## Calibration Laboratory of

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





S 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

**BV ADT Korea (Auden)** 

Certificate No: D5GHzV2-1019\_Mar18

### **CALIBRATION CERTIFICATE**

Object

D5GHzV2 - SN:1019

Calibration procedure(s)

QA CAL-22.v3

Calibration procedure for dipole validation kits between 3-6 GHz

Calibration date:

March 22, 2018

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%,

Calibration Equipment used (M&TE critical for calibration)

	1	0.15.40.40.41.	Only a deal and Onlike weeking wi
Primary Standards	ID#	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 / 06327	07-Apr-17 (No. 217-02529)	Apr-18
Reference Probe EX3DV4	SN: 3503	30-Dec-17 (No. EX3-3503_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18
	51		
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-06	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-17)	In house check: Oct-18
	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician <	7=19
Approved by:	Katja Pokovic	Technical Manager	0011
11			1 x as

Issued: March 26, 2018

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

Certificate No: D5GHzV2-1019\_Mar18

#### **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)

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%.

Certificate No: D5GHzV2-1019\_Mar18 Page 2 of 15

#### **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 V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0  mm, dz = 1.4  mm	Graded Ratio = 1.4 (Z direction)
Frequency	5250 MHz ± 1 MHz 5600 MHz ± 1 MHz 5750 MHz ± 1 MHz 5800 MHz ± 1 MHz	

## **Head TSL parameters at 5250 MHz**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.9	4.71 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	36.2 ± 6 %	4.58 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	(eyes)	

# SAR result with Head TSL at 5250 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.85 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	78.6 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.28 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	22.8 W/kg ± 19.5 % (k=2)

Certificate No: D5GHzV2-1019\_Mar18

# Head TSL parameters at 5600 MHz The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.5	5.07 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.7 ± 6 %	4.94 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C		

# SAR result with Head TSL at 5600 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.49 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	84.9 W / kg ± 19.9 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.43 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	24.3 W/kg ± 19.5 % (k=2)

# Head TSL parameters at 5750 MHz The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.4	5.22 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.5 ± 6 %	5.10 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	****	

## SAR result with Head TSL at 5750 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.94 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	79.4 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.27 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	22.7 W/kg ± 19.5 % (k=2)

# Head TSL parameters at 5800 MHz The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.4 ± 6 %	5.16 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	Hene:	****

# SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.09 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	80.9 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.30 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.0 W/kg ± 19.5 % (k=2)

Certificate No: D5GHzV2-1019\_Mar18 Page 5 of 15

# Body TSL parameters at 5250 MHz The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.9	5.36 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.1 ± 6 %	5.49 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C		

# SAR result with Body TSL at 5250 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.54 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	74.9 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.10 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	20.8 W/kg ± 19.5 % (k=2)

## **Body TSL parameters at 5600 MHz**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.5	5.77 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.4 ± 6 %	5.97 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	-	

## SAR result with Body TSL at 5600 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.99 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	79.3 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.24 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	22.2 W/kg ± 19.5 % (k=2)

# Body TSL parameters at 5750 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.3	5.94 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.2 ± 6 %	6.18 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C		

# SAR result with Body TSL at 5750 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.50 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	74.5 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.10 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	20.8 W/kg ± 19.5 % (k=2)

## **Body TSL parameters at 5800 MHz**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.2	6.00 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.1 ± 6 %	6.25 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C		

# SAR result with Body TSL at 5800 MHz

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.58 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	75.2 W/kg ± 19.9 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.11 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	20.9 W/kg ± 19.5 % (k=2)

Certificate No: D5GHzV2-1019\_Mar18

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

# Antenna Parameters with Head TSL at 5250 MHz

Impedance, transformed to feed point	54.8 Ω - 3.5 jΩ	
Return Loss	- 24.9 dB	

## Antenna Parameters with Head TSL at 5600 MHz

Impedance, transformed to feed point	$57.9 \Omega + 0.9 j\Omega$	
Return Loss	- 22.6 dB	

#### Antenna Parameters with Head TSL at 5750 MHz

Impedance, transformed to feed point	$56.2~\Omega + 6.3~\mathrm{j}\Omega$	
Return Loss	- 21.6 dB	

#### Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	$54.2~\Omega + 4.6~\mathrm{j}\Omega$	
Return Loss	- 24.5 dB	

#### Antenna Parameters with Body TSL at 5250 MHz

Impedance, transformed to feed point	54.8 Ω <b>-</b> 2.6 jΩ
Return Loss	- 25.6 dB

#### Antenna Parameters with Body TSL at 5600 MHz

Impedance, transformed to feed point	59.3 Ω + 0.7 jΩ	
Return Loss	- 21.4 dB	

# Antenna Parameters with Body TSL at 5750 MHz

Impedance, transformed to feed point	$58.5 \Omega + 6.2 j\Omega$	
Return Loss	- 20.3 dB	

## Antenna Parameters with Body TSL at 5800 MHz

Impedance, transformed to feed point	57.2 Ω + 4.4 jΩ	
Return Loss	- 22.1 dB	

Certificate No: D5GHzV2-1019\_Mar18

# **General Antenna Parameters and Design**

Electrical Delay (one direction)	1.206 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	February 05, 2004

Certificate No: D5GHzV2-1019\_Mar18 Page 9 of 15

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

Date: 21.03.2018

Test Laboratory: SPEAG, Zurich, Switzerland

## DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1019

Communication System: UID 0 - CW; Frequency: 5250 MHz, Frequency: 5600 MHz, Frequency: 5750 MHz,

Frequency: 5800 MHz

Medium parameters used: f = 5250 MHz;  $\sigma$  = 4.58 S/m;  $\epsilon_r$  = 36.2;  $\rho$  = 1000 kg/m³, Medium parameters used: f = 5600 MHz;  $\sigma$  = 4.94 S/m;  $\epsilon_r$  = 35.7;  $\rho$  = 1000 kg/m³, Medium parameters used: f = 5750 MHz;  $\sigma$  = 5.1 S/m;  $\epsilon_r$  = 35.5;  $\rho$  = 1000 kg/m³,

Medium parameters used: f = 5800 MHz;  $\sigma = 5.16$  S/m;  $\varepsilon_r = 35.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

#### DASY52 Configuration:

- Probe: EX3DV4 SN3503; ConvF(5.51, 5.51, 5.51); Calibrated: 30.12.2017,
   ConvF(5.05, 5.05, 5.05); Calibrated: 30.12.2017, ConvF(4.98, 4.98, 4.98); Calibrated: 30.12.2017,
   ConvF(4.96, 4.96, 4.96); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601 (5GHz); 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=100mW, dist=10mm, f=5250 MHz/Zoom Scan, dist=1.4mm

(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 73.01 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 27.4 W/kg

SAR(1 g) = 7.85 W/kg; SAR(10 g) = 2.28 W/kg

Maximum value of SAR (measured) = 18.1 W/kg

#### Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm

(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 74.12 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 32.5 W/kg

SAR(1 g) = 8.49 W/kg; SAR(10 g) = 2.43 W/kg

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

#### Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5750 MHz/Zoom Scan, dist=1.4mm

(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 71.18 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 31.2 W/kg

SAR(1 g) = 7.94 W/kg; SAR(10 g) = 2.27 W/kg

Maximum value of SAR (measured) = 19.0 W/kg

Certificate No: D5GHzV2-1019\_Mar18

# Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm

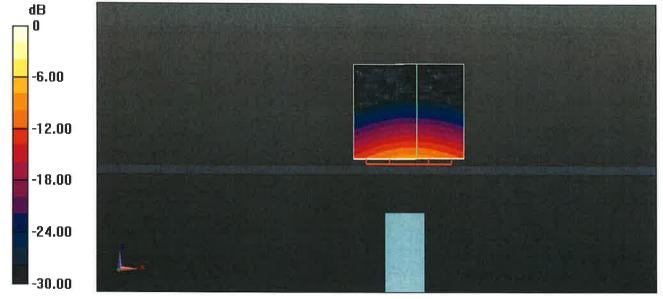
(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 71.51 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 31.9 W/kg

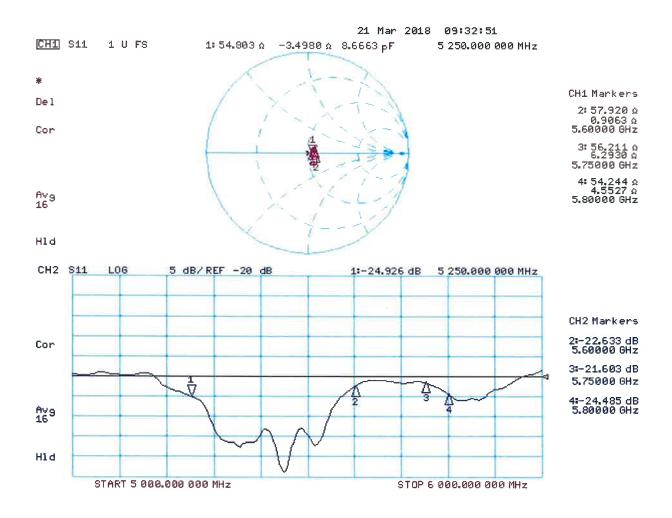
SAR(1 g) = 8.09 W/kg; SAR(10 g) = 2.3 W/kg

Maximum value of SAR (measured) = 19.4 W/kg



0 dB = 19.4 W/kg = 12.88 dBW/kg

# Impedance Measurement Plot for Head TSL



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

Date: 22.03.2018

Test Laboratory: SPEAG, Zurich, Switzerland

## DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1019

Communication System: UID 0 - CW; Frequency: 5250 MHz, Frequency: 5600 MHz, Frequency: 5750 MHz,

Frequency: 5800 MHz

Medium parameters used: f = 5250 MHz;  $\sigma = 5.49 \text{ S/m}$ ;  $\varepsilon_r = 47.1$ ;  $\rho = 1000 \text{ kg/m}^3$ ,

Medium parameters used: f = 5600 MHz;  $\sigma$  = 5.97 S/m;  $\epsilon_r$  = 46.4;  $\rho$  = 1000 kg/m³ ,

Medium parameters used: f = 5750 MHz;  $\sigma = 6.18 \text{ S/m}$ ;  $\varepsilon_r = 46.2$ ;  $\rho = 1000 \text{ kg/m}^3$ ,

Medium parameters used: f = 5800 MHz;  $\sigma = 6.25 \text{ S/m}$ ;  $\varepsilon_r = 46.1$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

#### **DASY52 Configuration:**

- Probe: EX3DV4 SN3503; ConvF(5.26, 5.26, 5.26); Calibrated: 30.12.2017,
   ConvF(4.65, 4.65, 4.65); Calibrated: 30.12.2017, ConvF(4.57, 4.57, 4.57); Calibrated: 30.12.2017,
   ConvF(4.53, 4.53, 4.53); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601 (5GHz); 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=100mW, dist=10mm, f=5250 MHz/Zoom Scan, dist=1.4mm

(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 65.68 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 29.3 W/kg

SAR(1 g) = 7.54 W/kg; SAR(10 g) = 2.1 W/kg

Maximum value of SAR (measured) = 17.3 W/kg

#### Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm

(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 66.11 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 33.6 W/kg

SAR(1 g) = 7.99 W/kg; SAR(10 g) = 2.24 W/kg

Maximum value of SAR (measured) = 18.9 W/kg

#### Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5750 MHz/Zoom Scan, dist=1.4mm

(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 63.79 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 32.1 W/kg

SAR(1 g) = 7.5 W/kg; SAR(10 g) = 2.1 W/kg

Maximum value of SAR (measured) = 17.9 W/kg

Certificate No: D5GHzV2-1019\_Mar18

# Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm

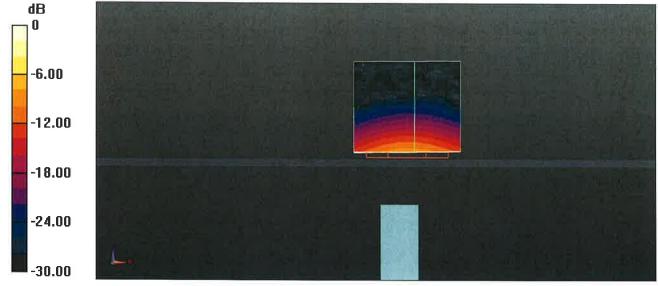
(8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 63.81 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 32.8 W/kg

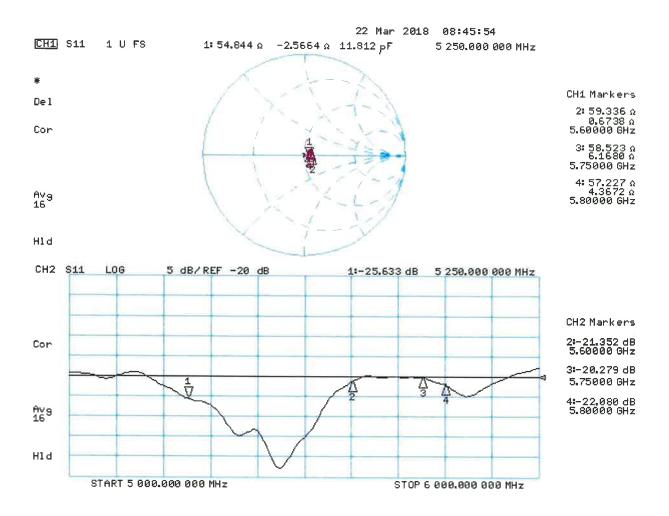
SAR(1 g) = 7.58 W/kg; SAR(10 g) = 2.11 W/kg

Maximum value of SAR (measured) = 18.1 W/kg



0 dB = 18.1 W/kg = 12.58 dBW/kg

# Impedance Measurement Plot for Body TSL



#### **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

Certificate No: EX3-3971\_Mar18

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

**B.V. ADT (Auden)** 

# CALIBRATION CERTIFICATE

Object EX3DV4 - SN:3971

Calibration procedure(s) QA CAL-01.v9, QA CAL-12.v9, QA CAL-14.v4, QA CAL-23.v5,

QA CAL-25.v6

Calibration procedure for dosimetric E-field probes

Calibration date: March 26, 2018

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate,

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%,

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	04-Apr-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. 217-02525)	Apr-18
Reference 20 dB Attenuator	SN: S5277 (20x)	07-Apr-17 (No. 217-02528)	Apr-18
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-16)	In house check: Jun-18
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-18
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-16)	In house check: Jun-18
Network Analyzer HP 8753E	SN: US37390585	18-Oct-01 (in house check Oct-17)	In house check: Oct-18

Name Function Signature

Calibrated by: Jeton Kastrati Laboratory Technician

Approved by: Katja Pokovic Technical Manager

Issued: March 27, 2018

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





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

Glossary:

TSL tissue simulating liquid
NORMx,y,z sensitivity in free space
ConvF sensitivity in TSL / NORMx,y,z

DCP diode compression point

CF crest factor (1/duty\_cycle) of the RF signal modulation dependent linearization parameters

Polarization  $\varphi$   $\varphi$  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

#### 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"

#### Methods Applied and Interpretation of Parameters:

- NORMx,y,z: Assessed for E-field polarization θ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide).
   NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)x,y,z = NORMx,y,z \* frequency\_response (see Frequency Response Chart). This linearization is
  implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included
  in the stated uncertainty of ConvF.
- DCPx,y,z: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,y,z: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters: Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORMx,y,z \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz
- Spherical isotropy (3D deviation from isotropy): in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle: The angle is assessed using the information gained by determining the NORMx (no uncertainty required).

Certificate No: EX3-3971\_Mar18 Page 2 of 39

# Probe EX3DV4

SN:3971

Manufactured:

December 30, 2013

Calibrated:

March 26, 2018

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

March 26, 2018 EX3DV4-SN:3971

# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3971

#### **Basic Calibration Parameters**

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (μV/(V/m) <sup>2</sup> ) <sup>A</sup>	0.40	0.51	0.49	± 10.1 %
DCP (mV) <sup>B</sup>	102.1	98.8	99.1	

#### 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	153.1	±2.7 %
		Y	0.0	0.0	1.0		140.2	
		Z	0.0	0.0	1.0		141.8	

Note: For details on UID parameters see Appendix.

#### **Sensor Model Parameters**

	C1 fF	C2 fF	α V⁻¹	T1 ms.V <sup>-2</sup>	T2 ms.V <sup>-1</sup>	T3 ms	T4 V <sup>-2</sup>	T5 V <sup>-1</sup>	Т6
X	31.51	234.5	35.39	5.79	0.807	4.962	0.943	0.272	1.004
Υ	45.71	338.7	35.13	11.88	0.220	5.079	0.777	0.329	1.004
Z	45.78	350.1	37.01	10.49	0.506	5.078	0.000	0.479	1.010

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).

Numerical linearization parameter: uncertainty not required.

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

# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3971

## Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) F	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
6	55.5	0.75	21.14	21.14	21.14	0.00	1.00	± 13.3 %
13	55.5	0.75	17.82	17.82	17.82	0.00	1.00	± 13.3 %
750	41.9	0.89	10.70	10.70	10.70	0.27	1.13	± 12.0 %
835	41.5	0.90	10.34	10.34	10.34	0.28	1.07	± 12.0 %
900	41.5	0.97	10.12	10.12	10.12	0.42	0.89	± 12.0 %
1450	40.5	1.20	8.79	8.79	8.79	0.39	0.80	± 12.0 %
1640	40.2	1.31	8.91	8.91	8.91	0.41	0.85	± 12.0 %
1750	40.1	1.37	8.90	8.90	8.90	0.43	0.80	± 12.0 %
1900	40.0	1.40	8.52	8.52	8.52	0.36	0.85	± 12.0 %
2300	39.5	1.67	8.12	8.12	8.12	0.34	0.88	± 12.0 %
2450	39.2	1.80	7.77	7.77	7.77	0.37	0.85	± 12.0 %
2600	39.0	1.96	7.59	7.59	7.59	0.41	0.83	± 12.0 %
3700	37.7	3.12	7.30	7.30	7.30	0.25	1.20	± 13.1 %
5250	35.9	4.71	5.24	5.24	5.24	0.35	1.80	± 13.1 %
5600	35.5	5.07	4.84	4.84	4.84	0.40	1.80	± 13.1 %
5750	35.4	5.22	4.96	4.96	4.96	0.40	1.80	± 13.1 %

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

Certificate No: EX3-3971\_Mar18 Page 5 of 39

validity can be extended to  $\pm$  110 MHz.

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

the ConvF uncertainty for indicated target tissue parameters.

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

# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3971

### Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) F	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55.5	0.96	10.43	10.43	10.43	0.39	0.94	± 12.0 %
835	55.2	0.97	10.15	10.15	10.15	0.32	0.96	± 12.0 %
1640	53.7	1.42	8.67	8.67	8.67	0.50	0.80	± 12.0 %
1750	53.4	1.49	8.34	8.34	8.34	0.25	1.07	± 12.0 %
1900	53.3	1.52	8.08	8.08	8.08	0.27	1.00	± 12.0 %
2300	52.9	1.81	7.75	7.75	7.75	0.42	0.85	± 12.0 %
2450	52.7	1.95	7.70	7.70	7.70	0.33	0.96	± 12.0 %
2600	52.5	2.16	7.36	7.36	7.36	0.31	0.99	± 12.0 %
5250	48.9	5.36	4.59	4.59	4.59	0.50	1.90	± 13.1 %
5600	48.5	5.77	4.08	4.08	4.08	0.50	1.90	± 13.1 %
5750	48.3	5.94	4.22	4.22	4.22	0.50	1.90	± 13.1 %

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

Certificate No: EX3-3971\_Mar18 Page 6 of 39

validity can be extended to ± 110 MHz.

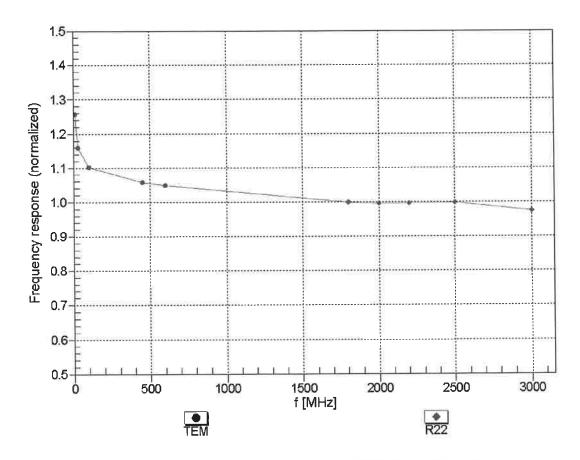
F At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the Const transferred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

the ConvF uncertainty for indicated target tissue parameters.

At Inequalities above 3 GHz, the values, at the root 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.

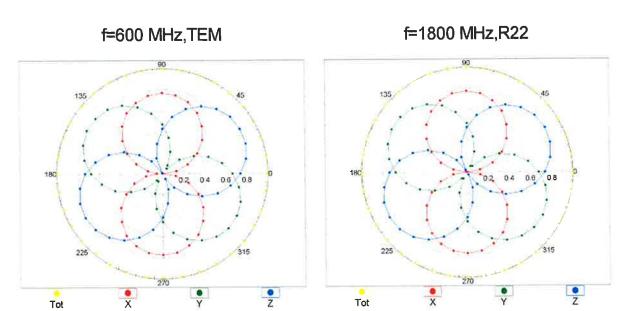
# Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)

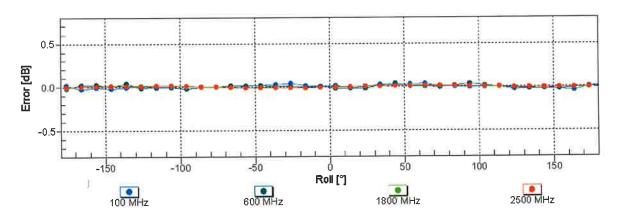


Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

Certificate No: EX3-3971\_Mar18

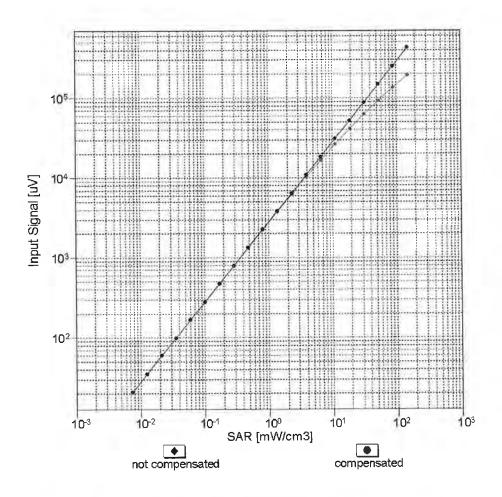
# Receiving Pattern ( $\phi$ ), $\vartheta = 0^{\circ}$

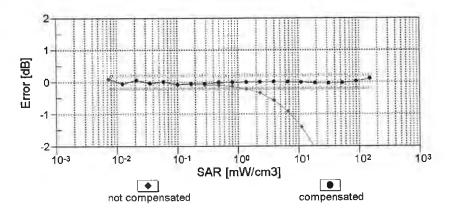




Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

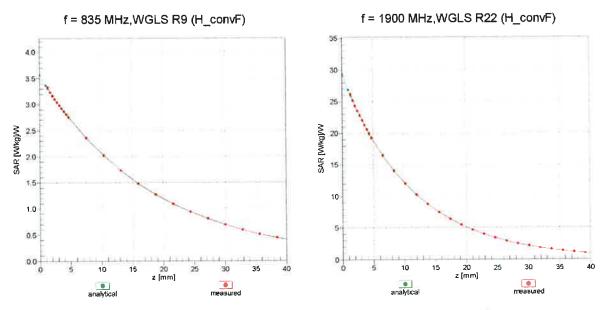
# Dynamic Range f(SAR<sub>head</sub>) (TEM cell , f<sub>eval</sub>= 1900 MHz)





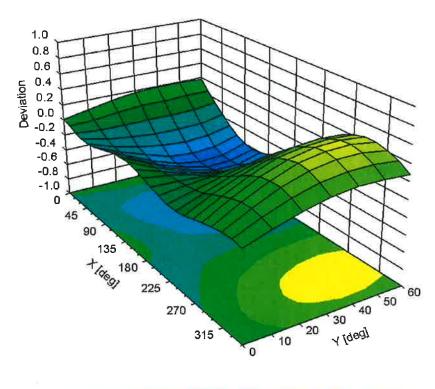
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

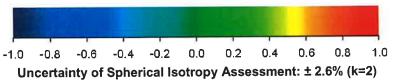
# **Conversion Factor Assessment**



# **Deviation from Isotropy in Liquid**

Error  $(\phi, \vartheta)$ , f = 900 MHz





# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3971

#### **Other Probe Parameters**

72.3
Lind
enabled
disabled
337 mm
10 mm
9 mm
2.5 mm
1 mm
1 mm
1 mm
1.4 mm

**Appendix: Modulation Calibration Parameters** 

UID	Communication System Name		A dB	dB√hA	С	D dB	VR mV	Max Unc <sup>E</sup> (k=2)
0	CW	X	0.00	0.00	1.00	0.00	153.1	± 2.7 %
		Y	0.00	0.00	1.00	0.00	140.2	
		Z	0.00	0.00	1.00		141.8	
10010- CAA	SAR Validation (Square, 100ms, 10ms)	Х	1.80	62.10	7.71	10.00	20.0	± 9.6 %
		Y	2.69	68.34	11.24		20.0	
		Z	2.20	65.60	10.07		20.0	
10011- CAB	UMTS-FDD (WCDMA)	X	0.83	66.40	13.92	0.00	150.0	± 9.6 %
		Υ	0.99	66.98	14.96		150.0	
10010		Z	0.85	64.82	13.29		150.0	
10012- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	X	1.02	63.08	14.31	0.41	150.0	± 9.6 %
		Y	1.15	63.73	15.14		150.0	
10015		Z	1.07	62.74	14.29		150.0	
10013- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps)	Х	4.47	66.45	16.56	1.46	150.0	± 9.6 %
		Y	4.83	66.69	17.07		150.0	
		Z	4.78	66.43	16.92		150.0	
10021- DAC	GSM-FDD (TDMA, GMSK)	Х	3.18	67.93	11.60	9.39	50.0	± 9.6 %
		Υ	100.00	114.37	27.14		50.0	
10055		Z	100.00	113.07	26.74		50.0	
10023- DAC	GPRS-FDD (TDMA, GMSK, TN 0)	X	3.12	67.41	11.38	9.57	50.0	± 9.6 %
		Y	100.00	113.77	26.91		50.0	
		Z	100.00	112.63	26.60		50.0	
10024- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	Х	1.58	64.45	8.88	6.56	60.0	± 9.6 %
		Y	100.00	115.87	26.80		60.0	
		Z	100.00	112.32	25.27		60.0	
10025- DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	Х	3.33	63.37	20.86	12.57	50.0	± 9.6 %
		Y	6.16	85.08	34.69		50.0	
		Z	4.13	70.30	26.32		50.0	
10026- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	X	5.88	81.08	27.27	9.56	60.0	± 9.6 %
	1	Y	9.73	96.11	35.05		60.0	
		Z	8.01	89.72	32.10		60.0	
10027- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	X	0.90	62.36	7.14	4.80	80.0	± 9.6 %
		Υ	100.00	118.78	27.32		80.0	
		Z	100.00	112.37	24.48		80.0	
10028- DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	X	0.50	60.41	5.54	3.55	100.0	± 9.6 %
		Y	100.00	122.86	28.34		100.0	
		Z	100.00	112.35	23.76		100.0	
10029- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	X	4.04	73.96	23.34	7.80	80.0	± 9.6 %
		Y	5.63	82.33	28.32		80.0	
10030- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	X	5.12 1.01	79.38 62.08	26.74 7.11	5.30	80.0 70.0	± 9.6 %
J/ VA		V	100.00	114.00	2F 07		70.0	
		Y	100.00	114.99	25.97		70.0	
10031-	IEEE 802 15 1 Plustooth (OFOX DUO)	Z	100.00	110.34	23.91	4.00	70.0	1000
CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	X	0.26	60.00	3.57	1.88	100.0	± 9.6 %
		Y	100.00	122.65	26.78		100.0	
	1	Z	100.00	101.08	17.81		100.0	

March 26, 2018

10032- CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	X	6.38	60.25	1.45	1.17	100.0	± 9.6 %
		Y	100.00	131.78	29.34		100.0	
		Z	99.98	92.03	13.50		100.0	
10033- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Х	2.30	68.25	12.96	5.30	70.0	± 9.6 %
0, 0 (		Y	84.79	129.19	35.10		70.0	
		Z	15.35	99.85	27.02		70.0	
10034- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Х	0.99	63.33	9.21	1.88	100.0	± 9.6 %
		Υ	4.42	83.80	20.81		100.0	
		Z	2.38	74.32	16.74		100.0	
10035- CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Х	0.80	62.60	8.63	1.17	100.0	± 9.6 %
		Υ	2.37	75.94	17.64		100.0	
	2.5	Z	1.54	69.57	14.40		100.0	. 0 0 0/
10036- CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	X	2.43	69.06	13.35	5.30	70.0	± 9.6 %
		Υ	100.00	132.39	35.95		70.0	
		Z	26.62	108.77	29.55	4.00	70.0	1000/
10037- CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	X	0.94	63.01	9.04	1.88	100.0	± 9.6 %
		Y	3.94	82.31	20.28	_	100.0	
10000	LEEE 200 45 4 DL -1 - 1 (2 DDOK DLIE)	Z	2.21	73.49 62.77	16.39 8.83	1.17	100.0	± 9.6 %
10038- CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	X	0.81	76.34	17.92	1.17	100.0	± 9.0 %
		Y	2.39	69.87			100.0	
10000	ODMACOCO (4: DTT DC4)	Z	1.55	62.85	14.64 8.62	0.00	150.0	± 9.6 %
10039- CAB	CDMA2000 (1xRTT, RC1)	X	0.69			0.00	150.0	1 9.0 %
		Y	1.70	71.22	15.12		150.0	
10010	IO 54 / IO 400 EDD / TDMA/EDM DI/A	Z	1.23	66.80	12.52	7.78	50.0	± 9.6 %
10042- CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4- DQPSK, Halfrate)	X	1.76	63.85	8.71 24.87	1.10	50.0	± 9.0 /6
		Z	100.00	108.60	23.89		50.0	
10044-	IS-91/EIA/TIA-553 FDD (FDMA, FM)	X	0.15	125.35	3.82	0.00	150.0	± 9.6 %
CAA	15-91/EIA/TIA-333 FDD (FDIMA, FINI)	Y	0.13	100.81	5.06	0.00	150.0	2 0.0 70
		Z	0.00	120.10	8.89		150.0	
10010	DECT (TDD TDMA/EDM CECK Full	X	3.87	65.21	11.96	13.80	25.0	± 9.6 %
10048- CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	Y	100.00	110.57	26.87	13.00	25.0	1 9.0 %
		-	100.00	110.03	27.02		25.0	
10049- CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	X	3.55	67.30	11.59	10.79	40.0	± 9.6 %
0, 1, 1	0.00, 12)	Y	100.00	111.77	26.32		40.0	
		Z	100.00	111.47	26.44		40.0	
10056- CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	X	4.72	72.27	15.22	9.03	50.0	± 9.6 %
		Y	100.00	125.91	34.16		50.0	
		Z	46.93	111.82	30.31		50.0	
10058- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	X	3.29	70.74	21.28	6.55	100.0	± 9.6 %
		Y	4.31	76.58	24.99		100.0	
		Z	4.03	74.67	23.88		100.0	
10059- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	X	1.02	63.65	14.54	0.61	110.0	± 9.6 %
		Y	1.18	64.83	15.80		110.0	
		Z	1.09	63.67	14.85		110.0	
10060- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	X	1.76	77.91	17.78	1.30	110.0	± 9.6 %
		Y	53.34	132.13	35.16		110.0	
		Z	4.80	92.57	23.89		110.0	

10061- CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	X	1.49	70.54	16.89	2.04	110.0	± 9.6 %
		Y	3.00	82.61	23.54		110.0	
10000		Z	2.29	77.35	20.99		110.0	
10062- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	X	4.29	66.51	16.11	0.49	100.0	± 9.6 %
		Y	4.63	66.67	16.47		100.0	
		Z	4.58	66.36	16.29		100.0	
10063- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	X	4.29	66.57	16.16	0.72	100.0	± 9.6 %
		Y	4.65	66.77	16.58		100.0	
		Z	4.59	66.46	16.40		100.0	
10064- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	X	4.52	66.73	16.33	0.86	100.0	± 9.6 %
		Y	4.93	67.03	16.81		100.0	
		Z	4.88	66.74	16.65		100.0	
10065- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	X	4.38	66.51	16.35	1.21	100.0	± 9.6 %
		Y	4.80	66.92	16.92		100.0	
		Z	4.75	66.63	16.75		100.0	
10066- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	X	4.39	66.46	16.44	1.46	100.0	± 9.6 %
		Y	4.82	66.95	17.10		100.0	
		Z	4.77	66.67	16.93		100.0	
10067- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	X	4.66	66.72	16.88	2.04	100.0	± 9.6 %
		Y	5.11	67.13	17.55	7	100.0	
		Z	5.06	66.88	17.41		100.0	
10068- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	Х	4.69	66.61	17.00	2.55	100.0	± 9.6 %
		Y	5.15	67.16	17.78		100.0	
		Z	5.11	66.92	17.64		100.0	
10069- CAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	Х	4.75	66.61	17.16	2.67	100.0	± 9.6 %
		Y	5.23	67.16	17.97		100.0	
		Z	5.19	66.93	17.83		100.0	
10071- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	Х	4.56	66.48	16.80	1.99	100.0	± 9.6 %
		Y	4.92	66.78	17.39		100.0	
		Z	4.88	66.52	17.24		100.0	
10072- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	X	4.50	66.64	16.91	2.30	100.0	± 9.6 %
		Y	4.90	67.09	17.61		100.0	
		Z	4.85	66.83	17.46		100.0	
10073- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	Х	4.56	66.79	17.19	2.83	100.0	± 9.6 %
		Y	4.95	67.24	17.95		100.0	
		Z	4.91	66.99	17.80		100.0	
10074- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	Х	4.58	66.76	17.32	3.30	100.0	± 9.6 %
		Y	4.93	67.12	18.10		100.0	
		Z	4.89	66.88	17.95		100.0	
10075- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	Х	4.60	66.75	17.53	3.82	90.0	± 9.6 %
		Y	4.96	67.21	18.42	7	90.0	
		Z	4.93	66.99	18.26		90.0	N.
10076- CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	Х	4.65	66.66	17.70	4.15	90.0	± 9.6 %
		Y	4.97	66.99	18.53		90.0	
		Z	4.94	66.78	18.38	7	90.0	
10077-	IEEE 802.11g WiFi 2.4 GHz	X	4.69	66.76	17.81	4.30	90.0	± 9.6 %
10077- CAB	(DSSS/OFDM, 54 Mbps)							1
		Υ	4.99	67.06	18.63		90.0	

10081- CAB	CDMA2000 (1xRTT, RC3)	Х	0.36	60.00	6.28	0.00	150.0	± 9.6 %
O, LD		Υ	0.78	65.35	11.99		150.0	
		Z	0.62	62.71	9.85		150.0	
10082- CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4- DQPSK, Fullrate)	Х	0.68	60.00	3.19	4.77	80.0	± 9.6 %
		Υ	0.66	60.00	4.30		80.0	
		Z	1.83	64.10	5.63		80.0	
10090- DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	X	1.60	64.49	8.91	6.56	60.0	± 9.6 %
		Υ	100.00	115.90	26.84		60.0	
		Z	100.00	112.41	25.33		60.0	
10097- CAB	UMTS-FDD (HSDPA)	X	1.64	67.91	14.85	0.00	150.0	± 9.6 %
		Y	1.80	67.55	15.50		150.0	
		Z	1.64	66.08	14.46	0.00	150.0	. 0.00/
10098- CAB	UMTS-FDD (HSUPA, Subtest 2)	Х	1.60	67.83	14.82	0.00	150.0	± 9.6 %
		Y	1.76	67.50	15.47		150.0	
		Z	1.60	66.02	14.41	0 = 0	150.0	. 0 0 0′
10099- DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	Х	5.91	81.15	27.29	9.56	60.0	± 9.6 %
		Y	9.83	96.34	35.13		60.0	
1010-	1 TE EDD (00 ED) (1222) ED 05	Z	8.07	89.87	32.16	0.00	60.0	± 9.6 %
10100- CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	2.75	69.55	16.24	0.00	150.0	± 9.0 %
		Y	3.07	70.15	16.56		150.0	
10101-	LTE-FDD (SC-FDMA, 100% RB, 20	X	2.86 2.93	68.80 67.06	15.76 15.54	0.00	150.0 150.0	± 9.6 %
CAD	MHz, 16-QAM)	Y	3.20	67.42	15.82		150.0	
		Z	3.08	66.70	15.36		150.0	
10102- CAD	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	X	3.04	67.12	15.68	0.00	150.0	± 9.6 %
Orto	William Or Will	Y	3.30	67.39	15.92		150.0	1
		Z	3.19	66.73	15.49		150.0	
10103- CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	X	4.45	70.90	17.90	3.98	65.0	± 9.6 %
		Y	6.48	77.11	21.27	1	65.0	
		Z	5.95	75.34	20.44		65.0	
10104- CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	Х	4.92	70.39	18.38	3.98	65.0	± 9.6 %
		Y	6.06	73.84	20.67		65.0	
		Z	5.77	72.68	20.08		65.0	
10105- CAD	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	Х	4.51	68.58	17.85	3.98	65.0	± 9.6 %
		Y	5.92	73.22	20.70		65.0	
		Z	5.64	72.07	20.12		65.0	
10108- CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	X	2.35	68.94	16.04	0.00	150.0	± 9.6 %
		Y	2.67	69.36	16.37		150.0	
		Z	2.49	68.06	15.56		150.0	
10109- CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	X	2.56	67.05	15.34	0.00	150.0	± 9.6 %
		Y	2.85	67.26	15.71		150.0	
		Z	2.73	66.47	15.18	0.00	150.0	1000
10110- CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	X	1.84	68.06	15.33	0.00	150.0	± 9.6 %
		Y	2.16	68.46	15.95		150.0	
		Z	1.99	67.08	15.02		150.0	
10111- CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	X	2.30	68.34	15.44	0.00	150.0	± 9.6 %
		Y	2.57	68.09	15.97		150.0	
		Z	2.41	67.03	15.25		150.0	

10112- CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	Х	2.69	67.18	15.45	0.00	150.0	± 9.6 %
		Y	2.98	67.27	15.77		150.0	1-
		Z	2.86	66.53	15.28		150.0	
10113- CAE	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	Х	2.45	68.59	15.62	0.00	150.0	± 9.6 %
		Y	2.72	68.25	16.11		150.0	
		Z	2.57	67.25	15.44		150.0	
10114- CAC	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	Х	4.79	67.03	16.27	0.00	150.0	± 9.6 %
		Y	5.08	67.16	16.37		150.0	
		Z	5.03	66.88	16.22		150.0	
10115- CAC	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	Х	5.02	67.06	16.28	0.00	150.0	± 9.6 %
		Υ	5.36	67.26	16.43		150.0	
		Z	5.31	67.00	16.29		150.0	
10116- CAC	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	X	4.86	67.17	16.27	0.00	150.0	± 9.6 %
		Y	5.17	67.34	16.38		150.0	
		Z	5.12	67.05	16.23		150.0	
10117- CAC	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	Х	4.77	66.93	16.24	0.00	150.0	± 9.6 %
		Υ	5.05	67.02	16.32		150.0	
		Z	4.99	66.72	16.16		150.0	
10118- CAC	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	Х	5.09	67.24	16.38	0.00	150.0	± 9.6 %
		Y	5.43	67.45	16.53		150.0	
		Z	5.40	67.22	16.41		150.0	
10119- CAC	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	Х	4.87	67.20	16.29	0.00	150.0	± 9.6 %
		Y	5.15	67.29	16.37		150.0	
		Z	5.10	67.02	16.23		150.0	
10140- CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	X	3.05	67.13	15.57	0.00	150.0	± 9.6 %
		Υ	3.33	67.40	15.84		150.0	
		Z	3.22	66.73	15.40		150.0	
10141- CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	X	3.18	67.37	15.81	0.00	150.0	± 9.6 %
		Y	3.46	67.51	16.01		150.0	
		Z	3.35	66.88	15.60		150.0	
10142- CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	X	1.56	67.55	14.19	0.00	150.0	± 9.6 %
		Y	1.93	68.41	15.56		150.0	
		Z	1.74	66.76	14.43		150.0	1
10143- CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	Х	1.98	67.80	13.86	0.00	150.0	± 9.6 %
		Υ	2.42	68.79	15.61		150.0	
		Z	2.21	67.27	14.61		150.0	
10144- CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	Х	1.65	64.64	11.69	0.00	150.0	± 9.6 %
		Υ	2.18	66.44	13.97		150.0	
		Z	2.03	65.29	13.12		150.0	
10145- CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	X	0.57	60.00	6.00	0.00	150.0	± 9.6 %
		Υ	1.14	64.49	11.23		150.0	
		Z	0.96	62.50	9.65		150.0	
10146- CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	Х	0.82	60.00	5.46	0.00	150.0	± 9.6 %
		Υ	1.61	64.26	10.23		150.0	
		Ζ	1.58	64.23	10.37		150.0	
10147- CAE	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	Х	0.84	60.00	5.52	0.00	150.0	± 9.6 %
							_	
		Y	1.80	65.54	11.00		150.0	

March 26, 2018

10149- CAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	X	2.57	67.13	15.40	0.00	150.0	± 9.6 %
		Y	2.86	67.32	15.76		150.0	
		Z	2.74	66.53	15.22		150.0	
10150- CAD	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	Х	2.70	67.25	15.51	0.00	150.0	± 9.6 %
<u> </u>		Y	2.98	67.33	15.82		150.0	
		Z	2.87	66.58	15.32		150.0	
10151- CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	X	4.70	73.54	18.92	3.98	65.0	± 9.6 %
		Y	6.76	79.59	22.37		65.0	
		Z	6.07	77.36	21.35		65.0	
10152- CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	Х	4.39	69.95	17.62	3.98	65.0	± 9.6 %
		Υ	5.61	73.90	20.42		65.0	
		Z	5.29	72.60	19.74		65.0	
10153- CAD	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	Х	4.76	71.19	18.59	3.98	65.0	± 9.6 %
		Υ	5.98	74.85	21.19		65.0	
		Z	5.65	73.60	20.56		65.0	
10154- CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	Х	1.88	68.49	15.59	0.00	150.0	± 9.6 %
		Υ	2.21	68.85	16.20		150.0	
		Z	2.03	67.43	15.26		150.0	
10155- CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	Х	2.31	68.40	15.48	0.00	150.0	± 9.6 %
		Υ	2.57	68.11	15.99		150.0	
		Z	2.42	67.05	15.27		150.0	
10156- CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	Х	1.33	66.69	13.15	0.00	150.0	± 9.6 %
		Υ	1.78	68.44	15.30		150.0	
		Z	1.57	66.51	13.99		150.0	
10157- CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	Х	1.40	64.17	10.89	0.00	150.0	± 9.6 %
		Υ	2.01	66.95	13.95		150.0	
		Z	1.82	65.45	12.89		150.0	
10158- CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	Х	2.46	68.70	15.69	0.00	150.0	± 9.6 %
		Υ	2.73	68.31	16.15		150.0	
		Z	2.57	67.31	15.48		150.0	
10159- CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	1.46	64.38	11.04	0.00	150.0	± 9.6 %
-		Υ	2.12	67.40	14.23		150.0	
		Z	1.91	65.82	13.14		150.0	
10160- CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	2.40	68.40	15.86	0.00	150.0	± 9.6 %
		Y	2.68	68.46	16.15		150.0	
		Z	2.55	67.52	15.51		150.0	
10161- CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	X	2.59	67.20	15.32	0.00	150.0	± 9.6 %
		Υ	2.88	67.27	15.74		150.0	
		Z	2.76	66.50	15.21		150.0	
10162- CAD	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	2.70	67.48	15.50	0.00	150.0	± 9.6 %
		Y	2.99	67.43	15.86		150.0	
		Z	2.87	66.68	15.35		150.0	
10166- CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	X	3.01	68.81	18.61	3.01	150.0	± 9.6 %
		Y	3.44	69.11	18.75		150.0	
		Z	3.39	68.86	18.82		150.0	
10167- CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	Х	3.62	71.80	19.00	3.01	150.0	± 9.6 %
CAE		1 1/	1.40	70.00	10.04	-	150.0	
		Y	4.19	72.00	19.21		100.0	

Page 17 of 39

10168- CAE	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	Х	4.28	75.43	21.03	3.01	150.0	± 9.6 %
		Υ	4.67	74.32	20.57		150.0	
		Z	4.48	73.64	20.52		150.0	
10169- CAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	Х	2.53	67.59	17.99	3.01	150.0	± 9.6 %
		Y	2.81	68.39	18.44		150.0	
		Z	2.73	67.66	18.31		150.0	
10170- CAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	Х	3.51	74.28	20.76	3.01	150.0	± 9.6 %
		Υ	3.82	74.34	20.81		150.0	
		Z	3.51	72.70	20.40		150.0	
10171- AAD	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	X	2.72	69.02	17.28	3.01	150.0	± 9.6 %
		Y	3.13	70.21	18.02		150.0	
		Z	2.92	68.88	17.67		150.0	
10172- CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	Х	2.86	72.52	20.31	6.02	65.0	± 9.6 %
		Υ	8.39	93.39	29.70		65.0	
		Z	6.85	88.87	28.26		65.0	
10173- CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	X	4.51	78.21	20.55	6.02	65.0	± 9.6 %
		Υ	19.61	104.89	31.06		65.0	
		Z	12.50	96.87	28.99		65.0	
10174- CAD	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	Х	2.47	68.91	16.41	6.02	65.0	± 9.6 %
		Y	15.21	98.80	28.62		65.0	
		Z	10.71	92.77	27.07		65.0	
10175- CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	Х	2.49	67.24	17.70	3.01	150.0	± 9.6 %
		Υ	2.78	68.10	18.20		150.0	
		Z	2.70	67.37	18.06		150.0	
10176- CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	X	3.51	74.30	20.77	3.01	150.0	± 9.6 %
		Υ	3.83	74.37	20.82		150.0	
		Z	3.51	72.72	20.41		150.0	
10177- CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	Х	2.51	67.38	17.79	3.01	150.0	± 9.6 %
		Y	2.80	68.24	18.29		150.0	
		Z	2.72	67.51	18.15		150.0	
10178- CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	Х	3.48	74.10	20.66	3.01	150.0	± 9.6 %
		Υ	3.79	74.17	20.71		150.0	
		Z	3.48	72.52	20.30		150.0	
10179- CAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	X	3.04	71.33	18.79	3.01	150.0	± 9.6 %
		Υ	3.44	72.15	19.27		150.0	
		Z	3.19	70.67	18.90		150.0	
10180- CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	Х	2.71	68.97	17.24	3.01	150.0	± 9.6 %
		Υ	3.12	70.15	17.97		150.0	
		Z	2.92	68.82	17.62		150.0	
10181- CAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	Х	2.51	67.36	17.78	3.01	150.0	± 9.6 %
		Υ	2.80	68.22	18.28		150.0	
		Z	2.71	67.49	18.15		150.0	
10182- CAD	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	Х	3.48	74.07	20.65	3.01	150.0	± 9.6 %
0.10		Υ	3.79	74.14	20.70		150.0	
		Z	3.48	72.50	20.29		150.0	
					17.23	3.01	150.0	± 9.6 %
10183- AAC	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	2.71	68.95	17.20	0.0.	100.0	2010 70
	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	3.11	70.13	17.96	0.0	150.0	20,0 %

10185- CAD	QPSK)	Υ	2.81	68.26	18.31		150.0	
CAD	1 TE EDD (00 EDM) 1 DD 01 H 1				10.01		100.0	
CAD	1 TE EDD (00 ED) (4 1 DD 014) 10	Z	2.72	67.53	18.17		150.0	
	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	3.50	74.16	20.69	3.01	150.0	± 9.6 %
10186	G (IVI)	Υ	3.81	74.21	20.74		150.0	
10186	+	Z	3.49	72.57	20.33		150.0	
	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-	X	2.72	69.01	17.26	3.01	150.0	± 9.6 %
AAD	QAM)					0.01	150.0	2 0.0 70
		Y	3.13	70.19	18.00			
		Z	2.93	68.86	17.64	0.04	150.0	1069/
10187- CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	X	2.53	67.50	17.90	3.01	150.0	± 9.6 %
		Y	2.81	68.32	18.37		150.0	
		Z	2.73	67.59	18.23		150.0	
10188- CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	X	3.63	74.98	21.15	3.01	150.0	± 9.6 %
		Y	3.93	74.86	21.11		150.0	
		Z	3.60	73.18	20.70		150.0	
10189- AAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	2.78	69.45	17.56	3.01	150.0	± 9.6 %
AAL	UT QUIVI)	Υ	3.20	70.61	18.27		150.0	
		Z	2.98	69.24	17.91		150.0	
10193-	IEEE 802.11n (HT Greenfield, 6.5 Mbps,	X	4.19	66.74	15.93	0.00	150.0	± 9.6 %
CAC	BPSK)		V			0.00	150.0	2010 10
		Y	4.48	66.60	16.07			
		Z	4.41	66.25	15.86	0.00	150.0	1000
10194- CAC	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	X	4.32	66.94	16.07	0.00	150.0	± 9.6 %
		Υ	4.64	66.90	16.19		150.0	
		Z	4.58	66.56	15.99		150.0	
10195- CAC	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	Х	4.35	66.94	16.08	0.00	150.0	± 9.6 %
-		Υ	4.69	66.94	16.21		150.0	
		Z	4.62	66.59	16.02		150.0	
10196- CAC	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	Х	4.17	66.71	15.91	0.00	150.0	± 9.6 %
0,10	51 610	Υ	4.48	66.65	16.08		150.0	
		Z	4.41	66.30	15.88		150.0	
10197- CAC	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	X	4.33	66.94	16.07	0.00	150.0	± 9.6 %
CAC	QAIVI)	Y	4.66	66.92	16.21		150.0	
		Z	4.59	66.58	16.01		150.0	
10198-	IEEE 802.11n (HT Mixed, 65 Mbps, 64-	X	4.34	66.93	16.07	0.00	150.0	± 9.6 %
CAC	QAM)	Υ	4.69	66.95	16.22	100	150.0	
		Z	4.62	66.61	16.03		150.0	
10219- CAC	IEEE 802.11n (HT Mixed, 7.2 Mbps,	X	4.13	66.76	15.88	0.00	150.0	± 9.6 %
UAU	BPSK)	Y	4.43	66.67	16.04		150.0	
		Z	4.43	66.31	15.83		150.0	
10220-	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-	X	4.32	66.90	16.06	0.00	150.0	± 9.6 %
CAC	QAM)	Y	4.65	66.89	16.19		150.0	
		Z	4.58	66.54	16.00		150.0	
10221- CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	X	4.36	66.89	16.07	0.00	150.0	± 9.6 %
37.0	See tivily	Y	4.70	66.88	16.21		150.0	
		Z	4.63	66.54	16.01		150.0	
40000	IEEE 802.11n (HT Mixed, 15 Mbps,	X	4.75	66.93	16.23	0.00	150.0	± 9.6 %
10222- CAC	BPSK)		10	30.00		5.50		1
10222- CAC		Y	5.02	67.03	16.31		150.0	

10223- CAC	IEEE 802,11n (HT Mixed, 90 Mbps, 16-QAM)	X	4.98	67.05	16.30	0.00	150.0	± 9.6 %
		Υ	5.32	67.23	16.43		150.0	
		Z	5.28	67.01	16.32		150.0	
10224- CAC	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	Х	4.79	67.06	16.22	0.00	150.0	± 9.6 %
		Y	5.07	67.15	16.30		150.0	
		Z	5.01	66.83	16.13		150.0	
10225- CAB	UMTS-FDD (HSPA+)	Х	2.45	65.93	14.33	0.00	150.0	± 9.6 %
		Y	2.76	66.07	15.18		150.0	
		Z	2.66	65.41	14.69		150.0	
10226- CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	Х	4.76	79.17	21.00	6.02	65.0	± 9.6 %
		Y	21.71	106.92	31.74		65.0	
		Z	13.53	98.47	29.59		65.0	
10227- CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	X	4.44	77.23	19.62	6.02	65.0	± 9.6 %
		Y	20.45	103.83	30.11		65.0	
		Z	13.54	96.91	28.43		65.0	
10228- CAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	Х	3.69	77.26	22.29	6.02	65.0	± 9.6 %
		Υ	9.15	95.40	30.43		65.0	
		Z	7.48	91.04	29.13		65.0	
10229- CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	X	4.54	78.30	20.59	6.02	65.0	± 9.6 %
		Y	19.80	105.03	31.11		65.0	
		Z	12.61	96.99	29.04		65.0	
10230- CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	X	4.22	76.42	19.25	6.02	65.0	± 9.6 %
		Y	18.55	102.02	29.51		65.0	
		Z	12.52	95.42	27.88		65.0	
10231- CAB	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	Х	3.56	76.55	21.92	6.02	65.0	± 9.6 %
		Y	8.70	94.29	29.98		65.0	
		Z	7.15	90.04	28.69		65.0	
10232- CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	Х	4.53	78.29	20.58	6.02	65.0	± 9.6 %
		Y	19.76	105.02	31.10		65.0	
		Z	12.58	96.97	29.03		65.0	
10233- CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	Х	4.21	76.40	19.25	6.02	65.0	± 9.6 %
		Y	18.49	101.98	29.50		65.0	
		Z	12.48	95.38	27.87		65.0	
10234- CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	Х	3.45	75.94	21.55	6.02	65.0	± 9.6 %
		Y	8.35	93.31	29.53		65.0	
		Z	6.89	89.17	28.27		65.0	
10235- CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	Х	4.54	78.30	20.59	6.02	65.0	± 9.6 %
		Υ	19.80	105.07	31.12		65.0	
		Z	12.60	97.01	29.04		65.0	
10236- CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	Х	4.24	76.49	19.27	6.02	65.0	± 9.6 %
		Y	18.83	102.25	29.57		65.0	
		Z	12.66	95.59	27.93		65.0	
10237- CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	X	3.55	76.56	21.92	6.02	65.0	± 9.6 %
		Y	8.71	94.37	30.01		65.0	
		Z	7.15	90.09	28.71		65.0	
10238- CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	X	4.52	78.26	20.57	6.02	65.0	± 9.6 %
J. (D				404.00	0.4.40			
		Y	19.71	104.99	31.10		65.0	

10239- CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	X	4.20	76.37	19.23	6.02	65.0	± 9.6 %
		Y	18.41	101.93	29.49		65.0	
		Z	12.44	95.34	27.86		65.0	
10240- CAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	Х	3.55	76.54	21.91	6.02	65.0	± 9.6 %
		Y	8.69	94.32	29.99		65.0	
		Z	7.13	90.04	28.70		65.0	
10241-	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz,	X	6.09	77.71	23.09	6.98	65.0	± 9.6 %
CAA	16-QAM)	Υ	7.70	81.27	25.62		65.0	
		Z	7.70	79.66	25.05		65.0	
10242- CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	X	5.03	74.11	21.52	6.98	65.0	± 9.6 %
-		Υ	7.37	80.38	25.19		65.0	
		Z	6.97	78.84	24.63		65.0	
10243- CAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	Х	4.36	71.59	21.30	6.98	65.0	± 9.6 %
0, 0 (	2. 5.7	Υ	5.88	76.52	24.48		65.0	
		Z	5.70	75.48	24.06		65.0	
10244- CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	X	2.54	64.40	10.64	3.98	65.0	± 9.6 %
		Y	5.66	75.89	18.42		65.0	
		Z	5.50	75.55	18.48		65.0	
10245- CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	2.53	64.17	10.47	3.98	65.0	± 9.6 %
O/ LD	01 00 1111	Υ	5.47	75.08	18.03		65.0	
		Z	5.31	74.74	18.08		65.0	
10246- CAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	X	2.19	65.63	11.79	3.98	65.0	± 9.6 %
Ç, LD	Qi oi q	Υ	6.38	81.88	21.28		65.0	
		Z	4.87	77.18	19.21		65.0	
10247- CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	X	2.92	66.39	13.03	3.98	65.0	± 9.6 %
07.15	10 20 111/	Y	5.00	74.77	19.12		65.0	
		Z	4.49	72.70	18.04		65.0	
10248- CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	X	2.94	66.10	12.90	3.98	65.0	± 9.6 %
0		Y	4.94	73.99	18.76		65.0	
		Z	4.47	72.10	17.74		65.0	
10249- CAD	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	X	3.18	70.53	15.49	3.98	65.0	± 9.6 %
O/ LD	GI OIV	Y	7.68	85.29	23.53		65.0	
		Z	6.04	80.83	21.65		65.0	
10250- CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	X	4.20	71.41	17.87	3.98	65.0	± 9.6 %
		Υ	5.75	76.71	21.63		65.0	
		Z	5.33	75.09	20.81		65.0	
10251- CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	X	3.97	69.39	16,53	3.98	65.0	± 9.6 %
		Υ	5.45	74.43	20.27		65.0	
		Z	5.09	72.96	19.49		65.0	
10252- CAD	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	X	4.31	74.33	18.83	3.98	65.0	± 9.6 %
		Y	7.22	83.31	23.82		65.0	
		Z	6.18	80.18	22.45		65.0	
10253- CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	Х	4.34	69.65	17.35	3.98	65.0	± 9.6 %
		Υ	5.49	73.34	20.15		65.0	
		Z	5.19	72.10	19.49		65.0	
10254- CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	X	4.65	70.68	18.15	3.98	65.0	± 9.6 %
CAD		1	= 00	74.00	00.04	1	05.0	
		Y	5.83	74.22	20.84		65.0	

10255- CAD	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	X	4.54	73.08	18.83	3.98	65.0	± 9.6 %
		Υ	6.34	78.62	22.21		65.0	
		Z	5.75	76.58	21.25		65.0	
10256- CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	Х	1.91	61.63	7.92	3.98	65.0	± 9.6 %
		Y	4.15	71.10	15.26		65.0	
		Z	4.06	70.83	15.32		65.0	
10257- CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	Х	1.91	61.43	7.72	3.98	65.0	± 9.6 %
		Y	3.99	70.18	14.74		65.0	
		Z	3.90	69.90	14.78		65.0	
10258- CAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	Х	1.63	62.19	8.79	3.98	65.0	± 9.6 %
		Y	4.45	75.74	17.96		65.0	
10070		Z	3.48	71.78	16.02		65.0	
10259- CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	X	3.38	68.24	14.78	3.98	65.0	± 9.6 %
		Y	5.31	75.55	20.05		65.0	
		Z	4.83	73.66	19.07		65.0	
10260- CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	Х	3.42	68.10	14.71	3.98	65.0	± 9.6 %
		Y	5.32	75.17	19.88		65.0	
		Z	4.86	73.37	18.94		65.0	
10261- CAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	Х	3.54	71.71	16.67	3.98	65.0	± 9.6 %
		Y	6.92	83.15	23.19		65.0	
		Z	5.75	79.57	21.62		65.0	
10262- CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	Х	4.18	71.32	17.81	3.98	65.0	± 9.6 %
		Y	5.74	76.66	21.58		65.0	
		Z	5.32	75.03	20.76		65.0	
10263- CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	Х	3.97	69.38	16.53	3.98	65.0	± 9.6 %
		Y	5.44	74.40	20.26		65.0	
		Z	5.08	72.93	19.48		65.0	
10264- CAD	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	Х	4.26	74.14	18.73	3.98	65.0	± 9.6 %
		Y	7.14	83.08	23.70		65.0	
		Z	6.12	79.97	22.34		65.0	
10265- CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	Х	4.39	69.95	17.63	3.98	65.0	± 9.6 %
		Y	5.61	73.90	20.42		65.0	
		Z	5.29	72.60	19.74		65.0	
10266- CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	Х	4.76	71.18	18.58	3.98	65.0	± 9.6 %
		Y	5.97	74.83	21.18		65.0	
		Z	5.65	73.58	20.55		65.0	
10267- CAD	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	Х	4.70	73.50	18.90	3.98	65.0	± 9.6 %
		Υ	6.75	79.54	22.35		65.0	
		Z	6.06	77.31	21.33		65.0	
10268- CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	Х	5.11	70.55	18.54	3.98	65.0	± 9.6 %
		Y	6.20	73.63	20.67		65.0	
		Z	5.92	72.56	20.13		65.0	
10269- CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	Х	5.15	70.32	18.47	3.98	65.0	± 9.6 %
		Y	6.17	73.17	20.52		65.0	
		Z	5.91	72.15	20.00		65.0	
10270- CAD	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	Х	4.99	72.14	18.62	3.98	65.0	± 9.6 %
		Y	6.41	76.17	21.09		65.0	
			0.71				00.0	

10274- CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	X	2.30	66.51	14.36	0.00	150.0	± 9.6 %
	1	Y	2.55	66.46	15.11		150.0	
		Z	2.44	65.65	14.52		150.0	
10275- CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	X	1.35	67.29	14.47	0.00	150.0	± 9.6 %
<u> </u>		Y	1.57	67.66	15.32		150.0	
		Z	1.41	65.94	14.11		150.0	
10277- CAA	PHS (QPSK)	X	1.73	59.46	4.90	9.03	50.0	± 9.6 %
0/ 0 1		Y	1.87	61.12	6.64		50.0	
		Z	1.98	61.15	6.78		50.0	
10278- CAA	PHS (QPSK, BW 884MHz, Rolloff 0.5)	X	2.58	63.01	8.91	9.03	50.0	± 9.6 %
		Y	6.36	77.80	17.65		50.0	
		Z	4.60	72.52	15.42		50.0	
10279- CAA	PHS (QPSK, BW 884MHz, Rolloff 0.38)	X	2.62	63.14	9.03	9.03	50.0	± 9.6 %
		Y	6.58	78.21	17.87		50.0	
		Z	4.75	72.87	15.63		50.0	
10290- AAB	CDMA2000, RC1, SO55, Full Rate	X	0.58	61.27	7.45	0.00	150.0	± 9.6 %
		Y	1.34	67.94	13.37		150.0	
		Z	1.06	64.86	11.29		150.0	
10291- AAB	CDMA2000, RC3, SO55, Full Rate	Х	0.36	60.00	6.25	0.00	150.0	± 9.6 %
		Υ	0.77	65.14	11.86		150.0	
		Z	0.62	62.58	9.76		150.0	
10292- AAB	CDMA2000, RC3, SO32, Full Rate	Х	0.40	61.47	7.41	0.00	150.0	± 9.6 %
		Υ	1.00	69.37	14.32		150.0	
		Z	0.69	64.62	11.19		150.0	
10293- AAB	CDMA2000, RC3, SO3, Full Rate	Х	0.62	65.39	9.89	0.00	150.0	± 9.6 %
		Υ	1.64	76.33	17.71		150.0	
		Z	0.91	67.89	13.26		150.0	
10295- AAB	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	Х	7.31	76.61	17.51	9.03	50.0	± 9.6 %
	V	Υ	12.26	91.93	26.49		50.0	
		Z	10.63	87.85	24.66		50.0	
10297- AAC	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	Х	2.36	69.07	16.13	0.00	150.0	± 9.6 %
		Υ	2.69	69.46	16.44		150.0	
		Z	2.50	68.15	15.62		150.0	
10298- AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	Х	0.82	62.29	8.97	0.00	150.0	± 9.6 %
		Υ	1.48	67.11	13.61		150.0	
		Z	1.25	64.87	12.03		150.0	
10299- AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	Х	1.11	61.39	7.56	0.00	150.0	± 9.6 %
		Υ	2.23	67.62	12.93		150.0	
		Z	2.21	67.75	13.20	Table 1	150.0	
10300- AAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	X	0.96	60.00	6.13	0.00	150.0	± 9.6 %
		Υ	1.73	63.90	10.39		150.0	
		Z	1.70	63.83	10.51		150.0	
10301- AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	X	4.10	64.80	16.62	4.17	50.0	± 9.6 %
		Y	4.70	65.50	17.40		50.0	
		Z	4.66	65.28	17.22		50.0	
10302- AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)	X	4.63	65.63	17.43	4.96	50.0	± 9.6 %
		Y	5.17	66.08	18.10		50.0	

10303- AAA	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	Х	4.45	65.64	17.44	4.96	50.0	± 9.6 %
		Y	4.91	65.70	17.92		50.0	
		Z	4.87	65.40	17.68		50.0	
10304- AAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	Х	4.23	65.27	16.80	4.17	50.0	± 9.6 %
		Υ	4.73	65.58	17.41		50.0	
		Z	4.68	65.25	17.15		50.0	
10305- AAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)	Х	4.00	67.42	18.21	6.02	35.0	± 9.6 %
		Y	4.29	67.19	19.34		35.0	/ =
10000		Z	4.36	67.44	19.28		35.0	
10306- AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)	X	4.26	66.40	18.12	6.02	35.0	± 9.6 %
		Y	4.63	66.36	19.00		35.0	
10007	1555	Z	4.66	66.44	18.92		35.0	
10307- AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)	X	4.15	66.44	18.02	6.02	35.0	± 9.6 %
		Y	4.52	66.47	18.95		35.0	
1000		Z	4.56	66.58	18.87		35.0	
10308- AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	X	4.13	66.66	18.17	6.02	35.0	± 9.6 %
		Y	4.49	66.67	19.09		35.0	
100		Z	4.54	66.79	19.01		35.0	
10309- AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)	X	4.26	66.42	18.19	6.02	35.0	± 9.6 %
		Y	4.68	66.57	19.15		35.0	
		Z	4.71	66.64	19.06		35.0	
10310- AAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)	Х	4.22	66.48	18.13	6.02	35.0	± 9.6 %
		Y	4.58	66.40	18.97		35.0	
		Z	4.61	66.50	18.89		35.0	
10311- AAC	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	Х	2.72	68.28	15.84	0.00	150.0	± 9.6 %
		Y	3.05	68.78	16.11		150.0	
		Z	2.84	67.51	15.36		150.0	
10313- AAA	iDEN 1:3	X	1.83	65.29	11.68	6.99	70.0	± 9.6 %
		Y	4.83	79.00	18.69		70.0	
		Z	3.10	72.43	15.87		70.0	
10314- AAA	iDEN 1:6	X	2.52	68.79	15.81	10.00	30.0	± 9.6 %
		Y	8.15	91.11	26.02		30.0	
		Z	5.05	81.63	22.30		30.0	
10315- AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	Х	0.94	63.19	14.38	0.17	150.0	± 9.6 %
		Y	1.06	63.60	15.01		150.0	-
		Z	0.98	62.56	14.10		150.0	
10316- AAB	IEEE 802.11g WiFi 2.4 GHz (ERP- OFDM, 6 Mbps, 96pc duty cycle)	X	4.19	66.51	15.90	0.17	150.0	± 9.6 %
		Y	4.53	66.66	16.23		150.0	
		Z	4.47	66.32	16.03		150.0	
10317- AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	Х	4.19	66.51	15.90	0.17	150.0	± 9.6 %
		Y	4.53	66.66	16.23		150.0	
		Z	4.47	66.32	16.03		150.0	
10400- AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)	Х	4.26	66.87	16.01	0.00	150.0	± 9.6 %
		Y	4.63	66.95	16.19		150.0	
		Z	4.56	66.60	15.98		150.0	
10401- AAD	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)	Х	4.93	66.62	16.03	0.00	150.0	± 9.6 %
		Y	5.33	67.11	16.35		150.0	
		Z	5.31	66.92	16.25		150.0	1

10402- AAD	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)	Х	5.31	67.26	16.26	0.00	150.0	± 9.6 %
		Υ	5.59	67.42	16.36		150.0	
		Z	5.53	67.13	16.21		150.0	
10403- AAB	CDMA2000 (1xEV-DO, Rev. 0)	Х	0.58	61.27	7.45	0.00	115.0	± 9.6 %
-		Υ	1.34	67.94	13.37		115.0	
		Z	1.06	64.86	11.29		115.0	
10404- AAB	CDMA2000 (1xEV-DO, Rev. A)	X	0.58	61.27	7.45	0.00	115.0	± 9.6 %
		Υ	1.34	67.94	13.37		115.0	
		Z	1.06	64.86	11.29		115.0	
10406- AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	Х	100.00	110.11	24.04	0.00	100.0	± 9.6 %
		Υ	61.38	113.13	27.58		100.0	
		Z	28.31	106.98	27.25		100.0	
10410- AAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	Х	1.71	69.58	12.94	3.23	80.0	± 9.6 %
		Y	100.00	123.96	30.84		80.0	
		Z	100.00	127.10	32.36		80.0	
10415- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)	X	0.90	62.77	14.10	0.00	150.0	± 9.6 %
		Y	1.00	62.86	14.45		150.0	
		Z	0.92	61.89	13.56		150.0	
10416- AAA	IEEE 802.11g WiFi 2.4 GHz (ERP- OFDM, 6 Mbps, 99pc duty cycle)	Х	4.18	66.69	16.00	0.00	150.0	± 9.6 %
		Y	4.48	66.64	16.14		150.0	
		Z	4.42	66.29	15.94		150.0	
10417- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)	Х	4.18	66.69	16.00	0.00	150.0	± 9.6 %
		Y	4.48	66.64	16.14		150.0	
		Z	4.42	66.29	15.94		150.0	
10418- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 99pc duty cycle, Long preambule)	X	4.18	66.91	16.06	0.00	150.0	± 9.6 %
		Y	4.47	66.80	16.16		150.0	
		Z	4.40	66.44	15.95		150.0	
10419- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 99pc duty cycle, Short preambule)	X	4.19	66.83	16.04	0.00	150.0	± 9.6 %
		Y	4.49	66.75	16.16		150.0	
		Z	4.43	66.40	15.96		150.0	
10422- AAB	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	Х	4.29	66.81	16.06	0.00	150.0	± 9.6 %
		Y	4.61	66.75	16.18		150.0	
		Z	4.54	66.41	15.98		150.0	
10423- AAB	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	X	4.41	67.04	16.14	0.00	150.0	± 9.6 %
		Y	4.76	67.05	16.28		150.0	
		Z	4.70	66.71	16.09		150.0	
10424- AAB	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	Х	4.34	66.99	16.11	0.00	150.0	± 9.6 %
		Y	4.69	67.00	16.26		150.0	
		Z	4.62	66.65	16.06		150.0	
10425- AAB	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	X	4.97	67.11	16.31	0.00	150.0	± 9.6 %
		Y	5.28	67.26	16.42		150.0	
		Z	5.24	67.00	16.29		150.0	
10426- AAB	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	X	4.99	67.23	16.36	0.00	150.0	± 9.6 %
		Y	5.29	67.30	16.44		150.0	
		Z	5.26	67.08	16.33	1	150.0	

10427- AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	Х	4.96	67.02	16.25	0.00	150.0	± 9.6 %
		Υ	5.30	67.27	16.42		150.0	
		Z	5.26	67.02	16.29		150.0	-
10430- AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	X	4.34	73.65	18.59	0.00	150.0	± 9.6 %
		Υ	4.20	70.87	18.06		150.0	
		Z	4.08	70.31	17.71		150.0	
10431-	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	X	3.77	67.25	15.76	0.00	150.0	1069/
AAB	(	Y	4.15	67.18	16.11	0.00	150.0	± 9.6 %
		Z	4.06					
10432-	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	X		66.75	15.83		150.0	
AAB	LTE-I DD (OF DIVIA, 13 IVIA2, E-TIVI 3.1)		4.10	67.10	16.01	0.00	150.0	± 9.6 %
		Y	4.45	67.05	16.20		150.0	
40 400		Z	4.38	66.67	15.97		150.0	
10433- AAB	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	Х	4.36	67.03	16.14	0.00	150.0	± 9.6 %
		Υ	4.70	67.03	16.28		150.0	
		Z	4.63	66.68	16.08	7	150.0	
10434- AAA	W-CDMA (BS Test Model 1, 64 DPCH)	Х	4.41	74.22	18.11	0.00	150.0	± 9.6 %
		Υ	4.31	71.75	18.01	4	150.0	
		Z	4.14	71.00	17.55		150.0	
10435-	LTE-TDD (SC-FDMA, 1 RB, 20 MHz,	X	1.67	69.25	12.75	2.22		. 0 0 0/
AAC	QPSK, UL Subframe=2,3,4,7,8,9)					3.23	80.0	± 9.6 %
		Y	100.00	123.72	30.73		80.0	
40447	LTE EDD (OFFILE DAY)	Z	100.00	126.86	32.25		80.0	1
10447- AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	Х	2.94	66.66	14.20	0.00	150.0	± 9.6 %
		Y	3.43	67.14	15.35		150.0	
		Z	3.31	66.50	14.90		150.0	
10448- AAB	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clippin 44%)	Х	3.64	67.05	15.64	0.00	150.0	± 9.6 %
		Υ	3.99	66.96	15.97		150.0	
		Z	3.91	66.52	15.68		150.0	
10449- AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Cliping 44%)	X	3.95	66.93	15.91	0.00	150.0	± 9.6 %
		Υ	4.27	66.88	16.10		150.0	
		Z	4.20	66.49	15.86	_	150.0	
10450- AAB	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	X	4.17	66.81	15.99	0.00	150.0	± 9.6 %
		Υ	4.47	66.80	16.13		150.0	
		Z	4.40	66.44	15.92		150.0	
10451- AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	X	2.67	66.01	13.15	0.00	150.0	± 9.6 %
		Υ	3.31	67.25	14.91		150.0	
		Z	3.17	66.49	14.37		150.0	
10456- AAB	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)	X	5.92	67.67	16.50	0.00	150.0	± 9.6 %
		Υ	6.15	67.82	16.58		150.0	
		Z						
10457-	UMTS-FDD (DC-HSDPA)		6.13	67.61	16.49	0.00	150.0	1000
AAA	OWITS-FUD (DC-NSDPA)	X	3.58	65.51	15.74	0.00	150.0	± 9.6 %
		Υ	3.76	65.29	15.84		150.0	
		Z	3.70	64.95	15.63		150.0	/
10458- AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	Х	3.31	70.05	15.47	0.00	150.0	± 9.6 %
		Υ	3.94	70.96	17.34		150.0	
		Z	3.74	70.03	16.75	5 5	150.0	
10459- AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	X	4.85	70.05	17.93	0.00	150.0	± 9.6 %
	33310)	Υ	5.02	68.47	18.03		150.0	
								40
		Z	4.97	68.29	17.92		150.0	

10460- AAA	UMTS-FDD (WCDMA, AMR)	Х	0.74	67.60	14.91	0.00	150.0	± 9.6 %
		Y	0.86	67.64	15.71		150.0	
		Z	0.72	65.03	13.71		150.0	
10461- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	0.97	64.66	11.86	3.29	80.0	± 9.6 %
		Υ	100.00	128.57	33.03		80.0	
		Z	100.00	131.20	34.34		80.0	
10462- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2.3.4,7,8,9)	X	0.75	60.00	6.13	3.23	80.0	± 9.6 %
7.00.		Υ	1.90	67.88	11.98		80.0	
		Z	3.77	75.16	15.15		80.0	
10463- AAA	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	0.80	60.00	5.53	3.23	80.0	± 9.6 %
		Υ	1.04	61.74	8.75		80.0	
		Z	1.33	64.03	10.28		80.0	
10464- AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	0.76	62.25	10.08	3.23	80.0	± 9.6 %
		Υ	100.00	125.46	31.43		80.0	
		Z	100.00	128.27	32.81		80.0	
10465- AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	Х	0.76	60.00	6.07	3.23	80.0	± 9.6 %
		Υ	1.55	65.89	11.10		80.0	
		Z	2.46	70.73	13.52		80.0	
10466- AAA	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	Х	0.81	60.00	5.50	3.23	80.0	± 9.6 %
		Y	0.97	61.11	8.39		80.0	
		Z	1.19	62.96	9.74		80.0	
10467- AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	0.78	62.50	10.24	3.23	80.0	± 9.6 %
70.0		Y	100.00	125.80	31.58		80.0	
		Z	100.00	128.63	32.96		80.0	1
10468- AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	Х	0.75	60.00	6.09	3.23	80.0	±9.6 %
		Υ	1.63	66.39	11.33		80.0	
		Z	2.71	71.78	13.93		80.0	
10469- AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64- QAM, UL Subframe=2,3,4,7,8,9)	Х	0.81	60.00	5.50	3.23	80.0	± 9.6 %
		Υ	0.97	61.12	8.39		80.0	
		Z	1.19	62.99	9.75		80.0	
10470- AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	0.78	62.48	10.22	3.23	80.0	± 9.6 %
7.0.0		Y	100.00	125.83	31.58		80.0	1
		Z	100.00	128.67	32.97		80.0	
10471- AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	Х	0.75	60.00	6.07	3.23	80.0	± 9.6 %
		Υ	1.61	66.29	11.27		80.0	
		Z	2.67	71.63	13.86		80.0	
10472- AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	Х	0.81	60.00	5.48	3.23	80.0	± 9.6 %
		Y	0.96	61.07	8.35		80.0	
		Z	1.19	62.93	9.71		80.0	
10473- AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	0.77	62.47	10.21	3.23	80.0	± 9.6 %
		Y	100.00	125.79	31.56		80.0	
		Z	100.00	128.63	32.95		80.0	
10474- AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16- QAM, UL Subframe=2,3,4,7,8,9)	Х	0.75	60.00	6.07	3.23	80.0	± 9.6 %
	total V to V	Y	1.60	66.24	11.25		80.0	
		Z	2.64	71.53	13.82		80.0	
10475-	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-	X	0.81	60.00	5.48	3.23	80.0	± 9.6 %
	QAM, UI Subframe=2.3.4.7.8.9)							
10475- AAC	QAM, UL Subframe=2,3,4,7,8,9)	Y	0.96	61.06	8.35		80.0	

10477- AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	0.75	60.00	6.05	3.23	80.0	± 9.6 %
		Y	1.54	65.82	11.05		80.0	
		Z	2.44	70.70	13.49		80.0	
10478- AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	Х	0.81	60.00	5.46	3.23	80.0	± 9.6 %
		Y	0.96	61.01	8.32		80.0	
		Z	1.18	62.84	9.66		80.0	
10479- AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	2.33	70.75	15.31	3.23	80.0	± 9.6 %
		Υ	7.06	86.12	23.01		80.0	
10480-	LTE TOD (OO FOLKS FOR FOR A CARRY	Z	9.55	91.19	24.89		80.0	
AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.29	61.51	9.12	3.23	80.0	± 9.6 %
		Y	6.94	80.66	19.14		80.0	
10481-	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz,	Z	9.00	84.45	20.65		80.0	
AAA	64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.11	60.00	7.96	3.23	80.0	± 9.6 %
		Y	5.20	76.28	17.22		80.0	
10482-	LTE-TDD (SC EDMA 500/ DD 2 ML)	Z	6.44	79.25	18.53	0.00	80.0	
AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	0.97	60.00	8.62	2.23	80.0	± 9.6 %
_		Y	3.16	73.72	17.56		80.0	
10483-	LTE-TDD (SC-FDMA, 50% RB, 3 MHz,	Z	2.26	68.76	15.13	0.00	80.0	
AAA	16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.26	60.00	7.88	2.23	80.0	± 9.6 %
		Y	3.71	71.78	15.95		80.0	
10484- AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	4.21 1.28	73.54 60.00	7.89	2.23	80.0 80.0	± 9.6 %
,	0 1 Q 1W, 0 2 Oubitaine 2,0,4,7,0,0)	Y	3.47	70.65	15.50		80.0	
		Z	3.84	72.08	16.24		80.0	
10485- AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	1.50	64.02	12.31	2.23	80.0	± 9.6 %
	St. 51 ij 52 Sastramis Ziej iji jejoj	Y	3.40	74.73	19.02		80.0	-
		Z	2.70	70.94	17.15		80.0	
10486- AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	1.54	61.49	10.25	2.23	80.0	± 9.6 %
		Y	3.18	70.07	16.47		80.0	
		Z	2.70	67.48	15.06		80.0	
10487- AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	Х	1.56	61.34	10.15	2.23	80.0	± 9.6 %
		Υ	3.16	69.58	16.23		80.0	
		Z	2.71	67.15	14.89		80.0	
10488- AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	2.17	66.71	15.17	2.23	80.0	± 9.6 %
		Υ	3.52	73.09	19.10		80.0	
1010-		Z	3.07	70.67	17.85		80.0	
10489- AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	Х	2.42	65.25	14.34	2.23	80.0	± 9.6 %
		Y	3.38	69.23	17.42		80.0	
40400	LITE TOP (OO EDITA FOR ET	Z	3.12	67.78	16.59		80.0	
10490- AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.50	65.23	14.33	2.23	80.0	± 9.6 %
		Y	3.46	69.04	17.34		80.0	
10491- AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Z X	3.21 2.59	67.67 66.69	16.55 15.59	2.23	80.0 80.0	± 9.6 %
7770	Gron, OL Subiranie-2,5,4,7,8,9)	Y	2 74	74.24	10.47	-	90.0	
		Z	3.71 3.37	71.31 69.55	18.47 17.54	-	80.0	
10492-	LTE-TDD (SC-FDMA, 50% RB, 15 MHz,	X	2.89	65.52		2 22	80.0	1060/
AAC	16-QAM, UL Subframe=2,3,4,7,8,9)				15.14	2.23	80.0	± 9.6 %
		Y	3.69	68.32	17.32		80.0	
		Z	3.49	67.25	16.71		80.0	

10493- AAC	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	2.95	65.48	15.12	2.23	80.0	± 9.6 %
		Υ	3.76	68.18	17.26		80.0	
		Z	3.56	67.16	16.68		80.0	
10494- AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	2.70	67.50	15.89	2.23	80.0	± 9.6 %
		Y	4.05	72.98	19.01		80.0	
		Z	3.61	70.87	17.94		80.0	
10495- AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	2.92	65.75	15.38	2.23	80.0	± 9.6 %
		Y	3.72	68.69	17.52		80.0	
		Z	3.51	67.57	16.89		80.0	
10496- AAC	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	Х	3.02	65.71	15.41	2.23	80.0	± 9.6 %
		Y	3.80	68.40	17.42		80.0	
		Z	3.60	67.37	16.84		80.0	
10497- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	0.92	60.00	7.04	2.23	80.0	± 9.6 %
		Y	2.18	68.63	14.35		80.0	
		Z	1.54	64.03	11.85		80.0	
10498- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	Х	1.13	60.00	5.94	2.23	80.0	± 9.6 %
		Y	1.52	61.73	9.93		80.0	
		Z	1.30	60.00	8.67		80.0	
10499- AAA	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	Х	1.15	60.00	5.78	2.23	80.0	± 9.6 %
		Y	1.46	61.11	9.44		80.0	
		Z	1.32	60.00	8.52		80.0	
10500- AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	1.77	65.25	13.53	2.23	80.0	± 9.6 %
		Y	3.37	73.67	18.92		80.0	
		Z	2.82	70.63	17.37		80.0	
10501- AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	Х	1.90	63.21	11.94	2.23	80.0	± 9.6 %
_		Y	3.28	69.81	16.86		80.0	
		Z	2.90	67.76	15.72		80.0	
10502- AAA	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	1.93	63.08	11.80	2.23	80.0	± 9.6 %
		Y	3.33	69.64	16.72		80.0	
		Z	2.96	67.64	15.60		80.0	
10503- AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	2.14	66.55	15.07	2.23	80.0	± 9.6 %
		Y	3.47	72.88	19.00		80.0	
		Z	3.04	70.48	17.75		80.0	
10504- AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	Х	2.41	65.15	14.27	2.23	80.0	± 9.6 %
		Y	3.36	69.14	17.36		80.0	
		Z	3.10	67.69	16.53		80.0	
10505- AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	Х	2.49	65.14	14.27	2.23	80.0	± 9.6 %
		Υ	3.44	68.95	17.28		80.0	
		Z	3.19	67.58	16.50		80.0	
10506- AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	Х	2.68	67.38	15.82	2.23	80.0	± 9.6 %
		Υ	4.02	72.84	18.93		80.0	
		Z	3.58	70.73	17.87		80.0	
10507- AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	Х	2.91	65.69	15.34	2.23	80.0	± 9.6 %
							1	
		Y	3.71	68.63	17.48		80.0	

10508- AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.01	65.63	15.36	2.23	80.0	± 9.6 %
		Υ	3.79	68.34	17.38		80.0	
		Z	3.59	67.31	16.79		80.0	
10509- AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.19	67.31	15.94	2.23	80.0	± 9.6 %
		Y	4.34	71.43	18.33		80.0	
		Z	3.98	69.81	17.50		80.0	
10510- AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.42	65.86	15.73	2.23	80.0	± 9.6 %
		Y	4.18	68.31	17.43		80.0	
10=11		Z	4.00	67.39	16.92		80.0	
10511- AAC	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.51	65.80	15.74	2.23	80.0	± 9.6 %
		Y	4.23	68.05	17.35	7	80.0	
105/5		Z	4.06	67.18	16.87		80.0	
10512- AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	X	3.15	67.89	16.04	2.23	80.0	± 9.6 %
		Y	4.58	73.16	18.90		80.0	
10513- AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	X	3.31	71.12 65.87	17.90 15.73	2.23	80.0	± 9.6 %
	Gabitatio=2,0,4,7,0,9)	Y	4.07	68.57	17.54		80.0	
		Z	3.88	67.58	16.99		80.0	
10514- AAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	X	3.38	65.70	15.72	2.23	80.0	± 9.6 %
		Y	4.09	68.14	17.40		80.0	
		Z	3.91	67.22	16.90		80.0	
10515- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	X	0.86	62.92	14.13	0.00	150.0	± 9.6 %
		Y	0.96	63.03	14.49		150.0	
10510		Z	0.88	61.99	13.55		150.0	
10516- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	X	0.48	69.90	15.90	0.00	150.0	± 9.6 %
		Y	0.56	69.23	16.55		150.0	
10517-	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11	Z	0.42	65.38	13.43	0.00	150.0	. 0.00/
AAA	Mbps, 99pc duty cycle)	X	0.69	64.51	14.49	0.00	150.0	± 9.6 %
		Z	0.80 0.71	64.74 63.12	15.01 13.59		150.0	
10518- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	X	4.17	66.81	15.99	0.00	150.0 150.0	± 9.6 %
		Y	4.47	66.72	16.12		150.0	
		Z	4.41	66.36	15.91		150.0	
10519- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	Х	4.30	66.95	16.07	0.00	150.0	± 9.6 %
		Y	4.65	66.93	16.23		150.0	
40500	VEET 000 44 * 100 = 5	Z	4.58	66.59	16.03		150.0	
10520- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	X	4.17	66.88	15.98	0.00	150.0	± 9.6 %
		Y	4.50	66.88	16.15		150.0	
10521- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	X	4.43	66.52 66.82	15.94 15.96	0.00	150.0 150.0	± 9.6 %
	po, cope daty dyold/	Y	4.44	66.87	16.13		150.0	
		Z	4.36	66.50	15.91		150.0	
10522- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	X	4.13	66.90	16.02	0.00	150.0	± 9.6 %
		Y	4.50	66.99	16.23		150.0	

EX3DV4- SN:3971 March 26, 2018

10523- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	X	4.09	67.01	16.01	0.00	150.0	± 9.6 %
, , , ,	mopo, copo daty dyolo/	Y	4.38	66.87	16.08		150.0	
		Z	4.31	66.49	15.86		150.0	
10524- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	X	4.10	66.92	16.05	0.00	150.0	± 9.6 %
		Y	4.44	66.90	16.19		150.0	
		Z	4.37	66.53	15.98		150.0	
10525- AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)	Х	4.15	66.07	15.70	0.00	150.0	± 9.6 %
		Y	4.44	65.97	15.80		150.0	
		Z	4.36	65.59	15.58		150.0	
10526- AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)	X	4.25	66.30	15.80	0.00	150.0	± 9.6 %
		Y	4.59	66.31	15.93		150.0	
		Z	4.52	65.93	15.71		150.0	
10527- AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)	X	4.19	66.28	15.74	0.00	150.0	± 9.6 %
		Y	4.52	66.27	15.87		150.0	
		Z	4.44	65.88	15.65		150.0	
10528- AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)	Х	4.20	66.30	15.77	0.00	150.0	± 9.6 %
		Y	4.53	66.29	15.90		150.0	
		Z	4.46	65.90	15.68		150.0	
10529- AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)	X	4.20	66.30	15.77	0.00	150.0	± 9.6 %
		Y	4.53	66.29	15.90		150.0	
		Z	4.46	65.90	15.68		150.0	
10531- AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)	Х	4.16	66.28	15.73	0.00	150.0	± 9.6 %
		Y	4.51	66.37	15.91		150.0	
		Z	4.44	65.97	15.68		150.0	
10532- AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)	X	4.05	66.15	15.67	0.00	150.0	± 9.6 %
		Y	4.38	66.23	15.84		150.0	
		Z	4.30	65.82	15.60		150.0	
10533- AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)	X	4.20	66.38	15.78	0.00	150.0	± 9.6 %
		Y	4.54	66.35	15.90		150.0	
		Z	4.46	65.95	15.67		150.0	
10534- AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)	X	4.77	66.25	15.86	0.00	150.0	± 9.6 %
		Y	5.07	66.37	15.96		150.0	
		Z	5.01	66.04	15.79		150.0	
10535- AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)	X	4.80	66.34	15.91	0.00	150.0	± 9.6 %
		Y	5.13	66.54	16.04		150.0	
		Z	5.07	66.23	15.88		150.0	
10536- AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)	X	4.70	66.35	15.89	0.00	150.0	± 9.6 %
		Y	5.00	66.50	16.00		150.0	
		Z	4.94	66.17	15.82		150.0	
10537- AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)	X	4.78	66.40	15.92	0.00	150.0	± 9.6 %
		Y	5.06	66.46	15.99		150.0	
		Z	5.00	66.14	15.81		150.0	
10538- AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)	Х	4.82	66.31	15.91	0.00	150.0	± 9.6 %
		Y	5.14	66.47	16.03		150.0	
		Z	5.09	66.16	15.87		150.0	
10540- AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)	Х	4.76	66.27	15.91	0.00	150.0	± 9.6 %
-		Y	5.07	66.47	16.04		150.0	
		Z	5.02	66.17	15.88		150.0	

10541- AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	X	4.75	66.22	15.87	0.00	150.0	± 9.6 %
	<u> </u>	Υ	5.05	66.37	15.98		150.0	
		Z	4.99	66.04	15.81		150.0	
10542- AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	Х	4.90	66.31	15.93	0.00	150.0	± 9.6 %
		Y	5.21	66.44	16.04		150.0	
		Z	5.15	66.13	15.88		150.0	
10543- AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	Х	4.98	66.43	16.02	0.00	150.0	± 9.6 %
		Y	5.28	66.46	16.07		150.0	
		Z	5.22	66.16	15.91		150.0	
10544- AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	X	5.13	66.30	15.86	0.00	150.0	± 9.6 %
		Y	5.39	66.49	15.96		150.0	
		Z	5.33	66.18	15.81		150.0	
10545- AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	X	5.29	66.72	16.03	0.00	150.0	± 9.6 %
		Y	5.56	66.87	16.11		150.0	
		Z	5.52	66.61	15.98		150.0	
10546- AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	X	5.15	66.40	15.88	0.00	150.0	± 9.6 %
		Y	5.44	66.67	16.02		150.0	
		Z	5.38	66.35	15.86		150.0	
10547- AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	X	5.25	66.59	15.96	0.00	150.0	± 9.6 %
		Y	5.51	66.72	16.03		150.0	
		Z	5.46	66.41	15.88		150.0	
10548- AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	X	5.34	67.04	16.17	0.00	150.0	± 9.6 %
		Y	5.70	67.47	16.39		150.0	
		Z	5.69	67.30	16.30		150.0	
10550- AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	X	5.23	66.67	16.02	0.00	150.0	± 9.6 %
		Y	5.47	66.71	16.05		150.0	
		Z	5.42	66.42	15.91		150.0	
10551- AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	X	5.14	66.35	15.83	0.00	150.0	± 9.6 %
		Y	5.47	66.73	16.02		150.0	
		Z	5.42	66.42	15.87		150.0	
10552- AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	X	5.14	66.44	15.87	0.00	150.0	± 9.6 %
		Y	5.40	66.57	15.95		150.0	
		Z	5.34	66.24	15.78		150.0	
10553- AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	X	5.18	66.36	15.86	0.00	150.0	± 9.6 %
		Y	5.47	66.59	15.99		150.0	
		Z	5.42	66.26	15.83		150.0	
10554- AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	X	5.56	66.62	15.93	0.00	150.0	± 9.6 %
		Y	5.79	66.85	16.05		150.0	
		Z	5.75	66.55	15.91		150.0	
10555- AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	X	5.63	66.81	16.01	0.00	150.0	± 9.6 %
		Y	5.91	67.12	16.17		150.0	
		Z	5.87	66.85	16.04		150.0	
10556- AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	X	5.68	66.95	16.07	0.00	150.0	± 9.6 %
		Y	5.93	67.17	16.18		150.0	
		Z	5.89	66.90	16.06		150.0	
10557- AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	Х	5.64	66.81	16.02	0.00	150.0	± 9.6 %
NAC.		Y	5.90	67.08	16.16		150.0	
		1 1	3.30	01.00	10.10		150.0	

EX3DV4- SN:3971 March 26, 2018

10558- AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	Х	5.62	66.80	16.03	0.00	150.0	± 9.6 %
	4	Υ	5.94	67.23	16.25		150.0	
		Z	5.89	66.94	16.11		150.0	
10560- AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	Х	5.65	66.78	16.06	0.00	150.0	± 9.6 %
		Y	5.94	67.09	16.22		150.0	
		Z	5.89	66.79	16.08		150.0	
10561- AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	X	5.59	66.76	16.08	0.00	150.0	± 9.6 %
		Y	5.86	67.06	16.24		150.0	
		Z	5.82	66.78	16.10		150.0	
10562- AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	Х	5.63	66.88	16.14	0.00	150.0	± 9.6 %
		Y	5.96	67.37	16.40		150.0	
		Z	5.92	67.09	16.26		150.0	
10563- AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	Х	5.74	66.89	16.12	0.00	150.0	± 9.6 %
		Y	6.09	67.38	16.36		150.0	
		Z	6.05	67.12	16.24		150.0	
10564- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 9 Mbps, 99pc duty cycle)	Х	4.47	66.75	16.08	0.46	150.0	± 9.6 %
		Y	4.80	66.79	16.28		150.0	
		Z	4.74	66.46	16.09		150.0	
10565- AAA	IEEE 802,11g WiFi 2.4 GHz (DSSS- OFDM, 12 Mbps, 99pc duty cycle)	X	4.66	67.20	16.43	0.46	150.0	± 9.6 %
		Y	5.02	67.22	16.59		150.0	
		Z	4.95	66.90	16.42		150.0	
10566- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 18 Mbps, 99pc duty cycle)	Х	4.50	66.97	16.20	0.46	150.0	± 9.6 %
, , , ,		Y	4.85	67.06	16.41		150.0	
		Z	4.79	66.73	16.22		150.0	
10567- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 99pc duty cycle)	X	4.55	67.45	16.63	0.46	150.0	± 9.6 %
7001	Of Bill, 21 importants and affine	Y	4.88	67.45	16.76		150.0	
		Z	4.82	67.12	16.58		150.0	
10568- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 99pc duty cycle)	X	4.36	66.56	15.84	0.46	150.0	± 9.6 %
7001		Y	4.76	66.84	16.18		150.0	
		Z	4.70	66.50	15.98		150.0	
10569- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 99pc duty cycle)	Х	4.55	67.74	16.80	0.46	150.0	± 9.6 %
7001	Of Bill, to hispot cope and speley	Y	4.85	67.57	16.84	7	150.0	
		Z	4.78	67.24	16.66		150.0	
10570- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 99pc duty cycle)	X	4.53	67.46	16.66	0.46	150.0	± 9.6 %
		Υ	4.87	67.40	16.76		150.0	
		Z	4.81	67.08	16.58		150.0	
10571- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)	Х	0.98	63.24	14.31	0.46	130.0	± 9.6 %
		Y	1.13	64.13	15.36		130.0	
		Z	1.05	63.05	14.44	V.	130.0	
10572- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)	X	0.99	63.74	14.64	0.46	130.0	± 9.6 %
		Y	1.14	64.66	15.70		130.0	1
		Z	1.05	63.50	14.74		130.0	
10573- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)	X	0.95	75.43	18.11	0.46	130.0	± 9.6 %
		Y	1.59	82.52	22.28		130.0	
		Z	0.93	73.35	17.59		130.0	
10574- AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)	X	1.01	68.66	17.24	0.46	130.0	± 9.6 %
, v v \		1	101	00.00	10.44		4000	
		Y	1.21	69.90	18.44		130.0	

10575- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 6 Mbps, 90pc duty cycle)	X	4.24	66.42	15.99	0.46	130.0	± 9.6 %
, , , , ,	or Divi, o Mibbs, sope duty cycle)	Y	4 50	66.50	40.00		100.0	
		Z	4.58 4.52	66.58	16.33		130.0	
10576-	IEEE 802.11g WiFi 2.4 GHz (DSSS-	X	4.32	66.25	16.14	0.40	130.0	. 0 0 0/
AAA	OFDM, 9 Mbps, 90pc duty cycle)				16.10	0.46	130.0	± 9.6 %
		Y	4.61	66.75	16.40		130.0	
10577-	TEE 000 44 - WEE 0 4 OU VEGOO	Z	4.55	66.42	16.21		130.0	
AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 12 Mbps, 90pc duty cycle)	X	4.42	66.88	16.25	0.46	130.0	± 9.6 %
		Y	4.80	67.02	16.56		130.0	
40570		Z	4.74	66.71	16.38		130.0	
10578- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 18 Mbps, 90pc duty cycle)	X	4.33	67.06	16.38	0.46	130.0	± 9.6 %
		Y	4.70	67.17	16.66		130.0	
40570		Z	4.63	66.84	16.47		130.0	
10579- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 24 Mbps, 90pc duty cycle)	X	4.06	66.06	15.49	0.46	130.0	± 9.6 %
		Y	4.46	66.44	15.97		130.0	
10705		Z	4.40	66.09	15.75		130.0	
10580- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 36 Mbps, 90pc duty cycle)	X	4.08	66.06	15.48	0.46	130.0	± 9.6 %
		Y	4.51	66.50	16.00		130.0	1
40504	LEET 200 44 AND	Z	4.44	66.16	15.79		130.0	
10581- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 48 Mbps, 90pc duty cycle)	X	4.25	67.15	16.36	0.46	130.0	± 9.6 %
	La contraction of the contractio	Y	4.60	67.21	16.61		130.0	
40500	VEET 000 11 10 10 10 10 10 10 10 10 10 10 10	Z	4.53	66.87	16.41		130.0	
10582- AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS- OFDM, 54 Mbps, 90pc duty cycle)	X	3.98	65.78	15.24	0.46	130.0	± 9.6 %
		Y	4.40	66.20	15.76	11-3	130.0	
		Z	4.34	65.86	15.54		130.0	
10583- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)	X	4.24	66.42	15.99	0.46	130.0	± 9.6 %
		Y	4.58	66.58	16.33		130.0	
		Z	4.52	66.25	16.14		130.0	
10584- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)	X	4.27	66.66	16.10	0.46	130.0	± 9.6 %
		Y	4.61	66.75	16.40		130.0	
		Z	4.55	66.42	16.21		130.0	
10585- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)	Х	4.42	66.88	16.25	0.46	130.0	± 9.6 %
		Y	4.80	67.02	16.56		130.0	
		Z	4.74	66.71	16.38		130.0	
10586- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)	Х	4.33	67.06	16.38	0.46	130.0	± 9.6 %
		Y	4.70	67.17	16.66		130.0	[
		Z	4.63	66.84	16.47		130.0	
10587- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)	X	4.06	66.06	15.49	0.46	130.0	± 9.6 %
		Υ	4.46	66.44	15.97		130.0	
		Z	4.40	66.09	15.75		130.0	
10588- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)	Х	4.08	66.06	15.48	0.46	130.0	± 9.6 %
		Y	4.51	66.50	16.00		130.0	
		Z	4.44	66.16	15.79		130.0	
10589- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)	Х	4.25	67.15	16.36	0.46	130.0	± 9.6 %
		Y	4.60	67.21	16.61		130.0	
		Z	4.53	66.87	16.41		130.0	
10590- AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)	Х	3.98	65.78	15.24	0.46	130.0	± 9.6 %
		Y	4.40	66.20	15.76		130.0	
		Z	4.34	65.86	15.54		130.0	

AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	X	4.40	66.56	16.15	0.46	130.0	± 9.6 %
		Y	4.73	66.64	16.44		130.0	
		Z	4.68	66.34	16.26		130.0	
10592- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	Х	4.50	66.82	16.27	0.46	130.0	± 9.6 %
VID	Weet, sope daty system	Y	4.88	66.97	16.57		130.0	
		Z	4.82	66.66	16.39		130.0	1
10593-	IEEE 802.11n (HT Mixed, 20MHz,	X	4.42	66.67	16.10	0.46	130.0	± 9.6 %
AAB	MCS2, 90pc duty cycle)					0.40	130.0	20.0 %
		Y	4.80	66.87	16.44			
		Z	4.74	66.55	16.26	0.40	130.0 130.0	± 9.6 %
10594- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	X	4.48	66.87	16.29	0.46		I 9.0 %
		Y	4.85	67.04	16.60		130.0	_
		Z	4.79	66.72	16.42		130.0	
10595- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	X	4.44	66.84	16.19	0.46	130.0	± 9.6 %
		Y	4.82	66.99	16.50		130.0	
		Z	4.76	66.67	16.31		130.0	
10596- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	X	4.36	66.76	16.16	0.46	130.0	± 9.6 %
		Y	4.75	66.98	16.50		130.0	
		Z	4.69	66.66	16.31		130.0	
10597- AAB	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	X	4.32	66.61	15.99	0.46	130.0	± 9.6 %
7V LD	WOOO, sope daty cycle)	Y	4.70	66.88	16.37		130.0	
		Z	4.64	66.54	16.18		130.0	
10598-	IEEE 802.11n (HT Mixed, 20MHz,	X	4.33	66.92	16.32	0.46	130.0	± 9.6 %
AAB	MCS7, 90pc duty cycle)	Y	4.69	67.10	16.63		130.0	
				66.77	16.44		130.0	
40500	TEEE OOG 44 - /LIT Missed 40MM In	Z	4.62	67.01	16.45	0.46	130.0	± 9.6 %
10599- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	X	5.09			0.46		± 9.0 %
		Y	5.39	67.11	16.62		130.0	
		Z	5.36	66.90	16.52	0.40	130.0	± 9.6 %
10600- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	X	5.16	67.27	16.55	0.46	130.0	± 9.6 %
		Y	5.50	67.49	16.78		130.0	
		Z	5.49	67.34	16.71		130.0	
10601- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	X	5.11	67.21	16.54	0.46	130.0	± 9.6 %
		Y	5.41	67.28	16.70		130.0	
		Z	5.38	67.07	16.59		130.0	
10602- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	Х	5.15	67.05	16.37	0.46	130.0	± 9.6 %
		Υ	5.52	67.38	16.67	1	130.0	
		Z	5.49	67.17	16.56	0	130.0	
10603- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	X	5.21	67.33	16.67	0.46	130.0	± 9.6 %
7.7.0	MOOT, outo daily byolo)	Υ	5.58	67.62	16.91		130.0	
		Z	5.55	67.43	16.82		130.0	
10604- AAB	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	X	5.07	66.86	16.40	0.46	130.0	± 9.6 %
, , , , ,	incoo, copo daty cyclo)	Y	5.43	67.23	16.70		130.0	
		Z	5.40	67.01	16.60		130.0	
10605-	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	X	5.14	67.10	16.52	0.46	130.0	± 9.6 %
	wioco, cope duty cycle)	Y	5.50	67.42	16.80		130.0	
AAB		Z	5.48	67.25	16.72		130.0	
					1 10.14	I.	1.00.0	
AAB	IEEE 802 11n /UT Mived 40MU-			_		0.46	130.0	+96%
	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	X	4.96 5.25	66.63	16.12 16.33	0.46	130.0	± 9.6 %

10607- AAB	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	X	4.25	65.89	15.80	0.46	130.0	± 9.6 %
		Υ	4.58	65.97	16.07		130.0	
		Z	4.51	65.63	15.87		130.0	
10608- AAB	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	X	4.36	66.17	15.93	0.46	130.0	± 9.6 %
		Y	4.75	66.36	16.23		130.0	
		Z	4.68	66.01	16.03		130.0	
10609- AAB	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)	X	4.26	65.98	15.72	0.46	130.0	± 9.6 %
		Y	4.64	66.20	16.07		130.0	
40040		Z	4.57	65.84	15.86		130.0	
10610- AAB	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)	X	4.32	66.18	15.92	0.46	130.0	± 9.6 %
		Y	4.69	66.36	16.23		130.0	
10011	UEEE DOG 44 NAMEL (DOAL)	Z	4.62	66.01	16.02		130.0	
10611- AAB	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)	X	4.22	65.94	15.73	0.46	130.0	± 9.6 %
		Y	4.61	66.17	16.07		130.0	
40040	IEEE 000 44 MIE	Z	4.54	65.81	15.87		130.0	
10612- AAB	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)	X	4.20	66.00	15.73	0.46	130.0	± 9.6 %
		Y	4.61	66.32	16.12		130.0	
10010	IEEE 000 44	Z	4.54	65.95	15.91		130.0	
10613- AAB	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)	X	4.19	65.82	15.57	0.46	130.0	± 9.6 %
		Y	4.61	66.18	15.99		130.0	
10011	IEEE 000 44 MEET (001 H) ALOUE	Z	4.54	65.81	15.78		130.0	
10614- AAB	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)	Х	4.19	66.13	15.89	0.46	130.0	± 9.6 %
		Y	4.56	66.37	16.22		130.0	
10015	1555 000 11 NUT 100 11 100 100 100 100 100 100 100 100	Z	4.49	66.00	16.01		130.0	
10615- AAB	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)	X	4.20	65.72	15.46	0.46	130.0	± 9.6 %
		Y	4.60	66.01	15.86		130.0	
10010		Z	4.54	65.64	15.64		130.0	
10616- AAB	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)	X	4.89	66.14	16.01	0.46	130.0	± 9.6 %
		Y	5.22	66.41	16.26		130.0	
		Z	5.17	66.12	16.11		130.0	
10617- AAB	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)	X	4.91	66.21	16.02	0.46	130.0	± 9.6 %
		Y	5.28	66.58	16.32		130.0	
		Z	5.24	66.32	16.18		130.0	
10618- AAB	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)	X	4.82	66.28	16.07	0.46	130.0	± 9.6 %
		Y	5.17	66.60	16.34		130.0	
		Z	5.12	66.31	16.19		130.0	
10619- AAB	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)	X	4.86	66.17	15.94	0.46	130.0	± 9.6 %
		Y	5.18	66.39	16.17		130.0	
		Z	5.13	66.10	16.02	Ni.	130.0	
10620- AAB	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)	X	4.91	66.10	15.95	0.46	130.0	± 9.6 %
		Y	5.27	66.43	16.24		130.0	
1000:		Z	5.22	66.15	16.09	Tree and	130.0	
10621- AAB	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)	X	4.94	66.29	16.19	0.46	130.0	± 9.6 %
		Y	5.28	66.57	16.43		130.0	
		Z	5.23	66.30	16.29		130.0	
10622- AAB	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)	Х	4.92	66.36	16.22	0.46	130.0	± 9.6 %
		Y	5.29	66.73	16.50		130.0	
		Z	5.24	66.44	16.35		130.0	

10623- AAB	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)	X	4.82	65.90	15.83	0.46	130.0	± 9.6 %
, , ,	22/2 333/ 0/333/	Y	5.17	66.26	16.14		130.0	
		Z	5.12	65.97	15.99		130.0	
10624- AAB	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)	X	5.01	66.17	16.04	0.46	130.0	± 9.6 %
	ope day system	Y	5.36	66.46	16.30		130.0	
		Z	5.31	66.19	16.16		130.0	
10625- AAB	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)	X	5.11	66.39	16.22	0.46	130.0	± 9.6 %
		Y	5.65	67.23	16.73		130.0	
		Z	5.62	67.01	16.63		130.0	
10626- AAB	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)	Х	5.23	66.15	15.97	0.46	130.0	± 9.6 %
		Y	5.52	66.48	16.22		130.0	
		Z	5.48	66.20	16.08		130.0	
10627- AAB	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)	X	5.44	66.73	16.24	0.46	130.0	± 9.6 %
		Y	5.74	67.00	16.44		130.0	
		Z	5.72	66.80	16.35		130.0	
10628- AAB	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)	Х	5.21	66.08	15.83	0.46	130.0	± 9.6 %
		Y	5.54	66.53	16.14		130.0	
		Z	5.50	66.25	16.01		130.0	
10629- AAB	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)	X	5.34	66.37	15.97	0.46	130.0	± 9.6 %
		Y	5.61	66.59	16.16		130.0	
		Z	5.57	66.32	16.03		130.0	
10630- AAB	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)	Х	5.48	66.99	16.29	0.46	130.0	± 9.6 %
		Y	5.95	67.79	16.77		130.0	
		Z	5.98	67.75	16.75		130.0	
10631- AAB	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)	X	5.50	67.21	16.61	0.46	130.0	± 9.6 %
		Y	5.91	67.76	16.94		130.0	
		Z	5.88	67.55	16.84		130.0	
10632- AAB	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)	X	5.48	67.06	16.55	0.46	130.0	± 9.6 %
		Υ	5.72	67.08	16.62		130.0	
		Z	5.69	66.87	16.52		130.0	
10633- AAB	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)	Х	5.23	66.17	15.92	0.46	130.0	± 9.6 %
		Y	5.61	66.73	16.27		130.0	
		Z	5.56	66.42	16.12		130.0	
10634- AAB	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)	X	5.27	66.42	16.10	0.46	130.0	± 9.6 %
		Y	5.59	66.75	16.34		130.0	
		Z	5.54	66.45	16.19		130.0	
10635- AAB	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)	X	5.11	65.54	15.35	0.46	130.0	± 9.6 %
		Y	5.47	66.08	15.75		130.0	
		Z	5.42	65.78	15.59		130.0	
10636- AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)	Х	5,67	66.50	16.06	0.46	130.0	± 9.6 %
		Y	5.94	66.84	16.30		130.0	
		Z	5.90	66.58	16.18		130.0	
10637- AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)	X	5.77	66.74	16.17	0.46	130.0	± 9.6 %
,		Y	6.08	67.19	16.46		130.0	
	I have the second of the secon	Z	6.06	66.97	16.36		130.0	
10638- AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)	Х	5.82	66.89	16.22	0.46	130.0	± 9.6 %
		Y	6.08	67.18	16.44		130.0	

10639- AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)	X	5.76	66.72	16.18	0.46	130.0	± 9.6 %
		Y	6.06	67.12	16.45		130.0	
		Z	6.02	66.86	16.33		130.0	
10640- AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)	X	5.68	66.50	16.01	0.46	130.0	± 9.6 %
		Y	6.06	67.12	16.39		130.0	
		Z	6.02	66.87	16.27		130.0	
10641- AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)	Х	5.81	66.66	16.11	0.46	130.0	± 9.6 %
		Υ	6.11	67.05	16.38		130.0	
10010	Inter- condition to the condition of the	Z	6.08	66.83	16.28		130.0	
10642- AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)	X	5.83	66.89	.16.41	0.46	130.0	± 9.6 %
		Y	6.15	67.30	16.66		130.0	
10010	IFFE 000 44 W/F* /400 N/L 1400 F	Z	6.11	67.04	16.55		130.0	
10643- AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)	X	5.67	66.52	16.09	0.46	130.0	± 9.6 %
		Y	5.99	66.98	16.41		130.0	
10011	IEEE 000 44	Z	5.96	66.74	16.29		130.0	
10644- AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)	X	5.72	66.67	16.19	0.46	130.0	± 9.6 %
		Y	6.12	67.39	16.63		130.0	
10017		Z	6.08	67.14	16.51		130.0	
10645- AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)	X	5.86	66.78	16.22	0.46	130.0	± 9.6 %
		Y	6.29	67.54	16.67		130.0	
10010		Z	6.27	67.34	16.58		130.0	
10646- AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	X	5.70	83.88	27.10	9.30	60.0	± 9.6 %
		Y	18.40	112.76	39.01		60.0	
		Z	13.15	103.65	36.00		60.0	
10647- AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	X	5.13	82.23	26.59	9.30	60.0	± 9.6 %
		Y	15.21	108.89	37.97		60.0	
		Z	11.49	101.10	35.31		60.0	
10648- AAA	CDMA2000 (1x Advanced)	X	0.34	60.00	5.69	0.00	150.0	± 9.6 %
		Y	0.63	62.92	10.14		150.0	
		Z	0.53	61.21	8.45		150.0	
10652- AAB	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	X	2.91	65.10	14.74	2.23	80.0	± 9.6 %
		Y	3.51	66.83	16.53		80.0	
		Z	3.35	65.94	15.99		80.0	
10653- AAB	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	Х	3.55	64.99	15.51	2.23	80.0	± 9.6 %
		Υ	4.03	66.11	16.64		80.0	1
		Z	3.91	65.49	16.27		80.0	
10654- AAB	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	X	3.60	64.71	15.64	2.23	80.0	± 9.6 %
		Y	4.01	65.75	16.64		80.0	
		Z	3.91	65.16	16.30		80.0	
10655- AAB	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	Х	3.69	64.64	15.71	2.23	80.0	± 9.6 %
		Y	4.07	65.72	16.67		80.0	
		Z	3.97	65.15	16.34		80.0	
10658- AAA	Pulse Waveform (200Hz, 10%)	Х	3.00	65.68	10.52	10.00	50.0	± 9.6 %
		Y	100.00	110.66	25.72		50.0	
	A	Z	62.25	104.60	24.41		50.0	
10659- AAA	Pulse Waveform (200Hz, 20%)	Х	1.57	62.99	8.06	6.99	60.0	± 9.6 %
		1 1/	400.00	440.45	04.04		00.0	
		Y	100.00	110.45	24.61		60.0	

EX3DV4- SN:3971 March 26, 2018

10660- AAA	Pulse Waveform (200Hz, 40%)	X	0.59	60.00	5.21	3.98	80.0	± 9.6 %
		Y	100.00	112.66	24.30		80.0	
		Z	100.00	105.84	21.29		80.0	
10661- AAA	Pulse Waveform (200Hz, 60%)	Х	0.32	60.00	4.01	2.22	100.0	± 9.6 %
		Y	100.00	116.66	24.77		100.0	
		Z	100.00	100.84	18.06		100.0	
10662- AAA	Pulse Waveform (200Hz, 80%)	X	0.22	171.95	23.68	0.97	120.0	± 9.6 %
		Y	100.00	122.13	25.24		120.0	
		Z	0.17	60.00	3.88		120.0	

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