

## 1.1. DAE4 Calibration Certificate

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



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Accreditation No.: **SCS 0108**

Client **CCIC - HTW (Auden)**

Certificate No: **DAE4-1549\_Apr18**

## CALIBRATION CERTIFICATE

Object **DAE4 - SD 000 D04 BN - SN: 1549**

Calibration procedure(s) **QA CAL-06.v29  
Calibration procedure for the data acquisition electronics (DAE)**

Calibration date: **April 25, 2018**

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

All calibrations have been conducted in the closed laboratory facility; environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards             | ID #               | Cal Date (Certificate No.) | Scheduled Calibration  |
|-------------------------------|--------------------|----------------------------|------------------------|
| Keithley Multimeter Type 2001 | SN: 0810278        | 31-Aug-17 (No:21092)       | Aug-18                 |
| Secondary Standards           | ID #               | Check Date (in house)      | Scheduled Check        |
| Auto DAE Calibration Unit     | SE UWS 063 AA 1001 | 04-Jan-18 (in house check) | In house check: Jan-19 |
| Calibrator Box V2.1           | SE UMS 006 AA 1002 | 04-Jan-18 (in house check) | In house check: Jan-19 |

|                |                              |                                          |               |
|----------------|------------------------------|------------------------------------------|---------------|
| Calibrated by: | Name<br><b>Eric Hainfeld</b> | Function<br><b>Laboratory Technician</b> | Signature<br> |
| Approved by:   | Name<br><b>Sven Kühn</b>     | Function<br><b>Deputy Manager</b>        | Signature<br> |

Issued: April 25, 2018

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### Glossary

DAE data acquisition electronics  
 Connector angle information used in DASY system to align probe sensor X to the robot coordinate system.

### Methods Applied and Interpretation of Parameters

- *DC Voltage Measurement:* Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle:* The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
  - *DC Voltage Measurement Linearity:* Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
  - *Common mode sensitivity:* Influence of a positive or negative common mode voltage on the differential measurement.
  - *Channel separation:* Influence of a voltage on the neighbor channels not subject to an input voltage.
  - *AD Converter Values with inputs shorted:* Values on the internal AD converter corresponding to zero input voltage
  - *Input Offset Measurement:* Output voltage and statistical results over a large number of zero voltage measurements.
  - *Input Offset Current:* Typical value for information; Maximum channel input offset current, not considering the input resistance.
  - *Input resistance:* Typical value for information: DAE input resistance at the connector, during internal auto-zeroing and during measurement.
  - *Low Battery Alarm Voltage:* Typical value for information. Below this voltage, a battery alarm signal is generated.
  - *Power consumption:* Typical value for information. Supply currents in various operating modes.

**DC Voltage Measurement**

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1 $\mu$ V, full range = -100...+300 mV  
Low Range: 1LSB = 61nV, full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

| Calibration Factors | X                         | Y                         | Z                         |
|---------------------|---------------------------|---------------------------|---------------------------|
| High Range          | 406.286 $\pm$ 0.02% (k=2) | 405.992 $\pm$ 0.02% (k=2) | 406.121 $\pm$ 0.02% (k=2) |
| Low Range           | 3.98481 $\pm$ 1.50% (k=2) | 3.99129 $\pm$ 1.50% (k=2) | 3.99380 $\pm$ 1.50% (k=2) |

**Connector Angle**

|                                           |                  |
|-------------------------------------------|------------------|
| Connector Angle to be used in DASY system | 19.5 ° $\pm$ 1 ° |
|-------------------------------------------|------------------|

**Appendix (Additional assessments outside the scope of SCS0108)****1. DC Voltage Linearity**

| High Range |         | Reading ( $\mu\text{V}$ ) | Difference ( $\mu\text{V}$ ) | Error (%) |
|------------|---------|---------------------------|------------------------------|-----------|
| Channel X  | + Input | 200032.88                 | -6.49                        | -0.00     |
| Channel X  | + Input | 20007.86                  | 2.59                         | 0.01      |
| Channel X  | - Input | -19999.45                 | 5.51                         | -0.03     |
| Channel Y  | + Input | 200041.48                 | 8.18                         | 0.00      |
| Channel Y  | + Input | 20005.02                  | -0.19                        | -0.00     |
| Channel Y  | - Input | -20006.61                 | -1.53                        | 0.01      |
| Channel Z  | + Input | 200032.37                 | -0.87                        | -0.00     |
| Channel Z  | + Input | 20003.95                  | -1.15                        | -0.01     |
| Channel Z  | - Input | -20006.60                 | -1.44                        | 0.01      |

| Low Range |         | Reading ( $\mu\text{V}$ ) | Difference ( $\mu\text{V}$ ) | Error (%) |
|-----------|---------|---------------------------|------------------------------|-----------|
| Channel X | + Input | 2001.67                   | 0.37                         | 0.02      |
| Channel X | + Input | 201.82                    | 0.29                         | 0.15      |
| Channel X | - Input | -198.25                   | 0.31                         | -0.16     |
| Channel Y | + Input | 2001.35                   | 0.05                         | 0.00      |
| Channel Y | + Input | 200.82                    | -0.59                        | -0.29     |
| Channel Y | - Input | -199.06                   | -0.48                        | 0.24      |
| Channel Z | + Input | 2000.94                   | -0.41                        | -0.02     |
| Channel Z | + Input | 200.84                    | -0.55                        | -0.27     |
| Channel Z | - Input | -199.79                   | -1.17                        | 0.59      |

**2. Common mode sensitivity**

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

|           | Common mode Input Voltage (mV) | High Range Average Reading ( $\mu\text{V}$ ) | Low Range Average Reading ( $\mu\text{V}$ ) |
|-----------|--------------------------------|----------------------------------------------|---------------------------------------------|
| Channel X | 200                            | -15.83                                       | -18.16                                      |
|           | - 200                          | 21.36                                        | 19.06                                       |
| Channel Y | 200                            | 20.98                                        | 20.64                                       |
|           | - 200                          | -22.25                                       | -22.23                                      |
| Channel Z | 200                            | 5.37                                         | 5.05                                        |
|           | - 200                          | -7.46                                        | -7.54                                       |

**3. Channel separation**

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

|           | Input Voltage (mV) | Channel X ( $\mu\text{V}$ ) | Channel Y ( $\mu\text{V}$ ) | Channel Z ( $\mu\text{V}$ ) |
|-----------|--------------------|-----------------------------|-----------------------------|-----------------------------|
| Channel X | 200                | -                           | -1.66                       | -2.66                       |
| Channel Y | 200                | 5.97                        | -                           | -0.75                       |
| Channel Z | 200                | 9.87                        | 3.19                        | -                           |

**4. AD-Converter Values with inputs shorted**

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

|           | High Range (LSB) | Low Range (LSB) |
|-----------|------------------|-----------------|
| Channel X | 16424            | 16943           |
| Channel Y | 15770            | 17113           |
| Channel Z | 15616            | 15207           |

**5. Input Offset Measurement**DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec  
Input 10M $\Omega$ 

|           | Average ( $\mu$ V) | min. Offset ( $\mu$ V) | max. Offset ( $\mu$ V) | Std. Deviation ( $\mu$ V) |
|-----------|--------------------|------------------------|------------------------|---------------------------|
| Channel X | -0.33              | -1.57                  | 0.89                   | 0.48                      |
| Channel Y | 0.13               | -0.93                  | 1.54                   | 0.52                      |
| Channel Z | -0.98              | -2.13                  | 0.50                   | 0.47                      |

**6. Input Offset Current**

Nominal Input circuitry offset current on all channels: &lt;25fA

**7. Input Resistance** (Typical values for information)

|           | Zeroing (k $\Omega$ m) | Measuring (M $\Omega$ m) |
|-----------|------------------------|--------------------------|
| Channel X | 200                    | 200                      |
| Channel Y | 200                    | 200                      |
| Channel Z | 200                    | 200                      |

**8. Low Battery Alarm Voltage** (Typical values for information)

| Typical values | Alarm Level (VDC) |
|----------------|-------------------|
| Supply (+ Vcc) | +7.9              |
| Supply (- Vcc) | -7.6              |

**9. Power Consumption** (Typical values for information)

| Typical values | Switched off (mA) | Stand by (mA) | Transmitting (mA) |
|----------------|-------------------|---------------|-------------------|
| Supply (+ Vcc) | +0.01             | +6            | +14               |
| Supply (- Vcc) | -0.01             | -8            | -9                |

## 1.2. Probe Calibration Certificate

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Accreditation No.: **SCS 0108**

Client **CCIC-HTW (Auden)**

Certificate No: **EX3-7494\_Feb18**

## CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:7494**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-12.v9, QA CAL-14.v4, QA CAL-23.v5,  
 QA CAL-25.v6  
 Calibration procedure for dosimetric E-field probes**

Calibration date: **February 26, 2018**

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

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

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards          | ID               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|----------------------------|------------------|-----------------------------------|------------------------|
| Power meter NRP            | SN: 104778       | 04-Apr-17 (No. 217-02521/02522)   | Apr-18                 |
| Power sensor NRP-Z91       | SN: 103244       | 04-Apr-17 (No. 217-02521)         | Apr-18                 |
| Power sensor NRP-Z91       | SN: 103245       | 04-Apr-17 (No. 217-02525)         | Apr-18                 |
| Reference 20 dB Attenuator | SN: S5277 (20x)  | 07-Apr-17 (No. 217-02528)         | Apr-18                 |
| Reference Probe ES3DV2     | SN: 3013         | 30-Dec-17 (No. ES3-3013_Dec17)    | Dec-18                 |
| DAE4                       | SN: 660          | 21-Dec-17 (No. DAE4-660_Dec17)    | Dec-18                 |
| Secondary Standards        | ID               | Check Date (in house)             | Scheduled Check        |
| Power meter E4419B         | SN: GB41293874   | 06-Apr-16 (in house check Jun-16) | In house check: Jun-18 |
| Power sensor E4412A        | SN: MY41498087   | 06-Apr-16 (in house check Jun-16) | In house check: Jun-18 |
| Power sensor E4412A        | SN: 000110210    | 06-Apr-16 (in house check Jun-16) | In house check: Jun-18 |
| RF generator HP 8648C      | SN: US3642U01700 | 04-Aug-99 (in house check Jun-16) | In house check: Jun-18 |
| Network Analyzer HP 8753E  | SN: US37390585   | 18-Oct-01 (in house check Oct-17) | In house check: Oct-18 |

|                | Name           | Function              | Signature                 |
|----------------|----------------|-----------------------|---------------------------|
| Calibrated by: | Jeton Kastrati | Laboratory Technician |                           |
| Approved by:   | Katja Pokovic  | Technical Manager     |                           |
|                |                |                       | Issued: February 27, 2018 |

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Certificate No: EX3-7494\_Feb18

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#### 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:

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

#### Methods Applied and Interpretation of Parameters:

- 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  $E^2$ -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 (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).

EX3DV4 – SN:7494

February 26, 2018

# Probe EX3DV4

## SN:7494

Manufactured: March 20, 2017  
Calibrated: February 26, 2018

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

EX3DV4- SN:7494

February 26, 2018

**DASY/EASY - Parameters of Probe: EX3DV4 - SN:7494****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     | 0.46     | 0.38     | $\pm 10.1 \%$ |
| DCP (mV) <sup>B</sup>                                     | 96.1     | 100.9    | 97.7     |               |

**Modulation Calibration Parameters**

| UID | Communication System Name |   | A<br>dB | B<br>dB $\sqrt{\mu\text{V}}$ | C   | D<br>dB | VR<br>mV | Unc <sup>E</sup><br>(k=2) |
|-----|---------------------------|---|---------|------------------------------|-----|---------|----------|---------------------------|
| 0   | CW                        | X | 0.0     | 0.0                          | 1.0 | 0.00    | 139.9    | $\pm 3.0 \%$              |
|     |                           | Y | 0.0     | 0.0                          | 1.0 |         | 130.5    |                           |
|     |                           | Z | 0.0     | 0.0                          | 1.0 |         | 141.2    |                           |

Note: For details on UID parameters see Appendix.

**Sensor Model Parameters**

|   | C1<br>fF | C2<br>fF | $\alpha$<br>$\text{V}^{-1}$ | T1<br>$\text{ms}\cdot\text{V}^{-2}$ | T2<br>$\text{ms}\cdot\text{V}^{-1}$ | T3<br>ms | T4<br>$\text{V}^{-2}$ | T5<br>$\text{V}^{-1}$ | T6    |
|---|----------|----------|-----------------------------|-------------------------------------|-------------------------------------|----------|-----------------------|-----------------------|-------|
| X | 35.16    | 262.6    | 35.64                       | 5.712                               | 0.042                               | 5.019    | 0.180                 | 0.312                 | 1.002 |
| Y | 33.86    | 260.4    | 37.41                       | 4.029                               | 0.204                               | 5.030    | 0.324                 | 0.359                 | 1.006 |
| Z | 29.60    | 221.1    | 35.61                       | 5.101                               | 0.000                               | 5.027    | 0.562                 | 0.186                 | 1.003 |

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.

EX3DV4- SN:7494

February 26, 2018

**DASY/EASY - Parameters of Probe: EX3DV4 - SN:7494****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>H</sup> (mm) | Unc (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-----------|
| 150                  | 52.3                               | 0.76                            | 13.63   | 13.63   | 13.63   | 0.00               | 1.00                    | ± 13.3 %  |
| 450                  | 43.5                               | 0.87                            | 11.70   | 11.70   | 11.70   | 0.14               | 1.25                    | ± 13.3 %  |
| 750                  | 41.9                               | 0.89                            | 11.02   | 11.02   | 11.02   | 0.43               | 0.86                    | ± 12.0 %  |
| 835                  | 41.5                               | 0.90                            | 10.73   | 10.73   | 10.73   | 0.44               | 0.82                    | ± 12.0 %  |
| 1750                 | 40.1                               | 1.37                            | 9.23    | 9.23    | 9.23    | 0.30               | 0.96                    | ± 12.0 %  |
| 1900                 | 40.0                               | 1.40                            | 8.83    | 8.83    | 8.83    | 0.36               | 0.84                    | ± 12.0 %  |
| 2450                 | 39.2                               | 1.80                            | 8.27    | 8.27    | 8.27    | 0.32               | 0.85                    | ± 12.0 %  |
| 2600                 | 39.0                               | 1.96                            | 7.92    | 7.92    | 7.92    | 0.35               | 0.84                    | ± 12.0 %  |
| 5200                 | 36.0                               | 4.66                            | 5.63    | 5.63    | 5.63    | 0.35               | 1.80                    | ± 13.1 %  |
| 5300                 | 35.9                               | 4.76                            | 5.40    | 5.40    | 5.40    | 0.35               | 1.80                    | ± 13.1 %  |
| 5500                 | 35.6                               | 4.96                            | 5.06    | 5.06    | 5.06    | 0.40               | 1.80                    | ± 13.1 %  |
| 5600                 | 35.5                               | 5.07                            | 4.93    | 4.93    | 4.93    | 0.40               | 1.80                    | ± 13.1 %  |
| 5800                 | 35.3                               | 5.27                            | 4.90    | 4.90    | 4.90    | 0.40               | 1.80                    | ± 13.1 %  |

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

EX3DV4- SN:7494

February 26, 2018

**DASY/EASY - Parameters of Probe: EX3DV4 - SN:7494****Calibration Parameter Determined in Body 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>d</sup> (mm) | Unc (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-----------|
| 150                  | 61.9                               | 0.80                            | 12.81   | 12.81   | 12.81   | 0.00               | 1.00                    | ± 13.3 %  |
| 450                  | 56.7                               | 0.94                            | 11.87   | 11.87   | 11.87   | 0.08               | 1.25                    | ± 13.3 %  |
| 750                  | 55.5                               | 0.96                            | 10.87   | 10.87   | 10.87   | 0.41               | 0.85                    | ± 12.0 %  |
| 835                  | 55.2                               | 0.97                            | 10.50   | 10.50   | 10.50   | 0.38               | 0.85                    | ± 12.0 %  |
| 1750                 | 53.4                               | 1.49                            | 8.77    | 8.77    | 8.77    | 0.31               | 0.90                    | ± 12.0 %  |
| 1900                 | 53.3                               | 1.52                            | 8.42    | 8.42    | 8.42    | 0.36               | 0.84                    | ± 12.0 %  |
| 2450                 | 52.7                               | 1.95                            | 8.08    | 8.08    | 8.08    | 0.24               | 1.07                    | ± 12.0 %  |
| 2600                 | 52.5                               | 2.16                            | 7.51    | 7.51    | 7.51    | 0.19               | 1.10                    | ± 12.0 %  |
| 5200                 | 49.0                               | 5.30                            | 5.30    | 5.30    | 5.30    | 0.35               | 1.90                    | ± 13.1 %  |
| 5300                 | 48.9                               | 5.42                            | 4.97    | 4.97    | 4.97    | 0.40               | 1.90                    | ± 13.1 %  |
| 5500                 | 48.6                               | 5.65                            | 4.62    | 4.62    | 4.62    | 0.40               | 1.90                    | ± 13.1 %  |
| 5600                 | 48.5                               | 5.77                            | 4.51    | 4.51    | 4.51    | 0.40               | 1.90                    | ± 13.1 %  |
| 5800                 | 48.2                               | 6.00                            | 4.61    | 4.61    | 4.61    | 0.40               | 1.90                    | ± 13.1 %  |

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

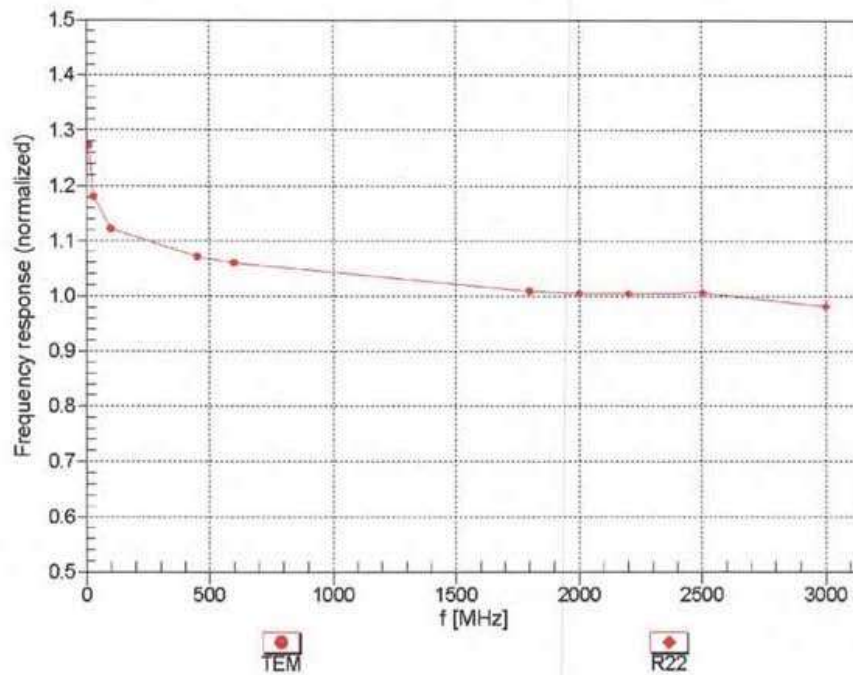
<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted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

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



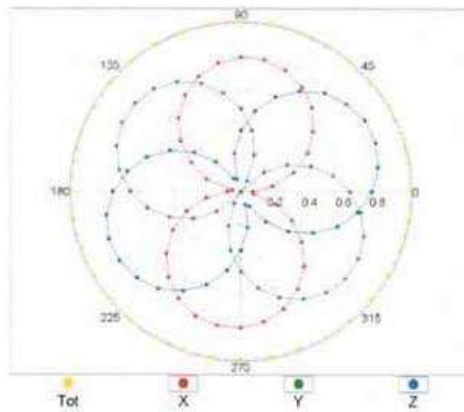
Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  ( $k=2$ )

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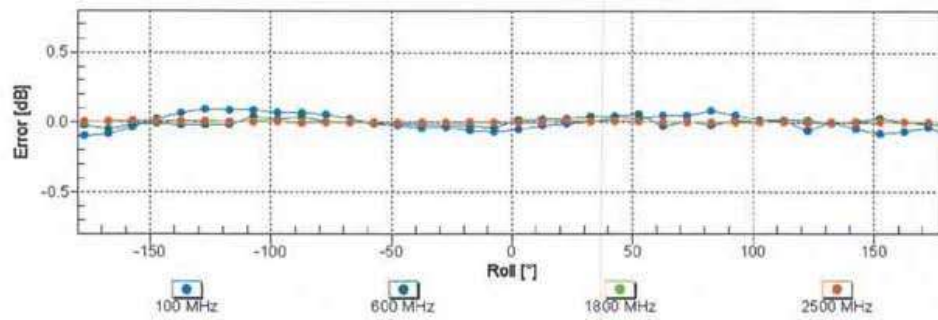
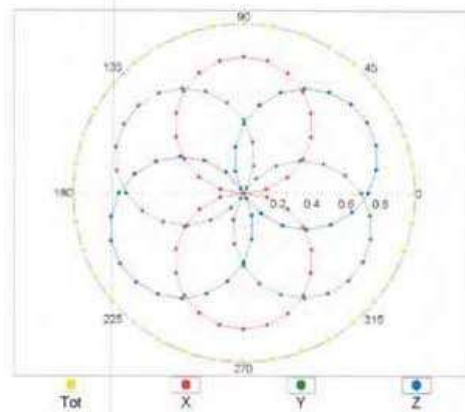
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# Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

f=600 MHz,TEM



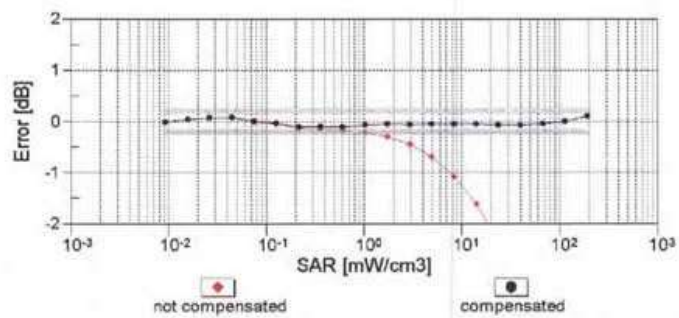
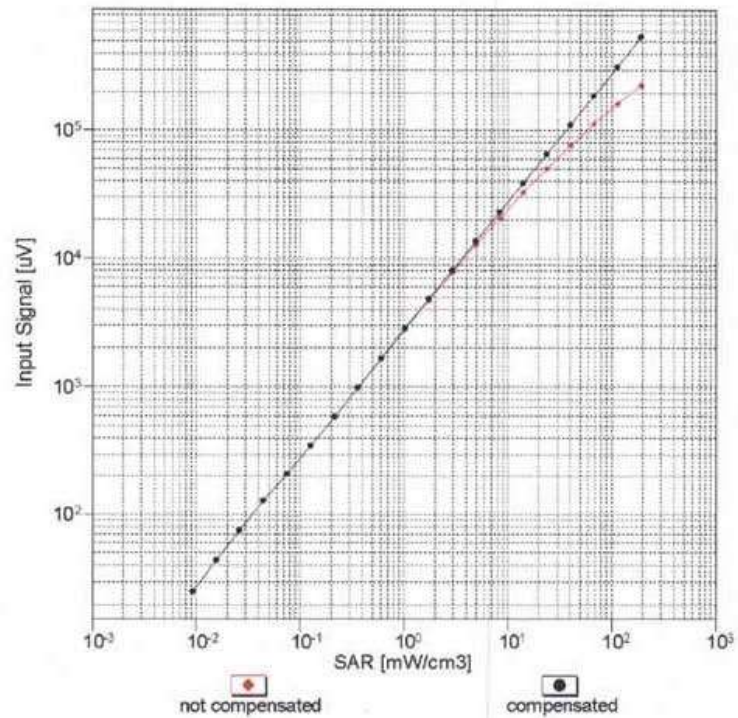
f=1800 MHz,R22



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

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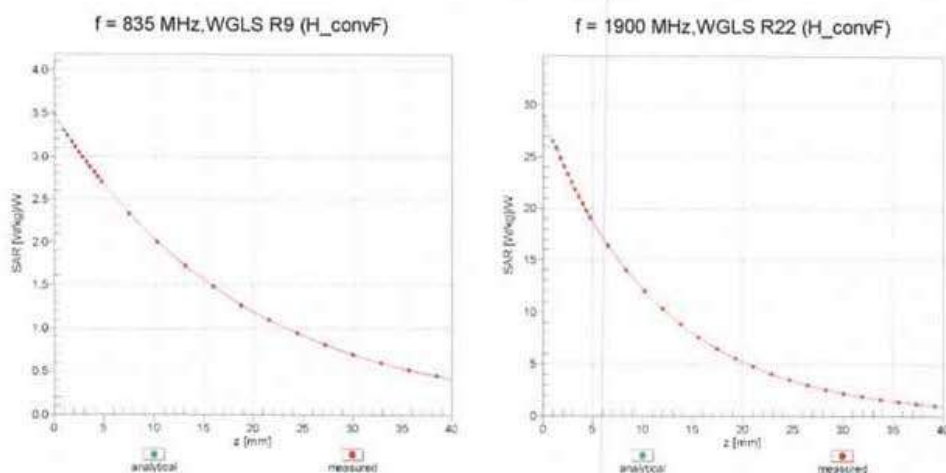
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**Dynamic Range  $f(\text{SAR}_{\text{head}})$**   
(TEM cell,  $f_{\text{eval}} = 1900 \text{ MHz}$ )Uncertainty of Linearity Assessment:  $\pm 0.6\%$  ( $k=2$ )

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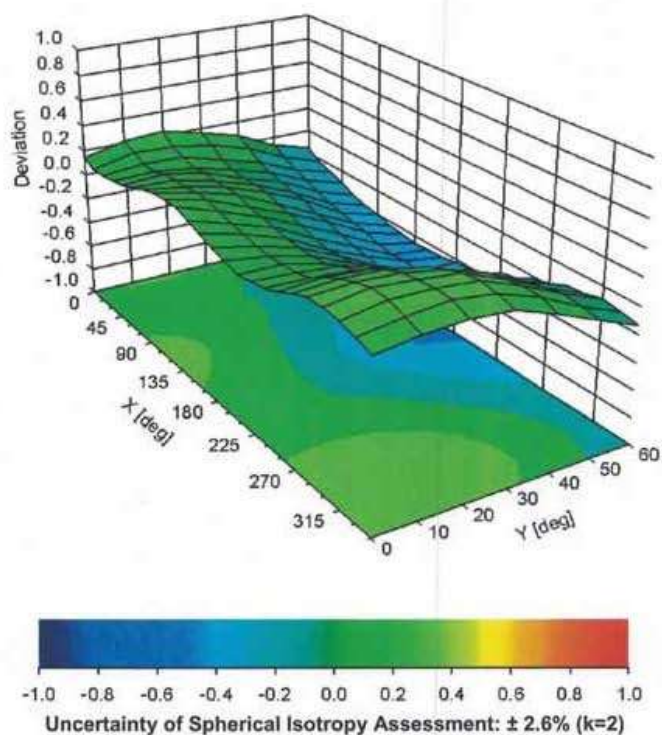
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## Conversion Factor Assessment



## Deviation from Isotropy in Liquid

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



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**DASY/EASY - Parameters of Probe: EX3DV4 - SN:7494****Other Probe Parameters**

|                                               |            |
|-----------------------------------------------|------------|
| Sensor Arrangement                            | Triangular |
| Connector Angle (°)                           | 22.8       |
| Mechanical Surface Detection Mode             | enabled    |
| Optical Surface Detection Mode                | disabled   |
| Probe Overall Length                          | 337 mm     |
| Probe Body Diameter                           | 10 mm      |
| Tip Length                                    | 9 mm       |
| Tip Diameter                                  | 2.5 mm     |
| Probe Tip to Sensor X Calibration Point       | 1 mm       |
| Probe Tip to Sensor Y Calibration Point       | 1 mm       |
| Probe Tip to Sensor Z Calibration Point       | 1 mm       |
| Recommended Measurement Distance from Surface | 1.4 mm     |

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**Appendix: Modulation Calibration Parameters**

| UID           | Communication System Name                     |   | A<br>dB | B<br>dB $\mu$ V | C     | D<br>dB | VR<br>mV | Max<br>Unc <sup>E</sup><br>(k=2) |
|---------------|-----------------------------------------------|---|---------|-----------------|-------|---------|----------|----------------------------------|
| 0             | CW                                            | X | 0.00    | 0.00            | 1.00  | 0.00    | 139.9    | $\pm 3.0\%$                      |
|               |                                               | Y | 0.00    | 0.00            | 1.00  |         | 130.5    |                                  |
|               |                                               | Z | 0.00    | 0.00            | 1.00  |         | 141.2    |                                  |
| 10010-<br>CAA | SAR Validation (Square, 100ms, 10ms)          | X | 1.49    | 62.54           | 7.67  | 10.00   | 20.0     | $\pm 9.6\%$                      |
|               |                                               | Y | 1.40    | 61.40           | 6.89  |         | 20.0     |                                  |
|               |                                               | Z | 1.51    | 62.75           | 7.79  |         | 20.0     |                                  |
| 10011-<br>CAB | UMTS-FDD (WCDMA)                              | X | 0.98    | 67.35           | 15.11 | 0.00    | 150.0    | $\pm 9.6\%$                      |
|               |                                               | Y | 0.81    | 65.02           | 13.17 |         | 150.0    |                                  |
|               |                                               | Z | 0.93    | 66.90           | 14.65 |         | 150.0    |                                  |
| 10012-<br>CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)      | X | 1.11    | 63.45           | 14.96 | 0.41    | 150.0    | $\pm 9.6\%$                      |
|               |                                               | Y | 1.01    | 62.50           | 14.08 |         | 150.0    |                                  |
|               |                                               | Z | 1.10    | 63.40           | 14.81 |         | 150.0    |                                  |
| 10013-<br>CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps) | X | 4.64    | 66.63           | 16.93 | 1.46    | 150.0    | $\pm 9.6\%$                      |
|               |                                               | Y | 4.55    | 66.39           | 16.76 |         | 150.0    |                                  |
|               |                                               | Z | 4.54    | 66.74           | 16.91 |         | 150.0    |                                  |
| 10021-<br>DAC | GSM-FDD (TDMA, GMSK)                          | X | 100.00  | 105.24          | 22.43 | 9.39    | 50.0     | $\pm 9.6\%$                      |
|               |                                               | Y | 7.56    | 78.16           | 14.98 |         | 50.0     |                                  |
|               |                                               | Z | 100.00  | 105.86          | 22.69 |         | 50.0     |                                  |
| 10023-<br>DAC | GPRS-FDD (TDMA, GMSK, TN 0)                   | X | 100.00  | 104.66          | 22.23 | 9.57    | 50.0     | $\pm 9.6\%$                      |
|               |                                               | Y | 5.00    | 73.77           | 13.48 |         | 50.0     |                                  |
|               |                                               | Z | 100.00  | 105.06          | 22.39 |         | 50.0     |                                  |
| 10024-<br>DAC | GPRS-FDD (TDMA, GMSK, TN 0-1)                 | X | 100.00  | 105.71          | 21.52 | 6.56    | 60.0     | $\pm 9.6\%$                      |
|               |                                               | Y | 6.98    | 78.84           | 13.84 |         | 60.0     |                                  |
|               |                                               | Z | 100.00  | 107.13          | 22.08 |         | 60.0     |                                  |
| 10025-<br>DAC | EDGE-FDD (TDMA, 8PSK, TN 0)                   | X | 4.17    | 73.26           | 28.42 | 12.57   | 50.0     | $\pm 9.6\%$                      |
|               |                                               | Y | 3.36    | 65.73           | 23.63 |         | 50.0     |                                  |
|               |                                               | Z | 4.00    | 72.02           | 27.83 |         | 50.0     |                                  |
| 10026-<br>DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1)                 | X | 5.43    | 82.70           | 29.77 | 9.56    | 60.0     | $\pm 9.6\%$                      |
|               |                                               | Y | 5.01    | 80.20           | 28.37 |         | 60.0     |                                  |
|               |                                               | Z | 4.92    | 80.62           | 29.06 |         | 60.0     |                                  |
| 10027-<br>DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2)               | X | 100.00  | 108.47          | 21.93 | 4.80    | 80.0     | $\pm 9.6\%$                      |
|               |                                               | Y | 100.00  | 97.70           | 17.18 |         | 80.0     |                                  |
|               |                                               | Z | 100.00  | 111.35          | 23.07 |         | 80.0     |                                  |
| 10028-<br>DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)             | X | 100.00  | 113.56          | 23.37 | 3.55    | 100.0    | $\pm 9.6\%$                      |
|               |                                               | Y | 0.84    | 65.84           | 7.87  |         | 100.0    |                                  |
|               |                                               | Z | 100.00  | 118.99          | 25.50 |         | 100.0    |                                  |
| 10029-<br>DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2)               | X | 3.69    | 73.69           | 24.54 | 7.80    | 80.0     | $\pm 9.6\%$                      |
|               |                                               | Y | 3.47    | 72.25           | 23.68 |         | 80.0     |                                  |
|               |                                               | Z | 3.48    | 72.59           | 24.16 |         | 80.0     |                                  |
| 10030-<br>CAA | IEEE 802.15.1 Bluetooth (GFSK, DH1)           | X | 100.00  | 103.93          | 20.28 | 5.30    | 70.0     | $\pm 9.6\%$                      |
|               |                                               | Y | 1.23    | 65.73           | 8.63  |         | 70.0     |                                  |
|               |                                               | Z | 100.00  | 104.97          | 20.64 |         | 70.0     |                                  |
| 10031-<br>CAA | IEEE 802.15.1 Bluetooth (GFSK, DH3)           | X | 100.00  | 106.93          | 19.48 | 1.88    | 100.0    | $\pm 9.6\%$                      |
|               |                                               | Y | 0.22    | 60.00           | 2.94  |         | 100.0    |                                  |
|               |                                               | Z | 100.00  | 109.18          | 20.25 |         | 100.0    |                                  |

# Appendix A: DAE and Probe Calibration Certificate

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|           |                                                     |   |        |        |       |       |       |         |
|-----------|-----------------------------------------------------|---|--------|--------|-------|-------|-------|---------|
| 10032-CAA | IEEE 802.15.1 Bluetooth (GFSK, DH5)                 | X | 100.00 | 122.55 | 24.60 | 1.17  | 100.0 | ± 9.6 % |
|           |                                                     | Y | 7.61   | 60.44  | 1.42  |       | 100.0 |         |
|           |                                                     | Z | 100.00 | 126.07 | 25.78 |       | 100.0 |         |
| 10033-CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)           | X | 6.59   | 87.18  | 22.06 | 5.30  | 70.0  | ± 9.6 % |
|           |                                                     | Y | 3.47   | 76.95  | 17.71 |       | 70.0  |         |
|           |                                                     | Z | 6.68   | 86.39  | 21.09 |       | 70.0  |         |
| 10034-CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)           | X | 1.88   | 72.27  | 15.10 | 1.88  | 100.0 | ± 9.6 % |
|           |                                                     | Y | 1.10   | 65.57  | 11.17 |       | 100.0 |         |
|           |                                                     | Z | 1.53   | 69.51  | 13.02 |       | 100.0 |         |
| 10035-CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)           | X | 1.40   | 69.50  | 13.68 | 1.17  | 100.0 | ± 9.6 % |
|           |                                                     | Y | 0.87   | 63.95  | 10.05 |       | 100.0 |         |
|           |                                                     | Z | 1.12   | 66.96  | 11.59 |       | 100.0 |         |
| 10036-CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH1)               | X | 9.62   | 92.97  | 23.95 | 5.30  | 70.0  | ± 9.6 % |
|           |                                                     | Y | 4.28   | 80.05  | 18.91 |       | 70.0  |         |
|           |                                                     | Z | 10.09  | 92.34  | 23.01 |       | 70.0  |         |
| 10037-CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH3)               | X | 1.68   | 71.06  | 14.59 | 1.88  | 100.0 | ± 9.6 % |
|           |                                                     | Y | 1.03   | 65.05  | 10.91 |       | 100.0 |         |
|           |                                                     | Z | 1.36   | 68.33  | 12.52 |       | 100.0 |         |
| 10038-CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH5)               | X | 1.40   | 69.76  | 13.93 | 1.17  | 100.0 | ± 9.6 % |
|           |                                                     | Y | 0.87   | 64.12  | 10.26 |       | 100.0 |         |
|           |                                                     | Z | 1.13   | 67.19  | 11.84 |       | 100.0 |         |
| 10039-CAB | CDMA2000 (1xRTT, RC1)                               | X | 1.34   | 69.22  | 13.14 | 0.00  | 150.0 | ± 9.6 % |
|           |                                                     | Y | 0.77   | 63.08  | 9.10  |       | 150.0 |         |
|           |                                                     | Z | 0.85   | 64.80  | 10.09 |       | 150.0 |         |
| 10042-CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate) | X | 100.00 | 102.28 | 20.38 | 7.78  | 50.0  | ± 9.6 % |
|           |                                                     | Y | 1.72   | 65.50  | 9.21  |       | 50.0  |         |
|           |                                                     | Z | 100.00 | 102.90 | 20.62 |       | 50.0  |         |
| 10044-CAA | IS-91/EIA/TIA-553 FDD (FDMA, FM)                    | X | 0.00   | 99.20  | 3.16  | 0.00  | 150.0 | ± 9.6 % |
|           |                                                     | Y | 0.09   | 120.69 | 13.78 |       | 150.0 |         |
|           |                                                     | Z | 0.00   | 99.13  | 4.03  |       | 150.0 |         |
| 10048-CAA | DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)           | X | 6.20   | 72.28  | 14.23 | 13.80 | 25.0  | ± 9.6 % |
|           |                                                     | Y | 4.17   | 67.17  | 12.27 |       | 25.0  |         |
|           |                                                     | Z | 7.20   | 73.81  | 14.76 |       | 25.0  |         |
| 10049-CAA | DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)         | X | 7.52   | 77.18  | 14.97 | 10.79 | 40.0  | ± 9.6 % |
|           |                                                     | Y | 3.87   | 69.54  | 12.04 |       | 40.0  |         |
|           |                                                     | Z | 10.31  | 80.47  | 16.03 |       | 40.0  |         |
| 10056-CAA | UMTS-TDD (TD-SCDMA, 1.28 Mcps)                      | X | 44.37  | 107.84 | 27.61 | 9.03  | 50.0  | ± 9.6 % |
|           |                                                     | Y | 11.98  | 87.68  | 21.33 |       | 50.0  |         |
|           |                                                     | Z | 50.57  | 108.48 | 27.27 |       | 50.0  |         |
| 10058-DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)                   | X | 3.09   | 70.29  | 22.11 | 6.55  | 100.0 | ± 9.6 % |
|           |                                                     | Y | 2.91   | 69.17  | 21.43 |       | 100.0 |         |
|           |                                                     | Z | 2.96   | 69.57  | 21.87 |       | 100.0 |         |
| 10059-CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)            | X | 1.11   | 64.07  | 15.34 | 0.61  | 110.0 | ± 9.6 % |
|           |                                                     | Y | 1.00   | 63.03  | 14.40 |       | 110.0 |         |
|           |                                                     | Z | 1.09   | 64.00  | 15.19 |       | 110.0 |         |
| 10060-CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)          | X | 3.00   | 89.75  | 24.24 | 1.30  | 110.0 | ± 9.6 % |
|           |                                                     | Y | 1.55   | 78.88  | 19.29 |       | 110.0 |         |
|           |                                                     | Z | 2.52   | 87.33  | 23.49 |       | 110.0 |         |

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# Appendix A: DAE and Probe Calibration Certificate

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|           |                                                |   |      |       |       |      |       |         |
|-----------|------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10061-CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)      | X | 1.60 | 73.10 | 19.62 | 2.04 | 110.0 | ± 9.6 % |
|           |                                                | Y | 1.35 | 70.56 | 17.98 |      | 110.0 |         |
|           |                                                | Z | 1.53 | 72.62 | 19.39 |      | 110.0 |         |
| 10062-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)       | X | 4.47 | 66.68 | 16.41 | 0.49 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.36 | 66.37 | 16.19 |      | 100.0 |         |
|           |                                                | Z | 4.36 | 66.73 | 16.35 |      | 100.0 |         |
| 10063-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)       | X | 4.47 | 66.74 | 16.49 | 0.72 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.37 | 66.45 | 16.27 |      | 100.0 |         |
|           |                                                | Z | 4.37 | 66.82 | 16.44 |      | 100.0 |         |
| 10064-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)      | X | 4.71 | 66.94 | 16.68 | 0.86 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.60 | 66.65 | 16.48 |      | 100.0 |         |
|           |                                                | Z | 4.58 | 66.99 | 16.62 |      | 100.0 |         |
| 10065-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)      | X | 4.57 | 66.74 | 16.73 | 1.21 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.47 | 66.46 | 16.54 |      | 100.0 |         |
|           |                                                | Z | 4.45 | 66.78 | 16.67 |      | 100.0 |         |
| 10066-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)      | X | 4.57 | 66.71 | 16.86 | 1.46 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.47 | 66.44 | 16.68 |      | 100.0 |         |
|           |                                                | Z | 4.45 | 66.73 | 16.80 |      | 100.0 |         |
| 10067-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)      | X | 4.85 | 66.96 | 17.32 | 2.04 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.75 | 66.72 | 17.16 |      | 100.0 |         |
|           |                                                | Z | 4.71 | 66.99 | 17.26 |      | 100.0 |         |
| 10068-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)      | X | 4.86 | 66.83 | 17.46 | 2.55 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.77 | 66.61 | 17.31 |      | 100.0 |         |
|           |                                                | Z | 4.75 | 66.91 | 17.45 |      | 100.0 |         |
| 10069-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)      | X | 4.93 | 66.84 | 17.64 | 2.67 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.84 | 66.64 | 17.50 |      | 100.0 |         |
|           |                                                | Z | 4.79 | 66.90 | 17.60 |      | 100.0 |         |
| 10071-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)  | X | 4.72 | 66.65 | 17.20 | 1.99 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.63 | 66.43 | 17.04 |      | 100.0 |         |
|           |                                                | Z | 4.63 | 66.78 | 17.20 |      | 100.0 |         |
| 10072-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps) | X | 4.66 | 66.84 | 17.36 | 2.30 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.57 | 66.61 | 17.20 |      | 100.0 |         |
|           |                                                | Z | 4.56 | 66.93 | 17.35 |      | 100.0 |         |
| 10073-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps) | X | 4.70 | 66.96 | 17.65 | 2.83 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.62 | 66.75 | 17.51 |      | 100.0 |         |
|           |                                                | Z | 4.61 | 67.10 | 17.68 |      | 100.0 |         |
| 10074-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps) | X | 4.69 | 66.86 | 17.79 | 3.30 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.62 | 66.67 | 17.65 |      | 100.0 |         |
|           |                                                | Z | 4.62 | 67.06 | 17.85 |      | 100.0 |         |
| 10075-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps) | X | 4.70 | 66.81 | 18.01 | 3.82 | 90.0  | ± 9.6 % |
|           |                                                | Y | 4.63 | 66.64 | 17.88 |      | 90.0  |         |
|           |                                                | Z | 4.63 | 67.02 | 18.07 |      | 90.0  |         |
| 10076-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps) | X | 4.73 | 66.67 | 18.17 | 4.15 | 90.0  | ± 9.6 % |
|           |                                                | Y | 4.66 | 66.51 | 18.05 |      | 90.0  |         |
|           |                                                | Z | 4.67 | 66.88 | 18.24 |      | 90.0  |         |
| 10077-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps) | X | 4.75 | 66.74 | 18.27 | 4.30 | 90.0  | ± 9.6 % |
|           |                                                | Y | 4.69 | 66.59 | 18.15 |      | 90.0  |         |
|           |                                                | Z | 4.70 | 66.98 | 18.36 |      | 90.0  |         |

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|           |                                                     |   |        |        |       |      |       |         |
|-----------|-----------------------------------------------------|---|--------|--------|-------|------|-------|---------|
| 10081-CAB | CDMA2000 (1xRTT, RC3)                               | X | 0.65   | 64.28  | 10.38 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 0.42   | 60.39  | 6.92  |      | 150.0 |         |
|           |                                                     | Z | 0.48   | 61.97  | 8.16  |      | 150.0 |         |
| 10082-CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate) | X | 0.61   | 60.00  | 2.85  | 4.77 | 80.0  | ± 9.6 % |
|           |                                                     | Y | 0.27   | 125.15 | 3.93  |      | 80.0  |         |
|           |                                                     | Z | 0.68   | 60.01  | 2.64  |      | 80.0  |         |
| 10090-DAC | GPRS-FDD (TDMA, GMSK, TN 0-4)                       | X | 100.00 | 105.71 | 21.53 | 6.56 | 60.0  | ± 9.6 % |
|           |                                                     | Y | 7.96   | 79.91  | 14.17 |      | 60.0  |         |
|           |                                                     | Z | 100.00 | 107.12 | 22.09 |      | 60.0  |         |
| 10097-CAB | UMTS-FDD (HSDPA)                                    | X | 1.81   | 68.35  | 15.62 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 1.59   | 66.62  | 14.28 |      | 150.0 |         |
|           |                                                     | Z | 1.75   | 68.38  | 15.28 |      | 150.0 |         |
| 10098-CAB | UMTS-FDD (HSUPA, Subtest 2)                         | X | 1.77   | 68.30  | 15.60 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 1.55   | 66.55  | 14.25 |      | 150.0 |         |
|           |                                                     | Z | 1.71   | 68.32  | 15.26 |      | 150.0 |         |
| 10099-DAC | EDGE-FDD (TDMA, 8PSK, TN 0-4)                       | X | 5.47   | 82.85  | 29.83 | 9.56 | 60.0  | ± 9.6 % |
|           |                                                     | Y | 5.04   | 80.32  | 28.42 |      | 60.0  |         |
|           |                                                     | Z | 4.96   | 80.77  | 29.11 |      | 60.0  |         |
| 10100-CAD | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)            | X | 2.96   | 70.04  | 16.68 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 2.71   | 68.69  | 15.83 |      | 150.0 |         |
|           |                                                     | Z | 2.82   | 69.64  | 16.51 |      | 150.0 |         |
| 10101-CAD | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)          | X | 3.10   | 67.35  | 15.86 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 2.94   | 66.61  | 15.35 |      | 150.0 |         |
|           |                                                     | Z | 3.00   | 67.17  | 15.74 |      | 150.0 |         |
| 10102-CAD | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)          | X | 3.20   | 67.37  | 15.97 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 3.05   | 66.67  | 15.48 |      | 150.0 |         |
|           |                                                     | Z | 3.10   | 67.22  | 15.85 |      | 150.0 |         |
| 10103-CAD | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)            | X | 5.04   | 73.87  | 19.92 | 3.98 | 65.0  | ± 9.6 % |
|           |                                                     | Y | 4.45   | 71.80  | 18.94 |      | 65.0  |         |
|           |                                                     | Z | 4.83   | 73.72  | 19.95 |      | 65.0  |         |
| 10104-CAD | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)          | X | 4.93   | 71.04  | 19.34 | 3.98 | 65.0  | ± 9.6 % |
|           |                                                     | Y | 4.66   | 70.09  | 18.84 |      | 65.0  |         |
|           |                                                     | Z | 4.74   | 70.79  | 19.24 |      | 65.0  |         |
| 10105-CAD | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)          | X | 4.89   | 70.60  | 19.44 | 3.98 | 65.0  | ± 9.6 % |
|           |                                                     | Y | 4.42   | 68.79  | 18.52 |      | 65.0  |         |
|           |                                                     | Z | 4.68   | 70.25  | 19.28 |      | 65.0  |         |
| 10108-CAE | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)            | X | 2.55   | 69.38  | 16.50 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 2.32   | 68.05  | 15.61 |      | 150.0 |         |
|           |                                                     | Z | 2.42   | 69.06  | 16.32 |      | 150.0 |         |
| 10109-CAE | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)          | X | 2.74   | 67.33  | 15.73 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 2.57   | 66.48  | 15.09 |      | 150.0 |         |
|           |                                                     | Z | 2.63   | 67.20  | 15.54 |      | 150.0 |         |
| 10110-CAE | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)             | X | 2.04   | 68.62  | 15.99 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 1.82   | 67.09  | 14.87 |      | 150.0 |         |
|           |                                                     | Z | 1.91   | 68.30  | 15.65 |      | 150.0 |         |
| 10111-CAE | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)           | X | 2.48   | 68.58  | 15.98 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 2.26   | 67.29  | 15.00 |      | 150.0 |         |
|           |                                                     | Z | 2.37   | 68.51  | 15.63 |      | 150.0 |         |

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# Appendix A: DAE and Probe Calibration Certificate

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|           |                                                |   |      |       |       |      |       |         |
|-----------|------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10112-CAE | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)     | X | 2.87 | 67.40 | 15.81 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 2.70 | 66.60 | 15.21 |      | 150.0 |         |
|           |                                                | Z | 2.76 | 67.33 | 15.64 |      | 150.0 |         |
| 10113-CAE | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)      | X | 2.63 | 68.77 | 16.12 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 2.40 | 67.53 | 15.19 |      | 150.0 |         |
|           |                                                | Z | 2.51 | 68.70 | 15.76 |      | 150.0 |         |
| 10114-CAC | IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)  | X | 4.95 | 67.13 | 16.42 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 4.85 | 66.84 | 16.24 |      | 150.0 |         |
|           |                                                | Z | 4.85 | 67.12 | 16.40 |      | 150.0 |         |
| 10115-CAC | IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)  | X | 5.19 | 67.19 | 16.45 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 5.10 | 66.92 | 16.29 |      | 150.0 |         |
|           |                                                | Z | 5.08 | 67.17 | 16.41 |      | 150.0 |         |
| 10116-CAC | IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM) | X | 5.03 | 67.31 | 16.44 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 4.93 | 67.00 | 16.25 |      | 150.0 |         |
|           |                                                | Z | 4.91 | 67.26 | 16.39 |      | 150.0 |         |
| 10117-CAC | IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)       | X | 4.94 | 67.08 | 16.41 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 4.84 | 66.75 | 16.22 |      | 150.0 |         |
|           |                                                | Z | 4.83 | 67.00 | 16.35 |      | 150.0 |         |
| 10118-CAC | IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)       | X | 5.26 | 67.38 | 16.55 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 5.18 | 67.15 | 16.41 |      | 150.0 |         |
|           |                                                | Z | 5.14 | 67.33 | 16.50 |      | 150.0 |         |
| 10119-CAC | IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)      | X | 5.03 | 67.31 | 16.45 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 4.93 | 67.03 | 16.27 |      | 150.0 |         |
|           |                                                | Z | 4.92 | 67.30 | 16.42 |      | 150.0 |         |
| 10140-CAD | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)     | X | 3.22 | 67.39 | 15.88 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 3.07 | 66.69 | 15.39 |      | 150.0 |         |
|           |                                                | Z | 3.11 | 67.25 | 15.76 |      | 150.0 |         |
| 10141-CAD | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)     | X | 3.35 | 67.56 | 16.08 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 3.20 | 66.89 | 15.61 |      | 150.0 |         |
|           |                                                | Z | 3.24 | 67.46 | 15.97 |      | 150.0 |         |
| 10142-CAD | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)        | X | 1.80 | 68.59 | 15.33 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 1.53 | 66.49 | 13.76 |      | 150.0 |         |
|           |                                                | Z | 1.64 | 67.93 | 14.59 |      | 150.0 |         |
| 10143-CAD | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)      | X | 2.29 | 69.05 | 15.16 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 1.94 | 66.78 | 13.54 |      | 150.0 |         |
|           |                                                | Z | 2.05 | 68.12 | 14.12 |      | 150.0 |         |
| 10144-CAD | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)      | X | 1.95 | 65.96 | 13.09 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 1.71 | 64.37 | 11.76 |      | 150.0 |         |
|           |                                                | Z | 1.71 | 64.91 | 11.94 |      | 150.0 |         |
| 10145-CAE | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)      | X | 0.80 | 61.66 | 8.31  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 0.63 | 60.00 | 6.42  |      | 150.0 |         |
|           |                                                | Z | 0.60 | 60.00 | 6.26  |      | 150.0 |         |
| 10146-CAE | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)    | X | 0.93 | 60.23 | 6.53  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 0.85 | 59.54 | 5.70  |      | 150.0 |         |
|           |                                                | Z | 0.78 | 60.00 | 5.45  |      | 150.0 |         |
| 10147-CAE | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)    | X | 0.97 | 60.53 | 6.79  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 0.90 | 60.00 | 6.07  |      | 150.0 |         |
|           |                                                | Z | 0.79 | 60.00 | 5.50  |      | 150.0 |         |

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|           |                                            |   |      |       |       |      |       |         |
|-----------|--------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10149-CAD | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)  | X | 2.75 | 67.40 | 15.78 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.58 | 66.55 | 15.14 |      | 150.0 |         |
|           |                                            | Z | 2.64 | 67.28 | 15.59 |      | 150.0 |         |
| 10150-CAD | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)  | X | 2.88 | 67.47 | 15.86 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.71 | 66.66 | 15.25 |      | 150.0 |         |
|           |                                            | Z | 2.77 | 67.39 | 15.69 |      | 150.0 |         |
| 10151-CAD | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)    | X | 4.99 | 75.67 | 20.72 | 3.98 | 65.0  | ± 9.6 % |
|           |                                            | Y | 4.54 | 74.14 | 19.94 |      | 65.0  |         |
|           |                                            | Z | 4.82 | 75.77 | 20.80 |      | 65.0  |         |
| 10152-CAD | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)  | X | 4.45 | 70.90 | 18.86 | 3.98 | 65.0  | ± 9.6 % |
|           |                                            | Y | 4.17 | 69.87 | 18.26 |      | 65.0  |         |
|           |                                            | Z | 4.26 | 70.67 | 18.66 |      | 65.0  |         |
| 10153-CAD | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)  | X | 4.79 | 71.97 | 19.73 | 3.98 | 65.0  | ± 9.6 % |
|           |                                            | Y | 4.50 | 70.99 | 19.17 |      | 65.0  |         |
|           |                                            | Z | 4.61 | 71.85 | 19.59 |      | 65.0  |         |
| 10154-CAE | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)    | X | 2.08 | 69.01 | 16.23 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 1.85 | 67.42 | 15.08 |      | 150.0 |         |
|           |                                            | Z | 1.95 | 68.66 | 15.88 |      | 150.0 |         |
| 10155-CAE | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)  | X | 2.49 | 68.62 | 16.01 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.26 | 67.33 | 15.03 |      | 150.0 |         |
|           |                                            | Z | 2.38 | 68.57 | 15.67 |      | 150.0 |         |
| 10156-CAE | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)     | X | 1.62 | 68.33 | 14.75 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 1.32 | 65.72 | 12.82 |      | 150.0 |         |
|           |                                            | Z | 1.42 | 67.19 | 13.63 |      | 150.0 |         |
| 10157-CAE | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)   | X | 1.76 | 66.14 | 12.77 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 1.47 | 64.00 | 11.06 |      | 150.0 |         |
|           |                                            | Z | 1.47 | 64.54 | 11.21 |      | 150.0 |         |
| 10158-CAE | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)  | X | 2.64 | 68.86 | 16.18 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.41 | 67.62 | 15.24 |      | 150.0 |         |
|           |                                            | Z | 2.52 | 68.81 | 15.83 |      | 150.0 |         |
| 10159-CAE | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)   | X | 1.84 | 66.49 | 12.98 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 1.52 | 64.19 | 11.20 |      | 150.0 |         |
|           |                                            | Z | 1.52 | 64.73 | 11.33 |      | 150.0 |         |
| 10160-CAD | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)    | X | 2.60 | 68.75 | 16.31 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.41 | 67.74 | 15.55 |      | 150.0 |         |
|           |                                            | Z | 2.47 | 68.55 | 16.10 |      | 150.0 |         |
| 10161-CAD | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)  | X | 2.76 | 67.44 | 15.73 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.59 | 66.58 | 15.07 |      | 150.0 |         |
|           |                                            | Z | 2.65 | 67.35 | 15.50 |      | 150.0 |         |
| 10162-CAD | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)  | X | 2.88 | 67.68 | 15.88 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.70 | 66.83 | 15.23 |      | 150.0 |         |
|           |                                            | Z | 2.76 | 67.62 | 15.66 |      | 150.0 |         |
| 10166-CAE | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)   | X | 3.02 | 67.96 | 18.28 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.03 | 68.30 | 18.53 |      | 150.0 |         |
|           |                                            | Z | 2.86 | 67.79 | 18.34 |      | 150.0 |         |
| 10167-CAE | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM) | X | 3.42 | 70.11 | 18.44 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.50 | 70.73 | 18.75 |      | 150.0 |         |
|           |                                            | Z | 3.20 | 70.16 | 18.62 |      | 150.0 |         |

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|           |                                            |   |      |       |       |      |       |         |
|-----------|--------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10168-CAE | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM) | X | 3.80 | 72.47 | 19.91 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.97 | 73.52 | 20.42 |      | 150.0 |         |
|           |                                            | Z | 3.59 | 72.78 | 20.23 |      | 150.0 |         |
| 10169-CAD | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)      | X | 2.40 | 66.10 | 17.40 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.46 | 66.60 | 17.71 |      | 150.0 |         |
|           |                                            | Z | 2.33 | 66.05 | 17.51 |      | 150.0 |         |
| 10170-CAD | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)    | X | 2.86 | 70.22 | 19.21 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.07 | 71.47 | 19.80 |      | 150.0 |         |
|           |                                            | Z | 2.76 | 70.55 | 19.53 |      | 150.0 |         |
| 10171-AAD | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)    | X | 2.43 | 67.02 | 16.67 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.55 | 67.67 | 16.96 |      | 150.0 |         |
|           |                                            | Z | 2.33 | 67.12 | 16.84 |      | 150.0 |         |
| 10172-CAD | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)      | X | 3.22 | 76.35 | 23.22 | 6.02 | 65.0  | ± 9.6 % |
|           |                                            | Y | 2.88 | 74.18 | 22.38 |      | 65.0  |         |
|           |                                            | Z | 2.74 | 74.43 | 22.80 |      | 65.0  |         |
| 10173-CAD | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)    | X | 4.36 | 80.46 | 22.94 | 6.02 | 65.0  | ± 9.6 % |
|           |                                            | Y | 4.63 | 81.45 | 23.36 |      | 65.0  |         |
|           |                                            | Z | 3.93 | 80.61 | 23.43 |      | 65.0  |         |
| 10174-CAD | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)    | X | 3.95 | 78.13 | 21.47 | 6.02 | 65.0  | ± 9.6 % |
|           |                                            | Y | 3.58 | 76.48 | 20.90 |      | 65.0  |         |
|           |                                            | Z | 3.41 | 77.60 | 21.68 |      | 65.0  |         |
| 10175-CAE | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)      | X | 2.38 | 65.87 | 17.19 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.43 | 66.33 | 17.47 |      | 150.0 |         |
|           |                                            | Z | 2.30 | 65.82 | 17.28 |      | 150.0 |         |
| 10176-CAE | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)    | X | 2.86 | 70.24 | 19.22 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.08 | 71.50 | 19.81 |      | 150.0 |         |
|           |                                            | Z | 2.76 | 70.57 | 19.54 |      | 150.0 |         |
| 10177-CAG | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)       | X | 2.39 | 65.97 | 17.26 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.45 | 66.44 | 17.54 |      | 150.0 |         |
|           |                                            | Z | 2.32 | 65.91 | 17.35 |      | 150.0 |         |
| 10178-CAE | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)     | X | 2.85 | 70.12 | 19.14 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.06 | 71.36 | 19.72 |      | 150.0 |         |
|           |                                            | Z | 2.75 | 70.47 | 19.48 |      | 150.0 |         |
| 10179-CAE | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)    | X | 2.62 | 68.53 | 17.82 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.78 | 69.42 | 18.23 |      | 150.0 |         |
|           |                                            | Z | 2.52 | 68.74 | 18.07 |      | 150.0 |         |
| 10180-CAE | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)     | X | 2.43 | 66.99 | 16.64 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.55 | 67.64 | 16.93 |      | 150.0 |         |
|           |                                            | Z | 2.33 | 67.10 | 16.82 |      | 150.0 |         |
| 10181-CAD | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)      | X | 2.39 | 65.96 | 17.25 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.44 | 66.43 | 17.54 |      | 150.0 |         |
|           |                                            | Z | 2.31 | 65.90 | 17.34 |      | 150.0 |         |
| 10182-CAD | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)    | X | 2.84 | 70.10 | 19.13 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.05 | 71.33 | 19.71 |      | 150.0 |         |
|           |                                            | Z | 2.75 | 70.45 | 19.47 |      | 150.0 |         |
| 10183-AAC | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)    | X | 2.43 | 66.97 | 16.63 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.55 | 67.62 | 16.92 |      | 150.0 |         |
|           |                                            | Z | 2.32 | 67.08 | 16.81 |      | 150.0 |         |

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|           |                                               |   |      |       |       |      |       |         |
|-----------|-----------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10184-CAD | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)          | X | 2.39 | 65.99 | 17.27 | 3.01 | 150.0 | ± 9.6 % |
|           |                                               | Y | 2.45 | 66.47 | 17.56 |      | 150.0 |         |
|           |                                               | Z | 2.32 | 65.93 | 17.36 |      | 150.0 |         |
| 10185-CAD | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)        | X | 2.85 | 70.16 | 19.17 | 3.01 | 150.0 | ± 9.6 % |
|           |                                               | Y | 3.07 | 71.40 | 19.75 |      | 150.0 |         |
|           |                                               | Z | 2.76 | 70.51 | 19.50 |      | 150.0 |         |
| 10186-AAD | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)        | X | 2.44 | 67.02 | 16.66 | 3.01 | 150.0 | ± 9.6 % |
|           |                                               | Y | 2.56 | 67.67 | 16.95 |      | 150.0 |         |
|           |                                               | Z | 2.33 | 67.13 | 16.84 |      | 150.0 |         |
| 10187-CAE | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)        | X | 2.40 | 66.06 | 17.35 | 3.01 | 150.0 | ± 9.6 % |
|           |                                               | Y | 2.46 | 66.54 | 17.64 |      | 150.0 |         |
|           |                                               | Z | 2.33 | 66.01 | 17.45 |      | 150.0 |         |
| 10188-CAE | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)      | X | 2.92 | 70.63 | 19.48 | 3.01 | 150.0 | ± 9.6 % |
|           |                                               | Y | 3.15 | 71.97 | 20.11 |      | 150.0 |         |
|           |                                               | Z | 2.82 | 70.99 | 19.83 |      | 150.0 |         |
| 10189-AAE | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)      | X | 2.48 | 67.32 | 16.90 | 3.01 | 150.0 | ± 9.6 % |
|           |                                               | Y | 2.60 | 68.01 | 17.21 |      | 150.0 |         |
|           |                                               | Z | 2.37 | 67.44 | 17.08 |      | 150.0 |         |
| 10193-CAC | IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)  | X | 4.36 | 66.79 | 16.12 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.24 | 66.43 | 15.86 |      | 150.0 |         |
|           |                                               | Z | 4.25 | 66.88 | 16.06 |      | 150.0 |         |
| 10194-CAC | IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM) | X | 4.50 | 67.02 | 16.25 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.38 | 66.66 | 16.00 |      | 150.0 |         |
|           |                                               | Z | 4.38 | 67.06 | 16.19 |      | 150.0 |         |
| 10195-CAC | IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM) | X | 4.53 | 67.04 | 16.27 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.41 | 66.68 | 16.02 |      | 150.0 |         |
|           |                                               | Z | 4.40 | 67.05 | 16.19 |      | 150.0 |         |
| 10196-CAC | IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)       | X | 4.34 | 66.79 | 16.11 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.22 | 66.42 | 15.84 |      | 150.0 |         |
|           |                                               | Z | 4.23 | 66.84 | 16.03 |      | 150.0 |         |
| 10197-CAC | IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)      | X | 4.51 | 67.03 | 16.26 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.38 | 66.66 | 16.01 |      | 150.0 |         |
|           |                                               | Z | 4.38 | 67.05 | 16.19 |      | 150.0 |         |
| 10198-CAC | IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)      | X | 4.53 | 67.04 | 16.27 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.40 | 66.67 | 16.02 |      | 150.0 |         |
|           |                                               | Z | 4.39 | 67.04 | 16.19 |      | 150.0 |         |
| 10219-CAC | IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)       | X | 4.30 | 66.83 | 16.08 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.17 | 66.45 | 15.81 |      | 150.0 |         |
|           |                                               | Z | 4.19 | 66.90 | 16.01 |      | 150.0 |         |
| 10220-CAC | IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)    | X | 4.50 | 66.99 | 16.24 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.38 | 66.63 | 16.00 |      | 150.0 |         |
|           |                                               | Z | 4.37 | 67.02 | 16.18 |      | 150.0 |         |
| 10221-CAC | IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)    | X | 4.54 | 66.98 | 16.26 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.42 | 66.63 | 16.01 |      | 150.0 |         |
|           |                                               | Z | 4.41 | 67.00 | 16.19 |      | 150.0 |         |
| 10222-CAC | IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)        | X | 4.91 | 67.06 | 16.39 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.81 | 66.75 | 16.20 |      | 150.0 |         |
|           |                                               | Z | 4.81 | 67.01 | 16.35 |      | 150.0 |         |

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# Appendix A: DAE and Probe Calibration Certificate

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|           |                                           |   |      |       |       |      |       |         |
|-----------|-------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10223-CAC | IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)  | X | 5.18 | 67.25 | 16.50 | 0.00 | 150.0 | ± 9.6 % |
|           |                                           | Y | 5.07 | 66.94 | 16.31 |      | 150.0 |         |
|           |                                           | Z | 5.03 | 67.10 | 16.40 |      | 150.0 |         |
| 10224-CAC | IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM) | X | 4.95 | 67.17 | 16.38 | 0.00 | 150.0 | ± 9.6 % |
|           |                                           | Y | 4.85 | 66.86 | 16.19 |      | 150.0 |         |
|           |                                           | Z | 4.85 | 67.15 | 16.34 |      | 150.0 |         |
| 10225-CAB | UMTS-FDD (HSPA+)                          | X | 2.64 | 66.25 | 14.92 | 0.00 | 150.0 | ± 9.6 % |
|           |                                           | Y | 2.47 | 65.44 | 14.20 |      | 150.0 |         |
|           |                                           | Z | 2.51 | 66.11 | 14.44 |      | 150.0 |         |
| 10226-CAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)  | X | 4.57 | 81.37 | 23.38 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 4.90 | 82.52 | 23.85 |      | 65.0  |         |
|           |                                           | Z | 4.15 | 81.66 | 23.92 |      | 65.0  |         |
| 10227-CAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)  | X | 4.60 | 80.57 | 22.40 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 4.89 | 81.58 | 22.82 |      | 65.0  |         |
|           |                                           | Z | 4.14 | 80.85 | 22.92 |      | 65.0  |         |
| 10228-CAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)    | X | 3.35 | 77.29 | 23.65 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 3.36 | 77.54 | 23.87 |      | 65.0  |         |
|           |                                           | Z | 2.92 | 75.79 | 23.43 |      | 65.0  |         |
| 10229-CAB | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)    | X | 4.39 | 80.55 | 22.98 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 4.67 | 81.55 | 23.40 |      | 65.0  |         |
|           |                                           | Z | 3.96 | 80.71 | 23.47 |      | 65.0  |         |
| 10230-CAB | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)    | X | 4.37 | 79.68 | 21.99 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 4.61 | 80.55 | 22.37 |      | 65.0  |         |
|           |                                           | Z | 3.91 | 79.81 | 22.46 |      | 65.0  |         |
| 10231-CAB | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)      | X | 3.26 | 76.70 | 23.33 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 3.26 | 76.88 | 23.51 |      | 65.0  |         |
|           |                                           | Z | 2.84 | 75.20 | 23.10 |      | 65.0  |         |
| 10232-CAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)    | X | 4.39 | 80.53 | 22.98 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 4.66 | 81.53 | 23.40 |      | 65.0  |         |
|           |                                           | Z | 3.96 | 80.69 | 23.47 |      | 65.0  |         |
| 10233-CAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)    | X | 4.36 | 79.65 | 21.99 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 4.60 | 80.51 | 22.36 |      | 65.0  |         |
|           |                                           | Z | 3.89 | 79.77 | 22.44 |      | 65.0  |         |
| 10234-CAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)      | X | 3.19 | 76.23 | 23.02 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 3.18 | 76.36 | 23.17 |      | 65.0  |         |
|           |                                           | Z | 2.78 | 74.77 | 22.80 |      | 65.0  |         |
| 10235-CAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)   | X | 4.38 | 80.55 | 22.98 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 4.66 | 81.55 | 23.41 |      | 65.0  |         |
|           |                                           | Z | 3.96 | 80.70 | 23.48 |      | 65.0  |         |
| 10236-CAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)   | X | 4.40 | 79.78 | 22.03 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 4.64 | 80.65 | 22.40 |      | 65.0  |         |
|           |                                           | Z | 3.94 | 79.92 | 22.49 |      | 65.0  |         |
| 10237-CAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)     | X | 3.25 | 76.71 | 23.34 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 3.26 | 76.89 | 23.52 |      | 65.0  |         |
|           |                                           | Z | 2.83 | 75.20 | 23.10 |      | 65.0  |         |
| 10238-CAD | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)   | X | 4.37 | 80.51 | 22.96 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 4.65 | 81.50 | 23.39 |      | 65.0  |         |
|           |                                           | Z | 3.95 | 80.66 | 23.46 |      | 65.0  |         |

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|           |                                            |   |      |       |       |      |      |         |
|-----------|--------------------------------------------|---|------|-------|-------|------|------|---------|
| 10239-CAD | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)    | X | 4.34 | 79.61 | 21.97 | 6.02 | 65.0 | ± 9.6 % |
|           |                                            | Y | 4.58 | 80.47 | 22.35 |      | 65.0 |         |
|           |                                            | Z | 3.88 | 79.72 | 22.43 |      | 65.0 |         |
| 10240-CAD | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)      | X | 3.25 | 76.69 | 23.33 | 6.02 | 65.0 | ± 9.6 % |
|           |                                            | Y | 3.25 | 76.87 | 23.51 |      | 65.0 |         |
|           |                                            | Z | 2.83 | 75.19 | 23.10 |      | 65.0 |         |
| 10241-CAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM) | X | 5.67 | 76.94 | 23.64 | 6.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 5.73 | 77.33 | 23.85 |      | 65.0 |         |
|           |                                            | Z | 5.41 | 77.63 | 24.19 |      | 65.0 |         |
| 10242-CAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM) | X | 5.51 | 76.48 | 23.38 | 6.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 5.15 | 75.22 | 22.87 |      | 65.0 |         |
|           |                                            | Z | 5.17 | 76.81 | 23.79 |      | 65.0 |         |
| 10243-CAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)   | X | 4.66 | 73.35 | 22.88 | 6.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 4.37 | 72.03 | 22.31 |      | 65.0 |         |
|           |                                            | Z | 4.40 | 73.35 | 23.12 |      | 65.0 |         |
| 10244-CAB | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)   | X | 2.90 | 67.06 | 13.06 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 2.71 | 66.26 | 12.47 |      | 65.0 |         |
|           |                                            | Z | 2.39 | 65.15 | 11.38 |      | 65.0 |         |
| 10245-CAB | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)   | X | 2.85 | 66.61 | 12.78 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 2.68 | 65.84 | 12.20 |      | 65.0 |         |
|           |                                            | Z | 2.36 | 64.77 | 11.12 |      | 65.0 |         |
| 10246-CAB | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)     | X | 3.01 | 71.40 | 15.89 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 2.36 | 67.99 | 13.82 |      | 65.0 |         |
|           |                                            | Z | 2.41 | 68.64 | 13.94 |      | 65.0 |         |
| 10247-CAD | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)   | X | 3.36 | 69.51 | 15.75 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 2.95 | 67.61 | 14.45 |      | 65.0 |         |
|           |                                            | Z | 2.97 | 68.07 | 14.42 |      | 65.0 |         |
| 10248-CAD | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)   | X | 3.34 | 68.90 | 15.44 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 2.95 | 67.15 | 14.22 |      | 65.0 |         |
|           |                                            | Z | 2.92 | 67.38 | 14.07 |      | 65.0 |         |
| 10249-CAD | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)     | X | 4.26 | 76.83 | 19.56 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 3.47 | 73.55 | 17.79 |      | 65.0 |         |
|           |                                            | Z | 3.81 | 75.50 | 18.55 |      | 65.0 |         |
| 10250-CAD | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)  | X | 4.36 | 73.05 | 19.62 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 4.02 | 71.77 | 18.85 |      | 65.0 |         |
|           |                                            | Z | 4.18 | 72.90 | 19.29 |      | 65.0 |         |
| 10251-CAD | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)  | X | 4.16 | 70.97 | 18.24 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 3.84 | 69.74 | 17.45 |      | 65.0 |         |
|           |                                            | Z | 3.91 | 70.51 | 17.72 |      | 65.0 |         |
| 10252-CAD | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)    | X | 4.83 | 77.80 | 21.42 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 4.26 | 75.76 | 20.36 |      | 65.0 |         |
|           |                                            | Z | 4.64 | 77.86 | 21.33 |      | 65.0 |         |
| 10253-CAD | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)  | X | 4.40 | 70.58 | 18.61 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 4.13 | 69.58 | 18.00 |      | 65.0 |         |
|           |                                            | Z | 4.22 | 70.40 | 18.37 |      | 65.0 |         |
| 10254-CAD | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)  | X | 4.70 | 71.50 | 19.34 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 4.41 | 70.53 | 18.77 |      | 65.0 |         |
|           |                                            | Z | 4.51 | 71.38 | 19.13 |      | 65.0 |         |

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|           |                                             |   |      |       |       |      |      |         |
|-----------|---------------------------------------------|---|------|-------|-------|------|------|---------|
| 10255-CAD | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)     | X | 4.76 | 74.95 | 20.56 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 4.35 | 73.52 | 19.81 |      | 65.0 |         |
|           |                                             | Z | 4.59 | 75.06 | 20.58 |      | 65.0 |         |
| 10256-CAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM) | X | 2.08 | 63.27 | 9.80  | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 1.95 | 62.60 | 9.21  |      | 65.0 |         |
|           |                                             | Z | 1.70 | 61.73 | 8.15  |      | 65.0 |         |
| 10257-CAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM) | X | 2.07 | 62.91 | 9.50  | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 1.94 | 62.29 | 8.92  |      | 65.0 |         |
|           |                                             | Z | 1.69 | 61.46 | 7.88  |      | 65.0 |         |
| 10258-CAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)   | X | 2.01 | 65.63 | 11.91 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 1.65 | 63.35 | 10.17 |      | 65.0 |         |
|           |                                             | Z | 1.59 | 63.25 | 9.83  |      | 65.0 |         |
| 10259-CAB | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)   | X | 3.78 | 71.05 | 17.26 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 3.37 | 69.33 | 16.13 |      | 65.0 |         |
|           |                                             | Z | 3.46 | 70.13 | 16.31 |      | 65.0 |         |
| 10260-CAB | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)   | X | 3.81 | 70.78 | 17.12 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 3.41 | 69.12 | 16.02 |      | 65.0 |         |
|           |                                             | Z | 3.48 | 69.84 | 16.15 |      | 65.0 |         |
| 10261-CAB | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)     | X | 4.32 | 76.55 | 20.03 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 3.68 | 73.97 | 18.61 |      | 65.0 |         |
|           |                                             | Z | 4.03 | 75.96 | 19.43 |      | 65.0 |         |
| 10262-CAD | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)   | X | 4.35 | 72.98 | 19.56 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 4.00 | 71.69 | 18.79 |      | 65.0 |         |
|           |                                             | Z | 4.16 | 72.81 | 19.23 |      | 65.0 |         |
| 10263-CAD | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)   | X | 4.15 | 70.95 | 18.23 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 3.83 | 69.72 | 17.45 |      | 65.0 |         |
|           |                                             | Z | 3.90 | 70.49 | 17.72 |      | 65.0 |         |
| 10264-CAD | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)     | X | 4.78 | 77.59 | 21.30 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 4.21 | 75.55 | 20.24 |      | 65.0 |         |
|           |                                             | Z | 4.59 | 77.63 | 21.21 |      | 65.0 |         |
| 10265-CAD | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)  | X | 4.45 | 70.90 | 18.87 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 4.17 | 69.87 | 18.27 |      | 65.0 |         |
|           |                                             | Z | 4.26 | 70.67 | 18.67 |      | 65.0 |         |
| 10266-CAD | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)  | X | 4.79 | 71.96 | 19.72 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 4.50 | 70.98 | 19.16 |      | 65.0 |         |
|           |                                             | Z | 4.60 | 71.84 | 19.58 |      | 65.0 |         |
| 10267-CAD | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)    | X | 4.98 | 75.63 | 20.70 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 4.53 | 74.10 | 19.92 |      | 65.0 |         |
|           |                                             | Z | 4.81 | 75.72 | 20.78 |      | 65.0 |         |
| 10268-CAD | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)  | X | 5.11 | 71.08 | 19.43 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 4.84 | 70.20 | 18.97 |      | 65.0 |         |
|           |                                             | Z | 4.92 | 70.93 | 19.36 |      | 65.0 |         |
| 10269-CAD | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)  | X | 5.13 | 70.76 | 19.32 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 4.87 | 69.92 | 18.86 |      | 65.0 |         |
|           |                                             | Z | 4.96 | 70.66 | 19.25 |      | 65.0 |         |
| 10270-CAD | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)    | X | 5.11 | 73.33 | 19.86 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 4.76 | 72.19 | 19.29 |      | 65.0 |         |
|           |                                             | Z | 4.96 | 73.43 | 19.98 |      | 65.0 |         |

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|           |                                                                    |   |       |        |       |      |       |         |
|-----------|--------------------------------------------------------------------|---|-------|--------|-------|------|-------|---------|
| 10274-CAB | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)                          | X | 2.48  | 66.86  | 14.99 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 2.30  | 65.90  | 14.17 |      | 150.0 |         |
|           |                                                                    | Z | 2.37  | 66.79  | 14.57 |      | 150.0 |         |
| 10275-CAB | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)                           | X | 1.53  | 68.05  | 15.40 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 1.32  | 66.12  | 13.91 |      | 150.0 |         |
|           |                                                                    | Z | 1.45  | 67.75  | 14.99 |      | 150.0 |         |
| 10277-CAA | PHS (QPSK)                                                         | X | 1.30  | 58.93  | 4.20  | 9.03 | 50.0  | ± 9.6 % |
|           |                                                                    | Y | 1.32  | 58.56  | 3.87  |      | 50.0  |         |
|           |                                                                    | Z | 1.18  | 58.32  | 3.49  |      | 50.0  |         |
| 10278-CAA | PHS (QPSK, BW 884MHz, Rolloff 0.5)                                 | X | 2.49  | 64.91  | 10.26 | 9.03 | 50.0  | ± 9.6 % |
|           |                                                                    | Y | 2.32  | 63.55  | 9.26  |      | 50.0  |         |
|           |                                                                    | Z | 2.17  | 63.27  | 8.86  |      | 50.0  |         |
| 10279-CAA | PHS (QPSK, BW 884MHz, Rolloff 0.38)                                | X | 2.57  | 65.18  | 10.47 | 9.03 | 50.0  | ± 9.6 % |
|           |                                                                    | Y | 2.38  | 63.76  | 9.44  |      | 50.0  |         |
|           |                                                                    | Z | 2.22  | 63.44  | 9.03  |      | 50.0  |         |
| 10290-AAB | CDMA2000, RC1, SO55, Full Rate                                     | X | 1.01  | 65.74  | 11.23 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 0.67  | 61.70  | 8.06  |      | 150.0 |         |
|           |                                                                    | Z | 0.69  | 62.65  | 8.67  |      | 150.0 |         |
| 10291-AAB | CDMA2000, RC3, SO55, Full Rate                                     | X | 0.64  | 64.08  | 10.26 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 0.41  | 60.32  | 6.85  |      | 150.0 |         |
|           |                                                                    | Z | 0.48  | 61.84  | 8.06  |      | 150.0 |         |
| 10292-AAB | CDMA2000, RC3, SO32, Full Rate                                     | X | 0.93  | 69.17  | 13.09 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 0.46  | 61.72  | 7.96  |      | 150.0 |         |
|           |                                                                    | Z | 0.63  | 65.19  | 10.18 |      | 150.0 |         |
| 10293-AAB | CDMA2000, RC3, SO3, Full Rate                                      | X | 2.58  | 81.84  | 18.38 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 0.61  | 64.42  | 9.84  |      | 150.0 |         |
|           |                                                                    | Z | 1.45  | 74.16  | 14.40 |      | 150.0 |         |
| 10295-AAB | CDMA2000, RC1, SO3, 1/8th Rate 25 fr.                              | X | 16.38 | 93.11  | 24.71 | 9.03 | 50.0  | ± 9.6 % |
|           |                                                                    | Y | 16.06 | 90.60  | 23.14 |      | 50.0  |         |
|           |                                                                    | Z | 41.75 | 104.48 | 26.91 |      | 50.0  |         |
| 10297-AAC | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)                            | X | 2.56  | 69.49  | 16.58 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 2.33  | 68.15  | 15.68 |      | 150.0 |         |
|           |                                                                    | Z | 2.43  | 69.17  | 16.39 |      | 150.0 |         |
| 10298-AAC | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)                             | X | 1.18  | 65.35  | 11.77 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 0.89  | 62.40  | 9.35  |      | 150.0 |         |
|           |                                                                    | Z | 0.90  | 63.00  | 9.64  |      | 150.0 |         |
| 10299-AAC | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)                           | X | 1.36  | 63.05  | 9.42  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 1.26  | 62.26  | 8.62  |      | 150.0 |         |
|           |                                                                    | Z | 1.05  | 61.24  | 7.54  |      | 150.0 |         |
| 10300-AAC | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)                           | X | 1.15  | 60.99  | 7.59  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 1.07  | 60.46  | 6.94  |      | 150.0 |         |
|           |                                                                    | Z | 0.89  | 59.75  | 5.99  |      | 150.0 |         |
| 10301-AAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)                 | X | 4.25  | 64.73  | 16.86 | 4.17 | 50.0  | ± 9.6 % |
|           |                                                                    | Y | 4.21  | 64.78  | 16.74 |      | 50.0  |         |
|           |                                                                    | Z | 4.10  | 64.79  | 16.69 |      | 50.0  |         |
| 10302-AAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols) | X | 4.74  | 65.43  | 17.63 | 4.96 | 50.0  | ± 9.6 % |
|           |                                                                    | Y | 4.66  | 65.24  | 17.38 |      | 50.0  |         |
|           |                                                                    | Z | 4.60  | 65.49  | 17.44 |      | 50.0  |         |

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|           |                                                                     |   |      |       |       |       |       |         |
|-----------|---------------------------------------------------------------------|---|------|-------|-------|-------|-------|---------|
| 10303-AAA | IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)                 | X | 4.49 | 65.00 | 17.39 | 4.96  | 50.0  | ± 9.6 % |
|           |                                                                     | Y | 4.44 | 65.13 | 17.34 |       | 50.0  |         |
|           |                                                                     | Z | 4.36 | 65.13 | 17.21 |       | 50.0  |         |
| 10304-AAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)                 | X | 4.34 | 65.04 | 16.98 | 4.17  | 50.0  | ± 9.6 % |
|           |                                                                     | Y | 4.25 | 64.81 | 16.70 |       | 50.0  |         |
|           |                                                                     | Z | 4.21 | 65.16 | 16.81 |       | 50.0  |         |
| 10305-AAA | IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)    | X | 3.71 | 65.40 | 17.85 | 6.02  | 35.0  | ± 9.6 % |
|           |                                                                     | Y | 3.72 | 65.71 | 17.67 |       | 35.0  |         |
|           |                                                                     | Z | 3.59 | 65.50 | 17.36 |       | 35.0  |         |
| 10306-AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)    | X | 4.14 | 65.15 | 17.96 | 6.02  | 35.0  | ± 9.6 % |
|           |                                                                     | Y | 4.12 | 65.33 | 17.82 |       | 35.0  |         |
|           |                                                                     | Z | 4.02 | 65.33 | 17.66 |       | 35.0  |         |
| 10307-AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)     | X | 4.01 | 65.07 | 17.81 | 6.02  | 35.0  | ± 9.6 % |
|           |                                                                     | Y | 3.99 | 65.26 | 17.66 |       | 35.0  |         |
|           |                                                                     | Z | 3.89 | 65.22 | 17.49 |       | 35.0  |         |
| 10308-AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)                | X | 3.97 | 65.21 | 17.93 | 6.02  | 35.0  | ± 9.6 % |
|           |                                                                     | Y | 3.96 | 65.42 | 17.79 |       | 35.0  |         |
|           |                                                                     | Z | 3.86 | 65.37 | 17.62 |       | 35.0  |         |
| 10309-AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols) | X | 4.16 | 65.22 | 18.05 | 6.02  | 35.0  | ± 9.6 % |
|           |                                                                     | Y | 4.14 | 65.39 | 17.90 |       | 35.0  |         |
|           |                                                                     | Z | 4.03 | 65.36 | 17.74 |       | 35.0  |         |
| 10310-AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)  | X | 4.09 | 65.15 | 17.92 | 6.02  | 35.0  | ± 9.6 % |
|           |                                                                     | Y | 4.07 | 65.35 | 17.79 |       | 35.0  |         |
|           |                                                                     | Z | 3.97 | 65.35 | 17.65 |       | 35.0  |         |
| 10311-AAC | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)                            | X | 2.92 | 68.73 | 16.23 | 0.00  | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 2.68 | 67.45 | 15.43 |       | 150.0 |         |
|           |                                                                     | Z | 2.78 | 68.38 | 16.08 |       | 150.0 |         |
| 10313-AAA | iDEN 1:3                                                            | X | 2.23 | 70.71 | 15.35 | 6.99  | 70.0  | ± 9.6 % |
|           |                                                                     | Y | 1.69 | 66.90 | 13.17 |       | 70.0  |         |
|           |                                                                     | Z | 2.30 | 71.64 | 15.93 |       | 70.0  |         |
| 10314-AAA | iDEN 1:6                                                            | X | 4.08 | 80.89 | 22.31 | 10.00 | 30.0  | ± 9.6 % |
|           |                                                                     | Y | 3.04 | 75.07 | 19.42 |       | 30.0  |         |
|           |                                                                     | Z | 4.65 | 83.62 | 23.48 |       | 30.0  |         |
| 10315-AAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)           | X | 1.04 | 63.55 | 14.98 | 0.17  | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 0.94 | 62.52 | 14.02 |       | 150.0 |         |
|           |                                                                     | Z | 1.03 | 63.50 | 14.81 |       | 150.0 |         |
| 10316-AAB | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)       | X | 4.37 | 66.68 | 16.19 | 0.17  | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.26 | 66.34 | 15.95 |       | 150.0 |         |
|           |                                                                     | Z | 4.26 | 66.72 | 16.11 |       | 150.0 |         |
| 10317-AAC | IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)             | X | 4.37 | 66.68 | 16.19 | 0.17  | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.26 | 66.34 | 15.95 |       | 150.0 |         |
|           |                                                                     | Z | 4.26 | 66.72 | 16.11 |       | 150.0 |         |
| 10400-AAD | IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)                 | X | 4.46 | 67.02 | 16.23 | 0.00  | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.33 | 66.64 | 15.97 |       | 150.0 |         |
|           |                                                                     | Z | 4.31 | 66.98 | 16.13 |       | 150.0 |         |
| 10401-AAD | IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)                 | X | 5.12 | 66.82 | 16.24 | 0.00  | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 5.01 | 66.51 | 16.06 |       | 150.0 |         |
|           |                                                                     | Z | 4.99 | 66.73 | 16.17 |       | 150.0 |         |

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|           |                                                                                 |   |        |        |       |      |       |         |
|-----------|---------------------------------------------------------------------------------|---|--------|--------|-------|------|-------|---------|
| 10402-AAD | IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)                             | X | 5.47   | 67.39  | 16.42 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 5.37   | 67.08  | 16.25 |      | 150.0 |         |
|           |                                                                                 | Z | 5.37   | 67.35  | 16.39 |      | 150.0 |         |
| 10403-AAB | CDMA2000 (1xEV-DO, Rev. 0)                                                      | X | 1.01   | 65.74  | 11.23 | 0.00 | 115.0 | ± 9.6 % |
|           |                                                                                 | Y | 0.67   | 61.70  | 8.06  |      | 115.0 |         |
|           |                                                                                 | Z | 0.69   | 62.65  | 8.67  |      | 115.0 |         |
| 10404-AAB | CDMA2000 (1xEV-DO, Rev. A)                                                      | X | 1.01   | 65.74  | 11.23 | 0.00 | 115.0 | ± 9.6 % |
|           |                                                                                 | Y | 0.67   | 61.70  | 8.06  |      | 115.0 |         |
|           |                                                                                 | Z | 0.69   | 62.65  | 8.67  |      | 115.0 |         |
| 10406-AAB | CDMA2000, RC3, SO32, SCH0, Full Rate                                            | X | 13.40  | 94.87  | 22.42 | 0.00 | 100.0 | ± 9.6 % |
|           |                                                                                 | Y | 37.24  | 104.89 | 24.38 |      | 100.0 |         |
|           |                                                                                 | Z | 100.00 | 114.79 | 25.79 |      | 100.0 |         |
| 10410-AAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4) | X | 2.95   | 79.35  | 18.40 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                                 | Y | 3.69   | 82.30  | 19.32 |      | 80.0  |         |
|           |                                                                                 | Z | 3.87   | 84.90  | 20.56 |      | 80.0  |         |
| 10415-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)                       | X | 1.00   | 63.14  | 14.62 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 0.91   | 62.12  | 13.65 |      | 150.0 |         |
|           |                                                                                 | Z | 0.99   | 63.08  | 14.44 |      | 150.0 |         |
| 10416-AAA | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)                   | X | 4.35   | 66.77  | 16.19 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.23   | 66.41  | 15.93 |      | 150.0 |         |
|           |                                                                                 | Z | 4.24   | 66.81  | 16.11 |      | 150.0 |         |
| 10417-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)                       | X | 4.35   | 66.77  | 16.19 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.23   | 66.41  | 15.93 |      | 150.0 |         |
|           |                                                                                 | Z | 4.24   | 66.81  | 16.11 |      | 150.0 |         |
| 10418-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)   | X | 4.35   | 66.98  | 16.25 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.23   | 66.61  | 15.99 |      | 150.0 |         |
|           |                                                                                 | Z | 4.23   | 67.03  | 16.19 |      | 150.0 |         |
| 10419-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)  | X | 4.36   | 66.91  | 16.23 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.24   | 66.55  | 15.97 |      | 150.0 |         |
|           |                                                                                 | Z | 4.25   | 66.96  | 16.17 |      | 150.0 |         |
| 10422-AAB | IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)                                    | X | 4.47   | 66.89  | 16.24 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.35   | 66.53  | 15.99 |      | 150.0 |         |
|           |                                                                                 | Z | 4.35   | 66.92  | 16.18 |      | 150.0 |         |
| 10423-AAB | IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)                                 | X | 4.59   | 67.14  | 16.33 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.47   | 66.78  | 16.08 |      | 150.0 |         |
|           |                                                                                 | Z | 4.46   | 67.16  | 16.25 |      | 150.0 |         |
| 10424-AAB | IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)                                 | X | 4.52   | 67.09  | 16.31 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.40   | 66.73  | 16.05 |      | 150.0 |         |
|           |                                                                                 | Z | 4.39   | 67.09  | 16.23 |      | 150.0 |         |
| 10425-AAB | IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)                                     | X | 5.15   | 67.27  | 16.49 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 5.05   | 66.98  | 16.31 |      | 150.0 |         |
|           |                                                                                 | Z | 5.01   | 67.17  | 16.41 |      | 150.0 |         |
| 10426-AAB | IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)                                   | X | 5.17   | 67.36  | 16.53 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 5.08   | 67.12  | 16.38 |      | 150.0 |         |
|           |                                                                                 | Z | 5.05   | 67.33  | 16.49 |      | 150.0 |         |

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|           |                                                                |   |      |       |       |      |       |         |
|-----------|----------------------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10427-AAB | IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)                 | X | 5.13 | 67.15 | 16.42 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 5.03 | 66.85 | 16.24 |      | 150.0 |         |
|           |                                                                | Z | 5.01 | 67.11 | 16.38 |      | 150.0 |         |
| 10430-AAB | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)                               | X | 4.23 | 72.27 | 18.34 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 3.99 | 71.49 | 17.71 |      | 150.0 |         |
|           |                                                                | Z | 4.17 | 72.80 | 18.15 |      | 150.0 |         |
| 10431-AAB | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)                              | X | 3.96 | 67.36 | 16.06 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 3.81 | 66.88 | 15.67 |      | 150.0 |         |
|           |                                                                | Z | 3.81 | 67.37 | 15.87 |      | 150.0 |         |
| 10432-AAB | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)                              | X | 4.29 | 67.19 | 16.23 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 4.15 | 66.79 | 15.93 |      | 150.0 |         |
|           |                                                                | Z | 4.15 | 67.22 | 16.13 |      | 150.0 |         |
| 10433-AAB | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)                              | X | 4.54 | 67.13 | 16.33 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 4.42 | 66.76 | 16.08 |      | 150.0 |         |
|           |                                                                | Z | 4.41 | 67.14 | 16.25 |      | 150.0 |         |
| 10434-AAA | W-CDMA (BS Test Model 1, 64 DPCH)                              | X | 4.34 | 73.15 | 18.13 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 3.97 | 71.83 | 17.20 |      | 150.0 |         |
|           |                                                                | Z | 4.17 | 73.19 | 17.60 |      | 150.0 |         |
| 10435-AAC | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9) | X | 2.84 | 78.74 | 18.13 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                | Y | 3.48 | 81.45 | 18.98 |      | 80.0  |         |
|           |                                                                | Z | 3.64 | 83.98 | 20.20 |      | 80.0  |         |
| 10447-AAB | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)                 | X | 3.20 | 67.15 | 14.91 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 2.99 | 66.28 | 14.17 |      | 150.0 |         |
|           |                                                                | Z | 2.97 | 66.77 | 14.26 |      | 150.0 |         |
| 10448-AAB | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)                | X | 3.83 | 67.16 | 15.94 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 3.68 | 66.67 | 15.55 |      | 150.0 |         |
|           |                                                                | Z | 3.69 | 67.18 | 15.75 |      | 150.0 |         |
| 10449-AAB | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)                | X | 4.13 | 67.03 | 16.13 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 4.00 | 66.61 | 15.83 |      | 150.0 |         |
|           |                                                                | Z | 4.00 | 67.05 | 16.03 |      | 150.0 |         |
| 10450-AAB | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)                | X | 4.34 | 66.91 | 16.19 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 4.22 | 66.53 | 15.92 |      | 150.0 |         |
|           |                                                                | Z | 4.23 | 66.92 | 16.11 |      | 150.0 |         |
| 10451-AAA | W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)                | X | 2.99 | 66.88 | 14.14 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 2.74 | 65.78 | 13.23 |      | 150.0 |         |
|           |                                                                | Z | 2.69 | 66.07 | 13.18 |      | 150.0 |         |
| 10456-AAB | IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)           | X | 6.06 | 67.78 | 16.63 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 6.00 | 67.55 | 16.51 |      | 150.0 |         |
|           |                                                                | Z | 6.07 | 68.05 | 16.78 |      | 150.0 |         |
| 10457-AAA | UMTS-FDD (DC-HSDPA)                                            | X | 3.71 | 65.53 | 15.92 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 3.61 | 65.20 | 15.66 |      | 150.0 |         |
|           |                                                                | Z | 3.65 | 65.68 | 15.87 |      | 150.0 |         |
| 10458-AAA | CDMA2000 (1xEV-DO, Rev. B, 2 carriers)                         | X | 3.70 | 71.13 | 16.64 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 3.25 | 69.16 | 15.28 |      | 150.0 |         |
|           |                                                                | Z | 3.15 | 69.17 | 14.95 |      | 150.0 |         |
| 10459-AAA | CDMA2000 (1xEV-DO, Rev. B, 3 carriers)                         | X | 4.84 | 69.11 | 17.84 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 4.69 | 68.77 | 17.48 |      | 150.0 |         |
|           |                                                                | Z | 4.58 | 68.84 | 17.14 |      | 150.0 |         |

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# Appendix A: DAE and Probe Calibration Certificate

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|           |                                                                   |   |      |       |       |      |       |         |
|-----------|-------------------------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10460-AAA | UMTS-FDD (WCDMA, AMR)                                             | X | 0.88 | 68.39 | 16.07 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                   | Y | 0.70 | 65.56 | 13.77 |      | 150.0 |         |
|           |                                                                   | Z | 0.84 | 67.99 | 15.62 |      | 150.0 |         |
| 10461-AAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)   | X | 1.57 | 72.49 | 16.91 | 3.29 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 2.31 | 77.86 | 18.85 |      | 80.0  |         |
|           |                                                                   | Z | 1.89 | 76.90 | 18.97 |      | 80.0  |         |
| 10462-AAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) | X | 0.65 | 60.00 | 7.36  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.67 | 60.00 | 7.26  |      | 80.0  |         |
|           |                                                                   | Z | 0.57 | 60.00 | 7.02  |      | 80.0  |         |
| 10463-AAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | X | 0.67 | 60.00 | 6.67  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.68 | 60.00 | 6.58  |      | 80.0  |         |
|           |                                                                   | Z | 0.60 | 60.00 | 6.22  |      | 80.0  |         |
| 10464-AAA | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 1.23 | 69.24 | 14.93 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 1.59 | 72.66 | 16.19 |      | 80.0  |         |
|           |                                                                   | Z | 1.42 | 72.83 | 16.69 |      | 80.0  |         |
| 10465-AAA | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 0.65 | 60.00 | 7.28  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.67 | 60.00 | 7.19  |      | 80.0  |         |
|           |                                                                   | Z | 0.57 | 60.00 | 6.95  |      | 80.0  |         |
| 10466-AAA | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 0.67 | 60.00 | 6.62  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.69 | 60.00 | 6.54  |      | 80.0  |         |
|           |                                                                   | Z | 0.60 | 60.00 | 6.18  |      | 80.0  |         |
| 10467-AAC | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 1.28 | 69.83 | 15.22 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 1.71 | 73.64 | 16.62 |      | 80.0  |         |
|           |                                                                   | Z | 1.51 | 73.74 | 17.10 |      | 80.0  |         |
| 10468-AAC | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 0.65 | 60.00 | 7.31  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.66 | 60.00 | 7.22  |      | 80.0  |         |
|           |                                                                   | Z | 0.57 | 60.00 | 6.98  |      | 80.0  |         |
| 10469-AAC | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 0.67 | 60.00 | 6.62  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.68 | 60.00 | 6.54  |      | 80.0  |         |
|           |                                                                   | Z | 0.60 | 60.00 | 6.18  |      | 80.0  |         |
| 10470-AAC | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | X | 1.27 | 69.83 | 15.21 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 1.71 | 73.66 | 16.62 |      | 80.0  |         |
|           |                                                                   | Z | 1.50 | 73.77 | 17.11 |      | 80.0  |         |
| 10471-AAC | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | X | 0.65 | 60.00 | 7.29  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.66 | 60.00 | 7.20  |      | 80.0  |         |
|           |                                                                   | Z | 0.57 | 60.00 | 6.96  |      | 80.0  |         |
| 10472-AAC | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | X | 0.67 | 60.00 | 6.60  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.68 | 60.00 | 6.52  |      | 80.0  |         |
|           |                                                                   | Z | 0.31 | 55.91 | 4.03  |      | 80.0  |         |
| 10473-AAC | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | X | 1.27 | 69.80 | 15.19 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 1.70 | 73.59 | 16.59 |      | 80.0  |         |
|           |                                                                   | Z | 1.50 | 73.71 | 17.08 |      | 80.0  |         |
| 10474-AAC | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | X | 0.65 | 60.00 | 7.29  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.66 | 60.00 | 7.20  |      | 80.0  |         |
|           |                                                                   | Z | 0.57 | 60.00 | 6.96  |      | 80.0  |         |
| 10475-AAC | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | X | 0.67 | 60.00 | 6.60  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.68 | 60.00 | 6.52  |      | 80.0  |         |
|           |                                                                   | Z | 0.31 | 55.90 | 4.03  |      | 80.0  |         |

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|           |                                                                     |   |      |       |       |      |      |         |
|-----------|---------------------------------------------------------------------|---|------|-------|-------|------|------|---------|
| 10477-AAC | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)    | X | 0.65 | 60.00 | 7.26  | 3.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 0.66 | 60.00 | 7.17  |      | 80.0 |         |
|           |                                                                     | Z | 0.57 | 60.00 | 6.93  |      | 80.0 |         |
| 10478-AAC | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)    | X | 0.67 | 60.00 | 6.59  | 3.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 0.68 | 60.00 | 6.51  |      | 80.0 |         |
|           |                                                                     | Z | 0.31 | 55.89 | 4.01  |      | 80.0 |         |
| 10479-AAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)   | X | 3.24 | 76.16 | 18.67 | 3.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 4.42 | 80.82 | 20.23 |      | 80.0 |         |
|           |                                                                     | Z | 4.39 | 82.21 | 20.82 |      | 80.0 |         |
| 10480-AAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) | X | 2.03 | 66.76 | 12.73 | 3.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 2.05 | 66.92 | 12.60 |      | 80.0 |         |
|           |                                                                     | Z | 1.85 | 67.01 | 12.43 |      | 80.0 |         |
| 10481-AAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | X | 1.62 | 63.96 | 11.04 | 3.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 1.57 | 63.66 | 10.70 |      | 80.0 |         |
|           |                                                                     | Z | 1.32 | 63.18 | 10.24 |      | 80.0 |         |
| 10482-AAA | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 1.53 | 65.20 | 12.69 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 1.10 | 61.56 | 10.21 |      | 80.0 |         |
|           |                                                                     | Z | 1.14 | 62.42 | 10.54 |      | 80.0 |         |
| 10483-AAA | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 1.45 | 61.38 | 9.71  | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 1.32 | 60.52 | 8.97  |      | 80.0 |         |
|           |                                                                     | Z | 1.16 | 60.00 | 8.17  |      | 80.0 |         |
| 10484-AAA | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 1.44 | 61.07 | 9.53  | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 1.32 | 60.25 | 8.82  |      | 80.0 |         |
|           |                                                                     | Z | 1.19 | 60.00 | 8.15  |      | 80.0 |         |
| 10485-AAC | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 2.16 | 69.31 | 16.02 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 1.69 | 66.06 | 14.04 |      | 80.0 |         |
|           |                                                                     | Z | 1.93 | 68.38 | 15.12 |      | 80.0 |         |
| 10486-AAC | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 2.10 | 65.45 | 13.37 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 1.71 | 62.92 | 11.64 |      | 80.0 |         |
|           |                                                                     | Z | 1.73 | 63.60 | 11.80 |      | 80.0 |         |
| 10487-AAC | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 2.11 | 65.08 | 13.16 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 1.73 | 62.69 | 11.49 |      | 80.0 |         |
|           |                                                                     | Z | 1.73 | 63.23 | 11.57 |      | 80.0 |         |
| 10488-AAC | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | X | 2.58 | 69.55 | 17.35 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 2.27 | 67.73 | 16.25 |      | 80.0 |         |
|           |                                                                     | Z | 2.45 | 69.44 | 17.18 |      | 80.0 |         |
| 10489-AAC | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | X | 2.75 | 67.17 | 16.06 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 2.49 | 65.86 | 15.18 |      | 80.0 |         |
|           |                                                                     | Z | 2.63 | 67.13 | 15.78 |      | 80.0 |         |
| 10490-AAC | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | X | 2.83 | 67.06 | 16.01 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 2.57 | 65.81 | 15.15 |      | 80.0 |         |
|           |                                                                     | Z | 2.69 | 66.99 | 15.69 |      | 80.0 |         |
| 10491-AAC | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | X | 2.92 | 68.61 | 17.17 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 2.65 | 67.28 | 16.37 |      | 80.0 |         |
|           |                                                                     | Z | 2.77 | 68.48 | 17.08 |      | 80.0 |         |
| 10492-AAC | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | X | 3.13 | 66.69 | 16.33 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 2.92 | 65.77 | 15.72 |      | 80.0 |         |
|           |                                                                     | Z | 3.01 | 66.69 | 16.19 |      | 80.0 |         |

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|           |                                                                      |   |      |       |       |      |      |         |
|-----------|----------------------------------------------------------------------|---|------|-------|-------|------|------|---------|
| 10493-AAC | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 3.19 | 66.60 | 16.28 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 2.99 | 65.70 | 15.69 |      | 80.0 |         |
|           |                                                                      | Z | 3.07 | 66.59 | 16.12 |      | 80.0 |         |
| 10494-AAC | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 3.09 | 69.75 | 17.58 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 2.78 | 68.23 | 16.72 |      | 80.0 |         |
|           |                                                                      | Z | 2.93 | 69.54 | 17.51 |      | 80.0 |         |
| 10495-AAC | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 3.15 | 66.91 | 16.53 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 2.94 | 65.97 | 15.94 |      | 80.0 |         |
|           |                                                                      | Z | 3.03 | 66.87 | 16.43 |      | 80.0 |         |
| 10496-AAC | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 3.24 | 66.76 | 16.49 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 3.04 | 65.88 | 15.93 |      | 80.0 |         |
|           |                                                                      | Z | 3.12 | 66.74 | 16.39 |      | 80.0 |         |
| 10497-AAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)   | X | 0.93 | 60.00 | 8.57  | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 0.90 | 60.00 | 7.78  |      | 80.0 |         |
|           |                                                                      | Z | 0.86 | 60.00 | 7.53  |      | 80.0 |         |
| 10498-AAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) | X | 1.10 | 60.00 | 7.25  | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 1.08 | 60.00 | 6.57  |      | 80.0 |         |
|           |                                                                      | Z | 1.05 | 60.00 | 6.14  |      | 80.0 |         |
| 10499-AAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | X | 1.12 | 60.00 | 7.08  | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 1.11 | 60.00 | 6.40  |      | 80.0 |         |
|           |                                                                      | Z | 1.08 | 60.00 | 5.96  |      | 80.0 |         |
| 10500-AAA | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 2.33 | 69.42 | 16.57 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 1.93 | 66.88 | 15.00 |      | 80.0 |         |
|           |                                                                      | Z | 2.16 | 69.02 | 16.03 |      | 80.0 |         |
| 10501-AAA | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 2.42 | 66.55 | 14.60 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 2.06 | 64.46 | 13.19 |      | 80.0 |         |
|           |                                                                      | Z | 2.16 | 65.57 | 13.59 |      | 80.0 |         |
| 10502-AAA | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 2.46 | 66.38 | 14.43 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 2.09 | 64.32 | 13.03 |      | 80.0 |         |
|           |                                                                      | Z | 2.17 | 65.33 | 13.38 |      | 80.0 |         |
| 10503-AAC | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 2.55 | 69.37 | 17.25 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 2.24 | 67.56 | 16.15 |      | 80.0 |         |
|           |                                                                      | Z | 2.42 | 69.25 | 17.08 |      | 80.0 |         |
| 10504-AAC | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 2.73 | 67.07 | 16.00 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 2.48 | 65.76 | 15.11 |      | 80.0 |         |
|           |                                                                      | Z | 2.61 | 67.02 | 15.71 |      | 80.0 |         |
| 10505-AAC | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 2.82 | 66.97 | 15.95 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 2.56 | 65.72 | 15.09 |      | 80.0 |         |
|           |                                                                      | Z | 2.68 | 66.89 | 15.62 |      | 80.0 |         |
| 10506-AAC | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | X | 3.07 | 69.63 | 17.51 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 2.76 | 68.11 | 16.65 |      | 80.0 |         |
|           |                                                                      | Z | 2.91 | 69.41 | 17.44 |      | 80.0 |         |
| 10507-AAC | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | X | 3.14 | 66.85 | 16.49 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 2.93 | 65.91 | 15.90 |      | 80.0 |         |
|           |                                                                      | Z | 3.02 | 66.81 | 16.39 |      | 80.0 |         |

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|           |                                                                     |   |      |       |       |      |       |         |
|-----------|---------------------------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10508-AAC | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | X | 3.23 | 66.69 | 16.44 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 3.03 | 65.82 | 15.89 |      | 80.0  |         |
|           |                                                                     | Z | 3.11 | 66.67 | 16.35 |      | 80.0  |         |
| 10509-AAC | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)   | X | 3.52 | 68.96 | 17.25 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 3.24 | 67.75 | 16.57 |      | 80.0  |         |
|           |                                                                     | Z | 3.37 | 68.79 | 17.22 |      | 80.0  |         |
| 10510-AAC | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) | X | 3.62 | 66.72 | 16.61 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 3.43 | 65.94 | 16.15 |      | 80.0  |         |
|           |                                                                     | Z | 3.50 | 66.61 | 16.55 |      | 80.0  |         |
| 10511-AAC | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | X | 3.70 | 66.58 | 16.58 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 3.51 | 65.85 | 16.14 |      | 80.0  |         |
|           |                                                                     | Z | 3.58 | 66.51 | 16.52 |      | 80.0  |         |
| 10512-AAC | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)   | X | 3.56 | 70.02 | 17.57 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 3.23 | 68.54 | 16.78 |      | 80.0  |         |
|           |                                                                     | Z | 3.39 | 69.70 | 17.50 |      | 80.0  |         |
| 10513-AAC | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) | X | 3.50 | 66.80 | 16.66 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 3.31 | 65.98 | 16.18 |      | 80.0  |         |
|           |                                                                     | Z | 3.39 | 66.65 | 16.59 |      | 80.0  |         |
| 10514-AAC | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | X | 3.56 | 66.53 | 16.58 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 3.38 | 65.75 | 16.13 |      | 80.0  |         |
|           |                                                                     | Z | 3.45 | 66.40 | 16.52 |      | 80.0  |         |
| 10515-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)           | X | 0.96 | 63.31 | 14.68 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 0.87 | 62.23 | 13.64 |      | 150.0 |         |
|           |                                                                     | Z | 0.95 | 63.24 | 14.49 |      | 150.0 |         |
| 10516-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)         | X | 0.59 | 70.32 | 17.28 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 0.43 | 66.45 | 13.92 |      | 150.0 |         |
|           |                                                                     | Z | 0.56 | 69.40 | 16.67 |      | 150.0 |         |
| 10517-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)          | X | 0.81 | 65.09 | 15.27 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 0.69 | 63.42 | 13.73 |      | 150.0 |         |
|           |                                                                     | Z | 0.79 | 64.83 | 14.98 |      | 150.0 |         |
| 10518-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)           | X | 4.34 | 66.88 | 16.18 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.22 | 66.51 | 15.92 |      | 150.0 |         |
|           |                                                                     | Z | 4.23 | 66.93 | 16.12 |      | 150.0 |         |
| 10519-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)          | X | 4.48 | 67.04 | 16.27 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.36 | 66.68 | 16.01 |      | 150.0 |         |
|           |                                                                     | Z | 4.35 | 67.07 | 16.19 |      | 150.0 |         |
| 10520-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)          | X | 4.34 | 66.97 | 16.18 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.22 | 66.59 | 15.92 |      | 150.0 |         |
|           |                                                                     | Z | 4.22 | 66.99 | 16.11 |      | 150.0 |         |
| 10521-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)          | X | 4.28 | 66.94 | 16.16 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.15 | 66.54 | 15.89 |      | 150.0 |         |
|           |                                                                     | Z | 4.15 | 66.93 | 16.07 |      | 150.0 |         |
| 10522-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)          | X | 4.32 | 67.05 | 16.25 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.19 | 66.65 | 15.97 |      | 150.0 |         |
|           |                                                                     | Z | 4.18 | 66.98 | 16.13 |      | 150.0 |         |

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# Appendix A: DAE and Probe Calibration Certificate

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|           |                                                            |   |      |       |       |      |       |         |
|-----------|------------------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10523-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle) | X | 4.26 | 67.08 | 16.19 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.13 | 66.69 | 15.91 |      | 150.0 |         |
|           |                                                            | Z | 4.15 | 67.15 | 16.14 |      | 150.0 |         |
| 10524-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle) | X | 4.28 | 67.03 | 16.25 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.15 | 66.64 | 15.98 |      | 150.0 |         |
|           |                                                            | Z | 4.14 | 67.03 | 16.17 |      | 150.0 |         |
| 10525-AAB | IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)          | X | 4.31 | 66.15 | 15.88 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.19 | 65.75 | 15.61 |      | 150.0 |         |
|           |                                                            | Z | 4.20 | 66.20 | 15.83 |      | 150.0 |         |
| 10526-AAB | IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)          | X | 4.43 | 66.41 | 15.99 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.30 | 66.01 | 15.72 |      | 150.0 |         |
|           |                                                            | Z | 4.30 | 66.42 | 15.92 |      | 150.0 |         |
| 10527-AAB | IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)          | X | 4.36 | 66.39 | 15.93 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.23 | 65.97 | 15.65 |      | 150.0 |         |
|           |                                                            | Z | 4.24 | 66.40 | 15.86 |      | 150.0 |         |
| 10528-AAB | IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)          | X | 4.38 | 66.40 | 15.96 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.25 | 65.99 | 15.69 |      | 150.0 |         |
|           |                                                            | Z | 4.25 | 66.41 | 15.89 |      | 150.0 |         |
| 10529-AAB | IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)          | X | 4.38 | 66.40 | 15.96 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.25 | 65.99 | 15.69 |      | 150.0 |         |
|           |                                                            | Z | 4.25 | 66.41 | 15.89 |      | 150.0 |         |
| 10531-AAB | IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)          | X | 4.34 | 66.42 | 15.94 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.21 | 65.99 | 15.65 |      | 150.0 |         |
|           |                                                            | Z | 4.20 | 66.38 | 15.85 |      | 150.0 |         |
| 10532-AAB | IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)          | X | 4.23 | 66.28 | 15.87 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.09 | 65.84 | 15.58 |      | 150.0 |         |
|           |                                                            | Z | 4.10 | 66.26 | 15.79 |      | 150.0 |         |
| 10533-AAB | IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)          | X | 4.38 | 66.48 | 15.97 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.25 | 66.07 | 15.69 |      | 150.0 |         |
|           |                                                            | Z | 4.25 | 66.50 | 15.90 |      | 150.0 |         |
| 10534-AAB | IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)          | X | 4.94 | 66.38 | 16.03 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.83 | 66.04 | 15.82 |      | 150.0 |         |
|           |                                                            | Z | 4.83 | 66.34 | 15.98 |      | 150.0 |         |
| 10535-AAB | IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)          | X | 4.98 | 66.50 | 16.09 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.87 | 66.15 | 15.88 |      | 150.0 |         |
|           |                                                            | Z | 4.85 | 66.43 | 16.03 |      | 150.0 |         |
| 10536-AAB | IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)          | X | 4.87 | 66.51 | 16.07 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.76 | 66.13 | 15.84 |      | 150.0 |         |
|           |                                                            | Z | 4.75 | 66.43 | 16.01 |      | 150.0 |         |
| 10537-AAB | IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)          | X | 4.94 | 66.51 | 16.07 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.83 | 66.19 | 15.88 |      | 150.0 |         |
|           |                                                            | Z | 4.83 | 66.50 | 16.04 |      | 150.0 |         |
| 10538-AAB | IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)          | X | 5.00 | 66.46 | 16.08 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.89 | 66.12 | 15.88 |      | 150.0 |         |
|           |                                                            | Z | 4.87 | 66.39 | 16.02 |      | 150.0 |         |
| 10540-AAB | IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)          | X | 4.93 | 66.42 | 16.08 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.82 | 66.06 | 15.87 |      | 150.0 |         |
|           |                                                            | Z | 4.81 | 66.35 | 16.02 |      | 150.0 |         |

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|           |                                                    |   |      |       |       |      |       |         |
|-----------|----------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10541-AAB | IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)  | X | 4.92 | 66.35 | 16.03 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 4.81 | 65.99 | 15.82 |      | 150.0 |         |
|           |                                                    | Z | 4.81 | 66.31 | 15.98 |      | 150.0 |         |
| 10542-AAB | IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)  | X | 5.07 | 66.45 | 16.09 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 4.96 | 66.11 | 15.90 |      | 150.0 |         |
|           |                                                    | Z | 4.95 | 66.40 | 16.04 |      | 150.0 |         |
| 10543-AAB | IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)  | X | 5.15 | 66.53 | 16.16 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.05 | 66.25 | 16.00 |      | 150.0 |         |
|           |                                                    | Z | 5.03 | 66.51 | 16.13 |      | 150.0 |         |
| 10544-AAB | IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)  | X | 5.29 | 66.46 | 16.02 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.19 | 66.11 | 15.83 |      | 150.0 |         |
|           |                                                    | Z | 5.19 | 66.38 | 15.97 |      | 150.0 |         |
| 10545-AAB | IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)  | X | 5.46 | 66.89 | 16.19 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.37 | 66.61 | 16.04 |      | 150.0 |         |
|           |                                                    | Z | 5.35 | 66.81 | 16.15 |      | 150.0 |         |
| 10546-AAB | IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)  | X | 5.32 | 66.57 | 16.05 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.22 | 66.23 | 15.86 |      | 150.0 |         |
|           |                                                    | Z | 5.22 | 66.48 | 15.99 |      | 150.0 |         |
| 10547-AAB | IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)  | X | 5.40 | 66.70 | 16.10 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.32 | 66.42 | 15.95 |      | 150.0 |         |
|           |                                                    | Z | 5.33 | 66.71 | 16.11 |      | 150.0 |         |
| 10548-AAB | IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)  | X | 5.53 | 67.27 | 16.37 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.44 | 66.98 | 16.21 |      | 150.0 |         |
|           |                                                    | Z | 5.38 | 67.07 | 16.27 |      | 150.0 |         |
| 10550-AAB | IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)  | X | 5.38 | 66.78 | 16.16 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.31 | 66.53 | 16.02 |      | 150.0 |         |
|           |                                                    | Z | 5.31 | 66.81 | 16.17 |      | 150.0 |         |
| 10551-AAB | IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)  | X | 5.31 | 66.54 | 16.01 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.20 | 66.17 | 15.81 |      | 150.0 |         |
|           |                                                    | Z | 5.19 | 66.41 | 15.94 |      | 150.0 |         |
| 10552-AAB | IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)  | X | 5.30 | 66.58 | 16.03 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.19 | 66.23 | 15.83 |      | 150.0 |         |
|           |                                                    | Z | 5.20 | 66.53 | 15.99 |      | 150.0 |         |
| 10553-AAB | IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)  | X | 5.35 | 66.52 | 16.03 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.24 | 66.17 | 15.83 |      | 150.0 |         |
|           |                                                    | Z | 5.24 | 66.44 | 15.97 |      | 150.0 |         |
| 10554-AAC | IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle) | X | 5.71 | 66.79 | 16.10 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.62 | 66.47 | 15.93 |      | 150.0 |         |
|           |                                                    | Z | 5.63 | 66.70 | 16.05 |      | 150.0 |         |
| 10555-AAC | IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle) | X | 5.80 | 67.00 | 16.19 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.71 | 66.69 | 16.02 |      | 150.0 |         |
|           |                                                    | Z | 5.70 | 66.87 | 16.12 |      | 150.0 |         |
| 10556-AAC | IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle) | X | 5.84 | 67.12 | 16.24 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.76 | 66.85 | 16.09 |      | 150.0 |         |
|           |                                                    | Z | 5.75 | 67.04 | 16.20 |      | 150.0 |         |
| 10557-AAC | IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle) | X | 5.79 | 66.99 | 16.19 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.70 | 66.66 | 16.02 |      | 150.0 |         |
|           |                                                    | Z | 5.70 | 66.88 | 16.14 |      | 150.0 |         |

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|           |                                                                 |   |      |       |       |      |       |         |
|-----------|-----------------------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10558-AAC | IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)              | X | 5.80 | 67.03 | 16.23 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 5.69 | 66.67 | 16.04 |      | 150.0 |         |
|           |                                                                 | Z | 5.67 | 66.84 | 16.13 |      | 150.0 |         |
| 10560-AAC | IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)              | X | 5.82 | 66.97 | 16.24 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 5.72 | 66.63 | 16.06 |      | 150.0 |         |
|           |                                                                 | Z | 5.71 | 66.83 | 16.16 |      | 150.0 |         |
| 10561-AAC | IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)              | X | 5.76 | 66.95 | 16.26 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 5.66 | 66.63 | 16.09 |      | 150.0 |         |
|           |                                                                 | Z | 5.65 | 66.81 | 16.18 |      | 150.0 |         |
| 10562-AAC | IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)              | X | 5.80 | 67.11 | 16.34 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 5.70 | 66.75 | 16.15 |      | 150.0 |         |
|           |                                                                 | Z | 5.68 | 66.93 | 16.24 |      | 150.0 |         |
| 10563-AAC | IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)              | X | 5.91 | 67.11 | 16.30 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 5.83 | 66.82 | 16.15 |      | 150.0 |         |
|           |                                                                 | Z | 5.80 | 66.98 | 16.24 |      | 150.0 |         |
| 10564-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)  | X | 4.65 | 66.88 | 16.30 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.54 | 66.54 | 16.07 |      | 150.0 |         |
|           |                                                                 | Z | 4.53 | 66.91 | 16.24 |      | 150.0 |         |
| 10565-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle) | X | 4.85 | 67.29 | 16.62 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.73 | 66.97 | 16.40 |      | 150.0 |         |
|           |                                                                 | Z | 4.71 | 67.32 | 16.56 |      | 150.0 |         |
| 10566-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle) | X | 4.68 | 67.10 | 16.42 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.56 | 66.75 | 16.18 |      | 150.0 |         |
|           |                                                                 | Z | 4.55 | 67.11 | 16.35 |      | 150.0 |         |
| 10567-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle) | X | 4.72 | 67.51 | 16.80 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.60 | 67.16 | 16.57 |      | 150.0 |         |
|           |                                                                 | Z | 4.59 | 67.52 | 16.75 |      | 150.0 |         |
| 10568-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle) | X | 4.57 | 66.80 | 16.14 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.45 | 66.43 | 15.88 |      | 150.0 |         |
|           |                                                                 | Z | 4.42 | 66.71 | 16.01 |      | 150.0 |         |
| 10569-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle) | X | 4.71 | 67.75 | 16.95 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.59 | 67.42 | 16.73 |      | 150.0 |         |
|           |                                                                 | Z | 4.60 | 67.83 | 16.93 |      | 150.0 |         |
| 10570-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle) | X | 4.71 | 67.51 | 16.83 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.59 | 67.18 | 16.60 |      | 150.0 |         |
|           |                                                                 | Z | 4.57 | 67.54 | 16.78 |      | 150.0 |         |
| 10571-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)       | X | 1.08 | 63.64 | 15.05 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 0.98 | 62.63 | 14.12 |      | 130.0 |         |
|           |                                                                 | Z | 1.06 | 63.58 | 14.89 |      | 130.0 |         |
| 10572-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)       | X | 1.08 | 64.13 | 15.38 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 0.98 | 63.05 | 14.41 |      | 130.0 |         |
|           |                                                                 | Z | 1.07 | 64.06 | 15.22 |      | 130.0 |         |
| 10573-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)     | X | 1.08 | 77.41 | 20.56 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 0.73 | 71.46 | 16.79 |      | 130.0 |         |
|           |                                                                 | Z | 0.99 | 75.97 | 19.89 |      | 130.0 |         |
| 10574-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)      | X | 1.10 | 68.88 | 18.01 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 0.95 | 66.93 | 16.52 |      | 130.0 |         |
|           |                                                                 | Z | 1.07 | 68.54 | 17.74 |      | 130.0 |         |

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|           |                                                                 |   |      |       |       |      |       |         |
|-----------|-----------------------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10575-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)  | X | 4.42 | 66.59 | 16.28 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.31 | 66.26 | 16.05 |      | 130.0 |         |
|           |                                                                 | Z | 4.30 | 66.63 | 16.21 |      | 130.0 |         |
| 10576-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)  | X | 4.45 | 66.80 | 16.37 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.34 | 66.48 | 16.14 |      | 130.0 |         |
|           |                                                                 | Z | 4.33 | 66.87 | 16.32 |      | 130.0 |         |
| 10577-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) | X | 4.61 | 67.03 | 16.52 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.49 | 66.71 | 16.29 |      | 130.0 |         |
|           |                                                                 | Z | 4.48 | 67.07 | 16.45 |      | 130.0 |         |
| 10578-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) | X | 4.51 | 67.18 | 16.63 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.40 | 66.85 | 16.40 |      | 130.0 |         |
|           |                                                                 | Z | 4.39 | 67.23 | 16.57 |      | 130.0 |         |
| 10579-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) | X | 4.26 | 66.33 | 15.85 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.14 | 65.96 | 15.59 |      | 130.0 |         |
|           |                                                                 | Z | 4.13 | 66.29 | 15.75 |      | 130.0 |         |
| 10580-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) | X | 4.29 | 66.37 | 15.87 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.17 | 66.01 | 15.60 |      | 130.0 |         |
|           |                                                                 | Z | 4.14 | 66.28 | 15.72 |      | 130.0 |         |
| 10581-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) | X | 4.43 | 67.26 | 16.60 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.31 | 66.92 | 16.36 |      | 130.0 |         |
|           |                                                                 | Z | 4.31 | 67.34 | 16.57 |      | 130.0 |         |
| 10582-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle) | X | 4.19 | 66.09 | 15.63 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.07 | 65.73 | 15.36 |      | 130.0 |         |
|           |                                                                 | Z | 4.05 | 66.04 | 15.51 |      | 130.0 |         |
| 10583-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)       | X | 4.42 | 66.59 | 16.28 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.31 | 66.26 | 16.05 |      | 130.0 |         |
|           |                                                                 | Z | 4.30 | 66.63 | 16.21 |      | 130.0 |         |
| 10584-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)       | X | 4.45 | 66.80 | 16.37 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.34 | 66.48 | 16.14 |      | 130.0 |         |
|           |                                                                 | Z | 4.33 | 66.87 | 16.32 |      | 130.0 |         |
| 10585-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)      | X | 4.61 | 67.03 | 16.52 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.49 | 66.71 | 16.29 |      | 130.0 |         |
|           |                                                                 | Z | 4.48 | 67.07 | 16.45 |      | 130.0 |         |
| 10586-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)      | X | 4.51 | 67.18 | 16.63 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.40 | 66.85 | 16.40 |      | 130.0 |         |
|           |                                                                 | Z | 4.39 | 67.23 | 16.57 |      | 130.0 |         |
| 10587-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)      | X | 4.26 | 66.33 | 15.85 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.14 | 65.96 | 15.59 |      | 130.0 |         |
|           |                                                                 | Z | 4.13 | 66.29 | 15.75 |      | 130.0 |         |
| 10588-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)      | X | 4.29 | 66.37 | 15.87 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.17 | 66.01 | 15.60 |      | 130.0 |         |
|           |                                                                 | Z | 4.14 | 66.28 | 15.72 |      | 130.0 |         |
| 10589-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)      | X | 4.43 | 67.26 | 16.60 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.31 | 66.92 | 16.36 |      | 130.0 |         |
|           |                                                                 | Z | 4.31 | 67.34 | 16.57 |      | 130.0 |         |
| 10590-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)      | X | 4.19 | 66.09 | 15.63 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.07 | 65.73 | 15.36 |      | 130.0 |         |
|           |                                                                 | Z | 4.05 | 66.04 | 15.51 |      | 130.0 |         |

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# Appendix A: DAE and Probe Calibration Certificate

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|           |                                                       |   |      |       |       |      |       |         |
|-----------|-------------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10591-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle) | X | 4.58 | 66.69 | 16.41 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.47 | 66.39 | 16.20 |      | 130.0 |         |
|           |                                                       | Z | 4.47 | 66.76 | 16.36 |      | 130.0 |         |
| 10592-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle) | X | 4.69 | 66.97 | 16.53 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.58 | 66.66 | 16.32 |      | 130.0 |         |
|           |                                                       | Z | 4.56 | 67.00 | 16.47 |      | 130.0 |         |
| 10593-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle) | X | 4.61 | 66.84 | 16.38 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.49 | 66.52 | 16.16 |      | 130.0 |         |
|           |                                                       | Z | 4.48 | 66.87 | 16.32 |      | 130.0 |         |
| 10594-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle) | X | 4.66 | 67.02 | 16.56 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.55 | 66.71 | 16.34 |      | 130.0 |         |
|           |                                                       | Z | 4.54 | 67.06 | 16.50 |      | 130.0 |         |
| 10595-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle) | X | 4.63 | 67.00 | 16.46 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.51 | 66.68 | 16.25 |      | 130.0 |         |
|           |                                                       | Z | 4.50 | 67.04 | 16.41 |      | 130.0 |         |
| 10596-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle) | X | 4.56 | 66.95 | 16.45 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.44 | 66.62 | 16.22 |      | 130.0 |         |
|           |                                                       | Z | 4.42 | 66.95 | 16.38 |      | 130.0 |         |
| 10597-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle) | X | 4.51 | 66.82 | 16.30 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.39 | 66.48 | 16.06 |      | 130.0 |         |
|           |                                                       | Z | 4.38 | 66.82 | 16.22 |      | 130.0 |         |
| 10598-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle) | X | 4.51 | 67.06 | 16.58 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.39 | 66.73 | 16.35 |      | 130.0 |         |
|           |                                                       | Z | 4.39 | 67.10 | 16.52 |      | 130.0 |         |
| 10599-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle) | X | 5.26 | 67.16 | 16.67 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.19 | 66.95 | 16.55 |      | 130.0 |         |
|           |                                                       | Z | 5.18 | 67.23 | 16.69 |      | 130.0 |         |
| 10600-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle) | X | 5.35 | 67.49 | 16.81 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.29 | 67.35 | 16.72 |      | 130.0 |         |
|           |                                                       | Z | 5.23 | 67.44 | 16.76 |      | 130.0 |         |
| 10601-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle) | X | 5.26 | 67.29 | 16.73 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.19 | 67.12 | 16.62 |      | 130.0 |         |
|           |                                                       | Z | 5.20 | 67.45 | 16.79 |      | 130.0 |         |
| 10602-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle) | X | 5.35 | 67.29 | 16.64 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.27 | 67.10 | 16.53 |      | 130.0 |         |
|           |                                                       | Z | 5.22 | 67.23 | 16.59 |      | 130.0 |         |
| 10603-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle) | X | 5.42 | 67.60 | 16.94 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.33 | 67.37 | 16.81 |      | 130.0 |         |
|           |                                                       | Z | 5.26 | 67.44 | 16.84 |      | 130.0 |         |
| 10604-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle) | X | 5.29 | 67.20 | 16.71 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.19 | 66.89 | 16.54 |      | 130.0 |         |
|           |                                                       | Z | 5.14 | 67.01 | 16.59 |      | 130.0 |         |
| 10605-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle) | X | 5.34 | 67.34 | 16.78 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.26 | 67.13 | 16.66 |      | 130.0 |         |
|           |                                                       | Z | 5.20 | 67.25 | 16.72 |      | 130.0 |         |
| 10606-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle) | X | 5.14 | 66.81 | 16.37 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.06 | 66.62 | 16.25 |      | 130.0 |         |
|           |                                                       | Z | 5.05 | 66.87 | 16.38 |      | 130.0 |         |

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# Appendix A: DAE and Probe Calibration Certificate

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|           |                                                   |   |      |       |       |      |       |         |
|-----------|---------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10607-AAB | IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle) | X | 4.43 | 66.05 | 16.06 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.31 | 65.70 | 15.83 |      | 130.0 |         |
|           |                                                   | Z | 4.32 | 66.12 | 16.02 |      | 130.0 |         |
| 10608-AAB | IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle) | X | 4.56 | 66.36 | 16.20 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.44 | 66.01 | 15.97 |      | 130.0 |         |
|           |                                                   | Z | 4.43 | 66.38 | 16.15 |      | 130.0 |         |
| 10609-AAB | IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle) | X | 4.46 | 66.19 | 16.02 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.34 | 65.83 | 15.77 |      | 130.0 |         |
|           |                                                   | Z | 4.33 | 66.21 | 15.96 |      | 130.0 |         |
| 10610-AAB | IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle) | X | 4.51 | 66.37 | 16.19 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.39 | 66.01 | 15.96 |      | 130.0 |         |
|           |                                                   | Z | 4.38 | 66.40 | 16.14 |      | 130.0 |         |
| 10611-AAB | IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle) | X | 4.42 | 66.15 | 16.03 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.30 | 65.79 | 15.79 |      | 130.0 |         |
|           |                                                   | Z | 4.29 | 66.16 | 15.97 |      | 130.0 |         |
| 10612-AAB | IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle) | X | 4.41 | 66.27 | 16.06 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.28 | 65.89 | 15.81 |      | 130.0 |         |
|           |                                                   | Z | 4.26 | 66.23 | 15.98 |      | 130.0 |         |
| 10613-AAB | IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle) | X | 4.40 | 66.08 | 15.90 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.28 | 65.70 | 15.65 |      | 130.0 |         |
|           |                                                   | Z | 4.26 | 66.05 | 15.81 |      | 130.0 |         |
| 10614-AAB | IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle) | X | 4.38 | 66.33 | 16.17 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.25 | 65.95 | 15.92 |      | 130.0 |         |
|           |                                                   | Z | 4.25 | 66.33 | 16.10 |      | 130.0 |         |
| 10615-AAB | IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle) | X | 4.41 | 65.98 | 15.79 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.29 | 65.61 | 15.54 |      | 130.0 |         |
|           |                                                   | Z | 4.27 | 65.99 | 15.72 |      | 130.0 |         |
| 10616-AAB | IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle) | X | 5.07 | 66.34 | 16.25 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.97 | 66.04 | 16.07 |      | 130.0 |         |
|           |                                                   | Z | 4.96 | 66.31 | 16.21 |      | 130.0 |         |
| 10617-AAB | IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle) | X | 5.10 | 66.45 | 16.28 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 5.00 | 66.15 | 16.11 |      | 130.0 |         |
|           |                                                   | Z | 4.98 | 66.39 | 16.23 |      | 130.0 |         |
| 10618-AAB | IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle) | X | 5.02 | 66.53 | 16.33 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.91 | 66.19 | 16.14 |      | 130.0 |         |
|           |                                                   | Z | 4.89 | 66.45 | 16.27 |      | 130.0 |         |
| 10619-AAB | IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle) | X | 5.04 | 66.36 | 16.18 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.96 | 66.11 | 16.03 |      | 130.0 |         |
|           |                                                   | Z | 4.94 | 66.38 | 16.17 |      | 130.0 |         |
| 10620-AAB | IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle) | X | 5.11 | 66.35 | 16.22 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 5.01 | 66.06 | 16.05 |      | 130.0 |         |
|           |                                                   | Z | 4.98 | 66.26 | 16.16 |      | 130.0 |         |
| 10621-AAB | IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle) | X | 5.12 | 66.47 | 16.41 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 5.02 | 66.16 | 16.23 |      | 130.0 |         |
|           |                                                   | Z | 5.00 | 66.43 | 16.37 |      | 130.0 |         |
| 10622-AAB | IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle) | X | 5.10 | 66.55 | 16.44 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 5.00 | 66.25 | 16.27 |      | 130.0 |         |
|           |                                                   | Z | 4.99 | 66.50 | 16.40 |      | 130.0 |         |

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|           |                                                    |   |      |       |       |      |       |         |
|-----------|----------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10623-AAB | IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)  | X | 5.00 | 66.11 | 16.08 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 4.90 | 65.81 | 15.90 |      | 130.0 |         |
|           |                                                    | Z | 4.89 | 66.10 | 16.05 |      | 130.0 |         |
| 10624-AAB | IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)  | X | 5.19 | 66.37 | 16.28 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.10 | 66.09 | 16.12 |      | 130.0 |         |
|           |                                                    | Z | 5.07 | 66.34 | 16.24 |      | 130.0 |         |
| 10625-AAB | IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)  | X | 5.27 | 66.50 | 16.40 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.19 | 66.27 | 16.28 |      | 130.0 |         |
|           |                                                    | Z | 5.16 | 66.52 | 16.40 |      | 130.0 |         |
| 10626-AAB | IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)  | X | 5.40 | 66.37 | 16.20 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.31 | 66.07 | 16.04 |      | 130.0 |         |
|           |                                                    | Z | 5.31 | 66.31 | 16.17 |      | 130.0 |         |
| 10627-AAB | IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)  | X | 5.62 | 66.96 | 16.47 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.56 | 66.76 | 16.37 |      | 130.0 |         |
|           |                                                    | Z | 5.52 | 66.91 | 16.44 |      | 130.0 |         |
| 10628-AAB | IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)  | X | 5.39 | 66.34 | 16.09 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.30 | 66.04 | 15.92 |      | 130.0 |         |
|           |                                                    | Z | 5.29 | 66.26 | 16.04 |      | 130.0 |         |
| 10629-AAB | IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)  | X | 5.50 | 66.54 | 16.19 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.44 | 66.36 | 16.08 |      | 130.0 |         |
|           |                                                    | Z | 5.44 | 66.63 | 16.23 |      | 130.0 |         |
| 10630-AAB | IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)  | X | 5.71 | 67.39 | 16.62 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.64 | 67.17 | 16.50 |      | 130.0 |         |
|           |                                                    | Z | 5.64 | 67.11 | 16.48 |      | 130.0 |         |
| 10631-AAB | IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)  | X | 5.70 | 67.46 | 16.84 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.61 | 67.18 | 16.70 |      | 130.0 |         |
|           |                                                    | Z | 5.66 | 67.29 | 16.76 |      | 130.0 |         |
| 10632-AAB | IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)  | X | 5.63 | 67.17 | 16.72 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.58 | 67.02 | 16.64 |      | 130.0 |         |
|           |                                                    | Z | 5.57 | 67.27 | 16.77 |      | 130.0 |         |
| 10633-AAB | IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)  | X | 5.42 | 66.43 | 16.17 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.32 | 66.10 | 15.99 |      | 130.0 |         |
|           |                                                    | Z | 5.30 | 66.32 | 16.11 |      | 130.0 |         |
| 10634-AAB | IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)  | X | 5.45 | 66.63 | 16.32 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.35 | 66.31 | 16.16 |      | 130.0 |         |
|           |                                                    | Z | 5.35 | 66.57 | 16.29 |      | 130.0 |         |
| 10635-AAB | IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)  | X | 5.30 | 65.85 | 15.65 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.21 | 65.54 | 15.48 |      | 130.0 |         |
|           |                                                    | Z | 5.19 | 65.76 | 15.60 |      | 130.0 |         |
| 10636-AAC | IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle) | X | 5.84 | 66.72 | 16.29 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.76 | 66.45 | 16.15 |      | 130.0 |         |
|           |                                                    | Z | 5.76 | 66.66 | 16.26 |      | 130.0 |         |
| 10637-AAC | IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle) | X | 5.95 | 67.01 | 16.43 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.88 | 66.76 | 16.30 |      | 130.0 |         |
|           |                                                    | Z | 5.85 | 66.89 | 16.37 |      | 130.0 |         |
| 10638-AAC | IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle) | X | 5.98 | 67.09 | 16.44 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.91 | 66.84 | 16.31 |      | 130.0 |         |
|           |                                                    | Z | 5.91 | 67.08 | 16.44 |      | 130.0 |         |

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|           |                                                        |   |        |        |       |       |       |         |
|-----------|--------------------------------------------------------|---|--------|--------|-------|-------|-------|---------|
| 10639-AAC | IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)     | X | 5.93   | 66.96  | 16.42 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 5.85   | 66.68  | 16.27 |       | 130.0 |         |
|           |                                                        | Z | 5.84   | 66.87  | 16.37 |       | 130.0 |         |
| 10640-AAC | IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)     | X | 5.89   | 66.83  | 16.30 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 5.79   | 66.50  | 16.13 |       | 130.0 |         |
|           |                                                        | Z | 5.76   | 66.65  | 16.20 |       | 130.0 |         |
| 10641-AAC | IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)     | X | 5.99   | 66.93  | 16.36 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 5.93   | 66.70  | 16.25 |       | 130.0 |         |
|           |                                                        | Z | 5.89   | 66.83  | 16.32 |       | 130.0 |         |
| 10642-AAC | IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)     | X | 6.01   | 67.13  | 16.63 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 5.93   | 66.84  | 16.49 |       | 130.0 |         |
|           |                                                        | Z | 5.91   | 67.00  | 16.57 |       | 130.0 |         |
| 10643-AAC | IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)     | X | 5.86   | 66.81  | 16.36 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 5.78   | 66.52  | 16.22 |       | 130.0 |         |
|           |                                                        | Z | 5.75   | 66.66  | 16.29 |       | 130.0 |         |
| 10644-AAC | IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)     | X | 5.91   | 66.99  | 16.47 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 5.82   | 66.67  | 16.31 |       | 130.0 |         |
|           |                                                        | Z | 5.80   | 66.82  | 16.38 |       | 130.0 |         |
| 10645-AAC | IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)     | X | 6.04   | 67.04  | 16.47 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 5.97   | 66.82  | 16.36 |       | 130.0 |         |
|           |                                                        | Z | 5.92   | 66.90  | 16.40 |       | 130.0 |         |
| 10646-AAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)  | X | 5.85   | 87.94  | 30.48 | 9.30  | 60.0  | ± 9.6 % |
|           |                                                        | Y | 5.37   | 85.81  | 29.63 |       | 60.0  |         |
|           |                                                        | Z | 4.49   | 83.14  | 29.09 |       | 60.0  |         |
| 10647-AAC | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7) | X | 5.17   | 85.51  | 29.66 | 9.30  | 60.0  | ± 9.6 % |
|           |                                                        | Y | 4.78   | 83.60  | 28.89 |       | 60.0  |         |
|           |                                                        | Z | 4.02   | 80.87  | 28.26 |       | 60.0  |         |
| 10648-AAA | CDMA2000 (1x Advanced)                                 | X | 0.51   | 61.76  | 8.43  | 0.00  | 150.0 | ± 9.6 % |
|           |                                                        | Y | 0.38   | 60.00  | 6.13  |       | 150.0 |         |
|           |                                                        | Z | 0.38   | 60.10  | 6.48  |       | 150.0 |         |
| 10652-AAB | LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)         | X | 3.13   | 65.98  | 15.78 | 2.23  | 80.0  | ± 9.6 % |
|           |                                                        | Y | 2.93   | 65.12  | 15.15 |       | 80.0  |         |
|           |                                                        | Z | 3.02   | 66.07  | 15.57 |       | 80.0  |         |
| 10653-AAB | LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)        | X | 3.69   | 65.40  | 16.13 | 2.23  | 80.0  | ± 9.6 % |
|           |                                                        | Y | 3.54   | 64.83  | 15.74 |       | 80.0  |         |
|           |                                                        | Z | 3.60   | 65.47  | 16.04 |       | 80.0  |         |
| 10654-AAB | LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)        | X | 3.72   | 65.03  | 16.17 | 2.23  | 80.0  | ± 9.6 % |
|           |                                                        | Y | 3.58   | 64.50  | 15.83 |       | 80.0  |         |
|           |                                                        | Z | 3.65   | 65.07  | 16.11 |       | 80.0  |         |
| 10655-AAB | LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)        | X | 3.80   | 64.95  | 16.21 | 2.23  | 80.0  | ± 9.6 % |
|           |                                                        | Y | 3.67   | 64.43  | 15.88 |       | 80.0  |         |
|           |                                                        | Z | 3.74   | 64.95  | 16.16 |       | 80.0  |         |
| 10658-AAA | Pulse Waveform (200Hz, 10%)                            | X | 4.43   | 71.88  | 12.89 | 10.00 | 50.0  | ± 9.6 % |
|           |                                                        | Y | 2.96   | 67.08  | 10.79 |       | 50.0  |         |
|           |                                                        | Z | 4.92   | 73.02  | 13.29 |       | 50.0  |         |
| 10659-AAA | Pulse Waveform (200Hz, 20%)                            | X | 21.85  | 87.99  | 16.66 | 6.99  | 60.0  | ± 9.6 % |
|           |                                                        | Y | 1.49   | 64.48  | 8.54  |       | 60.0  |         |
|           |                                                        | Z | 100.00 | 101.11 | 19.71 |       | 60.0  |         |

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## Appendix A: DAE and Probe Calibration Certificate

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|           |                             |   |        |        |       |      |       |         |
|-----------|-----------------------------|---|--------|--------|-------|------|-------|---------|
| 10660-AAA | Pulse Waveform (200Hz, 40%) | X | 100.00 | 100.24 | 18.17 | 3.98 | 80.0  | ± 9.6 % |
|           |                             | Y | 0.44   | 60.00  | 5.03  |      | 80.0  |         |
|           |                             | Z | 100.00 | 101.16 | 18.48 |      | 80.0  |         |
| 10661-AAA | Pulse Waveform (200Hz, 60%) | X | 100.00 | 101.13 | 17.57 | 2.22 | 100.0 | ± 9.6 % |
|           |                             | Y | 0.24   | 60.00  | 3.65  |      | 100.0 |         |
|           |                             | Z | 100.00 | 102.26 | 17.94 |      | 100.0 |         |
| 10662-AAA | Pulse Waveform (200Hz, 80%) | X | 100.00 | 99.08  | 15.66 | 0.97 | 120.0 | ± 9.6 % |
|           |                             | Y | 3.24   | 108.92 | 7.51  |      | 120.0 |         |
|           |                             | Z | 100.00 | 98.42  | 15.34 |      | 120.0 |         |

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