.43		65.0	
10259- CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	4.98	73.11	18.35	3.98	65.0	± 9.6 %
		Y	30.79	114.92	34.97		65.0	
		Z	6.02	79.75	23.07		65.0	
10260- CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	5.00	72.84	18.22	3.98	65.0	± 9.6 %
		Y	21.82	107.57	32.81		65.0	
5.2		Z	5.94	79.01	22.75		65.0	
10261- CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	5.70	78.16	20.80	3.98	65.0	± 9.6 %
0/10		Y	100.00	144.55	43.34		65.0	
		Z	11.30	95.48	28.98		65.0	
10262- CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	5.59	74.89	20.36	3.98	65.0	± 9.6 %
		Y	13.45	100.60	32.69		65.0	
7		Z	6.07	79.51	23.99		65.0	
10263- CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	5.37	73.13	19.26	3.98	65.0	± 9.6 %
		Y	8.73	89.04	28.02		65.0	
		Z	5.61	76.36	22.23		65.0	
10264- CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	6.22	79.19	21.93	3.98	65.0	± 9.6 %
<u> </u>		Y	100.00	146.87	45.17		65.0	
		Z	9.77	91.84	28.22		65.0	
10265- CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	5.68	73.18	19.88	3.98	65.0	± 9.6 %
		Y	6.90	82.70	26.25		65.0	
-		Z	5.63	75.17	21.99	10. 2. 01	65.0	
10266- CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	6.04	74.11	20.62	3.98	65.0	± 9.6 %
		Y	7.35	83.84	27.09		65.0	
		Z	5.95	75.95	22.69		65.0	
10267- CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	6.37	77.41	21.40	3.98	65.0	± 9.6 %
		Y	30.19	117.69	37.71		65.0	
		Z	7.69	83.94	25.19		65.0	
10268- CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	6.34	73.27	20.38	3.98	65.0	± 9.6 %
		Y	6.53	78.38	24.77		65.0	
		Z	6.07	74.12	21.80		65.0	
10269- CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	×	6.35	72.95	20.28	3.98	65.0	± 9.6 %
		Y	6.35	77.23	24.28		65.0	
		Z	6.00	73.46	21.55		65.0	
10270- CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	6.38	75.20	20.64	3.98	65.0	± 9.6 %
		Y	9.50	89.19	28.55		65.0	
		Z	6.59	78.01			65.0	

10274- CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.67	67.00	15.36	0.00	150.0	± 9.6 %
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y	10.84	98.97	30.38		150.0	
		Z	2.98	69.70	17.77		150.0	
10275- CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.70	67.97	15.87	0.00	150.0	± 9.6 %
		Y	100.00	167.59	50.63		150.0	
		Z	3.57	83.80	23.61		150.0	Landar A
10277- CAA	PHS (QPSK)	X	2.97	63.64	8.94	9.03	50.0	± 9.6 %
		Y	1.46	59.37	4.79		50.0	
		Z	1.77	61.03	6.66		50.0	
10278- CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	5.12	71.66	15.18	9.03	50.0	± 9.6 %
		Y	4.05	70.90	13.69		50.0	
		Z	39.09	105.24	26.82		50.0	
10279- CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	5.19	71.80	15.29	9.03	50.0	± 9.6 %
		Y	4.36	71.78	14.15		50.0	
		Z	38.18	104.98	26.85		50.0	
10290- AAB	CDMA2000, RC1, SO55, Full Rate	×	1.44	69.04	14.10	0.00	150.0	± 9.6 %
		Y	100.00	167.69	47.65		150.0	
14201		Z	100.00	132.24	33.89		150.0	
10291- AAB	CDMA2000, RC3, SO55, Full Rate	X	0.96	67.16	13.43	0.00	150.0	± 9.6 %
		Y	100.00	268.49	86.34		150.0	
10000		Z	100.00	140.46	36.17		150.0	
10292- AAB	CDMA2000, RC3, SO32, Full Rate	X	1.30	72.32	16.26	0.00	150.0	± 9.6 %
		Y	100.00	339.47	114.76		150.0	
		Z	100.00	148.22	39.44		150.0	
10293- AAB	CDMA2000, RC3, SO3, Full Rate	X	2.11	79.54	19.56	0.00	150.0	± 9.6 %
		Y	100.00	339.44	115.72		150.0	
		Z	100.00	153.47	41.91		150.0	
10295- AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	16.12	91.99	25.52	9.03	50.0	± 9.6 %
		Y	100.00	122.32	33.26		50.0	
72-2-1		Z	39.98	116.52	34.87		50.0	
10297- AAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	2.71	69.27	16,77	0.00	150.0	± 9.6 %
		Y	100.00	147.50	43.97		150.0	
		Z	4.07	77.55	20.99		150.0	
10298- AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.50	67.28	13.70	0.00	150.0	± 9.6 %
		Y	100.00	153.53	42.95		150.0	
40000	LTF FDD (00 FDL)	Z	9.87	97.83	26.35		150.0	
10299- AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	×	7.67	88.02	21.99	0.00	150.0	± 9.6 %
		Y	100.00	132.38	35.14		150.0	
10200	LTE EDD (OG EDM) 500 DD 5100	Z	70.95	120.54	31.58		150.0	
10300- AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	2.22	69.32	13.93	0.00	150.0	± 9.6 %
		Y	100.00	121.47	29.95		150.0	
10301-	IEEE 802.16e WiMAX (29:18, 5ms,	Z	4.30 4.70	76.94 65.88	17.78 17.62	4.17	150.0 50.0	± 9.6 %
AAA	10MHz, QPSK, PUSC)	1.00						
		Y	5.31	70.07	20.92		50.0	
10302-	IEEE 802.16e WiMAX (29:18, 5ms,	Z	5.01	66.67	18.68		50.0	
AAA	10MHz, QPSK, PUSC, 3 CTRL symbols)	X	5.22	66.65	18.43	4.96	50.0	± 9.6 %
		Y	5.51	69.33	20.92		50.0	
		Z	5.36	66.61	19.00		50.0	

10303- AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	4.99	66.34	18.26	4.96	50.0	± 9.6 %
		Y	5.24	69.04	20.80		50.0	
		Z	5.09	66.24	18.85		50.0	
10304- AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	4.78	66.12	17.70	4.17	50.0	± 9.6 %
		Y	5.17	69.49	20.64		50.0	
		Z	4.92	66.22	18.41		50.0	
10305- AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	4.77	69.59	20.25	6.02	35.0	± 9.6 %
		Y	5.41	75.27	24.15		35.0	
		Z	4.44	68.01	20.57		35.0	
10306- AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	4.91	67.94	19.68	6.02	35.0	± 9.6 %
		Y	5.18	71.41	22.58		35.0	
		Z	4.78	66.92	20.02		35.0	
	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	4.82	68.09	19.65	6.02	35.0	± 9.6 %
		Y	5.14	71.94	22.72		35.0	
		Z	4.68	67.17	20.04		35.0	
10308- AAA		X	4.82	68.38	19.84	6.02	35.0	± 9.6 %
		Y	5.19	72.52	23.06		35.0	
1		Z	4.65	67.35	20.17		35.0	
10309- AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	4.93	68.02	19.77	6.02	35.0	± 9.6 %
		Y	5.24	71.67	22.76		35.0	
		Z	4.85	67.23	20.21		35.0	
10310- AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	4.88	68.05	19.70	6.02	35.0	± 9.6 %
		Y	5.17	71.72	22.69		35.0	
		Z	4.72	66.99	20.00		35.0	
10311- AAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.07	68.61	16.42	0.00	150.0	± 9.6 %
		Y	79.81	135.69	40.32		150.0	
		Z	4.40	75.62	20.03		150.0	
10313- AAA	iDEN 1:3	X	4.61	77.72	19.35	6.99	70.0	± 9.6 %
		Y	100.00	134.35	35.76		70.0	
		Z	100.00	127.14	32.92		70.0	
10314- AAA	iDEN 1:6	Х	6.77	85.06	24.68	10.00	30.0	± 9.6 %
		Y	100.00	145.94	42.34		30.0	
		Z	100.00	139.62	39.85		30.0	
10315- AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.23	63.78	15.26	0.17	150.0	± 9.6 %
		Y	48.91	185.97	63.30		150.0	
		Z	1.24	69.36	20.19		150.0	
10316- AAB	IEEE 802.11g WiFi 2.4 GHz (ERP- OFDM, 6 Mbps, 96pc duty cycle)	X	4.57	66.83	16.36	0.17	150.0	± 9.6 %
		Y	4.90	70.05	19.66		150.0	
		Z	4.74	67.44	17.35		150.0	
10317- AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.57	66.83	16.36	0.17	150.0	± 9.6 %
		Y	4.90	70.05	19.66		150.0	
		Z	4.74	67.44	17.35		150.0	
10400- AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.64	67.16	16.41	0.00	150.0	± 9.6 %
		Y	5.05	70.58	19.72		150.0	
		Z	4.88	67.82	17.32		150.0	
10401- AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	5.31	67.01	16.43	0.00	150.0	± 9.6 %
		Y	5.74	69.83	19.29		150.0	
		Z	5.60	67.93	17.40		150.0	

10402- AAD	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.65	67.55	16.59	0.00	150.0	± 9.6 %
7.1.12	1	Y	5.92	69.59	19.00		150.0	
		Z	5.83	68.10	17.32		150.0	
10403- AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	1.44	69.04	14.10	0.00	115.0	± 9.6 %
AAD		Y	100.00	167.69	47.65		115.0	
		Z	100.00	132.24	33.89		115.0	
10404	CDMA2000 (1-FV DO Boy A)					0.00		1000
10404- AAB	CDMA2000 (1xEV-DO, Rev. A)	X	1.44	69.04	14.10	0.00	115.0	± 9.6 %
		Y	100.00	167.69	47.65		115.0	
	The state of the s	Z	100.00	132.24	33.89		115.0	
10406- AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	100.00	157.31	45.09	0.00	100.0	± 9.6 %
		Y	100.00	156.13	45.96		100.0	
		Z	100.00	136.83	37.30		100.0	
10410- AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	X	100.00	147.71	41.95	3.23	80.0	± 9.6 %
		Y	100.00	182.38	56.63		80.0	
		Z	100.00	142.83	39.60		80.0	
10415- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.17	63.30	14.91	0.00	150.0	± 9.6 %
7.0.0.1	mapa, aspes and, systey	Y	24.98	166.87	58.63		150.0	
		Z	1.16	68.25	19.44		150.0	
10416-	IEEE 802.11g WiFi 2.4 GHz (ERP-	X	4.53	66.89	16.35	0.00		1000
AAA	OFDM, 6 Mbps, 99pc duty cycle)		1000			0.00	150.0	± 9.6 %
		Y	4.87	70.15	19.64		150.0	
10117		Z	4.69	67.43	17.26		150.0	
10417- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.53	66.89	16.35	0.00	150.0	± 9.6 %
		Y	4.87	70.15	19.64		150.0	
	A Landard Company of the Company of	Z	4.69	67.43	17.26		150.0	
10418- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	X	4.53	67.09	16.41	0.00	150.0	± 9.6 %
		Y	4.92	70.65	19.84		150.0	
		Z	4.69	67.64	17.31		150.0	
10419- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.54	67.02	16.40	0.00	150.0	± 9.6 %
		Y	4.91	70.44	19.75	-	150.0	
		Z	4.71	67.57	17.30		150.0	
10422- AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.65	67.01	16.41	0.00	150.0	± 9.6 %
		Y	4.98	70.13	19.59		150.0	
	Pedao - Longo	Z	4.82	67.51	17.27		150.0	
10423- AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.78	67.26	16.49	0.00	150.0	± 9.6 %
		Y	5.15	70.46	19.68		150.0	
		Z	5.01	67.86	17.39		150.0	
10424-	IEEE 802.11n (HT Greenfield, 72.2	X	4.71	67.21	16.47	0.00	150.0	+060/
AAB	Mbps, 64-QAM)	Y	11177	1000		0.00	Est. 4	± 9.6 %
			5.09	70.51	19.72		150.0	
10425- AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	Z X	4.93 5.33	67.83 67.41	17.38 16.65	0.00	150.0 150.0	± 9.6 %
		Y	5.75	70.27	10.51		450.0	
		Z	5.75	70.27	19.54		150.0	
10426-	IEEE 802.11n (HT Greenfield, 90 Mbps,		5.57	68.18	17.53	0.00	150.0	1100 - 1
AAB	16-QAM)	X	5.35	67.50	16.69	0.00	150.0	± 9.6 %
		Y	5.96	71.01	19.90		150.0	
		Z	5.59	68.24	17.56		150.0	

10427- AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	Х	5.31	67.29	16.58	0.00	150.0	± 9.6 %
		Y	5.73	70.13	19.47		150.0	
	Por Superior Control of the Control	Z	5.58	68.13	17.50		150.0	
10430- AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.19	71.23	18.04	0.00	150.0	± 9.6 %
		Y	16.02	102.21	31.95		150.0	
		Z	4.91	74.11	20.54		150.0	
10431- AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.14	67.45	16.25	0.00	150.0	± 9.6 %
		Y	4.98	73.42	20.89		150.0	
		Z	4.46	68.44	17.52		150.0	
10432- AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.47	67.30	16.40	0.00	150.0	± 9.6 %
		Y	4.99	71.46	20.12		150.0	
		Z	4.72	68.03	17.43		150.0	
10433- AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	Х	4.72	67.24	16.49	0.00	150.0	±9.6 %
		Y	5.11	70.54	19.74		150.0	
		Z	4.94	67.87	17.40		150.0	
10434-	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.26	72.03	17.88	0.00	150.0	±9.6 %
AAA	TO THE PROPERTY OF STREET, ALCOHOLOGY, MAN AND ADDRESS.	Y	86.61	134.15	39.78	12/21	150.0	-3.9 70
		Z	5.32	75.97	20.91		150.0	
10435- AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	147.37	41.79	3.23	80.0	± 9.6 %
		Y	100.00	182.03	56.46		80.0	
		Z	100.00	142.57	39.48		80.0	
10447- AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.39	67.36	15.28	0.00	150.0	±9.6 %
		Y	6.31	81.96	23.56		150.0	
		Z	3.88	69.36	17.36		150.0	
10448- AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	X	4.01	67.25	16.13	0.00	150.0	± 9.6 %
		Y	4.84	73.40	20.90		150.0	
		Z	4.29	68.25	17.41		150.0	
10449- AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	Х	4.31	67.12	16.30	0.00	150.0	± 9.6 %
		Y	4.84	71.52	20.19		150.0	
		Z	4.52	67.91	17.37		150.0	
10450- AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	Х	4.52	67.03	16.35	0.00	150.0	± 9.6 %
		Y	4.91	70.51	19.74		150.0	
		Z	4.70	67.68	17.30		150.0	
10451- AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	×	3.21	67.28	14.69	0.00	150.0	± 9.6 %
	1-16-16	Y	9.18	88.88	25.28		150.0	
		Z	3.88	70.03	17.20		150.0	
10456- AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.25	67.96	16.82	0.00	150.0	± 9.6 %
		Y	6.79	70.57	19.43		150.0	
		Z	6.43	68.52	17.53		150.0	
10457- AAA	UMTS-FDD (DC-HSDPA)	×	3.89	65.65	16.07	0.00	150.0	± 9.6 %
		Y	4.04	68.61	19.47		150.0	
		Z	3.89	66.00	17.02		150.0	Marie L.
10458- AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.78	70.72	16.79	0.00	150.0	± 9.6 %
1		Y	100.00	135.03	39.05		150.0	
		Z	4.92	75.32	20.38		150.0	
10459- AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.84	68.36	17.55	0.00	150.0	± 9.6 %
1 - 1 - 1		Y	6.74	77.14	23.30		150.0	

10460- AAA	UMTS-FDD (WCDMA, AMR)	X	1.02	67.53	16.31	0.00	150.0	± 9.6 %
7777		Y	100.00	268.38	89.96		150.0	
		Z	100.00	165.50	47.42		150.0	
10461- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	×	30.29	128.32	38.39	3.29	80.0	± 9.6 %
		Y	100.00	227.54	75.96		80.0	1
		Z	100.00	156.67	45.76		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	132.43	34.11	3.23	80.0	± 9.6 %
		Y	100.00	189.47	58.20		80.0	
		Z	100.00	128.13	32.45		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	125.96	31.09	3.23	80.0	± 9.6 %
		Y	100.00	181.08	54.22		80.0	
10101	LTE TOD (OO FOLK) A DD OAK	Z	100.00	120.08	28.81		80.0	
10464- AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	86.49	146.66	42.03	3.23	80.0	± 9.6 %
		Y	100.00	235.38	78.70		80.0	
10105	1 TE TOO 100 PD111	Z	100.00	155.27	44.82		80.0	
10465- AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	131.34	33.60	3.23	80.0	± 9.6 %
		Y	100.00	186.94	57.07		80.0	
10400	LITE TOD (OC FOMA 4 DD CAN)	Z	100.00	126.73	31.81		80.0	
10466- AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	124.72	30.55	3.23	80.0	± 9.6 %
		Y	100.00	176.97	52.47		80.0	
10467-	LTC TDD (CC CDMA 4 DD E MIL-	Z	100.00	118.66	28.18	0.00	80.0	
AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	149.70	42.78	3.23	80.0	± 9.6 %
		Y	100.00	236.58	79.22		80.0	
10460	LTE TOD (CO FDMA 4 DD 5 MIL 40	Z	100.00	155.78	45.04		80.0	
10468- AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	131.79	33.80	3.23	80.0	± 9.6 %
		Y	100.00	188.21	57.62		80.0	
10469-	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-	Z	100.00	127.23	32.03	0.00	80.0	
AAE	QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	124.92	30.63	3.23	80.0	± 9.6 %
		Y	100.00	177.66	52.75		80.0	
10470-	LTE-TDD (SC-FDMA, 1 RB, 10 MHz,	Z	100.00	118.74	28.21	0.00	80.0	20.000
AAE	QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	149.81	42.82	3.23	80.0	± 9.6 %
		Y	100.00	237.48	79.57		80.0	
10471- AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	Z	100.00	155.98 131.76	45.11 33.78	3.23	80.0	± 9.6 %
7 0 112	Q 111, 02 Odbitatio-2,5,4,7,0,3)	Y	100.00	188.41	57.69		90.0	
		Z	100.00	127.14	31.98		80.0	
10472- AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	124.86	30.60	3.23	80.0 80.0	± 9.6 %
	=151.11.1515/	Υ	100.00	177.88	52.83		80.0	
		Z	100.00	118.64	28.16		80.0	
10473- AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	149.79	42,80	3.23	80.0	± 9.6 %
		Y	100.00	237.45	79.56		80.0	
		Z	100.00	155.92	45.09		80.0	
10474- AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	131.79	33.79	3.23	80.0	± 9.6 %
		Y	100.00	188.70	57.80	-	80.0	
10175	175 755 /03	Z	100.00	127.19	32.00		80.0	
10475- AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	124.90	30.61	3.23	80.0	± 9.6 %
		Y	100.00	178.11	52.92		80.0	
		Z	100.00	118.68	28.17		80.0	

10477- AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	131.48	33.65	3.23	80.0	± 9.6 %
		Y	100.00	188.07	57.51		80.0	
		Z	100.00	126.79	31.81		80.0	
10478- AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	124.73	30.54	3.23	80.0	± 9.6 %
		Y	100.00	177.85	52.80		80.0	
		Z	100.00	118.54	28.11		80.0	
10479- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	21.69	110.19	32.27	3.23	80.0	± 9.6 %
		Y	100.00	165.12	51.20		80.0	
		Z	100.00	139.63	40.30		80.0	
10480- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	125.84	33.24	3.23	80.0	± 9.6 %
1.50		Y	100.00	141.46	40.32		80.0	
		Z	100.00	126.11	33.98		80.0	
10481- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	100.00	123.10	31.88	3.23	80.0	± 9.6 %
		Y	100.00	137.55	38.41		80.0	
		Z	100.00	123.64	32.75		80.0	
10482- AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.17	67.58	14.46	2.23	80.0	± 9.6 %
		Y	100.00	149.15	42.74		80.0	
		Z	100.00	131.37	35.78		80.0	
10483- AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	10.85	87.56	21.98	2.23	80.0	± 9.6 %
		Y	100.00	133.92	37.04		80.0	
		Z	100.00	125.29	33.83		80.0	
10484- AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	8.19	83.39	20.60	2.23	80.0	± 9.6 %
		Υ	100.00	132.37	36.40		80.0	
		Z	100.00	124.74	33.65		80.0	
10485- AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.64	69.84	16.61	2.23	80.0	± 9.6 %
		Y	100.00	154.16	46.03		80.0	
		Z	38.17	118.90	34.32		80.0	
10486- AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.67	66.93	14.51	2.23	80.0	± 9.6 %
7.7.7		Y	100.00	135.10	38.01		80.0	
		Z	7.94	86.47	24.06		80.0	
10487- AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	Х	2.67	66.60	14.31	2.23	80.0	± 9.6 %
		Y	100.00	133.67	37.44		80.0	
		Z	7.07	84.08	23.21		80.0	
10488- AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.05	69.91	17.60	2.23	80.0	± 9.6 %
		Y	100.00	150.55	45.87		80.0	
4.10		Z	8.12	89.97	26.75		80.0	
10489- AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	Х	3.21	67.77	16.46	2.23	80.0	± 9.6 %
		Y	100.00	141.09	42.34		80.0	
		Z	4.54	75.71	21.43		80.0	
10490- AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.29	67.69	16.41	2.23	80.0	± 9.6 %
		Y	100.00	139.78	41.89		80.0	
		Z	4.51	74.82	21.04		80.0	
10491- AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	×	3.40	69.16	17.47	2.23	80.0	± 9.6 %
		Y	100.00	144.25	43.91		80.0	
		Z	5.70	80.39	23.33		80.0	4
10492- AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.60	67.37	16.69	2.23	80.0	± 9.6 %
		Y	11.08	94.67	30.08		80.0	
		Z	4.34	72.10	20.09		80.0	

10493- AAE		1 44			10.00	0.00	00.0	
	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.66	67.29	16.65	2.23	80.0	± 9.6 %
		Y	9.83	91.62	28.99	1	80.0	
		Z	4.36	71.66	19.89		80.0	
10494- AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.57	70.14	17.82	2.23	80.0	± 9.6 %
		Y	100.00	143.73	43.57		80.0	
		Z	7.48	85.35	24.92		80.0	
10495- AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.62	67.57	16.87	2.23	80.08	± 9.6 %
		Y	11.53	95.88	30.63		80.0	
		Z	4.46	72.87	20.46		80.0	
10496- AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.71	67.43	16.84	2.23	80.0	± 9.6 %
		Y	9.36	90.73	28.85		80.0	
		Z	4.43	72.03	20.10		80.0	
10497- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.56	63.60	11.39	2.23	80.0	± 9.6 %
		Y	100.00	137.64	36.75		80.0	
		Z	100.00	126.22	32.89		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	8.26	2.23	80.0	± 9.6 %
		Y	100.00	105.27	22.62		80.0	
	The state of the s	Z	8.37	83.55	19.67		80.0	
10499- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL	X	1.32	60.00	8.09	2.23	80.0	± 9.6 %
	Subframe=2,3,4,7,8,9)	W	400.00	400.47	04.04		00.0	
		Y	100.00	102.17	21.24		80.0	
10500-	LTE-TDD (SC-FDMA, 100% RB, 3 MHz,	Z	5.44	77.62	17.52	0.00	80.0	0.00
AAB	QPSK, UL Subframe=2,3,4,7,8,9)	X	2.80	69.82	16.99	2.23	80.0	± 9.6 %
		Y	100.00	151.96	45.66		80.0	
10501	LTE TOD (CC FDMA 4000) DB CANIL	Z	13.13	99.69	29.44		80.0	
10501- AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.93	67.50	15.34	2.23	80.0	± 9.6 %
		Y	100.00	136.97	39.47		80.0	
		Z	5.76	80.70	22.57		80.0	
10502- AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.97	67.38	15.21	2.23	80.0	± 9.6 %
		Y	100.00	135.40	38.81		80.0	1
		Z	5.69	79.92	22.18		80.0	110000
10503- AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.03	69.77	17.53	2.23	80.0	± 9.6 %
		Y	100.00	150.48	45.82		80.0	
72.21		Z	7.88	89.44	26.56		80.0	1
10504- AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.20	67.70	16.40	2.23	80.0	± 9.6 %
		Y	100.00	140.97	42.28		80.0	
		Z	4.51	75.56	21.35		80.0	
10505- AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.28	67.62	16.36	2.23	80.0	± 9.6 %
		Y	100.00	139.68	41.83		80.0	
10.20		Z	4.47	74.67	20.96		80.0	
10506- AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.55	70.05	17.76	2.23	80.0	± 9.6 %
		Y	100.00	143.63	43.52		80.0	
		Z	7.35	85.02	24.79		80.0	
			The second secon					
10507- AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2.3.4.7.8.9)	X	3.60	67.52	16.84	2.23	80.0	± 9.6 %
10507-			3.60	95.64	30.54	2.23	80.0	± 9.6 %

10508- AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.70	67.38	16.80	2.23	80.0	± 9.6 %
		Y	9.23	90.42	28.73		80.0	
		Z	4.41	71.94	20.05		80.0	
10509- AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.01	69.47	17.53	2.23	80.0	± 9.6 %
		Y	53.57	125.53	38.61		80.0	
		Z	6.08	78.49	22.24		80.0	
10510- AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.10	67.43	16.97	2.23	80.0	± 9.6 %
		Y	6.91	81.81	25.51		80.0	
		Z	4.71	71.13	19.66		80.0	
10511- AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.18	67.30	16.94	2.23	80.0	± 9.6 %
		Y	6.46	79.80	24.71		80.0	
		Z	4.68	70.51	19.41		80.0	
10512- AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.04	70.41	17.82	2.23	80.0	± 9.6 %
	1319	Y	100.00	138.39	41.56	-	80.0	
		Z	7.77	83.71	24.02		80.0	
10513- AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.98	67.51	17.01	2.23	80.0	± 9.6 %
		Y	7.39	84.17	26.51		80.0	
		Z	4.68	71.90	20.02		80.0	
10514- AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.03	67.25	16.94	2.23	80.08	± 9.6 %
		Y	6.57	81.06	25.32		80.0	
		Z	4.59	70.95	19.65		80.0	
10515- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	1.13	63.45	14.97	0.00	150.0	± 9.6 %
		Y	100.00	212.37	69.78		150.0	
		Z	1.15	69.27	20.00		150.0	
10516- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.71	67.89	16.98	0.00	150.0	± 9.6 %
		Y	99.96	250.00	60.00		150.0	
		Z	100.00	203.45	60.50		150.0	
10517- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	X	0.97	64.91	15.54	0.00	150.0	± 9.6 %
	- 3	Y	100.00	250.98	84.10		150.0	
		Z	1.77	85.15	26.99		150.0	
10518- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.52	66.99	16.35	0.00	150.0	± 9.6 %
		Y	4.90	70.44	19.72		150.0	
		Z	4.69	67.55	17.26		150.0	
10519- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.67	67.16	16.43	0.00	150.0	± 9.6 %
		Y	5.05	70.50	19.72		150.0	
		Z	4.89	67.78	17.36		150.0	
10520- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.52	67.09	16.35	0.00	150.0	± 9.6 %
		Y	4.95	70.74	19.82		150.0	
		Z	4.75	67.81	17.33		150.0	
10521- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.46	67.05	16.33	0.00	150.0	± 9.6 %
		Y	4.89	70.83	19.88		150.0	
		Z	4.69	67.84	17.34	100	150.0	
10522- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.51	67.16	16.42	0.00	150.0	± 9.6 %
		Y	4.97	71.03	20.00		150.0	
		Z	4.74	67.90	17.41		150.0	

10523-	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48	X	4.44	67.18	16.36	0.00	150.0	± 9.6 %
AAB	Mbps, 99pc duty cycle)	Y	4.91	71.14	19.99		150.0	
		Z	4.62	67.80	17.28		150.0	
10524- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.46	67.13	16.42	0.00	150.0	± 9.6 %
	more, cope say of ere	Y	4.91	71.02	20.02		150.0	
		Z	4.69	67.84	17.39		150.0	117.7
10525- AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.49	66.26	16.03	0.00	150.0	± 9.6 %
		Y	4.95	69.92	19.51		150.0	
		Z	4.68	66.85	16.96		150.0	
10526- AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.61	66.52	16.15	0.00	150.0	± 9.6 %
	12 (V 1 1 1 V 1 V 1 V 1 V 1 V 1 V 1 V 1 V	Y	5.13	70.34	19.66		150.0	
		Z	4.87	67.27	17.11		150.0	
10527- AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.54	66.49	16.09	0.00	150.0	± 9.6 %
		Y	5.09	70.47	19.70		150.0	
10500	TEEE 000 44 2 WHEN 1001 III	Z	4.79	67.26	17.08		150.0	
10528- AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.56	66.51	16.12	0.00	150.0	± 9.6 %
		Y	5.09	70.44	19.71		150.0	
40500	IEEE OOD 44 - WEET (OOD WILL AND O	Z	4.81	67.28	17.11		150.0	
10529- AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.56	66.51	16.12	0.00	150.0	± 9.6 %
		Y	5.09	70.44	19.71		150.0	
10531-	IEEE 802.11ac WiFi (20MHz, MCS6,	Z	4.81	67.28	17.11	0.00	150.0	. 0 0 0/
AAB	99pc duty cycle)	X	4.52	66.52	16.10	0.00	150.0	± 9.6 %
		Y	5.10	70.68	19.80		150.0	
40500	IFFE 000 44 - MEE (000 H) - 11007	Z	4.81	67.45	17.16	2.12	150.0	
10532- AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.40	66.39	16.03	0.00	150.0	± 9.6 %
		Y	4.98	70.66	19.82		150.0	
10500	1555 000 14 NUST (001 III )	Z	4.67	67.33	17.11		150.0	
10533- AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.56	66.59	16.13	0.00	150.0	± 9.6 %
		Y	5.13	70.66	19.77		150.0	
10501	IFFE OOD 14 MITH LINE 1	Z	4.82	67.33	17.10		150.0	
10534- AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.12	66.52	16.18	0.00	150.0	± 9.6 %
		Y	5.53	69.34	19.09		150.0	
40505	1555 555 4 1405 4 1405	Z	5.33	67.19	17.03		150.0	
10535- AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.16	66.64	16.24	0.00	150.0	± 9.6 %
		Y	5.65	69.76	19.28		150.0	
10526	IEEE 002 44 co WEEL (4014) - 14000	Z	5.42	67.43	17.13	12.22	150.0	
10536- AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.05	66.64	16.22	0.00	150.0	± 9.6 %
		Y	5.54	69.84	19.32		150.0	
10537-	IEEE 802.11ac WiFi (40MHz, MCS3.	Z	5.28	67.38	17.10	0.00	150.0	
AAB	99pc duty cycle)	X	5.11	66.64	16.22	0.00	150.0	± 9.6 %
		Y	5.61	69.80	19.29		150.0	
10538-	IEEE 902 1100 WIE / 10 MILE 1400	Z	5.34	67.34	17.08		150.0	
AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.18	66.60	16.24	0.00	150.0	± 9.6 %
		Y	5.64	69.56	19.20		150.0	
10540-	IEEE 802.11ac WiFi (40MHz, MCS6,	Z	5.42	67.32	17.10	0.11	150.0	
AAB	99pc duty cycle)	X	5.11	66.56	16.24	0.00	150.0	± 9.6 %
		Y	5.52	69.41	19.17		150.0	
		Z	5.36	67.39	17.16		150.0	

10541- AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.10	66.48	16.18	0.00	150.0	± 9.6 %
		Y	5.45	69.13	19.01		150.0	
		Z	5.31	67.18	17.05		150.0	
10542- AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.25	66.58	16.25	0.00	150.0	± 9.6 %
		Y	5.63	69.21	19.03		150.0	
		Z	5.47	67.22	17.07		150.0	
10543- AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.32	66.66	16.31	0.00	150.0	±9.6 %
		Y	5.73	69.34	19.11		150.0	
		Z	5.56	67.29	17.12		150.0	
10544- AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.47	66.61	16.18	0.00	150.0	± 9.6 %
PY -		Y	5.78	68.80	18.70		150.0	
		Z	5.62	67.17	16.94		150.0	
10545- AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.64	67.03	16.35	0.00	150.0	± 9.6 %
	2000 1200 1200	Y	6.22	70.04	19.24		150.0	
		Z	5.88	67.78	17.18		150.0	
10546- AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.50	66.73	16.21	0.00	150.0	± 9.6 %
		Y	5.87	69.11	18.81		150.0	
39.32		Z	5.72	67.47	17.05		150.0	
10547- AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.58	66,84	16.26	0.00	150.0	± 9,6 %
	1124241/10	Y	6.07	69.60	19.03		150.0	
		Z	5.80	67.54	17.07		150.0	
10548- AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	5.71	67.41	16.53	0.00	150.0	± 9.6 %
		Y	6.85	72.09	20.16		150.0	
		Z	6.31	69.26	17.88		150.0	
10550- AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.56	66.91	16.32	0.00	150.0	± 9.6 %
		Y	6.17	70.09	19.30		150.0	
		Z	5.75	67.51	17.07		150.0	
10551- AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.49	66.70	16.17	0.00	150.0	± 9.6 %
		Y	5.87	69.09	18.78		150.0	
		Z	5.73	67.47	17.01		150.0	
10552- AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.48	66.73	16.19	0.00	150.0	± 9.6 %
		Y	5.80	68.94	18.71		150.0	
		Z	5.63	67.23	16.91		150.0	12.0
10553- AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.53	66.68	16.19	0.00	150.0	± 9.6 %
		Y	5.82	68.77	18.64		150.0	
		Z	5.71	67.24	16.94		150.0	
10554- AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.89	66.95	16.26	0.00	150.0	± 9.6 %
		Y	6.24	68.99	18.62	1177	150.0	
		Z	6.04	67.51	16.99		150.0	
10555- AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	5.98	67.17	16.36	0.00	150.0	± 9.6 %
		Y	6.47	69.63	18.91		150.0	
		Z	6.21	67.92	17.16		150.0	
10556- AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	6.02	67.28	16.41	0.00	150.0	± 9.6 %
		Y	6.51	69.75	18.95		150.0	ļ. —
		Z	6.22	67.93	17.16		150.0	
10557- AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	5.97	67.15	16.36	0.00	150.0	± 9.6 %
	2000 2000	Y	6.36	69.28	18.75		150.0	

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10558- AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	5.98	67.21	16.40	0.00	150.0	± 9.6 %
		Y	6.39	69,41	18.83		150.0	
		Z	6.24	68.02	17.24		150.0	
10560- AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	6.00	67,14	16.40	0.00	150.0	± 9.6 %
-	22 2 7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Y	6.37	69.22	18.77		150.0	
60.00		Z	6.21	67.77	17.16		150.0	
10561- AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	5.94	67.12	16.43	0.00	150.0	± 9.6 %
		Y	6.34	69.36	18.89		150.0	
		Z	6.14	67.80	17.21		150.0	
10562- AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	×	5.98	67.28	16.51	0.00	150.0	± 9.6 %
		Y	6.39	69.51	18.95		150.0	
		Z	6.32	68.34	17.48		150.0	
10563- AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	6.09	67.26	16.46	0.00	150.0	± 9.6 %
		Y	7.38	71.96	20.06		150.0	
		Z	6.72	69.10	17.80		150.0	
10564- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 9 Mbps, 99pc duty cycle)	X	4.84	67.04	16.50	0.46	150.0	± 9.6 %
		Y	5.12	69.74	19.39		150.0	
7225		Z	5.00	67.48	17.32		150.0	
10565- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 12 Mbps, 99pc duty cycle)	X	5.03	67.42	16.79	0.46	150.0	± 9.6 %
	the second was survived to	Y	5.34	70.19	19.69		150.0	
Various		Z	5.25	67.95	17.64		150.0	
10566- AAA	OFDM, 18 Mbps, 99pc duty cycle)	X	4.87	67.24	16.60	0.46	150.0	± 9.6 %
		Y	5.20	70.18	19.61		150.0	
		Z	5.09	67.84	17.49		150.0	1172
10567- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 99pc duty cycle)	X	4.90	67.58	16.94	0.46	150.0	± 9.6 %
		Y	5.28	70.87	20.16		150.0	
		Z	5.13	68.31	17.89		150.0	77.7
10568- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 99pc duty cycle)	X	4.77	67.00	16.37	0.46	150.0	± 9.6 %
		Y	5.10	69.94	19.37		150.0	
		Z	4.99	67.60	17.25		150.0	
10569- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 99pc duty cycle)	X	4.88	67.78	17.05	0.46	150.0	± 9.6 %
		Y	5.31	71.34	20.44		150.0	
72007		Z	5.08	68.42	17.97		150.0	
10570- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 99pc duty cycle)	X	4.89	67.60	16.97	0.46	150.0	± 9.6 %
		Y	5.28	70.91	20.21		150.0	
1057		Z	5.11	68.22	17.87		150.0	
10571- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	Х	1.29	64.06	15.41	0.46	130.0	± 9.6 %
		Y	39.01	176.86	60.78		130.0	
10570	IEEE 000 441	Z	1.31	69.79	20.44		130.0	
10572- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	×	1.30	64.47	15.68	0.46	130.0	± 9.6 %
		Y	100.00	206.48	67.90		130.0	
10573-	IEEE 900 445 WEEE 9 4 900 1000	Z	1.37	71.27	21.27		130.0	
10573- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	1.13	72.95	19.31	0.46	130.0	± 9.6 %
		Y	100.00	531.14	193.89		130.0	
10574-	IEEE 902 445 WIE C 4 GU 15005	Z	100.00	192.03	57.17		130.0	
AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.29	68.03	17,69	0.46	130.0	± 9.6 %
		Y	100.00	237.32	79.79		130.0	
		Z	4.23	102.32	10.10		130.0	

10575- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 90pc duty cycle)	X	4.61	66.75	16.46	0.46	130.0	± 9.6 %
		Y	4.89	69.69	19.60		130.0	
		Z	4.78	67.29	17.42		130.0	-
10576- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 9 Mbps, 90pc duty cycle)	X	4.64	66.95	16.54	0.46	130.0	± 9.6 %
		Y	4.95	70.06	19.77		130.0	
		Z	4.81	67.49	17.50		130.0	
10577- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 12 Mbps, 90pc duty cycle)	X	4.80	67.16	16.68	0.46	130.0	± 9.6 %
		Y	5.13	70.24	19.85		130.0	
		Z	5.03	67.79	17.66		130.0	
10578- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 18 Mbps, 90pc duty cycle)	X	4.70	67.28	16.77	0.46	130.0	± 9.6 %
		Y	5.09	70.76	20.18		130.0	
		Z	4.93	68.04	17.82		130.0	
10579- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 90pc duty cycle)	X	4.47	66.55	16.09	0.46	130.0	± 9.6 %
		Y	4.78	69.67	19.29		130.0	
		Z	4.68	67.27	17.10		130.0	
10580- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 90pc duty cycle)	X	4.50	66.61	16.11	0.46	130.0	± 9.6 %
		Y	4.83	69.78	19.33		130.0	
		Z	4.73	67.29	17.11	T I	130.0	
10581- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 90pc duty cycle)	X	4.62	67.36	16.75	0.46	130.0	± 9.6 %
		Y	5.05	71.16	20.34		130.0	
		Z	4.84	68.14	17.81		130.0	
10582- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 90pc duty cycle)	Х	4.40	66.35	15.90	0.46	130.0	± 9.6 %
		Y	4.70	69.39	19.04		130.0	
		Z	4.63	67.01	16.87		130.0	
10583- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	Х	4.61	66.75	16.46	0.46	130.0	± 9.6 %
		Y	4.89	69.69	19.60		130.0	
		Z	4.78	67.29	17.42		130.0	
10584- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.64	66.95	16.54	0.46	130.0	± 9.6 %
		Y	4.95	70.06	19.77		130.0	
		Z	4.81	67.49	17.50		130.0	
10585- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	Х	4.80	67.16	16.68	0.46	130.0	± 9.6 %
		Y	5.13	70.24	19.85		130.0	
		Z	5.03	67.79	17.66		130.0	
10586- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.70	67.28	16.77	0.46	130.0	± 9.6 %
		Y	5.09	70.76	20.18		130.0	
		Z	4.93	68.04	17.82		130.0	
10587- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	Х	4.47	66.55	16.09	0.46	130.0	± 9.6 %
		Y	4.78	69.67	19.29		130.0	
		Z	4.68	67.27	17.10		130.0	
10588- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.50	66.61	16.11	0.46	130.0	± 9.6 %
		Y	4.83	69.78	19.33		130.0	
		Z	4.73	67.29	17.11		130.0	
10589- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	Х	4.62	67.36	16.75	0.46	130.0	± 9.6 %
		Y	5.05	71.16	20.34		130.0	
		Z	4.84	68.14	17.81		130.0	
10590- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.40	66.35	15.90	0.46	130.0	± 9.6 %
AAB	1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7						-	
		Y	4.70	69.39	19.04		130.0	

10591-	IEEE 802.11n (HT Mixed, 20MHz,	X	4.77	66.84	16.58	0.46	130.0	± 9.6 %
AAB	MCS0, 90pc duty cycle)	Y	5.01	69.51	19.56		130.0	
		Z	4.92	67.30	17.48		130.0	
10592- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	4.89	67.12	16.70	0.46	130.0	± 9.6 %
V ID	moon, sope day eyeley	Y	5.17	69.92	19.71		130.0	
		Z	5.09	67.67	17.62	III TO THE	130.0	
10593- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.81	67.00	16.57	0.46	130.0	± 9.6 %
		Y	5.10	69.86	19.61		130.0	
		Z	5.02	67.60	17.51	10000	130.0	
10594- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	4.86	67.16	16.72	0.46	130.0	±9.6 %
		Y	5.16	70.08 67.77	19.80 17.67		130.0	
10595-	IEEE 802.11n (HT Mixed, 20MHz,	Z	5,07 4.83	67.15	16.64	0.46	130.0	± 9.6 %
AAB	MCS4, 90pc duty cycle)	Y	5.15	70.14	19.75	0.40	130.0	£ 9.0 %
_		Z	5.04	67.74	17.58		130.0	
10596- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	4.76	67.11	16.63	0.46	130.0	± 9.6 %
	25, 57, 57, 57, 57	Y	5.09	70.21	19.81		130,0	
		Z	4.98	67.77	17.60		130.0	
10597- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	4.71	66.99	16.49	0.46	130.0	± 9.6 %
		Y	5.04	70.07	19.66		130.0	
		Z	4.93	67.68	17.49	-	130.0	
10598- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.70	67.18	16.73	0.46	130.0	± 9.6 %
		Y	5.05	70.51	20.07		130.0	
10500	1555 000 44 - (1514) - 1 401411	Z	4.92	67.97	17.79	0.10	130.0	
10599- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.45	67.31	16.83	0.46	130.0	± 9.6 %
		Y	5.92 5.63	70.28 67.84	19.80 17.64		130.0	
10600- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.54	67.64	16.98	0.46	130.0	± 9.6 %
		Y	6.41	71.93	20.55		130.0	
		Z	5.89	68.70	18.04		130.0	
10601- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.45	67.44	16.89	0,46	130.0	± 9.6 %
		Y	5.92	70.44	19.87		130.0	
		Z	5.71	68.21	17.81		130.0	
10602- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.54	67.48	16.83	0.46	130.0	± 9.6 %
		Y	6.08	70.62	19.84		130.0	
10603- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	Z X	5.80 5.61	68.19 67.75	17.71 17.10	0.46	130.0	± 9.6 %
	se i, sope daily oftio)	Y	6.25	71.29	20.32		130.0	
		Z	5.86	68.45	17.97		130.0	
10604- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.49	67.39	16.90	0.46	130.0	± 9.6 %
		Y	6.11	70.89	20.12		130.0	
		Z	5.62	67.77	17.62		130.0	
10605- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.54	67.52	16.97	0.46	130.0	± 9.6 %
		Y	6.18	71.09	20.21		130.0	
10606-	IEEE 802.11n (HT Mixed, 40MHz,	Z	5.81	68.36	17.92	0.15	130.0	1222
AAB	MCS7, 90pc duty cycle)	X	5.33	67.01	16.57	0.46	130.0	± 9.6 %
		Y	5.76	69.87	19.47		130.0	
		Z	5.50	67.51	17.36		130.0	

10607- AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	×	4.61	66.18	16.22	0.46	130.0	± 9.6 %
		Y	4.99	69.45	19.52		130.0	
		Z	4.80	66.76	17.19		130.0	
10608- AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.75	66.49	16.35	0.46	130.0	± 9.6 %
		Y	5.19	69.93	19.71		130.0	
	THE RESERVE AND ADDRESS OF THE PARTY OF THE	Z	5.00	67.21	17.36		130.0	
10609- AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.65	66.34	16.19	0.46	130.0	± 9.6 %
		Y	5.10	69.85	19.59		130.0	
		Z	4.89	67.08	17.22		130.0	
10610- AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.69	66.48	16.34	0.46	130.0	± 9.6 %
		Y	5.16	70.05	19.78		130.0	
		Z	4.95	67.26	17.39		130.0	
10611- AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	×	4.61	66.29	16.20	0.46	130.0	± 9.6 %
	No Control of the Con	Y	5.06	69.84	19.63		130.0	
		Z	4.86	67.06	17.24		130.0	
10612- AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.60	66.41	16.24	0.46	130.0	± 9.6 %
		Y	5.10	70.22	19.79		130.0	
		Z	4.88	67.27	17.31		130.0	
10613- AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.60	66.25	16.09	0.46	130.0	± 9.6 %
		Y	5.06	69.85	19.53		130.0	
		Z	4.88	67.13	17.18		130.0	
10614- AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.56	66.43	16.31	0.46	130.0	± 9.6 %
	Ch. Ch. A.M. Ch. Ch.	Y	5.06	70.34	19.95		130.0	
		Z	4.83	67.37	17.45		130.0	
10615- AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.61	66,17	15.99	0.46	130.0	± 9.6 %
		Y	5.04	69.57	19.32		130.0	
		Z	4.86	66.85	16.99		130.0	
10616- AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.25	66.49	16.40	0.46	130.0	± 9.6 %
		Y	5.64	69.19	19.26		130.0	
		Z	5.47	67.18	17.30		130.0	
10617- AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.29	66.60	16.44	0.46	130.0	± 9.6 %
	1 1 2 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Y	5.83	69.82	19.54		130.0	
		Z	5.57	67.45	17.40		130.0	
10618- AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	×	5.20	66.66	16.48	0.46	130.0	± 9.6 %
	1, 2 (1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	Y	5.70	69.84	19.59		130.0	
		Z	5.44	67.45	17.43		130.0	
10619- AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	×	5.23	66.52	16.34	0.46	130.0	± 9.6 %
		Y	5.73	69.64	19.40		130.0	_
		Z	5.46	67.24	17.25		130.0	
10620- AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	Х	5.29	66.51	16.38	0.46	130.0	± 9.6 %
		Y	5.75	69,42	19.33		130.0	
		Z	5.55	67.25	17.30		130.0	
10621- AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	×	5.30	66.59	16.54	0.46	130.0	± 9.6 %
-		Y	5.69	69.32	19.43		130.0	
		Z	5.53	67.33	17.46		130.0	
10622- AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	5.29	66.68	16.58	0.46	130.0	± 9.6 %
		Y	5.69	69.47	19.50		130.0	
		Z	5.59	67.66	17.62		130.0	

10623- AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.18	66.28	16.25	0.46	130.0	± 9.6 %
		Y	5.50	68.71	18.98		130.0	
		Z	5.42	67.02	17.18		130.0	
10624- AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.38	66.52	16.43	0.46	130.0	± 9.6 %
		Y	5.76	69.09	19.20		130.0	
		Z	5.62	67.23	17.34		130.0	
10625- AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	5.46	66.64	16.55	0.46	130.0	± 9.6 %
		Y	5.89	69.35	19.38		130.0	
		Z	6.16	68.72	18.11		130.0	
10626- AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	X	5.59	66.53	16.36	0.46	130.0	± 9.6 %
		Y	5.90	68.67	18.87		130.0	
		Z	5.75	67.11	17.17		130.0	
10627- AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.80	67.11	16.63	0.46	130.0	± 9.6 %
		Y	6.49	70.42	19.67		130.0	
		Z	6.08	67.95	17.53		130.0	
10628- AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.58	66.53	16.27	0.46	130.0	± 9.6 %
	1	Y	5.94	68.81	18.83		130.0	
		Z	5.81	67.30	17.16		130.0	
10629- AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	×	5.68	66.71	16.36	0.46	130.0	± 9.6 %
		Y	6.19	69.43	19.12		130.0	
		Z	5.91	67.42	17.20		130.0	
10630- AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	×	5.90	67.55	16.79	0.46	130.0	± 9.6 %
		Y	7.22	72.66	20.63		130.0	
		Z	6.74	70.04	18.48		130.0	
10631- AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	×	5.87	67.55	16.96	0.46	130.0	± 9.6 %
		Y	6.54	70.88	20.03		130.0	
		Z	6.36	69.06	18.21		130.0	
10632- AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.80	67.25	16.83	0.46	130.0	± 9.6 %
		Y	6.57	70.92	20.07		130.0	
		Z	6.03	67.97	17.69		130.0	
10633- AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.61	66.60	16.34	0.46	130.0	± 9.6 %
		Y	5.98	68.94	18.93		130.0	
		Z	5.86	67.41	17.23		130.0	
10634- AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.63	66.77	16.47	0.46	130.0	± 9.6 %
		Y	5.95	68.96	19.00		130.0	
		Z	5.84	67.43	17.31		130.0	
10635- AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.50	66.10	15.88	0.46	130.0	± 9.6 %
		Y	5.74	67.89	18.17		130.0	
		Z	5.71	66.70	16.67		130.0	
10636- AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	6.02	66.89	16.46	0.46	130.0	± 9.6 %
		Y	6.37	68.91	18.82		130.0	
		Z	6.19	67.50	17.24		130.0	
10637- AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	6.13	67.18	16.59	0.46	130.0	± 9.6 %
		Y	6.68	69.80	19.23		130.0	
		Z	6.40	68.03	17.48		130.0	7111
10638- AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	X	6.16	67.25	16.61	0.46	130.0	± 9.6 %
		Y	6.73	69.91	19.26		130.0	
		Z	6.40					

10639- AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.12	67.12	16.58	0.46	130.0	± 9.6 %
		Y	6.51	69.26	18.99		130.0	
		Z	6.34	67.85	17,41		130.0	
10640- AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	Х	6.08	67.03	16.48	0.46	130.0	± 9.6 %
		Y	6.51	69.27	18.93		130.0	
		Z	6.37	67.91	17.39		130.0	
10641- AAC	IEEE 802:11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.18	67.11	16.54	0.46	130.0	± 9.6 %
		Y	6.71	69.64	19.12		130.0	
1		Z	6.38	67.72	17.31		130.0	
10642- AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.19	67.27	16.78	0.46	130.0	± 9.6 %
		Y	6.61	69.48	19.23		130.0	
		Z	6.42	67.99	17.61		130.0	
10643- AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	6.05	67.00	16.54	0.46	130.0	± 9.6 %
		Y	6.48	69.27	19.02		130.0	
		Z	6.27	67.72	17.38		130.0	
10644- AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.10	67.17	16.65	0.46	130.0	± 9.6 %
		Y	6.52	69.39	19.10		130.0	
		Z	6.49	68.39	17.73		130.0	
10645- AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.23	67.23	16.64	0.46	130.0	± 9.6 %
		Y	8.13	73.48	20.97		130.0	
		Z	7.16	69.86	18.40		130.0	
10646- AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	Х	14.37	107.54	38.67	9.30	60.0	± 9.6 %
		Y	100.00	173.43	59.73		60.0	
		Z	41.71	138.31	48.26		60.0	
10647- AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	11.83	103.39	37.49	9.30	60.0	± 9.6 %
		Y	100.00	175.64	60.71		60.0	
		Z	31.40	131.83	46.69		60.0	
10648- AAA	CDMA2000 (1x Advanced)	X	0.78	64.45	11.55	0.00	150.0	± 9.6 %
17.77		Y	100.00	252.99	79.22		150.0	
		Z	100.00	133.79	33.09		150.0	
10652- AAD	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.52	66.54	16.16	2.23	80.0	± 9.6 %
		Y	8.14	87.06	27.02		80.0	
		Z	3.95	69.55	18.84		80.0	
10653- AAD	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	4.09	66.02	16.48	2.23	80.0	± 9.6 %
		Y	5.06	73.38	22.02		80.0	
		Z	4.25	67.48	18.20		80.0	
10654- AAD	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.12	65.68	16.52	2.23	80.0	± 9.6 %
	11.8	Y	4.73	71.45	21.37		80.0	
La G		Z	4.18	66.90	18.08		80.0	1 1 1
10655- AAE	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.19	65.62	16.57	2.23	80.0	± 9.6 %
		Y	4.70	70.76	21.10		80.0	
		Z	4.23	66.83	18.08		80.0	
10658- AAA	Pulse Waveform (200Hz, 10%)	X	41.21	102.79	26.07	10.00	50.0	± 9.6 %
		Y	100.00	106.36	23.50		50.0	
		Z	100.00	111.02	25.76		50.0	
10659- AAA	Pulse Waveform (200Hz, 20%)	X	100.00	116.17	28.29	6.99	60.0	± 9.6 %
1-2-2-2		Y	100.00	106.95	22.38		60.0	
			100100	100100			60.0	

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10660- AAA	Pulse Waveform (200Hz, 40%)	X	100.00	122.06	29.37	3.98	80.0	± 9.6 %
		Y	49.59	60.00	30.00		80.0	
		Z	100.00	138.13	34.35		80.0	
10661- AAA	Pulse Waveform (200Hz, 60%)	Х	100.00	132.93	32.77	2.22	100.0	± 9.6 %
		Y	0.08	60.00	30.00		100.0	
		Z	100.00	150.00	96.42		100.0	
10662- AAA	Pulse Waveform (200Hz, 80%)	X	100.00	153.73	39.90	0.97	120.0	± 9.6 %
		Υ	0.05	60.00	30.00		120.0	
		Z	0.04	60.00	50.00		120.0	
10670- AAA	Bluetooth Low Energy	X	100.00	134.60	33.73	2.19	100.0	± 9.6 %
		Y	0.10	60.00	30.00		100.0	
		Z	100.00	250.27	77.09		100.0	

<sup>&</sup>lt;sup>E</sup> 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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Schweizerischer Kalibrierdienst Service suisse d'étalonnage Servizio svizzero di taratura Swiss Calibration Service

Accreditation No.: SCS 0108

Certificate No: EX3-7505\_Jun18

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

Client

Huawei (Auden)

CALIBRATION CERTIFICATE

Object EX3DV4 - SN:7505

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: June 12, 2018

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	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-18 (No. 217-02682)	Apr-19
Reference Probe ES3DV2	SN: 3013	30-Dec-17 (No. ES3-3013_Dec17)	Dec-18
DAE4	SN: 660	21-Dec-17 (No. DAE4-660_Dec17)	Dec-18
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-18)	In house check: Jun-20
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-17)	In house check: Oct-18

Name Function Signature
Calibrated by: Leif Klysner Laboratory Technician

Approved by: Katja Pokovic Technical Manager

Issued: June 12, 2018

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

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### Calibration Laboratory of

Schmid & Partner Engineering AG Zeughausstrasse 43, 8004 Zurich, Switzerland





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

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Glossary:

TSL tissue simulating liquid NORMx, v, 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 o φ rotation around probe axis

Polarization 9 9 rotation around an axis that is in the plane normal to probe axis (at measurement center),

i.e., 9 = 0 is normal to probe axis

information used in DASY system to align probe sensor X to the robot coordinate system Connector Angle

#### 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 IEC 62209-1, ", "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-

held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016

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

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<sup>2</sup>-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,v,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,v,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
- 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).

Certificate No: EX3-7505\_Jun18 Page 2 of 39 EX3DV4 - SN:7505 June 12, 2018

# Probe EX3DV4

SN:7505

Manufactured: November 13, 2017

June 12, 2018 Calibrated:

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

#### **Basic Calibration Parameters**

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm $(\mu V/(V/m)^2)^A$	0.37	0.46	0.48	± 10.1 %
DCP (mV) <sup>B</sup>	103.4	95.3	101.4	

#### **Modulation Calibration Parameters**

UID	Communication System Name		A dB	B dB√μV	С	D dB	VR mV	Unc <sup>b</sup> (k=2)
0 CV	CW	X	0.0	0.0	1.0	0.00	159.7	±3.0 %
		Y	0.0	0.0	1.0		178.0	
		Z	0.0	0.0	1.0		156.2	

Note: For details on UID parameters see Appendix.

#### Sensor Model Parameters

	C1 fF	C2 fF	α V <sup>-1</sup>	T1 ms.V <sup>-2</sup>	T2 ms.V <sup>-1</sup>	T3 ms	T4 V <sup>-2</sup>	T5 V <sup>-1</sup>	Т6
X	31.12	229.1	34.75	6.390	0.143	5.005	1.055	0.157	1.003
Υ	33.00	253.4	37.31	5.809	0.248	5.050	0.000	0.426	1.005
Z	34.85	259.9	35.55	8.749	0.000	5.072	0.914	0.225	1.004

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%.

Numerical linearization parameter: uncertainty not required.

\*\*The parameter in the param

A The uncertainties of Norm X,Y,Z do not affect the E2-field uncertainty inside TSL (see Pages 5 and 6).

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 Parameter Determined in Head Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) F	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	41.9	0.89	10.07	10.07	10.07	0.48	0.80	± 12.0 %
835	41.5	0.90	9.72	9.72	9.72	0.47	0.84	± 12.0 %
1750	40.1	1.37	8.59	8.59	8.59	0.35	0.80	± 12.0 %
1900	40.0	1.40	8.23	8.23	8.23	0.28	0.95	± 12.0 %
2000	40.0	1.40	8.37	8.37	8.37	0.10	0.85	± 12.0 %
2300	39.5	1.67	7.93	7.93	7.93	0.22	1.09	± 12.0 %
2450	39.2	1.80	7.32	7.32	7.32	0.36	0.85	± 12.0 %
2600	39.0	1.96	7.18	7.18	7.18	0.31	0.85	± 12.0 %
3700	37.7	3.12	7.09	7.09	7.09	0.23	1.20	± 13.1 %
5250	35.9	4.71	5.48	5.48	5.48	0.35	1.80	± 13.1 %
5600	35.5	5.07	4.85	4.85	4.85	0.40	1.80	± 13.1 %
5750	35.4	5.22	5.11	5.11	5.11	0.40	1.80	± 13.1 %

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

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.

Gain and the remaining deviation due to the boundary effect after compensation is

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.

EX3DV4- SN:7505 June 12, 2018

### DASY/EASY - Parameters of Probe: EX3DV4 - SN:7505

#### Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) F	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55.5	0.96	9.96	9.96	9.96	0.55	0.80	± 12.0 %
835	55.2	0.97	9.73	9.73	9.73	0.53	0.80	± 12.0 %
1750	53.4	1.49	8.23	8.23	8.23	0.43	0.83	± 12.0 %
1900	53.3	1.52	7.87	7.87	7.87	0.43	0.81	± 12.0 %
2300	52.9	1.81	7.62	7.62	7.62	0.42	0.87	± 12.0 %
2450	52.7	1.95	7.28	7.28	7.28	0.38	0.87	± 12.0 %
2600	52.5	2.16	7.23	7.23	7.23	0.39	0.87	± 12.0 %
3700	51.0	3.55	7.15	7.15	7.15	0.23	1.25	± 13.1 %
5250	48.9	5.36	4.84	4.84	4.84	0.55	1.90	± 13.1 %
5600	48.5	5.77	4.18	4.18	4.18	0.55	1.90	± 13.1 %
5750	48.3	5.94	4.22	4.22	4.22	0.55	1.90	± 13.1 %

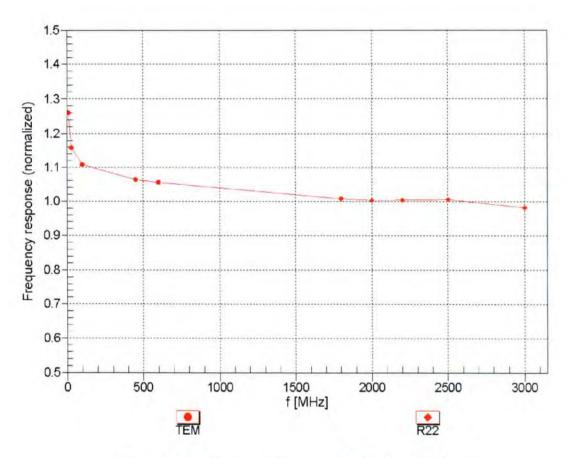
 $<sup>^{\</sup>rm C}$  Frequency validity above 300 MHz of  $\pm$  100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to  $\pm$  50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is  $\pm$  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  $\pm$  110 MHz.

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

<sup>&</sup>lt;sup>6</sup> 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.

EX3DV4-SN:7505 June 12, 2018

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



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