#### **Calibration Laboratory of** Schmid & Partner **Engineering AG**

Zeughausstrasse 43, 8004 Zurich, Switzerland

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



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- С Servizio svizzero di taratura
- S Swiss Calibration Service

Accreditation No.: SCS 0108

Client **PC Test**  Certificate No: D1900V2-5d149\_Oct18

# **CALIBRATION CERTIFICATE**

Object	D1900V2 - SN:50	1149	
Calibration procedure(s)	QA CAL-05.v10 Calibration proce	dure for dipole validation kits abo	
Calibration date:	October 23, 2018		BNV 10-30-2018
	•	onal standards, which realize the physical uni robability are given on the following pages and	
All calibrations have been conducte	ed in the closed laborato	y facility: environment temperature (22 $\pm$ 3)°C	c and humidity < 70%.
Calibration Equipment used (M&TE	E 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: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047,2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	04-Oct-18 (No. DAE4-601_Oct18)	Oct-19
	1		
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-18)	In house check: Oct-20
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-18)	In house check: Oct-20
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-18)	In house check: Oct-20
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-18)	In house check: Oct-20
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-18)	In house check: Oct-19
	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
			Q =
			an a
Approved by:	Katja Pokovic	Technical Manager	RIAL
			Issued: October 23, 2018
This calibration certificate shall not	be reproduced except in	I full without written approval of the laboratory.	

## **Calibration Laboratory of**

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





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## Glossarv:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

## 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 hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

## Additional Documentation:

e) DASY4/5 System Handbook

## Methods Applied and Interpretation of Parameters:

- Measurement Conditions: Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss: These parameters are measured with the dipole • positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay: One-way delay between the SMA connector and the antenna feed point. • No uncertainty required.
- SAR measured: SAR measured at the stated antenna input power. •
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the • nominal SAR result.

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%.

Accreditation No.: SCS 0108

#### **Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

#### **Head TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.3 ± 6 %	1.40 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

### SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.80 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	39.3 W/kg ± 17.0 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
or a reading of the star (10 g) of field for	condition	
SAR measured	250 mW input power	5.11 W/kg

#### **Body TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.9 ± 6 %	1.47 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C		

## SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.68 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	39.4 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.11 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	20.7 W/kg ± 16.5 % (k=2)

### Appendix (Additional assessments outside the scope of SCS 0108)

#### Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.9 Ω + 6.3 jΩ
Return Loss	- 23.4 dB

#### Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.5 Ω + 8.2 jΩ
Return Loss	- 21.5 dB

#### **General Antenna Parameters and Design**

Electrical Delay (one direction)	1.193 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

#### Additional EUT Data

Manufactured by	SPEAG
Manufactured on	March 11, 2011

## **DASY5 Validation Report for Head TSL**

Date: 23.10.2018

Test Laboratory: SPEAG, Zurich, Switzerland

## DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d149

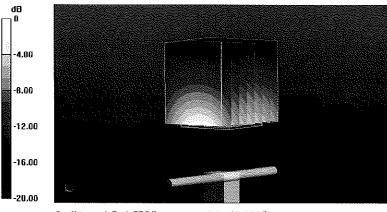
Communication System: UID 0 - CW; Frequency: 1900 MHz Medium parameters used: f = 1900 MHz;  $\sigma = 1.4$  S/m;  $\epsilon_r = 40.3$ ;  $\rho = 1000$  kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

#### DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(8.18, 8.18, 8.18) @ 1900 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.10.2018
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

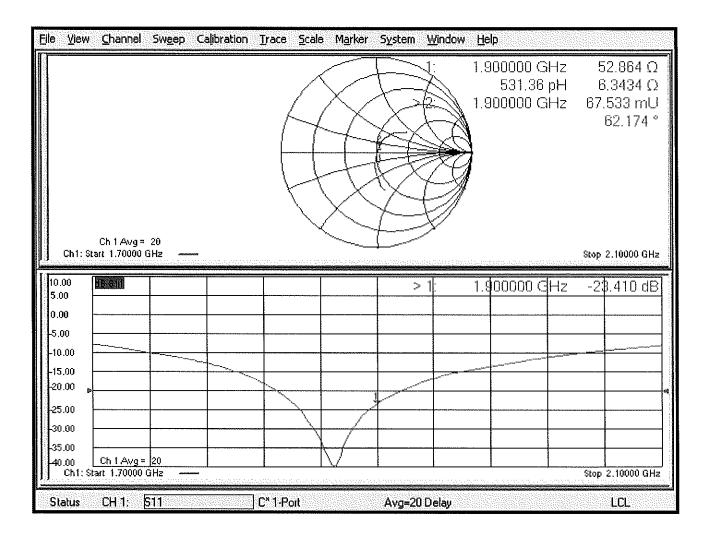
#### Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 110.0 V/m; Power Drift = -0.03 dB Peak SAR (extrapolated) = 18.5 W/kg **SAR(1 g) = 9.8 W/kg; SAR(10 g) = 5.11 W/kg** Maximum value of SAR (measured) = 15.4 W/kg



0 dB = 15.4 W/kg = 11.88 dBW/kg

## Impedance Measurement Plot for Head TSL



## **DASY5 Validation Report for Body TSL**

Date: 23.10.2018

Test Laboratory: SPEAG, Zurich, Switzerland

## DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d149

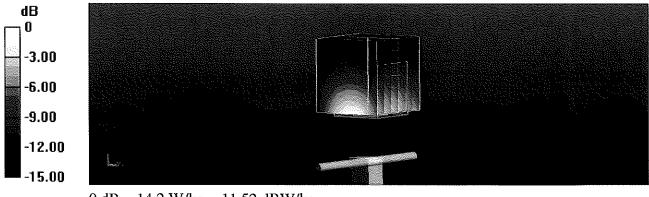
Communication System: UID 0 - CW; Frequency: 1900 MHz Medium parameters used: f = 1900 MHz;  $\sigma$  = 1.47 S/m;  $\epsilon_r$  = 52.9;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(8.15, 8.15, 8.15) @ 1900 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.10.2018
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.2(1495); SEMCAD X 14.6.12(7450)

#### Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 103.1 V/m; Power Drift = -0.03 dB Peak SAR (extrapolated) = 17.5 W/kg SAR(1 g) = 9.68 W/kg; SAR(10 g) = 5.11 W/kg Maximum value of SAR (measured) = 14.2 W/kg



0 dB = 14.2 W/kg = 11.52 dBW/kg

## Impedance Measurement Plot for Body TSL

<u>File V</u> iew	<u>Channel Swe</u> ep (	Calibration <u>T</u> race <u>S</u> cale M	arker System <u>W</u> indow <u>H</u> elp	
	Ch 1 Avg = 20		1: 1.90000 684. 1.900000	48 pH - 8.1713 Ω
Ch1: S	itart 1.70000 GHz			Stop 2.10000 GHz
10.00 5.00 -5.00 -10.00 -15.00 -20.00 -25.00 -30.00 -35.00 -40.00 Ch1: S	Ch 1 Avg = 20 tart 1.70000 GHz			CGHz -21.519 dB
Status	CH11: 511	C* 1-Port	Avg=20 Delay	LCL

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Swiss Calibration Service

Accreditation No.: SCS 0108

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PC Test Client

Certificate No: D2300V2-1073\_Aug18

# CALIBRATION CERTIFICATE

Object	D2300V2 - SN:10	073	
Calibration procedure(s)	QA CAL-05.v10 Calibration proce	dure for dipole validation kits abo	ve 700 MHz DA-06-2018
			09-06-20.5
Calibration date:	August 13, 2018		
The measurements and the uncert	ainties with confidence p	ional standards, which realize the physical unitrobability are given on the following pages and the facility: environment temperature $(22 \pm 3)^{\circ}$ C	d are part of the certificate.
	- chical for calibration)		
Primary Standards	!D #	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: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18
Secondary Standards	ID #	_Check Date (in house)	Seheduled Ob
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	Scheduled Check
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-17)	In house check: Oct-18 In house check: Oct-18
Calibrated by:	Name Michael Weber	Function Laboratory Technician	Signature
	· · · · · · · · · · · · · · · · · · ·	n an	11.11.2
Approved by:	Katja Pokovic	Technical Manager	L.U.L
This calibration certificate shall not		ананананананананананананананананананан	Issued: August 13, 2018

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Accreditation No.: SCS 0108

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#### **Glossary:**

To	
TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

## 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 hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

## Additional Documentation:

e) DASY4/5 System Handbook

## Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss: These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured: SAR measured at the stated antenna input power.
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

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

## **Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2300 MHz ± 1 MHz	

#### Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.5	1.67 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	38.2 ± 6 %	1.70 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

## SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	12.5 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	49.2 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.02 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.8 W/kg ± 16.5 % (k=2)

## Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.9	1.81 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.2 ± 6 %	1.85 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C		

## SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	12.1 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	47.7 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.86 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	23.2 W/kg ± 16.5 % (k=2)

## Appendix (Additional assessments outside the scope of SCS 0108)

## Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.1 Ω - 5.2 jΩ
Return Loss	- 25.7 dB

## Antenna Parameters with Body TSL

Impedance, transformed to feed point	45.5 Ω - 4.1 jΩ
Return Loss	- 23.9 dB

#### **General Antenna Parameters and Design**

Electrical Delay (and dispation)	
Electrical Delay (one direction)	1.171 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

Manufactured by	SPEAG
Manufactured on	November 16, 2015

## **DASY5 Validation Report for Head TSL**

Date: 13.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

## DUT: Dipole 2300 MHz; Type: D2300V2; Serial: D2300V2 - SN: 1073

Communication System: UID 0 - CW; Frequency: 2300 MHz Medium parameters used: f = 2300 MHz;  $\sigma$  = 1.7 S/m;  $\epsilon_r$  = 38.2;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

#### DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(8.08, 8.08, 8.08) @ 2300 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

# Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 115.9 V/m; Power Drift = -0.05 dB Peak SAR (extrapolated) = 24.1 W/kg SAR(1 g) = 12.5 W/kg; SAR(10 g) = 6.02 W/kg Maximum value of SAR (measured) = 20.2 W/kg



## Impedance Measurement Plot for Head TSL

<u>Fi</u> le	⊻iew	Channel	Sw <u>e</u> ep	Calibration	<u>T</u> race	<u>S</u> cale	M <u>a</u> rker	S <u>y</u> stem	<u>Wi</u> ndow	<u>H</u> elp				
	01.1.0	Ch 1 Awg	20								8000 G 13,259 0000 G	рF	-5 52. -1	0.050 Ω .2189 Ω 094 mU 86.467 °
	Ch1:St	art 2,10000	GHz —					- 					Stop 2	2.50000 GHz
-15 -20 -25 -30 -35	00 00 00 00 00 00 00	<u>Ch 1 Avg</u>	GHz —							2.30				2.50000 GHz
St	atus	CH 1:	511		C* 1 Po	ut	·	Avg=20	Delay					LCL

## **DASY5 Validation Report for Body TSL**

Date: 13.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

## DUT: Dipole 2300 MHz; Type: D2300V2; Serial: D2300V2 - SN: 1073

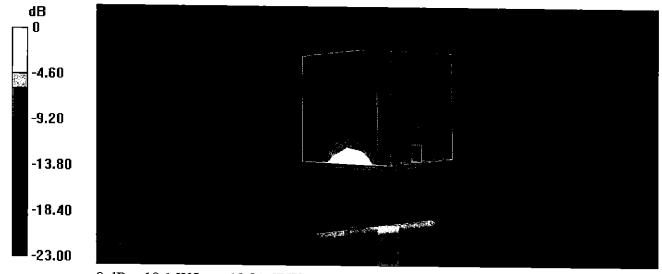
Communication System: UID 0 - CW; Frequency: 2300 MHz Medium parameters used: f = 2300 MHz;  $\sigma$  = 1.85 S/m;  $\epsilon_r$  = 52.2;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

#### DASY52 Configuration:

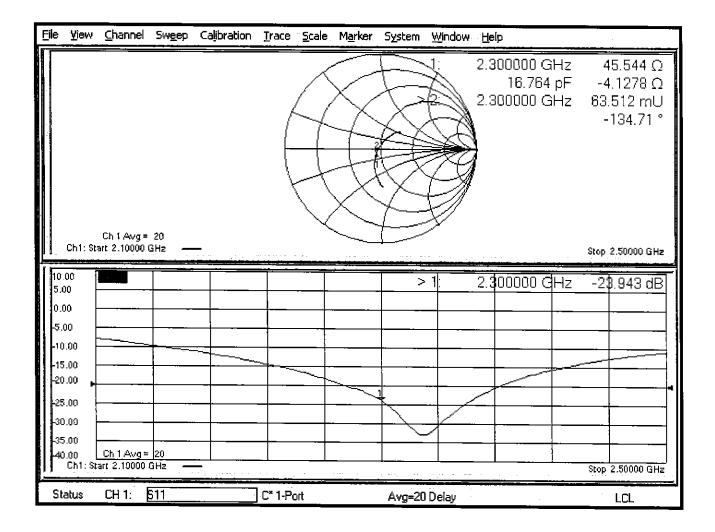
- Probe: EX3DV4 SN7349; ConvF(8.08, 8.08, 8.08) @ 2300 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

## Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 107.5 V/m; Power Drift = -0.08 dB Peak SAR (extrapolated) = 22.9 W/kg SAR(1 g) = 12.1 W/kg; SAR(10 g) = 5.86 W/kg Maximum value of SAR (measured) = 19.1 W/kg



0 dB = 19.1 W/kg = 12.81 dBW/kg



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

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S Swiss Calibration Service

Accreditation No.: SCS 0108

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

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Certificate No: D2450V2-719\_Aug17

•	D2450V2 - SN:7	19 of the second second	
Calibration procedure(s)		edure for dipole validation kits abo	PP1 ove 700 MHz 8/27
Calibration date:	August 17, 2017	्रियोमी कार्य जन्म द्वीरे न्यू प्रतान न जन्म	Extends BN 81191
This calibration certificate docum The measurements and the unce	ients the traceability to nat intainties with confidence p	ional standards, which realize the physical un robablity are given on the following pages ar	nits of measurements (SI). nd are part of the certificate.
All calibrations have been conduc	cted in the closed laborate	by facility: environment temperature (22 $\pm$ 3)°	C and humidity < 70%.
Calibration Equipment used (M&	TE critical for calibration)		
Primary Standards	1D #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18
Power sensor NRP-Z91	ŠN: 103245	04-Apr-17 (No. 217-02522)	Apr-18
Reference 20 dB Altenuator	SN: 5058 (20k)	07-Apr-17 (No. 217-02528)	Apr-18
Type-N mismatch combination	SN: 5047.2 / 06327	07-Apr-17 (No. 217-02529)	Apr-18
	SN: 7349	31-May-17 (No. EX3-7349_May17)	May-18
Reference Probe EX3DV4			
Reference Probe EX3DV4 DAE4	SN: 601	28-Mar-17 (No. DAE4-601_Mar17)	Mar-18
Reference Probe EX3DV4 DAE4 Secondary Standards	SN: 601	28-Mar-17 (No. DAE4-601_Mar17) Check Date (in house)	Mar-18 Scheduled Check
DAE4	•	· _ ,	
DAE4 Secondary Standards Power meter EPM-442A	י מו	Check Date (in house)	Scheduled Check
DAE4 Secondary Standards Power meter EPM-442A Power sensor HP 8481A	1D #  SN: GB37480704	Check Date (in house) 07-Oct-15 (in house check Oct-16)	Scheduled Check In house check: Oct-18
DAE4 Secondary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A RF generator R&S SMT-06	1D # SN: GB37480704 SN: US37292783	Check Date (in house) 07-Oct-15 (in house check Oct-16) 07-Oct-15 (In house check Oct-16)	Scheduled Check In house check: Oct-18 In house check: Oct-18
DAE4 Secondary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A	ID # SN: GB37480704 SN: US37292783 SN: MY41092317	Check Date (in house) D7-Oct-15 (in house check Oct-16) D7-Oct-15 (In house check Oct-16) 07-Oct-15 (in house check Oct-16)	Scheduled Check In house check: Oct-18 In house check: Oct-18 In house check: Oct-18
DAE4 Secondary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A RF generator R&S SMT-06 Network Analyzer HP 8753E	ID # SN: GB37480704 SN: US37292783 SN: MY41092317 SN: 100972	Check Date (in house) 07-Oct-15 (in house check Oct-16) 07-Oct-15 (in house check Oct-16) 07-Oct-15 (in house check Oct-16) 15-Jun-15 (in house check Oct-16)	Scheduled Check In house check: Oct-18 In house check: Oct-18 In house check: Oct-18 In house check: Oct-18
DAE4 Secondary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A RF generator R&S SMT-06	1D # SN: GB37480704 SN: US37292783 SN: MY41092317 SN: 100972 SN: US37390585	Check Date (in house) 07-Oct-15 (in house check Oct-16) 07-Oct-15 (in house check Oct-16) 07-Oct-15 (in house check Oct-16) 15-Jun-15 (in house check Oct-16) 18-Oct-01 (in house check Oct-16)	Scheduled Check In house check: Oct-18 In house check: Oct-18 In house check: Oct-18 In house check: Oct-18 In house check: Oct-17
DAE4 Secondary Standards Power meter EPM-442A Power sensor HP 8481A Power sensor HP 8481A RF generator R&S SMT-06 Network Analyzer HP 8753E	1D # SN: GB37480704 SN: US37292783 SN: MY41092317 SN: 100972 SN: US37390585 Name	Check Date (in house) D7-Oct-15 (in house check Oct-16) D7-Oct-15 (in house check Oct-16) 07-Oct-15 (in house check Oct-16) 15-Jun-15 (in house check Oct-16) 18-Oct-01 (in house check Oct-16) Function Laboratory Technician	Scheduled Check In house check: Oct-18 In house check: Oct-18 In house check: Oct-18 In house check: Oct-18 In house check: Oct-17

Certificate No: D2450V2-719\_Aug17

Page 1 of 8

## **Calibration Laboratory of**

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





Schweizerischer Kalibrierdienst

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S Swiss Calibration Service

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

Accreditation No.: SCS 0108

Glossary:	
TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

## 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 hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

## Additional Documentation:

e) DASY4/5 System Handbook

## Methods Applied and Interpretation of Parameters:

- Measurement Conditions: Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss: These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay: One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured: SAR measured at the stated antenna input power.
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

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

#### **Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	<b>V</b> 52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

### **Head TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	37.8 ± 6 %	1.86 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

## SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.3 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	51.9 W/kg ± 17.0 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.15 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	24.3 W/kg ± 16.5 % (k=2)

#### **Body TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.9 ± 6 %	2.03 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C		

## SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	12.8 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	50.1 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.00 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	23.7 W/kg ± 16.5 % (k=2)

## Appendix (Additional assessments outside the scope of SCS 0108)

#### Antenna Parameters with Head TSL

Impedance, transformed to feed point	55.7 Ω + 7.0 jΩ
Return Loss	- 21.4 dB

## Antenna Parameters with Body TSL

Impedance, transformed to feed point	51.4 Ω + 8.1 jΩ
Return Loss	- 21.8 dB

#### **General Antenna Parameters and Design**

Electrical Delay (one direction)	1.150 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

#### Additional EUT Data

Manufactured by	SPEAG
Manufactured on	September 10, 2002

## **DASY5 Validation Report for Head TSL**

Date: 17.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

## DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 719

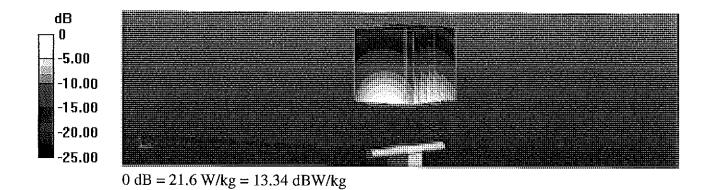
Communication System: UID 0 - CW; Frequency: 2450 MHz Medium parameters used: f = 2450 MHz;  $\sigma = 1.86$  S/m;  $\epsilon_r = 37.8$ ;  $\rho = 1000$  kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

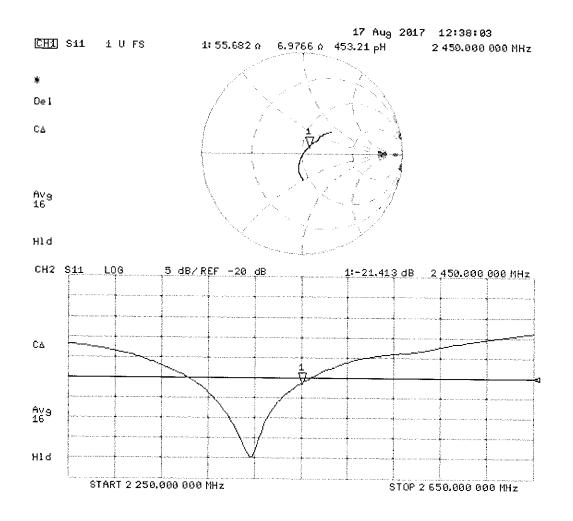
DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(8.12, 8.12, 8.12); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

## Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 112.8 V/m; Power Drift = -0.01 dB Peak SAR (extrapolated) = 26.9 W/kg SAR(1 g) = 13.3 W/kg; SAR(10 g) = 6.15 W/kg Maximum value of SAR (measured) = 21.6 W/kg





## **DASY5 Validation Report for Body TSL**

Date: 17.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

## DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 719

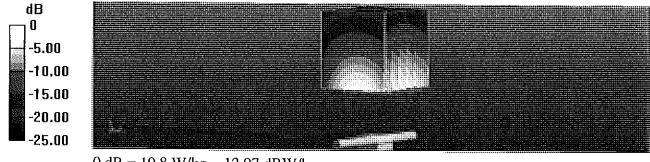
Communication System: UID 0 - CW; Frequency: 2450 MHz Medium parameters used: f = 2450 MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

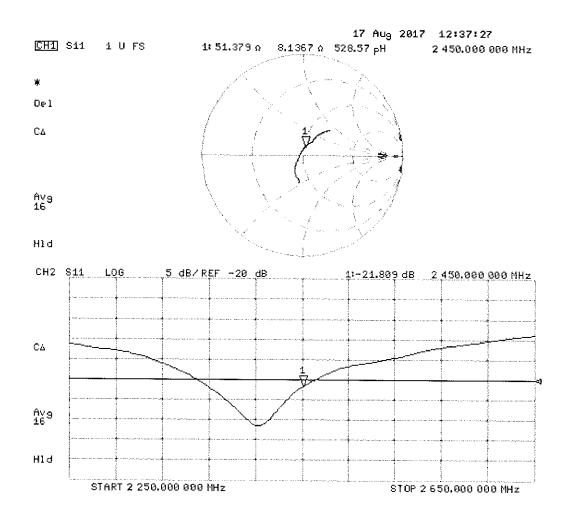
- Probe: EX3DV4 SN7349; ConvF(8.1, 8.1, 8.1); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

## Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 103.0 V/m; Power Drift = -0.07 dB Peak SAR (extrapolated) = 25.2 W/kg SAR(1 g) = 12.8 W/kg; SAR(10 g) = 6 W/kg Maximum value of SAR (measured) = 19.8 W/kg



0 dB = 19.8 W/kg = 12.97 dBW/kg





PCTEST ENGINEERING LABORATORY, INC. 7185 Oakland Mills Road, Columbia, MD 21046 USA Tel. +1.410.290.6652 / Fax +1.410.290.6654

http://www.pctest.com



# **Certification of Calibration**

Object

D2450V2 - SN: 719

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

08/09/2018

Extended Calibration date:

Description:

SAR Validation Dipole at 2450 MHz.

#### Calibration Equipment used:

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	E4438C	ESG Vector Signal Generator	3/24/2017	Biennial	3/24/2019	MY42082385
Agilent	8753ES	S-Parameter Network Analyzer	9/14/2017	Annual	9/14/2018	US39170118
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433971
Anritsu	ML2495A	Power Meter	11/28/2017	Annual	11/28/2018	1039008
Anritsu	MA2411B	Pulse Power Sensor	3/2/2018	Annual	3/2/2019	1207364
Anritsu	MA2411B	Pulse Power Sensor	11/15/2017	Annual	11/15/2018	1339007
Control Company	4040	Therm./Clock/Humidity Monitor	3/31/2017	Biennial	3/31/2019	170232394
Control Company	4352	Ultra Long Stem Thermometer	5/2/2017	Biennial	5/2/2019	170330156
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	6/4/2018	Annual	6/4/2019	MY53401181
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE5011-1	Torque Wrench	7/19/2017	Biennial	7/19/2019	N/A
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/7/2018	Annual	3/7/2019	1368
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/9/2017	Annual	8/9/2018	1323
SPEAG	DAK-3.5	Dielectric Assessment Kit	9/12/2017	Annual	9/12/2018	1091
SPEAG	ES3DV3	SAR Probe	3/13/2018	Annual	3/13/2019	3319
SPEAG	ES3DV3	SAR Probe	8/14/2017	Annual	8/14/2018	3332

Measurement Uncertainty =  $\pm 23\%$  (k=2)

	Name	Function	Signature
Calibrated By:	Brodie Halbfoster	Test Engineer	BROPTE HALBFOSTER
Approved By:	Kaitlin O'Keefe	Senior Technical Manager	XOK

Object:	Date Issued:	Daga 1 of 1
D2450V2 – SN: 719	08/09/2018	Page 1 of 4

## **DIPOLE CALIBRATION EXTENSION**

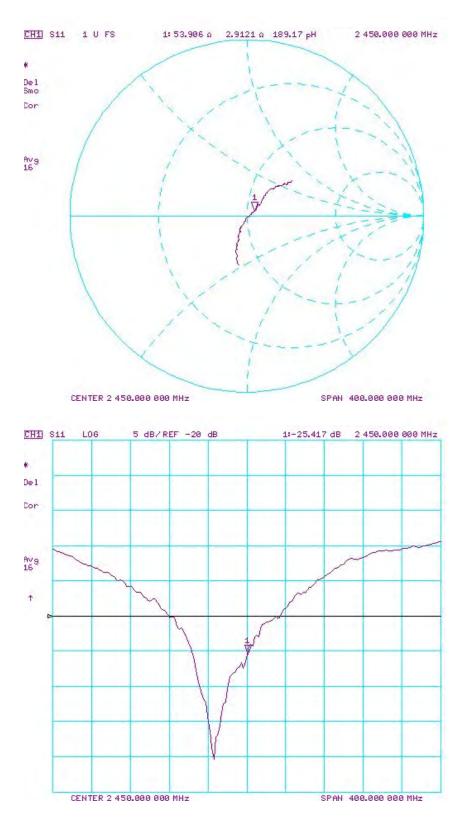
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

- 1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
- 2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
- 3. The measurement of real or imaginary parts of impedance does not deviate more than  $5\Omega$  from the previous measurement.

The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

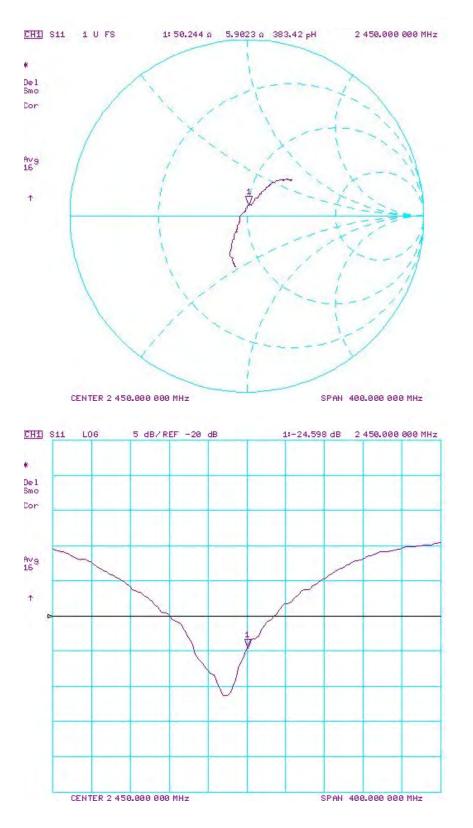
Date	Extension Date	Certificate Electrical Delay (ns)	Head (19) W/kg @ 20.0 dBm	Measured Head SAR (1g) W/kg @ 20.0 dBm	(%)	dBm	(10g) W/kg @ 20.0 dBm		Head (Ohm) Real	Measured Impedance Head (Ohm) Real	Difference (Ohm) Real	Certificate Impedance Head (Ohm) Imaginary	Measured Impedance Head (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Head (dB)	Head (dB)	Deviation (%)	
8/17/2017	8/9/2018	1.150	5.19	5.46	5.20%	2.43	2.51	3.29%	55.7	53.9	1.8	7.0	2.9	4.1	-21.4	-25.4	-18.70%	PASS
Calibration Date	Extension Date	Certificate Electrical Delay (ns)	W/kg @ 20.0	Measured Body SAR (1g) W/kg @ 20.0 dBm	(0/)		(40-) M(0 (2)	Deviation 10g (%)	Certificate Impedance Body (Ohm) Real	Measured Impedance Body (Ohm) Real	Difference (Ohm) Real	Certificate Impedance Body (Ohm) Imaginary	Measured Impedance Body (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Body (dB)	Measured Return Loss Body (dB)	Deviation (%)	PASS/FAIL
8/17/2017	8/9/2018	1.150	dBm 5.01	5.19	3.59%	2.37	2.38	0.42%	51.4	50.2	1.2	8.1	5.9	2.2	-21.8	-24.6	-12.80%	PASS

Object:	Date Issued:	Page 2 of 4
D2450V2 – SN: 719	08/09/2018	Page 2 01 4



Impedance & Return-Loss Measurement Plot for Head TSL

Object:	Date Issued:	Daga 2 of 4
D2450V2 – SN: 719	08/09/2018	Page 3 of 4



Impedance & Return-Loss Measurement Plot for Body TSL

Object:	Date Issued:	Daria 4 of 4
D2450V2 – SN: 719	08/09/2018	Page 4 of 4

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



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

Accreditation No.: SCS 0108

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 PC Test

Certificate No: D2450V2-797\_Sep17

## CALIBRATION CERTIFICATE

Object	D2450V2 - SN:79	7	· · ·	
Callbration procedure(s)	QA CAL-05.v9 Calibration procee	dure for dipole validation kits abo	ve 700 MHz 5 C رواوع[20 ا	Ŋ
Calibration date:	September 11, 20	)17	We 700 MHz 5CV 10/03/2011 Extended PMV J/20/20	18
This calibration certificate document The measurements and the uncert	nts the traceability to natic ainties with confidence pr	onal standards, which realize the physical un obability are given on the following pages an	Is of measurements (SI).	
All calibrations have been conducted	ed in the closed laboratory	y facility: environment temperature (22 $\pm$ 3)°(	C and humidity < 70%.	
Calibration Equipment used (M&TE	E critical for calibration)			
Primary Standards	1D #	Cal Date (Certificate No.)	Scheduled Calibration	
Power meter NRP	SN: 104778	04-Apr-17 (No. 217-02521/02522)	Apr-18	
Power sensor NRP-Z91	SN: 103244	04-Apr-17 (No. 217-02521)	Apr-18	
Power sensor NRP-Z91	SN: 103245	04-Apr-17 (No. 217-02522)	Apr-18	
Reference 20 dB Attenuator	SN: 5058 (20k)	07-Apr-17 (No. 217-02528)	Apr-18	
Type-N mismatch combination	SN: 5047,2 / 08327	07-Apr-17 (No. 217-02529)	Apr-18	
Reference Probe EX3DV4	SN: 7349	31-May-17 (No. EX3-7349_May17)	May-18	
DAE4	SN: 601	28-Mar-17 (No. DAE4-601_Mar17)	Mar-18	
Secondary Standards	ID#	Check Date (in house)	Scheduled Check	
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18	
Power sensor HP 8481A	SN; US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18	
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18	
RF generator R&S SMT-08	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18	
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-16)	In house check: Oct-17	•
	Name	Function	Signature	
Calibrated by:	Michael Weber	Laboratory Technician	Miller	
Approved by:	Katja Pokovic	Technical Manager	blitty	
		· · · · ·	issued: September 11, 2017	

#### **Calibration Laboratory of**

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





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- S Swiss Calibration Service

Accreditation No.: SCS 0108

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

#### Glossarv:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

### 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 hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Additional Documentation:

e) DASY4/5 System Handbook

### Methods Applied and Interpretation of Parameters;

- Measurement Conditions: Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss: These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay: One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured: SAR measured at the stated antenna input power.
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the ٠ nominal SAR result.

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

#### **Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

## Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	37.8 ± 6 %	1.86 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

#### SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.5 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	52.7 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.28 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	24.8 W/kg ± 16.5 % (k=2)

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#### **Body TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.9 ± 6 %	2.04 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	18. 18. us ut	

#### SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.1 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	51.1 W/kg ± 17.0 % (k≃2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.14 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	24.2 W/kg ± 16.5 % (k=2)

#### Appendix (Additional assessments outside the scope of SCS 0108)

#### Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.8 Ω + 7.4 jΩ
Return Loss	~ 21.9 dB

#### Antenna Parameters with Body TSL

Impedance, transformed to feed point	49.7 Ω + 9.1 jΩ
Return Loss	- 20.9 dB

#### General Antenna Parameters and Design

Electrical Delay (one direction)	1.152 ns	

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

#### Additional EUT Data

Manufactured by	SPEAG
Manufactured on	January 24, 2006

#### **DASY5 Validation Report for Head TSL**

Date: 11.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

#### DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 797

Communication System: UID 0 - CW; Frequency: 2450 MHz Medium parameters used: f = 2450 MHz;  $\sigma$  = 1.86 S/m;  $\epsilon_r$  = 37.8;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

#### DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(8.12, 8.12, 8.12); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

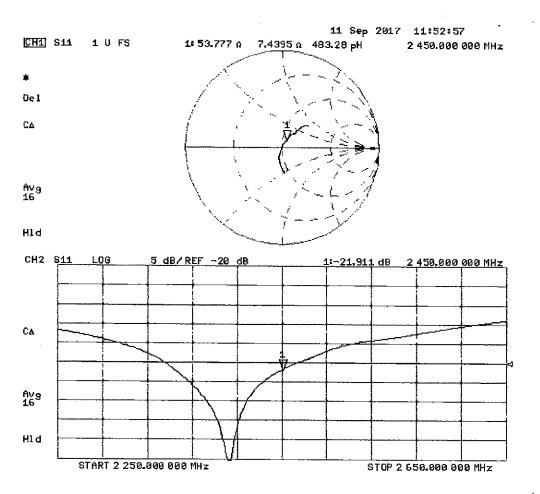
## Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 113.5 V/m; Power Drift = -0.08 dB Peak SAR (extrapolated) = 26.9 W/kg SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.28 W/kg Maximum value of SAR (measured) = 21.6 W/kg



#### 0 dB = 21.6 W/kg = 13.34 dBW/kg

Impedance Measurement Plot for Head TSL



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#### **DASY5 Validation Report for Body TSL**

Date: 11.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

#### DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 797

Communication System: UID 0 - CW; Frequency: 2450 MHz Medium parameters used: f = 2450 MHz;  $\sigma$  = 2.04 S/m;  $\epsilon_r$  = 51.9;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

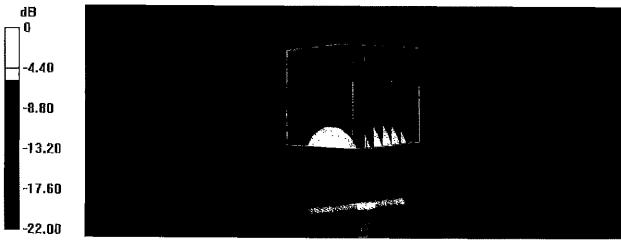
#### DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(8.1, 8.1, 8.1); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

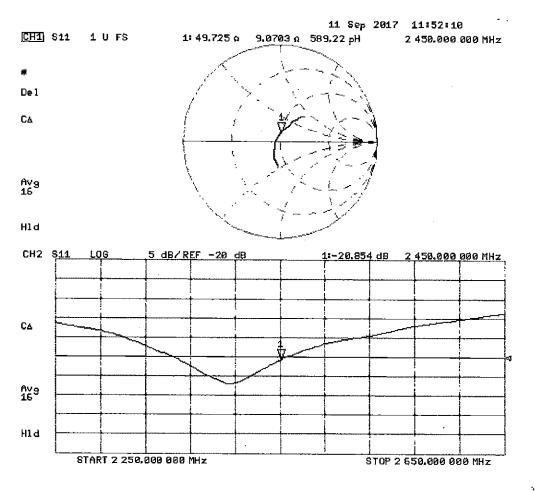
Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 105.4 V/m; Power Drift = -0.08 dB Peak SAR (extrapolated) = 25.6 W/kg SAR(1 g) = 13.1 W/kg; SAR(10 g) = 6.14 W/kg

Maximum value of SAR (measured) = 20.3 W/kg



 $0 \, dB = 20.3 \, W/kg = 13.07 \, dBW/kg$ 

Impedance Measurement Plot for Body TSL



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# **Certification of Calibration**

Object

PCTEST

D2450V2 - SN: 797

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: September 11, 2018

Description:

SAR Validation Dipole at 2450 MHz.

#### Calibration Equipment used:

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Control Company	4040	Therm./Clock/Humidity Monitor	3/31/2017	Biennial	3/31/2019	170232394
Control Company	4352	Ultra Long Stem Thermometer	5/2/2017	Biennial	5/2/2019	170330156
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433971
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Keysight	7720	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	6/4/2018	Annual	6/4/2019	MY53401181
Agilent	8753ES	S-Parameter Vector Network Analyzer	8/30/2018	Annuai	8/30/2019	MY40003841
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	СВТ	N/A
SPEAG	DAK-3,5	Dielectric Assessment Kit	5/15/2018	Annual	5/15/2019	1070
SPEAG	EX3DV4	SAR Probe	7/20/2018	Annual	7/20/2019	7410
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2018	Annual	7/11/2019	1322
SPEAG	ES3DV3	SAR Probe	3/13/2018	Annual	3/13/2019	3319
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/7/2018	Annual	3/7/2019	1368
Anritsu	MA2411B	Puise Power Sensor	3/2/2018	Annual	3/2/2019	1207364
Anritsu	MA24118	Puise Power Sensor	3/2/2018	Annual	3/2/2019	1339018
Anritsu	ML2495A	Power Meter	10/22/2017	Annuəl	10/22/2018	1328004
Aglient	N5182A	MXG Vector Signal Generator	4/18/2018	Annual	4/18/2019	MY47420800
Seekonk	NC-100	Torque Wrench	7/11/2018	Annual	7/11/2019	N/A
MiniCircuits	VLF-6000+	Low Pass Filter	C8T	N/A	CBT	N/A
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	CBT	N/A	СВТ	N/A

Note: CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path.

#### Measurement Uncertainty = $\pm 23\%$ (k=2)

	Name	Function	Signature
Calibrated By:	Brodie Halbfoster	Team Lead Engineer	BRODIE HALBFOSTER
Approved By:	Kaitlin O'Keefe	Senior Technical Manager	3KOK-

Object:	Date Issued:	Page 1 of 4
D2450V2 – SN: 797	09/11/2018	

## **DIPOLE CALIBRATION EXTENSION**

Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

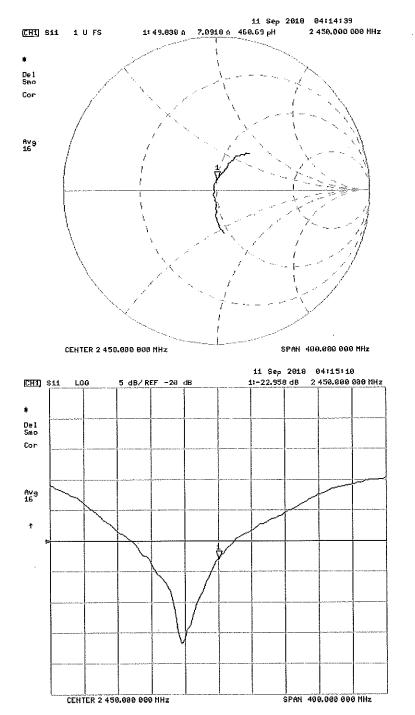
- 1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
- 2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
- 3. The measurement of real or imaginary parts of impedance does not deviate more than  $5\Omega$  from the previous measurement.

The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

Calibration Date	Extension Date		Certificate SAR Target Head (1g) W/kg @ 20.0 dBm			Certificate SAR Target Head (10g) W/kg @ 20.0 dBm	Head SAR		Certificate Impedance Head (Ohm) Real		Difference (Ohm) Real		Measured Impedance Head (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Head (dB)	Measured Return Loss Head (dB)	Deviation (%)	PASS/FAIL
9/11/2017	9/11/2018	1.152	5.27	5.52	4.74%	2.48	2.54	2.42%	53.8	49.8	4	7.4	7.1	0.3	-21.9	-23	-4.80%	PASS

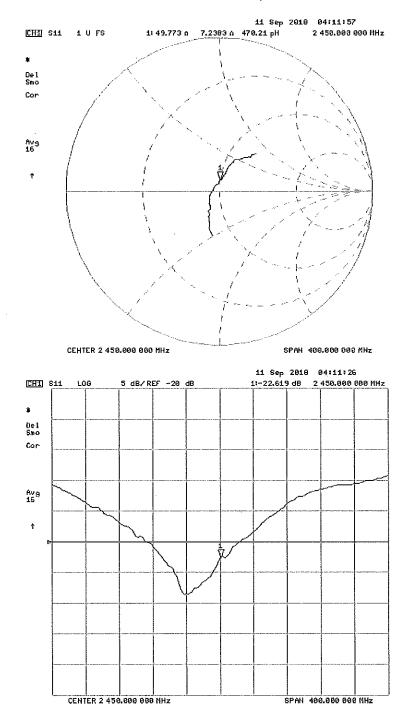
Calibration Date	Extension Date		Certificate SAR Target Body (1g) W/kg @ 20.0 dBm			Certificate SAR Target Body (10g) W/kg @ 20.0 dBm	(10a) W/ka @	Deviation 10g (%)	Certificate Impedance Body (Ohm) Real	Measured Impedance Body (Ohm) Real		Certificate Impedance Body (Ohm) Imaginary		Difference (Ohm) Imaginary	Certificate Return Loss Body (dB)	Measured Return Loss Body (dB)	Deviation (%)	PASS/FAIL
9/11/2017	9/11/2018	1.152	5.11	5.17	1.17%	2.42	2.37	-2.07%	49.7	49.8	0.1	9.1	7.2	1.9	-20.9	-22.6	-8.20%	PASS

Object:	Date Issued:	Dego 2 of 4
D2450V2 – SN: 797	09/11/2018	Page 2 of 4



Impedance & Return-Loss Measurement Plot for Head TSL

Object:	Date Issued:	Page 3 of 4
D2450V2 SN: 797	09/11/2018	



Impedance & Return-Loss Measurement Plot for Body TSL

Object:	Date Issued:	Page 4 of 4
D2450V2 – SN: 797	09/11/2018	

Calibration Laboratory Schmid & Partner Engineering AG Zeughausstrasse 43, 8004 Zurich				C	Schweizerischer Kalibrierdienst Service suïsse d'étalonnage Servizio svizzero di taratura Swiss Callbration Service	
Accredited by the Swiss Accreditat The Swiss Accreditation Service Multilateral Agreement for the re	is one of the signatorie	s to the EA certificates		Acc	reditation No.: SCS 0108	
Client PC Test			Certificate	No:	D2600V2=1004_Apr18	
CAMERATIONIC	FRIEGAT					
Object	D2600V2-SN:10	004				
Calibration procedure(s)	OF CALOBIER Celbrator fince	A STOLED AN OWNER	imen ille d		BN <sup>-/</sup>	018
Calibration date:	April 11, 2018				BM BM	018 Extended -20-2019
This calibration certificate docume The measurements and the uncert All calibrations have been conduct	ternaes wan contidence pr	obability are given on the	following pages :	and :	of measurements (SI). are part of the certificate.	
Calibration Equipment used (M&T)	E critical for calibration)					
Primary Standards	ID #	Cal Date (Certificate No	• `		• · · · · · · ·	
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-026			Scheduled Calibration	
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-026			Apr-19	
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-026			Apr-19	
Reference 20 dB Attenuator	SN: 5058 (20K)	04-Apr-18 (No. 217-026			Apr-19	
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-026			Apr-19	
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-73			Apr-19	
DAE4	SN: 601	26-Oct-17 (No. DAE4-6			Dec-18 Oct-18	
Secondary Standards	ID #	Check Date (in house)			`	
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house che			Scheduled Check	
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house che			In house check: Oct-18	
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house che			In house check: Oct-18	
RF generator R&S SMT-06	SN: 100972				In house check: Oct-18	
Network Analyzer HP 8753E	SN: US37390585	15-Jun-15 (in house cho			In house check: Oct-18	
		18-Oct-01 (in house che	eck Oct-17)		In house check: Oct-18	
Calibrated by:	Name Michael Weber	Function Laboratory	Technician		Signature	
Approved by:	Katja Pokovic	Technical N	Aanager		fl ll g	· ·
This calibration certificate shall not	be reproduced except in f	ull without written approva	al of the laborator	ŋ.	issued: April 12, 2018	

Certificate No: D2600V2-1004\_Apr18

## **Calibration Laboratory of**

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





S

Schweizerischer Kalibrierdienst

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

Accreditation No.: SCS 0108

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

#### Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

## 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 hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

## Additional Documentation:

e) DASY4/5 System Handbook

## Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss: These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured: SAR measured at the stated antenna input power.
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

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

### **Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.10.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2600 MHz ± 1 MHz	

#### **Head TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.0	1.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	37.8 ± 6 %	2.03 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

## SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition				
SAR measured	250 mW input power	14.3 W/kg			
SAR for nominal Head TSL parameters	normalized to 1W	55.9 W/kg ± 17.0 % (k=2)			
	F	······································			
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition				
SAR measured	250 mW input power	6.35 W/kg			
SAR for nominal Head TSL parameters	normalized to 1W	25.1 W/kg ± 16.5 % (k=2)			

## **Body TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity		
Nominal Body TSL parameters	22.0 °C	52.5	2.16 mho/m		
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.1 ± 6 %	2.19 mho/m ± 6 %		
Body TSL temperature change during test	< 0.5 °C		,		

## SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.8 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	54.8 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.20 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	24.7 W/kg ± 16.5 % (k=2)

## Appendix (Additional assessments outside the scope of SCS 0108)

## Antenna Parameters with Head TSL

Impedance, transformed to feed point	47.7 Ω - 5.7 jΩ
Return Loss	- 24.1 dB

#### Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.0 Ω - 3.8 jΩ
Return Loss	- 24.9 dB

### General Antenna Parameters and Design

Electrical Delay (one direction)	<b>A I I I I I I I I I I</b>
	1.149 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

## Additional EUT Data

Manufactured by	SPEAG
Manufactured on	December 23, 2006

## **DASY5 Validation Report for Head TSL**

Date: 11.04.2018

Test Laboratory: SPEAG, Zurich, Switzerland

## DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1004

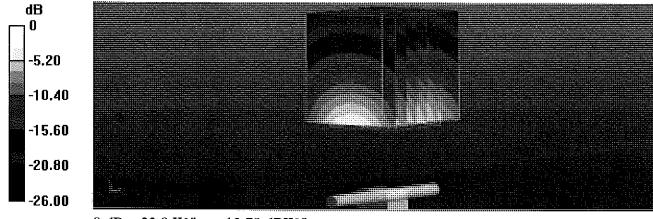
Communication System: UID 0 - CW; Frequency: 2600 MHz Medium parameters used: f = 2600 MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 37.8$ ;  $\rho = 1000$  kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

#### DASY52 Configuration:

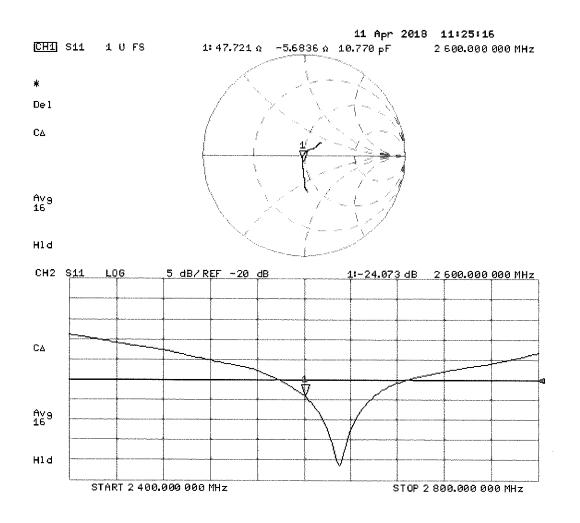
- Probe: EX3DV4 SN7349; ConvF(7.7, 7.7, 7.7); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

## Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 118.5 V/m; Power Drift = -0.04 dB Peak SAR (extrapolated) = 28.6 W/kg SAR(1 g) = 14.3 W/kg; SAR(10 g) = 6.35 W/kg Maximum value of SAR (measured) = 23.9 W/kg



0 dB = 23.9 W/kg = 13.78 dBW/kg



## **DASY5 Validation Report for Body TSL**

Date: 11.04.2018

Test Laboratory: SPEAG, Zurich, Switzerland

## DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1004

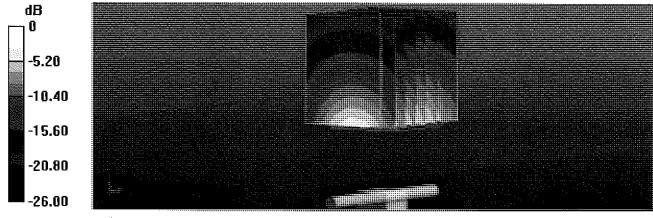
Communication System: UID 0 - CW; Frequency: 2600 MHz Medium parameters used: f = 2600 MHz;  $\sigma$  = 2.19 S/m;  $\epsilon_r$  = 52.1;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

#### DASY52 Configuration:

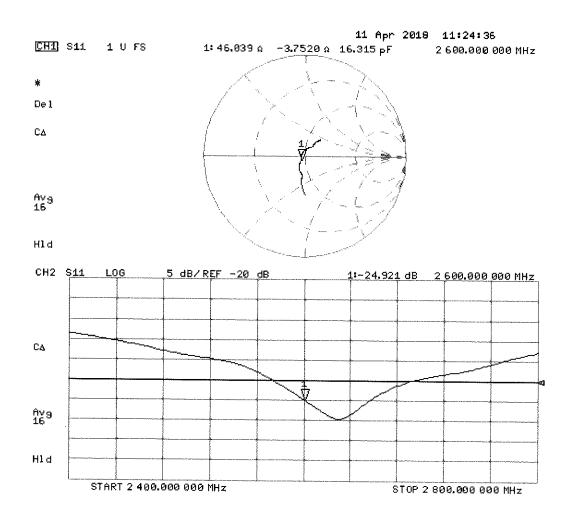
- Probe: EX3DV4 SN7349; ConvF(7.81, 7.81, 7.81); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

#### Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 108.5 V/m; Power Drift = -0.09 dB Peak SAR (extrapolated) = 28.3 W/kg SAR(1 g) = 13.8 W/kg; SAR(10 g) = 6.2 W/kg Maximum value of SAR (measured) = 22.9 W/kg



0 dB = 22.9 W/kg = 13.60 dBW/kg





PCTEST ENGINEERING LABORATORY, INC. 7185 Oakland Mills Road, Columbia, MD 21046 USA Tel. +1.410.290.6652 / Fax +1.410.290.6654

http://www.pctest.com



# **Certification of Calibration**

Object

D2600V2 - SN: 1004

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extension Calibration date: 4/11/2019

Description:

SAR Validation Dipole at 2600 MHz.

### Calibration Equipment used:

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8753ES	S-Parameter Network Analyzer	3/11/2019	Annual	3/11/2020	US39170122
Agilent	N5182A	MXG Vector Signal Generator	4/18/2018	Annual	4/18/2019	MY47420800
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433971
Anritsu	MA2411B	Pulse Power Sensor	11/20/2018	Annual	11/20/2019	1027293
Anritsu	MA2411B	Pulse Power Sensor	10/30/2018	Annual	10/30/2019	1126066
Anritsu	ML2495A	Power Meter	10/21/2018	Annual	10/21/2019	941001
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/9/2018	Biennial	10/9/2020	181647811
Control Company 4352		Ultra Long Stem Thermometer	5/2/2017	Biennial	5/2/2019	170330156
Keysight 772D		Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	6/4/2018	Annual	6/4/2019	MY53401181
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5+	20W5+ DC to 18 GHz Precision Fixed 20 dB Attenuator		N/A	CBT	N/A
Narda 4772-3 Attenuator (3dB)		CBT	N/A	CBT	9406	
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Seekonk	NC-100	Torque Wrench	7/11/2018	Annual	7/11/2019	N/A
SPEAG	EX3DV4	SAR Probe	6/25/2018	Annual	6/25/2019	7409
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/18/2018	Annual	6/18/2019	1334
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/13/2019	Annual	2/13/2020	665
SPEAG	EX3DV4	SAR Probe	2/19/2019	Annual	2/19/2020	7417
SPEAG	DAK-3.5	Dielectric Assessment Kit	9/11/2018	Annual	9/11/2019	1091

Measurement Uncertainty =  $\pm 23\%$  (k=2)

	Name	Function	Signature
Calibrated By:	Brodie Halbfoster	Test Engineer	BRODIE HALBFOSTER
Approved By:	Kaitlin O'Keefe	Senior Technical Manager	XOK

Object:	Date Issued:	Page 1 of 4
D2600V2 – SN: 1059	04/11/2019	Fage 1014

## **DIPOLE CALIBRATION EXTENSION**

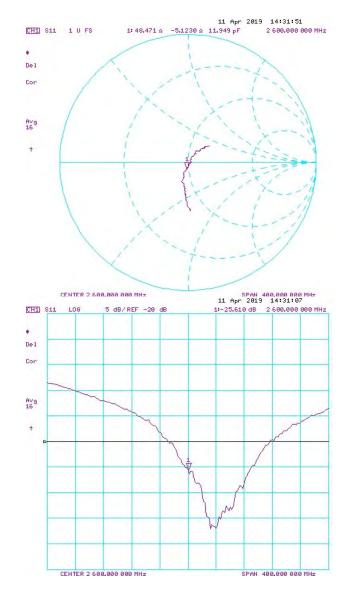
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

- 1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
- 2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
- 3. The measurement of real or imaginary parts of impedance does not deviate more than  $5\Omega$  from the previous measurement.

The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

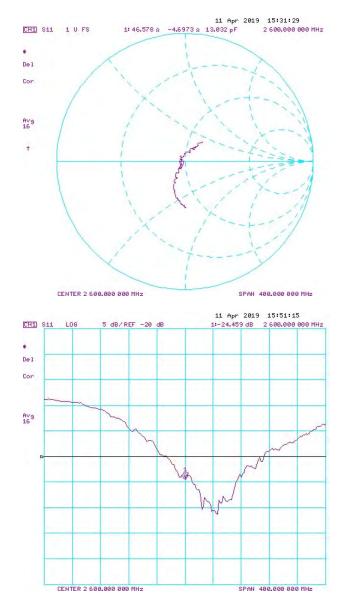
Calibration Date	Extension Date	Certificate Electrical Delay (ns)	Certificate SAR Target Head (1g) W/kg @ 20.0 dBm	Measured Head SAR (1g) W/kg @ 20.0 dBm	(0/)	Certificate SAR Target Head (10g) W/kg @ 20.0 dBm	Measured Head SAR (10g) W/kg @ 20.0 dBm	Deviation 10g (%)	Certificate Impedance Head (Ohm) Real	Measured Impedance Head (Ohm) Real	Difference (Ohm) Real	Certificate Impedance Head (Ohm) Imaginary	Measured Impedance Head (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Head (dB)	Measured Return Loss Head (dB)	Deviation (%)	PASS/FAIL
4/11/2018	4/11/2019	1.149	5.59	5.51	-1.43%	2.51	2.47	-1.59%	47.7	48.5	0.8	-5.7	-5.1	0.6	-24.1	-25.6	-6.30%	PASS
Calibration Date	Extension Date	Certificate Electrical Delay (ns)	Certificate SAR Target Body (1g) W/kg @ 20.0 dBm	Measured Body SAR (1g) W/kg @ 20.0 dBm	(0/)	Certificate SAR Target Body (10g) W/kg @ 20.0 dBm	Measured Body SAR (10g) W/kg @ 20.0 dBm	Deviation 10g (%)	Certificate Impedance Body (Ohm) Real	Measured Impedance Body (Ohm) Real	Difference (Ohm) Real	Certificate Impedance Body (Ohm) Imaginary	Measured Impedance Body (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Body (dB)	Measured Return Loss Body (dB)	Deviation (%)	PASS/FAIL
4/11/2018	4/11/2019	1.149	5.48	5.65	3.10%	2.47	2.48	0.40%	46	46.6	0.6	-3.8	-4.7	0.9	-24.9	-24.5	1.80%	PASS

Object:	Date Issued:	Dogo 2 of 4
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#### Impedance & Return-Loss Measurement Plot for Head TSL

Object:	Date Issued:	Page 3 of 4
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## Impedance & Return-Loss Measurement Plot for Body TSL

Object:	Date Issued:	Dogo 4 of 4
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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

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

Accreditation No.: SCS 0108

Calibration procedure(s)       QA CAL Calibration Calibration date:         Calibration date:       Septemil         This callbration certificate documents the traceative measurements and the uncertainties with or All calibrations have been conducted in the close Calibration Equipment used (M&TE critical for or Primary Standards         Power meter NRP       SN: 10477         Power meter NRP       SN: 10477         Power sensor NRP-Z91       SN: 10324         Power sensor NRP-Z91       SN: 10324         Reference 20 dB Attenuator       SN: 5058         Type-N mismatch combination       SN: 5047.         Reference Probe EX3DV4       SN: 7349         DAE4       SN: 6037         Power sensor HP 8481A       SN: US37         Power sensor HP 8481A       SN: 10097         Power sensor HP 8481A       SN: 10327		· ,	ite No: D2600V2-10	
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Power meter NRPSN: 10477Power sensor NRP-Z91SN: 10324Power sensor NRP-Z91SN: 10324Power sensor NRP-Z91SN: 10324Reference 20 dB AttenuatorSN: 5058Type-N mismatch combinationSN: 5047.Reference Probe EX3DV4SN: 7349DAE4SN: 601Secondary StandardsID #Power sensor HP 8481ASN: US37Power sensor HP 8481ASN: MY41RF generator R&S SMT-06SN: 10097Network Analyzer HP 8753ESN: US37	calibration)			
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Power meter EPM-442A SN: GB37 Power sensor HP 8481A SN: US37 Power sensor HP 8481A SN: MY41 RF generator R&S SMT-06 SN: 10097 Network Analyzer HP 8753E SN: US37 Name		ec-15 (No. DAE4-601_Dec15)	Dec-16	
Power meter EPM-442A SN: GB37 Power sensor HP 8481A SN: US37 Power sensor HP 8481A SN: MY41 RF generator R&S SMT-06 SN: 10097 Network Analyzer HP 8753E SN: US37 Name	Chec	k Date (in house)	Scheduled Cl	heck
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Approved by: Kalja Poko	ovic .	Technical Manager	Ru	4
•			Issued: Sente	mber 13, 2016

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





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S Swiss Callbration Service

Accredited by the Swiss Accreditation Service (SAS) The Swiss Accreditation Service is one of the signatories to the EA

Multilateral Agreement for the recognition of calibration certificates

#### Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

### Calibration is Performed According to the Following Standards:

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

## Additional Documentation:

e) DASY4/5 System Handbook

### Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed
  point exactly below the center marking of the flat phantom section, with the arms oriented
  parallel to the body axis.
- Feed Point Impedance and Return Loss: These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured: SAR measured at the stated antenna input power.
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

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%.

Accreditation No.: SCS 0108

#### **Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2600 MHz ± 1 MHz	

## Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.0	1.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	37.3 ± 6 %	2.05 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		17 16 ja ma

#### SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	14.5 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	56.3 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.45 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	25.3 W/kg ± 16.5 % (k=2)

## Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.5	2,16 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.1 ±6 %	2.22 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	- 16 56-99-99	

#### SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW Input power	13,8 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	54.2 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	• • • • • • • • • • • • • • • • • • •
SAR measured	250 mW input power	6.20 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	24.5 W/kg ± 16.5 % (k=2)

#### Appendix (Additional assessments outside the scope of SCS 0108)

#### Antenna Parameters with Head TSL

Impedance, transformed to feed point	49.9 Ω - 6.7 jΩ
Return Loss	- 23.5 dB

#### Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.1 Ω - 2.1 jΩ					
Return Loss	- 26.7 dB					

#### General Antenna Parameters and Design

Electrical Delay (one direction)	1.153 ns
	1

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

#### Additional EUT Data

Manufactured by	SPEAG
Manufactured on	July 17, 2013

#### **DASY5 Validation Report for Head TSL**

Date: 13.09.2016

Test Laboratory: SPEAG, Zurich, Switzerland

#### DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN:1071

Communication System: UID 0 - CW; Frequency: 2600 MHz Medium parameters used: f = 2600 MHz;  $\sigma = 2.05$  S/m;  $\epsilon_r = 37.3$ ;  $\rho = 1000$  kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

#### DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(7.56, 7.56, 7.56); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

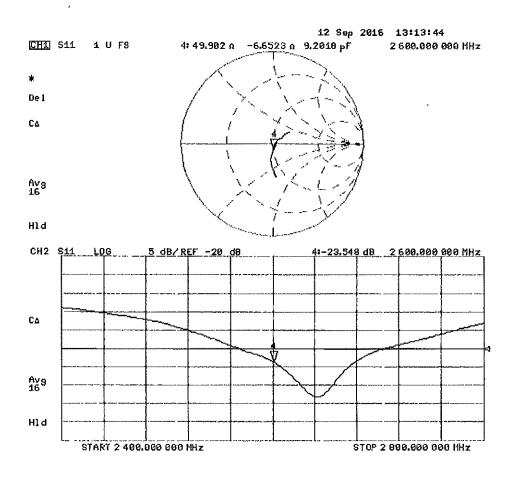
#### Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 115.1 V/m; Power Drift = -0.02 dB Peak SAR (extrapolated) = 30.4 W/kg SAR(1 g) = 14.5 W/kg; SAR(10 g) = 6.45 W/kg Maximum value of SAR (measured) = 24.6 W/kg



0 dB = 24.6 W/kg = 13.91 dBW/kg

## Impedance Measurement Plot for Head TSL



#### **DASY5 Validation Report for Body TSL**

Date: 13.09.2016

Test Laboratory: SPEAG, Zurich, Switzerland

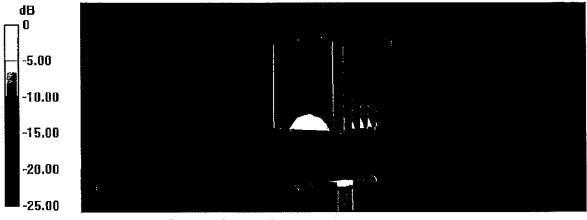
#### DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN:1071

Communication System: UID 0 - CW; Frequency: 2600 MHz Medium parameters used: f = 2600 MHz;  $\sigma = 2.22$  S/m;  $\varepsilon_r = 51.1$ ;  $\rho = 1000$  kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

#### DASY52 Configuration:

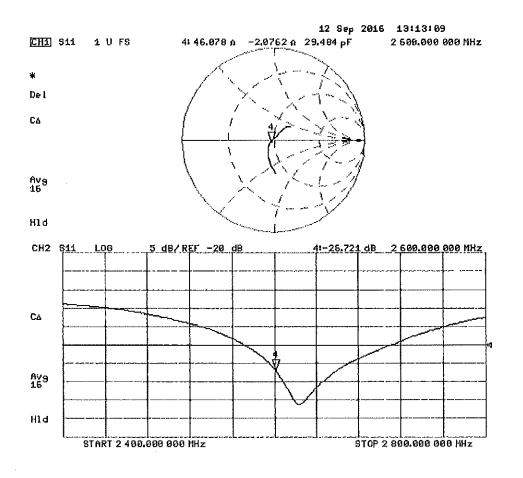
- Probe: EX3DV4 SN7349; ConvF(7.48, 7.48, 7.48); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

#### Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 107.7 V/m; Power Drift = -0.03 dB Peak SAR (extrapolated) = 28.3 W/kg SAR(1 g) = 13.8 W/kg; SAR(10 g) = 6.2 W/kg Maximum value of SAR (measured) = 23.3 W/kg



0 dB = 23.3 W/kg = 13.67 dBW/kg

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# **Certification of Calibration**

Object

D2600V2 – SN: 1071

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Calibration date: 09/07/2017

Description:

SAR Validation Dipole at 2600 MHz.

#### Calibration Equipment used:

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Control Company	4040	Therm./Clock/Humidity Monitor	3/31/2017	Biennial	3/31/2019	170232394
Control Company	4352	Ultra Long Stem Thermometer	5/2/2017	Biennial	5/2/2019	170330156
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433971
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Keysight	7720	Dual Directional Coupler	СВТ	N/A	CBT	MY52180215
Keysight Technologies	85033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	6/1/2017	Annual	6/1/2018	MY53401181
Agilent	8753ES	S-Parameter Network Analyzer	10/26/2016	Annual	10/26/2017	US39170118
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	C8T	N/A
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/13/2017	Annuai	7/13/2018	1322
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/10/2017	Annual	5/10/2018	1070
SPEAG	EX3DV4	SAR Probe	7/17/2017	Annual	7/17/2018	7410
Anritsu	MA2411B	Pulse Power Sensor	2/10/2017	Annual	2/10/2018	1207364
Anritsu	MA24118	Pulse Power Sensor	2/10/2017	Annual	2/10/2018	1339018
Anritsu	ML2495A	Power Meter	10/16/2015	Biennial	10/16/2017	941001
Agilent	N5182A	MXG Vector Signal Generator	2/28/2017	Annual	2/28/2018	MY47420800
Seekonk	NC-100	Torque Wrench	11/6/2015	Biennial	11/6/2017	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	ĊBŢ	N/A	СВТ	N/A

Note: CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path.

#### Measurement Uncertainty = $\pm 23\%$ (k=2)

	Name	Function	Signature
Calibrated By:	Brodie Halbfoster	Test Engineer	BROPTE HALBFOSTER
Approved By:	Kaitlin O'Keefe	Senior Technical Manager	NOK-

Object:	Date Issued:	Page 1 of 4
D2600V2 SN: 1071	09/07/2017	

## **DIPOLE CALIBRATION EXTENSION**

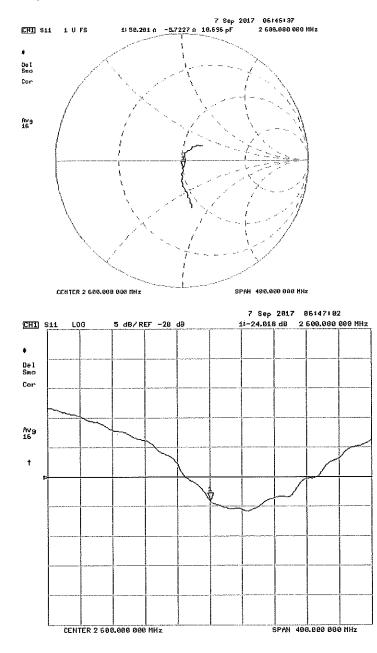
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

- 1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
- 2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
- 3. The measurement of real or imaginary parts of impedance does not deviate more than  $5\Omega$  from the previous measurement.

The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

Calibration Date	Extension Date	Certificate Electrical Delay (ns)	Certificate SAR Target Head (1g) W/kg @ 20.0 dBm	ubm	(%)	Certificate SAR Target Head (10g) W/kg @ 20.0 dBm	(10g) W/kg @ 20.0 dBm		Certificate Impedance Head (Ohm) Real	Measured Impedance Head (Ohm) Real	Difference (Ohm) Real	Certificate Impedance Head (Ohm) Imaginary	Measured Impedance Head (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Head (dB)	Head (dB)	Deviation (%)	
9/13/2016	9/7/2017	1.153	5.63	5.73	1.78%	2.53	2.52	-0.40%	49.9	50.3	0.4	-6.7	-5.7	1.0	-23.5	-24.0	-2.10%	PASS
Calibration Date	Extension Date	Certificate Electrical Delay (ns)	Certificate SAR Target Body (1g) W/kg @ 20.0 dBm	Measured Body SAR (1g) W/kg @ 20.0 dBm		Certificate SAR Target Body (10g) W/kg @ 20.0 dBm	(40-) (40-0	Deviation 10g (%)	Certificate Impedance Body (Ohm) Real	Measured Impedance Body (Ohm) Real	Difference (Ohm) Real	Certificate Impedance Body (Ohm) Imaginary	Measured Impedance Body (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Body (dB)	Measured Return Loss Body (dB)	Deviation (%)	PASS/FAIL
9/13/2016	9/7/2017	1.153	5.42	5.34	-1.48%	2.45	2.33	-4.90%	46.1	47.9	1.8	-2.1	-5.3	3.2	-26.7	-25.0	6.40%	PASS

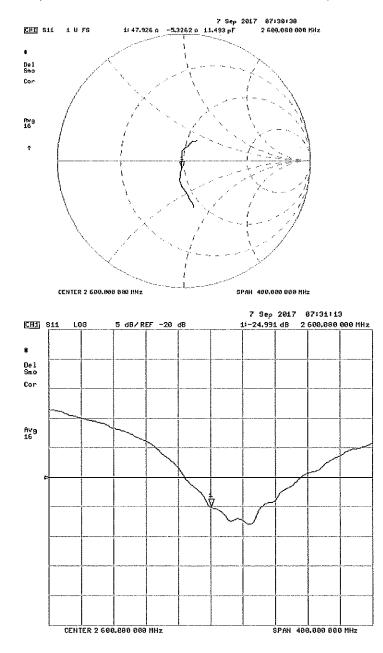
Object:	Date Issued:	Daga 2 of 4
D2600V2 – SN: 1071	09/07/2017	Page 2 of 4



#### Impedance & Return-Loss Measurement Plot for Head TSL

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Object:	Date Issued:	Page 3 of 4
D2600V2 - SN: 1071	09/07/2017	



Impedance & Return-Loss Measurement Plot for Body TSL

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Object:	Date Issued:	Dogo 4 of 4
D2600V2 - SN: 1071	09/07/2017	Page 4 of 4

PCTEST ENGINEERING LABORATORY, INC. 7185 Oakland Mills Road, Columbia, MD 21046 USA

7185 Oakland Mills Road, Columbia, MD 21046 USA Tel, +1,410,290,6652 / Fax +1,410,290,6654 http://www.pctest.com



# **Certification of Calibration**

Object

D2600V2 – SN: 1071

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Calibration date: 09/11/2018

Description:

SAR Validation Dipole at 2600 MHz.

#### Calibration Equipment used:

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number			
Control Company	4040	Therm./Clock/Humidity Monitor		Biennial	3/31/2019	170232394			
Control Company	4352	Ultra Long Stem Thermometer	5/2/2017	Biennlal	5/2/2019	170330156			
Amplifier Research	15S1G6	Amplifier	СВТ	N/A	CBT	433971			
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9405			
Keysight	7720	Dual Directional Coupler	CBT	N/A	CBT	MY52180215			
Keysight Technologies	B5033E	Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm)	6/4/2018	Annual	6/4/2019	MY53401181			
Agilent	8753ES	S-Parameter Vector Network Analyzer	8/30/2018	Annual	8/30/2019	MY40003841			
Mini-Circuits	8W-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A			
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/15/2018	Annual	5/15/2019	1070			
SPEAG	EX3DV4	SAR Probe	7/20/2018	Annual	7/20/2019	7410			
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/11/2018	Annual	7/11/2019	1322			
SPEAG	ES3DV3	SAR Probe	3/13/2018	Annual	3/13/2019	3319			
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/7/2018	Annual	3/7/2019	1368			
Anritsu	MA24118	Pulse Power Sensor	3/2/2018	Annual	3/2/2019	1207364			
Anritsu	MA2411B	Pulse Power Sensor	3/2/2018	Annual	3/2/2019	1339018			
Anritsu	ML2495A	Power Meter	10/22/2017	Annual	10/22/2018	1328004			
Agilent	N5182A	MXG Vector Signal Generator	4/18/2018	Annual	4/18/2019	MY47420800			
Seekonk	NC-100	Torque Wrench	7/11/2018	Annual	7/11/2019	N/A			
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A			
Narda	4014C-6	4 - 8 GHz SMA 6 dB Directional Coupler	СВТ	N/A	CBT	N/A			

Note: CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path.

#### Measurement Uncertainty = ±23% (k=2)

	Name	Function	Signature
Calibrated By:	Brodie Halbfoster	Test Engineer	BRODIE HALBFOSTER
Approved By:	Kaitlin O'Keefe	Senior Technical Manager	3XOK

 Object:
 Date Issued:
 Page 1 of 4

 D2600V2 - SN: 1071
 09/11/2018
 Page 1 of 4

## **DIPOLE CALIBRATION EXTENSION**

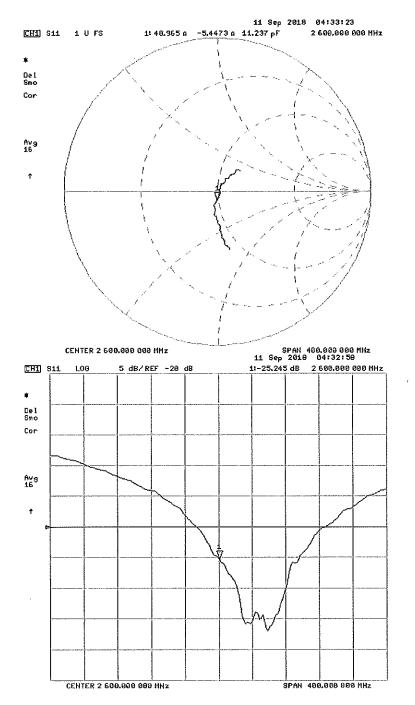
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

- 1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
- 2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
- 3. The measurement of real or imaginary parts of impedance does not deviate more than  $5\Omega$  from the previous measurement.

The following dipole was checked to pass the above 3 requirements to have 3-year calibration period from the calibration date:

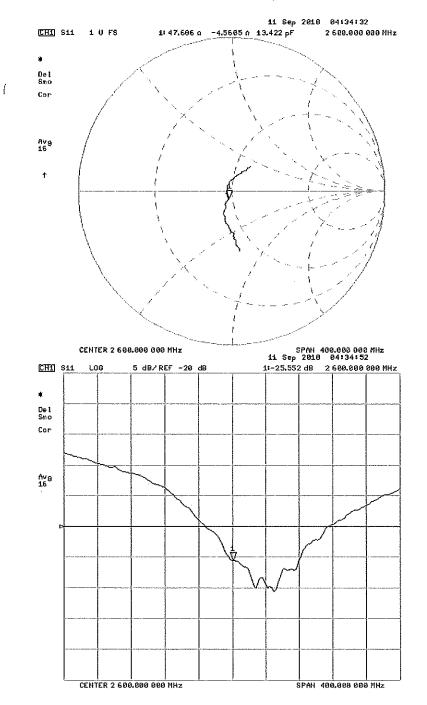
Calibration Date	Extension Date	Certificate Electrical Delay (ns)	Certificate SAR Target Head (1g) W/kg @ 20.0 dBm	Measured Head SAR (1g) W/kg @ 20.0 dBm	(04)	Certificate SAR Target Head (10g) W/kg @ 20.0 dBm	Head SAR	Deviation 10g (%)	Certificate Impedance Head (Ohm) Real	Measured Impedance Head (Ohm) Real	Difference (Ohm) Real	Certificate Impedance Head (Ohm) Imaginary	Measured Impedance Head (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Head (dB)	Measured Return Loss Head (dB)	Deviation (%)	PASS/FAIL
9/13/2016	9/11/2018	1.153	5.63	5.52	-1.95%	2.53	2.47	-2.37%	49.9	49	0.9	-6.7	-5.4	1.3	-23.5	-25.2	-7.40%	PASS
Calibration Date	Extension Date	Certificate Electrical Delay (ns)	Certificate SAR Target Body (1g) W/kg @ 20.0 dBm	Measured Body SAR (1g) W/kg @ 20.0 dBm	(0/.)		(10a) W/ka	Deviation 10g (%)		Measured Impedance Body (Ohm) Real	Difference (Ohm) Real	Certificate Impedance Body (Ohm) Imaginary	Measured Impedance Body (Ohm) Imaginary	Difference (Ohm) Imaginary	Certificate Return Loss Body (dB)	Measured Return Loss Body (dB)	Deviation (%)	PASS/FAIL
9/13/2016	9/11/2018	1.153	5.42	5.57	2.77%	2.45	2.46	0.41%	46.1	47.7	1.6	-2.1	-4.6	2.5	-26.7	-25.6	4.30%	PASS

Object:	Date Issued:	Dogo 2 of 4
D2600V2 – SN: 1071	09/11/2018	Page 2 of 4



Impedance & Return-Loss Measurement Plot for Head TSL

Object:	Date Issued:	Page 3 of 4
D2600V2 SN: 1071	09/11/2018	



Impedance & Return-Loss Measurement Plot for Body TSL

Object:	Date Issued:	Page 4 of 4
D2600V2 - SN: 1071	09/11/2018	Page 4 of 4

## **Calibration Laboratory of** Schmid & Partner Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland



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#### Accreditation No.: SCS 0108

Client PC Test

Certificate No: D2600V2-1126\_Aug18

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# **CALIBRATION CERTIFICATE**

Object	D2600V2 - SN:1	126	
Calibration procedure(s)	QA CAL-05.v10 Calibration proce	edure for dipole validation kits at	pove 700 MHz
Calibration date:	August 13, 2018		BN/ 09-06/2018
	ed in the closed laborato	ional standards, which realize the physical u probability are given on the following pages a ry facility: environment temperature (22 ± 3)	and are part of the certificate.
Primary Standards	ID #		
Power meter NBP	SN: 104778	Cal Date (Certificate No.)	Scheduled Calibration
Power sensor NRP-Z91		04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Reference 20 dB Attenuator	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Type-N mismatch combination	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Reference Probe EX3DV4	SN: 5047.2 / 06327 SN: 7349	04-Apr-18 (No. 217-02683)	Apr-19
DAE4	SN: 601	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
	011.001	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18
Secondary Standards	ID #	Check Date (in house)	Schodulad Charle
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	Scheduled Check
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18 In house check: Oct-18
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-17)	In house check: Oct-18
Calibrated by:	Name Michael Weber	Function Laboratory Technician	Signature
Approved by:	Katja Pokovic	Technical Manager	Cliff.
This calibration certificate shall not	be reproduced except in	full without written approval of the laboratory	Issued: August 13, 2018

Certificate No: D2600V2-1126\_Aug18

## **Calibration Laboratory of**

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





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Accreditation No.: SCS 0108

Glossary:	
TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

## 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 hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

## Additional Documentation:

e) DASY4/5 System Handbook

## Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss: These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay: One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured: SAR measured at the stated antenna input power.
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

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

## **Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2600 MHz ± 1 MHz	

## Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.0	1.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	37.1 ± 6 %	2.03 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

## SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	14.0 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.25 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	24.6 W/kg ± 16.5 % (k=2)

## **Body TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.5	2.16 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.3 ± 6 %	2.20 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C		

## SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	
SAR for nominal Body TSL parameters	normalized to 1W	54.1 W/kg ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.15 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	24.4 W/kg ± 16.5 % (k=2)

# Appendix (Additional assessments outside the scope of SCS 0108)

## Antenna Parameters with Head TSL

Impedance, transformed to feed point	48.3 Ω - 8.0 jΩ
Return Loss	- 21.6 dB

## Antenna Parameters with Body TSL

Impedance, transformed to feed point	44.7 Ω - 5.8 ϳΩ
Return Loss	- 21.7 dB

## General Antenna Parameters and Design

Electrical Delay (one direction)	
Electrical Delay (one direction)	1.154 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still by the standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

## Additional EUT Data

Manufactured by	SPEAG
Manufactured on	October 22, 2015

### **DASY5 Validation Report for Head TSL**

Date: 13.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

## DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN:1126

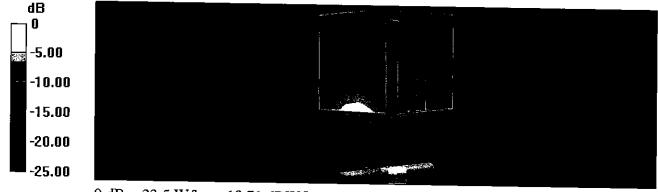
Communication System: UID 0 - CW; Frequency: 2600 MHz Medium parameters used: f = 2600 MHz;  $\sigma$  = 2.03 S/m;  $\epsilon_r$  = 37.1;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(7.7, 7.7, 7.7) @ 2600 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

# Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 117.1 V/m; Power Drift = 0.00 dB Peak SAR (extrapolated) = 28.0 W/kg SAR(1 g) = 14 W/kg; SAR(10 g) = 6.25 W/kg Maximum value of SAR (measured) = 23.5 W/kg



0 dB = 23.5 W/kg = 13.71 dBW/kg

## Impedance Measurement Plot for Head TSL

File	⊻iew	⊆hannel	Sw <u>e</u> ep	Calibration	Trace	<u>S</u> cale	M <u>a</u> rker	S <u>v</u> stem	<u>W</u> indow	Help		:		
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Sta	itus	CH 1:	<u>511</u>		C* 1 Poi	t		Avg=20	Delay					

#### **DASY5 Validation Report for Body TSL**

Date: 13.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

#### DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN:1126

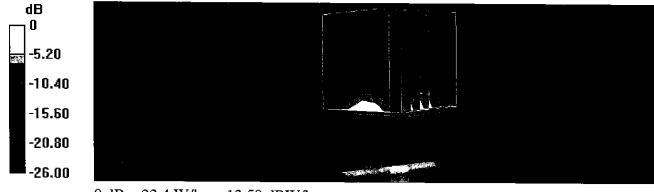
Communication System: UID 0 - CW; Frequency: 2600 MHz Medium parameters used: f = 2600 MHz;  $\sigma = 2.2$  S/m;  $\epsilon_r = 51.3$ ;  $\rho = 1000$  kg/m<sup>3</sup> Phantom section: Flat Section Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

#### DASY52 Configuration:

- Probe: EX3DV4 SN7349; ConvF(7.81, 7.81, 7.81) @ 2600 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

## Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 107.2 V/m; Power Drift = -0.09 dB Peak SAR (extrapolated) = 28.0 W/kg SAR(1 g) = 13.7 W/kg; SAR(10 g) = 6.15 W/kg Maximum value of SAR (measured) = 22.4 W/kg



0 dB = 22.4 W/kg = 13.50 dBW/kg

<u>F</u> ile	<u>V</u> iew	<u>C</u> hannel	Sw <u>e</u> ep	Calibration	Trace	<u>S</u> cale	M <u>a</u> rker	System	<u>W</u> indow	Help				· · ·
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#### **Calibration Laboratory of**

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

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	PC Test

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Accreditation No.: SCS 0108

Certificate No: EX3-3589\_Jan19

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Object	EX3DV4 - SN:3589
Calibration procedure(s)	QA CAL-01.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7 Calibration procedure for dosimetric E-field probes
Calibration date:	January 25, 2019
This calibration certificate docume The measurements and the uncert	nts the traceability to national standards, which realize the physical units of measurements (SI). tainties with confidence probability are given on the following pages and are part of the certificate.
All calibrations have been conduct	ted in the closed laboratory facility: environment temperature (22 $\pm$ 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)	Арг-19
DAE4	SN: 660	19-Dec-18 (No. DAE4-660_Dec18)	Dec-19
Reference Probe ES3DV2	SN: 3013	31-Dec-18 (No. ES3-3013_Dec18)	Dec-19
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-18)	In house check: Oct-19

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	GZ L
Approved by:	Katja Pokovic	Technical Manager	OUL
			Issued: January 29, 2019
This calibration certificat	e shall not be reproduced except in ful	l without written approval of the lab	oratory.

#### Calibration Laboratory of

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





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Service suisse d'étalonnage

Accreditation No.: SCS 0108

- С Servizio svizzero di taratura
- S Swiss Calibration Service

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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
A, B, C, D	modulation dependent linearization parameters
Polarization φ	$\varphi$ 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., $\vartheta = 0$ is normal to probe axis
Connector Angle	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
- 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 C) used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

#### Methods Applied and Interpretation of Parameters:

- NORMx, y, z: Assessed for E-field polarization  $\vartheta = 0$  (f  $\leq 900$  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,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  $f \leq 800$  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).

#### **Basic Calibration Parameters**

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (µV/(V/m) <sup>2</sup> ) <sup>A</sup>	0.44	0.40	0.39	± 10.1 %
$DCP (mV)^{B}$	104.1	102.3	101.6	

#### **Calibration Results for Modulation Response**

UID	Communication System Name		A dB	B dBõV	С	D dB	VR mV	Max dev.	Max Unc <sup>E</sup> (k=2)
0	CW	X	0.00	0.00	1.00	0.00	161.0	± 2.2 %	±4.7 %
0		Y	0.00	0.00	1.00		172.8		
		Z	0.00	0.00	1.00		161.9		
10352-	Pulse Waveform (200Hz, 10%)	X	15.00	89.05	22.73	10.00	60.0	± 1.8 %	± 9.6 %
AAA		Y	15.00	87.03	21.09		60.0		
		Z	15.00	88.89	22.24		60.0		
10353-	Pulse Waveform (200Hz, 20%)	X	15.00	89.55	21.62	6.99	80.0	±0.9 %	± 9.6 %
AAA		Y	15.00	87.28	19.70	]	80.0		
		Z	15.00	89.25	21.07		80.0		
10354-	Pulse Waveform (200Hz, 40%)	X	15.00	91.62	21.02	3.98	95.0	± 0.9 %	± 9.6 %
AAA		Y	15.00	87.00	17.73		95.0		
,		Z	15.00	91.02	20.33		95.0		
10355-	Pulse Waveform (200Hz, 60%)	X	15.00	97.72	22.56	2.22	120.0	± 1.3 %	± 9.6 %
AAA		Y	15.00	85.70	15.52		120.0		
		Z	15.00	94.39	20.55		120.0		
10387-	QPSK Waveform, 1 MHz	X	0.93	64.13	11.59	0.00	150.0	± 3.0 %	± 9.6 %
AAA		Y	0.57	60.00	7.45		150.0	-	
		Z	0.83	63.49	10.36		150.0		
10388-	QPSK Waveform, 10 MHz	X	2.36	68.76	16.09	0.00	150.0	± 1.5 %	± 9.6 %
AAA		Y	1.95	66.09	14.43		150.0	1	
		Z	2.37	69.14	16.27		150.0		
10396-	64-QAM Waveform, 100 kHz	X	3.76	72.95	19.72	3.01	150.0	± 0.7 %	± 9.6 %
AAA		Y	3.11	69.51	18.06		150.0	4	
		Z	4.24	75.35	20.59		150.0		
10399-	64-QAM Waveform, 40 MHz	X	3.57	67.40	15.92	0.00	150.0	± 2.7 %	± 9.6 %
AAA		Y	3.33	66.26	15.18		150.0	4	1
		Z	3.47	67.09	15.77		150.0		
10414-	WLAN CCDF, 64-QAM, 40MHz	Х	4.95	65.72	15.56	0.00	150.0	± 4.8 %	± 9.6 %
ÀAA		Y	4.74	65.16	15.23		150.0	-	
		Z	4.81	65.57	15.48	1	150.0	1	ļ

Note: For details on UID parameters see Appendix

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

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

<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.

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

#### 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⁻²	T5 V⁻¹	Т6
X	55.3	407.97	34.85	27.50	1.34	5.10	1.23	0.50	1.01
 	46.7	357.99	37.12	21.71	1.59	5.07	0.00	0.73	1.01
7	46.1	339.04	34.64	23.94	1.27	5.07	1.73	0.40	1.01

#### **Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	-30.3
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

f (MHz) <sup>c</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	41.9	0.89	8.67	8.67	8.67	0.70	0.80	± 12.0 %
835	41.5	0.90	8.39	8.39	8.39	0.63	0.81	± 12.0 %
1750	40.1	1.37	7.31	7.31	7.31	0.40	0.80	± 12.0 %
1900	40.0	1.40	7.08	7.08	7.08	0.39	0.80	± 12.0 %
2300	39.5	1.67	6.77	6.77	6.77	0.31	0.85	± 12.0 %
2450	39.2	1.80	6.46	6.46	6.46	0.30	0.85	± 12.0 %
2600	39.0	1.96	6.25	6.25	6.25	0.40	0.83	± 12.0 %
3500	37.9	2.91	6.16	6.16	6.16	0.26	1.20	± 13.1 %
3700	37.7	3.12	6.02	6.02	6.02	0.26	1.20	± 13.1 %

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

<sup>c</sup> 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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to  $\pm$  110 MHz.

<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 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.

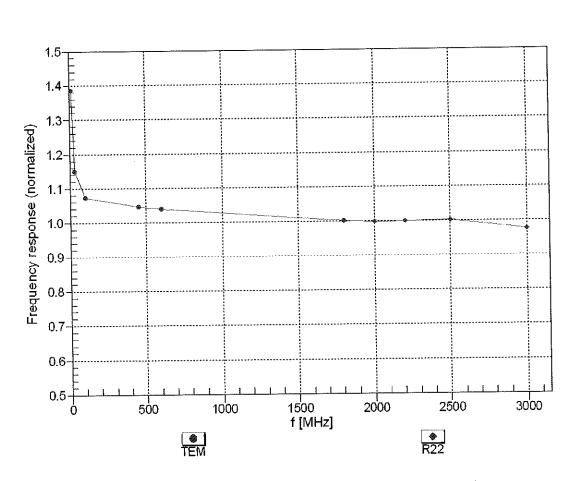
f (MHz) <sup>c</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55.5	0.96	8.34	8.34	8.34	0.42	0.84	± 12.0 %
835	55.2	0.97	8.29	8.29	8.29	0.41	0.84	± 12.0 %
1750	53.4	1.49	6.82	6.82	6.82	0.43	0.80	± 12.0 %
1900	53.3	1.52	6.75	6.75	6.75	0.35	0.85	± 12.0 %
2300	52.9	1.81	6.71	6.71	6.71	0.36	0.87	± 12.0 %
2450	52.7	1.95	6.66	6.66	6.66	0.34	0.88	± 12.0 %
2600	52.5	2.16	6.47	6.47	6.47	0.28	0.95	± 12.0 %
3500	51.3	3.31	6.21	6.21	6.21	0.25	1.25	± 13.1 %
3700	51.0	3.55	6.13	6.13	6.13	0.20	1.25	± 13.1 %

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

<sup>c</sup> 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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to  $\pm$  110 MHz.

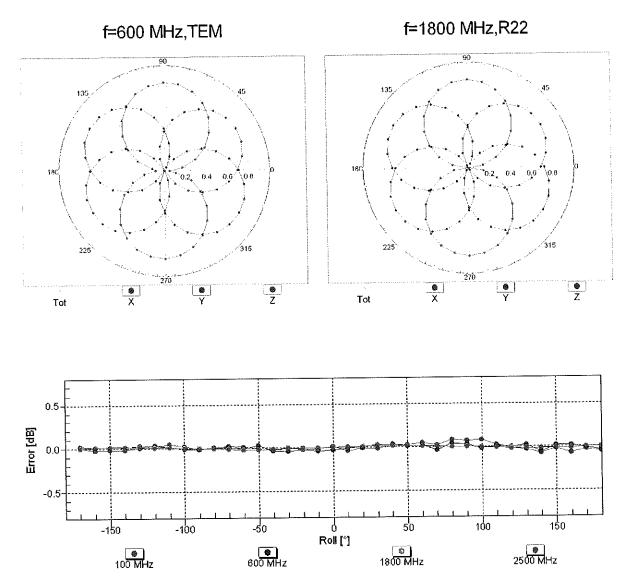
<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\varepsilon$  and  $\sigma$ ) can be relaxed to  $\pm$  10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\varepsilon$  and  $\sigma$ ) is restricted to  $\pm$  5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters. <sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is

<sup>G</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.



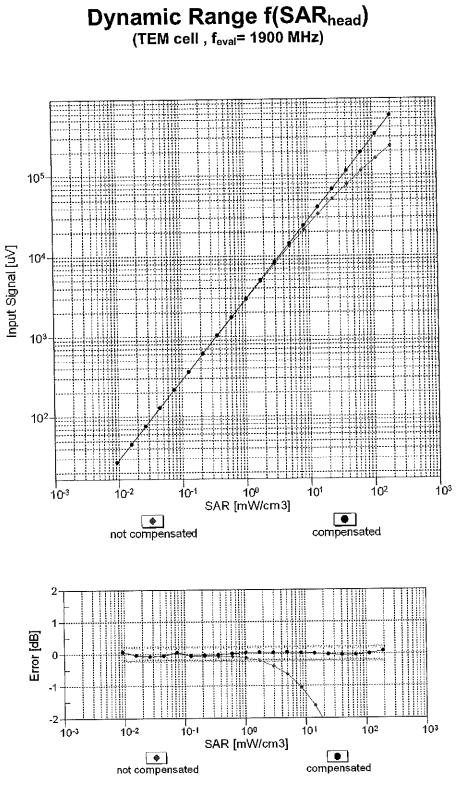
## Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)

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

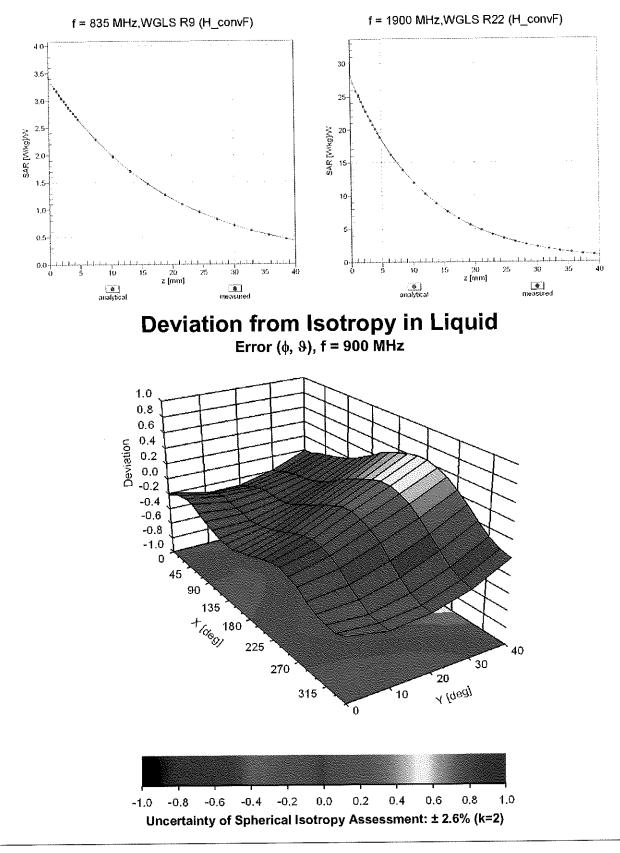


# Receiving Pattern ( $\phi$ ), $\vartheta = 0^{\circ}$

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



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



## **Conversion Factor Assessment**

### **Appendix: Modulation Calibration Parameters**

UID	Rev	Communication System Name	Group	PAR	Unc <sup>E</sup>
0		011		(dB)	(k=2)
0		CW	CW	0.00	± 4.7 %
<u>10010</u> 10011	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	±9.6 %
10011	CAB	UMTS-FDD (WCDMA)	WCDMA	2.91	± 9.6 %
10012		IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	± 9.6 %
	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	± 9.6 %
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	±9.6 %
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	± 9.6 %
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	±9.6 %
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	±9.6 %
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	± 9.6 %
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	±9.6 %
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	± 9.6 %
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	± 9.6 %
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	± 9.6 %
10031		IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	±9.6 %
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	± 9.6 %
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	±9.6 %
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	±9.6%
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	±9.6 %
10036	CAA	IEEE 802,15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	±9.6%
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	±9.6 %
10038		IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	±9.6 %
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	±9.6%
10042		IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	±9.6%
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	±96%
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	±9.6%
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	±9.6 %
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	±9.6%
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	± 9.6 %
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	±9.6 %
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	±9.6 %
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	±9.6 %
10062	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	±9.6 %
10063	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	± 9.6 %
10064	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	±9.6%
10065	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	±9.6 %
10066	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %
10067	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	± 9.6 %
10068	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	± 9.6 %
10069	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	±9.6 %
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	±9.6 %
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	±9.6%
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	± 9.6 %
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	± 9.6 %
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	± 9.6 %
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	± 9.6 %
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	±9.6 %
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	± 9.6 %
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	± 9.6 %
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	± 9.6 %
10097	CAB	UMTS-FDD (HSDPA)	WCDMA	3.98	±9.6%
10098	CAB	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	± 9.6 %
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %
10100	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %
10101	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10102	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	±9.6%
10103	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10104	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	± 9.6 %
10105	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	± 9.6 %
10108	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	± 9.6 %

10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	±9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	±9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	±9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	±9.6%
10114	CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	±9.6 %
10116	CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	±9.6%
10140	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	±9.6 %
10141	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	±9.6 %
10142	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10143	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	±9.6 %
10144	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	± 9.6 %
10145	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	±9.6 %
10146	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	±9.6 %
10147	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	±9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10150	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
10151	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9,6 %
10152	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	± 9.6 %
10153	CAG	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 04-QAM)	LTE-FDD	5.75	± 9.6 %
	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10155			LTE-FDD	5.79	± 9.6 %
10156	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	6.49	± 9.6 %
10157	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.62	± 9.6 %
10158	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6,56	± 9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	5.82	± 9.6 %
10160	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)		6.43	± 9.6 %
10161	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.58	± 9.6 %
10162	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD		
10166	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	± 9.6 %
10167	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	AAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	± 9.6 %
10172	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10173	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10174	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10175	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10176	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10177	CAI	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10178	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10179	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6,50	± 9.6 %
10180	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10181	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10182	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10183	AAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10184	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10185	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	± 9.6 %
10186	AAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10187	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5,73	±9.6 %
10188		LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10189	AAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10189	CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10193	CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 36-QAM)	WLAN	8.12	± 9.6 %
		IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10195	CAC		WLAN	8.10	± 9.6 %
10196		IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.13	± 9.6 %
10197	CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8,27	± 9.6 %
10198	CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.03	± 9.6 %
10219		IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)		0.00	1 - 0.0 70

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10220	CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	±9.6%
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	±9.6%
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	±9.6%
10223	CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	±9.6 %
10224	CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	±9.6 %
10225	CAB	UMTS-FDD (HSPA+)	WCDMA	5.97	± 9.6 %
10226	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	± 9.6 %
10227	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	±9.6 %
10228	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	±9.6 %
10229	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10230	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	±9.6 %
10231	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	±9.6 %
10232	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10233	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	±9.6 %
10234	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	±9.6 %
10235	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	±9.6%
10236	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10237	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10238	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	±9.6%
10239	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10240	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	±9.6 %
10241	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	± 9.6 %
10242	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	±9.6 %
10243	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	±9.6 %
10244	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	±9.6%
10245	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	± 9.6 %
10246	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	±9.6 %
10247	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	±9.6 %
10248	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	± 9.6 %
10249	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	±9.6 %
10250	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	± 9.6 %
10251	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	± 9.6 %
10252	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	±9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	± 9.6 %
10254	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	±9.6 %
10255	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	± 9.6 %
10256	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	± 9.6 %
10257	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	±9.6 %
10258	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	± 9.6 %
10259	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	± 9.6 %
10260	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	± 9.6 %
10261	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10262	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	± 9.6 %
10263	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	± 9.6 %
10264	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	± 9.6 %
10265	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10266	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	± 9.6 %
10267	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10269	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.00	± 9.6 %
10270	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	± 9.6 %
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	± 9.6 %
10275	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	± 9.6 %
10277	CAA	PHS (QPSK)	PHS	11.81	± 9.6 %
10278	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	± 9.6 %
10279	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	± 9.6 %
10290	AAB	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	± 9.6 %
10291	AAB	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	± 9.6 %
10292	AAB	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	± 9.6 %
10293	AAB	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	± 9.6 %
10295	AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	± 9.6 %
10200	AAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	$\pm 9.6\%$
10298	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10299	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	$\pm 9.6\%$
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10300	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10301	AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WIMAX	12.03	±9.6 %
10302	AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	WIMAX	12.57	± 9.6 %
0303	AAA	IEEE 802.16e WIMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	WIMAX	12.52	±9.6 %
10304	AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WIMAX	11.86	±9.6 %
0304	AAA	IEEE 802.16e WIMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15	WIMAX	15.24	± 9.6 %
10000		symbols)			
10306	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	WiMAX	14.67	± 9.6 %
10307	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	WIMAX	14.49	± 9.6 %
10308	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WIMAX	14.46	±9.6 %
10309	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18	WiMAX	14.58	± 9.6 %
10310	ΑΑΑ	symbols) IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18	WIMAX	14.57	± 9.6 %
		symbols)	LTE-FDD	6.06	± 9.6 %
10311	AAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)			$\pm 9.6\%$
10313	AAA	IDEN 1:3	IDEN	10.51 13.48	± 9.6 %
10314	AAA	IDEN 1:6	IDEN		$\pm 9.6\%$
10315	AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.71	
10316	AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	$\pm 9.6\%$
10317	AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	± 9.6 % ± 9.6 %
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	± 9.6 %
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	± 9.6 %
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	± 9.6 %
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	± 9.6 %
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	± 9.6 %
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	± 9.6 %
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	± 9.6 %
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %
10400	AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10401	AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	WLAN	8.60	± 9.6 %
10402	AAD	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	WLAN	8.53	± 9.6 %
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	± 9.6 %
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	± 9.6 %
10406	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	± 9.6 %
10410	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	LTE-TDD	7.82	± 9.6 %
40444		WLAN CCDF, 64-QAM, 40MHz	Generic	8.54	± 9.6 %
10414		IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	WLAN	1.54	± 9.6 %
10415	AAA		WLAN	8.23	± 9.6 %
10416	AAA	IEEE 802.11g/WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
<u>10417</u> 10418	AAB AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle,	WLAN	8.14	± 9.6 %
10419	AAA	Long preambule) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Chest preambule)	WLAN	8.19	± 9.6 %
40400	A A D	Short preambule) IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	± 9.6 9
10422	AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.47	± 9.6 9
10423	AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 10-QAM)	WLAN	8.40	± 9.6 °
10424	AAB	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-0AM)	WLAN	8.41	± 9.6
10425	AAB	IEEE 002.1111 (TT Greenfield, 10 Mibps, DF ON)	WLAN	8.45	± 9.6
10426	AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.41	± 9.6 °
10427	AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	LTE-FDD	8.28	± 9.6
10430	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.38	± 9.6
10431	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6
10432	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)		8.34	± 9.6
10433	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD		$\pm 9.6$
	AAA	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	
10434		LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6
	AAF	Subframe=2.3.4.7.8.9)			
10434 10435		Subframe=2,3,4,7,8,9)	LTE-FDD	7.56	± 9.6
10434 10435 10447	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD LTE-FDD	7.56 7.53	± 9.6 °
10434 10435		Subframe=2,3,4,7,8,9)           LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)           LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)           LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)			

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10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	± 9.6 %
10456	AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	WLAN	8.63	± 9.6 %
10457	AAA	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	± 9.6 %
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	± 9.6 %
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	± 9.6 %
10460	AAA	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	±9.6 %
10461	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6 %
10462	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.30	±9.6 %
10463	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	± 9.6 %
10464	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10465	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10466	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6 %
10467	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6 %
10468	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10469	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	± 9.6 %
10470	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6 %
10471	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10472	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10473	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6 %
10474	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10475	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10477	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	± 9.6 %
10478	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	± 9.6 %
10479	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10480	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.18	± 9.6 %
10481	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	±9.6 %
10482	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.71	± 9.6 %
10483	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.39	± 9.6 %
10484	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.47	± 9.6 %
10485	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2.3.4.7.8.9)	LTE-TDD	7.59	± 9.6 %
10486	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.38	± 9.6 %
10487	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.60	± 9.6 %
10488	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2.3,4,7,8,9)	LTE-TDD	7.70	±9.6 %
10489	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	±9.6 %
10490	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6 %
10491	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6 %

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10492	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.41	± 9.6 %
10493	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	±9.6 %
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6 %
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.37	±9.6 %
10496	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6%
10497	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	±9.6 %
10498	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.40	± 9.6 %
10499	ΑΑΑ	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2.3.4.7.8.9)	LTE-TDD	8.68	± 9.6 %
10500	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	±9.6 %
10501	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.44	± 9.6 %
10502	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.52	± 9.6 %
10503	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.72	± 9.6 %
10504	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	± 9.6 %
10505	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10506	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10507	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.36	± 9.6 %
10508	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	± 9.6 %
10509	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.99	± 9.6 %
10510	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.49	±9.6 %
10511	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2.3,4,7,8,9)	LTE-TDD	8.51	± 9.6 %
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6 %
10513	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.42	± 9.6 %
10514	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	± 9.6 %
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	WLAN	1.58	± 9.6 %
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	WLAN	1.57	± 9.6 %
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	WLAN	1.58	± 9.6 %
10518	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10519	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10520	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.12	± 9.6 %
10521	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	WLAN	7.97	± 9.6 %
10522	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10523	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.08	± 9.6 %
10524	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.27	± 9.6 %
10525	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10526	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10527	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	WLAN	8.21	± 9.6 %
10528	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10529	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	WLAN	8.36	±9.6 %
10531	AAB	IEEE 802,11ac WiFi (20MHz, MCS6, 99pc duty cycle)	WLAN	8.43	± 9.6 %
10532	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10002	1,0,0				
10532	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle) IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	WLAN WLAN	8.38 8.45	± 9.6 % ± 9.6 %

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10535	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10536	AAB	IEEE 802.11ac WiFI (40MHz, MCS2, 99pc duty cycle)	WLAN	8.32	±9.6 %
10537	AAB	IEEE 802.11ac WiFI (40MHz, MCS3, 99pc duty cycle)	WLAN	8.44	± 9.6 %
10538	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	WLAN	8,54	± 9.6 %
10540	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10541	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	WLAN	8.46	± 9.6 %
10542	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10543	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10544	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	WLAN	8.47	±9.6%
10545	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	WLAN	8.55	± 9.6 %
10546	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	WLAN	8.35	± 9.6 %
10547	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	WLAN	8.49	± 9.6 %
10548	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10550	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	WLAN		
10551	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)		8.38	± 9.6 %
10552	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	WLAN	8.50	± 9.6 %
10553	AAB		WLAN	8.42	± 9.6 %
		IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10554	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	WLAN	8.48	±9.6%
10555	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	WLAN	8.47	± 9.6 %
10556	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	WLAN	8.50	±9.6 %
10557	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	WLAN	8,52	± 9.6 %
10558	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	WLAN	8.61	± 9.6 %
10560	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	WLAN	8.73	±9.6%
10561	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	WLAN	8.56	± 9.6 %
10562	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	WLAN	8.69	± 9.6 %
10563	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10564	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty	WLAN	8.25	± 9.6 %
		cycle)		0.20	1 3.0 %
10565	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty	WLAN	8.45	±9.6 %
				0.45	1 9.0 %
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty	WLAN	8.13	+0.6.0/
			VVL/AIN	0.15	±9.6 %
10567	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty	WLAN	8.00	
10007		cycle)	VVLAN	8.00	±9.6 %
10568	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty		- 0.07	
10000			WLAN	8.37	±9.6 %
10560	Δ.Δ.Δ.				
10569	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty	WLAN	8.10	±9.6 %
40570		cycle)			
10570	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty	WLAN	8.30	±9.6 %
		cycle)			
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	WLAN	1.99	±9.6 %
10572	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	WLAN	1.99	±9.6 %
10573	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	WLAN	1.98	± 9.6 %
10574	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	WLAN	1.98	± 9.6 %
10575	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty	WLAN	8.59	±9.6 %
		cycle)			
10576	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty	WLAN	8.60	± 9.6 %
		cycle)			
10577	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty	WLAN	8.70	± 9.6 %
		cycle)		0.10	
10578	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty	WLAN	8.49	± 9.6 %
	1001		I I I I I I I I I I I I I I I I I I I	0.43	1 2.0 /0
10579	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty	WLAN	8.36	± 9.6 %
10010	7.0.03		VVLAN	0.30	±9.0 %
10580	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty	WLAN	0 70	
10000		Cycle)	VVLAN	8.76	±9.6 %
10504	A A A			0.05	
10581	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty	WLAN	8.35	±9.6 %
L					
	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty	WLAN	8.67	± 9.6 %
10582		cycle)			
10583	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10583 10584	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	WLAN WLAN	8.59 8.60	<u>±9.6 %</u> ±9.6 %
10583		IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)			
10583 10584	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.60	± 9.6 %

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			10/1 0.01	0.76	+06%
10588	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76 8.35	<u>±9.6 %</u> ±9.6 %
10589	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	WLAN WLAN	8.67	$\pm 9.6\%$
10590	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.63	±9.6 %
10591	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10592	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	WLAN	8.64	±9.6%
10593	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	WLAN	8.74	±9.6 %
10594	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)		8.74	$\pm 9.6\%$
10595	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	WLAN WLAN	8.71	±9.6 %
10596	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	WLAN	8,72	±9.6 %
10597	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	WLAN	8.50	± 9.6 %
10598	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10599	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	WLAN	8.88	$\pm 9.6\%$
10600	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10601	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10602	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	WLAN	9.03	± 9.6 %
10603	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10604	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	WLAN	8.97	± 9.6 %
10605	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10606	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)		8.64	± 9.6 %
10607	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	WLAN WLAN	8.77	± 9.6 %
10608	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	WLAN	8.57	$\pm 9.6\%$
10609	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	WLAN	8.78	$\pm 9.6\%$
10610	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10611	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10612	AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	WLAN WLAN	8.94	± 9.6 %
10613	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	WLAN	8.59 8.59	$\pm 9.0\%$ $\pm 9.6\%$
10614	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10615	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10616	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10617	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	WLAN	8.58	± 9.6 %
10618	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10619	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	WLAN	8.87	± 9.6 %
10620	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10621	AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	WLAN	8.68	± 9.6 %
10622	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10623	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10624	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10625	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle) IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10626	AAB		WLAN	8.88	± 9.6 %
10627	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10628	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10629	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10630	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10631		IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle) IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	WLAN	8.74	$\pm 9.6\%$
10632	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10633	AAB	IEEE 802.11ac WIFI (80MHz, MCS7, 90pc duty cycle)	WLAN	8.80	± 9.6 %
10634		IEEE 802.11ac WIFI (80MHz, MCS8, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10635	AAB	IEEE 802.11ac WIFI (80MHz, MCS9, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10636	AAC	IEEE 802.11ac WIFI (160MHz, MCS0, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10637	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10638	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10639	AAC	IEEE 802.11ac WiFI (160MHz, MCS3, 30pc duty cycle)	WLAN	8.98	± 9.6 %
10640	AAC	IEEE 802.11ac WiFI (160MHz, MCS4, 30pc duty cycle)	WLAN	9.06	± 9.6 %
10641	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 30pc duty cycle)	WLAN	9.06	± 9.6 %
10642	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 30pc duty cycle)	WLAN	8.89	± 9.6 %
10643	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 300c duty cycle)	WLAN	9.05	± 9.6 %
10644	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	WLAN	9.11	± 9.6 %
10645	AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6 %
10646		LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, 0L Subframe=2,7) LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6 %
10647	AAF	CDMA2000 (1x Advanced)	CDMA2000	3,45	± 9.6 %
10648		LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	± 9.6 %
10652	AAD	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	± 9.6 %
10653	AAD	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	± 9.6 %
10654	AAD		<u>,</u>		

#### EX3DV4-- SN:3589

January 25, 2019

10655	AAE	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	± 9.6 %
10658	AAA	Pulse Waveform (200Hz, 10%)	Test	10.00	± 9.6 %
10659	AAA	Pulse Waveform (200Hz, 20%)	Test	6.99	±9.6 %
10660	AAA	Pulse Waveform (200Hz, 40%)	Test	3.98	± 9.6 %
10661	AAA	Pulse Waveform (200Hz, 60%)	Test	2.22	±9.6 %
10662	AAA	Pulse Waveform (200Hz, 80%)	Test	0.97	±9.6%
10670	AAA	Bluetooth Low Energy	Bluetooth	2.19	± 9.6 %

<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

PC-Test

Client

Zeughausstrasse 43, 8004 Zurich, Switzerland

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

Accreditation No.: SCS 0108

Certificate No: EX3-7308\_Aug18 **ALIBRATION CERTIFICATE** 

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Object	EX3DV4 - SN:7308
Calibration procedure(s)	QA CAL-01.v9, QA CAL-141v4, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	August 23, 2018
This calibration certificate doc	uments 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.)	
Power meter NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Scheduled Calibration
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02672)	Apr-19
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-18 (No. 217-02673)	Apr-19
Reference Probe ES3DV2	SN: 3013		Apr-19
DAE4	SN: 660	30-Dec-17 (No. ES3-3013_Dec17)	Dec-18
		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: Jun-20

	Name	Function	Signature	
Calibrated by:	Jeton Kastrati	Laboratory Technician	1 - 1	1.
				P
Approved by:				*
Approved by.	Katja Pokovic	Technical Manager		1 <u>2</u> [
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This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Issued: August 24, 2018

#### Calibration Laboratory of Schmid & Partner Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst

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

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

## Accreditation No.: SCS 0108

#### Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization 9	9 rotation around an axis that is in the plane normal to probe axis (at measurement center)
Operation of the second	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
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

#### Methods Applied and Interpretation of Parameters:

- NORMx,y,z: Assessed for E-field polarization 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 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,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:7308

Manufactured: Calibrated:

March 11, 2014 August 23, 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 $(\mu V/(V/m)^2)^A$	0.49	0.60	0.44	± 10.1 %
DCP (mV) <sup>B</sup>	99.6	97.1	102.5	

#### Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	С	D dB	VR mV	Unc <sup>E</sup> (k=2)
0	CW	X	0.0	0.0	1.0	0.00	177.2	±3.5 %
_		Y	0.0	0.0	1.0		165.4	
		Z	0.0	0.0	1.0		159.6	

Note: For details on UID parameters see Appendix.

#### Sensor Model Parameters

	C1 fF	C2 fF	α V <sup>-1</sup>	T1 ms.V⁻²	T2 ms.V <sup>-1</sup>	T3 ms	T4 V⁻²	T5 V <sup>-1</sup>	T6
<u> </u>	53.71	401.2	35.76	12.80	0.351	5.077	0.717	0.413	1.005
<u>Y</u>	56.67	439.8	38.08	13.44	0.524	5.100	0.000	0.597	1.012
<u>Z</u>	40.98	304.1	35.29	8.573	0.334	5.045	1.531	0.174	1.005

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

<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>8</sup> Numerical linearization parameter: uncertainty not required.

<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.

		T				Julia		
f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	41.9	0.89	10.23	10.23	10.23	0.57	0.81	± 12.0 %
835	41.5	0.90	9.96	9.96	9.96	0.58	0.81	± 12.0 %
1750	40.1	1.37	8.66	8.66	8.66	0.36	0.80	± 12.0 %
1900	40.0	1.40	8.26	8.26	8.26	0.29	0.85	± 12.0 %
2300	39.5	1.67	7.81	7.81	7.81	0.29	0.85	± 12.0 %
2450	39.2	1.80	7.45	7.45	7.45	0.35	0.91	 ± 12.0 %
2600	39.0	1.96	7.30	7.30	7.30	0.35	0.87	± 12.0 %
5250	35.9	4.71	5.10	5.10	5.10	0.40	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	5.04	5.04	5.04	0.40	1.80	± 13.1 %

<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  $\pm$  110 MHz. <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.

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.

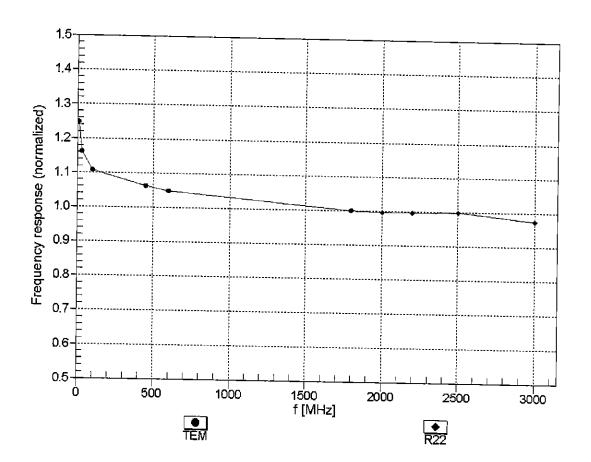
f (MHz) <sup>c</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55.5	0.96	10.38	10.38	10.38	0.36	0.99	± 12.0 %
835	55.2	0.97	10.19	10.19	<u>1</u> 0.19	0.50	0.82	± 12.0 %
1750	53.4	1.49	8.13	8.13	8.13	0.27	1.04	± 12.0 %
1900	53.3	1.52	7.79	7.79	7.79	0.38	0.85	± 12.0 %
2300	52.9	1.81	7.73	7.73	7.73	0.37	0.80	± 12.0 %
2450	52.7	1.95	7.57	7.57	7.57	0.34	0.88	± 12.0 %
2600	52.5	2.16	7.40	7.40	7.40	0.29	0.95	± 12.0 %
5250	48.9	5.36	4.48	4.48	4.48	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.00	4.00	4.00	0.50	1.90	± 13.1 %
5750	48.3	5.94	4.18	4.18	4.18	0.50	1.90	± 13.1 %

Calibration Parameter Determined in Body T	lissue Simulating Media
--	-------------------------

<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

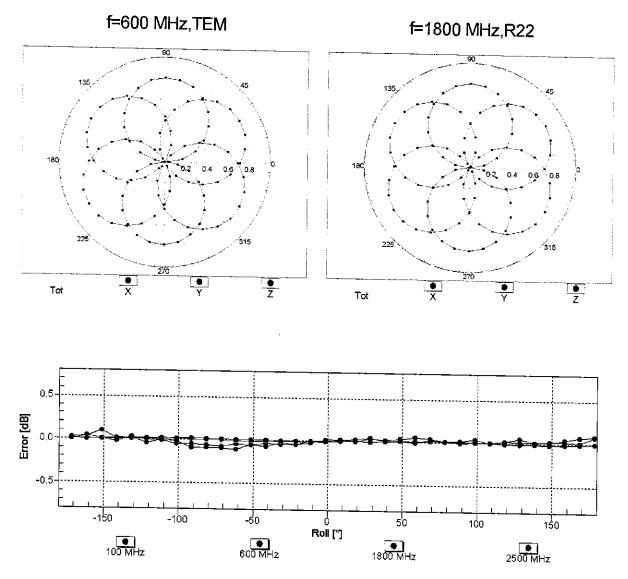
validity can be extended to  $\pm$  110 MHz. F At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to  $\pm$  10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\varepsilon$  and  $\sigma$ ) is restricted to  $\pm$  5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters. <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.



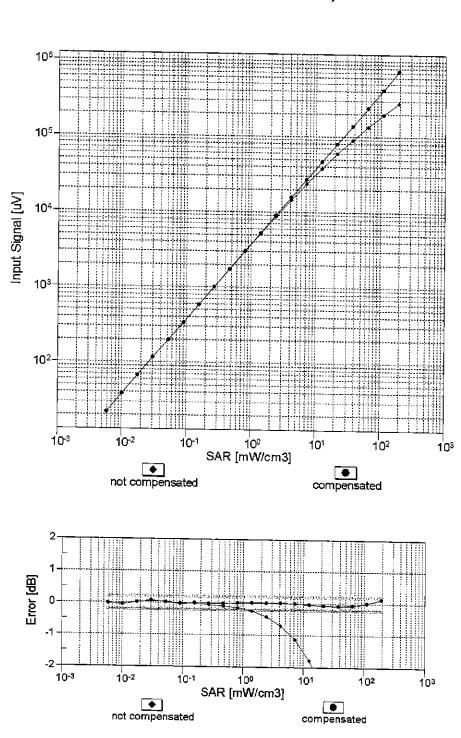
## Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)

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



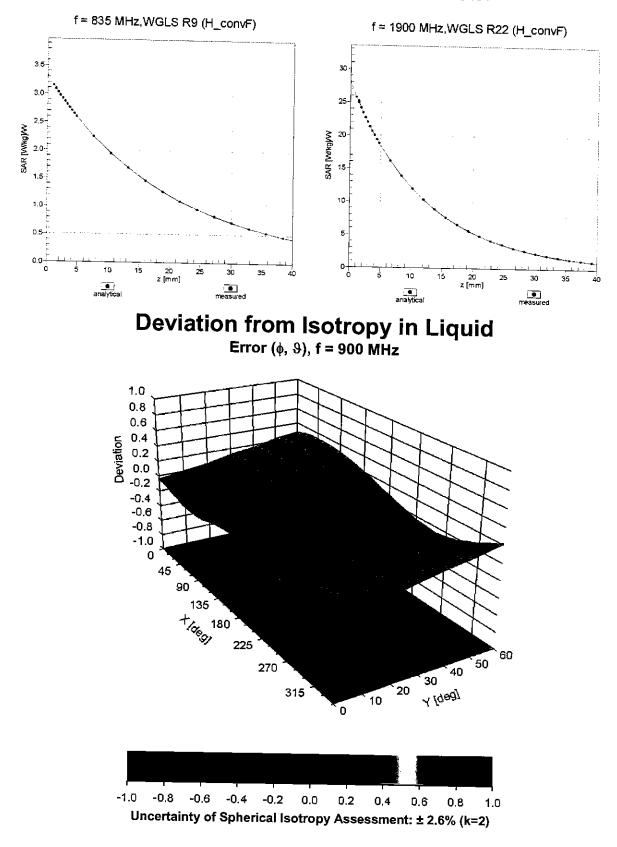
# Receiving Pattern ( $\phi$ ), $\vartheta = 0^{\circ}$





## 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**

# Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	
Mechanical Surface Detection Mode	108.5
	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	
Tip Length	10 mm
	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	
Probe Tip to Sensor Z Calibration Point	1 mm
	1 mm
Recommended Measurement Distance from Surface	

## 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	177.2	± 3.5 %
		Y	0.00	0.00	1.00		165.4	
	SAR Validation (Square, 100ms, 10ms)	Z X	0.00	0.00	1.00	40.00	159.6	
CAA		^	2.71	68.17	11.26	10.00	20.0	± 9.6 %
		Y	2.39	66.64	10.67		20.0	
10011-	UMTS-FDD (WCDMA)	ZX	1.90	64.26	9.03	<u> </u>	20.0	
CAB		Y -	1.19	70.37	17.06	0.00	150.0	±9.6 %
		Z	0.96 1.05	66.50 68.92	14.51		150.0	
10012- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.18	64.67	16.00 16.08	0.41	150.0 150.0	± 9.6 %
		Y	1.11	63.43	15.04		150.0	
		Z	1.13	64.11	15.48		150.0	
10013- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps)	X	4.93	66.75	17.26	1.46	150.0	± 9.6 %
		Ŷ	4.92	66.47	17.15		150.0	
10021-	GSM-FDD (TDMA, GMSK)	Z	4.74	66.75	17.08		150.0	
DAC	GSM-FDD (TDMA, GMSK)	X	100.00	114.38	27.28	9.39	50.0	± 9.6 %
		Y	100.00	114.83	27.64		50.0	
10023-	GPRS-FDD (TDMA, GMSK, TN 0)	Z X	100.00	109.69	24.90		50.0	
DAC		Y	100.00	113.94	27.13	9.57	50.0	± 9.6 %
		Z	100.00	114.49	27.54		50.0	
10024- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00 100.00	109.21 115.48	<u>24</u> .74 26.77	6.56	<u>50.0</u> 60.0	± 9.6 %
		Y	100.00	114.18	26.29		60.0	
		Z	100.00	109.85	23.86		60.0	
10025- DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	X	6.22	84.66	34.29	12.57	50.0	±9.6%
		Ŷ	4.94	76.24	29.94		50.0	
10026-	EDGE-FDD (TDMA, 8PSK, TN 0-1)	Z	5.36	79.88	31.57		50.0	
DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X Y	11.81	100.22	36.35	9.56	60.0	± 9.6 %
	<u> </u>	Z	<u>11.10</u> 7.89	97.75 90.81	35.30 32.78		60.0	
10027- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	118.27	27.22	4.80	60.0 80.0	± 9.6 %
		Y	100.00	114.44	25.61		80.0	
		Z	_100.00	111.67	23.86		80.0	<u> </u>
10028- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	100.00	122.72	28.40	3.55	100.0	± 9.6 %
		Y	100.00	114.80	25.04		100.0	
10020		Z	100.00	114.83	24.49		100.0	
10029- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	6.56	85.50	29.56	7.80	80.0	± 9.6 %
		Y Z	6.53	84.80	29.16	<u> </u>	80.0	
10030- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	<u>4.80</u> 100.00	<u>79.03</u> 114.96	26.78 26.10	5.30	80.0 70.0	± 9.6 %
		Y	100.00	112.69	25.18		70.0	- · · · · · · · · · · · · · · · · · · ·
		Z	100.00	108.37	22.73		70.0	
10031- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	100.00	126.84	28.53	1.88	100.0	± 9.6 %
		Y	100.00	105.21	19.68		100.0	
		Z	100.00	108.61	20.59		100.0	

10032- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	x	100.00	146.53	35.02	1.17	100.0	± 9.6 %
		Ŷ	100.00	95.65	15.05	<u> </u>	100.0	
		z	100.00	112.23	21.08		100.0	
10033- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	100.00	133.98	36.90	5.30	70.0	± 9.6 %
		Y	94.91	132.14	36.35		70.0	
		Z	24.70	106.96	28.52		70.0	<u></u>
10034- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	8.70	95.28	25.33	1.88	100.0	± 9.6 %
		Y	4.18	83.23	21.11		100.0	<b></b>
		Z	3.97	82.01	19.44	<u> </u>	100.0	
10035- _CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	3.83	83.82	21.38	1.17	100.0	± 9.6 %
		Y	2.23	74.99	17.69		100.0	-
		Z	2.33	75.94	16.98	<u> </u>	100.0	
10036- CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	100.00	134.50	37.14	5.30	70.0	± 9.6 %
		Y	100.00	133.48	36.76		70.0	
		Z	56.60	119.91	31.85		70.0	<u> </u>
10037- CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	7.69	93.53	24.78	1.88	100.0	± 9.6 %
		Y	3.89	82.31	20.76		100.0	
		Z	3.40	80.12	18.77		100.0	<u>                                      </u>
10038- CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	3.93	84.59	21.78	1.17	100.0	± 9.6 %
		Y	2.28	75.57	18.03		100.0	
		Z	2.38	76.51	17.34		100.0	
10039- CAB	CDMA2000 (1xRTT, RC1)	X	2.78	78.14	18.71	0.00	150.0	± 9.6 %
		Y	1.67	70.12	14.94		150.0	
		Ž	2.00	74.01	15.76		150.0	
10042- CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4- DQPSK, Halfrate)	x	100.00	110.92	24.96	7.78	50.0	± 9.6 %
		Y	100.00	110.22	24.75		50.0	
		Z	100.00	106.01	22.46		50.0	
10044- CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.00	112.58	4.43	0.00	150.0	± 9.6 %
		Y	0.07	121.95	9.84		150.0	
- <u> </u>		Z	0.01	118.94	9.83		150.0	
10048- CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	100.00	111.48	27.44	13.80	25.0	±9.6 %
	<u> </u>	Y	100.00	112.85	28.28		25.0	
		Z	18.65	86.54	19.90		25.0	
10049- CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	100.00	112.40	26.75	10.79	40.0	± 9.6 %
		Y	100.00	113.42	27.38		40.0	
40050		Ζ	46.23	99.19	22.45		40.0	
10056- CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	100.00	126.85	34.82	9.03	50.0	± 9.6 %
	<u> </u>	Y	100.00	126.84	34.96		50.0	
10050		Z	73.14	116.99	30.84		50.0	
10058- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	4.87	79.06	26.07	6.55	100.0	± 9.6 %
	·	Y	4.89	78.72	25.82		100.0	
10059-	1EEE 800 115 11 11 10 10 10 10 10 10 10 10	Z	3.78	74.24	23.87		100.0	
CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.24	66.08	16.89	0.61	110.0	± 9.6 %
	+ ··· <u>-</u> ·· <u>-</u> <u>-</u>	Y	1.15	64.70	15.80		110.0	
10060		_ Z	1.15	65.12	16.08		110.0	
10060- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	100.00	145.11	38.67	1.30	110.0	± 9.6 %
		Y	100.00	138.14	35.54		110.0	

10061- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	x	5.01	92.44	27.34	2.04	110.0	± 9.6 %
		Y	3.88	86.79	24.94	<u> </u>	110.0	
		Z	2.64	81.37	23.02	<u>├</u>	110.0	
10062- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.74	66.80	16.70	0.49	100.0	±9.6 %
		Y	4.72	66.44	16.52		100.0	
		Z	4.55	66.78	16.53	·	100.0	·
10063- _CAC	IEEE 802.11a/h WiFl 5 GHz (OFDM, 9 Mbps)	X	4.76	66.90	16.81	0.72	100.0	± 9.6 %
		Y	4.74	66.55	16.64		100.0	
10064-		Z	4.57	66.86	16.62		100.0	
CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	5.07	67.18	17.05	0.86	100.0	±9.6 %
		<u>Y</u>	5.06	66.88	16.91		100.0	
10065-		Z	4.83	67.08	16.83		100.0	
<u>CAC</u>	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	4.93	67.08	17.15	1.21	100.0	± 9.6 %
		Y	4.92	66.80	17.03		100.0	
10066-		Z	4.69	66.95	16.91		100.0	
CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	4.95	67.11	17.33	1.46	100.0	±9.6 %
		Y	4.94	66.84	17.22		100.0	
40007		Z	4.70	66.94	17.07		100.0	
10067- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	5.22	67.17	17.72	2.04	100.0	± 9.6 %
<b></b>		Y	5.23	66.94	17.65		100.0	
		Z	4.99	67.15	17.52		100.0	
10068- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	X	5.28	67.31	17.99	2.55	100.0	±9.6 %
		Y	5.30	67.12	17.95		100.0	
		Ž	5.01	67.08	17.69		100.0	
10069- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	5.36	67.24	18.15	2.67	100.0	± 9.6 %
		Y	5.38	67.05	18.11		100.0	
		Z	5.09	67.11	17.88		100.0	
10071- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	5.01	66.83	17.56	1.99	100.0	± 9.6 %
		Y	5.01	66.58	17.48		100.0	
		Z	4.83	66.80	17.36	·	100.0	
10072- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	5.00	67.20	17.81	2.30	100.0	± 9.6 %
		Y	5.01	66.96	17.73		100.0	
		Z	4.79	67.07	17.56		100.0	
10073- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	5.05	67.32	18.13	2.83	100.0	± 9.6 %
		Y	5.06	67.11	18.07		100.0	
100-1		Z	4.84	67.21	17.87		100.0	
10074- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	X	5.01	67.17	18.27	3.30	100.0	±9.6 %
		Y	5.03	66.98	18.23		100.0	
		Z	4.82	67.10	18.01		100.0	
10075- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	5.05	67.33	18.61	3.82	90,0	± 9.6 %
		Y	5.08	67.18	18.60		90.0	
40075		Z	4.84	67.13	18.28		90.0	
10076- CAB	IEEE 802.11g WIFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	X	5.04	67.01	18.67	4.15	90.0	± 9.6 %
		Y	5.06	66.85	18.66		90.0	
		Z	4.86	66.95	18.41		90.0	
10077- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	5.05	67.06	18.76	4.30	90.0	± 9.6 %
		Y	5.07	66.89	18.74		90.0	
		Z	4.89	67.03	18.52		90.0	

10081- CAB	CDMA2000 (1xRTT, RC3)	x	1.10	69.87	14.99	0.00	150.0	± 9.6 %
		Y	0.78	64.74	11.83		150.0	
		Z	0.78	66.34	11.97		150.0	
10082- CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4- DQPSK, Fullrate)	X	0.69	60.00	4.39	4.77	80.0	± 9.6 %
		Y	0.71	60.00	4.39		80.0	
		Z	7.97	68.50	6.36	<u> </u>	80.0	
10090- DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	115.53	26.81	6.56	60.0	±9.6 %
		Y	100.00	114.29	26.36		60.0	
		Z	100.00	109.90	23.90		60.0	
10097- CAB	UMTS-FDD (HSDPA)	×	1.95	68.97	16.62	0.00	150.0	± 9.6 %
	······································	Y	1.75	66.81	15.24		150.0	
10000		Z	1.87	68.90	16.13		150.0	
10098- UMTS-FDD (H CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.91	68.95	16.60	0.00	150.0	± 9.6 %
		Y	1.71	66.77	15.20		150.0	
40000		Z	1.83	68.86	16.11		150.0	
10099- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	11.93	100.45	36.42	9.56	60.0	± 9.6 %
		Y	11.20	97.95	35.37		60.0	
40405		Z	7.96	90.99	32.84		60.0	
10100- CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	3.40	71.76	17.45	0.00	150.0	± 9.6 %
		Y	3.10	69.82	16.33		150.0	
		Z	3.12	70.91	17.03		150.0	
10101- CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	3.36	68.15	16.35	0.00	150.0	± 9.6 %
		Y	3.24	67.23	15.77		150.0	
		Z	3.17	67.74	16.07		150.0	
10102- CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, _64-QAM)	Х	3.45	68.05	16.42	0.00	150.0	± 9.6 %
		Ý	3.34	67.19	15.87		150.0	
		Z	3.28	67.71	16.16		150.0	
10103- CAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	6.86	77.75	21.56	3.98	65.0	±9.6 %
		Y	6.56	76.62	21.10		65.0	
		Z	5.69	75.27	20.45		65.0	<u> </u>
10104- CAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	6.41	74.58	21.07	3.98	65.0	± 9.6 %
		Y	6.33	74.04	20.86		65.0	
		Z	5.58	72.74	20.11		65.0	
10105- CAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	6.09	73.43	20.88	3.98	65.0	± 9.6 %
		Y	6.03	72.95	20.69		65.0	<u> </u>
40400		Z	5.24	71.29	19.75		65.0	<u> </u>
10108- CAF	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, _QPSK)	X	2.97	70.94	17.29	0.00	150.0	± 9.6 %
		Y	2.72	69.08	16.17		150.0	
40400		Z	2.70	70.20	16.88		150.0	
10109- CAF	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	3.02	68.05	16.32	0.00	150.0	± 9.6 %
		Y	2.90	67.02	15.66		150.0	
40440		Z	2.83	67.71	15.99		150.0	
10110- CAF	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	х	2.42	70.09	17.00	0.00	150.0	± 9.6 %
		Y	2.21	68.14	15.78		150.0	
404 11		Z	2.18	69.46	16.49		150.0	
10111- CAF	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.76	69.06	16.78	0.00	150.0	± 9.6 %
		Y	2.59	67.59	15.88		1	<u> </u>
			<b>L.</b> OO	01.00	0.00		150.0	

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10112- CAF	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	3.14	67.97	16.35	0.00	150.0	± 9.6 %
		Y	3.03	67.00	15.72	<u> </u>	150.0	<u> </u>
10113-	TE EDD (SC EDMA 400% DD E MIL	Z	2.95	67.72	16.05		150.0	
CAF	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.92	69.11	16.87	0.00	150.0	± 9.6 %
		Y	2.75	67.72	16.02		150.0	
10114-		Z	2.74	69.14	16.51		150.0	
CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	×	5.18	67.31	16.57	0.00	150.0	±9.6 %
		Y	<u>5.</u> 14	66.93	16.36		150.0	
10115-		Z	5.02	67.26	16.48		150.0	
	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	×	5.52	67.57	16.70	0.00	150.0	± 9.6 %
		Y	5.51	67.29	16.56		150.0	
10116		_Z	5.27	67.30	16.50		150.0	
10116- CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	5.29	67.56	16.61	0.00	150.0	±9.6 %
		Ý	5.27	67.21	16.43		150.0	
10117		Z	5.10	67.44	16.50		150.0	
10117- CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	×	5.16	67.25	16.55	0.00	150.0	± 9.6 %
		Y	5.13	66.89	16.36		150.0	
40440		_ Z	4.99	67.15	16.44		150.0	
10118- CAC		X	5.59	67.74	16.79	0.00	150.0	± 9.6 %
		Y	5.60	67.49	16.67		150.0	
40440		Z	5.34	67.49	16.60		150.0	
10119- CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64- QAM)	X	5.26	67.49	16.59	0.00	150.0	± 9.6 %
<del>.</del>		Y	5.24	67.15	16.41		150.0	
		Z	5.09	67.40	16.49		150.0	<u> </u>
10140- CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.50	68.05	16.33	0.00	150.0	±9.6 %
		Y	3.39	67.19	15.79		150.0	
		Z	3.30	67.72	16.07		150.0	
10141- CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.62	68.10	16.48	0.00	150.0	± 9.6 %
		Y	3.51	67.27	15.96		150.0	
		Ζ	3.43	67.85	16.25		150.0	
10142- CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	x	2.22	70.35	16.88	0.00	150.0	± 9.6 %
		Y	1.98	67.98	15.45		150.0	
		Z	1.97	69.67	16.10	-	150.0	
10143- CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	2.70	70.21	16.79	0.00	150.0	± 9.6 %
		Y	2.44	68.12	15.58		150.0	
4044:		Z	2.48	69.97	16.00		150.0	
10144- CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	2.42	67.64	15.07	0.00	150.0	± 9.6 %
		Y	2.26	66.15	14.15		150.0	·
101.2		_Z	2.13	66.86	13.96		150.0	
10145- CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.54	68.23	14.00	0.00	150.0	± 9.6 %
		Y	1.25	64.93	12.03		150.0	
10140		Z	1.00	63.72	10.21		150.0	
10146- CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	×	2.38	68.67	13.30	0.00	150.0	± 9.6 %
		Y	2.63	70.03	14.41		150.0	
1011=		_ Z	1.37	62.94	8.80		150.0	
10147- CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	3.01	71.74	14.81	0.00	150.0	± 9.6 %
		Y	3,44	73.73	16.16		150.0	
		Z	1.50	63.86	9.38		150.0	·

10149- CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	3.03	68.12	16.37	0.00	150.0	± 9.6 %
		Y	2.91	67.08	15.71		150.0	
		Ż	2.84	67.78	16.04		150.0	
10150- CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	3.15	68.03	16.39	0.00	150.0	± 9.6 %
-		Y	3.03	67.05	15.76		150.0	
		Z	2.96	67.78	16.09		150.0	
10151- CAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	x	7.33	80.62	22.85	3.98	65.0	± 9.6 %
		Ý	6.93	79.21	22.28	<u> </u>	65.0	
		Ż	6.07	78.22	21.74			
10152- CAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	5.98	74.73	20.92	3.98	65.0 65.0	±9.6 %
		Y	5.89	74.12	20.68	<u> </u>	65.0	<u>-</u>
		Z	5.12	72.74	19.78		65.0	
10153- CAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	6.33	75.57	21.65	3.98	65.0	±9.6 %
		Y	6.23	74.94	21.41		65.0	
		Z	5.49	73.78	20.61		65.0	
10154- CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	2.49	70.63	17.32	0.00	150.0	± 9.6 %
		Y	2.26	68.57	16.06		150.0	
		Z	2.24	69.92	16.77		150.0	
10155- CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.77	69.07	16.79	0.00	150.0	±9.6 %
		Y	2.59	67.59	15.89	<u> </u>	150.0	
		Z	2.59	69.02	16.41		150.0	- <u> </u>
10156- CAF	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	2.11	70.85	16.93	0.00	150.0	±9.6 %
·		Y	1.83	68.04	15.26		150.0	
		Z	1.82	69.80	15.80		150.0	
10157- CAF	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.31	68.61	15.35	0.00	150.0	± 9.6 %
		Ý	2.08	66.62	14.16		150.0	
		Z	1.98	67.47	13.92		150.0	
10158- CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	Х	2.92	69.17	16.92	0.00	150.0	± 9.6 %
		Y	2.75	67.77	16.06		150.0	
		Z	2.75	69.22	16.57		150.0	
10159- CAF	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.44	69.17	15.69	0.00	150.0	± 9.6 %
		Y	2.19	67.06	14.45		150.0	<u>-</u> −−
		Z	2.09	67.96	14.21		150.0	
10160- CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.90	69.57	16.90	0.00	150.0	± 9.6 %
		Y	2.74	68.24	16.05		150.0	<u>├</u> ───┤
10461		Z	2.70	69.25	16.60		150.0	<u>├──</u> -
10161- CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	3.05	67.98	16.35	0.00	150.0	± 9.6 %
	<u> </u>	Y	2.93	66.95	15.69		150.0	
40400		Z	2.86	67.77	16.01		150.0	
10162-	LTE-FDD (SC-FDMA, 50% RB, 15 MHz,	X	3.15	68.06	16.42	0.00	150.0	± 9.6 %
CAE	64-QAM)		-					
	64-QAM)	Y	3.03	67.06	15.79		150.0	
		Z	2.97	67.06 67.96	<u>15.79</u> <u>16</u> .14		150.0 150.0	
10166- CAF	64-QAM) LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	Z X	2.97 3.67			3.01		± 9.6 %
10166-	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz,	Z X Y	2.97 3.67 3.71	67.96	16.14	3.01	150.0 150.0	±9.6 %
10166- CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	Z X Y Z	2.97 3.67	67.96 69.77	16.14 19.22 19.37	3.01	150.0 150.0 <u>150</u> .0	± 9.6 %
10166-	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz,	Z X Y	2.97 3.67 3.71	67.96 69.77 69.61	<u>16.14</u> 19.22	3.01	150.0 150.0	± 9.6 %
10166- CAF 10167-	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK) LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz,	Z X Y Z	2.97 3.67 <u>3.71</u> 3.45	67.96 69.77 69.61 70.11	16.14 19.22 19.37 19.35		150.0 150.0 150.0 150.0	

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CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	5.13	75.25	21.12	3.01	150.0	± 9.6 %
		Y	5.05	74.54	21.07		150.0	<u> </u>
10169-		Z	<u>5</u> .13	77.22	21.87		150.0	
CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	3.12	70.03	19.37	3.01	150.0	± 9.6 %
		Y	3.15	69.73	19.46	<u> </u>	150.0	
		Z	2.86	69.57	19.15		150.0	
10170- CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	4.58	77.10	22.08	3.01	150.0	±9.6 %
		Y	4.39	75.79	21.81		150.0	
		Z	4.44	78.23	22.53		150.0	
10171- AAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	3.64	72.24	19.05	3.01	150.0	± 9.6 %
		Y	3.59	71.47	18.98		150.0	
		Z	3.36	72.39	19.02		150.0	
10172- CAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	12.64	100.34	31.84	6.02	65.0	± 9.6 %
		Y	12.97	100.68	32.37		65.0	
40/70		_ Z	5.77	87.24	27.51		65.0	
10173- CAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	36.96	114.71	33.67	6.02	65.0	±9.6 %
		Υ.	30.92	112.16	33.64		65.0	
		Z	22.36	108.00	31.61		65.0	
10174- 	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	22.92	104.35	30.17	6.02	65.0	± 9.6 %
		Y	21.96	104.04	30.70		65.0	
		Z	11.65	95.24	27.25		65.0	
10175- CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	3.08	69.68	19.10	3.01	150.0	± 9.6 %
-		Y	3.11	69.39	19.20	<u> </u>	150.0	
		Z	2.82	69.22	18.88		150.0	
10176- CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	4.59	77.13	22.09	3.01	150.0	± 9.6 %
		Y	4.40	75.82	21.82		150.0	
		Z	4.45	78.26	22.55		150.0	
10177- CAH	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	3.11	69.85	19.21	3.01	150.0	± 9.6 %
		Y	3.14	69.56	19.30		150.0	
		Z	2.84	69.38	18.97		150.0	
10178- CAF	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16- QAM)	X	4.53	76.83	21.94	3.01	150.0	± 9.6 %
		Y	4.34	75.53	21.68		150.0	
		Z	4.39	77.99	22.42		150.0	
10179- CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	x	4.06	74.50	20.40	3.01	150.0	± 9.6 %
		Y	3.95	73.49	20.26		150.0	
		Z	3.83	75.09	20.61		150.0	
10180- CAF	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM)	X	3.62	72.15	18.99	3.01	150.0	± 9.6 %
		Y	3.58	71.38	18.93		150.0	
		z	3.35	72.32	18.97	<u> </u>	150.0	
10181- CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	x	3.10	69.83	19.20	3.01	150.0	± 9.6 %
		Ŷ	3.13	69.54	19.29		150.0	
		Z	2.84	69.36	18.97		150.0	
10182- CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	4.52	76.80	21.93	3.01	150.0	± 9.6 %
		Y	4.33	75.51	21.66		150.0	
		Z	4.38	77.96	22.40		150.0	
10183- AAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	3.62	72.12	18.97	3.01	150.0	± 9.6 %
		Y	3.57	71.35	18.91		150.0	
		Z	3.34	72.29	18.96	-	150.0	

10184-	LTE-FDD (SC-FDMA, 1 RB, 3 MHz,	x	3.11	69.88	19.22	3.01	150.0	+069/
CAE	QPSK)			09.00	19.22	3.01	150.0	± 9.6 %
	<u> </u>	Y	3.14	69.58	19.32		150.0	
		Z	2.85	69.41	18.99		150.0	
10185- _ <u>C</u> AE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16- QAM)	X	4.54	76.88	21.97	3.01	150.0	± 9.6 %
		Y	4.35	75.59	21.70		150.0	
		Z	4.41	78.06	22.45		150.0	
10186- AAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64- QAM)	Х	3.64	72.20	19.01	3.01	150.0	±9.6 %
		Y	3.59	71.42	18.95		150.0	
		Z	3.36	72.37	19.00		150.0	
10187- CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	3.12	69.93	19.28	3.01	150.0	± 9.6 %
		Y	3.15	69.63	19.37		150.0	
		Z	2.86	69.48	19.07		150.0	[
10188- CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	4.72	77.70	22.40	3.01	150.0	± 9.6 %
		Y	4.51	76.33	22.11		150.0	
		Z	4.61	78.98	22.92		150.0	
10189- AAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	3.73	72.70	19.32	3.01	150.0	± 9.6 %
		Y	3.67	71.88	19.24		150.0	
		Z	3.46	72.92	19.33		150.0	
10193- CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	X	4.59	66.76	16.33	0.00	150.0	± 9.6 %
		Y	4.55	66.31	16.09		150.0	
		Z	4.42	66.80	16.19		150.0	
10194- CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.77	67.10	16.45	0.00	150.0	± 9.6 %
		T Y	4.74	66.66	16.21		150.0	
		Z	4.58	67.08	16.32		150.0	
10195- CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	X	4.82	67.12	16.46	0.00	150.0	± 9.6 %
		Y	4.78	66.69	16.22		150.0	
		Z	4.62	67.10	16.34		150.0	
10196- CAC	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	X	4.60	66.84	16.36	0.00	150.0	±9.6 %
		Y	4.56	66.40	16.12		150.0	
		Ż	4.41	66.83	16.20		150.0	
10197- CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16- QAM)	X	4.79	67.12	16.46	0.00	150.0	±9.6%
		Y	4.75	66.69	16.22	<u> </u>	150.0	
		Z	4.59	67.09	16.33		150.0	
10198- CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64- QAM)	X	4.82	67.14	16.47	0.00	150.0	± 9.6 %
		Y	4.78	66.71	16.24		150.0	
		Z	4.61	67.11	16.35		150.0	<b>├──</b> ───-
10219- CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.55	66.86	16.33	0.00	150.0	± 9.6 %
		Y	4.51	66.41	16.08		150.0	
		7	4.37	66.86			150.0	
		Z	4.97	1 00.00	16.17			
10220- CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16- QAM)	X	4.79	67.10	16. <u>17</u> 16.45	0.00	150.0	±9.6 %
		X Y	4.79			0.00	150.0	±9.6 %
	QAM)	X	4.79	67.10	16.45 16.22	0.00	150.0 150.0	±9.6 %
		X Y Z X	4.79 4.75 4.58 4.83	67.10 66.67	16.45	0.00	150.0	± 9.6 %
CAC	QAM) IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-	X Y Z	4.79 4.75 4.58	67.10 66.67 67.05	16.45 16.22 16.32 16.45		150.0 150.0 150.0 150.0	
CAC 10221- CAC	QAM) IEEE 802.11n (HT Mixed, 72.2 Mbps, 64- QAM)	X Y Z X	4.79 4.75 4.58 4.83	67.10 66.67 67.05 67.06 66.64	16.45 16.22 16.32 16.45 16.23		150.0 150.0 150.0 150.0 150.0	
CAC	QAM) IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-	X Y Z X Y	4.79 4.75 4.58 4.83 4.79	67.10 66.67 67.05 67.06	16.45 16.22 16.32 16.45		150.0 150.0 150.0 150.0	
CAC 10221- CAC 10222-	QAM) IEEE 802.11n (HT Mixed, 72.2 Mbps, 64- QAM) IEEE 802.11n (HT Mixed, 15 Mbps,	X Y Z X Y Z	4.79 4.75 4.58 4.83 4.79 4.62	67.10 66.67 67.05 67.06 66.64 67.04	16.45 16.22 16.32 16.45 16.23 16.33	0.00	150.0 150.0 150.0 150.0 150.0 150.0	± 9.6 %

10223- CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-	X	5.45	67.43	16.65	0.00	150.0	± 9.6 %
040	QAM)	<u> </u>	<u>_</u>	<u> </u>	<u> </u>			
		Y	5.45	67.18	16.52		150.0	
10224-		Z	5.25	67.35	16.55		150.0	
CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64- QAM)	X	5.19	67.37	16.53	0.00	150.0	±9.6 %
	<u> </u>	Y	5.15	66.99	16.33		150.0	
40005		Z	5.01	67.26	16.42		150.0	
10225- CAB	UMTS-FDD (HSPA+)	X	2.89	66.55	15.78	0.00	150.0	± 9.6 %
		Y	2.80	65.71	15,24	<u>_</u>	150.0	
		Z	2.72	66.49	15.32		150.0	
10226- CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	42.12	117.30	34.47	6.02	65.0	±9.6 %
		Y	34.39	114.35	34.35		65.0	
		Z	25.78	110.75	32.49		65.0	
10227- CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	33.34	110.83	32.01	6.02	65.0	± 9.6 %
		Y	29.14	109.23	32.25		65.0	
		Z	23.91	107.08	30.63		65.0	
10228- CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	15.66	105.06	33.38	6.02	65.0	± 9.6 %
		Y	15.84	105.37	33.95		65.0	— <u> </u>
		Z	7.75	93.33	29.68		65.0	
10229- CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16- QAM)	X	37.28	114.84	33.72	6.02	65.0	± 9.6 %
		Y	31.13	112.26	33.67		65.0	
		Z	22.62	108.17	31.67		65.0	
10230- CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64- QAM)	X	29.88	108.76	31.36	6.02	65.0	± 9.6 %
		Y	26.58	107.43	31.66	<u> </u>	65.0	
		Ż	20.85	104.61	29.86	· ·	65.0	
10231- CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	x	14.65	103.59	32.85	6.02	65.0	± 9.6 %
		Y	14.88	103.95	33.43		65.0	
		ż	7.34	92.15	29.19		65.0	
10232- CAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16- QAM)	x	37.25	114.84	33.71	6.02	65.0	± 9.6 %
		Ŷ	31.10	112.26	33.67		65.0	
		ż	22.58	108.16	31.67			
10233- CAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM)	X	29.82	108.74	31.35	6.02	65.0 65.0	± 9.6 %
		Y	26.53	107.41	31.66		65.0	
		z	20.76	104.56				
10234- CAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	13.83	104.56	29.85 32.30	6.02	<u>65.0</u> 65.0	± 9.6 %
		YI	14.10	102.64	32.91		65.0	
		z	7.03	91.14	28.71		<u>65.0</u>	
10235- CAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	37.39	114.93	33.74	6.02	65.0	± 9.6 %
		Y	31.21	112.34	33.70		65.0	
		Z	22.65	108.24	31.69	- <b>-</b> -	65.0	
10236- CAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	30.43	109.05	31.43	6.02	65.0	± 9.6 %
		Y	27.03	107.71	31.73		65.0	
		Z	21.22	104.87	29.93		65.0	
10237- CAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	14.73	103.74	32.90	6.02	65.0	± 9.6 %
		Y	14.96	104.11	33.48		65.0	
		Z	7.35	92.21	29.22		65.0	
10238- CAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	37.20	114.83	33.71	6.02	65.0	± 9.6 %
		Y	31.07	112.26	33.67		65.0	
		Ż	22.51	108.13	31.66		00.0	

V         26.48         107.40         31.66         65.0           10240         LTE-TDD (SC-FDMA, 1 RB, 15 MHz, CAE         X         14.67         103.68         32.88         6.02         65.0         ± 9.8 %           CAE         OPSK)         Y         14.89         104.03         33.46         65.0           10241         LTE-TDD (SC-FDMA, 50% RB, 14 MHz, Z         X         8.22         81.62         25.84         6.98         65.0           10242         LTE-TDD (SC-FDMA, 50% RB, 14 MHz, Z         X         7.60         79.92         25.06         6.38         65.0         ± 9.6 %           10242         LTE-TDD (SC-FDMA, 50% RB, 14 MHz, Z         X         7.60         79.92         25.06         6.38         65.0         ± 9.6 %           10243         LTE-TDD (SC-FDMA, 50% RB, 14 MHz, Z         X         6.06         76.29         24.69         65.0         10.6 %           10244         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, Z         X         6.94         79.13         20.40         3.98         65.0         ± 9.6 %           CAC         64-QAM)         Y         7.63         79.32         29.0         65.0         ± 9.6 %           CAA         OPSK)         Y <td< th=""><th>10239- CAE</th><th>LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)</th><th>X</th><th>29.73</th><th>108.72</th><th>31.35</th><th>6.02</th><th>65.0</th><th>± 9.6 %</th></td<>	10239- CAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	29.73	108.72	31.35	6.02	65.0	± 9.6 %
U240- CAE         LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)         X         14.67         103.66         32.88         6.02         65.0           10241- CAA         LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, CAA         X         14.89         104.03         33.46         65.0         19.6%           10241- CAA         LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, CAA         X         8.22         81.62         25.84         6.98         65.0         19.6%           10242- LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, CAA         X         7.75         81.89         25.74         65.0         19.6%           10242- LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, CAA         X         6.06         76.28         22.469         65.0         19.6%           10243- LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, CAA         X         6.06         76.28         24.69         65.0         19.6%           10243- LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         X         6.64         73.13         20.40         3.396         65.0         19.6%           10244- LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         X         6.74         73.35         20.33         3.396         65.0         19.6%           10244- LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         X         7.73         75.45         9.00         65.0         19.6%			Y	26.48	107.40	31.66	<u> </u>	65.0	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			-						
$\begin{array}{c c c c c c c c c c c c c c c c c c c $							6.02	·	± 9.6 %
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Y	14.89	104.03	33.46		65.0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $									
CAA         16-QAM         Y         8.21         21.05         0.00         12.05         0.00	10241-	LTE-TDD (SC-FDMA 50% BB 14 MHz					6.09		+ 0.6 %
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $							0.90		± 9.0 %
10242- CAA         LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, CAA         Y         7.60         79.92         25.06         6.98         65.0         ± 9.6 %           10243- CAA         Z         6.63         79.21         24.57         65.0         ± 9.6 %           10243- CAA         UTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)         Y         6.20         76.29         24.43         6.98         65.0         ± 9.6 %           10244- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         Y         6.20         76.29         24.69         65.0         ± 9.6 %           10245- CAC         18-QAM         SC-FDMA, 50% RB, 3 MHz, CAC         X         6.74         78.35         20.40         3.98         65.0         ± 9.6 %           10245- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         X         6.74         78.35         20.40         3.98         65.0         ± 9.6 %           10245- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         X         8.26         86.16         23.38         3.98         65.0         ± 9.6 %           10244- CAC         CPSKJ         Y         7.07         83.23         22.34         65.0         ± 9.6 %           10247- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE         Y		· · · · · · · · · · · · · · · · · · ·							
CAA         64-GAM)         Y         7.70         79.68         25.24         65.0           10243- CAA         LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)         Y         6.06         76.28         24.43         6.96         65.0         ± 9.6 %           10244- CAA         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         Y         6.20         76.29         24.69         65.0         -	10242-								
$\begin{array}{c c c c c c c c c c c c c c c c c c c $							6.98		±9.6 %
10243- CAA       CFT-DD (\$C-FDMA, 50% RB, 1.4 MHz, OPSK)       Y       6.06       76.28       24.43       6.98       65.0       ± 9.6 %         10244- CAC       LTE-TDD (\$C-FDMA, 50% RB, 3 MHz, 16-QAM)       Y       6.92       75.02       23.70       65.0       ± 9.6 %         10244- CAC       LTE-TDD (\$C-FDMA, 50% RB, 3 MHz, 4.6 QAM)       X       6.94       79.13       20.40       3.98       65.0       ± 9.6 %         10245- CAC       LTE-TDD (\$C-FDMA, 50% RB, 3 MHz, CAC       X       6.74       78.35       20.03       3.98       65.0       ± 9.6 %         10245- CAC       LTE-TDD (\$C-FDMA, 50% RB, 3 MHz, CAC       X       6.74       78.35       20.03       3.98       65.0       ± 9.6 %         10246- CAC       LTE-TDD (\$C-FDMA, 50% RB, 3 MHz, CAC       X       8.26       86.11       21.28       65.0       ± 9.6 %         10247- CAE       LTE-TDD (\$C-FDMA, 50% RB, 5 MHz, CAE       Y       7.07       83.23       2.2.34       65.0       ± 9.6 %         10247- CAE       LTE-TDD (\$C-FDMA, 50% RB, 5 MHz, CAE       Y       5.37       75.65       19.66       65.0       ± 9.6 %         10248- CAE       LTE-TDD (\$C-FDMA, 50% RB, 5 MHz, CAE       Y       5.37       75.70       19.98       3.98								65.0	
CAA         OPSK)         P         Car         P         F         Car         P<         P<         P<         P<         P<         P<         P<         P<	40040							65.0	
10244- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, ACC)         X         6.94         79.13         20.40         3.98         65.0         ± 9.6 %           CAC         16-QAM)         Y         7.61         80.93         21.65         65.0         ± 9.6 %           10245- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         X         6.74         78.35         20.03         3.98         65.0         ± 9.6 %           10246- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         X         8.26         86.16         23.38         3.98         65.0         ± 9.6 %           10246- CAC         CFFDMA, 50% RB, 5 MHz, CAC         Y         7.07         83.23         22.34         65.0         ± 9.6 %           10247- CAC         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAC         Y         7.07         83.23         22.34         65.0         ± 9.6 %           10247- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE         Y         5.50         77.56         20.35         3.98         65.0         ± 9.6 %           CAE         HE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE         Y         5.54         77.71         19.96         45.0         ± 9.6 %           CAE         G4-QAM)         Y         5.35         74.79 <t< td=""><td></td><td>LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)</td><td></td><td>6.06</td><td>76.28</td><td>24.43</td><td>6.98</td><td>65.0</td><td>±9.6 %</td></t<>		LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)		6.06	76.28	24.43	6.98	65.0	±9.6 %
10244- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, ACC)         X         6.94         78.13         20.40         3.98         65.0         ± 9.6 %           16-QAM)         Y         7.81         80.93         21.65         65.0         ± 9.6 %           10245- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         X         6.74         78.35         20.03         3.98         65.0         ± 9.6 %           10245- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         X         6.74         78.35         20.03         3.98         65.0         ± 9.6 %           10246- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         X         8.26         86.16         23.38         3.98         65.0         ± 9.6 %           10247- CAC         CFFDMA, 50% RB, 5 MHz, CAE         Y         7.07         83.23         22.34         65.0           10247- LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE         Y         7.07         83.23         29.8         65.0         ± 9.6 %           CAE         G-QAM()         Y         5.37         75.45         19.96         65.0         ± 9.6 %           CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE         X         5.64         77.70         19.96         65.0         ± 9.6 % <td></td> <td></td> <td>Y</td> <td>6.20</td> <td>76.29</td> <td>24.69</td> <td></td> <td>65.0</td> <td></td>			Y	6.20	76.29	24.69		65.0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $							<u> </u>		
10245- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)         Z         4.63 6.74         73.01         16.64 78.35         65.0         ± 9.6 %           10246- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         Y         7.38         80.11         21.28         65.0           10246- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         Y         7.07         83.23         22.34         65.0           10247- CAC         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAC         Y         7.07         83.23         22.34         65.0           10247- LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE         Y         5.60         76.50         20.35         3.98         65.0         ± 9.6 %           10247- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE         Y         5.37         75.45         19.96         65.0           10248- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE         X         5.54         75.70         19.98         3.98         65.0         ± 9.6 %           10249- CAE         QPSK)         Y         7.96         85.32         23.90         65.0         ± 9.6 %           10249- CAE         QPSK)         Y         7.96         85.32         23.90         65.0         ± 9.6 %           10250- CAE         QPSK			X				3.98		± 9.6 %
10245- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)         Z         4.63 6.74         73.01         16.64 78.35         65.0         ± 9.6 %           10246- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         Y         7.38         80.11         21.28         65.0           10246- CAC         LTE-TDD (SC-FDMA, 50% RB, 3 MHz, CAC         Y         7.07         83.23         22.34         65.0           10247- CAC         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAC         Y         7.07         83.23         22.34         65.0           10247- LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE         Y         5.60         76.50         20.35         3.98         65.0         ± 9.6 %           10247- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE         Y         5.37         75.45         19.96         65.0           10248- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE         X         5.54         75.70         19.98         3.98         65.0         ± 9.6 %           10249- CAE         QPSK)         Y         7.96         85.32         23.90         65.0         ± 9.6 %           10249- CAE         QPSK)         Y         7.96         85.32         23.90         65.0         ± 9.6 %           10250- CAE         QPSK			Y	7.61	80.93	21.65		65.0	<u> </u>
10245- CAC       LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)       X       6.74       78.35       20.03       3.98       65.0       ± 9.6 %         10246- CAC       LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)       X       8.26       86.16       23.38       3.98       65.0       ± 9.6 %         10247- CAC       LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)       X       8.26       86.16       23.38       3.98       65.0       ± 9.6 %         10247- CAE       LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE       X       5.60       76.50       20.35       3.98       65.0       ± 9.6 %         10247- CAE       LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE       X       5.60       76.50       20.35       3.98       65.0       ± 9.6 %         10248- CAE       LTE-TDD (SC-FDMA, 50% RB, 5 MHz, CAE       X       5.54       75.70       19.98       3.98       65.0       ± 9.6 %         CAE       64-QAM)       Y       5.35       74.79       19.65       65.0       ± 9.6 %         CAE       GPSK)       Y       7.96       85.32       23.90       65.0       ± 9.6 %         CAE       QPSK)       Y       7.96       85.22       2.92       65.0       ± 9.6 %         CAE       QPSK)									† <del></del>
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)					3.98		±9.6 %
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Y	7 38	80.11	21.28	<u> </u>	65.0	
10246 CAC         LTE-TDD         (SC-FDMA, 50% RB, 3 MHz, QPSK)         X         8.26         86.16         23.38         3.98         65.0         ± 9.6 %           V         7.07         83.23         22.34         65.0         10.0									
Y         7.07         83.23         22.34         65.0           10247- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)         X         5.60         76.50         20.35         3.98         65.0         ± 9.6 %           10248- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)         Y         5.37         75.45         19.96         65.0           10248- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)         X         5.54         75.70         19.98         3.98         65.0         ± 9.6 %           2         4.29         75.70         19.96         65.0         ± 9.6 %           CAE         QPSK)         Y         5.35         74.79         19.86         3.98         65.0         ± 9.6 %           CAE         QPSK)         Y         7.96         85.32         23.90         65.0         ± 9.6 %           CAE         QPSK)         Y         7.96         85.32         23.90         65.0         ± 9.6 %           CAE         QPSK)         Y         7.96         85.32         23.90         65.0         ± 9.6 %           CAE         QPSK)         Y         6.01         76.82         21.97         65.0         ± 9.6 %         ± 9.6 %     <		LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)					3.98		±9.6 %
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				7.07		- 00.04		0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $									
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$							3.98		± 9.6 %
Z         4.29         72.64         17.71         65.0           CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)         X         5.54         75.70         19.98         3.98         65.0         ± 9.6 %           10249- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)         Y         5.35         74.79         19.65         65.0           10249- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)         Y         7.96         85.32         23.90         65.0         ± 9.6 %           10250- CAE         16-QAM)         Y         7.96         85.32         23.90         65.0         ± 9.6 %           10250- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, A-04M)         X         6.20         77.76         22.32         3.98         65.0         ± 9.6 %           10251- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, A-04M)         X         5.85         75.32         20.92         3.98         65.0         ± 9.6 %           10251- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, CAE         X         5.85         75.32         20.92         3.98         65.0         ± 9.6 %           10252- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, CAE         X         8.09         84.95         24.58         3.98         65.0				E 07	75.45	10.00			
10248- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)         X         5.54         75.70         19.98         3.98         65.0         ± 9.6 %           10249- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)         Y         5.35         74.79         19.65         65.0         -           10249- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)         X         9.19         88.24         24.95         3.98         65.0         ± 9.6 %           10250- CAE         10250- 10250- CAE         17-7DD (SC-FDMA, 50% RB, 10 MHz, CAE         X         6.20         77.76         22.32         3.98         65.0         ± 9.6 %           10250- CAE         102-FDMA, 50% RB, 10 MHz, CAE         X         6.20         77.76         22.32         3.98         65.0         ± 9.6 %           10251- CAE         1TE-TDD (SC-FDMA, 50% RB, 10 MHz, CAE         X         5.85         75.32         20.92         3.98         65.0         ± 9.6 %           CAE         64-QAM)         Y         5.73         74.58         20.63         65.0         ± 9.6 %           CAE         QPSK)         Y         5.73         74.58         20.63         65.0         ± 9.6 %           CAE         QPSK)         Y         7.422		· · · · · · · · · · · · · · · · · · ·							
CAE         64-QAM         Y         5.35         74.79         19.65         65.0         ± 9.6 %           10249- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)         Y         5.35         74.79         19.65         65.0         17.36         65.0         19.6 %           10249- CAE         LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)         Y         7.96         85.32         23.90         65.0         ± 9.6 %           10250- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, CAE         Y         7.96         85.32         23.90         65.0         ± 9.6 %           10250- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, CAE         X         6.20         77.76         22.32         3.98         65.0         ± 9.6 %           10251- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, CAE         X         5.85         75.32         20.92         3.98         65.0         ± 9.6 %           10251- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, CAE         X         5.85         75.32         20.92         3.98         65.0         ± 9.6 %           10252- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, CAE         X         8.09         84.95         24.58         3.98         65.0         ± 9.6 %           10253- CAE         LTE-TDD (SC	10248-								
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		64-QAM)	L		_		3.98	65.0	± 9.6 %
$\begin{array}{c c c c c c c c c c c c c c c c c c c $						19.65		65.0	
CAE         QPSK)         Y         7.96         85.32         23.90         65.0           10250- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)         X         6.20         77.76         22.32         3.98         65.0         ±9.6 %           10251- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, AAM)         X         6.20         77.76         22.32         3.98         65.0         ±9.6 %           10251- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, CAE         X         5.85         75.32         20.92         3.98         65.0         ±9.6 %           10251- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, CAE         X         5.85         75.32         20.92         3.98         65.0         ±9.6 %           10252- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, CAE         X         5.85         75.32         20.92         3.98         65.0         ±9.6 %           10252- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, CAE         X         8.09         84.95         24.58         3.98         65.0         ±9.6 %           10253- CAE         LTE-TDD (SC-FDMA, 50% RB, 15 MHz, CAE         Y         5.72         73.40         20.39         65.0         ±9.6 %           10253- CAE         LTE-TDD (SC-FDMA, 50% RB, 15 MHz, CAE <td></td> <td></td> <td></td> <td></td> <td></td> <td>17.36</td> <td></td> <td>65.0</td> <td></td>						17.36		65.0	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		LIE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	9.19	88.24	24.95	3.98	65.0	± 9.6 %
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			Y	7.96	85.32	23.90		65.0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Z					05.0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)					3.98	_	± 9.6 %
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			TY	6.01	76.85	21.97		65.0	┿╼────┤
$\begin{array}{c c c c c c c c c c c c c c c c c c c $									┼───┤
Y         5.73         74.58         20.63         65.0           10252- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)         X         8.09         84.95         24.58         3.98         65.0         ± 9.6 %           10253- CAE         QPSK)         Y         7.42         82.94         23.81         65.0         ± 9.6 %           10253- CAE         ITE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)         Y         7.42         82.94         23.81         65.0         ± 9.6 %           10253- CAE         ITE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)         Y         5.72         73.40         20.39         65.0         ± 9.6 %           10254- CAE         LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 464-QAM)         Y         5.72         73.40         20.39         65.0         ± 9.6 %           10254- CAE         V         5.72         73.40         20.39         65.0         ± 9.6 %           10254- CAE         V         5.72         73.40         20.39         65.0         ± 9.6 %           10254- CAE         V         5.04         72.28         19.52         65.0         ± 9.6 %           V         64-QAM)         Y         6.05         74.22         21.07         65.0         ± 9.6 %		LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)					3.98		± 9.6 %
ID252- CAE         LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)         Z         4.92         73.12         19.45         65.0           V         7.42         80.9         84.95         24.58         3.98         65.0         ± 9.6 %           V         7.42         82.94         23.81         65.0         10.0 <td></td> <td></td> <td>Y</td> <td>5 73</td> <td>74 58</td> <td>20.63</td> <td></td> <td>65.0</td> <td></td>			Y	5 73	74 58	20.63		65.0	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			-						
Y         7.42         82.94         23.81         65.0           10253- CAE         LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)         X         5.80         74.00         20.63         3.98         65.0         ± 9.6 %           10254- CAE         16-QAM)         Y         5.72         73.40         20.39         65.0         ± 9.6 %           10254- CAE         LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)         Y         5.72         73.40         20.39         65.0         ± 9.6 %           10254- CAE         LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)         X         6.14         74.84         21.30         3.98         65.0         ± 9.6 %		LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)					3.98		±9.6 %
10253- CAE       LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)       X       5.80       74.00       20.63       3.98       65.0       ± 9.6 %         V       5.72       73.40       20.39       65.0       ±       9.6 %         10254- CAE       LTE-TDD (SC-FDMA, 50% RB, 15 MHz, CAE       X       6.14       72.28       19.52       65.0         10254- CAE       LTE-TDD (SC-FDMA, 50% RB, 15 MHz, CAE       X       6.14       74.84       21.30       3.98       65.0       ± 9.6 %									
T0253- CAE       LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)       X       5.80       74.00       20.63       3.98       65.0       ± 9.6 %         V       5.72       73.40       20.39       65.0       ±       9.6 %         10254- CAE       LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)       X       6.14       74.84       21.30       3.98       65.0       ±       9.6 %         10254- CAE       64-QAM)       Y       6.05       74.22       21.07       65.0       ±       9.6 %	10050							65.0	
I0254- CAE         LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)         Z         5.04         72.28         19.52         65.0           Y         6.14         74.84         21.30         3.98         65.0         ± 9.6 %		LIE-IDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	5.80	74.00	20.63	3.98		± 9.6 %
I0254- CAE         LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)         Z         5.04         72.28         19.52         65.0           Y         6.14         74.84         21.30         3.98         65.0         ± 9.6 %				5.72	73.40	20.39		65.0	<u>├ </u>
10254- CAE         LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)         X         6.14         74.84         21.30         3.98         65.0         ± 9.6 %           Y         6.05         74.22         21.07         65.0         ±         9.6 %									<u>├-</u>
Y 6.05 74.22 21.07 65.0		LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)					3.98		± 9.6 %
				6.05	74 22	21 07		05.0	┼─────┤
			ż	5.36	73.21	21.07		65.0	<u>                                     </u>

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CAE 10256- CAA 10257- CAA	QPSK)	Y Z	6.50	78.25				± 9.6 %
CAA 10257-	LTE-TDD (SC-FDMA, 100% RB, 1.4		0.50				+	+
CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4				22.16		65.0	
CAA		x	5.72	77.37	21.59		65.0	
	MHz, 16-QAM)		5.54	75.38	17.88	3.98	65.0	± 9.6 %
		Y	6.45	78.02	19.55		65.0	
		Z	3.15	67.52	12.83		65.0	
	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	5.31	74.31	17.34	3.98	65.0	± 9.6 %
		Y	6.14	76.80	18.96		65.0	T
40050		Z	3.05	66.79	12.37		65.0	†
10258- CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	6.24	81.13	20.76	3.98	65.0	± 9.6 %
		Y	5.52	78.91	19.97		65.0	
40050		Z	3.09	70.62	15.05		65.0	
10259- CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	5.84	76.93	21.04	3.98	65.0	± 9.6 %
		Y	5.63	75.94	20.66		65.0	
		Z	4.68	73.82	18.92	<u> </u>	65.0	╆╍─────┤
10260- CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	5.84	76.54	20.88	3.98	65.0	± 9.6 %
		Y	5.65	75.62	20.54		65.0	<u> </u>
		Ż	4.68	73.47	18.76		65.0	┢╍────┤
10261- CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	7.94	85.32	24.30	3.98	65.0	± 9.6 %
		Y	7.17	83.07	23.45		65.0	<u>├</u>
		z	5.90	80.89	22.01		65.0	┼─────┤
10262- CAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	x	6.19	77.72	22.28	3.98	65.0	± 9.6 %
		Y	6.00	76.81	21.93		65.0	
_		Z	5.19	75.36	20.81		65.0	
10263- CAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	5.84	75.30	20.91	3.98	65.0	± 9.6 %
		Y	5.72	74.57	20.63		65.0	
		z	4.91	73.09	19.44		65.0	
10264- CAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	8.00	84.72	24.48	3.98	65.0	± 9.6 %
	· · · · · · · · · · · · · · · · · · ·	Y	7.34	82.73	23.71		65.0	
		z	6.24	81.28	22.84			
10265- CAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	x	5.98	74.73	20.93	3.98	65.0 65.0	± 9.6 %
		Y	5.89	74.12	20.69		05.0	
		Z	5.12	74.12	10 -0		65.0	
10266- CAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	6.33	75.56		3.98	<u>65.0</u> 65.0	± 9.6 %
		Y	6.22	74.93	21.40		65.0	
		Z	5.49	73.76	20.60		65.0	
10267- CAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	7.32	80.56	22.82	3.98	65.0	± 9.6 %
		Y	6.92	79.16	22.26		65.0	┝━━━━┤
		Z	6.05	78.17	21.72		65.0	┝────┤
10268- CAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	×	6.52	74.24	21.04	3.98	65.0	± 9.6 %
		Y Z	6.45 5.74	73.73	20.85 20.16		65.0	
10269- CAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	<u> </u>	73.71	20.16	3.98	65.0 65.0	±9.6 %
		Y	6.39	73.22	20.69		65.0	
		Z	5.73	72.22	20.09			┝ <b>────</b> ┤
10270- CAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	6.79	76.82	20.02	3.98	<u>65.0</u> 65.0	± 9.6 %
		Y	6.57	75.90	-21 04		65.0	
		Z	5.88	75.90	21.04 20.59		65.0 65.0	┝────┤

10274- CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.66	66.98	15.73	0.00	150.0	±9.6 %
		Y	2.54	65.90	15.04		150.0	
10275- CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	ZX	<u>2.55</u> 1.78	<u>67.07</u> 69.77	15.35 16.72	0.00	150.0 150.0	± 9.6 %
		Y	1.55	67.13	15.03	<u>                                      </u>	150.0	
40077		Z	1.62	69.04	16.02		150.0	
10277- CAA	PHS (QPSK)	X	2.12	61.97	7.55	9.03	50.0	±9.6 %
		<u>Y</u>	2.25	62.30	7.96		50.0	
10278- CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	Z X	<u>1.72</u> 10.93	60.31 86.19	5.78 21.29	9.03	<u>50.0</u> 50.0	± 9.6 %
		TY I	9.64	84.41	20.95		50.0	
		Z	3.57	69.00	13.15		50.0	
10279- CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	11.22	86.49	21.46	9.03	50.0	± 9.6 %
	<u> </u>	Y	9.91	<u>8</u> 4.71	21.11		50.0	
10200		Z	3.69	69.35	13.38		50.0	
10290- AAB	CDMA2000, RC1, SO55, Full Rate	X	1.95	72.86	16.32	0.00	150.0	± 9.6 %
		Y	1.38	67.46	13.46		150.0	
10291-	CDMA2000, RC3, SO55, Full Rate	Z X	<u>1.34</u> 1.06	68.81	13.27		150.0	
AAB		Y Y	0.76	69.47	14.79	0.00	150.0	±9.6 %
	······································	Z	0.76	64.53 66.05	11.71		150.0	
10292- AAB	CDMA2000, RC3, SO32, Full Rate	X	1.83	78.35	_ <u>11.81</u> 18.94	0.00	150.0 150.0	± 9.6 %
		Y	0.91	67.73	13.68		150.0	
		Z	1.34	73.93	15.68		150.0	
10293- AAB	CDMA2000, RC3, SO3, Full Rate	X	4.73	93.04	24.47	0.00	150.0	± 9.6 %
	· · · · · · · · · · · · · · · · · · ·	Y	1.31	72.72	16.40		150.0	
10295-		Z	6.43	94.81	23.11		150.0	
AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	X	10.60	89.87	26.40	9.03	50.0	± 9.6 %
		1-	10.25	88.78	26.08	<u>_</u>	50.0	
10297- AAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	ZX	<u>12.25</u> 2.99	89.80 71.06	24.68 17.36	0.00	<u>50.0</u> 150.0	± 9.6 %
		Y	2.73	69.18	16.24		150.0	
		Z	2.72	70.32	16.96		150.0	
10298- AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	1.90	70.47	15.90	0.00	150.0	± 9.6 %
		Y	1.56	67.01	13.91		150.0	
10299-		Z	1.44	67.67	13.50		150.0	
10299- AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	3.07	71.64	15.53	0.00	150.0	± 9.6 %
		Y	3.23	72.42	16.33		150.0	
10300-	LTE-FDD (SC-FDMA, 50% RB, 3 MHz,	Z	2.17	67.61	12.32		150.0	
AAD	64-QAM)	X	2.19	66.26	12.34	0.00	150.0	±9.6 %
	· · · · · ·	Y Z	2.31	66.80	13.02	<u>-</u>	150.0	
10301- AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	4.82	63.33 65.43	9.50 17.57	4.17	150.0 50.0	± 9.6 %
		Ý	4.87	65.32	17.50		50.0	
4000		Z	4.60	65.72	17.49		50.0	
10302- AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	5.31	66.17	18.35	4.96	50.0	± 9.6 %
		Ý	5.36	66.00	18.25		50.0	
		Z	5.00	66.00	18.02		50.0	

10303- AAA 10304- AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	5.06	65.83 65.70	18.21	4.96	50.0	±9.6 %
			5.11	65.70	18 12	i	<u> </u>	
					1 10.12		50.0	
		Z	4.75	65.61	17.82	<u> </u>	50.0	<u> </u>
	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	4.87	65.69	17.69	4.17	50.0	± 9.6 %
		Ŷ	4.90	65.47	17.55		50.0	·
		Z	4.58	65.56	17.35		50.0	<u> </u>
10305-	IEEE 802.16e WIMAX (31:15, 10ms,	X	4.43	67.35	19.83	6.02	35.0	± 9.6 %
AAA	10MHz, 64QAM, PUSC, 15 symbols)	Y	4.50	07.70				
		Z	4.56	67.70	19.98		35.0	·
10306-	IEEE 802.16e WiMAX (29:18, 10ms,		4.15	67.17	19.10	<u> </u>	35.0	
AAA	10MHz, 64QAM, PUSC, 18 symbols)	X	4.77	66.43	19.36	6.02	35.0	±9.6 %
		<u>Y</u>	4.86	66.61	19.45		35.0	
10307		Z	4.49	66.31	18.82		35.0	
10307- AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	4.67	66.65	19.36	6.02	35.0	± 9.6 %
		Y	4.78	66.88	19.46		35.0	
40000		Z	4.37	66.39	18.75		35.0	
10308- AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	4.64	66.81	19.48	6.02	35.0	± 9.6 %
		Y	4.74	67.03	19.58		35.0	
		Ž	4.35	66.60	18.90		35.0	
10309- AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	4.84	66.72	19.54	6.02	35.0	± 9.6 %
		Y	4.94	66.92	19.63		35.0	
		Z	4.52	66.47	18.95		35.0	
10310- AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	X	4.71	66.49	19.33	6.02	35.0	± 9.6 %
		ΤΥ	4.81	66.68	19.42		35.0	
		Ż	4.43	66.37	18.80		35.0	
10311- AAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	3.36	70.26	16.95	0.00	150.0	± 9.6 %
		Y	3.08	68.46	15.91		150.0	
		z	3.08	69.51	16.57			<u> </u>
10313-	IDEN 1:3	X	5.95	81.40	19.48	6.99	150.0	
AAA		Y	4.30			0.99		±9.6 %
				76.35	17.48		70.0	
10314-	iDEN 1:6	Z	3.21	73.80	16.43		70.0	
		X	12.17	97.07	27.72	10.00	30.0	±9.6 %
<u>.                                  </u>	+	Y	7.44	87.94	24.60		30.0	
10045			6.18	85.76	23.72		30.0	
10315- AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	1.10	64.61	16.02	0.17	150.0	± 9.6 %
	<u> </u>	Y	1.01	<u>63.</u> 21	14.85		150.0	
40040		Z	1.05	64.14	15.48		150.0	
10316- AAB	IEEE 802.11g WiFi 2.4 GHz (ERP- OFDM, 6 Mbps, 96pc duty cycle)	X	4.65	66.81	16.47	0.17	150.0	±9.6 %
		Y	4.62	66.42	16.27		150.0	
	<u> </u>	Z	4.46	66.78	16.31		150.0	
10317- AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.65	66.81	16.47	0.17	150.0	±9.6 %
		Y_	4.62	66.42	16.27		150.0	
(0.17-		Z	4.46	66.78	16.31		150.0	
10400- AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	X	4.78	67.16	16.44	0.00	150.0	±9.6 %
		Y	4.74	66.73	16.21		150.0	
		Z	4.55	67.11	16.31		150.0	
	IEEE 802.11ac WiFi (40MHz, 64-QAM,	X	5.43	67.23	16.53	0.00	150.0	± 9.6 %
10401- AAD	99pc duty cycle)				1			
		Y	5.42	66.92	16.38		150.0	

10403- AAB 10404- AAB 10406-	99pc duty cycle) CDMA2000 (1xEV-DO, Rev. 0)	Y Z	5.70	67.34	16.43		150.0	
AAB 10404- AAB 10406-	CDMA2000 (1xEV-DO, Rev. 0)	Z		07.34	1643		1 1 - 0 0	1
AAB 10404- AAB 10406-	CDMA2000 (1xEV-DO, Rev. 0)			67.48				
10404- AAB 10406-		X	<u> </u>	72.86	<u>16.4</u> 5 16.32	0.00	1 <u>50.0</u> 1 <b>1</b> 5.0	± 9.6 %
AAB		Y	4.00		- 40.40			
AAB			1.38	67.46	13.46		115.0	
AAB	CDMA2000 (1xEV-DO, Rev. A)	ZX	1.34	68.81	13.27		115.0	
			1.95	72.86	16.32	0.00	115.0	± 9.6 %
	·	X	1.38	67.46	13.46		115.0	
		Z	1.34	68.81	13.27		115.0	
AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	100.00	122.38	30.73	0.00	100.0	± 9.6 %
		Y	<u>81.48</u>	123.67	32.28		100.0	
		Z	100.00	114.83	26.66		100.0	
AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	X	100.00	123.65	31.04	3.23	80.0	± 9.6 %
		Y	100.00	127.30	33.02		80.0	
		Z	100.00	122.18	29.60		80.0	
10415- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	1.02	63.74	15.40	0.00	150.0	± 9.6 %
	- <u></u>	Y	0.94	62.36	14.20		150.0	
		Z	0.99	63.49	14.99		150.0	
10416- IEEE 802.11g WiFi 2.4 G AAA OFDM, 6 Mbps, 99pc dut	IEEE 802.11g WiFi 2.4 GHz (ERP- OFDM, 6 Mbps, 99pc duty cycle)	X	4.59	66.79	16.39	0.00	150.0	± 9.6 %
		Ý	4.55	66.36	16.15		150.0	
		Z	4.42	66.82	16.27		150.0	
10417- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.59	66.79	16.39	0.00	150.0	± 9.6 %
		Y	4.55	66.36	16.15		150.0	
		Ż	4.42	66.82	16.27		150.0	
AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	x	4.58	66.96	16.41	0.00	150.0	± 9.6 %
		Y	4.54	66.49	16.15		150.0	
		Z	4.42	67.01	16.31		150.0	
AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.61	66.90	16.41	0.00	150.0	± 9.6 %
		Y	4.56	66.45	16.16		150.0	
		Z	4.43	66.95	16.30		150.0	
10422- AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.73	66.90	16.41	0.00	150.0	± 9.6 %
		Y	4.69	66.47	16.18		150.0	
		Z	4.54	66.92	16.31		150.0	
10423- AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.91	67.24	16.54	0.00	150.0	± 9.6 %
		Y	4.87	66.82	16.31		150.0	<u>├</u>
		Z	4.68	67.21	16.40		150.0	
	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.82	67.19	16.51	0.00	150.0	± 9.6 %
		Y	4.79	66.76	16.28		150.0	
10.00		Z	4.61	67.16	16.38		150.0	
10425- AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.41	67.47	16.65	0.00	150.0	± 9.6 %
		Y	5.40	67.17	16.50		150.0	
		Z	5.21	67.35	16.53		150.0	<u>_</u>
10426- AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.41	67.47	16.65	0.00	150.0	±9.6 %
		Y	5.40	67.19	16.50	<u></u>	150.0	
		ż	5.23	67.42	16.56		150.0	

10427-	IEEE 802.11n (HT Greenfield, 150 Mbps,							just 23, 20 <sup>.</sup>
AAB	64-QAM)	×	5.42	67.47	16.64	0.00	150.0	± 9.6 %
	······································	Y	5.41	67.16	16.48	<u> </u>	150.0	
10430-		Z	5.22	67.32	16.51		150.0	† <b>-</b>
<u>AAC</u>	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.40	71.17	18.58	0.00	150.0	± 9.6 %
	<u>+</u>	Y	4.23	70.08	17.99		150.0	
10431-		<u>Z</u>	4.30	72.10	18.56		150.0	·
<u>AAC</u>	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	4.31	67.42	16.46	0.00	150.0	± 9.6 %
	· · · · · · · · · · · · · · · · · · ·	Y	4.26	66.88	16.15		150.0	
10432-		Ζ	4.07	67.45	16.24		150.0	
AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X	4.60	67.26	16.49	0.00	150.0	± 9.6 %
		Y	4.56	66.79	16.22		150.0	
10/22		Z	4.38	67.26	16.33		150.0	
10433- AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.84	67.23	16.53	0.00	150.0	±9.6 %
		Y	4.80	66.80	16.30		150.0	
10434-		Z	4.63	67.20	16.40		150.0	
AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.54	72.17	18.64	0.00	150.0	± 9.6 %
		Y	4.31	70.81	17.94		150.0	
10435-		Z	4.47	73.20	18.53		150.0	
AAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	×	100.00	123.43	30.93	3.23	80.0	±9.6 %
		Y	100.00	127.09	32.93		80.0	
40447		Z	100.00	121.88	29.46		80.0	
10447- AAC	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	×	3.63	67.60	15.97	0.00	150.0	± 9.6 %
		_ Y <sup>_</sup>	3.55	66.82	15.51		150.0	
		Ζ	3.36	67.49	15.39		150.0	
10448- AAC	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	Х	4.14	67.21	16.33	0.00	150.0	± 9.6 %
		Y	4.08	66.64	16.00		150.0	
		Z	3.93	67.24	16.11		150.0	
10449- AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	х	4.40	67.10	16.39	0.00	150.0	± 9.6 %
		Y	4.35	66.60	16.11		150.0	_
		Z	4.21	67.10	16.24	_	150.0	
10450- AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.59	67.00	16.40	0.00	150.0	±9.6 %
		Y	4.54	66.54	16.14		150.0	-
101-1		2	4.41	66.98	16.27		150.0	
10451- AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	x	3.56	67.91	15.68	0.00	150.0	± 9.6 %
		Y	3.45	67. <u>01</u>	15.16		150.0	_
10450		Z	3.21	<u>67.</u> 51	14.85		150.0	
10456- AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	6.26	68.01	16.78	0.00	150.0	± 9.6 %
	·	Y	6.26	67.75	16.66		150.0	
10457		Z	6.13	67.97	16.72		150.0	
10457- AAA	UMTS-FDD (DC-HSDPA)	X	3.81	65.42	16.11	0.00	150.0	± 9.6 %
		Ý	3.77	64.98	15.86		150.0	
10458- AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	Z X	3.73 4.16	65.50 71.37	15.98 18.08	0.00	<u>150.0</u> 150.0	± 9.6 %
		Y	3.92	60.04	17.00		450.0	
	<u>+</u>			69.91	17.32		150.0	
10459-	CDMA2000 (1xEV-DO, Rev. B, 3	Z X	4.02	72.11	17.63	0.00	150.0	
<u>AAA</u>	carriers)		5.19	68.40	18.36	0.00	150.0	± 9.6 %
		_Y Z	5.10 5.01	67.75	18.06		150.0	
	1		5.01	69.18	18.25		150.0	

10460- AAA	UMTS-FDD (WCDMA, AMR)	х	1.07	72.05	18.39	0.00	150.0	± 9.6 %
		Y	0.81	67.05	15.17		150.0	
		Z	0.95	70.49	17.24		150.0	
10461- 	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	×	100.00	129.11	33.59	3.29	80.0	± 9.6 %
	<u></u>	Y	100.00	132.68	35.56		80.0	
		Z	100.00	128.17	32.38		80.0	
10462- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	29.76	94.39	20.32	3.23	80.0	±9.6 %
		Y	100.00	112.07	25.94	<u> </u>	80.0	
10463-		Z	0.79	60.49	7.76		80.0	
AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.50	68.97	12.20	3.23	80.0	± 9.6 %
		Y	100.00	107.58	23.85		80.0	
10464-	LTE-TDD (SC-FDMA, 1 RB, 3 MHz,	Z	0.77	60.00	6.89		80.0	
AAB	QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	126.29	32.12	3.23	80.0	± 9.6 %
		Y_	100.00	130.29	34.26		80.0	
10465-	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-	Z	100.00	124.25	30.42	<u>-</u>	80.0	
10465- AAB	QAM, UL Subframe=2,3,4,7,8,9)	X	9.13	82.53	17.12	3.23	80.0	± 9.6 %
	······	<u>Y</u>	100.00	111.30	25.58		80.0	
10466-	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-	Z	0.75	60.00	7.44		80.0	
AAB	QAM, UL Subframe=2,3,4,7,8,9)	X	1.98	66.71	11.27	3.23	80.0	± 9.6 %
	+··	<u>Y</u>	99.88	106.88	23.53		80.0	
10467-	LTE-TDD (SC-FDMA, 1 RB, 5 MHz,	Z	0.78	60.00	6.83		80.0	
	QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	126.60	32.25	3.23	80.0	± 9.6 %
	+	<u>Y</u>	100.00	130.59	34.40		_ 80.0	
10468-		Z	100.00	124.67	30.60		80.0	
AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	X	11.66	85.00	17.83	3.23	80.0	± 9.6 %
		Y	100.00	111.53	25.68	_	80.0	
10400		<u>Z</u>	0.75	60.09	7.51		80.0	
10469- AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	×	1.98	66.75	11.28	3.23	80.0	± 9.6 %
		Y	100.00	106.90	23.54		80.0	
40470		Z	0.77	60.00	6.83		80.0	
10470- AAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	126.64	32.26	3.23	80.0	± 9.6 %
		Y	100.00	130.65	34.41		80.0	
10471-		Z	100.00	124.69	30.60		80.0	
AAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	X	11.32	84.67	17.72	3.23	80.0	±9.6 %
	<u> </u>	Y	100.00	111.46	25.64		80.0	
10472-	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-	Z	0.75	60.04	7.47		80.0	
AAD	QAM, UL Subframe=2,3,4,7,8,9)	X	1.96	66.63	11.22	3.23	80.0	±9.6 %
	<u> </u>	Y	100.00	106.82	23.49		80.0	
10473-		<u>_ Z</u>	0.77	60.00	6.81		80.0	
AAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	100.00	126.60	32.24	3.23	80.0	± 9.6 %
	<u> </u>	<u>Y</u>	100.00	130.61	34.39		80.0	
10474-		Z	100.00	124.64	30.58		80.0	
AAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	x	11.06	84.45	17.66	3.23	80.0	± 9.6 %
		Y	100.00	111.47	25.64		80.0	
10475		Z	0.74	60.02	7.45		80.0	
10475- AAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	X	1.95	66.59	11.20	3.23	80.0	± 9.6 %
		Ŷ	99.99	106.84	00.50		<u> </u>	
		z	_ 33.33	100.04	23.50		80.0	

10477-	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-	x	9.10	82.47	17.07	<u> </u>		T
AAE	QAM, UL Subframe=2,3,4,7,8,9)					3.23	80.0	± 9.6 %
		Y	100.00	111.24	25.54		80.0	
10478-	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-	Z	0.74	60.00	7.42		80.0	
AAE	QAM, UL Subframe=2,3,4,7,8,9)	X	1.93	66.47	11.14	3.23	80.0	± 9.6 %
	<u> </u>	Ý	96.81	106.44	23.40		80.0	
10479-		Z	0.77	60.00	6.80		80.0	
	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	9.68	90.97	25.10	3.23	80.0	± 9.6 %
		Y	13.83	97.37	27.65		80.0	
10480-		Z	12.23	94.71	25.17		80.0	
AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	×	11.91	88.02	22.17	3.23	80.0	± 9.6 %
		<u>Y</u>	19.25	95.65	25.10		80.0	
10404		Z	7.50	81.30	18.54		80.0	
10481- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	9.15	83.59	20.38	3.23	80.0	±9.6 %
	· · · · · · · · · · · · · · · · · · ·	Υ	15.12	91.18	23.39		80.0	
40400		Z	4.40	74.24	15.71		80.0	
10482- AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.76	79.70	20.44	2.23	80.0	±9.6%
	<u> </u>	Y	3.53	74.74	18.45		80.0	
10400		Z	2.62	71.60	<u>16</u> .13		80.0	_
10483- AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	5.87	78.17	19.16	2.23	80.0	± 9.6 %
		Y	8.24	83.44	21.55		80.0	
40404		Ζ	2.93	69.04	14.15		80.0	
10484- AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	5.35	76.61	18.60	2.23	80.0	± 9.6 %
<u> </u>		Y	7.24	81.28	20.83		80.0	<u> </u>
		Z	2.73	67.94	13.69		80.0	
10485- AAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.47	78.87	21.04	2.23	80.0	±9.6 %
		Ϋ́	3.68	75.23	19.49		80.0	
		Z	3.15	74,27	18.50		80.0	
10486- AAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.79	72.50	18.04	2.23	80.0	± 9.6 %
		Y	3.38	70.29	17.05		80.0	
		<u>Z</u>	2.84	69.02	15.57		80.0	
10487- AAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.74	71.89	17.77	2.23	80.0	± 9.6 %
		Y	3.37	69.86	16.85		80.0	-
		Z	2.81	68.50	15.32		80.0	
10488- AAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.24	75.86	20.43	2.23	80.0	± 9.6 %
		Y	3.83	73.65	19.40		80.0	
		Z	3.28	72.72	18.85	-	80.0	
10489- AAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.72	70.49	18.27	2.23	80.0	± 9.6 %
		Y	3.53	69.26	17.66		80.0	
	<u> </u>	Z	3.19	68.97	17.14		80.0	
10490- AAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.79	70.18	18.14	2.23	80.0	± 9.6 %
	<u> </u>	Y	3.62	69.04	17.58		80.0	
10/01		Z	3.27	68.77	17.05		80.0	
10491- _AAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	×	4.23	73.19	19.42	2.23	80.0	± 9.6 %
	<u> </u>	Y	3.95	71.65	18.67		80.0	
10.100		_Z	3.47	70.90	18.25		80.0	
10492- AAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.97	69.24	17.95	2.23	80.0	±9.6 %
<u> </u>		Ϋ́	3.85	<u>6</u> 8.36	17.51		80.0	
		Z	3.50	68.04	17.11		80.0	-

10493-	LTE-TDD (SC-FDMA, 50% RB, 15 MHz,	X	4.03	69.04	17.87	2.23	80.0	± 9.6 %
AAD	64-QAM, UL Subframe=2,3,4,7,8,9)					2.20		1 9.0 %
		Y	3.92	68.21	17.46		80.0	
10494-		Z	3.56	67.90	17.04		<u>80</u> .0	
AAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	×	4.79	75.46	20.14	2.23	80.0	± 9.6 %
		Y	4.38	73.53	19.24		80.0	
	- <u> </u>	Z	3.78	72.48	18.78		80.0	Ϊ
10495- AAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.03	69.76	18.19	2.23	80.0	± 9.6 %
		Y	3.90	68.85	17.73		80.0	
40.000		Z	3.53	68.35	17.31		80.0	
10496- AAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	×	4.08	69.35	18.04	2.23	80.0	± 9.6 %
		Y	3.97	<u>68.5</u> 1	17.62		80.0	
		Z	3.60	68.09	17.22		80.0	
10497- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.72	75.87	18.08	2.23	80.0	± 9.6 %
		Y	2.64	70.76	15.98		80.0	
10.100		Z	1.51	64.60	11.77	_	80.0	
10498- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	2.30	66.27	12.99	2.23	80.0	± 9.6 %
		Ý	2.02	64.31	12.06		80.0	1
	-	Z	1.20	60.00	8.21		80.0	<u> </u>
10499- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	x	2.18	65.35	12.41	2.23	80.0	± 9.6 %
		Y	1.97	63.70	11.62		80.0	
		Z	1.22	60.00	8.05		80.0	
10500- AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.19	76.87	20.53	2.23	80.0	± 9.6 %
		Y	3.63	74.04	19.27		80.0	
		Z	3.15	73.35	18.54		80.0	ŧ
10501- AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.74	71.57	18.07	2.23	80.0	± 9.6 %
		Y	3.44	69.83	17.26		80.0	
4050		Z	3.03	69.25	16.29		80.0	
10502- AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.79	71.34	17.92	2.23	80.0	± 9.6 %
		Ý	3.50	69.66	17.14		80.0	
40505		Z	3.07	69.05	16.12		80.0	†
10503- AAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.18	75.62	20.32	2.23	80.0	± 9.6 %
		Y	3.77	73.43	19.30		80.0	
10504-		Z	3.23	72.50	18.74		80.0	
AAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	3.70	70.40	18.21	2.23	80.0	± 9.6 %
	+	Y	3.52	69.18	17.61		80.0	
10505-		Z	3.17	68.86	<u>1</u> 7.07		80.0	
<u>AAD</u>	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.77	70.08	18.09	2.23	80.0	± 9.6 %
	+	Y	3.60	68.95	17.53		80.0	
10506-	LTE-TDD (SC-FDMA, 100% RB, 10	Z	3.25	68.67	16.99		80.0	
AAD	MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.74	75.29	20.06	2.23	80.0	±9.6 %
	+	Y	4.34	73.37	19.17		80.0	
10507-	LTE-TDD (SC-FDMA, 100% RB, 10	Z	3.74	72.32	18.70		80.0	
10507- AAD	MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	4.01	69.69	18.15	2.23	80.0	± 9.6 %
		Y Z	3.88	68.79	17.69		80.0	

10508-	LTE-TDD (SC-FDMA, 100% RB, 10		4.07					
AAD	MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.07	69.28	18.00	2.23	80.0	± 9.6 %
		† -	3.96	68.45	17.58	┼────		<u> </u>
		Ż	3.59	68.02	17.56	<del> </del>	80.0	
10509- AAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	4.87	73.12	19.15	2.23	80.0 80.0	± 9.6 %
		Y	4.57	71.69	18.46		80.0	<u> </u>
		Z	4.08	70.95	18.12		80.0	
10510- AAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	4.46	69.19	17.97	2.23	80.0	± 9.6 %
		Y	4.36	68.46	17.61		80.0	<u>+</u>
40544		Z	3.98	67.93	17.23		80.0	
10511- AAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.49	68.83	17.85	2.23	80.0	± 9.6 %
		Ý	4.40	68.15	17.52		80.0	<del>                                      </del>
10510		Z	4.03	67.70	17.16		80.0	
10512- AAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	5.35	75.53	19.95	2.23	80.0	± 9.6 %
		Y	4.89	73.64	19.09		80.0	
10513-		Z	4.27	72.56	18.64		80.0	
AAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	4.37	69.62	18.15	2.23	80.0	± 9.6 %
		Y	4.26	68.83	17.75		80.0	
40544		Z	3.86	68.15	17.33		80.0	·
1051 <b>4-</b> AAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.36	69.04	17.95	2.23	80.0	± 9.6 %
		Y	4.26	68.32	17.60		80.0	
		<u>Z</u>	3.89	67.75	17.20		80.0	
10515- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	0.98	64.01	15.52	0.00	150.0	± 9.6 %
		Y	0.90	62.52	14.23		150.0	
10516-		Z	0.95	63.71	15.08		150.0	
AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.96	80.43	22.24	0.00	150.0	± 9.6 %
		Y	0.52	69.16	15.73		150.0	
10517-	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11	Z	0.74	75.71	19.80		150.0	
	Mbps, 99pc duty cycle)	X	0.87	66.95	16.73	0.00	150.0	±9.6 %
		Y	0.75	64.30	14.64		150.0	
10518- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	Z X	<u>0.81</u> 4.59	66.10 66.88	<u>15.98</u> 16.37	0.00	1 <u>50.0</u> 150.0	± 9.6 %
		Y	4.55	66.43	16.12		150.0	
		Ζ	4.41	66.91	16.25		150.0	
10519- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	×	4.79	67.13	16.49	0.00	150.0	± 9.6 %
		Y	4.75	66.71	16.26		150.0	
(		Ζ	4.57	67.10	16.35		150.0	
10520- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	x	4.64	67.11	16.43	0.00	150.0	±9.6%
<u> </u>		Y	4.60	66.67	16.18		150.0	
105 <mark>21-</mark> AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	Z X	<u>4.43</u> 4.57	67.05 67.12	<u>16.27</u> 16.42	0.00	150.0 150.0	± 9.6 %
		Y	4.53	66.66	16.16		150.0	<u> </u>
		Z	4.35	67.04	16.26		<u>150.0</u> 150.0	
10522- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.63	67.16	16.48	0.00	150.0 150.0	± 9.6 %
		Y	4.59	66.70	16.22		150.0	
	· · · · · · · · · · · · · · · · · · ·	Ż	4.42	67.17	16.36		150.0	

10523-	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48	X	4.51	67.05	16.34	0.00	150.0	± 9.6 %
AAB	Mbps, 99pc duty cycle)							
		Y Z	4.46	66.56	16.06		150.0	
10524-	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54	$+\frac{2}{x}$	<u>4.33</u> 4.58	67.10 67.09	16.24	0.00	150.0	100%
AAB	Mbps, 99pc duty cycle)		_		16.46	0.00	150.0	± 9.6 %
		Y	4.53	66.64	16.20		150.0	
10525-		Z	4.37	67.10	16.33		150.0	
AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.55	66.14	16.05	0.00	150.0	± 9.6 %
		Y	4.50	65.66	15.78		150.0	
10526-		Z	4.38	66.18	15.95	L	150.0	
_AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.74	66.53	16.19	0.00	150.0	±9.6 %
		Y	4.69	66.05	15.93		150.0	
40507		Z	_ 4.52	66.50	16.07		150.0	
10527- AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.66	66.50	16.15	0.00	150.0	± 9.6 %
		Y	4.61	66.01	15.87		150.0	
10500		Z	4.45	66.47	16.02		150.0	
10528- AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.67	66.52	16.18	0.00	150.0	± 9.6 %
		Y -	4.62	66.03	15.91		150.0	
40000		<u>Z</u>	4.47	66.48	16.05		150.0	
10529- AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.67	66.52	16.18	0.00	150.0	± 9.6 %
		Y	4.62	66.03	15.91		150.0	
10-04		Z	4.47	66.48	16.05		150.0	
10531- AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.67	66.65	16.20	0.00	150.0	± 9.6 %
		Y	4.63	66.16	15.93		150.0	
		Z	4.44	66.54	16.04		150.0	
10532- AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.53	66.51	16.14	0.00	150.0	± 9.6 %
		Y	4.48	66.01	15.86		150.0	
		Z	4.32	66.41	15.98		150.0	
10533- AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.68	66.56	16.16	0.00	150.0	±9.6 %
		Y	4.63	66.06	15.89		150.0	
		Z	4.48	66.56	16.05		150.0	·
10534- AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	5.19	66.60	16.20	0.00	150.0	± 9.6 %
		Y	5.16	66.20	15.99		150.0	
		Z	5.01	66.50	16.09		150.0	
10535- AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	5.26	66.75	16.27	0.00	150.0	± 9.6 %
		Y	5.22	66.35	16.06		150.0	<u>-</u>
10		Z	5.06	66.65	16.16		150.0	<u>⊢ ··</u> _
10536- AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	5.13	66.73	16.24	0.00	150.0	± 9.6 %
		Y	5.09	66.32	16.02		150.0	<u> </u>
		Z	4.95	66.64	16.13		150.0	
10537- AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	5.19	66.69	16.22	0.00	150.0	± 9.6 %
		Y	5.15	66.30	16.01		150.0	
		Z	5.00	66.59	16.11		150.0	
10538- AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	5.28	66.73	16.28	0.00	150.0	± 9.6 %
		Y	5.26	66.36	16.08	<u> </u>	150.0	<u> </u>
		Z	5.08	66.58	16.14		150.0	
10540- AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	5.21	66.72	16.29	0.00	150.0	± 9.6 %
		ΤΥ T	5.17	66.33	16.08		150.0	<u> </u>

10541- AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	5.18	66.60	16.22	0.00	150.0	± 9.6 %
		Y	5.14	66.20	10.04	<u> </u>		<u> </u>
		z	4.99	66.47	16.01	┝	150.0	
10542- AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	5.33	66.65	<u>16.09</u> 16.26	0.00	1 <u>50.0</u> 150.0	± 9.6 %
		Y	5.31	66.28	16.07		150.0	<u>                                     </u>
		†ż	5.14	66.55	16.15		150.0	<u> </u>
10543- <u>AA</u> B	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.41	66.68	16.15	0.00	150.0 150.0	±9.6 %
		Y	5.39	66.31	16.11	<u> </u>	150.0	<u>-</u>
		Z	5.20	66.56	16.18		150.0	
10544- AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.49	66.70	16.18	0.00	150.0	± 9.6 %
		Y	5.45	66.31	15.98		150.0	
		Z	5.34	66.58	16.07		150.0	
10545- AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.68	67.09	16.32	0.00	150.0	± 9.6 %
		Y	5.66	66.76	16.15		150.0	
		Z	5.51	66.98	16.23		150.0	<u> </u>
10546- AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.57	66.94	16.26	0.00	150.0	± 9.6 %
		Y	5.54	66.57	16.08		150.0	
405-1-		Z	5.38	66.73	16.11		150.0	— <u> </u>
10547- AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	×	5.64	66.98	16.27	0.00	150.0	±9.6 %
		Y	5.63	66.66	16.11		150.0	
		Z	5.45	66.79	16.14		150.0	
10548- AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	5.90	67.92	16.71	0.00	150.0	±9.6%
		Y	5.97	67.87	16.68		150.0	
		Z	5.63	67.50	16.47		150.0	
10550- AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.59	66.92	16.26	0.00	150.0	±9.6%
·		Y	5.55	66.54	16.07		150.0	
		Z	5.42	66.82	16.17		150.0	
10551- AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.60	66.98	16.25	0.00	150.0	±9.6%
		Y	5.56	66.60	16.06		150.0	
		Z	5.40	66.75	16.10		150.0	
10552- AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.51	66.77	16.16	0.00	150.0	±9.6 %
		Y	5.47	66.37	15.96		150.0	
		Ź	5.35	66.67	16.06		150.0	
10553- AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.60	66.81	16.21	0.00	150.0	±9.6%
		Y	5.56	66.43	16.01		150.0	
		Z	5.41	66.65	16.08		150.0	
10554- AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	×	5.89	67.05	16.26	0.00	150.0	± 9.6 %
		Y	5.86	66.69	16.08		150.0	
		Z	5.7 <u>5</u>	66.91	16.14		150.0	
10555- AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	6.02	67.35	16.38	0.00	150.0	± 9.6 %
	·	<u> </u>	6.00	67.02	16.22		150.0	
40556		Z	5.86	67.17	16.25		150.0	
10556- AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	6.04	67.39	16.40	0.00	150.0	± 9.6 %
	<u> </u>	Y	6.02	67.06	16.23	_	150.0	
405		Z	5.88	67.24	16.28		150.0	
10557- <u>AA</u> C	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	6.01	67.32	16.38	0.00	150.0	±9.6 %
		Ý	5.99	66.98	16.22		150.0	
		Z	5.85	67.13	16.24		150.0	

10558- AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	6.07	67.49	16.48	0.00	150.0	± 9.6 %
		Y	6.05	67.17	16.33		150.0	
		Z	5.88	67.26	16.33		150.0	
10560- AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	6.06	67.34	16.44	0.00	150.0	± 9.6 %
		Y	6.04	66.99	16.28		150.0	
		Z	5.88	67.13	16.30		150.0	
10561- AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	5.98	67.30	16.46	0.00	150.0	±9.6 %
		Y	5.96	66.96	16.30		150.0	
		Z	5.81	67.11	16.32		150.0	
10562- AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	6.11	67.72	16.67	0.00	150.0	± 9.6 %
		Y	6.12	67.46	16.55		150.0	
		Z	5.89	67.37	16.45		150.0	
10563- AAC	IEEE 802.11ac WIFI (160MHz, MCS9, 99pc duty cycle)	X	6.43	68.23	16.87	0.00	150.0	±9.6 %
		Y	6.50	68.16	16.85		150.0	
		Z	5.96	67.23	16.35		150.0	
10564- 	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 9 Mbps, 99pc duty cycle)	X	4.91	66.93	16.51	0.46	150.0	± 9.6 %
	·	Y	4.88	66.54	16.31		150.0	
		Z	4.73	66.93	16.37		150.0	
10565- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 12 Mbps, 99pc duty cycle)	Х	5.16	67.40	16.83	0.46	150.0	± 9.6 %
_		Y	5.13	67.02	16.64		150.0	
		Z	4.93	67.35	16.69		150.0	
10566- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 18 Mbps, 99pc duty cycle)	X	4.99	67.26	16.66	0.46	150.0	± 9.6 %
		Y	4.96	66.87	16.45		150.0	
		Z	4.77	67.18	16.50		150.0	
10567- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 99pc duty cycle)	X	5.02	67.67	17.02	0.46	150.0	± 9.6 %
		Y	4.98	67.25	16.79		150.0	
		Z	4.81	67.60	16.88		150.0	
10568- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 99pc duty cycle)	X	4.90	67.00	16.42	0.46	150.0	± 9.6 %
		Y	4.87	66.62	16.22		150.0	
		Z	4.67	66.94	16.26		150.0	
10569- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 99pc duty cycle)	X	4.97	67.73	17.07	0.46	150.0	± 9.6 %
		Y	4.93	67.29	16.83		150.0	
		Z	4.78	67.78	16.99	<u> </u>	150.0	
10570- <u>AA</u> A	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 99pc duty cycle)	X	5.01	67.57	17.00	0.46	150.0	± 9.6 %
		Y	4.97	67.15	16.77		150.0	
40554		Z	4.80	67.57	16.89		150.0	···
10571- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	X	1.17	65.22	16.39	0.46	130.0	± 9.6 %
		Y	1.09	63.89	15.30		130.0	
40===		Z	1.10	64.48	15.68		130.0	
10572- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.19	65.91	16.81	0.46	130.0	± 9.6 %
	· · · · · · · · · · · · · · · · · · ·	Y	1.10	64.45	15.65		130.0	
		Z	1.12	65.08	16.07	··	130.0	
			11.95	118.97	33.95	0.46	130.0	± 9.6 %
10573- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	11.00				1	
	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	Y				<u> </u>		
<u>AAA</u>	Mbps, 90pc duty cycle)	Y	2.10	86.50	22.92		130.0	
AAA	Mbps, 90pc duty cycle)					0.46		± 9.6 %
	Mbps, 90pc duty cycle)	Y Z	2.10	86.50 93.83	22.92 26.37	0.46	<u>130.0</u> 130.0	

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10575- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-	X	4.69	66.71	16.57	0.46	130.0	± 9.6 %
<u>~~~</u>	OFDM, 6 Mbps, 90pc duty cycle)	<u> </u>						2 3.0 %
		Y	4.67	66.34	16.38		130.0	
10576-	IEEE 802.11g WiFi 2.4 GHz (DSSS-	Z	4.50	66.68	16.40		130.0	
AAA	OFDM, 9 Mbps, 90pc duty cycle)		4.72	66.88	16.64	0.46	130.0	± 9.6 %
	<u> </u>	Y	4.69	66.50	16.44		130.0	
10577-		Z	4.53	66.88	16.48		130.0	
AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 12 Mbps, 90pc duty cycle)	X	4.94	67.20	16.81	0.46	130.0	±9.6%
		Y	4.91	66.83	16.62		130.0	
40570		Z	4.71	67.13	16.63		130.0	
10578- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 18 Mbps, 90pc duty cycle)	X	4.83	67.37	16.92	0.46	130.0	± 9.6 %
		Ý	4.81	66.98	16.72		130.0	
40.570		Z	4.61	67.29	16.74		130.0	
10579- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 90pc duty cycle)	X	4.60	66.66	16.24	0.46	130.0	± 9.6 %
		Y	4.57	66.30	16.05	·	130.0	
40500		Z	4.37	66.49	16.00	<u> </u>	130.0	<u> </u>
10580- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 90pc duty cycle)	X	4.64	66.67	16.25	0.46	130.0	± 9.6 %
		Y	4.62	66.31	16.06		130.0	
		Z	4.41	66.55	16.03		130.0	
10581- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 90pc duty cycle)	X	4.73	67.42	16.87	0.46	130.0	± 9.6 %
		Y	4.70	67.02	16.65		130.0	
		Z	4.52	67.36	16.71		130.0	
10582- <u>A</u> AA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 90pc duty cycle)	X	4.54	66.41	16.03	0.46	130.0	± 9.6 %
		Y	4.53	66.07	15.85		130.0	
		Z	4.30	66.25	15.78		130.0	
10583- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.69	66.71	16.57	0.46	130.0	± 9.6 %
		Y	4.67	66.34	16.38		130.0	
		Ż	4.50	66.68	16.40		130.0	
10584- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.72	66.88	16.64	0.46	130.0	± 9.6 %
		Y	4.69	66.50	16.44		130.0	
-		Z	4.53	66.88	16.48		130.0	
10585- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	4.94	67.20	16.81	0.46	130.0	± 9.6 %
		TY	4.91	66.83	16.62		130.0	
_		Z	4.71	67.13	16.63		130.0	
10586- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.83	67.37	16.92	0.46	130.0	± 9.6 %
		Y	4.81	66.98	16.72		130.0	
		Ż	4.61	67.29	16.72		130.0	
10587- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.60	66.66	16.24	0.46	130.0	±9.6%
		Y	4.57	66.30	16.05		130.0	
		Z	4.37	66.49	16.00		130.0	
10588- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.64	66.67	16.25	0.46	130.0	±9.6 %
		Ϋ́	4.62	66.31	16.06		130.0	
		Z	4.41	66.55	16.03		130.0	
10589- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.73	67.42	16.87	0.46	130.0	±9.6 %
		Y	4.70	67.02	16.65		130.0	
		Z	4.52	67.36	16.71		130.0	
10590- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.54	66.41	16.03	0.46	130.0	± 9.6 %
		† Y	4.53	66.07	15.85		130.0	
		Z	4.30	66.25	15.78		130.0	

10591-	IEEE 802.11n (HT Mixed, 20MHz,	X	4.84	66.77	10.00	0.40	100.0	
AAB	MCS0, 90pc duty cycle)		4.04	00.77	16.66	0.46	130.0	± 9.6 %
		Y	4.82	66.41	16.48	_	130.0	
		Z	4.66	66.76	16.51		130.0	
10592- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	X	5.01	67.12	16.79	0.46	130.0	± 9.6 %
_		Y	4.99	66.76	16.61		130.0	
		Z	4.79	67.07	16.64		130.0	
10593- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.93	67.04	16.68	0.46	130.0	± 9.6 %
_	······································	Y	4.91	66.69	16.51		130.0	
10594-	IEEE 802.11n (HT Mixed, 20MHz,	_ Z	4.71	66.95	16.50		130.0	
<u>AAB</u>	MCS3, 90pc duty cycle)		4.98	67.20	16.83	0.46	130.0	± 9.6 %
	+ ·	Y Z	<u>4.96</u> 4.76	66.84	16.65		130.0	
10595-	IEEE 802.11n (HT Mixed, 20MHz,		4.76	67. <u>13</u> 67.16	16.67 16.73	0.40	130.0	
AAB	MCS4, 90pc duty cycle)		4.95			0.46	130.0	± 9.6 %
		- T Z	4.93	66.80	16.55		130.0	
10596-	IEEE 802.11n (HT Mixed, 20MHz,	X	4.73	67.10 67.16	16.57 16.74	0.40	130.0	
AAB	MCS5, 90pc duty cycle)					0.46	130.0	± 9.6 %
			<u>4.87</u> 4.66	66.79	16.55		130.0	
10597-	IEEE 802.11n (HT Mixed, 20MHz,	- <u>2</u> X	4.84	67.08 67.08	16.56 16.63	0.40	130.0	
AAB	MCS6, 90pc duty cycle)	- ^				0.46	130.0	±9.6 %
		Z	<u>4.82</u> 4.61	66.71	16.44		130.0	
10598-	IEEE 802.11n (HT Mixed, 20MHz,	- <u>-</u> X	4.82	66.96 67.33	16. <u>43</u> 16.90	0.46	130.0	
AAB	MCS7, 90pc duty cycle)	Y Y				0.46	130.0	± 9.6 %
			4.80	66.95	16.70		130.0	
10599- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.51	67.20 67.30	16.70 16.83	0.46	130.0 130.0	± 9.6 %
		Y	5.50	67.04	16.72		120.0	
		Z	5.31	67.18	16.69		130.0 130.0	
10600- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.66	67.75	17.03	0.46	130.0	± 9.6 %
		Y	5.70	67.66	17.00		130.0	
		z	5.42	67.55	16.85		130.0	
10601- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.54	67.49	16.91	0.46	130.0	± 9.6 %
		Y	5.55	67.29	16.83		130.0	
		Z	5.33	67.34	16.76		130.0	
10602- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	X	5.62	67.47	16.82	0.46	130.0	± 9.6 %
	+ <u> </u>	Y	5.64	67.27	16.74		130.0	
10603-		Z	5.46	67.51	16.77		130.0	
AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.72	67.83	17.13	0.46	130.0	±9.6 %
	<u> </u>	Y	5.72	67.56	17.01		130.0	
10604-		<u>Z</u>	5.53	67.80	17.05		130.0	
AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.51	67.26	16.84	0.46	130.0	± 9.6 %
	+ <u> </u>	Y	5,51	67.00	16.72		130.0	
10605-	IEEE 802.11n (HT Mixed, 40MHz,	Z	5.40	67.44	16.85		130.0	
AAB	MCS6, 90pc duty cycle)	X	5.62	67.58	16.99	0.46	130.0	±9.6 %
		Y	5.63	67.37	16.91		130.0	
10606-		Z	5.43	67.48	16.86		130.0	
AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	5.39	67.04	16.59	0.46	130.0	±9.6 %
	+	_ Y	5.38	66.75	16.46		130.0	
		Z	5.18	66.82	16.39		130.0	

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10607- AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.69	66.11	16.30	0.46	130.0	± 9.6 %
		Y	4.65	65.70	16.09	<del> </del>	130.0	+
10608-		Z	4.51	66.12	16.16	<u> </u>	130.0	<u> </u>
AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.89	66.54	16.47	0.46	130.0	± 9.6 %
		Y	4.86	66.13	16.26	<u> </u>	130.0	<u> </u>
40000		Z	4.67	66.48	16.32		130.0	
10609- 	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.78	66.40	16.32	0.46	130.0	± 9.6 %
		Y	4.74	65.99	16.10		130.0	<u> </u>
10610-		Z	4.56	66.32	16.14		130.0	·
AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	×	4.83	66.56	16.48	0.46	130.0	± 9.6 %
		Y	4.80	66.15	16.27		130.0	
10611-		Z	4.61	66.49	16.31		130.0	
AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	×	4.74	66.37	16.33	0.46	130.0	±9.6 %
		Ý	4.71	65.96	16.12		130.0	
10610		Z	4.52	66.28	16.15		130.0	
10612- AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.76	66.53	16.38	0.46	130.0	± 9.6 %
		<u> </u>	4.73	66.12	16.16		130.0	
10613-		Z	4.52	66.43	16.20		130.0	
AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.76	66.43	16.27	0.46	130.0	±9.6 %
		<u>Y</u>	4.74	66.03	16.06	-	130.0	
10614-		Z	4.52	66.26	16.05		130.0	
AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	×	4.70	66.62	16.50	0.46	130.0	± 9.6 %
		Y	4.67	66.19	16.28		130.0	
10015		Z	4.48	66.49	16.31		130.0	
10615- AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.74	66.19	16.10	0.46	130.0	± 9.6 %
		Y	4.72	65.79	15.90		130.0	
40040		Z	4.52	66.11	15.92		130.0	
10616- AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	5.34	66.61	16.47	0.46	130.0	± 9.6 %
		Y	5.32	66.28	16.32		130.0	
40047		Z	5.14	66.47	16.32		130.0	
10617- AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	5.40	66.74	16.51	0.46	130.0	± 9.6 %
		Y	5.38	66.41	16.35		130.0	
40040		Z	5.21	66.65	16.39		130.0	
10618- <u>A</u> AB	IEEE 802.11ac WIFI (40MHz, MCS2, 90pc duty cycle)	×	5.29	66.79	16.56	0.46	130.0	± 9.6 %
	<u> </u>	Y	5.27	66.46	16.39		130.0	
10640		Z	5.11	66.70	16.43		130.0	
10619- AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	5.31	66.61	16.40	0.46	130.0	± 9.6 %
	+	Y	5.30	66.30	16.25		130.0	
10600		_ Z	5.11	66.46	16.24		130.0	
10620- AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	×	5.41	66.67	16.47	0.46	130.0	±9.6 %
_	<u> </u>	- <u>Y</u>	5.41	66.38	16.34		130.0	
10621-		Z	5.19	66.48	16.30		130.0	
AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.40	66.76	16.64	0.46	130.0	±9.6 %
	+	<u>Y</u>	5.38	66.43	16.48		130.0	
10632		<u>Z</u>	5.21	66.64	16.50		130.0	
10622- AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	×	5.41	66.91	16.70	0.46	130.0	±9.6%
		Ý	5.39	66.60	16.55		130.0	
		Z	5.20	66.74	16.55		130.0	

10623-								<u> </u>
AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	5.29	66.45	16.36	0.46	130.0	± 9.6 %
		Y	5.27	66.12	16.20		400.0	
-	· · · · · · · · · · · · · · · · · · ·	Z	5.08	66.28	16.20		130.0 130.0	
10624-	IEEE 802.11ac WiFi (40MHz, MCS8,	$\frac{2}{x}$	5.48	66.64	16.19 16.51	0.46	130.0	± 9.6 %
AAB	90pc duty cycle)		0.40	00.04	10.51	0.40	130.0	I9.0 %
		Y	5.47	66.35	16.38		130.0	
		Z	5.28	66.51	16.36		130.0	
10625-	IEEE 802.11ac WiFi (40MHz, MCS9,		5.87	67.67	17.07	0.46	130.0	± 9.6 %
AAB	90pc duty cycle)					0.10	100.0	10.0 %
		Y	5.92	67.56	17.03		130.0	
		Z	5.48	66.99	16.66		130.0	
10626-	IEEE 802.11ac WiFi (80MHz, MCS0,	X	5.62	66.65	16.41	0.46	130.0	± 9.6 %
AAB	90pc duty cycle)			_				
		Y	5.59	66.32	16.26		130.0	
		Z	5.46	66.52	16.28		130.0	
10627-	IEEE 802.11ac WiFi (80MHz, MCS1,	X	5.86	67.19	16.64	0.46	130.0	± 9.6 %
AAB	90pc duty cycle)							
		<u>Y</u>	5.87	66.96	16.54		130.0	
1000		Z	5.68	67.07	16.52		130.0	
10628-	IEEE 802.11ac WiFi (80MHz, MCS2,	X	5.67	66.78	16.37	0.46	130,0	± 9.6 %
AAB	90pc duty cycle)	╉╤╤┨						
		Y	5.65	66.49	16.24		130.0	
10629-		Z	5.47	66.52	<u>16.18</u>		130.0	
AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.76	66.87	16.41	0.46	130.0	± 9.6 %
		- <u>v</u>	<u> </u>					
	+	<u>Y</u>	5.74	66.55	16.26		130.0	
10630-	IEEE 802.11ac WiFi (80MHz, MCS4,	Z	5.55	66.62	16.22		130.0	
AAB	90pc duty cycle)	X	6.21	68.41	17.17	0.46	130.0	±9.6 %
7010		Y	6.36	00 57	13 60			
		Z	<u> </u>	68.57	17.26		130.0	
10631-	IEEE 802.11ac WiFi (80MHz, MCS5,	X	<u> </u>	67.72	16.78	0.40	130.0	
AAB	90pc duty cycle)		0.11	68.22	17.27	0.46	130.0	±9.6 %
		Y	6.15	68.07	17.21		100.0	<u> </u>
		Z	5.81	67.73	16.97		130.0	
10632-	IEEE 802.11ac WiFi (80MHz, MCS6,	X	5.83	67.26	16.81	0.46	130.0	
AAB	90pc duty cycle)		0.00	07.20	10.01	0.40	130.0	± 9.6 %
		Y	5.82	66.98	16.68		130.0	
		Ż	5.67	67.19	16.73		130.0	
10633-	IEEE 802.11ac WiFi (80MHz, MCS7,	X	5.73	66.95	16.48	0.46	130.0	± 9.6 %
AAB	90pc duty cycle)		0.10	00.00	10.40	0.40	130,0	± 9.0 %
		Y	5.72	66.66	16.35		130.0	
		Z	5.54	66.74	16.32		130.0	
10634-	IEEE 802.11ac WiFi (80MHz, MCS8,	X	5.72	66.98	16.56	0.46	130.0	± 9.6 %
AAB	90pc duty cycle)					0.40	100.0	± 3.0 %
		- Y	5.70	66.65	16.41		130.0	
		Z	5.52	66.78	16.40	<u>-</u>	130.0	
10635-	IEEE 802.11ac WiFi (80MHz, MCS9,	X	5.60	66.32	15.97	0.46	130.0	± 9.6 %
AAB	90pc duty cycle)							
		Y	5.59	66.03	15.84	·	130.0	
		Z	5.39	66.04	15.76		130.0	
10636-	IEEE 802.11ac WiFi (160MHz, MCS0,	X	6.03	67.02	16.50	0.46	130.0	± 9.6 %
AAC	90pc duty cycle)					-		/0
<u>_</u>	<u> </u>	Y	6.02	66.74	16.37		130.0	
40007		Z	5.89	66.87	16.36		130.0	
10637-	IEEE 802.11ac WiFi (160MHz, MCS1,	X	6.19	67.40	16.66	0.46	130.0	±9.6 %
AAC	90pc duty cycle)							
	<u> </u>	Y	6.19	67.15	16.56		_130.0	
10620		Ż	6.02	67.21	16.51		130.0	
10638-	IEEE 802.11ac WiFi (160MHz, MCS2,	X	6.19	67.38	16.63	0.46	130.0	± 9.6 %
AAC	90pc duty cycle)							
		Y	6.19	67.12	16.52		130.0	
		Z	6.03	67.21	16.49		130.0	

40000							Λu	gust 23, 2018
10639- AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	6.18	67.36	16.66	0.46	130.0	± 9.6 %
		Y	6.17	67.09	16.55	<u>†                                    </u>	130.0	<u>+</u>
10640-		Z	6.00	67.13	16.50	<u> </u>	130.0	<u> </u>
AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	6.19	67.39	16.62	0.46	130.0	± 9.6 %
		Y	6.20	67.16	16.53	†	130.0	<b>├──</b> ─-
10011		Z	5.99	67.11	16.43		130.0	<b>—</b>
10641- AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	6.21	67.22	16.56	0.46	130.0	± 9.6 %
		Y	6.20	66.94	16.44		130.0	<u> </u>
100 10		Z	6.05	67.08	16.43		130.0	
10642- 	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	6.27	67.52	16.87	0.46	130.0	± 9.6 %
		Y	6.26	67.23	16.75		130.0	
10643-		Z	6.09	67.31	16.72		130.0	
AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	×	6.10	67.19	16.61	0.46	130.0	± 9.6 %
		Y	6.09	66.93	16.50		130.0	
10644-		Z	5.93	67.00	16.46		130.0	
AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	6.29	67.77	16.92	0.46	130.0	± 9.6 %
		Y	6.32	67.61	16.86		130.0	
10045		Z	6.02	67.30	16.63		130.0	
10645- AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	6.72	68.61	17.29	0.46	130.0	± 9.6 %
		Y	6.81	68.60	17.31		130.0	
40040		Z	6.13	67.29	16.58		130.0	
10646- AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	X	26.22	119.06	40.53	9.30	60.0	± 9.6 %
		Y	23.98	116.77	40.23		60.0	
		Z	13.39	105.96	36.68		60.0	
10647- AAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	21.91	115.56	39.67	9.30	60.0	± 9.6 %
-		Ý	20.79	114.08	39.59		60.0	
		Ż	11.12	102.25	35.63		60.0	
10648- AAA	CDMA2000 (1x Advanced)	X	0.80	65.60	12.34	0.00	150.0	± 9.6 %
		Y	0.65	62.69	10.17		150.0	
		Z	0.58	62.96	9.61		150.0	
10652- AAC	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	3.70	67.38	17.08	2.23	80.0	± 9.6 %
		Y	3.59	66.56	16.66		80.0	
		Ź	3.39	66.83	16.41		80.0	
10653- AAC	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	4.17	66.50	17.03	2.23	80.0	± 9.6 %
		Y	4.11	65.95	16.76		80.0	
400-1		Z	3.90	66.02	16.55		80.0	
10654- AAC	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	4.13	66.12	17.00	2.23	80.0	± 9.6 %
		Y	4.07	65.60	16.75		80.0	
(005-		Z	3.90	65.62	16.55		80.0	
10655- AAD	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	x	4.19	66.12	17.04	2.23	80.0	± 9.6 %
· · · · · · ·		Y	4.13	65.62	16.79		80.0	
10650	Dulas Maria (2001)	Z	3.96	65.57	16.58		80.0	
10658- AAA	Pulse Waveform (200Hz, 10%)	X	100.00	111.27	26.15	10.00	50.0	± 9.6 %
		Y_	100.00	112.15	26.71		50.0	
40050		Z	14.35	85.50	18.40		50.0	
10659- 	Pulse Waveform (200Hz, 20%)	X	100.00	110.66	24.83	6.99	60.0	± 9.6 %
		Y	100.00	110.25	24.76		60.0	
		Z	100.00	105.29	22.07	_	60.0	

10660- AAA	Pulse Waveform (200Hz, 40%)	X	100.00	112.93	24.53	3.98	80.0	± 9.6 %
		Y	100.00	108.47	22.64		80.0	
		Z	100.00	104.83	20.58		80.0	
10661- P AAA	Pulse Waveform (200Hz, 60%)	X	100.00	118.71	25.68	2.22	100.0	± 9.6 %
		Y	100.00	104.33	19.70		100.0	
		Z	100.00	104.48	19.32		100.0	
10662- AAA	Pulse Waveform (200Hz, 80%)	X	100.00	138.66	31.49	0.97	120.0	± 9.6 %
		Y	0.19	60.00	4.09		120.0	
		Z	100.00	91.23	12.90		120.0	

<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 BC MRA



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

Swiss Calibration Service

Accreditation No.: SCS 0108

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 PC Test

Certificate No: EX3-7357\_Apr19

## CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:7357	
Calibration procedure(s)	QA CAL-01.v9, QA CAL-12.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7 Calibration procedure for dosimetric E-field probes	۹
Calibration date:	April 24, 2019	
	nents the traceability to national standards, which realize the physical units of measurements (SI). ertainties 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	03-Apr-19 (No. 217-02892/02893)	Apr-20
Power sensor NRP-Z91	SN: 103244	03-Apr-19 (No. 217-02892)	Apr-20
Power sensor NRP-Z91	SN: 103245	03-Apr-19 (No. 217-02893)	Apr-20
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-19 (No. 217-02894)	Apr-20
DAE4	SN: 660	19-Dec-18 (No. DAE4-660_Dec18)	Dec-19
Reference Probe ES3DV2	SN: 3013	31-Dec-18 (No. ES3-3013_Dec18)	Dec-19
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-18)	In house check: Oct-19

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	AV K (-
			10 16 <del>30</del>
			Issued: April 24, 2019
This calibration certificate	e shall not be reproduced except in full	without written approval of the labo	pratory.

## Calibration Laboratory of

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





S Schweizerischer Kalibrierdienst

- C Service suisse d'étalonnage
- Servizio svizzero di taratura
- Swiss Calibration Service

Accreditation No.: SCS 0108

Accredited by the Swiss Accreditation Service (SAS)

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### Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivitý in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization 9	9 rotation around an axis that is in the plane normal to probe axis (at measurement center),
	i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DACV surface to all successive and the surgery of the state of

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
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Methods Applied and Interpretation of Parameters:

- NORMx,y,z: Assessed for E-field polarization 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 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, 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).

### **Basic Calibration Parameters**

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (μV/(V/m) <sup>2</sup> ) <sup>A</sup>	0.37	0.48	0.41	± 10.1 %
DCP (mV) <sup>B</sup>	87.5	101.0	95.2	

### **Calibration Results for Modulation Response**

UID	Communication System Name		A dB	B dBõV	С	D dB	VR mV	Max dev.	Max Unc <sup>E</sup> (k=2)
0	CW	Х	0.00	0.00	1.00	0.00	175.5	± 2.7 %	± 4.7 %
		Y	0.00	0.00	1.00		162.7		
		Z	0.00	0.00	1.00		160.1	1	
10352-	Pulse Waveform (200Hz, 10%)	X	1.63	60.99	8.59	10.00	60.0	± 3.2 %	± 9.6 %
AAA		Y	15.00	88.78	20,10		60.0	1	
		Z	1.92	62,77	9.39	1	60.0	1	
10353-	Pulse Waveform (200Hz, 20%)	X	1.28	62.05	7.66	6.99	80.0	± 2,1 %	± 9.6 %
AAA		Y	15.00	92.12	20,60		80.0	1	
		Z	1.44	63.37	8.24		80.0	1	
10354-	Pulse Waveform (200Hz, 40%)	X	0.53	60.00	5.08	3.98	95.0	± 1.2 %	± 9.6 %
AAA		Y	15.00	98.74	22,38		95.0	1	
		Z	0.50	60.00	4.96		95.0	1	
10355-	Pulse Waveform (200Hz, 60%)	X	0.34	60.00	3.46	2.22	120.0	± 1.3 %	± 9.6 %
AAA		Y	15.00	122.09	31.59		120.0	1	
		Z	0.32	60.00	3.17		120.0		
10387-	QPSK Waveform, 1 MHz	X	0.47	60.00	5.85	0.00	150.0	± 3.4 %	±9.6 %
AAA		Y	0.84	63.60	10,73		150.0	1	
		Z	0.47	60.00	5.64		150.0	1	
10388-	QPSK Waveform, 10 MHz	X	2.22	69.17	16.45	0.00	150.0	± 1.2 %	± 9.6 %
AAA		Y	2.39	69.28	16.48		150.0	1	
		Z	2.05	67.86	15.44		150.0	1	
10396-	64-QAM Waveform, 100 kHz	X	1.74	66.32	18.65	3.01	150.0	± 6.4 %	±9.6 %
AAA		Y	3.21	72.13	19.45		150.0	1	
		Z	2.50	68.64	18.00		150.0		
10399-	64-QAM Waveform, 40 MHz	X	3.50	67.46	16.21	0.00	150.0	± 2.5 %	± 9.6 %
AAA		Y	3.59	67.57	16.11		150.0		
		Z	3.40	67.11	15.75		150.0		
10414-	WLAN CCDF, 64-QAM, 40MHz	X	4.79	65.80	15.93	0.00	150.0	±4.6 %	± 9.6 %
AAA		Y	4.92	65.80	15.71		150.0		
		Z	4.73	65.72	15.66	1	150.0	Ì	]

Note: For details on UID parameters see Appendix

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

 <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>B</sup> Numerical linearization parameter: uncertainty not required.
 <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.

	C1 fF	C2 fF	α V <sup>-1</sup>	T1 ms.V <sup>-2</sup>	T2 ms.V⁻¹	T3 ms	T4 V⁻²	T5 V <sup>-1</sup>	Т6
Х	37.3	299.85	40.64	5.98	0.77	5.00	0.00	0.00	1.02
Y	48.9	366.83	35.90	10.43	0.11	5.09	1.58	0.24	1.01
Z	37.8	294.77	38.42	5.12	0.55	5.04	0.00	0.43	1.01

### **Sensor Model Parameters**

## **Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	14.2
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
64	54.2	0.75	14.77	14.77	14.77	0.00	1.00	± 13.3 %
750	41.9	0.89	10.26	10.26	10.26	0.45	0.95	± 12.0 %
835	41.5	0.90	9.91	9.91	9.91	0.53	0.85	± 12.0 %
1750	40.1	1.37	8.69	8.69	8.69	0.35	0.80	± 12.0 %
1900	40.0	1.40	8.26	8.26	8.26	0.33	0.84	± 12.0 %
2300	39.5	1.67	7.70	7.70	7.70	0.33	0.85	± 12.0 %
2450	39.2	1.80	7.57	7.57	7.57	0.39	0.85	± 12.0 %
2600	39.0	1.96	7.31	7.31	7.31	0.40	0.80	± 12.0 %
5250	35.9	4.71	5.45	5.45	5.45	0.40	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	5.06	5.06	5.06	0.40	1.80	± 13.1 %

## Calibration Parameter Determined in Head Tissue Simulating Media

<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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz. <sup>F</sup> 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

<sup>6</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\varepsilon$  and  $\sigma$ ) 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 ( $\varepsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters. <sup>6</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is

<sup>o</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.

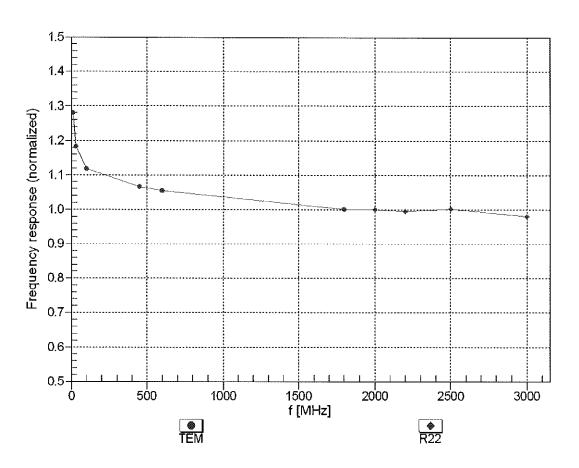
f (MHz) <sup>c</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55.5	0.96	10.19	10.19	10.19	0.37	0.96	± 12.0 %
835	55.2	0.97	9.95	9.95	9.95	0.47	0.80	± 12.0 %
1750	53.4	1.49	8.26	8.26	8.26	0.35	0.85	± 12.0 %
1900	53.3	1.52	7.93	7.93	7.93	0.32	0.90	± 12.0 %
2300	52.9	1.81	7.72	7.72	7.72	0.30	0.85	± 12.0 %
2450	52.7	1.95	7.59	7.59	7.59	0.35	0.86	± 12.0 %
2600	52.5	2.16	7.39	7.39	7.39	0.32	0.89	± 12.0 %
5250	48.9	5.36	4.61	4.61	4.61	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.03	4.03	4.03	0.50	1.90	± 13.1 %
5750	48.3	5.94	4.15	4.15	4.15	0.50	1.90	± 13.1 %

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

<sup>c</sup> 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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to  $\pm$  110 MHz.

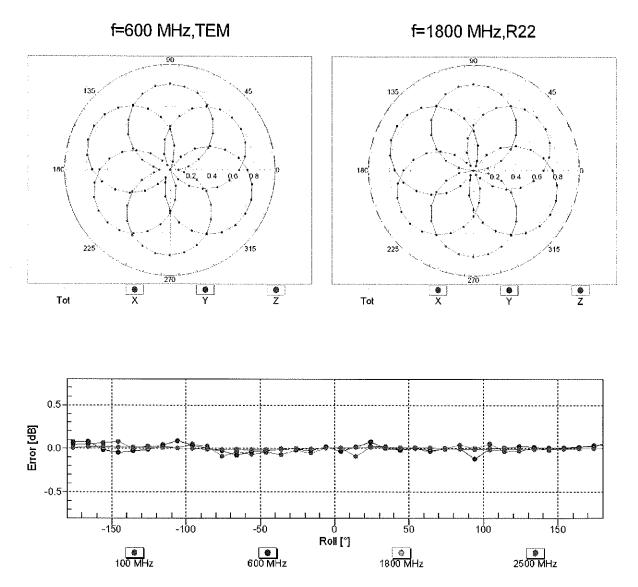
At frequencies below 3 GHz, the validity of tissue parameters (c and o) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (c and o) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty 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

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.



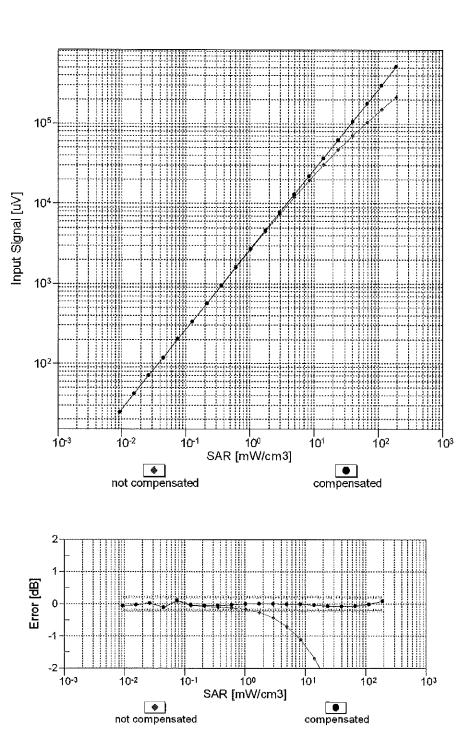
## Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)

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



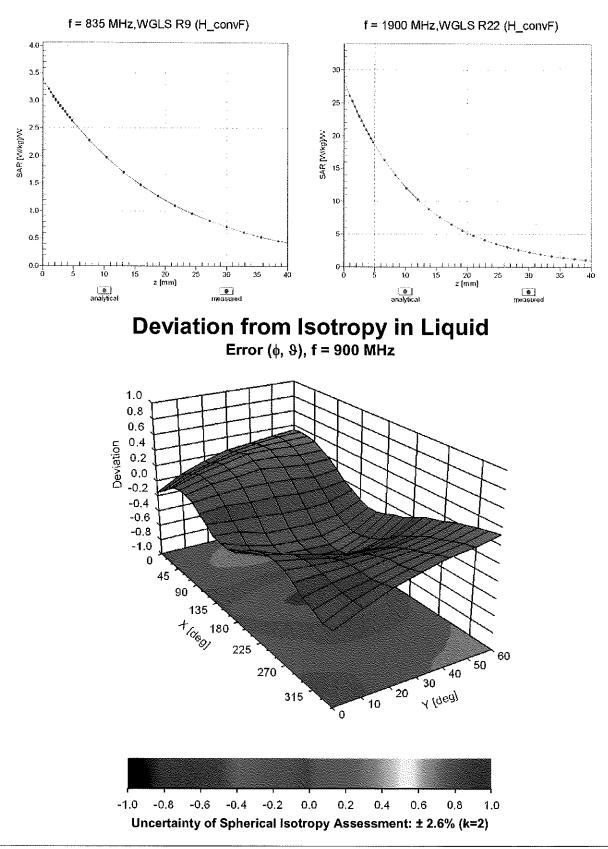
# Receiving Pattern ( $\phi$ ), $\vartheta = 0^{\circ}$

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**

### Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR	Unc <sup>E</sup>
				(dB)	(k=2)
0		CW	CW	0.00	±4.7 %
10010	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	± 9.6 %
10011	CAB	UMTS-FDD (WCDMA)	WCDMA WLAN	2.91 1.87	± 9.6 % ± 9.6 %
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	9.46	
10013 10021	CAB DAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps) GSM-FDD (TDMA, GMSK)	GSM	9.46	±9.6 % ±9.6 %
10021	DAC	GPRS-FDD (TDMA, GMSK) GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.59	± 9.6 %
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0) GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	± 9.6 %
10024	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	±9.6 %
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	± 9.6 %
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	± 9.6 %
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	±9.6 %
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	±9.6 %
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	±9.6 %
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	±9.6 %
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	±9.6 %
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	± 9.6 %
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	±9.6 %
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	±9.6 %
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	± 9.6 %
10037		IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	±9.6%
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth CDMA2000	4.10	±9.6 % ±9.6 %
10039 10042	CAB CAB	CDMA2000 (1xRTT, RC1) IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	4.57 7.78	±9.6 %
10042	CAB	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	± 9.6 %
10044	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	±9.6 %
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	±9.6 %
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	±9.6 %
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	± 9.6 %
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	± 9.6 %
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	± 9.6 %
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	±9.6 %
10062	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	± 9.6 %
10063	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	± 9.6 %
10064	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	± 9.6 %
10065	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	± 9.6 %
10066	CAC	IEEE 802.11a/h WIFI 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %
10067	CAC	IEEE 802.11a/h WIFI 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	± 9.6 %
10068	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	±9.6%
10069		IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)		10.56	$\pm 9.6\%$
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps) IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN WLAN	9.83 9.62	±9.6 % ±9.6 %
10072	CAB CAB	IEEE 802.11g WIFI 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	± 9.6 %
10073	CAB	IEEE 802.11g WIFI 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	10.30	± 9.6 %
10074	CAB	IEEE 802.11g WIFI 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	± 9.6 %
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	± 9.6 %
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	± 9.6 %
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	± 9.6 %
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	± 9.6 %
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	± 9.6 %
10097	CAB	UMTS-FDD (HSDPA)	WCDMA	3.98	± 9.6 %
10098	CAB	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	± 9.6 %
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %
10100	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %
10101	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10102	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10103	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10104	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	± 9.6 %
10105	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	±9.6 %
	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	± 9.6 %

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10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	± 9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	±9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10114	CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	± 9.6 %
10116	CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	± 9.6 %
10140	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10141	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD		
10142	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	6.53	± 9.6 %
10143	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)		5.73	± 9.6 %
10144	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 10-QAM)	LTE-FDD	6.35	± 9.6 %
10145	CAE	LTE-FDD (SC-FDMA, 100% RD, 3 MHZ, 04-QAM)	LTE-FDD	6.65	±9.6 %
10145		LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	±9.6 %
		LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	±9.6 %
10147	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	± 9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10150	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	±9.6%
10151	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
10152	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10153	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	±9.6 %
10154	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	±9.6 %
10155	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10156	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	± 9.6 %
10157	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	± 9,6 %
10158	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	± 9.6 %
10160	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	± 9.6 %
10161	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6,43	± 9.6 %
10162	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	± 9.6 %
10166	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	± 9.6 %
10167	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	AAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	
10172	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)			± 9.6 %
10173	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.21	± 9.6 %
10174	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	9.48	± 9.6 %
10175	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	10.25	± 9.6 %
10176	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	5.72	± 9.6 %
10170	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	6.52	± 9.6 %
10177	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 10-QAM)	LTE-FDD	5.73	±9.6%
10178	CAG		LTE-FDD	6.52	± 9.6 %
10179	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	±9.6 %
		LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	±9.6 %
10181	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	±9.6 %
10182	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	±9.6 %
10183	AAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	±9.6 %
10184	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	±9.6%
10185	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	±9.6%
10186	AAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10187	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	±9.6%
10188	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10189	AAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10193	CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10194	CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	± 9.6 %
10195	CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10196	CAC	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10197	CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.10	± 9.6 %
10198	CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	±9.6 %
10219	CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN		
		service, in the service of the servi		8.03	± 9.6 %

10220	CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	±9.6 %
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	±9.6 %
10223	CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	±9.6 %
10224	CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	±9.6 %
10225	CAB	UMTS-FDD (HSPA+)	WCDMA ·	5.97	±9.6 %
10226	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	±9.6 %
10227	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	±9.6 %
10228	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	±9.6 %
10229	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9,48	±9.6 %
10230	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10231	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9,19	± 9.6 %
10232	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10233	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10234	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	±9.6%
10234	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	±9.6%
10235					± 9.6 %
	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	
10237	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10238	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10239	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10240	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	±9.6 %
10241	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	± 9.6 %
10242	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	±9.6 %
10243	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	± 9.6 %
10244	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	±9.6%
10245	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	± 9.6 %
10246	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	±9.6 %
10247	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	±9.6 %
10248	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	±9.6 %
10249	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	±9.6 %
10250	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	±9.6 %
10251	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	±9.6 %
10252	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	± 9.6 %
10254	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	± 9.6 %
10255	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	± 9.6 %
10256	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	± 9.6 %
10257	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 10-QAM)	LTE-TDD	10.08	± 9.6 %
10257	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 04-0400)	LTE-TDD	9.34	± 9.6 %
			LTE-TDD	9.98	± 9.6 %
10259	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)			
10260	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	± 9.6 %
10261	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	<u>±9.6%</u>
10262	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	$\pm 9.6\%$
10263	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	± 9.6 %
10264	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	± 9.6 %
10265	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10266	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	± 9.6 %
10267	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	±9.6 %
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10269	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	±9.6 %
10270	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	± 9.6 %
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	± 9.6 %
10275	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	± 9.6 %
10277	CAA	PHS (QPSK)	PHS	11.81	± 9.6 %
10278	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	± 9.6 %
10279	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	± 9.6 %
10290	AAB	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	± 9.6 %
10291	AAB	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	± 9.6 %
10291	AAB	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	± 9.6 %
10292	AAB	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.50	± 9.6 %
10293	AAB	CDMA2000, RC3, SO3, Pull Rate CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	$\pm 9.6\%$
			LTE-FDD	5.81	$\pm 9.6\%$
10297	AAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)			
10298	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	$\pm 9.6\%$
10299	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	± 9.6 %

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10300	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %				
10301	AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WIMAX	12.03	± 9.6 %				
10302	AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL	WIMAX	12.57	± 9.6 %				
		symbols)		12.01 1.0.0					
10303	AAA	IEEE 802.16e WIMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	WIMAX	12.52	± 9.6 %				
10304	AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WIMAX	11.86	± 9.6 %				
10305	AAA	IEEE 802.16e WIMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15							
		symbols)		13.24	5.24 ± 9.6 %				
10306	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18	WIMAX	14.67	± 9.6 %				
	1	symbols)	V V 11 V 1/ / / /	14.07	1. 5.0 %				
10307	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18	WIMAX	14.49	± 9.6 %				
	1	symbols)		14.43	1.5.0 %				
10308	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WIMAX	14.46	± 9.6 %				
10309	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18	WIMAX	14.58	± 9.6 %				
10000		symbols)		14.00	± 9.0 %				
10310		IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18	WIMAX	14.57	± 9.6 %				
		symbols)		14.57	± 9.0 %				
10311	AAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	+06%				
10313	AAA	IDEN 1:3	IDEN	6.06	± 9.6 %				
10314	AAA	iDEN 1:6		10.51	± 9.6 %				
10315	AAB		IDEN	13.48	± 9.6 %				
10315		IEEE 802.11b WIFI 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.71	± 9.6 %				
	AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	± 9.6 %				
10317	AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	± 9.6 %				
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	± 9.6 %				
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	± 9.6 %				
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	± 9.6 %				
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	± 9.6 %				
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	± 9.6 %				
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	± 9.6 %				
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	± 9.6 %				
10396	AAA	64-QAM Waveform, 100 kHz							
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %				
10399	AAD		Generic	6.27	± 9.6 % ± 9.6 %				
		IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	WLAN						
10401	AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	WLAN	8.60	± 9.6 %				
10402	AAD	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	WLAN	8.53	±9.6 %				
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	± 9.6 %				
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	±9.6 %				
10406	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	±9.6 %				
10410	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %				
		Subframe=2,3,4,7,8,9, Subframe Conf=4)							
10414	AAA	WLAN CCDF, 64-QAM, 40MHz	Generic	8.54	± 9.6 %				
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	WLAN	1.54	±9.6 %				
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	±9.6 %				
10417	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %				
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle,	WLAN	8.14	± 9.6 %				
		Long preambule)	**	0.14	1 3.0 78				
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle,	WLAN	8.19	± 9.6 %				
		Short preambule)	** == / \  \	0,19					
10422	AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	0 22	+060/				
10423	AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)		8.32	±9.6%				
10424	AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	± 9.6 %				
10424		EEE 902.110 (IT Oreenlield, 72.2 Wops, 04-QAW)	WLAN	8.40	±9.6%				
	AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	±9.6%				
10426	AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	±9.6 %				
10427	AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8,41	±9.6 %				
10430	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	±9.6 %				
10431	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	±9.6 %				
10432	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	±9.6 %				
10433	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	±9.6 %				
10434	AAA	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	± 9.6 %				
10435	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %				
		Subframe=2,3,4,7,8,9)	_,_,00	1.52	10.070				
10447	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	± 9,6 %				
10448	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)							
10449	AAC	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	LTE-FDD LTE-FDD	7.53	±9.6%				
				7.51	±9.6 %				
10449	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	± 9.6 %				

10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	± 9.6 %				
10451	AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	WLAN	8.63	± 9.6 %				
10457	AAA	UMTS-FDD (DC-HSDPA)							
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	<u>±9.6 %</u> ±9.6 %				
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	± 9.6 %				
10460	AAA	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39 ± 9.6 %					
10461	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL	LTE-TDD	7.82					
		Subframe=2,3,4,7,8,9)							
10462	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL	LTE-TDD	8.30	± 9.6 %				
		Subframe=2,3,4,7,8,9)							
10463	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL	LTE-TDD	8.56	±9.6 %				
		Subframe=2,3,4,7,8,9)							
10464	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %				
40405		Subframe=2,3,4,7,8,9)		0.00	± 9.6 %				
10465	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	19.0%				
10466	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL	LTE-TDD	8.57	± 9.6 %				
10400		Subframe=2,3,4,7,8,9)	C1C-100	0.07	10.0 %				
10467	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %				
	/	Subframe=2,3,4,7,8,9)							
10468	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %				
		Subframe=2,3,4,7,8,9)							
10469	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL	LTE-TDD	8.56	±9.6 %				
		Subframe=2,3,4,7,8,9)							
10470	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %				
		Subframe=2,3,4,7,8,9)							
10471	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %				
40.470		Subframe=2,3,4,7,8,9)		0.57	100%				
10472	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL	LTE-TDD	8.57	± 9.6 %				
10473	AAE	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %				
10475		Subframe=2,3,4,7,8,9)		1.02	1 0.0 %				
10474	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %				
10-11-1	1,0,0	Subframe=2,3,4,7,8,9)							
10475	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL	LTE-TDD	8.57	± 9.6 %				
	ļ	Subframe=2,3,4,7,8,9)							
10477	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %				
		Subframe=2,3,4,7,8,9)							
10478	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL	LTE-TDD	8.57	± 9.6 %				
	+	Subframe=2,3,4,7,8,9)			100%				
10479	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL	LTE-TDD	7.74	±9.6 %				
10480		Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL	LTE-TDD	8.18	± 9.6 %				
10460	AAA	Subframe=2,3,4,7,8,9)		0.10	1 9.0 %				
10481	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL	LTE-TDD	8.45	± 9.6 %				
10401		Subframe=2,3,4,7,8,9)							
10482	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL	LTE-TDD	7.71	± 9.6 %				
	1	Subframe=2.3.4.7.8.9)							
10483	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL	LTE-TDD	8.39	± 9.6 %				
		Subframe=2,3,4,7,8,9)							
10484	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL	LTE-TDD	8.47	±9.6 %				
		Subframe=2,3,4,7,8,9)							
10485	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL	LTE-TDD	7.59	± 9.6 %				
10400		Subframe=2,3,4,7,8,9)		0.00	± 9.6 %				
10486	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL	LTE-TDD	8.38	I 9.0 %				
40407		Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL	LTE-TDD	8.60	± 9.6 %				
10487	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHZ, 64-QAM, 0L Subframe=2,3,4,7,8,9)		0.00	± 9.0 %				
10488	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL	LTE-TDD	7.70	± 9.6 %				
10400	,~~L	Subframe=2,3,4,7,8,9)			_ 0.0 /0				
10489	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL	LTE-TDD	8.31	± 9.6 %				
		Subframe=2,3,4,7,8,9)							
10490	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL	LTE-TDD	8.54	± 9.6 %				
		Subframe=2,3,4,7,8,9)							
10491	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL	LTE-TDD	7.74	± 9.6 %				
	1	Subframe=2,3,4,7,8,9)	1	1	1				

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10492         AVE         LIFE-TDD         8.41         ± 9.6 %           10493         AAE         LIFE-TDD         8.51         347.8 %           10444         AAF         LIFE-TDD         8.55         ± 9.6 %           10444         AAF         LIFE-TDD         8.57         ± 9.6 %           10444         AAF         LIFE-TDD         8.57         ± 9.6 %           10445         AAF         LIFE-TDD         8.52         ± 9.6 %           10446         AAF         LIFE-TDD         8.52         ± 9.6 %           10447         AAA         LIFE-TDD         8.54         ± 9.6 %           10447         AAA         LIFE-TDD         8.54         ± 9.6 %           10448         AAA         LIFE-TDD         8.64         HHz, 20-QAM, UL         LIFE-TDD         8.64           10449         AAA         LIFE-TDD         8.64         ± 9.6 %         ± 9.6 %           10500         AAE         LIFE-TDD         8.64         ± 9.6 %         ± 9.6 %           10501         AAE         LIFE-TDD         6.62         ± 9.6 %         ± 9.6 %           10502         AAE         LIFE-TDD         6.62         ± 9.6 %         ± 9.6 %						
10483         AAE         LITE-TDD         8.56         ± 9.6 %           10494         AAF         LITE-TDD         8.56         ± 9.6 %           10494         AAF         LITE-TDD         7.74         ± 9.6 %           10495         AAF         LITE-TDD         8.77         ± 9.6 %           10495         AAF         LITE-TDD         8.37         ± 9.6 %           10496         AAF         LITE-TDD         8.37         ± 9.6 %           10497         AAA         LITE-TDD         8.64         ± 9.6 %           10497         AAA         LITE-TDD         8.64         ± 9.6 %           10498         AAA         LITE-TDD         8.64         ± 9.6 %           10499         AAA         LITE-TDD         8.66         ± 9.6 %           10499         AAA         LITE-TDD         8.66         ± 9.6 %           10491         AAB         LITE-TDD         8.66         ± 9.6 %           10501         AAB         LITE-TDD         8.67         ± 9.6 %           10502         AAB         LITE-TDD         8.74         ± 9.6 %           10502         AAB         LITE-TDD         8.74         ± 9.6 %	10492	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL	LTE-TDD	8.41	± 9.6 %
Subframe-2,3,4,7,8,9)         LTE-TDD         7.74         4.9.6 %           10494         AF         LTE-TDD         6,7.74         4.9.6 %           10495         AF         LTE-TDD         6,7.74         4.9.6 %           10495         AF         LTE-TDD         6,7.74         4.9.6 %           10496         AF         LTE-TDD         6,5.74         1.9.6 %           10497         AA         LTE-TDD         6,5.74         1.9.6 %           10498         AA         LTE-TDD         6,5.74         1.9.6 %           10498         AA         LTE-TDD         6,5.64         1.9.6 %           10498         AA         LTE-TDD         6,6.67         1.9.6 %           10499         AA         LTE-TDD         6,6.67         1.9.6 %           10500         AAB         LTE-TDD         6,6.67         1.9.6 %           10501         AAB         LTE-TDD         6,6.7         1.9.6 %           10502         AAB         LTE-TDD         6,7.67         1.9.6 %           10503         AAE         LTE-TDD         6,7.67         1.9.6 %           10504         AAE         LTE-TDD         6,7.67         1.9.6 % <t< td=""><td>10493</td><td>AAE</td><td>LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL</td><td>LTE-TDD</td><td>8.55</td><td>± 9.6 %</td></t<>	10493	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL	LTE-TDD	8.55	± 9.6 %
Subframe=2,3,4,7,8,9         Number 2,3,4,7,8,9           10495         AAF         TE-TDD (Sc-FDMA, 50% RB, 20 MHz, 16-QAM, UL         LTE-TDD (Sc-FDMA, 50% RB, 20 MHz, 64-QAM, UL         LTE-TDD (Sc-FDMA, 100% RB, 14 MHz, 0FSK, UL         LTE-TDD (Sc-FDMA, 100% RB, 14 MHz, 16-QAM, UL         LTE-TDD (Sc-FDMA, 100% RB, 14 MHz, 16-QAM, UL         LTE-TDD (Sc-FDMA, 100% RB, 14 MHz, 16-QAM, UL         LTE-TDD (Sc-FDMA, 100% RB, 34 MHz, QPSK, UL         LTE-TDD (Sc-FDMA, 100% RB, 54 MHz, QPSK, UL         LTE-TDD (Sc-FDMA, 100% RB, 10 MHz, 16-QAM, UL<						
10486         AAF         LTE-TDD         8.37         ± 9.6 %           10486         AAF         LTE-TDD         8.57         ± 9.6 %           10486         AAF         LTE-TDD         8.54         ± 9.6 %           10487         AAA         LTE-TDD         8.54         ± 9.6 %           10487         AAA         LTE-TDD         8.54         ± 9.6 %           10488         AAA         LTE-TDD         7.67         ± 9.6 %           10489         AAA         LTE-TDD         8.40         ± 9.6 %           10499         AAA         LTE-TDD         8.60         ± 9.6 %           10499         AAA         LTE-TDD         8.64         ± 9.6 %           10499         AAA         LTE-TDD         8.64         ± 9.6 %           10491         AAA         LTE-TDD (5C-FDMA, 100% RB, 3 MHz, 64-QAM, UL         LTE-TDD         7.67         ± 9.6 %           10501         AAB         LTE-TDD (5C-FDMA, 100% RB, 3 MHz, 64-QAM, UL         LTE-TDD         8.62         ± 9.6 %           10504         AAB         LTE-TDD (5C-FDMA, 100% RB, 5 MHz, 64-QAM, UL         LTE-TDD         7.72         ± 9.6 %           10505         AAE         LTE-TDD (5C-FDMA, 100% RB, 5 MHz, 64-Q	10494			LTE-TDD	7.74	± 9.6 %
Subframe=2,3,4,7,9.9         LTE-TDD         6.54         29.6 %           10496         AF         LTE-TDD (SC-FDM, 50% RB, 20 MHz, 64-0AM, UL         LTE-TDD         7.67         29.6 %           10497         AA         LTE-TDD (SC-FDM, 100% RB, 14 MHz, QPSK, UL         LTE-TDD         7.67         29.6 %           10498         AA         LTE-TDD (SC-FDM, 100% RB, 14 MHz, 16-QAM, UL         LTE-TDD         8.66         29.6 %           10499         AA         LTE-TDD (SC-FDM, 100% RB, 14 MHz, 16-QAM, UL         LTE-TDD         7.67         29.6 %           10500         AB         LTE-TDD (SC-FDM, 100% RB, 3 MHz, QPSK, UL         LTE-TDD         7.67         29.6 %           10501         AB         LTE-TDD (SC-FDM, 100% RB, 3 MHz, GA-QAM, UL         LTE-TDD         8.44         29.6 %           10502         AB         LTE-TDD (SC-FDM, 100% RB, 3 MHz, GA-QAM, UL         LTE-TDD         7.72         2.9.6 %           10503         AE         LTE-TDD (SC-FDM, 100% RB, 5 MHz, GPSK, UL         LTE-TDD         7.72         2.9.6 %           10504         AE         LTE-TDD (SC-FDM, 100% RB, 5 MHz, GA-QAM, UL         LTE-TDD         8.51 ± 9.6 %           10505         AE         LTE-TDD (SC-FDM, 100% RB, 5 MHz, GA-QAM, UL         LTE-TDD         8.54 ± 9.6 %	10495	AAF		I TE-TDD	8.37	+96%
Studierame:2,3,4,7,8,9         Number of the second se			Subframe=2,3,4,7,8,9)			
10447         AAA         LTE-TDD (SC-FDMA, 100% RB, 14 MHz, QPSK, UL         LTE-TDD         7.67         ± 9.6 %           10488         AAA         LTE-TDD (SC-FDMA, 100% RB, 14 MHz, 16-QAM, UL         LTE-TDD         8.40         ± 9.6 %           10499         AAA         LTE-TDD (SC-FDMA, 100% RB, 14 MHz, 04-QAM, UL         LTE-TDD         8.68         ± 9.6 %           10500         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL         LTE-TDD         7.67         ± 9.6 %           10501         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL         LTE-TDD         8.44         ± 9.6 %           10502         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL         LTE-TDD         8.52         ± 9.6 %           10503         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL         LTE-TDD         8.31         ± 9.6 %           10504         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL         LTE-TDD         8.54         ± 9.6 %           10505         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL         LTE-TDD         8.54         ± 9.6 %           10506         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 04-QAM, UL         LTE-TDD         8.54         ± 9.6 %           10507         AAE         LTE-TDD (SC-FDMA,	10496	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL	LTE-TDD	8.54	± 9.6 %
Subframe23.47.8.9)         The Top Car FDMA, 100% RB, 14 MHz, 16-QAM, UL         LTE-TDD         8.40         ± 9.6 %           10499         AAA         LTE-TDD (SC-FDMA, 100% RB, 14 MHz, 64-QAM, UL         LTE-TDD         8.68         ± 9.6 %           10500         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 0PSK, UL         LTE-TDD         8.68         ± 9.6 %           10500         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 0PSK, UL         LTE-TDD         8.44         ± 9.6 %           10501         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL         LTE-TDD         8.42         ± 9.6 %           10502         AAB         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL         LTE-TDD         8.52         ± 9.6 %           10504         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL         LTE-TDD         7.72         ± 9.6 %           10504         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL         LTE-TDD         8.31         ± 9.6 %           10506         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL         LTE-TDD         8.54         ± 9.6 %           10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL         LTE-TDD         7.74         ± 9.6 %           10506         AAE         LTE-TDD (SC-FDMA, 100	10497				7.67	+96%
Image: Subframe:2,3,4,7,8,9)         Image: Subframe:2,3,4,7,8,9)           10499         AAA         LTE-TDD (SC-FDMA, 100% RB, 14 MHz, 64-QAM, UL         LTE-TDD         8.68         ±9.6 %           10500         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL         LTE-TDD         8.44         ±9.6 %           10501         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL         LTE-TDD         8.44         ±9.6 %           10502         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 44-QAM, UL         LTE-TDD         8.42         ±9.6 %           10503         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 20-SK, UL         LTE-TDD         7.72         ±9.6 %           10504         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL         LTE-TDD         8.31         ±9.6 %           10504         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL         LTE-TDD         8.54         ±9.6 %           10506         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 0PSK, UL         LTE-TDD         7.74         ±9.6 %           10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 0PSK, UL         LTE-TDD         8.55         ±9.6 %           10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL         LTE-TDD         8.55			Subframe=2,3,4,7,8,9)		1.01	. 3.0 /0
10499         AAA         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 0F-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 0PSK, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 0PSK, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 0PSK, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 0PSK, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 0PSK, UL Subframe-2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-Q	10498	AAA		LTE-TDD	8.40	± 9.6 %
Subframe=2,34,7,8,9         Charlenge         Charlenge <thcharlenge< th=""></thcharlenge<>	10499				8.68	+96%
Subframe=2,3,4,7,8,9         Term of the state of t			Subframe=2,3,4,7,8,9)	LIL-IDD	0.00	1 3.0 70
10501         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL         LTE-TDD         8.44         ± 9.6 %           10502         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL         LTE-TDD         8.52         ± 9.6 %           10503         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL         LTE-TDD         7.72         ± 9.6 %           10504         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL         LTE-TDD         8.31         ± 9.6 %           10504         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL         LTE-TDD         8.54         ± 9.6 %           10505         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 0PSK, UL         LTE-TDD         7.74         ± 9.6 %           10506         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 0PSK, UL         LTE-TDD         8.36         ± 9.6 %           10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 0FSK, UL         LTE-TDD         8.55         ± 9.6 %           10508         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 0PSK, UL         LTE-TDD         8.55         ± 9.6 %           10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 0PSK, UL         LTE-TDD         7.99         ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA	10500	AAB		LTE-TDD	7.67	±9.6 %
Subframe=2,3,4,7,8,9         China Line         China Line         China Line         China Line         China Line           10502         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL         LTE-TDD         8.52         ± 9.6 %           10503         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL         LTE-TDD         7.72         ± 9.6 %           10504         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL         LTE-TDD         8.31         ± 9.6 %           10505         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL         LTE-TDD         8.54         ± 9.6 %           10506         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL         LTE-TDD         7.74         ± 9.6 %           10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL         LTE-TDD         8.36         ± 9.6 %           10508         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 0PSK, UL         LTE-TDD         8.55         ± 9.6 %           10509         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 0PSK, UL         LTE-TDD         8.49 ± 9.6 %           10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 0PSK, UL         LTE-TDD         8.49 ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 0PSK, UL	10501	AAR			0.44	
10502         AAB         LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL         LTE-TDD         8.52         ± 9.6 %           10503         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL         LTE-TDD         7.72         ± 9.6 %           10504         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL         LTE-TDD         8.31         ± 9.6 %           10505         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL         LTE-TDD         8.54         ± 9.6 %           10506         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL         LTE-TDD         8.36         ± 9.6 %           10506         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL         LTE-TDD         8.36         ± 9.6 %           10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL         LTE-TDD         8.36         ± 9.6 %           10508         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 0PSK, UL         LTE-TDD         8.55         ± 9.6 %           10509         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL         LTE-TDD         8.56         ± 9.6 %           10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL         LTE-TDD         8.51         ± 9.6 %           10511         AAE         LTE-TDD (	10001	1000			8.44	±9.0 %
10503         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL         LTE-TDD         7.72         ± 9.6 %           10504         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL         LTE-TDD         8.31         ± 9.6 %           10505         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL         LTE-TDD         8.54         ± 9.6 %           10506         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL         LTE-TDD         8.54         ± 9.6 %           10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL         LTE-TDD         8.36         ± 9.6 %           10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL         LTE-TDD         8.35         ± 9.6 %           10508         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL         LTE-TDD         8.55         ± 9.6 %           10509         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 0CAM, UL         LTE-TDD         7.99         ± 9.6 %           10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL         LTE-TDD         8.51         ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL         LTE-TDD         8.51         ± 9.6 %           10511         AAE         LTE-TDD (SC-	10502	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL	LTE-TDD	8.52	± 9.6 %
Subframe=2,3,4,7,8,9)         Intervent         Intervent         Intervent         Intervent           10504         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.31         ± 9.6 %           10506         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         7.74         ± 9.6 %           10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.36         ± 9.6 %           10508         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.35         ± 9.6 %           10509         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 0PSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.49         ± 9.6 %           10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 0PSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.49         ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.49         ± 9.6 %           10512         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.42         ± 9.6 %           10512         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,	10503				7 70	1000
10504         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL         LTE-TDD         8.31         ± 9.6 %           10505         AAE         LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL         LTE-TDD         8.54         ± 9.6 %           10506         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL         LTE-TDD         7.74         ± 9.6 %           10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL         LTE-TDD         8.36         ± 9.6 %           10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL         LTE-TDD         8.36         ± 9.6 %           10508         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL         LTE-TDD         8.55         ± 9.6 %           10509         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL         LTE-TDD         7.99         ± 9.6 %           10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL         LTE-TDD         8.51         ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL         LTE-TDD         8.51         ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL         LTE-TDD         8.45         ± 9.6 %           10511         AAF         LTE-TDD	10505		Subframe=2,3,4,7,8,9)	LIE-IDD	1.12	±9.6 %
10505       AAE       LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL       LTE-TDD       8.54       ± 9.6 %         10506       AAE       LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL       LTE-TDD       7.74       ± 9.6 %         10507       AAE       LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL       LTE-TDD       8.36       ± 9.6 %         10507       AAE       LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL       LTE-TDD       8.36       ± 9.6 %         10508       AAE       LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL       LTE-TDD       8.55       ± 9.6 %         10509       AAE       LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL       LTE-TDD       7.99       ± 9.6 %         10510       AAE       LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL       LTE-TDD       8.49       ± 9.6 %         10511       AAE       LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL       LTE-TDD       8.42       ± 9.6 %         10511       AAE       LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 0PSK, UL       LTE-TDD       8.42       ± 9.6 %         10513       AAF       LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL       LTE-TDD       8.42       ± 9.6 %         10514       AAF       LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL       LTE-TDD       8.45       ± 9.6 %	10504	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL	LTE-TDD	8.31	± 9.6 %
Subframe=2,3,4,7,8,9)         LTE-TDD         C.7.4         ± 9.6 %           10506         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL         LTE-TDD         7.74         ± 9.6 %           10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL         LTE-TDD         8.36         ± 9.6 %           10508         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL         LTE-TDD         8.55         ± 9.6 %           10509         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL         LTE-TDD         8.55         ± 9.6 %           10509         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL         LTE-TDD         7.99         ± 9.6 %           10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL         LTE-TDD         8.49         ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL         LTE-TDD         8.51         ± 9.6 %           10512         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL         LTE-TDD         8.42         ± 9.6 %           10513         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL         LTE-TDD         8.42         ± 9.6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL         LTE-TDD <td>10505</td> <td></td> <td></td> <td></td> <td>0.54</td> <td></td>	10505				0.54	
10506         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 0PSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 0PSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 0PSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 0PSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-Q	10000				8.54	±9.6%
10507         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL         LTE-TDD         8.36         ± 9.6 %           10508         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL         LTE-TDD         8.55         ± 9.6 %           10509         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL         LTE-TDD         7.99         ± 9.6 %           10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL         LTE-TDD         8.49         ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL         LTE-TDD         8.49         ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 04-QAM, UL         LTE-TDD         8.51         ± 9.6 %           10512         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL         LTE-TDD         7.74         ± 9.6 %           10513         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL         LTE-TDD         8.42         ± 9.6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 04-QAM, UL         LTE-TDD         8.45         ± 9.6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL         LTE-TDD         8.45         ± 9.6 %           10514         AAF         LTE-TDD	10506	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL	LTE-TDD	7.74	± 9.6 %
Subframe=2,3,4,7,8,9)         LTE-TDD         Stab         LTE-TDD         Stab           10508         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL         LTE-TDD         8.55         ±9.6 %           10509         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL         LTE-TDD         7.99         ±9.6 %           10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL         LTE-TDD         8.49         ±9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL         LTE-TDD         8.49         ±9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL         LTE-TDD         8.51         ±9.6 %           10512         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 0PSK, UL         LTE-TDD         7.74         ±9.6 %           10513         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL         LTE-TDD         8.42         ±9.6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL         LTE-TDD         8.45         ±9.6 %           10515         AAA         LEE 802.11b WiF1 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)         WLAN         1.58         ±9.6 %           10516         AAA         LEE 802.11b WiF1 2.4 GHz (DSSS, 5.5 Mbps, 99pc dut	10507					
10508         AAE         LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         6.55         ± 9.6 %           10509         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.49         ± 9.6 %           10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.49         ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.51         ± 9.6 %           10512         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.42         ± 9.6 %           10513         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.42         ± 9.6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.45         ± 9.6 %           10515         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10516         AAA         IEEE 802.11a/h WiFi 5 GHz (OFDM, 11 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10516         AAA         IEEE 802.11a/h WiFi 5 GHz (O	10007		Subframe=2,3,4,7,8,9)	LIE-IDD	8.36	±9.6%
10509         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD         7.99         ± 9.6 %           10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.49         ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.51         ± 9.6 %           10512         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD         7.74         ± 9.6 %           10513         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.42         ± 9.6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.45         ± 9.6 %           10516         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10516         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10517         AAA         IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10517         AAA         IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 M	10508	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL	LTE-TDD	8.55	±9.6 %
Subframe=2,3,4,7,8,9         LTE-TDD         R.0         LTE-TDD         R.0         LTE-TDD           10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL         LTE-TDD         8.49         ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL         LTE-TDD         8.51         ± 9.6 %           10512         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL         LTE-TDD         7.74         ± 9.6 %           10513         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL         LTE-TDD         7.74         ± 9.6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL         LTE-TDD         8.42         ± 9.6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL         LTE-TDD         8.45         ± 9.6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL         LTE-TDD         8.45         ± 9.6 %           10516         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10516         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10517         AAA         IEEE 802	10500				7.00	
10510         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.49         ± 9.6 %           10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.51         ± 9.6 %           10512         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD         7.74         ± 9.6 %           10513         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.42         ± 9.6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.45         ± 9.6 %           10515         AAA         LEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10516         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10517         AAA         IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10518         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)         WLAN         8.32         ± 9.6 %           10520         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 14 Mbps, 99pc duty	10000		Subframe=2,3,4,7,8,9)		7.99	± 9.6 %
10511         AAE         LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.51         ± 9,6 %           10512         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD         7.74         ± 9,6 %           10513         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.42         ± 9,6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.45         ± 9,6 %           10515         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9,6 %           10516         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9,6 %           10517         AAA         IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mpps, 99pc duty cycle)         WLAN         1.58         ± 9,6 %           10516         AAA         IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)         WLAN         8.23         ± 9,6 %           10517         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 14 Mbps, 99pc duty cycle)         WLAN         8.23         ± 9,6 %           10520         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle) <td>10510</td> <td>AAE</td> <td>LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL</td> <td>LTE-TDD</td> <td>8.49</td> <td>±9.6 %</td>	10510	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL	LTE-TDD	8.49	±9.6 %
Subframe=2,3,4,7,8,9)         LTE-TDD         Control           10512         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)         LTE-TDD         7.74         ± 9.6 %           10513         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.42         ± 9.6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.45         ± 9.6 %           10515         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10516         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10517         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10517         AAB         IEEE 802.11a/n WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)         WLAN         8.33         ± 9.6 %           10520         AAB         IEEE 802.11a/n WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)         WLAN         8.12         ± 9.6 %           10521         AAB         IEEE 802.11a/n WiFi 5 GHz (OFDM, 34 Mbps, 99pc duty cycle)         WLAN         8.12         ± 9.6 %           10522 <td>10511</td> <td></td> <td></td> <td></td> <td>0.54</td> <td></td>	10511				0.54	
Subframe=2,3,4,7,8,9)         Interaction         Interaction         Interaction           10513         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.42         ± 9.6 %           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.45         ± 9.6 %           10515         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10516         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10517         AAA         IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10518         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)         WLAN         8.39         ± 9.6 %           10520         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)         WLAN         8.12         ± 9.6 %           10521         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 44 Mbps, 99pc duty cycle)         WLAN         8.12         ± 9.6 %           10522         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)         WLAN         8.08         ± 9.6 %      <	10011				8.51	±9.6%
10513       AAF       LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)       LTE-TDD       8.42       ± 9.6 %         10514       AAF       LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)       LTE-TDD       8.45       ± 9.6 %         10515       AAA       IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)       WLAN       1.58       ± 9.6 %         10516       AAA       IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)       WLAN       1.58       ± 9.6 %         10517       AAA       IEEE 802.11a/h WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)       WLAN       1.58       ± 9.6 %         10518       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)       WLAN       8.23       ± 9.6 %         10520       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)       WLAN       8.39       ± 9.6 %         10521       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)       WLAN       8.12       ± 9.6 %         10522       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)       WLAN       8.08       ± 9.6 %         10522       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)       WLAN       8.06 ½       ± 9.6 %         10524       AAB <td>10512</td> <td>AAF</td> <td></td> <td>LTE-TDD</td> <td>7.74</td> <td>± 9.6 %</td>	10512	AAF		LTE-TDD	7.74	± 9.6 %
Subframe=2,3,4,7,8,9)         LTE-TDD         LTE-TDD         LTE-TDD           10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.45         ± 9.6 %           10515         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10516         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)         WLAN         1.57         ± 9.6 %           10517         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10518         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)         WLAN         8.23         ± 9.6 %           10520         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)         WLAN         8.12         ± 9.6 %           10521         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 34 Mbps, 99pc duty cycle)         WLAN         8.12         ± 9.6 %           10522         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)         WLAN         8.45         ± 9.6 %           10523         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)         WLAN         8.45         ± 9.6 %           10524 </td <td>10513</td> <td></td> <td></td> <td></td> <td>0.40</td> <td></td>	10513				0.40	
10514         AAF         LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)         LTE-TDD         8.45         ± 9.6 %           10515         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10516         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)         WLAN         1.57         ± 9.6 %           10517         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10518         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)         WLAN         8.23         ± 9.6 %           10510         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)         WLAN         8.12         ± 9.6 %           10520         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)         WLAN         8.12         ± 9.6 %           10521         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)         WLAN         8.12         ± 9.6 %           10522         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)         WLAN         8.45         ± 9.6 %           10524         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)         WLAN <t< td=""><td>10010</td><td>1 / 1 / 1</td><td></td><td></td><td>8.42</td><td>± 9.6 %</td></t<>	10010	1 / 1 / 1			8.42	± 9.6 %
10515         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10516         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)         WLAN         1.57         ± 9.6 %           10517         AAA         IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)         WLAN         1.58         ± 9.6 %           10518         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)         WLAN         8.23         ± 9.6 %           10519         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)         WLAN         8.39         ± 9.6 %           10520         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)         WLAN         8.12         ± 9.6 %           10521         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)         WLAN         8.12         ± 9.6 %           10522         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)         WLAN         8.45         ± 9.6 %           10523         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)         WLAN         8.08         ± 9.6 %           10524         AAB         IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)         WLAN         8.27         <	10514	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL	LTE-TDD	8.45	± 9.6 %
10516       AAA       IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)       WLAN       1.57       ± 9.6 %         10517       AAA       IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)       WLAN       1.58       ± 9.6 %         10518       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)       WLAN       8.23       ± 9.6 %         10519       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)       WLAN       8.39       ± 9.6 %         10520       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)       WLAN       8.12       ± 9.6 %         10520       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)       WLAN       8.12       ± 9.6 %         10521       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)       WLAN       8.45       ± 9.6 %         10522       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)       WLAN       8.45       ± 9.6 %         10523       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)       WLAN       8.08       ± 9.6 %         10524       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)       WLAN       8.27       ± 9.6 %         10526       AAB       IEEE 802.11ac W	10515				1.50	
10517       AAA       IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)       WLAN       1.58       ± 9.6 %         10518       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)       WLAN       8.23       ± 9.6 %         10519       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)       WLAN       8.23       ± 9.6 %         10520       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)       WLAN       8.39       ± 9.6 %         10520       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)       WLAN       8.12       ± 9.6 %         10521       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)       WLAN       8.12       ± 9.6 %         10522       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)       WLAN       8.45       ± 9.6 %         10523       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)       WLAN       8.08       ± 9.6 %         10524       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)       WLAN       8.27       ± 9.6 %         10525       AAB       IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)       WLAN       8.36       ± 9.6 %         10526       AAB       IEEE 802.11ac WiFi (20MHz			IEEE 802.110 WIFI 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)			
10518       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)       WLAN       8.23       ± 9.6 %         10519       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)       WLAN       8.39       ± 9.6 %         10520       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)       WLAN       8.39       ± 9.6 %         10520       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)       WLAN       8.12       ± 9.6 %         10521       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)       WLAN       8.12       ± 9.6 %         10522       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)       WLAN       8.45       ± 9.6 %         10523       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)       WLAN       8.08       ± 9.6 %         10524       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)       WLAN       8.08       ± 9.6 %         10525       AAB       IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)       WLAN       8.36       ± 9.6 %         10526       AAB       IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)       WLAN       8.42       ± 9.6 %         10527       AAB       IEEE 802.11ac WiFi (20MHz, MCS3, 9			IEEE 802.11b Wir 12.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)		·	j
10519AABIEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)WLAN8.12 $\pm 9.6 \%$ 10520AABIEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)WLAN8.12 $\pm 9.6 \%$ 10521AABIEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)WLAN8.12 $\pm 9.6 \%$ 10522AABIEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)WLAN8.45 $\pm 9.6 \%$ 10522AABIEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)WLAN8.45 $\pm 9.6 \%$ 10523AABIEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)WLAN8.08 $\pm 9.6 \%$ 10524AABIEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)WLAN8.27 $\pm 9.6 \%$ 10525AABIEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)WLAN8.36 $\pm 9.6 \%$ 10526AABIEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)WLAN8.42 $\pm 9.6 \%$ 10527AABIEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)WLAN8.42 $\pm 9.6 \%$ 10528AABIEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)WLAN8.36 $\pm 9.6 \%$ 10529AABIEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)WLAN8.36 $\pm 9.6 \%$ 10531AABIEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)WLAN8.43 $\pm 9.6 \%$ 10532AABIEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)WLAN8.43 $\pm 9.6 \%$ 10533AABIEEE 802.11ac WiFi (20						
10520         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)         WLAN         8.12         ± 9.6 %           10521         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)         WLAN         7.97         ± 9.6 %           10522         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)         WLAN         8.45         ± 9.6 %           10522         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)         WLAN         8.45         ± 9.6 %           10523         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)         WLAN         8.08         ± 9.6 %           10524         AAB         IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)         WLAN         8.08         ± 9.6 %           10525         AAB         IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)         WLAN         8.36         ± 9.6 %           10526         AAB         IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)         WLAN         8.42         ± 9.6 %           10527         AAB         IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)         WLAN         8.36         ± 9.6 %           10528         AAB         IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)         WLAN         8.36         ± 9.6 %			IEEE 802.11a/h WiFi 5 CHz (OFDM, 9 Mbps, 990c duty cycle)			
10521       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)       WLAN       7.97       ± 9.6 %         10522       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)       WLAN       8.45       ± 9.6 %         10523       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)       WLAN       8.45       ± 9.6 %         10523       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)       WLAN       8.08       ± 9.6 %         10524       AAB       IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)       WLAN       8.27       ± 9.6 %         10525       AAB       IEEE 802.11a/h WiFi 20MHz, MCS0, 99pc duty cycle)       WLAN       8.36       ± 9.6 %         10526       AAB       IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)       WLAN       8.42       ± 9.6 %         10527       AAB       IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)       WLAN       8.21       ± 9.6 %         10528       AAB       IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)       WLAN       8.36       ± 9.6 %         10529       AAB       IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)       WLAN       8.36       ± 9.6 %         10531       AAB       IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)			IEEE 802.11a/II WIFI 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)			
10522AABIEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)WLAN7.511.5110523AABIEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)WLAN $8.45$ $\pm 9.6$ %10524AABIEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)WLAN $8.08$ $\pm 9.6$ %10524AABIEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)WLAN $8.27$ $\pm 9.6$ %10525AABIEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)WLAN $8.36$ $\pm 9.6$ %10526AABIEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)WLAN $8.42$ $\pm 9.6$ %10527AABIEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)WLAN $8.42$ $\pm 9.6$ %10528AABIEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)WLAN $8.36$ $\pm 9.6$ %10529AABIEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)WLAN $8.36$ $\pm 9.6$ %10529AABIEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)WLAN $8.36$ $\pm 9.6$ %10531AABIEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)WLAN $8.43$ $\pm 9.6$ %10532AABIEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)WLAN $8.43$ $\pm 9.6$ %10533AABIEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)WLAN $8.29$ $\pm 9.6$ %10533AABIEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)WLAN $8.38$ $\pm 9.6$ %			IEEE 802 11 a/1 WIFTS GHZ (OFDIM, TO WIDDS, 990C GULY CYCIE)			
10523AABIEEE 802.11a/n WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)WLAN8.08 $\pm 9.6\%$ 10524AABIEEE 802.11a/n WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)WLAN8.08 $\pm 9.6\%$ 10525AABIEEE 802.11a/n WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)WLAN8.27 $\pm 9.6\%$ 10526AABIEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)WLAN8.36 $\pm 9.6\%$ 10526AABIEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)WLAN8.42 $\pm 9.6\%$ 10527AABIEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)WLAN8.21 $\pm 9.6\%$ 10528AABIEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)WLAN8.36 $\pm 9.6\%$ 10529AABIEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)WLAN8.36 $\pm 9.6\%$ 10531AABIEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)WLAN8.43 $\pm 9.6\%$ 10532AABIEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)WLAN8.43 $\pm 9.6\%$ 10533AABIEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)WLAN8.29 $\pm 9.6\%$ 10533AABIEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)WLAN8.38 $\pm 9.6\%$			IEEE 802.11a/it WIFLS GHZ (OFDM, 24 Mbps, 99pc duty cycle)			
10524         AAB         IEEE 802.11a/n WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)         WLAN         8.27         ± 9.6 %           10525         AAB         IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)         WLAN         8.27         ± 9.6 %           10526         AAB         IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)         WLAN         8.36         ± 9.6 %           10526         AAB         IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)         WLAN         8.42         ± 9.6 %           10527         AAB         IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)         WLAN         8.21         ± 9.6 %           10528         AAB         IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)         WLAN         8.36         ± 9.6 %           10529         AAB         IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)         WLAN         8.36         ± 9.6 %           10531         AAB         IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)         WLAN         8.43         ± 9.6 %           10532         AAB         IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)         WLAN         8.43         ± 9.6 %           10532         AAB         IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)         WLAN         8.29         ± 9.6 %           10533         A						
10525AABIEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)WLAN $8.36$ $\pm 9.6$ %10526AABIEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)WLAN $8.42$ $\pm 9.6$ %10527AABIEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)WLAN $8.42$ $\pm 9.6$ %10528AABIEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)WLAN $8.21$ $\pm 9.6$ %10529AABIEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)WLAN $8.36$ $\pm 9.6$ %10529AABIEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)WLAN $8.36$ $\pm 9.6$ %10531AABIEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)WLAN $8.43$ $\pm 9.6$ %10532AABIEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)WLAN $8.43$ $\pm 9.6$ %10533AABIEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)WLAN $8.38$ $\pm 9.6$ %10533AABIEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)WLAN $8.38$ $\pm 9.6$ %			IEEE 802.11a/h WIEE 5 CHT (OFDM, 48 Mbps, 9900 duty cycle)			
10526         AAB         IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)         WLAN         8.42         ± 9.6 %           10527         AAB         IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)         WLAN         8.42         ± 9.6 %           10528         AAB         IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)         WLAN         8.21         ± 9.6 %           10529         AAB         IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)         WLAN         8.36         ± 9.6 %           10531         AAB         IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)         WLAN         8.43         ± 9.6 %           10532         AAB         IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)         WLAN         8.43         ± 9.6 %           10533         AAB         IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)         WLAN         8.29         ± 9.6 %           10532         AAB         IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)         WLAN         8.29         ± 9.6 %           10533         AAB         IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)         WLAN         8.38         ± 9.6 %						
10527         AAB         IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)         WLAN         8.21         ± 9.6 %           10528         AAB         IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)         WLAN         8.36         ± 9.6 %           10529         AAB         IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)         WLAN         8.36         ± 9.6 %           10531         AAB         IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)         WLAN         8.43         ± 9.6 %           10532         AAB         IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)         WLAN         8.43         ± 9.6 %           10533         AAB         IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)         WLAN         8.29         ± 9.6 %           10533         AAB         IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)         WLAN         8.38         ± 9.6 %						
10528         AAB         IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)         WLAN         8.36         ± 9.6 %           10529         AAB         IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)         WLAN         8.36         ± 9.6 %           10531         AAB         IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)         WLAN         8.36         ± 9.6 %           10532         AAB         IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)         WLAN         8.43         ± 9.6 %           10533         AAB         IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)         WLAN         8.29         ± 9.6 %           10533         AAB         IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)         WLAN         8.38         ± 9.6 %			IEEE 802 11ac WiFi (20MHz, MCS2, 90pc duty cycle)			
10529         AAB         IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)         WLAN         8.36         ± 9.6 %           10531         AAB         IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)         WLAN         8.43         ± 9.6 %           10532         AAB         IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)         WLAN         8.43         ± 9.6 %           10533         AAB         IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)         WLAN         8.29         ± 9.6 %           10533         AAB         IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)         WLAN         8.38         ± 9.6 %			IFEE 802.11ac Will (20MHz, WOS2, 9900 duty cycle)			
10531         AAB         IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)         WLAN         8.43         ± 9.6 %           10532         AAB         IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)         WLAN         8.29         ± 9.6 %           10533         AAB         IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)         WLAN         8.29         ± 9.6 %           10533         AAB         IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)         WLAN         8.38         ± 9.6 %						
10532         AAB         IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)         WLAN         8.29         ± 9.6 %           10533         AAB         IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)         WLAN         8.38         ± 9.6 %						
10533         AAB         IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)         WLAN         8.38         ± 9.6 %			IFEE 802 11ac WiFi (20MHz, MCS7, 99pc duty cycle)			· · · · · · · · · · · · · · · · · · ·
			IEEE 802.11ac WiFi (20MHz, MCOS, 99pc duty cycle)			
		1				
		1	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	WLAN	8.38	±9.6 %

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10535	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	WLAN	8.45	±9.6 %
10536	AAB	IEEE 802.11ac WIFi (40MHz, MCS2, 99pc duty cycle)	WLAN	8.32	±9.6 %
10537	AAB	IEEE 802.11ac WIFi (40MHz, MCS3, 99pc duty cycle)	WLAN	8.44	±9.6 %
10538	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	WLAN	8.54	±9.6 %
10540	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10541	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	WLAN	8.46	± 9.6 %
10542	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10543	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	WLAN	8.65	±9.6 %
10544	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	WLAN	8.47	±9.6 %
10545	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	WLAN	8.55	±9.6 %
10546	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	WLAN	8.35	± 9.6 %
10547	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	WLAN	8.49	±9.6 %
10548	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10550	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	WLAN	8.38	±9.6 %
10551	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	WLAN	8.50	±9.6 %
10552	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	WLAN	8.42	±9.6 %
10553	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	WLAN	8.45	±9.6 %
10554	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	WLAN	8.48	±9.6 %
10555	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	WLAN	8.47	±9.6 %
10556	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	WLAN	8.50	±9.6 %
10557	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	WLAN	8.52	± 9.6 %
10558	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	WLAN	8.61	± 9.6 %
10560	AAC	IEEE 802.11ac WIFI (160MHz, MCS6, 99pc duty cycle)	WLAN	8.73	± 9.6 %
10561	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	WLAN	8.56	± 9.6 %
10562	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	WLAN	8.69	± 9.6 %
10563	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10564		IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty	WLAN	8.25	± 9.6 %
10004		cycle)	VVL/KIN	0.25	1 9.0 %
10565	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty	WLAN	8.45	± 9.6 %
10000	1 1111	cvcle)	VVLAIN	0.45	1 5.0 %
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty	WLAN	8.13	± 9.6 %
10000	1000	cycle)	VVL/AIN	0.15	1 5.0 %
10567		IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty	WLAN	8.00	± 9.6 %
10007			VVLAN	0.00	19.0 %
10568		cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty	WLAN	8.37	± 9.6 %
10000			WLAN	0.37	I 9.0 %
40500		cycle)		0.10	+069/
10569	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty	WLAN	8.10	± 9.6 %
40570					1069
10570	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty	WLAN	8.30	± 9.6 %
40574			WLAN	1.00	100%
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)			
10572				1.99	± 9.6 %
	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	WLAN	1.99	± 9.6 %
10573	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	WLAN WLAN	1.99 1.98	± 9.6 % ± 9.6 %
10574	AAA AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	WLAN WLAN WLAN	1.99 1.98 1.98	± 9.6 %       ± 9.6 %       ± 9.6 %
	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty	WLAN WLAN	1.99 1.98	± 9.6 % ± 9.6 %
10574 10575	AAA AAA AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN	1.99 1.98 1.98 8.59	$\begin{array}{r} \pm \ 9.6 \ \% \\ \pm \ 9.6 \ \% \end{array}$
10574	AAA AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty	WLAN WLAN WLAN	1.99 1.98 1.98	± 9.6 %       ± 9.6 %       ± 9.6 %
10574 10575 10576	AAA           AAA           AAA           AAA           AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN	1.99 1.98 1.98 8.59 8.60	$\begin{array}{c} \pm 9.6 \% \\ \end{array}$
10574 10575	AAA AAA AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty	WLAN WLAN WLAN WLAN	1.99 1.98 1.98 8.59	$\begin{array}{c} \pm \ 9.6 \ \% \\ \pm \ 9.6 \ \% \end{array}$
10574 10575 10576 10577	AAA           AAA           AAA           AAA           AAA           AAA           AAA           AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574 10575 10576	AAA           AAA           AAA           AAA           AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN	1.99 1.98 1.98 8.59 8.60	$\begin{array}{c} \pm 9.6 \% \\ \end{array}$
10574 10575 10576 10577 10578	AAA           AAA           AAA           AAA           AAA           AAA           AAA           AAA           AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70           8.49	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574 10575 10576 10577	AAA           AAA           AAA           AAA           AAA           AAA           AAA           AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574           10575           10576           10577           10578           10579	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70           8.49           8.36	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574 10575 10576 10577 10578	AAA           AAA           AAA           AAA           AAA           AAA           AAA           AAA           AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty	WLAN WLAN WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70           8.49	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574           10575           10576           10577           10578           10579           10580	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70           8.49           8.36           8.76	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574           10575           10576           10577           10578           10579	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty	WLAN WLAN WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70           8.49           8.36	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574           10575           10576           10577           10578           10579           10580           10581	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70           8.49           8.36           8.76           8.35	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574           10575           10576           10577           10578           10579           10580	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty	WLAN WLAN WLAN WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70           8.49           8.36           8.76	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574           10575           10576           10577           10578           10579           10580           10581	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70           8.49           8.36           8.76           8.35	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574           10575           10576           10577           10578           10579           10580           10581	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70           8.49           8.36           8.76           8.35	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574           10575           10576           10577           10578           10579           10580           10581	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70           8.49           8.36           8.76           8.35           8.67	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574           10575           10576           10577           10578           10579           10580           10581           10582           10583	AAA         AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70           8.49           8.36           8.76           8.35           8.67           8.59	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10574 10575 10576 10577 10578 10579 10580 10581 10582 10583	AAA         AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle) IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN WLAN	1.99           1.98           1.98           8.59           8.60           8.70           8.49           8.36           8.76           8.35           8.67           8.59	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$

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10588	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10589	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	± 9.6 %
10590	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10591	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	WLAN	8.63	± 9.6 %
10592	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10593	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10594	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10595	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10596	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10597	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10598	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	WLAN	8.50	± 9.6 %
10599	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10600	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
10601	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10602	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10603	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	WLAN	9.03	± 9.6 %
10604	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10605	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	WLAN	8.97	± 9.6 %
10606	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10607	AAB	IEEE 802.11ac WiFI (20MHz, MCS0, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10608	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10609	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	WLAN	8.57	± 9.6 %
10610	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10611	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10612	AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10613	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10614	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10615	AAB	IEEE 802.11ac WiFI (20MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10616	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10617	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10618	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	WLAN	8.58	± 9.6 %
10619	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10620	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	WLAN	8.87	± 9.6 %
10621	AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9,6 %
10622	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	WLAN	8.68	± 9.6 %
10623	AAB	IEEE 802.11ac WiFI (40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10624	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10625	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10626	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10627	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
10628	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10629	AAB	IEEE 802.11ac WIFi (80MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10630	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10631	AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10632	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10633	AAB	IEEE 802.11ac WIFI (80MHz, MCS7, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10634	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	WLAN	8.80	± 9.6 %
10635	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10636	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10637	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10638	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10639	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10640	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	WLAN	8,98	± 9.6 %
10641	AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10642	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10643	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	WLAN	8.89	± 9.6 %
10644	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	WLAN	9.05	
10645	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	WLAN		±9.6%
10646	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	9.11	$\pm 9.6\%$
10647	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)		11.96	$\pm 9.6\%$
10648	AAA	CDMA2000 (1x Advanced)	LTE-TDD	11.96	±9.6 %
10652	AAD	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	CDMA2000	3.45	±9.6%
10653	AAD	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	±96%
10654	AAD	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	±9.6%
	r + 15-2		LTE-TDD	6.96	± 9.6 %

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10655	AAE	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	±9.6 %
10658	AAA	Pulse Waveform (200Hz, 10%)	Test	10.00	±9.6 %
10659	AAA	Pulse Waveform (200Hz, 20%)	Test	6.99	±9.6 %
10660	AAA	Pulse Waveform (200Hz, 40%)	Test	3.98	±9.6 %
10661	AAA	Pulse Waveform (200Hz, 60%)	Test	2.22	± 9.6 %
10662	AAA	Pulse Waveform (200Hz, 80%)	Test	0.97	±9.6 %
10670	AAA	Bluetooth Low Energy	Bluetooth	2.19	±9.6 %
10671	AAA	IEEE 802.11ax (20MHz, MCS0, 90pc duty cycle)	WLAN	9.09	±9.6 %
10672	AAA	IEEE 802.11ax (20MHz, MCS1, 90pc duty cycle)	WLAN	8.57	± 9.6 %
10673	AAA	IEEE 802.11ax (20MHz, MCS2, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10674	AAA	IEEE 802.11ax (20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	±9.6 %
10675	AAA	IEEE 802.11ax (20MHz, MCS4, 90pc duty cycle)	WLAN	8.90	± 9.6 %
10676	AAA	IEEE 802.11ax (20MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6 %
10677	AAA	IEEE 802.11ax (20MHz, MCS6, 90pc duty cycle)	WLAN	8.73	± 9.6 %
10678	AAA	IEEE 802.11ax (20MHz, MCS7, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10679	AAA	IEEE 802.11ax (20MHz, MCS8, 90pc duty cycle)	WLAN	8.89	±9.6 %
10680	AAA	IEEE 802.11ax (20MHz, MCS9, 90pc duty cycle)	WLAN	8.80	±9.6 %
10681	AAA	IEEE 802.11ax (20MHz, MCS10, 90pc duty cycle)	WLAN	8.62	± 9.6 %
10682	AAA	IEEE 802.11ax (20MHz, MCS11, 90pc duty cycle)	WLAN	8.83	±9.6 %
10683	AAA	IEEE 802.11ax (20MHz, MCS0, 99pc duty cycle)	WLAN	8.42	±9.6 %
10684	AAA	IEEE 802.11ax (20MHz, MCS1, 99pc duty cycle)	WLAN	8.26	± 9.6 %
10685	AAA	IEEE 802.11ax (20MHz, MCS2, 99pc duty cycle)	WLAN	8.33	± 9.6 %
10686	AAA	IEEE 802.11ax (20MHz, MCS3, 99pc duty cycle)	WLAN	8.28	±9.6%
10687	AAA	IEEE 802.11ax (20MHz, MCS4, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10688	AAA	IEEE 802.11ax (20MHz, MCS5, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10689	AAA	IEEE 802.11ax (20MHz, MCS6, 99pc duty cycle)	WLAN	8.55	±9.6 %
10690	AAA	IEEE 802.11ax (20MHz, MCS7, 99pc duty cycle)	WLAN	8.29	±9.6 %
10691	AAA	IEEE 802.11ax (20MHz, MCS8, 99pc duty cycle)	WLAN	8.25	±9.6 %
10692	AAA	IEEE 802.11ax (20MHz, MCS9, 99pc duty cycle)	WLAN	8.29	±9.6 %
10693	AAA	IEEE 802.11ax (20MHz, MCS10, 99pc duty cycle)	WLAN	8.25	±9.6 %
10694	AAA	IEEE 802.11ax (20MHz, MCS11, 99pc duty cycle)	WLAN	8.57	±96%
10695	AAA	IEEE 802.11ax (40MHz, MCS0, 90pc duty cycle)	WLAN	8.78	±9.6 %
10696	AAA	IEEE 802.11ax (40MHz, MCS1, 90pc duty cycle)	WLAN	8.91	±9.6 %
10697	AAA	IEEE 802.11ax (40MHz, MCS2, 90pc duty cycle)	WLAN	8.61	± 9.6 %
10698	AAA	IEEE 802.11ax (40MHz, MCS3, 90pc duty cycle)	WLAN	8.89	± 9.6 %
10699	AAA	IEEE 802.11ax (40MHz, MCS4, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10700	AAA	IEEE 802.11ax (40MHz, MCS5, 90pc duty cycle)	WLAN	8.73	± 9.6 %
10701	AAA	IEEE 802.11ax (40MHz, MCS6, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10702	AAA	IEEE 802.11ax (40MHz, MCS7, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10703	AAA	IEEE 802.11ax (40MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10704	AAA	IEEE 802.11ax (40MHz, MCS9, 90pc duty cycle)	WLAN	8.56	± 9.6 %
10705	AAA	IEEE 802.11ax (40MHz, MCS10, 90pc duty cycle)	WLAN	8.69	± 9.6 %
10706	AAA	IEEE 802.11ax (40MHz, MCS11, 90pc duty cycle)	WLAN	8.66	± 9.6 %
10707	AAA	IEEE 802.11ax (40MHz, MCS0, 99pc duty cycle)	WLAN	8.32	± 9.6 %
10708	AAA	IEEE 802.11ax (40MHz, MCS1, 99pc duty cycle)	WLAN	8.55	± 9.6 %
10709	AAA	IEEE 802.11ax (40MHz, MCS2, 99pc duty cycle)	WLAN	8.33	± 9.6 %
10710	AAA	IEEE 802.11ax (40MHz, MCS3, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10711	AAA	IEEE 802.11ax (40MHz, MCS4, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10712	AAA	IEEE 802.11ax (40MHz, MCS5, 99pc duty cycle)	WLAN	8.67	± 9.6 %
10713	AAA	IEEE 802.11ax (40MHz, MCS6, 99pc duty cycle)	WLAN	8.33	± 9.6 %
10714	AAA	IEEE 802.11ax (40MHz, MCS7, 99pc duty cycle)	WLAN	8.26	$\pm 9.6\%$
10715	AAA	IEEE 802.11ax (40MHz, MCS8, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10716	AAA	IEEE 802.11ax (40MHz, MCS9, 99pc duty cycle)	WLAN	8.30	±9.6 %
10717	AAA	IEEE 802.11ax (40MHz, MCS10, 99pc duty cycle)	WLAN	8.48	$\pm 9.6\%$
10718	AAA	IEEE 802.11ax (40MHz, MCS11, 99pc duty cycle)	WLAN	8.24	$\pm 9.6\%$
10719	AAA	IEEE 802.11ax (80MHz, MCS0, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10720	AAA	IEEE 802.11ax (80MHz, MCS0, 30pc duty cycle)	WLAN	8.87	± 9.6 %
10720	AAA	IEEE 802.11ax (80MHz, MCS1, 90pc duty cycle)	WLAN		
10722	AAA	IEEE 802.11ax (80MHz, MCS2, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10723	AAA	IEEE 802.11ax (80MHz, MCS3, 90pc duty cycle)		8.55	±9.6 %
10723	AAA	IEEE 802.11ax (80MHz, MCS4, 90pc duty cycle)	WLAN	8.70	$\pm 9.6\%$
10724	AAA	IEEE 802.11ax (80MHz, MCSS, 90pc duty cycle)	WLAN MILAN	8.90	± 9.6 %
10725	AAA		WLAN	8.74	±9.6%
10726	AAA	IEEE 802.11ax (80MHz, MCS7, 90pc duty cycle)	WLAN	8.72	±9.6%
10/2/	A	IEEE 802.11ax (80MHz, MCS8, 90pc duty cycle)	WLAN	8.66	±9.6 %

10729         AAA         IEEE 802.11ax (80MHz, MCS10, 90pc duty cycle)         WLAN         8.64         ±           10730         AAA         IEEE 802.11ax (80MHz, MCS11, 90pc duty cycle)         WLAN         8.67         ±           10731         AAA         IEEE 802.11ax (80MHz, MCS0, 99pc duty cycle)         WLAN         8.42         ±           10732         AAA         IEEE 802.11ax (80MHz, MCS1, 99pc duty cycle)         WLAN         8.46         ±	± 9.6 %         ± 9.6 %         ± 9.6 %         ± 9.6 %         ± 9.6 %         ± 9.6 %         ± 9.6 %         ± 9.6 %
10730         AAA         IEEE 802.11ax (80MHz, MCS11, 90pc duty cycle)         WLAN         8.67         ±           10731         AAA         IEEE 802.11ax (80MHz, MCS0, 99pc duty cycle)         WLAN         8.42         ±           10732         AAA         IEEE 802.11ax (80MHz, MCS1, 99pc duty cycle)         WLAN         8.46         ±	± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 %
10731         AAA         IEEE 802.11ax (80MHz, MCS0, 99pc duty cycle)         WLAN         8.42         1           10732         AAA         IEEE 802.11ax (80MHz, MCS1, 99pc duty cycle)         WLAN         8.46         1	29.6 % 29.6 % 29.6 % 29.6 %
10732 AAA IEEE 802.11ax (80MHz, MCS1, 99pc duty cycle) WLAN 8.46 ±	± 9.6 % ± 9.6 % ± 9.6 %
	± 9.6 % ± 9.6 %
	:9.6 %
10733 AAA IEEE 802.11ax (80MHz, MCS2, 99pc duty cycle) WLAN 8.40 ±	
10734 AAA IEEE 802.11ax (80MHz, MCS3, 99pc duty cycle) WLAN 8.25 ±	
10735 AAA IEEE 802.11ax (80MHz, MCS4, 99pc duty cycle) WLAN 8.33 ±	±9.6 % )
10736 AAA IEEE 802.11ax (80MHz, MCS5, 99pc duty cycle) WLAN 8.27 d	£ 9.6 %
10737 AAA IEEE 802.11ax (80MHz, MCS6, 99pc duty cycle) WLAN 8.36 ±	t 9.6 %
	£ 9.6 %
10739 AAA IEEE 802.11ax (80MHz, MCS8, 99pc duty cycle) WLAN 8.29	£ 9.6 %
	£ 9.6 %
10741 AAA IEEE 802.11ax (80MHz, MCS10, 99pc duty cycle) WLAN 8.40 d	£ 9.6 %
10742 AAA IEEE 802.11ax (80MHz, MCS11, 99pc duty cycle) WLAN 8.43 4	£9.6 %
10743 AAA IEEE 802.11ax (160MHz, MCS0, 90pc duty cycle) WLAN 8.94 ±	£ 9.6 %
10744 AAA IEEE 802.11ax (160MHz, MCS1, 90pc duty cycle) WLAN 9.16	£ 9.6 %
10745 AAA IEEE 802.11ax (160MHz, MCS2, 90pc duty cycle) WLAN 8.93 ±	£ 9.6 %
	£9.6 %
10747 AAA IEEE 802.11ax (160MHz, MCS4, 90pc duty cycle) WLAN 9.04 ±	£ 9.6 %
10748 AAA IEEE 802.11ax (160MHz, MCS5, 90pc duty cycle) WLAN 8.93 4	£9.6 %
10749 AAA IEEE 802.11ax (160MHz, MCS6, 90pc duty cycle) WLAN 8.90 ±	£ 9.6 %
10750 AAA IEEE 802.11ax (160MHz, MCS7, 90pc duty cycle) WLAN 8.79 ±	£ 9.6 %
10751 AAA IEEE 802.11ax (160MHz, MCS8, 90pc duty cycle) WLAN 8.82 ±	£ 9.6 %
10752 AAA IEEE 802.11ax (160MHz, MCS9, 90pc duty cycle) WLAN 8.81 4	£ 9.6 %
10753 AAA IEEE 802.11ax (160MHz, MCS10, 90pc duty cycle) WLAN 9.00 3	£ 9.6 %
10754 AAA IEEE 802.11ax (160MHz, MCS11, 90pc duty cycle) WLAN 8.94 4	£9.6 %
10755 AAA IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle) WLAN 8.64 ±	£9.6 %
10756 AAA IEEE 802.11ax (160MHz, MCS1, 99pc duty cycle) WLAN 8.77 ±	±9.6 %
10757 AAA IEEE 802.11ax (160MHz, MCS2, 99pc duty cycle) WLAN 8.77 4	± 9.6 %
10758 AAA IEEE 802.11ax (160MHz, MCS3, 99pc duty cycle) WLAN 8.69 3	£ 9.6 %
	± 9.6 %
10760 AAA IEEE 802.11ax (160MHz, MCS5, 99pc duty cycle) WLAN 8.49	± 9.6 %
10761 AAA IEEE 802.11ax (160MHz, MCS6, 99pc duty cycle) WLAN 8.58	± 9.6 %
10762 AAA IEEE 802.11ax (160MHz, MCS7, 99pc duty cycle) WLAN 8.49	± 9.6 %
10763 AAA IEEE 802.11ax (160MHz, MCS8, 99pc duty cycle) WLAN 8.53	± 9.6 %
10764 AAA IEEE 802.11ax (160MHz, MCS9, 99pc duty cycle) WLAN 8.54 ±	± 9.6 %
	± 9.6 %
10766 AAA IEEE 802.11ax (160MHz, MCS11, 99pc duty cycle) WLAN 8.51	± 9.6 %

<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

BN 2019

Accreditation No.: SCS 0108

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

**PC** Test Client

Certif						

# **CALIBRATION CERTIFICATE**

Object
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EX3DV4 - SN:7406

Calibration procedure(s)

QA CAL-01.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7 Calibration procedure for dosimetric E-field probes

Calibration date:

May 16, 2019

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	03-Apr-19 (No. 217-02892/02893)	Apr-20
Power sensor NRP-Z91	SN: 103244	03-Apr-19 (No. 217-02892)	Apr-20
Power sensor NRP-Z91	SN: 103245	03-Apr-19 (No. 217-02893)	Apr-20
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-19 (No. 217-02894)	Apr-20
DAE4	SN: 660	19-Dec-18 (No. DAE4-660_Dec18)	Dec-19
Reference Probe ES3DV2	SN: 3013	31-Dec-18 (No. ES3-3013_Dec18)	Dec-19
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-18)	In house check: Oct-19

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	
:			Millise
Approved by:	Katja Pokovic	Technical Manager	Carra
			Aut
			Issued: May 16, 2019
This calibration certificate	shall not be reproduced except in full	without written approval of the lab	oratory.

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





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Accreditation No.: SCS 0108

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

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization 9	$\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

### Calibration is Performed According to the Following Standards:

- a) IEEE Std 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 handb) 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 C) used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Methods Applied and Interpretation of Parameters:

- NORMx,y,z: Assessed for E-field polarization  $\vartheta = 0$  (f  $\leq 900$  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,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).

#### **Basic Calibration Parameters**

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm $(\mu V/(V/m)^2)^A$	0.46	0.43	0.45	± 10.1 %
DCP (mV) <sup>B</sup>	102.8	102.2	100.4	

### **Calibration Results for Modulation Response**

UID	Communication System Name		A dB	B dBõV	C	D dB	VR mV	Max dev.	Max Unc <sup>E</sup> (k=2)
0	CW	X	0.00	0.00	1.00	0.00	182.0	± 2.7 %	± 4.7 %
		Y	0.00	0.00	1.00	0.00	172.4	- 2.1 70	1 4.1 70
		Z	0.00	0.00	1.00		174.6	1	
10352-	Pulse Waveform (200Hz, 10%)	X	6.76	76.02	14.93	10.00	60.0	± 2,7 %	± 9.6 %
AAA		Y	6.25	75.48	14.76		60.0		1 2 0.0 70
		Z	15.00	84.32	17.62		60.0	-	
10353-	Pulse Waveform (200Hz, 20%)	X	15.00	85.05	16.36	6.99	80.0	± 1.9 %	± 9.6 %
AAA		Y	15.00	85.57	16.70		80.0		- 0.0 /0
		Z	15.00	85.96	16.90	1	80.0		
10354-	Pulse Waveform (200Hz, 40%)	X	15.00	83.48	13.87	3.98	95.0	± 1.3 %	± 9.6 %
AAA		Y	15.00	88.48	16.53		95.0		- 0.0 %
		Z	15.00	85.80	15.05		95.0	1	
10355-	Pulse Waveform (200Hz, 60%)	Х	0.28	60.00	4.49	2.22	120.0	± 1.3 %	± 9.6 %
AAA		Y	15.00	95.23	18.20		120.0	,•	
		Z	0.39	62.12	5.82	ĺ	120.0		
10387-	QPSK Waveform, 1 MHz	X	0.46	60.00	5.77	0.00	150.0	± 3.7 %	± 9.6 %
AAA		Y	14.25	443.18	61,66		150.0		
		Z	0.48	60.00	6.06	1	150.0		
10388-	QPSK Waveform, 10 MHz	Х	2.03	67.70	15.44	0.00	150.0	± 1.2 %	± 9.6 %
AAA		Y	2.30	72.35	18.27		150.0		
		Z	2.07	67.89	15.68		150.0		
10396-	64-QAM Waveform, 100 kHz	X	2.49	68.06	17.57	3.01	150.0	± 1.6 %	± 9.6 %
AAA		Y	1.98	66.67	17.49		150.0		
		Z	2.52	68.32	17.86		150.0		
10399-	64-QAM Waveform, 40 MHz	Х	3.39	67.06	15.71	0.00	150.0	± 2.2 %	±9.6 %
AAA		Y	3.39	68.23	16.67		150.0		
1		Z	3.40	67.01	15.79		150.0		
10414-	WLAN CCDF, 64-QAM, 40MHz	Х	4.70	65.74	15.61	0.00	150.0	± 4.1 %	± 9.6 %
AAA		Υ	4.47	66.54	16.20		150.0		
		Z	4.70	65.63	15.63		150.0		

Note: For details on UID parameters see Appendix

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

<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. <sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the

	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⁻²	T5 V <sup>-1</sup>	T6
<u>X</u>	34.8	265.14	36.82	6.17	0.37	5.06	0.00	0.44	1.01
Υ	19.8	147.90	35.69	7.11	0.37	5.03	0.00	0.19	1.00
Ζ	35.4	271.85	37.42	5.60	0.38	5.06	0.15	0.41	1.00

### **Sensor Model Parameters**

### **Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	27.5
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

f (MHz) <sup>c</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
30	55.0	0.75	16.10	16.10	16.10	0.00	1.00	± 13.3 %
750	41.9	0.89	10.26	10.26	10.26	0.44	0.93	± 12.0 %
835	41.5	0.90	9.78	9.78	9.78	0.44	0.91	± 12.0 %
1750	40.1	1.37	8.57	8.57	8.57	0.39	0.80	± 12.0 %
1900	40.0	1.40	8.18	8.18	8.18	0.39	0.80	± 12.0 %
2300	39.5	1.67	8.06	8.06	8.06	0.33	0.87	± 12.0 %
2450	39.2	1.80	7.67	7.67	7.67	0.37	0.87	± 12.0 %
2600	39.0	1.96	7.44	7.44	7.44	0.40	0.88	± 12.0 %
5250	35.9	4.71	5.54	5.54	5.54	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.94	4.94	4.94	0.40	1.80	± 13.1 %
5750	35.4	5.22	5.23	5.23	5.23	0.40	1.80	± 13.1 %

## Calibration Parameter Determined in Head Tissue Simulating Media

<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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to  $\pm$  110 MHz. <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 ± 5%. The uncertainty is the RSS of

the ConvF uncertainty for indicated target tissue parameters. <sup>6</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is <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.

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55.5	0.96	10.05	10.05	10.05	0.50	0.80	± 12.0 %
835	55.2	0.97	9.78	9.78	9.78	0.40	0.93	± 12.0 %
1750	53.4	1.49	8.13	8.13	8.13	0.43	0.80	± 12.0 %
1900	53.3	1.52	7.95	7.95	7.95	0.38	0.85	± 12.0 %
2300	52.9	1.81	7.76	7.76	7.76	0.44	0.85	± 12.0 %
2450	52.7	1.95	7.54	7.54	7.54	0.37	0.88	± 12.0 %
2600	52.5	2.16	7.47	7.47	7.47	0.25	1.05	± 12.0 %
5250	48.9	5.36	5.08	5.08	5.08	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.37	4.37	4.37	0.50	1.90	± 13.1 %
5750	48.3	5.94	4.53	4.53	4.53	0.50	1.90	± 13.1 %

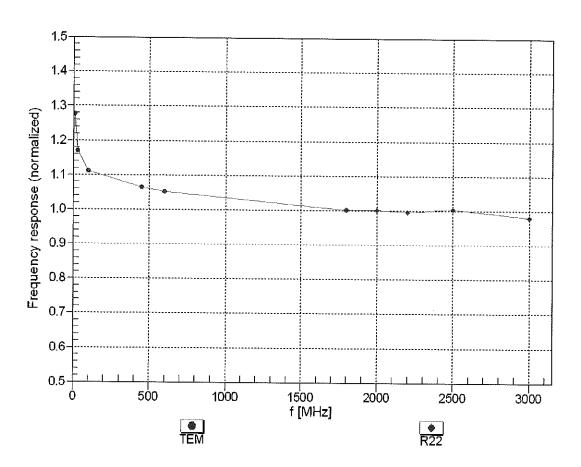
### Calibration Parameter Determined in Body Tissue Simulating Media

<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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</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.

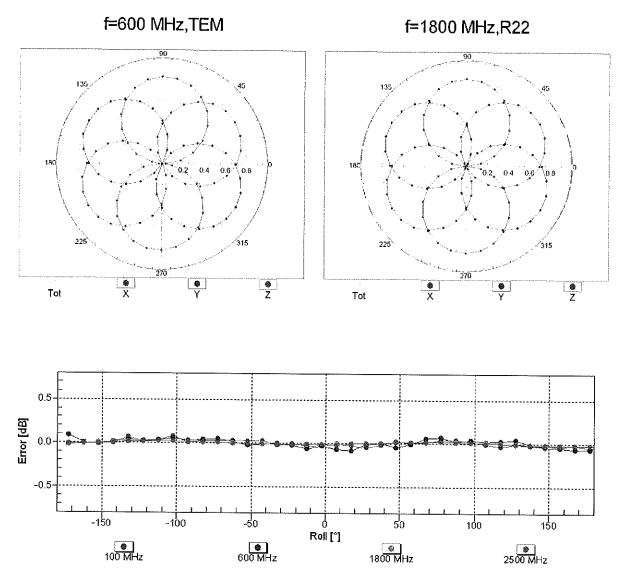
the ConvF uncertainty for indicated target tissue parameters. <sup>6</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than  $\pm$  1% for frequencies below 3 GHz and below  $\pm$  2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

May 16, 2019



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

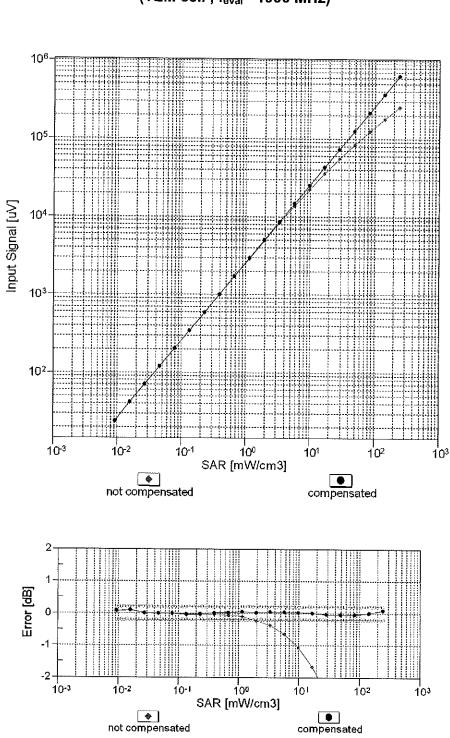
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)



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

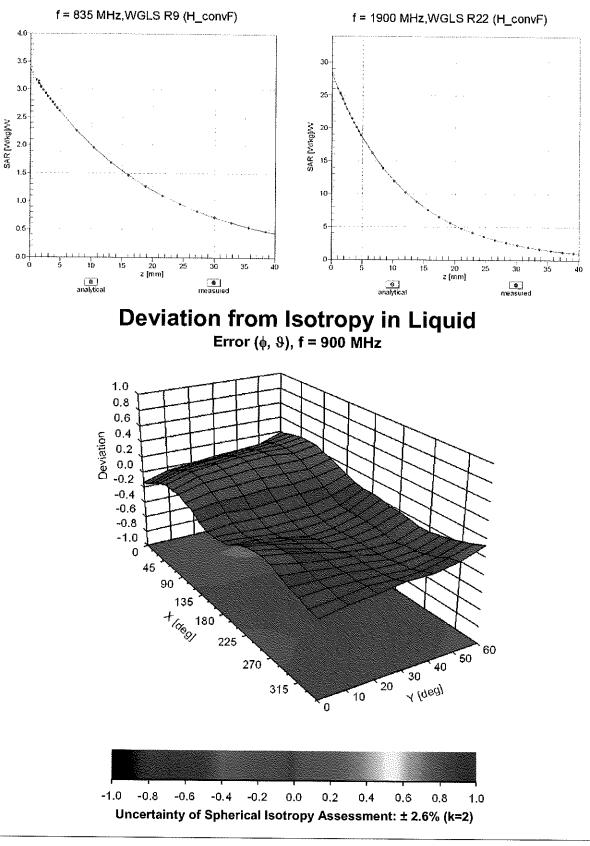
Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

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## 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**

### Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR	Unct
				(dB)	(k=2)
0		CW	CW	0.00	±4.7 %
10010	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	± 9.6 %
10011	CAB	UMTS-FDD (WCDMA)	WCDMA	2.91	±9.6 %
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	± 9.6 %
10013	CAB	IEEE 802.11g WIFI 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	± 9.6 %
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	± 9.6 %
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	± 9.6 %
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	± 9.6 %
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	±9.6 %
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	± 9.6 %
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	± 9.6 %
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	± 9.6 %
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	± 9.6 %
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30 1.87	± 9.6 % ± 9.6 %
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth		$\pm 9.6\%$ $\pm 9.6\%$
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5) IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth Bluetooth	1.16 7.74	± 9.6 %
10033			Bluetooth	4.53	± 9.6 %
10034		IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3) IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	± 9.6 %
10035 10036	CAA CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	8.01	± 9.6 %
10036		IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	4.77	± 9.6 %
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	± 9.6 %
10038	CAA	CDMA2000 (1xRTT, RC1)	CDMA2000	4.10	$\pm 9.6\%$
10039	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	± 9.6 %
10042	CAB	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	± 9.6 %
10044	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	± 9.6 %
10040	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	± 9.6 %
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	±9.6 %
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	± 9.6 %
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	± 9.6 %
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	±9.6 %
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	±9.6 %
10062	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	±9.6 %
10063	CAC	IEEE 802.11a/h WIFI 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	± 9.6 %
10064	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	± 9.6 %
10065	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	±9.6 %
10066	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %
10067	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	± 9.6 %
10068	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	± 9.6 %
10069	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	± 9.6 %
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9,83	± 9.6 %
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)		9.62	$\pm 9.6\%$
10073		IEEE 802.11g WIFI 2.4 GHz (DSSS/OFDM, 18 Mbps)		9.94	$\pm 9.6\%$
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	$\pm 9.6\%$
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN WLAN	10.77 10.94	± 9.6 % ± 9.6 %
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN WLAN	11.00	$\pm 9.6\%$ $\pm 9.6\%$
10077	CAB CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps) CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	± 9.6 %
	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	± 9.6 %
10082	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	± 9.6 %
10090	CAB	UMTS-FDD (HSDPA)	WCDMA	3.98	± 9.6 %
10097	CAB	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	± 9.6 %
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %
10100	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %
10100	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10102	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10102	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10104	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	± 9.6 %
		LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	± 9.6 %
10105	CAG				

10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	± 9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	± 9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10114	CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN		
10116	CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)		8.46	± 9.6 %
10117	CAC	IEEE 002.11n (HT Greenmeid, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117		IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
	CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	± 9.6 %
10140	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	±9.6 %
10141		LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	± 9.6 %
10142	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10143	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	± 9.6 %
10144	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	± 9.6 %
10145	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	± 9.6 %
10146	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	± 9.6 %
10147	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD		
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)		6.72	± 9.6 %
10150	CAE	LTE-EDD (SC-EDMA, 50% RB, 20 MHz, 10-QAM)	LTE-FDD	6.42	± 9.6 %
10150	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10151		LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10153	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	± 9.6 %
10154	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10155	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10156	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	± 9.6 %
10157	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10158	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	± 9.6 %
10160	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD		
10161	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	1	5.82	± 9.6 %
10162	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.43	± 9.6 %
10166	CAF		LTE-FDD	6.58	±9.6 %
10167		LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	±9.6 %
	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	AAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	± 9.6 %
10172	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10173	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10174	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10175	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	
10176	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)			±9.6%
10177	CAI	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	6.52	± 9.6 %
10178	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	5.73	±96%
	CAG		LTE-FDD	6.52	± 9.6 %
10179	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	±9.6 %
		LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	±9.6 %
10181					±9.6 %
10182	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	
40400	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	5.72 6.52	± 9.6 %
	CAE AAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.52	± 9.6 %
10184	CAE AAD CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD LTE-FDD	6.52 6.50	± 9.6 % ± 9.6 %
10184 10185	CAE AAD CAE CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD LTE-FDD LTE-FDD	6.52 6.50 5.73	<u>± 9.6 %</u> <u>± 9.6 %</u> ± 9.6 %
10184 10185	CAE AAD CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD LTE-FDD LTE-FDD LTE-FDD	6.52 6.50 5.73 6.51	± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 %
10184 10185 10186	CAE AAD CAE CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD	6.52 6.50 5.73 6.51 6.50	$\begin{array}{r} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10184 10185 10186 10187	CAE AAD CAE CAE AAE CAF	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD	6.52 6.50 5.73 6.51 6.50 5.73	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10184       10185       10186       10187       10188	CAE AAD CAE CAE AAE CAF CAF	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD	6.52 6.50 5.73 6.51 6.50 5.73 6.52	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10184         10185         10186         10187         10188         10189	CAE AAD CAE CAE AAE CAF CAF AAF	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD	6.52 6.50 5.73 6.51 6.50 5.73 6.52 6.50	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10184         10185         10186         10187         10188         10189         10193	CAE AAD CAE CAE AAE CAF CAF AAF CAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM) IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD WLAN	6.52 6.50 5.73 6.51 6.50 5.73 6.52 6.50 8.09	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10184         10185         10186         10187         10188         10189         10193         10194	CAE AAD CAE CAE AAE CAF CAF AAF CAC CAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)         LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)         LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)         LEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)         IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD WLAN WLAN	6.52 6.50 5.73 6.51 6.50 5.73 6.52 6.50 8.09 8.12	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10184         10185         10186         10187         10188         10189         10193         10194         10195	CAE AAD CAE CAE AAE CAF CAF AAF CAC CAC CAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM) LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM) IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK) IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM) IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD WLAN WLAN	6.52 6.50 5.73 6.51 6.50 5.73 6.52 6.50 8.09	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10184         10185         10186         10187         10188         10189         10193         10194         10195         10196	CAE AAD CAE CAE AAE CAF CAF AAF CAC CAC CAC CAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)         LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)         LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)         LTE-FDD (SC-FDMA, 1 RB, 1 MHz, 0PSK)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 0PSK)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)         LEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)         IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)         IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD WLAN WLAN	6.52 6.50 5.73 6.51 6.50 5.73 6.52 6.50 8.09 8.12	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10184         10185         10186         10187         10188         10193         10194         10195         10196         10197	CAE AAD CAE CAE AAE CAF CAF CAC CAC CAC CAC CAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)         LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)         LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)         LEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)         IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)         IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)         IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)         IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)         IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD WLAN WLAN	6.52 6.50 5.73 6.51 6.50 5.73 6.52 6.50 8.09 8.12 8.21	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10184         10185         10186         10187         10188         10189         10193         10194         10195         10196         10197         10198	CAE AAD CAE CAE AAE CAF CAF AAF CAC CAC CAC CAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)         LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)         LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)         LTE-FDD (SC-FDMA, 1 RB, 1 MHz, 0PSK)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 0PSK)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)         LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)         LEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)         IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)         IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD LTE-FDD WLAN WLAN WLAN	6.52 6.50 5.73 6.51 6.50 5.73 6.52 6.50 8.09 8.12 8.21 8.21 8.10	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$

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10220	CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	± 9.6 %
10223	CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	± 9.6 %
10224	CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	± 9.6 %
10225	CAB	UMTS-FDD (HSPA+)	WCDMA	5.97	± 9.6 %
10226	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	±9.6 %
10227	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	±9.6 %
10228	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	±9.6 %
10229	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10230	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10231	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	± 9.6 %
10232	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	±9.6 %
10233	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10234	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10235	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10236	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10237	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	±9.6 %
10238	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	±9.6 %
10239	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	±9.6 %
10240	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9,21	± 9.6 %
10241		LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	±9.6 %
10241	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	± 9.6 %
10242	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	± 9.6 %
10243		LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 4(-SR)	LTE-TDD	10.06	± 9.6 %
10244	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 10-QAM)	LTE-TDD	10.06	± 9.6 %
		LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10246	CAC		LTE-TDD	9.91	± 9.6 %
10247	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	10.09	± 9.6 %
10248	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)		a contraction of the second	$\pm 9.6\%$
10249	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	
10250	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	± 9.6 %
10251	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	± 9.6 %
10252	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	± 9.6 %
10254	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	± 9.6 %
10255	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	± 9.6 %
10256	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	± 9.6 %
10257		LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	± 9.6 %
10258	CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	± 9.6 %
10259	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	± 9.6 %
10260	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	±9.6 %
10261	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10262	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	±9.6 %
10263	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	± 9.6 %
10264	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	±9.6 %
10265	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	±9.6 %
10266	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	± 9.6 %
10267	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10269	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	± 9.6 %
10270	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	± 9.6 %
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	± 9.6 %
					± 9.6 %
		UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	
10275	CAB		PHS	11.81	± 9.6 %
10275 10277	CAB CAA	PHS (QPSK)			
10275 10277 10278	CAB CAA CAA	PHS (QPSK) PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS PHS	11.81 11.81	± 9.6 % ± 9.6 %
10275 10277 10278 10279	CAB CAA CAA CAA	PHS (QPSK) PHS (QPSK, BW 884MHz, Rolloff 0.5) PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS PHS PHS	11.81 11.81 12.18	± 9.6 %       ± 9.6 %       ± 9.6 %
10275 10277 10278 10279 10290	CAB CAA CAA CAA AAB	PHS (QPSK) PHS (QPSK, BW 884MHz, Rolloff 0.5) PHS (QPSK, BW 884MHz, Rolloff 0.38) CDMA2000, RC1, SO55, Full Rate	PHS PHS PHS CDMA2000	11.81 11.81 12.18 3.91	± 9.6 %         ± 9.6 %         ± 9.6 %         ± 9.6 %
10275 10277 10278 10279 10290 10291	CAB CAA CAA CAA AAB AAB	PHS (QPSK) PHS (QPSK, BW 884MHz, Rolloff 0.5) PHS (QPSK, BW 884MHz, Rolloff 0.38) CDMA2000, RC1, SO55, Full Rate CDMA2000, RC3, SO55, Full Rate	PHS PHS CDMA2000 CDMA2000	11.81 11.81 12.18 3.91 3.46	$\begin{array}{r} \pm \ 9.6 \ \% \\ \pm \ 9.6 \ \% \end{array}$
10275 10277 10278 10279 10290 10291 10292	CAB CAA CAA CAA AAB AAB AAB	PHS (QPSK) PHS (QPSK, BW 884MHz, Rolloff 0.5) PHS (QPSK, BW 884MHz, Rolloff 0.38) CDMA2000, RC1, SO55, Full Rate CDMA2000, RC3, SO55, Full Rate CDMA2000, RC3, SO32, Full Rate	PHS PHS CDMA2000 CDMA2000 CDMA2000	11.81 11.81 12.18 3.91 3.46 3.39	$\begin{array}{c} \pm \ 9.6 \ \% \\ \pm \ 9.6 \ \% \end{array}$
10275 10277 10278 10279 10290 10291 10292 10293	CAB CAA CAA CAA AAB AAB AAB	PHS (QPSK)           PHS (QPSK, BW 884MHz, Rolloff 0.5)           PHS (QPSK, BW 884MHz, Rolloff 0.38)           CDMA2000, RC1, SO55, Full Rate           CDMA2000, RC3, SO55, Full Rate           CDMA2000, RC3, SO32, Full Rate           CDMA2000, RC3, SO32, Full Rate	PHS PHS CDMA2000 CDMA2000 CDMA2000 CDMA2000	11.81 11.81 12.18 3.91 3.46 3.39 3.50	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10275 10277 10278 10279 10290 10291 10292 10293 10295	CAB CAA CAA CAA AAB AAB AAB AAB AAB	PHS (QPSK)           PHS (QPSK, BW 884MHz, Rolloff 0.5)           PHS (QPSK, BW 884MHz, Rolloff 0.38)           CDMA2000, RC1, SO55, Full Rate           CDMA2000, RC3, SO55, Full Rate           CDMA2000, RC3, SO32, Full Rate           CDMA2000, RC3, SO32, Full Rate           CDMA2000, RC3, SO3, Full Rate	PHS PHS CDMA2000 CDMA2000 CDMA2000 CDMA2000 CDMA2000	11.81 11.81 12.18 3.91 3.46 3.39 3.50 12.49	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10275 10277 10278 10279 10290 10291 10292 10293 10295 10297	CAB CAA CAA CAA AAB AAB AAB AAB AAB AAB	PHS (QPSK)           PHS (QPSK, BW 884MHz, Rolloff 0.5)           PHS (QPSK, BW 884MHz, Rolloff 0.38)           CDMA2000, RC1, SO55, Full Rate           CDMA2000, RC3, SO55, Full Rate           CDMA2000, RC3, SO32, Full Rate           CDMA2000, RC3, SO32, Full Rate           CDMA2000, RC3, SO3, Full Rate           LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	PHS PHS CDMA2000 CDMA2000 CDMA2000 CDMA2000 CDMA2000 LTE-FDD	11.81 11.81 12.18 3.91 3.46 3.39 3.50 12.49 5.81	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$
10275 10277 10278 10279 10290 10291 10292 10293 10295	CAB CAA CAA CAA AAB AAB AAB AAB AAB	PHS (QPSK)           PHS (QPSK, BW 884MHz, Rolloff 0.5)           PHS (QPSK, BW 884MHz, Rolloff 0.38)           CDMA2000, RC1, SO55, Full Rate           CDMA2000, RC3, SO55, Full Rate           CDMA2000, RC3, SO32, Full Rate           CDMA2000, RC3, SO32, Full Rate           CDMA2000, RC3, SO3, Full Rate	PHS PHS CDMA2000 CDMA2000 CDMA2000 CDMA2000 CDMA2000	11.81 11.81 12.18 3.91 3.46 3.39 3.50 12.49	$\begin{array}{c} \pm 9.6 \% \\ \pm 9.6 \% \end{array}$

10200					
10300 10301	AAD AAA	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10302		IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WIMAX	12.03	± 9.6 %
10002	1 ~~~~	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	WIMAX	12.57	± 9.6 %
10303	AAA	IEEE 802.16e WIMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	10/10.0.0	40.50	
10304	AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WIMAX WIMAX	12.52	± 9.6 %
10305	AAA	IEEE 802.16e WIMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15	WIMAX	11.86	± 9.6 %
		symbols)		15.24	± 9.6 %
10306	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18	WIMAX	14.67	± 9.6 %
		symbols)		14.07	1 9.0 %
10307	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18	WIMAX	14.49	± 9.6 %
		symbols)		1	± 0.0 /0
10308	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WIMAX	14.46	±9.6 %
10309	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18	WIMAX	14.58	± 9.6 %
10010	+	symbols)			
10310	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18	WIMAX	14.57	± 9.6 %
10044		symbols)			
10311 10313	AAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	± 9.6 %
10313		IDEN 1:3	IDEN	10.51	± 9.6 %
10314	AAA	IDEN 1:6	IDEN	13.48	± 9.6 %
10315	AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.71	± 9.6 %
10317	AAC	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	± 9.6 %
10352	AAA	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle) Pulse Waveform (200Hz, 10%)	WLAN	8.36	±9.6 %
10353	AAA	Pulse Waveform (200Hz, 10%) Pulse Waveform (200Hz, 20%)	Generic	10.00	± 9.6 %
10354	AAA	Pulse Waveform (200Hz, 20%) Pulse Waveform (200Hz, 40%)	Generic	6.99	± 9.6 %
10355	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	± 9.6 %
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	2.22	± 9.6 %
10387	AAA	QPSK Waveform, 1 MHz	Generic	0.97	±9.6 %
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.10	± 9.6 %
10396	AAA	64-QAM Waveform, 100 kHz	Generic	5.22	± 9.6 %
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %
10400	AAD	IEEE 802.11ac WIFi (20MHz, 64-QAM, 99pc duty cycle)	Generic	6.27	± 9.6 %
10401	AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10402	AAD	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	WLAN	8.60	± 9.6 %
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	WLAN CDMA2000	8.53	± 9,6 %
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000 CDMA2000	3.76	± 9.6 %
10406	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate		3.77	± 9.6 %
10410	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL	CDMA2000 LTE-TDD	5.22 7.82	± 9.6 %
		Subframe=2,3,4,7,8,9, Subframe Conf=4)		1.02	±9.6 %
10414	AAA	WLAN CCDF, 64-QAM, 40MHz	Generic	8.54	± 9.6 %
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	WLAN	1.54	$\pm 9.6\%$
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10417	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle,	WLAN	8.14	± 9.6 %
		Long preambule)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.14	10.070
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle,	WLAN	8.19	±9.6 %
1010-		Short preambule)			, 3
10422	AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	± 9.6 %
10423	AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	± 9.6 %
10424	AAB	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	± 9.6 %
10425	AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	± 9.6 %
10426	AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	±9.6 %
10427	AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	±9.6 %
10430	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	± 9.6 %
10431	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	±9.6 %
10432	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10433 10434	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10434	AAA	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	± 9.6 %
10430	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %
10447	AAD	Subframe=2,3,4,7,8,9)			
10447	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	± 9.6 %
10448	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	LTE-FDD	7.53	±9.6 %
10443	~~~	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	LTE-FDD	7.51	± 9.6 %
10450	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	± 9.6 %

10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	±9.6 %
10456	AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	WLAN	8.63	± 9.6 %
10457	AAA	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	± 9.6 %
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	± 9.6 %
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	± 9.6 %
10460	AAA	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	± 9.6 %
10461	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %
40460		Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL	LTE-TDD	8.30	± 9.6 %
10462	AAA	Subframe=2,3,4,7,8,9)		0.50	± 9.0 %
10463	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL	LTE-TDD	8.56	± 9.6 %
10400		Subframe=2,3,4,7,8,9)		0.00	20.070
10464	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %
10404	1,0,00	Subframe=2,3,4,7,8,9)			
10465	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %
10100		Subframe=2,3,4,7,8,9)			
10466	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL	LTE-TDD	8.57	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10467	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL	LTE-TDD	7.82	±9.6 %
		Subframe=2,3,4,7,8,9)			5
10468	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10469	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL	LTE-TDD	8.56	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10470	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %
10.1001	<u> </u>	Subframe=2,3,4,7,8,9)		0.00	
10471	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %
40470	-	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL	LTE-TDD	8.57	± 9.6 %
10472	AAE	Subframe=2,3,4,7,8,9)		0,07	1 9.0 %
10473	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %
10475		Subframe=2,3,4,7,8,9)		1.02	1 2 0.0 /0
10474	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %
		Subframe=2,3,4,7,8,9)			1
10475	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL	LTE-TDD	8.57	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10477	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10478	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL	LTE-TDD	8.57	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10479	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL	LTE-TDD	7.74	± 9.6 %
10.100		Subframe=2,3,4,7,8,9)		0.40	
10480	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL	LTE-TDD	8.18	± 9.6 %
10494	AAA	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL	LTE-TDD	8.45	± 9.6 %
10481		Subframe=2,3,4,7,8,9)		0.40	± 9.0 %
10482	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL	LTE-TDD	7.71	± 9.6 %
10402	700	Subframe=2,3,4,7,8,9)			_ 0.0 %
10483	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL	LTE-TDD	8.39	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10484	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL	LTE-TDD	8.47	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10485	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL	LTE-TDD	7.59	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10486	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL	LTE-TDD	8.38	± 9.6 %
	_	Subframe=2,3,4,7,8,9)		ļ	
	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL	LTE-TDD	8.60	± 9.6 %
10487		Subframe=2,3,4,7,8,9)			1000
	–	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL	LTE-TDD	7.70	± 9.6 %
10487	AAE	0.0 + 6 = 0.0 + 7.0 = 0		1	1
10488		Subframe=2,3,4,7,8,9)		0.24	+060/
	AAE AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL	LTE-TDD	8.31	± 9.6 %
10488 10489	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)			
10488		LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL	LTE-TDD LTE-TDD	8.31 8.54	± 9.6 % ± 9.6 %
10488 10489	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)			

10492	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.41	± 9.6 %
10493	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	± 9.6 %
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.37	± 9.6 %
10496	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	± 9.6 %
10497	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	± 9.6 %
10498	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.40	± 9.6 %
10499	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.68	± 9.6 %
10500	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	±9.6 %
10501	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.44	± 9.6 %
10502	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.52	± 9.6 %
10503	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.72	± 9.6 %
10504	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	± 9.6 %
10505	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6 %
10506	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10507	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.36	± 9.6 %
10508	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	± 9.6 %
10509	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.99	± 9.6 %
10510	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.49	± 9.6 %
10511	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.51	± 9.6 %
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	± 9.6 %
10513	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.42	± 9.6 %
10514	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	±9.6 %
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	WLAN	1.58	±9.6 %
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	WLAN	1.57	± 9.6 %
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	WLAN	1.58	±9.6 %
10518	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.23	±9.6 %
10519	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.39	±9.6 %
10520	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.12	± 9.6 %
10521	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	WLAN	7.97	± 9.6 %
10522	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.45	±9.6 %
10523	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.08	± 9.6 %
10524	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.27	± 9.6 %
10525	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10526	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	WLAN	8.42	±9.6 %
10527	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	WLAN	8.21	± 9.6 %
10528	AAB	IEEE 802.11ac WIFi (20MHz, MCS3, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10529	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10531	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	WLAN	8.43	± 9.6 %
10532	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10533	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)			
10534	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	WLAN	8.38	±9.6 %

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10535	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	WLAN	8.45	±9.6%
10536	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	WLAN	8.32	± 9.6 %
10537	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	WLAN	8.44	±9.6 %
10538	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	WLAN WLAN	8.54 8.39	± 9.6 % ± 9.6 %
10540	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	WLAN	8.46	± 9.6 %
10541	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10542 10543	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle) IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10543	AAB AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	WLAN	8.47	±9.6 %
10544	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	WLAN	8.55	± 9.6 %
10546	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	WLAN	8.35	± 9.6 %
10540	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	WLAN	8.49	± 9.6 %
10548	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10550	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	WLAN	8.38	± 9.6 %
10551	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	WLAN	8.50	± 9.6 %
10552	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10553	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10554	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	WLAN	8.48	± 9.6 %
10555	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	WLAN	8.47	±9.6 %
10556	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	WLAN	8.50	± 9.6 %
10557	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	WLAN	8.52	± 9.6 %
10558	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	WLAN	8.61	±9.6 %
10560	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	WLAN	8.73	±9.6 %
10561	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	WLAN	8.56	±9.6 %
10562	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	WLAN	8.69	± 9.6 %
10563	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10564	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty	WLAN	8.25	± 9.6 %
		cycle)			
10565	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty	WLAN	8.45	± 9.6 %
		cycle)			
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty	WLAN	8.13	± 9.6 %
		cycle)			
10567	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty	WLAN	8.00	± 9.6 %
		cycle)			100%
10568	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty	WLAN	8.37	± 9.6 %
10500			WLAN	8.10	± 9.6 %
10569	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty	VYLAN	0.10	1 9.0 %
10570	AAA	cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty	WLAN	8.30	± 9.6 %
10570		cycle)		0.00	20.0 /0
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	WLAN	1.99	±9.6 %
10572	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	WLAN	1.99	± 9.6 %
10572	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	WLAN	1.98	± 9.6 %
10574	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	WLAN		± 9.6 %
			I VVLPNN	1 1.90	1 2 0 0 70
10575		IEEE 802 11g WiEi 2 4 GHz (DSSS-OEDM, 6 Mbps, 90pc duty		<u>1.98</u> 8.59	
10575	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty	WLAN		± 9.6 %
	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)			
10575 10576		IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty	WLAN	8.59	± 9.6 %
10576		IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)	WLAN	8.59	± 9.6 %
	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)	WLAN WLAN WLAN	8.59 8.60	± 9.6 % ± 9.6 % ± 9.6 %
10576		IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty	WLAN WLAN	8.59 8.60	± 9.6 % ± 9.6 %
10576 10577	AAA           AAA           AAA           AAA           AAA           AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN	8.59 8.60 8.70 8.49	± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 %
10576 10577	AAA           AAA           AAA           AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)	WLAN WLAN WLAN	8.59 8.60 8.70	± 9.6 % ± 9.6 % ± 9.6 %
10576 10577 10578 10579	AAA           AAA           AAA           AAA           AAA           AAA           AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN	8.59           8.60           8.70           8.49           8.36	± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 %
10576 10577 10578	AAA           AAA           AAA           AAA           AAA           AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty	WLAN WLAN WLAN WLAN	8.59 8.60 8.70 8.49	± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 %
10576 10577 10578 10579 10580	AAA           AAA           AAA           AAA           AAA           AAA           AAA           AAA           AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN	8.59           8.60           8.70           8.49           8.36           8.76	± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 %
10576 10577 10578 10579	AAA           AAA           AAA           AAA           AAA           AAA           AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty	WLAN WLAN WLAN WLAN WLAN	8.59           8.60           8.70           8.49           8.36	± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 %
10576 10577 10578 10579 10580 10581	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN	8.59           8.60           8.70           8.49           8.36           8.76	± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 %
10576 10577 10578 10579 10580	AAA           AAA           AAA           AAA           AAA           AAA           AAA           AAA           AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty	WLAN WLAN WLAN WLAN WLAN WLAN	8.59           8.60           8.70           8.49           8.36           8.76	± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 %
10576 10577 10578 10579 10580 10581 10582	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN	8.59           8.60           8.70           8.49           8.36           8.76           8.35           8.67	± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 %
10576 10577 10578 10579 10580 10581 10582 10583	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN WLAN	8.59 8.60 8.70 8.49 8.36 8.76 8.35 8.67 8.59	± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 %
10576 10577 10578 10579 10580 10581 10582 10583 10584	AAA           AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle) IEEE 802.11g WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle) IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN WLAN	8.59           8.60           8.70           8.49           8.36           8.76           8.35           8.67           8.59           8.60	± 9.6 % ± 9.6 %
10576 10577 10578 10579 10580 10581 10582 10583	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle)IEEE 802.11g WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	WLAN WLAN WLAN WLAN WLAN WLAN WLAN WLAN	8.59 8.60 8.70 8.49 8.36 8.76 8.35 8.67 8.59	± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 % ± 9.6 %

40500	1 4 4 5				
10588	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10589	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	±9.6 %
10590	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10591	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	WLAN	8.63	± 9.6 %
10592	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10593	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10594	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10595	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10596	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10597	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10598	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	WLAN	8.50	± 9.6 %
10599	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10600	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
10601	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10602	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10603	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	WLAN	9.03	± 9.6 %
10604	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10605	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	WLAN	8.97	± 9.6 %
10606	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10607	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10608	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10609	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	WLAN	8.57	± 9.6 %
10610	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10611	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10612	AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10613	AAB	IEEE 802.11ac WIFI (20MHz, MCS6, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10614	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10615	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10616	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10617	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10618	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	WLAN	8.58	± 9.6 %
10619	AAB	IEEE 802.11ac WIFi (40MHz, MCS3, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10620	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	WLAN	8.87	± 9.6 %
10621	AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10622	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	WLAN	8.68	± 9.6 %
10623	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10624	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10625	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10626	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10627	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	WLAN	8.88	$\pm 9.6\%$
10628	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	WLAN	8.71	
10629	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10630	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	WLAN	8.72	<u>±9.6 %</u> ±9.6 %
10631	AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	WLAN		
10632	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	WLAN	8.81	$\pm 9.6\%$
10633	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10634	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	WLAN	8.83	$\pm 9.6\%$
10635	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)		8.80	± 9.6 %
10636	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	WLAN WLAN	8.81	± 9.6 %
10637	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	WLAN	8.83	±9.6%
10638	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10639	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10640	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	WLAN	8.85	±9.6 %
10641	AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	WLAN	8.98	±9.6%
10642	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10643	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	WLAN	9.06	±9.6 %
10644	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	WLAN	8.89	± 9.6 %
10645	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	WLAN	9.05	±9.6 %
10646	AAF	TE-TOD (SC-EDMA 1 PB 5 MHz ODOK HILO HILO HI	WLAN	9.11	± 9.6 %
10647	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	±9.6 %
10648	AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7) CDMA2000 (1x Advanced)	LTE-TDD	11.96	±9.6 %
10652	AAA		CDMA2000	3.45	±9.6 %
10653	AAD	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	± 9.6 %
10654	AAD	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%) LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	± 9.6 %
		$rac{1}{1}$	LTE-TDD	6.96	± 9.6 %

10055		LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)		7.04	1060/
10655 10658	AAE AAA	Pulse Waveform (200Hz, 10%)	LTE-TDD Test	7.21	± 9.6 % ± 9.6 %
10659	AAA	Pulse Waveform (200Hz, 20%)	Test	6,99	± 9.6 %
10660	AAA	Pulse Waveform (200Hz, 20%)	Test	3.98	± 9.6 %
10661	AAA	Pulse Waveform (200Hz, 40%)	Test	2.22	± 9.6 %
10662	AAA	Pulse Waveform (200Hz, 80%)	Test	0.97	± 9.6 %
10670	AAA	Bluetooth Low Energy	Bluetooth	2.19	± 9.6 %
10671	AAA	IEEE 802.11ax (20MHz, MCS0, 90pc duty cycle)	WLAN	9.09	± 9.6 %
10672	AAA	IEEE 802.11ax (20MHz, MCS1, 90pc duty cycle)	WLAN	8.57	± 9.6 %
10673	AAA	IEEE 802.11ax (20MHz, MCS2, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10674	AAA	IEEE 802.11ax (20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	±9.6 %
10675	AAA	IEEE 802.11ax (20MHz, MCS4, 90pc duty cycle)	WLAN	8.90	±9.6 %
10676	AAA	IEEE 802.11ax (20MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10677	AAA	IEEE 802.11ax (20MHz, MCS6, 90pc duty cycle)	WLAN	8.73	± 9.6 %
10678	AAA	IEEE 802.11ax (20MHz, MCS7, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10679	AAA	IEEE 802.11ax (20MHz, MCS8, 90pc duty cycle)	WLAN	8.89	± 9.6 %
10680	AAA	IEEE 802.11ax (20MHz, MCS9, 90pc duty cycle)	WLAN	8.80	± 9.6 %
10681	AAA	IEEE 802.11ax (20MHz, MCS10, 90pc duty cycle)	WLAN	8.62	±9.6 %
10682	AAA	IEEE 802.11ax (20MHz, MCS11, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10683	AAA	IEEE 802.11ax (20MHz, MCS0, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10684	AAA	IEEE 802.11ax (20MHz, MCS1, 99pc duty cycle)	WLAN	8.26	± 9.6 %
10685	AAA	IEEE 802.11ax (20MHz, MCS2, 99pc duty cycle)	WLAN	8.33	± 9.6 %
10686	AAA	IEEE 802.11ax (20MHz, MCS3, 99pc duty cycle)	WLAN	8.28	± 9.6 %
10687	AAA	IEEE 802.11ax (20MHz, MCS4, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10688	AAA	IEEE 802.11ax (20MHz, MCS5, 99pc duty cycle)	WLAN	8.29	±9.6 %
10689	AAA	IEEE 802.11ax (20MHz, MCS6, 99pc duty cycle)	WLAN	8.55	± 9.6 %
10690	AAA	IEEE 802.11ax (20MHz, MCS7, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10691	AAA	IEEE 802.11ax (20MHz, MCS8, 99pc duty cycle)	WLAN	8.25	± 9.6 %
10692	AAA	IEEE 802.11ax (20MHz, MCS9, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10693	AAA	IEEE 802.11ax (20MHz, MCS10, 99pc duty cycle)	WLAN	8.25	± 9.6 %
10694		IEEE 802.11ax (20MHz, MCS11, 99pc duty cycle)	WLAN	8.57	± 9.6 %
10695 10696	AAA AAA	IEEE 802.11ax (40MHz, MCS0, 90pc duty cycle) IEEE 802.11ax (40MHz, MCS1, 90pc duty cycle)	WLAN WLAN	8.78 8.91	± 9.6 % ± 9.6 %
10696		IEEE 802.11ax (40MHz, MCS1, 90pc duty cycle)	WLAN	8.61	± 9.6 %
10698	AAA	IEEE 802.11ax (40MHz, MCS3, 90pc duty cycle)	WLAN	8.89	± 9.6 %
10699	AAA	IEEE 802.11ax (40MHz, MCS3, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10700	AAA	IEEE 802.11ax (40MHz, MCS5, 90pc duty cycle)	WLAN	8.73	± 9.6 %
10700	AAA	IEEE 802.11ax (40MHz, MCS6, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10702	AAA	IEEE 802.11ax (40MHz, MCS7, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10703	AAA	IEEE 802.11ax (40MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10704	AAA	IEEE 802.11ax (40MHz, MCS9, 90pc duty cycle)	WLAN	8.56	± 9.6 %
10705	AAA	IEEE 802.11ax (40MHz, MCS10, 90pc duty cycle)	WLAN	8.69	± 9.6 %
10706	AAA	IEEE 802.11ax (40MHz, MCS11, 90pc duty cycle)	WLAN	8.66	± 9.6 %
10707	AAA	IEEE 802.11ax (40MHz, MCS0, 99pc duty cycle)	WLAN	8.32	± 9.6 %
10708	AAA	IEEE 802.11ax (40MHz, MCS1, 99pc duty cycle)	WLAN	8.55	± 9.6 %
10709	AAA	IEEE 802.11ax (40MHz, MCS2, 99pc duty cycle)	WLAN	8.33	± 9.6 %
10710	AAA	IEEE 802.11ax (40MHz, MCS3, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10711	AAA	IEEE 802.11ax (40MHz, MCS4, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10712	AAA	IEEE 802.11ax (40MHz, MCS5, 99pc duty cycle)	WLAN	8.67	± 9.6 %
10713	AAA	IEEE 802.11ax (40MHz, MCS6, 99pc duty cycle)	WLAN	8.33	± 9.6 %
10714	AAA	IEEE 802.11ax (40MHz, MCS7, 99pc duty cycle)	WLAN	8.26	± 9.6 %
10715	AAA	IEEE 802.11ax (40MHz, MCS8, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10716	AAA	IEEE 802.11ax (40MHz, MCS9, 99pc duty cycle)	WLAN	8.30	± 9.6 %
10717	AAA	IEEE 802.11ax (40MHz, MCS10, 99pc duty cycle)	WLAN	8.48	± 9.6 %
10718	AAA	IEEE 802.11ax (40MHz, MCS11, 99pc duty cycle)	WLAN	8.24	± 9.6 %
10719	AAA	IEEE 802.11ax (80MHz, MCS0, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10720	AAA	IEEE 802.11ax (80MHz, MCS1, 90pc duty cycle)	WLAN	8.87	± 9.6 %
10721	AAA	IEEE 802.11ax (80MHz, MCS2, 90pc duty cycle)	WLAN	8.76	± 9.6 %
10722	AAA	IEEE 802.11ax (80MHz, MCS3, 90pc duty cycle)	WLAN	8.55	± 9.6 %
10723	AAA	IEEE 802.11ax (80MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10724	AAA	IEEE 802.11ax (80MHz, MCS5, 90pc duty cycle)	WLAN	8.90	± 9.6 %
- AOZOE	1 A A A	IEEE 802.11ax (80MHz, MCS6, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10725	AAA				1000
10725 10726 10727	AAA AAA	IEEE 802.11ax (80MHz, MCS7, 90pc duty cycle) IEEE 802.11ax (80MHz, MCS8, 90pc duty cycle)	WLAN WLAN	8.72 8.66	± 9.6 % ± 9.6 %

40700					
10728	AAA	IEEE 802.11ax (80MHz, MCS9, 90pc duty cycle)	WLAN	8.65	± 9.6 %
10729	AAA	IEEE 802.11ax (80MHz, MCS10, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10730	AAA	IEEE 802.11ax (80MHz, MCS11, 90pc duty cycle)	WLAN	8.67	± 9.6 %
10731	AAA	IEEE 802.11ax (80MHz, MCS0, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10732	AAA	IEEE 802.11ax (80MHz, MCS1, 99pc duty cycle)	WLAN	8.46	± 9.6 %
10733	AAA	IEEE 802.11ax (80MHz, MCS2, 99pc duty cycle)	WLAN	8.40	± 9.6 %
10734	AAA	IEEE 802.11ax (80MHz, MCS3, 99pc duty cycle)	WLAN	8.25	± 9.6 %
10735	AAA	IEEE 802.11ax (80MHz, MCS4, 99pc duty cycle)	WLAN	8.33	± 9.6 %
10736	AAA	IEEE 802.11ax (80MHz, MCS5, 99pc duty cycle)	WLAN	8.27	± 9.6 %
10737	AAA	IEEE 802.11ax (80MHz, MCS6, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10738	AAA	IEEE 802.11ax (80MHz, MCS7, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10739	AAA	IEEE 802.11ax (80MHz, MCS8, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10740	AAA	IEEE 802.11ax (80MHz, MCS9, 99pc duty cycle)	WLAN	8.48	± 9.6 %
10741	AAA	IEEE 802.11ax (80MHz, MCS10, 99pc duty cycle)	WLAN	8.40	± 9.6 %
10742	AAA	IEEE 802.11ax (80MHz, MCS11, 99pc duty cycle)	WLAN	8.43	± 9.6 %
10743	AAA	IEEE 802.11ax (160MHz, MCS0, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10744	AAA	IEEE 802.11ax (160MHz, MCS1, 90pc duty cycle)	WLAN	9.16	± 9.6 %
10745	AAA	IEEE 802.11ax (160MHz, MCS2, 90pc duty cycle)	WLAN	8.93	± 9.6 %
10746	AAA	IEEE 802.11ax (160MHz, MCS3, 90pc duty cycle)	WLAN	9.11	± 9.6 %
10747	AAA	IEEE 802.11ax (160MHz, MCS4, 90pc duty cycle)	WLAN	9.04	± 9.6 %
10748	AAA	IEEE 802.11ax (160MHz, MCS5, 90pc duty cycle)	WLAN	8.93	± 9.6 %
10749	AAA	IEEE 802.11ax (160MHz, MCS6, 90pc duty cycle)	WLAN	8.90	± 9.6 %
10750	AAA	IEEE 802.11ax (160MHz, MCS7, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10751	AAA	IEEE 802.11ax (160MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10752	AAA	IEEE 802.11ax (160MHz, MCS9, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10753	AAA	IEEE 802.11ax (160MHz, MCS10, 90pc duty cycle)	WLAN	9.00	± 9.6 %
10754	AAA	IEEE 802.11ax (160MHz, MCS11, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10755	AAA	IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle)	WLAN	8.64	± 9.6 %
10756	AAA	IEEE 802.11ax (160MHz, MCS1, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10757	AAA	IEEE 802.11ax (160MHz, MCS2, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10758	AAA	IEEE 802.11ax (160MHz, MCS3, 99pc duty cycle)	WLAN	8.69	± 9.6 %
10759	AAA	IEEE 802.11ax (160MHz, MCS4, 99pc duty cycle)	WLAN	8.58	± 9.6 %
10760	AAA	IEEE 802.11ax (160MHz, MCS5, 99pc duty cycle)	WLAN	8.49	± 9.6 %
10761	AAA	IEEE 802.11ax (160MHz, MCS6, 99pc duty cycle)	WLAN	8.58	± 9.6 %
10762	AAA	IEEE 802.11ax (160MHz, MCS7, 99pc duty cycle)	WLAN	8.49	± 9.6 %
10763	AAA	IEEE 802.11ax (160MHz, MCS8, 99pc duty cycle)	WLAN	8.53	± 9.6 %
10764	AAA	IEEE 802.11ax (160MHz, MCS9, 99pc duty cycle)	WLAN	8.54	± 9.6 %
10765	AAA	IEEE 802.11ax (160MHz, MCS10, 99pc duty cycle)	WLAN	8.54	± 9.6 %
10766	AAA	IEEE 802.11ax (160MHz, MCS11, 99pc duty cycle)	WLAN	8.51	± 9.6 %

<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

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

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Schweizerischer Kalibrierdienst Service suisse d'étalonnage Servizio svizzero di taratura

Swiss Calibration Service

Accreditation No.: SCS 0108

Certificate No: EX3-7409\_Jun19

## **CALIBRATION CERTIFICATE**

Object	EX3DV4 - SN:7409
Calibration procedure(s)	QA CAL-01.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7 Calibration procedure for dosimetric E-field probes
Calibration date:	June 19, 2019
	uments the traceability to national standards, which realize the physical units of measurements (SI). ncertainties with confidence probability are given on the following pages and are part of the certificate.
All calibrations have been cor	iducted in the closed laboratory facility: environment temperature (22 $\pm$ 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	03-Apr-19 (No. 217-02892/02893)	Apr-20
Power sensor NRP-Z91	SN: 103244	03-Apr-19 (No. 217-02892)	Apr-20
Power sensor NRP-Z91	SN: 103245	03-Apr-19 (No. 217-02893)	Apr-20
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-19 (No. 217-02894)	Apr-20
DAE4	SN: 660	19-Dec-18 (No. DAE4-660_Dec18)	Dec-19
Reference Probe ES3DV2	SN: 3013	31-Dec-18 (No. ES3-3013_Dec18)	Dec-19
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-18)	In house check: Oct-19

	Name	Function	Signature	
Calibrated by:	Leif Klysner	Laboratory Technician	Set fly	
Approved by:	Kalja Pokovic	Technical Manager	Lob 14	
			Issued: June 20, 2019	

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

### **Calibration Laboratory of**

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





Schweizerischer Kalibrierdienst S

Service suisse d'étalonnage

Accreditation No.: SCS 0108

- С Servizio svizzero di taratura
- S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)

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

### Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization $\phi$	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
- 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
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Methods Applied and Interpretation of Parameters:

- NORMx, y, z: Assessed for E-field polarization  $\vartheta = 0$  (f  $\leq 900$  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, 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).

#### **Basic Calibration Parameters**

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm $(\mu V/(V/m)^2)^A$	0.38	0.33	0.38	± 10.1 %
DCP (mV) <sup>B</sup>	95.8	101.8	100.3	

#### **Calibration Results for Modulation Response**

UID	Communication System Name		A dB	B dBõV	С	D dB	VR mV	Max dev.	Max Unc <sup>E</sup> (k=2)
0	CW	X	0.00	0.00	1.00	0.00	135.5	± 3.5 %	±4.7 %
v		Y	0.00	0.00	1.00		129.2		
		Z	0.00	0.00	1.00		130.6		
10352-	Pulse Waveform (200Hz, 10%)	X	1.32	60.00	6.76	10.00	60.0	± 2.3 %	±9.6 %
AAA		Y	2.29	64.91	9.64		60.0		
		Z	1.81	63.07	9.49		60.0		
10353-	Pulse Waveform (200Hz, 20%)	X	0.80	60.00	5.37	6.99	80.0	± 1.9 %	± 9.6 %
AAA		Y	1.45	64.56	8.47		80.0		
		Z	1.57	65.00	8.98		80.0		
10354-	Pulse Waveform (200Hz, 40%)	X	0.42	60.00	3.77	3.98	95.0	± 1.3 %	± 9.6 %
AAA		Y	0.88	64.90	7.60		95.0		
		Z	0.42	60.00	5.26		95.0		
10355-	Pulse Waveform (200Hz, 60%)	X	0.16	179.15	25.80	2.22	120.0	± 1.4 %	± 9.6 %
AAA		Y	15.00	80.71	11.05		120.0		
		Z	0.26	60.00	3.66		120.0		
10387-	QPSK Waveform, 1 MHz	X	0.00	60.00	1.00	0.00	150.0	± 3.7 %	± 9.6 %
AAA		Y	0.42	60.00	5.25		150.0		
		Z	0.44	60.00	5.03		150.0		
10388-	QPSK Waveform, 10 MHz	X	1.68	67.97	15.54	0.00	150.0	± 1.2 %	± 9.6 %
AAA		Y	2.15	69.30	16.63		150.0		1
		Z	1.92	66.86	15.11		150.0		
10396-	64-QAM Waveform, 100 kHz	X	1.88	65.71	16.62	3.01	150.0	± 3.3 %	± 9.6 %
AAA		Y	2.51	70.30	18.83		150.0		
		Z	1.94	66.57	18.18		150.0		
10399-	64-QAM Waveform, 40 MHz	X	3.08	66.90	15.71	0.00	150.0	± 2.7 %	± 9.6 %
AAA		Y	3.43	67.58	16.15		150.0	1	
		Z	3.31	66.58	15.55		150.0	1	ļ
10414-	WLAN CCDF, 64-QAM, 40MHz	Х	4.19	66.11	15.73	0.00	150.0	± 4.7 %	± 9.6 %
AAA		Y	4.64	66.08	15.84		150.0	1	1
	1	Z	4.60	65.42	15.52		150.0		

Note: For details on UID parameters see Appendix

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

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<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>B</sup> Numerical linearization parameter: uncertainty not required.
 <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.

### **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⁻²	T5 V <sup>~1</sup>	Т6
Х	15.1	114.89	36.52	2.59	0.12	4.98	0.18	0.16	1.00
Y	27.6	203.75	34.94	3.93	0.05	4.99	1.59	0.00	1.00
Z	31.2	243.42	38.43	3.81	0.30	5.03	0.00	0.11	1.02

### **Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	40.5
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	41.9	0.89	9.96	9.96	9.96	0.50	0.81	± 12.0 %
835	41.5	0.90	9.70	9.70	9.70	0.40	0.94	± 12.0 %
1750	40.1	1.37	8.32	8.32	8.32	0.37	0.85	± 12.0 %
1900	40.0	1.40	8.01	8.01	8.01	0.35	0.85	± 12.0 %
2300	39.5	1.67	7.55	7.55	7.55	0.32	0.90	± 12.0 %
2450	39.2	1.80	7.30	7.30	7.30	0.39	0.90	± 12.0 %
2600	39.0	1.96	7.12	7.12	7.12	0.36	0.90	± 12.0 %
5250	35.9	4.71	5.20	5.20	5.20	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.80	4.80	4.80	0.40	1.80	± 13.1 %
5750	35.4	5.22	4.78	4.78	4.78	0.40	1.80	± 13.1 %

### Calibration Parameter Determined in Head Tissue Simulating Media

<sup>c</sup> 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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to  $\pm$  110 MHz. <sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters (e and  $\sigma$ ) can be relaxed to  $\pm$  10% if liquid compensation formula is applied to

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) 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 ( $\epsilon$  and  $\sigma$ ) is restricted to ± 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

<sup>G</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.

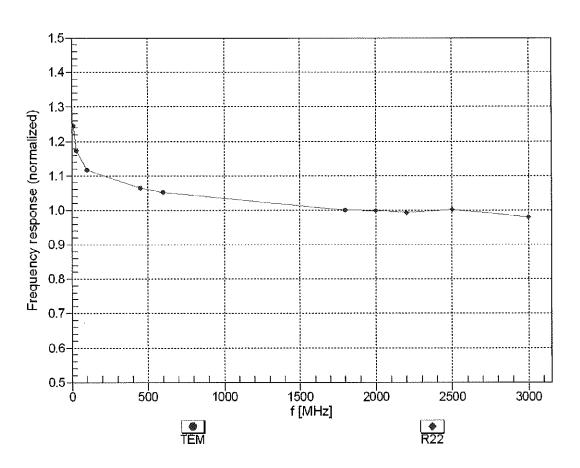
f (MHz) <sup>c</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55.5	0.96	9.96	9.96	9.96	0.48	0.80	± 12.0 %
835	55.2	0.97	9.74	9.74	9.74	0.52	0.81	± 12.0 %
1750	53.4	1.49	7.85	7.85	7.85	0.35	0.85	± 12.0 %
1900	53.3	1.52	7.67	7.67	7.67	0.43	0.85	± 12.0 %
2300	52.9	1.81	7.41	7.41	7.41	0.39	0.90	± 12.0 %
2450	52.7	1.95	7.18	7.18	7.18	0.37	0.90	± 12.0 %
2600	52.5	2.16	7.18	7.18	7.18	0.38	0.90	± 12.0 %
5250	48.9	5.36	4.70	4.70	4.70	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.22	4.22	4.22	0.50	1.90	± 13.1 %
5750	48.3	5.94	4.23	4.23	4.23	0.50	1.90	± 13.1 %

### Calibration Parameter Determined in Body Tissue Simulating Media

<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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

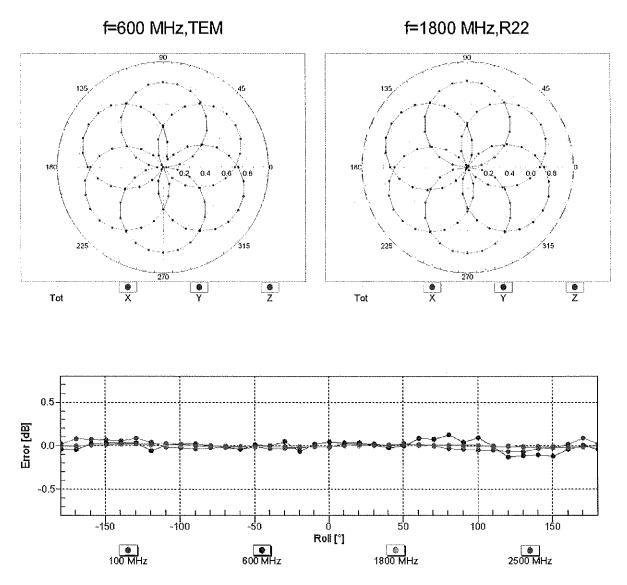
<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 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

<sup>G</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.



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

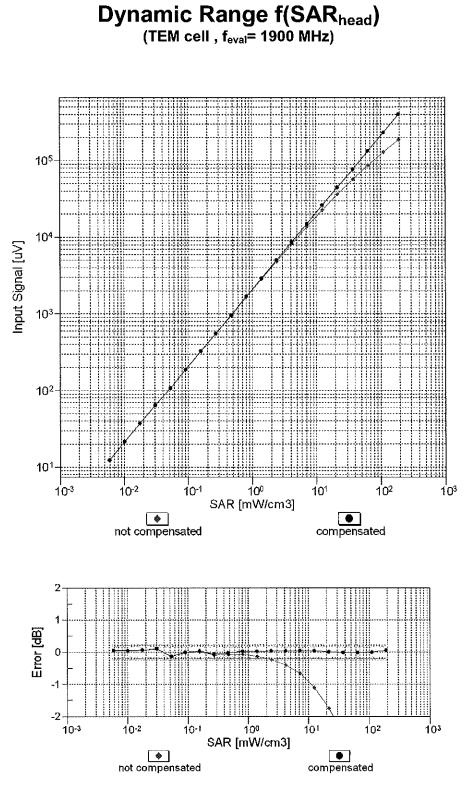
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)



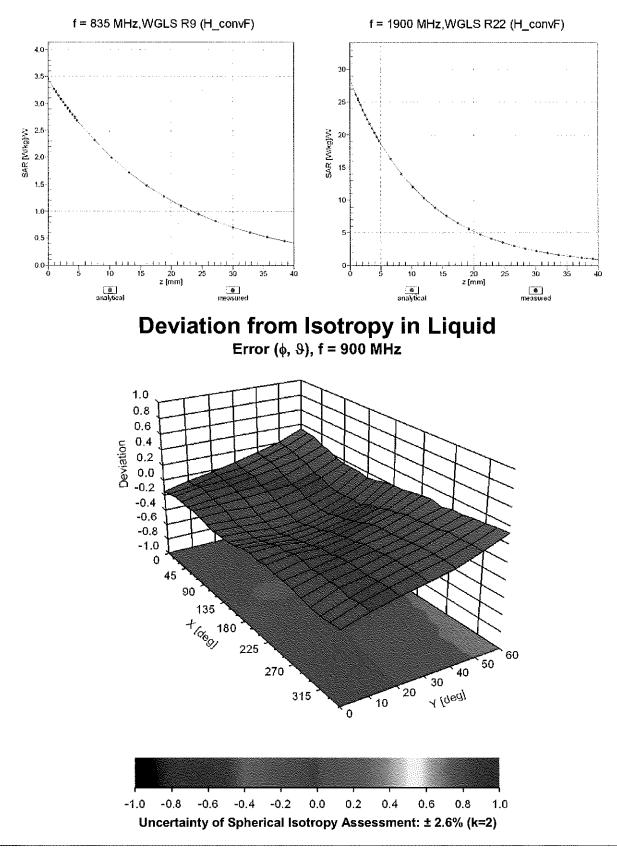
# Receiving Pattern ( $\phi$ ), $\vartheta = 0^{\circ}$

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

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



# **Conversion Factor Assessment**

# **Appendix: Modulation Calibration Parameters**

UID Rev		Communication System Name	Group	PAR (dB)	Unc <sup>≞</sup> (k=2)	
0		CW	CW	0.00	±4.7 %	
10010	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	± 9.6 %	
10011	CAB	UMTS-FDD (WCDMA)	WCDMA	2.91	± 9.6 %	
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	± 9.6 %	
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	±9.6 %	
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	±9.6 %	
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	± 9.6 %	
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	±9.6 %	
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	±9.6 %	
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	± 9.6 %	
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	±9.6 %	
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	± 9.6 %	
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	±9.6 %	
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	±9.6 %	
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	±9.6 %	
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	± 9.6 %	
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7,74	±9.6 %	
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	± 9,6 %	
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	±9.6 %	
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	± 9.6 %	
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	± 9.6 %	
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	±9.6 %	
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	±9.6 %	
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	±9.6 %	
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	± 9.6 %	
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	± 9.6 %	
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	± 9.6 %	
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	± 9.6 %	
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	± 9.6 %	
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	± 9.6 %	
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	± 9.6 %	
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	± 9.6 %	
10062	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	±9.6 %	
10063	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	±9.6 %	
10064	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	±9.6 %	
10065	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	±9.6 %	
10066	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %	
10067	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	±9.6 %	
10068	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	±9.6 %	
10069	CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	±9.6 %	
10071	CAB	IEEE 802.11g WIFI 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	±9.6 %	
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	± 9.6 %	
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	± 9.6 %	
10074	CAB	IEEE 802.11g WIFI 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	± 9.6 %	
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	± 9.6 %	
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	± 9.6 %	
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	± 9.6 %	
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	± 9.6 %	
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	±9.6 %	
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	± 9.6 %	
10097	CAB	UMTS-FDD (HSDPA)	WCDMA	3.98	± 9.6 %	
10098	CAB	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	± 9.6 %	
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %	
10100	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %	
10101	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %	
10102	CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %	
10103	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %	
10104	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	±9.6 %	
	CAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	± 9.6 %	
10105						

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10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	±9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	± 9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	± 9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10114	CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	± 9.6 %
10116	CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	± 9.6 %
10140	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10141	CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	±9.6 %
10142	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	±9.6 %
10143	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	±9.6 %
10144	CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	± 9.6 %
10145	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	± 9.6 %
10146	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	± 9.6 %
10147	CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	± 9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10150	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10151	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
10152	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10153	CAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	± 9.6 %
10154	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10155	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10156	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	±9.6 %
10157	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10158	CAG	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	±9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	±9.6 %
10160	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	±9.6 %
10161	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	±9.6 %
10162	CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	±9.6 %
10166	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	±9.6 %
10167	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	AAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	± 9.6 %
10172	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10173	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10174	CAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10175		LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10176	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10177	CAI	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10178	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	± 9,6 %
10179	CAG	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10180	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10181	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10182	CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10183	AAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10184	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10185	CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	± 9.6 %
10186	AAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10187	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10188	CAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10189	AAF	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10193	CAC	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10194	CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	± 9.6 %
10195	CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10196	CAC	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10197	CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10198	CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10219	CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	± 9.6 %
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10220	CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	±9.6 %
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	±9.6 %
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	± 9.6 %
10223	CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	±9.6 %
10224	CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	±9.6%
10225	CAB	UMTS-FDD (HSPA+)	WCDMA	5.97	± 9.6 %
10226	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	± 9.6 %
10227	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	±9.6%
10228	CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	±9.6 %
10229	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	±9.6 %
10230	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	±9.6 %
10231	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	± 9.6 %
10232	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10233	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10234	CAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10235	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10236	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10237	CAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	±9.6 %
10238	CAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	±9.6 %
10239		LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	±96%
10240		LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10241		LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	±9.6 %
10242	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	± 9.6 %
10243	CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	±9.6 %
10244	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10245	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	± 9.6 %
10246	CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10247	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	± 9.6 %
10248	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	±9.6%
10249	CAF	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	±9.6%
10250		LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	± 9.6 %
10251	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	± 9.6 %
10252		LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	$\pm 9.6\%$
10254		LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	± 9.6 %
10255	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	± 9.6 %
10256	CAA CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM) LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD LTE-TDD	9.96	±9.6 %
10257	CAA		·	10.08	± 9.6 % ± 9.6 %
10258		LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	$\pm 9.6\%$ $\pm 9.6\%$
10259	CAC CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	±9.6 % ±9.6 %
10260	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM) LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.97	± 9.6 % ± 9.6 %
10261	CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK) LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.24	
	CAF		LTE-TDD	9.83	$\pm 9.6\%$
10263	CAF	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM) LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD LTE-TDD	10.16 9.23	± 9.6 % ± 9.6 %
10264	CAF	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK) LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.23	$\pm 9.6\%$ $\pm 9.6\%$
10265	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAW)	LTE-TDD	10.07	± 9.6 %
10266	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 04-QAM)	LTE-TDD	9.30	± 9.6 %
10267	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QFSR)	LTE-TDD	10.06	± 9.6 %
10269	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.00	± 9.6 %
10203	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	± 9.6 %
10270	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	± 9.6 %
10275	CAB	UMTS-FDD (HSUPA, Sublest 5, 3GPP Rel8.4)	WCDMA	3.96	± 9.6 %
10273	CAA	PHS (QPSK)	PHS	11.81	± 9.6 %
10277	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	± 9.6 %
10270	CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	± 9.6 %
10275	AAB	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	± 9.6 %
10290	AAB	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	± 9.6 %
10292	AAB	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	± 9.6 %
10293	AAB	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3,50	± 9.6 %
10295	AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	± 9.6 %
10293	AAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	± 9.6 %
10298	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10299	AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 36 SK)	LTE-FDD	6.39	± 9.6 %
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10300				6.00	+0.0 %
10300	AAD AAA	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10301		IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC)		12.03	± 9.6 %
10302		IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	WIMAX	12.57	±9.6 %
10303		IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	Wimax	12.52	± 9.6 %
10303	AAA	IEEE 802.16e WIMAX (31.13, 5ms, 10MHz, 64QAM, PUSC)	WIMAX	12.52	$\pm 9.6\%$
10305	AAA	IEEE 802.16e WIMAX (25.18, 5018, 100012, 64QAM, PUSC)	WIMAX	15.24	± 9.6 %
10303		symbols)		10.24	I 9.0 %
10306	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18	WIMAX	14.67	± 9.6 %
10000	1,000	symbols)	*****	14.07	1.0.0 %
10307	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18	WIMAX	14.49	± 9.6 %
10001		symbols)			20.0 %
10308	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WIMAX	14.46	± 9.6 %
10309	AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18	WIMAX	14.58	± 9.6 %
		symbols)			
10310	AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18	WiMAX	14.57	± 9.6 %
		symbols)			
10311	AAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	± 9.6 %
10313	AAA	IDEN 1:3	IDEN	10.51	± 9.6 %
10314	AAA	IDEN 1:6	IDEN	13.48	± 9.6 %
10315	AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.71	± 9.6 %
10316	AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	±9.6 %
10317	AAC	IEEE 802.11a WIFI 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	± 9.6 %
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	± 9.6 %
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	±9.6 %
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	±9.6 %
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	± 9.6 %
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	± 9.6 %
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	± 9.6 %
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	± 9.6 %
10396		64-QAM Waveform, 100 kHz	Generic	6.27	± 9.6 %
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %
10400 10401	AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10401	AAD AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle) IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	WLAN WLAN	8.60 8.53	± 9.6 %
10402	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	± 9.6 % ± 9.6 %
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.77	± 9.6 %
10406	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	± 9.6 %
10400	AAF	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %
	1	Subframe=2,3,4,7,8,9, Subframe Conf=4)		1.02	10.0 %
10414	AAA	WLAN CCDF, 64-QAM, 40MHz	Generic	8.54	± 9.6 %
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	WLAN	1.54	± 9.6 %
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10417	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle,	WLAN	8.14	± 9.6 %
		Long preambule)			
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle,	WLAN	8.19	± 9.6 %
		Short preambule)			
10422	AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	± 9.6 %
10423	AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	±9.6 %
10424	AAB	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	± 9.6 %
10425	AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	± 9.6 %
10426	AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	± 9.6 %
10427	AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	± 9.6 %
10430	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	± 9.6 %
10431	AAD	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	± 9.6 %
10432	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10433	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10434	AAA	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	± 9.6 %
10435	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %
10447		Subframe=2,3,4,7,8,9)		7.50	1.0.0.0/
10447 10448	AAD	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	±9.6%
10448	AAD AAC	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%) LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	LTE-FDD LTE-FDD	7.53 7.51	$\pm 9.6\%$
10449	AAC	LTE-FDD (OFDMA, 13 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	±9.6 % ±9.6 %
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10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	± 9.6 %
10456	AAB IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)		WLAN	8.63	± 9.6 %
10457	AAA	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	± 9.6 %
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	± 9.6 %
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	± 9.6 %
10460 10461	AAA AAA	UMTS-FDD (WCDMA, AMR) LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL		2.39	± 9.6 %
10401		Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10462	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL	LTE-TDD	8.30	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10463	AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL	LTE-TDD	8.56	± 9.6 %
10464		Subframe=2,3,4,7,8,9)			
10404	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10465	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %
10100	1.00	Subframe=2,3,4,7,8,9)		0.32	± 9.0 %
10466	AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL	LTE-TDD	8.57	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10467	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %
40400		Subframe=2,3,4,7,8,9)			
10468	AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %
10469	AAE	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL	LTE-TDD	9 50	
10400		Subframe=2,3,4,7,8,9)	LIC-IDD	8.56	± 9.6 %
10470	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL	LTE-TDD	7.82	± 9.6 %
		Subframe=2,3,4,7,8,9)			- 0.0 //
10471	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10472	AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL	LTE-TDD	8.57	± 9.6 %
10473	AAE	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL		7.00	
10475		Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10474	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %
		Subframe=2,3,4,7,8,9)		0.02	20.0 %
10475	AAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL	LTE-TDD	8.57	±9.6 %
		Subframe=2,3,4,7,8,9)			
10477	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL	LTE-TDD	8.32	± 9.6 %
10478	AAF	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL	LTE-TDD	8.57	
10470	7751	Subframe=2,3,4,7,8,9)		0.07	± 9.6 %
10479	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL	LTE-TDD	7.74	± 9.6 %
		Subframe=2,3,4,7,8,9)			20.0 /0
10480	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL	LTE-TDD	8.18	± 9.6 %
	<u> </u>	Subframe=2,3,4,7,8,9)			
10481	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL	LTE-TDD	8.45	± 9.6 %
10482	AAB	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL	LTE-TDD	7.71	± 9.6 %
10402		Subframe=2,3,4,7,8,9)		1.11	±9.6%
10483	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL	LTE-TDD	8.39	± 9.6 %
		Subframe=2,3,4,7,8,9)		0.00	1 2 0.0 /0
10484	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL	LTE-TDD	8.47	± 9.6 %
	ļ	Subframe=2,3,4,7,8,9)			
10485	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL	LTE-TDD	7.59	± 9.6 %
10486	AAE	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL		0.00	
10400		Subframe=2,3,4,7,8,9)	LTE-TDD	8.38	± 9.6 %
10487	AAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL	LTE-TDD	8.60	± 9.6 %
•~•		Subframe=2,3,4,7,8,9)		0.00	20.070
10488	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL	LTE-TDD	7.70	± 9.6 %
10400		Subframe=2,3,4,7,8,9)			
		LITE TOD (OO EDMA FOR DD 40 MUL- 40 OAMA UI	LTE-TDD	8.31	± 9.6 %
10489	AAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL	<b>L</b> . <b>L L D D</b>		
10489		Subframe=2,3,4,7,8,9)			
	AAE AAE	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL	LTE-TDD	8.54	± 9.6 %
10489		Subframe=2,3,4,7,8,9)			± 9.6 %

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10492	AAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL	LTE-TDD	8.41	±9,6 %
10493	AAE	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL	LTE-TDD	8.55	±9.6 %
10435		Subframe=2,3,4,7,8,9)		0.00	10.070
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL	LTE-TDD	7.74	± 9.6 %
40.405		Subframe=2,3,4,7,8,9)	170 700	0.07	
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.37	± 9.6 %
10496	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL	LTE-TDD	8.54	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10497	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL	LTE-TDD	7.67	± 9.6 %
10498	AAA	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL	LTE-TDD	8.40	± 9.6 %
10450	/	Subframe=2,3,4,7,8,9)		0.70	10.0 %
10499	AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL	LTE-TDD	8.68	± 9.6 %
40500	-	Subframe=2,3,4,7,8,9)		7.07	100%
10500	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	± 9.6 %
10501	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL	LTE-TDD	8.44	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10502	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL	LTE-TDD	8.52	±9.6 %
10503	AAE	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL	LTE-TDD	7.72	±9.6 %
10000	/ Ŭ \_	Subframe=2,3,4,7,8,9)			_ 0.0 /0
10504	AAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL	LTE-TDD	8.31	±9.6 %
10505		Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL	LTE-TDD	8.54	± 9.6 %
10505	AAE	Subframe=2,3,4,7,8,9)	LIE-IDD	0.04	I 9.0 70
10506	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL	LTE-TDD	7.74	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10507	AAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL	LTE-TDD	8.36	± 9.6 %
10508	AAE	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL	LTE-TDD	8.55	± 9.6 %
10000		Subframe=2,3,4,7,8,9)		0.00	10.0 %
10509	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL	LTE-TDD	7.99	± 9.6 %
10510		Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL	LTE-TDD	8.49	± 9.6 %
10510	AAE	Subframe=2,3,4,7,8,9)		0.49	± 9.0 %
10511	AAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL	LTE-TDD	8.51	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL	LTE-TDD	7.74	±9.6 %
10513	AAF	Subframe=2,3,4,7,8,9) LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL	LTE-TDD	8.42	± 9.6 %
		Subframe=2,3,4,7,8,9)			
10514	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL	LTE-TDD	8,45	± 9.6 %
10515	AAA	Subframe=2,3,4,7,8,9) IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	WLAN	1.58	± 9.6 %
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	WLAN	1,57	± 9.6 %
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	WLAN	1.58	± 9.6 %
10518	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.23	± 9.6 %
10519	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10515	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.12	± 9.6 %
10520	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 16 Mbps, 99pc duty cycle)	WLAN	7,97	± 9.6 %
10522	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10523	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.08	± 9.6 %
10523	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.27	± 9.6 %
10525	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10526	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10527	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	WLAN	8.21	± 9.6 %
10528	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10529	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	WLAN	8.36	± 9.6 %
10020		IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	WLAN	8.43	± 9.6 %
10531	AAB			0.40	
	AAB AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	WLAN	8.29	
10531					± 9.6 % ± 9.6 %

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10535	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	WLAN	8.45	± 9.6 %
10536	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	WLAN	8.32	± 9.6 %
10537	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	WLAN	8.44	± 9.6 %
10538	AAB	IEEE 802.11ac WIFI (40MHz, MCS4, 99pc duty cycle)	WLAN	8.54	± 9.6 %
10540	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	WLAN	8.39	± 9.6 %
10541	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	WLAN	8.46	± 9.6 %
10542	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10543	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	WLAN	8.65	± 9.6 %
10544	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	WLAN	8.47	± 9.6 %
10545	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	WLAN	8.55	± 9.6 %
10546	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	WLAN	8.35	± 9.6 %
10547	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	WLAN	8.49	
10548	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)			± 9.6 %
10550	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	WLAN	8.37	± 9.6 %
10551	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	WLAN	8.38	± 9.6 %
10552	AAB		WLAN	8.50	± 9.6 %
		IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10553	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	WLAN	8.45	±9.6%
10554	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	WLAN	8.48	± 9,6 %
10555	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	WLAN	8.47	± 9.6 %
10556	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	WLAN	8.50	± 9.6 %
10557	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	WLAN	8.52	± 9.6 %
10558	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	WLAN	8.61	± 9.6 %
10560	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	WLAN	8.73	± 9.6 %
10561	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	WLAN	8.56	± 9.6 %
10562	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	WLAN	8.69	± 9.6 %
10563	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	WLAN		1
10564	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty		8.77	± 9.6 %
10504		cvcle)	WLAN	8.25	± 9.6 %
10565	AAA				
10505	1 4444	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty	WLAN	8.45	± 9.6 %
40500					
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty	WLAN	8.13	± 9.6 %
(0507		cycle)			
10567	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty	WLAN	8.00	± 9.6 %
		cycle)			
10568	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty	WLAN	8.37	± 9.6 %
	L	cycle)			
10569	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty	WLAN	8.10	±9.6 %
		cycle)			
10570	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty	WLAN	8.30	± 9.6 %
		cycle)			
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	WLAN	1.99	± 9.6 %
10572	AAA	IEEE 802.11b WIFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	WLAN	1.99	±9.6 %
10573	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	WLAN	1.98	± 9.6 %
10574	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	WLAN	1.98	$\pm 9.6\%$
10575	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty			
10010	1,202	cycle)	WLAN	8.59	±9.6 %
10576	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty		0.00	+0.0.01
10070	~~~~A	cvcle)	WLAN	8.60	± 9.6 %
40577					
10577	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty	WLAN	8.70	±9.6 %
	L	cycle)			
10578	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty	WLAN	8.49	± 9.6 %
		cycle)			
10579	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty	WLAN	8.36	±9.6 %
	ļ	cycle)			
10580	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty	WLAN	8.76	±9.6 %
		cycle)			
10581	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty	WLAN	8.35	±9.6%
		cycle)			1
10582	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty	WLAN	8.67	± 9.6 %
		cycle)	y e hour 11 ¥	0.07	
10583	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10584	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	WLAN		
10585	AAB			8.60	$\pm 9.6\%$
		IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10586 10587	AAB AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	WLAN	8.49	± 9.6 %
		IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	WLAN	8.36	± 9.6 %

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10588	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	WLAN	8.76	±9,6 %
10589	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	WLAN	8.35	±9.6 %
10590	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	WLAN	8.67	±9.6 %
10591	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	WLAN	8.63	± 9.6 %
10592	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10593	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10594	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	±9.6 %
10595	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10596	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	WLAN	8.71	± 9.6 %
10597	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	WLAN	8.72	±9.6 %
10598	AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	WLAN	8.50	±9.6 %
10599	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10600	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	WLAN	8.88	± 9.6 %
10601	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10602	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10603	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	WLAN	9.03	±9.6 %
10604	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	WLAN	8.76	±9.6 %
10605	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	WLAN	8.97	±9.6 %
10606	AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10607	AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10608	AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	WLAN	8.77	±9.6 %
10609	AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	WLAN	8.57	±9.6 %
10610	AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10611	AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6 %
10612	AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6 %
10613	AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	WLAN	8.94	± 9.6 %
10614	AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	WLAN	8.59	± 9.6 %
10615	AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10616	AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	WLAN	8.82	±9.6 %
10617	AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	WLAN	8.81	±9.6 %
10618	AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	WLAN	8.58	±9.6 %
10619	AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10620	AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	WLAN	8.87	±9.6 %
10621	AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6 %
10622	AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	WLAN	8.68	± 9.6 %
10623	AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	±9.6 %
10624	AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10625	AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	WLAN	8.96	± 9.6 %
10626	AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10627	AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	WLAN	8.88	±9.6 %
10628	AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	WLAN	8.71	±9.6 %
10629	AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	WLAN	8.85	±9.6 %
10630	AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10631	AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10632	AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	WLAN	8.74	± 9.6 %
10633	AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10634	AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	WLAN	8.80	± 9.6 %
10635	AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10636	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	WLAN	8.83	± 9.6 %
10637	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	WLAN	8.79	± 9,6 %
10638	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	WLAN	8.86	± 9.6 %
10639	AAC	IEEE 802.11ac WiFI (160MHz, MCS3, 90pc duty cycle)	WLAN	8.85	± 9.6 %
10640	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	WLAN	8.98	± 9.6 %
10641	AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10642	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	WLAN	9.06	± 9.6 %
10643	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	WLAN	8.89	± 9.6 %
10644	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	WLAN	9.05	± 9.6 %
10645	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	WLAN	9.11	± 9,6 %
10646	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	± 9.6 %
10647	AAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	±9.6 %
10648	AAA	CDMA2000 (1x Advanced)	CDMA2000	3.45	± 9.6 %
10652	AAD	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	± 9.6 %
10653	AAD	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	± 9.6 %
10654	AAD	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	± 9.6 %

10658           10659           10660           10661           10662           10670           10671           10672           10673           10674           10675	AAE           AAA           AAA	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%) Pulse Waveform (200Hz, 10%) Pulse Waveform (200Hz, 20%) Pulse Waveform (200Hz, 40%) Pulse Waveform (200Hz, 60%)	LTE-TDD Test Test Test	7.21 10.00 6.99	± 9.6 % ± 9.6 % ± 9.6 %
10659           10660           10661           10662           10670           10671           10672           10673           10674           10675           10676	AAA           AAA           AAA           AAA           AAA           AAA	Pulse Waveform (200Hz, 20%) Pulse Waveform (200Hz, 40%)	Test	6.99	± 9.6 %
10660           10661           10662           10670           10671           10672           10673           10674           10675           10676	AAA AAA AAA AAA	Pulse Waveform (200Hz, 40%)			
10661           10662           10670           10671           10672           10673           10674           10675           10676	AAA AAA AAA		Test	2 00	
10662           10670           10671           10672           10673           10674           10675	AAA AAA	Pulse Waveform (200Hz 60%)		3.98	± 9.6 %
10670           10671           10672           10673           10674           10675	AAA		Test	2.22	± 9.6 %
10671 10672 10673 10674 10675 10676		Pulse Waveform (200Hz, 80%)	Test	0.97	±9.6 %
10672 10673 10674 10675 10676		Bluetooth Low Energy	Bluetooth	2.19	±9.6 %
10673 10674 10675 10676		IEEE 802.11ax (20MHz, MCS0, 90pc duty cycle)	WLAN	9.09	±9.6 %
10674 10675 10676	AAA	IEEE 802.11ax (20MHz, MCS1, 90pc duty cycle)	WLAN	8.57	± 9.6 %
10675 10676	AAA	IEEE 802.11ax (20MHz, MCS2, 90pc duty cycle)	WLAN	8.78	±9.6 %
10676	AAA	IEEE 802.11ax (20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	± 9.6 %
14444	AAA	IEEE 802.11ax (20MHz, MCS4, 90pc duty cycle)	WLAN	8.90	± 9.6 %
	AAA	IEEE 802.11ax (20MHz, MCS5, 90pc duty cycle)	WLAN	8.77	± 9.6 %
10677	AAA	IEEE 802.11ax (20MHz, MCS6, 90pc duty cycle)	WLAN	8.73	± 9.6 %
10678	AAA	IEEE 802.11ax (20MHz, MCS7, 90pc duty cycle)	WLAN	8.78	± 9.6 %
10679	AAA	IEEE 802.11ax (20MHz, MCS8, 90pc duty cycle)	WLAN	8.89	± 9.6 %
	AAA	IEEE 802.11ax (20MHz, MCS9, 90pc duty cycle)	WLAN		· · · · · · · · · · · · · · · · · · ·
	AAA	IEEE 802.11ax (20MHz, MCS10, 90pc duty cycle)	WLAN	8.80	± 9.6 %
	AAA	IEEE 802.11ax (20MHz, MCS11, 90pc duty cycle)		8.62	± 9.6 %
	AAA	IEEE 802.11ax (20MHz, MCS0, 99pc duty cycle)	WLAN	8.83	± 9.6 %
	AAA	IEEE 802.11ax (20MHz, MCS0, 99pc duty cycle)	WLAN	8.42	± 9.6 %
	AAA	IEEE 802.11ax (20MHz, MCS1, 99pc duty cycle)	WLAN	8.26	±9.6 %
	AAA	IEEE 802 11ax (2014) ACC2, 930C duty cycle)	WLAN	8.33	± 9.6 %
	AAA	IEEE 802.11ax (20MHz, MCS3, 99pc duty cycle)	WLAN	8.28	± 9.6 %
) ·····		IEEE 802.11ax (20MHz, MCS4, 99pc duty cycle)	WLAN	8.45	±9.6 %
	AAA	IEEE 802.11ax (20MHz, MCS5, 99pc duty cycle)	WLAN	8.29	±9.6%
	AAA	IEEE 802.11ax (20MHz, MCS6, 99pc duty cycle)	WLAN	8.55	±9.6%
	AAA	IEEE 802.11ax (20MHz, MCS7, 99pc duty cycle)	WLAN	8.29	± 9.6 %
· · · · · · · · · · · · · · · · · · ·	AAA	IEEE 802.11ax (20MHz, MCS8, 99pc duty cycle)	WLAN	8.25	± 9.6 %
	AAA	IEEE 802.11ax (20MHz, MCS9, 99pc duty cycle)	WLAN	8.29	± 9.6 %
	AAA	IEEE 802.11ax (20MHz, MCS10, 99pc duty cycle)	WLAN	8.25	±9.6 %
	AAA	IEEE 802.11ax (20MHz, MCS11, 99pc duty cycle)	WLAN	8.57	±9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS0, 90pc duty cycle)	WLAN	8.78	± 9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS1, 90pc duty cycle)	WLAN	8.91	±9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS2, 90pc duty cycle)	WLAN	8.61	± 9.6 %
10698	AAA	IEEE 802.11ax (40MHz, MCS3, 90pc duty cycle)	WLAN	8.89	±9.6 %
10699	AAA	IEEE 802.11ax (40MHz, MCS4, 90pc duty cycle)	WLAN	8.82	±9.6 %
10700	AAA	IEEE 802.11ax (40MHz, MCS5, 90pc duty cycle)	WLAN	8.73	± 9.6 %
10701	AAA	IEEE 802.11ax (40MHz, MCS6, 90pc duty cycle)	WLAN	8.86	± 9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS7, 90pc duty cycle)	WLAN	8.70	± 9.6 %
****	AAA	IEEE 802.11ax (40MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS9, 90pc duty cycle)	WLAN	8.56	$\pm 9.6\%$ $\pm 9.6\%$
	AAA	IEEE 802.11ax (40MHz, MCS3), sope duty cycle)			
	AAA	IEEE 802.11ax (40MHz, MCS11, 90pc duty cycle)	WLAN	8.69	± 9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS0, 99pc duty cycle)	WLAN	8.66	$\pm 9.6\%$
	AAA	IEEE 802.11ax (40MHz, MCS0, 99pc duty cycle)	WLAN	8.32	±9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS1, 99pc duty cycle)	WLAN	8.55	±9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS2, 99pc duty cycle)	WLAN	8.33	±9.6 %
	AAA		WLAN	8.29	± 9.6 %
		IEEE 802.11ax (40MHz, MCS4, 99pc duty cycle)	WLAN	8.39	± 9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS5, 99pc duty cycle)	WLAN	8.67	±9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS6, 99pc duty cycle)	WLAN	8.33	±9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS7, 99pc duty cycle)	WLAN	8.26	±9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS8, 99pc duty cycle)	WLAN	8.45	± 9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS9, 99pc duty cycle)	WLAN	8.30	± 9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS10, 99pc duty cycle)	WLAN	8.48	± 9.6 %
	AAA	IEEE 802.11ax (40MHz, MCS11, 99pc duty cycle)	WLAN	8.24	± 9.6 %
	AAA	IEEE 802.11ax (80MHz, MCS0, 90pc duty cycle)	WLAN	8.81	±9.6 %
	AAA	IEEE 802.11ax (80MHz, MCS1, 90pc duty cycle)	WLAN	8.87	±9.6 %
	AAA	IEEE 802.11ax (80MHz, MCS2, 90pc duty cycle)	WLAN	8.76	±9.6 %
******	AAA	IEEE 802.11ax (80MHz, MCS3, 90pc duty cycle)	WLAN	8.55	±9.6 %
	AAA	IEEE 802.11ax (80MHz, MCS4, 90pc duty cycle)	WLAN	8.70	± 9.6 %
	AAA	IEEE 802.11ax (80MHz, MCS5, 90pc duty cycle)	WLAN	8.90	± 9.6 %
	AAA	IEEE 802.11ax (80MHz, MCS6, 90pc duty cycle)	WLAN	8.74	± 9.6 %
		IEEE 802.11ax (80MHz, MCS7, 90pc duty cycle)	WLAN	8.72	± 9.6 %
10725	AAA			0//	

10728	AAA	IEEE 802.11ax (80MHz, MCS9, 90pc duty cycle)	WLAN	8.65	± 9.6 %
10729	AAA	IEEE 802.11ax (80MHz, MCS10, 90pc duty cycle)	WLAN	8.64	± 9.6 %
10730	AAA	IEEE 802.11ax (80MHz, MCS11, 90pc duty cycle)	WLAN	8.67	±9.6 %
10731	AAA	IEEE 802.11ax (80MHz, MCS0, 99pc duty cycle)	WLAN	8.42	±9.6 %
10732	AAA	IEEE 802.11ax (80MHz, MCS1, 99pc duty cycle)	WLAN	8.46	±9.6 %
10733	AAA	IEEE 802.11ax (80MHz, MCS2, 99pc duty cycle)	WLAN	8.40	± 9.6 %
10734	AAA	IEEE 802.11ax (80MHz, MCS3, 99pc duty cycle)	WLAN	8.25	±9.6 %
10735	AAA	IEEE 802.11ax (80MHz, MCS4, 99pc duty cycle)	WLAN	8.33	± 9.6 %
10736	AAA	IEEE 802.11ax (80MHz, MCS5, 99pc duty cycle)	WLAN	8.27	±9.6 %
10737	AAA	IEEE 802.11ax (80MHz, MCS6, 99pc duty cycle)	WLAN	8.36	±9.6 %
10738	AAA	IEEE 802.11ax (80MHz, MCS7, 99pc duty cycle)	WLAN	8.42	± 9.6 %
10739	AAA	IEEE 802.11ax (80MHz, MCS8, 99pc duty cycle)	WLAN	8.29	± 9.6 %
10740	AAA	IEEE 802.11ax (80MHz, MCS9, 99pc duty cycle)	WLAN	8.48	± 9.6 %
10741	AAA	IEEE 802.11ax (80MHz, MCS10, 99pc duty cycle)	WLAN	8.40	± 9.6 %
10742	AAA	IEEE 802.11ax (80MHz, MCS11, 99pc duty cycle)	WLAN	8.43	± 9.6 %
10743	AAA	IEEE 802.11ax (160MHz, MCS0, 90pc duty cycle)	WLAN	8.94	±9.6 %
10744	AAA	IEEE 802.11ax (160MHz, MCS1, 90pc duty cycle)	WLAN	9.16	±9.6 %
10745	AAA	IEEE 802.11ax (160MHz, MCS2, 90pc duty cycle)	WLAN	8.93	± 9.6 %
10746	AAA	IEEE 802.11ax (160MHz, MCS3, 90pc duty cycle)	WLAN	9.11	± 9.6 %
10747	AAA	IEEE 802.11ax (160MHz, MCS4, 90pc duty cycle)	WLAN	9.04	± 9.6 %
10748	AAA	IEEE 802.11ax (160MHz, MCS5, 90pc duty cycle)	WLAN	8.93	±9.6 %
10749	AAA	IEEE 802.11ax (160MHz, MCS6, 90pc duty cycle)	WLAN	8.90	± 9.6 %
10750	AAA	IEEE 802.11ax (160MHz, MCS7, 90pc duty cycle)	WLAN	8.79	± 9.6 %
10751	AAA	IEEE 802.11ax (160MHz, MCS8, 90pc duty cycle)	WLAN	8.82	± 9.6 %
10752	AAA	IEEE 802.11ax (160MHz, MCS9, 90pc duty cycle)	WLAN	8.81	± 9.6 %
10753	AAA	IEEE 802.11ax (160MHz, MCS10, 90pc duty cycle)	WLAN	9.00	±9.6 %
10754	AAA	IEEE 802.11ax (160MHz, MCS11, 90pc duty cycle)	WLAN	8.94	±9.6 %
10755	AAA	IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle)	WLAN	8.64	± 9.6 %
10756	AAA	IEEE 802.11ax (160MHz, MCS1, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10757	AAA	IEEE 802.11ax (160MHz, MCS2, 99pc duty cycle)	WLAN	8.77	± 9.6 %
10758	AAA	IEEE 802.11ax (160MHz, MCS3, 99pc duty cycle)	WLAN	8.69	± 9.6 %
10759	AAA	IEEE 802.11ax (160MHz, MCS4, 99pc duty cycle)	WLAN	8.58	± 9.6 %
10760	AAA	IEEE 802.11ax (160MHz, MCS5, 99pc duty cycle)	WLAN	8.49	± 9.6 %
10761	AAA	IEEE 802.11ax (160MHz, MCS6, 99pc duty cycle)	WLAN	8.58	± 9.6 %
10762	AAA	IEEE 802.11ax (160MHz, MCS7, 99pc duty cycle)	WLAN	8.49	±9.6 %
10763	AAA	IEEE 802.11ax (160MHz, MCS8, 99pc duty cycle)	WLAN	8.53	± 9.6 %
10764	AAA	IEEE 802.11ax (160MHz, MCS9, 99pc duty cycle)	WLAN	8.54	± 9.6 %
10765	AAA	IEEE 802.11ax (160MHz, MCS10, 99pc duty cycle)	WLAN	8.54	± 9.6 %
10766	AAA	IEEE 802.11ax (160MHz, MCS11, 99pc duty cycle)	WLAN	8.51	± 9.6 %

<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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 Swiss Calibration Service

Accreditation No.: SCS 0108

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 PC Test

Certificate No: EX3-7410\_Jul18

# CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:7410	
Calibration procedure(s)	QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6 Calibration procedure for dosimetric E-field probes	BN1 07126/2018
Calibration date:	July 20, 2018	
This calibration certificate docum The measurements and the unce	ents the traceability to national standards, which realize the physical units of measureme rtainties with confidence probability are given on the following pages and are part of the	ents (SI). certificate.
All calibrations have been conduc	cted in the closed laboratory facility: environment temperature (22 $\pm$ 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	116So-
			rincik
Approved by:	Katja Pokovic	Technical Manager	20 10
			66 Mg-
			forwards hade 04, 0040
This calibration certificate	e shall not be reproduced except in full	without written approval of the lab	Issued: July 21, 2018 oratory

# **Calibration Laboratory of**

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



Schweizerischer Kalibrierdienst S

- Service suisse d'étalonnage
- С Servizio svizzero di taratura S
  - Swiss Calibration Service

Accreditation No.: SCS 0108

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

#### Glossary: tissue simulating liquid TSL NORMx,y,z sensitivity in free space ConvF sensitivity in TSL / NORMx,y,z DCP diode compression point CF crest factor (1/duty\_cycle) of the RF signal A, B, C, D modulation dependent linearization parameters Polarization $\phi$ orotation around probe axis Polarization 9 9 rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

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
- 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
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

# Methods Applied and Interpretation of Parameters:

- NORMx, y, z: Assessed for E-field polarization  $\vartheta = 0$  (f  $\leq 900$  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,y,z: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters: Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORMx, y, z \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy): in a field of low gradients realized using a flat phantom . exposed by a patch antenna.
- Sensor Offset: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle: The angle is assessed using the information gained by determining the NORMx (no uncertainty required).

# Probe EX3DV4

# SN:7410

Calibrated:

Manufactured: November 24, 2015 July 20, 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 $(\mu V/(V/m)^2)^A$	0.41	0.47	0.43	± 10.1 %
DCP (mV) <sup>B</sup>	93.6	99.2	96.3	

# **Modulation Calibration Parameters**

UID	Communication System Name		A dB	B dB√μV	С	D dB	VR mV	Unc <sup>E</sup> (k=2)
0	CW	X	0.0	0,0	1.0	0.00	142.1	±2.5 %
		Y	0.0	0.0	1.0		157.1	
		Z	0.0	0.0	1.0	h	143.0	

Note: For details on UID parameters see Appendix.

#### Sensor Model Parameters

	C1 fF	C2 fF	α V⁻¹	T1 ms.V⁻²	T2 ms.V⁻¹	T3 ms	T4 V⁻²	T5 V <sup>-1</sup>	Τ6
Х	32.22	246.3	37.01	4.015	0.380	5.018	0.000	0.327	1.006
Y	34.20	252.5	34.94	7.011	0.000	5.034	0.846	0.193	1.003
Z	38.58	298.4	37.77	5.097	0.373	5.059	0.000	0.338	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> 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>a</sup> Numerical linearization parameter: uncertainty not required.

<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.

f (MHz) <sup>c</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	41.9	0.89	10.13	10.13	10.13	0.37	0.98	± 12.0 %
835	41.5	0.90	9.81	9.81	9.81	0.47	0.80	± 12.0 %
1750	40.1	1.37	8.40	8.40	8.40	0.60	0.80	± 12.0 %
1900	40.0	1.40	8.16	8.16	8.16	0.56	0.80	± 12.0 %
2300	39.5	1.67	7.78	7.78	7.78	0.32	0.85	± 12.0 %
2450	39.2	1.80	7.50	7.50	7.50	0.34	0.84	± 12.0 %
2600	39.0	1.96	7.24	7.24	7.24	0.32	0.89	± 12.0 %

# Calibration Parameter Determined in Head Tissue Simulating Media

<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 calibration be extended to ± 110 MHz.

<sup>F</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.

<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.

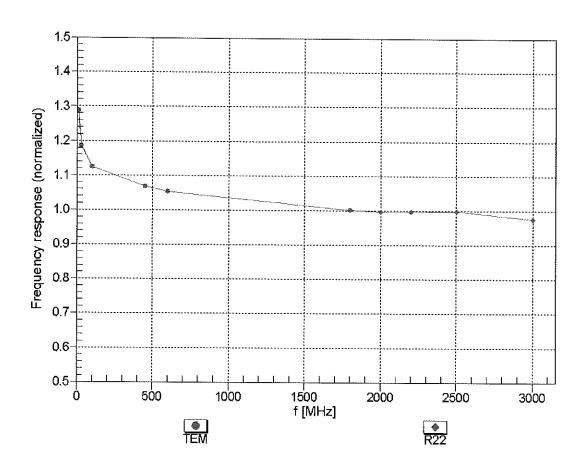
f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55 <i>.</i> 5	0.96	9.87	9.87	9.87	0.33	1.02	± 12.0 %
835	55.2	0.97	9.63	9.63	9.63	0.42	0.86	± 12.0 %
1750	53.4	1.49	8.06	8.06	8.06	0.35	0.85	± 12.0 %
1900	53.3	1.52	7.78	7.78	7.78	0.39	0.80	± 12.0 %
2300	52.9	1.81	7.64	7.64	7.64	0.35	0.85	± 12.0 %
2450	52.7	1.95	7.45	7.45	7.45	0.32	0.86	± 12.0 %
2600	52.5	2.16	7.34	7.34	7.34	0.31	0.94	± 12.0 %

# Calibration Parameter Determined in Body Tissue Simulating Media

<sup>c</sup> 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 calibration frequency below 30 GHz to  $\pm$  10 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) 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 ( $\epsilon$  and  $\sigma$ ) is restricted to ± 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

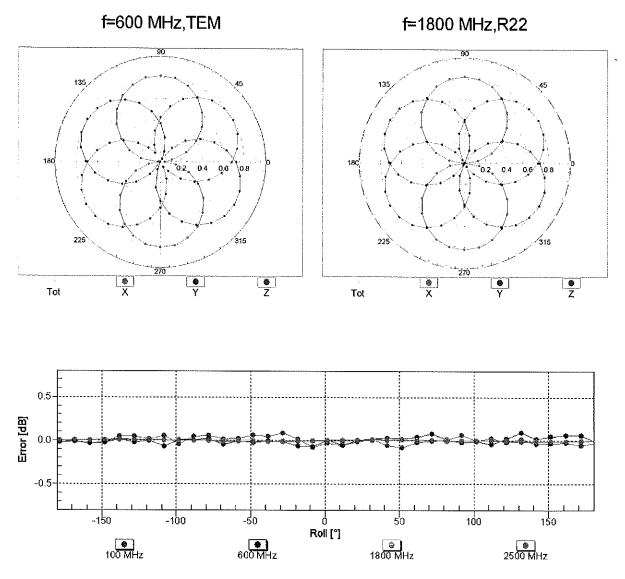
Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the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



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

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

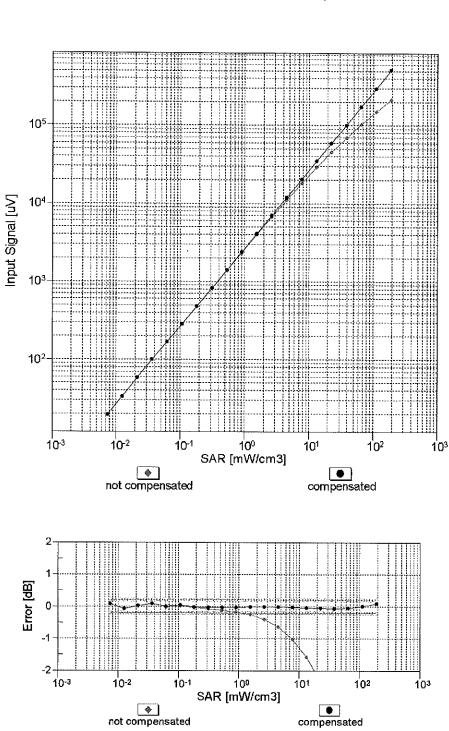
Certificate No: EX3-7410\_Jul18



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

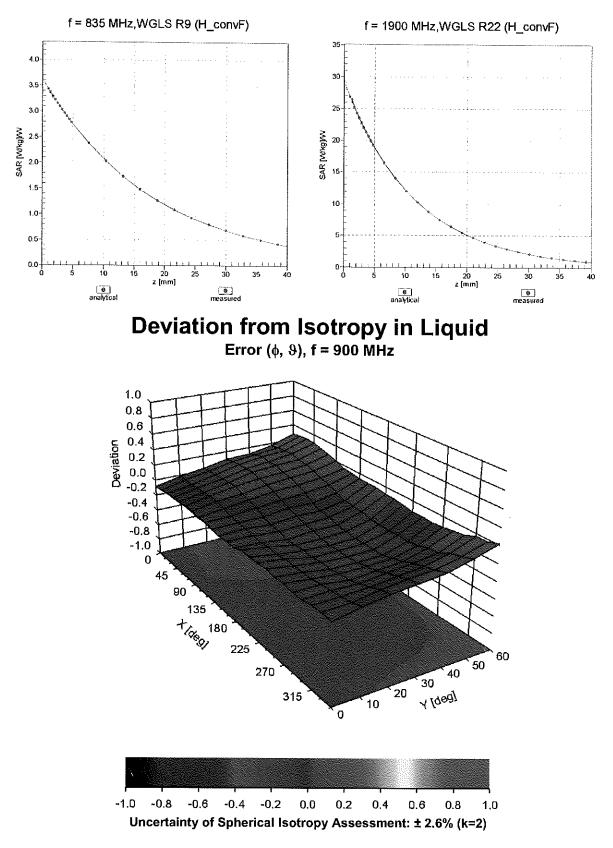
Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

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# 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**

# **Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	1.8
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

# Appendix: Modulation Calibration Parameters

UID	IX: MODUIATION Calibration Paral Communication System Name		A dB	B dBõV	С	D dB	VR mV	Max Unc <sup>E</sup> (k=2)
0	CW	Х	0.00	0.00	1.00	0.00	142.1	± 2.5 %
		Y	0.00	0.00	1.00		157.1	~
10010-	SAR Validation (Square, 100ms, 10ms)	Z X	0.00	0.00 62.34	1.00 7.74	10.00	143.0 20.0	± 9.6 %
CAA	CAR Valuation (Square, 100ms, 10ms)	^	1.02	02.04	7.74	10.00	20.0	I9.070
		Y	1.47	62.51	7.58		20.0	
		Ζ	1.74	63.23	8.42		20.0	
10011- CAB	UMTS-FDD (WCDMA)	X	0.82	65.36	13.43	0.00	150.0	± 9.6 %
		Y	1.01	68.19	15.53		150.0	
10012-	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1	Z X	0.83	64.89 62.67	13.22 14.19	0.41	150.0 150.0	± 9.6 %
CAB	Mbps)		1.00	02.07	14.13	0.41	130.0	1 5.0 70
		Y	1.12	63.85	15.21		150.0	
		Ζ	1.03	62.50	14.16		150.0	
10013- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps)	×	4.54	66.46	16.76	1.46	150.0	± 9.6 %
		Y	4.63	66.78	17.00		150.0	
10021-	GSM-FDD (TDMA, GMSK)	Z X	4.66 13.15	66.40 84.51	16.88 17.52	9.39	150.0 50.0	± 9.6 %
DAC		^ Y	100.00	105.54	22.55	9.09	50.0	± 9.0 %
		Z	100.00	105.54	22.55		50.0	
10023- DAC	GPRS-FDD (TDMA, GMSK, TN 0)	X	7.05	77.63	15.35	9.57	50.0	± 9.6 %
		Y	100.00	104.89	22.31		50.0	
		Ζ	100.00	108.55	24.42		50.0	
10024- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	X	100.00	103.12	20.53	6.56	60.0	± 9.6 %
		Y	100.00	106.39	21.86		60.0	
10005		Z	100.00	108.56	23.07	40.57	60.0	
10025- DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	X Y	3.34 5.12	64.62 80.55	22.65 32.48	12.57	50.0 50.0	± 9.6 %
		Z	3,40	65.03	23.22		50.0	
10026- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	5.08	79.74	27.91	9.56	60.0	± 9.6 %
		Y	6.12	86.23	31.42		60.0	
		Z	5.62	82.16	29.24		60.0	
10027- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	100.00	101.64	19.06	4.80	80.0	± 9.6 %
		Y	100.00	109.60	22.50		80.0	
10028- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	Z X	100.00 100.00	108.56 99.62	22.18 17.55	3.55	80.0 100.0	± 9.6 %
		Y	100.00	115.32	24.21		100.0	
		Z	100.00	107.61	21.03		100.0	
10029- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	3.55	72.28	23.51	7.80	80.0	± 9.6 %
		Y	3.97	75.71	25.59		80.0	
10030- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Z X	3.84 2.93	73.87 72.58	24.49 11.67	5.30	80.0 70.0	± 9.6 %
JF # 1		Y	100.00	104.73	20.69		70.0	
		Z	100.00	105.98	21.40		70.0	
10031- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	0.19	60.00	3,86	1.88	100.0	± 9.6 %
		Y	100.00	108.46	20.17	Į –	100.0	
		Z	0.20	60.00	4.39		100.0	

10032- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	x	8.28	60.36	1.45	1.17	100.0	± 9.6 %
		Y	100.00	125.60	25.79		100,0	
		Ż	9.15	64.10	3.12		100.0	
10033- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	X	3,18	74.95	16.76	5.30	70.0	± 9.6 %
		Y	16.17	99.83	25.75		70.0	
		Z	6.70	87.29	22.45		70.0	1
10034- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	X	1.10	65.34	10.90	1.88	100.0	± 9.6 %
		Y	2.67	76.50	16.58		100.0	
		Z	1.54	69.44	13.90		100.0	
10035- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	X	0.87	63.89	9.87	1.17	100.0	± 9.6 %
		Y	1.73	72.02	14.58		100.0	
		Z	1.13	66.49	12.17		100.0	
10036- CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	3.74	77.33	17.73	5.30	70.0	± 9.6 %
		Y	34.06	110.90	28.74		70.0	
		Z	9.80	93.25	24.40		70.0	
10037- CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Х	1.04	64.82	10.64	1.88	100.0	± 9.6 %
		Y	2.27	74.65	15.89		100.0	
		Z	1.43	68.68	13.56		100.0	
10038- CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	0.88	64.05	10.08	1.17	100.0	± 9.6 %
		Y	1.75	72.43	14.90		100.0	
		Z	1.13	66.71	12.40		100.0	1
10039- CAB	CDMA2000 (1xRTT, RC1)	X	0.74	62.99	8.94	0.00	150.0	± 9.6 %
		Y	1.38	69.75	13.20		150.0	
		Ζ	0.98	64.89	10.73		150.0	
10042- CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4- DQPSK, Halfrate)	X	2.54	68.84	11.04	7.78	50.0	± 9.6 %
		Y	100.00	102.42	20.46	- L	50.0	
		Ζ	100.00	104.71	21.76		50.0	
10044- CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	Х	0.06	120,88	5.44	0.00	150.0	± 9.6 %
		Y	0.00	104.37	4.38		150.0	
		Ζ	0.08	121.43	6.73		150.0	
10048- CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	X	4.91	69.00	13.47	13.80	25.0	± 9.6 %
		Y	7.93	75.14	15.14		25.0	
		Ζ	10.77	79.26	17.66		25.0	·····
10049- CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	Х	4.71	71.69	13.37	10.79	40.0	± 9.6 %
		Y	12,12	82.16	16.51		40.0	
105		Ζ	15.08	85.95	18.75		40.0	
10056- CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	9.20	83.60	20.05	9.03	50.0	± 9.6 %
		Y	100.00	119.47	30.42		50.0	
		Z	26.92	101.32	26.50		50.0	
10058- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	2.97	69.27	21.35	6.55	100.0	± 9.6 %
·		Y	3.27	71.77	22.91		100.0	
1005-		Z	3:17	70.45	22.11		100.0	
10059- CAB	IEEE 802.11b WIFi 2.4 GHz (DSSS, 2 Mbps)	X	1.02	63.20	14.50	0.61	110.0	± 9.6 %
		Υ	1.12	64.64	15.70		110.0	·····
		Ζ	1.03	63.16	14.59		110.0	
10060-	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5	Х	1.55	78.45	19.20	1.30	110.0	± 9.6 %
CAB	Mbps)							
	Mbps)	Y	11.63	111.29	30.45		110.0	

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10061- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	1.39	70.50	17.86	2.04	110.0	± 9.6 %
		Y	1.94	76.74	21.24		110.0	
		Z	1.58	72.59	19.16		110.0	
10062- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.34	66.44	16.20	0.49	100.0	± 9.6 %
		Y	4.45	66.80	16.45		100.0	
		Z	4.46	66.35	16.27		100.0	
10063- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.35	66.52	16.28	0.72	100.0	± 9.6 %
		Y	4.46	66.88	16.54		100.0	
		Z	4.47	66.44	16.36		100.0	
10064- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	4.58	66.71	16.48	0.86	100.0	± 9.6 %
		Y	4.69	67.07	16.73		100.0	
		Z	4.73	66.68	16.59		100.0	
10065- CAC	IEEE 802.11a/h WiFl 5 GHz (OFDM, 18 Mbps)	X	4.45	66.52	16.53	1.21	100.0	± 9.6 %
		Y	4,56	66.89	16.79		100.0	
		z	4.60	66.53	16.67		100.0	
10066- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	4.45	66.48	16.65	1.46	100.0	± 9.6 %
0.00		Y	4.56	66.86	16.93	······	100.0	
		Z	4.50	66.54	16.93			
10067-	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36	X	4.61	66.77	10.84	2.04	100.0	± 9.6 %
CAC	Mbps)					2.04		± 9.0 %
		Y	4.84	67.12	17.40		100.0	
(		Z	4.90	66.81	17.33		100.0	
10068- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	Х	4.76	66.66	17.29	2.55	100.0	± 9.6 %
		Y	4.86	67.00	17.55		100.0	
		Z	4.92	66.73	17.50		100.0	
10069- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	X	4.81	66.68	17.46	2.67	100.0	± 9.6 %
		Y	4.92	67.01	17.74		100.0	
		Z	5.00	66.78	17.71		100.0	
10071- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	X	4.62	66.50	17.03	1.99	100.0	± 9.6 %
		Y	4.72	66.82	17.28		100.0	
		Ż	4.75	66.47	17.18		100.0	
10072- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	4.56	66.67	17.18	2.30	100.0	± 9.6 %
0.10		Y	4.66	67.03	17.45		100.0	
		Ż	4.70	66.70	17.36		100.0	1
10073- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	X	4.61	66.83	17.49	2.83	100.0	± 9.6 %
	<u> </u>	Y	4.71	67.17	17.77	[	100.0	1
		Z	4.75	66.85	17.68	1	100.0	1
10074- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	Х	4.62	66.77	17.64	3.30	100.0	± 9.6 %
		Y	4.70	67.09	17.92	1	100.0	1
		Z	4.74	66.75	17.83		100.0	
10075- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	X	4.63	66.75	17.86	3.82	90.0	± 9.6 %
		Y Z	4.71 4.76	67.06 66.76	18.15 18.09		90.0 90.0	
10076-	IEEE 802.11g WiFi 2.4 GHz	X	4.68	66.63	18.04	4.15	90.0	± 9.6 %
CAB	(DSSS/OFDM, 48 Mbps)		****			4.10		1 9.0 70
		Y	4.74	66.91	18.31		90.0	
10055		Z	4.79	66.61	18.24	L	90.0	
10077- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	X	4.71	66.72	18.15	4.30	90.0	± 9.6 %
		Y	4.77	66.99	18.42		90.0	
		Z	4.82	66.69	18.35		90.0	

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10081- CAB	CDMA2000 (1xRTT, RC3)	X	0.41	60.41	6.86	0.00	150.0	± 9.6 %
		Y	0.64	64.39	10.26		150.0	
	······	Z	0.51	61.51	8.28		150.0	
10082- CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4- DQPSK, Fullrate)	X	6.37	60.67	1.90	4.77	80.0	± 9.6 %
		Y	0.58	60.00	3.05		80.0	
		Z	0.60	60.00	3.10		80.0	1
10090- DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	100.00	103.19	20.57	6.56	60.0	± 9.6 %
		Y	100.00	106.40	21.88		60.0	
		Z	100.00	108.67	23.14		60.0	
10097- CAB	UMTS-FDD (HSDPA)	X	1.61	66.98	14.45	0.00	150.0	± 9.6 %
		Y	1.83	68.94	15.87		150.0	
		Z	1.61	66.33	14.36		150.0	
10098- CAB	UMTS-FDD (HSUPA, Subtest 2)	X	1.57	66.91	14.41	0.00	150.0	± 9.6 %
		Y	1.80	68.88	15.85		150.0	
		Z	1.57	66.26	14.32		150.0	
10099- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	X	5.11	79.85	27.95	9.56	60.0	± 9.6 %
		Y	6.18	86.42	31.49		60.0	
		Z	5.66	82.29	29,29		60.0	
10100- CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	2.72	68.86	15.96	0.00	150.0	± 9.6 %
		Y	2.98	70.42	16.85		150.0	
		Z	2.77	68.66	15.78		150.0	
10101- CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	X	2.94	66.71	15.42	0.00	150.0	±9.6 %
		Y	3.09	67.54	15.94		150.0	
		Z	3.00	66.60	15.35		150.0	
10102- CAE	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	Х	3.05	66.78	15.55	0.00	150.0	± 9.6 %
		Y	3.19	67.54	16.04		150.0	
		Z	3.11	66.65	15.49		150.0	
10103- CAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	Х	4.63	72,33	19.10	3.98	65.0	± 9.6 %
		Y	5.31	74.95	20.40		65.0	
		Z	5.01	73.33	19.72		65.0	
10104- CAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	Х	4.71	70.15	18.78	3.98	65.0	± 9.6 %
		Y	5.12	71.87	19.74		65.0	
		Z	4.99	70.84	19.32		65.0	
10105- CAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	4.62	69.52	18.79	3.98	65.0	± 9.6 %
		Y	4.98	71.08	19.67		65.0	
40400		Z	4.89	70.18	19.31		65.0	
10108- CAF	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.32	68.23	15.74	0.00	150.0	± 9.6 %
		Υ	2.56	69.77	16.68		150.0	
40400		Z	2.39	67.99	15.57		150.0	
10109- CAF	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	2.57	66.62	15.17	0.00	150.0	± 9.6 %
		Y	2.73	67.56	15.82		150.0	
40440		Z	2.64	66.42	15.13		· 150.0	
10110- CAF	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	1.82	67.31	15.00	0.00	150.0	±9.6 %
·,		Y	2.06	69.08	16.19	·	150.0	
40444		Z	1.89	67.03	14.94		150.0	
10111- CAF	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.27	67.56	15.11	0.00	150.0	± 9.6 %
		Y	2.50	68.95	16.11		150.0	
		Z	2.32	67.14	15.12		150.0	

10112- CAF	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	2.70	66.75	15.29	0.00	150.0	± 9.6 %
		Y	2.86	67.62	15.89		150.0	Lana
	a a a a a a a a a a a a a a a a a a a	z	2.77	66.52	15.24		150.0	
10113- CAF	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	2.41	67.80	15.29	0.00	150.0	± 9.6 %
		Y	2.64	69.12	16.24		150.0	
		Z	2.47	67.38	15.32		150.0	
10114- CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	X	4.85	66.91	16.28	0.00	150.0	± 9.6 %
		Y	4.92	67.20	16.42		150.0	
		Z	4.93	66.80	16.23		150.0	
10115- CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	X	5.08	66.97	16.31	0.00	150.0	± 9.6 %
		Y	5.16	67.24	16.44		150.0	
		Z	5.19	66.91	16.30		150.0	
10116- CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	4.91	67.06	16.28	0.00	150.0	± 9.6 %
		Y	5.00	67.37	16.44		150.0	
		Z	5.02	67.01	16.26		150.0	
10117- CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	X	4.82	66.80	16.24	0.00	150.0	± 9.6 %
		Y	4.91	67.14	16.41		150.0	
		Z	4.92	66.75	16.22		150.0	
10118- CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16- QAM)	X	5.15	67.18	16.42	0.00	150.0	± 9.6 %
		Y	5.23	67.42	16.54		150.0	
		Z	5.28	67.15	16.43		150.0	
10119- CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64- QAM)	X	4.92	67.09	16.30	0.00	150.0	± 9.6 %
		Y	5.00	67.37	16.45		150.0	
		Z	5.02	67.00	16.27		150.0	
10140- CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.06	66.79	15.45	0.00	150.0	± 9.6 %
	-	Y	3.21	67.57	15.95		150.0	
		Z	3.13	66.66	15.40		150.0	
10141- CAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.19	67.01	15.68	0.00	150.0	± 9.6 %
		Y	3.34	67.73	16.14		150.0	
		Z	3.26	66.83	15.61		150.0	
10142- CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	1.53	66.71	13.85	0.00	150.0	± 9.6 %
		Y	1.82	69.13	15.54		150.0	
		Z	1.62	66.60	14.09		150.0	
10143- CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	1.93	66.97	13.55	0.00	150.0	± 9.6 %
		Y	2.31	69.49	15.29		150.0	
		Z	2.06	67.05	14.07		150.0	
10144- CAE	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	1.68	64.38	11.67	0.00	150.0	± 9.6 %
		Y	1.94	66.13	13.09		150.0	
		Z	1.85	64.82	12.42		150.0	
10145- CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	0.61	60.00	6.25	0.00	150.0	± 9.6 %
		Y	0.75	61.41	7.98		150.0	
		Z	0.75	60.75	7.63		150.0	
10146- CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	0.82	60.00	5.83	0.00	150.0	± 9.6 %
	· · · · · · · · · · · · · · · · · · ·	Y	0.92	60.25	6.35		150.0	
		Z	1.12	61.59	7.98		150.0	
10147- CAF	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	0.84	60.00	5.89	0.00	150.0	± 9.6 %
		Y	0.96	60.55	6.61		150.0	
		Ż	1.20	62.21	8.43	1	150.0	

10149-	LTE-FDD (SC-FDMA, 50% RB, 20 MHz,	X	2.58	66.69	15.22	0.00	150.0	± 9.6 %
CAE	16-QAM)		2.00	00.05	10.22	0.00	100,0	1 9.0 %
		Y	2.74	67.63	15.87	1	150.0	
		Z	2.65	66.49	15.18		150.0	
10150- CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	X	2.71	66.82	15.33	0.00	150.0	±9.6 %
		Y	2.87	67.69	15.94		150.0	
		Z	2.78	66.58	15.28		150.0	
10151- CAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	4.58	74.10	19.83	3.98	65.0	± 9.6 %
		Y	5.45	77.40	21.46		65.0	
		Z	5.00	75.19	20.56		65.0	
10152- CAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	4.21	69.89	18.16	3.98	65.0	± 9.6 %
		Y	4.65	71.84	19.30		65.0	
40450		Z	4.51	70.68	18.85		65.0	
10153- CAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	×	4.55	71.06	19.09	3.98	65.0	± 9.6 %
		Y	5.01	72.96	20.18		65.0	
40454		Z	4.85	71.76	19.74		65.0	
10154- CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	1.85	67.65	15.22	0.00	150.0	±9.6 %
		Y	2.10	69.48	16.44		150.0	
40455		Z	1.92	67.37	15.16		150.0	
10155- CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	2.27	67.61	15.14	0.00	150.0	± 9.6 %
		Y	2.50	69.00	16.15		150.0	
10150		Z	2.33	67.17	15.15		150.0	
10156- CAF	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	Х	1.31	65.90	12.85	0.00	150.0	± 9.6 %
		Y	1.64	68.88	14.94		150.0	
		Z	1.43	66.11	13.38		150.0	
10157- CAF	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	1.43	63.96	10.91	0.00	150.0	± 9.6 %
		Y	1.74	66.31	12.74		150.0	
	·····	Z	1.63	64.73	11.94		150.0	
10158- CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	2.42	67.89	15.35	0.00	150.0	± 9.6 %
••••••		Y	2.65	69.22	16.31		150.0	
		Z	2.48	67.46	15.37		150.0	
10159- CAF	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	Х	1.49	64.13	11.04	0.00	150.0	± 9.6 %
		Y	1.82	66.66	12.95		150.0	
10/07		Z	1.70	65.00	12.13		150.0	
10160- CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.41	67.89	15.65	0.00	150.0	± 9.6 %
		Y	2.60	69.05	16.44		150.0	
40464		Z	2.48	67.64	15.56		150.0	
10161- CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	2.59	66.74	15.14	0.00	150.0	± 9.6 %
		Y	2.76	67.68	15.82		150.0	
40400		Z	2.66	66.50	15.14		150.0	
10162- CAE	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	2.70	67.00	15.31	0.00	150.0	±9.6 %
		Y	2.87	67.91	15.97		150.0	
10460		Z	2.77	66.73	15.29		150.0	
10166- CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	2.91	67.87	18.41	3.01	150.0	± 9.6 %
		Y	3.09	68.81	18.75		150.0	
1010-		Z	3.17	68.75	19.02		150.0	
10167- CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	3.24	69.92	18.52	3.01	150.0	± 9.6 %
		Y	3.65	71.74	19.22		150.0	
		Z	3.63	71.08	19.26		150.0	

10168- CAF	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	3.66	72.66	20.22	3.01	150.0	± 9.6 %
		Y	4.14	74.51	20.83		150.0	
		z					150.0	
10169-	LTE-FDD (SC-FDMA, 1 RB, 20 MHz,	X	4.11 2.32	73.91 65.83	20.95 17.44	3.01	150.0	± 9.6 %
CAE	QPSK)	Y	2.49	67.28	18.07		150.0	
		ż	2.46	66.70	18.14		150.0	
10170-	LTE-FDD (SC-FDMA, 1 RB, 20 MHz,	X	2.40	70.01	19.35	3.01	150.0	± 9.6 %
CAE	16-QAM)					5.01		1 9.0 %
		Y	3.21	72.95	20.48		150.0	
		Z	3.00	71.51	20.32		150.0	
10171- AAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	2.31	66.53	16.58	3.01	150.0	± 9.6 %
		Y	2.63	68.93	17.60		150.0	
		Z	2.50	67.67	17.42		150.0	
10172- CAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	X	2.90	74.23	22.35	6.02	65.0	±9.6 %
		Y	3.68	79.90	24.98		65.0	
		Ż	3.91	80.19	25.56		65.0	
10173- CAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	3.92	78.79	22.40	6.02	65.0	± 9.6 %
		Y	6.85	89.50	26.38		65.0	
		z	6.70	89.11	27.06	L	65.0	
10174- CAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	2.90	73.28	19.67	6.02	65.0	± 9.6 %
		Y	5.51	84.77	24.11		65.0	
		Z	4.93	82.66	24.17		65.0	
10175- CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	2.30	65.58	17.20	3.01	150.0	± 9.6 %
<u></u>		Y	2.47	67.02	17.83		150.0	
		z	2.44	66.43	17.89		150.0	
10176- CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	2.74	70.03	19.36	3.01	150.0	± 9.6 %
	TO-QAIN)	Y	3.21	72.97	20.49		150.0	
		Z	3.00	71.53	20.43		150.0	
10177-	LTE-FDD (SC-FDMA, 1 RB, 5 MHz,	X	2.31	65.68	17.27	3.01	150.0	± 9.6 %
CAH	QPSK)	Ιγ Ι	2.48	67.13	17.91		150.0	
		Z	2.48	66.56	17.91		150.0	
10178-	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-	X	2.45	69.91	19.28	3.01	150.0	± 9.6 9
CAF	QAM)	Y	3.19	72.83	20.41	<u> </u>	150.0	<u> </u>
		++						<b> </b>
10179- CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	Z X	2.98 2.50	71.36 68.14	20.23	3.01	150.0 150.0	± 9.6 9
UAL		Y	2.89	70.84	18.91		150.0	
		Z	2.72	69.48	18.74		150.0	
10180- CAF	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM)	X	2.31	66.50	16.56	3.01	150.0	± 9.6 9
		Y	2.63	68.90	17.57		150.0	
		Ż	2.50	67.63	17.39		150.0	
10181- CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	X	2.31	65.67	17.27	3.01	150.0	± 9.6 9
		Y	2.48	67.11	17.90		150.0	
		Z	2.45	66.54	17.97		150.0	
10182- CAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	2.73	69.88	19.27	3.01	150.0	± 9.6 9
		Y	3.19	72.81	20.40	<b> </b>	150.0	
		Z	2.98	71.34	20.21	1	150.0	
10183- AAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	2.31	66.48	16.55	3.01	150.0	± 9.6 9
AAL		1		l	-	l		
		Y	2.63	68.87	17.56		150.0	1

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10184-	LTE-FDD (SC-FDMA, 1 RB, 3 MHz,	TX	2.32	65.70	17.29	3.01	150.0	± 9.6 %
CAE	QPSK)		2.02	00.10	11.20	0.01	150.0	1 3.0 /0
		Y	2.49	67.15	17.92		150.0	
	· · · · · · · · · · · · · · · · · · ·	Z	2.46	66.58	17.99		150.0	
10185- CAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16- QAM)	X	2.74	69.95	19.31	3.01	150.0	± 9.6 %
		Y	3.20	72.88	20.43		150.0	
		Z	2,99	71.41	20.26		150.0	
10186- AAE	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64- QAM)	×	2.32	66.53	16.58	3.01	150.0	± 9.6 %
		Y	2.64	68.94	17.60		150.0	
10187-	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz,	Z	2.51	67.67	17.41		150.0	
CAF	QPSK)	X Y	2.33	65.78	17.37	3.01	150.0	± 9.6 %
		Z	2.50 2.47	67.22 66.64	18.00		150.0	
10188-	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz,	X	2.47	70.47	18.07 19.65	3.01	150.0	
CAF	16-QAM)	Y	3.29	73.46		3.01	150.0	± 9.6 %
		Z			20.79		150.0	
10189-	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz,	X	3.07 2.35	72.01 66.85	20.64 16.82	3.01	150.0	
AAF	64-QAM)					3.01	150.0	±9.6 %
		Y Z	2.69 2.55	69.31	17.86	<u> </u>	150.0	
10193-	IEEE 802.11n (HT Greenfield, 6.5 Mbps,	X	4.23	68.03 66.54	17.68 15.90	0.00	150.0	
CAC	BPSK)	Y				0.00	150.0	± 9.6 %
		Z	4.33 4.32	66.90	16.14		150.0	
10194-	IEEE 802.11n (HT Greenfield, 39 Mbps,	X	4.32	66.32 66.75	15.87	0.00	150.0	
CAC	16-QAM)				16.04	0.00	150.0	± 9.6 %
		Y	4.47	67.12	16.27		150.0	
10195- CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	Z X	<u>4.47</u> 4.39	66.58 66.76	16.01 16.05	0.00	150.0 150.0	± 9,6 %
		Y	4.50	67.13	16.28		450.0	
		Z	4.50	66.61	16.28		150.0	
10196-	IEEE 802.11n (HT Mixed, 6.5 Mbps,	X	4.21	66.52	15.87	0.00	150.0 150.0	
CAC	BPSK)	Y	4.32			0.00		± 9.6 %
				66.89	16.12		150.0	
10197-	IEEE 802.11n (HT Mixed, 39 Mbps, 16-	Z X	4.31	66.33	15.87		150.0	
CAC	QAM)	Y	4.37	66.75	16.04	0.00	150.0	± 9.6 %
		Z	4.48	67.12	16.28		150.0	
10198- CAC	IEEE 802.11n (HT Mixed, 65 Mbps, 64- QAM)	X	<u>4.48</u> 4.38	66.59 66.75	16.02 16.05	0.00	150.0 150.0	± 9.6 %
		Y	4.50	67.13	16.28		150.0	
		Z	4.50	66.62	16.04		150.0	
10219- CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	X	4.16	66.56	15.85	0.00	150.0	± 9.6 %
		Y	4.27	66.93	16.10		150.0	
104		Z	4.26	66.35	15.83		150.0	·
10220- CAC	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16- QAM)	X	4.36	66.72	16.03	0.00	150.0	± 9.6 %
		Y	4.47	67.08	16.26		150.0	
10004		Z	4,47	66.56	16.01		150.0	
10221- CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64- QAM)	X	4.40	66.71	16.04	0.00	150.0	±9.6 %
		Y	4.51	67.07	16.27		150.0	
10000		Z	4.51	66.56	16.03		150.0	
10222- CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	Х	4.80	66.80	16.23	0.00	150.0	±9.6 %
		Y	4.88	67.12	16.39		150.0	
		Z	4.89	66.72	16.20		150.0	

10223- CAC	IEEE 802.11n (HT Mixed, 90 Mbps, 16- QAM)	X	5.04	66.95	16.32	0.00	150.0	± 9.6 %
		Y	5.14	67.29	16.49		150.0	
		Z	5.18	66.99	16.36		150.0	
10224- CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64- QAM)	X	4.84	66.92	16.22	0.00	150.0	± 9.6 %
		Y	4.92	67.24	16.38		150.0	
		Z	4.93	66.82	16.18		150.0	
10225- CAB	UMTS-FDD (HSPA+)	X	2.46	65.56	14.20	0.00	150.0	± 9.6 %
		Y	2.62	66.44	14.96		150.0	
		Z	2.55	65.41	14.45		150.0	
10226- CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	4.12	79.74	22.87	6.02	65.0	± 9.6 %
		Y	7.38	90.96	26.97		65.0	
		Z	7.19	90.56	27.66		65.0	
10227- CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	4.10	78.95	21.90	6.02	65.0	±9.6 %
		Y	7.43	89.71	25.78		65.0	
		Z	7.75	90.70	26,99		65.0	
10228- CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	3.12	75.94	23.15	6.02	65.0	± 9.6 %
		Y	4.06	82.01	25.85		65.0	
		Z	4.25	82.24	26.47		65.0	
10229- CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16- QAM)	X	3.94	78,88	22.44	6.02	65.0	± 9.6 %
		Y	6.91	89.62	26.42		65.0	
		Z	6.76	89.24	27.11		65.0	
10230- CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64- QAM)	X	3.89	78.03	21.47	6.02	65.0	± 9.6 %
		Y	6.86	88.27	25.23		65.0	
		Z	7.16	89.19	26.40		65.0	
10231- CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	X	3.03	75.32	22.81	6.02	65.0	±9.6 %
,		Y	3.92	81.25	25.48		65.0	
		Z	4.10	81.44	26.07		65.0	
10232- CAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16- QAM)	X	3.94	78.86	22.44	6.02	65.0	± 9.6 %
		Y	6.89	89.60	26.42		65.0	
		Z	6.74	89.21	27,10		65.0	
10233- CAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM)	X	3.88	77.99	21.46	6.02	65.0	± 9.6 %
		Y	6.83	88.22	25.21		65.0	
		Z	7.13	89.13	26.38		65.0	
10234- CAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	X	2.96	74.84	22.48	6.02	65.0	± 9.6 %
		Y	3.82	80.66	25.12		65.0	
		Z	4.00	80.82	25.70		65.0	
10235- CAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	3.94	78.87	22.44	6.02	65.0	± 9.6 %
		Y	6.90	89.63	26.43		65.0	
		Z	6.75	89.23	27.11		65.0	
10236- CAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	Х	3.92	78.11	21.50	6.02	65.0	± 9.6 %
		Y	6.93	88.43	25.27		65.0	
		Z	7.23	89.34	26.44		65.0	
10237- CAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	3.03	75.32	22.81	6.02	65.0	± 9.6 %
		Y	3.92	81.27	25.49		65.0	
		Z	4.10	81.45	26.08		65.0	
10238- CAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	3.93	78.83	22.43	6.02	65.0	± 9.6 %
		Y	6.87	89.57	26.41		65.0	
		Z	6.72	89.17	27.08		65.0	

10239- CAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	3.87	77.95	21.45	6.02	65.0	± 9,6 %
		Y	6.80	88.17	25.20		65.0	
		Z	7.10	89.08	26.37		65.0	
10240- CAE	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	Х	3.02	75.30	22.81	6.02	65.0	± 9.6 %
		Y	3.91	81.25	25.48		65.0	
		Z	4.09	81.42	26.07	[	65.0	
10241- CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	X	5.47	76.60	23.52	6.98	65.0	± 9.6 %
		Y	6.28	79.70	24.95		65.0	
		Z	6.08	77.98	24.56		65.0	
10242- CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	5.17	75.55	22.99	6.98	65.0	±9.6 %
~~~~		Y	5.96	78.71	24.47		65.0	
10010		Z	5.82	77.10	24.09		65.0	
10243- CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	×	4.47	72.66	22.57	6.98	65.0	± 9.6 %
		Y	4.85	74.66	23.64		65.0	
40044		Ζ	4.89	73.70	23.43	L	65.0	
10244- CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	2.59	65.60	11.95	3.98	65.0	± 9.6 %
		Y	3.16	68.30	13.59		65.0	
100/5		Z	3.94	71.58	16.14		65.0	
10245- CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	2.56	65.23	11.69	3.98	65.0	± 9,6 %
		Y	3.08	67.71	13.25		65.0	
10010		Z	3.80	70.75	15.70		65.0	
10246- CAC	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	Х	2.30	67.33	13.29	3.98	65.0	± 9.6 %
		Y	3.40	73.14	16.55		65.0	
	· · · · · · · · · · · · · · · · · · ·	Z	3.20	71.92	16.41		65.0	
10247- CAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	х	2.93	67.28	14.07	3.98	65.0	± 9.6 %
		Y	3.57	70.51	16.14		65.0	
		Z	3.50	69.72	16.15		65.0	
10248- CAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	Х	2.93	66.83	13.84	3.98	65.0	± 9.6 %
		Y	3.51	69.74	15,76		65.0	
		Z	3.49	69.17	15.87		65.0	
10249- CAE	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	3.40	72.89	17.31	3.98	65.0	± 9.6 %
		Y	5.05	79.62	20.60		65.0	
		Z	4.35	76.73	19.72		65,0	
10250- CAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	4.07	71.77	18.68	3.98	65.0	± 9.6 %
		Y	4.65	74.35	20.17		65.0	
		Ζ	4,43	72.91	19.73		65.0	
10251- CAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	3.86	69.66	17.25	3.98	65.0	± 9.6 %
		Y	4.37	71.98	18.68		65.0	
		Ζ	4.24	70.85	18.35	······	65.0	
10252- CAE	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	Х	4.28	75.56	20.13	3.98	65.0	±9.6 %
		Y	5.50	80.28	22.41		65.0	
10050		Z	4.84	77.34	21.32		65.0	
10253- CAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	4.17	69.62	17.88	3,98	65.0	±9.6 %
		Y	4.59	71.50	19.03		65.0	
10051		Z	4.46	70.34	18.61		65.0	
10254- CAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	Х	4.46	70.60	18.66	3.98	65.0	± 9.6 %
		Y	4.90	72.45	19.77		65.0	
		Z	4.75	71.28	19.37		65.0	

10255- CAE	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	4.40	73.51	19.69	3.98	65.0	± 9.6 %
		Y	5.16	76.59	21.27		65.0	
		Ż	4.77	74.49	20.43		65.0	
10256- CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	X	1.88	62.21	8.80	3.98	65.0	± 9.6 %
		Y	2.16	63.72	9.95		65.0	
		Z	2.68	66.18	12.27		65.0	
10257- CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	X	1.87	61.92	8.53	3.98	65.0	± 9.6 %
		Y	2.13	63.28	9.61		65.0	
		Z	2.60	65.47	11.78		65.0	
10258- CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	1.63	62.98	9.76	3.98	65.0	± 9.6 %
		Y	2.11	66.24	12.11		65.0	
		Z	2.20	66.42	12.68		65.0	
10259- CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	3.37	69.09	15.81	3.98	65.0	± 9.6 %
		Y	4.03	72.21	17.73		65.0	
		Z	3.88	71.08	17.53		65.0	
10260- CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	X	3.41	68.89	15.70	3.98	65.0	± 9.6 %
		Y	4.05	71.86	17.55		65.0	
		Z	3.92	70.83	17.40		65.0	
10261- CAC	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	3.65	73.54	18.24	3.98	65.0	± 9.6 %
		Y	4.99	79.08	21.01		65.0	
		Z	4.36	76.25	20.08		65.0	
10262- CAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	4.05	71.68	18.62	3.98	65.0	± 9.6 %
• • • • •		Y	4.63	74.27	20.11		65.0	
		Z	4.42	72.84	19.67		65.0	
10263- CAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	X	3.85	69.65	17.25	3.98	65.0	± 9.6 %
	,	Y	4.36	71.96	18.67		65.0	
		Z	4.23	70.83	18.35		65.0	
10264- CAE	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	4.23	75.35	20.01	3.98	65.0	± 9.6 %
		Y	5.43	80.04	22.29		65.0	
		Z	4.79	77.13	21.21		65.0	
10265- CAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	4.21	69.90	18.16	3.98	65.0	± 9.6 %
		Y	4.65	71.84	19.30		65.0	
		Z	4.51	70.68	18.86		65.0	1
10266- CAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	X	4.55	71.05	19.08	3.98	65.0	± 9.6 %
		Y	5.00	72.95	20.16		65.0	
		Z	4.85	71.75	19.72		65.0	
10267- CAE	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	4.57	74.06	19.81	3.98	65.0	± 9.6 %
		Υ	5.43	77.35	21.43		65.0	
		Z	4.99	75.14	20.54		65.0	
10268- CAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	4.89	70.28	18.92	3.98	65.0	± 9.6 %
		Y	5.29	71.90	19.82		65.0	
		Z	5.16	70.86	19.41		65.0	
10269- CAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	Х	4.93	70.03	18.82	3.98	65.0	± 9.6 %
		Y	5.31	71.54	19.69		65.0	
		Z	5.18	70.53	19.29		65.0	
10270- CAE	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	4.82	72.26	19.25	3.98	65.0	± 9.6 %
		Y	5.40	74.50	20.39		65.0	1
		Z	5.12	72.93	19.74	1	65.0	1

10274- CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.30	66.08	14.21	0.00	150.0	± 9.6 %
		Y	2.48	67.13	15.07		150.0	1
	······	Z	2.37	65.78	14.35		150.0	
10275- CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.33	66.42	14.09	0.00	150.0	± 9.6 %
		Y	1.55	68.66	15.67		150.0	
		Z	1.35	65.99	13.99		150.0	
10277- CAA	PHS (QPSK)	X	1.44	58.96	4.35	9.03	50.0	± 9.6 %
		Y	1.29	58.94	4.16		50.0	
		Z	1.60	59.77	5.29		50.0	
10278- CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	2.42	63.55	9.32	9.03	50.0	± 9.6 %
		Y	2.50	65.00	10.23		50.0	
		Z	3.00	66.61	11.73		50.0	
10279- CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	2.47	63.72	9.48	9.03	50.0	± 9.6 %
		Y	2.58	65.28	10.45		50.0	
		Z	3.09	66.89	11.94		50.0	
10290- AAB	CDMA2000, RC1, SO55, Full Rate	Х	0.64	61.56	7.87	0.00	150.0	± 9.6 %
		Y	0.98	65.79	11.09		150.0	
		Z	0.84	63.19	9.57		150.0	
10291- AAB	CDMA2000, RC3, SO55, Full Rate	X	0.41	60.33	6.79	0.00	150.0	± 9.6 %
		Y	0.62	64.18	10.12		150.0	
		Z	0.50	61.40	8.20		150.0	
10292- AAB	CDMA2000, RC3, SO32, Full Rate	X	0.46	61.89	7.99	0.00	150.0	± 9.6 %
		Y	1.01	70.37	13.40		150.0	
		Z	0.57	63.19	9.51		150.0	
10293- AAB	CDMA2000, RC3, SO3, Full Rate	Х	0.64	65.03	10.07	0.00	150.0	± 9.6 %
		Y	4.97	89.66	20.54		150.0	
		Z	0.76	66.38	11.57		150.0	
10295- AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	Х	14.73	88.54	22.30	9.03	50.0	± 9.6 %
		Y	21.95	97.75	26.07		50.0	1
		Z	14.97	91.80	24.79		50.0	[
10297- AAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	Х	2.34	68.34	15.82	0.00	150.0	± 9.6 %
		Y	2.58	69.89	16.76		150.0	
	· · · · · · · · · · · · · · · · · · ·	Z	2.40	68.08	15.64		150.0	
10298- AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	0.86	62.29	9.16	0.00	150.0	± 9.6 %
		Y	1.16	65.45	11.69		150.0	
100		Z	1.05	63.56	10.60		150.0	
10299- AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	1.14	61.76	8.21	0.00	150.0	± 9.6 %
		Y	1.41	63.51	9.50		150.0	
1 +		Z	1.73	65.72	11.49		150.0	
10300- AAD	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	0.97	60.07	6.55	0.00	150.0	±9.6 %
		Y	1.14	61.11	7.49		150.0	
10001		Ζ	1.33	62.21	8.89		150.0	
10301- AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	4.13	64.55	16.56	4.17	50.0	±9.6 %
		Y	4.26	65.00	16.97		50.0	
		Z	4.39	64,86	16.90		50.0	
10302- AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	4.66	65.38	17.39	4.96	50.0	±9.6 %
		Y	4.76	65.70	17.72		50.0	
		Z		65.46	17.59			

10303- AAA	IEEE 802.16e WIMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	X	4.45	65.36	17.40	4.96	50.0	± 9.6 %
		Y	4.51	65.30	17.48		50.0	
		Z	4.62	65.06	17.37		50.0	
10304- AAA	IEEE 802.16e WIMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	X	4.25	64.98	16.73	4.17	50.0	± 9.6 %
***		Y	4.36	65.33	17.07		50.0	
		Z	4.45	64.98	16.90		50.0	
10305- AAA	IEEE 802.16e WIMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	X	3.81	66.28	17.81	6.02	35.0	± 9.6 %
		Y	3.76	65.91	18.03		35.0	
40000		Z	4.04	66.66	18.48		35.0	
10306- AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	4.18	65.73	17.92	6.02	35.0	± 9.6 %
		Y	4.17	65.55	18.11		35.0	
10207		Z	4.39	65.94	18.38	0.00	35.0	
10307- AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	4.05	65.69	17.78	6.02	35.0	±9.6 %
		Y	4.04	65.48	17.96		35.0	
10200	LEEE 902 160 WIMAY (20-40 - 40	Z	4.27	65.96	18.27	0.00	35.0	
10308- AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	4.03	65.87	17.91	6.02	35.0	± 9.6 %
		Y	4.01	65.64	18.09		35.0	
10309-	1555 902 46- WIMAY (20:48 40-	Z	4.25	66.15	18.40	0.00	35.0	100%
AAA	IEEE 802.16e WIMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	4.18	65.77	18.00	6.02	35.0	± 9.6 %
		Y	4.19	65.61	18.20		35.0	
10310- AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	Z X	<u>4.42</u> 4.13	66.06 65.78	18.49 17.90	6.02	35.0 35.0	± 9.6 %
	Towinz, Qr SR, Awe 2x3, 18 symbols)	Y	4.12	65.57	18.08		35.0	
		Z	4.12	65.98	18.35		35.0	
10311- AAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	X	2.69	67.62	15.56	0.00	150.0	± 9.6 %
		Y	2.94	69.08	16.39		150.0	
		Ż	2.75	67.40	15.38		150.0	
10313- AAA	IDEN 1:3	X	1.80	67.21	13.40	6.99	70.0	±9.6 %
		Y	2.78	73.35	16.36		70.0	
		Z	2.09	69.09	14.51		70.0	
10314- AAA	IDEN 1:6	X	3.26	75.39	19.57	10.00	30.0	± 9.6 %
		Y	5.56	85.97	24.05		30.0	
		Z	4.04	79.23	21.39		30.0	
10315- AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	X	0.96	62.72	14.16	0.17	150.0	± 9.6 %
		Y	1.05	63.94	15.22	l	150.0	
		Z	0.96	62.45	14.04		150.0	
10316- AAB	IEEE 802.11g WiFi 2.4 GHz (ERP- OFDM, 6 Mbps, 96pc duty cycle)	X	4.24	66.42	15.96	0.17	150.0	± 9.6 %
		Y	4.35	66.80	16.22		150.0	
		Z	4.36	66.32	16.01		150.0	
10317- AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	X	4.24	66.42	15.96	0.17	150.0	± 9.6 %
		Y Z	4.35 4.36	66.80 66.32	16.22 16.01		150.0 150.0	
10400- AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	Х	4.31	66.71	15.99	0.00	150.0	± 9.6 %
		Y	4.43	67.11	16.24		150.0	
		Z	4.43	66.60	15.99		150.0	
10401- AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	X	4.98	66.52	16.05	0.00	150.0	± 9.6 %
		Y	5.08	66.87	16.24		150.0	
	· · · · · · · · · · · · · · · ·	Z	5.16	66.70	16.18		150.0	

10402- AAD	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	X	5.36	67.14	16.28	0.00	150.0	± 9.6 %
		Y	5.44	67.45	16.42		150.0	
		Z	5.45	67.07	16.25		150.0	
10403- AAB	CDMA2000 (1xEV-DO, Rev. 0)	X	0.64	61.56	7.87	0.00	115.0	± 9.6 %
		Y	0.98	65.79	11.09		115.0	
		Z	0.84	63.19	9.57	·····	115.0	
10404- AAB	CDMA2000 (1xEV-DO, Rev. A)	X	0.64	61.56	7.87	0.00	115.0	± 9.6 %
		Y	0.98	65.79	11.09		115.0	
		Z	0.84	63.19	9.57		115.0	
10406- AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	X	100.00	119.53	28.08	0.00	100.0	±9.6 %
		Y	100.00	115.68	26.57		100.0	
		Z	100.00	126.19	31.47		100.0	
10410- AAE	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	×	2.86	79.80	18.70	3.23	80.0	± 9.6 %
		Y	25.09	107.33	26.44		80.0	
		Z	100.00	133.23	34.42		80.0	
10415- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	0.92	62.32	13.80	0.00	150.0	± 9.6 %
		Y	1.00	63.42	14.80		150.0	
		Z	0.91	61.96	13.60		150.0	
10416- AAA	IEEE 802.11g WiFi 2.4 GHz (ERP- OFDM, 6 Mbps, 99pc duty cycle)	×	4.22	66.50	15.96	0.00	150.0	± 9.6 %
		Y	4.32	66.87	16.21		150.0	
		Z	4.32	66.33	15.95		150.0	
10417- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	X	4.22	66.50	15.96	0.00	150.0	± 9.6 %
		Υ	4.32	66.87	16.21		150.0	
		Z	4.32	66.33	15.95		150.0	1
10418- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	×	4.21	66.71	16.02	0.00	150.0	± 9.6 %
		Υ	4.32	67.09	16.27		150.0	
		Z	4.31	66.51	15.99		150.0	
10419- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.23	66.64	16.01	0.00	150.0	± 9.6 %
		Y	4.34	67.01	16.25		150.0	
		Z	4.33	66.45	15.98	******	150.0	
10422- AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	X	4.33	66.62	16.03	0.00	150.0	± 9.6 %
		Y	4.44	66.98	16.26		150.0	
		Z	4.44	66.45	16.00		150.0	
10423- AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.45	66.86	16.11	0.00	150.0	± 9.6 %
		Y	4.56	67.23	16.34		150.0	
		Z	4.57	66.72	16.10		150.0	
10424- AAB	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	X	4.38	66.81	16.08	0.00	150.0	± 9.6 %
		Y	4.50	67.18	16.32		150.0	
40405		Z	4.50	66.66	16.07		150.0	
10425- AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	5.03	67.03	16.34	0.00	150.0	± 9.6 %
	·	Y	5.11	67.32	16.49		150.0	
40400		Z	5.14	66.98	16.33		150.0	
10426- AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	5.06	67.16	16.40	0.00	150.0	±9.6 %
		Y	5.13	67.40	16.52		150.0	
		Z	5.17	67.10	16.39		150.0	

10427- AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	X	5.01	66.91	16.27	0.00	150.0	± 9.6 %
		Y	5.09	67.19	16.41		150.0	
		Ζ	5.13	66.90	16.28		150.0	
10430- AAC	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.07	72.07	17.91	0.00	150.0	± 9.6 %
		Y	4.24	72.56	18.40		150.0	
		Z	4.04	71.02	17.78		150.0	
10431- AAC	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	3.79	66.99	15.69	0.00	150.0	± 9.6 %
		Y	3.94	67.49	16.09		150.0	
		Z	3.92	66.79	15.76		150.0	
10432- AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	×	4.13	66.89	15.96	0.00	150.0	± 9.6 %
		Y	4.26	67.30	16.25		150.0	
		Z	4.25	66.71	15.96		150.0	
10433- AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	X	4.40	66.85	16.11	0.00	150.0	± 9.6 %
		Y	4.51	67.22	16.34		150.0	
10101		Z	4.51	66.70	16.09		150.0	
10434- AAA	W-CDMA (BS Test Model 1, 64 DPCH)	X	4.05	72.38	17.35	0.00	150.0	± 9.6 %
		Y	4.37	73.48	18.19		150.0	
		Ζ	4.07	71.60	17.46		150.0	
10435- AAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.72	79.05	18.38	3.23	80.0	± 9.6 %
		Y	21.44	105.07	25.81		80.0	
	v	Z	100.00	132.91	34.27		80.0	
10447- AAC	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	2.96	66.34	14.12	0.00	150.0	± 9.6 %
		Y	3.18	67.31	14.92		150.0	
		Z	3.13	66.39	14.53		150.0	
10448- AAC	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	X	3.67	66.79	15.57	0.00	150.0	± 9.6 %
		Y	3.81	67.30	15.97		150.0	
		Z	3.78	66.58	15.62		150.0	
10449- AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	X	3.98	66.71	15.86	0.00	150.0	± 9.6 %
		Y	4.10	67.14	16.16		150.0	
		Z	4.09	66.52	15.85		150.0	
10450- AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.21	66.62	15.96	0.00	150.0	± 9.6 %
		Y	4.32	67.01	16.21		150.0	
		Z	4.30	66.46	15.93		150.0	
10451- AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	2.70	65.75	13.11	0.00	150.0	± 9.6 %
		Y	2.96	67.00	14.12		150.0	
40450		Z	2.94	66.14	13.79		150.0	
10456- AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	5.99	67.61	16.55	0,00	150.0	± 9.6 %
		Y	6.02	67.80	16.61		150.0	
		Z	6.11	67.72	16.61		150.0	
10457- AAA	UMTS-FDD (DC-HSDPA)	X	3.61	65.32	15.70	0.00	150.0	± 9.6 %
		Y	3.69	65.64	15.94		150.0	[
		Z	3.65	65.04	15.66		150.0	
10458- AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	X	3.19	69.07	15.08	0.00	150.0	± 9.6 %
		Y	3.69	71.30	16.62	L	150.0	
		Z	3.53	69.92	16.16		150.0	
10459- AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	×	4.69	69.03	17.48	0.00	150.0	± 9.6 %
		Y	4.79	69.11	17.75		150.0	
		Z	4.84	68.73	17.83		150.0	

10460- AAA	UMTS-FDD (WCDMA, AMR)	X	0.72	66.02	14.12	0.00	150.0	± 9.6 %
		Y	0.91	69.57	16.66	1	150.0	
		Z	0.71	65.26	13.72		150.0	
10461- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.93	75.92	18.31	3.29	80.0	± 9.6 %
		Y	6.83	93.43	24.06		80.0	
		Z	100.00	137.66	36.58		80.0	
10462- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.63	60.00	7.27	3.23	80.0	± 9.6 %
		Y	0.63	60.00	7.19		80.0	
40.400		Z	1.15	65.31	10.99		80.0	
10463- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.65	60.00	6.55	3.23	80.0	± 9.6 %
~~		Y	0.66	60.00	6.45		80.0	
10464-		Z	0.67	60.00	7.76		80.0	
AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.38	71.32	15.83	3.23	80.0	± 9.6 %
		Y	4.54	86.66	21.20		80.0	
10465-		Z	100.00	134.26	34.80		80.0	
10465- AAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	X	0.63	60.00	7.20	3.23	80.0	± 9.6 %
		Y	0.63	60.00	7.11		80.0	L
10466-	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-	Z	0.94	63.37	10.05		80.0	
AAB	QAM, UL Subframe=2,3,4,7,8,9)	X	0.65	60.00	6.50	3.23	80.0	± 9.6 %
		Y	0.66	60.00	6.41	l	80.0	
10467-		Z	0.68	60.00	7.70		80.0	
AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.47	72.19	16.22	3.23	80.0	± 9.6 %
		Y	5.30	88.83	21.91		80.0	
10468-		Z	100.00	134.76	35.02		80.0	
AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	X	0.63	60.00	7.22	3.23	80.0	±9.6 %
		Y	0.63	60.00	7.14		80.0	
10469-		Z	0.99	63.90	10.32		80.0	
AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	X	0.65	60.00	6.51	3.23	80.0	±9.6 %
		Y	0.66	60.00	6.41		80.0	
40470		Z	0.68	60.00	7.70		80.0	
10470- AAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.46	72.21	16.22	3.23	80.0	± 9.6 %
		Y	5.35	88.98	21.94		80.0	
10471-		Z	100.00	134.82	35.03		80.0	
AAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	X	0.63	60.00	7.21	3.23	80.0	±9.6 %
		Y	0.63	60.00	7.12		80.0	
10472- AAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	Z X	0.98 0.65	63.79 60.00	10.26 6.49	3.23	80.0 80.0	± 9.6 %
- M 164		Y	0.66	60.00	6.00		00.0	
		Z	0.66	60.00 60.00	6.39		80.0	
10473-	LTE-TDD (SC-FDMA, 1 RB, 15 MHz,	X	1.46	72.15	7.68	2.00	80.0	1000
AAD	QPSK, UL Subframe=2,3,4,7,8,9)	^ Y	5.31		16.20	3.23	80.0	± 9.6 %
		Υ Ζ	100.00	88.87	21.90		80.0	
10474- AAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	X	0.63	134.77 60.00	35.01 7.20	3.23	80.0 80.0	± 9.6 %
		Y	0.63	60.00	7.12		000	
		Z	0.03	63.74	10.23	······	80.0	
10475- AAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	X	0.65	60.00	6.49	3.23	80.0 80.0	± 9.6 %
_		Y	0.66	60.00	6.39			,
		Z	0.67	60.00	0.39 7.69		80.0	
	····	<u> </u>	0.07	00.00	1.09		80.0	

10477-	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-	X	0.63	60.00	7.17	3.23	80.0	± 9.6 %
AAE	QAM, UL Subframe=2,3,4,7,8,9)	Y	0.00	00.00	7.00		00.0	
		Z	0.63	60.00 63.31	7.08		80.0 80.0	
10478-	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-	X	0.93	60.00	6.47	3.23	80.0	± 9.6 %
AAE	QAM, UL Subframe=2,3,4,7,8,9)					J.2J		19.0 %
		Y	0.66	60.00	6.37		80.0	
40470		Z	0.67	60,00	7.67		80.0	
10479- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	4.26	80.69	20.19	3.23	80.0	± 9.6 %
		Y	7.01	87.70	22.71		80.0	
40400		Z	21.27	105.57	28.88		80.0	
10480- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.88	66.39	12,32	3.23	80.0	± 9.6 %
		Y	3.13	71.95	14.74		80.0	1
40404		Z	13.52	90.52	21.87		80.0	
10481- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.43	63.16	10.40	3.23	80.0	± 9.6 %
		Y	2.06	66.80	12.23		80.0	
40.000		Z	6.11	79.62	18.02		80.0	
10482- AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.06	61.11	9.78	2.23	80.0	± 9.6 %
		Y	1.73	66.89	13.39		80.0	
10.15-		Z	1.53	64.78	12.61		80.0	
10483- AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.23	60.00	8.50	2.23	80.0	± 9.6 %
		Y	1.57	62.45	10.22		80.0	
		Z	2.78	68.98	14.19		80.0	
10484- AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.26	60.00	8.49	2.23	80.0	± 9.6 %
		Y	1.54	61.98	9.97		80.0	
		Z	2.53	67.57	13.58		80.0	
10485- AAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	1.66	65.74	13.74	2.23	80.0	±9.6 %
		Y	2.52	71.78	17.06		80.0	
		Z	2.10	68.47	15.70		80.0	
10486- AAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.66	62.56	11.27	2.23	80.0	± 9.6 %
		Y	2.26	66.58	13.85		80.0	
		Z	2.12	65.12	13.38		80.0	[
10487- AAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.67	62.33	11.12	2.23	80.0	± 9.6 %
		Y	2.24	66.10	13.59		80.0	
		Z	2.14	64.83	13.21		80.0	
10488- AAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.26	67.65	16.13	2.23	80.0	± 9.6 %
		Y	2.82	71.24	18.12		80.0	
		Z	2.57	69.00	17.08		80.0	
10489- AAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.49	65.85	15.07	2.23	80.0	± 9.6 %
		Y	2.90	68.21	16.54		80.0	
		Z	2.74	66.70	15.91		80.0	
10490- AAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.57	65.79	15.03	2.23	80.0	± 9.6 %
		Y	2.97	68.04	16.46		80.0	
		Z	2.83	66.63	15.88		80.0	
10491- AAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.64	67.24	16.30	2.23	80.0	± 9.6 %
		Y	3.09	69.79	17.74		80.0	
		Z	2.92	68.21	16.96		80.0	
10492- AAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.93	65.80	15.66	2.23	80.0	± 9.6 %
		İΥ	3.24	67.45	16.69	<u> </u>	80.0	
		Z	3.14	66.35	16.22		80.0	

10493- AAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.99	65.74	15.62	2.23	80.0	± 9.6 %
	04-QAM, OL Subilane-2,3,4,7,6,9)	Y	3.29	67.32	16.63		00.0	
		Z	3.21	66.28	16.18		80.0 80.0	
10494- AAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.77	68.16	16.65	2.23	80.0	± 9.6 %
	· · · · · · · · · · · · · · · · · · ·	Y	3.31	71.10	18.21		80.0	
		Z	3.09	69.31	17.33		80.0	
10495- AAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	Х	2.95	66.01	15.89	2.23	80.0	± 9.6 %
-	······	Y	3.25	67.67	16.91		80.0	
		Z	3.16	66.59	16.41		80.0	
10496- AAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.04	65.92	15.89	2.23	80.0	± 9.6 %
		Y	3.34	67.48	16.84		80.0	
10407		Z	3.25	66.45	16.38		80.0	
10497- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	0.90	60.00	7.56	2.23	80.0	± 9.6 %
	······································	Y	0.94	60.22	8.59		80.0	
10498-		Z	0.98	60.00	8.77		80.0	
AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.09	60.00	6.33	2.23	80.0	± 9.6 %
		Y	1.09	60.00	7.12		80.0	
		Z	1.16	60.00	7.58		80.0	
10499- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.11	60.00	6.17	2.23	80.0	± 9.6 %
		Y	1.11	60.00	6.94		80.0	
		Z	1.17	60.00	7.42		80.0	
10500- AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.91	66.68	14.78	2.23	80.0	± 9.6 %
		Y	2.64	71.54	17.49		80.0	
		Z	2.29	68.68	16.26		80.0	
10501- AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.02	64.23	12.91	2.23	80.0	± 9.6 %
		Y	2.60	67.75	15.11		80.0	
40500		Z	2.42	66.09	14.51		80.0	
10502- AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.05	64.07	12.75	2.23	80.0	± 9.6 %
	· · · · · · · · · · · · · · · · · · ·	Y	2.63	67.51	14.92		80.0	
10503-		Z	2.46	65.95	14.37		80.0	
AAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	2.23	67.47	16.03	2.23	80.0	± 9.6 %
		Y	2.79	71.03	18.01		80.0	
10504-	LTE-TDD (SC-FDMA, 100% RB, 5 MHz,	Z	2.54	68.82	16.98	0.00	80.0	
AAD	16-QAM, UL Subframe=2,3,4,7,8,9)	X Y	2.48	65.75	15.00	2.23	80.0	± 9.6 %
		r Z	2.88 2.73	68.10 66.60	16.48		80.0	
10505- AAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.55	65.70	15.85 14.97	2.23	80.0 80.0	± 9.6 %
		Y	2.95	67.94	16.40		80.0	
		Z	2.81	66.54	15.82		80.0	
10506- AAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	2.76	68.04	16.58	2.23	80.0	± 9.6 %
		Y	3.29	70.96	18.14		80.0	
40505		Ζ	3.07	69.18	17.26		80.0	· · · · · · · · · · · · · · · · · · ·
10507- AAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	х	2.93	65.95	15.85	2.23	80.0	±9.6 %
		Y	3.24	67.61	16.87		80.0	

10508- AAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.03	65.86	15.84	2.23	80.0	± 9.6 %
		Y	3.33	67.40	16.79		80.0	
		Z	3.24	66.38	16.33		80.0	
10509- AAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.24	67.72	16.53	2.23	80.0	± 9.6 %
		Υ	3.69	69.96	17.72		80.0	
		Z	3.51	68.56	17.03		80.0	
10510- AAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	x	3.43	65.97	16.12	2.23	80.0	± 9.6 %
· · · · · · · · · · · · · · · · · · ·		Y	3.71	67.32	16.91		80.0	
		Z	3.64	66.47	16.52		80.0	
10511- AAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.52	65.89	16.12	2.23	80.0	± 9.6 %
		Y	3.78	67.15	16.86		80.0	
		Z	3.71	66.32	16.49		80.0	
10512- AAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.22	68.47	16.72	2.23	80.0	± 9.6 %
		Y	3.79	71.22	18.12		80.0	
		Z	3.54	69.57	17.32		80.0	
10513- AAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.32	66.00	16.15	2.23	80.0	± 9.6 %
		Y	3.60	67.43	16.98		80.0	
		Z	3.52	66.56	16.56		80.0	
10514- AAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.39	65.79	16.10	2.23	80.0	± 9.6 %
		Y	3.64	67.11	16.88		80.0	
		Z	3.57	66.28	16.49		80.0	
10515- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	0.88	62.44	13.81	0.00	150.0	± 9.6 %
		Y	0.96	63.62	14.88		150.0	
40540		Z	0.87	62.07	13.59	0.00	150.0	100%
10516- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X Y	0.45	66.98 72.72	14.48	0.00	150.0	± 9.6 %
		T Z	0.65	65.95	18.47 13.66		150.0 150.0	
10517-	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11	X	0.42	63.68	13.66	0.00	150.0	± 9.6 %
AAA	Mbps, 99pc duty cycle)	Ŷ	0.70	65.65	15.62	0.00	150.0	1 3.0 %
		z	0.69	63.23	13.65		150.0	
10518- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.21	66.61	15.96	0.00	150.0	± 9.6 %
		Y	4.32	66.98	16.20		150.0	
		Z	4.31	66.42	15.93		150.0	
10519- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	X	4.34	66.77	16.04	0.00	150.0	± 9.6 %
		Y	4.46	67.14	16.28		150.0	
10863		Z	4.46	66.61	16.03		150.0	
10520- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.20	66.68	15.95	0.00	150.0	± 9.6 %
		Y Z	4.32	67.07	16.20	1	150.0	
10521- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	<u>4.31</u> 4.13	66.53 66.63	15.94 15.92	0.00	150.0 150.0	± 9.6 %
		Y	4.25	67.04	16.18		150.0	
		Z	4.24	66.49	15.91		150.0	
10522- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.17	66.72	15.99	0.00	150.0	±9.6%
*******		Y	4.29	67.14	16.26		150.0	
		Z	4.30	66.63	16.02	1	150.0	, <b></b>

10523- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.12	66.80	15.96	0.00	150.0	± 9.6 %
		Y	4.24	67.19	16.22	·	150.0	
		Ż	4.21	66.57	15.90		150.0	
10524- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.13	66.73	16.01	0.00	150.0	± 9.6 %
		Y	4.25	67.13	16.27		150.0	
		Z	4.25	66.57	15.99		150.0	
10525- AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	X	4.18	65.86	15.65	0.00	150.0	± 9.6 %
		Y	4.29	66.26	15.91		150.0	
		Z	4.27	65.65	15.61		150.0	
10526- AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.28	66.10	15.76	0.00	150.0	± 9.6 %
		Y	4.41	66.52	16.01		150.0	
10507		Z	4.40	65.94	15.73		150.0	
10527- AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.22	66.07	15.69	0.00	150.0	± 9.6 %
		Y	4.34	66.49	15.96		150.0	
40505		Z	4.33	65.90	15.66		150.0	
10528- AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	X	4.23	66.08	15.73	0.00	150.0	± 9.6 %
		Y	4.36	66.51	15.99		150.0	
10500		Z	4.34	65.91	15.70		150.0	
10529- AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.23	66.08	15.73	0.00	150.0	± 9.6 %
		Y	4.36	66.51	15.99		150.0	
40504		Z	4.34	65.91	15.70		150.0	
10531- AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	X	4.19	66.07	15.68	0.00	150.0	± 9.6 %
		Y	4.32	66.52	15.96		150.0	1
		Z	4.31	65.94	15.68		150.0	
10532- AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	Х	4.08	65.93	15.61	0.00	150.0	± 9.6 %
		Y	4.20	66.39	15.90		150.0	
		Z	4.19	65.79	15.60		150.0	
10533- AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	Х	4.23	66.16	15.73	0.00	150.0	±9.6 %
		Y	4.36	66.60	16.00	·	150.0	
		Z	4.35	65.98	15.69		150.0	
10534- AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	4.82	66.10	15.85	0.00	150.0	± 9.6 %
		Y	4.91	66.46	16.04		150.0	
		Z	4.91	66.02	15.83		150.0	
10535- AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	4.85	66.20	15.91	0.00	150.0	± 9.6 %
		Y	4.94	66.56	16.09		150.0	
40500		Z	4.97	66.17	15.90		150.0	
10536- AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	4.74	66.19	15.87	0.00	150.0	±9.6 %
·		Y	4.84	66.58	16.08		150.0	
		Z	4.85	66.14	15.86		150.0	
10537- AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	4.82	66.26	15.91	0.00	150.0	±9.6 %
		Y	4.91	66.59	16.08		150.0	
10500		Z	4.91	66.13	15.86		150.0	
10538- AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	X	4.87	66.17	15.91	0.00	150.0	±9.6 %
		Y	4.97	66.52	16.09		150.0	
10515		Z	4.98	66.12	15.90		150.0	
10540- AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	X	4.80	66.12	15.90	0.00	150.0	± 9.6 %
		Y	4.90	66.49	16.09		150.0	İ
	1	Z						

10541-	IEEE 802.11ac WiFi (40MHz, MCS7,	X	4.79	66,06	15.85	0,00	150.0	± 9.6 %
AAB	99pc duty cycle)							
		Y	4.89	66.43	16.04		150.0	
10510		Z	4.89	65.96	15.82		150.0	
10542- AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	X	4.94	66.17	15.92	0.00	150.0	±9.6 %
		Y	5.04	66.51	16.10		150.0	
40540		Z	5.05	66.09	15.90	~ ~ ~ ~	150.0	
10543- AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	X	5.03	66.31	16.03	0.00	150.0	±9.6 %
		Y	5.11	66.60	16.17		150.0	
10544- AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	Z X	<u>5.12</u> 5.18	66.17 66.16	15.97 15.86	0.00	150.0 150.0	±9.6 %
		Y	5.26	66.52	16.02		150.0	
		Z	5,26	66.12	15.84		150.0	
10545- AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.36	66.65	16.06	0.00	150.0	±9.6 %
		Y	5.42	66.93	16.19		150.0	
		Z	5.45	66.61	16.04		150.0	
10546- AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.20	66.27	15.88	0.00	150.0	±9.6 %
		Y	5.29	66.63	16.05		150.0	
405.17		Z	5.29	66.25	15.87		150.0	'
10547- AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.31	66.50	15.99	0.00	150.0	±9.6 %
	1	Y	5.37	66.75	16.11		150.0	
10548-	IEEE 802.11ac WiFi (80MHz, MCS4,	Z X	5.38 5.41	66.37 66.98	15.93 16.21	0.00	150.0 150.0	± 9.6 %
AAB	99pc duty cycle)	Y	5.49	67.30	16.36		150.0	
		Z	5.57	67.13	16.28		150.0	
10550- AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.30	66.60	16.06	0.00	150.0	± 9.6 %
7 4 449		Y	5.35	66.83	16.16		150.0	
		Z	5.37	66.46	15.99		150.0	
10551- AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.19	66.21	15.83	0.00	150.0	± 9.6 %
		Y	5.28	66.60	16.01		150.0	
		Z	5.30	66.24	15.84		150.0	
10552- AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.18	66.29	15.86	0.00	150.0	± 9.6 %
		Y	5.27	66.65	16.04		150.0	
	·····	Z	5.26	66.20	15.82		150.0	
10553- AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.23	66.22	15.86	0.00	150.0	± 9.6 %
		Y	5.32	66.58	16.03	ļ	150.0	
10554-	IEEE 802.11ac WiFi (160MHz, MCS0,	Z X	5.32 5.62	66.18 66.51	15.85 15.95	0.00	150.0 150.0	± 9.6 %
AAC	99pc duty cycle)	Y	5.68	66.84	16.09		150.0	
****		Z	5.69	66.48	15.94		150.0	
10555- AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	5.69	66.71	16.04	0.00	150.0	±9.6 %
		Y	5.76	67.04	16.18		150.0	
		Z	5.79	66.75	16.05		150.0	
10556- AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	5.75	66.88	16.11	0.00	150.0	± 9.6 %
		Y	5,80	67.16	16.23		150.0	ļ
		Z	5.83	66.85	16.10		150.0	
10557- AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	X	5.69	66.70	16.04	0.00	150.0	± 9.6 %
		Y	5,76	67.04	16.19	ļ	150.0	<b>_</b>
		Z	5.77	66.69	16.03		150.0	<u></u>

10558- AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	X	5.67	66.68	16.05	0.00	150.0	± 9.6 %
		Y	5.76	67.07	16.22		150.0	
		Z	5.80	66.79	16.10		150.0	
10560- AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	X	5.71	66.66	16.07	0.00	150.0	±9.6 %
		Y	5.79	67.02	16.23		150.0	
		Z	5.81	66.69	16.09		150.0	1
10561- AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	Х	5.65	66.65	16.10	0.00	150.0	± 9.6 %
		Y	5.72	67.00	16.25		150.0	
		Z	5.75	66.69	16.12		150.0	
10562- AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	X	5.68	66.77	16.16	0.00	150.0	± 9.6 %
		Y	5.77	67.15	16.33		150.0	
		Z	5.80	66.87	16.21		150.0	
10563- AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	X	5.80	66.82	16.15	0.00	150.0	± 9.6 %
		Y	5.88	67.15	16.29		150.0	
		Z	5.91	66.85	16.17		150.0	
10564- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 9 Mbps, 99pc duty cycle)	X	4.52	66.62	16.09	0.46	150.0	± 9.6 %
		Y	4.63	66.97	16.32		150.0	
		Z	4.63	66.48	16.09		150.0	
10565- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 12 Mbps, 99pc duty cycle)	Х	4.71	67.05	16.42	0.46	150.0	± 9.6 %
		Y	4.82	67.38	16.63		150.0	1
		Z	4.83	66.91	16.42		150.0	
10566- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 18 Mbps, 99pc duty cycle)	X	4.54	66.82	16.20	0.46	150.0	± 9.6 %
-		Y	4.65	67.19	16.43		150.0	
		Z	4.66	66.71	16.22		150.0	[
10567- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 99pc duty cycle)	Х	4.58	67.25	16.61	0.46	150.0	± 9.6 %
		Y	4.69	67.60	16.82		150.0	······
		Z	4.69	67.12	16.60		150.0	
10568- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 99pc duty cycle)	X	4.42	66.46	15.88	0.46	150.0	± 9.6 %
		Y	4.54	66.88	16.15		150.0	
		Z	4.56	66.45	15.95		150.0	
10569- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 99pc duty cycle)	X	4.58	67.53	16.78	0.46	150.0	± 9.6 %
		Y	4.68	67.86	16.97		150.0	
		Z	4.68	67.31	16.72		150.0	
10570- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 99pc duty cycle)	Х	4.57	67.27	16.64	0.46	150.0	± 9.6 %
		Y	4.68	67.61	16.85		150.0	
		Z	4.69	67.12	16.62		150.0	
10571- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	Х	0.99	62.81	14.23	0.46	130.0	± 9.6 %
	· · · · · · · · · · · · · · · · · · ·	Υ	1.09	64.12	15.35		130.0	
		Z	1.00	62.69	14.25		130.0	
10572- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	1.00	63.25	14.53	0.46	130.0	± 9.6 %
		Y	1.10	64.66	15.71		130.0	
40570		Z	1.00	63.12	14.54		130.0	
10573- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	0.77	71.94	17.18	0.46	130.0	± 9.6 %
		Y	1.53	83.79	23.08		130.0	
		Z	0.78	71.84	17.05		130.0	
10574- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	0.97	67.27	16.73	0.46	130.0	± 9.6 %
		Y	1.16	70.12	18.67		130.0	· · · · · · · · · · · · · · · · · · ·

10575- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 90pc duty cycle)	X	4.29	66.33	16.06	0.46	130.0	± 9.6 %
		Y	4.40	66.70	16.31		130.0	
		Z	4.41	66.24	16.12		130.0	
10576- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 9 Mbps, 90pc duty cycle)	X	4.32	66.56	16.16	0.46	130.0	± 9.6 %
		Y	4,43	66.92	16.41		130.0	
		Z	4.43	66.43	16.20		130.0	
10577- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 12 Mbps, 90pc duty cycle)	X	4.47	66.78	<b>1</b> 6.31	0.46	130.0	± 9.6 %
		Y	4.58	67.14	16.55		130.0	
		Z	4.60	66.69	16.36		130.0	
10578- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 18 Mbps, 90pc duty cycle)	X	4.38	66.93	16.42	0.46	130.0	± 9.6 %
		Y	4.49	67.29	16.66		130.0	
4.0.0000		Z	4.50	66.83	16.46		130.0	
10579- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 90pc duty cycle)	X	4.12	66.01	15.59	0.46	130.0	± 9.6 %
		Y	4.24	66.44	15.89		130.0	
40500		Z	4.26	65.99	15.69		130.0	
10580- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 90pc duty cycle)	X	4.14	66.03	15.59	0.46	130.0	±9.6 %
		Y	4.27	66.48	15.90		130.0	
40507		Z	4.30	66.06	15.72		130.0	
10581- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 90pc duty cycle)	X	4.29	67.01	16.39	0.46	130.0	± 9.6 %
		Y	4.41	67.39	16.65		130.0	
10500		Z	4.41	66.87	16.41		130.0	
10582- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 90pc duty cycle)	X	4.04	65.76	15.35	0.46	130.0	±9.6 %
		Y	4.17	66.20	15.67		130.0	
		Z	4.19	65.76	15.46	L	130.0	
10583- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.29	66.33	16.06	0.46	130.0	± 9.6 %
		Y	4.40	66.70	16.31		130.0	
		Z	4.41	66.24	16.12		130.0	
10584- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.32	66.56	16.16	0.46	130.0	±9.6 %
		Y	4.43	66.92	16.41		130.0	
		Z	4.43	66.43	16.20		130.0	
10585- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	X	4.47	66.78	16.31	0.46	130.0	±9.6 %
		Y	4.58	67.14	16.55		130.0	
		Z	4.60	66.69	16.36		130.0	
10586- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	X	4.38	66.93	16.42	0.46	130.0	± 9.6 %
		Y	4.49	67.29	16.66		130.0	
		Z	4.50	66.83	16.46		130.0	
10587- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.12	66.01	15.59	0.46	130.0	± 9.6 %
	an an an an an an an an an an an an an a	Y	4.24	66.44	15.89		130.0	
		Z	4.26	65.99	15.69		130.0	
10588- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	X	4.14	66.03	15.59	0.46	130.0	± 9.6 %
		Y	4.27	66.48	15.90		130.0	
10500		Z	4.30	66.06	15.72		130.0	
10589- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	X	4.29	67.01	16.39	0.46	130.0	± 9.6 %
		Y	4.41	67.39	16.65		130.0	
40500		Z	4.41	66.87	16.41		130.0	
10590- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	X	4.04	65.76	15.35	0.46	130.0	± 9.6 %
		Y	4.17	66.20	15.67		130.0	
		Z	4.19	65.76	15.46		130.0	

10591-	IEEE 802.11n (HT Mixed, 20MHz,	X	4.45	66.46	16.22	0.46	130.0	± 9.6 %
AAB	MCS0, 90pc duty cycle)		4.50	00.00	10.11		100.0	
		Y	4.56	66.80	16.44	<u> </u>	130.0	
10592- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	Z X	4.57 4.56	<u>66.34</u> 66.73	16.25 16.33	0.46	130.0 130.0	± 9.6 %
	Meet, sope duty cycley	Y	4.67	67.08	16.56		130.0	
		Z	4.69	66.64	16.38		130.0	
10593- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	X	4.47	66.59	16.17	0.46	130.0	± 9.6 %
,		Y	4.59	66.95	16.42		130.0	
		Z	4.60	66.51	16.23		130.0	
10594- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	4.53	66.78	16.36	0.46	130.0	±9.6 %
		Y	4.64	67.13	16.59		130.0	
40505		Z	4.66	66.69	16.40		130.0	
10595- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	4.49	66.75	16.26	0.46	130.0	± 9.6 %
		Y	4.61	67.12	16.50		130.0	
10596-	IEEE 802.11n (HT Mixed, 20MHz,	Z	4.62	66.66	16.30	0.40	130.0	
AAB	MCS5, 90pc duty cycle)	X	4.42	66.68	16.23	0.46	130.0	± 9.6 %
		Y Z	<u>4.53</u> 4.55	67.07 66.62	16.49 16.29		130.0	
10597-	IEEE 802.11n (HT Mixed, 20MHz,	X	4.35	66.54	16.29	0.46	130.0 130.0	+06%
AAB	MCS6, 90pc duty cycle)	Y	4.49	66.93	16.34	0.40	130.0	± 9.6 %
		Z	4.49	66.49	16.34		130.0	
10598- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	X	4.38	66.81	16.37	0.46	130.0	± 9.6 %
		Y	4.49	67.18	16.61		130.0	
		Z	4.50	66.72	16.41		130.0	
10599- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.17	67.00	16.56	0.46	130.0	± 9.6 %
		Y	5.23	67.23	16.68		130.0	
	· · · · · · · · · · · · · · · · · · ·	Z	5.27	66.93	16.57		130.0	
10600- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.26	67.35	16.71	0.46	130,0	±9.6 %
		Y	5.31	67.52	16.80		130.0	
40004		Z	5.40	67.37	16.76		130.0	
10601- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	×	5.19	67.20	16.65	0.46	130.0	± 9.6 %
		Y	5.24	67.37	16.74		130.0	
10602- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	Z	<u>5.28</u> 5.24	67.08 67.11	16.63 16.52	0.46	130.0 130.0	± 9.6 %
		Y	5.31	67.34	16.64		130.0	
		Z	5.41	67.24	16.63		130.0	
10603- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.29	67.35	16.79	0.46	130.0	± 9.6 %
		Y	5.38	67.63	16.93		130.0	
40001		Z	5.49	67.59	16.94		130.0	
10604- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.15	66.85	16.51	0.46	130.0	± 9.6 %
		<u> </u>	5.25	67.21	16.70		130.0	
10605-		Z	5.37	67.21	16.74		130.0	
AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.23	67.14	16.65	0.46	130.0	± 9.6 %
		Y	5.30	67.39	16.79		130.0	·
10606-	IEEE 802.11n (HT Mixed, 40MHz,	Z X	5.38 5.05	67.23	16.74	0.40	130.0	
AAB	MCS7, 90pc duty cycle)			66.67	16.26	0.46	130.0	± 9.6 %
		Y	5.11	66.89	16.39		130.0	
		Z	5.14	66.57	16.26		130.0	

10607- AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.30	65.79	15.85	0.46	130.0	± 9.6 %
		Y	4.41	66.18	16.11		130.0	
	<u></u>	z	4.41	65.65	15.87		130.0	
10608- AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.42	66.08	15.98	0.46	130.0	± 9.6 %
		Y	4.54	66.48	16.24		130.0	
		Z	4.55	65.99	16.03		130.0	
10609- AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.32	65.89	15.79	0.46	130.0	± 9.6 %
		Y	4.44	66.32	16.07		130.0	
		Z	4.44	65.81	15.84		130.0	
10610- AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.37	66.08	15.98	0.46	130.0	± 9.6 %
		Y	4.49	66.49	16.24		130.0	
		Z	4.49	65.99	16.01		130.0	
10611- AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.28	65.85	15.80	0.46	130.0	± 9.6 %
		Y	4.40	66.28	16.08		130.0	
		Z	4.41	65.78	15.85		130.0	
10612- AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.26	65.94	15.82	0.46	130.0	± 9.6 %
	· · · · · · · · · · · · · · · · · · ·	Y	4.39	66.39	16.11		130.0	
		Z	4.40	65.90	15.88		130.0	
10613- AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	x	4.25	65.75	15.65	0.46	130.0	± 9.6 %
		Y	4.38	66.20	15.95		130.0	
		Z	4.40	65.73	15.73		130.0	
10614- AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	X	4.24	66.02	15.94	0.46	130.0	± 9.6 %
		Y	4.36	66.46	16.22		130.0	
		Z	4.36	65.95	15.99		130.0	
10615- AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.26	65.66	15.54	0.46	130.0	± 9.6 %
		Y	4.39	66.11	15.84		130.0	
		Z	4.40	65.60	15.61		130.0	·····
10616- AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	4.95	66.09	16.09	0.46	130.0	± 9.6 %
		Y	5.04	66.42	16.27		130.0	
		Z	5.06	66.06	16.12		130.0	
10617- AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	4.98	66.18	16.11	0.46	130.0	± 9.6 %
		Y	5.07	66.52	16.29		130.0	
*****		Z	5.13	66.25	16.19		130.0	
10618- AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	×	4.89	66.22	16.14	0.46	130.0	± 9.6 %
		Y	4.99	66.61	16.35		130.0	
		Z	5.02	66.28	16.21		130.0	
10619- AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	Х	4.94	66.16	16.04	0.46	130.0	± 9.6 %
		Y	5.01	66.45	16.21		130.0	
		Z	5.04	66.09	16.05		130.0	
10620- AAB	IEEE 802.11ac WIFI (40MHz, MCS4, 90pc duty cycle)	X	4.98	66.07	16.05	0.46	130.0	± 9.6 %
		Y	5.08	66.42	16.24		130.0	
		Z	5.12	66.10	16.11		130.0	
10621- AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	5.00	66.21	16.25	0.46	130.0	± 9.6 %
		Y	5.09	66.55	16.43		130.0	
		Z	5.12	66.22	16.29		130.0	
10622- AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	X	4. <del>9</del> 8	66.29	16.29	0.46	130.0	± 9.6 %
		Y	5.08	66.63	16.46		130.0	
		Z	5.11	66.32	16.34		130.0	1

10623- AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	4.88	65.86	15.92	0.46	130.0	± 9.6 %
·····		Y	4.97	66.20	16.11		130.0	
		Z	4.99	65.82	15.95		130.0	
10624- AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.07	66.13	16.12	0.46	130.0	±9.6 %
		Y	5.16	66.45	16.30		130.0	
		Z	5.20	66.12	16.17		130.0	
10625- AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	5.18	66.36	16.31	0.46	130.0	± 9.6 %
		Y	5.24	66.57	16.42		130.0	
10626- AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	Z X	5.32 5.30	66.38 66.10	16.36 16.05	0.46	130.0 130.0	± 9.6 %
		Y	5.38	66.44	16.22		130.0	
		Z	5.40	66.12	16.09		130.0	
10627- AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.53	66.77	16.36	0.46	130.0	± 9.6 %
		Y	5.59	67.01	16.48		130.0	
		Z	5.65	66.81	16.41		130.0	
10628- AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	X	5.29	66.06	15.93	0.46	130.0	± 9.6 %
		Y	5.37	66.41	16.10		130.0	
		Z	5.40	66.11	15.98		130.0	
10629- AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.43	66.42	16.11	0.46	130.0	± 9.6 %
		Y	5.47	66.61	16.20		130.0	
		Z	5.50	66.31	16.08		130.0	
10630- AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	X	5.59	67.09	16.45	0.46	130.0	± 9.6 %
		Y	5.66	67.38	16.59		130.0	
		Z	5.82	67.46	16.66		130.0	
10631- AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	5.58	67.18	16.70	0.46	130.0	± 9.6 %
		Y	5.66	67.50	16.84		130.0	
40000		Z	5.74	67.33	16.79		130.0	
10632- AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.57	67.09	16.67	0.46	130.0	±9.6 %
		Y	5.60	67.22	16.72		130.0	
40000		Z	5.64	66.96	16.63		130.0	[
10633- AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	X	5.30	66.12	16.00	0.46	130.0	± 9.6 %
		Y	5.39	66.49	16.18	ļ	130.0	
10634- AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	<u>5.45</u> 5.34	<u>66.28</u> 66.35	<u>16.11</u> 16.17	0.46	130.0 130.0	±9.6 %
		Y	5.43	66.70	16.34		130.0	
		Z	5.44	66.35	16.20	1	130.0	
10635- AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.19	65.54	15.47	0.46	130.0	± 9.6 %
		Y	5.28	65.93	15.68		130.0	
		Z	5.31	65.62	15.55		130.0	
10636- AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	X	5.75	66.48	16.16	0.46	130.0	± 9.6 %
		Y	5.81	66.78	16.30		130.0	
40007		Z	5.84	66.50	16.20		130.0	
10637- AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	5.86	66.76	16.29	0.46	130.0	± 9.6 %
		Y	5.91	67.05	16.42		130.0	
40000		Z	5.98	66.87	16.37	L	130.0	
10638- AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	Х	5.90	66.89	16.33	0.46	130.0	± 9.6 %
		Y	5.95	67.16	16.45		130.0	
		Z	5.98	66.88	16.35		130.0	1

10639-	IEEE 802.11ac WiFI (160MHz, MCS3,	X	5.83	66.70	16.28	0.46	130.0	±9.6 %
AAC	90pc duty cycle)				10.10			
		Y Z	5.90 5.94	67.02	16.42		130.0	
10640-	IEEE 802.11ac WiFi (160MHz, MCS4,	$\frac{2}{x}$	<u> </u>	66.76 66.49	16.33 16.12	0.46	130.0 130.0	± 9.6 %
AAC	90pc duty cycle)					0,40		I9.0 %
		Y	5.85	66.88	16.30		130.0	
10014		Z	5.92	66.69	16.24	<u> </u>	130.0	
10641- AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	X	5.90	66.70	16.24	0.46	130.0	± 9.6 %
		Y	5.96	66.97	16.37		130.0	
10642-		ZX	6.02	66.77	16.30	0.40	130.0	
AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)		5.91	66.85	16.49	0.46	130.0	± 9.6 %
	······································	Y	5.98	67.18	16.64		130.0	
40040		Z	6.03	66.94	16.56		130.0	
10643- AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	5.75	66.52	16.20	0.46	130.0	± 9.6 %
		Y	5.83	66.86	16.37		130.0	
		Z	5.88	66.65	16.30		130.0	
10644- AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	5.80	66.66	16.30	0.46	130.0	±9.6 %
		Y	5.88	67.03	16.47		130.0	
		Z	5.94	66.85	16.42		130.0	
10645- AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	5.94	66.78	16.33	0.46	130.0	± 9.6 %
		Y	6.00	67.06	16.46		130.0	
		Z	6.15	67.15	16.54		130.0	
10646- AAE	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	X	5.05	83.78	28.65	9.30	60.0	± 9.6 %
		Y	6.98	93.27	32,89		60.0	
		Z	7.15	91.85	32.42		60.0	
10647- AAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	4.54	81.82	27.99	9.30	60.0	±9.6 %
		Y	5.99	90.07	31.84		60.0	
		Z	6.33	89.46	31.67		60.0	
10648- AAA	CDMA2000 (1x Advanced)	X	0.37	60.00	6,05	0.00	150.0	± 9.6 %
		Y	0.48	61.63	8.16		150.0	
		Z	0.43	60.11	6.90		150.0	
10652- AAC	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	2.93	65.21	15.11	2.23	80.0	± 9.6 %
		Y	3.20	66.58	16.05		80.0	
		Z	3.10	65.44	15.57		80.0	
10653- AAC	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	X	3.55	64.93	15.73	2.23	80.0	± 9.6 %
		Y	3.74	65.80	16.31		80.0	
		Ż	3.68	65.02	15.99		80.0	
10654- AAC	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	3.60	64.60	15.83	2.23	80.0	± 9.6 %
	······································	Y	3.76	65.39	16.34		80.0	
		Z	3.70	64.69	16.04		80.0	
10655- AAD	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	3.69	64.52	15.89	2.23	80.0	± 9.6 %
		Y	3.83	65.30	16.38		80.0	
		Z	3.78	64.64	16.09		80.0	<u> </u>
10658- AAA	Pulse Waveform (200Hz, 10%)	X	3.48	68.63	11.85	10.00	50.0	± 9.6 %
		Y	5.65	74.45	13.80		50,0	
		Z	7.21	77.53	15.77		50.0	1
10659-	Pulse Waveform (200Hz, 20%)	X	2.03	66.95	10.03	6.99	60.0	± 9.6 %
		1 1		ŧ		1		1
AAA		Y	100.00	101.12	19.79		60.0	

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10660- AAA	Pulse Waveform (200Hz, 40%)	X	0.68	62.61	6.79	3.98	80.0	± 9.6 %
		Y	100.00	101.16	18.64		80.0	
		Z	100.00	99.78	18.10		80.0	
10661- AAA	Pulse Waveform (200Hz, 60%)	X	0.25	60.00	4.25	2.22	100.0	± 9.6 %
		Y	100.00	102.31	18.13		100.0	
		Z	0.28	60.39	4.93		100.0	
10662- AAA	Pulse Waveform (200Hz, 80%)	X	6.06	60.21	1.38	0.97	120.0	± 9.6 %
		Y	100.00	96.37	14.68		120.0	
		Z	9.95	60.38	1.42		120.0	

<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

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 PC Test

Certificate No: EX3-7488\_Jan19

# **CALIBRATION CERTIFICATE**

Object	EX3DV4 - SN:7488	
Calibration procedure(s)	CALCAL-01 v9, CIA CAL-14 v5, CIA CAL-23 v5, CIA CAL-25.v7 Shov Calibration procedure for dosimetric E-field probes h106(2010	
Calibration date:	January 24, 2019	
	nts the traceability to national standards, which realize the physical units of measurements (SI). tainties 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
DAE4	SN: 660	19-Dec-18 (No. DAE4-660_Dec18)	Dec-19
Reference Probe ES3DV2	SN: 3013	31-Dec-18 (No. ES3-3013_Dec18)	Dec-19
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-18)	In house check: Oct-19

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	de Ma
			and from the
Approved by:	Katja Pokovic	Technical Manager	20101
			Ande
			Issued: January 29, 2019

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

# **Calibration Laboratory of**

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





Schweizerischer Kalibrierdienst S

Service suisse d'étalonnage

Accreditation No.: SCS 0108

- С Servizio svizzero di taratura
- S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)

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

## Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization §	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

**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
- 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
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

## Methods Applied and Interpretation of Parameters:

- NORMx, y, z: Assessed for E-field polarization  $\vartheta = 0$  (f  $\leq 900$  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,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).

### **Basic Calibration Parameters**

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm $(\mu V/(V/m)^2)^A$	0.45	0.49	0.50	± 10.1 %
DCP (mV) <sup>B</sup>	98.9	102.3	99.6	

## **Calibration Results for Modulation Response**

UID	Communication System Name		A dB	B dBõV	С	D dB	VR mV	Max dev.	Max Unc <sup>E</sup> (k=2)
0	CW	X	0.00	0.00	1.00	0.00	149.5	±2.7 %	±4.7 %
-		Y	0.00	0.00	1.00		140.8		
		Z	0.00	0.00	1.00		138.2		
10352-	Pulse Waveform (200Hz, 10%)	X	10.21	80.63	15.98	10.00	60.0	± 3.1 %	± 9.6 %
AAA		Y	5.90	74.67	14.18		60.0		
		Z	15.00	89.30	20.53		60.0		
10353-	Pulse Waveform (200Hz, 20%)	X	15.00	85.88	16.55	6.99	80.0	± 2.1 %	±9.6 %
AAA	,	Y	15.00	84.35	15.79		80.0		
		Z	15.00	92.51	21.01		80.0		
10354-	Pulse Waveform (200Hz, 40%)	X	15.00	90.08	17.19	3.98	95.0	± 1.3 %	± 9.6 %
AAA		Y	15.00	83.37	13.66		95.0		
		Z	15.00	104.27	25.33		95.0		
10355-	Pulse Waveform (200Hz, 60%)	X	15.00	97.36	19.30	2.22	120.0	± 1.2 %	± 9.6 %
AAA		Y	0.26	60.00	4.43		120.0	1	
		Z	15.00	117.38	29.81	]	120.0		
10387-	QPSK Waveform, 1 MHz	Х	0.51	60.28	7.04	0.00	150.0	± 3.3 %	± 9.6 %
AAA		Y	0.47	60.00	5.79		150.0		
		Z	0.61	61.09	8.42		150.0		
10388-	QPSK Waveform, 10 MHz	Х	2.29	69.54	16.64	0.00	150.0	± 1.1 %	± 9.6 %
AAA		Y	1.90	66.64	14.97		150.0		
		Z	2.23	68.54	16.09		150.0		
10396-	64-QAM Waveform, 100 kHz	Х	2.94	72.04	19.55	3.01	150.0	±0.7 %	± 9.6 %
AAA		Ý	2.49	68.13	17.71		150.0	[	
		Ż	3.35	73.33	20.07		150.0		
10399-	64-QAM Waveform, 40 MHz	X	3.54	67.80	16.20	0.00	150.0	± 2.2 %	± 9.6 %
AAA		Y	3.42	67.12	15.74	1	150.0	_	1
		Z	3,49	67.32	15.92		150.0		
10414-	WLAN CCDF, 64-QAM, 40MHz	Х	4.65	65.56	15.55	0.00	150.0	± 4.0 %	± 9.6 %
AAA		Y	4.74	65.87	15.68		150.0	-	
		Z	4.80	65.75	15.62		150.0		

Note: For details on UID parameters see Appendix

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

<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>B</sup> Numerical linearization parameter: uncertainty not required. <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.

## Sensor Model Parameters

	C1 fF	C2 fF	α V <sup>-1</sup>	T1 ms.V⁻²	T2 ms.V <sup>−1</sup>	T3 ms	T4 V <sup>-2</sup>	T5 V <sup>-1</sup>	Т6
X	35.2	259.64	34.83	7.55	0.00	5.04	1.52	0.11	1.01
Y	34.3	261.80	36.90	6.01	0.21	5.06	0.00	0.41	1.01
Z	40.7	301.53	35.10	11.37	0.14	5.09	1.94	0.15	1.01

## **Other Probe Parameters**

Triangular
-129.2
enabled
disabled
337 mm
10 mm
9 mm
2.5 mm
1 mm
1 mm
1 mm
1.4 mm

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	41.9	0.89	10.77	10.77	10.77	0.56	0.80	± 12.0 %
835	41.5	0.90	10.37	10.37	10.37	0.40	0.93	± 12.0 %
1750	40.1	1.37	8.87	8.87	8.87	0.33	0.84	± 12.0 %
1900	40.0	1.40	8.53	8.53	8.53	0.27	0.84	± 12.0 %
2300	39.5	1.67	8.25	8.25	8.25	0.33	0.85	± 12.0 %
2450	39.2	1.80	7.86	7.86	7.86	0.34	0.90	± 12.0 %
2600	39.0	1.96	7.69	7.69	7.69	0.35	0.86	± 12.0 %
5250	35.9	4.71	5.35	5.35	5.35	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.70	4.70	4.70	0.40	1.80	± 13.1 %
5750	35.4	5.22	5.03	5.03	5.03	0.40	1.80	± 13.1 %

### **Calibration Parameter Determined in Head Tissue Simulating Media**

<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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) 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 ( $\epsilon$  and  $\sigma$ ) is restricted to ± 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

<sup>G</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.

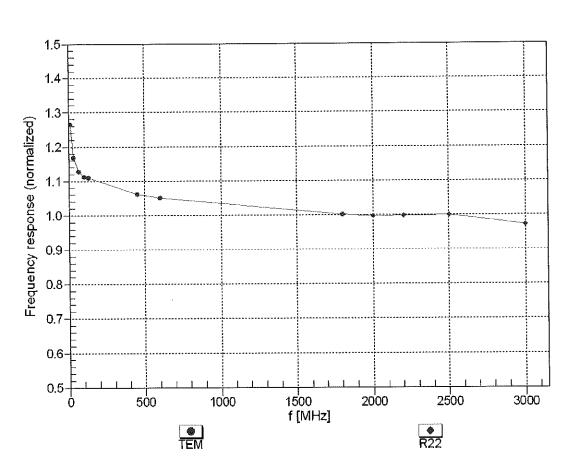
f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55.5	0.96	11.28	11.28	11.28	0.46	0.80	± 12.0 %
835	55.2	0.97	11.03	11.03	11.03	0.46	0.81	± 12.0 %
1750	53.4	1.49	8.68	8.68	8.68	0.38	0.88	± 12.0 %
1900	53.3	1.52	8.37	8.37	8.37	0.38	0.88	± 12.0 %
2300	52.9	1.81	8.21	8.21	8.21	0.42	0.84	± 12.0 %
2450	52.7	1.95	8.07	8.07	8.07	0.35	0.98	± 12.0 %
2600	52.5	2.16	7.94	7.94	7.94	0.25	0.95	± 12.0 %
5250	48.9	5.36	4.82	4.82	4.82	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.09	4.09	4.09	0.50	1.90	± 13.1 %
5750	48.3	5.94	4.32	4.32	4.32	0.50	1.90	± 13.1 %

## Calibration Parameter Determined in Body Tissue Simulating Media

<sup>c</sup> 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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to  $\pm$  110 MHz. <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

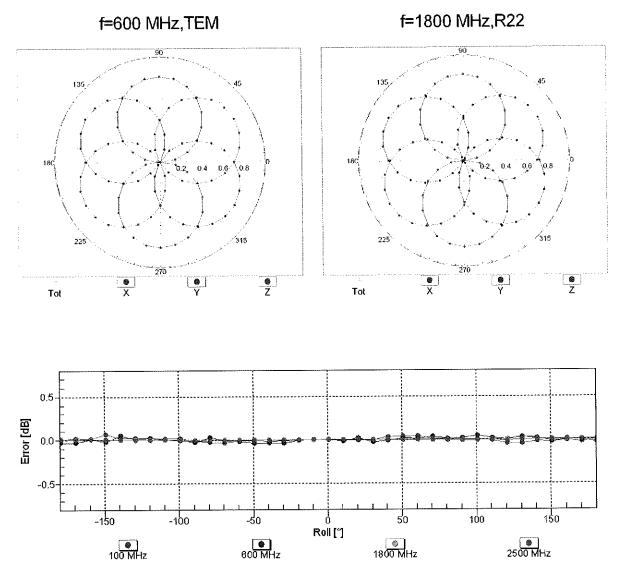
<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\varepsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\varepsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters. <sup>6</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is

<sup>G</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.



# 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)