

## **Appendix Z. Calibration Certificate for Probe and Dipole**

The SPEAG calibration certificates are shown as follows.



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CALIBRATION LABORATORY



中国认可  
国际互认  
校准  
CALIBRATION  
CNAS L0570

Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, Chi  
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504  
E-mail: cntl@chinattl.com http://www.chinattl.cn

Client

**B.V.ADT**

Certificate No: **Z21-60284**

## CALIBRATION CERTIFICATE

Object

**D2450V2 - SN: 737**

Calibration Procedure(s)

**FF-Z11-003-01**

**Calibration Procedures for dipole validation kits**

Calibration date:

**August 26, 2021**

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 (Calibrated by, Certificate No.) | Scheduled Calibration |
|-------------------------|------------|-------------------------------------------|-----------------------|
| Power Meter NRP2        | 106277     | 23-Sep-20 (CTTL, No.J20X08336)            | Sep-21                |
| Power sensor NRP8S      | 104291     | 23-Sep-20 (CTTL, No.J20X08336)            | Sep-21                |
| Reference Probe EX3DV4  | SN 7517    | 03-Feb-21(CTTL-SPEAG,No.Z21-60001)        | Feb-22                |
| DAE3                    | SN 536     | 06-Nov-20(CTTL-SPEAG,No.Z20-60452)        | Nov-21                |
| Secondary Standards     | ID #       | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
| Signal Generator E4438C | MY49071430 | 01-Feb-21 (CTTL, No.J21X00593)            | Jan-22                |
| NetworkAnalyzer E5071C  | MY46110673 | 14-Jan-21 (CTTL, No.J21X00232)            | Jan-22                |

|                | Name        | Function           | Signature |
|----------------|-------------|--------------------|-----------|
| Calibrated by: | Zhao Jing   | SAR Test Engineer  |           |
| Reviewed by:   | Lin Hao     | SAR Test Engineer  |           |
| Approved by:   | Qi Dianyuan | SAR Project Leader |           |

Issued: August 31, 2021

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Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China

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Fax: +86-10-62304633-2504

E-mail: cttl@chinattl.com

http://www.chinattl.cn

### Glossary:

|       |                                            |
|-------|--------------------------------------------|
| TSL   | tissue simulating liquid                   |
| ConvF | sensitivity in TSL / NORM <sub>x,y,z</sub> |
| 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 assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1: Device used next to the ear (Frequency range of 300MHz to 6GHz)", July 2016
- c) IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
- d) KDB865664, 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%.



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Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China  
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## Measurement Conditions

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

|                                     |                          |             |
|-------------------------------------|--------------------------|-------------|
| <b>DASY Version</b>                 | DASY52                   | V52.10.4    |
| <b>Extrapolation</b>                | Advanced Extrapolation   |             |
| <b>Phantom</b>                      | Triple Flat Phantom 5.1C |             |
| <b>Distance Dipole Center - TSL</b> | 10 mm                    | with Spacer |
| <b>Zoom Scan Resolution</b>         | dx, dy, dz = 5 mm        |             |
| <b>Frequency</b>                    | 2450 MHz $\pm$ 1 MHz     |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Head TSL parameters</b>             | 22.0 °C             | 39.2           | 1.80 mho/m           |
| <b>Measured Head TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 40.0 $\pm$ 6 % | 1.77 mho/m $\pm$ 6 % |
| <b>Head TSL temperature change during test</b> | <1.0 °C             | ---            | ---                  |

## SAR result with Head TSL

| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b>   | Condition          |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| SAR measured                                                  | 250 mW input power | 13.0 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>52.6 W/kg <math>\pm</math> 18.8 % (k=2)</b> |
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | Condition          |                                                |
| SAR measured                                                  | 250 mW input power | 5.92 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>23.9 W/kg <math>\pm</math> 18.7 % (k=2)</b> |



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Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China

Tel: +86-10-62304633-2079

Fax: +86-10-62304633-2504

E-mail: [cttl@chinattl.com](mailto:cttl@chinattl.com)

<http://www.chinattl.cn>

## Appendix (Additional assessments outside the scope of CNAS L0570)

### Antenna Parameters with Head TSL

|                                      |               |
|--------------------------------------|---------------|
| Impedance, transformed to feed point | 54.0Ω+ 4.29jΩ |
| Return Loss                          | - 25.0dB      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.067 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 |
|-----------------|-------|





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E-mail: cttl@chinattl.com

http://www.chinattl.cn

## DASY5 Validation Report for Head TSL

Date: 08.26.2021

Test Laboratory: CTTL, Beijing, China

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 737**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.772$  S/m;  $\epsilon_r = 40.04$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7517; ConvF(7.34, 7.34, 7.34) @ 2450 MHz; Calibrated: 2021-02-03
- Sensor-Surface: 1.4mm|(Mechanical Surface Detection)
- Electronics: DAE3 Sn536; Calibrated: 2020-11-06
- Phantom: MFP\_V5.1C (20deg probe tilt); Type: QD 000 P51 Cx; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 108.5 V/m; Power Drift = -0.01 dB

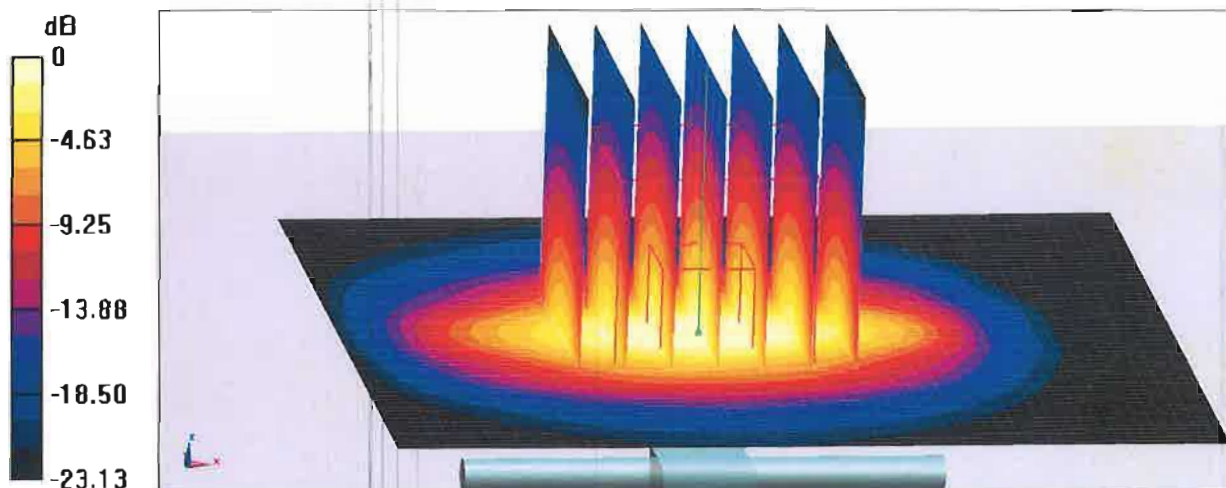
Peak SAR (extrapolated) = 27.8 W/kg

**SAR(1 g) = 13 W/kg; SAR(10 g) = 5.92 W/kg**

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 46.7%

Maximum value of SAR (measured) = 22.3 W/kg



0 dB = 22.3 W/kg = 13.48 dBW/kg



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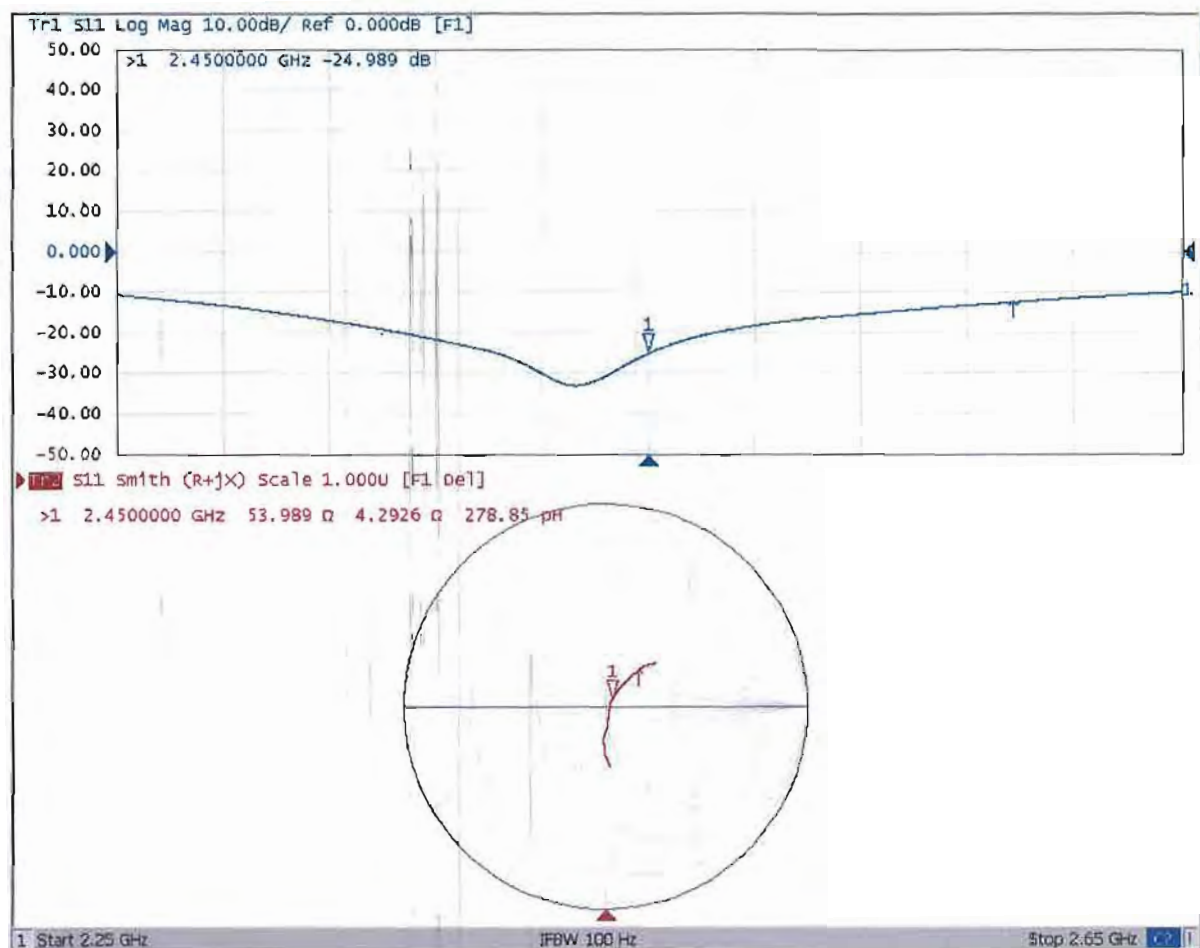
Tel: +86-10-62304633-2079

Fax: +86-10-62304633-2504

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## Impedance Measurement Plot for Head TSL





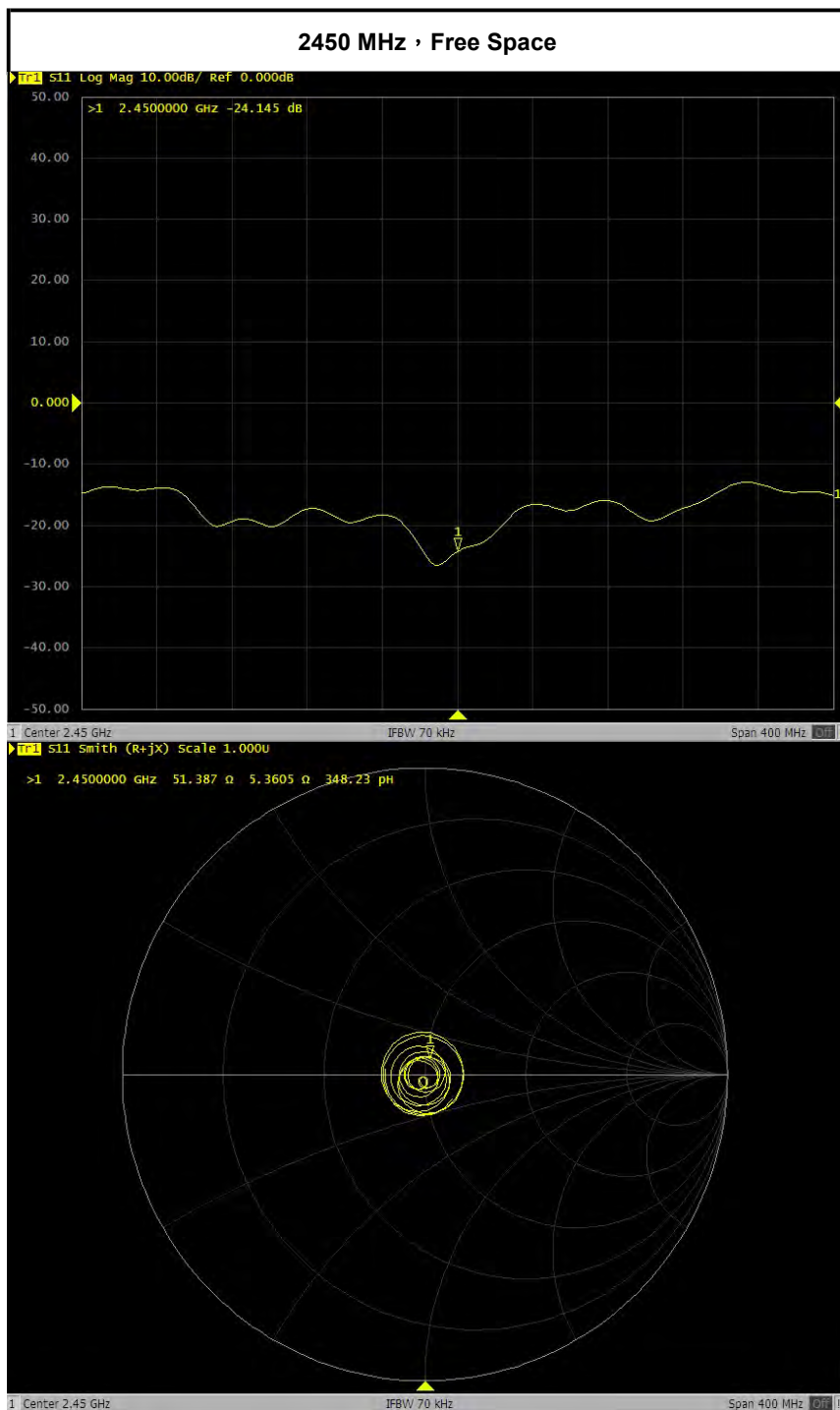
## Annual Confirmation of SAR Reference Dipole

Model : D2450V2

S/N : 737

Measurement Date : 2022/8/25

| Frequency (MHz) | Type       | Item                | Previous Measurement | Annual Check | Deviation | Accepted Tolerance | Result |
|-----------------|------------|---------------------|----------------------|--------------|-----------|--------------------|--------|
| 2450            | Free Space | Real Impedance      | 53.989               | 51.387       | -2.602    | $\pm 5\Omega$      | PASS   |
|                 |            | Imaginary Impedance | 4.2926               | 5.3605       | 1.07      | $\pm 5\Omega$      | PASS   |
|                 |            | Return Loss         | -24.989              | -24.145      | -3.38%    | $\pm 20\%$         | PASS   |







Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

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)**

Certificate No: **D5GHzV2-1019\_Mar21**

## CALIBRATION CERTIFICATE

Object **D5GHzV2 - SN:1019**

Calibration procedure(s) **QA CAL-22.v6  
Calibration Procedure for SAR Validation Sources between 3-10 GHz**

Calibration date: **March 19, 2021**

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  $(22 \pm 3)^{\circ}\text{C}$  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         | 01-Apr-20 (No. 217-03100/03101)   | Apr-21                 |
| Power sensor NRP-Z91            | SN: 103244         | 01-Apr-20 (No. 217-03100)         | Apr-21                 |
| Power sensor NRP-Z91            | SN: 103245         | 01-Apr-20 (No. 217-03101)         | Apr-21                 |
| Reference 20 dB Attenuator      | SN: BH9394 (20k)   | 31-Mar-20 (No. 217-03106)         | Apr-21                 |
| Type-N mismatch combination     | SN: 310982 / 06327 | 31-Mar-20 (No. 217-03104)         | Apr-21                 |
| Reference Probe EX3DV4          | SN: 3503           | 30-Dec-20 (No. EX3-3503_Dec20)    | Dec-21                 |
| DAE4                            | SN: 601            | 02-Nov-20 (No. DAE4-601_Nov20)    | Nov-21                 |
| Secondary Standards             | ID #               | Check Date (in house)             | Scheduled Check        |
| Power meter E4419B              | SN: GB39512475     | 30-Oct-14 (in house check Oct-20) | In house check: Oct-22 |
| Power sensor HP 8481A           | SN: US37292783     | 07-Oct-15 (in house check Oct-20) | In house check: Oct-22 |
| Power sensor HP 8481A           | SN: MY41092317     | 07-Oct-15 (in house check Oct-20) | In house check: Oct-22 |
| RF generator R&S SMT-06         | SN: 100972         | 15-Jun-15 (in house check Oct-20) | In house check: Oct-22 |
| Network Analyzer Agilent E8358A | SN: US41080477     | 31-Mar-14 (in house check Oct-20) | In house check: Oct-21 |

Calibrated by: **Claudio Leubler** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Issued: March 19, 2021

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

### Glossary:

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

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

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Additional Documentation:

- DASY4/5 System Handbook

### Methods Applied and Interpretation of Parameters:

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

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

## Measurement Conditions

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

|                              |                                                                      |                                  |
|------------------------------|----------------------------------------------------------------------|----------------------------------|
| DASY Version                 | DASY5                                                                | V52.10.4                         |
| 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 $\pm$ 1 MHz<br>5600 MHz $\pm$ 1 MHz<br>5750 MHz $\pm$ 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 $\pm$ 0.2) °C | 34.7 $\pm$ 6 % | 4.51 mho/m $\pm$ 6 % |
| Head TSL temperature change during test | < 0.5 °C            | ----           | ----                 |

## 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 | 8.13 W/kg                                      |
| SAR for nominal Head TSL parameters                   | normalized to 1W   | <b>80.6 W/kg <math>\pm</math> 19.9 % (k=2)</b> |

|                                                         |                    |                                                |
|---------------------------------------------------------|--------------------|------------------------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL | condition          |                                                |
| SAR measured                                            | 100 mW input power | 2.32 W/kg                                      |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | <b>23.0 W/kg <math>\pm</math> 19.5 % (k=2)</b> |

## 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 $\pm$ 0.2) °C | 34.2 $\pm$ 6 % | 4.86 mho/m $\pm$ 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 | 8.32 W/kg                                      |
| SAR for nominal Head TSL parameters                   | normalized to 1W   | <b>82.4 W/kg <math>\pm</math> 19.9 % (k=2)</b> |

|                                                         |                    |                                                |
|---------------------------------------------------------|--------------------|------------------------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL | condition          |                                                |
| SAR measured                                            | 100 mW input power | 2.36 W/kg                                      |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | <b>23.3 W/kg <math>\pm</math> 19.5 % (k=2)</b> |

## 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 | 34.0 ± 6 %   | 5.01 mho/m ± 6 % |
| Head TSL temperature change during test | < 0.5 °C        | ----         | ----             |

## SAR result with Head TSL at 5750 MHz

|                                                             |                    |                                 |
|-------------------------------------------------------------|--------------------|---------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b> | Condition          |                                 |
| SAR measured                                                | 100 mW input power | 8.02 W/kg                       |
| SAR for nominal Head TSL parameters                         | normalized to 1W   | <b>79.4 W/kg ± 19.9 % (k=2)</b> |

|                                                               |                    |                                 |
|---------------------------------------------------------------|--------------------|---------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | condition          |                                 |
| SAR measured                                                  | 100 mW input power | 2.27 W/kg                       |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>22.4 W/kg ± 19.5 % (k=2)</b> |

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

### Antenna Parameters with Head TSL at 5250 MHz

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 54.1 $\Omega$ - 6.4 j $\Omega$ |
| Return Loss                          | - 22.7 dB                      |

### Antenna Parameters with Head TSL at 5600 MHz

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 57.6 $\Omega$ - 2.5 j $\Omega$ |
| Return Loss                          | - 22.6 dB                      |

### Antenna Parameters with Head TSL at 5750 MHz

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 57.9 $\Omega$ + 3.1 j $\Omega$ |
| Return Loss                          | - 22.1 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.203 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 |
|-----------------|-------|



## DASY5 Validation Report for Head TSL

Date: 19.03.2021

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

Medium parameters used:  $f = 5250$  MHz;  $\sigma = 4.51$  S/m;  $\epsilon_r = 34.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Medium parameters used:  $f = 5600$  MHz;  $\sigma = 4.86$  S/m;  $\epsilon_r = 34.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Medium parameters used:  $f = 5750$  MHz;  $\sigma = 5.01$  S/m;  $\epsilon_r = 34$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

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

#### DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.5, 5.5, 5.5) @ 5250 MHz, ConvF(5.1, 5.1, 5.1) @ 5600 MHz, ConvF(5.08, 5.08, 5.08) @ 5750 MHz; Calibrated: 30.12.2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.11.2020
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

### 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 = 79.20 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 27.6 W/kg

**SAR(1 g) = 8.13 W/kg; SAR(10 g) = 2.32 W/kg**

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 70.7%

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 = 77.00 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 31.0 W/kg

**SAR(1 g) = 8.32 W/kg; SAR(10 g) = 2.36 W/kg**

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 66.9%

Maximum value of SAR (measured) = 19.6 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 = 74.22 V/m; Power Drift = -0.08 dB

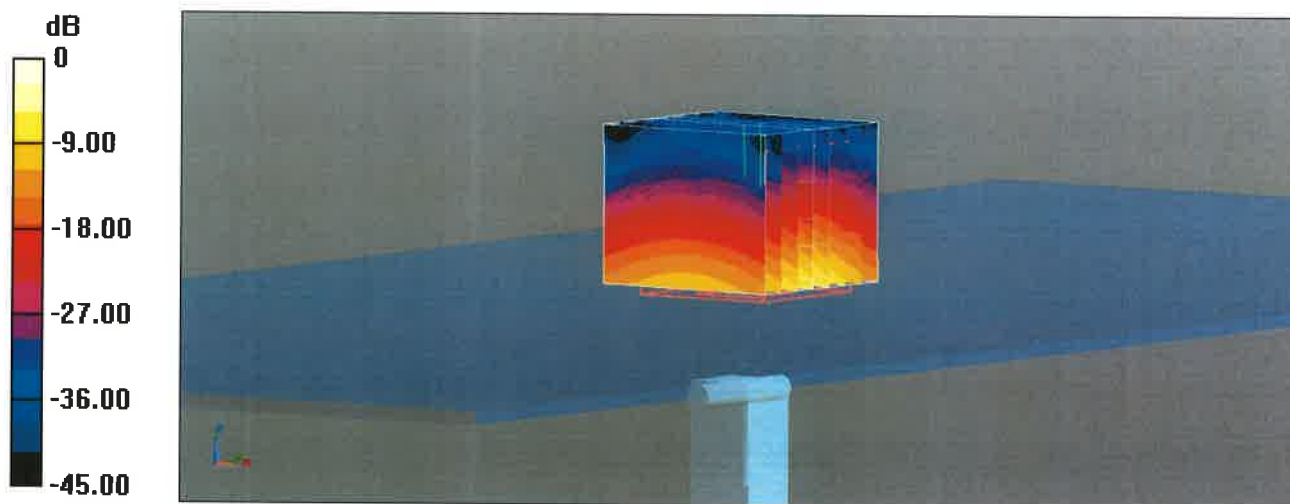
Peak SAR (extrapolated) = 31.6 W/kg

**SAR(1 g) = 8.02 W/kg; SAR(10 g) = 2.27 W/kg**

Smallest distance from peaks to all points 3 dB below = 7.2 mm

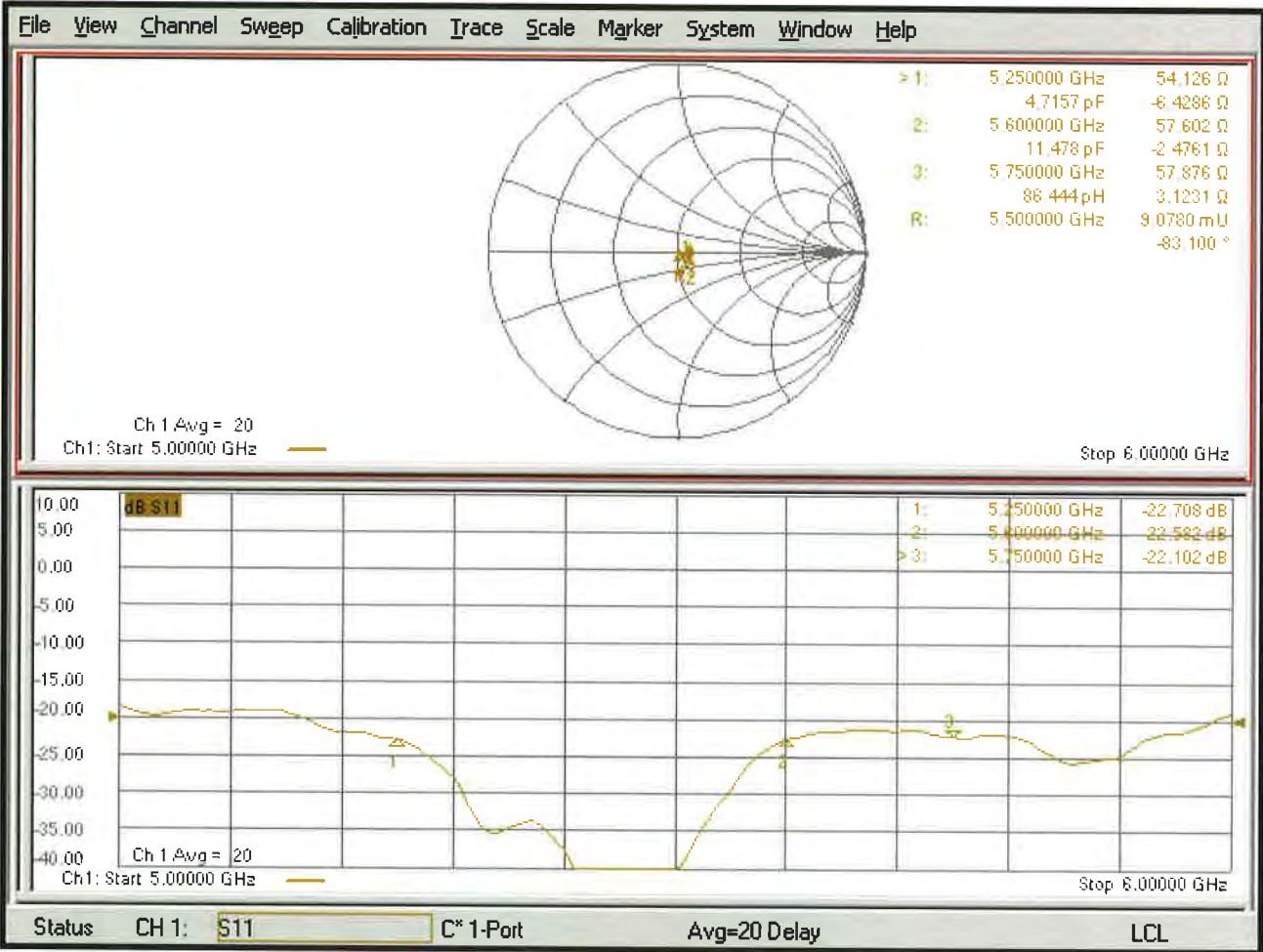
Ratio of SAR at M2 to SAR at M1 = 65%

Maximum value of SAR (measured) = 19.2 W/kg



0 dB = 19.6 W/kg = 12.92 dBW/kg

Impedance Measurement Plot for Head TSL





## Annual Confirmation of SAR Reference Dipole

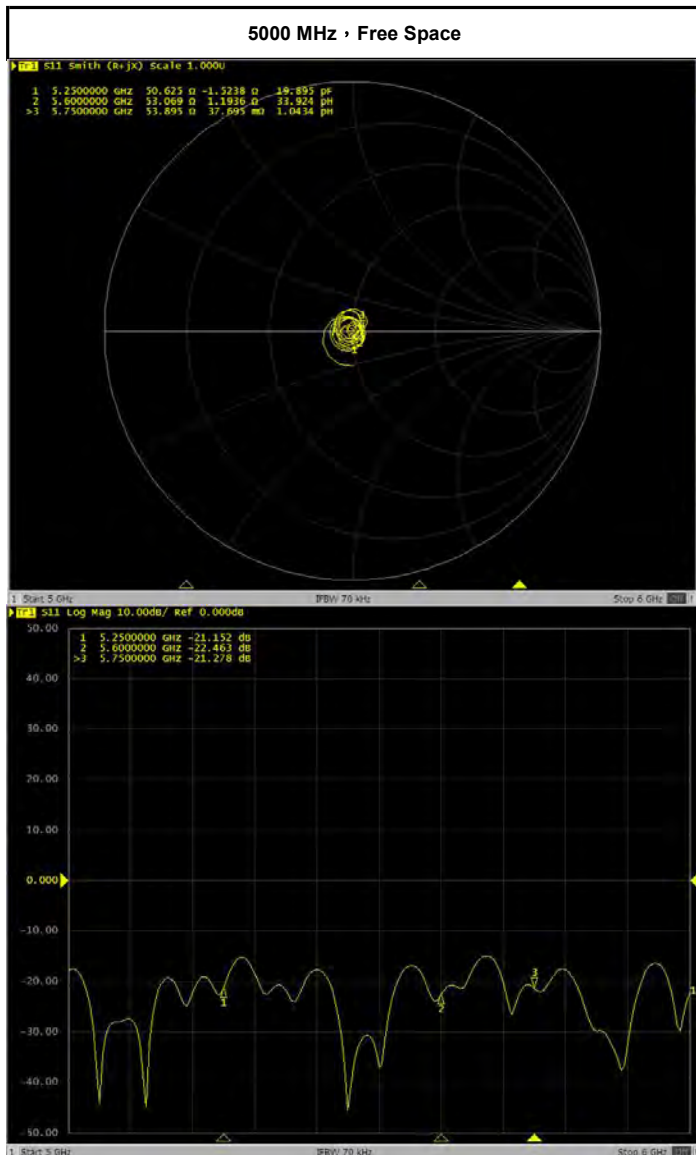
Model : D5000V2

S/N : 1019

Measurement Date :

2022/3/18

| Frequency (MHz) | Type       | Item                | Previous Measurement | Annual Check | Deviation | Accepted Tolerance | Result |
|-----------------|------------|---------------------|----------------------|--------------|-----------|--------------------|--------|
| 5250            | Free Space | Real Impedance      | 54.126               | 50.625       | -3.501    | $\pm 5\Omega$      | PASS   |
|                 |            | Imaginary Impedance | -6.4286              | -1.5238      | 4.905     | $\pm 5\Omega$      | PASS   |
|                 |            | Return Loss         | -22.708              | -21.152      | -6.85%    | $\pm 20\%$         | PASS   |
| Frequency (MHz) | Type       | Item                | Previous Measurement | Annual Check | Deviation | Accepted Tolerance | Result |
| 5600            | Free Space | Real Impedance      | 57.602               | 53.069       | -4.533    | $\pm 5\Omega$      | PASS   |
|                 |            | Imaginary Impedance | -2.4761              | 1.1936       | 3.670     | $\pm 5\Omega$      | PASS   |
|                 |            | Return Loss         | -22.582              | -22.463      | -0.53%    | $\pm 20\%$         | PASS   |
| Frequency (MHz) | Type       | Item                | Previous Measurement | Annual Check | Deviation | Accepted Tolerance | Result |
| 5750            | Free Space | Real Impedance      | 57.876               | 53.895       | -3.981    | $\pm 5\Omega$      | PASS   |
|                 |            | Imaginary Impedance | 3.1231               | 0.0377       | -3.085    | $\pm 5\Omega$      | PASS   |
|                 |            | Return Loss         | -22.102              | -21.278      | -3.73%    | $\pm 20\%$         | PASS   |





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

Certificate No: **D6.5GHzV2-1008\_Sep21**

## CALIBRATION CERTIFICATE

Object **D6.5GHzV2 - SN:1008**

Calibration procedure(s) **QA CAL-22.v6**  
**Calibration Procedure for SAR Validation Sources between 3-10 GHz**

Calibration date: **September 24, 2021**

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 ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards                | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|----------------------------------|--------------------|-----------------------------------|------------------------|
| Power meter NRP                  | SN: 104778         | 09-Apr-21 (No. 217-03291/03292)   | Apr-22                 |
| Power sensor NRP-Z91             | SN: 103244         | 09-Apr-21 (No. 217-03291)         | Apr-22                 |
| Power sensor NRP-Z91             | SN: 103245         | 09-Apr-21 (No. 217-03292)         | Apr-22                 |
| Power sensor R&S NRP33T          | SN: 100967         | 08-Apr-21 (No. 217-03293)         | Apr-22                 |
| Reference 20 dB Attenuator       | SN: BH9394 (20k)   | 09-Apr-21 (No. 217-03343)         | Apr-22                 |
| Type-N mismatch combination      | SN: 310982 / 06327 | 09-Apr-21 (No. 217-03344)         | Apr-22                 |
| Reference Probe EX3DV4           | SN: 7405           | 30-Dec-20 (No. EX3-7405_Dec20)    | Dec-21                 |
| DAE4                             | SN: 908            | 24-Jun-21 (No. DAE4-908_Jun21)    | Jun-22                 |
| Secondary Standards              | ID #               | Check Date (in house)             | Scheduled Check        |
| RF generator Anapico APSIN20G    | SN: 669            | 28-Mar-17 (in house check Dec-18) | In house check: Dec-21 |
| Network Analyzer Keysight E5063A | SN:MY54504221      | 31-Oct-19 (in house check Oct-19) | In house check: Oct-22 |

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

Issued: September 27, 2021

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### 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) IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices - Part 1528: Human Models, Instrumentation And Procedures (Frequency Range of 4 MHz to 10 GHz)", October 2020.

### Additional Documentation:

- b) DASY 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.
- *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 absorbed power density (APD):* The absorbed power density is evaluated according to Samaras T, Christ A, Kuster N, "Compliance assessment of the epithelial or absorbed power density above 6 GHz using SAR measurement systems", Bioelectromagnetics, 2021 (submitted). The additional evaluation uncertainty of 0.55 dB (rectangular distribution) is considered.

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



## Measurement Conditions

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

|                                     |                              |                                  |
|-------------------------------------|------------------------------|----------------------------------|
| <b>DASY Version</b>                 | DASY6                        | V16.0                            |
| <b>Extrapolation</b>                | Advanced Extrapolation       |                                  |
| <b>Phantom</b>                      | Modular Flat Phantom         |                                  |
| <b>Distance Dipole Center - TSL</b> | 5 mm                         | with Spacer                      |
| <b>Zoom Scan Resolution</b>         | dx, dy = 3.4 mm, dz = 1.4 mm | Graded Ratio = 1.4 (Z direction) |
| <b>Frequency</b>                    | 6500 MHz $\pm$ 1 MHz         |                                  |

## Head TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Head TSL parameters</b>             | 22.0 °C             | 34.5           | 6.07 mho/m           |
| <b>Measured Head TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 33.6 $\pm$ 6 % | 6.11 mho/m $\pm$ 6 % |
| <b>Head TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b> | Condition          |                                               |
|-------------------------------------------------------------|--------------------|-----------------------------------------------|
| SAR measured                                                | 100 mW input power | 29.1 W/kg                                     |
| SAR for nominal Head TSL parameters                         | normalized to 1W   | <b>289 W/kg <math>\pm</math> 24.7 % (k=2)</b> |

| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | condition          |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| SAR measured                                                  | 100 mW input power | 5.39 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>53.5 W/kg <math>\pm</math> 24.4 % (k=2)</b> |

## Appendix

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 51.9 $\Omega$ - 7.6 j $\Omega$ |
| Return Loss                          | - 22.3 dB                      |

### APD (Absorbed Power Density)

| APD averaged over 1 cm <sup>2</sup> | Condition          |                                                           |
|-------------------------------------|--------------------|-----------------------------------------------------------|
| APD measured                        | 100 mW input power | 289 W/m <sup>2</sup>                                      |
| APD measured                        | normalized to 1W   | <b>2890 W/m<sup>2</sup> <math>\pm</math> 29.2 % (k=2)</b> |

| APD averaged over 4 cm <sup>2</sup> | condition          |                                                           |
|-------------------------------------|--------------------|-----------------------------------------------------------|
| APD measured                        | 100 mW input power | 132 W/m <sup>2</sup>                                      |
| APD measured                        | normalized to 1W   | <b>1320 W/m<sup>2</sup> <math>\pm</math> 28.9 % (k=2)</b> |

### General Antenna Parameters and Design

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 |
|-----------------|-------|

# DASY6 Validation Report for Head TSL

Measurement Report for D6.5GHz-1008, UID 0 -, Channel 6500 (6500.0MHz)

## Device under Test Properties

| Name, Manufacturer | Dimensions [mm]    | IMEI     | DUT Type |
|--------------------|--------------------|----------|----------|
| D6.5GHz            | 16.0 x 6.0 x 300.0 | SN: 1008 | -        |

## Exposure Conditions

| Phantom<br>Section, TSL | Position, Test<br>Distance<br>[mm] | Band | Group,<br>UID | Frequency<br>[MHz] | Conversion<br>Factor | TSL Cond.<br>[S/m] | TSL<br>Permittivity |
|-------------------------|------------------------------------|------|---------------|--------------------|----------------------|--------------------|---------------------|
| Flat, HSL               | 5.00                               | Band | CW,           | 6500               | 5.75                 | 6.11               | 33.6                |

## Hardware Setup

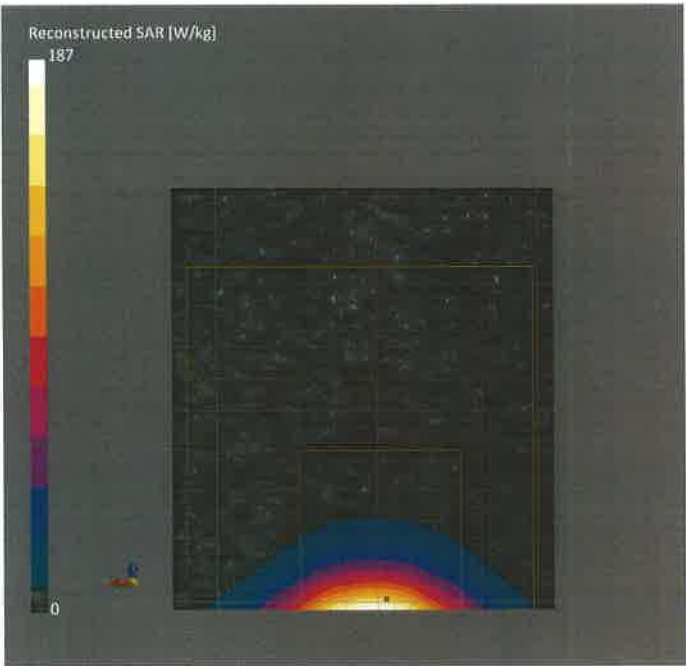
| Phantom                | TSL             | Probe, Calibration Date     | DAE, Calibration Date  |
|------------------------|-----------------|-----------------------------|------------------------|
| MFP V8.0 Center - 1182 | HBBL600-10000V6 | EX3DV4 - SN7405, 2020-12-30 | DAE4 Sn908, 2021-06-24 |

## Scan Setup

|                     | Zoom Scan          |
|---------------------|--------------------|
| Grid Extents [mm]   | 22.0 x 22.0 x 22.0 |
| Grid Steps [mm]     | 3.4 x 3.4 x 1.4    |
| Sensor Surface [mm] | 1.4                |
| Graded Grid         | Yes                |
| Grading Ratio       | 1.4                |
| MAIA                | N/A                |
| Surface Detection   | VMS + 6p           |
| Scan Method         | Measured           |

## Measurement Results

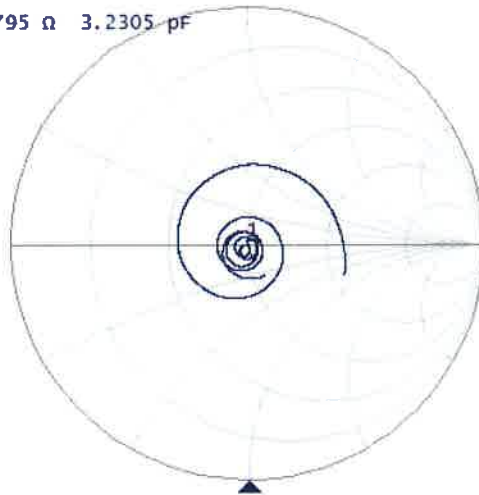
|                     | Zoom Scan         |
|---------------------|-------------------|
| Date                | 2021-09-24, 11:35 |
| psSAR1g [W/Kg]      | 29.1              |
| psSAR10g [W/Kg]     | 5.39              |
| Power Drift [dB]    | 0.02              |
| Power Scaling       | Disabled          |
| Scaling Factor [dB] |                   |
| TSL Correction      | No correction     |
| M2/M1 [%]           | 50.1              |
| Dist 3dB Peak [mm]  | 4.8               |



## Impedance Measurement Plot for Head TSL

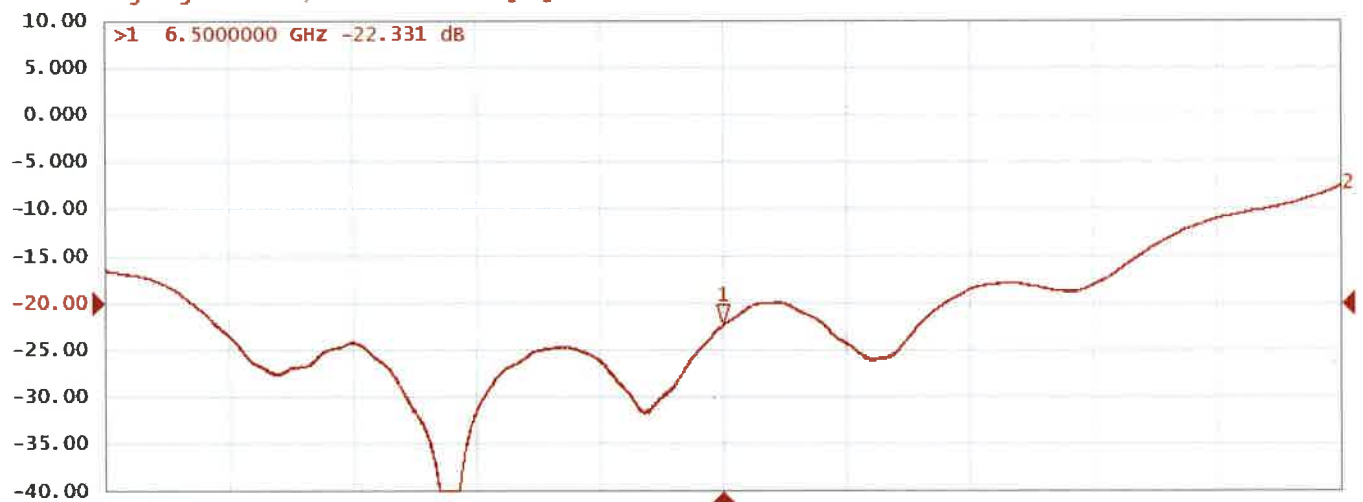
► Tr1 S11 Smith (R+jX) scale 1.000 u [F1]

>1 6.5000000 GHz 51.894  $\Omega$  -7.5795  $\Omega$  3.2305 pF



Tr2 S11 Log Mag 5.000 dB/ Ref -20.00 dB [F1]

>1 6.5000000 GHz -22.331 dB





## Annual Confirmation of SAR Reference Dipole

Model : D6.5GHzV2

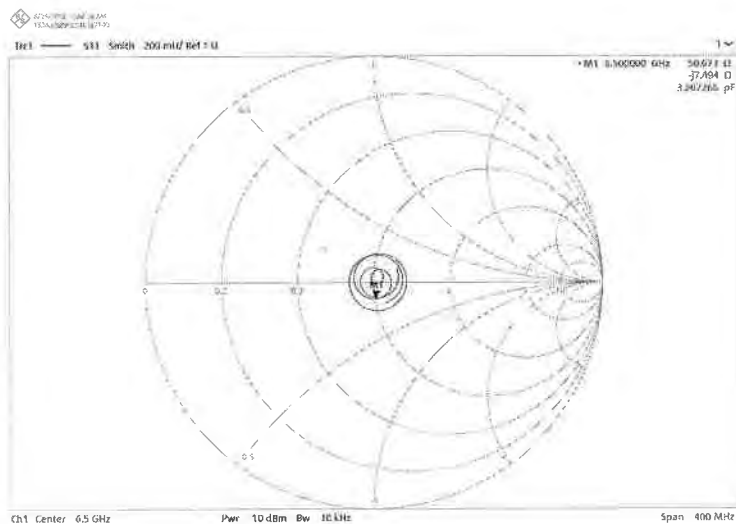
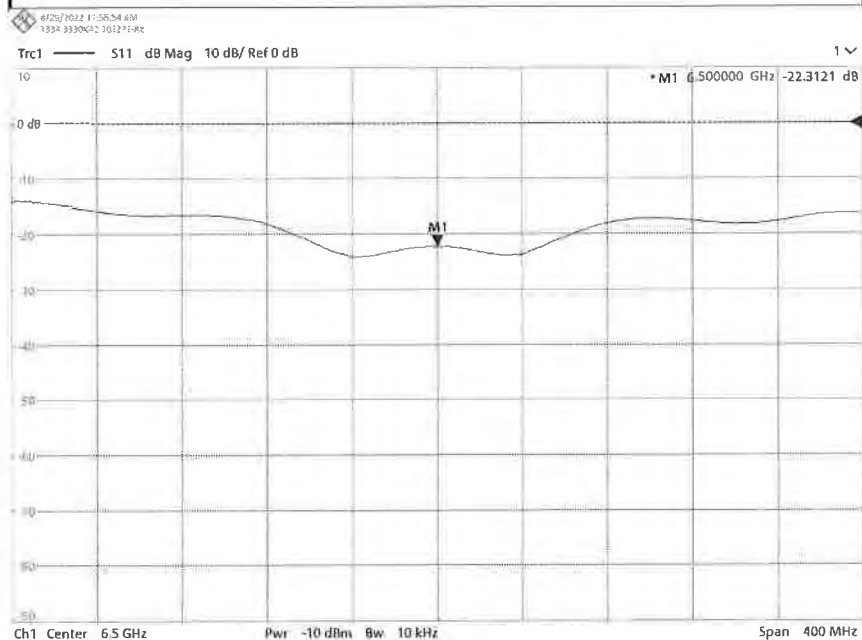
S/N : 1008

Measurement Date :

2022/8/29

| Frequency (MHz) | Type       | Item                | Previous Measurement | Annual Check | Deviation | Accepted Tolerance | Result |
|-----------------|------------|---------------------|----------------------|--------------|-----------|--------------------|--------|
| 6500            | Free Space | Return Loss         | -22.331              | -22.312      | -0.08%    | ±20%               | PASS   |
|                 |            | Real Impedance      | 51.894               | 50.673       | -1.22     | ±5Ω                | PASS   |
|                 |            | Imaginary Impedance | -7.5795              | -7.4940      | 0.09      | ±5Ω                | PASS   |

### 6500 MHz , Free Space





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

Certificate No: **5G-Veri10-1025\_Jan22**

## CALIBRATION CERTIFICATE

Object **5G Verification Source 10 GHz - SN: 1025**

Calibration procedure(s) **QA CAL-45.v3**  
**Calibration procedure for sources in air above 6 GHz**

Calibration date: **January 17, 2022**

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  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards       | ID #     | Cal Date (Certificate No.)          | Scheduled Calibration |
|-------------------------|----------|-------------------------------------|-----------------------|
| Reference Probe EUmmWV3 | SN: 9374 | 2021-12-21 (No. EUmmWV3-9374_Dec21) | Dec-22                |
| DAE4ip                  | SN: 1602 | 2021-06-25 (No. DAE4ip-1602_Jun21)  | Jun-22                |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---------------------|------|-----------------------|-----------------|
|---------------------|------|-----------------------|-----------------|

Calibrated by: **Leif Klysner** **Laboratory Technician**

Approved by: **Sven Kühn** **Deputy Manager**

Signature

Issued: January 26, 2022

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## Glossary

CW                      Continuous wave

## Calibration is Performed According to the Following Standards

- Internal procedure QA CAL-45-5Gsources
- IEC TR 63170 ED1, "Measurement procedure for the evaluation of power density related to human exposure to radio frequency fields from wireless communication devices operating between 6 GHz and 100 GHz", January 2018

## Methods Applied and Interpretation of Parameters

- *Coordinate System:* z-axis in the waveguide horn boresight, x-axis is in the direction of the E-field, y-axis normal to the others in the field scanning plane parallel to the horn flare and horn flange.
- *Measurement Conditions:* (1) 10 GHz: The radiated power is the forward power to the horn antenna minus ohmic and mismatch loss. The forward power is measured prior and after the measurement with a power sensor. During the measurements, the horn is directly connected to the cable and the antenna ohmic and mismatch losses are determined by far-field measurements. (2) 30, 45, 60 and 90 GHz: The verification sources are switched on for at least 30 minutes. Absorbers are used around the probe cub and at the ceiling to minimize reflections.
- *Horn Positioning:* The waveguide horn is mounted vertically on the flange of the waveguide source to allow vertical positioning of the EUmmW probe during the scan. The plane is parallel to the phantom surface. Probe distance is verified using mechanical gauges positioned on the flare of the horn.
- *E- field distribution:* E field is measured in two x-y-plane (10mm, 10mm +  $\lambda/4$ ) with a vectorial E-field probe. The E-field value stated as calibration value represents the E-field-maxima and the averaged (1cm<sup>2</sup> and 4cm<sup>2</sup>) power density values at 10mm in front of the horn.
- *Field polarization:* Above the open horn, linear polarization of the field is expected. This is verified graphically in the field representation.

## Calibrated Quantity

- Local peak E-field (V/m) and average of peak spatial components of the poynting vector (W/m<sup>2</sup>) averaged over the surface area of 1 cm<sup>2</sup> and 4cm<sup>2</sup> at the nominal operational frequency of the verification source. Both square and circular averaging results are listed.

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

## Measurement Conditions

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

|                                       |                               |      |
|---------------------------------------|-------------------------------|------|
| <b>DASY Version</b>                   | cDASY6 Module mmWave          | V2.4 |
| <b>Phantom</b>                        | 5G Phantom                    |      |
| <b>Distance Horn Aperture - plane</b> | 10 mm                         |      |
| <b>XY Scan Resolution</b>             | dx, dy = 7.5 mm               |      |
| <b>Number of measured planes</b>      | 2 (10mm, 10mm + $\lambda/4$ ) |      |
| <b>Frequency</b>                      | 10 GHz $\pm$ 10 MHz           |      |

## Calibration Parameters, 10 GHz

### Circular Averaging

| Distance Horn Aperture<br>to Measured Plane | <b><i>Prad<sup>1</sup></i></b><br><b>(mW)</b> | <b>Max E-field</b><br><b>(V/m)</b> | Uncertainty<br>(k = 2) | Avg Power Density<br>Avg (psPDn+, psPDtot+,<br>psPDmod+)<br>(W/m <sup>2</sup> ) |                         | Uncertainty<br>(k = 2) |
|---------------------------------------------|-----------------------------------------------|------------------------------------|------------------------|---------------------------------------------------------------------------------|-------------------------|------------------------|
|                                             |                                               |                                    |                        | <b>1 cm<sup>2</sup></b>                                                         | <b>4 cm<sup>2</sup></b> |                        |
| 10 mm                                       | 86.1                                          | <b>148</b>                         | 1.27 dB                | <b>54.5</b>                                                                     | <b>51.3</b>             | 1.28 dB                |

### Square Averaging

| Distance Horn Aperture<br>to Measured Plane | <b><i>Prad<sup>1</sup></i></b><br><b>(mW)</b> | <b>Max E-field</b><br><b>(V/m)</b> | Uncertainty<br>(k = 2) | Avg Power Density<br>Avg (psPDn+, psPDtot+,<br>psPDmod+)<br>(W/m <sup>2</sup> ) |                         | Uncertainty<br>(k = 2) |
|---------------------------------------------|-----------------------------------------------|------------------------------------|------------------------|---------------------------------------------------------------------------------|-------------------------|------------------------|
|                                             |                                               |                                    |                        | <b>1 cm<sup>2</sup></b>                                                         | <b>4 cm<sup>2</sup></b> |                        |
| 10 mm                                       | 86.1                                          | <b>148</b>                         | 1.27 dB                | <b>54.5</b>                                                                     | <b>51.3</b>             | 1.28 dB                |

<sup>1</sup> Assessed ohmic and mismatch loss plus numerical offset: 0.55 dB

# DASY Report

## Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

### Device under Test Properties

| Name, Manufacturer            | Dimensions [mm]       | IMEI     | DUT Type |
|-------------------------------|-----------------------|----------|----------|
| 5G Verification Source 10 GHz | 100.0 x 100.0 x 172.0 | SN: 1025 | -        |

### Exposure Conditions

| Phantom Section | Position, Test Distance [mm] | Band            | Group, | Frequency [MHz], Channel Number | Conversion Factor |
|-----------------|------------------------------|-----------------|--------|---------------------------------|-------------------|
| 5G -            | 10.0 mm                      | Validation band | CW     | 10000.0, 10000                  | 1.0               |

### Hardware Setup

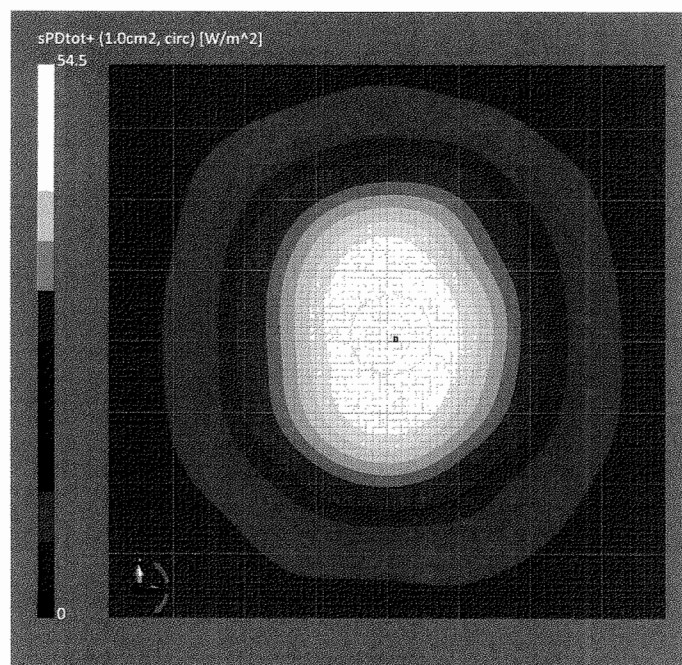
| Phantom               | Medium | Probe, Calibration Date               | DAE, Calibration Date     |
|-----------------------|--------|---------------------------------------|---------------------------|
| mmWave Phantom - 1002 | Air    | EUmmWV3 - SN9374_F1-55GHz, 2021-12-21 | DAE4ip Sn1602, 2021-06-25 |

### Scan Setup

|                     | 5G Scan       |
|---------------------|---------------|
| Grid Extents [mm]   | 120.0 x 120.0 |
| Grid Steps [lambda] | 0.25 x 0.25   |
| Sensor Surface [mm] | 10.0          |
| MAIA                | MAIA not used |

### Measurement Results

|                              | 5G Scan           |
|------------------------------|-------------------|
| Date                         | 2022-01-17, 16:55 |
| Avg. Area [cm <sup>2</sup> ] | 1.00              |
| psPDn+ [W/m <sup>2</sup> ]   | 54.2              |
| psPDtot+ [W/m <sup>2</sup> ] | 54.5              |
| psPDmod+ [W/m <sup>2</sup> ] | 54.7              |
| E <sub>max</sub> [V/m]       | 148               |
| Power Drift [dB]             | 0.04              |



# DASY Report

## Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

### Device under Test Properties

| Name, Manufacturer            | Dimensions [mm]       | IMEI     | DUT Type |
|-------------------------------|-----------------------|----------|----------|
| 5G Verification Source 10 GHz | 100.0 x 100.0 x 172.0 | SN: 1025 | -        |

### Exposure Conditions

| Phantom Section | Position, Test Distance [mm] | Band            | Group, | Frequency [MHz], Channel Number | Conversion Factor |
|-----------------|------------------------------|-----------------|--------|---------------------------------|-------------------|
| 5G -            | 10.0 mm                      | Validation band | CW     | 10000.0, 10000                  | 1.0               |

### Hardware Setup

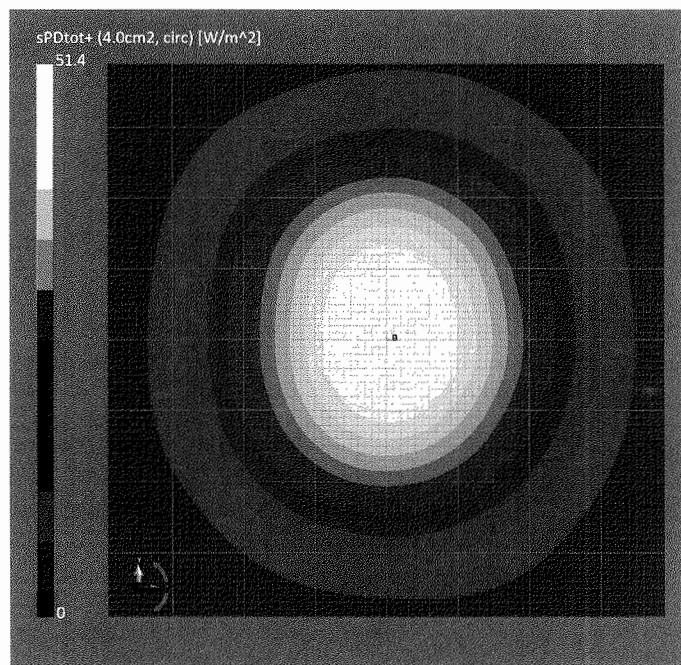
| Phantom               | Medium | Probe, Calibration Date               | DAE, Calibration Date     |
|-----------------------|--------|---------------------------------------|---------------------------|
| mmWave Phantom - 1002 | Air    | EUmmWV3 - SN9374_F1-55GHz, 2021-12-21 | DAE4ip Sn1602, 2021-06-25 |

### Scan Setup

|                     | 5G Scan       |
|---------------------|---------------|
| Grid Extents [mm]   | 120.0 x 120.0 |
| Grid Steps [lambda] | 0.25 x 0.25   |
| Sensor Surface [mm] | 10.0          |
| MAIA                | MAIA not used |

### Measurement Results

|                              | 5G Scan           |
|------------------------------|-------------------|
| Date                         | 2022-01-17, 16:55 |
| Avg. Area [cm <sup>2</sup> ] | 4.00              |
| psPDn+ [W/m <sup>2</sup> ]   | 51.1              |
| psPDtot+ [W/m <sup>2</sup> ] | 51.4              |
| psPDmod+ [W/m <sup>2</sup> ] | 51.5              |
| E <sub>max</sub> [V/m]       | 148               |
| Power Drift [dB]             | 0.04              |



# DASY Report

## Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

### Device under Test Properties

| Name, Manufacturer            | Dimensions [mm]       | IMEI     | DUT Type |
|-------------------------------|-----------------------|----------|----------|
| 5G Verification Source 10 GHz | 100.0 x 100.0 x 172.0 | SN: 1025 | -        |

### Exposure Conditions

| Phantom Section | Position, Test Distance [mm] | Band            | Group, | Frequency [MHz], Channel Number | Conversion Factor |
|-----------------|------------------------------|-----------------|--------|---------------------------------|-------------------|
| 5G -            | 10.0 mm                      | Validation band | CW     | 10000.0, 10000                  | 1.0               |

### Hardware Setup

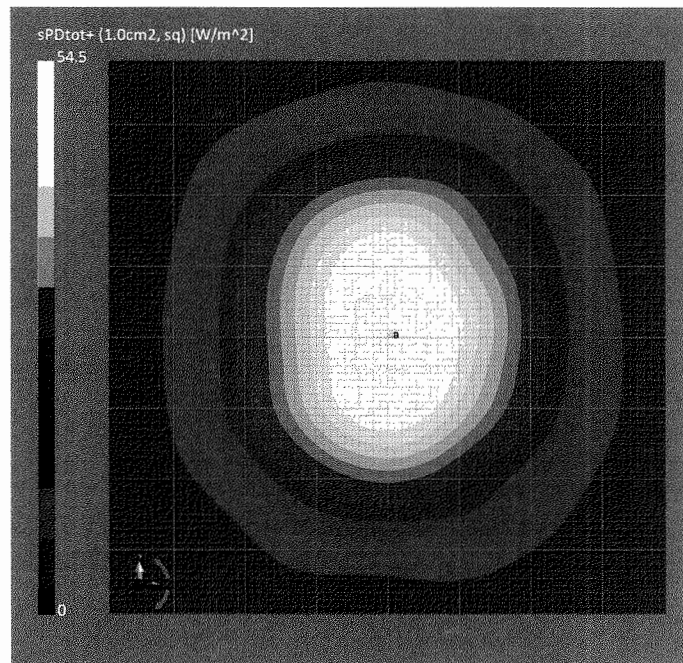
| Phantom               | Medium | Probe, Calibration Date               | DAE, Calibration Date     |
|-----------------------|--------|---------------------------------------|---------------------------|
| mmWave Phantom - 1002 | Air    | EUmmWV3 - SN9374_F1-55GHz, 2021-12-21 | DAE4ip Sn1602, 2021-06-25 |

### Scan Setup

|                     | 5G Scan       |
|---------------------|---------------|
| Grid Extents [mm]   | 120.0 x 120.0 |
| Grid Steps [lambda] | 0.25 x 0.25   |
| Sensor Surface [mm] | 10.0          |
| MAIA                | MAIA not used |

### Measurement Results

|                              | 5G Scan           |
|------------------------------|-------------------|
| Date                         | 2022-01-17, 16:55 |
| Avg. Area [cm <sup>2</sup> ] | 1.00              |
| psPDn+ [W/m <sup>2</sup> ]   | 54.2              |
| psPDtot+ [W/m <sup>2</sup> ] | 54.5              |
| psPDmod+ [W/m <sup>2</sup> ] | 54.8              |
| E <sub>max</sub> [V/m]       | 148               |
| Power Drift [dB]             | 0.04              |



# DASY Report

## Measurement Report for 5G Verification Source 10 GHz, UID 0 -, Channel 10000 (10000.0MHz)

### Device under Test Properties

| Name, Manufacturer            | Dimensions [mm]       | IMEI     | DUT Type |
|-------------------------------|-----------------------|----------|----------|
| 5G Verification Source 10 GHz | 100.0 x 100.0 x 172.0 | SN: 1025 | -        |

### Exposure Conditions

| Phantom Section | Position, Test Distance [mm] | Band            | Group, | Frequency [MHz], Channel Number | Conversion Factor |
|-----------------|------------------------------|-----------------|--------|---------------------------------|-------------------|
| 5G -            | 10.0 mm                      | Validation band | CW     | 10000.0, 10000                  | 1.0               |

### Hardware Setup

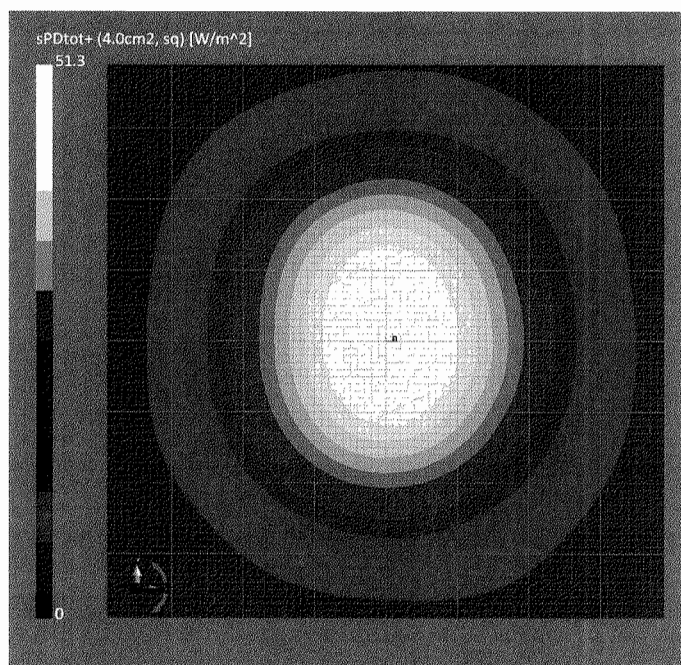
| Phantom               | Medium | Probe, Calibration Date               | DAE, Calibration Date     |
|-----------------------|--------|---------------------------------------|---------------------------|
| mmWave Phantom - 1002 | Air    | EUmmWV3 - SN9374_F1-55GHz, 2021-12-21 | DAE4ip Sn1602, 2021-06-25 |

### Scan Setup

|                     | 5G Scan       |
|---------------------|---------------|
| Grid Extents [mm]   | 120.0 x 120.0 |
| Grid Steps [lambda] | 0.25 x 0.25   |
| Sensor Surface [mm] | 10.0          |
| MAIA                | MAIA not used |

### Measurement Results

|                              | 5G Scan           |
|------------------------------|-------------------|
| Date                         | 2022-01-17, 16:55 |
| Avg. Area [cm <sup>2</sup> ] | 4.00              |
| psPDn+ [W/m <sup>2</sup> ]   | 51.1              |
| psPDtot+ [W/m <sup>2</sup> ] | 51.3              |
| psPDmod+ [W/m <sup>2</sup> ] | 51.5              |
| E <sub>max</sub> [V/m]       | 148               |
| Power Drift [dB]             | 0.04              |







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Accreditation No.: **SCS 0108**

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

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

Certificate No: **EX3-3971\_Jan22**

## CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3971**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-14.v6, QA CAL-23.v5, QA CAL-25.v7**  
**Calibration procedure for dosimetric E-field probes**

Calibration date: **January 25, 2022**

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  $(22 \pm 3)^{\circ}\text{C}$  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       | 09-Apr-21 (No. 217-03291/03292)   | Apr-22                 |
| Power sensor NRP-Z91       | SN: 103244       | 09-Apr-21 (No. 217-03291)         | Apr-22                 |
| Power sensor NRP-Z91       | SN: 103245       | 09-Apr-21 (No. 217-03292)         | Apr-22                 |
| Reference 20 dB Attenuator | SN: CC2552 (20x) | 09-Apr-21 (No. 217-03343)         | Apr-22                 |
| DAE4                       | SN: 660          | 13-Oct-21 (No. DAE4-660_Oct21)    | Oct-22                 |
| Reference Probe ES3DV2     | SN: 3013         | 27-Dec-21 (No. ES3-3013_Dec21)    | Dec-22                 |
| Secondary Standards        | ID               | Check Date (in house)             | Scheduled Check        |
| Power meter E4419B         | SN: GB41293874   | 06-Apr-16 (in house check Jun-20) | In house check: Jun-22 |
| Power sensor E4412A        | SN: MY41498087   | 06-Apr-16 (in house check Jun-20) | In house check: Jun-22 |
| Power sensor E4412A        | SN: 000110210    | 06-Apr-16 (in house check Jun-20) | In house check: Jun-22 |
| RF generator HP 8648C      | SN: US3642U01700 | 04-Aug-99 (in house check Jun-20) | In house check: Jun-22 |
| Network Analyzer E8358A    | SN: US41080477   | 31-Mar-14 (in house check Oct-20) | In house check: Oct-22 |

|                                                                                                                 | Name         | Function              | Signature |
|-----------------------------------------------------------------------------------------------------------------|--------------|-----------------------|-----------|
| Calibrated by:                                                                                                  | Leif Klysner | Laboratory Technician |           |
| Approved by:                                                                                                    | Sven Kühn    | Deputy Manager        |           |
| Issued: February 1, 2022                                                                                        |              |                       |           |
| This calibration certificate shall not be reproduced except in full without written approval of the laboratory. |              |                       |           |



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Multilateral Agreement for the recognition of calibration certificates

## Glossary:

|                          |                                                                                                                                                         |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| TSL                      | tissue simulating liquid                                                                                                                                |
| NORM <sub>x,y,z</sub>    | sensitivity in free space                                                                                                                               |
| ConvF                    | sensitivity in TSL / NORM <sub>x,y,z</sub>                                                                                                              |
| DCP                      | diode compression point                                                                                                                                 |
| CF                       | crest factor (1/duty_cycle) of the RF signal                                                                                                            |
| A, B, C, D               | modulation dependent linearization parameters                                                                                                           |
| Polarization $\varphi$   | $\varphi$ rotation around probe axis                                                                                                                    |
| Polarization $\vartheta$ | $\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center),<br>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:

- IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices - Part 1528: Human Models, Instrumentation And Procedures (Frequency Range of 4 MHz to 10 GHz)", October 2020.
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

## Methods Applied and Interpretation of Parameters:

- NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\vartheta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the E<sup>2</sup>-field uncertainty inside TSL (see below ConvF).
- NORM(f)<sub>x,y,z</sub>** = NORM<sub>x,y,z</sub> \* 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
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; D<sub>x,y,z</sub>; VR<sub>x,y,z</sub>**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* 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  $\pm 50$  MHz to  $\pm 100$  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 NORM<sub>x</sub> (no uncertainty required).

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

## Basic Calibration Parameters

|                                                           | Sensor X | Sensor Y | Sensor Z | Unc (k=2)     |
|-----------------------------------------------------------|----------|----------|----------|---------------|
| Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup> | 0.40     | 0.51     | 0.49     | $\pm 10.1 \%$ |
| DCP (mV) <sup>B</sup>                                     | 101.3    | 101.7    | 97.7     |               |

## Calibration Results for Modulation Response

| UID       | Communication System Name   |   | A<br>dB | B<br>dB/ $\mu\text{V}$ | C     | D<br>dB | VR<br>mV | Max<br>dev.  | Max<br>Unc <sup>E</sup><br>(k=2) |
|-----------|-----------------------------|---|---------|------------------------|-------|---------|----------|--------------|----------------------------------|
| 0         | CW                          | X | 0.00    | 0.00                   | 1.00  | 0.00    | 132.6    | $\pm 3.8 \%$ | $\pm 4.7 \%$                     |
|           |                             | Y | 0.00    | 0.00                   | 1.00  |         | 139.6    |              |                                  |
|           |                             | Z | 0.00    | 0.00                   | 1.00  |         | 144.7    |              |                                  |
| 10352-AAA | Pulse Waveform (200Hz, 10%) | X | 6.47    | 76.37                  | 15.24 | 10.00   | 60.0     | $\pm 4.1 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 84.00   | 108.00                 | 25.00 |         | 60.0     |              |                                  |
|           |                             | Z | 20.00   | 92.12                  | 20.92 |         | 60.0     |              |                                  |
| 10353-AAA | Pulse Waveform (200Hz, 20%) | X | 20.00   | 88.61                  | 17.68 | 6.99    | 80.0     | $\pm 2.4 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 20.00   | 93.20                  | 20.53 |         | 80.0     |              |                                  |
|           |                             | Z | 20.00   | 94.01                  | 20.91 |         | 80.0     |              |                                  |
| 10354-AAA | Pulse Waveform (200Hz, 40%) | X | 20.00   | 90.87                  | 17.27 | 3.98    | 95.0     | $\pm 1.3 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 20.00   | 96.62                  | 20.67 |         | 95.0     |              |                                  |
|           |                             | Z | 20.00   | 99.28                  | 22.18 |         | 95.0     |              |                                  |
| 10355-AAA | Pulse Waveform (200Hz, 60%) | X | 20.00   | 96.70                  | 18.63 | 2.22    | 120.0    | $\pm 1.2 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 20.00   | 99.05                  | 20.38 |         | 120.0    |              |                                  |
|           |                             | Z | 20.00   | 106.51                 | 24.16 |         | 120.0    |              |                                  |
| 10387-AAA | QPSK Waveform, 1 MHz        | X | 1.96    | 70.97                  | 17.28 | 1.00    | 150.0    | $\pm 2.7 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 1.58    | 64.72                  | 14.19 |         | 150.0    |              |                                  |
|           |                             | Z | 1.73    | 66.54                  | 15.35 |         | 150.0    |              |                                  |
| 10388-AAA | QPSK Waveform, 10 MHz       | X | 2.43    | 70.64                  | 17.44 | 0.00    | 150.0    | $\pm 0.8 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 2.08    | 66.70                  | 14.90 |         | 150.0    |              |                                  |
|           |                             | Z | 2.33    | 68.74                  | 16.11 |         | 150.0    |              |                                  |
| 10396-AAA | 64-QAM Waveform, 100 kHz    | X | 2.78    | 71.56                  | 19.69 | 3.01    | 150.0    | $\pm 0.9 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 3.10    | 71.27                  | 19.02 |         | 150.0    |              |                                  |
|           |                             | Z | 3.12    | 71.37                  | 19.23 |         | 150.0    |              |                                  |
| 10399-AAA | 64-QAM Waveform, 40 MHz     | X | 3.58    | 67.93                  | 16.50 | 0.00    | 150.0    | $\pm 1.9 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 3.41    | 66.49                  | 15.35 |         | 150.0    |              |                                  |
|           |                             | Z | 3.58    | 67.43                  | 15.98 |         | 150.0    |              |                                  |
| 10414-AAA | WLAN CCDF, 64-QAM, 40MHz    | X | 4.80    | 66.01                  | 15.98 | 0.00    | 150.0    | $\pm 3.8 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 4.82    | 65.29                  | 15.28 |         | 150.0    |              |                                  |
|           |                             | Z | 4.94    | 65.80                  | 15.67 |         | 150.0    |              |                                  |

Note: For details on UID parameters see Appendix

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

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

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

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

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

### Sensor Model Parameters

|   | C1<br>fF | C2<br>fF | $\alpha$<br>$V^{-1}$ | T1<br>$ms.V^{-2}$ | T2<br>$ms.V^{-1}$ | T3<br>ms | T4<br>$V^{-2}$ | T5<br>$V^{-1}$ | T6   |
|---|----------|----------|----------------------|-------------------|-------------------|----------|----------------|----------------|------|
| X | 35.6     | 271.08   | 37.06                | 8.11              | 0.37              | 5.02     | 1.43           | 0.10           | 1.00 |
| Y | 50.2     | 375.80   | 35.63                | 11.73             | 0.26              | 5.08     | 1.59           | 0.23           | 1.01 |
| Z | 49.3     | 370.19   | 35.93                | 15.60             | 0.00              | 5.10     | 1.02           | 0.33           | 1.01 |

### Other Probe Parameters

|                                               |            |
|-----------------------------------------------|------------|
| Sensor Arrangement                            | Triangular |
| Connector Angle (°)                           | -109       |
| Mechanical Surface Detection Mode             | enabled    |
| Optical Surface Detection Mode                | disabled   |
| Probe Overall Length                          | 337 mm     |
| Probe Body Diameter                           | 10 mm      |
| Tip Length                                    | 9 mm       |
| Tip Diameter                                  | 2.5 mm     |
| Probe Tip to Sensor X Calibration Point       | 1 mm       |
| Probe Tip to Sensor Y Calibration Point       | 1 mm       |
| Probe Tip to Sensor Z Calibration Point       | 1 mm       |
| Recommended Measurement Distance from Surface | 1.4 mm     |

**Note:** Measurement distance from surface can be increased to 3-4 mm for an *Area Scan* job.

## 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) <sup>F</sup> | ConvF X | ConvF Y | ConvF Z | Alpha <sup>G</sup> | Depth <sup>G</sup> (mm) | Unc (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-----------|
| 750                  | 41.9                               | 0.89                            | 10.26   | 10.26   | 10.26   | 0.39               | 1.05                    | ± 12.0 %  |
| 835                  | 41.5                               | 0.90                            | 10.02   | 10.02   | 10.02   | 0.28               | 1.20                    | ± 12.0 %  |
| 1450                 | 40.5                               | 1.20                            | 8.89    | 8.89    | 8.89    | 0.42               | 0.80                    | ± 12.0 %  |
| 1750                 | 40.1                               | 1.37                            | 8.72    | 8.72    | 8.72    | 0.22               | 0.86                    | ± 12.0 %  |
| 1900                 | 40.0                               | 1.40                            | 8.33    | 8.33    | 8.33    | 0.27               | 0.86                    | ± 12.0 %  |
| 2000                 | 40.0                               | 1.40                            | 8.15    | 8.15    | 8.15    | 0.31               | 0.86                    | ± 12.0 %  |
| 2300                 | 39.5                               | 1.67                            | 8.13    | 8.13    | 8.13    | 0.27               | 0.90                    | ± 12.0 %  |
| 2450                 | 39.2                               | 1.80                            | 7.98    | 7.98    | 7.98    | 0.14               | 0.90                    | ± 12.0 %  |
| 2600                 | 39.0                               | 1.96                            | 7.73    | 7.73    | 7.73    | 0.12               | 0.90                    | ± 12.0 %  |
| 3300                 | 38.2                               | 2.71                            | 7.14    | 7.14    | 7.14    | 0.35               | 1.30                    | ± 13.1 %  |
| 3500                 | 37.9                               | 2.91                            | 6.80    | 6.80    | 6.80    | 0.35               | 1.30                    | ± 13.1 %  |
| 3700                 | 37.7                               | 3.12                            | 6.68    | 6.68    | 6.68    | 0.40               | 1.35                    | ± 13.1 %  |
| 3900                 | 37.5                               | 3.32                            | 6.61    | 6.61    | 6.61    | 0.40               | 1.60                    | ± 13.1 %  |
| 4100                 | 37.2                               | 3.53                            | 6.35    | 6.35    | 6.35    | 0.40               | 1.60                    | ± 13.1 %  |
| 4200                 | 37.1                               | 3.63                            | 6.34    | 6.34    | 6.34    | 0.40               | 1.70                    | ± 13.1 %  |
| 4400                 | 36.9                               | 3.84                            | 6.28    | 6.28    | 6.28    | 0.40               | 1.70                    | ± 13.1 %  |
| 4600                 | 36.7                               | 4.04                            | 6.21    | 6.21    | 6.21    | 0.40               | 1.70                    | ± 13.1 %  |
| 4800                 | 36.4                               | 4.25                            | 6.16    | 6.16    | 6.16    | 0.40               | 1.70                    | ± 13.1 %  |
| 4950                 | 36.3                               | 4.40                            | 5.85    | 5.85    | 5.85    | 0.40               | 1.80                    | ± 13.1 %  |
| 5250                 | 35.9                               | 4.71                            | 5.10    | 5.10    | 5.10    | 0.40               | 1.80                    | ± 13.1 %  |
| 5600                 | 35.5                               | 5.07                            | 4.80    | 4.80    | 4.80    | 0.40               | 1.80                    | ± 13.1 %  |
| 5750                 | 35.4                               | 5.22                            | 4.85    | 4.85    | 4.85    | 0.40               | 1.80                    | ± 13.1 %  |

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

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

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

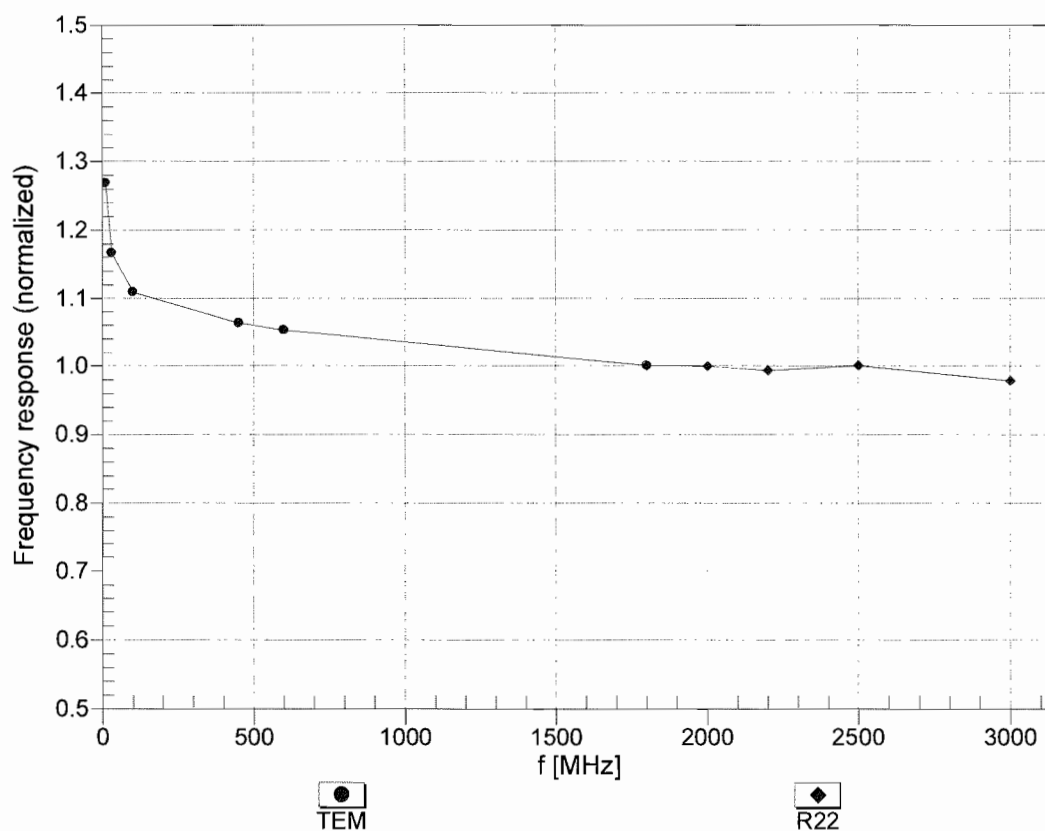
| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity (S/m) <sup>F</sup> | ConvF X | ConvF Y | ConvF Z | Alpha <sup>G</sup> | Depth <sup>G</sup> (mm) | Unc (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-----------|
| 6500                 | 34.5                               | 6.07                            | 5.45    | 5.45    | 5.45    | 0.20               | 2.50                    | ± 18.6 %  |

<sup>C</sup> Frequency validity above 6GHz is ± 700 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

<sup>F</sup> At frequencies 6-10 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz; below ± 2% for frequencies between 3-6 GHz; and below ± 4% for frequencies between 6-10 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)

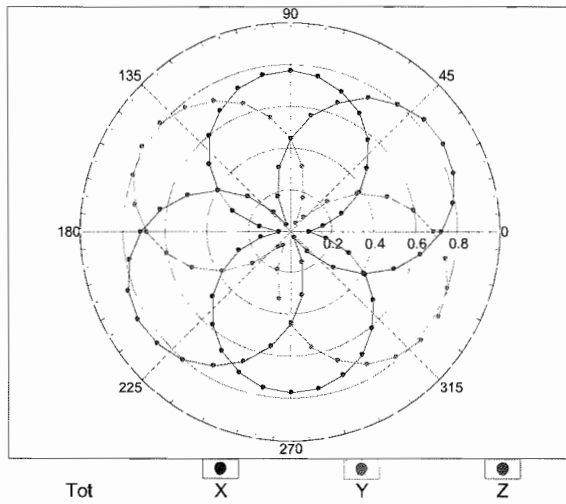


Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  ( $k=2$ )

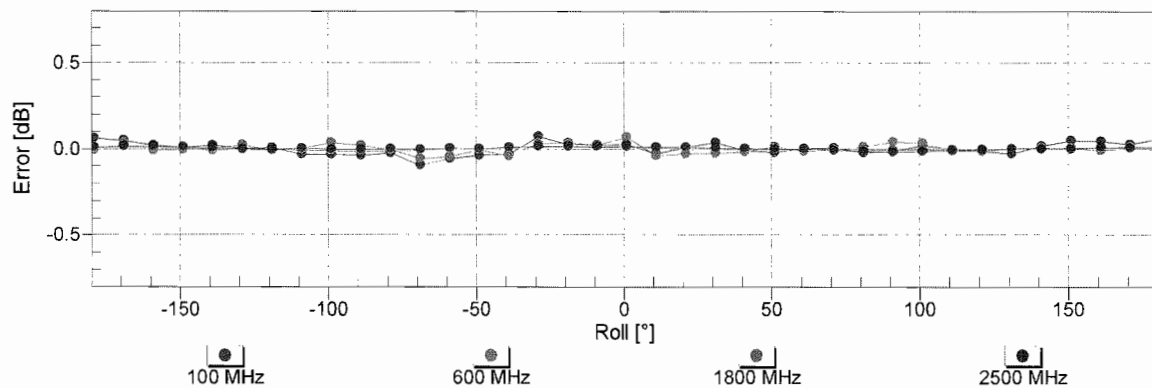
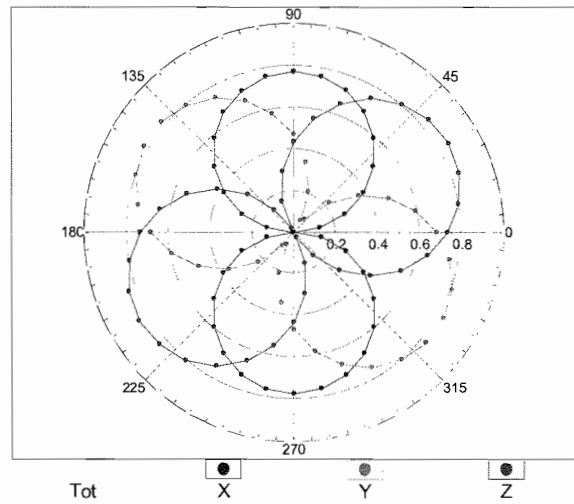


## Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

f=600 MHz,TEM

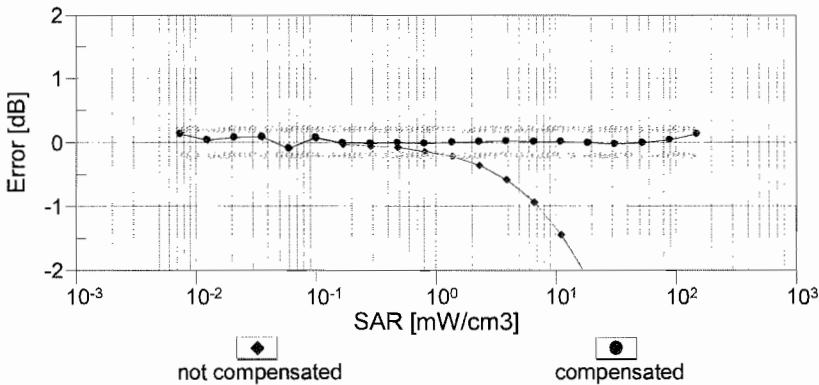
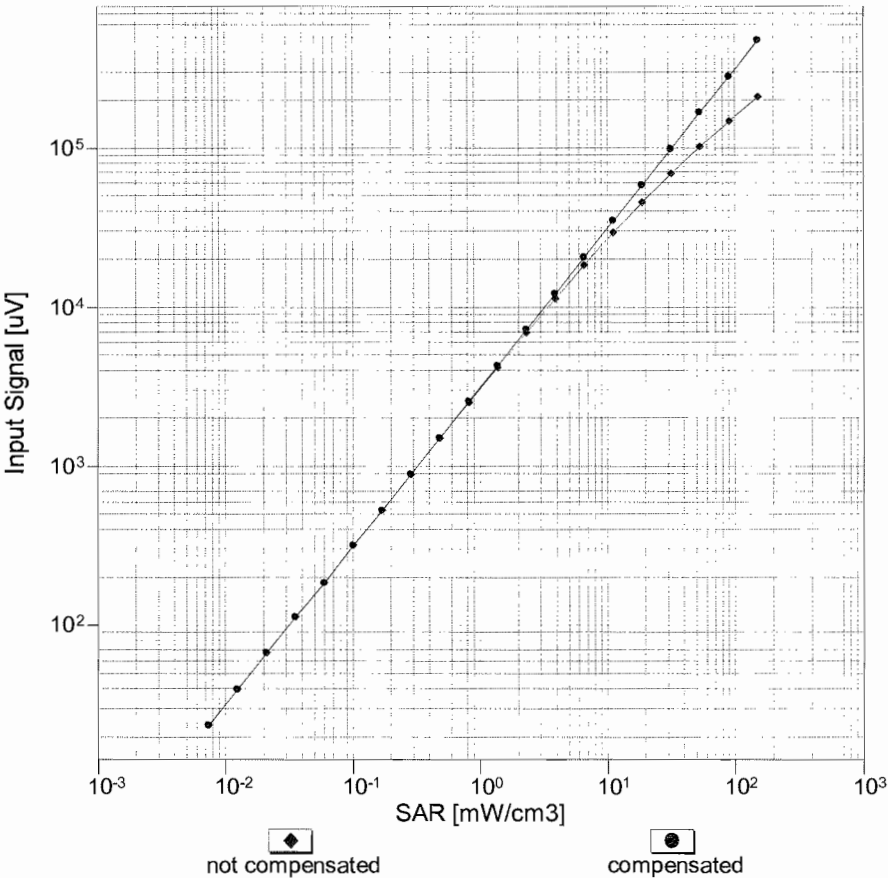


f=1800 MHz,R22



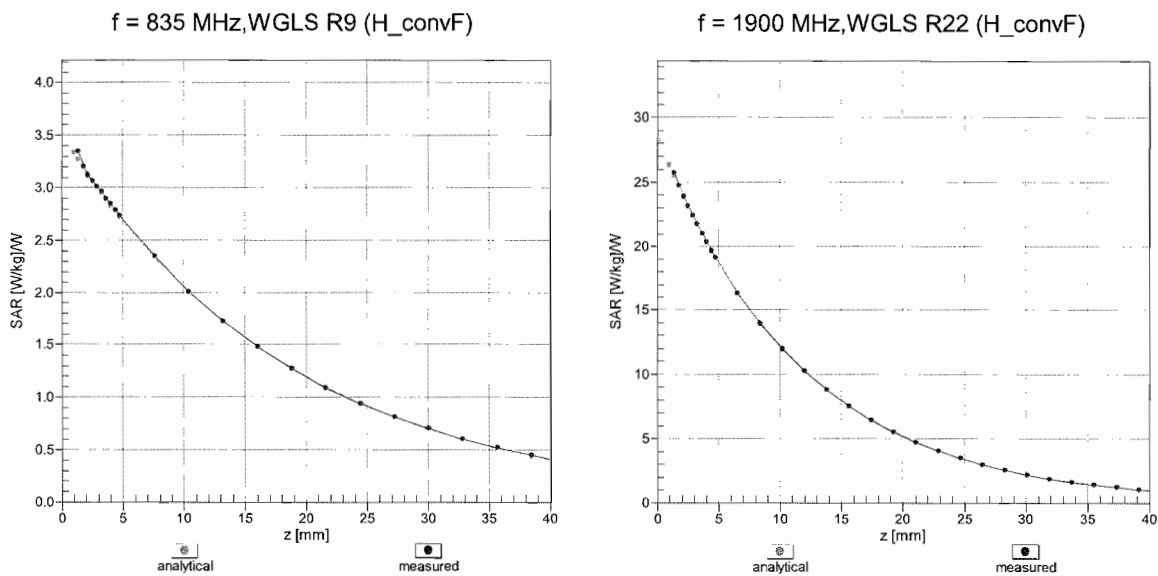
Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  ( $k=2$ )

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

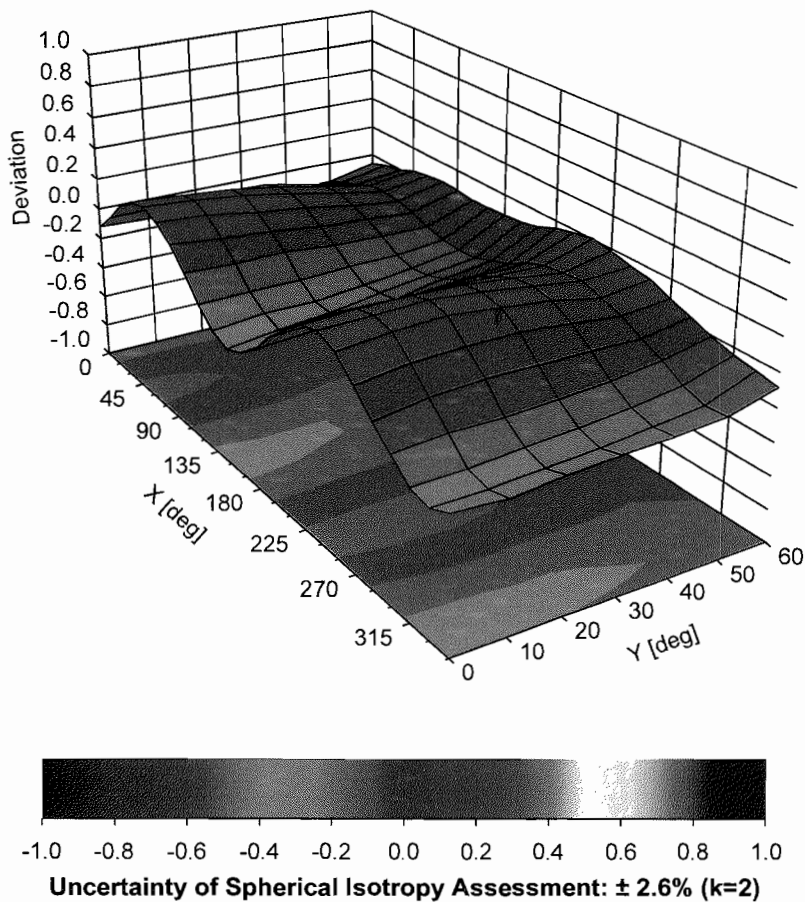


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

# Conversion Factor Assessment



## Deviation from Isotropy in Liquid Error ( $\phi, \vartheta$ ), f = 900 MHz



**Appendix: Modulation Calibration Parameters**

| UID   | Rev | Communication System Name                           | Group     | PAR (dB) | Unc <sup>E</sup> (k=2) |
|-------|-----|-----------------------------------------------------|-----------|----------|------------------------|
| 0     | -   | CW                                                  | CW        | 0.00     | ± 4.7 %                |
| 10010 | CAA | SAR Validation (Square, 100ms, 10ms)                | Test      | 10.00    | ± 9.6 %                |
| 10011 | CAB | UMTS-FDD (WCDMA)                                    | WCDMA     | 2.91     | ± 9.6 %                |
| 10012 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)            | WLAN      | 1.87     | ± 9.6 %                |
| 10013 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)       | WLAN      | 9.46     | ± 9.6 %                |
| 10021 | DAC | GSM-FDD (TDMA, GMSK)                                | GSM       | 9.39     | ± 9.6 %                |
| 10023 | DAC | GPRS-FDD (TDMA, GMSK, TN 0)                         | GSM       | 9.57     | ± 9.6 %                |
| 10024 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1)                       | GSM       | 6.56     | ± 9.6 %                |
| 10025 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0)                         | GSM       | 12.62    | ± 9.6 %                |
| 10026 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1)                       | GSM       | 9.55     | ± 9.6 %                |
| 10027 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2)                     | GSM       | 4.80     | ± 9.6 %                |
| 10028 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)                   | GSM       | 3.55     | ± 9.6 %                |
| 10029 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2)                     | GSM       | 7.78     | ± 9.6 %                |
| 10030 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH1)                 | Bluetooth | 5.30     | ± 9.6 %                |
| 10031 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH3)                 | Bluetooth | 1.87     | ± 9.6 %                |
| 10032 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH5)                 | Bluetooth | 1.16     | ± 9.6 %                |
| 10033 | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)           | Bluetooth | 7.74     | ± 9.6 %                |
| 10034 | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)           | Bluetooth | 4.53     | ± 9.6 %                |
| 10035 | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)           | Bluetooth | 3.83     | ± 9.6 %                |
| 10036 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH1)               | Bluetooth | 8.01     | ± 9.6 %                |
| 10037 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH3)               | Bluetooth | 4.77     | ± 9.6 %                |
| 10038 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH5)               | Bluetooth | 4.10     | ± 9.6 %                |
| 10039 | CAB | CDMA2000 (1xRTT, RC1)                               | CDMA2000  | 4.57     | ± 9.6 %                |
| 10042 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate) | AMPS      | 7.78     | ± 9.6 %                |
| 10044 | CAA | IS-91/EIA/TIA-553 FDD (FDMA, FM)                    | AMPS      | 0.00     | ± 9.6 %                |
| 10048 | CAA | DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)           | DECT      | 13.80    | ± 9.6 %                |
| 10049 | CAA | DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)         | DECT      | 10.79    | ± 9.6 %                |
| 10056 | CAA | UMTS-TDD (TD-SCDMA, 1.28 Mcps)                      | TD-SCDMA  | 11.01    | ± 9.6 %                |
| 10058 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)                   | GSM       | 6.52     | ± 9.6 %                |
| 10059 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)            | WLAN      | 2.12     | ± 9.6 %                |
| 10060 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)          | WLAN      | 2.83     | ± 9.6 %                |
| 10061 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)           | WLAN      | 3.60     | ± 9.6 %                |
| 10062 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)            | WLAN      | 8.68     | ± 9.6 %                |
| 10063 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)            | WLAN      | 8.63     | ± 9.6 %                |
| 10064 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)           | WLAN      | 9.09     | ± 9.6 %                |
| 10065 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)           | WLAN      | 9.00     | ± 9.6 %                |
| 10066 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)           | WLAN      | 9.38     | ± 9.6 %                |
| 10067 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)           | WLAN      | 10.12    | ± 9.6 %                |
| 10068 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)           | WLAN      | 10.24    | ± 9.6 %                |
| 10069 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)           | WLAN      | 10.56    | ± 9.6 %                |
| 10071 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)       | WLAN      | 9.83     | ± 9.6 %                |
| 10072 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)      | WLAN      | 9.62     | ± 9.6 %                |
| 10073 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)      | WLAN      | 9.94     | ± 9.6 %                |
| 10074 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)      | WLAN      | 10.30    | ± 9.6 %                |
| 10075 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)      | WLAN      | 10.77    | ± 9.6 %                |
| 10076 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)      | WLAN      | 10.94    | ± 9.6 %                |
| 10077 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)      | WLAN      | 11.00    | ± 9.6 %                |
| 10081 | CAB | CDMA2000 (1xRTT, RC3)                               | CDMA2000  | 3.97     | ± 9.6 %                |
| 10082 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate) | AMPS      | 4.77     | ± 9.6 %                |
| 10090 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-4)                       | GSM       | 6.56     | ± 9.6 %                |
| 10097 | CAB | UMTS-FDD (HSDPA)                                    | WCDMA     | 3.98     | ± 9.6 %                |
| 10098 | CAB | UMTS-FDD (HSUPA, Subtest 2)                         | WCDMA     | 3.98     | ± 9.6 %                |
| 10099 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-4)                       | GSM       | 9.55     | ± 9.6 %                |

|       |     |                                                |         |       |         |
|-------|-----|------------------------------------------------|---------|-------|---------|
| 10100 | CAE | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)       | LTE-FDD | 5.67  | ± 9.6 % |
| 10101 | CAE | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)     | LTE-FDD | 6.42  | ± 9.6 % |
| 10102 | CAE | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)     | LTE-FDD | 6.60  | ± 9.6 % |
| 10103 | CAG | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)       | LTE-TDD | 9.29  | ± 9.6 % |
| 10104 | CAG | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)     | LTE-TDD | 9.97  | ± 9.6 % |
| 10105 | CAG | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)     | LTE-TDD | 10.01 | ± 9.6 % |
| 10108 | CAG | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)       | LTE-FDD | 5.80  | ± 9.6 % |
| 10109 | CAG | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)     | LTE-FDD | 6.43  | ± 9.6 % |
| 10110 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)        | LTE-FDD | 5.75  | ± 9.6 % |
| 10111 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)      | LTE-FDD | 6.44  | ± 9.6 % |
| 10112 | CAG | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)     | LTE-FDD | 6.59  | ± 9.6 % |
| 10113 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)      | LTE-FDD | 6.62  | ± 9.6 % |
| 10114 | CAD | IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)  | WLAN    | 8.10  | ± 9.6 % |
| 10115 | CAD | IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)  | WLAN    | 8.46  | ± 9.6 % |
| 10116 | CAD | IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM) | WLAN    | 8.15  | ± 9.6 % |
| 10117 | CAD | IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)       | WLAN    | 8.07  | ± 9.6 % |
| 10118 | CAD | IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)       | WLAN    | 8.59  | ± 9.6 % |
| 10119 | CAD | IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)      | WLAN    | 8.13  | ± 9.6 % |
| 10140 | CAE | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)     | LTE-FDD | 6.49  | ± 9.6 % |
| 10141 | CAE | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)     | LTE-FDD | 6.53  | ± 9.6 % |
| 10142 | CAE | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)        | LTE-FDD | 5.73  | ± 9.6 % |
| 10143 | CAE | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)      | LTE-FDD | 6.35  | ± 9.6 % |
| 10144 | CAE | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)      | LTE-FDD | 6.65  | ± 9.6 % |
| 10145 | CAF | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)      | LTE-FDD | 5.76  | ± 9.6 % |
| 10146 | CAF | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)    | LTE-FDD | 6.41  | ± 9.6 % |
| 10147 | CAF | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)    | LTE-FDD | 6.72  | ± 9.6 % |
| 10149 | CAE | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)      | LTE-FDD | 6.42  | ± 9.6 % |
| 10150 | CAE | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)      | LTE-FDD | 6.60  | ± 9.6 % |
| 10151 | CAG | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)        | LTE-TDD | 9.28  | ± 9.6 % |
| 10152 | CAG | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)      | LTE-TDD | 9.92  | ± 9.6 % |
| 10153 | CAG | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)      | LTE-TDD | 10.05 | ± 9.6 % |
| 10154 | CAG | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)        | LTE-FDD | 5.75  | ± 9.6 % |
| 10155 | CAG | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)      | LTE-FDD | 6.43  | ± 9.6 % |
| 10156 | CAG | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)         | LTE-FDD | 5.79  | ± 9.6 % |
| 10157 | CAG | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)       | LTE-FDD | 6.49  | ± 9.6 % |
| 10158 | CAG | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)      | LTE-FDD | 6.62  | ± 9.6 % |
| 10159 | CAG | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)       | LTE-FDD | 6.56  | ± 9.6 % |
| 10160 | CAE | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)        | LTE-FDD | 5.82  | ± 9.6 % |
| 10161 | CAE | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)      | LTE-FDD | 6.43  | ± 9.6 % |
| 10162 | CAE | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)      | LTE-FDD | 6.58  | ± 9.6 % |
| 10166 | CAF | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)       | LTE-FDD | 5.46  | ± 9.6 % |
| 10167 | CAF | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)     | LTE-FDD | 6.21  | ± 9.6 % |
| 10168 | CAF | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)     | LTE-FDD | 6.79  | ± 9.6 % |
| 10169 | CAE | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)          | LTE-FDD | 5.73  | ± 9.6 % |
| 10170 | CAE | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)        | LTE-FDD | 6.52  | ± 9.6 % |
| 10171 | AAE | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)        | LTE-FDD | 6.49  | ± 9.6 % |
| 10172 | CAG | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)          | LTE-TDD | 9.21  | ± 9.6 % |
| 10173 | CAG | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)        | LTE-TDD | 9.48  | ± 9.6 % |
| 10174 | CAG | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)        | LTE-TDD | 10.25 | ± 9.6 % |
| 10175 | CAG | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)          | LTE-FDD | 5.72  | ± 9.6 % |
| 10176 | CAG | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)        | LTE-FDD | 6.52  | ± 9.6 % |
| 10177 | CAI | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)           | LTE-FDD | 5.73  | ± 9.6 % |
| 10178 | CAG | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)         | LTE-FDD | 6.52  | ± 9.6 % |
| 10179 | CAG | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)        | LTE-FDD | 6.50  | ± 9.6 % |
| 10180 | CAG | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)         | LTE-FDD | 6.50  | ± 9.6 % |
| 10181 | CAE | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)          | LTE-FDD | 5.73  | ± 9.6 % |

|       |     |                                               |         |       |         |
|-------|-----|-----------------------------------------------|---------|-------|---------|
| 10182 | CAE | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)       | LTE-FDD | 6.52  | ± 9.6 % |
| 10183 | AAD | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)       | LTE-FDD | 6.50  | ± 9.6 % |
| 10184 | CAE | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)          | LTE-FDD | 5.73  | ± 9.6 % |
| 10185 | CAE | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)        | LTE-FDD | 6.51  | ± 9.6 % |
| 10186 | AAE | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)        | LTE-FDD | 6.50  | ± 9.6 % |
| 10187 | CAF | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)        | LTE-FDD | 5.73  | ± 9.6 % |
| 10188 | CAF | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)      | LTE-FDD | 6.52  | ± 9.6 % |
| 10189 | AAF | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)      | LTE-FDD | 6.50  | ± 9.6 % |
| 10193 | CAD | IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)  | WLAN    | 8.09  | ± 9.6 % |
| 10194 | CAD | IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM) | WLAN    | 8.12  | ± 9.6 % |
| 10195 | CAD | IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM) | WLAN    | 8.21  | ± 9.6 % |
| 10196 | CAD | IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)       | WLAN    | 8.10  | ± 9.6 % |
| 10197 | CAD | IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)      | WLAN    | 8.13  | ± 9.6 % |
| 10198 | CAD | IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)      | WLAN    | 8.27  | ± 9.6 % |
| 10219 | CAD | IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)       | WLAN    | 8.03  | ± 9.6 % |
| 10220 | CAD | IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)    | WLAN    | 8.13  | ± 9.6 % |
| 10221 | CAD | IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)    | WLAN    | 8.27  | ± 9.6 % |
| 10222 | CAD | IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)        | WLAN    | 8.06  | ± 9.6 % |
| 10223 | CAD | IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)      | WLAN    | 8.48  | ± 9.6 % |
| 10224 | CAD | IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)     | WLAN    | 8.08  | ± 9.6 % |
| 10225 | CAB | UMTS-FDD (HSPA+)                              | WCDMA   | 5.97  | ± 9.6 % |
| 10226 | CAB | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)      | LTE-TDD | 9.49  | ± 9.6 % |
| 10227 | CAB | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)      | LTE-TDD | 10.26 | ± 9.6 % |
| 10228 | CAB | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)        | LTE-TDD | 9.22  | ± 9.6 % |
| 10229 | CAD | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)        | LTE-TDD | 9.48  | ± 9.6 % |
| 10230 | CAD | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)        | LTE-TDD | 10.25 | ± 9.6 % |
| 10231 | CAD | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)          | LTE-TDD | 9.19  | ± 9.6 % |
| 10232 | CAG | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)        | LTE-TDD | 9.48  | ± 9.6 % |
| 10233 | CAG | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)        | LTE-TDD | 10.25 | ± 9.6 % |
| 10234 | CAG | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)          | LTE-TDD | 9.21  | ± 9.6 % |
| 10235 | CAG | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)       | LTE-TDD | 9.48  | ± 9.6 % |
| 10236 | CAG | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)       | LTE-TDD | 10.25 | ± 9.6 % |
| 10237 | CAG | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)         | LTE-TDD | 9.21  | ± 9.6 % |
| 10238 | CAF | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)       | LTE-TDD | 9.48  | ± 9.6 % |
| 10239 | CAF | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)       | LTE-TDD | 10.25 | ± 9.6 % |
| 10240 | CAF | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)         | LTE-TDD | 9.21  | ± 9.6 % |
| 10241 | CAB | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)    | LTE-TDD | 9.82  | ± 9.6 % |
| 10242 | CAB | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)    | LTE-TDD | 9.86  | ± 9.6 % |
| 10243 | CAB | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)      | LTE-TDD | 9.46  | ± 9.6 % |
| 10244 | CAD | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)      | LTE-TDD | 10.06 | ± 9.6 % |
| 10245 | CAD | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)      | LTE-TDD | 10.06 | ± 9.6 % |
| 10246 | CAD | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)        | LTE-TDD | 9.30  | ± 9.6 % |
| 10247 | CAG | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)      | LTE-TDD | 9.91  | ± 9.6 % |
| 10248 | CAG | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)      | LTE-TDD | 10.09 | ± 9.6 % |
| 10249 | CAG | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)        | LTE-TDD | 9.29  | ± 9.6 % |
| 10250 | CAG | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)     | LTE-TDD | 9.81  | ± 9.6 % |
| 10251 | CAG | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)     | LTE-TDD | 10.17 | ± 9.6 % |
| 10252 | CAG | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)       | LTE-TDD | 9.24  | ± 9.6 % |
| 10253 | CAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)     | LTE-TDD | 9.90  | ± 9.6 % |
| 10254 | CAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)     | LTE-TDD | 10.14 | ± 9.6 % |
| 10255 | CAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)       | LTE-TDD | 9.20  | ± 9.6 % |
| 10256 | CAB | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)   | LTE-TDD | 9.96  | ± 9.6 % |
| 10257 | CAB | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)   | LTE-TDD | 10.08 | ± 9.6 % |
| 10258 | CAB | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)     | LTE-TDD | 9.34  | ± 9.6 % |
| 10259 | CAD | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)     | LTE-TDD | 9.98  | ± 9.6 % |
| 10260 | CAD | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)     | LTE-TDD | 9.97  | ± 9.6 % |

|       |     |                                                           |          |       |         |
|-------|-----|-----------------------------------------------------------|----------|-------|---------|
| 10261 | CAD | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)                   | LTE-TDD  | 9.24  | ± 9.6 % |
| 10262 | CAG | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)                 | LTE-TDD  | 9.83  | ± 9.6 % |
| 10263 | CAG | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)                 | LTE-TDD  | 10.16 | ± 9.6 % |
| 10264 | CAG | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)                   | LTE-TDD  | 9.23  | ± 9.6 % |
| 10265 | CAG | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)                | LTE-TDD  | 9.92  | ± 9.6 % |
| 10266 | CAG | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)                | LTE-TDD  | 10.07 | ± 9.6 % |
| 10267 | CAG | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)                  | LTE-TDD  | 9.30  | ± 9.6 % |
| 10268 | CAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)                | LTE-TDD  | 10.06 | ± 9.6 % |
| 10269 | CAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)                | LTE-TDD  | 10.13 | ± 9.6 % |
| 10270 | CAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)                  | LTE-TDD  | 9.58  | ± 9.6 % |
| 10274 | CAB | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)                 | WCDMA    | 4.87  | ± 9.6 % |
| 10275 | CAB | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)                  | WCDMA    | 3.96  | ± 9.6 % |
| 10277 | CAA | PHS (QPSK)                                                | PHS      | 11.81 | ± 9.6 % |
| 10278 | CAA | PHS (QPSK, BW 884MHz, Rolloff 0.5)                        | PHS      | 11.81 | ± 9.6 % |
| 10279 | CAA | PHS (QPSK, BW 884MHz, Rolloff 0.38)                       | PHS      | 12.18 | ± 9.6 % |
| 10290 | AAB | CDMA2000, RC1, SO55, Full Rate                            | CDMA2000 | 3.91  | ± 9.6 % |
| 10291 | AAB | CDMA2000, RC3, SO55, Full Rate                            | CDMA2000 | 3.46  | ± 9.6 % |
| 10292 | AAB | CDMA2000, RC3, SO32, Full Rate                            | CDMA2000 | 3.39  | ± 9.6 % |
| 10293 | AAB | CDMA2000, RC3, SO3, Full Rate                             | CDMA2000 | 3.50  | ± 9.6 % |
| 10295 | AAB | CDMA2000, RC1, SO3, 1/8th Rate 25 fr.                     | CDMA2000 | 12.49 | ± 9.6 % |
| 10297 | AAD | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)                   | LTE-FDD  | 5.81  | ± 9.6 % |
| 10298 | AAD | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)                    | LTE-FDD  | 5.72  | ± 9.6 % |
| 10299 | AAD | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)                  | LTE-FDD  | 6.39  | ± 9.6 % |
| 10300 | AAD | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)                  | LTE-FDD  | 6.60  | ± 9.6 % |
| 10301 | AAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)        | WiMAX    | 12.03 | ± 9.6 % |
| 10302 | AAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3CTRL) | WiMAX    | 12.57 | ± 9.6 % |
| 10303 | AAA | IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)       | WiMAX    | 12.52 | ± 9.6 % |
| 10304 | AAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)       | WiMAX    | 11.86 | ± 9.6 % |
| 10305 | AAA | IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC)      | WiMAX    | 15.24 | ± 9.6 % |
| 10306 | AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC)      | WiMAX    | 14.67 | ± 9.6 % |
| 10307 | AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC)       | WiMAX    | 14.49 | ± 9.6 % |
| 10308 | AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)      | WiMAX    | 14.46 | ± 9.6 % |
| 10309 | AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3)   | WiMAX    | 14.58 | ± 9.6 % |
| 10310 | AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3)    | WiMAX    | 14.57 | ± 9.6 % |
| 10311 | AAD | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)                  | LTE-FDD  | 6.06  | ± 9.6 % |
| 10313 | AAA | iDEN 1:3                                                  | iDEN     | 10.51 | ± 9.6 % |
| 10314 | AAA | iDEN 1:6                                                  | iDEN     | 13.48 | ± 9.6 % |
| 10315 | AAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc dc)         | WLAN     | 1.71  | ± 9.6 % |
| 10316 | AAB | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc dc)     | WLAN     | 8.36  | ± 9.6 % |
| 10317 | AAD | IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc dc)           | WLAN     | 8.36  | ± 9.6 % |
| 10352 | AAA | Pulse Waveform (200Hz, 10%)                               | Generic  | 10.00 | ± 9.6 % |
| 10353 | AAA | Pulse Waveform (200Hz, 20%)                               | Generic  | 6.99  | ± 9.6 % |
| 10354 | AAA | Pulse Waveform (200Hz, 40%)                               | Generic  | 3.98  | ± 9.6 % |
| 10355 | AAA | Pulse Waveform (200Hz, 60%)                               | Generic  | 2.22  | ± 9.6 % |
| 10356 | AAA | Pulse Waveform (200Hz, 80%)                               | Generic  | 0.97  | ± 9.6 % |
| 10387 | AAA | QPSK Waveform, 1 MHz                                      | Generic  | 5.10  | ± 9.6 % |
| 10388 | AAA | QPSK Waveform, 10 MHz                                     | Generic  | 5.22  | ± 9.6 % |
| 10396 | AAA | 64-QAM Waveform, 100 kHz                                  | Generic  | 6.27  | ± 9.6 % |
| 10399 | AAA | 64-QAM Waveform, 40 MHz                                   | Generic  | 6.27  | ± 9.6 % |
| 10400 | AAE | IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc dc)               | WLAN     | 8.37  | ± 9.6 % |
| 10401 | AAE | IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc dc)               | WLAN     | 8.60  | ± 9.6 % |
| 10402 | AAE | IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc dc)               | WLAN     | 8.53  | ± 9.6 % |
| 10403 | AAB | CDMA2000 (1xEV-DO, Rev. 0)                                | CDMA2000 | 3.76  | ± 9.6 % |
| 10404 | AAB | CDMA2000 (1xEV-DO, Rev. A)                                | CDMA2000 | 3.77  | ± 9.6 % |
| 10406 | AAB | CDMA2000, RC3, SO32, SCH0, Full Rate                      | CDMA2000 | 5.22  | ± 9.6 % |
| 10410 | AAG | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub=2,3,4,7,8,9) | LTE-TDD  | 7.82  | ± 9.6 % |



|       |     |                                                            |          |       |         |
|-------|-----|------------------------------------------------------------|----------|-------|---------|
| 10414 | AAA | WLAN CCDF, 64-QAM, 40MHz                                   | Generic  | 8.54  | ± 9.6 % |
| 10415 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc dc)          | WLAN     | 1.54  | ± 9.6 % |
| 10416 | AAA | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc dc)      | WLAN     | 8.23  | ± 9.6 % |
| 10417 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc dc)          | WLAN     | 8.23  | ± 9.6 % |
| 10418 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Long)  | WLAN     | 8.14  | ± 9.6 % |
| 10419 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Short) | WLAN     | 8.19  | ± 9.6 % |
| 10422 | AAC | IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)               | WLAN     | 8.32  | ± 9.6 % |
| 10423 | AAC | IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)            | WLAN     | 8.47  | ± 9.6 % |
| 10424 | AAC | IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)            | WLAN     | 8.40  | ± 9.6 % |
| 10425 | AAC | IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)                | WLAN     | 8.41  | ± 9.6 % |
| 10426 | AAC | IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)              | WLAN     | 8.45  | ± 9.6 % |
| 10427 | AAC | IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)             | WLAN     | 8.41  | ± 9.6 % |
| 10430 | AAD | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)                           | LTE-FDD  | 8.28  | ± 9.6 % |
| 10431 | AAD | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)                          | LTE-FDD  | 8.38  | ± 9.6 % |
| 10432 | AAC | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)                          | LTE-FDD  | 8.34  | ± 9.6 % |
| 10433 | AAC | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)                          | LTE-FDD  | 8.34  | ± 9.6 % |
| 10434 | AAA | W-CDMA (BS Test Model 1, 64 DPCH)                          | WCDMA    | 8.60  | ± 9.6 % |
| 10435 | AAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub)              | LTE-TDD  | 7.82  | ± 9.6 % |
| 10447 | AAD | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)             | LTE-FDD  | 7.56  | ± 9.6 % |
| 10448 | AAD | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)            | LTE-FDD  | 7.53  | ± 9.6 % |
| 10449 | AAC | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)            | LTE-FDD  | 7.51  | ± 9.6 % |
| 10450 | AAC | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)            | LTE-FDD  | 7.48  | ± 9.6 % |
| 10451 | AAA | W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)            | WCDMA    | 7.59  | ± 9.6 % |
| 10453 | AAD | Validation (Square, 10ms, 1ms)                             | Test     | 10.00 | ± 9.6 % |
| 10456 | AAC | IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc dc)               | WLAN     | 8.63  | ± 9.6 % |
| 10457 | AAA | UMTS-FDD (DC-HSDPA)                                        | WCDMA    | 6.62  | ± 9.6 % |
| 10458 | AAA | CDMA2000 (1xEV-DO, Rev. B, 2 carriers)                     | CDMA2000 | 6.55  | ± 9.6 % |
| 10459 | AAA | CDMA2000 (1xEV-DO, Rev. B, 3 carriers)                     | CDMA2000 | 8.25  | ± 9.6 % |
| 10460 | AAA | UMTS-FDD (WCDMA, AMR)                                      | WCDMA    | 2.39  | ± 9.6 % |
| 10461 | AAB | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Sub)             | LTE-TDD  | 7.82  | ± 9.6 % |
| 10462 | AAB | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Sub)           | LTE-TDD  | 8.30  | ± 9.6 % |
| 10463 | AAB | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Sub)           | LTE-TDD  | 8.56  | ± 9.6 % |
| 10464 | AAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Sub)               | LTE-TDD  | 7.82  | ± 9.6 % |
| 10465 | AAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Sub)             | LTE-TDD  | 8.32  | ± 9.6 % |
| 10466 | AAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Sub)             | LTE-TDD  | 8.57  | ± 9.6 % |
| 10467 | AAF | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub)               | LTE-TDD  | 7.82  | ± 9.6 % |
| 10468 | AAF | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Sub)             | LTE-TDD  | 8.32  | ± 9.6 % |
| 10469 | AAF | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Sub)             | LTE-TDD  | 8.56  | ± 9.6 % |
| 10470 | AAF | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub)              | LTE-TDD  | 7.82  | ± 9.6 % |
| 10471 | AAF | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Sub)            | LTE-TDD  | 8.32  | ± 9.6 % |
| 10472 | AAF | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Sub)            | LTE-TDD  | 8.57  | ± 9.6 % |
| 10473 | AAE | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Sub)              | LTE-TDD  | 7.82  | ± 9.6 % |
| 10474 | AAE | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Sub)            | LTE-TDD  | 8.32  | ± 9.6 % |
| 10475 | AAE | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Sub)            | LTE-TDD  | 8.57  | ± 9.6 % |
| 10477 | AAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Sub)            | LTE-TDD  | 8.32  | ± 9.6 % |
| 10478 | AAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Sub)            | LTE-TDD  | 8.57  | ± 9.6 % |
| 10479 | AAB | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Sub)           | LTE-TDD  | 7.74  | ± 9.6 % |
| 10480 | AAB | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Sub)         | LTE-TDD  | 8.18  | ± 9.6 % |
| 10481 | AAB | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Sub)         | LTE-TDD  | 8.45  | ± 9.6 % |
| 10482 | AAC | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Sub)             | LTE-TDD  | 7.71  | ± 9.6 % |
| 10483 | AAC | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, Sub)              | LTE-TDD  | 8.39  | ± 9.6 % |
| 10484 | AAC | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Sub)           | LTE-TDD  | 8.47  | ± 9.6 % |
| 10485 | AAF | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Sub)             | LTE-TDD  | 7.59  | ± 9.6 % |
| 10486 | AAF | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Sub)           | LTE-TDD  | 8.38  | ± 9.6 % |
| 10487 | AAF | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Sub)           | LTE-TDD  | 8.60  | ± 9.6 % |
| 10488 | AAF | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Sub)            | LTE-TDD  | 7.70  | ± 9.6 % |

|       |     |                                                     |         |      |         |
|-------|-----|-----------------------------------------------------|---------|------|---------|
| 10489 | AAF | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Sub)   | LTE-TDD | 8.31 | ± 9.6 % |
| 10490 | AAF | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Sub)   | LTE-TDD | 8.54 | ± 9.6 % |
| 10491 | AAE | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Sub)     | LTE-TDD | 7.74 | ± 9.6 % |
| 10492 | AAE | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Sub)   | LTE-TDD | 8.41 | ± 9.6 % |
| 10493 | AAE | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Sub)   | LTE-TDD | 8.55 | ± 9.6 % |
| 10494 | AAF | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Sub)     | LTE-TDD | 7.74 | ± 9.6 % |
| 10495 | AAF | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Sub)   | LTE-TDD | 8.37 | ± 9.6 % |
| 10496 | AAF | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Sub)   | LTE-TDD | 8.54 | ± 9.6 % |
| 10497 | AAB | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Sub)   | LTE-TDD | 7.67 | ± 9.6 % |
| 10498 | AAB | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Sub) | LTE-TDD | 8.40 | ± 9.6 % |
| 10499 | AAB | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Sub) | LTE-TDD | 8.68 | ± 9.6 % |
| 10500 | AAC | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Sub)     | LTE-TDD | 7.67 | ± 9.6 % |
| 10501 | AAC | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Sub)   | LTE-TDD | 8.44 | ± 9.6 % |
| 10502 | AAC | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Sub)   | LTE-TDD | 8.52 | ± 9.6 % |
| 10503 | AAF | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Sub)     | LTE-TDD | 7.72 | ± 9.6 % |
| 10504 | AAF | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Sub)   | LTE-TDD | 8.31 | ± 9.6 % |
| 10505 | AAF | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Sub)   | LTE-TDD | 8.54 | ± 9.6 % |
| 10506 | AAF | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Sub)    | LTE-TDD | 7.74 | ± 9.6 % |
| 10507 | AAF | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Sub)  | LTE-TDD | 8.36 | ± 9.6 % |
| 10508 | AAF | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Sub)  | LTE-TDD | 8.55 | ± 9.6 % |
| 10509 | AAE | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Sub)    | LTE-TDD | 7.99 | ± 9.6 % |
| 10510 | AAE | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Sub)  | LTE-TDD | 8.49 | ± 9.6 % |
| 10511 | AAE | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Sub)  | LTE-TDD | 8.51 | ± 9.6 % |
| 10512 | AAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Sub)    | LTE-TDD | 7.74 | ± 9.6 % |
| 10513 | AAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Sub)  | LTE-TDD | 8.42 | ± 9.6 % |
| 10514 | AAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Sub)  | LTE-TDD | 8.45 | ± 9.6 % |
| 10515 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc dc)   | WLAN    | 1.58 | ± 9.6 % |
| 10516 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc dc) | WLAN    | 1.57 | ± 9.6 % |
| 10517 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc dc)  | WLAN    | 1.58 | ± 9.6 % |
| 10518 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc dc)   | WLAN    | 8.23 | ± 9.6 % |
| 10519 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc dc)  | WLAN    | 8.39 | ± 9.6 % |
| 10520 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc dc)  | WLAN    | 8.12 | ± 9.6 % |
| 10521 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc dc)  | WLAN    | 7.97 | ± 9.6 % |
| 10522 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc dc)  | WLAN    | 8.45 | ± 9.6 % |
| 10523 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc dc)  | WLAN    | 8.08 | ± 9.6 % |
| 10524 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc dc)  | WLAN    | 8.27 | ± 9.6 % |
| 10525 | AAC | IEEE 802.11ac WiFi (20MHz, MCS0, 99pc dc)           | WLAN    | 8.36 | ± 9.6 % |
| 10526 | AAC | IEEE 802.11ac WiFi (20MHz, MCS1, 99pc dc)           | WLAN    | 8.42 | ± 9.6 % |
| 10527 | AAC | IEEE 802.11ac WiFi (20MHz, MCS2, 99pc dc)           | WLAN    | 8.21 | ± 9.6 % |
| 10528 | AAC | IEEE 802.11ac WiFi (20MHz, MCS3, 99pc dc)           | WLAN    | 8.36 | ± 9.6 % |
| 10529 | AAC | IEEE 802.11ac WiFi (20MHz, MCS4, 99pc dc)           | WLAN    | 8.36 | ± 9.6 % |
| 10531 | AAC | IEEE 802.11ac WiFi (20MHz, MCS6, 99pc dc)           | WLAN    | 8.43 | ± 9.6 % |
| 10532 | AAC | IEEE 802.11ac WiFi (20MHz, MCS7, 99pc dc)           | WLAN    | 8.29 | ± 9.6 % |
| 10533 | AAC | IEEE 802.11ac WiFi (20MHz, MCS8, 99pc dc)           | WLAN    | 8.38 | ± 9.6 % |
| 10534 | AAC | IEEE 802.11ac WiFi (40MHz, MCS0, 99pc dc)           | WLAN    | 8.45 | ± 9.6 % |
| 10535 | AAC | IEEE 802.11ac WiFi (40MHz, MCS1, 99pc dc)           | WLAN    | 8.45 | ± 9.6 % |
| 10536 | AAC | IEEE 802.11ac WiFi (40MHz, MCS2, 99pc dc)           | WLAN    | 8.32 | ± 9.6 % |
| 10537 | AAC | IEEE 802.11ac WiFi (40MHz, MCS3, 99pc dc)           | WLAN    | 8.44 | ± 9.6 % |
| 10538 | AAC | IEEE 802.11ac WiFi (40MHz, MCS4, 99pc dc)           | WLAN    | 8.54 | ± 9.6 % |
| 10540 | AAC | IEEE 802.11ac WiFi (40MHz, MCS6, 99pc dc)           | WLAN    | 8.39 | ± 9.6 % |
| 10541 | AAC | IEEE 802.11ac WiFi (40MHz, MCS7, 99pc dc)           | WLAN    | 8.46 | ± 9.6 % |
| 10542 | AAC | IEEE 802.11ac WiFi (40MHz, MCS8, 99pc dc)           | WLAN    | 8.65 | ± 9.6 % |
| 10543 | AAC | IEEE 802.11ac WiFi (40MHz, MCS9, 99pc dc)           | WLAN    | 8.65 | ± 9.6 % |
| 10544 | AAC | IEEE 802.11ac WiFi (80MHz, MCS0, 99pc dc)           | WLAN    | 8.47 | ± 9.6 % |
| 10545 | AAC | IEEE 802.11ac WiFi (80MHz, MCS1, 99pc dc)           | WLAN    | 8.55 | ± 9.6 % |
| 10546 | AAC | IEEE 802.11ac WiFi (80MHz, MCS2, 99pc dc)           | WLAN    | 8.35 | ± 9.6 % |

|       |     |                                                         |      |      |         |
|-------|-----|---------------------------------------------------------|------|------|---------|
| 10547 | AAC | IEEE 802.11ac WiFi (80MHz, MCS3, 99pc dc)               | WLAN | 8.49 | ± 9.6 % |
| 10548 | AAC | IEEE 802.11ac WiFi (80MHz, MCS4, 99pc dc)               | WLAN | 8.37 | ± 9.6 % |
| 10550 | AAC | IEEE 802.11ac WiFi (80MHz, MCS6, 99pc dc)               | WLAN | 8.39 | ± 9.6 % |
| 10551 | AAC | IEEE 802.11ac WiFi (80MHz, MCS7, 99pc dc)               | WLAN | 8.50 | ± 9.6 % |
| 10552 | AAC | IEEE 802.11ac WiFi (80MHz, MCS8, 99pc dc)               | WLAN | 8.42 | ± 9.6 % |
| 10553 | AAC | IEEE 802.11ac WiFi (80MHz, MCS9, 99pc dc)               | WLAN | 8.45 | ± 9.6 % |
| 10554 | AAD | IEEE 802.11ac WiFi (160MHz, MCS0, 99pc dc)              | WLAN | 8.48 | ± 9.6 % |
| 10555 | AAD | IEEE 802.11ac WiFi (160MHz, MCS1, 99pc dc)              | WLAN | 8.47 | ± 9.6 % |
| 10556 | AAD | IEEE 802.11ac WiFi (160MHz, MCS2, 99pc dc)              | WLAN | 8.50 | ± 9.6 % |
| 10557 | AAD | IEEE 802.11ac WiFi (160MHz, MCS3, 99pc dc)              | WLAN | 8.52 | ± 9.6 % |
| 10558 | AAD | IEEE 802.11ac WiFi (160MHz, MCS4, 99pc dc)              | WLAN | 8.61 | ± 9.6 % |
| 10560 | AAD | IEEE 802.11ac WiFi (160MHz, MCS6, 99pc dc)              | WLAN | 8.73 | ± 9.6 % |
| 10561 | AAD | IEEE 802.11ac WiFi (160MHz, MCS7, 99pc dc)              | WLAN | 8.56 | ± 9.6 % |
| 10562 | AAD | IEEE 802.11ac WiFi (160MHz, MCS8, 99pc dc)              | WLAN | 8.69 | ± 9.6 % |
| 10563 | AAD | IEEE 802.11ac WiFi (160MHz, MCS9, 99pc dc)              | WLAN | 8.77 | ± 9.6 % |
| 10564 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc dc)  | WLAN | 8.25 | ± 9.6 % |
| 10565 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc dc) | WLAN | 8.45 | ± 9.6 % |
| 10566 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc dc) | WLAN | 8.13 | ± 9.6 % |
| 10567 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc dc) | WLAN | 8.00 | ± 9.6 % |
| 10568 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc dc) | WLAN | 8.37 | ± 9.6 % |
| 10569 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc dc) | WLAN | 8.10 | ± 9.6 % |
| 10570 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc dc) | WLAN | 8.30 | ± 9.6 % |
| 10571 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc dc)       | WLAN | 1.99 | ± 9.6 % |
| 10572 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc dc)       | WLAN | 1.99 | ± 9.6 % |
| 10573 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc dc)     | WLAN | 1.98 | ± 9.6 % |
| 10574 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc dc)      | WLAN | 1.98 | ± 9.6 % |
| 10575 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc dc)  | WLAN | 8.59 | ± 9.6 % |
| 10576 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc dc)  | WLAN | 8.60 | ± 9.6 % |
| 10577 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc dc) | WLAN | 8.70 | ± 9.6 % |
| 10578 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc dc) | WLAN | 8.49 | ± 9.6 % |
| 10579 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc dc) | WLAN | 8.36 | ± 9.6 % |
| 10580 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc dc) | WLAN | 8.76 | ± 9.6 % |
| 10581 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc dc) | WLAN | 8.35 | ± 9.6 % |
| 10582 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc dc) | WLAN | 8.67 | ± 9.6 % |
| 10583 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc dc)       | WLAN | 8.59 | ± 9.6 % |
| 10584 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc dc)       | WLAN | 8.60 | ± 9.6 % |
| 10585 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc dc)      | WLAN | 8.70 | ± 9.6 % |
| 10586 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc dc)      | WLAN | 8.49 | ± 9.6 % |
| 10587 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc dc)      | WLAN | 8.36 | ± 9.6 % |
| 10588 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc dc)      | WLAN | 8.76 | ± 9.6 % |
| 10589 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc dc)      | WLAN | 8.35 | ± 9.6 % |
| 10590 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc dc)      | WLAN | 8.67 | ± 9.6 % |
| 10591 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc dc)           | WLAN | 8.63 | ± 9.6 % |
| 10592 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc dc)           | WLAN | 8.79 | ± 9.6 % |
| 10593 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc dc)           | WLAN | 8.64 | ± 9.6 % |
| 10594 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc dc)           | WLAN | 8.74 | ± 9.6 % |
| 10595 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc dc)           | WLAN | 8.74 | ± 9.6 % |
| 10596 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc dc)           | WLAN | 8.71 | ± 9.6 % |
| 10597 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc dc)           | WLAN | 8.72 | ± 9.6 % |
| 10598 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc dc)           | WLAN | 8.50 | ± 9.6 % |
| 10599 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc dc)           | WLAN | 8.79 | ± 9.6 % |
| 10600 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc dc)           | WLAN | 8.88 | ± 9.6 % |
| 10601 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc dc)           | WLAN | 8.82 | ± 9.6 % |
| 10602 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc dc)           | WLAN | 8.94 | ± 9.6 % |
| 10603 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc dc)           | WLAN | 9.03 | ± 9.6 % |
| 10604 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc dc)           | WLAN | 8.76 | ± 9.6 % |

|       |     |                                                   |           |       |         |
|-------|-----|---------------------------------------------------|-----------|-------|---------|
| 10605 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc dc)     | WLAN      | 8.97  | ± 9.6 % |
| 10606 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc dc)     | WLAN      | 8.82  | ± 9.6 % |
| 10607 | AAC | IEEE 802.11ac WiFi (20MHz, MCS0, 90pc dc)         | WLAN      | 8.64  | ± 9.6 % |
| 10608 | AAC | IEEE 802.11ac WiFi (20MHz, MCS1, 90pc dc)         | WLAN      | 8.77  | ± 9.6 % |
| 10609 | AAC | IEEE 802.11ac WiFi (20MHz, MCS2, 90pc dc)         | WLAN      | 8.57  | ± 9.6 % |
| 10610 | AAC | IEEE 802.11ac WiFi (20MHz, MCS3, 90pc dc)         | WLAN      | 8.78  | ± 9.6 % |
| 10611 | AAC | IEEE 802.11ac WiFi (20MHz, MCS4, 90pc dc)         | WLAN      | 8.70  | ± 9.6 % |
| 10612 | AAC | IEEE 802.11ac WiFi (20MHz, MCS5, 90pc dc)         | WLAN      | 8.77  | ± 9.6 % |
| 10613 | AAC | IEEE 802.11ac WiFi (20MHz, MCS6, 90pc dc)         | WLAN      | 8.94  | ± 9.6 % |
| 10614 | AAC | IEEE 802.11ac WiFi (20MHz, MCS7, 90pc dc)         | WLAN      | 8.59  | ± 9.6 % |
| 10615 | AAC | IEEE 802.11ac WiFi (20MHz, MCS8, 90pc dc)         | WLAN      | 8.82  | ± 9.6 % |
| 10616 | AAC | IEEE 802.11ac WiFi (40MHz, MCS0, 90pc dc)         | WLAN      | 8.82  | ± 9.6 % |
| 10617 | AAC | IEEE 802.11ac WiFi (40MHz, MCS1, 90pc dc)         | WLAN      | 8.81  | ± 9.6 % |
| 10618 | AAC | IEEE 802.11ac WiFi (40MHz, MCS2, 90pc dc)         | WLAN      | 8.58  | ± 9.6 % |
| 10619 | AAC | IEEE 802.11ac WiFi (40MHz, MCS3, 90pc dc)         | WLAN      | 8.86  | ± 9.6 % |
| 10620 | AAC | IEEE 802.11ac WiFi (40MHz, MCS4, 90pc dc)         | WLAN      | 8.87  | ± 9.6 % |
| 10621 | AAC | IEEE 802.11ac WiFi (40MHz, MCS5, 90pc dc)         | WLAN      | 8.77  | ± 9.6 % |
| 10622 | AAC | IEEE 802.11ac WiFi (40MHz, MCS6, 90pc dc)         | WLAN      | 8.68  | ± 9.6 % |
| 10623 | AAC | IEEE 802.11ac WiFi (40MHz, MCS7, 90pc dc)         | WLAN      | 8.82  | ± 9.6 % |
| 10624 | AAC | IEEE 802.11ac WiFi (40MHz, MCS8, 90pc dc)         | WLAN      | 8.96  | ± 9.6 % |
| 10625 | AAC | IEEE 802.11ac WiFi (40MHz, MCS9, 90pc dc)         | WLAN      | 8.96  | ± 9.6 % |
| 10626 | AAC | IEEE 802.11ac WiFi (80MHz, MCS0, 90pc dc)         | WLAN      | 8.83  | ± 9.6 % |
| 10627 | AAC | IEEE 802.11ac WiFi (80MHz, MCS1, 90pc dc)         | WLAN      | 8.88  | ± 9.6 % |
| 10628 | AAC | IEEE 802.11ac WiFi (80MHz, MCS2, 90pc dc)         | WLAN      | 8.71  | ± 9.6 % |
| 10629 | AAC | IEEE 802.11ac WiFi (80MHz, MCS3, 90pc dc)         | WLAN      | 8.85  | ± 9.6 % |
| 10630 | AAC | IEEE 802.11ac WiFi (80MHz, MCS4, 90pc dc)         | WLAN      | 8.72  | ± 9.6 % |
| 10631 | AAC | IEEE 802.11ac WiFi (80MHz, MCS5, 90pc dc)         | WLAN      | 8.81  | ± 9.6 % |
| 10632 | AAC | IEEE 802.11ac WiFi (80MHz, MCS6, 90pc dc)         | WLAN      | 8.74  | ± 9.6 % |
| 10633 | AAC | IEEE 802.11ac WiFi (80MHz, MCS7, 90pc dc)         | WLAN      | 8.83  | ± 9.6 % |
| 10634 | AAC | IEEE 802.11ac WiFi (80MHz, MCS8, 90pc dc)         | WLAN      | 8.80  | ± 9.6 % |
| 10635 | AAC | IEEE 802.11ac WiFi (80MHz, MCS9, 90pc dc)         | WLAN      | 8.81  | ± 9.6 % |
| 10636 | AAD | IEEE 802.11ac WiFi (160MHz, MCS0, 90pc dc)        | WLAN      | 8.83  | ± 9.6 % |
| 10637 | AAD | IEEE 802.11ac WiFi (160MHz, MCS1, 90pc dc)        | WLAN      | 8.79  | ± 9.6 % |
| 10638 | AAD | IEEE 802.11ac WiFi (160MHz, MCS2, 90pc dc)        | WLAN      | 8.86  | ± 9.6 % |
| 10639 | AAD | IEEE 802.11ac WiFi (160MHz, MCS3, 90pc dc)        | WLAN      | 8.85  | ± 9.6 % |
| 10640 | AAD | IEEE 802.11ac WiFi (160MHz, MCS4, 90pc dc)        | WLAN      | 8.98  | ± 9.6 % |
| 10641 | AAD | IEEE 802.11ac WiFi (160MHz, MCS5, 90pc dc)        | WLAN      | 9.06  | ± 9.6 % |
| 10642 | AAD | IEEE 802.11ac WiFi (160MHz, MCS6, 90pc dc)        | WLAN      | 9.06  | ± 9.6 % |
| 10643 | AAD | IEEE 802.11ac WiFi (160MHz, MCS7, 90pc dc)        | WLAN      | 8.89  | ± 9.6 % |
| 10644 | AAD | IEEE 802.11ac WiFi (160MHz, MCS8, 90pc dc)        | WLAN      | 9.05  | ± 9.6 % |
| 10645 | AAD | IEEE 802.11ac WiFi (160MHz, MCS9, 90pc dc)        | WLAN      | 9.11  | ± 9.6 % |
| 10646 | AAG | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub=2,7)  | LTE-TDD   | 11.96 | ± 9.6 % |
| 10647 | AAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub=2,7) | LTE-TDD   | 11.96 | ± 9.6 % |
| 10648 | AAA | CDMA2000 (1x Advanced)                            | CDMA2000  | 3.45  | ± 9.6 % |
| 10652 | AAE | LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)    | LTE-TDD   | 6.91  | ± 9.6 % |
| 10653 | AAE | LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)   | LTE-TDD   | 7.42  | ± 9.6 % |
| 10654 | AAD | LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)   | LTE-TDD   | 6.96  | ± 9.6 % |
| 10655 | AAE | LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)   | LTE-TDD   | 7.21  | ± 9.6 % |
| 10658 | AAA | Pulse Waveform (200Hz, 10%)                       | Test      | 10.00 | ± 9.6 % |
| 10659 | AAA | Pulse Waveform (200Hz, 20%)                       | Test      | 6.99  | ± 9.6 % |
| 10660 | AAA | Pulse Waveform (200Hz, 40%)                       | Test      | 3.98  | ± 9.6 % |
| 10661 | AAA | Pulse Waveform (200Hz, 60%)                       | Test      | 2.22  | ± 9.6 % |
| 10662 | AAA | Pulse Waveform (200Hz, 80%)                       | Test      | 0.97  | ± 9.6 % |
| 10670 | AAA | Bluetooth Low Energy                              | Bluetooth | 2.19  | ± 9.6 % |
| 10671 | AAC | IEEE 802.11ax (20MHz, MCS0, 90pc dc)              | WLAN      | 9.09  | ± 9.6 % |
| 10672 | AAC | IEEE 802.11ax (20MHz, MCS1, 90pc dc)              | WLAN      | 8.57  | ± 9.6 % |

|       |     |                                       |      |      |         |
|-------|-----|---------------------------------------|------|------|---------|
| 10673 | AAC | IEEE 802.11ax (20MHz, MCS2, 90pc dc)  | WLAN | 8.78 | ± 9.6 % |
| 10674 | AAC | IEEE 802.11ax (20MHz, MCS3, 90pc dc)  | WLAN | 8.74 | ± 9.6 % |
| 10675 | AAC | IEEE 802.11ax (20MHz, MCS4, 90pc dc)  | WLAN | 8.90 | ± 9.6 % |
| 10676 | AAC | IEEE 802.11ax (20MHz, MCS5, 90pc dc)  | WLAN | 8.77 | ± 9.6 % |
| 10677 | AAC | IEEE 802.11ax (20MHz, MCS6, 90pc dc)  | WLAN | 8.73 | ± 9.6 % |
| 10678 | AAC | IEEE 802.11ax (20MHz, MCS7, 90pc dc)  | WLAN | 8.78 | ± 9.6 % |
| 10679 | AAC | IEEE 802.11ax (20MHz, MCS8, 90pc dc)  | WLAN | 8.89 | ± 9.6 % |
| 10680 | AAC | IEEE 802.11ax (20MHz, MCS9, 90pc dc)  | WLAN | 8.80 | ± 9.6 % |
| 10681 | AAC | IEEE 802.11ax (20MHz, MCS10, 90pc dc) | WLAN | 8.62 | ± 9.6 % |
| 10682 | AAC | IEEE 802.11ax (20MHz, MCS11, 90pc dc) | WLAN | 8.83 | ± 9.6 % |
| 10683 | AAC | IEEE 802.11ax (20MHz, MCS0, 99pc dc)  | WLAN | 8.42 | ± 9.6 % |
| 10684 | AAC | IEEE 802.11ax (20MHz, MCS1, 99pc dc)  | WLAN | 8.26 | ± 9.6 % |
| 10685 | AAC | IEEE 802.11ax (20MHz, MCS2, 99pc dc)  | WLAN | 8.33 | ± 9.6 % |
| 10686 | AAC | IEEE 802.11ax (20MHz, MCS3, 99pc dc)  | WLAN | 8.28 | ± 9.6 % |
| 10687 | AAC | IEEE 802.11ax (20MHz, MCS4, 99pc dc)  | WLAN | 8.45 | ± 9.6 % |
| 10688 | AAC | IEEE 802.11ax (20MHz, MCS5, 99pc dc)  | WLAN | 8.29 | ± 9.6 % |
| 10689 | AAC | IEEE 802.11ax (20MHz, MCS6, 99pc dc)  | WLAN | 8.55 | ± 9.6 % |
| 10690 | AAC | IEEE 802.11ax (20MHz, MCS7, 99pc dc)  | WLAN | 8.29 | ± 9.6 % |
| 10691 | AAC | IEEE 802.11ax (20MHz, MCS8, 99pc dc)  | WLAN | 8.25 | ± 9.6 % |
| 10692 | AAC | IEEE 802.11ax (20MHz, MCS9, 99pc dc)  | WLAN | 8.29 | ± 9.6 % |
| 10693 | AAC | IEEE 802.11ax (20MHz, MCS10, 99pc dc) | WLAN | 8.25 | ± 9.6 % |
| 10694 | AAC | IEEE 802.11ax (20MHz, MCS11, 99pc dc) | WLAN | 8.57 | ± 9.6 % |
| 10695 | AAC | IEEE 802.11ax (40MHz, MCS0, 90pc dc)  | WLAN | 8.78 | ± 9.6 % |
| 10696 | AAC | IEEE 802.11ax (40MHz, MCS1, 90pc dc)  | WLAN | 8.91 | ± 9.6 % |
| 10697 | AAC | IEEE 802.11ax (40MHz, MCS2, 90pc dc)  | WLAN | 8.61 | ± 9.6 % |
| 10698 | AAC | IEEE 802.11ax (40MHz, MCS3, 90pc dc)  | WLAN | 8.89 | ± 9.6 % |
| 10699 | AAC | IEEE 802.11ax (40MHz, MCS4, 90pc dc)  | WLAN | 8.82 | ± 9.6 % |
| 10700 | AAC | IEEE 802.11ax (40MHz, MCS5, 90pc dc)  | WLAN | 8.73 | ± 9.6 % |
| 10701 | AAC | IEEE 802.11ax (40MHz, MCS6, 90pc dc)  | WLAN | 8.86 | ± 9.6 % |
| 10702 | AAC | IEEE 802.11ax (40MHz, MCS7, 90pc dc)  | WLAN | 8.70 | ± 9.6 % |
| 10703 | AAC | IEEE 802.11ax (40MHz, MCS8, 90pc dc)  | WLAN | 8.82 | ± 9.6 % |
| 10704 | AAC | IEEE 802.11ax (40MHz, MCS9, 90pc dc)  | WLAN | 8.56 | ± 9.6 % |
| 10705 | AAC | IEEE 802.11ax (40MHz, MCS10, 90pc dc) | WLAN | 8.69 | ± 9.6 % |
| 10706 | AAC | IEEE 802.11ax (40MHz, MCS11, 90pc dc) | WLAN | 8.66 | ± 9.6 % |
| 10707 | AAC | IEEE 802.11ax (40MHz, MCS0, 99pc dc)  | WLAN | 8.32 | ± 9.6 % |
| 10708 | AAC | IEEE 802.11ax (40MHz, MCS1, 99pc dc)  | WLAN | 8.55 | ± 9.6 % |
| 10709 | AAC | IEEE 802.11ax (40MHz, MCS2, 99pc dc)  | WLAN | 8.33 | ± 9.6 % |
| 10710 | AAC | IEEE 802.11ax (40MHz, MCS3, 99pc dc)  | WLAN | 8.29 | ± 9.6 % |
| 10711 | AAC | IEEE 802.11ax (40MHz, MCS4, 99pc dc)  | WLAN | 8.39 | ± 9.6 % |
| 10712 | AAC | IEEE 802.11ax (40MHz, MCS5, 99pc dc)  | WLAN | 8.67 | ± 9.6 % |
| 10713 | AAC | IEEE 802.11ax (40MHz, MCS6, 99pc dc)  | WLAN | 8.33 | ± 9.6 % |
| 10714 | AAC | IEEE 802.11ax (40MHz, MCS7, 99pc dc)  | WLAN | 8.26 | ± 9.6 % |
| 10715 | AAC | IEEE 802.11ax (40MHz, MCS8, 99pc dc)  | WLAN | 8.45 | ± 9.6 % |
| 10716 | AAC | IEEE 802.11ax (40MHz, MCS9, 99pc dc)  | WLAN | 8.30 | ± 9.6 % |
| 10717 | AAC | IEEE 802.11ax (40MHz, MCS10, 99pc dc) | WLAN | 8.48 | ± 9.6 % |
| 10718 | AAC | IEEE 802.11ax (40MHz, MCS11, 99pc dc) | WLAN | 8.24 | ± 9.6 % |
| 10719 | AAC | IEEE 802.11ax (80MHz, MCS0, 90pc dc)  | WLAN | 8.81 | ± 9.6 % |
| 10720 | AAC | IEEE 802.11ax (80MHz, MCS1, 90pc dc)  | WLAN | 8.87 | ± 9.6 % |
| 10721 | AAC | IEEE 802.11ax (80MHz, MCS2, 90pc dc)  | WLAN | 8.76 | ± 9.6 % |
| 10722 | AAC | IEEE 802.11ax (80MHz, MCS3, 90pc dc)  | WLAN | 8.55 | ± 9.6 % |
| 10723 | AAC | IEEE 802.11ax (80MHz, MCS4, 90pc dc)  | WLAN | 8.70 | ± 9.6 % |
| 10724 | AAC | IEEE 802.11ax (80MHz, MCS5, 90pc dc)  | WLAN | 8.90 | ± 9.6 % |
| 10725 | AAC | IEEE 802.11ax (80MHz, MCS6, 90pc dc)  | WLAN | 8.74 | ± 9.6 % |
| 10726 | AAC | IEEE 802.11ax (80MHz, MCS7, 90pc dc)  | WLAN | 8.72 | ± 9.6 % |
| 10727 | AAC | IEEE 802.11ax (80MHz, MCS8, 90pc dc)  | WLAN | 8.66 | ± 9.6 % |
| 10728 | AAC | IEEE 802.11ax (80MHz, MCS9, 90pc dc)  | WLAN | 8.65 | ± 9.6 % |

|       |     |                                                |               |      |         |
|-------|-----|------------------------------------------------|---------------|------|---------|
| 10729 | AAC | IEEE 802.11ax (80MHz, MCS10, 90pc dc)          | WLAN          | 8.64 | ± 9.6 % |
| 10730 | AAC | IEEE 802.11ax (80MHz, MCS11, 90pc dc)          | WLAN          | 8.67 | ± 9.6 % |
| 10731 | AAC | IEEE 802.11ax (80MHz, MCS0, 99pc dc)           | WLAN          | 8.42 | ± 9.6 % |
| 10732 | AAC | IEEE 802.11ax (80MHz, MCS1, 99pc dc)           | WLAN          | 8.46 | ± 9.6 % |
| 10733 | AAC | IEEE 802.11ax (80MHz, MCS2, 99pc dc)           | WLAN          | 8.40 | ± 9.6 % |
| 10734 | AAC | IEEE 802.11ax (80MHz, MCS3, 99pc dc)           | WLAN          | 8.25 | ± 9.6 % |
| 10735 | AAC | IEEE 802.11ax (80MHz, MCS4, 99pc dc)           | WLAN          | 8.33 | ± 9.6 % |
| 10736 | AAC | IEEE 802.11ax (80MHz, MCS5, 99pc dc)           | WLAN          | 8.27 | ± 9.6 % |
| 10737 | AAC | IEEE 802.11ax (80MHz, MCS6, 99pc dc)           | WLAN          | 8.36 | ± 9.6 % |
| 10738 | AAC | IEEE 802.11ax (80MHz, MCS7, 99pc dc)           | WLAN          | 8.42 | ± 9.6 % |
| 10739 | AAC | IEEE 802.11ax (80MHz, MCS8, 99pc dc)           | WLAN          | 8.29 | ± 9.6 % |
| 10740 | AAC | IEEE 802.11ax (80MHz, MCS9, 99pc dc)           | WLAN          | 8.48 | ± 9.6 % |
| 10741 | AAC | IEEE 802.11ax (80MHz, MCS10, 99pc dc)          | WLAN          | 8.40 | ± 9.6 % |
| 10742 | AAC | IEEE 802.11ax (80MHz, MCS11, 99pc dc)          | WLAN          | 8.43 | ± 9.6 % |
| 10743 | AAC | IEEE 802.11ax (160MHz, MCS0, 90pc dc)          | WLAN          | 8.94 | ± 9.6 % |
| 10744 | AAC | IEEE 802.11ax (160MHz, MCS1, 90pc dc)          | WLAN          | 9.16 | ± 9.6 % |
| 10745 | AAC | IEEE 802.11ax (160MHz, MCS2, 90pc dc)          | WLAN          | 8.93 | ± 9.6 % |
| 10746 | AAC | IEEE 802.11ax (160MHz, MCS3, 90pc dc)          | WLAN          | 9.11 | ± 9.6 % |
| 10747 | AAC | IEEE 802.11ax (160MHz, MCS4, 90pc dc)          | WLAN          | 9.04 | ± 9.6 % |
| 10748 | AAC | IEEE 802.11ax (160MHz, MCS5, 90pc dc)          | WLAN          | 8.93 | ± 9.6 % |
| 10749 | AAC | IEEE 802.11ax (160MHz, MCS6, 90pc dc)          | WLAN          | 8.90 | ± 9.6 % |
| 10750 | AAC | IEEE 802.11ax (160MHz, MCS7, 90pc dc)          | WLAN          | 8.79 | ± 9.6 % |
| 10751 | AAC | IEEE 802.11ax (160MHz, MCS8, 90pc dc)          | WLAN          | 8.82 | ± 9.6 % |
| 10752 | AAC | IEEE 802.11ax (160MHz, MCS9, 90pc dc)          | WLAN          | 8.81 | ± 9.6 % |
| 10753 | AAC | IEEE 802.11ax (160MHz, MCS10, 90pc dc)         | WLAN          | 9.00 | ± 9.6 % |
| 10754 | AAC | IEEE 802.11ax (160MHz, MCS11, 90pc dc)         | WLAN          | 8.94 | ± 9.6 % |
| 10755 | AAC | IEEE 802.11ax (160MHz, MCS0, 99pc dc)          | WLAN          | 8.64 | ± 9.6 % |
| 10756 | AAC | IEEE 802.11ax (160MHz, MCS1, 99pc dc)          | WLAN          | 8.77 | ± 9.6 % |
| 10757 | AAC | IEEE 802.11ax (160MHz, MCS2, 99pc dc)          | WLAN          | 8.77 | ± 9.6 % |
| 10758 | AAC | IEEE 802.11ax (160MHz, MCS3, 99pc dc)          | WLAN          | 8.69 | ± 9.6 % |
| 10759 | AAC | IEEE 802.11ax (160MHz, MCS4, 99pc dc)          | WLAN          | 8.58 | ± 9.6 % |
| 10760 | AAC | IEEE 802.11ax (160MHz, MCS5, 99pc dc)          | WLAN          | 8.49 | ± 9.6 % |
| 10761 | AAC | IEEE 802.11ax (160MHz, MCS6, 99pc dc)          | WLAN          | 8.58 | ± 9.6 % |
| 10762 | AAC | IEEE 802.11ax (160MHz, MCS7, 99pc dc)          | WLAN          | 8.49 | ± 9.6 % |
| 10763 | AAC | IEEE 802.11ax (160MHz, MCS8, 99pc dc)          | WLAN          | 8.53 | ± 9.6 % |
| 10764 | AAC | IEEE 802.11ax (160MHz, MCS9, 99pc dc)          | WLAN          | 8.54 | ± 9.6 % |
| 10765 | AAC | IEEE 802.11ax (160MHz, MCS10, 99pc dc)         | WLAN          | 8.54 | ± 9.6 % |
| 10766 | AAC | IEEE 802.11ax (160MHz, MCS11, 99pc dc)         | WLAN          | 8.51 | ± 9.6 % |
| 10767 | AAE | 5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)     | 5G NR FR1 TDD | 7.99 | ± 9.6 % |
| 10768 | AAD | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.01 | ± 9.6 % |
| 10769 | AAD | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.01 | ± 9.6 % |
| 10770 | AAD | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.02 | ± 9.6 % |
| 10771 | AAD | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.02 | ± 9.6 % |
| 10772 | AAD | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.23 | ± 9.6 % |
| 10773 | AAD | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.03 | ± 9.6 % |
| 10774 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.02 | ± 9.6 % |
| 10775 | AAD | 5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)   | 5G NR FR1 TDD | 8.31 | ± 9.6 % |
| 10776 | AAD | 5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.30 | ± 9.6 % |
| 10777 | AAC | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.30 | ± 9.6 % |
| 10778 | AAD | 5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10779 | AAC | 5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.42 | ± 9.6 % |
| 10780 | AAD | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.38 | ± 9.6 % |
| 10781 | AAD | 5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.38 | ± 9.6 % |
| 10782 | AAD | 5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.43 | ± 9.6 % |
| 10783 | AAE | 5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.31 | ± 9.6 % |
| 10784 | AAD | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.29 | ± 9.6 % |



|       |     |                                                 |               |      |         |
|-------|-----|-------------------------------------------------|---------------|------|---------|
| 10785 | AAD | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.40 | ± 9.6 % |
| 10786 | AAD | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.35 | ± 9.6 % |
| 10787 | AAD | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.44 | ± 9.6 % |
| 10788 | AAD | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.39 | ± 9.6 % |
| 10789 | AAD | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.37 | ± 9.6 % |
| 10790 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.39 | ± 9.6 % |
| 10791 | AAE | 5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD | 7.83 | ± 9.6 % |
| 10792 | AAD | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.92 | ± 9.6 % |
| 10793 | AAD | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.95 | ± 9.6 % |
| 10794 | AAD | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.82 | ± 9.6 % |
| 10795 | AAD | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.84 | ± 9.6 % |
| 10796 | AAD | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.82 | ± 9.6 % |
| 10797 | AAD | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 8.01 | ± 9.6 % |
| 10798 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.89 | ± 9.6 % |
| 10799 | AAD | 5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.93 | ± 9.6 % |
| 10801 | AAD | 5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.89 | ± 9.6 % |
| 10802 | AAD | 5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.87 | ± 9.6 % |
| 10803 | AAD | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.93 | ± 9.6 % |
| 10805 | AAD | 5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10806 | AAD | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 8.37 | ± 9.6 % |
| 10809 | AAD | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10810 | AAD | 5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10812 | AAD | 5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 8.35 | ± 9.6 % |
| 10817 | AAE | 5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 8.35 | ± 9.6 % |
| 10818 | AAD | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10819 | AAD | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.33 | ± 9.6 % |
| 10820 | AAD | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.30 | ± 9.6 % |
| 10821 | AAD | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.41 | ± 9.6 % |
| 10822 | AAD | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.41 | ± 9.6 % |
| 10823 | AAD | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.36 | ± 9.6 % |
| 10824 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.39 | ± 9.6 % |
| 10825 | AAD | 5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.41 | ± 9.6 % |
| 10827 | AAD | 5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.42 | ± 9.6 % |
| 10828 | AAD | 5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.43 | ± 9.6 % |
| 10829 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.40 | ± 9.6 % |
| 10830 | AAD | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)     | 5G NR FR1 TDD | 7.63 | ± 9.6 % |
| 10831 | AAD | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)     | 5G NR FR1 TDD | 7.73 | ± 9.6 % |
| 10832 | AAD | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)     | 5G NR FR1 TDD | 7.74 | ± 9.6 % |
| 10833 | AAD | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)     | 5G NR FR1 TDD | 7.70 | ± 9.6 % |
| 10834 | AAD | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)     | 5G NR FR1 TDD | 7.75 | ± 9.6 % |
| 10835 | AAD | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)     | 5G NR FR1 TDD | 7.70 | ± 9.6 % |
| 10836 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)     | 5G NR FR1 TDD | 7.66 | ± 9.6 % |
| 10837 | AAD | 5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)     | 5G NR FR1 TDD | 7.68 | ± 9.6 % |
| 10839 | AAD | 5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)     | 5G NR FR1 TDD | 7.70 | ± 9.6 % |
| 10840 | AAD | 5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)     | 5G NR FR1 TDD | 7.67 | ± 9.6 % |
| 10841 | AAD | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)    | 5G NR FR1 TDD | 7.71 | ± 9.6 % |
| 10843 | AAD | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)   | 5G NR FR1 TDD | 8.49 | ± 9.6 % |
| 10844 | AAD | 5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)   | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10846 | AAD | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz)   | 5G NR FR1 TDD | 8.41 | ± 9.6 % |
| 10854 | AAD | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 60 kHz)  | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10855 | AAD | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 60 kHz)  | 5G NR FR1 TDD | 8.36 | ± 9.6 % |
| 10856 | AAD | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)  | 5G NR FR1 TDD | 8.37 | ± 9.6 % |
| 10857 | AAD | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 60 kHz)  | 5G NR FR1 TDD | 8.35 | ± 9.6 % |
| 10858 | AAD | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)  | 5G NR FR1 TDD | 8.36 | ± 9.6 % |
| 10859 | AAD | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 60 kHz)  | 5G NR FR1 TDD | 8.34 | ± 9.6 % |
| 10860 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz)  | 5G NR FR1 TDD | 8.41 | ± 9.6 % |



|       |     |                                                      |               |      |         |
|-------|-----|------------------------------------------------------|---------------|------|---------|
| 10861 | AAD | 5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.40 | ± 9.6 % |
| 10863 | AAD | 5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.41 | ± 9.6 % |
| 10864 | AAD | 5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.37 | ± 9.6 % |
| 10865 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 60 kHz)      | 5G NR FR1 TDD | 8.41 | ± 9.6 % |
| 10866 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10868 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.89 | ± 9.6 % |
| 10869 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)     | 5G NR FR2 TDD | 5.75 | ± 9.6 % |
| 10870 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)  | 5G NR FR2 TDD | 5.86 | ± 9.6 % |
| 10871 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)    | 5G NR FR2 TDD | 5.75 | ± 9.6 % |
| 10872 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD | 6.52 | ± 9.6 % |
| 10873 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)    | 5G NR FR2 TDD | 6.61 | ± 9.6 % |
| 10874 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz) | 5G NR FR2 TDD | 6.65 | ± 9.6 % |
| 10875 | AAD | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)        | 5G NR FR2 TDD | 7.78 | ± 9.6 % |
| 10876 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)     | 5G NR FR2 TDD | 8.39 | ± 9.6 % |
| 10877 | AAD | 5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)       | 5G NR FR2 TDD | 7.95 | ± 9.6 % |
| 10878 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)    | 5G NR FR2 TDD | 8.41 | ± 9.6 % |
| 10879 | AAD | 5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)       | 5G NR FR2 TDD | 8.12 | ± 9.6 % |
| 10880 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)    | 5G NR FR2 TDD | 8.38 | ± 9.6 % |
| 10881 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)      | 5G NR FR2 TDD | 5.75 | ± 9.6 % |
| 10882 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)   | 5G NR FR2 TDD | 5.96 | ± 9.6 % |
| 10883 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)     | 5G NR FR2 TDD | 6.57 | ± 9.6 % |
| 10884 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)  | 5G NR FR2 TDD | 6.53 | ± 9.6 % |
| 10885 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)     | 5G NR FR2 TDD | 6.61 | ± 9.6 % |
| 10886 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)  | 5G NR FR2 TDD | 6.65 | ± 9.6 % |
| 10887 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)         | 5G NR FR2 TDD | 7.78 | ± 9.6 % |
| 10888 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)      | 5G NR FR2 TDD | 8.35 | ± 9.6 % |
| 10889 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)        | 5G NR FR2 TDD | 8.02 | ± 9.6 % |
| 10890 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)     | 5G NR FR2 TDD | 8.40 | ± 9.6 % |
| 10891 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)        | 5G NR FR2 TDD | 8.13 | ± 9.6 % |
| 10892 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)     | 5G NR FR2 TDD | 8.41 | ± 9.6 % |
| 10897 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)        | 5G NR FR1 TDD | 5.66 | ± 9.6 % |
| 10898 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.67 | ± 9.6 % |
| 10899 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.67 | ± 9.6 % |
| 10900 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10901 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10902 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10903 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10904 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10905 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10906 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68 | ± 9.6 % |
| 10907 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD | 5.78 | ± 9.6 % |
| 10908 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.93 | ± 9.6 % |
| 10909 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.96 | ± 9.6 % |
| 10910 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.83 | ± 9.6 % |
| 10911 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.93 | ± 9.6 % |
| 10912 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10913 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10914 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.85 | ± 9.6 % |
| 10915 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.83 | ± 9.6 % |
| 10916 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 80 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.87 | ± 9.6 % |
| 10917 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.94 | ± 9.6 % |
| 10918 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.86 | ± 9.6 % |
| 10919 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.86 | ± 9.6 % |
| 10920 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.87 | ± 9.6 % |
| 10921 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.84 | ± 9.6 % |
| 10922 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.82 | ± 9.6 % |

|       |     |                                                     |               |       |         |
|-------|-----|-----------------------------------------------------|---------------|-------|---------|
| 10923 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84  | ± 9.6 % |
| 10924 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84  | ± 9.6 % |
| 10925 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.95  | ± 9.6 % |
| 10926 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84  | ± 9.6 % |
| 10927 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.94  | ± 9.6 % |
| 10928 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)       | 5G NR FR1 FDD | 5.52  | ± 9.6 % |
| 10929 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.52  | ± 9.6 % |
| 10930 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.52  | ± 9.6 % |
| 10931 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51  | ± 9.6 % |
| 10932 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51  | ± 9.6 % |
| 10933 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51  | ± 9.6 % |
| 10934 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51  | ± 9.6 % |
| 10935 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51  | ± 9.6 % |
| 10936 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)     | 5G NR FR1 FDD | 5.90  | ± 9.6 % |
| 10937 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.77  | ± 9.6 % |
| 10938 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.90  | ± 9.6 % |
| 10939 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.82  | ± 9.6 % |
| 10940 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.89  | ± 9.6 % |
| 10941 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.83  | ± 9.6 % |
| 10942 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.85  | ± 9.6 % |
| 10943 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.95  | ± 9.6 % |
| 10944 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.81  | ± 9.6 % |
| 10945 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.85  | ± 9.6 % |
| 10946 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.83  | ± 9.6 % |
| 10947 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.87  | ± 9.6 % |
| 10948 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.94  | ± 9.6 % |
| 10949 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.87  | ± 9.6 % |
| 10950 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.94  | ± 9.6 % |
| 10951 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.92  | ± 9.6 % |
| 10952 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)   | 5G NR FR1 FDD | 8.25  | ± 9.6 % |
| 10953 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.15  | ± 9.6 % |
| 10954 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.23  | ± 9.6 % |
| 10955 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.42  | ± 9.6 % |
| 10956 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)   | 5G NR FR1 FDD | 8.14  | ± 9.6 % |
| 10957 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.31  | ± 9.6 % |
| 10958 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.61  | ± 9.6 % |
| 10959 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.33  | ± 9.6 % |
| 10960 | AAC | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)   | 5G NR FR1 TDD | 9.32  | ± 9.6 % |
| 10961 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.36  | ± 9.6 % |
| 10962 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.40  | ± 9.6 % |
| 10963 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.55  | ± 9.6 % |
| 10964 | AAC | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)   | 5G NR FR1 TDD | 9.29  | ± 9.6 % |
| 10965 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.37  | ± 9.6 % |
| 10966 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.55  | ± 9.6 % |
| 10967 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.42  | ± 9.6 % |
| 10968 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 100 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.49  | ± 9.6 % |
| 10972 | AAB | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)         | 5G NR FR1 TDD | 11.59 | ± 9.6 % |
| 10973 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 9.06  | ± 9.6 % |
| 10974 | AAB | 5G NR (CP-OFDM, 100% RB, 100 MHz, 256-QAM, 30 kHz)  | 5G NR FR1 TDD | 10.28 | ± 9.6 % |
| 10978 | AAA | ULLA BDR                                            | ULLA          | 2.23  | ± 9.6 % |
| 10979 | AAA | ULLA HDR4                                           | ULLA          | 7.02  | ± 9.6 % |
| 10980 | AAA | ULLA HDR8                                           | ULLA          | 8.82  | ± 9.6 % |
| 10981 | AAA | ULLA HDRp4                                          | ULLA          | 1.50  | ± 9.6 % |
| 10982 | AAA | ULLA HDRp8                                          | ULLA          | 1.44  | ± 9.6 % |

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



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client

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

Certificate No

**EX-7554\_Jul22/2**

## CALIBRATION CERTIFICATE (Replacement of No: EX-7554\_Jul22)

Object **EX3DV4 - SN:7554**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-12.v9, QA CAL-14.v6, QA CAL-23.v5,  
QA CAL-25.v7  
Calibration procedure for dosimetric E-field probes**

Calibration date **July 28, 2022**

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  $(22 \pm 3)^\circ\text{C}$  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-22 (No. 217-03525/03524)   | Apr-23                |
| Power sensor NRP-Z91       | SN: 103244       | 04-Apr-22 (No. 217-03524)         | Apr-23                |
| OCP DAK-3.5 (weighted)     | SN: 1249         | 20-Oct-21 (OCP-DAK3.5-1249_Oct21) | Oct-22                |
| OCP DAK-12                 | SN: 1016         | 20-Oct-21 (OCP-DAK12-1016_Oct21)  | Oct-22                |
| Reference 20 dB Attenuator | SN: CC2552 (20x) | 04-Apr-22 (No. 217-03527)         | Apr-23                |
| DAE4                       | SN: 060          | 13-Oct-21 (No. DAE4-660_Oct21)    | Oct-22                |
| Reference Probe ES3DV2     | SN: 3013         | 27-Dec-21 (No. ES3-3013_Dec21)    | Dec-22                |

| Secondary Standards     | ID               | Check Date (in house)             | Scheduled Check        |
|-------------------------|------------------|-----------------------------------|------------------------|
| Power meter E4419B      | SN: GB41293874   | 06-Apr-16 (In house check Jun-22) | In house check: Jun-24 |
| Power sensor E4412A     | SN: MY41498087   | 06-Apr-16 (In house check Jun-22) | In house check: Jun-24 |
| Power sensor E4412A     | SN: 000110210    | 06-Apr-16 (In house check Jun-22) | In house check: Jun-24 |
| RF generator HP 8648C   | SN: US3642U01700 | 04-Aug-99 (In house check Jun-22) | In house check: Jun-24 |
| Network Analyzer E8358A | SN: US41080477   | 31-Mar-14 (In house check Oct-20) | In house check: Oct-22 |

|               |              |                       |                   |
|---------------|--------------|-----------------------|-------------------|
|               | Name         | Function              | Signature         |
| Calibrated by | Lelf Klysner | Laboratory Technician | <i>i.v. f. K.</i> |
| Approved by   | Sven Köhn    | Technical Manager     | <i>S. Köhn</i>    |

Issued: November 11, 2022

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



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Accreditation No.: **SCS 0108**

## Glossary

|                        |                                                                                                                                                |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| TSL                    | tissue simulating liquid                                                                                                                       |
| NORM <sub>x,y,z</sub>  | sensitivity in free space                                                                                                                      |
| ConvF                  | sensitivity in TSL / NORM <sub>x,y,z</sub>                                                                                                     |
| DCP                    | diode compression point                                                                                                                        |
| CF                     | crest factor (1/duty_cycle) of the RF signal                                                                                                   |
| A, B, C, D             | modulation dependent linearization parameters                                                                                                  |
| Polarization $\varphi$ | $\varphi$ rotation around probe axis                                                                                                           |
| Polarization $\theta$  | $\theta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\theta = 0$ 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:

- IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices – Part 1528: Human Models, Instrumentation And Procedures (Frequency Range of 4 MHz to 10 GHz)", October 2020.
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

## Methods Applied and Interpretation of Parameters:

- NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\theta = 0$  ( $f \leq 800$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the E<sup>2</sup>-field uncertainty inside TSL (see below ConvF).
- NORM(f)<sub>x,y,z</sub> = NORM<sub>x,y,z</sub> \* 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.
- DCP<sub>x,y,z</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal. 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
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; D<sub>x,y,z</sub>; VR<sub>x,y,z</sub>**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* 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  $\pm 50$  MHz to  $\pm 100$  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 NORM<sub>x</sub> (no uncertainty required).

## Parameters of Probe: EX3DV4 - SN:7554

## Basic Calibration Parameters

|                                       | Sensor X | Sensor Y | Sensor Z | Unc (k = 2) |
|---------------------------------------|----------|----------|----------|-------------|
| Norm ( $\mu V/(V/m)^2$ ) <sup>A</sup> | 0.62     | 0.67     | 0.63     | ±10.1%      |
| DCP (mV) <sup>B</sup>                 | 101.6    | 100.1    | 99.5     | ±4.7%       |

## Calibration Results for Modulation Response

| UID   | Communication System Name   |   | A<br>dB | B<br>dB $\sqrt{\mu V}$ | C     | D<br>dB | VR<br>mV | Max<br>dev. | Max<br>Unc <sup>E</sup><br>k = 2 |
|-------|-----------------------------|---|---------|------------------------|-------|---------|----------|-------------|----------------------------------|
| 0     | CW                          | X | 0.00    | 0.00                   | 1.00  | 0.00    | 167.5    | ±2.5%       | ±4.7%                            |
|       |                             | Y | 0.00    | 0.00                   | 1.00  |         | 169.0    |             |                                  |
|       |                             | Z | 0.00    | 0.00                   | 1.00  |         | 160.7    |             |                                  |
| 10352 | Pulse Waveform (200Hz, 10%) | X | 20.00   | 90.08                  | 20.26 | 10.00   | 60.0     | ±3.6%       | ±9.6%                            |
|       |                             | Y | 20.00   | 89.84                  | 19.88 |         | 60.0     |             |                                  |
|       |                             | Z | 20.00   | 88.13                  | 18.82 |         | 60.0     |             |                                  |
| 10353 | Pulse Waveform (200Hz, 20%) | X | 20.00   | 90.19                  | 19.55 | 8.99    | 80.0     | ±1.9%       | ±9.6%                            |
|       |                             | Y | 20.00   | 89.79                  | 18.90 |         | 80.0     |             |                                  |
|       |                             | Z | 20.00   | 88.12                  | 17.91 |         | 80.0     |             |                                  |
| 10354 | Pulse Waveform (200Hz, 40%) | X | 20.00   | 92.62                  | 19.64 | 3.98    | 95.0     | ±0.7%       | ±9.8%                            |
|       |                             | Y | 20.00   | 90.48                  | 18.01 |         | 95.0     |             |                                  |
|       |                             | Z | 20.00   | 89.58                  | 17.49 |         | 95.0     |             |                                  |
| 10355 | Pulse Waveform (200Hz, 60%) | X | 20.00   | 96.51                  | 20.32 | 2.22    | 120.0    | ±0.8%       | ±9.6%                            |
|       |                             | Y | 20.00   | 90.11                  | 16.83 |         | 120.0    |             |                                  |
|       |                             | Z | 20.00   | 91.54                  | 17.36 |         | 120.0    |             |                                  |
| 10387 | QPSK Waveform, 1 MHz        | X | 1.73    | 66.41                  | 15.28 | 1.00    | 150.0    | ±2.6%       | ±9.6%                            |
|       |                             | Y | 1.51    | 64.08                  | 13.55 |         | 150.0    |             |                                  |
|       |                             | Z | 1.55    | 64.66                  | 13.98 |         | 150.0    |             |                                  |
| 10388 | QPSK Waveform, 10 MHz       | X | 2.33    | 68.63                  | 16.03 | 0.00    | 150.0    | ±1.0%       | ±9.6%                            |
|       |                             | Y | 2.00    | 65.91                  | 14.30 |         | 150.0    |             |                                  |
|       |                             | Z | 2.04    | 66.32                  | 14.71 |         | 150.0    |             |                                  |
| 10396 | 64-QAM Waveform, 100 kHz    | X | 3.24    | 72.10                  | 19.69 | 3.01    | 150.0    | ±0.7%       | ±9.8%                            |
|       |                             | Y | 2.84    | 69.31                  | 18.13 |         | 150.0    |             |                                  |
|       |                             | Z | 2.91    | 70.80                  | 19.09 |         | 150.0    |             |                                  |
| 10399 | 64-QAM Waveform, 40 MHz     | X | 3.56    | 67.36                  | 15.92 | 0.00    | 150.0    | ±2.1%       | ±9.6%                            |
|       |                             | Y | 3.37    | 66.18                  | 15.08 |         | 150.0    |             |                                  |
|       |                             | Z | 3.38    | 66.32                  | 15.26 |         | 150.0    |             |                                  |
| 10414 | WLAN CCDF, 64-QAM, 40 MHz   | X | 4.94    | 65.79                  | 15.64 | 0.00    | 150.0    | ±4.2%       | ±9.6%                            |
|       |                             | Y | 4.80    | 65.18                  | 15.17 |         | 150.0    |             |                                  |
|       |                             | Z | 4.77    | 65.22                  | 15.23 |         | 150.0    |             |                                  |

Note: For details on UID parameters see Appendix

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

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

<sup>B</sup> Linearization parameter uncertainty for maximum specified field strength.

<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.

**Parameters of Probe: EX3DV4 - SN:7554****Sensor Model Parameters**

|   | C1<br>fF | C2<br>fF | $\alpha$<br>$V^{-1}$ | T1<br>$ms V^{-2}$ | T2<br>$ms V^{-1}$ | T3<br>ms | T4<br>$V^{-2}$ | T5<br>$V^{-1}$ | T6   |
|---|----------|----------|----------------------|-------------------|-------------------|----------|----------------|----------------|------|
| x | 49.8     | 372.23   | 35.61                | 26.41             | 0.00              | 5.10     | 1.14           | 0.30           | 1.01 |
| y | 48.4     | 366.78   | 36.22                | 19.69             | 0.02              | 5.10     | 0.75           | 0.37           | 1.01 |
| z | 44.6     | 334.60   | 35.64                | 19.05             | 0.00              | 5.05     | 1.68           | 0.12           | 1.01 |

**Other Probe Parameters**

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

Note: Measurement distance from surface can be increased to 3–4 mm for an Area Scan job.



**Parameters of Probe: EX3DV4 - SN:7554****Calibration Parameter Determined in Head Tissue Simulating Media**

| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity <sup>F</sup> (S/m) | ConvF X | ConvF Y | ConvF Z | Alpha <sup>G</sup> | Depth <sup>G</sup> (mm) | Unc (k = 2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-------------|
| 13                   | 55.0                               | 0.75                            | 20.23   | 20.23   | 20.23   | 0.00               | 1.00                    | ±13.3%      |
| 750                  | 41.9                               | 0.89                            | 10.48   | 10.48   | 10.48   | 0.53               | 0.80                    | ±12.0%      |
| 835                  | 41.5                               | 0.90                            | 10.01   | 10.01   | 10.01   | 0.39               | 1.00                    | ±12.0%      |
| 1450                 | 40.5                               | 1.20                            | 8.83    | 8.83    | 8.83    | 0.42               | 0.80                    | ±12.0%      |
| 1640                 | 40.2                               | 1.31                            | 8.68    | 8.68    | 8.68    | 0.37               | 0.86                    | ±12.0%      |
| 1750                 | 40.1                               | 1.37                            | 8.60    | 8.60    | 8.60    | 0.33               | 0.86                    | ±12.0%      |
| 1900                 | 40.0                               | 1.40                            | 8.24    | 8.24    | 8.24    | 0.37               | 0.86                    | ±12.0%      |
| 2000                 | 40.0                               | 1.40                            | 8.20    | 8.20    | 8.20    | 0.34               | 0.86                    | ±12.0%      |
| 2300                 | 39.5                               | 1.67                            | 7.73    | 7.73    | 7.73    | 0.32               | 0.90                    | ±12.0%      |
| 2450                 | 39.2                               | 1.80                            | 7.50    | 7.50    | 7.50    | 0.35               | 0.90                    | ±12.0%      |
| 2600                 | 39.0                               | 1.96                            | 7.23    | 7.23    | 7.23    | 0.45               | 0.90                    | ±12.0%      |
| 3300                 | 38.2                               | 2.71                            | 6.98    | 6.98    | 6.98    | 0.30               | 1.35                    | ±14.0%      |
| 3500                 | 37.9                               | 2.91                            | 6.91    | 6.91    | 6.91    | 0.30               | 1.35                    | ±14.0%      |
| 3700                 | 37.7                               | 3.12                            | 6.73    | 6.73    | 6.73    | 0.30               | 1.35                    | ±14.0%      |
| 3900                 | 37.5                               | 3.32                            | 6.63    | 6.63    | 6.63    | 0.35               | 1.50                    | ±14.0%      |
| 4100                 | 37.2                               | 3.53                            | 6.44    | 6.44    | 6.44    | 0.35               | 1.50                    | ±14.0%      |
| 4200                 | 37.1                               | 3.63                            | 6.41    | 6.41    | 6.41    | 0.35               | 1.60                    | ±14.0%      |
| 5250                 | 35.9                               | 4.71                            | 5.14    | 5.14    | 5.14    | 0.40               | 1.80                    | ±14.0%      |
| 5600                 | 35.5                               | 5.07                            | 4.61    | 4.61    | 4.61    | 0.40               | 1.80                    | ±14.0%      |
| 5800                 | 35.3                               | 5.27                            | 4.79    | 4.79    | 4.79    | 0.40               | 1.80                    | ±14.0%      |

<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, 84, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4–8 MHz, and ConvF assessed at 13 MHz is 9–19 MHz. Above 5 GHz frequency validity can be extended to ±110 MHz.

<sup>F</sup> At frequencies up to 6 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

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



**Parameters of Probe: EX3DV4 - SN:7554****Calibration Parameter Determined in Head Tissue Simulating Media**

| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity <sup>F</sup> (S/m) | ConvF X | ConvF Y | ConvF Z | Alpha <sup>G</sup> | Depth <sup>G</sup> (mm) | Unc (k = 2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-------------|
| 6500                 | 34.5                               | 6.07                            | 5.65    | 5.65    | 5.65    | 0.20               | 2.00                    | ±18.6%      |
| 8000                 | 32.7                               | 7.84                            | 5.45    | 5.45    | 5.45    | 0.35               | 2.00                    | ±18.6%      |
| 9000                 | 31.6                               | 9.08                            | 5.35    | 5.35    | 5.35    | 0.45               | 2.15                    | ±18.6%      |

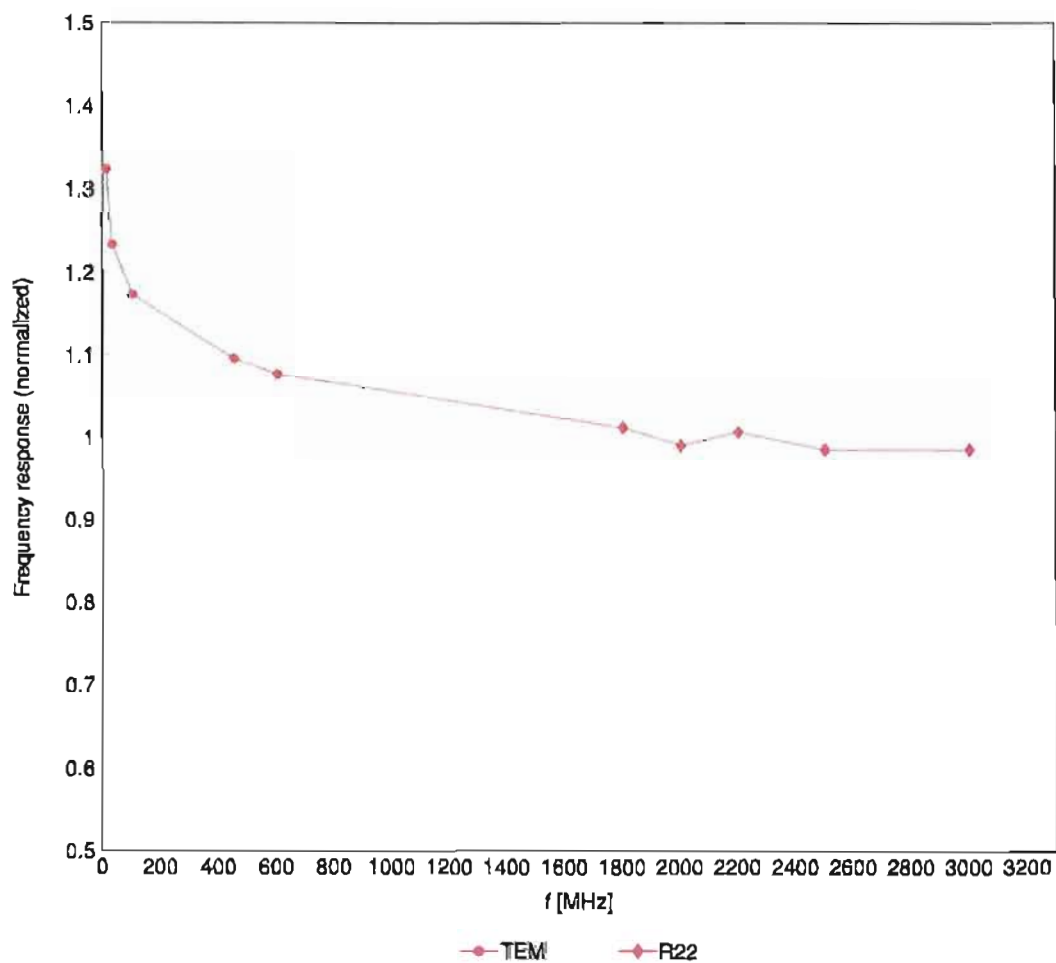
<sup>C</sup> Frequency validity at 8.5 GHz is -600/+700 MHz, and ±700 MHz at or above 7 GHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

<sup>F</sup> At frequencies 6–10 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

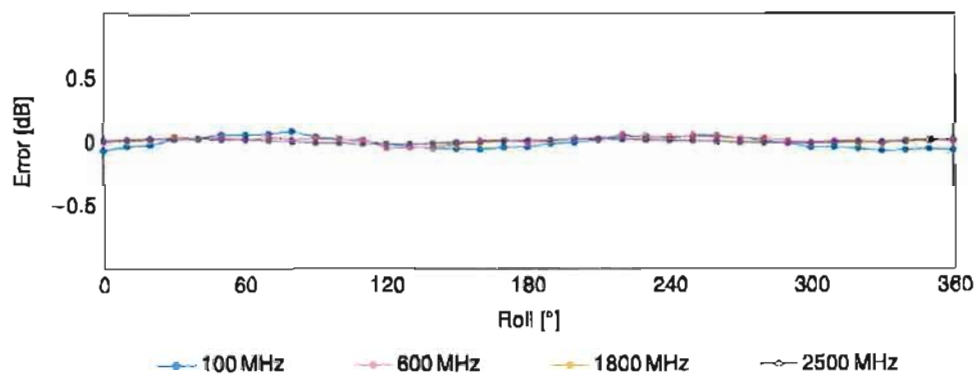
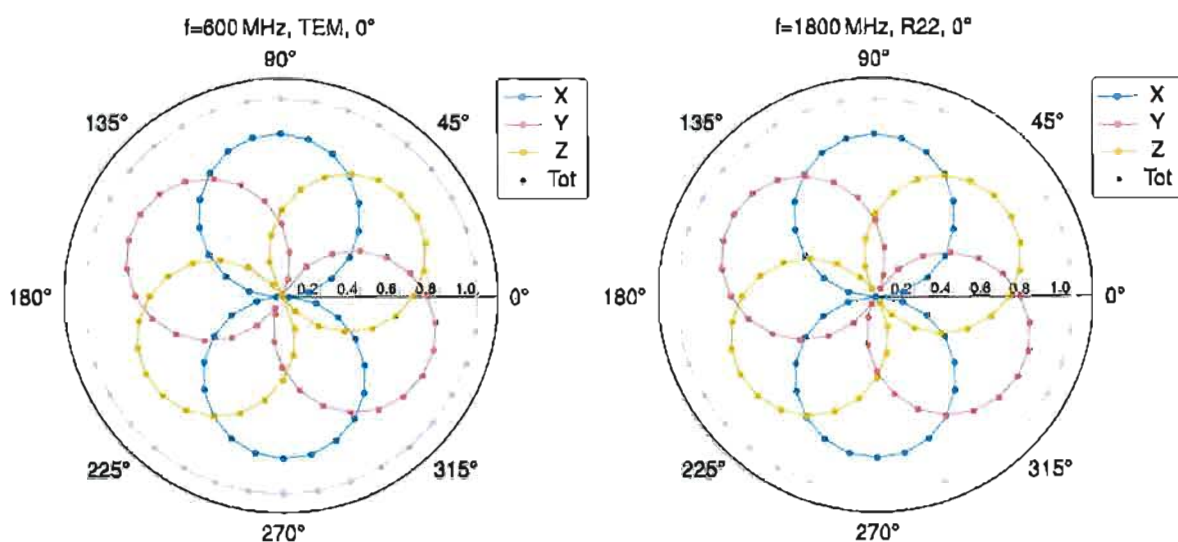
<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ±1% for frequencies below 3 GHz; below ±2% for frequencies between 3–6 GHz; and below ±4% for frequencies between 6–10 GHz at any distance larger than half the probe tip diameter from the boundary.

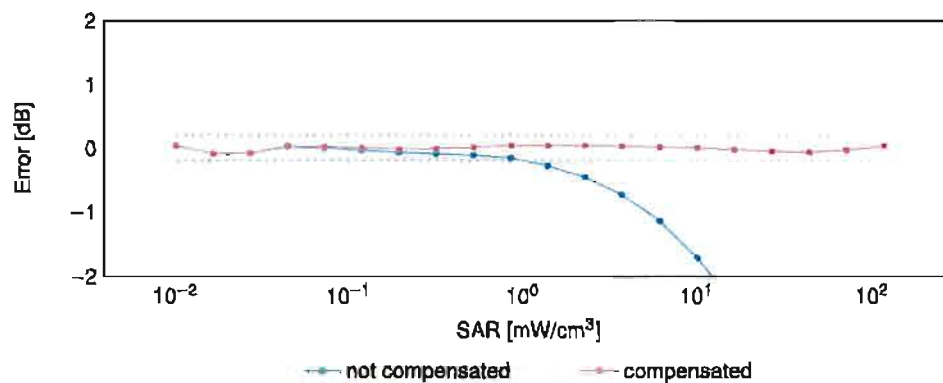
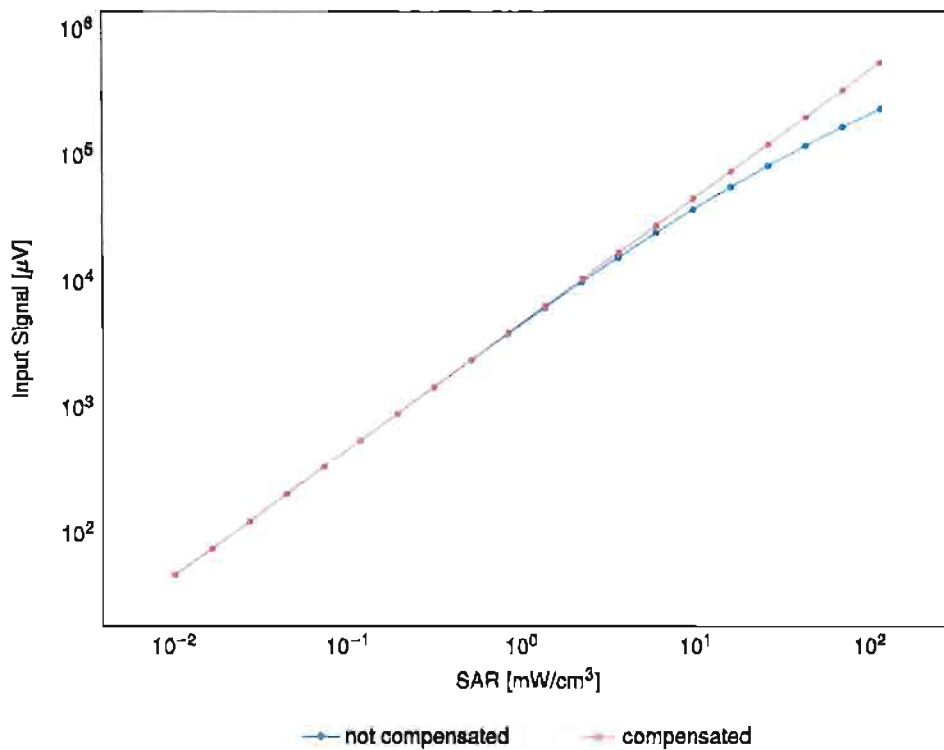
### Frequency Response of E-Field

(TEM-Cell:If1110 EXX, Waveguide:R22)

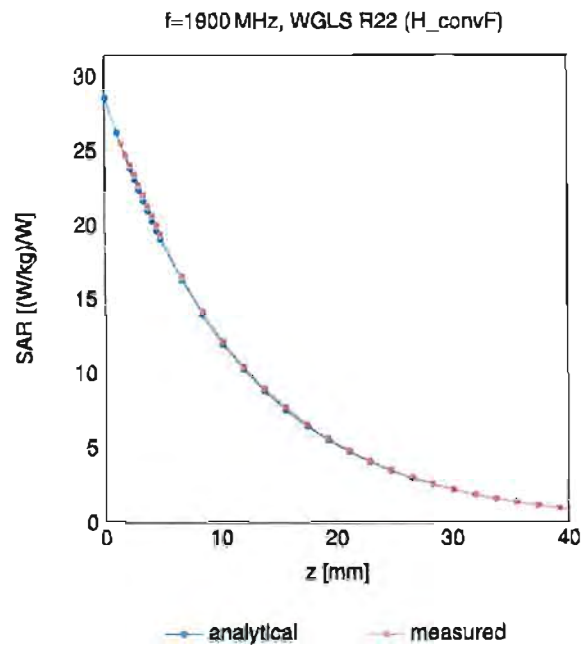


Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  ( $k=2$ )

**Receiving Pattern ( $\phi$ ),  $\theta = 0^\circ$** Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  ( $k=2$ )

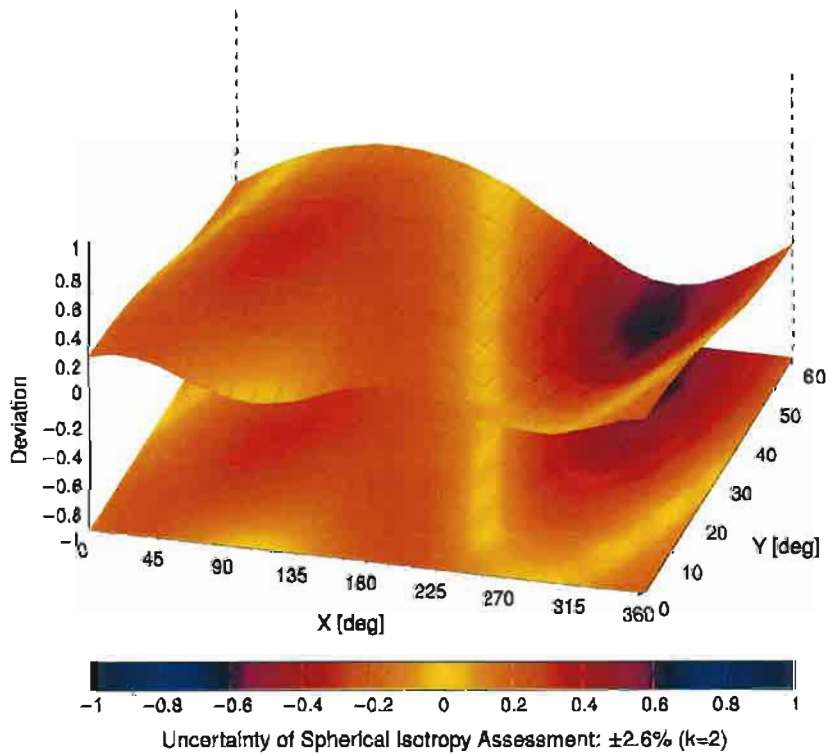
**Dynamic Range  $f(\text{SAR}_{\text{head}})$** (TEM cell,  $f_{\text{eval}} = 1900 \text{ MHz}$ )Uncertainty of Linearity Assessment:  $\pm 0.8\%$  ( $k=2$ )

Conversion Factor Assessment



Deviation from Isotropy in Liquid

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



## Appendix: Modulation Calibration Parameters

| UID   | Rev | Communication System Name                           | Group     | PAR (dB) | Unc <sup>E</sup> k = 2 |
|-------|-----|-----------------------------------------------------|-----------|----------|------------------------|
| 0     |     | CW                                                  | CW        | 0.00     | ±4.7                   |
| 10010 | CAB | SAR Validation (Square, 100 ms, 10 ms)              | Test      | 10.00    | ±9.6                   |
| 10011 | CAC | UMTS-FDD (WCDMA)                                    | WCDMA     | 2.91     | ±9.6                   |
| 10012 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)            | WLAN      | 1.87     | ±9.6                   |
| 10013 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)       | WLAN      | 9.48     | ±9.6                   |
| 10021 | DAC | GSM-FDD (TDMA, GMSK)                                | GSM       | 9.39     | ±9.6                   |
| 10023 | DAC | GPRS-FDD (TDMA, GMSK, TN 0)                         | GSM       | 9.57     | ±9.6                   |
| 10024 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1)                       | GSM       | 8.56     | ±9.6                   |
| 10025 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0)                         | GSM       | 12.62    | ±9.6                   |
| 10026 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1)                       | GSM       | 9.55     | ±9.6                   |
| 10027 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2)                     | GSM       | 4.80     | ±9.6                   |
| 10028 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)                   | GSM       | 3.55     | ±9.6                   |
| 10029 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2)                     | GSM       | 7.78     | ±9.6                   |
| 10030 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH1)                 | Bluetooth | 5.30     | ±9.8                   |
| 10031 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH3)                 | Bluetooth | 1.87     | ±9.6                   |
| 10032 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH5)                 | Bluetooth | 1.18     | ±9.6                   |
| 10033 | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)           | Bluetooth | 7.74     | ±9.6                   |
| 10034 | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)           | Bluetooth | 4.53     | ±9.6                   |
| 10035 | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)           | Bluetooth | 3.83     | ±9.6                   |
| 10036 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH1)               | Bluetooth | 8.01     | ±9.6                   |
| 10037 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH3)               | Bluetooth | 4.77     | ±9.6                   |
| 10038 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH5)               | Bluetooth | 4.10     | ±9.6                   |
| 10039 | CAB | CDMA2000 (1xRTT, RC1)                               | CDMA2000  | 4.57     | ±9.6                   |
| 10042 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate) | AMPS      | 7.78     | ±9.6                   |
| 10044 | CAA | IS-91/EIA/TIA-553 FDD (FDMA, FM)                    | AMPS      | 0.00     | ±9.8                   |
| 10048 | CAA | DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)           | DECT      | 13.80    | ±9.6                   |
| 10049 | CAA | DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)         | DECT      | 10.79    | ±9.6                   |
| 10058 | CAA | UMTS-TDD (TD-SCDMA, 1.28 Mcps)                      | TD-SCDMA  | 11.01    | ±9.8                   |
| 10058 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)                   | GSM       | 8.52     | ±9.6                   |
| 10059 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)            | WLAN      | 2.12     | ±9.6                   |
| 10060 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)          | WLAN      | 2.83     | ±9.6                   |
| 10061 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)           | WLAN      | 3.60     | ±9.6                   |
| 10062 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 8 Mbps)            | WLAN      | 8.68     | ±9.6                   |
| 10063 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)            | WLAN      | 8.63     | ±9.6                   |
| 10064 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)           | WLAN      | 9.09     | ±9.6                   |
| 10065 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)           | WLAN      | 9.00     | ±9.6                   |
| 10066 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)           | WLAN      | 9.38     | ±9.6                   |
| 10067 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 38 Mbps)           | WLAN      | 10.12    | ±9.6                   |
| 10068 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)           | WLAN      | 10.24    | ±9.6                   |
| 10069 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)           | WLAN      | 10.58    | ±9.6                   |
| 10071 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)       | WLAN      | 9.83     | ±9.6                   |
| 10072 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)      | WLAN      | 9.82     | ±9.6                   |
| 10073 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)      | WLAN      | 9.94     | ±9.6                   |
| 10074 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)      | WLAN      | 10.30    | ±9.6                   |
| 10075 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 38 Mbps)      | WLAN      | 10.77    | ±9.6                   |
| 10076 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)      | WLAN      | 10.94    | ±9.6                   |
| 10077 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)      | WLAN      | 11.00    | ±9.6                   |
| 10081 | CAB | CDMA2000 (1xRTT, RC3)                               | CDMA2000  | 3.97     | ±9.6                   |
| 10082 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate) | AMPS      | 4.77     | ±9.6                   |
| 10090 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-4)                       | GSM       | 8.56     | ±9.6                   |
| 10097 | CAC | UMTS-FDD (HSDPA)                                    | WCDMA     | 3.98     | ±9.6                   |
| 10098 | CAC | UMTS-FDD (HSUPA, Subtest 2)                         | WCDMA     | 3.98     | ±9.6                   |
| 10099 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-4)                       | GSM       | 9.55     | ±9.6                   |
| 10100 | CAF | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)            | LTE-FDD   | 5.67     | ±9.6                   |
| 10101 | CAF | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)          | LTE-FDD   | 8.42     | ±9.6                   |
| 10102 | CAF | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)          | LTE-FDD   | 8.60     | ±9.6                   |
| 10103 | CAH | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)            | LTE-TDD   | 9.29     | ±9.6                   |
| 10104 | CAH | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)          | LTE-TDD   | 9.97     | ±9.6                   |
| 10105 | CAH | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)          | LTE-TDD   | 10.01    | ±9.6                   |
| 10108 | CAH | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)            | LTE-FDD   | 5.80     | ±9.6                   |
| 10109 | CAH | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)          | LTE-FDD   | 6.43     | ±9.6                   |
| 10110 | CAH | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)             | LTE-FDD   | 5.75     | ±9.6                   |
| 10111 | CAH | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)           | LTE-FDD   | 8.44     | ±9.6                   |

| UID   | Rev | Communication System Name                      | Group   | PAR (dB) | Unc <sup>2</sup> k = 2 |
|-------|-----|------------------------------------------------|---------|----------|------------------------|
| 10112 | CAH | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)     | LTE-FDD | 6.59     | ±9.6                   |
| 10113 | CAH | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)      | LTE-FDD | 6.62     | ±9.6                   |
| 10114 | CAD | IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)  | WLAN    | 8.10     | ±9.6                   |
| 10115 | CAD | IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)  | WLAN    | 8.46     | ±9.6                   |
| 10116 | CAD | IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM) | WLAN    | 8.15     | ±9.6                   |
| 10117 | CAD | IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)       | WLAN    | 8.07     | ±9.6                   |
| 10118 | CAD | IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)       | WLAN    | 8.59     | ±9.6                   |
| 10119 | CAD | IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)      | WLAN    | 8.13     | ±9.6                   |
| 10140 | CAF | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)     | LTE-FDD | 8.49     | ±9.6                   |
| 10141 | CAF | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)     | LTE-FDD | 8.63     | ±9.6                   |
| 10142 | CAF | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)        | LTE-FDD | 5.73     | ±9.6                   |
| 10143 | CAF | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)      | LTE-FDD | 6.35     | ±9.6                   |
| 10144 | CAF | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)      | LTE-FDD | 6.65     | ±9.6                   |
| 10145 | CAG | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)      | LTE-FDD | 5.76     | ±9.6                   |
| 10146 | CAG | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)    | LTE-FDD | 6.41     | ±9.6                   |
| 10147 | CAG | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)    | LTE-FDD | 6.72     | ±9.6                   |
| 10149 | CAF | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)      | LTE-FDD | 8.42     | ±9.6                   |
| 10160 | CAF | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)      | LTE-FDD | 8.80     | ±9.6                   |
| 10151 | CAH | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)        | LTE-TDD | 9.28     | ±9.6                   |
| 10152 | CAH | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)      | LTE-TDD | 9.82     | ±9.6                   |
| 10153 | CAH | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)      | LTE-TDD | 10.05    | ±9.6                   |
| 10154 | CAH | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)        | LTE-FDD | 5.75     | ±9.6                   |
| 10155 | CAH | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)      | LTE-FDD | 6.43     | ±9.6                   |
| 10156 | CAH | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)         | LTE-FDD | 5.79     | ±9.6                   |
| 10157 | CAH | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)       | LTE-FDD | 6.49     | ±9.6                   |
| 10158 | CAH | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)      | LTE-FDD | 6.62     | ±9.6                   |
| 10159 | CAH | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)       | LTE-FDD | 6.66     | ±9.6                   |
| 10160 | CAF | LTE-FDD (SC-FDMA, 60% RB, 15 MHz, QPSK)        | LTE-FDD | 5.82     | ±9.6                   |
| 10161 | CAF | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)      | LTE-FDD | 6.43     | ±9.6                   |
| 10162 | CAF | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)      | LTE-FDD | 6.58     | ±9.6                   |
| 10168 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)       | LTE-FDD | 5.46     | ±9.6                   |
| 10167 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)     | LTE-FDD | 6.21     | ±9.6                   |
| 10168 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)     | LTE-FDD | 6.79     | ±9.6                   |
| 10169 | CAF | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)          | LTE-FDD | 5.73     | ±9.6                   |
| 10170 | CAF | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)        | LTE-FDD | 6.52     | ±9.6                   |
| 10171 | AAF | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)        | LTE-FDD | 6.49     | ±9.6                   |
| 10172 | CAH | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)          | LTE-TDD | 9.21     | ±9.6                   |
| 10173 | CAH | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)        | LTE-TDD | 9.48     | ±9.6                   |
| 10174 | CAH | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)        | LTE-TDD | 10.25    | ±9.6                   |
| 10175 | CAH | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)          | LTE-FDD | 5.72     | ±9.6                   |
| 10176 | CAH | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)        | LTE-FDD | 6.62     | ±9.6                   |
| 10177 | CAF | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)           | LTE-FDD | 5.73     | ±9.6                   |
| 10178 | CAH | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)         | LTE-FDD | 6.52     | ±9.6                   |
| 10179 | CAH | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)        | LTE-FDD | 6.50     | ±9.6                   |
| 10180 | CAH | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)         | LTE-FDD | 6.50     | ±9.6                   |
| 10181 | CAF | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)          | LTE-FDD | 5.72     | ±9.6                   |
| 10182 | CAF | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)        | LTE-FDD | 6.52     | ±9.6                   |
| 10183 | AAE | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)        | LTE-FDD | 6.50     | ±9.6                   |
| 10184 | CAF | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)           | LTE-FDD | 5.73     | ±9.6                   |
| 10185 | CAF | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)         | LTE-FDD | 6.51     | ±9.6                   |
| 10186 | AAF | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)         | LTE-FDD | 6.50     | ±9.6                   |
| 10187 | CAG | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)         | LTE-FDD | 6.73     | ±9.6                   |
| 10188 | CAG | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)       | LTE-FDD | 6.52     | ±9.6                   |
| 10189 | AAG | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)       | LTE-FDD | 6.50     | ±9.6                   |
| 10193 | CAD | IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)   | WLAN    | 8.09     | ±9.6                   |
| 10194 | CAD | IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)  | WLAN    | 8.12     | ±9.6                   |
| 10195 | CAD | IEEE 802.11n (HT Greenfield, 85 Mbps, 64-QAM)  | WLAN    | 8.21     | ±9.6                   |
| 10196 | CAD | IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)        | WLAN    | 8.10     | ±9.6                   |
| 10197 | CAD | IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)       | WLAN    | 8.13     | ±9.6                   |
| 10198 | CAD | IEEE 802.11n (HT Mixed, 85 Mbps, 64-QAM)       | WLAN    | 8.27     | ±9.6                   |
| 10219 | CAD | IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)        | WLAN    | 8.03     | ±9.6                   |
| 10220 | CAD | IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)     | WLAN    | 8.13     | ±9.6                   |
| 10221 | CAD | IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)     | WLAN    | 8.27     | ±9.6                   |
| 10222 | CAD | IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)         | WLAN    | 8.06     | ±9.6                   |
| 10223 | CAD | IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)       | WLAN    | 8.48     | ±9.6                   |
| 10224 | CAD | IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)      | WLAN    | 8.08     | ±9.6                   |



| UID   | Rev | Communication System Name                                            | Group    | PAR (dB) | Unc <sup>E</sup> k = 2 |
|-------|-----|----------------------------------------------------------------------|----------|----------|------------------------|
| 10225 | CAC | UMTS-FDD (HSPA+)                                                     | WCDMA    | 5.97     | ±9.6                   |
| 10226 | CAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)                             | LTE-TDD  | 9.49     | ±9.6                   |
| 10227 | CAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)                             | LTE-TDD  | 10.26    | ±9.6                   |
| 10228 | CAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)                               | LTE-TDD  | 9.22     | ±9.6                   |
| 10229 | CAE | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)                               | LTE-TDD  | 9.48     | ±9.6                   |
| 10230 | CAE | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)                               | LTE-TDD  | 10.25    | ±9.6                   |
| 10231 | CAE | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)                                 | LTE-TDD  | 9.19     | ±9.6                   |
| 10232 | CAH | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)                               | LTE-TDD  | 9.48     | ±9.6                   |
| 10233 | CAH | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)                               | LTE-TDD  | 10.25    | ±9.6                   |
| 10234 | CAH | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)                                 | LTE-TDD  | 9.21     | ±9.6                   |
| 10235 | CAH | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)                              | LTE-TDD  | 9.48     | ±9.6                   |
| 10236 | CAH | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)                              | LTE-TDD  | 10.25    | ±9.6                   |
| 10237 | CAH | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)                                | LTE-TDD  | 9.21     | ±9.6                   |
| 10238 | CAG | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)                              | LTE-TDD  | 9.48     | ±9.6                   |
| 10239 | CAG | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)                              | LTE-TDD  | 10.25    | ±9.6                   |
| 10240 | CAG | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)                                | LTE-TDD  | 9.21     | ±9.6                   |
| 10241 | CAC | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)                           | LTE-TDD  | 9.82     | ±9.6                   |
| 10242 | CAC | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)                           | LTE-TDD  | 9.86     | ±9.6                   |
| 10243 | CAC | LTE-TDD (SC-FDMA, 60% RB, 1.4 MHz, QPSK)                             | LTE-TDD  | 9.48     | ±9.6                   |
| 10244 | CAE | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)                             | LTE-TDD  | 10.06    | ±9.6                   |
| 10245 | CAE | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)                             | LTE-TDD  | 10.06    | ±9.6                   |
| 10246 | CAE | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)                               | LTE-TDD  | 9.30     | ±9.6                   |
| 10247 | CAH | LTE-TDD (SC-FDMA, 60% RB, 5 MHz, 16-QAM)                             | LTE-TDD  | 9.91     | ±9.6                   |
| 10248 | CAH | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)                             | LTE-TDD  | 10.09    | ±9.6                   |
| 10249 | CAH | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)                               | LTE-TDD  | 9.29     | ±9.6                   |
| 10250 | CAH | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)                            | LTE-TDD  | 9.81     | ±9.6                   |
| 10251 | CAH | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)                            | LTE-TDD  | 10.17    | ±9.6                   |
| 10252 | CAH | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)                              | LTE-TDD  | 9.24     | ±9.6                   |
| 10253 | CAG | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)                            | LTE-TDD  | 9.90     | ±9.6                   |
| 10254 | CAG | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)                            | LTE-TDD  | 10.14    | ±9.6                   |
| 10255 | CAG | LTE-TDD (SC-FDMA, 60% RB, 15 MHz, QPSK)                              | LTE-TDD  | 9.20     | ±9.6                   |
| 10256 | CAC | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)                          | LTE-TDD  | 9.86     | ±9.6                   |
| 10257 | CAC | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)                          | LTE-TDD  | 10.08    | ±9.6                   |
| 10258 | CAC | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)                            | LTE-TDD  | 9.34     | ±9.6                   |
| 10259 | CAE | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)                            | LTE-TDD  | 9.98     | ±9.6                   |
| 10260 | CAE | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)                            | LTE-TDD  | 9.97     | ±9.6                   |
| 10261 | CAE | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)                              | LTE-TDD  | 9.24     | ±9.6                   |
| 10262 | CAH | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)                            | LTE-TDD  | 9.83     | ±9.6                   |
| 10263 | CAH | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)                            | LTE-TDD  | 10.16    | ±9.6                   |
| 10264 | CAH | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)                              | LTE-TDD  | 9.23     | ±9.6                   |
| 10265 | CAH | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)                           | LTE-TDD  | 9.92     | ±9.6                   |
| 10266 | CAH | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)                           | LTE-TDD  | 10.07    | ±9.6                   |
| 10267 | CAH | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)                             | LTE-TDD  | 9.30     | ±9.6                   |
| 10268 | CAG | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)                           | LTE-TDD  | 10.06    | ±9.6                   |
| 10269 | CAG | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)                           | LTE-TDD  | 10.13    | ±9.6                   |
| 10270 | CAG | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)                             | LTE-TDD  | 9.58     | ±9.6                   |
| 10274 | CAC | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)                            | WCDMA    | 4.87     | ±9.6                   |
| 10275 | CAC | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)                             | WCDMA    | 3.96     | ±9.6                   |
| 10277 | CAA | PHS (QPSK)                                                           | PHS      | 11.81    | ±9.6                   |
| 10278 | CAA | PHS (QPSK, BW 884 MHz, Roll-off 0.5)                                 | PHS      | 11.81    | ±9.6                   |
| 10279 | CAA | PHS (QPSK, BW 884 MHz, Roll-off 0.38)                                | PHS      | 12.16    | ±9.6                   |
| 10280 | AAB | CDMA2000, RC1, SO65, Full Rate                                       | CDMA2000 | 3.91     | ±9.6                   |
| 10291 | AAB | CDMA2000, RC3, SO55, Full Rate                                       | CDMA2000 | 3.46     | ±9.6                   |
| 10292 | AAB | CDMA2000, RC3, SO32, Full Rate                                       | CDMA2000 | 3.39     | ±9.6                   |
| 10293 | AAB | CDMA2000, RC3, SO3, Full Rate                                        | CDMA2000 | 3.50     | ±9.6                   |
| 10295 | AAB | CDMA2000, RC1, SO3, 1/8th Rate 25 fr.                                | CDMA2000 | 12.49    | ±9.6                   |
| 10297 | AAE | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)                              | LTE-FDD  | 6.81     | ±9.6                   |
| 10298 | AAE | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)                               | LTE-FDD  | 5.72     | ±9.6                   |
| 10299 | AAE | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)                             | LTE-FDD  | 6.39     | ±9.6                   |
| 10300 | AAE | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)                             | LTE-FDD  | 6.60     | ±9.6                   |
| 10301 | AAA | IEEE 802.16e WiMAX (29:18, 5 ms, 10 MHz, QPSK, PUSC)                 | WiMAX    | 12.03    | ±9.6                   |
| 10302 | AAA | IEEE 802.16e WiMAX (29:18, 5 ms, 10 MHz, QPSK, PUSC, 3 CTRL symbols) | WiMAX    | 12.57    | ±9.6                   |
| 10303 | AAA | IEEE 802.16e WiMAX (31:15, 5 ms, 10 MHz, 64QAM, PUSC)                | WiMAX    | 12.52    | ±9.6                   |
| 10304 | AAA | IEEE 802.16e WiMAX (29:18, 5 ms, 10 MHz, 64QAM, PUSC)                | WiMAX    | 11.86    | ±9.6                   |
| 10305 | AAA | IEEE 802.16e WiMAX (31:15, 10 ms, 10 MHz, 64QAM, PUSC, 15 symbols)   | WiMAX    | 15.24    | ±9.6                   |
| 10308 | AAA | IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, 64QAM, PUSC, 18 symbols)   | WiMAX    | 14.67    | ±9.6                   |

| UID   | Rev | Communication System Name                                                       | Group    | PAR (dB) | Unc <sup>2</sup> k = 2 |
|-------|-----|---------------------------------------------------------------------------------|----------|----------|------------------------|
| 10307 | AAA | IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, QPSK, PUSC, 18 symbols)               | WiMAX    | 14.49    | ±9.6                   |
| 10308 | AAA | IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, 16QAM, PUSC)                          | WiMAX    | 14.46    | ±9.6                   |
| 10309 | AAA | IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, 16QAM, AMC 2x3, 18 symbols)           | WiMAX    | 14.58    | ±9.6                   |
| 10310 | AAA | IEEE 802.16e WiMAX (29:18, 10 ms, 10 MHz, QPSK, AMC 2x3, 18 symbols)            | WiMAX    | 14.57    | ±9.6                   |
| 10311 | AAE | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)                                        | LTE-FDD  | 8.08     | ±9.8                   |
| 10313 | AAA | iDEN 1:3                                                                        | IDEN     | 10.51    | ±9.6                   |
| 10314 | AAA | iDEN 1:6                                                                        | IDEN     | 13.48    | ±9.6                   |
| 10315 | AAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)                       | WLAN     | 1.71     | ±9.6                   |
| 10316 | AAB | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)                   | WLAN     | 8.36     | ±9.6                   |
| 10317 | AAD | IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)                         | WLAN     | 8.36     | ±9.6                   |
| 10352 | AAA | Pulse Waveform (200Hz, 10%)                                                     | Generic  | 10.00    | ±9.6                   |
| 10353 | AAA | Pulse Waveform (200Hz, 20%)                                                     | Generic  | 6.99     | ±9.6                   |
| 10354 | AAA | Pulse Waveform (200Hz, 40%)                                                     | Generic  | 3.98     | ±9.6                   |
| 10355 | AAA | Pulse Waveform (200Hz, 60%)                                                     | Generic  | 2.22     | ±9.6                   |
| 10356 | AAA | Pulse Waveform (200Hz, 80%)                                                     | Generic  | 0.97     | ±9.6                   |
| 10387 | AAA | QPSK Waveform, 1 MHz                                                            | Generic  | 5.10     | ±9.6                   |
| 10388 | AAA | QPSK Waveform, 10 MHz                                                           | Generic  | 5.22     | ±9.6                   |
| 10398 | AAA | 64-QAM Waveform, 100 kHz                                                        | Generic  | 8.27     | ±9.6                   |
| 10399 | AAA | 64-QAM Waveform, 40 MHz                                                         | Generic  | 8.27     | ±9.6                   |
| 10400 | AAE | IEEE 802.11ac WiFi (20 MHz, 64-QAM, 99pc duty cycle)                            | WLAN     | 8.37     | ±9.6                   |
| 10401 | AAE | IEEE 802.11ac WiFi (40 MHz, 64-QAM, 99pc duty cycle)                            | WLAN     | 8.60     | ±9.6                   |
| 10402 | AAE | IEEE 802.11ac WiFi (80 MHz, 64-QAM, 99pc duty cycle)                            | WLAN     | 8.53     | ±9.6                   |
| 10403 | AAB | CDMA2000 (1xEV-DO, Rev. D)                                                      | CDMA2000 | 3.76     | ±9.6                   |
| 10404 | AAB | CDMA2000 (1xEV-DO, Rev. A)                                                      | CDMA2000 | 3.77     | ±9.6                   |
| 10406 | AAB | CDMA2000, RC3, SO32, SCH0, Full Rate                                            | CDMA2000 | 5.22     | ±9.6                   |
| 10410 | AAH | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4) | LTE-TDD  | 7.82     | ±9.6                   |
| 10414 | AAA | WLAN CCDF, 64-QAM, 40 MHz                                                       | Generic  | 8.54     | ±9.6                   |
| 10415 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)                       | WLAN     | 1.54     | ±9.6                   |
| 10416 | AAA | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)                   | WLAN     | 8.23     | ±9.6                   |
| 10417 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 8 Mbps, 99pc duty cycle)                       | WLAN     | 8.23     | ±9.6                   |
| 10418 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 8 Mbps, 99pc duty cycle, Long preamble)   | WLAN     | 6.14     | ±9.6                   |
| 10419 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 8 Mbps, 99pc duty cycle, Short preamble)  | WLAN     | 8.19     | ±9.6                   |
| 10422 | AAC | IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)                                    | WLAN     | 8.32     | ±9.6                   |
| 10423 | AAC | IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)                                 | WLAN     | 8.47     | ±9.6                   |
| 10424 | AAC | IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)                                 | WLAN     | 8.40     | ±9.6                   |
| 10425 | AAC | IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)                                     | WLAN     | 8.41     | ±9.6                   |
| 10426 | AAC | IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)                                   | WLAN     | 8.46     | ±9.6                   |
| 10427 | AAC | IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)                                  | WLAN     | 8.41     | ±9.6                   |
| 10430 | AAE | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)                                                | LTE-FDD  | 8.28     | ±9.6                   |
| 10431 | AAE | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)                                               | LTE-FDD  | 8.38     | ±9.6                   |
| 10432 | AAD | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)                                               | LTE-FDD  | 8.34     | ±9.6                   |
| 10433 | AAD | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)                                               | LTE-FDD  | 8.34     | ±9.6                   |
| 10434 | AAB | W-CDMA (BS Test Model 1, 84 DPCH)                                               | WCDMA    | 8.60     | ±9.6                   |
| 10435 | AAG | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)                  | LTE-TDD  | 7.82     | ±9.6                   |
| 10447 | AAE | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)                                  | LTE-FDD  | 7.56     | ±9.6                   |
| 10448 | AAE | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)                                 | LTE-FDD  | 7.53     | ±9.6                   |
| 10449 | AAD | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)                                 | LTE-FDD  | 7.51     | ±9.6                   |
| 10450 | AAD | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)                                 | LTE-FDD  | 7.48     | ±9.6                   |
| 10451 | AAB | W-CDMA (BS Test Model 1, 84 DPCH, Clipping 44%)                                 | WCDMA    | 7.59     | ±9.6                   |
| 10453 | AAE | Validation (Square, 10 ms, 1 ms)                                                | Test     | 10.00    | ±9.6                   |
| 10456 | AAC | IEEE 802.11ac WiFi (160 MHz, 64-QAM, 99pc duty cycle)                           | WLAN     | 8.63     | ±9.6                   |
| 10457 | AAB | UMTS-FDD (DC-HSDPA)                                                             | WCDMA    | 6.62     | ±9.6                   |
| 10458 | AAA | CDMA2000 (1xEV-DO, Rev. B, 2 carriers)                                          | CDMA2000 | 6.55     | ±9.6                   |
| 10459 | AAA | CDMA2000 (1xEV-DO, Rev. B, 3 carriers)                                          | CDMA2000 | 8.25     | ±9.6                   |
| 10460 | AAB | UMTS-FDD (WCDMA, AMR)                                                           | WCDMA    | 2.39     | ±9.6                   |
| 10461 | AAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)                 | LTE-TDD  | 7.82     | ±9.6                   |
| 10462 | AAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)               | LTE-TDD  | 8.30     | ±9.6                   |
| 10463 | AAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)               | LTE-TDD  | 8.56     | ±9.6                   |
| 10464 | AAD | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)                   | LTE-TDD  | 7.82     | ±9.6                   |
| 10465 | AAD | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)                 | LTE-TDD  | 8.32     | ±9.6                   |
| 10466 | AAD | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)                 | LTE-TDD  | 8.57     | ±9.6                   |
| 10467 | AAG | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)                   | LTE-TDD  | 7.82     | ±9.6                   |
| 10468 | AAG | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)                 | LTE-TDD  | 8.32     | ±9.6                   |
| 10469 | AAG | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)                 | LTE-TDD  | 8.58     | ±9.6                   |
| 10470 | AAG | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)                  | LTE-TDD  | 7.82     | ±9.6                   |
| 10471 | AAG | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)                | LTE-TDD  | 8.32     | ±9.6                   |

| UID   | Rev | Communication System Name                                            | Group   | PAR (dB) | Unc <sup>k</sup> k = 2 |
|-------|-----|----------------------------------------------------------------------|---------|----------|------------------------|
| 10472 | AAG | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 8.57     | ±9.6                   |
| 10473 | AAF | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)       | LTE-TDD | 7.82     | ±9.6                   |
| 10474 | AAF | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 8.32     | ±9.6                   |
| 10475 | AAF | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 8.57     | ±9.6                   |
| 10477 | AAG | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 8.32     | ±9.6                   |
| 10478 | AAG | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 8.57     | ±9.6                   |
| 10479 | AAC | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | LTE-TDD | 7.74     | ±9.6                   |
| 10480 | AAC | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.18     | ±9.6                   |
| 10481 | AAC | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.45     | ±9.6                   |
| 10482 | AAD | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)      | LTE-TDD | 7.71     | ±9.6                   |
| 10483 | AAD | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)    | LTE-TDD | 8.39     | ±9.6                   |
| 10484 | AAD | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)    | LTE-TDD | 8.47     | ±9.6                   |
| 10485 | AAG | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)      | LTE-TDD | 7.59     | ±9.6                   |
| 10486 | AAG | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)    | LTE-TDD | 8.38     | ±9.6                   |
| 10487 | AAG | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)    | LTE-TDD | 8.60     | ±9.6                   |
| 10488 | AAG | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 7.70     | ±9.6                   |
| 10489 | AAG | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.31     | ±9.6                   |
| 10490 | AAG | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.54     | ±9.6                   |
| 10491 | AAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 7.74     | ±9.6                   |
| 10492 | AAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.41     | ±9.6                   |
| 10493 | AAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.55     | ±9.6                   |
| 10494 | AAG | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 7.74     | ±9.6                   |
| 10495 | AAG | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.37     | ±9.6                   |
| 10496 | AAG | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.54     | ±9.6                   |
| 10497 | AAC | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 7.67     | ±9.6                   |
| 10498 | AAC | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) | LTE-TDD | 8.40     | ±9.6                   |
| 10499 | AAC | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | LTE-TDD | 8.68     | ±9.6                   |
| 10500 | AAD | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 7.87     | ±9.6                   |
| 10501 | AAD | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.44     | ±9.6                   |
| 10502 | AAD | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.52     | ±9.6                   |
| 10503 | AAG | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 7.72     | ±9.6                   |
| 10504 | AAG | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.31     | ±9.6                   |
| 10505 | AAG | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.54     | ±9.6                   |
| 10506 | AAG | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | LTE-TDD | 7.74     | ±9.6                   |
| 10507 | AAG | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.38     | ±9.6                   |
| 10508 | AAG | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.55     | ±9.6                   |
| 10509 | AAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | LTE-TDD | 7.99     | ±9.6                   |
| 10510 | AAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.49     | ±9.6                   |
| 10511 | AAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.51     | ±9.6                   |
| 10512 | AAG | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | LTE-TDD | 7.74     | ±9.6                   |
| 10513 | AAG | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.42     | ±9.6                   |
| 10514 | AAG | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.45     | ±9.6                   |
| 10515 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)            | WLAN    | 1.58     | ±9.6                   |
| 10516 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)          | WLAN    | 1.57     | ±9.6                   |
| 10517 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)           | WLAN    | 1.58     | ±9.6                   |
| 10518 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 8 Mbps, 99pc duty cycle)            | WLAN    | 8.23     | ±9.6                   |
| 10519 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)           | WLAN    | 8.38     | ±9.6                   |
| 10520 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)           | WLAN    | 8.12     | ±9.6                   |
| 10521 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)           | WLAN    | 7.97     | ±9.6                   |
| 10522 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)           | WLAN    | 8.45     | ±9.6                   |
| 10523 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)           | WLAN    | 8.08     | ±9.6                   |
| 10524 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)           | WLAN    | 8.27     | ±9.6                   |
| 10525 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS0, 99pc duty cycle)                   | WLAN    | 8.36     | ±9.6                   |
| 10526 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS1, 99pc duty cycle)                   | WLAN    | 8.42     | ±9.6                   |
| 10527 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS2, 99pc duty cycle)                   | WLAN    | 8.21     | ±9.6                   |
| 10528 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS3, 99pc duty cycle)                   | WLAN    | 8.36     | ±9.6                   |
| 10529 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS4, 99pc duty cycle)                   | WLAN    | 8.36     | ±9.6                   |
| 10531 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS6, 99pc duty cycle)                   | WLAN    | 8.43     | ±9.6                   |
| 10532 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS7, 99pc duty cycle)                   | WLAN    | 8.29     | ±9.6                   |
| 10533 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS8, 99pc duty cycle)                   | WLAN    | 8.38     | ±9.6                   |
| 10534 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS0, 99pc duty cycle)                   | WLAN    | 8.45     | ±9.6                   |
| 10535 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS1, 99pc duty cycle)                   | WLAN    | 8.45     | ±9.6                   |
| 10536 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS2, 99pc duty cycle)                   | WLAN    | 8.32     | ±9.6                   |
| 10537 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS3, 99pc duty cycle)                   | WLAN    | 8.44     | ±9.6                   |
| 10538 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS4, 99pc duty cycle)                   | WLAN    | 8.54     | ±9.6                   |
| 10540 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS6, 99pc duty cycle)                   | WLAN    | 8.39     | ±9.6                   |

| UID   | Rev | Communication System Name                                       | Group | PAR (dB) | Unc <sup>E</sup> $k = 2$ |
|-------|-----|-----------------------------------------------------------------|-------|----------|--------------------------|
| 10541 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS7, 99pc duty cycle)              | WLAN  | 8.46     | ±9.6                     |
| 10542 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS8, 99pc duty cycle)              | WLAN  | 8.65     | ±9.6                     |
| 10543 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS9, 99pc duty cycle)              | WLAN  | 8.85     | ±9.6                     |
| 10544 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS0, 99pc duty cycle)              | WLAN  | 8.17     | ±9.6                     |
| 10545 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS1, 99pc duty cycle)              | WLAN  | 8.55     | ±9.6                     |
| 10546 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS2, 99pc duty cycle)              | WLAN  | 8.35     | ±9.6                     |
| 10547 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS3, 99pc duty cycle)              | WLAN  | 8.49     | ±9.6                     |
| 10548 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS4, 99pc duty cycle)              | WLAN  | 8.37     | ±9.6                     |
| 10550 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS8, 99pc duty cycle)              | WLAN  | 8.38     | ±9.6                     |
| 10651 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS7, 99pc duty cycle)              | WLAN  | 8.50     | ±9.6                     |
| 10552 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS8, 99pc duty cycle)              | WLAN  | 8.42     | ±9.6                     |
| 10553 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS9, 99pc duty cycle)              | WLAN  | 8.45     | ±9.6                     |
| 10554 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS0, 99pc duty cycle)             | WLAN  | 8.48     | ±9.6                     |
| 10555 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS1, 99pc duty cycle)             | WLAN  | 8.47     | ±9.6                     |
| 10556 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS2, 99pc duty cycle)             | WLAN  | 8.50     | ±9.6                     |
| 10557 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS3, 99pc duty cycle)             | WLAN  | 8.52     | ±9.6                     |
| 10568 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS4, 99pc duty cycle)             | WLAN  | 8.61     | ±9.6                     |
| 10560 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS8, 99pc duty cycle)             | WLAN  | 8.73     | ±9.6                     |
| 10561 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS7, 99pc duty cycle)             | WLAN  | 8.58     | ±9.6                     |
| 10562 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS8, 99pc duty cycle)             | WLAN  | 8.69     | ±9.6                     |
| 10563 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS9, 99pc duty cycle)             | WLAN  | 8.77     | ±9.6                     |
| 10564 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)  | WLAN  | 8.25     | ±9.6                     |
| 10565 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle) | WLAN  | 8.45     | ±9.6                     |
| 10566 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle) | WLAN  | 8.13     | ±9.6                     |
| 10567 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle) | WLAN  | 8.00     | ±9.6                     |
| 10568 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle) | WLAN  | 8.37     | ±9.6                     |
| 10569 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle) | WLAN  | 8.10     | ±9.6                     |
| 10570 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle) | WLAN  | 8.30     | ±9.6                     |
| 10571 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)       | WLAN  | 1.99     | ±9.6                     |
| 10672 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)       | WLAN  | 1.99     | ±9.6                     |
| 10573 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)     | WLAN  | 1.98     | ±9.6                     |
| 10574 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)      | WLAN  | 1.98     | ±9.6                     |
| 10575 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)  | WLAN  | 8.59     | ±9.6                     |
| 10576 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)  | WLAN  | 8.60     | ±9.6                     |
| 10577 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) | WLAN  | 8.70     | ±9.6                     |
| 10578 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) | WLAN  | 8.48     | ±9.6                     |
| 10579 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) | WLAN  | 8.38     | ±9.6                     |
| 10580 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) | WLAN  | 8.76     | ±9.6                     |
| 10581 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) | WLAN  | 8.35     | ±9.6                     |
| 10582 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle) | WLAN  | 8.67     | ±9.6                     |
| 10583 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)       | WLAN  | 8.59     | ±9.6                     |
| 10584 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)       | WLAN  | 8.80     | ±9.6                     |
| 10585 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)      | WLAN  | 8.70     | ±9.6                     |
| 10586 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)      | WLAN  | 8.49     | ±9.6                     |
| 10587 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)      | WLAN  | 8.36     | ±9.6                     |
| 10588 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)      | WLAN  | 8.76     | ±9.6                     |
| 10589 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)      | WLAN  | 8.35     | ±9.6                     |
| 10590 | AAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)      | WLAN  | 8.67     | ±9.6                     |
| 10591 | AAC | IEEE 802.11n (HT Mixed, 20 MHz, MCS0, 90pc duty cycle)          | WLAN  | 8.63     | ±9.6                     |
| 10592 | AAC | IEEE 802.11n (HT Mixed, 20 MHz, MCS1, 90pc duty cycle)          | WLAN  | 8.79     | ±9.6                     |
| 10593 | AAC | IEEE 802.11n (HT Mixed, 20 MHz, MCS2, 90pc duty cycle)          | WLAN  | 8.64     | ±9.6                     |
| 10594 | AAC | IEEE 802.11n (HT Mixed, 20 MHz, MCS3, 90pc duty cycle)          | WLAN  | 8.74     | ±9.6                     |
| 10595 | AAC | IEEE 802.11n (HT Mixed, 20 MHz, MCS4, 90pc duty cycle)          | WLAN  | 8.74     | ±9.6                     |
| 10596 | AAC | IEEE 802.11n (HT Mixed, 20 MHz, MCS5, 90pc duty cycle)          | WLAN  | 8.71     | ±9.6                     |
| 10597 | AAC | IEEE 802.11n (HT Mixed, 20 MHz, MCS6, 90pc duty cycle)          | WLAN  | 8.72     | ±9.6                     |
| 10598 | AAC | IEEE 802.11n (HT Mixed, 20 MHz, MCS7, 90pc duty cycle)          | WLAN  | 8.50     | ±9.6                     |
| 10599 | AAC | IEEE 802.11n (HT Mixed, 40 MHz, MCS0, 90pc duty cycle)          | WLAN  | 8.79     | ±9.6                     |
| 10600 | AAC | IEEE 802.11n (HT Mixed, 40 MHz, MCS1, 90pc duty cycle)          | WLAN  | 8.88     | ±9.6                     |
| 10601 | AAC | IEEE 802.11n (HT Mixed, 40 MHz, MCS2, 90pc duty cycle)          | WLAN  | 8.82     | ±9.6                     |
| 10602 | AAC | IEEE 802.11n (HT Mixed, 40 MHz, MCS3, 90pc duty cycle)          | WLAN  | 8.94     | ±9.6                     |
| 10603 | AAC | IEEE 802.11n (HT Mixed, 40 MHz, MCS4, 90pc duty cycle)          | WLAN  | 9.03     | ±9.6                     |
| 10604 | AAC | IEEE 802.11n (HT Mixed, 40 MHz, MCS5, 90pc duty cycle)          | WLAN  | 8.78     | ±9.6                     |
| 10605 | AAC | IEEE 802.11n (HT Mixed, 40 MHz, MCS6, 90pc duty cycle)          | WLAN  | 8.97     | ±9.6                     |
| 10606 | AAC | IEEE 802.11n (HT Mixed, 40 MHz, MCS7, 90pc duty cycle)          | WLAN  | 8.82     | ±9.6                     |
| 10607 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS0, 90pc duty cycle)              | WLAN  | 8.64     | ±9.6                     |
| 10608 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS1, 90pc duty cycle)              | WLAN  | 8.77     | ±9.6                     |

| UID   | Rev | Communication System Name                              | Group     | PAR (dB) | Unc <sup>5</sup> k = 2 |
|-------|-----|--------------------------------------------------------|-----------|----------|------------------------|
| 10609 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS2, 90pc duty cycle)     | WLAN      | 8.57     | ±9.6                   |
| 10610 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS3, 90pc duty cycle)     | WLAN      | 8.78     | ±9.6                   |
| 10611 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS4, 90pc duty cycle)     | WLAN      | 8.70     | ±9.6                   |
| 10612 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS5, 90pc duty cycle)     | WLAN      | 8.77     | ±9.6                   |
| 10613 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS6, 90pc duty cycle)     | WLAN      | 8.94     | ±9.6                   |
| 10614 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS7, 90pc duty cycle)     | WLAN      | 8.59     | ±9.6                   |
| 10615 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS8, 90pc duty cycle)     | WLAN      | 8.82     | ±9.6                   |
| 10616 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS0, 90pc duty cycle)     | WLAN      | 8.82     | ±9.6                   |
| 10617 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS1, 90pc duty cycle)     | WLAN      | 8.81     | ±9.6                   |
| 10618 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS2, 90pc duty cycle)     | WLAN      | 8.58     | ±9.6                   |
| 10619 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS3, 90pc duty cycle)     | WLAN      | 8.86     | ±9.6                   |
| 10620 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS4, 90pc duty cycle)     | WLAN      | 8.87     | ±9.6                   |
| 10621 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS5, 90pc duty cycle)     | WLAN      | 8.77     | ±9.6                   |
| 10622 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS6, 90pc duty cycle)     | WLAN      | 8.68     | ±9.6                   |
| 10623 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS7, 90pc duty cycle)     | WLAN      | 8.82     | ±9.6                   |
| 10624 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS8, 90pc duty cycle)     | WLAN      | 8.96     | ±9.6                   |
| 10625 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS9, 90pc duty cycle)     | WLAN      | 8.96     | ±9.6                   |
| 10626 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS0, 90pc duty cycle)     | WLAN      | 8.83     | ±9.6                   |
| 10627 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS1, 90pc duty cycle)     | WLAN      | 8.88     | ±9.6                   |
| 10628 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS2, 90pc duty cycle)     | WLAN      | 8.71     | ±9.6                   |
| 10629 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS3, 90pc duty cycle)     | WLAN      | 8.85     | ±9.6                   |
| 10630 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS4, 90pc duty cycle)     | WLAN      | 8.72     | ±9.6                   |
| 10631 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS5, 90pc duty cycle)     | WLAN      | 8.81     | ±9.6                   |
| 10632 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS6, 90pc duty cycle)     | WLAN      | 8.74     | ±9.6                   |
| 10633 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS7, 90pc duty cycle)     | WLAN      | 8.83     | ±9.6                   |
| 10634 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS8, 90pc duty cycle)     | WLAN      | 8.80     | ±9.6                   |
| 10635 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS9, 90pc duty cycle)     | WLAN      | 8.81     | ±9.6                   |
| 10636 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS0, 90pc duty cycle)    | WLAN      | 8.83     | ±9.6                   |
| 10637 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS1, 90pc duty cycle)    | WLAN      | 8.79     | ±9.6                   |
| 10638 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS2, 90pc duty cycle)    | WLAN      | 8.86     | ±9.6                   |
| 10639 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS3, 90pc duty cycle)    | WLAN      | 8.85     | ±9.6                   |
| 10640 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS4, 90pc duty cycle)    | WLAN      | 8.98     | ±9.6                   |
| 10641 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS5, 90pc duty cycle)    | WLAN      | 9.06     | ±9.6                   |
| 10642 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS6, 90pc duty cycle)    | WLAN      | 9.06     | ±9.6                   |
| 10643 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS7, 90pc duty cycle)    | WLAN      | 8.89     | ±9.6                   |
| 10644 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS8, 90pc duty cycle)    | WLAN      | 9.05     | ±9.6                   |
| 10645 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS9, 90pc duty cycle)    | WLAN      | 9.11     | ±9.6                   |
| 10646 | AAH | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)  | LTE-TDD   | 11.96    | ±9.6                   |
| 10647 | AAG | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7) | LTE-TDD   | 11.96    | ±9.6                   |
| 10648 | AAA | CDMA2000 (1x Advanced)                                 | CDMA2000  | 3.45     | ±9.6                   |
| 10652 | AAF | LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)         | LTE-TDD   | 8.91     | ±9.6                   |
| 10653 | AAF | LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)        | LTE-TDD   | 7.42     | ±9.6                   |
| 10654 | AAE | LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)        | LTE-TDD   | 8.98     | ±9.6                   |
| 10655 | AAF | LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)        | LTE-TDD   | 7.21     | ±9.6                   |
| 10658 | AAB | Pulse Waveform (200Hz, 10%)                            | Test      | 10.00    | ±9.6                   |
| 10659 | AAB | Pulse Waveform (200Hz, 20%)                            | Test      | 6.99     | ±9.6                   |
| 10660 | AAB | Pulse Waveform (200Hz, 40%)                            | Test      | 3.98     | ±9.6                   |
| 10661 | AAB | Pulse Waveform (200Hz, 60%)                            | Test      | 2.22     | ±9.6                   |
| 10662 | AAB | Pulse Waveform (200Hz, 80%)                            | Test      | 0.97     | ±9.6                   |
| 10670 | AAA | Bluetooth Low Energy                                   | Bluetooth | 2.18     | ±9.6                   |
| 10671 | AAC | IEEE 802.11ax (20 MHz, MCS0, 90pc duty cycle)          | WLAN      | 9.09     | ±9.6                   |
| 10672 | AAC | IEEE 802.11ax (20 MHz, MCS1, 90pc duty cycle)          | WLAN      | 6.57     | ±9.6                   |
| 10673 | AAC | IEEE 802.11ax (20 MHz, MCS2, 90pc duty cycle)          | WLAN      | 8.78     | ±9.6                   |
| 10674 | AAC | IEEE 802.11ax (20 MHz, MCS3, 90pc duty cycle)          | WLAN      | 8.74     | ±9.6                   |
| 10675 | AAC | IEEE 802.11ax (20 MHz, MCS4, 90pc duty cycle)          | WLAN      | 6.80     | ±9.6                   |
| 10676 | AAC | IEEE 802.11ax (20 MHz, MCS5, 90pc duty cycle)          | WLAN      | 8.77     | ±9.6                   |
| 10677 | AAC | IEEE 802.11ax (20 MHz, MCS6, 90pc duty cycle)          | WLAN      | 8.73     | ±9.6                   |
| 10678 | AAC | IEEE 802.11ax (20 MHz, MCS7, 90pc duty cycle)          | WLAN      | 6.78     | ±9.6                   |
| 10679 | AAC | IEEE 802.11ax (20 MHz, MCS8, 90pc duty cycle)          | WLAN      | 8.89     | ±9.6                   |
| 10680 | AAC | IEEE 802.11ax (20 MHz, MCS9, 90pc duty cycle)          | WLAN      | 8.80     | ±9.6                   |
| 10681 | AAC | IEEE 802.11ax (20 MHz, MCS10, 90pc duty cycle)         | WLAN      | 8.62     | ±9.6                   |
| 10682 | AAC | IEEE 802.11ax (20 MHz, MCS11, 90pc duty cycle)         | WLAN      | 8.83     | ±9.6                   |
| 10683 | AAC | IEEE 802.11ax (20 MHz, MCS0, 99pc duty cycle)          | WLAN      | 8.42     | ±9.6                   |
| 10684 | AAC | IEEE 802.11ax (20 MHz, MCS1, 99pc duty cycle)          | WLAN      | 8.26     | ±9.6                   |
| 10685 | AAC | IEEE 802.11ax (20 MHz, MCS2, 99pc duty cycle)          | WLAN      | 8.33     | ±9.6                   |
| 10686 | AAC | IEEE 802.11ax (20 MHz, MCS3, 99pc duty cycle)          | WLAN      | 8.28     | ±9.6                   |

| UID   | Rev | Communication System Name                      | Group | PAR (dB) | Unc <sup>E</sup> $k = 2$ |
|-------|-----|------------------------------------------------|-------|----------|--------------------------|
| 10687 | AAC | IEEE 802.11ax (20 MHz, MCS4, 99pc duty cycle)  | WLAN  | 8.45     | ±9.6                     |
| 10688 | AAC | IEEE 802.11ax (20 MHz, MCS5, 99pc duty cycle)  | WLAN  | 8.29     | ±9.6                     |
| 10689 | AAC | IEEE 802.11ax (20 MHz, MCS6, 99pc duty cycle)  | WLAN  | 8.55     | ±9.6                     |
| 10690 | AAC | IEEE 802.11ax (20 MHz, MCS7, 99pc duty cycle)  | WLAN  | 8.29     | ±9.6                     |
| 10691 | AAC | IEEE 802.11ax (20 MHz, MCS8, 99pc duty cycle)  | WLAN  | 8.25     | ±9.6                     |
| 10692 | AAC | IEEE 802.11ax (20 MHz, MCS9, 99pc duty cycle)  | WLAN  | 8.29     | ±9.6                     |
| 10693 | AAC | IEEE 802.11ax (20 MHz, MCS10, 99pc duty cycle) | WLAN  | 8.25     | ±9.6                     |
| 10694 | AAC | IEEE 802.11ax (20 MHz, MCS11, 99pc duty cycle) | WLAN  | 8.57     | ±9.6                     |
| 10695 | AAC | IEEE 802.11ax (40 MHz, MCS0, 90pc duty cycle)  | WLAN  | 8.78     | ±9.6                     |
| 10696 | AAC | IEEE 802.11ax (40 MHz, MCS1, 90pc duty cycle)  | WLAN  | 8.91     | ±9.6                     |
| 10697 | AAC | IEEE 802.11ax (40 MHz, MCS2, 90pc duty cycle)  | WLAN  | 8.61     | ±9.6                     |
| 10698 | AAC | IEEE 802.11ax (40 MHz, MCS3, 90pc duty cycle)  | WLAN  | 8.89     | ±9.6                     |
| 10699 | AAC | IEEE 802.11ax (40 MHz, MCS4, 90pc duty cycle)  | WLAN  | 8.82     | ±9.6                     |
| 10700 | AAC | IEEE 802.11ax (40 MHz, MCS5, 90pc duty cycle)  | WLAN  | 8.73     | ±9.6                     |
| 10701 | AAC | IEEE 802.11ax (40 MHz, MCS6, 90pc duty cycle)  | WLAN  | 8.86     | ±9.6                     |
| 10702 | AAC | IEEE 802.11ax (40 MHz, MCS7, 90pc duty cycle)  | WLAN  | 8.70     | ±9.6                     |
| 10703 | AAC | IEEE 802.11ax (40 MHz, MCS8, 90pc duty cycle)  | WLAN  | 8.82     | ±9.6                     |
| 10704 | AAC | IEEE 802.11ax (40 MHz, MCS9, 90pc duty cycle)  | WLAN  | 8.56     | ±9.6                     |
| 10705 | AAC | IEEE 802.11ax (40 MHz, MCS10, 90pc duty cycle) | WLAN  | 8.89     | ±9.6                     |
| 10706 | AAC | IEEE 802.11ax (40 MHz, MCS11, 90pc duty cycle) | WLAN  | 8.66     | ±9.6                     |
| 10707 | AAC | IEEE 802.11ax (40 MHz, MCS0, 89pc duty cycle)  | WLAN  | 8.32     | ±9.6                     |
| 10708 | AAC | IEEE 802.11ax (40 MHz, MCS1, 89pc duty cycle)  | WLAN  | 8.55     | ±9.6                     |
| 10709 | AAC | IEEE 802.11ax (40 MHz, MCS2, 89pc duty cycle)  | WLAN  | 8.33     | ±9.6                     |
| 10710 | AAC | IEEE 802.11ax (40 MHz, MCS3, 89pc duty cycle)  | WLAN  | 8.29     | ±9.6                     |
| 10711 | AAC | IEEE 802.11ax (40 MHz, MCS4, 89pc duty cycle)  | WLAN  | 8.39     | ±9.6                     |
| 10712 | AAC | IEEE 802.11ax (40 MHz, MCS5, 89pc duty cycle)  | WLAN  | 8.67     | ±9.6                     |
| 10713 | AAC | IEEE 802.11ax (40 MHz, MCS6, 89pc duty cycle)  | WLAN  | 8.33     | ±9.6                     |
| 10714 | AAC | IEEE 802.11ax (40 MHz, MCS7, 89pc duty cycle)  | WLAN  | 8.28     | ±9.6                     |
| 10715 | AAC | IEEE 802.11ax (40 MHz, MCS8, 89pc duty cycle)  | WLAN  | 8.45     | ±9.6                     |
| 10716 | AAC | IEEE 802.11ax (40 MHz, MCS9, 89pc duty cycle)  | WLAN  | 8.30     | ±9.6                     |
| 10717 | AAC | IEEE 802.11ax (40 MHz, MCS10, 89pc duty cycle) | WLAN  | 8.48     | ±9.6                     |
| 10718 | AAC | IEEE 802.11ax (40 MHz, MCS11, 89pc duty cycle) | WLAN  | 8.24     | ±9.6                     |
| 10719 | AAC | IEEE 802.11ax (80 MHz, MCS0, 90pc duty cycle)  | WLAN  | 8.81     | ±9.6                     |
| 10720 | AAC | IEEE 802.11ax (80 MHz, MCS1, 90pc duty cycle)  | WLAN  | 8.87     | ±9.6                     |
| 10721 | AAC | IEEE 802.11ax (80 MHz, MCS2, 90pc duty cycle)  | WLAN  | 8.76     | ±9.6                     |
| 10722 | AAC | IEEE 802.11ax (80 MHz, MCS3, 90pc duty cycle)  | WLAN  | 8.56     | ±9.6                     |
| 10723 | AAC | IEEE 802.11ax (80 MHz, MCS4, 90pc duty cycle)  | WLAN  | 8.70     | ±9.6                     |
| 10724 | AAC | IEEE 802.11ax (80 MHz, MCS5, 90pc duty cycle)  | WLAN  | 8.90     | ±9.6                     |
| 10725 | AAC | IEEE 802.11ax (80 MHz, MCS6, 90pc duty cycle)  | WLAN  | 8.74     | ±9.6                     |
| 10726 | AAC | IEEE 802.11ax (80 MHz, MCS7, 90pc duty cycle)  | WLAN  | 8.72     | ±9.6                     |
| 10727 | AAC | IEEE 802.11ax (80 MHz, MCS8, 90pc duty cycle)  | WLAN  | 8.86     | ±9.6                     |
| 10728 | AAC | IEEE 802.11ax (80 MHz, MCS9, 90pc duty cycle)  | WLAN  | 8.66     | ±9.6                     |
| 10729 | AAC | IEEE 802.11ax (80 MHz, MCS10, 90pc duty cycle) | WLAN  | 8.84     | ±9.6                     |
| 10730 | AAC | IEEE 802.11ax (80 MHz, MCS11, 90pc duty cycle) | WLAN  | 8.67     | ±9.6                     |
| 10731 | AAC | IEEE 802.11ax (80 MHz, MCS0, 89pc duty cycle)  | WLAN  | 8.42     | ±9.6                     |
| 10732 | AAC | IEEE 802.11ax (80 MHz, MCS1, 89pc duty cycle)  | WLAN  | 8.48     | ±9.6                     |
| 10733 | AAC | IEEE 802.11ax (80 MHz, MCS2, 89pc duty cycle)  | WLAN  | 8.40     | ±9.6                     |
| 10734 | AAC | IEEE 802.11ax (80 MHz, MCS3, 89pc duty cycle)  | WLAN  | 8.25     | ±9.6                     |
| 10735 | AAC | IEEE 802.11ax (80 MHz, MCS4, 89pc duty cycle)  | WLAN  | 8.33     | ±9.6                     |
| 10736 | AAC | IEEE 802.11ax (80 MHz, MCS5, 89pc duty cycle)  | WLAN  | 8.27     | ±9.6                     |
| 10737 | AAC | IEEE 802.11ax (80 MHz, MCS6, 89pc duty cycle)  | WLAN  | 8.38     | ±9.6                     |
| 10738 | AAC | IEEE 802.11ax (80 MHz, MCS7, 89pc duty cycle)  | WLAN  | 8.42     | ±9.6                     |
| 10739 | AAC | IEEE 802.11ax (80 MHz, MCS8, 89pc duty cycle)  | WLAN  | 8.29     | ±9.6                     |
| 10740 | AAC | IEEE 802.11ax (80 MHz, MCS9, 89pc duty cycle)  | WLAN  | 8.48     | ±9.6                     |
| 10741 | AAC | IEEE 802.11ax (80 MHz, MCS10, 89pc duty cycle) | WLAN  | 8.40     | ±9.6                     |
| 10742 | AAC | IEEE 802.11ax (80 MHz, MCS11, 89pc duty cycle) | WLAN  | 8.49     | ±9.6                     |
| 10743 | AAC | IEEE 802.11ax (160 MHz, MCS0, 90pc duty cycle) | WLAN  | 8.94     | ±9.6                     |
| 10744 | AAC | IEEE 802.11ax (160 MHz, MCS1, 90pc duty cycle) | WLAN  | 9.16     | ±9.6                     |
| 10745 | AAC | IEEE 802.11ax (160 MHz, MCS2, 90pc duty cycle) | WLAN  | 8.93     | ±9.6                     |
| 10746 | AAC | IEEE 802.11ax (160 MHz, MCS3, 90pc duty cycle) | WLAN  | 9.11     | ±9.6                     |
| 10747 | AAC | IEEE 802.11ax (160 MHz, MCS4, 90pc duty cycle) | WLAN  | 9.04     | ±9.6                     |
| 10748 | AAC | IEEE 802.11ax (160 MHz, MCS5, 90pc duty cycle) | WLAN  | 8.93     | ±9.6                     |
| 10749 | AAC | IEEE 802.11ax (160 MHz, MCS6, 90pc duty cycle) | WLAN  | 8.90     | ±9.6                     |
| 10750 | AAC | IEEE 802.11ax (160 MHz, MCS7, 90pc duty cycle) | WLAN  | 8.78     | ±9.6                     |
| 10751 | AAC | IEEE 802.11ax (160 MHz, MCS8, 90pc duty cycle) | WLAN  | 8.82     | ±9.6                     |
| 10752 | AAC | IEEE 802.11ax (160 MHz, MCS9, 90pc duty cycle) | WLAN  | 8.81     | ±9.6                     |

| UID   | Rev | Communication System Name                       | Group         | PAR (dB) | Unc <sup>E</sup> k = 2 |
|-------|-----|-------------------------------------------------|---------------|----------|------------------------|
| 10753 | AAC | IEEE 802.11ax (160 MHz, MCS10, 90pc duty cycle) | WLAN          | 9.00     | ±9.6                   |
| 10754 | AAC | IEEE 802.11ax (160 MHz, MCS11, 80pc duty cycle) | WLAN          | 8.94     | ±9.6                   |
| 10755 | AAC | IEEE 802.11ax (160 MHz, MCS0, 99pc duty cycle)  | WLAN          | 8.84     | ±9.6                   |
| 10756 | AAC | IEEE 802.11ax (160 MHz, MCS1, 99pc duty cycle)  | WLAN          | 8.77     | ±9.6                   |
| 10757 | AAC | IEEE 802.11ax (160 MHz, MCS2, 99pc duty cycle)  | WLAN          | 8.77     | ±9.6                   |
| 10758 | AAC | IEEE 802.11ax (160 MHz, MCS3, 99pc duty cycle)  | WLAN          | 8.69     | ±9.6                   |
| 10759 | AAC | IEEE 802.11ax (160 MHz, MCS4, 99pc duty cycle)  | WLAN          | 8.58     | ±9.6                   |
| 10760 | AAC | IEEE 802.11ax (160 MHz, MCS6, 99pc duty cycle)  | WLAN          | 8.49     | ±9.6                   |
| 10761 | AAC | IEEE 802.11ax (160 MHz, MCS6, 99pc duty cycle)  | WLAN          | 8.58     | ±9.6                   |
| 10762 | AAC | IEEE 802.11ax (160 MHz, MCS7, 99pc duty cycle)  | WLAN          | 8.49     | ±9.6                   |
| 10763 | AAC | IEEE 802.11ax (160 MHz, MCS8, 99pc duty cycle)  | WLAN          | 8.53     | ±9.6                   |
| 10764 | AAC | IEEE 802.11ax (160 MHz, MCS9, 99pc duty cycle)  | WLAN          | 8.54     | ±9.6                   |
| 10765 | AAC | IEEE 802.11ax (160 MHz, MCS10, 99pc duty cycle) | WLAN          | 8.54     | ±9.6                   |
| 10766 | AAC | IEEE 802.11ax (160 MHz, MCS11, 99pc duty cycle) | WLAN          | 8.51     | ±9.6                   |
| 10767 | AAE | 5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)      | 5G NR FR1 TDD | 7.99     | ±9.6                   |
| 10768 | AAD | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)     | 5G NR FR1 TDD | 8.01     | ±9.6                   |
| 10769 | AAD | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)     | 5G NR FR1 TDD | 8.01     | ±9.6                   |
| 10770 | AAD | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)     | 5G NR FR1 TDD | 8.02     | ±9.6                   |
| 10771 | AAD | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)     | 5G NR FR1 TDD | 8.02     | ±9.6                   |
| 10772 | AAD | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)     | 5G NR FR1 TDD | 8.23     | ±9.6                   |
| 10773 | AAD | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)     | 5G NR FR1 TDD | 8.03     | ±9.6                   |
| 10774 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)     | 5G NR FR1 TDD | 8.02     | ±9.6                   |
| 10775 | AAD | 5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.31     | ±9.6                   |
| 10776 | AAD | 5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)   | 5G NR FR1 TDD | 8.30     | ±9.6                   |
| 10777 | AAC | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)   | 5G NR FR1 TDD | 8.30     | ±9.6                   |
| 10778 | AAD | 5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)   | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10779 | AAC | 5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)   | 5G NR FR1 TDD | 8.42     | ±9.6                   |
| 10780 | AAD | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)   | 5G NR FR1 TDD | 8.38     | ±9.6                   |
| 10781 | AAD | 5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)   | 5G NR FR1 TDD | 8.38     | ±9.6                   |
| 10782 | AAD | 5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)   | 5G NR FR1 TDD | 8.43     | ±9.6                   |
| 10783 | AAE | 5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)   | 5G NR FR1 TDD | 8.31     | ±9.6                   |
| 10784 | AAD | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.29     | ±9.6                   |
| 10785 | AAD | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.40     | ±9.6                   |
| 10786 | AAD | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.35     | ±9.6                   |
| 10787 | AAD | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.44     | ±9.6                   |
| 10788 | AAD | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.38     | ±9.6                   |
| 10789 | AAD | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.37     | ±9.6                   |
| 10790 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.39     | ±9.6                   |
| 10791 | AAE | 5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD | 7.83     | ±9.6                   |
| 10792 | AAD | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.92     | ±9.6                   |
| 10793 | AAD | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.95     | ±9.6                   |
| 10794 | AAD | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.82     | ±9.6                   |
| 10795 | AAD | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.84     | ±9.6                   |
| 10796 | AAD | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.82     | ±9.6                   |
| 10797 | AAD | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 8.01     | ±9.6                   |
| 10798 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.89     | ±9.6                   |
| 10799 | AAD | 5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.93     | ±9.6                   |
| 10801 | AAD | 5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.89     | ±9.6                   |
| 10802 | AAD | 5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.87     | ±9.6                   |
| 10803 | AAD | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.93     | ±9.6                   |
| 10806 | AAD | 5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10806 | AAD | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 8.37     | ±9.6                   |
| 10809 | AAD | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10810 | AAD | 5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10812 | AAD | 5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 8.35     | ±9.6                   |
| 10817 | AAE | 5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 8.35     | ±9.6                   |
| 10818 | AAD | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10819 | AAD | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.33     | ±9.6                   |
| 10820 | AAD | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.30     | ±9.6                   |
| 10821 | AAD | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10822 | AAD | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10823 | AAD | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.36     | ±9.6                   |
| 10824 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.39     | ±9.6                   |
| 10826 | AAD | 5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10827 | AAD | 5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.42     | ±9.6                   |
| 10828 | AAD | 5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.43     | ±9.6                   |



| UID   | Rev | Communication System Name                            | Group         | PAR (dB) | Unc <sup>E</sup> $k=2$ |
|-------|-----|------------------------------------------------------|---------------|----------|------------------------|
| 10829 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD | 8.40     | ±9.6                   |
| 10830 | AAD | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.63     | ±8.6                   |
| 10831 | AAD | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 80 kHz)          | 5G NR FR1 TDD | 7.73     | ±9.6                   |
| 10832 | AAD | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.74     | ±9.6                   |
| 10833 | AAD | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.70     | ±9.6                   |
| 10834 | AAD | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.75     | ±9.6                   |
| 10835 | AAD | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 80 kHz)          | 5G NR FR1 TDD | 7.70     | ±9.6                   |
| 10836 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.68     | ±9.6                   |
| 10837 | AAD | 5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.68     | ±9.6                   |
| 10839 | AAD | 5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 80 kHz)          | 5G NR FR1 TDD | 7.70     | ±9.6                   |
| 10840 | AAD | 5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 80 kHz)          | 5G NR FR1 TDD | 7.67     | ±9.6                   |
| 10841 | AAD | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)         | 5G NR FR1 TDD | 7.71     | ±9.6                   |
| 10843 | AAD | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 80 kHz)        | 5G NR FR1 TDD | 8.49     | ±9.6                   |
| 10844 | AAD | 5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)        | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10846 | AAD | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz)        | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10854 | AAD | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 80 kHz)       | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10855 | AAD | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 80 kHz)       | 5G NR FR1 TDD | 8.36     | ±9.6                   |
| 10856 | AAD | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 80 kHz)       | 5G NR FR1 TDD | 8.37     | ±9.6                   |
| 10857 | AAD | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 80 kHz)       | 5G NR FR1 TDD | 8.35     | ±9.6                   |
| 10858 | AAD | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.38     | ±9.6                   |
| 10859 | AAD | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 80 kHz)       | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10860 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10861 | AAD | 5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 80 kHz)       | 5G NR FR1 TDD | 8.40     | ±9.6                   |
| 10863 | AAD | 5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 80 kHz)       | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10864 | AAD | 5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 80 kHz)       | 5G NR FR1 TDD | 8.37     | ±9.6                   |
| 10865 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 80 kHz)      | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10866 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10868 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.89     | ±9.6                   |
| 10869 | AAE | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)     | 5G NR FR2 TDD | 5.76     | ±9.6                   |
| 10870 | AAE | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)  | 5G NR FR2 TDD | 5.86     | ±9.6                   |
| 10871 | AAE | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)    | 5G NR FR2 TDD | 5.75     | ±9.6                   |
| 10872 | AAE | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD | 6.52     | ±9.6                   |
| 10873 | AAE | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)    | 5G NR FR2 TDD | 6.61     | ±9.6                   |
| 10874 | AAE | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz) | 5G NR FR2 TDD | 6.65     | ±9.6                   |
| 10875 | AAE | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)        | 5G NR FR2 TDD | 7.78     | ±9.6                   |
| 10876 | AAE | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)     | 5G NR FR2 TDD | 8.39     | ±9.6                   |
| 10877 | AAE | 5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)       | 5G NR FR2 TDD | 7.95     | ±9.6                   |
| 10878 | AAE | 5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)    | 5G NR FR2 TDD | 8.41     | ±9.6                   |
| 10879 | AAE | 5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)       | 5G NR FR2 TDD | 8.12     | ±9.6                   |
| 10880 | AAE | 5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)    | 5G NR FR2 TDD | 8.38     | ±9.6                   |
| 10881 | AAE | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)      | 5G NR FR2 TDD | 5.75     | ±9.6                   |
| 10882 | AAE | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)   | 5G NR FR2 TDD | 5.98     | ±9.6                   |
| 10883 | AAE | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)     | 5G NR FR2 TDD | 6.67     | ±9.6                   |
| 10884 | AAE | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)  | 5G NR FR2 TDD | 6.63     | ±9.6                   |
| 10885 | AAE | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)     | 5G NR FR2 TDD | 6.61     | ±9.6                   |
| 10886 | AAE | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)  | 5G NR FR2 TDD | 6.65     | ±9.6                   |
| 10887 | AAE | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)         | 5G NR FR2 TDD | 7.78     | ±9.6                   |
| 10888 | AAE | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)      | 5G NR FR2 TDD | 8.35     | ±9.6                   |
| 10889 | AAE | 5G NR (CP-OFDM, 1 RB, 60 MHz, 16QAM, 120 kHz)        | 5G NR FR2 TDD | 8.02     | ±9.6                   |
| 10890 | AAE | 5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)     | 5G NR FR2 TDD | 8.40     | ±9.6                   |
| 10891 | AAE | 5G NR (CP-OFDM, 1 RB, 60 MHz, 64QAM, 120 kHz)        | 5G NR FR2 TDD | 8.13     | ±9.6                   |
| 10892 | AAE | 5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)     | 5G NR FR2 TDD | 8.41     | ±9.6                   |
| 10897 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)        | 5G NR FR1 TDD | 5.66     | ±9.6                   |
| 10898 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.87     | ±9.6                   |
| 10899 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.87     | ±9.6                   |
| 10900 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.88     | ±9.6                   |
| 10901 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.88     | ±9.6                   |
| 10902 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10903 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10904 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10905 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10906 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10907 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD | 5.78     | ±9.6                   |
| 10908 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.93     | ±9.6                   |
| 10909 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.96     | ±9.6                   |
| 10910 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.83     | ±9.6                   |

| UID   | Rev | Communication System Name                           | Group         | PAR (dB) | Unc <sup>E</sup> $k = 2$ |
|-------|-----|-----------------------------------------------------|---------------|----------|--------------------------|
| 10911 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.93     | ±9.6                     |
| 10912 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.84     | ±9.6                     |
| 10913 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.84     | ±9.6                     |
| 10814 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.85     | ±9.6                     |
| 10915 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.83     | ±9.6                     |
| 10916 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 80 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.87     | ±9.6                     |
| 10917 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.94     | ±9.6                     |
| 10918 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.86     | ±9.6                     |
| 10919 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.86     | ±9.6                     |
| 10920 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.87     | ±9.6                     |
| 10921 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84     | ±9.6                     |
| 10922 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.82     | ±9.6                     |
| 10923 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84     | ±9.6                     |
| 10924 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84     | ±9.6                     |
| 10925 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.95     | ±9.6                     |
| 10926 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84     | ±9.6                     |
| 10927 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.94     | ±9.6                     |
| 10928 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)       | 5G NR FR1 FDD | 5.52     | ±9.6                     |
| 10929 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.52     | ±9.6                     |
| 10930 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.52     | ±9.6                     |
| 10931 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51     | ±9.6                     |
| 10932 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51     | ±9.6                     |
| 10933 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51     | ±9.6                     |
| 10934 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51     | ±9.6                     |
| 10935 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51     | ±9.6                     |
| 10936 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)     | 5G NR FR1 FDD | 5.90     | ±9.6                     |
| 10937 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.77     | ±9.6                     |
| 10938 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.90     | ±9.6                     |
| 10939 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.82     | ±9.6                     |
| 10940 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.89     | ±9.6                     |
| 10941 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.83     | ±9.6                     |
| 10942 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.85     | ±9.6                     |
| 10943 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.95     | ±9.6                     |
| 10944 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.81     | ±9.6                     |
| 10945 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.85     | ±9.6                     |
| 10946 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.83     | ±9.6                     |
| 10947 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.87     | ±9.6                     |
| 10948 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.94     | ±9.6                     |
| 10949 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.87     | ±9.6                     |
| 10950 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.94     | ±9.6                     |
| 10951 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.92     | ±9.6                     |
| 10952 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)   | 5G NR FR1 FDD | 8.25     | ±9.6                     |
| 10953 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.15     | ±9.6                     |
| 10954 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.23     | ±9.6                     |
| 10955 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.42     | ±9.6                     |
| 10956 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)   | 5G NR FR1 FDD | 8.14     | ±9.6                     |
| 10957 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.31     | ±9.6                     |
| 10958 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.61     | ±9.6                     |
| 10959 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.33     | ±9.6                     |
| 10960 | AAC | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)   | 5G NR FR1 TDD | 9.32     | ±9.6                     |
| 10961 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.38     | ±9.6                     |
| 10962 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.40     | ±9.6                     |
| 10963 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.55     | ±9.6                     |
| 10964 | AAC | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)   | 5G NR FR1 TDD | 9.28     | ±9.6                     |
| 10965 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.37     | ±9.6                     |
| 10966 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.55     | ±9.6                     |
| 10967 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.42     | ±9.6                     |
| 10968 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 100 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.49     | ±9.6                     |
| 10972 | AAB | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)         | 5G NR FR1 TDD | 11.59    | ±9.6                     |
| 10973 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 9.06     | ±9.6                     |
| 10974 | AAB | 5G NR (CP-OFDM, 100% RB, 100 MHz, 256-QAM, 30 kHz)  | 5G NR FR1 TDD | 10.28    | ±9.6                     |
| 10978 | AAA | ULLA BDR                                            | ULLA          | 1.16     | ±9.6                     |
| 10979 | AAA | ULLA HDR4                                           | ULLA          | 8.58     | ±9.6                     |
| 10980 | AAA | ULLA HDR8                                           | ULLA          | 10.32    | ±9.6                     |
| 10981 | AAA | ULLA HDRq4                                          | ULLA          | 3.19     | ±9.6                     |
| 10982 | AAA | ULLA HDRq8                                          | ULLA          | 3.43     | ±9.6                     |

| UID   | Rev | Communication System Name                          | Group         | PAR (dB) | Unc <sup>E</sup> $k=2$ |
|-------|-----|----------------------------------------------------|---------------|----------|------------------------|
| 10983 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 84-QAM, 15 kHz) | 5G NR FR1 TDD | 9.31     | $\pm 0.6$              |
| 10984 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 84-QAM, 15 kHz) | 5G NR FR1 TDD | 9.42     | $\pm 0.6$              |
| 10985 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 84-QAM, 30 kHz) | 5G NR FR1 TDD | 9.54     | $\pm 0.6$              |
| 10986 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 84-QAM, 30 kHz) | 5G NR FR1 TDD | 9.60     | $\pm 0.6$              |
| 10987 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 60 MHz, 84-QAM, 30 kHz) | 5G NR FR1 TDD | 9.53     | $\pm 0.6$              |
| 10988 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 70 MHz, 84-QAM, 30 kHz) | 5G NR FR1 TDD | 9.38     | $\pm 0.6$              |
| 10989 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 80 MHz, 84-QAM, 30 kHz) | 5G NR FR1 TDD | 9.33     | $\pm 0.6$              |
| 10990 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 90 MHz, 84-QAM, 30 kHz) | 5G NR FR1 TDD | 9.52     | $\pm 0.6$              |

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



Client

B.V. ADT (Auden)

Certificate No

EUmm-9438\_Jul22

## CALIBRATION CERTIFICATE

Object

EUmmWV4 - SN-9438

Calibration procedure(s)

QA CAL-02.v9, QA CAL-25.v7, QA CAL-42.v2  
Calibration procedure for E-field probes optimized for close near field  
evaluations in air

Calibration date

July 18, 2022

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  $(22 \pm 3)^\circ\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (MATE critical for calibration)

| Primary Standards       | ID         | Cal Date (Certificate No.)         | Scheduled Calibration |
|-------------------------|------------|------------------------------------|-----------------------|
| Power sensor NRP110T    | SN: 101244 | 14-Mar-22 (No. 20A1637915)         | Mar-23                |
| Spectrum analyzer FSV40 | SN: 101832 | 25-Jan-22 (No. 4030-315003399)     | Jan-23                |
| Ref. Probe EUmmWV3      | SN: 9374   | 21-Dec-21 (No. EUmmWV3-9374_Dec21) | Dec-22                |
| DAE4                    | SN: 786    | 24-Dec-21 (No. DAE4-786_Dec21)     | Dec-22                |

| Secondary Standards      | ID             | Check Date (in house)             | Scheduled Check        |
|--------------------------|----------------|-----------------------------------|------------------------|
| Generator APSix26G       | SN: 869        | 28-Mar-17 (in house check May-22) | In house check: May-23 |
| Generator Agilent E8251A | SN: USA1140111 | 28-Mar-17 (in house check May-22) | In house check: May-23 |

|               | Name         | Function              | Signature |
|---------------|--------------|-----------------------|-----------|
| Calibrated by | Leif Krysner | Laboratory Technician |           |
| Approved by   | Sven Kühn    | Technical Manager     |           |

Issued: July 21, 2022

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





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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

## Glossary

|                        |                                                                                                                                                |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| NORM <sub>x,y</sub>    | sensitivity in free space                                                                                                                      |
| DCP                    | diode compression point                                                                                                                        |
| CF                     | crest factor (1/duty_cycle) of the RF signal                                                                                                   |
| A, B, C, D             | modulation dependent linearization parameters                                                                                                  |
| Polarization $\varphi$ | $\varphi$ rotation around probe axis                                                                                                           |
| Polarization $\theta$  | $\theta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\theta = 0$ is normal to probe axis |
| Connector Angle        | information used in DASY system to align probe sensor X to the robot coordinate system                                                         |
| Sensor Angles          | sensor deviation from the probe axis, used to calculate the field orientation and polarization                                                 |
| $\vec{k}$              | is the wave propagation direction                                                                                                              |

## Calibration is Performed According to the Following Standards:

- a) IEEE Std 1309-2005, "IEEE Standard for calibration of electromagnetic field sensors and probes, excluding antennas, from 9 kHz to 40 GHz", December 2005

## Methods Applied and Interpretation of Parameters:

- **NORM<sub>x,y</sub>**: Assessed for E-field polarization  $\theta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). For frequencies  $> 6$  GHz, the far field in front of waveguide horn antennas is measured for a set of frequencies in various waveguide bands up to 110 GHz.
- **DCP<sub>x,y</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal. 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
- The frequency sensor model parameters are determined prior to calibration based on a frequency sweep (sensor model involving resistors R, R<sub>p</sub>, inductance L and capacitors C, C<sub>p</sub>).
- **A<sub>x,y</sub>; B<sub>x,y</sub>; C<sub>x,y</sub>; D<sub>x,y</sub>; VR<sub>x,y</sub>**: 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.
- **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 **NORM<sub>x</sub>** (no uncertainty required).
- **Equivalent Sensor Angle**: The two probe sensors are mounted in the same plane at different angles. The angles are assessed using the information gained by determining the **NORM<sub>x</sub>** (no uncertainty required).
- **Spherical isotropy (3D deviation from isotropy)**: in a locally homogeneous field realized using an open waveguide / horn setup.

## Parameters of Probe: EJmmWV4 - SN:9438

## Basic Calibration Parameters

|                                       | Sensor X | Sensor Y | Unc (k = 2)  |
|---------------------------------------|----------|----------|--------------|
| Norm ( $\mu\text{V}/(\text{V/m})^2$ ) | 0.01991  | 0.02028  | $\pm 10.1\%$ |
| DCP (mV) <sup>B</sup>                 | 106.0    | 105.0    | $\pm 4.7\%$  |
| Equivalent Sensor Angle               | -61.5    | 33.5     |              |

## Calibration Results for Frequency Response (750 MHz – 110 GHz)

| Frequency MHz | Target E-Field V/m | Deviation Sensor X dB | Deviation Sensor Y dB | Unc (k = 2) dB |
|---------------|--------------------|-----------------------|-----------------------|----------------|
| 0.75          | 77.2               | -0.21                 | -0.17                 | $\pm 0.43$     |
| 1.8           | 140.4              | -0.01                 | -0.00                 | $\pm 0.43$     |
| 2.0           | 133.0              | 0.11                  | 0.14                  | $\pm 0.43$     |
| 2.2           | 124.8              | -0.09                 | -0.05                 | $\pm 0.43$     |
| 2.5           | 123.0              | 0.10                  | 0.09                  | $\pm 0.43$     |
| 3.5           | 256.2              | -0.23                 | -0.32                 | $\pm 0.43$     |
| 3.7           | 249.8              | -0.13                 | -0.24                 | $\pm 0.43$     |
| 6.6           | 76.1               | -0.17                 | -0.38                 | $\pm 0.98$     |
| 8.0           | 68.3               | -0.05                 | -0.21                 | $\pm 0.98$     |
| 10.0          | 67.5               | 0.13                  | 0.15                  | $\pm 0.98$     |
| 15.0          | 65.3               | 0.65                  | 0.65                  | $\pm 0.98$     |
| 26.6          | 114.8              | 0.36                  | 0.35                  | $\pm 0.98$     |
| 30.0          | 121.2              | 0.36                  | 0.35                  | $\pm 0.98$     |
| 35.0          | 119.8              | 0.36                  | 0.38                  | $\pm 0.98$     |
| 40.0          | 105.8              | 0.28                  | 0.31                  | $\pm 0.98$     |
| 50.0          | 60.5               | -0.01                 | 0.08                  | $\pm 0.98$     |
| 55.0          | 75.8               | 0.01                  | 0.04                  | $\pm 0.98$     |
| 60.0          | 80.0               | 0.01                  | 0.00                  | $\pm 0.98$     |
| 65.0          | 77.7               | 0.01                  | 0.07                  | $\pm 0.98$     |
| 70.0          | 73.6               | 0.01                  | 0.01                  | $\pm 0.98$     |
| 75.0          | 73.2               | -0.20                 | -0.21                 | $\pm 0.98$     |
| 75.0          | 80.8               | 0.09                  | 0.07                  | $\pm 0.98$     |
| 80.0          | 75.9               | -0.18                 | -0.16                 | $\pm 0.98$     |
| 85.0          | 47.8               | -0.15                 | -0.18                 | $\pm 0.98$     |
| 90.0          | 72.3               | -0.00                 | 0.00                  | $\pm 0.98$     |
| 92.0          | 72.0               | 0.09                  | 0.09                  | $\pm 0.98$     |
| 95.0          | 66.6               | 0.11                  | 0.13                  | $\pm 0.98$     |
| 97.0          | 57.0               | 0.16                  | 0.16                  | $\pm 0.98$     |
| 100.0         | 55.0               | 0.20                  | 0.20                  | $\pm 0.98$     |
| 105.0         | 53.0               | -0.28                 | -0.23                 | $\pm 0.98$     |
| 110.0         | 61.1               | -0.07                 | -0.17                 | $\pm 0.98$     |

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

<sup>B</sup> Lineation parameter uncertainty for maximum specified field strength.

## Parameters of Probe: EUMmWV4 - SN:9438

## Calibration Results for Modulation Response

| UID   | Communication System Name   |   | A<br>dB | B<br>dB/√μV | C     | D<br>dB | VR<br>mV | Max<br>dev. | Max<br>Unc <sup>E</sup><br>k = 2 |
|-------|-----------------------------|---|---------|-------------|-------|---------|----------|-------------|----------------------------------|
| 0     | CW                          | X | 0.00    | 0.00        | 1.00  | 0.00    | 136.2    | ±3.0%       | ±4.7%                            |
|       |                             | Y | 0.00    | 0.00        | 1.00  |         | 63.7     |             |                                  |
| 10352 | Pulse Waveform (200Hz, 10%) | X | 3.35    | 60.00       | 14.30 | 10.00   | 6.0      | ±1.4%       | ±9.6%                            |
|       |                             | Y | 2.92    | 60.00       | 15.49 |         | 6.0      |             |                                  |
| 10353 | Pulse Waveform (200Hz, 20%) | X | 2.35    | 60.00       | 13.04 | 8.99    | 12.0     | ±1.1%       | ±9.6%                            |
|       |                             | Y | 1.98    | 60.00       | 14.49 |         | 12.0     |             |                                  |
| 10354 | Pulse Waveform (200Hz, 40%) | X | 1.41    | 60.00       | 11.85 | 3.98    | 23.0     | ±1.7%       | ±9.6%                            |
|       |                             | Y | 1.20    | 60.00       | 13.27 |         | 23.0     |             |                                  |
| 10355 | Pulse Waveform (200Hz, 60%) | X | 0.82    | 60.00       | 10.86 | 2.22    | 27.0     | ±1.3%       | ±9.6%                            |
|       |                             | Y | 0.82    | 60.00       | 12.20 |         | 27.0     |             |                                  |
| 10387 | QPSK Waveform, 1 MHz        | X | 1.28    | 60.00       | 12.09 | 1.00    | 22.0     | ±1.3%       | ±9.6%                            |
|       |                             | Y | 1.40    | 60.00       | 12.06 |         | 22.0     |             |                                  |
| 10388 | QPSK Waveform, 10 MHz       | X | 1.30    | 60.00       | 11.70 | 0.00    | 22.0     | ±0.9%       | ±9.6%                            |
|       |                             | Y | 1.53    | 60.00       | 11.63 |         | 22.0     |             |                                  |
| 10396 | 64-QAM Waveform, 100 kHz    | X | 3.22    | 60.00       | 15.68 | 3.01    | 17.0     | ±1.4%       | ±9.6%                            |
|       |                             | Y | 2.22    | 60.00       | 13.78 |         | 17.0     |             |                                  |
| 10399 | 64-QAM Waveform, 40 MHz     | X | 2.12    | 60.00       | 12.25 | 0.00    | 19.0     | ±1.0%       | ±9.6%                            |
|       |                             | Y | 2.30    | 60.00       | 12.26 |         | 19.0     |             |                                  |
| 10414 | WLAN CCDF, 64-QAM, 40 MHz   | X | 3.33    | 60.00       | 12.70 | 0.00    | 12.0     | ±0.9%       | ±9.6%                            |
|       |                             | Y | 3.48    | 60.00       | 12.72 |         | 12.0     |             |                                  |

Note: For details on UID parameters see Appendix.

<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.



## Parameters of Probe: EUMmWV4 - SN:9438

## Calibration Results for Linearity Response

| Frequency<br>GHz | Target E-Field<br>V/m | Deviation Sensor X<br>dB | Deviation Sensor Y<br>dB | Unc (k = 2)<br>dB |
|------------------|-----------------------|--------------------------|--------------------------|-------------------|
| 0.9              | 50.0                  | -0.05                    | 0.12                     | ±0.2              |
| 0.9              | 100.0                 | -0.03                    | 0.07                     | ±0.2              |
| 0.9              | 500.0                 | 0.01                     | 0.01                     | ±0.2              |
| 0.9              | 1000.0                | 0.05                     | 0.03                     | ±0.2              |
| 0.9              | 1500.0                | 0.02                     | 0.03                     | ±0.2              |
| 0.9              | 2100.0                | -0.00                    | 0.03                     | ±0.2              |

## Sensor Frequency Model Parameters (750 MHz – 55 GHz)

|                             | Sensor X | Sensor Y |
|-----------------------------|----------|----------|
| R ( $\Omega$ )              | 72.13    | 65.71    |
| R <sub>p</sub> ( $\Omega$ ) | 103.68   | 90.29    |
| L (nH)                      | 0.09666  | 0.08662  |
| C (pF)                      | 0.1994   | 0.2915   |
| C <sub>p</sub> (pF)         | 0.0583   | 0.0728   |

## Sensor Frequency Model Parameters (55 GHz – 110 GHz)

|                             | Sensor X | Sensor Y |
|-----------------------------|----------|----------|
| R ( $\Omega$ )              | 40.23    | 37.27    |
| R <sub>p</sub> ( $\Omega$ ) | 196.16   | 166.83   |
| L (nH)                      | 0.11097  | 0.09300  |
| C (pF)                      | 0.0398   | 0.0509   |
| C <sub>p</sub> (pF)         | 0.0484   | 0.0560   |

## Sensor Model Parameters

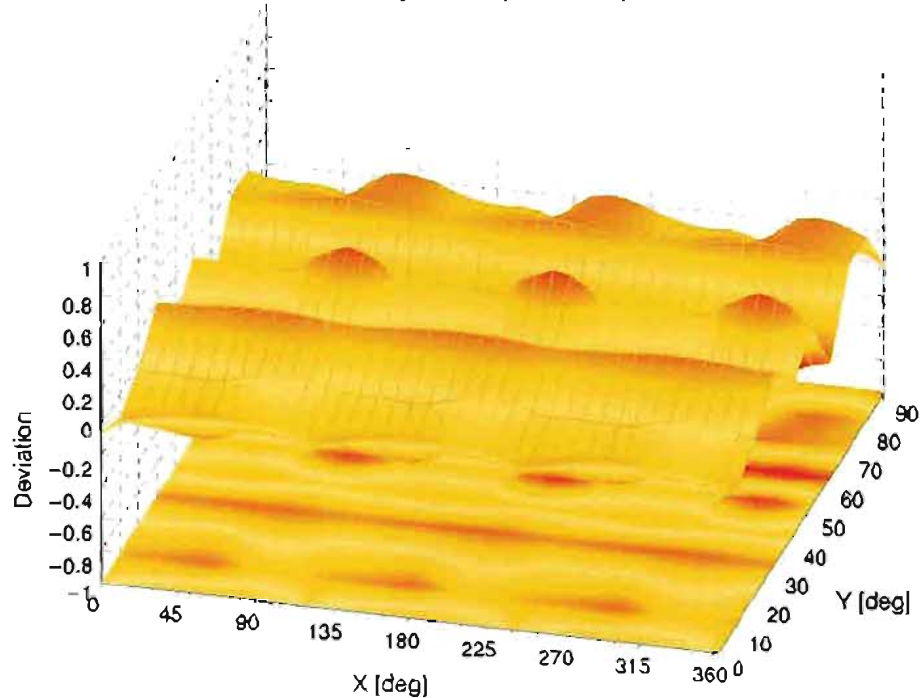
|   | C1<br>fF | C2<br>fF | $\alpha$<br>V <sup>-1</sup> | T1<br>ms V <sup>-2</sup> | T2<br>ms V <sup>-1</sup> | T3<br>ms | T4<br>V <sup>-2</sup> | T5<br>V <sup>-1</sup> | T6   |
|---|----------|----------|-----------------------------|--------------------------|--------------------------|----------|-----------------------|-----------------------|------|
| x | 64.4     | 467.53   | 33.68                       | 2.66                     | 6.66                     | 4.97     | 0.00                  | 1.60                  | 1.01 |
| y | 58.2     | 416.20   | 32.91                       | 0.92                     | 6.21                     | 5.03     | 2.00                  | 2.00                  | 1.01 |

## Other Probe Parameters

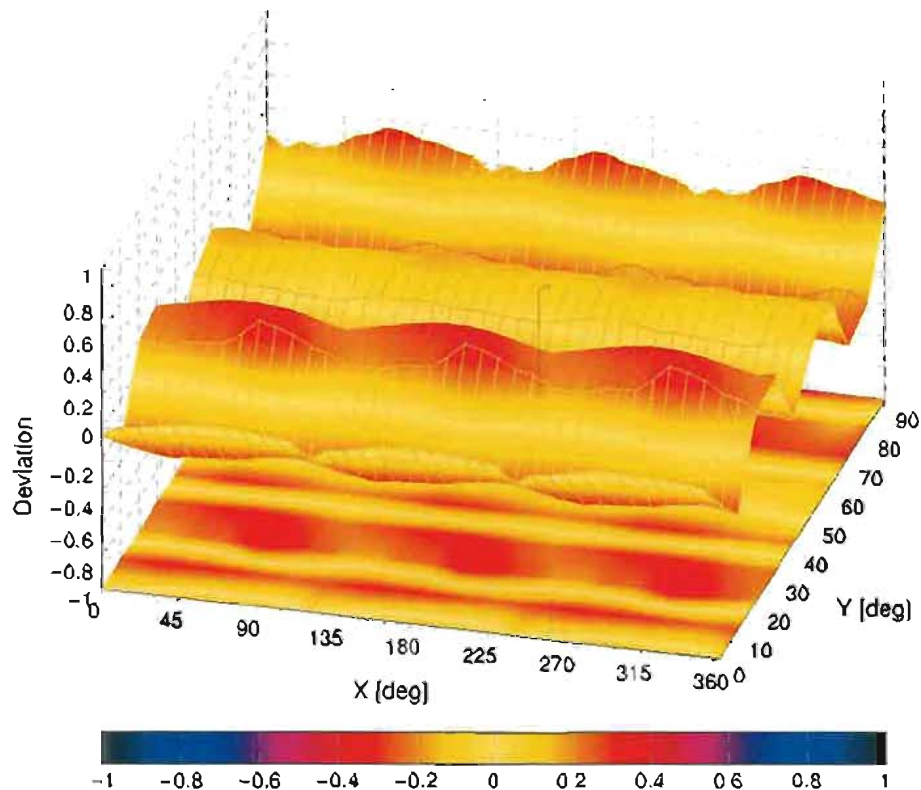
|                                         |             |
|-----------------------------------------|-------------|
| Sensor Arrangement                      | Rectangular |
| Connector Angle                         | -136.1°     |
| Mechanical Surface Detection Mode       | enabled     |
| Optical Surface Detection Mode          | disabled    |
| Probe Overall Length                    | 320 mm      |
| Probe Body Diameter                     | 8 mm        |
| Tip Length                              | 23 mm       |
| Tip Diameter                            | 8.0 mm      |
| Probe Tip to Sensor X Calibration Point | 1.5 mm      |
| Probe Tip to Sensor Y Calibration Point | 1.5 mm      |

## Deviation from Isotropy in Air

30GHz: 3D Isotropy, E-field parallel to probe axis



60GHz: 3D isotropy, E-field parallel to probe axis



Probe isotropy for  $E_{\text{tot}}$ , probe rotated  $\psi = 0^\circ$  to  $360^\circ$ , tilted from field propagation direction  $\vec{k}$   
 Parallel to the field propagation ( $\psi = 0^\circ - 90^\circ$ ) at 30 GHz: deviation within  $\pm 0.33$  dB  
 Parallel to the field propagation ( $\psi = 0^\circ - 90^\circ$ ) at 60 GHz: deviation within  $\pm 0.38$  dB

## Appendix: Modulation Calibration Parameters

| UID   | Rev | Communication System Name                          | Group     | PAR (dB) | $\Delta_{\text{mod}}^2 \pm 2$ |
|-------|-----|----------------------------------------------------|-----------|----------|-------------------------------|
| 0     |     | CW                                                 | CW        | 0.00     | $\pm 4.7$                     |
| 10010 | CAB | SAR Video on (Square, 100 ms, 10 ms)               | Test      | 10.00    | $\pm 9.6$                     |
| 10011 | CAB | UMTS-FDD (WCDMA)                                   | WCDMA     | 2.91     | $\pm 5.5$                     |
| 10012 | CAB | IEEE 802.11b WLAN, 2.4 GHz (DSSS, 1 Mbps)          | WLAN      | 1.07     | $\pm 5.6$                     |
| 10013 | CAB | IEEE 802.11g WLAN 2.4 GHz (DSSS-OFDM, 6 Mbps)      | WLAN      | 9.46     | $\pm 6.6$                     |
| 10021 | DAC | GSM-FDD (TDMA, GMSK)                               | GSM       | 9.19     | $\pm 9.0$                     |
| 10022 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1)                      | GSM       | 9.57     | $\pm 9.6$                     |
| 10024 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1)                      | GSM       | 8.58     | $\pm 9.5$                     |
| 10025 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1)                      | GSM       | 12.82    | $\pm 9.6$                     |
| 10026 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1)                      | GSM       | 8.55     | $\pm 9.8$                     |
| 10027 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2)                    | GSM       | 4.88     | $\pm 9.8$                     |
| 10028 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)                  | GSM       | 3.55     | $\pm 9.8$                     |
| 10029 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2)                    | GSM       | 7.78     | $\pm 9.8$                     |
| 10030 | CAB | IEEE 802.15.1 Bluetooth (GFSK, DH1)                | Bluetooth | 5.30     | $\pm 9.5$                     |
| 10031 | CAB | IEEE 802.15.1 Bluetooth (GFSK, DH3)                | Bluetooth | 1.07     | $\pm 9.6$                     |
| 10032 | CAB | IEEE 802.15.1 Bluetooth (DFSK, DH5)                | Bluetooth | 1.16     | $\pm 9.7$                     |
| 10033 | CAB | IEEE 802.15.1 Bluetooth (PI4-DQPSK, DH1)           | Bluetooth | 7.74     | $\pm 9.0$                     |
| 10034 | CAB | IEEE 802.15.1 Bluetooth (PI4-DQPSK, DH3)           | Bluetooth | 4.83     | $\pm 9.8$                     |
| 10035 | CAB | IEEE 802.15.1 Bluetooth (PI4-DQPSK, DH5)           | Bluetooth | 3.83     | $\pm 9.8$                     |
| 10036 | CAB | IEEE 802.15.1 Bluetooth (B-DQPSK, DH1)             | Bluetooth | 8.01     | $\pm 9.8$                     |
| 10037 | CAB | IEEE 802.15.1 Bluetooth (B-DQPSK, DH3)             | Bluetooth | 4.77     | $\pm 9.8$                     |
| 10038 | CAB | IEEE 802.15.1 Bluetooth (B-DQPSK, DH5)             | Bluetooth | 4.10     | $\pm 9.8$                     |
| 10039 | CAB | CDMA2000 (1xRTT, RC1)                              | CDMA2000  | 4.57     | $\pm 9.8$                     |
| 10042 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI4-DQPSK, Fullrate) | AMPS      | 7.18     | $\pm 9.8$                     |
| 10044 | CAB | IS-91/EIA/TIA-553 FDD (FDMA, FM)                   | AMPS      | 0.00     | $\pm 9.8$                     |
| 10048 | CAB | DECT (TDD, TDMA/FDM, GFSK, Full Sm, 24)            | DECT      | 0.80     | $\pm 9.9$                     |
| 10049 | CAB | DECT (TDD, TDMA/FDM, GFSK, Double Sm, 12)          | DECT      | 10.79    | $\pm 9.9$                     |
| 10056 | CAB | UMTS-TDD (TD-SCDMA, 1.38 Mbps)                     | TD-SCDMA  | 11.01    | $\pm 9.9$                     |
| 10058 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)                  | GSM       | 8.92     | $\pm 9.9$                     |
| 10060 | CAB | IEEE 802.11b WLAN 2.4 GHz (DSSS, 2 Mbps)           | WLAN      | 2.18     | $\pm 9.6$                     |
| 10060 | CAB | IEEE 802.11b WLAN 2.4 GHz (DSSS, 3.5 Mbps)         | WLAN      | 2.63     | $\pm 9.6$                     |
| 10061 | CAB | IEEE 802.11b WLAN 2.4 GHz (DSSS, 11 Mbps)          | WLAN      | 3.60     | $\pm 9.6$                     |
| 10062 | CAD | IEEE 802.11a/n WLAN 5 GHz (OFDM, 6 Mbps)           | WLAN      | 8.88     | $\pm 9.6$                     |
| 10063 | CAD | IEEE 802.11a/n WLAN 5 GHz (OFDM, 9 Mbps)           | WLAN      | 8.83     | $\pm 9.6$                     |
| 10064 | CAD | IEEE 802.11a/n WLAN 5 GHz (OFDM, 12 Mbps)          | WLAN      | 8.08     | $\pm 9.6$                     |
| 10065 | CAD | IEEE 802.11a/n WLAN 5 GHz (OFDM, 18 Mbps)          | WLAN      | 8.39     | $\pm 9.6$                     |
| 10066 | CAD | IEEE 802.11a/n WLAN 5 GHz (OFDM, 24 Mbps)          | WLAN      | 8.39     | $\pm 9.6$                     |
| 10067 | CAD | IEEE 802.11a/n WLAN 5 GHz (OFDM, 36 Mbps)          | WLAN      | 10.12    | $\pm 9.6$                     |
| 10068 | CAD | IEEE 802.11a/n WLAN 5 GHz (OFDM, 48 Mbps)          | WLAN      | 10.34    | $\pm 9.6$                     |
| 10069 | CAD | IEEE 802.11a/n WLAN 5 GHz (OFDM, 54 Mbps)          | WLAN      | 10.56    | $\pm 9.6$                     |
| 10071 | CAB | IEEE 802.11g WLAN 2.4 GHz (DSSS/OFDM, 9 Mbps)      | WLAN      | 8.83     | $\pm 9.6$                     |
| 10072 | CAB | IEEE 802.11g WLAN 2.4 GHz (DSSS/OFDM, 12 Mbps)     | WLAN      | 8.82     | $\pm 9.6$                     |
| 10073 | CAB | IEEE 802.11g WLAN 2.4 GHz (DSSS/OFDM, 18 Mbps)     | WLAN      | 8.91     | $\pm 9.6$                     |
| 10074 | CAB | IEEE 802.11g WLAN 2.4 GHz (DSSS/OFDM, 24 Mbps)     | WLAN      | 10.30    | $\pm 9.6$                     |
| 10075 | CAB | IEEE 802.11g WLAN 2.4 GHz (DSSS/OFDM, 36 Mbps)     | WLAN      | 10.77    | $\pm 9.6$                     |
| 10076 | CAB | IEEE 802.11g WLAN 2.4 GHz (DSSS/OFDM, 48 Mbps)     | WLAN      | 10.94    | $\pm 9.6$                     |
| 10077 | CAB | IEEE 802.11g WLAN 2.4 GHz (DSSS/OFDM, 54 Mbps)     | WLAN      | 11.00    | $\pm 9.6$                     |
| 10081 | CAB | CDMA2000 (1xRTT, RC3)                              | CDMA2000  | 5.97     | $\pm 9.8$                     |
| 10082 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI4-DQPSK, Fullrate) | AMPS      | 4.77     | $\pm 9.8$                     |
| 10086 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-4)                      | GSM       | 8.56     | $\pm 9.8$                     |
| 10087 | DAC | UMTS-FDD (HSPA)                                    | WCDMA     | 3.98     | $\pm 9.8$                     |
| 10088 | DAC | UMTS-FDD (HSPA, Success 2)                         | WCDMA     | 3.80     | $\pm 9.8$                     |
| 10089 | CAC | EDGE-FDD (TDMA, 8PSK, TN 0-4)                      | GSM       | 8.55     | $\pm 9.8$                     |
| 10100 | CAC | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)           | LTE-FDD   | 3.67     | $\pm 9.6$                     |
| 10101 | CAB | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)         | LTE-FDD   | 6.42     | $\pm 9.6$                     |
| 10102 | CAB | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)         | LTE-FDD   | 8.60     | $\pm 9.6$                     |
| 10103 | DAC | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)           | LTE-TDD   | 3.29     | $\pm 9.6$                     |
| 10104 | CAB | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)         | LTE-TDD   | 6.87     | $\pm 9.6$                     |
| 10105 | CAB | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)         | LTE-TDD   | 10.61    | $\pm 9.6$                     |
| 10106 | CAB | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)           | LTE-FDD   | 3.80     | $\pm 9.6$                     |
| 10109 | CAB | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)         | LTE-FDD   | 6.42     | $\pm 9.6$                     |
| 10110 | CAB | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)            | LTE-FDD   | 3.73     | $\pm 9.6$                     |
| 10111 | CAB | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)          | LTE-FDD   | 6.44     | $\pm 9.6$                     |

| LRD   | Rev | Communication System Name                     | Group   | PAR (dB) | Unc <sup>5</sup> $k=2$ |
|-------|-----|-----------------------------------------------|---------|----------|------------------------|
| 10112 | CAG | LTE-FDD (SC-FDMA, 100% RB, 10MHz, 64-QAM)     | LTE-FDD | 6.59     | ±0.6                   |
| 10113 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5MHz, 64-QAM)      | LTE-FDD | 6.82     | ±0.6                   |
| 10114 | CAG | IEEE 802.11n (HT Greenfield, 13.5Mbps, BPSK)  | WLAN    | 8.10     | ±0.6                   |
| 10115 | CAG | IEEE 802.11n (HT Greenfield, 81Mbps, 16-QAM)  | WLAN    | 8.46     | ±0.6                   |
| 10116 | CAG | IEEE 802.11n (HT Greenfield, 135Mbps, 64-QAM) | WLAN    | 8.13     | ±0.6                   |
| 10117 | CAG | IEEE 802.11n (HT Mixed, 13.5Mbps, BPSK)       | WLAN    | 8.07     | ±0.6                   |
| 10118 | CAG | IEEE 802.11n (HT Mixed, 81Mbps, 16-QAM)       | WLAN    | 8.59     | ±0.6                   |
| 10119 | CAG | IEEE 802.11n (HT Mixed, 135Mbps, 64-QAM)      | WLAN    | 8.13     | ±0.6                   |
| 10140 | CAG | LTE-FDD (SC-FDMA, 100% RB, 15MHz, 16-QAM)     | LTE-FDD | 6.49     | ±0.6                   |
| 10141 | CAG | LTE-FDD (SC-FDMA, 100% RB, 15MHz, 64-QAM)     | LTE-FDD | 6.53     | ±0.6                   |
| 10142 | CAG | LTE-FDD (SC-FDMA, 100% RB, 3MHz, QPSK)        | LTE-FDD | 5.75     | ±0.6                   |
| 10143 | CAG | LTE-FDD (SC-FDMA, 100% RB, 3MHz, 16-QAM)      | LTE-FDD | 6.38     | ±0.6                   |
| 10144 | CAG | LTE-FDD (SC-FDMA, 100% RB, 1MHz, 64-QAM)      | LTE-FDD | 6.65     | ±0.6                   |
| 10145 | CAG | LTE-FDD (SC-FDMA, 100% RB, 1.4MHz, QPSK)      | LTE-FDD | 5.75     | ±0.6                   |
| 10146 | CAG | LTE-FDD (SC-FDMA, 100% RB, 1.4MHz, 16-QAM)    | LTE-FDD | 6.41     | ±0.6                   |
| 10147 | CAG | LTE-FDD (SC-FDMA, 100% RB, 1.4MHz, 64-QAM)    | LTE-FDD | 6.72     | ±0.6                   |
| 10148 | CAG | LTE-FDD (SC-FDMA, 50% RB, 20MHz, 16-QAM)      | LTE-FDD | 6.42     | ±0.6                   |
| 10150 | CAG | LTE-FDD (SC-FDMA, 50% RB, 20MHz, 64-QAM)      | LTE-FDD | 6.60     | ±0.6                   |
| 10151 | CAG | LTE-FDD (SC-FDMA, 50% RB, 20MHz, QPSK)        | LTE-FDD | 5.29     | ±0.6                   |
| 10152 | CAG | LTE-TDD (SC-FDMA, 50% RB, 20MHz, 16-QAM)      | LTE-TDD | 6.92     | ±0.6                   |
| 10153 | CAG | LTE-TDD (SC-FDMA, 50% RB, 20MHz, 64-QAM)      | LTE-TDD | 10.05    | ±0.6                   |
| 10164 | CAG | LTE-FDD (SC-FDMA, 50% RB, 10MHz, QPSK)        | LTE-FDD | 5.75     | ±0.6                   |
| 10165 | CAG | LTE-FDD (SC-FDMA, 50% RB, 10MHz, 16-QAM)      | LTE-FDD | 6.43     | ±0.6                   |
| 10166 | CAG | LTE-FDD (SC-FDMA, 50% RB, 5MHz, QPSK)         | LTE-FDD | 5.75     | ±0.6                   |
| 10167 | CAG | LTE-FDD (SC-FDMA, 50% RB, 5MHz, 16-QAM)       | LTE-FDD | 6.48     | ±0.6                   |
| 10168 | CAG | LTE-FDD (SC-FDMA, 50% RB, 10MHz, 64-QAM)      | LTE-FDD | 6.62     | ±0.6                   |
| 10169 | CAG | LTE-FDD (SC-FDMA, 50% RB, 5MHz, 64-QAM)       | LTE-FDD | 6.56     | ±0.6                   |
| 10170 | CAG | LTE-FDD (SC-FDMA, 50% RB, 15MHz, QPSK)        | LTE-FDD | 5.82     | ±0.6                   |
| 10171 | CAG | LTE-FDD (SC-FDMA, 50% RB, 15MHz, 16-QAM)      | LTE-FDD | 6.43     | ±0.6                   |
| 10184 | CAG | LTE-FDD (SC-FDMA, 50% RB, 15MHz, 64-QAM)      | LTE-FDD | 6.98     | ±0.6                   |
| 10186 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4MHz, QPSK)       | LTE-FDD | 5.46     | ±0.6                   |
| 10187 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4MHz, 16-QAM)     | LTE-FDD | 6.21     | ±0.6                   |
| 10188 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4MHz, 64-QAM)     | LTE-FDD | 6.79     | ±0.6                   |
| 10189 | CAG | LTE-FDD (SC-FDMA, 1 RB, 20MHz, QPSK)          | LTE-FDD | 5.73     | ±0.6                   |
| 10190 | CAG | LTE-FDD (SC-FDMA, 1 RB, 20MHz, 16-QAM)        | LTE-FDD | 6.52     | ±0.6                   |
| 10191 | CAG | LTE-FDD (SC-FDMA, 1 RB, 20MHz, 64-QAM)        | LTE-FDD | 6.49     | ±0.6                   |
| 10192 | CAG | LTE-TDD (SC-FDMA, 1 RB, 20MHz, QPSK)          | LTE-TDD | 9.21     | ±0.6                   |
| 10193 | CAG | LTE-TDD (SC-FDMA, 1 RB, 20MHz, 16-QAM)        | LTE-TDD | 9.44     | ±0.6                   |
| 10194 | CAG | LTE-TDD (SC-FDMA, 1 RB, 20MHz, 64-QAM)        | LTE-TDD | 10.25    | ±0.6                   |
| 10195 | CAG | LTE-FDD (SC-FDMA, 1 RB, 10MHz, QPSK)          | LTE-FDD | 5.72     | ±0.6                   |
| 10196 | CAG | LTE-FDD (SC-FDMA, 1 RB, 10MHz, 16-QAM)        | LTE-FDD | 6.52     | ±0.6                   |
| 10197 | CAG | LTE-FDD (SC-FDMA, 1 RB, 5MHz, QPSK)           | LTE-FDD | 5.73     | ±0.6                   |
| 10198 | CAG | LTE-FDD (SC-FDMA, 1 RB, 5MHz, 16-QAM)         | LTE-FDD | 6.52     | ±0.6                   |
| 10199 | CAG | LTE-FDD (SC-FDMA, 1 RB, 10MHz, 64-QAM)        | LTE-FDD | 6.50     | ±0.6                   |
| 10180 | CAG | LTE-FDD (SC-FDMA, 1 RB, 5MHz, 64-QAM)         | LTE-FDD | 6.59     | ±0.6                   |
| 10181 | CAG | LTE-FDD (SC-FDMA, 1 RB, 15MHz, QPSK)          | LTE-FDD | 5.72     | ±0.6                   |
| 10182 | CAG | LTE-FDD (SC-FDMA, 1 RB, 15MHz, 16-QAM)        | LTE-FDD | 6.56     | ±0.6                   |
| 10183 | CAG | LTE-FDD (SC-FDMA, 1 RB, 15MHz, 64-QAM)        | LTE-FDD | 6.50     | ±0.6                   |
| 10184 | CAG | LTE-FDD (SC-FDMA, 1 RB, 3MHz, QPSK)           | LTE-FDD | 5.73     | ±0.6                   |
| 10185 | CAG | LTE-FDD (SC-FDMA, 1 RB, 3MHz, 16-QAM)         | LTE-FDD | 6.51     | ±0.6                   |
| 10186 | CAG | LTE-FDD (SC-FDMA, 1 RB, 3MHz, 64-QAM)         | LTE-FDD | 6.60     | ±0.6                   |
| 10187 | CAG | LTE-FDD (SC-FDMA, 1 RB, 1.4MHz, QPSK)         | LTE-FDD | 5.73     | ±0.6                   |
| 10188 | CAG | LTE-FDD (SC-FDMA, 1 RB, 1.4MHz, 16-QAM)       | LTE-FDD | 6.52     | ±0.6                   |
| 10189 | CAG | LTE-FDD (SC-FDMA, 1 RB, 1.4MHz, 64-QAM)       | LTE-FDD | 6.50     | ±0.6                   |
| 10190 | CAG | IEEE 802.11n (HT Greenfield, 6.5Mbps, BPSK)   | WLAN    | 8.06     | ±0.6                   |
| 10191 | CAG | IEEE 802.11n (HT Greenfield, 26Mbps, 16-QAM)  | WLAN    | 8.12     | ±0.6                   |
| 10192 | CAG | IEEE 802.11n (HT Greenfield, 48Mbps, 64-QAM)  | WLAN    | 8.21     | ±0.6                   |
| 10193 | CAG | IEEE 802.11n (HT Mixed, 6.5Mbps, BPSK)        | WLAN    | 8.10     | ±0.6                   |
| 10194 | CAG | IEEE 802.11n (HT Mixed, 26Mbps, 16-QAM)       | WLAN    | 8.13     | ±0.6                   |
| 10195 | CAG | IEEE 802.11n (HT Mixed, 48Mbps, 64-QAM)       | WLAN    | 8.27     | ±0.6                   |
| 10218 | CAG | IEEE 802.11n (HT Mixed, 7.2Mbps, BPSK)        | WLAN    | 8.03     | ±0.6                   |
| 10220 | CAG | IEEE 802.11n (HT Mixed, 43.8Mbps, 16-QAM)     | WLAN    | 8.13     | ±0.6                   |
| 10221 | CAG | IEEE 802.11n (HT Mixed, 72.2Mbps, 64-QAM)     | WLAN    | 8.27     | ±0.6                   |
| 10222 | CAG | IEEE 802.11n (HT Mixed, 15Mbps, BPSK)         | WLAN    | 8.06     | ±0.6                   |
| 10223 | CAG | IEEE 802.11n (HT Mixed, 50Mbps, 16-QAM)       | WLAN    | 8.46     | ±0.6                   |
| 10224 | CAG | IEEE 802.11n (HT Mixed, 100Mbps, 64-QAM)      | WLAN    | 8.08     | ±0.6                   |



| ID    | Rev | Communication System Name                                | Group    | PAE (dB) | 12m <sup>2</sup> ± 2 |
|-------|-----|----------------------------------------------------------|----------|----------|----------------------|
| 10225 | CAD | UMTS-FDD (HSPA+)                                         | WCDMA    | 5.97     | ±0.5                 |
| 10226 | CAD | LTE-TDD (SC-FDMA, 1 RB, 1.4MHz, 16-QAM)                  | LTE-TDD  | 9.49     | ±0.5                 |
| 10227 | CAD | LTE-TDD (SC-FDMA, 1 RB, 1.4MHz, 64-QAM)                  | LTE-TDD  | 10.26    | ±0.5                 |
| 10228 | CAD | LTE-TDD (SC-FDMA, 1 RB, 1.4MHz, QPSK)                    | LTE-TDD  | 9.22     | ±0.5                 |
| 10229 | CAD | LTE-TDD (SC-FDMA, 1 RB, 3MHz, 16-QAM)                    | LTE-TDD  | 9.49     | ±0.5                 |
| 10230 | CAD | LTE-TDD (SC-FDMA, 1 RB, 3MHz, 64-QAM)                    | LTE-TDD  | 10.26    | ±0.5                 |
| 10231 | CAD | LTE-TDD (SC-FDMA, 1 RB, 3MHz, QPSK)                      | LTE-TDD  | 9.16     | ±0.5                 |
| 10232 | CAD | LTE-TDD (SC-FDMA, 1 RB, 5MHz, 16-QAM)                    | LTE-TDD  | 9.48     | ±0.5                 |
| 10233 | CAD | LTE-TDD (SC-FDMA, 1 RB, 5MHz, 64-QAM)                    | LTE-TDD  | 10.26    | ±0.5                 |
| 10234 | CAD | LTE-TDD (SC-FDMA, 1 RB, 5MHz, QPSK)                      | LTE-TDD  | 9.21     | ±0.5                 |
| 10235 | CAD | LTE-TDD (SC-FDMA, 1 RB, 10MHz, 16-QAM)                   | LTE-TDD  | 9.48     | ±0.5                 |
| 10236 | CAD | LTE-TDD (SC-FDMA, 1 RB, 10MHz, 64-QAM)                   | LTE-TDD  | 10.26    | ±0.5                 |
| 10237 | CAD | LTE-TDD (SC-FDMA, 1 RB, 10MHz, QPSK)                     | LTE-TDD  | 9.21     | ±0.5                 |
| 10238 | CAD | LTE-TDD (SC-FDMA, 1 RB, 15MHz, 16-QAM)                   | LTE-TDD  | 9.48     | ±0.5                 |
| 10239 | CAD | LTE-TDD (SC-FDMA, 1 RB, 15MHz, 64-QAM)                   | LTE-TDD  | 10.26    | ±0.5                 |
| 10240 | CAD | LTE-TDD (SC-FDMA, 1 RB, 15MHz, QPSK)                     | LTE-TDD  | 9.21     | ±0.5                 |
| 10241 | CAD | LTE-TDD (SC-FDMA, 50% RB, 1.4MHz, 16-QAM)                | LTE-TDD  | 8.82     | ±0.5                 |
| 10242 | CAD | LTE-TDD (SC-FDMA, 50% RB, 1.4MHz, 64-QAM)                | LTE-TDD  | 9.89     | ±0.5                 |
| 10243 | CAD | LTE-TDD (SC-FDMA, 50% RB, 1.4MHz, QPSK)                  | LTE-TDD  | 9.16     | ±0.5                 |
| 10244 | CAD | LTE-TDD (SC-FDMA, 50% RB, 3MHz, 16-QAM)                  | LTE-TDD  | 10.06    | ±0.5                 |
| 10245 | CAD | LTE-TDD (SC-FDMA, 50% RB, 3MHz, 64-QAM)                  | LTE-TDD  | 10.06    | ±0.5                 |
| 10246 | CAD | LTE-TDD (SC-FDMA, 50% RB, 3MHz, QPSK)                    | LTE-TDD  | 9.30     | ±0.5                 |
| 10247 | CAD | LTE-TDD (SC-FDMA, 50% RB, 5MHz, 16-QAM)                  | LTE-TDD  | 9.81     | ±0.5                 |
| 10248 | CAD | LTE-TDD (SC-FDMA, 50% RB, 5MHz, 64-QAM)                  | LTE-TDD  | 10.09    | ±0.5                 |
| 10249 | CAD | LTE-TDD (SC-FDMA, 50% RB, 5MHz, QPSK)                    | LTE-TDD  | 9.29     | ±0.5                 |
| 10250 | CAD | LTE-TDD (SC-FDMA, 50% RB, 10MHz, 16-QAM)                 | LTE-TDD  | 9.81     | ±0.5                 |
| 10251 | CAD | LTE-TDD (SC-FDMA, 50% RB, 10MHz, 64-QAM)                 | LTE-TDD  | 10.17    | ±0.5                 |
| 10252 | CAD | LTE-TDD (SC-FDMA, 50% RB, 10MHz, QPSK)                   | LTE-TDD  | 9.24     | ±0.5                 |
| 10253 | CAD | LTE-TDD (SC-FDMA, 50% RB, 15MHz, 16-QAM)                 | LTE-TDD  | 9.89     | ±0.5                 |
| 10254 | CAD | LTE-TDD (SC-FDMA, 50% RB, 15MHz, 64-QAM)                 | LTE-TDD  | 10.14    | ±0.5                 |
| 10255 | CAD | LTE-TDD (SC-FDMA, 50% RB, 15MHz, QPSK)                   | LTE-TDD  | 9.26     | ±0.5                 |
| 10256 | CAD | LTE-TDD (SC-FDMA, 100% RB, 1.4MHz, 16-QAM)               | LTE-TDD  | 8.86     | ±0.5                 |
| 10257 | CAD | LTE-TDD (SC-FDMA, 100% RB, 1.4MHz, 64-QAM)               | LTE-TDD  | 10.29    | ±0.5                 |
| 10258 | CAD | LTE-TDD (SC-FDMA, 100% RB, 1.4MHz, QPSK)                 | LTE-TDD  | 9.34     | ±0.5                 |
| 10259 | CAD | LTE-TDD (SC-FDMA, 100% RB, 3MHz, 16-QAM)                 | LTE-TDD  | 9.89     | ±0.5                 |
| 10260 | CAD | LTE-TDD (SC-FDMA, 100% RB, 3MHz, 64-QAM)                 | LTE-TDD  | 9.97     | ±0.5                 |
| 10261 | CAD | LTE-TDD (SC-FDMA, 100% RB, 3MHz, QPSK)                   | LTE-TDD  | 9.24     | ±0.5                 |
| 10262 | CAD | LTE-TDD (SC-FDMA, 100% RB, 5MHz, 16-QAM)                 | LTE-TDD  | 9.83     | ±0.5                 |
| 10263 | CAD | LTE-TDD (SC-FDMA, 100% RB, 5MHz, 64-QAM)                 | LTE-TDD  | 10.16    | ±0.5                 |
| 10264 | CAD | LTE-TDD (SC-FDMA, 100% RB, 5MHz, QPSK)                   | LTE-TDD  | 9.29     | ±0.5                 |
| 10265 | CAD | LTE-TDD (SC-FDMA, 100% RB, 10MHz, 16-QAM)                | LTE-TDD  | 9.92     | ±0.5                 |
| 10266 | CAD | LTE-TDD (SC-FDMA, 100% RB, 10MHz, 64-QAM)                | LTE-TDD  | 10.07    | ±0.5                 |
| 10267 | CAD | LTE-TDD (SC-FDMA, 100% RB, 10MHz, QPSK)                  | LTE-TDD  | 9.36     | ±0.5                 |
| 10268 | CAD | LTE-TDD (SC-FDMA, 100% RB, 15MHz, 16-QAM)                | LTE-TDD  | 10.06    | ±0.5                 |
| 10269 | CAD | LTE-TDD (SC-FDMA, 100% RB, 15MHz, 64-QAM)                | LTE-TDD  | 10.13    | ±0.5                 |
| 10270 | CAD | LTE-TDD (SC-FDMA, 100% RB, 15MHz, QPSK)                  | LTE-TDD  | 9.36     | ±0.5                 |
| 10271 | CAD | UMTS-FDD (HSUPA, Subnet 5, SCPP Peak 10)                 | WCDMA    | 4.87     | ±0.5                 |
| 10272 | CAD | UMTS-FDD (HSUPA, Subnet 5, SCPP Peak 4)                  | WCDMA    | 3.98     | ±0.5                 |
| 10273 | CAD | PHS (QPSK)                                               | PHS      | 11.21    | ±0.5                 |
| 10274 | CAD | PHS (QPSK, BW 884MHz, Radius 0.5)                        | PHS      | 11.21    | ±0.5                 |
| 10275 | CAD | PHS (QPSK, BW 884MHz, Radius 0.25)                       | PHS      | 12.18    | ±0.5                 |
| 10280 | CAG | CDMA2000, RC1, SCSS, Full Rate                           | CDMA2000 | 3.91     | ±0.5                 |
| 10281 | CAG | CDMA2000, RC3, SCSS, Full Rate                           | CDMA2000 | 3.48     | ±0.5                 |
| 10282 | CAG | CDMA2000, RC3, SCSS, Full Rate                           | CDMA2000 | 3.35     | ±0.5                 |
| 10283 | CAG | CDMA2000, RC3, SC3, Full Rate                            | CDMA2000 | 3.50     | ±0.5                 |
| 10284 | CAG | CDMA2000, RC1, SC3, 1/8th Rate 25 B                      | CDMA2000 | 12.40    | ±0.5                 |
| 10285 | CAD | LTE-FDD (SC-FDMA, 50% RB, 20MHz, QPSK)                   | LTE-FDD  | 5.81     | ±0.5                 |
| 10286 | CAD | LTE-FDD (SC-FDMA, 50% RB, 30MHz, QPSK)                   | LTE-FDD  | 5.72     | ±0.5                 |
| 10287 | CAD | LTE-FDD (SC-FDMA, 50% RB, 30MHz, 16-QAM)                 | LTE-FDD  | 6.39     | ±0.5                 |
| 10288 | CAD | LTE-FDD (SC-FDMA, 50% RB, 30MHz, 64-QAM)                 | LTE-FDD  | 6.80     | ±0.5                 |
| 10301 | CAD | IEEE 802.16e WIMAX (20-18, 5ms, 10MHz, QPSK, PUSC)       | WIMAX    | 12.02    | ±0.5                 |
| 10302 | CAD | IEEE 802.16e WIMAX (20-18, 5ms, 10MHz, QPSK, PUSC, 3C1N) | WIMAX    | 12.57    | ±0.5                 |
| 10303 | CAD | IEEE 802.16e WIMAX (20-18, 5ms, 10MHz, 64QAM, PUSC)      | WIMAX    | 12.52    | ±0.5                 |
| 10304 | CAD | IEEE 802.16e WIMAX (20-18, 5ms, 10MHz, 64QAM, PUSC)      | WIMAX    | 11.28    | ±0.5                 |
| 10305 | CAD | IEEE 802.16e WIMAX (20-18, 10ms, 10MHz, 64QAM, PUSC)     | WIMAX    | 15.24    | ±0.5                 |
| 10306 | CAD | IEEE 802.16e WIMAX (20-18, 10ms, 10MHz, 64QAM, PUSC)     | WIMAX    | 14.57    | ±0.5                 |

| UID   | Rev | Communication System Name                                | Group    | PAR (dB) | Line # = 2 |
|-------|-----|----------------------------------------------------------|----------|----------|------------|
| 10307 | AAB | IEEE 802.16e WiMAX (20.18, 10ms, 10MHz, QPSK, PUSC)      | WiMAX    | 14.45    | -9.6       |
| 10308 | AAB | IEEE 802.16e WiMAX (20.18, 10ms, 10MHz, 16QAM, PUSC)     | WiMAX    | 14.45    | -9.6       |
| 10309 | AAB | IEEE 802.16e WiMAX (20.18, 10ms, 10MHz, 16QAM, AMC 2x3)  | WiMAX    | 14.58    | -9.6       |
| 10310 | AAB | IEEE 802.16a WiMAX (20.18, 10ms, 10MHz, QPSK, AMC 2x3)   | WiMAX    | 14.57    | -9.6       |
| 10311 | AAB | LTE-FDD (SC-FDMA, 10ms RB, 15MHz, QPSK)                  | LTE-FDD  | 8.06     | -9.6       |
| 10312 | AAD | IDEN 1.3                                                 | IDEN     | 10.51    | -9.6       |
| 10314 | AAD | IDEN 1.6                                                 | IDEN     | 13.46    | -9.0       |
| 10315 | AAD | IEEE 802.11b WiFi 2.4GHz (DSSS, 1Mbps, 96pc dc)          | WLAN     | 1.71     | -9.6       |
| 10316 | AAD | IEEE 802.11g WiFi 2.4GHz (ERP-OFDM, 5Mbps, 96pc dc)      | WLAN     | 8.26     | -9.6       |
| 10317 | AAA | IEEE 802.11a WiFi 5GHz (OFDM, 5Mbps, 96pc dc)            | WLAN     | 8.36     | -9.6       |
| 10352 | AAA | Pulse Waveform (200 Hz, 10%)                             | Generic  | 10.00    | -9.6       |
| 10353 | AAA | Pulse Waveform (100 Hz, 20%)                             | Generic  | 8.99     | -9.6       |
| 10354 | AAA | Pulse Waveform (200 Hz, 40%)                             | Generic  | 3.48     | -9.6       |
| 10355 | AAA | Pulse Waveform (200 Hz, 80%)                             | Generic  | 3.22     | -9.6       |
| 10356 | AAA | Pulse Waveform (200 Hz, 80%)                             | Generic  | 0.97     | -9.6       |
| 10367 | AAA | QPSK Waveform, 1 MHz                                     | Generic  | 5.10     | -9.6       |
| 10368 | AAA | QPSK Waveform, 10 MHz                                    | Generic  | 3.22     | -9.6       |
| 10396 | AAA | 64-QAM Waveform, 100 kHz                                 | Generic  | 5.27     | -9.6       |
| 10396 | AAA | 64-QAM Waveform, 10 MHz                                  | Generic  | 5.27     | -9.6       |
| 10400 | AAD | IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc dc)              | WLAN     | 8.37     | -9.6       |
| 10401 | AAA | IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc dc)              | WLAN     | 5.60     | -9.6       |
| 10402 | AAA | IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc dc)              | WLAN     | 8.51     | -9.6       |
| 10403 | AAB | CDMA2000 (1xEV-DO, Rev. 0)                               | CDMA2000 | 3.70     | -9.6       |
| 10404 | AAB | CDMA2000 (1xEV-DO, Rev. 3)                               | CDMA2000 | 3.77     | -9.6       |
| 10406 | AAD | CDMA2000, ACK, 3.1Kb, 3.1Ch, Full Rate                   | CDMA2000 | 5.22     | -9.6       |
| 10410 | AAA | LTE-TDD (SC-FDMA, 1 RB, 10MHz, QPSK, UL Sub=2,3,4,7,8,9) | LTE-TDD  | 7.82     | -9.6       |
| 10414 | AAA | WLAN ODFD (64-QAM, 40MHz)                                | Generic  | 8.54     | -9.6       |
| 10415 | AAA | IEEE 802.11n WiFi 2.4GHz (DSSS, 1Mbps, 96pc dc)          | WLAN     | 1.54     | -9.6       |
| 10416 | AAA | IEEE 802.11g WiFi 2.4GHz (ERP-OFDM, 5Mbps, 96pc dc)      | WLAN     | 8.23     | -9.6       |
| 10417 | AAA | IEEE 802.11a WiFi 5GHz (OFDM, 5Mbps, 96pc dc)            | WLAN     | 8.23     | -9.6       |
| 10418 | AAB | IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 5Mbps, 96pc, 50%)   | WLAN     | 8.14     | -9.6       |
| 10419 | AAA | IEEE 802.11g WiFi 2.4GHz (DSSS-OFDM, 5Mbps, 96pc, 50%)   | WLAN     | 8.19     | -9.6       |
| 10422 | AAA | IEEE 802.11n HT Greenfield, 7.2Mbps, BPSK                | WLAN     | 8.32     | -9.6       |
| 10423 | AAA | IEEE 802.11n HT Greenfield, 43.3Mbps, 16-QAM             | WLAN     | 8.67     | -9.6       |
| 10424 | AAE | IEEE 802.11n HT Greenfield, 72.2Mbps, 64-QAM             | WLAN     | 8.46     | -9.6       |
| 10425 | AAE | IEEE 802.11n HT Greenfield, 15Mbps, BPSK                 | WLAN     | 8.41     | -9.6       |
| 10426 | AAE | IEEE 802.11n HT Greenfield, 90Mbps, 16-QAM               | WLAN     | 8.45     | -9.6       |
| 10427 | AAE | IEEE 802.11n HT Greenfield, 150Mbps, 64-QAM              | WLAN     | 8.41     | -9.6       |
| 10430 | AAB | LTE-FDD (OFDMA, 5MHz, E-TM 3.1)                          | LTE-FDD  | 8.28     | -9.6       |
| 10431 | AAC | LTE-FDD (OFDMA, 10MHz, E-TM 3.1)                         | LTE-FDD  | 8.38     | -9.6       |
| 10432 | AAB | LTE-FDD (OFDMA, 15MHz, E-TM 3.1)                         | LTE-FDD  | 8.34     | -9.6       |
| 10433 | AAC | LTE-FDD (OFDMA, 20MHz, E-TM 3.1)                         | LTE-FDD  | 8.34     | -9.6       |
| 10434 | AAD | WCDMA (3G Test Model 1, 3.1 DPCCH)                       | WCDMA    | 8.60     | -9.6       |
| 10435 | AAA | LTE-TDD (SC-FDMA, 1 RB, 10MHz, QPSK, UL Sub)             | LTE-TDD  | 7.82     | -9.6       |
| 10447 | AAA | LTE-FDD (OFDMA, 5MHz, E-TM 3.1, Clipping 44%)            | LTE-FDD  | 7.56     | -9.6       |
| 10448 | AAA | LTE-FDD (OFDMA, 10MHz, E-TM 3.1, Clipping 44%)           | LTE-FDD  | 7.53     | -9.6       |
| 10449 | AAC | LTE-FDD (OFDMA, 15MHz, E-TM 3.1, Clipping 44%)           | LTE-FDD  | 7.51     | -9.6       |
| 10450 | AAA | LTE-FDD (OFDMA, 20MHz, E-TM 3.1, Clipping 44%)           | LTE-FDD  | 7.48     | -9.6       |
| 10451 | AAA | WCDMA (3G Test Model 1, 3.1 DPCCH, Clipping 44%)         | WCDMA    | 7.58     | -9.6       |
| 10453 | AAC | Validation (Square, 10ms, 1ms)                           | Test     | 10.00    | -9.6       |
| 10456 | AAC | IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc dc)             | WLAN     | 8.63     | -9.6       |
| 10457 | AAC | HSPA-PDCH (DC-HSDPA)                                     | WCDMA    | 6.62     | -9.6       |
| 10458 | AAC | CDMA2000 (1xEV-DO, Rev. B, 2 carriers)                   | CDMA2000 | 6.55     | -9.6       |
| 10459 | AAC | CDMA2000 (1xEV-DO, Rev. B, 3 carriers)                   | CDMA2000 | 6.25     | -9.6       |
| 10460 | AAC | HSPA-PDCH (WCDMA, AMR)                                   | WCDMA    | 2.39     | -9.6       |
| 10461 | AAC | LTE-TDD (SC-FDMA, 1 RB, 1.4MHz, QPSK, UL Sub)            | LTE-TDD  | 7.82     | -9.6       |
| 10462 | AAC | LTE-TDD (SC-FDMA, 1 RB, 1.4MHz, 16-QAM, UL Sub)          | LTE-TDD  | 8.30     | -9.6       |
| 10463 | AAD | LTE-TDD (SC-FDMA, 1 RB, 1.4MHz, 64-QAM, UL Sub)          | LTE-TDD  | 8.56     | -9.6       |
| 10464 | AAD | LTE-TDD (SC-FDMA, 1 RB, 3MHz, QPSK, UL Sub)              | LTE-TDD  | 7.82     | -9.6       |
| 10465 | AAC | LTE-TDD (SC-FDMA, 1 RB, 3MHz, 16-QAM, UL Sub)            | LTE-TDD  | 8.02     | -9.6       |
| 10466 | AAC | LTE-TDD (SC-FDMA, 1 RB, 3MHz, 64-QAM, UL Sub)            | LTE-TDD  | 8.57     | -9.6       |
| 10467 | AAA | LTE-TDD (SC-FDMA, 1 RB, 5MHz, QPSK, UL Sub)              | LTE-TDD  | 7.80     | -9.6       |
| 10468 | AAE | LTE-TDD (SC-FDMA, 1 RB, 5MHz, 16-QAM, UL Sub)            | LTE-TDD  | 8.00     | -9.6       |
| 10469 | AAD | LTE-TDD (SC-FDMA, 1 RB, 5MHz, 64-QAM, UL Sub)            | LTE-TDD  | 8.58     | -9.6       |
| 10470 | AAD | LTE-TDD (SC-FDMA, 1 RB, 10MHz, QPSK, UL Sub)             | LTE-TDD  | 7.82     | -9.6       |
| 10471 | AAC | LTE-TDD (SC-FDMA, 1 RB, 10MHz, 16-QAM, UL Sub)           | LTE-TDD  | 8.02     | -9.6       |

| UID   | Rate | Communication System Name                          | Group   | PAR (dB) | Unc <sup>2</sup> $k = 2$ |
|-------|------|----------------------------------------------------|---------|----------|--------------------------|
| 10472 | AAC  | LTE-TDD (SC-FDMA, 1 RB, 10MHz, 64-QAM, UL Sub)     | LTE-TDD | 8.57     | +9.8                     |
| 10473 | AAA  | LTE-TDD (SC-FDMA, 1 RB, 10MHz, QPSK, UL Sub)       | LTE-TDD | 7.82     | +8.5                     |
| 10474 | AAC  | LTE-TDD (SC-FDMA, 1 RB, 15MHz, 16-QAM, UL Sub)     | LTE-TDD | 8.32     | +9.8                     |
| 10475 | AAD  | LTE-TDD (SC-FDMA, 1 RB, 15MHz, 64-QAM, UL Sub)     | LTE-TDD | 8.57     | +9.8                     |
| 10476 | AAC  | LTE-TDD (SC-FDMA, 1 RB, 20MHz, 16-QAM, UL Sub)     | LTE-TDD | 8.32     | +9.8                     |
| 10478 | AAC  | LTE-TDD (SC-FDMA, 1 RB, 20MHz, 64-QAM, UL Sub)     | LTE-TDD | 8.57     | +9.8                     |
| 10479 | AAC  | LTE-TDD (SC-FDMA, 50% RB, 1.4MHz, QPSK, UL Sub)    | LTE-TDD | 7.74     | +9.8                     |
| 10480 | AAA  | LTE-TDD (SC-FDMA, 50% RB, 1.4MHz, 16-QAM, UL Sub)  | LTE-TDD | 8.12     | +8.5                     |
| 10481 | AAA  | LTE-TDD (SC-FDMA, 50% RB, 1.4MHz, 64-QAM, UL Sub)  | LTE-TDD | 8.45     | +9.8                     |
| 10482 | AAA  | LTE-TDD (SC-FDMA, 50% RB, 3MHz, QPSK, UL Sub)      | LTE-TDD | 7.71     | +8.8                     |
| 10483 | AAA  | LTE-TDD (SC-FDMA, 50% RB, 3MHz, 16-QAM, UL Sub)    | LTE-TDD | 8.39     | +8.5                     |
| 10484 | AAB  | LTE-TDD (SC-FDMA, 50% RB, 3MHz, 64-QAM, UL Sub)    | LTE-TDD | 8.47     | +9.8                     |
| 10485 | AAB  | LTE-TDD (SC-FDMA, 50% RB, 5MHz, QPSK, UL Sub)      | LTE-TDD | 7.59     | +9.8                     |
| 10486 | AAB  | LTE-TDD (SC-FDMA, 50% RB, 5MHz, 16-QAM, UL Sub)    | LTE-TDD | 8.39     | +9.8                     |
| 10487 | AAC  | LTE-TDD (SC-FDMA, 50% RB, 5MHz, 64-QAM, UL Sub)    | LTE-TDD | 8.60     | +9.8                     |
| 10488 | AAC  | LTE-TDD (SC-FDMA, 50% RB, 10MHz, QPSK, UL Sub)     | LTE-TDD | 7.70     | +9.8                     |
| 10489 | AAC  | LTE-TDD (SC-FDMA, 50% RB, 10MHz, 16-QAM, UL Sub)   | LTE-TDD | 8.31     | +9.8                     |
| 10490 | AAF  | LTE-TDD (SC-FDMA, 50% RB, 10MHz, 64-QAM, UL Sub)   | LTE-TDD | 8.54     | +9.8                     |
| 10491 | AAF  | LTE-TDD (SC-FDMA, 50% RB, 15MHz, QPSK, UL Sub)     | LTE-TDD | 7.74     | +9.8                     |
| 10492 | AAF  | LTE-TDD (SC-FDMA, 50% RB, 15MHz, 16-QAM, UL Sub)   | LTE-TDD | 8.41     | +9.8                     |
| 10493 | AAF  | LTE-TDD (SC-FDMA, 50% RB, 15MHz, 64-QAM, UL Sub)   | LTE-TDD | 8.55     | +9.8                     |
| 10494 | AAF  | LTE-TDD (SC-FDMA, 50% RB, 20MHz, QPSK, UL Sub)     | LTE-TDD | 7.74     | +9.8                     |
| 10495 | AAF  | LTE-TDD (SC-FDMA, 50% RB, 20MHz, 16-QAM, UL Sub)   | LTE-TDD | 8.37     | +9.8                     |
| 10496 | AAE  | LTE-TDD (SC-FDMA, 50% RB, 20MHz, 64-QAM, UL Sub)   | LTE-TDD | 8.54     | +9.8                     |
| 10497 | AAE  | LTE-TDD (SC-FDMA, 100% RB, 1.4MHz, QPSK, UL Sub)   | LTE-TDD | 7.67     | +9.8                     |
| 10498 | AAE  | LTE-TDD (SC-FDMA, 100% RB, 1.4MHz, 16-QAM, UL Sub) | LTE-TDD | 8.40     | +9.8                     |
| 10499 | AAC  | LTE-TDD (SC-FDMA, 100% RB, 1.4MHz, 64-QAM, UL Sub) | LTE-TDD | 8.68     | +9.8                     |
| 10500 | AAF  | LTE-TDD (SC-FDMA, 100% RB, 3MHz, QPSK, UL Sub)     | LTE-TDD | 7.67     | +9.8                     |
| 10501 | AAF  | LTE-TDD (SC-FDMA, 100% RB, 3MHz, 16-QAM, UL Sub)   | LTE-TDD | 8.44     | +9.8                     |
| 10502 | AAE  | LTE-TDD (SC-FDMA, 100% RB, 3MHz, 64-QAM, UL Sub)   | LTE-TDD | 8.32     | +9.8                     |
| 10503 | AAE  | LTE-TDD (SC-FDMA, 100% RB, 5MHz, QPSK, UL Sub)     | LTE-TDD | 7.72     | +9.8                     |
| 10504 | AAE  | LTE-TDD (SC-FDMA, 100% RB, 5MHz, 16-QAM, UL Sub)   | LTE-TDD | 8.31     | +9.8                     |
| 10505 | AAC  | LTE-TDD (SC-FDMA, 100% RB, 5MHz, 64-QAM, UL Sub)   | LTE-TDD | 8.54     | +9.8                     |
| 10506 | AAE  | LTE-TDD (SC-FDMA, 100% RB, 10MHz, QPSK, UL Sub)    | LTE-TDD | 7.74     | +9.8                     |
| 10507 | AAE  | LTE-TDD (SC-FDMA, 100% RB, 10MHz, 16-QAM, UL Sub)  | LTE-TDD | 8.36     | +9.8                     |
| 10508 | AAF  | LTE-TDD (SC-FDMA, 100% RB, 10MHz, 64-QAM, UL Sub)  | LTE-TDD | 8.55     | +9.8                     |
| 10509 | AAF  | LTE-TDD (SC-FDMA, 100% RB, 15MHz, QPSK, UL Sub)    | LTE-TDD | 7.99     | +9.8                     |
| 10510 | AAF  | LTE-TDD (SC-FDMA, 100% RB, 15MHz, 16-QAM, UL Sub)  | LTE-TDD | 8.49     | +9.8                     |
| 10511 | AAF  | LTE-TDD (SC-FDMA, 100% RB, 15MHz, 64-QAM, UL Sub)  | LTE-TDD | 8.51     | +9.8                     |
| 10512 | AAF  | LTE-TDD (SC-FDMA, 100% RB, 20MHz, QPSK, UL Sub)    | LTE-TDD | 7.74     | +9.8                     |
| 10513 | AAF  | LTE-TDD (SC-FDMA, 100% RB, 20MHz, 16-QAM, UL Sub)  | LTE-TDD | 8.42     | +9.8                     |
| 10514 | AAE  | LTE-TDD (SC-FDMA, 100% RB, 20MHz, 64-QAM, UL Sub)  | LTE-TDD | 8.55     | +9.8                     |
| 10515 | AAE  | IEEE 802.11b WiFi 2.4GHz (DSSS, 2Mbps, 99pc dc)    | WLAN    | 7.58     | +9.8                     |
| 10516 | AAE  | IEEE 802.11b WiFi 2.4GHz (DSSS, 5.5Mbps, 99pc dc)  | WLAN    | 7.57     | +9.8                     |
| 10517 | AAF  | IEEE 802.11b WiFi 2.4GHz (DSSS, 11Mbps, 99pc dc)   | WLAN    | 7.58     | +9.8                     |
| 10518 | AAF  | IEEE 802.11a/n WiFi 5GHz (OFDM, 8Mbps, 99pc dc)    | WLAN    | 8.23     | +9.8                     |
| 10519 | AAF  | IEEE 802.11a/n WiFi 5GHz (OFDM, 12Mbps, 99pc dc)   | WLAN    | 8.39     | +9.8                     |
| 10520 | AAE  | IEEE 802.11a/n WiFi 5GHz (OFDM, 18Mbps, 99pc dc)   | WLAN    | 8.12     | +9.8                     |
| 10521 | AAE  | IEEE 802.11a/n WiFi 5GHz (OFDM, 24Mbps, 99pc dc)   | WLAN    | 7.97     | +9.8                     |
| 10522 | AAE  | IEEE 802.11a/n WiFi 5GHz (OFDM, 36Mbps, 99pc dc)   | WLAN    | 8.45     | +9.8                     |
| 10523 | AAC  | IEEE 802.11a/n WiFi 5GHz (OFDM, 48Mbps, 99pc dc)   | WLAN    | 8.02     | +9.8                     |
| 10524 | AAC  | IEEE 802.11a/n WiFi 5GHz (OFDM, 54Mbps, 99pc dc)   | WLAN    | 8.27     | +9.8                     |
| 10525 | AAC  | IEEE 802.11ac WiFi (20MHz, MCS0, 99pc dc)          | WLAN    | 8.36     | +9.8                     |
| 10526 | AAF  | IEEE 802.11ac WiFi (20MHz, MCS1, 99pc dc)          | WLAN    | 8.37     | +9.8                     |
| 10527 | AAF  | IEEE 802.11ac WiFi (20MHz, MCS2, 99pc dc)          | WLAN    | 8.27     | +9.8                     |
| 10528 | AAF  | IEEE 802.11ac WiFi (20MHz, MCS3, 99pc dc)          | WLAN    | 8.36     | +9.8                     |
| 10529 | AAF  | IEEE 802.11ac WiFi (20MHz, MCS4, 99pc dc)          | WLAN    | 8.36     | +9.8                     |
| 10531 | AAF  | IEEE 802.11ac WiFi (20MHz, MCS5, 99pc dc)          | WLAN    | 8.43     | +9.8                     |
| 10532 | AAF  | IEEE 802.11ac WiFi (20MHz, MCS7, 99pc dc)          | WLAN    | 8.39     | +9.8                     |
| 10533 | AAE  | IEEE 802.11ac WiFi (20MHz, MCS8, 99pc dc)          | WLAN    | 8.38     | +9.8                     |
| 10534 | AAE  | IEEE 802.11ac WiFi (40MHz, MCS0, 99pc dc)          | WLAN    | 8.43     | +9.8                     |
| 10535 | AAE  | IEEE 802.11ac WiFi (40MHz, MCS1, 99pc dc)          | WLAN    | 8.45     | +9.8                     |
| 10536 | AAF  | IEEE 802.11ac WiFi (40MHz, MCS2, 99pc dc)          | WLAN    | 8.32     | +9.8                     |
| 10537 | AAF  | IEEE 802.11ac WiFi (40MHz, MCS3, 99pc dc)          | WLAN    | 8.44     | +9.8                     |
| 10538 | AAF  | IEEE 802.11ac WiFi (40MHz, MCS4, 99pc dc)          | WLAN    | 8.54     | +9.8                     |
| 10540 | AAE  | IEEE 802.11ac WiFi (40MHz, MCS6, 99pc dc)          | WLAN    | 8.39     | +9.8                     |



| UID   | Rev | Communication System Name                  | Group | PAR (dB) | Unc <sup>2</sup> $k = 2$ |
|-------|-----|--------------------------------------------|-------|----------|--------------------------|
| 10541 | AAA | IEEE 802.11ac WiFi (40MHz, MCS7, 99pc dc)  | WLAN  | 8.48     | ±0.6                     |
| 10542 | AAA | IEEE 802.11ac WiFi (40MHz, MCS8, 99pc dc)  | WLAN  | 8.62     | ±0.6                     |
| 10543 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS9, 99pc dc)  | WLAN  | 8.65     | ±0.6                     |
| 10544 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS10, 99pc dc) | WLAN  | 8.47     | ±0.6                     |
| 10545 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS11, 99pc dc) | WLAN  | 8.55     | ±0.6                     |
| 10546 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS12, 99pc dc) | WLAN  | 8.35     | ±0.6                     |
| 10547 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS13, 99pc dc) | WLAN  | 8.46     | ±0.6                     |
| 10548 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS14, 99pc dc) | WLAN  | 8.27     | ±0.6                     |
| 10550 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS15, 99pc dc) | WLAN  | 8.38     | ±0.6                     |
| 10551 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS16, 99pc dc) | WLAN  | 8.53     | ±0.6                     |
| 10552 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS17, 99pc dc) | WLAN  | 8.42     | ±0.6                     |
| 10553 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS18, 99pc dc) | WLAN  | 8.45     | ±0.6                     |
| 10554 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS19, 99pc dc) | WLAN  | 8.46     | ±0.6                     |
| 10555 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS20, 99pc dc) | WLAN  | 8.47     | ±0.6                     |
| 10556 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS21, 99pc dc) | WLAN  | 8.50     | ±0.6                     |
| 10557 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS22, 99pc dc) | WLAN  | 8.52     | ±0.6                     |
| 10558 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS23, 99pc dc) | WLAN  | 8.81     | ±0.6                     |
| 10559 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS24, 99pc dc) | WLAN  | 8.73     | ±0.6                     |
| 10560 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS25, 99pc dc) | WLAN  | 8.56     | ±0.6                     |
| 10561 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS26, 99pc dc) | WLAN  | 8.69     | ±0.6                     |
| 10562 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS27, 99pc dc) | WLAN  | 8.77     | ±0.6                     |
| 10563 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS28, 99pc dc) | WLAN  | 8.25     | ±0.6                     |
| 10564 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS29, 99pc dc) | WLAN  | 8.45     | ±0.6                     |
| 10565 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS30, 99pc dc) | WLAN  | 8.13     | ±0.6                     |
| 10566 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS31, 99pc dc) | WLAN  | 8.32     | ±0.6                     |
| 10567 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS32, 99pc dc) | WLAN  | 8.37     | ±0.6                     |
| 10568 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS33, 99pc dc) | WLAN  | 8.10     | ±0.6                     |
| 10569 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS34, 99pc dc) | WLAN  | 8.30     | ±0.6                     |
| 10570 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS35, 99pc dc) | WLAN  | 1.86     | ±0.6                     |
| 10571 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS36, 99pc dc) | WLAN  | 1.99     | ±0.6                     |
| 10572 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS37, 99pc dc) | WLAN  | 1.98     | ±0.6                     |
| 10573 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS38, 99pc dc) | WLAN  | 1.88     | ±0.6                     |
| 10574 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS39, 99pc dc) | WLAN  | 1.59     | ±0.6                     |
| 10575 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS40, 99pc dc) | WLAN  | 8.94     | ±0.6                     |
| 10576 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS41, 99pc dc) | WLAN  | 8.76     | ±0.6                     |
| 10577 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS42, 99pc dc) | WLAN  | 8.48     | ±0.6                     |
| 10578 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS43, 99pc dc) | WLAN  | 8.38     | ±0.6                     |
| 10579 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS44, 99pc dc) | WLAN  | 8.75     | ±0.6                     |
| 10580 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS45, 99pc dc) | WLAN  | 8.35     | ±0.6                     |
| 10581 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS46, 99pc dc) | WLAN  | 8.67     | ±0.6                     |
| 10582 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS47, 99pc dc) | WLAN  | 8.59     | ±0.6                     |
| 10583 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS48, 99pc dc) | WLAN  | 8.60     | ±0.6                     |
| 10584 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS49, 99pc dc) | WLAN  | 8.70     | ±0.6                     |
| 10585 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS50, 99pc dc) | WLAN  | 8.49     | ±0.6                     |
| 10586 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS51, 99pc dc) | WLAN  | 8.36     | ±0.6                     |
| 10587 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS52, 99pc dc) | WLAN  | 8.76     | ±0.6                     |
| 10588 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS53, 99pc dc) | WLAN  | 8.67     | ±0.6                     |
| 10589 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS54, 99pc dc) | WLAN  | 8.67     | ±0.6                     |
| 10590 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS55, 99pc dc) | WLAN  | 8.83     | ±0.6                     |
| 10591 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS56, 99pc dc) | WLAN  | 8.78     | ±0.6                     |
| 10592 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS57, 99pc dc) | WLAN  | 8.64     | ±0.6                     |
| 10593 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS58, 99pc dc) | WLAN  | 8.74     | ±0.6                     |
| 10594 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS59, 99pc dc) | WLAN  | 8.74     | ±0.6                     |
| 10595 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS60, 99pc dc) | WLAN  | 8.71     | ±0.6                     |
| 10596 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS61, 99pc dc) | WLAN  | 8.72     | ±0.6                     |
| 10597 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS62, 99pc dc) | WLAN  | 8.73     | ±0.6                     |
| 10598 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS63, 99pc dc) | WLAN  | 8.75     | ±0.6                     |
| 10599 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS64, 99pc dc) | WLAN  | 8.82     | ±0.6                     |
| 10600 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS65, 99pc dc) | WLAN  | 8.82     | ±0.6                     |
| 10601 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS66, 99pc dc) | WLAN  | 8.94     | ±0.6                     |
| 10602 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS67, 99pc dc) | WLAN  | 8.93     | ±0.6                     |
| 10603 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS68, 99pc dc) | WLAN  | 8.78     | ±0.6                     |
| 10604 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS69, 99pc dc) | WLAN  | 8.97     | ±0.6                     |
| 10605 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS70, 99pc dc) | WLAN  | 8.82     | ±0.6                     |
| 10606 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS71, 99pc dc) | WLAN  | 8.84     | ±0.6                     |
| 10607 | AAZ | IEEE 802.11ac WiFi (40MHz, MCS72, 99pc dc) | WLAN  | 8.77     | ±0.6                     |

| JID   | Rev | Communication System Name                        | Group     | PAR (dB) | Unc <sup>1</sup> k = 2 |
|-------|-----|--------------------------------------------------|-----------|----------|------------------------|
| 10608 | AAC | IEEE 802.11ac WiFi (20MHz, MCS2, 90pc dc)        | WLAN      | 8.57     | ±5.8                   |
| 10610 | AAC | IEEE 802.11ac WiFi (20MHz, MCS3, 90pc dc)        | WLAN      | 8.78     | ±5.6                   |
| 10611 | AAC | IEEE 802.11ac WiFi (20MHz, MCS4, 90pc dc)        | WLAN      | 8.70     | ±5.6                   |
| 10612 | AAC | IEEE 802.11ac WiFi (20MHz, MCS5, 90pc dc)        | WLAN      | 8.77     | ±5.6                   |
| 10613 | AAC | IEEE 802.11ac WiFi (20MHz, MCS6, 90pc dc)        | WLAN      | 8.84     | ±5.6                   |
| 10614 | AAC | IEEE 802.11ac WiFi (20MHz, MCS7, 90pc dc)        | WLAN      | 8.59     | ±5.6                   |
| 10615 | AAC | IEEE 802.11ac WiFi (20MHz, MCS8, 90pc dc)        | WLAN      | 8.82     | ±5.6                   |
| 10616 | AAC | IEEE 802.11ac WiFi (40MHz, MCS8, 90pc dc)        | WLAN      | 8.82     | ±5.6                   |
| 10617 | AAC | IEEE 802.11ac WiFi (40MHz, MCS9, 90pc dc)        | WLAN      | 8.81     | ±5.6                   |
| 10618 | AAC | IEEE 802.11ac WiFi (40MHz, MCS10, 90pc dc)       | WLAN      | 8.58     | ±5.6                   |
| 10619 | AAC | IEEE 802.11ac WiFi (40MHz, MCS11, 90pc dc)       | WLAN      | 8.86     | ±5.6                   |
| 10620 | AAC | IEEE 802.11ac WiFi (40MHz, MCS12, 90pc dc)       | WLAN      | 8.87     | ±5.6                   |
| 10621 | AAC | IEEE 802.11ac WiFi (40MHz, MCS13, 90pc dc)       | WLAN      | 8.77     | ±5.6                   |
| 10622 | AAC | IEEE 802.11ac WiFi (40MHz, MCS14, 90pc dc)       | WLAN      | 8.66     | ±5.6                   |
| 10623 | AAC | IEEE 802.11ac WiFi (40MHz, MCS15, 90pc dc)       | WLAN      | 8.82     | ±5.6                   |
| 10624 | AAC | IEEE 802.11ac WiFi (40MHz, MCS16, 90pc dc)       | WLAN      | 8.86     | ±5.6                   |
| 10625 | AAC | IEEE 802.11ac WiFi (40MHz, MCS17, 90pc dc)       | WLAN      | 8.90     | ±5.6                   |
| 10626 | AAC | IEEE 802.11ac WiFi (80MHz, MCS18, 90pc dc)       | WLAN      | 8.83     | ±5.6                   |
| 10627 | AAC | IEEE 802.11ac WiFi (80MHz, MCS19, 90pc dc)       | WLAN      | 8.88     | ±5.6                   |
| 10628 | AAC | IEEE 802.11ac WiFi (80MHz, MCS20, 90pc dc)       | WLAN      | 8.71     | ±5.6                   |
| 10629 | AAC | IEEE 802.11ac WiFi (80MHz, MCS21, 90pc dc)       | WLAN      | 8.85     | ±5.6                   |
| 10630 | AAC | IEEE 802.11ac WiFi (80MHz, MCS22, 90pc dc)       | WLAN      | 8.72     | ±5.6                   |
| 10631 | AAC | IEEE 802.11ac WiFi (80MHz, MCS23, 90pc dc)       | WLAN      | 8.81     | ±5.6                   |
| 10632 | AAC | IEEE 802.11ac WiFi (80MHz, MCS24, 90pc dc)       | WLAN      | 8.74     | ±5.6                   |
| 10633 | AAC | IEEE 802.11ac WiFi (80MHz, MCS25, 90pc dc)       | WLAN      | 8.83     | ±5.6                   |
| 10634 | AAC | IEEE 802.11ac WiFi (80MHz, MCS26, 90pc dc)       | WLAN      | 8.80     | ±5.6                   |
| 10635 | AAC | IEEE 802.11ac WiFi (80MHz, MCS27, 90pc dc)       | WLAN      | 8.81     | ±5.6                   |
| 10636 | AAC | IEEE 802.11ac WiFi (160MHz, MCS28, 90pc dc)      | WLAN      | 8.83     | ±5.6                   |
| 10637 | AAC | IEEE 802.11ac WiFi (160MHz, MCS29, 90pc dc)      | WLAN      | 8.78     | ±5.6                   |
| 10638 | AAC | IEEE 802.11ac WiFi (160MHz, MCS30, 90pc dc)      | WLAN      | 8.86     | ±5.6                   |
| 10639 | AAC | IEEE 802.11ac WiFi (160MHz, MCS31, 90pc dc)      | WLAN      | 8.85     | ±5.6                   |
| 10640 | AAC | IEEE 802.11ac WiFi (160MHz, MCS32, 90pc dc)      | WLAN      | 8.98     | ±5.6                   |
| 10641 | AAC | IEEE 802.11ac WiFi (160MHz, MCS33, 90pc dc)      | WLAN      | 8.08     | ±5.6                   |
| 10642 | AAC | IEEE 802.11ac WiFi (160MHz, MCS34, 90pc dc)      | WLAN      | 8.06     | ±5.6                   |
| 10643 | AAC | IEEE 802.11ac WiFi (160MHz, MCS35, 90pc dc)      | WLAN      | 8.89     | ±5.6                   |
| 10644 | AAC | IEEE 802.11ac WiFi (160MHz, MCS36, 90pc dc)      | WLAN      | 8.05     | ±5.6                   |
| 10645 | AAC | IEEE 802.11ac WiFi (160MHz, MCS37, 90pc dc)      | WLAN      | 8.11     | ±5.6                   |
| 10646 | AAC | LTE-TDD (SC-FDMA, 3 RB, 5MHz, OFDM, UL Sub-2.7)  | LTE-TDD   | 11.86    | ±3.8                   |
| 10647 | AAC | LTE-TDD (SC-FDMA, 1 RB, 20MHz, OFDM, UL Sub-2.7) | LTE-TDD   | 11.88    | ±3.8                   |
| 10648 | AAC | CDMA2000 (1x Advanced)                           | CDMA2000  | 3.45     | ±3.8                   |
| 10652 | AAC | LTE-TDD (OFDMA, 5MHz, E-TM 3.1, Clipping 44%)    | LTE-TDD   | 6.91     | ±5.8                   |
| 10653 | AAC | LTE-TDD (OFDMA, 10MHz, E-TM 3.1, Clipping 44%)   | LTE-TDD   | 7.42     | ±5.8                   |
| 10654 | AAC | LTE-TDD (OFDMA, 15MHz, E-TM 3.1, Clipping 44%)   | LTE-TDD   | 6.96     | ±5.8                   |
| 10655 | AAC | LTE-TDD (OFDMA, 20MHz, E-TM 3.1, Clipping 44%)   | LTE-TDD   | 7.21     | ±5.8                   |
| 10656 | AAC | Pulse Waveform (200 Hz, 10%)                     | Test      | 10.00    | ±5.5                   |
| 10658 | AAC | Pulse Waveform (200 Hz, 20%)                     | Test      | 6.99     | ±5.5                   |
| 10660 | AAC | Pulse Waveform (200 Hz, 40%)                     | Test      | 3.99     | ±5.5                   |
| 10661 | AAC | Pulse Waveform (200 Hz, 60%)                     | Test      | 2.29     | ±5.5                   |
| 10662 | AAC | Pulse Waveform (200 Hz, 80%)                     | Test      | 0.97     | ±5.5                   |
| 10670 | AAC | Bluetooth Low Energy                             | Bluetooth | 2.19     | ±5.6                   |
| 10671 | AAC | IEEE 802.11ax (20MHz, MCS0, 90pc dc)             | WLAN      | 8.09     | ±5.6                   |
| 10672 | AAC | IEEE 802.11ax (20MHz, MCS1, 90pc dc)             | WLAN      | 8.57     | ±5.6                   |
| 10673 | AAC | IEEE 802.11ax (20MHz, MCS2, 90pc dc)             | WLAN      | 8.70     | ±5.6                   |
| 10674 | AAC | IEEE 802.11ax (20MHz, MCS3, 90pc dc)             | WLAN      | 8.76     | ±5.6                   |
| 10675 | AAC | IEEE 802.11ax (20MHz, MCS4, 90pc dc)             | WLAN      | 8.90     | ±5.6                   |
| 10676 | AAC | IEEE 802.11ax (20MHz, MCS5, 90pc dc)             | WLAN      | 8.77     | ±5.6                   |
| 10677 | AAC | IEEE 802.11ax (20MHz, MCS6, 90pc dc)             | WLAN      | 8.73     | ±5.6                   |
| 10678 | AAC | IEEE 802.11ax (20MHz, MCS7, 90pc dc)             | WLAN      | 8.78     | ±5.6                   |
| 10679 | AAC | IEEE 802.11ax (20MHz, MCS8, 90pc dc)             | WLAN      | 8.89     | ±5.6                   |
| 10680 | AAC | IEEE 802.11ax (20MHz, MCS9, 90pc dc)             | WLAN      | 8.80     | ±5.6                   |
| 10681 | AAC | IEEE 802.11ax (20MHz, MCS10, 90pc dc)            | WLAN      | 8.62     | ±5.6                   |
| 10682 | AAC | IEEE 802.11ax (20MHz, MCS11, 90pc dc)            | WLAN      | 8.83     | ±5.6                   |
| 10683 | AAC | IEEE 802.11ax (20MHz, MCS12, 90pc dc)            | WLAN      | 8.42     | ±5.6                   |
| 10684 | AAC | IEEE 802.11ax (20MHz, MCS13, 90pc dc)            | WLAN      | 8.26     | ±5.6                   |
| 10685 | AAC | IEEE 802.11ax (20MHz, MCS14, 90pc dc)            | WLAN      | 8.33     | ±5.6                   |
| 10686 | AAC | IEEE 802.11ax (20MHz, MCS15, 90pc dc)            | WLAN      | 8.28     | ±5.6                   |

| UID   | Rev | Communication System Name              | Group | PAR (dB) | Unc <sup>E</sup> k = 2 |
|-------|-----|----------------------------------------|-------|----------|------------------------|
| 10687 | AAE | IEEE 802.11ax (20 MHz, MCS4, 99pc dc)  | WLAN  | 8.45     | ±9.6                   |
| 10688 | AAE | IEEE 802.11ax (20 MHz, MCS5, 99pc dc)  | WLAN  | 8.29     | ±9.6                   |
| 10689 | AAD | IEEE 802.11ax (20 MHz, MCS6, 99pc dc)  | WLAN  | 8.55     | ±9.6                   |
| 10690 | AAE | IEEE 802.11ax (20 MHz, MCS7, 99pc dc)  | WLAN  | 8.29     | ±9.6                   |
| 10691 | AAB | IEEE 802.11ax (20 MHz, MCS8, 99pc dc)  | WLAN  | 8.25     | ±9.6                   |
| 10692 | AAA | IEEE 802.11ax (20 MHz, MCS9, 99pc dc)  | WLAN  | 8.29     | ±9.6                   |
| 10693 | AAA | IEEE 802.11ax (20 MHz, MCS10, 99pc dc) | WLAN  | 8.25     | ±9.6                   |
| 10694 | AAA | IEEE 802.11ax (20 MHz, MCS11, 99pc dc) | WLAN  | 8.57     | ±9.6                   |
| 10695 | AAA | IEEE 802.11ax (40 MHz, MCS0, 90pc dc)  | WLAN  | 8.78     | ±9.6                   |
| 10696 | AAA | IEEE 802.11ax (40 MHz, MCS1, 90pc dc)  | WLAN  | 8.91     | ±9.6                   |
| 10697 | AAA | IEEE 802.11ax (40 MHz, MCS2, 90pc dc)  | WLAN  | 8.61     | ±9.6                   |
| 10698 | AAA | IEEE 802.11ax (40 MHz, MCS3, 90pc dc)  | WLAN  | 8.89     | ±9.6                   |
| 10699 | AAA | IEEE 802.11ax (40 MHz, MCS4, 90pc dc)  | WLAN  | 8.82     | ±9.6                   |
| 10700 | AAA | IEEE 802.11ax (40 MHz, MCS5, 90pc dc)  | WLAN  | 8.73     | ±9.6                   |
| 10701 | AAA | IEEE 802.11ax (40 MHz, MCS6, 90pc dc)  | WLAN  | 8.66     | ±9.6                   |
| 10702 | AAA | IEEE 802.11ax (40 MHz, MCS7, 90pc dc)  | WLAN  | 8.70     | ±9.6                   |
| 10703 | AAA | IEEE 802.11ax (40 MHz, MCS8, 90pc dc)  | WLAN  | 8.82     | ±9.6                   |
| 10704 | AAA | IEEE 802.11ax (40 MHz, MCS9, 90pc dc)  | WLAN  | 8.56     | ±9.6                   |
| 10705 | AAA | IEEE 802.11ax (40 MHz, MCS10, 90pc dc) | WLAN  | 8.69     | ±9.6                   |
| 10706 | AAC | IEEE 802.11ax (40 MHz, MCS11, 90pc dc) | WLAN  | 8.66     | ±9.6                   |
| 10707 | AAC | IEEE 802.11ax (40 MHz, MCS0, 99pc dc)  | WLAN  | 8.32     | ±9.6                   |
| 10708 | AAC | IEEE 802.11ax (40 MHz, MCS1, 99pc dc)  | WLAN  | 8.55     | ±9.6                   |
| 10709 | AAC | IEEE 802.11ax (40 MHz, MCS2, 99pc dc)  | WLAN  | 8.33     | ±9.6                   |
| 10710 | AAC | IEEE 802.11ax (40 MHz, MCS3, 99pc dc)  | WLAN  | 8.29     | ±9.6                   |
| 10711 | AAC | IEEE 802.11ax (40 MHz, MCS4, 99pc dc)  | WLAN  | 8.38     | ±9.6                   |
| 10712 | AAC | IEEE 802.11ax (40 MHz, MCS5, 99pc dc)  | WLAN  | 8.67     | ±9.6                   |
| 10713 | AAC | IEEE 802.11ax (40 MHz, MCS6, 99pc dc)  | WLAN  | 8.33     | ±9.6                   |
| 10714 | AAC | IEEE 802.11ax (40 MHz, MCS7, 99pc dc)  | WLAN  | 8.26     | ±9.6                   |
| 10715 | AAC | IEEE 802.11ax (40 MHz, MCS8, 99pc dc)  | WLAN  | 8.45     | ±9.6                   |
| 10716 | AAC | IEEE 802.11ax (40 MHz, MCS9, 99pc dc)  | WLAN  | 8.30     | ±9.6                   |
| 10717 | AAC | IEEE 802.11ax (40 MHz, MCS10, 99pc dc) | WLAN  | 8.48     | ±9.6                   |
| 10718 | AAC | IEEE 802.11ax (40 MHz, MCS11, 99pc dc) | WLAN  | 8.24     | ±9.6                   |
| 10719 | AAC | IEEE 802.11ax (80 MHz, MCS0, 90pc dc)  | WLAN  | 8.81     | ±9.6                   |
| 10720 | AAC | IEEE 802.11ax (80 MHz, MCS1, 90pc dc)  | WLAN  | 8.87     | ±9.6                   |
| 10721 | AAC | IEEE 802.11ax (80 MHz, MCS2, 90pc dc)  | WLAN  | 8.76     | ±9.6                   |
| 10722 | AAC | IEEE 802.11ax (80 MHz, MCS3, 90pc dc)  | WLAN  | 8.55     | ±9.6                   |
| 10723 | AAC | IEEE 802.11ax (80 MHz, MCS4, 90pc dc)  | WLAN  | 8.70     | ±9.6                   |
| 10724 | AAC | IEEE 802.11ax (80 MHz, MCS5, 90pc dc)  | WLAN  | 8.90     | ±9.6                   |
| 10725 | AAC | IEEE 802.11ax (80 MHz, MCS6, 90pc dc)  | WLAN  | 8.74     | ±9.6                   |
| 10726 | AAC | IEEE 802.11ax (80 MHz, MCS7, 90pc dc)  | WLAN  | 8.72     | ±9.6                   |
| 10727 | AAC | IEEE 802.11ax (80 MHz, MCS8, 90pc dc)  | WLAN  | 8.66     | ±9.6                   |
| 10728 | AAC | IEEE 802.11ax (80 MHz, MCS9, 90pc dc)  | WLAN  | 8.65     | ±9.6                   |
| 10729 | AAC | IEEE 802.11ax (80 MHz, MCS10, 90pc dc) | WLAN  | 8.84     | ±9.6                   |
| 10730 | AAC | IEEE 802.11ax (80 MHz, MCS11, 90pc dc) | WLAN  | 8.67     | ±9.6                   |
| 10731 | AAC | IEEE 802.11ax (80 MHz, MCS0, 99pc dc)  | WLAN  | 8.42     | ±9.6                   |
| 10732 | AAC | IEEE 802.11ax (80 MHz, MCS1, 99pc dc)  | WLAN  | 8.46     | ±9.6                   |
| 10733 | AAC | IEEE 802.11ax (80 MHz, MCS2, 99pc dc)  | WLAN  | 8.40     | ±9.6                   |
| 10734 | AAC | IEEE 802.11ax (80 MHz, MCS3, 99pc dc)  | WLAN  | 8.25     | ±9.6                   |
| 10735 | AAC | IEEE 802.11ax (80 MHz, MCS4, 99pc dc)  | WLAN  | 8.33     | ±9.6                   |
| 10736 | AAC | IEEE 802.11ax (80 MHz, MCS5, 99pc dc)  | WLAN  | 8.27     | ±9.6                   |
| 10737 | AAC | IEEE 802.11ax (80 MHz, MCS6, 99pc dc)  | WLAN  | 8.38     | ±9.6                   |
| 10738 | AAC | IEEE 802.11ax (80 MHz, MCS7, 99pc dc)  | WLAN  | 8.42     | ±9.6                   |
| 10739 | AAC | IEEE 802.11ax (80 MHz, MCS8, 99pc dc)  | WLAN  | 8.29     | ±9.6                   |
| 10740 | AAC | IEEE 802.11ax (80 MHz, MCS9, 99pc dc)  | WLAN  | 8.48     | ±9.6                   |
| 10741 | AAC | IEEE 802.11ax (80 MHz, MCS10, 99pc dc) | WLAN  | 8.40     | ±9.6                   |
| 10742 | AAC | IEEE 802.11ax (80 MHz, MCS11, 99pc dc) | WLAN  | 8.43     | ±9.6                   |
| 10743 | AAC | IEEE 802.11ax (160 MHz, MCS0, 90pc dc) | WLAN  | 8.94     | ±9.6                   |
| 10744 | AAC | IEEE 802.11ax (160 MHz, MCS1, 90pc dc) | WLAN  | 9.16     | ±9.6                   |
| 10745 | AAC | IEEE 802.11ax (160 MHz, MCS2, 90pc dc) | WLAN  | 8.93     | ±9.6                   |
| 10746 | AAC | IEEE 802.11ax (160 MHz, MCS3, 90pc dc) | WLAN  | 9.11     | ±9.6                   |
| 10747 | AAC | IEEE 802.11ax (160 MHz, MCS4, 90pc dc) | WLAN  | 9.04     | ±9.6                   |
| 10748 | AAC | IEEE 802.11ax (160 MHz, MCS5, 90pc dc) | WLAN  | 8.93     | ±9.6                   |
| 10749 | AAC | IEEE 802.11ax (160 MHz, MCS6, 90pc dc) | WLAN  | 8.90     | ±9.6                   |
| 10750 | AAC | IEEE 802.11ax (160 MHz, MCS7, 90pc dc) | WLAN  | 8.79     | ±9.6                   |
| 10751 | AAC | IEEE 802.11ax (160 MHz, MCS8, 90pc dc) | WLAN  | 8.82     | ±9.6                   |
| 10752 | AAC | IEEE 802.11ax (160 MHz, MCS9, 90pc dc) | WLAN  | 8.81     | ±9.6                   |



| MHz   | Rev | Communication System Name                     | Group         | PAR (dB) | Unc <sup>B</sup> k = 2 |
|-------|-----|-----------------------------------------------|---------------|----------|------------------------|
| 10752 | AAC | IEEE 802.11ax (160MHz, MCS10, 80pc dc)        | WLAN          | 8.00     | +9.6                   |
| 10754 | AAC | IEEE 802.11ax (160MHz, MCS11, 80pc dc)        | WLAN          | 8.94     | +9.6                   |
| 10756 | AAC | IEEE 802.11ax (160MHz, MCS1, 80pc dc)         | WLAN          | 8.64     | +0.0                   |
| 10758 | AAC | IEEE 802.11ax (160MHz, MCS1, 80pc dc)         | WLAN          | 8.77     | +9.6                   |
| 10760 | AAC | IEEE 802.11ax (160MHz, MCS2, 80pc dc)         | WLAN          | 8.77     | +9.6                   |
| 10762 | AAC | IEEE 802.11ax (160MHz, MCS2, 80pc dc)         | WLAN          | 8.69     | +0.0                   |
| 10764 | AAC | IEEE 802.11ax (160MHz, MCS4, 80pc dc)         | WLAN          | 8.58     | +0.0                   |
| 10766 | AAC | IEEE 802.11ax (160MHz, MCS5, 80pc dc)         | WLAN          | 8.48     | +0.0                   |
| 10768 | AAC | IEEE 802.11ax (160MHz, MCS6, 80pc dc)         | WLAN          | 8.52     | +0.0                   |
| 10770 | AAC | IEEE 802.11ax (160MHz, MCS7, 80pc dc)         | WLAN          | 8.49     | +0.0                   |
| 10772 | AAC | IEEE 802.11ax (160MHz, MCS8, 80pc dc)         | WLAN          | 8.53     | +0.0                   |
| 10774 | AAC | IEEE 802.11ax (160MHz, MCS9, 80pc dc)         | WLAN          | 8.54     | +0.0                   |
| 10776 | AAC | IEEE 802.11ax (160MHz, MCS10, 80pc dc)        | WLAN          | 8.54     | +0.0                   |
| 10778 | AAC | IEEE 802.11ax (160MHz, MCS11, 80pc dc)        | WLAN          | 8.51     | +0.0                   |
| 10780 | AAC | 5G NR (CP-OFDM, 1 RB, 5MHz, QPSK, 15 kHz)     | 5G NR FR1 TDD | 7.39     | +0.0                   |
| 10782 | AAC | 5G NR (CP-OFDM, 1 RB, 10MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.01     | +0.0                   |
| 10784 | AAC | 5G NR (CP-OFDM, 1 RB, 15MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.01     | +0.0                   |
| 10786 | AAC | 5G NR (CP-OFDM, 1 RB, 20MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.02     | +0.0                   |
| 10788 | AAC | 5G NR (CP-OFDM, 1 RB, 25MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.02     | +0.0                   |
| 10790 | AAC | 5G NR (CP-OFDM, 1 RB, 30MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.23     | +0.0                   |
| 10792 | AAC | 5G NR (CP-OFDM, 1 RB, 40MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.03     | +0.0                   |
| 10794 | AAC | 5G NR (CP-OFDM, 1 RB, 50MHz, QPSK, 15 kHz)    | 5G NR FR1 TDD | 8.02     | +0.0                   |
| 10796 | AAC | 5G NR (CP-OFDM, 30% RB, 5MHz, QPSK, 15 kHz)   | 5G NR FR1 TDD | 8.31     | +0.0                   |
| 10798 | AAC | 5G NR (CP-OFDM, 50% RB, 5MHz, QPSK, 15 kHz)   | 5G NR FR1 TDD | 8.30     | +0.0                   |
| 10800 | AAC | 5G NR (CP-OFDM, 50% RB, 10MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.30     | +0.0                   |
| 10802 | AAC | 5G NR (CP-OFDM, 50% RB, 20MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.34     | +0.0                   |
| 10804 | AAC | 5G NR (CP-OFDM, 50% RB, 25MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.42     | +0.0                   |
| 10806 | AAC | 5G NR (CP-OFDM, 50% RB, 30MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.38     | +0.0                   |
| 10808 | AAC | 5G NR (CP-OFDM, 50% RB, 40MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.38     | +0.0                   |
| 10810 | AAC | 5G NR (CP-OFDM, 50% RB, 50MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.43     | +0.0                   |
| 10812 | AAC | 5G NR (CP-OFDM, 100% RB, 5MHz, QPSK, 15 kHz)  | 5G NR FR1 TDD | 8.21     | +0.0                   |
| 10814 | AAC | 5G NR (CP-OFDM, 100% RB, 10MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.25     | +0.0                   |
| 10816 | AAC | 5G NR (CP-OFDM, 100% RB, 15MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.40     | +0.0                   |
| 10818 | AAC | 5G NR (CP-OFDM, 100% RB, 20MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.35     | +0.0                   |
| 10820 | AAC | 5G NR (CP-OFDM, 100% RB, 25MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.44     | +0.0                   |
| 10822 | AAC | 5G NR (CP-OFDM, 100% RB, 30MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.28     | +0.0                   |
| 10824 | AAC | 5G NR (CP-OFDM, 100% RB, 40MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.37     | +0.0                   |
| 10826 | AAC | 5G NR (CP-OFDM, 100% RB, 50MHz, QPSK, 15 kHz) | 5G NR FR1 TDD | 8.06     | +0.0                   |
| 10828 | AAC | 5G NR (CP-OFDM, 1 RB, 5MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 7.83     | +0.0                   |
| 10830 | AAC | 5G NR (CP-OFDM, 1 RB, 10MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.92     | +0.0                   |
| 10832 | AAC | 5G NR (CP-OFDM, 1 RB, 15MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.95     | +0.0                   |
| 10834 | AAC | 5G NR (CP-OFDM, 1 RB, 20MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.82     | +0.0                   |
| 10836 | AAC | 5G NR (CP-OFDM, 1 RB, 25MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.84     | +0.0                   |
| 10838 | AAC | 5G NR (CP-OFDM, 1 RB, 30MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.82     | +0.0                   |
| 10840 | AAC | 5G NR (CP-OFDM, 1 RB, 40MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 8.01     | +0.0                   |
| 10842 | AAC | 5G NR (CP-OFDM, 1 RB, 50MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.90     | +0.0                   |
| 10844 | AAC | 5G NR (CP-OFDM, 1 RB, 60MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.93     | +0.0                   |
| 10846 | AAC | 5G NR (CP-OFDM, 1 RB, 80MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.89     | +0.0                   |
| 10848 | AAC | 5G NR (CP-OFDM, 1 RB, 90MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 7.87     | +0.0                   |
| 10850 | AAC | 5G NR (CP-OFDM, 1 RB, 100MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 7.93     | +0.0                   |
| 10852 | AAC | 5G NR (CP-OFDM, 50% RB, 10MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.34     | +0.0                   |
| 10854 | AAC | 5G NR (CP-OFDM, 50% RB, 15MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.27     | +0.0                   |
| 10856 | AAC | 5G NR (CP-OFDM, 50% RB, 20MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.34     | +0.0                   |
| 10858 | AAC | 5G NR (CP-OFDM, 50% RB, 25MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.34     | +0.0                   |
| 10860 | AAC | 5G NR (CP-OFDM, 50% RB, 30MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.35     | +0.0                   |
| 10862 | AAC | 5G NR (CP-OFDM, 50% RB, 40MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.35     | +0.0                   |
| 10864 | AAC | 5G NR (CP-OFDM, 100% RB, 5MHz, QPSK, 30 kHz)  | 5G NR FR1 TDD | 8.35     | +0.0                   |
| 10866 | AAC | 5G NR (CP-OFDM, 100% RB, 10MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.34     | +0.0                   |
| 10868 | AAC | 5G NR (CP-OFDM, 100% RB, 15MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.33     | +0.0                   |
| 10870 | AAC | 5G NR (CP-OFDM, 100% RB, 20MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.30     | +0.0                   |
| 10872 | AAC | 5G NR (CP-OFDM, 100% RB, 25MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.41     | +0.0                   |
| 10874 | AAC | 5G NR (CP-OFDM, 100% RB, 30MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.41     | +0.0                   |
| 10876 | AAC | 5G NR (CP-OFDM, 100% RB, 40MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.36     | +0.0                   |
| 10878 | AAC | 5G NR (CP-OFDM, 100% RB, 50MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.09     | +0.0                   |
| 10880 | AAC | 5G NR (CP-OFDM, 100% RB, 60MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.41     | +0.0                   |
| 10882 | AAC | 5G NR (CP-OFDM, 100% RB, 80MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.42     | +0.0                   |
| 10884 | AAC | 5G NR (CP-OFDM, 100% RB, 90MHz, QPSK, 30 kHz) | 5G NR FR1 TDD | 8.43     | +0.0                   |

| U#    | Rev | Communication System Name                           | Group         | PAR (dB) | Unc <sup>B</sup> k = 2 |
|-------|-----|-----------------------------------------------------|---------------|----------|------------------------|
| 10829 | AAD | 5G NR (CP-OFDM, 100% RB, 10MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 8.40     | ±0.1                   |
| 10830 | AAD | 5G NR (CP-OFDM, 1 RB, 10MHz, QPSK, 30 kHz)          | 5G NR FR1 TDD | 7.83     | ±0.1                   |
| 10831 | AAD | 5G NR (CP-OFDM, 1 RB, 15MHz, QPSK, 30 kHz)          | 5G NR FR1 TDD | 7.72     | ±0.1                   |
| 10832 | AAD | 5G NR (CP-OFDM, 1 RB, 20MHz, QPSK, 30 kHz)          | 5G NR FR1 TDD | 7.74     | ±0.1                   |
| 10833 | AAD | 5G NR (CP-OFDM, 1 RB, 25MHz, QPSK, 30 kHz)          | 5G NR FR1 TDD | 7.70     | ±0.1                   |
| 10834 | AAD | 5G NR (CP-OFDM, 1 RB, 30MHz, QPSK, 30 kHz)          | 5G NR FR1 TDD | 7.73     | ±0.1                   |
| 10835 | AAD | 5G NR (CP-OFDM, 1 RB, 40MHz, QPSK, 30 kHz)          | 5G NR FR1 TDD | 7.70     | ±0.1                   |
| 10836 | AAD | 5G NR (CP-OFDM, 1 RB, 50MHz, QPSK, 30 kHz)          | 5G NR FR1 TDD | 7.88     | ±0.1                   |
| 10837 | AAD | 5G NR (CP-OFDM, 1 RB, 60MHz, QPSK, 30 kHz)          | 5G NR FR1 TDD | 7.88     | ±0.1                   |
| 10839 | AAD | 5G NR (CP-OFDM, 1 RB, 80MHz, QPSK, 30 kHz)          | 5G NR FR1 TDD | 7.70     | ±0.1                   |
| 10840 | AAD | 5G NR (CP-OFDM, 1 RB, 90MHz, QPSK, 30 kHz)          | 5G NR FR1 TDD | 7.87     | ±0.1                   |
| 10841 | AAD | 5G NR (CP-OFDM, 1 RB, 100MHz, QPSK, 30 kHz)         | 5G NR FR1 TDD | 7.71     | ±0.1                   |
| 10843 | AAD | 5G NR (CP-OFDM, 50% RB, 15MHz, QPSK, 60 kHz)        | 5G NR FR1 TDD | 8.48     | ±0.1                   |
| 10844 | AAD | 5G NR (CP-OFDM, 50% RB, 20MHz, QPSK, 60 kHz)        | 5G NR FR1 TDD | 8.34     | ±0.1                   |
| 10846 | AAD | 5G NR (CP-OFDM, 50% RB, 30MHz, QPSK, 60 kHz)        | 5G NR FR1 TDD | 8.41     | ±0.1                   |
| 10854 | AAD | 5G NR (CP-OFDM, 100% RB, 10MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.34     | ±0.1                   |
| 10855 | AAD | 5G NR (CP-OFDM, 100% RB, 15MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.35     | ±0.1                   |
| 10856 | AAD | 5G NR (CP-OFDM, 100% RB, 20MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.37     | ±0.1                   |
| 10857 | AAD | 5G NR (CP-OFDM, 100% RB, 25MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.35     | ±0.1                   |
| 10858 | AAD | 5G NR (CP-OFDM, 100% RB, 30MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.36     | ±0.1                   |
| 10859 | AAD | 5G NR (CP-OFDM, 100% RB, 40MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.34     | ±0.1                   |
| 10860 | AAD | 5G NR (CP-OFDM, 100% RB, 50MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.41     | ±0.1                   |
| 10861 | AAD | 5G NR (CP-OFDM, 100% RB, 60MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.40     | ±0.1                   |
| 10863 | AAD | 5G NR (CP-OFDM, 100% RB, 80MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.41     | ±0.1                   |
| 10864 | AAD | 5G NR (CP-OFDM, 100% RB, 90MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.37     | ±0.1                   |
| 10865 | AAD | 5G NR (CP-OFDM, 100% RB, 100MHz, QPSK, 60 kHz)      | 5G NR FR1 TDD | 8.41     | ±0.1                   |
| 10866 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD | 5.88     | ±0.1                   |
| 10868 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.88     | ±0.1                   |
| 10869 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100MHz, QPSK, 120 kHz)     | 5G NR FR2 TDD | 5.75     | ±0.1                   |
| 10870 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100MHz, QPSK, 120 kHz)  | 5G NR FR2 TDD | 5.86     | ±0.1                   |
| 10871 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100MHz, 16QAM, 120 kHz)    | 5G NR FR2 TDD | 5.75     | ±0.1                   |
| 10872 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD | 6.52     | ±0.1                   |
| 10873 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100MHz, 64QAM, 120 kHz)    | 5G NR FR2 TDD | 6.81     | ±0.1                   |
| 10874 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100MHz, 64QAM, 120 kHz) | 5G NR FR2 TDD | 6.65     | ±0.1                   |
| 10875 | AAD | 5G NR (CP-OFDM, 1 RB, 100MHz, QPSK, 120 kHz)        | 5G NR FR2 TDD | 7.78     | ±0.1                   |
| 10876 | AAD | 5G NR (CP-OFDM, 100% RB, 100MHz, QPSK, 120 kHz)     | 5G NR FR2 TDD | 8.35     | ±0.1                   |
| 10877 | AAD | 5G NR (CP-OFDM, 1 RB, 100MHz, 16QAM, 120 kHz)       | 5G NR FR2 TDD | 7.95     | ±0.1                   |
| 10878 | AAD | 5G NR (CP-OFDM, 100% RB, 100MHz, 16QAM, 120 kHz)    | 5G NR FR2 TDD | 8.41     | ±0.1                   |
| 10879 | AAD | 5G NR (CP-OFDM, 1 RB, 100MHz, 64QAM, 120 kHz)       | 5G NR FR2 TDD | 8.12     | ±0.1                   |
| 10880 | AAD | 5G NR (CP-OFDM, 100% RB, 100MHz, 64QAM, 120 kHz)    | 5G NR FR2 TDD | 8.38     | ±0.1                   |
| 10881 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50MHz, QPSK, 120 kHz)      | 5G NR FR2 TDD | 5.75     | ±0.1                   |
| 10882 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50MHz, QPSK, 120 kHz)   | 5G NR FR2 TDD | 5.86     | ±0.1                   |
| 10883 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50MHz, 16QAM, 120 kHz)     | 5G NR FR2 TDD | 6.57     | ±0.1                   |
| 10884 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50MHz, 16QAM, 120 kHz)  | 5G NR FR2 TDD | 6.53     | ±0.1                   |
| 10885 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50MHz, 64QAM, 120 kHz)     | 5G NR FR2 TDD | 6.61     | ±0.1                   |
| 10886 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50MHz, 64QAM, 120 kHz)  | 5G NR FR2 TDD | 6.65     | ±0.1                   |
| 10887 | AAD | 5G NR (CP-OFDM, 1 RB, 50MHz, QPSK, 120 kHz)         | 5G NR FR2 TDD | 7.78     | ±0.1                   |
| 10888 | AAD | 5G NR (CP-OFDM, 100% RB, 50MHz, QPSK, 120 kHz)      | 5G NR FR2 TDD | 8.35     | ±0.1                   |
| 10889 | AAD | 5G NR (CP-OFDM, 1 RB, 50MHz, 16QAM, 120 kHz)        | 5G NR FR2 TDD | 8.02     | ±0.1                   |
| 10890 | AAD | 5G NR (CP-OFDM, 100% RB, 50MHz, 16QAM, 120 kHz)     | 5G NR FR2 TDD | 8.40     | ±0.1                   |
| 10891 | AAD | 5G NR (CP-OFDM, 1 RB, 50MHz, 64QAM, 120 kHz)        | 5G NR FR2 TDD | 8.11     | ±0.1                   |
| 10892 | AAD | 5G NR (CP-OFDM, 100% RB, 50MHz, 64QAM, 120 kHz)     | 5G NR FR2 TDD | 8.41     | ±0.1                   |
| 10897 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 5MHz, QPSK, 30 kHz)        | 5G NR FR1 TDD | 5.66     | ±0.1                   |
| 10898 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 10MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.67     | ±0.1                   |
| 10899 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 15MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.67     | ±0.1                   |
| 10900 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 20MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±0.1                   |
| 10901 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 25MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±0.1                   |
| 10902 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 30MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±0.1                   |
| 10903 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 40MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±0.1                   |
| 10904 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±0.1                   |
| 10905 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 60MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±0.1                   |
| 10906 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 80MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±0.1                   |
| 10907 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 5MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD | 5.78     | ±0.1                   |
| 10908 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 10MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.80     | ±0.1                   |
| 10909 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 15MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.86     | ±0.1                   |
| 10910 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 20MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.83     | ±0.1                   |

| UID   | Rev | Communication System Name                           | Group         | PAR(dB) | Loss <sup>2</sup> < ±2 |
|-------|-----|-----------------------------------------------------|---------------|---------|------------------------|
| 10911 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 25MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.55    | +0.5                   |
| 10912 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 25MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.54    | +0.5                   |
| 10913 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 40MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.54    | +0.5                   |
| 10914 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 50MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.55    | +0.5                   |
| 10915 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 60MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.55    | +0.5                   |
| 10916 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 80MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.57    | +0.5                   |
| 10917 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 100MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.54    | +0.5                   |
| 10918 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 15MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.55    | +0.5                   |
| 10919 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 15MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.55    | +0.5                   |
| 10920 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 15MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.57    | +0.5                   |
| 10921 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 30MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.54    | +0.5                   |
| 10922 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 30MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.52    | +0.5                   |
| 10923 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 30MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.44    | +0.5                   |
| 10924 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 40MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.44    | +0.5                   |
| 10925 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.45    | +0.5                   |
| 10926 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 60MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.44    | +0.5                   |
| 10927 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 80MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.44    | +0.5                   |
| 10928 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)       | 5G NR FR1 FDD | 5.52    | +0.5                   |
| 10929 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.52    | +0.5                   |
| 10930 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.52    | +0.5                   |
| 10931 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.52    | +0.5                   |
| 10932 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.52    | +0.5                   |
| 10933 | AAA | 5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51    | +0.5                   |
| 10934 | AAA | 5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51    | +0.5                   |
| 10935 | AAA | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51    | +0.5                   |
| 10936 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)     | 5G NR FR1 FDD | 5.50    | +0.5                   |
| 10937 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.77    | +0.5                   |
| 10938 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.50    | +0.5                   |
| 10939 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.52    | +0.5                   |
| 10940 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.55    | +0.5                   |
| 10941 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.52    | +0.5                   |
| 10942 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.52    | +0.5                   |
| 10943 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.55    | +0.5                   |
| 10944 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.51    | +0.5                   |
| 10945 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.52    | +0.5                   |
| 10946 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.50    | +0.5                   |
| 10947 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.57    | +0.5                   |
| 10948 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.54    | +0.5                   |
| 10949 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.57    | +0.5                   |
| 10950 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.54    | +0.5                   |
| 10951 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.52    | +0.5                   |
| 10952 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 15 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 6.25    | +0.5                   |
| 10953 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 10 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 6.15    | +0.5                   |
| 10954 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 15 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 6.22    | +0.5                   |
| 10955 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 10 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 6.42    | +0.5                   |
| 10956 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 15 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 6.14    | +0.5                   |
| 10957 | AAC | 5G NR DL (CP-OFDM, TM 3 1, 10 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 6.31    | +0.5                   |
| 10958 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 15 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 6.61    | +0.5                   |
| 10959 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 30 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 6.33    | +0.5                   |
| 10960 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 5 MHz, 64-QAM, 15 kHz)   | 5G NR FR1 TDD | 6.32    | +0.5                   |
| 10961 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 10 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 6.26    | +0.5                   |
| 10962 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 15 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 6.45    | +0.5                   |
| 10963 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 20 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 6.55    | +0.5                   |
| 10964 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 5 MHz, 64-QAM, 30 kHz)   | 5G NR FR1 TDD | 6.29    | +0.5                   |
| 10965 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 15 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 6.37    | +0.5                   |
| 10966 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 15 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 6.55    | +0.5                   |
| 10967 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 30 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 6.42    | +0.5                   |
| 10968 | AAB | 5G NR DL (CP-OFDM, TM 3 1, 100 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 6.49    | +0.5                   |
| 10972 | AAB | 5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)          | 5G NR FR1 TDD | 11.50   | +0.5                   |
| 10973 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 6.06    | +0.5                   |
| 10974 | AAB | 5G NR (CP-OFDM, 100% RB, 130 MHz, 256-QAM, 30 kHz)  | 5G NR FR1 TDD | 10.28   | +0.5                   |
| 10976 | AAA | ULLA BDR                                            | ULLA          | 2.03    | +0.5                   |
| 10979 | AAA | ULLA HDR4                                           | ULLA          | 7.02    | +0.5                   |
| 10980 | AAA | ULLA HDR5                                           | ULLA          | 6.62    | +0.5                   |
| 10981 | AAA | ULLA HDRp4                                          | ULLA          | 1.50    | +0.5                   |
| 10982 | AAA | ULLA HDRp5                                          | ULLA          | 1.49    | +0.5                   |

| UID   | Rev | Communication System Name                          | Group         | PAR (dB) | Unc <sup>E</sup> $k = 2$ |
|-------|-----|----------------------------------------------------|---------------|----------|--------------------------|
| 10983 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz) | 5G NR FR1 TDD | 9.31     | $\pm 9.6$                |
| 10984 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz) | 5G NR FR1 TDD | 9.42     | $\pm 9.6$                |
| 10985 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.54     | $\pm 9.6$                |
| 10986 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.50     | $\pm 9.6$                |
| 10987 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 60 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.53     | $\pm 9.6$                |
| 10988 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 70 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.38     | $\pm 9.6$                |
| 10989 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 80 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.33     | $\pm 9.6$                |
| 10990 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 90 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.52     | $\pm 9.6$                |

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