



## SAR EVALUATION REPORT

IEEE Std 1528-2013

*For*  
**Digital Pen**

FCC ID: **JNZF00015**  
Model Name: **F00015**

Report Number: **15849238-S1V3**  
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**Revision History**

Rev.	Date	Revisions	Revised By
V1	8/5/2025	Initial Issue	--
V2	8/17/2025	Added Extremity values to Section 1	Miguel Llamas
V3	8/21/2025	Updated Section 1 and Section 10.1	Miguel Llamas

## Table of Contents

<b>1. Attestation of Test Results</b> .....	<b>4</b>
<b>2. Test Specification, Methods and Procedures</b> .....	<b>5</b>
<b>3. Facilities and Accreditation</b> .....	<b>5</b>
<b>4. SAR Measurement System &amp; Test Equipment</b> .....	<b>6</b>
4.1. SAR Measurement System .....	6
4.2. SAR Scan Procedures.....	7
4.3. Test Equipment .....	9
<b>5. Measurement Uncertainty</b> .....	<b>10</b>
<b>6. Device Under Test (DUT) Information</b> .....	<b>11</b>
6.1. DUT Description .....	11
6.2. Wireless Technologies .....	12
<b>7. RF Exposure Conditions (Test Configurations)</b> .....	<b>12</b>
<b>8. Dielectric Property Measurements &amp; System Check</b> .....	<b>13</b>
<b>9. Conducted Output Power Measurements</b> .....	<b>15</b>
9.1. Bluetooth .....	15
<b>10. Measured and Reported (Scaled) SAR Results</b> .....	<b>17</b>
10.1. Bluetooth.....	17
<b>11. SAR Measurement Variability</b> .....	<b>18</b>
<b>12. Simultaneous Transmission SAR Analysis</b> .....	<b>18</b>
<b>Appendixes</b> .....	<b>19</b>
Appendix A: SAR Setup Photos .....	19
Appendix B: SAR System Check Plots.....	19
Appendix C: SAR Highest Test Plots .....	19
Appendix D: Tissue Ingredients .....	19
Appendix E: Probe Certificates .....	19
Appendix F: Dipole Certificates .....	19

# 1. Attestation of Test Results

Applicant Name	LOGITECH FAR EAST LTD.
FCC ID	JNZF00015
Model Name	F00015
Applicable Standards	Published RF exposure KDB procedures. IEEE Std 1528-2013
Exposure Category	SAR Limits (W/Kg)
	Extremities (hands, wrists, ankles, etc.) (10g of tissue)
General population / Uncontrolled exposure	4
RF Exposure Conditions	<a href="#">Equipment Class</a> - Highest Reported SAR (W/kg)
	DSS
Body-Worn	0.217
Extremity	0.068
Date Tested	7/20/2025
Test Results	Complies
<p>UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested can demonstrate compliance with the requirements as documented in this report.</p> <p>This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.</p> <p>The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to ensure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not considered unless noted otherwise.</p> <p>This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the U.S. Government, or any agency of the U.S. government.</p>	
Approved & Released By: 	Prepared By: 
Devin Chang Senior Laboratory Engineer UL Verification Services Inc.	Miguel Llamas Laboratory Supervisor UL Verification Services Inc.

## 2. Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE Std 1528-2013, the following FCC Published RF exposure [KDB](#) procedures:

- 447498 D01 General RF Exposure Guidance v06
- 447498 D03 Supplement C Cross-Reference v01
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02

In addition to the above, the following information was used:

- [TCB Workshop](#) October 2015; RF Exposure Procedures (KDB 941225 D05A)
- [TCB Workshop](#) October 2016; RF Exposure Procedures (Bluetooth Duty Factor)
- [TCB Workshop](#) October 2016; RF Exposure Procedures (DUT Holder Perturbations)
- [TCB Workshop](#) April 2019; RF Exposure Procedures (Tissue Simulating Liquids (TSL))

## 3. Facilities and Accreditation

The test sites and measurement facilities used to collect data are located at

47266 Benicia Street
SAR Lab 5

UL Verification Services Inc. is accredited by A2LA, Certificate Number 0751.05

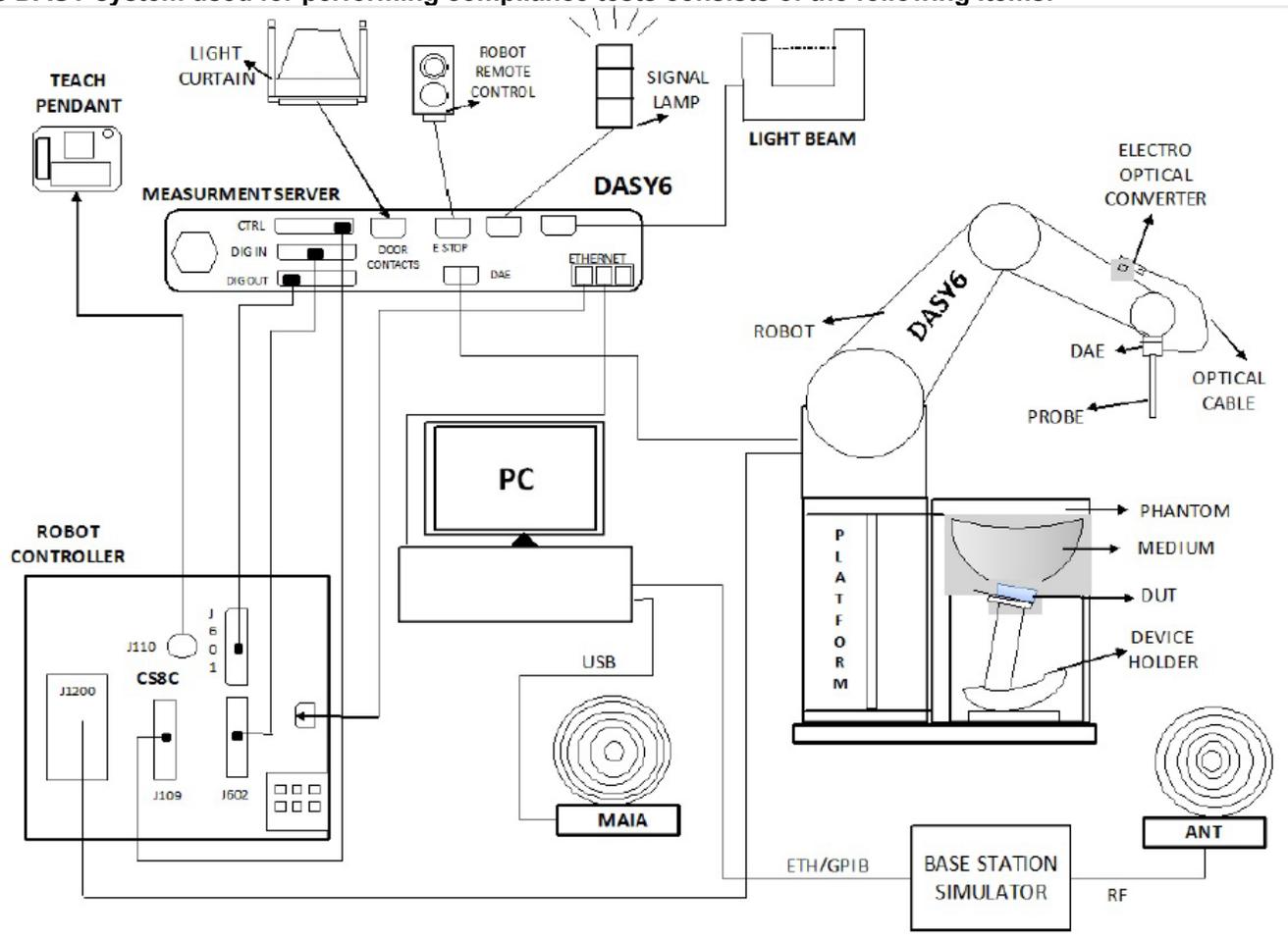
The Test Lab Conformity Assessment Body Identifier (CABID)

Location	CABID	Company Number
47173 Benicia Street, Fremont, CA, 94538 UNITED STATES	US0104	2324A
47266 Benicia Street, Fremont, CA, 94538 UNITED STATES		

## 4. SAR Measurement System & Test Equipment

### 4.1. SAR Measurement System

The DASY system used for performing compliance tests consists of the following items:



- 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.
- A 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 Win10 and the DASY6/8<sup>1</sup> 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.

<sup>1</sup> DASY6/8 software used: DASY6.16.2 or DASY8.16.2 and older generations.

## 4.2. SAR Scan Procedures

### Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 2.1 mm. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

### Step 2: Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEC/IEEE 62209-1528, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan). If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly.

Area Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: $\Delta x_{Area}$ , $\Delta y_{Area}$	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

**Step 3: Zoom Scan**

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The Zoom Scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the Zoom Scan evaluates the averaged SAR for 1 g and 10 g and displays these values next to the job's label.

Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

		$\leq 3$ GHz	$> 3$ GHz	
Maximum zoom scan spatial resolution: $\Delta x_{Zoom}, \Delta y_{Zoom}$		$\leq 2$ GHz: $\leq 8$ mm 2 – 3 GHz: $\leq 5$ mm*	3 – 4 GHz: $\leq 5$ mm* 4 – 6 GHz: $\leq 4$ mm*	
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	$\leq 5$ mm	3 – 4 GHz: $\leq 4$ mm 4 – 5 GHz: $\leq 3$ mm 5 – 6 GHz: $\leq 2$ mm	
	graded grid	$\Delta z_{Zoom}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface	$\leq 4$ mm	3 – 4 GHz: $\leq 3$ mm 4 – 5 GHz: $\leq 2.5$ mm 5 – 6 GHz: $\leq 2$ mm
		$\Delta z_{Zoom}(n>1)$ : between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z	$\geq 30$ mm	3 – 4 GHz: $\geq 28$ mm 4 – 5 GHz: $\geq 25$ mm 5 – 6 GHz: $\geq 22$ mm	
Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is $\leq 1.4$ W/kg, $\leq 8$ mm, $\leq 7$ mm and $\leq 5$ mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

**Step 4: Power drift measurement**

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

### 4.3. Test Equipment

The measuring equipment used to perform the tests documented in this report has been calibrated in accordance with the manufacturers' recommendations and is traceable to recognized national standards.

#### Dielectric Property Measurements

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Vector Network Analyzer	Copper Mountain Tech	R140N	21130078	1/1/2026
Dielectric Probe kit	SPEAG	DAK-3.5	1103	2/10/2026
Shorting Block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	2/28/2026
Thermometer	Fisher Scientific	Traceable	240029160	1/31/2026

#### System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Signal Generator	R&S	SMB 100A	180968	2/28/2026
Power Meter	HP	437B	3125U09248	1/31/2026
Power Sensor	HP	8481A	2237A31744	1/31/2026
Power Sensor	R&S	NRP18A	100992	2/28/2026
Bi-directional coupler	Werlatone, Inc.	C8060-102	2224	N/A
DC Power Supply	Sorenson Ametek	XT 15-4	1802A01877	N/A

#### Lab Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
E-Field Probe	SPEAG	EX3DV4	7585	4/11/2026
Data Acquisition Electronics	SPEAG	DAE4	1675	5/12/2026
System Validation Dipole	SPEAG	D2450V2	706	1/20/2026
Thermometer	Fisher Scientific	Traceable	181649091	1/31/2026

#### Other

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Power Meter	Keysight	N1911A	MY52260009	1/31/2026
Power Sensor	Agilent	N1921A	MY55196017	1/31/2026
PSA Spectrum Analyzer	Agilent	E4446A	MY45300064	1/31/2026

## 5. Measurement Uncertainty

Measurement uncertainty for 300 MHz to 3 GHz

Uncertainty component	Uncertainty Value (±%)	Prob. Dist.	Div.	$c_i$ (1 g)	$c_i$ (10 g)	Std. Unc. 1 g (± %)	Std. Unc. 10 g (± %)
<b>Measurement System</b>							
Probe Calibration	12.00	Normal	2	1	1	6.00	6.00
Probe Calibration Drift	1.70	Rectangular	1.732	1	1	1.0	1.0
Probe Linearity	4.70	Rectangular	1.732	1	1	2.7	2.7
Broadband Signal	3.00	Rectangular	1.732	1	1	1.7	1.7
Probe Isotropy	7.60	Rectangular	1.732	1	1	4.4	4.4
Other Probe+Electronic	0.70	Normal	1	1	1	0.7	0.7
RF Ambient	1.80	Normal	1	1	1	1.8	1.8
Probe Positioning	0.60	Normal	1	0.14	0.14	0.1	0.1
Data Processing	1.20	Normal	1	1	1	1.2	1.2
<b>Phantom and Device Errors</b>							
Conductivity (meas.) <sup>DAK</sup>	2.50	Normal	1	0.78	0.71	2.0	1.8
Conductivity (temp.) <sup>BB</sup>	3.30	Rectangular	1.732	0.78	0.71	1.5	1.4
Phantom Permittivity	14.00	Rectangular	1.732	0	0	0.0	0.0
Distance DUT - TSL	2.00	Normal	1	2	2	4.0	4.0
Device Positioning	1.00	Normal	1	1	1	1.0	1.0
Device Holder	3.60	Normal	1	1	1	3.6	3.6
DUT Modulation <sup>m</sup>	2.40	Rectangular	1.732	1	1	1.4	1.4
Time-average SAR	1.70	Rectangular	1.732	1	1	1.0	1.0
DUT Drift	2.50	Normal	1	1	1	2.5	2.5
Val Antenna Unc. <sup>val</sup>	0.00	Normal	1	1	1	0.0	0.0
Unc. Input Power <sup>val</sup>	0.00	Normal	1	1	1	0.0	0.0
<b>Correction to the SAR results</b>							
Uncertainty in SAR Correction for Deviations in Permittivity and Conductivity	1.90	Normal	1	1	0.84	1.9	1.6
SAR scaling <sup>p</sup>	0.00	Rectangular	1.732	1	1	0.0	0.0
Liquid Conductivity - measurement	-4.67	Normal	1	0.78	0.71	-3.6	-3.3
Combined Standard Uncertainty $U_c(y)$ =	RSS					11.6	11.4
Expanded Uncertainty $U$ , Coverage Factor = 2, > 95 % Confidence =						23.1	22.7

## 6. Device Under Test (DUT) Information

### 6.1. DUT Description

Device Dimension	Overall (Length x Width): 165 mm x 19 mm This is a Handheld device Refer to Appendix A		
Back Cover	The Back Cover is not removable		
Battery Options	The rechargeable battery is not user accessible.		
Test sample information	<b>S/N</b>	<b>IMEI</b>	<b>Notes</b>
	2520ZBU1X9D8	N/A	Radiated 1
	2520ZBH1X348	N/A	Radiated 2
	2520ZBR1X8J8	N/A	Conducted
Hardware Version	PB1		
Software Version	N/A		

## 6.2. Wireless Technologies

Wireless Technologies	Frequency Bands	Operating Mode
Bluetooth	2.4 GHz	LE 1M and LE 2M

## 7. RF Exposure Conditions (Test Configurations)

Refer to “SAR Photos and Ant locations” Appendix for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.

Wireless technologies	RF Exposure Conditions	DUT-to-User Separation	Test Position	Antenna-to-edge/surface	SAR Required	Note
BT (BLE)	Extremity (Hand/Wrist/Ankle)	0	Edge Bottom	N/A	Yes	1
			Edge Top	N/A	No	2
			Barrel	N/A	Yes	1

### Notes:

1. A non-standard setup was used for SAR testing based on guidance from the FCC. The operational description contains additional information.
2. Distance from the transmitting antenna and the test position is >25mm

## 8. Dielectric Property Measurements & System Check

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within  $\pm 2^\circ\text{C}$  of the temperature when the tissue parameters are characterized.

The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance; for example, when the parameters are marginal at the beginning of the measurement series.

Tissue dielectric parameters were measured at the low, middle, and high frequency of each operating frequency range of the test device.

The methodology used to determine the SAR correction is described in IEEE Std 1528-2013. The methodology was conducted over a frequency range of 30 MHz to 6000 MHz, but it is implemented over the 300 MHz to 6000 MHz frequency range. The methodology was also studied for permittivity ( $\epsilon_r$ ) and conductivity ( $\sigma$ ) ranges of  $\pm 20\%$ , but ranges of  $\pm 10\%$  have been chosen. Given that the change in dielectric parameters influences the conversion factor of the probe, this influence will be small if a  $\pm 10\%$  range is used.

### Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

Target Frequency (MHz)	Head		Body	
	$\epsilon_r$	$\sigma$ (S/m)	$\epsilon_r$	$\sigma$ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5000	36.2	4.45	49.3	5.07
5100	36.1	4.55	49.1	5.18
5200	36.0	4.66	49.0	5.30
5300	35.9	4.76	48.9	5.42
5400	35.8	4.86	48.7	5.53
5500	35.6	4.96	48.6	5.65
5600	35.5	5.07	48.5	5.77
5700	35.4	5.17	48.3	5.88
5800	35.3	5.27	48.2	6.00

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device. The same SAR probe(s) and tissue-equivalent media combinations used with each specific SAR system for system verification must be used for device testing. When multiple probe calibration points are required to cover substantially large transmission bands, independent system verifications are required for each probe calibration point. A system verification must be performed before each series of SAR measurements using the same probe calibration point and tissue-equivalent medium. Additional system verification should be considered according to the conditions of the tissue-equivalent medium and measured tissue dielectric parameters, typically every three to four days when the liquid parameters are re-measured or sooner when marginal liquid parameters are used at the beginning of a series of measurements.

**System Performance Check Measurement Conditions:**

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 ±0.2 mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm for SAR measurements ≤ 3 GHz and ≥ 10.0 cm for measurements > 3 GHz.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.  
For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 (below 3 GHz) and/or 8x8x7 (above 3 GHz) fine cube was chosen for the cube.
- Distance between probe sensors and phantom surface was set to 3 mm.  
For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was 100 mW.
- The results are normalized to 1 W input power.

Liquid Check											System Check												
SAR Lab	Date	Tissue Type	Band (MHz)	Freq. (MHz)	Relative Permittivity (ε <sub>r</sub> )			Conductivity (σ)			Date	Dipole Type & Serial Number	Dipole Cal. Due Date	Input Power (dBm)	Measured results for 1-g SAR				Measured results for 10-g SAR				Plot No.
					Measured	Target	Delta	Measured	Target	Delta					Meas. Zoom Scan	Normalize to 1 W	Target (Ref. Value)	Delta ±10%	Meas. Zoom Scan	Normalize to 1 W	Target (Ref. Value)	Delta ±10%	
SAR 5	7/20/2025	Head	2450	2450	40.50	39.20	3.32%	1.72	1.80	-4.67%	7/20/2025	D2450V2 SN: 706	1/20/2026	17.0	2.450	48.884	52.300	-6.53%	1.140	22.746	24.500	-7.16%	1
				2400	40.54	39.30	3.16%	1.67	1.75	-4.43%													
				2500	40.43	39.14	3.30%	1.75	1.85	-5.83%													

## 9. Conducted Output Power Measurements

The selection between antennas in the application is based on RSSI based antenna selection. The full details of power selections are described in the operational description. Refer to Sec. 7 and Sec. 10 for details of the testing. Test reductions have applied accordingly following the SAR KDB Procedure for the supported wireless technologies of the DUT. This is noted in detail for each technology in their respective Sections.

The Maximum Output Power already includes component uncertainty. KDB 447498 sec.4.1.(d) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

Maximum Output Power (Tune-up Power Limit) provided by the manufacturer are used to scale measured SAR values.

### 9.1. Bluetooth

#### Bluetooth Measured Results

Band	Mode	Ch #	Freq. (MHz)	Main Antenna Average Power (dBm)		
				Meas Pwr	Tune-up	SAR Test (Yes/No)
Bluetooth 2.4 GHz	BLE (GFSK), 1 Mbps	2	2402	7.9	8.5	Yes
		40	2440	7.9	8.5	
		80	2480	7.9	8.5	
	BLE (GFSK), 2 Mbps	4	2404	7.9	8.5	No
		40	2440	7.9	8.5	
		78	2478	7.9	8.5	

#### Duty Factor Measured Results

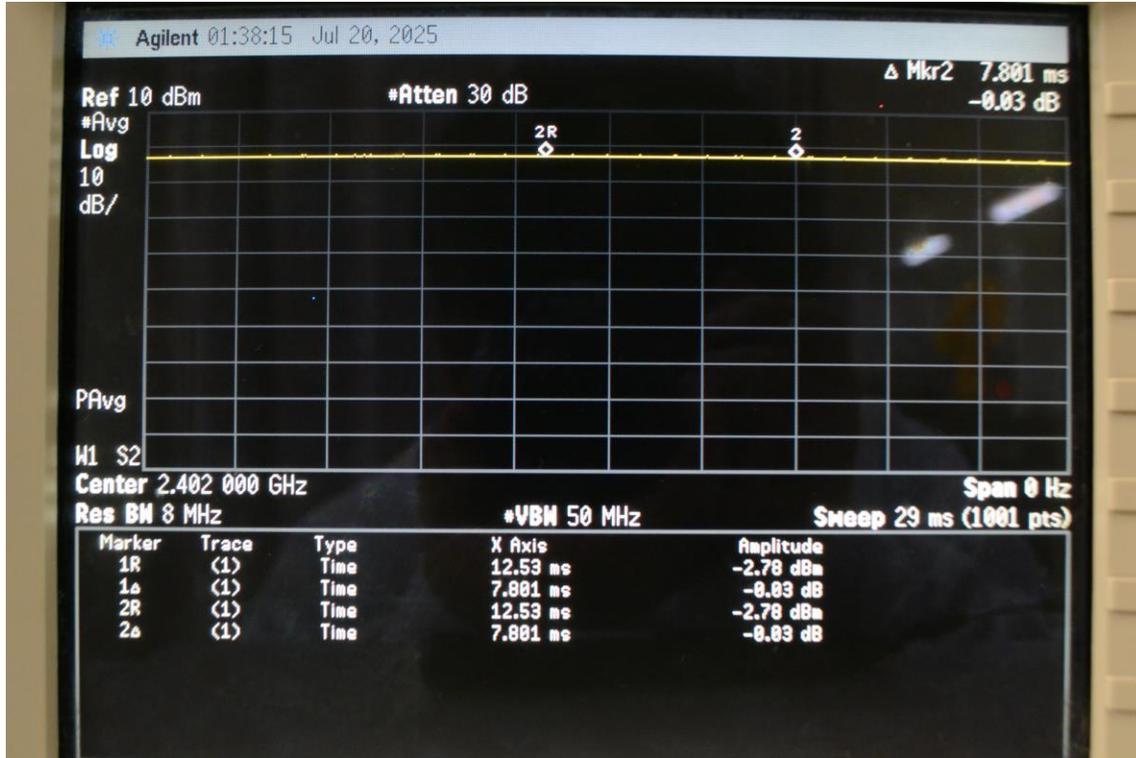
Mode	T on (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
GFSK	7.001	7.001	100.00%	1.00

#### Note(s):

Duty Cycle = (T on / period) \* 100%

### Duty Cycle plots

GFSK



## 10. Measured and Reported (Scaled) SAR Results

### SAR Test Reduction criteria are as follows:

- Reported SAR(W/kg) for Bluetooth = Measured SAR \* Tune-up scaling factor \* Duty Cycle scaling factor
- Duty Cycle scaling factor = 1 / Duty cycle (%)

### KDB 447498 D01 General RF Exposure Guidance:

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:

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

### 10.1. Bluetooth

RF Exposure Condition(s)	Mode(s)	Dist. (mm)	Test Position(s)	Channel	Freq. (MHz)	Duty Cycle (%)	Max Output Pwr (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	Plot No.
Body-Worn	GFSK (LE)	0	Edge Bottom	40	2440	100.00%	8.5	7.9	0.021	0.024	
Body-Worn	GFSK (LE)	0	Barrel Side 1	40	2440	100.00%	8.5	7.9	0.189	0.217	1
Body-Worn	GFSK (LE)	0	Barrel Side 2	40	2440	100.00%	8.5	7.9	0.038	0.044	
Body-Worn	GFSK (LE)	0	Barrel Side 3	40	2440	100.00%	8.5	7.9	0.014	0.016	
Body-Worn	GFSK (LE)	0	Barrel Side 4	40	2440	100.00%	8.5	7.9	0.023	0.026	

#### Note(s):

Values for Body-worn & Hotspot are leverageable from Extremity due to testing at a more conservative distance.

RF Exposure Condition(s)	Mode(s)	Dist. (mm)	Test Position(s)	Channel	Freq. (MHz)	Duty Cycle (%)	Max Output Pwr (dBm)	Meas. (dBm)	10-g Meas. (W/kg)	10-g Scaled (W/kg)	Plot No.
Extremity	GFSK (LE)	0	Edge Bottom	40	2440	100.00%	8.5	7.9	0.008	0.009	
Extremity	GFSK (LE)	0	Barrel Side 1	40	2440	100.00%	8.5	7.9	0.059	0.068	1
Extremity	GFSK (LE)	0	Barrel Side 2	40	2440	100.00%	8.5	7.9	0.016	0.018	
Extremity	GFSK (LE)	0	Barrel Side 3	40	2440	100.00%	8.5	7.9	0.005	0.006	
Extremity	GFSK (LE)	0	Barrel Side 4	40	2440	100.00%	8.5	7.9	0.008	0.009	

## 11. SAR Measurement Variability

In accordance with published RF Exposure KDB 865664 D01 SAR measurement 100 MHz to 6 GHz. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

- 1) Repeated measurement is not required when the original highest measured SAR is  $< 0.8$  or  $2$  W/kg (1-g or 10-g respectively); steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is  $\geq 0.8$  or  $2$  W/kg (1-g or 10-g respectively), repeat that measurement once.
- 3) Perform a second repeated measurement only if the **ratio of largest to smallest SAR** for the original and first repeated measurements is  $> 1.20$  or when the original or repeated measurement is  $\geq 1.45$  or  $3.6$  W/kg ( $\sim 10\%$  from the 1-g or 10-g respective SAR limit).
- 4) Perform a third repeated measurement only if the original, first, or second repeated measurement is  $\geq 1.5$  or  $3.75$  W/kg (1-g or 10-g respectively) and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .

### Note(s):

Repeated measurement is not required since the original highest measured SAR is  $< 0.8$  W/kg (1-g) or  $2$  W/kg (10-g) .

## 12. Simultaneous Transmission SAR Analysis

This device does not support simultaneous transmission

## **Appendixes**

**Refer to separated files for the following appendixes.**

**Appendix A: SAR Setup Photos**

**Appendix B: SAR System Check Plots**

**Appendix C: SAR Highest Test Plots**

**Appendix D: Tissue Ingredients**

**Appendix E: Probe Certificates**

**Appendix F: Dipole Certificates**

**END OF REPORT**