SAR EVALUATION REPORT

IEEE Std 1528-2013

For
Electronic Nicotine Delivery System (ENDS)

FCC ID: 2ASULS2
Model Name: JST002

Report Number: 16215648-S1V2
Issue Date: 5/26/2026

Prepared for
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ACCREDITED
CERT #0751.05

REVISION HISTORY

Rev.	Date	Revisions	Revised By
V1	4/21/2026	Initial Issue	--
V2	5/26/2026	Updated sections 1, 6.1, 7, and Appendix A	Devin Chang

Table of Contents

1. Attestation of Test Results

Applicant Name	JUUL Labs	
FCC ID	2ASULS2	
Model Name	JST002	
Applicable Standards	Published RF exposure KDB procedures IEEE Std 1528-2013	
Exposure Category	SAR Limits (W/Kg)	
	Peak spatial-average(1g of tissue)	Extremities (hands, wrists, ankles, etc.) (10g of tissue)
General population/Uncontrolled exposure	1.6	4
RF Exposure Conditions	Equipment Class - Highest Reported SAR (W/kg)	
	DTS	
Body-worn/Next-to-mouth	0.005	
Handheld	0.004	
Date Tested	4/17/2026 to 5/18/2026	
Test Results	Complies	

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 is capable of demonstrating compliance with the requirements as documented in this report.

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.

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 assure 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 taken into account unless noted otherwise.

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Approved & Released By:	Prepared By:
	
Devin Chang Senior Test Engineer UL Verification Services Inc.	Abhiyan Sapkota Laboratory Engineer 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:

- 865664 D01 (Section 3.5): SAR Measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 447498 D03 Supplement C Cross-Reference v01
- 447498 D01: General RF exposure Guidance v06 (see Notice-DRS0001 for exemptions)

In addition to the above, the following standards/procedures were used:

- IEC 62209-2:2010
  Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body.
- 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

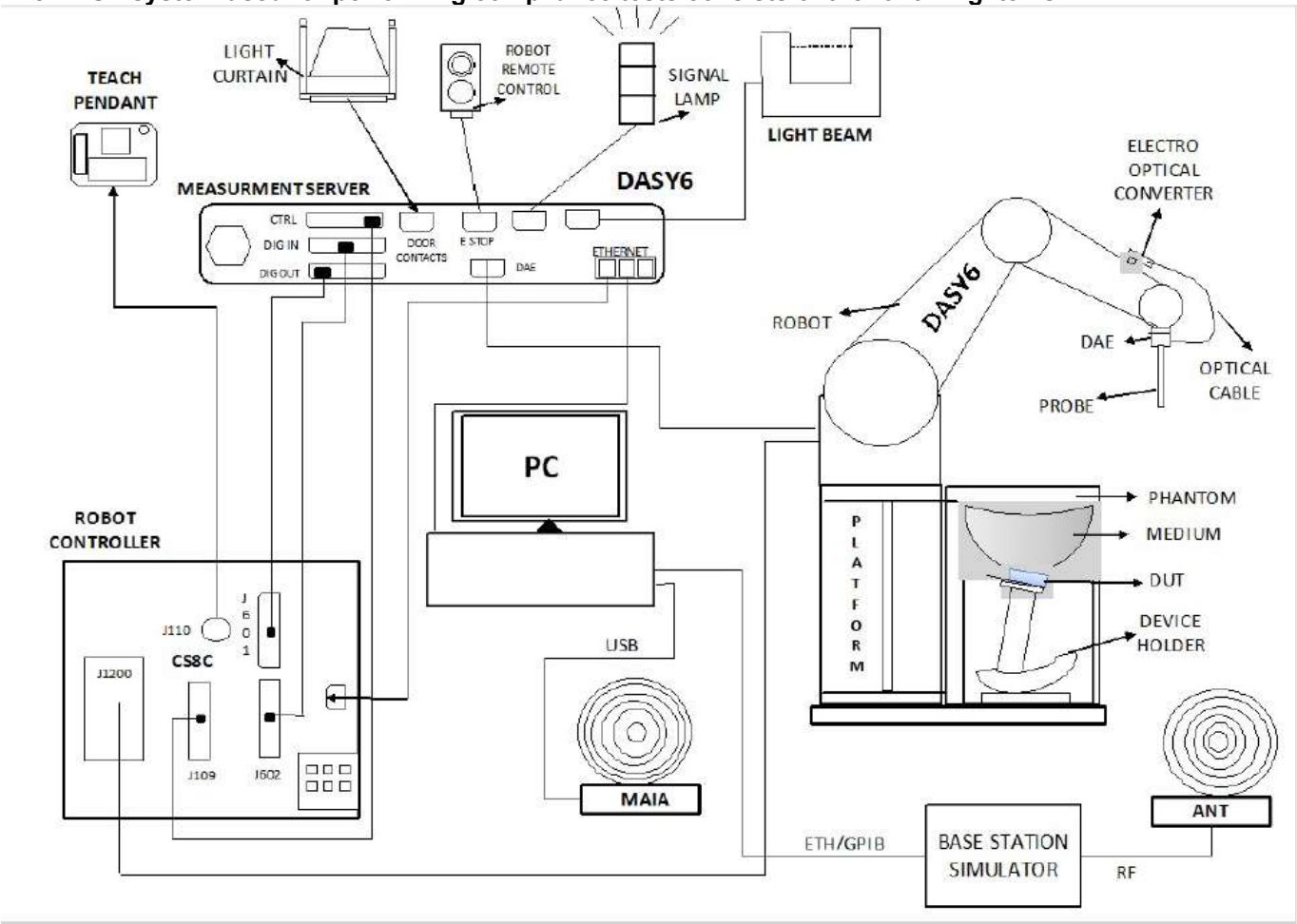
The test sites and measurement facilities used to collect data are located at

Company	Location	A2LA	FCC Registration #	ISED CABID	ISED Company #
UL Verification Services Inc.	47173 Benicia Street, Fremont, CA, 94538 USA	0751.05	550739	US0104	2324A
UL Verification Services Inc.	47266 Benicia Street, Fremont, CA, 94538 USA				

4. SAR Measurement System & Test Equipment

4.1. SAR Measurement System

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



1. A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
2. An isotropic Field probe optimized and calibrated for the targeted measurement.
3. 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.
4. 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.
5. 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.
6. The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
7. A computer running Win10 and the DASY6/8[1] software.
8. Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
9. The phantom, the device holder, and other accessories according to the targeted measurement.

[1] DASY6/8 software used: DASY6.16.4.0 or DASY8.17.0.0 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	½·δ·ln(2) ± 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: Δx_{Area}, Δy_{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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ 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 *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 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	R140	21130078	01/31/2027
Dielectric Probe Kit	SPEAG	DAK-3.5	1103	02/10/2027
Shorting Block	SPEAG	DAK-3.5 Short	T1059	N/A
Thermometer	Techmaster Electronics	Traceable	240029157	02/28/2027

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Signal Generator	Rohde & Schwarz	SMB 100A	180969	02/12/2027
Power Sensor	Rohde & Schwarz	NRP18A	100995	01/31/2027
Power Sensor	Agilent	N10149	MY53260010	02/11/2027
Power Meter	Keysight	N1911A	MY55196009	01/31/2027
Bi-Directional Coupler	Mini-Circuits	ZUDC10-83+	PRE0181620	N/A

Lab Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
E-Field Probe (SAR Lab 9)	SPEAG	EX3DV4	3772	02/13/2027
Data Acquisition Electronics (SAR Lab 9)	SPEAG	DAE4ip	1881	02/05/207
System Validation Dipole	SPEAG	D2450V2	748	02/12/2027

Other

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Spectrum Analyzer	KeySight	N9030A	MY51380907	1/31/2027

5. Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

Therefore, the measurement uncertainty is not required.

6. Device Under Test (DUT) Information

6.1. DUT Description

Device Dimension	Overall (Length x Width): 102 mm x 16 mm This is a Handheld device
Back Cover	The Back Cover is not removable
Battery Options	The rechargeable battery is not user accessible.
Accessory	The pod is not part of the EUT; it is support equipment. Refer to Appendix A, page 1, black part.
Test sample information	**S/N** — **Notes** 9537448/9560572 — SAR Unit SD4DVF100874 — Conducted Unit
Hardware Version	N/A
Software Version	2.8.6.x

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode	Duty Cycle used for SAR testing
Bluetooth	2.4 GHz	BLE	85.3%

7. RF Exposure Conditions (Test Configurations)

Refer to Appendix A for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.

7.1. Standalone SAR Test Exclusion Considerations

Per 447498 D01 v06 General RF Exposure Guidance § 4.3.1 and Appendix A and Appendix B:

These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions. The minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions, and platform requirements, to any part of the body or extremity of a user or bystander. To qualify for SAR test exclusion, the test separation distances applied must be fully explained and justified, typically in the SAR measurement or SAR analysis report, by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, according to the required published RF exposure KDB procedures.

a) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:
   [(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, where
   - f(GHz) is the RF channel transmit frequency in GHz
   - Power and distance are rounded to the nearest mW and mm before calculation
   - The result is rounded to one decimal place for comparison
   - The values 3.0 and 7.5 are referred to as numeric thresholds in step b) below

b) For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B):
   1) {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)·(f(MHz)/150)]} mW, for 100 MHz to 1500 MHz
   2) {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)·10]} mW, for > 1500 MHz and ≤ 6 GHz

SAR Test Exclusion Calculations

- When the separation distance from the antenna to an adjacent edge is ≤ 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
- When the separation distance from the antenna to an adjacent edge is > 5 mm, the actual antenna-to-edge separation distance is applied to determine SAR test exclusion.

Antennas ≤ 50mm to adjacent edges

1g SAR

RF Exposure Conditions	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						SAR Exemption Limit (mW) & Exclusion					
			dBm	mW	Back	Front	Edge Top	Edge Right	Edge Bottom	Edge Left	Back	Front	Edge Top	Edge Right	Edge Bottom	Edge Left
Body	Bluetooth	2480	6.0	4	5	5	5	5	100	5	Limit: 3 mW -MEASURE-	Limit: 3 mW -MEASURE-	Limit: 3 mW -MEASURE-	Limit: 3 mW -MEASURE-	Limit: 817 mW -EXEMPT-	Limit: 3 mW -MEASURE-
Next-to-mouth	Bluetooth	2480	6.0	4					100						Limit: 817 mW -EXEMPT-	

10g SAR

RF Exposure Conditions	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						SAR Exemption Limit (mW) & Exclusion					
			dBm	mW	Back	Front	Edge Top	Edge Right	Edge Bottom	Edge Left	Back	Front	Edge Top	Edge Right	Edge Bottom	Edge Left
Handheld	Bluetooth	2480	6.0	4	5	5	5	5	100	5	Limit: 7.5 mW -MEASURE-	Limit: 7.5 mW -MEASURE-	Limit: 7.5 mW -MEASURE-	Limit: 7.5 mW -MEASURE-	Limit: 2042.5 mW	Limit: 7.5 mW -MEASURE-

Note(s):

According to KDB 447498, if the calculated threshold value is (P_mW/d_mm)·√f_GHz] ≤ 3.0（1g）/ ≤ 7.5（10g）, then SAR testing is not required.

Antennas > 50mm to adjacent edges

1g SAR

RF Exposure Conditions	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						SAR Exemption Limit (mW) & Exclusion					
			dBm	mW	Back	Front	Edge Top	Edge Right	Edge Bottom	Edge Left	Back	Front	Edge Top	Edge Right	Edge Bottom	Edge Left
Body	Bluetooth	2480	6.0	4	5	5	5	5	100	5	< 50 mm	< 50 mm	< 50 mm	< 50 mm	595.3 mW -EXEMPT-	< 50 mm
Next-to-mouth	Bluetooth	2480	6.0	4					100						595.3 mW -EXEMPT-	

10g SAR

RF Exposure Conditions	Tx Interface	Frequency (MHz)	Output Power		Separation Distances (mm)						SAR Exemption Limit (mW) & Exclusion					
			dBm	mW	Back	Front	Edge Top	Edge Right	Edge Bottom	Edge Left	Back	Front	Edge Top	Edge Right	Edge Bottom	Edge Left
Handheld	Bluetooth	2480	6.0	4	5	5	5	5	100	5	< 50 mm	< 50 mm	< 50 mm	< 50 mm	1488.25 mW -EXEMPT-	< 50 mm

Note(s):

According to KDB 447498, if the output power is less than the calculated Power threshold, then SAR testing is not required.

7.2. Required Test Configurations

The table below identifies the standalone test configurations required for this device according to the findings in Section 7.1:

1g SAR

RF Exposure Conditions	Band	Back	Front	Edge Top	Edge Right	Edge Bottom	Edge Left
Body	Bluetooth LE	Yes	Yes	Yes	Yes	No	Yes
Next-to-mouth	Bluetooth LE	N/A	N/A	N/A	N/A	No	N/A

10g SAR

RF Exposure Conditions	Band	Back	Front	Edge Top	Edge Right	Edge Bottom	Edge Left
Handheld	Bluetooth LE	No	No	No	No	No	No

Notes:

The minimum separation distance for body-worn operation is 5 mm. To ensure coverage of body-worn, next-to-mouth, and handheld RF exposure conditions, testing was performed at a separation distance of 0 mm.

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 ± 2°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 (εr) and conductivity (σ) ranges of ± 20%, but ranges of ± 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 ± 10% range is used. Please review Appendix E (Probe Calibration Certificates) for justification on usage of TSL ±10% range.

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Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

Target Frequency (MHz)	Head		Body	
	ε_r	σ (S/m)	ε_r	σ (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.

SAR Liquid and System Check Results

Liquid Check											System Check										
SAR Lab	Date	Tissue Type	Band (MHz)	Freq. (MHz)	Relative Permittivity (εr)			Conductivity (σ)			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 9	4/17/2026	Head	2450	2450	36.96	39.20	-5.71%	1.67	1.80	-7.22%	D2450V2 SN: 748	10/12/2027	17.0	2.520	50.281	51.700	-2.75%	1.190	23.744	24.200	-1.89%	1
				2400	37.00	39.30	-5.84%	1.63	1.75	-6.94%												
				2500	36.84	39.14	-5.87%	1.70	1.85	-8.31%												

9. Conducted Output Power Measurements

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(LE)

Maximum Output Power (Tune-up Limit) for Bluetooth

Bluetooth conducted output power measurements and SAR evaluation follow published FCC RF exposure guidance and established procedures referenced in this report. SAR measurement was performed for the BLE (GFSK), and the duty cycle was characterized and applied as the duty-cycle scaling factor for reported SAR.

Band	Mode	Ch #	Freq. (MHz)	Average Power (dBm)		
				Meas Pwr	Tune-up	SAR Test (Yes/No)
Bluetooth 2.4 GHz	LE, GFSK	0	2402	5.7	6.0	Yes
		19	2440	5.6	6.0	
		39	2480	5.5	6.0	

Duty Factor Measured Results

Mode	Mode	Ton (ms)	Period (ms)	Duty Cycle	Crest Factor (1/duty cycle)
BLE	GFSK	2.13937	2.50849	85.29%	1.17

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) = 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:

- ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- ≤ 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
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

10.1. Bluetooth(LE)

RF Exposure Condition(s)	Mode(s)	Dist. (mm)	Duty Cycle (%)	Test Position(s)	Channel	Freq. (MHz)	TuP Limit (dBm)	Meas. (dBm)	1-g Meas. (W/kg)	1-g Scaled (W/kg)	10-g Meas. (W/kg)	10-g Scaled (W/kg)	Plot No.
Body-worn/Handheld	GFSK (LE)	0	85.30%	Back	0	2402.0	6.0	5.7	0.005	0.005	0.004	0.004	1
Body-worn/Handheld	GFSK (LE)	0	85.30%	Back	19	2441.0	6.0	5.6	0.002	0.002	0.001	0.001	
Body-worn/Handheld	GFSK (LE)	0	85.30%	Back	39	2480.0	6.0	5.5	0.003	0.003	0.002	0.002	
Body-worn/Handheld	GFSK (LE)	0	85.30%	Front	0	2402.0	6.0	5.7	0.003	0.003	0.002	0.002	
Body-worn/Handheld	GFSK (LE)	0	85.30%	Edge Top	0	2402.0	6.0	5.7	0.001	0.001	0.001	0.001	
Body-worn/Handheld	GFSK (LE)	0	85.30%	Edge Right	0	2402.0	6.0	5.7	0.002	0.002	0.001	0.001	
Body-worn/Handheld	GFSK (LE)	0	85.30%	Edge Bottom	0	2402.0	6.0	5.7	0.003	0.003	0.002	0.002	
Body-worn/Handheld	GFSK (LE)	0	85.30%	Edge Left	0	2402.0	6.0	5.7	0.001	0.001	0.001	0.001	

Notes:

The minimum separation distance for body-worn operation is 5 mm. To ensure coverage of body-worn, next-to-mouth, and handheld RF exposure conditions, testing was performed at a separation distance of 0 mm.

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 ≥ 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 ≥ 1.45 or 3.6 W/kg (~ 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 ≥ 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 Conditions

Simultaneous SAR is not supported for this device

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: SAR Tissue Ingredients

Appendix E: SAR Probe Certificates

Appendix F: SAR Dipole Certificates

END OF REPORT