

# FCC SAR Test Report

Test Report No. : OT-244-RFD-001

Reception No. : 2403001107

Applicant : Westcom Wireless Inc.

Address : 2773 Leechburg Road, Lower Burrell, PA 15068 United States

Manufacturer : Westcom Wireless Inc.

Address : 2773 Leechburg Road, Lower Burrell, PA 15068 United States

Type of Equipment : ProCom

FCC ID : 2A037-ATLASEXP

Model Name : ATLAS EXP

Multiple Model Name: N/A

Serial number : Refer to DUT Information

Total page of Report : 73 pages (including this page)

Date of Incoming : Mar. 28, 2024

Date of Test : Apr. 22, 2024

Date of issue : Apr. 30, 2024

## SUMMARY

The equipment complies with the regulation; **CFR §2.1093**.

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.



|                            |                                  |                                     |
|----------------------------|----------------------------------|-------------------------------------|
| Tested by                  | Reviewed by                      | Approved by                         |
| Young Chan, Lee / Engineer | Kyoung Hoo, Min / Senior Manager | Cheon Sig, Choi / Technical Manager |
| ONETECH Corp.              | ONETECH Corp                     | ONETECH Corp.                       |

---

**Revision history**

| Report No.     | Reason for Change | Date Issued |
|----------------|-------------------|-------------|
| OT-244-RFD-001 | Initial release   | 2024-04-30  |
|                |                   |             |
|                |                   |             |
|                |                   |             |

## **TABLE OF CONTENTS**

|     |                                                                    |    |
|-----|--------------------------------------------------------------------|----|
| 1.  | Summary of Maximum SAR Value.....                                  | 4  |
| 2.  | Device Under Test .....                                            | 4  |
| 3.  | INTRODUCTION .....                                                 | 6  |
| 4.  | DOSIMETRIC ASSESSMENT .....                                        | 8  |
| 5.  | TEST CONFIGURATION POSITIONS .....                                 | 9  |
| 6.  | RF EXPOSURE LIMITS.....                                            | 10 |
| 7.  | FCC MEASUREMENT PROCEDURES.....                                    | 11 |
| 8.  | RF CONDUCTED POWERS .....                                          | 12 |
| 9.  | SYSTEM VERIFICATION .....                                          | 14 |
| 10. | SAR TEST DATA SUMMARY .....                                        | 16 |
| 11. | EQUIPMENT LIST .....                                               | 18 |
| 12. | MEASUREMENT UNCERTAINTIES .....                                    | 19 |
| 13. | CONCLUSION .....                                                   | 20 |
| 14. | REFERENCES .....                                                   | 21 |
|     | APPENDIX A: SYSTEM VERIFICATION.....                               | 23 |
|     | APPENDIX B: SAR TEST DATA .....                                    | 25 |
|     | APPENDIX C: PROBE & DIPOLE ANTENNA CALIBRATION .....               | 28 |
|     | APPENDIX D: SAR TISSUE SPECIFICATIONS .....                        | 57 |
|     | APPENDIX E: SAR SYSTEM VALIDATION .....                            | 59 |
|     | APPENDIX F: DUT ANTENNA DIAGRAM & SAR TEST SETUP PHOTOGRAPHS ..... | 60 |

## 1. Summary of Maximum SAR Value

| Equipment Class                            | Band & Mode      | Tx Frequency [MHz] | SAR             |                 |                  |
|--------------------------------------------|------------------|--------------------|-----------------|-----------------|------------------|
|                                            |                  |                    | 1 g Head (W/kg) | 1 g Body (W/kg) | 10g Hands (W/kg) |
| DSS                                        | 900 MHz ISM Band | 902 ~ 928          | N/A             | 2.11            | N/A              |
| Simultaneous SAR per KDB 690783 D01v01r03: |                  |                    | N/A             | N/A             | N/A              |

Note:

- This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for controlled environment/professional population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 6 of this report.

## 2. Device Under Test

### 2.1. DUT Information

|                          |                              |
|--------------------------|------------------------------|
| DUT Type                 | ProCom                       |
| FCC ID                   | 2AO37-ATLASEXP               |
| Model Name               | ATLAS EXP                    |
| Additional Model Name(s) | -                            |
| DUT S/N                  | #1                           |
| Antenna Type             | Flexible Rubber Duck Antenna |
| DUT Stage                | Identical Prototype          |

Note:

- For antenna peak gain and detailed antenna information, refer to the antenna report in FCC filing.

### 2.2. Device Overview

| Band & Mode  | Operating Modes | Tx Frequency [MHz] |
|--------------|-----------------|--------------------|
| 900 MHz Band | Data            | 902 ~ 928          |

### 2.3. Power Reduction for SAR

There is no power reduction used for any band/mode implemented in the device for SAR purposes.

### 2.4. Nominal and Maximum Output Power Specifications

This device operates using the following maximum and nominal output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D04 v01.

#### Maximum Output Power

| Mode / Band      |         | Modulated Average (dB m) |
|------------------|---------|--------------------------|
| 900 MHz ISM Band | Maximum | 26.0                     |
|                  | Nominal | 25.0                     |

## 2.5. DUT Antenna Locations

The DUT antenna locations are included in the filing.

## 2.6. Near Field Communications (NFC) Antenna

This DUT does not support NFC operations.

## 2.7. Simultaneous Transmission Capabilities

This device is supported only 900 MHz ISM Band. So, simultaneous transmission analysis was not considered.

## 2.8. Miscellaneous SAR Test Considerations

(A) 900 MHz ISM Band

900 MHz ISM band SAR was evaluated with a test mode with hopping disabled.

## 2.9. Guidance Applied

- IEEE 1528\_2013
- FCC KDB Publication 447498 D04v01 (Interim General RF Exposure Guidance)
- FCC KDB Publication 643646 D01v01r03 (SAR Test for PTT Radios)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- October 2016 TCBC Workshop Notes (DUT Holder Perturbations)
- April 2019 TCBC Workshop Notes (Tissue Simulating Liquids (TSL))

## 2.10. Device Serial Numbers

The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units. The serial numbers used for each test are indicated alongside the results in Section 10.

### 3. INTRODUCTION

The FCC and Innovation, Science, and Economic Development Canada have adopted the guidelines for evaluating the environmental effects of radio frequency (RF) radiation in ET Docket 93-62 on Aug. 6, 1996 and Health Canada Safety Code 6 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices.

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz and Health Canada RF Exposure Guidelines Safety Code 6. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave is used for guidance in measuring the Specific Absorption Rate (SAR) due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the International Committee for Non-Ionizing Radiation Protection (ICNIRP) in Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," Report No. Vol 74. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

#### 3.1. SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 3-1).

$$SAR = \frac{d}{dt} \left( \frac{dW}{dm} \right) = \frac{d}{dt} \left( \frac{dW}{\rho dV} \right)$$

**Equation 3-1 SAR Mathematical Equation**

SAR is expressed in units of watts per kilogram (W/kg).

$$SAR = \frac{\sigma |E|^2}{\rho}$$

where:

- σ = conductivity of the tissue (S/m)
- ρ = mass density of the tissue (kg/m<sup>3</sup>)
- E = rms electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relation to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.

This Report is not correlated with the authentication of KOLAS.

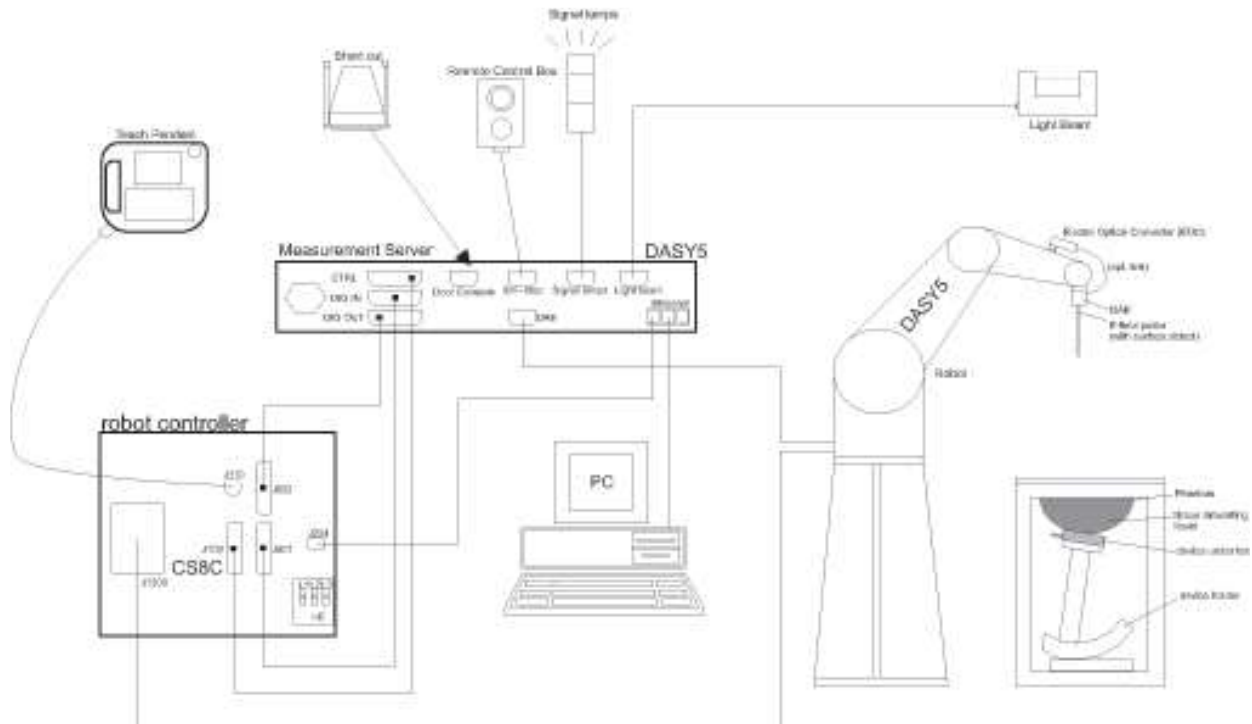
It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

### 3.2. SAR Measurement Setup

A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE). An isotropic Field probe optimized and calibrated for the targeted measurement. Data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

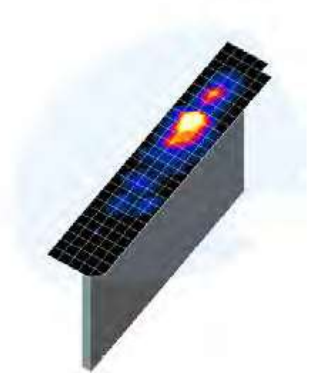
The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server. The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts. The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning. A computer running WinXP, Win7 or Win10 and the DASY5 software. Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc. The phantom, the device holder and other accessories according to the targeted measurement.



## 4. DOSIMETRIC ASSESSMENT

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013:

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 5-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1 g / 10 g cube evaluation. SAR at this fixed was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR point was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):
  - a) SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 4-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).
  - b) After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1 g or 10 g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.
  - c) All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.



**Table 4-1 Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04\***

| Frequency | Maximum Area Scan Resolution (mm)<br>( $\Delta x_{\text{area}}, \Delta y_{\text{area}}$ ) | Maximum Zoom Scan Resolution (mm)<br>( $\Delta x_{\text{zoom}}, \Delta y_{\text{zoom}}$ ) | Maximum Zoom Scan Spatial Resolution (mm) |                               |                                      | Minimum Zoom Scan Volume (mm)<br>(x,y,z) |
|-----------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------|--------------------------------------|------------------------------------------|
|           |                                                                                           |                                                                                           | Uniform Grid                              | Graded Grid                   |                                      |                                          |
|           |                                                                                           |                                                                                           | $\Delta z_{\text{zoom}}(n)$               | $\Delta z_{\text{zoom}}(1)^*$ | $\Delta z_{\text{zoom}}(n>1)^*$      |                                          |
| ≤ 2 GHz   | ≤ 15                                                                                      | ≤ 8                                                                                       | ≤ 5                                       | ≤ 4                           | ≤ 1.5* $\Delta z_{\text{zoom}}(n-1)$ | ≥ 30                                     |
| 2-3 GHz   | ≤ 12                                                                                      | ≤ 5                                                                                       | ≤ 5                                       | ≤ 4                           | ≤ 1.5* $\Delta z_{\text{zoom}}(n-1)$ | ≥ 30                                     |
| 3-4 GHz   | ≤ 12                                                                                      | ≤ 5                                                                                       | ≤ 4                                       | ≤ 3                           | ≤ 1.5* $\Delta z_{\text{zoom}}(n-1)$ | ≥ 28                                     |
| 4-5 GHz   | ≤ 10                                                                                      | ≤ 4                                                                                       | ≤ 3                                       | ≤ 2.5                         | ≤ 1.5* $\Delta z_{\text{zoom}}(n-1)$ | ≥ 25                                     |
| 5-6 GHz   | ≤ 10                                                                                      | ≤ 4                                                                                       | ≤ 2                                       | ≤ 2                           | ≤ 1.5* $\Delta z_{\text{zoom}}(n-1)$ | ≥ 22                                     |

\*Also compliant to IEEE 1528-2013 Table 6

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

## 5. TEST CONFIGURATION POSITIONS

### 5.1. Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity  $\epsilon = 3$  and loss tangent  $\delta = 0.02$ .

### 5.2. Positioning for Testing

Based on FCC guidance and expected exposure conditions, the device was positioned with the outside of the device touching the flat phantom and such that the location of maximum SAR was captured during SAR testing. The SAR test setup photograph is included in Appendix F.

## 6. RF EXPOSURE LIMITS

In order for users to be aware of the body-worn operating requirements for meeting RF exposure compliance, operating instructions and cautions statements are included in the user's manual.

### 6.1. Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

### 6.2. Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

**Table 8-1 SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6**

|                                                              | UNCONTROLLED ENVIRONMENT<br>General Population<br>(W/kg) or (mW/g) | CONTROLLED ENVIROMENT<br>Professional Population<br>(W/kg) or (mW/g) |
|--------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------|
| SPATIAL PEAK SAR <sup>1</sup><br>Brain                       | 1.60                                                               | 8.00                                                                 |
| SPATIAL AVERAGE SAR <sup>2</sup><br>Whole Body               | 0.08                                                               | 0.40                                                                 |
| SPATIAL PEAK SAR <sup>3</sup><br>Hands, Feet, Ankles, Wrists | 4.00                                                               | 20.00                                                                |

<sup>1</sup> The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

<sup>2</sup> The Spatial Average value of the SAR averaged over the whole body.

<sup>3</sup> The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

## 7. FCC MEASUREMENT PROCEDURES

### 7.1. Measured and Reported SAR

Per FCC KDB Publication 447498 D04v01, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as *reported* SAR. The highest *reported* SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

Per KDB Publication 447498 D04v01, testing of other required channels within the operating mode of a frequency band is not required when the reported 1 g or 10 g SAR for the mid-band or highest output power channel is:

- $\leq 0.8 \text{ W/kg}$  or  $2.0 \text{ W/kg}$ , for 1 g or 10 g respectively, when the transmission band is  $\leq 100 \text{ MHz}$
- $\leq 0.6 \text{ W/kg}$  or  $1.5 \text{ W/kg}$ , for 1 g or 10 g respectively, when the transmission band is between  $100 \text{ MHz}$  and  $200 \text{ MHz}$
- $\leq 0.4 \text{ W/kg}$  or  $1.0 \text{ W/kg}$ , for 1 g or 10 g respectively, when the transmission band is  $\geq 200 \text{ MHz}$

### 7.2. Procedures Used to Establish RF Signal for SAR

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR. Devices under test are evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device is tested throughout the SAR test at maximum output power, the SAR measurement system measures a "point SAR" at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation. If the power drift deviates by more than 5%, the SAR test and drift measurements are repeated.

As required by §§ 2.1091(d)(2) and 2.1093(d)(5), RF exposure compliance must be determined at the maximum average power level according to source-based time-averaging requirements to determine compliance for general population exposure conditions. Unless it is specified differently in the *published RF exposure KDB procedures*, these requirements also apply to test reduction and test exclusion considerations. Time-averaged maximum conducted output power applies to SAR and, as required by § 2.1091(c), time-averaged effective radiated power applies to MPE. When an antenna port is not available on the device to support conducted power measurement, such as for FRS (Part 95) devices and certain Part 15 transmitters with built-in integral antennas, the maximum output power and tolerance allowed for production units should be used to determine RF exposure test exclusion and compliance.

## 8. RF CONDUCTED POWERS

### 8.1. Conducted Powers

#### 8.1.1. 900 MHz ISM Band

Table 8-1 900 MHz ISM Band Conducted Powers

| Average Conducted Power [dBm] |         |             |
|-------------------------------|---------|-------------|
| Freq.<br>[MHz]                | Channel | 900 MHz ISM |
|                               |         | Ant. 1      |
| 902.5                         | 20      | 21.45       |
| 915.0                         | 120     | 21.28       |
| 927.5                         | 220     | 20.87       |

<Normal Mode>

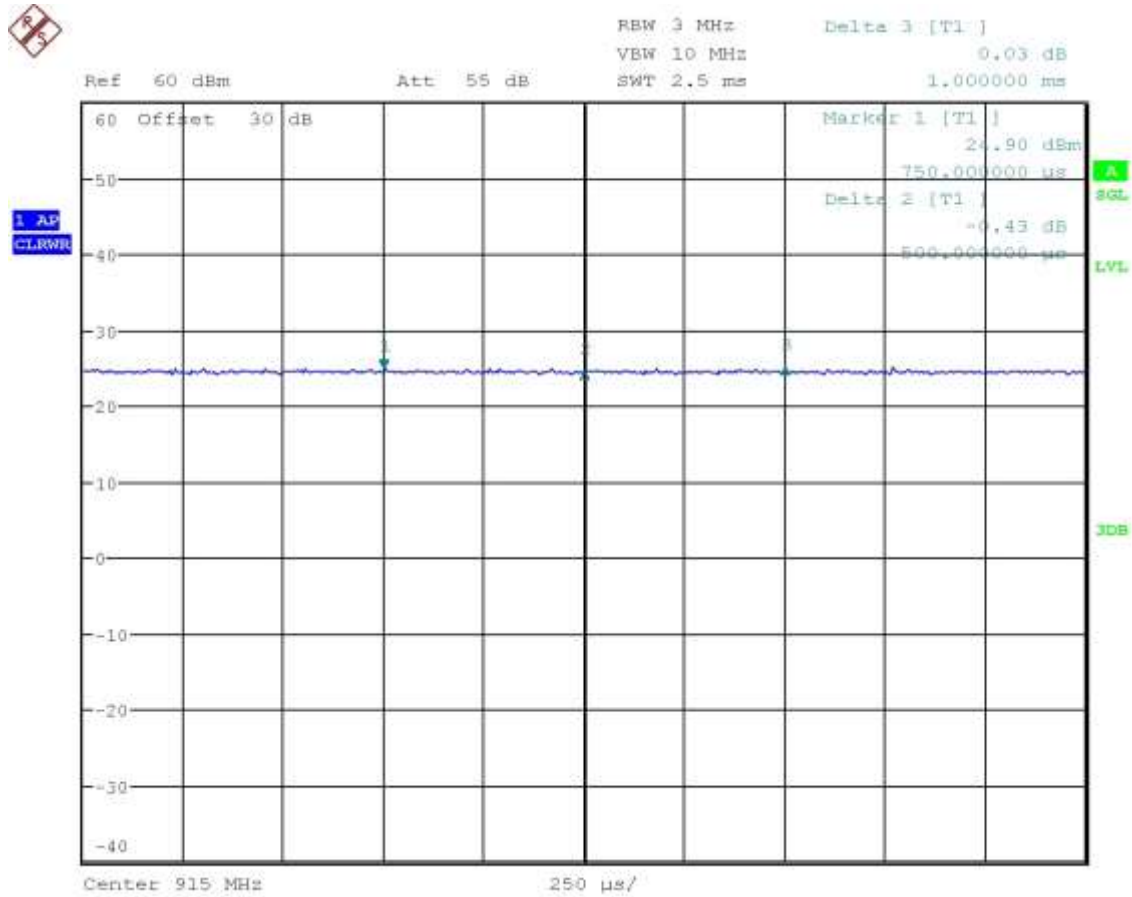
| Average Conducted Power [dBm] |         |              |
|-------------------------------|---------|--------------|
| Freq.<br>[MHz]                | Channel | 900 MHz ISM  |
|                               |         | Ant. 1       |
| 902.5                         | 20      | 24.95        |
| 915.0                         | 120     | <b>24.98</b> |
| 927.5                         | 220     | 24.79        |

<Repeat Mode>

| Average Conducted Power [dBm] |         |              |
|-------------------------------|---------|--------------|
| Freq.<br>[MHz]                | Channel | 900 MHz ISM  |
|                               |         | Ant. 1       |
| 902.4                         | 12      | 25.05        |
| 914.8                         | 74      | <b>25.09</b> |
| 927.6                         | 138     | 24.81        |

<Long Mode>

Figure 8-1 900 MHz ISM Band Transmission Plot



#### Equation 8-1 900 MHz ISM Band Duty Cycle Calculation

- DUTY cycle of this device is 100 %.
- DUTY Cycle [%] = (Pulse / Period) X 100 = (1.0/1.0) X 100 = 100 %

## 9. SYSTEM VERIFICATION

### 9.1. Tissue Verification

Table 9-1 Measured Head Tissue Properties

| Tissue Type | Frequency (MHz) | Liquid Temp. (°C) | Measured Conductivity ( $\sigma$ ) | Measured Permittivity ( $\epsilon_r$ ) | Target Conductivity ( $\sigma$ ) | Target Permittivity ( $\epsilon_r$ ) | Conductivity Deviation (%) | Permittivity Deviation (%) | Test Date  |
|-------------|-----------------|-------------------|------------------------------------|----------------------------------------|----------------------------------|--------------------------------------|----------------------------|----------------------------|------------|
| HSL835      | 835.0           | 21.10             | 0.92                               | 41.07                                  | 0.91                             | 41.55                                | 1.20                       | -1.17                      | 2024-04-22 |
|             | 902.4           |                   | 0.98                               | 40.23                                  | 0.97                             | 41.50                                | 1.33                       | -3.06                      |            |
|             | 902.5           |                   | 0.98                               | 40.23                                  | 0.97                             | 41.50                                | 1.34                       | -3.05                      |            |
|             | 914.8           |                   | 1.00                               | 40.16                                  | 0.98                             | 41.48                                | 1.99                       | -3.19                      |            |
|             | 915.0           |                   | 1.00                               | 40.14                                  | 0.98                             | 41.48                                | 1.97                       | -3.22                      |            |
|             | 927.2           |                   | 1.01                               | 39.98                                  | 0.98                             | 41.46                                | 2.45                       | -3.58                      |            |
|             | 927.5           |                   | 1.01                               | 39.98                                  | 0.98                             | 41.46                                | 2.47                       | -3.58                      |            |

#### Tissue Verification Notes:

1. The above measured tissue parameters were used in the DASY software. The DASY software was used to perform interpolation to determine the dielectric parameters at the SAR test device frequencies (per KDB Publication 865664 D01v01r04 and IEEE 1528-2013 6.6.1.2). The tissue parameters listed in the SAR test plots may slightly differ from the table above due to significant digit rounding in the software.
2. Per April 2019 TCBC Workshop Notes, effective February 19, 2019, FCC has permitted the use of single head-tissue simulating liquid specified in IEC 62209-1 for all SAR tests.

## 9.2. Test System Verification

Prior to SAR assessment, the system is verified to  $\pm 10\%$  of the SAR measurement on the reference dipole at the time of calibration by the calibration facility. Full system validation status and result summary can be found in Appendix E.

Table 9-2 System Verification Results – 1 g

| SAR System # | Amb. Temp (°C) | Liquid Temp. (°C) | Test Date  | Tissue Type | Frequency (MHz) | Input Power (mW) | 1W Target SAR-1 g (W/kg) | Measured SAR-1 g (W/kg) | Normalized to 1W SAR-1 g (W/kg) | Deviation (%) | Dipole S/N | Probe S/N |
|--------------|----------------|-------------------|------------|-------------|-----------------|------------------|--------------------------|-------------------------|---------------------------------|---------------|------------|-----------|
| 3            | 21.3           | 21.1              | 2024.04.22 | Head        | 835             | 250              | 9.62                     | 2.37                    | 9.48                            | -1.46         | 4d229      | 7615      |

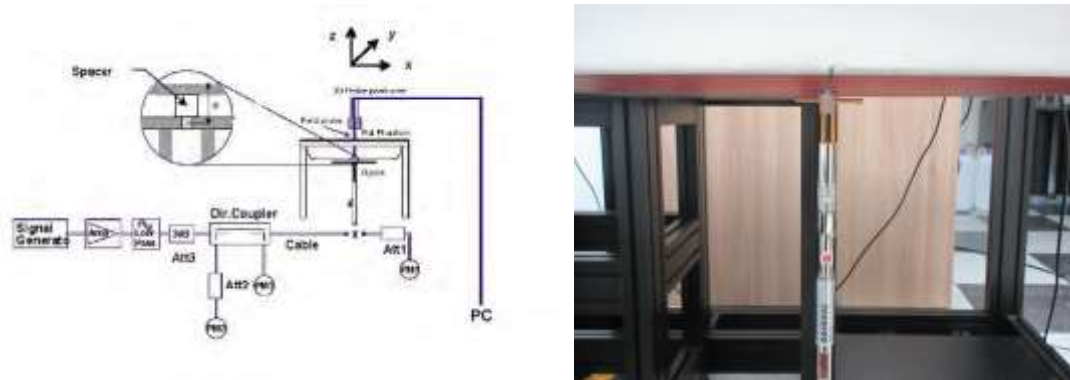


Figure 9-1 System Verification Setup Diagram and Photo

## 10. SAR TEST DATA SUMMARY

### 10.1. Standalone Body SAR Data

Table 10-1 900 MHz ISM Band Body SAR

| Plot No.                                                                                                           | Device Serial Number | Frequency    |           | Mode          | Test Position | Spacing (cm) | Maximum Allowed Power (dB m) | Measured Conducted Power (dB m)                 | Ant. Status       | Scaling Factor (Duty Cycle) | Scaling Factor (Power) | Power Drift (dB) | Measured SAR 1 g (W/kg) | Reported SAR 1 g (W/kg) |             |
|--------------------------------------------------------------------------------------------------------------------|----------------------|--------------|-----------|---------------|---------------|--------------|------------------------------|-------------------------------------------------|-------------------|-----------------------------|------------------------|------------------|-------------------------|-------------------------|-------------|
|                                                                                                                    |                      | Mhz          | Ch.       |               |               |              |                              |                                                 |                   |                             |                        |                  |                         | Duty 100 %              | Duty 50 %   |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Front         | 0            | 26.0                         | 25.09                                           | 90 degrees        | 1.000                       | 1.233                  | -0.07            | 3.21                    | 3.96                    | 1.98        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Rear          | 0            | 26.0                         | 25.09                                           | 90 degrees        | 1.000                       | 1.233                  | -0.03            | 0.87                    | 1.07                    | 0.53        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Left          | 0            | 26.0                         | 25.09                                           | 90 degrees        | 1.000                       | 1.233                  | -0.03            | 0.03                    | 0.04                    | 0.02        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Right         | 0            | 26.0                         | 25.09                                           | 90 degrees        | 1.000                       | 1.233                  | 0.18             | 0.05                    | 0.06                    | 0.03        |
| <b>1</b>                                                                                                           | <b>#1</b>            | <b>914.8</b> | <b>74</b> | <b>Long</b>   | <b>Top</b>    | <b>0</b>     | <b>26.0</b>                  | <b>25.09</b>                                    | <b>90 degrees</b> | <b>1.000</b>                | <b>1.233</b>           | <b>-0.04</b>     | <b>3.42</b>             | <b>4.22</b>             | <b>2.11</b> |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Bottom        | 0            | 26.0                         | 25.09                                           | 90 degrees        | 1.000                       | 1.233                  | 0.00             | 0.23                    | 0.28                    | 0.14        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Front         | 0            | 26.0                         | 25.09                                           | 45 degrees        | 1.000                       | 1.233                  | -0.13            | 2.20                    | 2.71                    | 1.36        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Rear          | 0            | 26.0                         | 25.09                                           | 45 degrees        | 1.000                       | 1.233                  | -0.01            | 0.64                    | 0.79                    | 0.40        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Left          | 0            | 26.0                         | 25.09                                           | 45 degrees        | 1.000                       | 1.233                  | 0.07             | 0.08                    | 0.10                    | 0.05        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Right         | 0            | 26.0                         | 25.09                                           | 45 degrees        | 1.000                       | 1.233                  | -0.09            | 0.04                    | 0.04                    | 0.02        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Top           | 0            | 26.0                         | 25.09                                           | 45 degrees        | 1.000                       | 1.233                  | -0.01            | 0.22                    | 0.27                    | 0.14        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Bottom        | 0            | 26.0                         | 25.09                                           | 45 degrees        | 1.000                       | 1.233                  | 0.05             | 0.14                    | 0.17                    | 0.08        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Front         | 0            | 26.0                         | 25.09                                           | 0 degrees         | 1.000                       | 1.233                  | 0.02             | 2.50                    | 3.08                    | 1.54        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Rear          | 0            | 26.0                         | 25.09                                           | 0 degrees         | 1.000                       | 1.233                  | -0.03            | 0.61                    | 0.75                    | 0.37        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Left          | 0            | 26.0                         | 25.09                                           | 0 degrees         | 1.000                       | 1.233                  | 0.10             | 0.05                    | 0.06                    | 0.03        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Right         | 0            | 26.0                         | 25.09                                           | 0 degrees         | 1.000                       | 1.233                  | -0.02            | 0.27                    | 0.33                    | 0.16        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Top           | 0            | 26.0                         | 25.09                                           | 0 degrees         | 1.000                       | 1.233                  | -0.07            | 0.02                    | 0.02                    | 0.01        |
|                                                                                                                    | #1                   | 914.8        | 74        | Long          | Bottom        | 0            | 26.0                         | 25.09                                           | 0 degrees         | 1.000                       | 1.233                  | -0.02            | 0.03                    | 0.03                    | 0.02        |
|                                                                                                                    | #1                   | 902.4        | 12        | Long          | Top           | 0            | 26.0                         | 25.05                                           | 90 degrees        | 1.000                       | 1.245                  | -0.02            | 2.92                    | 3.63                    | 1.82        |
|                                                                                                                    | #1                   | 927.6        | 138       | Long          | Top           | 0            | 26.0                         | 24.81                                           | 90 degrees        | 1.000                       | 1.315                  | 0.02             | 2.87                    | 3.77                    | 1.89        |
|                                                                                                                    | #1                   | 915.0        | 120       | Repeat        | Front         | 0            | 26.0                         | 24.98                                           | 90 degrees        | 1.000                       | 1.265                  | -0.17            | 2.73                    | 3.45                    | 1.73        |
|                                                                                                                    | #1                   | 915.0        | 120       | Repeat        | Rear          | 0            | 26.0                         | 24.98                                           | 90 degrees        | 1.000                       | 1.265                  | -0.07            | 1.12                    | 1.42                    | 0.71        |
|                                                                                                                    | #1                   | 915.0        | 120       | Repeat        | Left          | 0            | 26.0                         | 24.98                                           | 45 degrees        | 1.000                       | 1.265                  | -0.14            | 0.07                    | 0.09                    | 0.05        |
|                                                                                                                    | #1                   | 915.0        | 120       | Repeat        | Right         | 0            | 26.0                         | 24.98                                           | 0 degrees         | 1.000                       | 1.265                  | -0.04            | 0.24                    | 0.31                    | 0.15        |
|                                                                                                                    | #1                   | 915.0        | 120       | Repeat        | Top           | 0            | 26.0                         | 24.98                                           | 90 degrees        | 1.000                       | 1.265                  | 0.07             | 3.14                    | 3.97                    | 1.99        |
|                                                                                                                    | #1                   | 915.0        | 120       | Repeat        | Bottom        | 0            | 26.0                         | 24.98                                           | 90 degrees        | 1.000                       | 1.265                  | 0.09             | 0.06                    | 0.08                    | 0.04        |
| <b>2</b>                                                                                                           | <b>#1</b>            | <b>902.5</b> | <b>20</b> | <b>Repeat</b> | <b>Top</b>    | <b>0</b>     | <b>26.0</b>                  | <b>24.95</b>                                    | <b>90 degrees</b> | <b>1.000</b>                | <b>1.274</b>           | <b>0.06</b>      | <b>3.23</b>             | <b>4.11</b>             | <b>2.06</b> |
|                                                                                                                    | #1                   | 927.5        | 220       | Repeat        | Top           | 0            | 26.0                         | 24.79                                           | 90 degrees        | 1.000                       | 1.321                  | -0.10            | 2.96                    | 3.91                    | 1.96        |
| ANSI / IEEE C95.1 1992 – SAFETY LIMIT<br>Spatial Peak<br>Controlled Environment / Professional Population Exposure |                      |              |           |               |               |              |                              | Body<br>8.0 W/kg (mW/g)<br>Averaged over 1 gram |                   |                             |                        |                  |                         |                         |             |

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

## 10.2. SAR Test Notes

### General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, and FCC KDB Publication 447498 D04v01.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D04v01.
6. Per FCC KDB 865664 D01v01r04, variability SAR tests may be performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg. The same procedures should be adapted for measurements according occupational exposure limits by applying a factor of 5 for occupational exposure to the corresponding SAR thresholds.

### 900 MHz ISM Band Notes:

1. 900 MHz ISM band SAR was measured with hopping disabled and Tx test mode type. The reported SAR was scaled to the 100 % transmission duty factor to determine compliance. See Section 8.1.1 for the time domain plot and calculation for the duty factor of the device.
2. Per FCC KDB Publication 447498 D04v01., For radios that operate with a mechanical PTT button, in consideration of typical average use conditions, a duty factor of 50% shall be applied to determine compliance.
3. The external antenna of this device can be tilted 90 degrees or 45 degrees. In Long Mode, it was tested for 90-degree tilting conditions, 45-degree tilting conditions, and 0-degree conditions. and in Repeat Mode, it was tested at the angle at which the SAR value was measured the highest in Long Mode.

## 11. EQUIPMENT LIST

| Manufacturer                 | Model                    | Description                    | Cal. Date  | Cal. Interval | Cal.Due    | Serial No.         |
|------------------------------|--------------------------|--------------------------------|------------|---------------|------------|--------------------|
| STAUBLI                      | DASY6 Robot              | TX90 XLspeag                   | N/A        | N/A           | N/A        | F/20/0019420/A/001 |
| STAUBLI                      | DASY6 Controller         | CS8Cspeag-Tx90                 | N/A        | N/A           | N/A        | F/20/0019420/C/001 |
| SPEAG                        | LightBeam SAR            | SE UKS 030 AA                  | N/A        | N/A           | N/A        | 1156               |
| STAUBLI                      | DASY6 Measurement Server | SE UMS 028 CA                  | N/A        | N/A           | N/A        | 1676               |
| STAUBLI                      | Robot Remote Control     | SP1                            | N/A        | N/A           | N/A        | D21142608A         |
| SPEAG                        | Phantom                  | 2mm Oval Phantom ELI4          | N/A        | N/A           | N/A        | TP-2114            |
| SPEAG                        | Mounting Device          | Mounting Device                | N/A        | N/A           | N/A        | N/A                |
| SPEAG                        | DAE                      | DAE4                           | 2023-09-19 | Annual        | 2024-09-19 | 1631               |
| SPEAG                        | Probe                    | EX3DV4                         | 2023-09-22 | Annual        | 2024-09-22 | 7615               |
| SPEAG                        | D835V2                   | Dipole Antenna                 | 2023-07-14 | Biennial      | 2025-07-14 | 4d229              |
| SPEAG                        | DAKS-3.5                 | DAK                            | 2023-07-17 | Annual        | 2024-07-17 | 1142               |
| Copper Mountain Technologies | R140                     | Vector Reflectometer           | 2023-07-31 | Annual        | 2024-07-31 | 21090006           |
| LKM electronic GmbH          | DTM3000                  | Digital Hand-Held Thermometers | 2023-08-07 | Annual        | 2024-08-07 | 3247               |
| HP                           | 8665B                    | Signal Generator               | 2023-08-07 | Annual        | 2024-08-07 | 3744A01349         |
| EMPOWER                      | BBS3Q7ECK-2001           | Power Amplifier                | 2023-08-07 | Annual        | 2024-08-07 | 1045D/C0536        |
| HP                           | 772D                     | Dual Directional Coupler       | 2023-08-07 | Annual        | 2024-08-07 | 2839A01119         |
| HP                           | E4419B                   | Power Meter                    | 2024-04-01 | Annual        | 2025-04-01 | GB38410274         |
| HP                           | 8481H                    | Power Sensor                   | 2024-04-01 | Annual        | 2025-04-01 | 3318A19519         |
| HP                           | 8481H                    | Power Sensor                   | 2024-04-01 | Annual        | 2025-04-01 | 3318A15631         |
| Wainwright                   | WLJS1500-6EF             | Low Pass Filter                | 2023-08-07 | Annual        | 2024-08-07 | 1                  |
| Anritsu                      | ML2495A                  | Power Meter                    | 2024-04-01 | Annual        | 2025-04-01 | 1924013            |
| Anritsu                      | MA2411B                  | Pulse Power Sensor             | 2024-04-01 | Annual        | 2025-04-01 | 1726429            |
| HUBER+SUHNER                 | 6606 SMA-50-1            | Attenuator                     | 2024-04-01 | Annual        | 2025-04-01 | 225202             |
| HUBER+SUHNER                 | 6606 SMA-50-1            | Attenuator                     | 2024-04-01 | Annual        | 2025-04-01 | 225204             |
| Bird                         | 50-6A-MFN-30             | Attenuator                     | 2023-08-07 | Annual        | 2024-08-07 | 14100882-2         |
| ROHDE & SCHWARZ              | FSU26                    | Spectrum Analyzer              | 2024-01-17 | Annual        | 2025-01-17 | 200319             |

### Notes:

1. CBT (Calibration Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.
2. All equipment was used solely within its calibration period.

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

## 12. MEASUREMENT UNCERTAINTIES

Table 13-1 Uncertainty of SAR equipment for measurement 0.3 GHz to 6 GHz

| No.                                       |               | Error Description                                                            | Uncertainty        | Uncertainty         | Probability  | Divisor    | $C_i$ | $C_i$  | $U_i(y)$ | $U_i(y)$ | $V_i$          | Contributions | Contributions |
|-------------------------------------------|---------------|------------------------------------------------------------------------------|--------------------|---------------------|--------------|------------|-------|--------|----------|----------|----------------|---------------|---------------|
|                                           |               |                                                                              | Value (1 g)<br>(%) | Value (10 g)<br>(%) | Distribution |            | (1 g) | (10 g) | (1 g)    | (10 g)   | or $V_{eff}$   | (1 g)         | (10 g)        |
|                                           |               |                                                                              | 불확도                | 불확도                 | 확률분포         | 계수         | 감도계수  | 감도계수   | 표준불확도    | 표준불확도    | 자유도<br>(유효자유도) | 기여량           | 기여량           |
| 1                                         | $U(PR_C)$     | Probe Calibration                                                            | 6.65               | 6.65                | N            | 1.00       | 1.00  | 1.00   | 6.65     | 6.65     | $\infty$       | 6.65          | 6.65          |
| 2                                         | $U(PR_I)$     | Isotropy                                                                     | 1.87               | 1.87                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 1.08     | 1.08     | $\infty$       | 1.08          | 1.08          |
| 3                                         | $U(L)$        | Linearity                                                                    | 0.60               | 0.60                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 0.35     | 0.35     | $\infty$       | 0.35          | 0.35          |
| 4                                         | $U(PR_{MR})$  | Probe modulation response                                                    | 2.40               | 2.40                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 1.39     | 1.39     | $\infty$       | 1.39          | 1.39          |
| 5                                         | $U(DL)$       | Detection Limits                                                             | 1.00               | 1.00                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 0.58     | 0.58     | $\infty$       | 0.58          | 0.58          |
| 6                                         | $U(BE)$       | Boundary effect                                                              | 1.00               | 1.00                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 0.58     | 0.58     | $\infty$       | 0.58          | 0.58          |
| 7                                         | $U(RE)$       | Readout Electronics                                                          | 0.30               | 0.30                | N            | 1.00       | 1.00  | 1.00   | 0.30     | 0.30     | $\infty$       | 0.30          | 0.30          |
| 8                                         | $U(T_{RT})$   | Response Time                                                                | 0.80               | 0.80                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 0.46     | 0.46     | $\infty$       | 0.46          | 0.46          |
| 9                                         | $U(T_{IT})$   | Integration Time                                                             | 2.60               | 2.60                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 1.50     | 1.50     | $\infty$       | 1.50          | 1.50          |
| 10                                        | $U(A_{NO})$   | RF ambient conditions-noise                                                  | 3.00               | 3.00                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 1.73     | 1.73     | $\infty$       | 1.73          | 1.73          |
| 11                                        | $U(A_{RF})$   | RF ambient conditions-reflections                                            | 3.00               | 3.00                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 1.73     | 1.73     | $\infty$       | 1.73          | 1.73          |
| 12                                        | $U(PR_{PT})$  | Probe positioner mech. Restrictions                                          | 0.80               | 0.80                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 0.46     | 0.46     | $\infty$       | 0.46          | 0.46          |
| 13                                        | $U(PR_{PT})$  | Probe positioning with respect to phantom shell                              | 6.70               | 6.70                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 3.87     | 3.87     | $\infty$       | 3.87          | 3.87          |
| 14                                        | $U(PP_{MSE})$ | Post-processing(for max. SAR evaluation)                                     | 4.00               | 4.00                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 2.31     | 2.31     | $\infty$       | 2.31          | 2.31          |
| 15                                        | $U(DU)$       | Device Holder Uncertainty                                                    | 3.60               | 3.60                | N            | 1.00       | 1.00  | 1.00   | 3.60     | 3.60     | 10.00          | 3.60          | 3.60          |
| 16                                        | $U(PO_{EUT})$ | Test sample positioning                                                      | 0.41               | 0.44                | N            | 1.00       | 1.00  | 1.00   | 0.41     | 0.44     | 10.00          | 0.41          | 0.44          |
| 17                                        | $U(PS)$       | Power scaling                                                                | 0.00               | 0.00                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 0.00     | 0.00     | $\infty$       | 0.00          | 0.00          |
| 18                                        | $U(PD)$       | Drift of output power(measured SAR drift)                                    | 5.00               | 5.00                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 2.89     | 2.89     | $\infty$       | 2.89          | 2.89          |
| 19                                        | $U(PU)$       | Phantom Uncertainty                                                          | 7.90               | 7.90                | R            | $\sqrt{3}$ | 1.00  | 1.00   | 4.56     | 4.56     | $\infty$       | 4.56          | 4.56          |
| 20                                        | $U(CS_{DPC})$ | Algorithm for correcting SAR for deviations in permittivity and conductivity | 1.90               | 1.90                | N            | 1.00       | 1.00  | 0.84   | 1.90     | 1.60     | $\infty$       | 1.90          | 1.34          |
| 21                                        | $U(LC_{50})$  | Liquid Conductivity (meas.)                                                  | 1.46               | 1.46                | N            | 1.00       | 0.05  | 0.04   | 0.07     | 0.06     | 10.00          | 0.00          | 0.00          |
| 22                                        | $U(LP_M)$     | Liquid Permittivity (meas.)                                                  | 2.10               | 2.10                | N            | 1.00       | 0.20  | 0.26   | 0.42     | 0.54     | 10.00          | 0.08          | 0.14          |
| 23                                        | $U(LC_{TU})$  | Liquid conductivity(temperature uncertainty)                                 | 2.12               | 2.12                | R            | $\sqrt{3}$ | 0.78  | 0.71   | 0.95     | 0.87     | $\infty$       | 0.74          | 0.62          |
| 24                                        | $U(LP_{TU})$  | Liquid permittivity(temperature uncertainty)                                 | 0.40               | 0.40                | R            | $\sqrt{3}$ | 0.23  | 0.26   | 0.05     | 0.06     | $\infty$       | 0.01          | 0.02          |
| Uc(sar) Combined standard uncertainty (%) |               |                                                                              |                    |                     | RSS          |            |       |        | 11.14    | 11.09    | 917            |               |               |
| Extended uncertainty U(%)                 |               |                                                                              |                    |                     | $k = 2$      |            |       |        | 22.28    | 22.18    |                |               |               |

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

## 13. CONCLUSION

### 13.1. Measurement Conclusion

The SAR evaluation indicates that the EUT complies with the RF radiation exposure limits of the FCC and Innovation, Science, and Economic Development Canada, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables.

### 13.2. Information on the Testing Laboratories

We, Onetech Corp. Laboratory were founded in 1989 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Address: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, Korea Republic of, 12735

E-Mail: [info@onetech.co.kr](mailto:info@onetech.co.kr)

Tel: +82-31-799-9500

Fax: +82-31-799-9599

#### Site Filing:

VCCI (Voluntary Control Council for Interference) – Registration No. R-4112/ C-14617/ G-10666/ T-11842

ISED (Innovation, Science and Economic Development Canada) – Registration No. Site# 3736A-3

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation NO. KT085

FCC (Federal Communications Commission) - Accreditation No. KR0013

RRA (Radio Research Agency) – Designation No. KR0013

## 14. REFERENCES

- [1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, Aug. 1996.
- [2] ANSI/IEEE C95.1-2005, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3 kHz to 300 GHz, New York: IEEE, 2006.
- [3] ANSI/IEEE C95.1-1992, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3 kHz to 300 GHz, New York: IEEE, Sept. 1992.
- [4] ANSI/IEEE C95.3-2002, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave, New York: IEEE, December 2002.
- [5] IEEE Standards Coordinating Committee 39 –Standards Coordinating Committee 34 – IEEE Std. 1528-2013, IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.
- [6] NCRP, National Council on Radiation Protection and Measurements, Biological Effects and Exposure Criteria for RadioFrequency Electromagnetic Fields, NCRP Report No. 86, 1986. Reprinted Feb. 1995.
- [7] T. Schmid, O. Egger, N. Kuster, Automated E-field scanning system for dosimetric assessments, IEEE Transaction on Microwave Theory and Techniques, vol. 44, Jan. 1996, pp. 105-113.
- [8] K. Pokovic, T. Schmid, N. Kuster, Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies, ICECOM97, Oct. 1997, pp. 1 -124.
- [9] K. Pokovic, T. Schmid, and N. Kuster, E-field Probe with improved isotropy in brain simulating liquids, Proceedings of the ELMAR, Zadar, Croatia, June 23-25, 1996, pp. 172-175.
- [10] Schmid & Partner Engineering AG, Application Note: Data Storage and Evaluation, June 1998, p2.
- [11] V. Hombach, K. Meier, M. Burkhardt, E. Kuhn, N. Kuster, The Dependence of EM Energy Absorption upon Human Modeling at 900 MHz, IEEE Transaction on Microwave Theory and Techniques, vol. 44 no. 10, Oct. 1996, pp. 1865-1873.
- [12] N. Kuster and Q. Balzano, Energy absorption mechanism by biological bodies in the near field of dipole antennas above 300 MHz, IEEE Transaction on Vehicular Technology, vol. 41, no. 1, Feb. 1992, pp. 17-23.
- [13] G. Hartsgrove, A. Kraszewski, A. Surowiec, Simulated Biological Materials for Electromagnetic Radiation Absorption Studies, University of Ottawa, Bioelectromagnetics, Canada: 1987, pp. 29-36.
- [14] Q. Balzano, O. Garay, T. Manning Jr., Electromagnetic Energy Exposure of Simulated Users of Portable Cellular Telephones, IEEE Transactions on Vehicular Technology, vol. 44, no.3, Aug. 1995.
- [15] W. Gander, Computermathematick, Birkhaeuser, Basel, 1992.
- [16] W.H. Press, S.A. Teukolsky, W.T. Vetterling, and B.P. Flannery, Numerical Recipes in C, The Art of Scientific Computing, Second edition, Cambridge University Press, 1992.

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

- [17] N. Kuster, R. Kastle, T. Schmid, Dosimetric evaluation of mobile communications equipment with known precision, IEEE Transaction on Communications, vol. E80-B, no. 5, May 1997, pp. 645-652.
- [18] CENELEC CLC/SC111B, European Prestandard (prENV 50166-2), Human Exposure to Electromagnetic Fields Highfrequency: 10 kHz-300 GHz, Jan. 1995.
- [19] Prof. Dr. Niels Kuster, ETH, Eidgenössische Technische Hochschule Zürich, Dosimetric Evaluation of the Cellular Phone.
- [20] IEC 62209-1, Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1: Devices used next to the ear (Frequency range of 300 MHz to 6 GHz), July 2016.
- [21] Innovation, Science, Economic Development Canada RSS-102 Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) Issue 5, March 2015.
- [22] Health Canada Safety Code 6 Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz – 300 GHz, 2015
- [23] FCC SAR Test Procedures for 2G-3G Devices, Mobile Hotspot and UMPC Devices KDB Publications 941225 D01-D07
- [24] SAR Measurement Guidance for IEEE 802.11 Transmitters, KDB Publication 248227 D01
- [25] FCC SAR Considerations for Handsets with Multiple Transmitters and Antennas, KDB Publications 648474 D03-D04
- [26] FCC SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers, FCC KDB Publication 616217 D04
- [27] FCC SAR Measurement and Reporting Requirements for 100 MHz – 6 GHz, KDB Publications 865664 D01-D02
- [28] FCC General RF Exposure Guidance and SAR Procedures for Dongles, KDB Publication 447498 D04, D02
- [29] Anexo à Resolução No. 533, de 10 de Setembro de 2009.
- [30] IEC 62209-2, Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures – Part 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), May. 2019.

## APPENDIX A: SYSTEM VERIFICATION

Test Laboratory: ONETECH CO., LTD. Lab

Date: 2024-04-22

## System Verification for 835 MHz

**DUT: D835V2 - SN:4d229**

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL835 Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.921 \text{ S/m}$ ;  $\epsilon_r = 41.069$ ;  $\rho = 1000 \text{ kg/m}^3$

DASY5 Configuration:

- Probe: EX3DV4 - SN7615; ConvF(9.75, 10.09, 9.81) @ 835 MHz; Calibrated: 2023-09-22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1631; Calibrated: 2023-09-19
- Phantom: ELI V8.0 (20deg probe tilt); Type: QD OVA 004 Ax; Serial: 2114
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**-/Pin = 250 mW/Area Scan (5x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 3.09 W/kg

**-/Pin = 250 mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 58.35 V/m; Power Drift = 0.02 dB

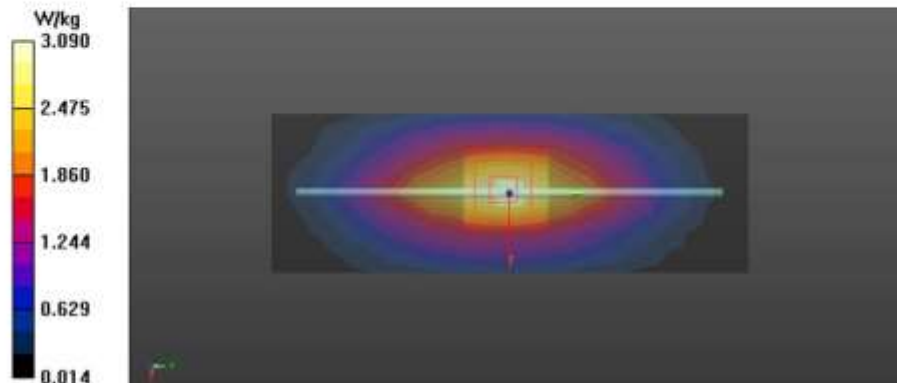
Peak SAR (extrapolated) = 3.49 W/kg

**SAR(1 g) = 2.37 W/kg; SAR(10 g) = 1.56 W/kg**

Smallest distance from peaks to all points 3 dB below = 17.9 mm

Ratio of SAR at M2 to SAR at M1 = 67.4%

Maximum value of SAR (measured) = 3.15 W/kg



## APPENDIX B: SAR TEST DATA

Test Laboratory: ONETECH CO., LTD. Lab

Date: 2024-04-22

### 17\_900 MHz Band\_ISM\_Top\_0 cm\_Ch.74\_Long Mode

#### DUT: ATLAS EXP

Communication System: UID 0, 900 MHz Band (0); Frequency: 914.8 MHz; Duty Cycle: 1:1

Medium: HSL900 Medium parameters used:  $f = 914.8 \text{ MHz}$ ;  $\sigma = 0.997 \text{ S/m}$ ;  $\epsilon_r = 40.158$ ;  $\rho = 1000 \text{ kg/m}^3$ 

DASY5 Configuration:

- Probe: EX3DV4 - SN7615; ConvF(9.74, 10.32, 9.57) @ 914.8 MHz; Calibrated: 2023-09-22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1631; Calibrated: 2023-09-19
- Phantom: ELI V8.0 (20deg probe tilt); Type: QD OVA 004 Ax; Serial: 2114
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Configuration/Area Scan (8x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$ 

Maximum value of SAR (measured) = 4.95 W/kg

**Configuration/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$ 

Reference Value = 75.15 V/m; Power Drift = -0.04 dB

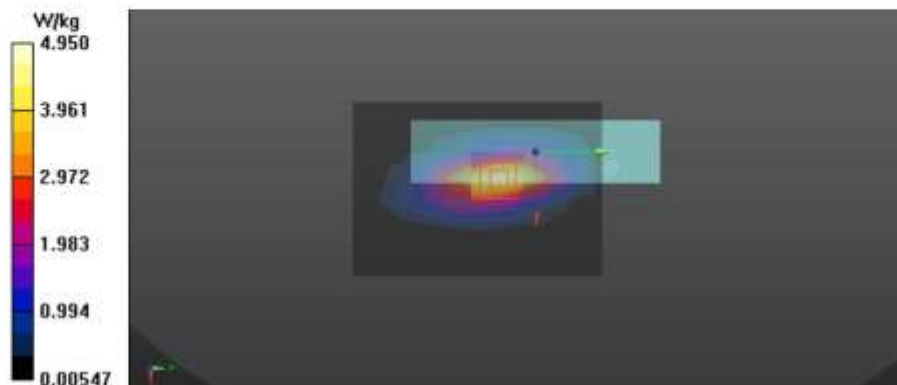
Peak SAR (extrapolated) = 5.77 W/kg

**SAR(1 g) = 3.42 W/kg; SAR(10 g) = 2.04 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.3 mm

Ratio of SAR at M2 to SAR at M1 = 59%

Maximum value of SAR (measured) = 4.99 W/kg



Test Laboratory: ONETECH CO., LTD. Lab

Date: 2024-04-22

## 27\_900 MHz Band\_ISM\_Top\_0 cm\_Ch.20\_Repeat Mode

### DUT: ATLAS EXP

Communication System: UID 0, 900 MHz Band (0); Frequency: 902.5 MHz; Duty Cycle: 1:1

Medium: HSL900 Medium parameters used:  $f = 902.5 \text{ MHz}$ ;  $\sigma = 0.984 \text{ S/m}$ ;  $\epsilon_r = 40.23$ ;  $\rho = 1000 \text{ kg/m}^3$ 

#### DASY5 Configuration:

- Probe: EX3DV4 - SN7615; ConvF(9.74, 10.32, 9.57) @ 902.5 MHz; Calibrated: 2023-09-22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1631; Calibrated: 2023-09-19
- Phantom: ELI V8.0 (20deg probe tilt); Type: QD OVA 004 Ax; Serial: 2114
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Configuration/Area Scan (8x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$ 

Maximum value of SAR (measured) = 3.71 W/kg

**Configuration/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$ 

Reference Value = 58.18 V/m; Power Drift = 0.06 dB

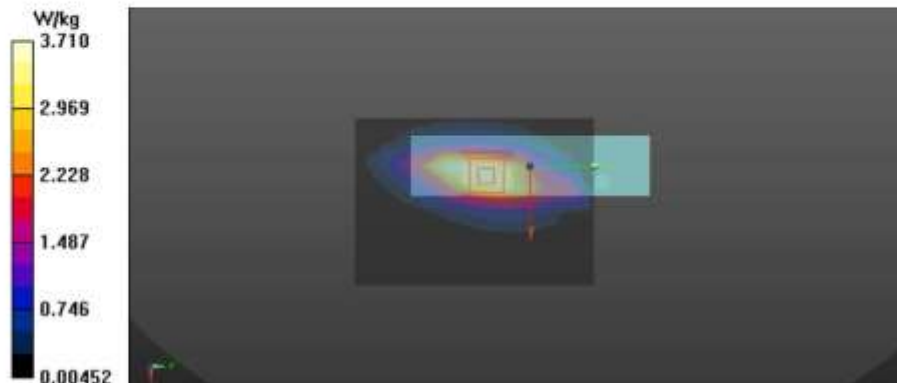
Peak SAR (extrapolated) = 5.50 W/kg

**SAR(1 g) = 3.23 W/kg; SAR(10 g) = 1.92 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.2 mm

Ratio of SAR at M2 to SAR at M1 = 58.7%

Maximum value of SAR (measured) = 4.73 W/kg



## APPENDIX C: PROBE & DIPOLE ANTENNA CALIBRATION

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

Zeughausstrasse 43, 8004 Zurich, Switzerland



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

Accredited by the Swiss Accreditation Service (SAS)

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

Accreditation No.: SCS 0108

Client

**Onetech**

Gyeonggi-do, Republic of Korea

Certificate No.

**EX-7615\_Sep23**
**CALIBRATION CERTIFICATE**

Object

EX3DV4 - SN:7615

Calibration procedure(s)

QA CAL-01.v10, QA CAL-12.v10, QA CAL-14.v7, QA CAL-23.v6,  
QA CAL-25.v8  
Calibration procedure for dosimetric E-field probes

Calibration date

September 22, 2023

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

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

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards          | ID               | Cal Date (Certificate No.)        | Scheduled Calibration |
|----------------------------|------------------|-----------------------------------|-----------------------|
| Power meter NRP2           | SN: 104778       | 30-Mar-23 (No. 217-03804/03805)   | Mar-24                |
| Power sensor NRP-Z91       | SN: 103244       | 30-Mar-23 (No. 217-03804)         | Mar-24                |
| OCP DAK-3.5 (weighted)     | SN: 1249         | 20-Oct-22 (OCP-DAK3.5-1249_Oct22) | Oct-23                |
| OCP DAK-12                 | SN: 1016         | 20-Oct-22 (OCP-DAK12-1016_Oct22)  | Oct-23                |
| Reference 20 dB Attenuator | SN: CC2552 (20x) | 30-Mar-23 (No. 217-03809)         | Mar-24                |
| DAE4                       | SN: 660          | 16-Mar-23 (No. DAE4-660_Mar23)    | Mar-24                |
| Reference Probe ES3DV2     | SN: 3013         | 06-Jan-23 (No. ES3-3013_Jan23)    | Jan-24                |

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

|                                                                                                                 | Name           | Function              | Signature                                                                             |
|-----------------------------------------------------------------------------------------------------------------|----------------|-----------------------|---------------------------------------------------------------------------------------|
| Calibrated by                                                                                                   | Jeton Kastrali | Laboratory Technician |  |
| Approved by                                                                                                     | Sven Kühn      | Technical Manager     |  |
| This calibration certificate shall not be reproduced except in full without written approval of the laboratory. |                |                       |                                                                                       |
| Issued: September 27, 2023                                                                                      |                |                       |                                                                                       |

Certificate No: EX-7615\_Sep23

Page 1 of 22

### Calibration Laboratory of

Schmid & Partner  
Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland



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

Accredited by the Swiss Accreditation Service (SAS)

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

Accreditation No.: SCS 0108

### Glossary

|                       |                                                                                                                                                |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| TSL                   | tissue simulating liquid                                                                                                                       |
| 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 $\psi$   | $\psi$ rotation around probe axis                                                                                                              |
| Polarization $\theta$ | $\theta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\theta = 0$ is normal to probe axis |
| Connector Angle       | Information used in DASY system to align probe sensor X to the robot coordinate system                                                         |

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

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

### Methods Applied and Interpretation of Parameters:

- NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\theta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the E<sup>2</sup>-field uncertainty inside TSL (see below ConvF).
- NORM(f)<sub>x,y,z</sub> = NORM<sub>x,y,z</sub> \* frequency\_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP<sub>x,y,z</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal. DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics.
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; D<sub>x,y,z</sub>; VR<sub>x,y,z</sub>; A, B, C, D** are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM<sub>x</sub> (no uncertainty required).

EX3DV4 - SN:7615

September 22, 2023

## Parameters of Probe: EX3DV4 - SN:7615

### Basic Calibration Parameters

|                                                           | Sensor X | Sensor Y | Sensor Z | Unc (k = 2)  |
|-----------------------------------------------------------|----------|----------|----------|--------------|
| Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup> | 0.69     | 0.58     | 0.63     | $\pm 10.1\%$ |
| DCP (mV) <sup>B</sup>                                     | 107.9    | 108.1    | 104.1    | $\pm 4.7\%$  |

### Calibration Results for Modulation Response

| UID   | Communication System Name   |   | A<br>dB | B<br>dB/ $\sqrt{\mu\text{V}}$ | C     | D<br>dB | VR<br>mV | Max<br>dev. | Max<br>Unc <sup>E</sup><br>k = 2 |
|-------|-----------------------------|---|---------|-------------------------------|-------|---------|----------|-------------|----------------------------------|
| 0     | CW                          | X | 0.00    | 0.00                          | 1.00  | 0.00    | 146.0    | $\pm 2.0\%$ | $\pm 4.7\%$                      |
|       |                             | Y | 0.00    | 0.00                          | 1.00  |         | 119.5    |             |                                  |
|       |                             | Z | 0.00    | 0.00                          | 1.00  |         | 131.3    |             |                                  |
| 10352 | Pulse Waveform (200Hz, 10%) | X | 1.47    | 60.11                         | 5.85  | 10.00   | 60.0     | $\pm 3.1\%$ | $\pm 9.6\%$                      |
|       |                             | Y | 1.44    | 60.00                         | 5.89  |         | 60.0     |             |                                  |
|       |                             | Z | 1.53    | 60.62                         | 6.47  |         | 60.0     |             |                                  |
| 10353 | Pulse Waveform (200Hz, 20%) | X | 0.80    | 60.00                         | 4.50  | 6.99    | 80.0     | $\pm 2.7\%$ | $\pm 9.6\%$                      |
|       |                             | Y | 0.85    | 60.00                         | 4.71  |         | 80.0     |             |                                  |
|       |                             | Z | 0.84    | 60.00                         | 5.03  |         | 80.0     |             |                                  |
| 10354 | Pulse Waveform (200Hz, 40%) | X | 0.03    | 125.41                        | 0.62  | 3.98    | 95.0     | $\pm 2.9\%$ | $\pm 9.6\%$                      |
|       |                             | Y | 0.17    | 137.09                        | 0.50  |         | 95.0     |             |                                  |
|       |                             | Z | 0.20    | 136.89                        | 0.02  |         | 95.0     |             |                                  |
| 10355 | Pulse Waveform (200Hz, 60%) | X | 1.63    | 157.67                        | 16.96 | 2.22    | 120.0    | $\pm 1.7\%$ | $\pm 9.6\%$                      |
|       |                             | Y | 8.81    | 159.63                        | 3.24  |         | 120.0    |             |                                  |
|       |                             | Z | 9.04    | 157.52                        | 22.56 |         | 120.0    |             |                                  |
| 10387 | QPSK Waveform, 1 MHz        | X | 0.56    | 61.81                         | 10.29 | 1.00    | 150.0    | $\pm 5.1\%$ | $\pm 9.6\%$                      |
|       |                             | Y | 0.63    | 61.01                         | 9.83  |         | 150.0    |             |                                  |
|       |                             | Z | 0.63    | 61.78                         | 10.16 |         | 150.0    |             |                                  |
| 10388 | QPSK Waveform, 10 MHz       | X | 1.25    | 63.67                         | 12.55 | 0.00    | 150.0    | $\pm 1.4\%$ | $\pm 9.6\%$                      |
|       |                             | Y | 1.27    | 62.81                         | 12.10 |         | 150.0    |             |                                  |
|       |                             | Z | 1.29    | 63.33                         | 12.41 |         | 150.0    |             |                                  |
| 10396 | 64-QAM Waveform, 100 kHz    | X | 1.69    | 64.40                         | 15.67 | 3.01    | 150.0    | $\pm 0.9\%$ | $\pm 9.6\%$                      |
|       |                             | Y | 1.62    | 63.49                         | 15.05 |         | 150.0    |             |                                  |
|       |                             | Z | 1.78    | 65.04                         | 15.98 |         | 150.0    |             |                                  |
| 10399 | 64-QAM Waveform, 40 MHz     | X | 2.74    | 65.19                         | 14.30 | 0.00    | 150.0    | $\pm 2.9\%$ | $\pm 9.6\%$                      |
|       |                             | Y | 2.74    | 64.71                         | 13.94 |         | 150.0    |             |                                  |
|       |                             | Z | 2.76    | 64.96                         | 14.13 |         | 150.0    |             |                                  |
| 10414 | WLAN CCDF, 64-QAM, 40 MHz   | X | 4.01    | 65.89                         | 15.11 | 0.00    | 150.0    | $\pm 5.3\%$ | $\pm 9.6\%$                      |
|       |                             | Y | 4.07    | 65.43                         | 14.83 |         | 150.0    |             |                                  |
|       |                             | Z | 4.08    | 65.65                         | 14.99 |         | 150.0    |             |                                  |

Note: For details on UID parameters see Appendix

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

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

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

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

EX3DV4 - SN:7615

September 22, 2023

### Parameters of Probe: EX3DV4 - SN:7615

#### Sensor Model Parameters

|   | C1<br>If | C2<br>If | $\alpha$<br>$V^{-1}$ | T1<br>$ms V^{-2}$ | T2<br>$ms V^{-1}$ | T3<br>ms | T4<br>$V^{-2}$ | T5<br>$V^{-1}$ | T6   |
|---|----------|----------|----------------------|-------------------|-------------------|----------|----------------|----------------|------|
| x | 12.4     | 89.58    | 33.15                | 1.71              | 0.00              | 4.90     | 0.53           | 0.00           | 1.01 |
| y | 15.2     | 107.92   | 32.21                | 3.45              | 0.00              | 4.90     | 0.45           | 0.00           | 1.01 |
| z | 14.7     | 105.43   | 32.94                | 4.04              | 0.00              | 4.95     | 0.72           | 0.00           | 1.01 |

#### Other Probe Parameters

|                                               |            |
|-----------------------------------------------|------------|
| Sensor Arrangement                            | Triangular |
| Connector Angle                               | 61.6°      |
| Mechanical Surface Detection Mode             | enabled    |
| Optical Surface Detection Mode                | disabled   |
| Probe Overall Length                          | 337 mm     |
| Probe Body Diameter                           | 10 mm      |
| Tip Length                                    | 9 mm       |
| Tip Diameter                                  | 2.5 mm     |
| Probe Tip to Sensor X Calibration Point       | 1 mm       |
| Probe Tip to Sensor Y Calibration Point       | 1 mm       |
| Probe Tip to Sensor Z Calibration Point       | 1 mm       |
| Recommended Measurement Distance from Surface | 1.4 mm     |

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

EX3DV4 - SN:7615

September 22, 2023

## Parameters of Probe: EX3DV4 - SN:7615

### Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity <sup>F</sup> (S/m) | ConvF X | ConvF Y | ConvF Z | Alpha <sup>G</sup> | Depth <sup>G</sup> (mm) | Unc (k = 2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-------------|
| 150                  | 52.3                               | 0.76                            | 15.11   | 15.11   | 15.11   | 0.00               | 1.25                    | ±13.3%      |
| 300                  | 45.3                               | 0.87                            | 13.34   | 13.34   | 13.34   | 0.09               | 1.00                    | ±13.3%      |
| 450                  | 43.5                               | 0.87                            | 12.00   | 12.00   | 12.00   | 0.16               | 1.30                    | ±13.3%      |
| 600                  | 42.7                               | 0.88                            | 11.20   | 11.20   | 11.20   | 0.10               | 1.25                    | ±13.3%      |
| 750                  | 41.9                               | 0.89                            | 9.73    | 10.23   | 9.94    | 0.37               | 1.27                    | ±12.0%      |
| 835                  | 41.5                               | 0.90                            | 9.75    | 10.09   | 9.81    | 0.37               | 1.27                    | ±12.0%      |
| 900                  | 41.5                               | 0.97                            | 9.74    | 10.32   | 9.57    | 0.38               | 1.27                    | ±12.0%      |
| 1450                 | 40.5                               | 1.20                            | 8.80    | 8.95    | 8.79    | 0.49               | 1.27                    | ±12.0%      |
| 1640                 | 40.2                               | 1.31                            | 8.82    | 8.84    | 8.69    | 0.47               | 1.27                    | ±12.0%      |
| 1750                 | 40.1                               | 1.37                            | 8.93    | 8.97    | 8.92    | 0.27               | 1.27                    | ±12.0%      |
| 1950                 | 40.0                               | 1.40                            | 8.69    | 8.82    | 8.67    | 0.29               | 1.27                    | ±12.0%      |
| 2100                 | 39.8                               | 1.49                            | 8.37    | 8.45    | 8.32    | 0.30               | 1.27                    | ±12.0%      |
| 2300                 | 39.5                               | 1.67                            | 7.57    | 7.65    | 7.51    | 0.31               | 1.27                    | ±12.0%      |
| 2450                 | 39.2                               | 1.80                            | 7.77    | 7.87    | 7.70    | 0.31               | 1.27                    | ±12.0%      |
| 2600                 | 39.0                               | 1.96                            | 7.56    | 7.66    | 7.51    | 0.29               | 1.27                    | ±12.0%      |
| 3300                 | 38.2                               | 2.71                            | 6.72    | 6.75    | 6.65    | 0.34               | 1.27                    | ±14.0%      |
| 3500                 | 37.9                               | 2.91                            | 6.67    | 6.70    | 6.60    | 0.36               | 1.27                    | ±14.0%      |
| 3700                 | 37.7                               | 3.12                            | 6.71    | 6.71    | 6.63    | 0.36               | 1.27                    | ±14.0%      |
| 3900                 | 37.5                               | 3.32                            | 6.60    | 6.62    | 6.53    | 0.37               | 1.27                    | ±14.0%      |
| 4100                 | 37.2                               | 3.53                            | 6.57    | 6.55    | 6.48    | 0.37               | 1.27                    | ±14.0%      |
| 4200                 | 37.1                               | 3.63                            | 6.30    | 6.30    | 6.23    | 0.38               | 1.27                    | ±14.0%      |
| 4400                 | 36.9                               | 3.84                            | 6.30    | 6.27    | 6.20    | 0.37               | 1.27                    | ±14.0%      |
| 4600                 | 36.7                               | 4.04                            | 6.35    | 6.33    | 6.28    | 0.37               | 1.27                    | ±14.0%      |
| 4800                 | 36.4                               | 4.25                            | 6.47    | 6.37    | 6.30    | 0.37               | 1.27                    | ±14.0%      |
| 4950                 | 36.3                               | 4.40                            | 5.94    | 5.91    | 5.83    | 0.42               | 1.36                    | ±14.0%      |
| 5250                 | 35.9                               | 4.71                            | 5.65    | 5.63    | 5.55    | 0.36               | 1.62                    | ±14.0%      |
| 5600                 | 35.5                               | 5.07                            | 4.79    | 4.76    | 4.71    | 0.38               | 1.75                    | ±14.0%      |
| 5800                 | 35.3                               | 5.27                            | 5.00    | 4.88    | 4.87    | 0.36               | 1.86                    | ±14.0%      |

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

<sup>F</sup> The probes are calibrated using tissue simulating liquids (TSL) that deviate for  $\epsilon$  and  $\sigma$  by less than ±5% from the target values (typically better than ±3%) and are valid for TSL with deviations of up to ±10%. If TSL with deviations from the target of less than ±5% are used, the calibration uncertainties are 11.1% for 0.7–3 GHz and 13.1% for 3–6 GHz.

<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.

Certificate No: EX-7615\_Sep23

Page 5 of 22

EX3DV4 - SN:7615

September 22, 2023

### Parameters of Probe: EX3DV4 - SN:7615

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

| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity <sup>F</sup> (S/m) | ConvF X | ConvF Y | ConvF Z | Alpha <sup>G</sup> | Depth <sup>G</sup> (mm) | Unc (k = 2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-------------|
| 6500                 | 34.5                               | 6.07                            | 5.46    | 5.44    | 5.29    | 0.20               | 2.50                    | ±18.6%      |

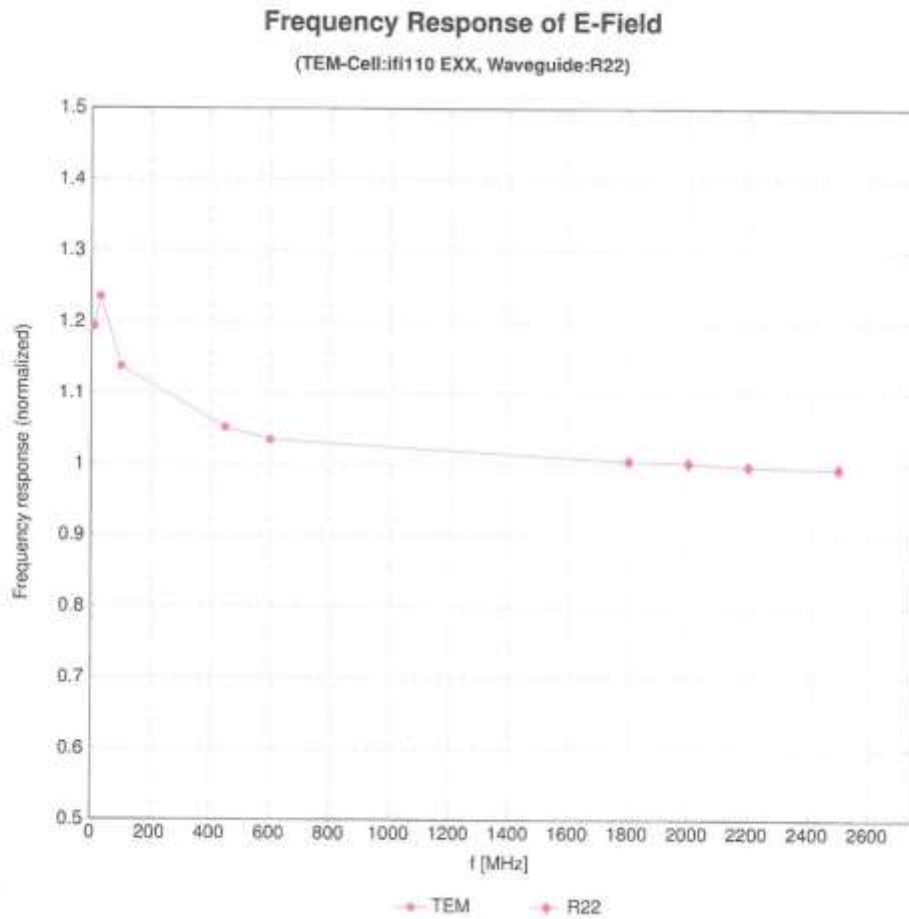
<sup>C</sup> Frequency validity at 6.5 GHz is -600/+700 MHz, and ±700 MHz at or above 7 GHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

<sup>F</sup> The probes are calibrated using tissue simulating liquids (TSL) that deviate for  $\epsilon$  and  $\sigma$  by less than ±10% from the target values (typically better than ±6%) and are valid for TSL with deviations of up to ±10%.

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

EX3DV4 - SN:7615

September 22, 2023

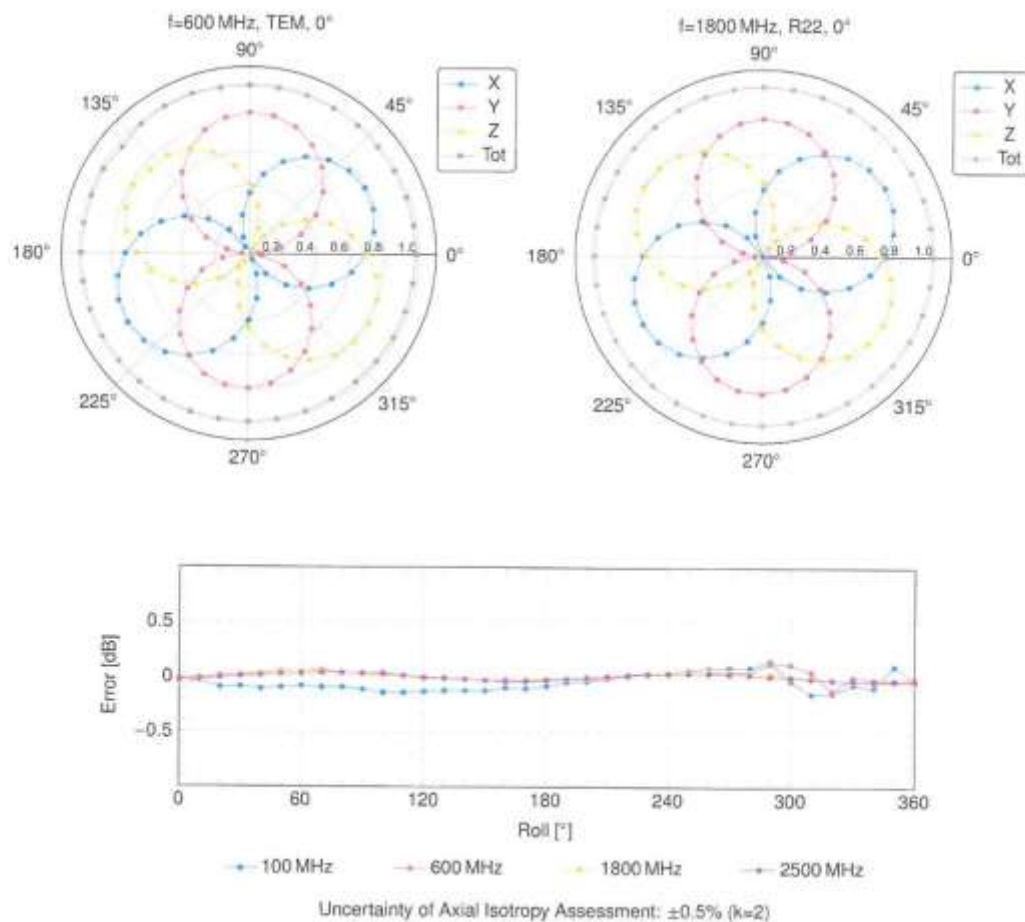


Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  ( $k=2$ )

EX3DV4 - SN:7615

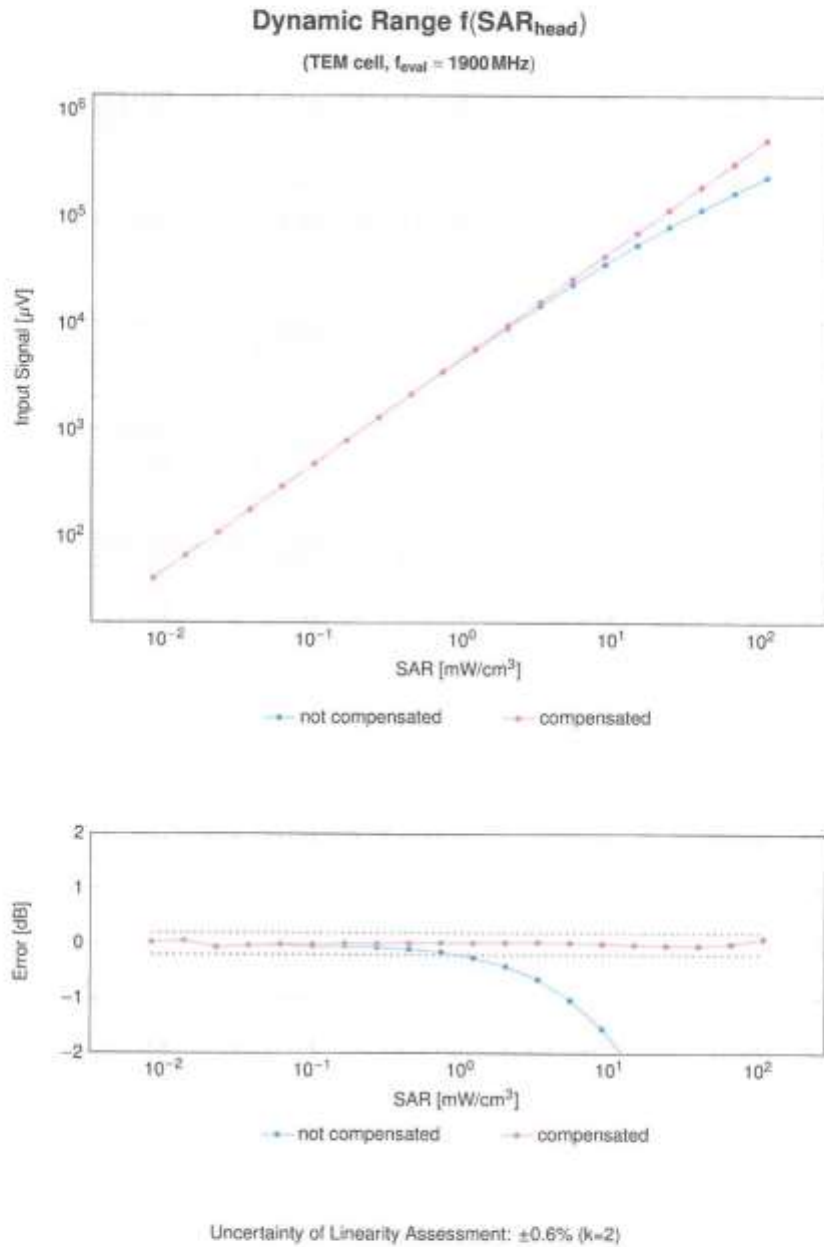
September 22, 2023

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



EX3DV4 - SN:7615

September 22, 2023



Certificate No: EX-7615\_Sep23

Page 9 of 22

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

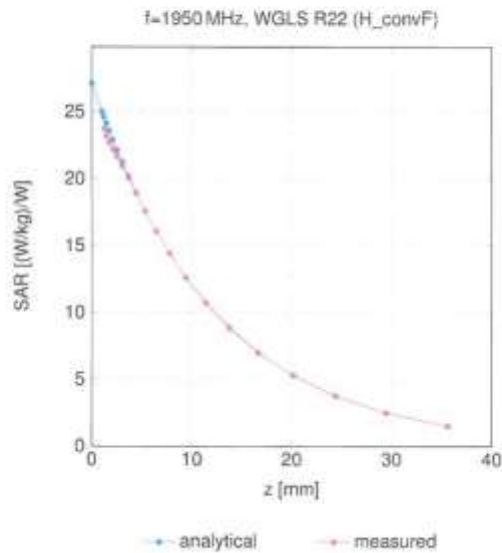
OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

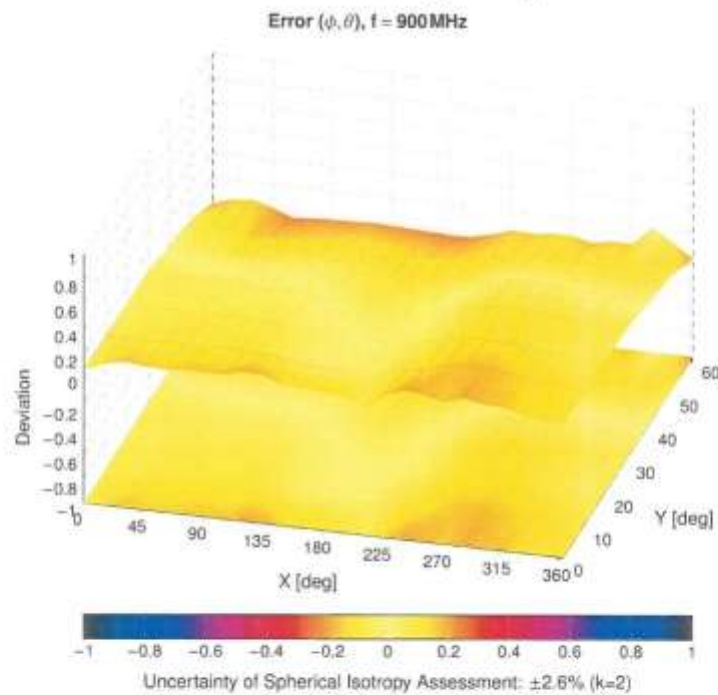
EX3DV4 - SN:7615

September 22, 2023

### Conversion Factor Assessment



### Deviation from Isotropy in Liquid



Certificate No: EX-7615\_Sep23

Page 10 of 22

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

EX3DV4 - SN:7615

September 22, 2023

## Appendix: Modulation Calibration Parameters

| UID   | Rev | Communication System Name                          | Group     | PAR (dB) | Unc <sup>±</sup> k = 2 |
|-------|-----|----------------------------------------------------|-----------|----------|------------------------|
| 0     |     | CW                                                 | CW        | 0.00     | ±4.7                   |
| 10010 | CAB | SAR Validation (Square, 100 ms, 10 ms)             | Test      | 10.00    | ±9.6                   |
| 10011 | CAC | UMTS-FDD (WCDMA)                                   | WCDMA     | 2.91     | ±9.6                   |
| 10012 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)           | WLAN      | 1.87     | ±9.6                   |
| 10013 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)      | WLAN      | 9.46     | ±9.6                   |
| 10021 | DAC | GSM-FDD (TDMA, GMSK)                               | GSM       | 9.39     | ±9.6                   |
| 10023 | DAC | GPRS-FDD (TDMA, GMSK, TN 0)                        | GSM       | 9.57     | ±9.6                   |
| 10024 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1)                      | GSM       | 6.56     | ±9.6                   |
| 10025 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0)                        | GSM       | 12.62    | ±9.6                   |
| 10026 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1)                      | GSM       | 9.55     | ±9.6                   |
| 10027 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2)                    | GSM       | 4.80     | ±9.6                   |
| 10028 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)                  | GSM       | 3.55     | ±9.6                   |
| 10029 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2)                    | GSM       | 7.78     | ±9.6                   |
| 10030 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH1)                | Bluetooth | 5.30     | ±9.6                   |
| 10031 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH3)                | Bluetooth | 1.87     | ±9.6                   |
| 10032 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH5)                | Bluetooth | 1.16     | ±9.6                   |
| 10033 | CAA | IEEE 802.15.1 Bluetooth (PI4-DQPSK, DH1)           | Bluetooth | 7.74     | ±9.6                   |
| 10034 | CAA | IEEE 802.15.1 Bluetooth (PI4-DQPSK, DH3)           | Bluetooth | 4.53     | ±9.6                   |
| 10035 | CAA | IEEE 802.15.1 Bluetooth (PI4-DQPSK, DH5)           | Bluetooth | 3.83     | ±9.6                   |
| 10036 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH1)              | Bluetooth | 8.01     | ±9.6                   |
| 10037 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH3)              | Bluetooth | 4.77     | ±9.6                   |
| 10038 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH5)              | Bluetooth | 4.10     | ±9.6                   |
| 10039 | CAB | CDMA2000 (1xRTT, RC1)                              | CDMA2000  | 4.57     | ±9.6                   |
| 10042 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI4-DQPSK, Fullrate) | AMPS      | 7.76     | ±9.6                   |
| 10044 | CAA | IS-91/EIA/TIA-553 FDD (FDMA, FM)                   | AMPS      | 0.00     | ±9.6                   |
| 10048 | CAA | DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)          | DECT      | 13.80    | ±9.6                   |
| 10049 | CAA | DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)        | DECT      | 10.79    | ±9.6                   |
| 10056 | CAA | UMTS-TDD (TD-SCDMA, 1.28 Mbps)                     | TD-SCDMA  | 11.01    | ±9.6                   |
| 10058 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)                  | GSM       | 6.52     | ±9.6                   |
| 10059 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)           | WLAN      | 2.12     | ±9.6                   |
| 10060 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)         | WLAN      | 2.83     | ±9.6                   |
| 10061 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)          | WLAN      | 3.60     | ±9.6                   |
| 10062 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)           | WLAN      | 8.68     | ±9.6                   |
| 10063 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)           | WLAN      | 8.63     | ±9.6                   |
| 10064 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)          | WLAN      | 9.09     | ±9.6                   |
| 10065 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)          | WLAN      | 9.00     | ±9.6                   |
| 10066 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)          | WLAN      | 9.38     | ±9.6                   |
| 10067 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)          | WLAN      | 10.12    | ±9.6                   |
| 10068 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)          | WLAN      | 10.24    | ±9.6                   |
| 10069 | CAD | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)          | WLAN      | 10.56    | ±9.6                   |
| 10071 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)      | WLAN      | 3.83     | ±9.6                   |
| 10072 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)     | WLAN      | 9.62     | ±9.6                   |
| 10073 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)     | WLAN      | 9.94     | ±9.6                   |
| 10074 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)     | WLAN      | 10.30    | ±9.6                   |
| 10075 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)     | WLAN      | 10.77    | ±9.6                   |
| 10076 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)     | WLAN      | 10.94    | ±9.6                   |
| 10077 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)     | WLAN      | 11.00    | ±9.6                   |
| 10081 | CAB | CDMA2000 (1xRTT, RC3)                              | CDMA2000  | 3.97     | ±9.6                   |
| 10082 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI4-DQPSK, Fullrate) | AMPS      | 4.77     | ±9.6                   |
| 10090 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-4)                      | GSM       | 6.56     | ±9.6                   |
| 10097 | CAC | UMTS-FDD (HSDPA)                                   | WCDMA     | 3.98     | ±9.6                   |
| 10098 | CAC | UMTS-FDD (HSUPA, Subtest 2)                        | WCDMA     | 3.98     | ±9.6                   |
| 10099 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-4)                      | GSM       | 9.55     | ±9.6                   |
| 10100 | CAF | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)           | LTE-FDD   | 5.67     | ±9.6                   |
| 10101 | CAF | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)         | LTE-FDD   | 6.42     | ±9.6                   |
| 10102 | CAF | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)         | LTE-FDD   | 6.60     | ±9.6                   |
| 10103 | CAH | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)           | LTE-TDD   | 9.29     | ±9.6                   |
| 10104 | CAH | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)         | LTE-TDD   | 9.97     | ±9.6                   |
| 10105 | CAH | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)         | LTE-TDD   | 10.01    | ±9.6                   |
| 10108 | CAH | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)           | LTE-FDD   | 5.80     | ±9.6                   |
| 10109 | CAH | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)         | LTE-FDD   | 6.43     | ±9.6                   |
| 10110 | CAH | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)            | LTE-FDD   | 5.75     | ±9.6                   |
| 10111 | CAH | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)          | LTE-FDD   | 6.44     | ±9.6                   |

Certificate No: EX-7615\_Sep23

Page 11 of 22

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsae-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

EX3DV4 - SN:7615

September 22, 2023

| UID   | Rev | Communication System Name                      | Group   | PAR (dB) | Unc <sup>E</sup> k = 2 |
|-------|-----|------------------------------------------------|---------|----------|------------------------|
| 10112 | CAH | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)     | LTE-FDD | 6.59     | ±0.6                   |
| 10113 | CAH | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)      | LTE-FDD | 6.62     | ±0.6                   |
| 10114 | CAD | IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)  | WLAN    | 8.10     | ±0.6                   |
| 10115 | CAD | IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)  | WLAN    | 8.46     | ±0.6                   |
| 10116 | CAD | IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM) | WLAN    | 8.15     | ±0.6                   |
| 10117 | CAD | IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)       | WLAN    | 8.07     | ±0.6                   |
| 10118 | CAD | IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)       | WLAN    | 8.59     | ±0.6                   |
| 10119 | CAD | IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)      | WLAN    | 8.13     | ±0.6                   |
| 10140 | CAF | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)     | LTE-FDD | 6.49     | ±0.6                   |
| 10141 | CAF | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)     | LTE-FDD | 6.53     | ±0.6                   |
| 10142 | CAF | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)        | LTE-FDD | 5.73     | ±0.6                   |
| 10143 | CAF | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)      | LTE-FDD | 6.35     | ±0.6                   |
| 10144 | CAF | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)      | LTE-FDD | 6.66     | ±0.6                   |
| 10145 | CAG | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)      | LTE-FDD | 5.76     | ±0.6                   |
| 10146 | CAG | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)    | LTE-FDD | 6.41     | ±0.6                   |
| 10147 | CAG | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)    | LTE-FDD | 6.72     | ±0.6                   |
| 10149 | CAF | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)      | LTE-FDD | 6.42     | ±0.6                   |
| 10150 | CAF | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)      | LTE-FDD | 6.80     | ±0.6                   |
| 10151 | CAH | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)        | LTE-TDD | 9.28     | ±0.6                   |
| 10152 | CAH | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)      | LTE-TDD | 9.92     | ±0.6                   |
| 10153 | CAH | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)      | LTE-TDD | 10.05    | ±0.6                   |
| 10154 | CAH | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)        | LTE-FDD | 5.75     | ±0.6                   |
| 10155 | CAH | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)      | LTE-FDD | 6.43     | ±0.6                   |
| 10156 | CAH | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)         | LTE-FDD | 5.79     | ±0.6                   |
| 10157 | CAH | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)       | LTE-FDD | 6.49     | ±0.6                   |
| 10158 | CAH | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)      | LTE-FDD | 6.62     | ±0.6                   |
| 10159 | CAH | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)       | LTE-FDD | 6.56     | ±0.6                   |
| 10160 | CAF | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)        | LTE-FDD | 5.82     | ±0.6                   |
| 10161 | CAF | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)      | LTE-FDD | 6.43     | ±0.6                   |
| 10162 | CAF | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)      | LTE-FDD | 6.58     | ±0.6                   |
| 10166 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)       | LTE-FDD | 5.46     | ±0.6                   |
| 10167 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)     | LTE-FDD | 6.21     | ±0.6                   |
| 10168 | CAG | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)     | LTE-FDD | 6.79     | ±0.6                   |
| 10169 | CAF | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)          | LTE-FDD | 5.73     | ±0.6                   |
| 10170 | CAF | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)        | LTE-FDD | 6.52     | ±0.6                   |
| 10171 | AAF | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)        | LTE-FDD | 6.49     | ±0.6                   |
| 10172 | CAH | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)          | LTE-TDD | 9.21     | ±0.6                   |
| 10173 | CAH | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)        | LTE-TDD | 9.48     | ±0.6                   |
| 10174 | CAH | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)        | LTE-TDD | 10.25    | ±0.6                   |
| 10175 | CAH | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)          | LTE-FDD | 5.72     | ±0.6                   |
| 10176 | CAH | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)        | LTE-FDD | 6.52     | ±0.6                   |
| 10177 | CAJ | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)           | LTE-FDD | 5.73     | ±0.6                   |
| 10178 | CAH | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)         | LTE-FDD | 6.52     | ±0.6                   |
| 10179 | CAH | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)        | LTE-FDD | 6.50     | ±0.6                   |
| 10180 | CAH | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)         | LTE-FDD | 6.50     | ±0.6                   |
| 10181 | CAF | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)          | LTE-FDD | 5.72     | ±0.6                   |
| 10182 | CAF | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)        | LTE-FDD | 6.52     | ±0.6                   |
| 10183 | AAE | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)        | LTE-FDD | 6.50     | ±0.6                   |
| 10184 | CAF | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)           | LTE-FDD | 5.73     | ±0.6                   |
| 10185 | CAF | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)         | LTE-FDD | 6.51     | ±0.6                   |
| 10186 | AAF | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)         | LTE-FDD | 6.50     | ±0.6                   |
| 10187 | CAG | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)         | LTE-FDD | 5.73     | ±0.6                   |
| 10188 | CAG | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)       | LTE-FDD | 6.52     | ±0.6                   |
| 10189 | AAG | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)       | LTE-FDD | 6.50     | ±0.6                   |
| 10193 | CAD | IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)   | WLAN    | 8.09     | ±0.6                   |
| 10194 | CAD | IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)  | WLAN    | 8.12     | ±0.6                   |
| 10195 | CAD | IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)  | WLAN    | 8.21     | ±0.6                   |
| 10196 | CAD | IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)        | WLAN    | 8.10     | ±0.6                   |
| 10197 | CAD | IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)       | WLAN    | 8.13     | ±0.6                   |
| 10198 | CAD | IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)       | WLAN    | 8.27     | ±0.6                   |
| 10219 | CAD | IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)        | WLAN    | 8.03     | ±0.6                   |
| 10220 | CAD | IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)     | WLAN    | 8.13     | ±0.6                   |
| 10221 | CAD | IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)     | WLAN    | 8.27     | ±0.6                   |
| 10222 | CAD | IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)         | WLAN    | 8.06     | ±0.6                   |
| 10223 | CAD | IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)       | WLAN    | 8.48     | ±0.6                   |
| 10224 | CAD | IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)      | WLAN    | 8.08     | ±0.6                   |

Certificate No: EX-7615\_Sep23

Page 12 of 22

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsae-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

EX3DV4 - SN:7615

September 22, 2023

| UID   | Rev | Communication System Name                                            | Group    | PAR (dB) | Unc <sup>E</sup> k = 2 |
|-------|-----|----------------------------------------------------------------------|----------|----------|------------------------|
| 10225 | CAC | UMTS-FDD (HSPA+)                                                     | WCDMA    | 5.97     | ±9.6                   |
| 10226 | CAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)                             | LTE-TDD  | 9.49     | ±9.6                   |
| 10227 | CAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)                             | LTE-TDD  | 10.26    | ±9.6                   |
| 10228 | CAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)                               | LTE-TDD  | 9.22     | ±9.6                   |
| 10229 | CAE | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)                               | LTE-TDD  | 9.48     | ±9.6                   |
| 10230 | CAE | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)                               | LTE-TDD  | 10.25    | ±9.6                   |
| 10231 | CAE | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)                                 | LTE-TDD  | 9.19     | ±9.6                   |
| 10232 | CAH | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)                               | LTE-TDD  | 9.48     | ±9.6                   |
| 10233 | CAH | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)                               | LTE-TDD  | 10.25    | ±9.6                   |
| 10234 | CAH | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)                                 | LTE-TDD  | 9.21     | ±9.6                   |
| 10235 | CAH | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)                              | LTE-TDD  | 9.48     | ±9.6                   |
| 10236 | CAH | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)                              | LTE-TDD  | 10.25    | ±9.6                   |
| 10237 | CAH | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)                                | LTE-TDD  | 9.21     | ±9.6                   |
| 10238 | CAG | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)                              | LTE-TDD  | 9.48     | ±9.6                   |
| 10239 | CAG | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)                              | LTE-TDD  | 10.25    | ±9.6                   |
| 10240 | CAG | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)                                | LTE-TDD  | 9.21     | ±9.6                   |
| 10241 | CAC | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)                           | LTE-TDD  | 9.82     | ±9.6                   |
| 10242 | CAC | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)                           | LTE-TDD  | 9.86     | ±9.6                   |
| 10243 | CAC | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)                             | LTE-TDD  | 9.46     | ±9.6                   |
| 10244 | CAE | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)                             | LTE-TDD  | 10.06    | ±9.6                   |
| 10245 | CAE | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)                             | LTE-TDD  | 10.06    | ±9.6                   |
| 10246 | CAE | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)                               | LTE-TDD  | 9.30     | ±9.6                   |
| 10247 | CAH | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)                             | LTE-TDD  | 9.91     | ±9.6                   |
| 10248 | CAH | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)                             | LTE-TDD  | 10.09    | ±9.6                   |
| 10249 | CAH | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)                               | LTE-TDD  | 9.29     | ±9.6                   |
| 10250 | CAH | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)                            | LTE-TDD  | 9.81     | ±9.6                   |
| 10251 | CAH | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)                            | LTE-TDD  | 10.17    | ±9.6                   |
| 10252 | CAH | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)                              | LTE-TDD  | 9.24     | ±9.6                   |
| 10253 | CAG | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)                            | LTE-TDD  | 9.90     | ±9.6                   |
| 10254 | CAG | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)                            | LTE-TDD  | 10.14    | ±9.6                   |
| 10255 | CAG | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)                              | LTE-TDD  | 9.20     | ±9.6                   |
| 10256 | CAC | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)                          | LTE-TDD  | 9.96     | ±9.6                   |
| 10257 | CAC | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)                          | LTE-TDD  | 10.08    | ±9.6                   |
| 10258 | CAC | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)                            | LTE-TDD  | 9.34     | ±9.6                   |
| 10259 | CAE | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)                            | LTE-TDD  | 9.98     | ±9.6                   |
| 10260 | CAE | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)                            | LTE-TDD  | 9.97     | ±9.6                   |
| 10261 | CAE | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)                              | LTE-TDD  | 9.24     | ±9.6                   |
| 10262 | CAH | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)                            | LTE-TDD  | 9.83     | ±9.6                   |
| 10263 | CAH | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)                            | LTE-TDD  | 10.16    | ±9.6                   |
| 10264 | CAH | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)                              | LTE-TDD  | 9.23     | ±9.6                   |
| 10265 | CAH | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)                           | LTE-TDD  | 9.92     | ±9.6                   |
| 10266 | CAH | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)                           | LTE-TDD  | 10.07    | ±9.6                   |
| 10267 | CAH | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)                             | LTE-TDD  | 9.30     | ±9.6                   |
| 10268 | CAG | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)                           | LTE-TDD  | 10.06    | ±9.6                   |
| 10269 | CAG | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)                           | LTE-TDD  | 10.13    | ±9.6                   |
| 10270 | CAG | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)                             | LTE-TDD  | 9.58     | ±9.6                   |
| 10274 | CAC | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)                            | WCDMA    | 4.87     | ±9.6                   |
| 10275 | CAC | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)                             | WCDMA    | 3.96     | ±9.6                   |
| 10277 | CAA | PHS (QPSK)                                                           | PHS      | 11.81    | ±9.6                   |
| 10278 | CAA | PHS (QPSK, BW 884 MHz, Roll-off 0.5)                                 | PHS      | 11.81    | ±9.6                   |
| 10279 | CAA | PHS (QPSK, BW 884 MHz, Roll-off 0.38)                                | PHS      | 12.18    | ±9.6                   |
| 10290 | AAB | CDMA2000, RC1, SO55, Full Rate                                       | CDMA2000 | 3.91     | ±9.6                   |
| 10291 | AAB | CDMA2000, RC3, SO55, Full Rate                                       | CDMA2000 | 3.46     | ±9.6                   |
| 10292 | AAB | CDMA2000, RC3, SO32, Full Rate                                       | CDMA2000 | 3.39     | ±9.6                   |
| 10293 | AAB | CDMA2000, RC3, SO3, Full Rate                                        | CDMA2000 | 3.50     | ±9.6                   |
| 10295 | AAB | CDMA2000, RC1, SO3, 1/8th Rate 25 fr.                                | CDMA2000 | 12.49    | ±9.6                   |
| 10297 | AAE | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)                              | LTE-FDD  | 5.81     | ±9.6                   |
| 10298 | AAE | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)                               | LTE-FDD  | 5.72     | ±9.6                   |
| 10299 | AAE | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)                             | LTE-FDD  | 6.39     | ±9.6                   |
| 10300 | AAE | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)                             | LTE-FDD  | 6.60     | ±9.6                   |
| 10301 | AAA | IEEE 802.16e WiMAX (29.18, 5 ms, 10 MHz, QPSK, PUSC)                 | WiMAX    | 12.03    | ±9.6                   |
| 10302 | AAA | IEEE 802.16e WiMAX (29.18, 5 ms, 10 MHz, QPSK, PUSC, 3 CTRL symbols) | WiMAX    | 12.57    | ±9.6                   |
| 10303 | AAA | IEEE 802.16e WiMAX (31.15, 5 ms, 10 MHz, 64QAM, PUSC)                | WiMAX    | 12.52    | ±9.6                   |
| 10304 | AAA | IEEE 802.16e WiMAX (29.18, 5 ms, 10 MHz, 64QAM, PUSC)                | WiMAX    | 11.86    | ±9.6                   |
| 10305 | AAA | IEEE 802.16e WiMAX (31.15, 10 ms, 10 MHz, 64QAM, PUSC, 15 symbols)   | WiMAX    | 15.24    | ±9.6                   |
| 10308 | AAA | IEEE 802.16e WiMAX (29.18, 10 ms, 10 MHz, 64QAM, PUSC, 18 symbols)   | WiMAX    | 14.67    | ±9.6                   |

Certificate No: EX-7615\_Sep23

Page 13 of 22

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsae-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

EX3DV4 - SN:7615

September 22, 2023

| UID   | Rev | Communication System Name                                                       | Group    | PAR (dB) | Unc <sup>E</sup> k = 2 |
|-------|-----|---------------------------------------------------------------------------------|----------|----------|------------------------|
| 10307 | AAA | IEEE 802.16e WIMAX (29.18, 10 ms, 10 MHz, QPSK, PUSC, 18 symbols)               | WIMAX    | 14.49    | ±9.6                   |
| 10308 | AAA | IEEE 802.16e WIMAX (29.18, 10 ms, 10 MHz, 16QAM, PUSC)                          | WIMAX    | 14.49    | ±9.6                   |
| 10309 | AAA | IEEE 802.16e WIMAX (29.18, 10 ms, 10 MHz, 16QAM, AMC 2x3, 18 symbols)           | WIMAX    | 14.58    | ±9.6                   |
| 10310 | AAA | IEEE 802.16e WIMAX (29.18, 10 ms, 10 MHz, QPSK, AMC 2x3, 18 symbols)            | WIMAX    | 14.57    | ±9.6                   |
| 10311 | AAE | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)                                        | LTE-FDD  | 6.06     | ±9.6                   |
| 10313 | AAA | IDEN 1:3                                                                        | IDEN     | 10.51    | ±9.6                   |
| 10314 | AAA | IDEN 1:6                                                                        | IDEN     | 13.48    | ±9.6                   |
| 10315 | AAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)                       | WLAN     | 1.71     | ±9.6                   |
| 10316 | AAB | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)                   | WLAN     | 8.36     | ±9.6                   |
| 10317 | AAD | IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)                         | WLAN     | 8.36     | ±9.6                   |
| 10352 | AAA | Pulse Waveform (200Hz, 10%)                                                     | Generic  | 10.00    | ±9.6                   |
| 10353 | AAA | Pulse Waveform (200Hz, 20%)                                                     | Generic  | 6.99     | ±9.6                   |
| 10354 | AAA | Pulse Waveform (200Hz, 40%)                                                     | Generic  | 3.98     | ±9.6                   |
| 10355 | AAA | Pulse Waveform (200Hz, 60%)                                                     | Generic  | 2.22     | ±9.6                   |
| 10356 | AAA | Pulse Waveform (200Hz, 80%)                                                     | Generic  | 0.97     | ±9.6                   |
| 10387 | AAA | QPSK Waveform, 1 MHz                                                            | Generic  | 5.10     | ±9.6                   |
| 10388 | AAA | QPSK Waveform, 10 MHz                                                           | Generic  | 5.22     | ±9.6                   |
| 10396 | AAA | 64-QAM Waveform, 100 kHz                                                        | Generic  | 6.27     | ±9.6                   |
| 10399 | AAA | 64-QAM Waveform, 40 MHz                                                         | Generic  | 6.27     | ±9.6                   |
| 10400 | AAE | IEEE 802.11ac WiFi (20 MHz, 64-QAM, 99pc duty cycle)                            | WLAN     | 8.37     | ±9.6                   |
| 10401 | AAE | IEEE 802.11ac WiFi (40 MHz, 64-QAM, 99pc duty cycle)                            | WLAN     | 8.60     | ±9.6                   |
| 10402 | AAE | IEEE 802.11ac WiFi (80 MHz, 64-QAM, 99pc duty cycle)                            | WLAN     | 8.53     | ±9.6                   |
| 10403 | AAB | CDMA2000 (1xEV-DO, Rev. 0)                                                      | CDMA2000 | 3.76     | ±9.6                   |
| 10404 | AAB | CDMA2000 (1xEV-DO, Rev. A)                                                      | CDMA2000 | 3.77     | ±9.6                   |
| 10406 | AAB | CDMA2000, RC3, SC32, SCH0, Full Rate                                            | CDMA2000 | 5.22     | ±9.6                   |
| 10410 | AAH | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Cont=4) | LTE-TDD  | 7.82     | ±9.6                   |
| 10414 | AAA | WLAN CCDF, 64-QAM, 40 MHz                                                       | Generic  | 8.54     | ±9.6                   |
| 10415 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)                       | WLAN     | 1.54     | ±9.6                   |
| 10416 | AAA | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)                   | WLAN     | 8.23     | ±9.6                   |
| 10417 | AAC | IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)                         | WLAN     | 8.23     | ±9.6                   |
| 10418 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)   | WLAN     | 8.14     | ±9.6                   |
| 10419 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)  | WLAN     | 8.19     | ±9.6                   |
| 10422 | AAC | IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)                                    | WLAN     | 8.32     | ±9.6                   |
| 10423 | AAC | IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)                                 | WLAN     | 8.47     | ±9.6                   |
| 10424 | AAC | IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)                                 | WLAN     | 8.40     | ±9.6                   |
| 10425 | AAC | IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)                                     | WLAN     | 8.41     | ±9.6                   |
| 10426 | AAC | IEEE 802.11n (HT Greenfield, 50 Mbps, 16-QAM)                                   | WLAN     | 8.45     | ±9.6                   |
| 10427 | AAC | IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)                                  | WLAN     | 8.41     | ±9.6                   |
| 10430 | AAE | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)                                                | LTE-FDD  | 8.28     | ±9.6                   |
| 10431 | AAE | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)                                               | LTE-FDD  | 8.38     | ±9.6                   |
| 10432 | AAD | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)                                               | LTE-FDD  | 8.34     | ±9.6                   |
| 10433 | AAD | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)                                               | LTE-FDD  | 8.34     | ±9.6                   |
| 10434 | AAB | W-CDMA (BS Test Model 1, 64 DPCH)                                               | WCDMA    | 8.60     | ±9.6                   |
| 10435 | AAG | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)                  | LTE-TDD  | 7.82     | ±9.6                   |
| 10447 | AAE | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)                                  | LTE-FDD  | 7.56     | ±9.6                   |
| 10448 | AAE | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)                                 | LTE-FDD  | 7.53     | ±9.6                   |
| 10449 | AAD | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)                                 | LTE-FDD  | 7.51     | ±9.6                   |
| 10450 | AAD | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)                                 | LTE-FDD  | 7.48     | ±9.6                   |
| 10451 | AAB | W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)                                 | WCDMA    | 7.59     | ±9.6                   |
| 10453 | AAE | Validation (Square, 10 ms, 1 ms)                                                | Test     | 10.00    | ±9.6                   |
| 10456 | AAC | IEEE 802.11ac WiFi (160 MHz, 64-QAM, 99pc duty cycle)                           | WLAN     | 8.63     | ±9.6                   |
| 10457 | AAB | UMTS-FDD (DC-HSDPA)                                                             | WCDMA    | 6.62     | ±9.6                   |
| 10458 | AAA | CDMA2000 (1xEV-DO, Rev. B, 2 carriers)                                          | CDMA2000 | 6.55     | ±9.6                   |
| 10459 | AAA | CDMA2000 (1xEV-DO, Rev. B, 3 carriers)                                          | CDMA2000 | 8.25     | ±9.6                   |
| 10460 | AAB | UMTS-FDD (WCDMA, AMR)                                                           | WCDMA    | 2.39     | ±9.6                   |
| 10461 | AAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)                 | LTE-TDD  | 7.82     | ±9.6                   |
| 10462 | AAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)               | LTE-TDD  | 8.30     | ±9.6                   |
| 10463 | AAC | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)               | LTE-TDD  | 8.56     | ±9.6                   |
| 10464 | AAD | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)                   | LTE-TDD  | 7.82     | ±9.6                   |
| 10465 | AAD | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)                 | LTE-TDD  | 8.32     | ±9.6                   |
| 10466 | AAD | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)                 | LTE-TDD  | 8.57     | ±9.6                   |
| 10467 | AAG | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)                   | LTE-TDD  | 7.82     | ±9.6                   |
| 10468 | AAG | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)                 | LTE-TDD  | 8.32     | ±9.6                   |
| 10469 | AAG | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)                 | LTE-TDD  | 8.56     | ±9.6                   |
| 10470 | AAG | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)                  | LTE-TDD  | 7.82     | ±9.6                   |
| 10471 | AAG | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)                | LTE-TDD  | 8.32     | ±9.6                   |

Certificate No: EX-7615\_Sep23

Page 14 of 22

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsae-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

EX3DV4 - SN:7615

September 22, 2023

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

Certificate No: EX-7615\_Sep23

Page 15 of 22

EX3DV4 - SN:7615

September 22, 2023

| UID   | Rev | Communication System Name                                      | Group | PAR (dB) | Unc <sup>E</sup> k = 2 |
|-------|-----|----------------------------------------------------------------|-------|----------|------------------------|
| 10541 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS7, 99pc duty cycle)             | WLAN  | 8.48     | ±0.6                   |
| 10542 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS8, 99pc duty cycle)             | WLAN  | 8.65     | ±0.6                   |
| 10543 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS9, 99pc duty cycle)             | WLAN  | 8.65     | ±0.6                   |
| 10544 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS0, 99pc duty cycle)             | WLAN  | 8.47     | ±0.6                   |
| 10545 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS1, 99pc duty cycle)             | WLAN  | 8.55     | ±0.6                   |
| 10546 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS2, 99pc duty cycle)             | WLAN  | 8.35     | ±0.6                   |
| 10547 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS3, 99pc duty cycle)             | WLAN  | 8.49     | ±0.6                   |
| 10548 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS4, 99pc duty cycle)             | WLAN  | 8.37     | ±0.6                   |
| 10550 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS8, 99pc duty cycle)             | WLAN  | 8.38     | ±0.6                   |
| 10551 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS7, 99pc duty cycle)             | WLAN  | 8.50     | ±0.6                   |
| 10552 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS8, 99pc duty cycle)             | WLAN  | 8.42     | ±0.6                   |
| 10553 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS9, 99pc duty cycle)             | WLAN  | 8.45     | ±0.6                   |
| 10554 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS0, 99pc duty cycle)            | WLAN  | 8.48     | ±0.6                   |
| 10555 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS1, 99pc duty cycle)            | WLAN  | 8.47     | ±0.6                   |
| 10556 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS2, 99pc duty cycle)            | WLAN  | 8.50     | ±0.6                   |
| 10557 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS3, 99pc duty cycle)            | WLAN  | 8.52     | ±0.6                   |
| 10558 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS4, 99pc duty cycle)            | WLAN  | 8.61     | ±0.6                   |
| 10560 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS6, 99pc duty cycle)            | WLAN  | 8.73     | ±0.6                   |
| 10561 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS7, 99pc duty cycle)            | WLAN  | 8.56     | ±0.6                   |
| 10562 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS8, 99pc duty cycle)            | WLAN  | 8.69     | ±0.6                   |
| 10563 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS9, 99pc duty cycle)            | WLAN  | 8.77     | ±0.6                   |
| 10564 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9Mbps, 99pc duty cycle)  | WLAN  | 8.25     | ±0.6                   |
| 10565 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12Mbps, 99pc duty cycle) | WLAN  | 8.45     | ±0.6                   |
| 10566 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18Mbps, 99pc duty cycle) | WLAN  | 8.13     | ±0.6                   |
| 10567 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24Mbps, 99pc duty cycle) | WLAN  | 8.00     | ±0.6                   |
| 10568 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36Mbps, 99pc duty cycle) | WLAN  | 8.37     | ±0.6                   |
| 10569 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48Mbps, 99pc duty cycle) | WLAN  | 8.10     | ±0.6                   |
| 10570 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54Mbps, 99pc duty cycle) | WLAN  | 8.30     | ±0.6                   |
| 10571 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1Mbps, 90pc duty cycle)       | WLAN  | 1.96     | ±0.6                   |
| 10572 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2Mbps, 90pc duty cycle)       | WLAN  | 1.99     | ±0.6                   |
| 10573 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5Mbps, 90pc duty cycle)     | WLAN  | 1.98     | ±0.6                   |
| 10574 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11Mbps, 90pc duty cycle)      | WLAN  | 1.98     | ±0.6                   |
| 10575 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6Mbps, 90pc duty cycle)  | WLAN  | 8.59     | ±0.6                   |
| 10576 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9Mbps, 90pc duty cycle)  | WLAN  | 8.60     | ±0.6                   |
| 10577 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12Mbps, 90pc duty cycle) | WLAN  | 8.70     | ±0.6                   |
| 10578 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18Mbps, 90pc duty cycle) | WLAN  | 8.49     | ±0.6                   |
| 10579 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24Mbps, 90pc duty cycle) | WLAN  | 8.36     | ±0.6                   |
| 10580 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36Mbps, 90pc duty cycle) | WLAN  | 8.76     | ±0.6                   |
| 10581 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48Mbps, 90pc duty cycle) | WLAN  | 8.35     | ±0.6                   |
| 10582 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54Mbps, 90pc duty cycle) | WLAN  | 8.67     | ±0.6                   |
| 10583 | AAC | IEEE 802.11a/h WiFi 5GHz (OFDM, 6Mbps, 90pc duty cycle)        | WLAN  | 8.59     | ±0.6                   |
| 10584 | AAC | IEEE 802.11a/h WiFi 5GHz (OFDM, 9Mbps, 90pc duty cycle)        | WLAN  | 8.60     | ±0.6                   |
| 10585 | AAC | IEEE 802.11a/h WiFi 5GHz (OFDM, 12Mbps, 90pc duty cycle)       | WLAN  | 8.70     | ±0.6                   |
| 10586 | AAC | IEEE 802.11a/h WiFi 5GHz (OFDM, 18Mbps, 90pc duty cycle)       | WLAN  | 8.49     | ±0.6                   |
| 10587 | AAC | IEEE 802.11a/h WiFi 5GHz (OFDM, 24Mbps, 90pc duty cycle)       | WLAN  | 8.36     | ±0.6                   |
| 10588 | AAC | IEEE 802.11a/h WiFi 5GHz (OFDM, 36Mbps, 90pc duty cycle)       | WLAN  | 8.76     | ±0.6                   |
| 10589 | AAC | IEEE 802.11a/h WiFi 5GHz (OFDM, 48Mbps, 90pc duty cycle)       | WLAN  | 8.35     | ±0.6                   |
| 10590 | AAC | IEEE 802.11a/h WiFi 5GHz (OFDM, 54Mbps, 90pc duty cycle)       | WLAN  | 8.67     | ±0.6                   |
| 10591 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)          | WLAN  | 8.63     | ±0.6                   |
| 10592 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)          | WLAN  | 8.79     | ±0.6                   |
| 10593 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)          | WLAN  | 8.64     | ±0.6                   |
| 10594 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)          | WLAN  | 8.74     | ±0.6                   |
| 10595 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)          | WLAN  | 8.74     | ±0.6                   |
| 10596 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)          | WLAN  | 8.71     | ±0.6                   |
| 10597 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)          | WLAN  | 8.72     | ±0.6                   |
| 10598 | AAC | IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)          | WLAN  | 8.50     | ±0.6                   |
| 10599 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)          | WLAN  | 8.79     | ±0.6                   |
| 10600 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)          | WLAN  | 8.88     | ±0.6                   |
| 10601 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)          | WLAN  | 8.82     | ±0.6                   |
| 10602 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)          | WLAN  | 8.94     | ±0.6                   |
| 10603 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)          | WLAN  | 9.03     | ±0.6                   |
| 10604 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)          | WLAN  | 8.76     | ±0.6                   |
| 10605 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)          | WLAN  | 8.97     | ±0.6                   |
| 10606 | AAC | IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)          | WLAN  | 8.82     | ±0.6                   |
| 10607 | AAC | IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)              | WLAN  | 8.64     | ±0.6                   |
| 10608 | AAC | IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)              | WLAN  | 8.77     | ±0.6                   |

Certificate No: EX-7615\_Sep23

Page 16 of 22

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsae-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

EX3DV4 - SN:7615

September 22, 2023

| UID   | Rev | Communication System Name                              | Group     | PAR (dB) | Unc <sup>6</sup> k = 2 |
|-------|-----|--------------------------------------------------------|-----------|----------|------------------------|
| 10609 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS2, 90pc duty cycle)     | WLAN      | 8.57     | ±9.6                   |
| 10610 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS3, 90pc duty cycle)     | WLAN      | 8.78     | ±9.6                   |
| 10611 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS4, 90pc duty cycle)     | WLAN      | 8.70     | ±9.6                   |
| 10612 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS5, 90pc duty cycle)     | WLAN      | 8.77     | ±9.6                   |
| 10613 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS6, 90pc duty cycle)     | WLAN      | 8.94     | ±9.6                   |
| 10614 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS7, 90pc duty cycle)     | WLAN      | 8.99     | ±9.6                   |
| 10615 | AAC | IEEE 802.11ac WiFi (20 MHz, MCS8, 90pc duty cycle)     | WLAN      | 8.82     | ±9.6                   |
| 10616 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS0, 90pc duty cycle)     | WLAN      | 8.82     | ±9.6                   |
| 10617 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS1, 90pc duty cycle)     | WLAN      | 8.81     | ±9.6                   |
| 10618 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS2, 90pc duty cycle)     | WLAN      | 8.58     | ±9.6                   |
| 10619 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS3, 90pc duty cycle)     | WLAN      | 8.86     | ±9.6                   |
| 10620 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS4, 90pc duty cycle)     | WLAN      | 8.87     | ±9.6                   |
| 10621 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS5, 90pc duty cycle)     | WLAN      | 8.77     | ±9.6                   |
| 10622 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS6, 90pc duty cycle)     | WLAN      | 8.66     | ±9.6                   |
| 10623 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS7, 90pc duty cycle)     | WLAN      | 8.82     | ±9.6                   |
| 10624 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS8, 90pc duty cycle)     | WLAN      | 8.96     | ±9.6                   |
| 10625 | AAC | IEEE 802.11ac WiFi (40 MHz, MCS9, 90pc duty cycle)     | WLAN      | 8.96     | ±9.6                   |
| 10626 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS0, 90pc duty cycle)     | WLAN      | 8.83     | ±9.6                   |
| 10627 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS1, 90pc duty cycle)     | WLAN      | 8.88     | ±9.6                   |
| 10628 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS2, 90pc duty cycle)     | WLAN      | 8.71     | ±9.6                   |
| 10629 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS3, 90pc duty cycle)     | WLAN      | 8.55     | ±9.6                   |
| 10630 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS4, 90pc duty cycle)     | WLAN      | 8.72     | ±9.6                   |
| 10631 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS5, 90pc duty cycle)     | WLAN      | 8.81     | ±9.6                   |
| 10632 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS6, 90pc duty cycle)     | WLAN      | 8.74     | ±9.6                   |
| 10633 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS7, 90pc duty cycle)     | WLAN      | 8.83     | ±9.6                   |
| 10634 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS8, 90pc duty cycle)     | WLAN      | 8.80     | ±9.6                   |
| 10635 | AAC | IEEE 802.11ac WiFi (80 MHz, MCS9, 90pc duty cycle)     | WLAN      | 8.81     | ±9.6                   |
| 10636 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS0, 90pc duty cycle)    | WLAN      | 8.83     | ±9.6                   |
| 10637 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS1, 90pc duty cycle)    | WLAN      | 8.79     | ±9.6                   |
| 10638 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS2, 90pc duty cycle)    | WLAN      | 8.86     | ±9.6                   |
| 10639 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS3, 90pc duty cycle)    | WLAN      | 8.85     | ±9.6                   |
| 10640 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS4, 90pc duty cycle)    | WLAN      | 8.98     | ±9.6                   |
| 10641 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS5, 90pc duty cycle)    | WLAN      | 9.06     | ±9.6                   |
| 10642 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS6, 90pc duty cycle)    | WLAN      | 9.06     | ±9.6                   |
| 10643 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS7, 90pc duty cycle)    | WLAN      | 8.89     | ±9.6                   |
| 10644 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS8, 90pc duty cycle)    | WLAN      | 9.05     | ±9.6                   |
| 10645 | AAD | IEEE 802.11ac WiFi (160 MHz, MCS9, 90pc duty cycle)    | WLAN      | 9.11     | ±9.6                   |
| 10646 | AAH | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)  | LTE-TDD   | 11.96    | ±9.6                   |
| 10647 | AAG | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7) | LTE-TDD   | 11.96    | ±9.6                   |
| 10648 | AAA | CDMA2000 (1x Advanced)                                 | CDMA2000  | 3.45     | ±9.6                   |
| 10652 | AAF | LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)         | LTE-TDD   | 6.91     | ±9.6                   |
| 10653 | AAF | LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)        | LTE-TDD   | 7.42     | ±9.6                   |
| 10654 | AAE | LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)        | LTE-TDD   | 6.96     | ±9.6                   |
| 10655 | AAF | LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)        | LTE-TDD   | 7.21     | ±9.6                   |
| 10658 | AAB | Pulse Waveform (200Hz, 10%)                            | Test      | 10.00    | ±9.6                   |
| 10659 | AAB | Pulse Waveform (200Hz, 20%)                            | Test      | 6.99     | ±9.6                   |
| 10660 | AAB | Pulse Waveform (200Hz, 40%)                            | Test      | 3.98     | ±9.6                   |
| 10661 | AAB | Pulse Waveform (200Hz, 60%)                            | Test      | 2.22     | ±9.6                   |
| 10662 | AAB | Pulse Waveform (200Hz, 80%)                            | Test      | 0.97     | ±9.6                   |
| 10670 | AAA | Bluetooth Low Energy                                   | Bluetooth | 2.19     | ±9.6                   |
| 10671 | AAC | IEEE 802.11ax (20 MHz, MCS0, 90pc duty cycle)          | WLAN      | 9.08     | ±9.6                   |
| 10672 | AAC | IEEE 802.11ax (20 MHz, MCS1, 90pc duty cycle)          | WLAN      | 8.57     | ±9.6                   |
| 10673 | AAC | IEEE 802.11ax (20 MHz, MCS2, 90pc duty cycle)          | WLAN      | 8.76     | ±9.6                   |
| 10674 | AAC | IEEE 802.11ax (20 MHz, MCS3, 90pc duty cycle)          | WLAN      | 8.74     | ±9.6                   |
| 10675 | AAC | IEEE 802.11ax (20 MHz, MCS4, 90pc duty cycle)          | WLAN      | 8.90     | ±9.6                   |
| 10676 | AAC | IEEE 802.11ax (20 MHz, MCS5, 90pc duty cycle)          | WLAN      | 8.77     | ±9.6                   |
| 10677 | AAC | IEEE 802.11ax (20 MHz, MCS6, 90pc duty cycle)          | WLAN      | 8.73     | ±9.6                   |
| 10678 | AAC | IEEE 802.11ax (20 MHz, MCS7, 90pc duty cycle)          | WLAN      | 8.78     | ±9.6                   |
| 10679 | AAC | IEEE 802.11ax (20 MHz, MCS8, 90pc duty cycle)          | WLAN      | 8.89     | ±9.6                   |
| 10680 | AAC | IEEE 802.11ax (20 MHz, MCS9, 90pc duty cycle)          | WLAN      | 8.80     | ±9.6                   |
| 10681 | AAC | IEEE 802.11ax (20 MHz, MCS10, 90pc duty cycle)         | WLAN      | 8.82     | ±9.6                   |
| 10682 | AAC | IEEE 802.11ax (20 MHz, MCS11, 90pc duty cycle)         | WLAN      | 8.83     | ±9.6                   |
| 10683 | AAC | IEEE 802.11ax (20 MHz, MCS0, 99pc duty cycle)          | WLAN      | 8.42     | ±9.6                   |
| 10684 | AAC | IEEE 802.11ax (20 MHz, MCS1, 99pc duty cycle)          | WLAN      | 8.26     | ±9.6                   |
| 10685 | AAC | IEEE 802.11ax (20 MHz, MCS2, 99pc duty cycle)          | WLAN      | 8.33     | ±9.6                   |
| 10686 | AAC | IEEE 802.11ax (20 MHz, MCS3, 99pc duty cycle)          | WLAN      | 8.28     | ±9.6                   |

Certificate No: EX-7615\_Sep23

Page 17 of 22

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsae-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

EX3DV4 - SN:7615

September 22, 2023

| UID   | Rev | Communication System Name                      | Group | PAR (dB) | Unc <sup>F</sup> k = 2 |
|-------|-----|------------------------------------------------|-------|----------|------------------------|
| 10687 | AAC | IEEE 802.11ax (20 MHz, MCS4, 99pc duty cycle)  | WLAN  | 8.45     | ±9.6                   |
| 10688 | AAC | IEEE 802.11ax (20 MHz, MCS5, 99pc duty cycle)  | WLAN  | 8.29     | ±9.6                   |
| 10689 | AAC | IEEE 802.11ax (20 MHz, MCS6, 99pc duty cycle)  | WLAN  | 8.55     | ±9.6                   |
| 10690 | AAC | IEEE 802.11ax (20 MHz, MCS7, 99pc duty cycle)  | WLAN  | 8.29     | ±9.6                   |
| 10691 | AAC | IEEE 802.11ax (20 MHz, MCS8, 99pc duty cycle)  | WLAN  | 8.25     | ±9.6                   |
| 10692 | AAC | IEEE 802.11ax (20 MHz, MCS9, 99pc duty cycle)  | WLAN  | 8.29     | ±9.6                   |
| 10693 | AAC | IEEE 802.11ax (20 MHz, MCS10, 99pc duty cycle) | WLAN  | 8.25     | ±9.6                   |
| 10694 | AAC | IEEE 802.11ax (20 MHz, MCS11, 99pc duty cycle) | WLAN  | 8.57     | ±9.6                   |
| 10695 | AAC | IEEE 802.11ax (40 MHz, MCS0, 90pc duty cycle)  | WLAN  | 8.78     | ±9.6                   |
| 10696 | AAC | IEEE 802.11ax (40 MHz, MCS1, 90pc duty cycle)  | WLAN  | 8.91     | ±9.6                   |
| 10697 | AAC | IEEE 802.11ax (40 MHz, MCS2, 90pc duty cycle)  | WLAN  | 8.61     | ±9.6                   |
| 10698 | AAC | IEEE 802.11ax (40 MHz, MCS3, 90pc duty cycle)  | WLAN  | 8.89     | ±9.6                   |
| 10699 | AAC | IEEE 802.11ax (40 MHz, MCS4, 90pc duty cycle)  | WLAN  | 8.82     | ±9.6                   |
| 10700 | AAC | IEEE 802.11ax (40 MHz, MCS5, 90pc duty cycle)  | WLAN  | 8.73     | ±9.6                   |
| 10701 | AAC | IEEE 802.11ax (40 MHz, MCS6, 90pc duty cycle)  | WLAN  | 8.86     | ±9.6                   |
| 10702 | AAC | IEEE 802.11ax (40 MHz, MCS7, 90pc duty cycle)  | WLAN  | 8.70     | ±9.6                   |
| 10703 | AAC | IEEE 802.11ax (40 MHz, MCS8, 90pc duty cycle)  | WLAN  | 8.82     | ±9.6                   |
| 10704 | AAC | IEEE 802.11ax (40 MHz, MCS9, 90pc duty cycle)  | WLAN  | 8.56     | ±9.6                   |
| 10705 | AAC | IEEE 802.11ax (40 MHz, MCS10, 90pc duty cycle) | WLAN  | 8.69     | ±9.6                   |
| 10706 | AAC | IEEE 802.11ax (40 MHz, MCS11, 90pc duty cycle) | WLAN  | 8.66     | ±9.6                   |
| 10707 | AAC | IEEE 802.11ax (40 MHz, MCS0, 99pc duty cycle)  | WLAN  | 8.32     | ±9.6                   |
| 10708 | AAC | IEEE 802.11ax (40 MHz, MCS1, 99pc duty cycle)  | WLAN  | 8.55     | ±9.6                   |
| 10709 | AAC | IEEE 802.11ax (40 MHz, MCS2, 99pc duty cycle)  | WLAN  | 8.33     | ±9.6                   |
| 10710 | AAC | IEEE 802.11ax (40 MHz, MCS3, 99pc duty cycle)  | WLAN  | 8.29     | ±9.6                   |
| 10711 | AAC | IEEE 802.11ax (40 MHz, MCS4, 99pc duty cycle)  | WLAN  | 8.39     | ±9.6                   |
| 10712 | AAC | IEEE 802.11ax (40 MHz, MCS5, 99pc duty cycle)  | WLAN  | 8.67     | ±9.6                   |
| 10713 | AAC | IEEE 802.11ax (40 MHz, MCS6, 99pc duty cycle)  | WLAN  | 8.33     | ±9.6                   |
| 10714 | AAC | IEEE 802.11ax (40 MHz, MCS7, 99pc duty cycle)  | WLAN  | 8.26     | ±9.6                   |
| 10715 | AAC | IEEE 802.11ax (40 MHz, MCS8, 99pc duty cycle)  | WLAN  | 8.45     | ±9.6                   |
| 10716 | AAC | IEEE 802.11ax (40 MHz, MCS9, 99pc duty cycle)  | WLAN  | 8.30     | ±9.6                   |
| 10717 | AAC | IEEE 802.11ax (40 MHz, MCS10, 99pc duty cycle) | WLAN  | 8.48     | ±9.6                   |
| 10718 | AAC | IEEE 802.11ax (40 MHz, MCS11, 99pc duty cycle) | WLAN  | 8.24     | ±9.6                   |
| 10719 | AAC | IEEE 802.11ax (80 MHz, MCS0, 90pc duty cycle)  | WLAN  | 8.81     | ±9.6                   |
| 10720 | AAC | IEEE 802.11ax (80 MHz, MCS1, 90pc duty cycle)  | WLAN  | 8.67     | ±9.6                   |
| 10721 | AAC | IEEE 802.11ax (80 MHz, MCS2, 90pc duty cycle)  | WLAN  | 8.76     | ±9.6                   |
| 10722 | AAC | IEEE 802.11ax (80 MHz, MCS3, 90pc duty cycle)  | WLAN  | 8.55     | ±9.6                   |
| 10723 | AAC | IEEE 802.11ax (80 MHz, MCS4, 90pc duty cycle)  | WLAN  | 8.70     | ±9.6                   |
| 10724 | AAC | IEEE 802.11ax (80 MHz, MCS5, 90pc duty cycle)  | WLAN  | 8.90     | ±9.6                   |
| 10725 | AAC | IEEE 802.11ax (80 MHz, MCS6, 90pc duty cycle)  | WLAN  | 8.74     | ±9.6                   |
| 10726 | AAC | IEEE 802.11ax (80 MHz, MCS7, 90pc duty cycle)  | WLAN  | 8.72     | ±9.6                   |
| 10727 | AAC | IEEE 802.11ax (80 MHz, MCS8, 90pc duty cycle)  | WLAN  | 8.66     | ±9.6                   |
| 10728 | AAC | IEEE 802.11ax (80 MHz, MCS9, 90pc duty cycle)  | WLAN  | 8.65     | ±9.6                   |
| 10729 | AAC | IEEE 802.11ax (80 MHz, MCS10, 90pc duty cycle) | WLAN  | 8.64     | ±9.6                   |
| 10730 | AAC | IEEE 802.11ax (80 MHz, MCS11, 90pc duty cycle) | WLAN  | 8.67     | ±9.6                   |
| 10731 | AAC | IEEE 802.11ax (80 MHz, MCS0, 99pc duty cycle)  | WLAN  | 8.42     | ±9.6                   |
| 10732 | AAC | IEEE 802.11ax (80 MHz, MCS1, 99pc duty cycle)  | WLAN  | 8.46     | ±9.6                   |
| 10733 | AAC | IEEE 802.11ax (80 MHz, MCS2, 99pc duty cycle)  | WLAN  | 8.40     | ±9.6                   |
| 10734 | AAC | IEEE 802.11ax (80 MHz, MCS3, 99pc duty cycle)  | WLAN  | 8.25     | ±9.6                   |
| 10735 | AAC | IEEE 802.11ax (80 MHz, MCS4, 99pc duty cycle)  | WLAN  | 8.33     | ±9.6                   |
| 10736 | AAC | IEEE 802.11ax (80 MHz, MCS5, 99pc duty cycle)  | WLAN  | 8.27     | ±9.6                   |
| 10737 | AAC | IEEE 802.11ax (80 MHz, MCS6, 99pc duty cycle)  | WLAN  | 8.36     | ±9.6                   |
| 10738 | AAC | IEEE 802.11ax (80 MHz, MCS7, 99pc duty cycle)  | WLAN  | 8.42     | ±9.6                   |
| 10739 | AAC | IEEE 802.11ax (80 MHz, MCS8, 99pc duty cycle)  | WLAN  | 8.29     | ±9.6                   |
| 10740 | AAC | IEEE 802.11ax (80 MHz, MCS9, 99pc duty cycle)  | WLAN  | 8.48     | ±9.6                   |
| 10741 | AAC | IEEE 802.11ax (80 MHz, MCS10, 99pc duty cycle) | WLAN  | 8.40     | ±9.6                   |
| 10742 | AAC | IEEE 802.11ax (80 MHz, MCS11, 99pc duty cycle) | WLAN  | 8.43     | ±9.6                   |
| 10743 | AAC | IEEE 802.11ax (160 MHz, MCS0, 90pc duty cycle) | WLAN  | 8.94     | ±9.6                   |
| 10744 | AAC | IEEE 802.11ax (160 MHz, MCS1, 90pc duty cycle) | WLAN  | 9.16     | ±9.6                   |
| 10745 | AAC | IEEE 802.11ax (160 MHz, MCS2, 90pc duty cycle) | WLAN  | 8.93     | ±9.6                   |
| 10746 | AAC | IEEE 802.11ax (160 MHz, MCS3, 90pc duty cycle) | WLAN  | 9.11     | ±9.6                   |
| 10747 | AAC | IEEE 802.11ax (160 MHz, MCS4, 90pc duty cycle) | WLAN  | 9.04     | ±9.6                   |
| 10748 | AAC | IEEE 802.11ax (160 MHz, MCS5, 90pc duty cycle) | WLAN  | 8.93     | ±9.6                   |
| 10749 | AAC | IEEE 802.11ax (160 MHz, MCS6, 90pc duty cycle) | WLAN  | 8.90     | ±9.6                   |
| 10750 | AAC | IEEE 802.11ax (160 MHz, MCS7, 90pc duty cycle) | WLAN  | 8.79     | ±9.6                   |
| 10751 | AAC | IEEE 802.11ax (160 MHz, MCS8, 90pc duty cycle) | WLAN  | 8.82     | ±9.6                   |
| 10752 | AAC | IEEE 802.11ax (160 MHz, MCS9, 90pc duty cycle) | WLAN  | 8.81     | ±9.6                   |

Certificate No: EX-7615\_Sep23

Page 18 of 22

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsae-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

EX3DV4 - SN:7615

September 22, 2023

| UID   | Rev | Communication System Name                      | Group         | PAR (dB) | Unc <sup>k</sup> k = 2 |
|-------|-----|------------------------------------------------|---------------|----------|------------------------|
| 10753 | AAC | IEEE 802.11ax (160MHz, MCS10, 99pc duty cycle) | WLAN          | 9.00     | ±9.6                   |
| 10754 | AAC | IEEE 802.11ax (160MHz, MCS11, 99pc duty cycle) | WLAN          | 8.94     | ±9.6                   |
| 10755 | AAC | IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle)  | WLAN          | 8.94     | ±9.6                   |
| 10756 | AAC | IEEE 802.11ax (160MHz, MCS1, 99pc duty cycle)  | WLAN          | 8.77     | ±9.6                   |
| 10757 | AAC | IEEE 802.11ax (160MHz, MCS2, 99pc duty cycle)  | WLAN          | 8.69     | ±9.6                   |
| 10758 | AAC | IEEE 802.11ax (160MHz, MCS3, 99pc duty cycle)  | WLAN          | 8.69     | ±9.6                   |
| 10759 | AAC | IEEE 802.11ax (160MHz, MCS4, 99pc duty cycle)  | WLAN          | 8.49     | ±9.6                   |
| 10760 | AAC | IEEE 802.11ax (160MHz, MCS5, 99pc duty cycle)  | WLAN          | 8.58     | ±9.6                   |
| 10761 | AAC | IEEE 802.11ax (160MHz, MCS6, 99pc duty cycle)  | WLAN          | 8.49     | ±9.6                   |
| 10762 | AAC | IEEE 802.11ax (160MHz, MCS7, 99pc duty cycle)  | WLAN          | 8.53     | ±9.6                   |
| 10763 | AAC | IEEE 802.11ax (160MHz, MCS8, 99pc duty cycle)  | WLAN          | 8.54     | ±9.6                   |
| 10764 | AAC | IEEE 802.11ax (160MHz, MCS9, 99pc duty cycle)  | WLAN          | 8.51     | ±9.6                   |
| 10765 | AAC | IEEE 802.11ax (160MHz, MCS10, 99pc duty cycle) | WLAN          | 7.99     | ±9.6                   |
| 10766 | AAC | IEEE 802.11ax (160MHz, MCS11, 99pc duty cycle) | WLAN          | 8.01     | ±9.6                   |
| 10767 | AAE | 5G NR (CP-OFDM, 1 RB, 5MHz, QPSK, 15kHz)       | 5G NR FR1 TDD | 8.02     | ±9.6                   |
| 10768 | AAD | 5G NR (CP-OFDM, 1 RB, 10MHz, QPSK, 15kHz)      | 5G NR FR1 TDD | 8.02     | ±9.6                   |
| 10769 | AAD | 5G NR (CP-OFDM, 1 RB, 15MHz, QPSK, 15kHz)      | 5G NR FR1 TDD | 8.02     | ±9.6                   |
| 10770 | AAD | 5G NR (CP-OFDM, 1 RB, 20MHz, QPSK, 15kHz)      | 5G NR FR1 TDD | 8.23     | ±9.6                   |
| 10771 | AAD | 5G NR (CP-OFDM, 1 RB, 25MHz, QPSK, 15kHz)      | 5G NR FR1 TDD | 8.03     | ±9.6                   |
| 10772 | AAD | 5G NR (CP-OFDM, 1 RB, 30MHz, QPSK, 15kHz)      | 5G NR FR1 TDD | 8.02     | ±9.6                   |
| 10773 | AAD | 5G NR (CP-OFDM, 1 RB, 40MHz, QPSK, 15kHz)      | 5G NR FR1 TDD | 8.02     | ±9.6                   |
| 10774 | AAD | 5G NR (CP-OFDM, 1 RB, 50MHz, QPSK, 15kHz)      | 5G NR FR1 TDD | 8.31     | ±9.6                   |
| 10775 | AAD | 5G NR (CP-OFDM, 50% RB, 5MHz, QPSK, 15kHz)     | 5G NR FR1 TDD | 8.30     | ±9.6                   |
| 10776 | AAD | 5G NR (CP-OFDM, 50% RB, 10MHz, QPSK, 15kHz)    | 5G NR FR1 TDD | 8.30     | ±9.6                   |
| 10777 | AAC | 5G NR (CP-OFDM, 50% RB, 15MHz, QPSK, 15kHz)    | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10778 | AAD | 5G NR (CP-OFDM, 50% RB, 20MHz, QPSK, 15kHz)    | 5G NR FR1 TDD | 8.42     | ±9.6                   |
| 10779 | AAC | 5G NR (CP-OFDM, 50% RB, 25MHz, QPSK, 15kHz)    | 5G NR FR1 TDD | 8.36     | ±9.6                   |
| 10780 | AAD | 5G NR (CP-OFDM, 50% RB, 30MHz, QPSK, 15kHz)    | 5G NR FR1 TDD | 8.38     | ±9.6                   |
| 10781 | AAD | 5G NR (CP-OFDM, 50% RB, 40MHz, QPSK, 15kHz)    | 5G NR FR1 TDD | 8.43     | ±9.6                   |
| 10782 | AAD | 5G NR (CP-OFDM, 50% RB, 50MHz, QPSK, 15kHz)    | 5G NR FR1 TDD | 8.31     | ±9.6                   |
| 10783 | AAE | 5G NR (CP-OFDM, 100% RB, 5MHz, QPSK, 15kHz)    | 5G NR FR1 TDD | 8.29     | ±9.6                   |
| 10784 | AAD | 5G NR (CP-OFDM, 100% RB, 10MHz, QPSK, 15kHz)   | 5G NR FR1 TDD | 8.40     | ±9.6                   |
| 10785 | AAD | 5G NR (CP-OFDM, 100% RB, 15MHz, QPSK, 15kHz)   | 5G NR FR1 TDD | 8.35     | ±9.6                   |
| 10786 | AAD | 5G NR (CP-OFDM, 100% RB, 20MHz, QPSK, 15kHz)   | 5G NR FR1 TDD | 8.44     | ±9.6                   |
| 10787 | AAD | 5G NR (CP-OFDM, 100% RB, 25MHz, QPSK, 15kHz)   | 5G NR FR1 TDD | 8.39     | ±9.6                   |
| 10788 | AAD | 5G NR (CP-OFDM, 100% RB, 30MHz, QPSK, 15kHz)   | 5G NR FR1 TDD | 8.37     | ±9.6                   |
| 10789 | AAD | 5G NR (CP-OFDM, 100% RB, 40MHz, QPSK, 15kHz)   | 5G NR FR1 TDD | 8.39     | ±9.6                   |
| 10790 | AAD | 5G NR (CP-OFDM, 100% RB, 50MHz, QPSK, 15kHz)   | 5G NR FR1 TDD | 7.83     | ±9.6                   |
| 10791 | AAE | 5G NR (CP-OFDM, 1 RB, 5MHz, QPSK, 30kHz)       | 5G NR FR1 TDD | 7.92     | ±9.6                   |
| 10792 | AAD | 5G NR (CP-OFDM, 1 RB, 10MHz, QPSK, 30kHz)      | 5G NR FR1 TDD | 7.95     | ±9.6                   |
| 10793 | AAD | 5G NR (CP-OFDM, 1 RB, 15MHz, QPSK, 30kHz)      | 5G NR FR1 TDD | 7.82     | ±9.6                   |
| 10794 | AAD | 5G NR (CP-OFDM, 1 RB, 20MHz, QPSK, 30kHz)      | 5G NR FR1 TDD | 7.84     | ±9.6                   |
| 10795 | AAD | 5G NR (CP-OFDM, 1 RB, 25MHz, QPSK, 30kHz)      | 5G NR FR1 TDD | 7.82     | ±9.6                   |
| 10796 | AAD | 5G NR (CP-OFDM, 1 RB, 30MHz, QPSK, 30kHz)      | 5G NR FR1 TDD | 8.01     | ±9.6                   |
| 10797 | AAD | 5G NR (CP-OFDM, 1 RB, 40MHz, QPSK, 30kHz)      | 5G NR FR1 TDD | 7.89     | ±9.6                   |
| 10798 | AAD | 5G NR (CP-OFDM, 1 RB, 50MHz, QPSK, 30kHz)      | 5G NR FR1 TDD | 7.93     | ±9.6                   |
| 10799 | AAD | 5G NR (CP-OFDM, 1 RB, 60MHz, QPSK, 30kHz)      | 5G NR FR1 TDD | 7.89     | ±9.6                   |
| 10800 | AAD | 5G NR (CP-OFDM, 1 RB, 80MHz, QPSK, 30kHz)      | 5G NR FR1 TDD | 7.87     | ±9.6                   |
| 10801 | AAD | 5G NR (CP-OFDM, 1 RB, 90MHz, QPSK, 30kHz)      | 5G NR FR1 TDD | 7.83     | ±9.6                   |
| 10802 | AAD | 5G NR (CP-OFDM, 1 RB, 100MHz, QPSK, 30kHz)     | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10803 | AAD | 5G NR (CP-OFDM, 50% RB, 10MHz, QPSK, 30kHz)    | 5G NR FR1 TDD | 8.37     | ±9.6                   |
| 10804 | AAD | 5G NR (CP-OFDM, 50% RB, 15MHz, QPSK, 30kHz)    | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10805 | AAD | 5G NR (CP-OFDM, 50% RB, 20MHz, QPSK, 30kHz)    | 5G NR FR1 TDD | 8.35     | ±9.6                   |
| 10806 | AAD | 5G NR (CP-OFDM, 50% RB, 25MHz, QPSK, 30kHz)    | 5G NR FR1 TDD | 8.35     | ±9.6                   |
| 10807 | AAD | 5G NR (CP-OFDM, 50% RB, 30MHz, QPSK, 30kHz)    | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10808 | AAD | 5G NR (CP-OFDM, 50% RB, 40MHz, QPSK, 30kHz)    | 5G NR FR1 TDD | 8.35     | ±9.6                   |
| 10809 | AAD | 5G NR (CP-OFDM, 50% RB, 50MHz, QPSK, 30kHz)    | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10810 | AAD | 5G NR (CP-OFDM, 100% RB, 10MHz, QPSK, 30kHz)   | 5G NR FR1 TDD | 8.33     | ±9.6                   |
| 10811 | AAD | 5G NR (CP-OFDM, 100% RB, 15MHz, QPSK, 30kHz)   | 5G NR FR1 TDD | 8.30     | ±9.6                   |
| 10812 | AAD | 5G NR (CP-OFDM, 100% RB, 20MHz, QPSK, 30kHz)   | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10813 | AAD | 5G NR (CP-OFDM, 100% RB, 25MHz, QPSK, 30kHz)   | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10814 | AAD | 5G NR (CP-OFDM, 100% RB, 30MHz, QPSK, 30kHz)   | 5G NR FR1 TDD | 8.39     | ±9.6                   |
| 10815 | AAD | 5G NR (CP-OFDM, 100% RB, 40MHz, QPSK, 30kHz)   | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10816 | AAD | 5G NR (CP-OFDM, 100% RB, 50MHz, QPSK, 30kHz)   | 5G NR FR1 TDD | 8.42     | ±9.6                   |
| 10817 | AAD | 5G NR (CP-OFDM, 100% RB, 60MHz, QPSK, 30kHz)   | 5G NR FR1 TDD | 8.43     | ±9.6                   |
| 10818 | AAD | 5G NR (CP-OFDM, 100% RB, 80MHz, QPSK, 30kHz)   | 5G NR FR1 TDD | 8.43     | ±9.6                   |
| 10819 | AAD | 5G NR (CP-OFDM, 100% RB, 90MHz, QPSK, 30kHz)   | 5G NR FR1 TDD | 8.43     | ±9.6                   |
| 10820 | AAD | 5G NR (CP-OFDM, 100% RB, 100MHz, QPSK, 30kHz)  | 5G NR FR1 TDD | 8.43     | ±9.6                   |

Certificate No: EX-7615\_Sep23

Page 19 of 22

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsae-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

EX3DV4 - SN:7615

September 22, 2023

| UID   | Rev | Communication System Name                            | Group         | PAR (dB) | Unc <sup>k</sup> k = 2 |
|-------|-----|------------------------------------------------------|---------------|----------|------------------------|
| 10829 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD | 8.40     | ±9.6                   |
| 10830 | AAD | 5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.63     | ±9.6                   |
| 10831 | AAD | 5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.73     | ±9.6                   |
| 10832 | AAD | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.74     | ±9.6                   |
| 10833 | AAD | 5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.70     | ±9.6                   |
| 10834 | AAD | 5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.75     | ±9.6                   |
| 10835 | AAD | 5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.70     | ±9.6                   |
| 10836 | AAD | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.66     | ±9.6                   |
| 10837 | AAD | 5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.68     | ±9.6                   |
| 10839 | AAD | 5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.70     | ±9.6                   |
| 10840 | AAD | 5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)          | 5G NR FR1 TDD | 7.67     | ±9.6                   |
| 10841 | AAD | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)         | 5G NR FR1 TDD | 7.71     | ±9.6                   |
| 10843 | AAD | 5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)        | 5G NR FR1 TDD | 8.49     | ±9.6                   |
| 10844 | AAD | 5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)        | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10846 | AAD | 5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz)        | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10854 | AAD | 5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10855 | AAD | 5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.36     | ±9.6                   |
| 10856 | AAD | 5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.37     | ±9.6                   |
| 10857 | AAD | 5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.35     | ±9.6                   |
| 10858 | AAD | 5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.36     | ±9.6                   |
| 10859 | AAD | 5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.34     | ±9.6                   |
| 10860 | AAD | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10861 | AAD | 5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.40     | ±9.6                   |
| 10863 | AAD | 5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10864 | AAD | 5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 60 kHz)       | 5G NR FR1 TDD | 8.37     | ±9.6                   |
| 10865 | AAD | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 60 kHz)      | 5G NR FR1 TDD | 8.41     | ±9.6                   |
| 10866 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10868 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.89     | ±9.6                   |
| 10869 | AAE | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)     | 5G NR FR2 TDD | 5.75     | ±9.6                   |
| 10870 | AAE | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)  | 5G NR FR2 TDD | 5.86     | ±9.6                   |
| 10871 | AAE | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)    | 5G NR FR2 TDD | 5.75     | ±9.6                   |
| 10872 | AAE | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz) | 5G NR FR2 TDD | 6.52     | ±9.6                   |
| 10873 | AAE | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)    | 5G NR FR2 TDD | 6.61     | ±9.6                   |
| 10874 | AAE | 5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz) | 5G NR FR2 TDD | 6.65     | ±9.6                   |
| 10875 | AAE | 5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)        | 5G NR FR2 TDD | 7.78     | ±9.6                   |
| 10876 | AAE | 5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)     | 5G NR FR2 TDD | 8.39     | ±9.6                   |
| 10877 | AAE | 5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)       | 5G NR FR2 TDD | 7.95     | ±9.6                   |
| 10878 | AAE | 5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)    | 5G NR FR2 TDD | 8.41     | ±9.6                   |
| 10879 | AAE | 5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)       | 5G NR FR2 TDD | 8.12     | ±9.6                   |
| 10880 | AAE | 5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)    | 5G NR FR2 TDD | 8.38     | ±9.6                   |
| 10881 | AAE | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)      | 5G NR FR2 TDD | 5.75     | ±9.6                   |
| 10882 | AAE | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)   | 5G NR FR2 TDD | 5.98     | ±9.6                   |
| 10883 | AAE | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)     | 5G NR FR2 TDD | 6.57     | ±9.6                   |
| 10884 | AAE | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)  | 5G NR FR2 TDD | 6.53     | ±9.6                   |
| 10885 | AAE | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)     | 5G NR FR2 TDD | 6.61     | ±9.6                   |
| 10886 | AAE | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)  | 5G NR FR2 TDD | 6.65     | ±9.6                   |
| 10887 | AAE | 5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)         | 5G NR FR2 TDD | 7.78     | ±9.6                   |
| 10888 | AAE | 5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)      | 5G NR FR2 TDD | 8.35     | ±9.6                   |
| 10889 | AAE | 5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)        | 5G NR FR2 TDD | 8.02     | ±9.6                   |
| 10890 | AAE | 5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)     | 5G NR FR2 TDD | 8.40     | ±9.6                   |
| 10891 | AAE | 5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)        | 5G NR FR2 TDD | 8.13     | ±9.6                   |
| 10892 | AAE | 5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)     | 5G NR FR2 TDD | 8.41     | ±9.6                   |
| 10897 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)        | 5G NR FR1 TDD | 5.66     | ±9.6                   |
| 10898 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.67     | ±9.6                   |
| 10899 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.67     | ±9.6                   |
| 10900 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10901 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10902 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10903 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10904 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10905 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10906 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)       | 5G NR FR1 TDD | 5.68     | ±9.6                   |
| 10907 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 30 kHz)      | 5G NR FR1 TDD | 5.78     | ±9.6                   |
| 10908 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.93     | ±9.6                   |
| 10909 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.96     | ±9.6                   |
| 10910 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 5.83     | ±9.6                   |

Certificate No: EX-7615\_Sep23

Page 20 of 22

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsae-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

EX3DV4 - SN:7615

September 22, 2023

| UID   | Rev | Communication System Name                           | Group         | PAR (dB) | Unc <sup>®</sup> k = 2 |
|-------|-----|-----------------------------------------------------|---------------|----------|------------------------|
| 10911 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.93     | ±9.6                   |
| 10912 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.84     | ±9.6                   |
| 10913 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.84     | ±9.6                   |
| 10914 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.85     | ±9.6                   |
| 10915 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.83     | ±9.6                   |
| 10916 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 80 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.87     | ±9.6                   |
| 10917 | AAB | 5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.94     | ±9.6                   |
| 10918 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)    | 5G NR FR1 TDD | 5.88     | ±9.6                   |
| 10919 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.86     | ±9.6                   |
| 10920 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.87     | ±9.6                   |
| 10921 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84     | ±9.6                   |
| 10922 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.82     | ±9.6                   |
| 10923 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84     | ±9.6                   |
| 10924 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84     | ±9.6                   |
| 10925 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.95     | ±9.6                   |
| 10926 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.84     | ±9.6                   |
| 10927 | AAB | 5G NR (DFT-s-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)   | 5G NR FR1 TDD | 5.94     | ±9.6                   |
| 10928 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)       | 5G NR FR1 FDD | 5.52     | ±9.6                   |
| 10929 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.52     | ±9.6                   |
| 10930 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.52     | ±9.6                   |
| 10931 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51     | ±9.6                   |
| 10932 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51     | ±9.6                   |
| 10933 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51     | ±9.6                   |
| 10934 | AAC | 5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51     | ±9.6                   |
| 10935 | AAD | 5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)      | 5G NR FR1 FDD | 5.51     | ±9.6                   |
| 10936 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)     | 5G NR FR1 FDD | 5.90     | ±9.6                   |
| 10937 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.77     | ±9.6                   |
| 10938 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.90     | ±9.6                   |
| 10939 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.82     | ±9.6                   |
| 10940 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.89     | ±9.6                   |
| 10941 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.83     | ±9.6                   |
| 10942 | AAC | 5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.85     | ±9.6                   |
| 10943 | AAD | 5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.95     | ±9.6                   |
| 10944 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)    | 5G NR FR1 FDD | 5.81     | ±9.6                   |
| 10945 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.85     | ±9.6                   |
| 10946 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.83     | ±9.6                   |
| 10947 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.87     | ±9.6                   |
| 10948 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.94     | ±9.6                   |
| 10949 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.87     | ±9.6                   |
| 10950 | AAC | 5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.94     | ±9.6                   |
| 10951 | AAD | 5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)   | 5G NR FR1 FDD | 5.92     | ±9.6                   |
| 10952 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)   | 5G NR FR1 FDD | 8.25     | ±9.6                   |
| 10953 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.15     | ±9.6                   |
| 10954 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.23     | ±9.6                   |
| 10955 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 FDD | 8.42     | ±9.6                   |
| 10956 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)   | 5G NR FR1 FDD | 8.14     | ±9.6                   |
| 10957 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.31     | ±9.6                   |
| 10958 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.61     | ±9.6                   |
| 10959 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 FDD | 8.33     | ±9.6                   |
| 10960 | AAC | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)   | 5G NR FR1 TDD | 9.32     | ±9.6                   |
| 10961 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.36     | ±9.6                   |
| 10962 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.40     | ±9.6                   |
| 10963 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)  | 5G NR FR1 TDD | 9.55     | ±9.6                   |
| 10964 | AAC | 5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)   | 5G NR FR1 TDD | 9.29     | ±9.6                   |
| 10965 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.37     | ±9.6                   |
| 10966 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.55     | ±9.6                   |
| 10967 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)  | 5G NR FR1 TDD | 9.42     | ±9.6                   |
| 10968 | AAB | 5G NR DL (CP-OFDM, TM 3.1, 100 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.49     | ±9.6                   |
| 10972 | AAB | 5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)         | 5G NR FR1 TDD | 11.59    | ±9.6                   |
| 10973 | AAB | 5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)     | 5G NR FR1 TDD | 9.06     | ±9.6                   |
| 10974 | AAB | 5G NR (CP-OFDM, 100% RB, 100 MHz, 256-QAM, 30 kHz)  | 5G NR FR1 TDD | 10.28    | ±9.6                   |
| 10978 | AAA | ULLA SDR                                            | ULLA          | 1.16     | ±9.6                   |
| 10979 | AAA | ULLA HDR4                                           | ULLA          | 8.58     | ±9.6                   |
| 10980 | AAA | ULLA HDR8                                           | ULLA          | 10.32    | ±9.6                   |
| 10981 | AAA | ULLA HDRp4                                          | ULLA          | 3.19     | ±9.6                   |
| 10982 | AAA | ULLA HDRp8                                          | ULLA          | 3.43     | ±9.6                   |

Certificate No: EX-7615\_Sep23

Page 21 of 22

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

ONETECH Corp.: 43-14, Jinsae-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

EX3DV4 - SN:7615

September 22, 2023

| UID   | Rev | Communication System Name                          | Group         | PAR (dB) | Unc <sup>E</sup> k = 2 |
|-------|-----|----------------------------------------------------|---------------|----------|------------------------|
| 10983 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz) | 5G NR FR1 TDD | 9.31     | ±9.6                   |
| 10984 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz) | 5G NR FR1 TDD | 9.42     | ±9.6                   |
| 10985 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.54     | ±9.6                   |
| 10986 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.55     | ±9.6                   |
| 10987 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 60 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.53     | ±9.6                   |
| 10988 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 70 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.38     | ±9.6                   |
| 10989 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 80 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.33     | ±9.6                   |
| 10990 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 90 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 9.52     | ±9.6                   |
| 11003 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 15 kHz) | 5G NR FR1 TDD | 10.24    | ±9.6                   |
| 11004 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 30 kHz) | 5G NR FR1 TDD | 10.73    | ±9.6                   |
| 11005 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 25 MHz, 64-QAM, 15 kHz) | 5G NR FR1 FDD | 8.70     | ±9.6                   |
| 11006 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 15 kHz) | 5G NR FR1 FDD | 8.55     | ±9.6                   |
| 11007 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz) | 5G NR FR1 FDD | 8.46     | ±9.6                   |
| 11008 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz) | 5G NR FR1 FDD | 8.51     | ±9.6                   |
| 11009 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 25 MHz, 64-QAM, 30 kHz) | 5G NR FR1 FDD | 8.76     | ±9.6                   |
| 11010 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 30 kHz) | 5G NR FR1 FDD | 8.95     | ±9.6                   |
| 11011 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz) | 5G NR FR1 FDD | 8.96     | ±9.6                   |
| 11012 | AAA | 5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz) | 5G NR FR1 FDD | 8.68     | ±9.6                   |
| 11013 | AAA | IEEE 802.11be (320 MHz, MCS1, 99pc duty cycle)     | WLAN          | 8.47     | ±9.6                   |
| 11014 | AAA | IEEE 802.11be (320 MHz, MCS2, 99pc duty cycle)     | WLAN          | 8.45     | ±9.6                   |
| 11015 | AAA | IEEE 802.11be (320 MHz, MCS3, 99pc duty cycle)     | WLAN          | 8.44     | ±9.6                   |
| 11016 | AAA | IEEE 802.11be (320 MHz, MCS4, 99pc duty cycle)     | WLAN          | 8.44     | ±9.6                   |
| 11017 | AAA | IEEE 802.11be (320 MHz, MCS5, 99pc duty cycle)     | WLAN          | 8.41     | ±9.6                   |
| 11018 | AAA | IEEE 802.11be (320 MHz, MCS6, 99pc duty cycle)     | WLAN          | 8.40     | ±9.6                   |
| 11019 | AAA | IEEE 802.11be (320 MHz, MCS7, 99pc duty cycle)     | WLAN          | 8.29     | ±9.6                   |
| 11020 | AAA | IEEE 802.11be (320 MHz, MCS8, 99pc duty cycle)     | WLAN          | 8.27     | ±9.6                   |
| 11021 | AAA | IEEE 802.11be (320 MHz, MCS9, 99pc duty cycle)     | WLAN          | 8.46     | ±9.6                   |
| 11022 | AAA | IEEE 802.11be (320 MHz, MCS10, 99pc duty cycle)    | WLAN          | 8.36     | ±9.6                   |
| 11023 | AAA | IEEE 802.11be (320 MHz, MCS11, 99pc duty cycle)    | WLAN          | 8.09     | ±9.6                   |
| 11024 | AAA | IEEE 802.11be (320 MHz, MCS12, 99pc duty cycle)    | WLAN          | 8.42     | ±9.6                   |
| 11025 | AAA | IEEE 802.11be (320 MHz, MCS13, 99pc duty cycle)    | WLAN          | 8.37     | ±9.6                   |
| 11026 | AAA | IEEE 802.11be (320 MHz, MCS0, 99pc duty cycle)     | WLAN          | 8.39     | ±9.6                   |

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

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



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

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

Accreditation No.: **SCS 0108**

Client **SK tech**  
Gyeonggi-do, Republic of Korea

Certificate No. **D835V2-4d229\_Jul23**

## CALIBRATION CERTIFICATE

Object **D835V2 - SN:4d229**

Calibration procedure(s) **QA CAL-05.v12**  
**Calibration Procedure for SAR Validation Sources between 0.7-3 GHz**

Calibration date: **July 14, 2023**

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

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

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards               | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|---------------------------------|--------------------|-----------------------------------|------------------------|
| Power meter NRP2                | SN: 104778         | 30-Mar-23 (No. 217-03804/03805)   | Mar-24                 |
| Power sensor NRP-Z91            | SN: 103244         | 30-Mar-23 (No. 217-03804)         | Mar-24                 |
| Power sensor NRP-Z91            | SN: 103245         | 30-Mar-23 (No. 217-03805)         | Mar-24                 |
| Reference 20 dB Attenuator      | SN: BH9394 (20k)   | 30-Mar-23 (No. 217-03809)         | Mar-24                 |
| Type-N mismatch combination     | SN: 310982 / 06327 | 30-Mar-23 (No. 217-03810)         | Mar-24                 |
| Reference Probe EX3DV4          | SN: 7349           | 10-Jan-23 (No. EX3-7349_Jan23)    | Jan-24                 |
| DAE4                            | SN: 601            | 19-Dec-22 (No. DAE4-601_Dec22)    | Dec-23                 |
| Secondary Standards             | ID #               | Check Date (in house)             | Scheduled Check        |
| Power meter E4419B              | SN: GB39512475     | 30-Oct-14 (in house check Oct-22) | In house check: Oct-24 |
| Power sensor HP 8481A           | SN: US37292783     | 07-Oct-15 (in house check Oct-22) | In house check: Oct-24 |
| Power sensor HP 8481A           | SN: MY41093315     | 07-Oct-15 (in house check Oct-22) | In house check: Oct-24 |
| RF generator R&S SMT-06         | SN: 100972         | 15-Jun-15 (in house check Oct-22) | In house check: Oct-24 |
| Network Analyzer Agilent E8358A | SN: US41080477     | 31-Mar-14 (in house check Oct-22) | In house check: Oct-24 |

|                |                       |                                   |                                                                                                    |
|----------------|-----------------------|-----------------------------------|----------------------------------------------------------------------------------------------------|
| Calibrated by: | Name<br>Michael Weber | Function<br>Laboratory Technician | Signature<br> |
| Approved by:   | Sven Kühn             | Technical Manager                 |               |

Issued: July 19, 2023

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

Certificate No: D835V2-4d229\_Jul23

Page 1 of 6

# Calibration Laboratory of

Schmid & Partner

Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland

Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA

Multilateral Agreement for the recognition of calibration certificates



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

Accreditation No.: SCS 0108

## Glossary:

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

## Calibration is Performed According to the Following Standards:

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

## Additional Documentation:

- DASY System Handbook

## Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The source is mounted in a touch configuration below the center marking of the flat phantom.
- Return Loss:** This parameter is measured with the source positioned under the liquid filled phantom (as described in the measurement condition clause). The Return Loss ensures low reflected power. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

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

### Measurement Conditions

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

|                              |                        |             |
|------------------------------|------------------------|-------------|
| DASY Version                 | DASY52                 | V52.10.4    |
| Extrapolation                | Advanced Extrapolation |             |
| Phantom                      | Modular Flat Phantom   |             |
| Distance Dipole Center - TSL | 15 mm                  | with Spacer |
| Zoom Scan Resolution         | dx, dy, dz = 5 mm      |             |
| Frequency                    | 835 MHz $\pm$ 1 MHz    |             |

### Head TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| Nominal Head TSL parameters             | 22.0 °C             | 41.5           | 0.90 mho/m           |
| Measured Head TSL parameters            | (22.0 $\pm$ 0.2) °C | 41.9 $\pm$ 6 % | 0.92 mho/m $\pm$ 6 % |
| Head TSL temperature change during test | < 0.5 °C            | ----           | ----                 |

### SAR result with Head TSL

|                                                       |                    |                              |
|-------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL | Condition          |                              |
| SAR measured                                          | 250 mW input power | 2.44 W/kg                    |
| SAR for nominal Head TSL parameters                   | normalized to 1W   | 9.62 W/kg $\pm$ 17.0 % (k=2) |

|                                                         |                    |                              |
|---------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL | condition          |                              |
| SAR measured                                            | 250 mW input power | 1.58 W/kg                    |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 6.25 W/kg $\pm$ 16.5 % (k=2) |

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

### Antenna Parameters with Head TSL

|                                      |                                 |
|--------------------------------------|---------------------------------|
| Impedance, transformed to feed point | 51.9 $\Omega$ - 1.9 $\mu\Omega$ |
| Return Loss                          | - 31.6 dB                       |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.393 ns |
|----------------------------------|----------|

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

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

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

### Additional EUT Data

|                 |       |
|-----------------|-------|
| Manufactured by | SPEAG |
|-----------------|-------|

## DASY5 Validation Report for Head TSL

Date: 14.07.2023

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d229**

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.92 \text{ S/m}$ ;  $\epsilon_r = 41.9$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

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

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.69, 9.69, 9.69) @ 835 MHz; Calibrated: 10.01.2023
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 19.12.2022
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

### Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 63.47 V/m; Power Drift = -0.02 dB

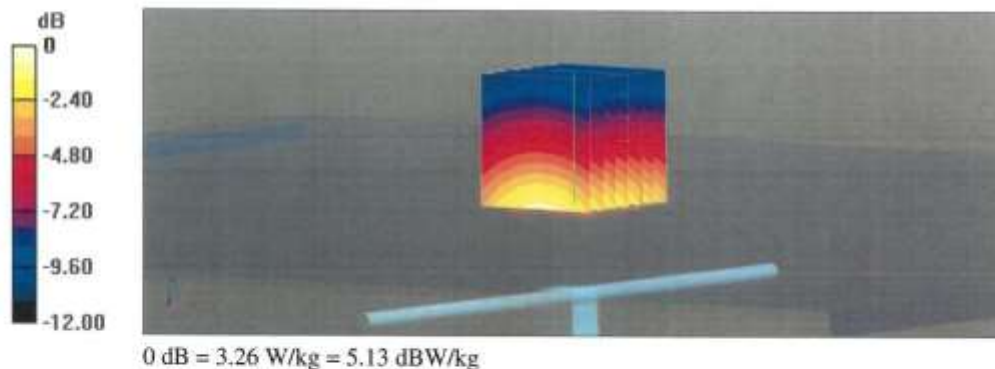
Peak SAR (extrapolated) = 3.66 W/kg

**SAR(1 g) = 2.44 W/kg; SAR(10 g) = 1.58 W/kg**

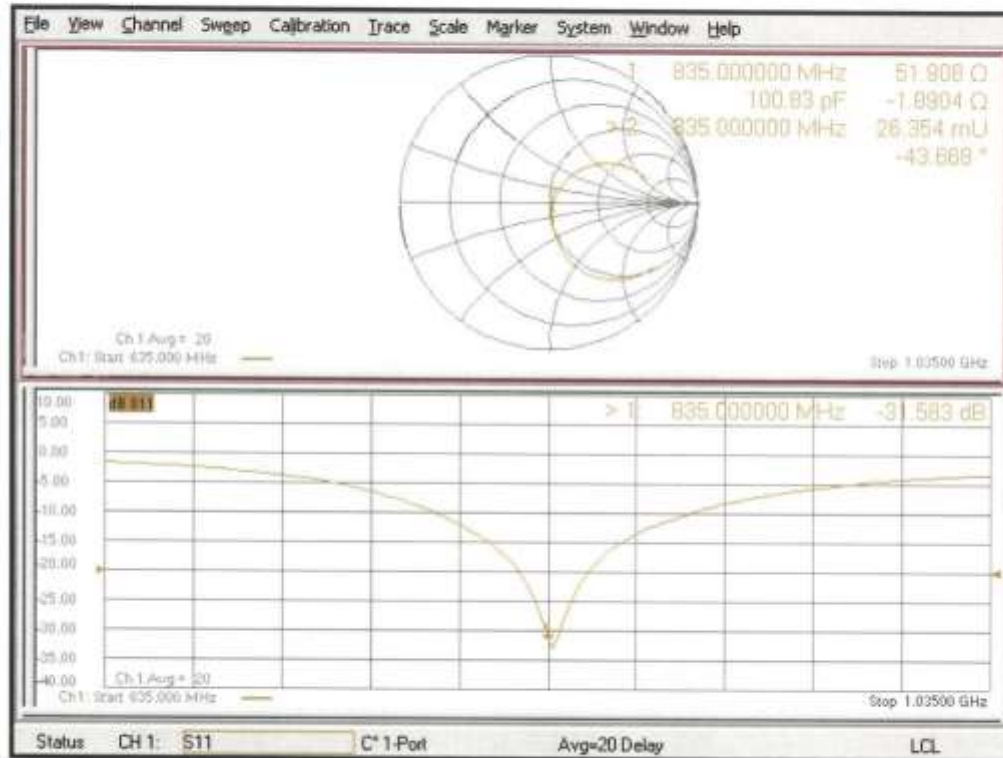
Smallest distance from peaks to all points 3 dB below = 16.5 mm

Ratio of SAR at M2 to SAR at M1 = 66.3%

Maximum value of SAR (measured) = 3.26 W/kg



### Impedance Measurement Plot for Head TSL



## APPENDIX D: SAR TISSUE SPECIFICATIONS

Measurement Procedure for Tissue verification:

- 1) The network analyzer and probe system were configured and calibrated.
- 2) The probe was immersed in the tissue. The tissue was placed in a nonmetallic container.  
Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
- 3) The complex admittance with respect to the probe aperture was measured.
- 4) The complex relative permittivity  $\epsilon_r$  can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\epsilon_r\epsilon_0}{[\ln(b/a)]^2} \int_a^b \int_a^b \int_0^\pi \cos\phi' \frac{\exp[-j\omega r(\mu_0\epsilon_r'\epsilon_0)^{1/2}]}{r} d\phi' d\rho' d\rho$$

where Y is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively,  $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$ ,  $\omega$  is the angular frequency, and  $j = \sqrt{-1}$ .

**Table D-1 Composition of the Tissue Equivalent Matter**

| Frequency (MHz)           | 600 ~ 10000 |
|---------------------------|-------------|
| Tissue                    | Head        |
| Ingredients (% by weight) |             |
| Bactericide               | -           |
| DGBE                      | -           |
| HEC                       | -           |
| NaCl                      | -           |
| Sucrose                   | -           |
| Mineral Oil               | 44.0        |
| Water                     | 56.0        |

**Table D-2 Recommended Tissue Dielectric Parameters (IEC 62209-1)**

| Frequency<br>MHz | Relative permittivity<br>$\epsilon_r$ | Conductivity ( $\sigma$ )<br>S/m |
|------------------|---------------------------------------|----------------------------------|
| 300              | 45.3                                  | 0.87                             |
| 450              | 43.5                                  | 0.87                             |
| 750              | 41.0                                  | 0.89                             |
| 835              | 41.5                                  | 0.90                             |
| 900              | 41.5                                  | 0.97                             |
| 1 450            | 40.5                                  | 1.20                             |
| 1 500            | 40.4                                  | 1.23                             |
| 1 640            | 40.2                                  | 1.31                             |
| 1 750            | 40.1                                  | 1.37                             |
| 1 800            | 40.0                                  | 1.40                             |
| 1 900            | 40.0                                  | 1.40                             |
| 2 000            | 40.0                                  | 1.40                             |
| 2 100            | 39.8                                  | 1.49                             |
| 2 300            | 39.5                                  | 1.67                             |
| 2 450            | 39.2                                  | 1.80                             |
| 2 600            | 39.0                                  | 1.96                             |
| 3 000            | 38.5                                  | 2.40                             |
| 3 500            | 37.9                                  | 2.91                             |
| 4 000            | 37.4                                  | 3.43                             |
| 4 500            | 36.8                                  | 3.94                             |
| 5 000            | 36.2                                  | 4.45                             |
| 5 200            | 36.0                                  | 4.66                             |
| 5 400            | 35.8                                  | 4.86                             |
| 5 600            | 35.5                                  | 5.07                             |
| 5 800            | 35.3                                  | 5.27                             |
| 6 000            | 35.1                                  | 5.48                             |

This Report is not correlated with the authentication of KOLAS.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

OTC-TRF-SAR-002(0)

Figure D-1 Liquid Height for Head & Body Position (SAM Twin Phantom)

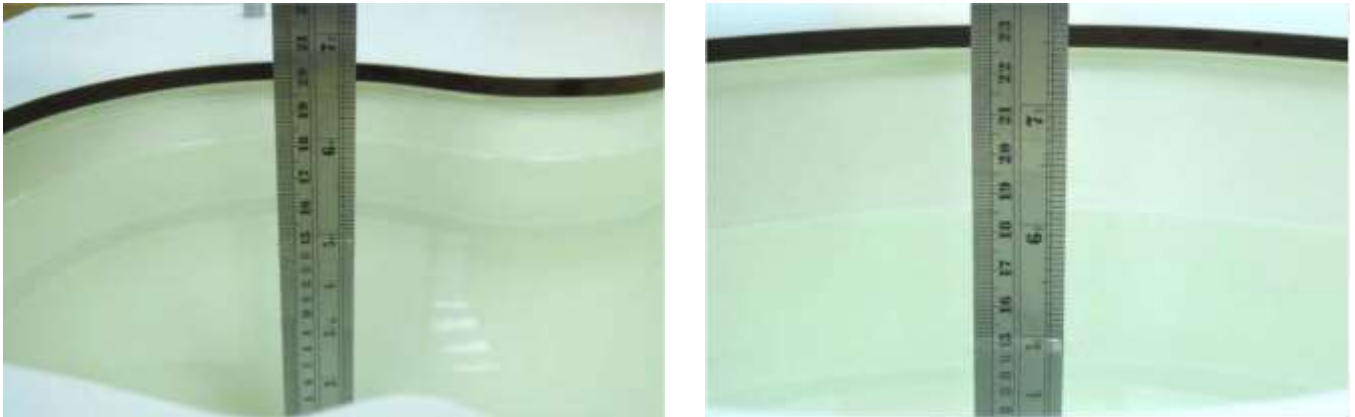
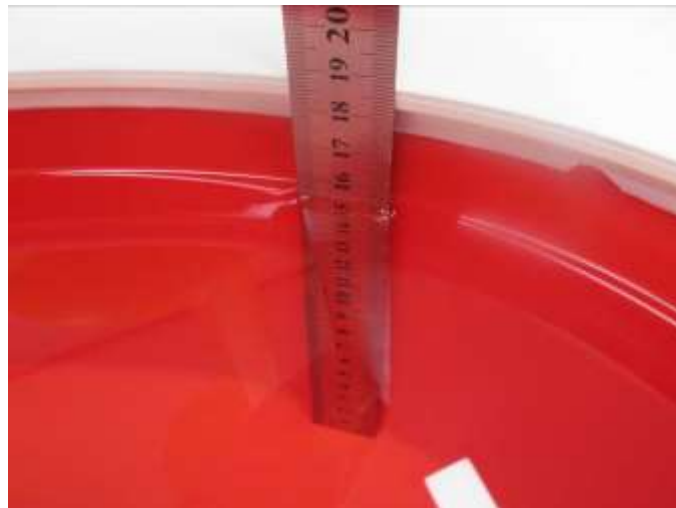


Figure D-2 Liquid Height for Body Position (ELI Phantom)



## APPENDIX E: SAR SYSTEM VALIDATION

Per FCC KDB Publication 865664 D02v01r02, SAR system validation status should be documented to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue-equivalent media for system validation, according to the procedures outlined in FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.

**Table E-1 SAR System Validation Summary – 1 g / 10 g**

| SAR System | Freq. (MHz) | Date       | Probe SN | Probe Cal Point |      | Cond. ( $\sigma$ ) | Perm. ( $\epsilon_r$ ) | CW VALIDATION |                 |                | MOD. VALIDATION |             |     |
|------------|-------------|------------|----------|-----------------|------|--------------------|------------------------|---------------|-----------------|----------------|-----------------|-------------|-----|
|            |             |            |          |                 |      |                    |                        | SENSITIVITY   | PROBE LINEARITY | PROBE ISOTROPY | MOD. TYPE       | DUTY FACTOR | PAR |
| 3          | 835         | 2023-10-11 | 7615     | 835             | Head | 0.90               | 42.63                  | Pass          | Pass            | Pass           | GFSK            | Pass        | N/A |

Note: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GFSK, or with a high peak to average ratio (> 5 dB), such as OFDM according to FCC KDB Publication 865664 D01v01r04.