

### FCC 47 CFR § 2.1093 IEEE Std 1528-2013

### **SAR EVALUATION REPORT**

**FOR** 

Wireless Device + Bluetooth LE

**MODEL NUMBER: GY3LE** 

FCC ID: TX4GY3LE

REPORT NUMBER: 4791150642-S2V3

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Prepared for

Remote Solution Co Ltd.
GIMCHEON-SI, Gyeongsangbuk-do 39662
Korea, Republic of

Prepared by

UL Korea, Ltd.

26th floor, 152, Teheran-ro, Gangnam-gu Seoul, 06236, Korea

Suwon Test Site: UL Korea, Ltd. Suwon Laboratory 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea

TEL: (031) 337-9902 FAX: (031) 213-5433



**Testing Laboratory** 

TL-637

## **Revision History**

Rev.	Date	Revisions	Revised By
V1	3/21/2024	Initial Issue	
V2	3/26/2024	Added FCC ID Revised Sec 5 Added note in Sec 7	Jeongyeon Won
V3	3/27/2024	Revised Sec 4.2	Jeongyeon Won

### **Table of Contents**

1.	Attestation of Test Results	4
2.	Test Specification, Methods and Procedures	5
3.	Facilities and Accreditation	5
4.	SAR Measurement System & Test Equipment	6
4.1.		
4.2.	SAR Scan Procedures	7
4.3.	3. Test Equipment	9
5.	Measurement Uncertainty	10
5.1.	. DECISION RULE	10
6.	Device Under Test (DUT) Information	11
6.1.	. DUT Description	11
6.2.	. Wireless Technologies	11
7.	RF Exposure Conditions (Test Configurations)	11
8.	Dielectric Property Measurements & System Check	12
8.1.	. Dielectric Property Measurements	12
8.2.	System Check	13
9.	Conducted Output Power Measurements	14
9.1.	. Bluetooth-LE	14
10.	Measured and Reported (Scaled) SAR Results	15
10.	1. Bluetooth-LE	16
11.	SAR Masurement Variability	16
12.	Simultaneous Transmission SAR Analysis	16
Appeı	endixes	17
479	91150642-S2 Report _App A_Photos & Ant. Locations	17
	91150642-S2 Report_App B_Highest SAR Test Plots	
	91150642-S2 Report _App C_System Check Plots	
479	91150642-S2 Report _App D_SAR Tissue Ingredients	17
479	91150642-S2 Report _App E_Probe Cal. Certificates	17
479	91150642-S2 Report _App F_Dipole Cal. Certificates	17

### 1. Attestation of Test Results

Applicant Name	Remote Solution Co Ltd.		
Model Number	GY3LE		
Applicable Standards	FCC 47 CFR § 2.1093 IEEE Std 1528-2013 Published RF exposure KDB procedures		
	SAR Limits (W/Kg)		
Exposure Category	Peak spatial-average (1g of tissue)		
General population / Uncontrolled exposure	1.6		
RF Exposure Conditions	Equipment Class - The Highest Reported SAR (W/kg)		
Ki Exposure Conditions	Bluetooth LE		
Standalone at 0mm	0.55		
Simultaneous TX	N/A		
Date Tested	1/18/2024		
Test Results	Pass		

UL Korea, Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Korea, Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Korea, Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Korea, Ltd. 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 IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released By:	Prepared By:		
- fres	원정면		
Justin Park	Jeongyeon Won		
Operations Leader	Laboratory Engineer		
UL Korea, Ltd. Suwon Laboratory	UL Korea, Ltd. Suwon Laboratory		

## 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, ANSI C63.26-2015 the following FCC Published RF exposure KDB procedures:

- 447498 D01 General RF Exposure Guidance v06
- o 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04

### 3. Facilities and Accreditation

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

Suwon	
SAR 2 Room	

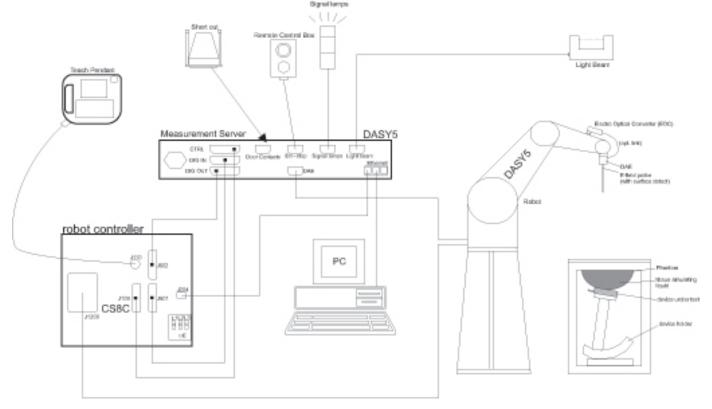
UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637.

The full scope of accreditation can be viewed at <a href="https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf">https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf</a>.

## 4. SAR Measurement System & Test Equipment

### 4.1. SAR Measurement System

The DASY5 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, ADconversion, 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 or Win7 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.

### 4.2. 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 IEEE Standard 1528 and IEC 62209 standards, 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	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5 \text{ mm}$
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
Maximum area scan spatial resolution: $\Delta x_{Area}$ , $\Delta y_{Area}$	When the x or y dimension o measurement plane orientation the measurement resolution is x or y dimension of the test dimeasurement point on the test	on, is smaller than the above, must be ≤ the corresponding device with at least one

#### 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: $\Delta x_{Zoom}$ , $\Delta y_{Zoom}$			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
Maximum zoom scan spatial resolution, normal to phantom surface	$\begin{array}{ccc} & & & & & & \\ & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & &$	Δz <sub>Zoom</sub> (1): between 1 <sup>st</sup> two points closest to phantom surface	≤ 4 mm	$3 - 4 \text{ GHz:} \le 3 \text{ mm}$ $4 - 5 \text{ GHz:} \le 2.5 \text{ mm}$ $5 - 6 \text{ GHz:} \le 2 \text{ mm}$
		Δz <sub>Zoom</sub> (n>1): between subsequent points	≤ 1.5·Δz	Δz <sub>Zoom</sub> (n-1)
Minimum zoom scan volume	X. V. 7		≥ 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.

#### 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.

When zoom scan is required and the <u>reported</u> SAR from the <u>area scan based 1-g SAR estimation</u> 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.

## 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
Netw ork Analyzer	Agilent	E5071C	MY 46522054	7-24-2024
Dielectric Assessment Kit	SPEAG	DAK-3.5	1196	7-17-2024
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	LKM	DTM3000	3851	7-25-2024

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
MXG Analog Signal Generator	Aglient	N5181A	MY50145882	7-26-2024
Pow er Sensor	KEYSIGHT	U2000A	MY61280010	1-3-2025
Pow er Sensor	KEYSIGHT	U2000A	MY61010010	7-25-2024
Pow er Amplifier	MINI-CIRCUITS	TVA-R5-13A+	2111006	1-3-2025
Directional Coupler	Aglient	772D	MY52180193	7-25-2024
Low Pass Filter	FILTRON	L140012FL	1410003S	7-25-2024
Attenuator	KEYSIGHT	8491B/003	MY39272276	7-25-2024
Attenuator	KEYSIGHT	8491B/010	MY39272293	7-25-2024
Attenuator	KEYSIGHT	8491B/020	MY39271973	7-25-2024
E-Field Probe	SPEAG	EX3DV4	7314	5-26-2024
Data Acquisition Electronics	SPEAG	DAE4	1494	7-17-2024
System Validation Dipole	SPEAG	D2450V2	960	3-24-2024
Thermometer	Lutron	MHB-382SD	AH.50215	1-4-2025

#### Note(s):

<sup>1.</sup> For System Validation Dipole, Calibration interval applied every 2 years according to referencing KDB 865664 guidance.

<sup>2.</sup> Refer to Appendix F that mentioned about justification for Extended SAR Dipole Calibrations. (for blue box items)

<sup>3.</sup> All equipments were used until Cal.Due data.

## 5. Measurement Uncertainty

### Measurement Uncertainty of 100MHz to 6GHz

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  $\leq$  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.

### 5.1. DECISION RULE

Measurement Uncertainty is not applied when providing statements of conformity in accordance with IEC Guide 115:2023, 4.3.3.

# 6. Device Under Test (DUT) Information

## 6.1. DUT Description

Device Dimension	Refer to Appe	Refer to Appendix A.					
Test Sample Information	No.	S/N	Notes				
	1	3C131QUAO0005N	BT Conducted				
	2	3C131QUAO0007Z	SAR				
	3	3C131QUAO0008D	SAR				

## 6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode	Duty Cycle used for SAR testing	
Bluetooth-LE	2.4 GHz	FTM mode	100.0% (LE-1Mbps)	

# 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.

**Bluetooth Bands** 

Antenna	Tx Interface	Rear	Front	Тор	Bottom	Left	Right
BLE Ant.1	BLE-1MHz	Yes	Yes	NO	Yes	Yes	Yes
BLE Ant.2	BLE-1MHz	Yes	Yes	Yes	NO	Yes	Yes

### Note(s):

The remote control must consider both Next to mouth (1g SAR at 10mm) and Extremity (10g SAR at 0mm) depending on the usage conditions. However, we did not test each one, but conservatively measured 1-g SAR at 0 mm. This test is a conservative estimate that includes both RF exposure condifirons.

## 8. Dielectric Property Measurements & System Check

## 8.1. Dielectric Property Measurements

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within  $\pm$  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.

#### **Tissue Dielectric Parameters**

IEC/IEEE 62202-1528 SAR Measurement 4 MHz to 10 GHz

10/ILLL 02202-1320 3AN	Wicasarcinent + Wiriz	10 10 0112
Target Frequency (MHz)	$\epsilon_{\rm r}$	σ (S/m)
4	55.0	0.75
13	55.0	0.75
30	55.0	0.75
150	52.3	0.76
300	45.3	0.87
450	43.5	0.87
750	41.9	0.89
835	41.5	0.90
900	41.5	0.97
1450	40.5	1.20
1800	40.0	1.40
1900	40.0	1.40
1950	40.0	1.40
2000	40.0	1.40
2100	39.8	1.49
2450	39.2	1.80
2600	39.0	1.96
3000	38.5	2.40
3500	37.9	2.91
4000	37.4	3.43
4500	36.8	3.94
5000	36.2	4.45
5200	36.0	4.66
5400	35.8	4.86
5600	35.5	5.07
5800	35.3	5.27
6000	35.1	5.48
6500	34.5	6.07
7000	33.9	6.65
7500	33.3	7.24
8000	32.7	7.84
8500	32.1	8.46
9000	31.6	9.08
9500	31.0	9.71
10000	30.4	10.40

SAR test were performed in All RF exposure conditions using Head tissue according to TCB workshop note of April. 2019.

# **Dielectric Property Measurements Results:**

SAR 2 Room

Date	Freq. (MHz)		Lic	quid Parameters	Measured	Target	Delta (%)	Limit ±(%)
2024-01-18	Head 2450	e'	37.6600	Relative Permittivity $(\varepsilon_r)$ :	37.66	39.20	-3.93	5
		e"	13.3500	Conductivity (σ):	1.82	1.80	1.04	5
	Head 2400	e'	37.7400	Relative Permittivity $(\varepsilon_r)$ :	37.74	39.30	-3.96	5
		e"	13.3700	Conductivity (σ):	1.78	1.75	1.86	5
	Head 2500	e'	37.6000	Relative Permittivity $(\varepsilon_r)$ :	37.60	39.14	-3.93	5
		e"	13.3300	Conductivity (σ):	1.85	1.85	-0.06	5

### 8.2. System Check

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 2.5 mm.
   For 5 GHz band Distance between probe sensors and phantom surface was set to 1.4 mm
- The dipole input power (forward power) was 100 mW.
- The results are normalized to 1 W input power.

#### **Reference Target SAR Values**

The reference SAR values can be obtained from the calibration certificate of system validation dipoles.

System Dipole	Serial No.	Cal. Date	Freg. (MHz)	Target SAR Values (W/kg)		
	Senai No.		1 16q. (IVII 12)	1g/10g	Head	
D2450V2	960	3-24-2022	2450	1g	51.90	
				10g	24.00	

#### Note(s):

Refer to Appendix F that mentioned about justification for Extended SAR Dipole Calibrations.

#### **System Check Results**

The 1-g and 10-g SAR measured with a reference dipole, using the required tissue-equivalent medium at the test frequency, must be within 10% of the manufacturer calibrated dipole SAR target.

#### SAR 2 Room

		System	Dipole	T.S.		Measure	d Results	Target	Delta	
	Date Tested	Туре	Serial#		uid	Zoom Scan to Normalize 100 mW to 1 W		(Ref. Value)	±10 %	Plot No.
	1 10 2024	D2450V2	060	Цоод	1g	5.27	52.7	51.90	1.54	1
	1-18-2024	D2400V2	960 Head		10g	2.44	24.4	24.00	1.67	l l

# 9. Conducted Output Power Measurements

### 9.1. Bluetooth-LE

**Bluetooth-LE Output power Measured Results** 

Pand	Band			Freq.	Maximum Average Power (dBm)						
(GHz) Antenna	Mode	Ch#	(MHz)	Meas Pwr	SAR test						
	2.4 BLE SISO Ant.1	I I F-1Mbps	0	2402	8.98						
2.4			LE-1Mbps	LE-1Mbps	LE-1Mbps	LE-1Mbps	LE-1Mbps	19	2441	9.38	Yes
				39	2480	9.49					
	2.4 BLE SISO Ant.2	I I F-1Mbps I	0	2402	8.28						
2.4			19	2441	8.62	Yes					
			39	2480	9.07						

### Note(s):

SAR test is evaluated at BLE 1Mbps mode using maximum power condition.

# **Duty Cycle plots**

BLE-1Mbps



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

#### SAR Test Reduction criteria are as follows:

- Reported SAR(W/kg) for WWAN= Measured SAR \*Tune-up Scaling Factor
- Reported SAR(W/kg) for Wi-Fi and 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:

- ≤ 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

#### KDB 248227 D01 SAR meas for 802.11:

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; these are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

The multiple test positions require SAR measurements in head, hotspot mode or UMPC mini-tablet configurations may be reduced according to the highest reported SAR determined using the <u>initial test position(s)</u> by applying the DSSS or OFDM SAR measurement procedures in the required wireless mode test configuration(s). The <u>initial test position(s)</u> is measured using the highest measured maximum output power channel in the required wireless mode test configuration(s). When the <u>reported SAR</u> for the <u>initial test position</u> is:

- ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.
- > 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the <u>initial test position</u> to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the <u>reported</u> SAR is ≤ 0.8 W/kg or all required test positions are tested.
  - For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
  - When it is unclear, all equivalent conditions must be tested.
- For all positions/configurations tested using the <u>initial test position</u> and subsequent test positions, when the <u>reported SAR</u> is > 0.8 W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the <u>reported SAR</u> is ≤ 1.2 W/kg or all required test channels are considered.
  - The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.
- When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII
  2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is ≤ 1.2 W/kg, SAR is not
  required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.
- When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has
  the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is ≤ 1.2
  W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands
  independently for SAR.

To determine the <u>initial test position</u>, Area Scans were performed to determine the position with the <u>Maximum Value of SAR</u> (measured). The position that produced the highest <u>Maximum Value of SAR</u> is considered the worst case position; thus used as the <u>initial test position</u>.

Page 15 of 17

### 10.1. Bluetooth-LE

Antenna							Freq. (MHz)	Pow er (dBm)		1-g SAR (W/kg)						
	Frequency Band	Mode	RF Exposure Conditions	Dist. (mm)	Test Position	Ch #.		Tune-up limit	Meas.	Meas.	Scaled	Plot No.				
I SISO I 2.4GHz I					Rear	39	2480.0	10.00	9.49	0.075	0.084					
	LE (1M)	Standalone	0	Front	39	2480.0	10.00	9.49	0.323	0.363	1					
				Bottom	39	2480.0	10.00	9.49	0.044	0.049						
				Left	39	2480.0	10.00	9.49	0.061	0.069						
											Right	39	2480.0	10.00	9.49	0.138
		2.4GHz LE (1M)			Rear	39	2480.0	10.00	9.07	0.094	0.117					
						0	2402.0	10.00	8.28	0.284	0.422					
BLE						ı		Front	19	2440.0	10.00	8.62	0.316	0.434		
SISO	2.4GHz		I Standalone I	dalone 0		39	2480.0	10.00	9.07	0.440	0.545	2				
Ant.2					Тор	39	2480.0	10.00	9.07	0.009	0.012					
					Left	39	2480.0	10.00	9.07	0.217	0.269					
					Right	39	2480.0	10.00	9.07	0.029	0.036					

## 11. SAR Masurement 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.

All measured 1-g SAR results are below 0.8 W/kg. So repeated SAR is not required.

# 12. Simultaneous Transmission SAR Analysis

Both BLE antennas are not work at the same time. So Simultaneous Transmission SAR Analysis are not required.

## **Appendixes**

Refer to separated files for the following appendixes.

4791150642-S2 Report \_App A\_Photos & Ant. Locations
4791150642-S2 Report \_App B\_Highest SAR Test Plots
4791150642-S2 Report \_App C\_System Check Plots
4791150642-S2 Report \_App D\_SAR Tissue Ingredients
4791150642-S2 Report \_App E\_Probe Cal. Certificates
4791150642-S2 Report \_App F\_Dipole Cal. Certificates

**END OF REPORT**