



TEST REPORT

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1. Client
 - Name : Samsung Electronics Co., Ltd.
 - Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
 - Date of Receipt : 2025-02-10
2. Use of Report : Certification
3. Name of Product and Model : Tablet PC
 - Model Name : SM-X350
 - Manufacturer and Country of Origin : Samsung Electronics Co., Ltd. / Vietnam
4. FCC ID : A3LSMX350
5. Date of Test : 2025-01-23 ~ 2025-03-11
6. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing
 (Address: 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea)
7. Test Standards : IEEE 1528-2013, ANSI/IEEE C95.1, KDB Publication
8. Test Results : Refer to the test result in the test report

Affirmation	Tested by Name : Mungi Jeong 	Technical Manager Name : Jongwon Ma 
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2025-03-17

Eurofins KCTL Co.,Ltd.

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REPORT REVISION HISTORY

Date	Revision	Page No
2025-03-17	Originally issued	-

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(may be required by the product standard or client)

☐ Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:

Procedure number, issue date and title:

Calculations leading to the reported values are on file with the testing laboratory that conducted the testing.

☒ Statement not required by the standard or client used for type testing

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1. General information

Client : Samsung Electronics Co., Ltd.
 Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
 Manufacturer : Samsung Electronics Co., Ltd.
 Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
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 VCCI Registration No. : R-3327, G-198, C-3706, T-1849
 CAB Identifier: KR0040, ISED Number: 8035A
 KOLAS No.: KT231

1.1 Report Overview

This report details the results of testing carried out on the samples listed in section 2, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this test report is used in any configuration other than that detailed in the test report, the manufacturer must ensure the new configuration complies with all relevant standards and certification requirements. Any mention of Eurofins KCTL Co.,Ltd. Wireless lab or testing done by Eurofins KCTL Co.,Ltd. Wireless lab made in connection with the distribution or use of the tested product must be approved in writing by Eurofins KCTL Co.,Ltd. Wireless lab.

2. Device information

2.1 Basic description

Product Name		Tablet PC		
Product Model Name		SM-X350		
Product Manufacturer		Samsung Electronics Co., Ltd.		
Product Serial Number	Radiation	R32XC01B95V, R32XC01BG3J, R32XC01BHJY		
	Conduction	R32XC01B77Y, R32XC01B5QD		
Device Overview		Band & Mode	Operating Modes	Tx Frequency (MHz)
		2.4 GHz WLAN	Data	2 412.0 ~ 2 472.0
		U-NII-1	Data	5 180.0 ~ 5 240.0
		U-NII-2A	Data	5 260.0 ~ 5 320.0
		U-NII-2C	Data	5 500.0 ~ 5 720.0
		U-NII-3	Data	5 745.0 ~ 5 825.0
		U-NII-4	Data	5 845.0 ~ 5 885.0
		Bluetooth	Data	2 402.0 ~ 2 480.0
		NFC	Data	13.56
TDWR Information		5.60 GHz~ 5.65 GHz band (TDWR) is supported by the device.		

2.1.1 Introduction for Data referencing

This report referenced from the FCC ID: A3LSMX356B.

Based on their similarity, the SAR reuses the original model's result and do spot-check, following the FCC KDB 484596 D01 v01.

And the applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID.

2.1.2 Difference for Depopulated model

The FCC ID: A3LSMX350 shares the same enclosure and circuit board as FCC ID: A3LSMX356B. The WIFI/BT/BLE/NFC antenna and surrounding circuitry and layout are identical between these two units.

As for all bands, they have been verified and the parent model test results under FCC ID: A3LSMX356B shall remain representative of FCC ID: A3LSMX350.

Note: The Product equality letter includes detailed information about the differences between FCC ID: A3LSMX356B and FCC ID: A3LSMX350.

2.1.3 Spot check Verification Data

Exposure Condition /Position			Distance (mm)	Frequency (MHz)	Scaled SAR (W/kg)				Deviation (%)	Remark
					SM-X356B		SM-X350			
					1g	10g	1g	10g		
WLAN 2.4 GHz	Ant.1	Rear	0	2 462.0	0.653		0.629		-3.7%	
	Ant.2	Left	0	2 462.0	0.385		0.353		-8.2%	
	MIMO	Rear	0	2 462.0	0.622		0.659		5.9%	
U-NII-2A	MIMO	Left	0	5 320.0	0.566		0.724		28.0%	
U-NII-2C	MIMO	Left	0	5 720.0	1.057		0.884		-16.3%	
U-NII-3	MIMO	Left	0	5 745.0	1.034		0.913		-11.7%	
U-NII-4	MIMO	Left	0	5 865.0	0.961		0.955		-0.6%	
Bluetooth	Ant.1	Rear	0	2 441.0	0.558		0.457		-18.1%	
	Ant.2	Left	0	2 402.0	0.279		0.351		25.7%	
NFC		Front	0	13.6		0.008		0.007	-0.13%	

Notes:

- For FCC ID: A3LSMX350 has been verified the performance as for RF exposure identical with the FCC ID: A3LSMX356B.
- Compared worst configuration of the reference model, please refer to section 10 for detailed results.

2.1.4 Reference Detail

Reference application that contains the reused reference data in the individual test reports.

ITEM	Reference FCC ID	Application Type	Reference Test report Number	Exhibit Type	Variant Test Report Number	Date Re-used
RF Exposure	A3LSMX356B	Original	KR25-SPF0005	Test report	KR25-SPF0009	WLAN, Bluetooth, NFC

For this application the data reuse is summarized below for each equipment class

Equipment Class	Reference FCC ID	Application Type	Test Item	Data Re-used
DTS	A3LSMX356B	Original	WLAN (802.11b/g/n/ac/ax)	All
NII	A3LSMX356B	Original	WLAN (802.11a/n/ac/ax)	All
DSS	A3LSMX356B	Original	Bluetooth (BDR,EDR,LE)	All
DXX	A3LSMX356B	Original	NFC	All

2.2 Summary of SAR Test Results

Band	Equipment Class	Highest Reported	
		Body 1g SAR (W/kg)	Body 10g SAR (W/kg)
WLAN 2.4 GHz	DTS	0.66	N/A
U-NII-2A	NII	0.72	N/A
U-NII-2C	NII	1.06	N/A
U-NII-3	NII	1.03	N/A
U-NII-4	NII	0.96	N/A
Bluetooth	DSS	0.56	N/A
NFC	DXX	N/A	< 0.10
Simultaneous SAR per KDB 690783 D01v01r03		1.44	N/A

2.3 #Antenna information

Antenna Type		LDS Antenna					
Band		WLAN 2.4 GHz / Bluetooth	UNII-1	UNII-2A	UNII-2C	UNII-3	UNII-4
Peak gain (dBi)	Ant.1	-4.5	-4.5	-4.2	-4.2	-4.4	-4.4
	Ant.2	-4.0	-4.7	-4.6	-4.8	-4.9	-4.9

2.4 Power Reduction for SAR

This device utilizes a power reduction mechanism for wireless modes and bands for SAR compliance under some conditions when the device is being used in close proximity to the user's hand. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device when being used in Tablet use conditions. Detailed descriptions of the power reduction mechanism are included in the operational description.

2.5 #Maximum Tune-up power

This device operates using the following maximum output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D04v01.

When the specified maximum output power is the same for both UNII Band1 and UNII Band 2A, begins SAR measurement in UNII band 2A; and if the highest reported SAR for UNII band 2A is $\leq 1.2\text{W/kg}$, SAR is not required for UNII band1 $> 1.2\text{W/kg}$, both bands should be tested independently for SAR.

2.5.1 #Maximum WLAN Output Power(Normal)

Mode	Band	SISO						MIMO (Ant.1+Ant.2)					
		a	b	g	n	ac	ax	a	b	g	n	ac	ax
2.4 GHz (20 MHz)	1ch		19	15	15	15	15			18	18	18	18
	2ch		19	15	15	15	15			18	18	18	18
	3ch		19	15	15	15	15			18	18	18	18
	4-9ch		19	15	15	15	15			18	18	18	18
	10ch		19	15	15	15	15			18	18	18	18
	11ch		19	15	15	15	15			18	18	18	18
	12ch		2	2	2	2	2			5	5	5	5
	13ch		-1	-1	-1	-1	-1			2	2	2	2
5 GHz (20 MHz)	5200 MHz							20			19	19	19
	5300 MHz							20			19	19	19
	5500 MHz							20			19	19	19
	5520 MHz-5680 MHz							20			19	19	19
	5700 MHz							20			19	19	19
	5720 MHz							20			19	19	19
	5800 MHz							20			19	19	19
	5900 MHz(include over-lap channel: 169ch.)							20			19	19	19
5 GHz (40 MHz)	5190 MHz										19	18	19
	5230 MHz										19	18	19
	5300 MHz										19	18	19
	5510 MHz										19	18	19
	5550 MHz										19	18	19
	5670 MHz										19	18	19
	5710 MHz										19	18	19
	5720 MHz										19	18	19
	5800 MHz										19	18	19
	5900 MHz(include over-lap channel: 167ch.)										19	18	19
5 GHz (80 MHz)	5200 MHz											18	18
	5300 MHz											18	18
	5530 MHz											18	18
	5610 MHz											18	18
	5690 MHz											18	18
	5800 MHz											18	18
	5900 MHz(include over-lap channel: 171ch.)											18	18
5 GHz (160 MHz)	5200 MHz											17	17
	5500 MHz											17	17
	5900 MHz(include over-lap channel: 163ch.)											17	17

Note:

- 1) Supports 802.11b Ant.1 & Ant.2 / Supports only 802.11g,n,ac,ax Ant.2
- 2) WLAN 5 GHz only support MIMO mode.

2.5.2 #Maximum WLAN Output Power(Back off-Grip Sensor)

Mode	Band	SISO						MIMO (Ant.1+Ant.2)					
		a	b	g	n	ac	ax	a	b	g	n	ac	ax
2.4 GHz	1ch		11	11	11	11	11		14	14	14	14	14
	2-10ch		11	11	11	11	11		14	14	14	14	14
	11ch		11	11	11	11	11		14	14	14	14	14
	12ch		2	2	2	2	2		5	5	5	5	5
	13ch		-1	-1	-1	-1	-1		2	2	2	2	2
5 GHz (20 MHz)	5200 MHz							10			10	10	10
	5300 MHz							10			10	10	10
	5500 MHz							10			10	10	10
	5800 MHz							10			10	10	10
	5900 MHz(include over-lap channel: 169ch.)							10			10	10	10
5 GHz (40 MHz)	5200 MHz										10	10	10
	5300 MHz										10	10	10
	5500 MHz										10	10	10
	5800 MHz										10	10	10
	5900 MHz(include over-lap channel: 167ch.)										10	10	10
5 GHz (80 MHz)	5200 MHz											10	10
	5300 MHz											10	10
	5500 MHz											10	10
	5800 MHz											10	10
	5900 MHz(include over-lap channel: 171ch.)											10	10
5 GHz (160 MHz)	5200 MHz											10	10
	5500 MHz											10	10
	5900 MHz(include over-lap channel: 163ch.)											10	10

Note:

- 1) Supports 802.11b Ant.1 & Ant.2 / Supports only 802.11g,n,ac,ax Ant.2
- 2) WLAN 5 GHz only support MIMO mode.

2.5.3 #Maximum Bluetooth Output Power

Band	Mode	Channel	Output Power(dBm)							
			Ant.1				Ant.2			
			Max		Back-off (Grip Sensor)		Max		Back-off (Grip Sensor)	
			Target	Max. Allowed	Target	Max. Allowed	Target	Max. Allowed	Target	Max. Allowed
Bluetooth	BDR(GFSK)	Except	19.00	20.00	10.00	11.00	18.50	19.50	10.00	11.00
		39			10.40	11.40			11.20	12.20
		78			9.50	10.50			9.00	9.50
	EDR (π/4DQPSK) EDR(8DPSK)	0	16.00	17.00	9.00	10.00	15.50	16.50	9.50	10.50
		39			10.00	11.00	15.00	16.00	10.50	11.50
		78			8.50	9.50			8.20	9.20
	LE(GFSK) 1 Mbps/2 Mbps (37/255 Packet)	1M:37 2M:0	17.00	18.00	8.50	9.50	16.00	17.00	8.50	9.50
		17			7.00	8.00				
		1M:39 2M:36								
	LE(GFSK) 125/500 Kbps	Except	8.00	9.00	8.00	9.00	N/A			
		39	7.00	8.00	7.00	8.00				

Note: This device does not supported Advertising channels (2402 MHz, 2426 MHz, 2480 MHz) at the BLE 2Mbps data rate.

2.6 SAR Test Configurations

2.6.1 #DUT Antenna Locations

The overall dimensions of this device are > 20 cm. A diagram showing the location of the device antennas. Please refer to Appendix D.

2.7 Near Field Communications (NFC) Antenna

This DUT has NFC operations. The NFC antenna is integrated into the device for the model. Therefore, all SAR test were performed with the device which already incorporates the NFC antenna. A diagram showing the location of the NFC antenna can be found in Appendix D.

2.8 SAR Test Methods and Procedures

The tests documented in this report were performed in accordance with IEEE 1528-2013 and the following published KDB procedures:

- IEEE 1528-2013
- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D04 General RF Exposure Guidance v01
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 616217 D04 SAR for laptop and tablets v01r02 (Proximity Sensor)
- October 2016 TCB Workshop Notes (Bluetooth Duty Factor)
- April 2019 TCB Workshop Notes (Tissue Simulating Liquids)
- October 2020 TCB Workshop Notes (Data Referencing)

3. Specific Absorption Rate

3.1 Introduction

The SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational / controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

3.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

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

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

SAR measurement can be either related to the temperature elevation in tissue by

$$SAR = C \left(\frac{\delta T}{\delta t} \right)$$

Where: C is the specific heat capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

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

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength. However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

4. SAR Measurement Procedures

4.1 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 1.4 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 & Zoom 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 and 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. 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 & Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 mm ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2)$ mm 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.	
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: Δz _{Zoom} (n)		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	Δz _{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
		Δz _{Zoom} (n>1): between subsequent points	≤ 1.5 · Δz _{Zoom} (n-1) mm	
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 IEEE Std 1528-2013 for details.				
* When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 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 3: 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.

5. SAR Measurement Configurations

5.1 SAR Testing for Tablet Configurations

Per FCC KDB Publication 616217 D04v01r02, for the back surface and edges of the tablet should be tested touching the phantom.

SAR evaluation for the front surface of tablet display screens are generally not necessary, except for tablets that are designed to require continuous operations with the hand next to the antenna.

The SAR exclusion threshold in KDB 447498 D04v01 can be applied to determine SAR test exclusion for adjacent edge configuration. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

5.2 Proximity Sensor Considerations

This device uses a power reduction mechanism to reduce output powers in certain use conditions when the device is used close to the user's body.

When the device's antenna is within a certain distance of the user, the sensor activates and reduces the maximum allowed output power. However, the sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, additional evaluation is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device at these additional test positions.

6. RF Exposure Limits

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.

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.

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Partial Peak SAR ¹⁾ (Partial)	1.60 mW/g	8.00 mW/g
Partial Average SAR ²⁾ (Whole Body)	0.08 mW/g	0.40 mW/g
Partial Peak SAR ³⁾ (Hands/Feet/Ankle/Wrist)	4.00 mW/g	20.00 mW/g

- 1) The spatial Peak value of the SAR averaged over any 1g gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
- 2) The spatial Average value of the SAR averaged over the whole body.
- 3) 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 SAR General 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. Test highest reported SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.



8. RF Average Conducted Output Power

8.1 WLAN Average Conducted Output Power

Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission modes with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported.

Power Measurement Setup



8.1.1 WLAN Average Conducted Output Power

Band	Mode	Freq. [MHz]	Channel	Conducted Powers (dBm)			
				SISO		MIMO	
				Ant.1	Ant.2	Ant.1	Ant.2
WLAN 2.4 GHz	802.11b	2 412.0	1	18.94	19.19	-	
		2 437.0	6	19.38	19.11		
		2 462.0	11	19.10	19.37		
	802.11g	2 412.0	1	-		15.00	15.67
		2 437.0	6			15.58	15.65
		2 462.0	11			15.33	15.85
U-NII-2A	802.11a	5 260.0	52	N/A		16.86	17.04
		5 280.0	56			16.88	17.02
		5 300.0	60			16.89	16.98
		5 320.0	64			16.85	16.95
U-NII-2C		5 500.0	100			16.97	16.55
		5 600.0	120			17.05	16.86
		5 620.0	124			17.02	16.75
		5 720.0	144			17.10	16.61
U-NII-3		5 745.0	149			17.58	17.21
		5 785.0	157			17.42	16.72
		5 825.0	165			17.43	16.71
U-NII-4		5 845.0	169			17.29	16.88
		5 865.0	173			17.64	17.46
		5 885.0	177			17.63	17.18

8.1.2 WLAN Average Conducted Output Power(Back off-Grip Sensor)

Band	Mode	Freq. [MHz]	Channel	Conducted Powers (dBm)			
				SISO		MIMO	
				Ant.1	Ant.2	Ant.1	Ant.2
WLAN 2.4 GHz	802.11b	2 412.0	1	10.56	11.26	-	
		2 437.0	6	11.12	11.30		
		2 462.0	11	11.20	11.34		
	802.11g	2 412.0	1	-		10.79	11.59
		2 437.0	6			11.22	11.55
		2 462.0	11			11.39	11.76
U-NII-2A	802.11ac (VHT80)	5 290.0	58	N/A		6.74	6.76
U-NII-2C		5 530.0	106			6.95	6.61
		5 610.0	122			7.04	6.78
		5 690.0	138			6.83	6.12
U-NII-3		5 775.0	155			7.10	6.33
U-NII-4		5 855.0	171			7.04	6.61

Note: About verification of grip sensor, refer to Appendix C.

8.2 Bluetooth Average Conducted Output Power

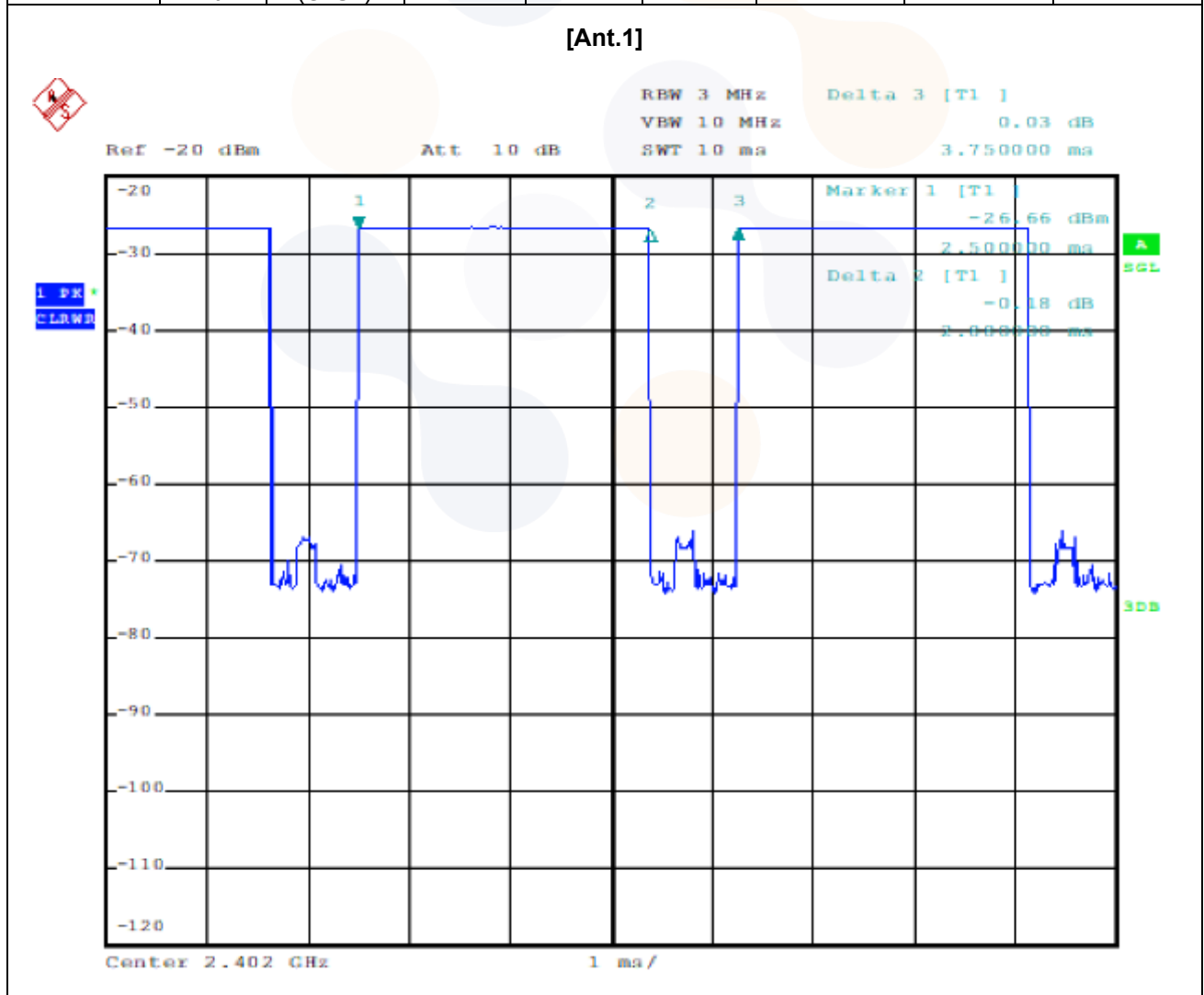
Mode			Freq. [MHz]	Channel	Conducted Powers (dBm)			
					Ant.1		Ant.2	
					Normal	Back-off (Grip Sensor)	Normal	Back-off (Grip Sensor)
BDR	DH5	(1 Mbps)	2 402.0	0	18.12	9.92	17.87	10.75
			2 441.0	39	19.15	11.21	18.24	12.00
			2 480.0	78	18.65	10.25	17.71	9.80
EDR	2-DH5	(2 Mbps)	2 402.0	0	15.04	8.88	14.86	9.63
			2 441.0	39	15.98	10.41	15.16	11.15
			2 480.0	78	15.59	9.05	14.81	8.87
	3-DH5	(3 Mbps)	2 402.0	0	15.07	8.90	14.87	9.65
			2 441.0	39	16.04	10.42	15.23	11.18
			2 480.0	78	15.63	9.07	14.83	8.90
LE	1 Mbps	(37 Packet)	2 402.0	37	16.51	7.87	16.60	8.38
			2 440.0	17	17.28	8.84	16.53	9.42
			2 480.0	39	16.52	7.22	16.06	6.97
		(255 Packet)	2 402.0	37	16.09	7.72	16.04	8.31
			2 440.0	17	16.72	8.65	15.93	9.41
			2 480.0	39	16.02	7.04	15.56	6.89
	2 Mbps	(37 Packet)	2 404.0	0	16.63	8.27	16.79	8.51
			2 440.0	17	17.34	8.87	16.71	9.47
			2 478.0	36	16.77	7.71	16.40	7.10
		(255 Packet)	2 404.0	0	16.02	8.03	16.25	8.36
			2 440.0	17	16.75	8.62	16.14	9.37
			2 478.0	36	16.20	7.46	15.89	6.96
	125k	(37 Packet)	2 402.0	37	7.39	7.66	N/A	
			2 440.0	17	8.35	8.61		
			2 480.0	39	6.68	7.02		
		(255 Packet)	2 402.0	37	7.36	7.65		
			2 440.0	17	8.29	8.60		
			2 480.0	39	6.60	6.98		
	500k	(37 Packet)	2 402.0	37	7.45	7.69		
			2 440.0	17	8.41	8.65		
			2 480.0	39	6.73	7.07		
		(255 Packet)	2 402.0	37	7.40	7.67		
			2 440.0	17	8.35	8.63		
			2 480.0	39	6.67	7.03		

8.3 Wireless Bands Duty Factor

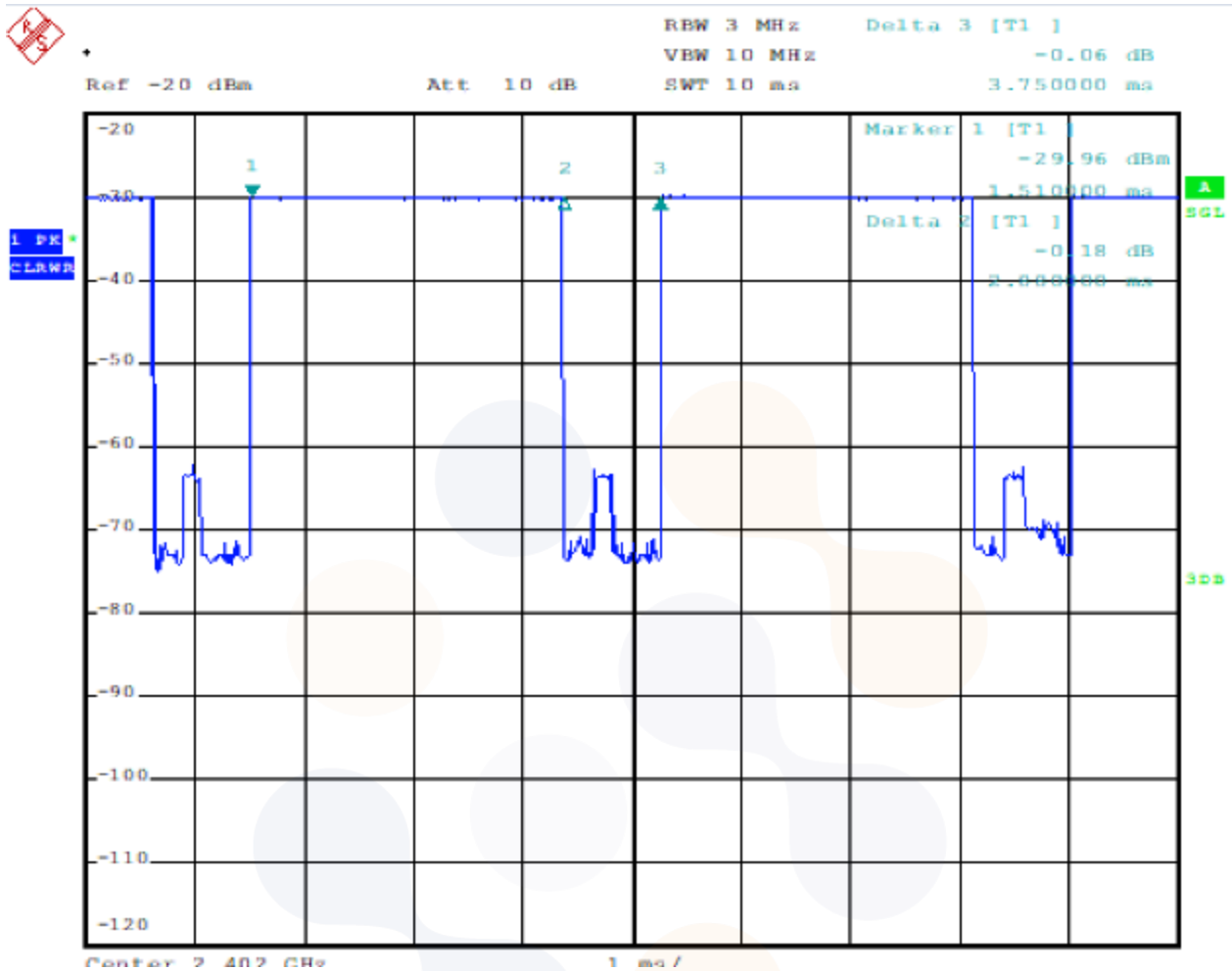
Wireless Bands	Frequency Bands	Ant.	Mode	Duty Cycle (%)
WLAN	2.4 GHz	Ant.1/ Ant.2	802.11b	98.80
		MIMO	802.11g	93.25
	U-NII	MIMO	802.11a	93.73
			802.11ac (VHT80)	86.40

8.4 Bluetooth Duty Plot

Wireless Bands/ Ant.		Frequency Bands		On, Off Time		Duty Cycle		
		Mode	Packet	On Time (ms)	On-Off Time (ms)	Duty Cycle (%)	Declaration Duty Cycle (%)	Duty Cycle Compensate Factor
Bluetooth	Ant.1/ Ant.2	BDR (GFSK)	DH5	2.88	3.75	76.80	78.0	1.016



[Ant.2]



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9. System Verification

9.1 Measurement date and environment

Shield room	Date	Environment	
		Temperature (°C)	Humidity (%)
8F - 3	2025-01-23	21.2 ~ 21.4	43.2 ~ 48.9
8F - 6	2025-02-26	21.3 ~ 21.8	55.5 ~ 56.1
8F - 4	2025-03-11	21.9 ~ 22.4	55.5 ~ 56.7

9.2 Tissue Verification

The dielectric properties for this Tissue Simulant Liquids were measured by using the SPEAG Model DAK3.5 Dielectric Probe in conjunction with Agilent E5071B Network Analyzer (300 kHz – 8 500 MHz). The Conductivity (σ) and Permittivity (ϵ_r) are listed in Table 1. For the SAR measurement given in this report. The temperature variation of the Tissue Simulant Liquids was $(22 \pm 2) ^\circ\text{C}$.

Freq. (MHz)	Date	Permittivity (ϵ_r)	Conductivity (σ)	Temp. (°C)
				22 ± 2
13.0	2025-01-23	55.00 ± 5 % (52.25~57.75)	0.75 ± 5 % (0.71~0.79)	21.26
		55.90	0.72	
2 450.0	2025-02-26	39.20 ± 5 % (37.24~41.16)	1.80 ± 5 % (1.71~1.89)	21.50
		38.30	1.83	
	2025-03-11	37.66	1.80	21.54
5 250.0	2025-02-26	35.95 ± 5 % (34.15~37.75)	4.71 ± 5 % (4.47~4.95)	21.53
35.80		4.55		
5 600.0		35.50 ± 5 % (33.73~37.28)	5.07 ± 5 % (4.82~5.32)	21.53
		35.00	4.94	
5 800.0		35.30 ± 5 % (33.54~37.07)	5.27 ± 5 % (5.01~5.53)	21.53
		34.60	5.20	

<Table 1. Measurement result of Tissue electric parameters>

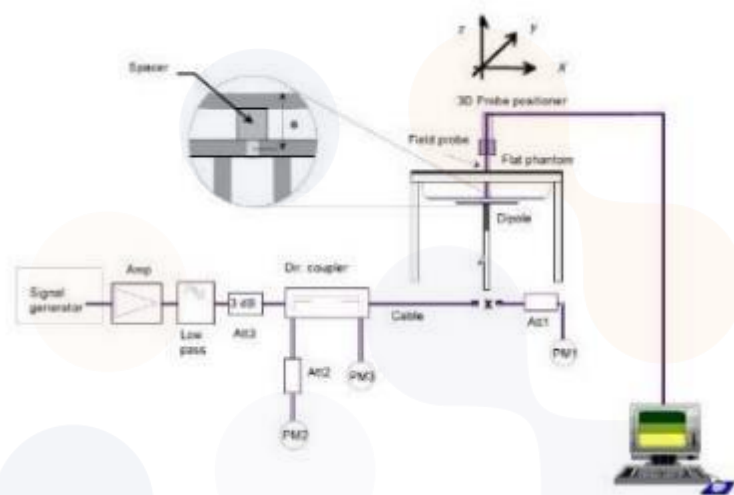
9.3 Test System Verification

The microwave circuit arrangement for system verification is sketched below picture.

The daily system accuracy verification occurs within the flat section of the SAM phantom.

A SAR measurement was performed to see if the measured SAR was within $\pm 10\%$ from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the Table 2.

During the tests, the ambient temperature of the laboratory was in the range $(22 \pm 2) ^\circ\text{C}$, the relative humidity was in the range $(50 \pm 20)\%$ and the liquid depth Above the ear/grid reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



Frequency (MHz)	Date	Tissue Type	Verification Kit	Probe S/N	Limit/Measured (Normalized to 1 W)
					Limit 10g (Normalized)
13.0	2025-01-23	HSL	CLA13 SN: 1019	EX3DV4 SN: 3928	$0.338 \pm 10 \%$ $(0.30 \sim 0.37)$ 0.326

Frequency (MHz)	Date	Tissue Type	Verification Kit	Probe S/N	Limit/Measured (Normalized to 1 W)
					Limit 1g (Normalized)
2 450.0	2025-02-26	HSL	D2450V2 SN: 1091	EX3DV4 SN: 7851	$51.40 \pm 10 \%$ $(46.26 \sim 56.54)$ 52.00
	2025-03-11			EX3DV4 SN: 3928	54.10
5 250.0	2025-02-26	HSL	D5GHzV2 SN: 1134	EX3DV4 SN: 7851	$79.00 \pm 10 \%$ $(71.10 \sim 86.90)$ 81.00
5 600.0					$82.40 \pm 10 \%$ $(74.16 \sim 90.64)$ 85.00
5 800.0					$78.60 \pm 10 \%$ $(70.74 \sim 86.46)$ 75.60

<Table 2. System Verification Result>

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10. SAR Spot check Results

10.1 Standalone Body SAR Test Results

2.4 GHz WLAN												
Reference Data						Variant Measurement						
Mode/ Ant.	EUT Position	Distance (mm)	Frequency (MHz)	Max. Tune-up Power (dBm)	Scaled 1 g SAR (W/kg)	Measured Conducted Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	SAR Deviation (%)	Plot No.
Ant.1 802.11b	Grip Sensor Off											
	Rear	15	2 437.0	20.00	0.279							
	Left	0	2 437.0	20.00	0.362							
	Top	15	2 437.0	20.00	0.182							
	Grip Sensor On											
	Rear	0	2 462.0	12.00	0.653	11.20	1.202	1.012	0.517	0.629	-3.7%	1
Ant.2 802.11b	Grip Sensor Off											
	Rear	19	2 462.0	20.00	0.172							
	Left	0	2 462.0	20.00	0.385	19.37	1.156	1.012	0.302	0.353	-8.2%	2
	Bottom	14	2 462.0	20.00	0.124							
	Grip Sensor On											
	Rear	0	2 437.0	12.00	0.341							
MIMO 802.11g	Bottom	0	2 437.0	12.00	0.115							
	Grip Sensor Off											
	Rear	15	2 437.0	16.00	0.115							
	Left	0	2 437.0	16.00	0.183							
	Top	15	2 437.0	16.00	0.072							
	Bottom	14	2 437.0	16.00	0.053							
	Grip Sensor On											
	Rear	0	2 462.0	12.00	0.622	11.39	1.151	1.072	0.534	0.659	5.9%	3
	Top	0	2 462.0	12.00	0.214							
	Bottom	0	2 462.0	12.00	0.116							

U-NII-2A												
Reference Data						Variant Measurement						
Mode/ Ant.	EUT Position	Distance (mm)	Frequency (MHz)	Max. Tune-up Power (dBm)	Scaled 1 g SAR (W/kg)	Measured Conducted Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	SAR Deviation (%)	Plot No.
MIMO 802.11a	Grip Sensor Off											
	Rear	15	5 320.0	18.00	0.248							
	Left	0	5 320.0	18.00	0.566	16.85	1.303	1.067	0.521	0.724	28.0%	4
	Top	15	5 320.0	18.00	0.369							
	Bottom	14	5 320.0	18.00	0.218							
MIMO 802.11ac (VHT80)	Grip Sensor On											
	Rear	0	5 290.0	8.00	0.165							
	Top	0	5 290.0	8.00	0.300							
	Bottom	0	5 290.0	8.00	0.085							

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U-NII-2C												
Reference Data						Variant Measurement						
Model/ Ant.	EUT Position	Distance (mm)	Frequency (MHz)	Max. Tune-up Power (dBm)	Scaled 1 g SAR (W/kg)	Measured Conducted Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	SAR Deviation (%)	Plot No.
MIMO 802.11a	Grip Sensor Off											
	Rear	15	5 600.0	18.00	0.506	16.86	1.300	1.067	0.453	0.628	24.2%	
	Left	0	5 600.0	18.00	1.045	16.86	1.300	1.067	0.722	1.001	-4.2%	5
			5 720.0	18.00	1.057	16.61	1.377	1.067	0.602	0.884	-16.3%	
	Top	15	5 600.0	18.00	0.570	16.86	1.300	1.067	0.484	0.671	17.8%	
	Bottom	14	5 600.0	18.00	0.429	16.86	1.300	1.067	0.377	0.523	21.9%	
MIMO 802.11ac (VHT80)	Grip Sensor On											
	Rear	0	5 610.0	8.00	0.421	6.78	1.324	1.157	0.302	0.463	9.9%	
	Top	0	5 610.0	8.00	0.360							
	Bottom	0	5 610.0	8.00	0.208							

U-NII-3												
Reference Data						Variant Measurement						
Mode/ Ant.	EUT Position	Distance (mm)	Frequency (MHz)	Max. Tune-up Power (dBm)	Scaled 1 g SAR (W/kg)	Measured Conducted Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	SAR Deviation (%)	Plot No.
MIMO 802.11a	Grip Sensor Off											
	Rear	15	5 825.0	18.00	0.482	16.71	1.346	1.067	0.345	0.495	2.8%	
	Left	0	5 825.0	18.00	0.944	16.71	1.346	1.067	0.620	0.890	-5.7%	
			5 745.0	18.00	1.034	17.21	1.199	1.067	0.714	0.913	-11.7%	6
	Top	15	5 825.0	18.00	0.750	16.71	1.346	1.067	0.551	0.791	5.5%	
	Bottom	14	5 825.0	18.00	0.476	16.71	1.346	1.067	0.354	0.508	6.8%	
MIMO 802.11ac (VHT80)	Grip Sensor On											
	Rear	0	5 775.0	8.00	0.351							
	Top	0	5 775.0	8.00	0.368							
	Bottom	0	5 775.0	8.00	0.163							

U-NII-4												
Reference Data						Variant Measurement						
Mode/ Ant.	EUT Position	Distance (mm)	Frequency (MHz)	Max. Tune-up Power (dBm)	Scaled 1 g SAR (W/kg)	Measured Conducted Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	SAR Deviation (%)	Plot No.
MIMO 802.11a	Grip Sensor Off											
	Rear	15	5 865.0	18.00	0.472	17.46	1.132	1.067	0.355	0.429	-9.2%	
	Left	0	5 865.0	18.00	0.961	17.46	1.132	1.067	0.791	0.955	-0.6%	7
			5 885.0	18.00	0.906	17.18	1.208	1.067	0.661	0.852	-6.0%	
	Top	15	5 865.0	18.00	0.701	17.46	1.132	1.067	0.524	0.633	-9.7%	
	Bottom	14	5 865.0	18.00	0.509	17.46	1.132	1.067	0.394	0.476	-6.5%	
MIMO 802.11ac (VHT80)	Grip Sensor On											
	Rear	0	5 855.0	8.00	0.343							
	Top	0	5 855.0	8.00	0.346							
	Bottom	0	5 855.0	8.00	0.167							

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Bluetooth												
Reference Data						Variant Measurement						
Mode/ Ant.	EUT Position	Distance (mm)	Frequency (MHz)	Max. Tune-up Power (dBm)	Scaled 1 g SAR (W/kg)	Measured Conducted Power (dBm)	Power Scaling Factor	Duty Cycle Compensate Factor	Measured 1 g SAR (W/kg)	Scaled 1 g SAR (W/kg)	SAR Deviation (%)	Plot No.
Ant.1 BDR_ DH5	Grip Sensor Off											
	Rear	15	2 402.0	20.00	0.193							
	Left	0	2 402.0	20.00	0.385							
	Top	15	2 402.0	20.00	0.151							
	Grip Sensor On											
	Rear	0	2 441.0	11.40	0.558	11.21	1.045	1.017	0.430	0.457	-18.1%	8
	Top	0	2 441.0	11.40	0.184							
Ant.2 BDR_ DH5	Grip Sensor Off											
	Rear	19	2 402.0	19.50	0.117							
	Left	0	2 402.0	19.50	0.279	17.87	1.455	1.021	0.236	0.351	25.7%	9
	Bottom	14	2 402.0	19.50	0.091							
	Grip Sensor On											
	Rear	0	2 441.0	12.20	0.244							
	Bottom	0	2 441.0	12.20	0.111							

NFC										
Reference Data							Variant Measurement			
Mode	EUT Position	Distance (mm)	Test setup		Frequency (MHz)	Measured 10 g SAR (W/kg)	Frequency (MHz)	Measured 10 g SAR (W/kg)	SAR Deviation (%)	Plot No.
			Type	Bitrate						
PBRs	Front	0	A	106	13.6	0.007				
		0	B	106	13.6	0.008				
		0	F	106	13.6	0.000				
		0	B	212	13.6	0.008	13.6	0.007	-0.13	10
		0	B	424	13.6	0.008				
	Rear	0	B	212	13.6	0.000				
	Left	0	B	212	13.6	0.000				
	Right	0	B	212	13.6	0.000				
	Top	0	B	212	13.6	0.000				
	Bottom	0	B	212	13.6	0.000				

11. Simultaneous Transmission

The following procedures adopted from FCC KDB Publication 447498 D04v01 are applicable to devices with built in unlicensed transmitters such as 802.11 and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

This device contains transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per FCC KDB Publication 447498 D04v01 4.3.2 and IEEE 1528-2013 Section 6.3.4.1.2, simultaneous transmission SAR test exclusion may be applied when the sum of the 1g or 10g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is within SAR limits. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1g or 10g SAR.

11.1.1 Estimated SAR (Maximum Output Power)

Antenna	Tx	Frequency (MHz)	Output power		Separation distances (mm)					Exclusion				
			dBm	mW	Rear	Left	Right	Top	Bot.	Rear	Left	Right	Top	Bot
WIFI Ant.1	2.4 GHz	2462	20	100	5	23	204	5	158	Measure	Measure	0.013	Measure	0.020
	UNII-2A	5320	18	63						Measure	Measure	0.008	Measure	0.013
	UNII-2C	5720	18	63						Measure	Measure	0.008	Measure	0.013
	UNII-3	5825	18	63						Measure	Measure	0.008	Measure	0.013
	UNII-4	5885	18	63						Measure	Measure	0.008	Measure	0.013
	Bluetooth	2480	20.0	100						Measure	Measure	0.013	Measure	0.020
WIFI Ant.2	2.4 GHz	2462	20	100	5	12	199	157	5	Measure	Measure	0.013	0.021	Measure
	UNII-2A	5320	18	63						Measure	Measure	0.008	0.014	Measure
	UNII-2C	5720	18	63						Measure	Measure	0.008	0.014	Measure
	UNII-3	5825	18	63						Measure	Measure	0.008	0.014	Measure
	UNII-4	5885	18	63						Measure	Measure	0.008	0.014	Measure
	Bluetooth	2480	19.5	89						Measure	Measure	0.012	0.018	Measure

- For distances < 5mm, a distance of 5mm is used to determine SAR exclusion and estimated SAR value.
- Output power is the worst of the maximum rated power (including tune-up or manufacturing tolerances) and ERP(E.I.R.P – 2.15 dB)
- Estimated SAR values were calculated as $SAR_{est} = 0.4 * P_{ant}/P_{th} [W/kg]$ according to the April, 2022 TCB workshop. (P_{th} is Section 2.6.2 Value, P_{ant} is Maximum Output power.)
- Formulas round separation distance to nearest mm and power to nearest mW before calculating estimated SAR or determining if SAR is excluded.

11.1.2 #Simultaneous Transmission Configurations

According to FCC KDB 447498 D04v01, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds.

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D04v01 4.3.2 procedures.

No.	Scenario	RF Exposure Condition
		Body
1	WLAN 2.4 GHz Ant.2 + Bluetooth Ant.1	Yes
2	WLAN 5 GHz MIMO + Bluetooth Ant.1	Yes
3	WLAN 6 GHz MIMO + Bluetooth Ant.1	Yes
4	WLAN 5 GHz MIMO + Bluetooth Ant.2	Yes
5	WLAN 6 GHz MIMO + Bluetooth Ant.2	Yes

11.1.3 Simultaneous Transmission Analysis

Position	WLAN					Bluetooth	
	2.4 GHz			5 GHz	6 GHz		
	Ant.1	Ant.2	MIMO	MIMO	MIMO	Ant.1	Ant.2
	[①]	[②]	[③]	[④]	[⑤]	[⑥]	[⑦]
Rear	0.653	0.341	0.659	0.628	0.365	0.558	0.244
Left	0.362	0.385	0.183	1.057	0.062	0.385	0.351
Right	0.013	0.013	0.013	0.008	-	0.013	0.012
Top	0.233	0.021	0.214	0.791	0.166	0.184	0.018
Bottom	0.020	0.124	0.116	0.523	0.130	0.020	0.111
Summation							
Position	No.1	No.2	No.3	No.4	No.5		
Rear	0.899	1.186	0.923	0.872	0.609		
Left	0.770	1.442	0.447	1.408	0.413		
Right	0.026	0.021	0.013	0.020	0.012		
Top	0.205	0.975	0.350	0.809	0.184		
Bottom	0.144	0.543	0.150	0.634	0.241		

Notes:

- Simultaneous transmission SAR test exclusion considerations
Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration. Per KDB Publication 447498 D04v01.
- When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR1g 1.6 W/kg), the SPLSR procedures is not required. When the sum of SAR1g is greater than the SAR limit (SAR1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.
- Green entries was applied estimated SAR values.
- For WLAN 6 GHz values, please refer to the Report No: KR25-SPF0010.

12. Measurement Uncertainty

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, 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 Standard 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.



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13. Test Equipment Information

Test Platform	SPEAG DASY6 System, SPEAG DASY8 System			
Version	DASY6: 16.4.0.5005, DASY8: 16.4.0.5005			
Location	Eurofins KCTL Co.,Ltd. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea			
Manufacture	SPEAG			
Hardware Reference				
Equipment	Model	Serial Number	Date of Calibration	Due date of next Calibration
Shield Room	-	8F - 3	-	-
	-	8F - 4	-	-
	-	8F - 6	-	-
DASY6 Robot	TX60 Lspeag	F/19/0007289/A/001	-	-
	TX90XL speag	F/18/0004968/A/001	-	-
DASY8 Robot	TX2-60L	F/22/0042066/A/001	-	-
Phantom	2mm Oval Phantom ELI5	2097	-	-
	2mm Oval Phantom ELI5	2098	-	-
	ELI Phantom V8.0	2189	-	-
Mounting Device	Mounting Device	-	-	-
	Laptop Holder	-	-	-
DAE	DAE4	666	2025-01-21	2026-01-21
	DAE4	1756	2024-09-13	2025-09-13
	DAE4	1759	2024-11-19	2025-11-19
Probe	EX3DV4	3928	2024-02-22	2025-02-22
			2025-02-21	2026-02-21
	EX3DV4	7851	2024-07-17	2025-07-17
MICROWAVE GENERATOR	SMP02	100295	2024-12-12	2025-12-12
Dual Power Meter	EPM-442A	GB37480680	2024-04-26	2025-04-26
	E4419B	GB40202622	2024-11-04	2025-11-04
	E4419B	GB43312301	2025-02-10	2026-02-10
Power Sensor	8481H	2703A11902	2024-04-26	2025-04-26
	8481H	3318A18090	2024-04-26	2025-04-26
	8481H	3318A19379	2025-02-10	2026-02-10
	8481H	3318A19377	2025-02-10	2026-02-10
	E9301A	MY41499102	2024-11-04	2025-11-04
	E9301A	US39210857	2024-11-04	2025-11-04
Attenuator	PE7005-10	2228-4	2025-01-17	2026-01-17
	PE7005-10	2228-5	2024-12-11	2025-12-11
	PE7005-10	2228-6	2024-12-11	2025-12-11
	PE7005-10	2228-7	2024-12-11	2025-12-11
	PE7005-10	2228-8	2024-12-11	2025-12-11
	PE7005-10	2228-9	2024-12-11	2025-12-11
Dual Directional Coupler	ZMDC-30-1+	F708102210	2024-12-11	2025-12-11
Directional Coupler	772D	MY46151145	2024-11-04	2025-11-04
Power Amplifier	TVA-R5-13A+	2202007	2024-12-11	2025-12-11
	AMP2027	10010	2024-07-03	2025-07-03
	AMP2027ADB	10005	2024-04-26	2025-04-26
Low Pass Filter	VLF-3000+	31831	2024-04-26	2025-04-26
	VLF-6000+	31838	2024-04-26	2025-04-26
Dipole Validation Kits	D2450V2	1091	2024-09-13	2026-09-13
	D5GHzV2	1134	2024-01-17	2026-01-17

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Hardware Reference				
Equipment	Model	Serial Number	Date of Calibration	Due date of next Calibration
PSG Analog Signal Generator	E8257D	MY49280020	2024-07-03	2025-07-03
ENA Series Network Analyzer	E5071B	MY42403524	2025-02-10	2026-02-10
Confined Loop Antennas	CLA13	1019	2024-05-21	2025-05-21
Network Analyzer	E5071B	MY42403524	2024-02-13	2025-02-13
Dielectric Assessment Kit	DAK-3.5	1078	2024-06-10	2025-06-10
	DAK-12	1165	2024-06-12	2025-06-12
Humidity/Temp	PC-5400TRH	PC-5400TRH-2	2024-11-06	2025-11-06
	PC-5400TRH	PC-5400TRH-4	2024-11-06	2025-11-06
	MHB-382SD	46301	2025-02-14	2026-02-14
Spectrum Analyzer	FSP7	100289	2024-12-11	2025-12-11

14. Test System Verification Results

Eurofins KCTL Co.,Ltd.

Measurement Report for CLA13, FRONT, CLA13, UID 0 --,(13.000MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
CLA13, Speag	222.0 x 222.0 x 97.5	1019	Validation Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	FRONT, 0.00	CLA13	CW, 0--	13.000,	14.72	0.720	55.9

Hardware Setup

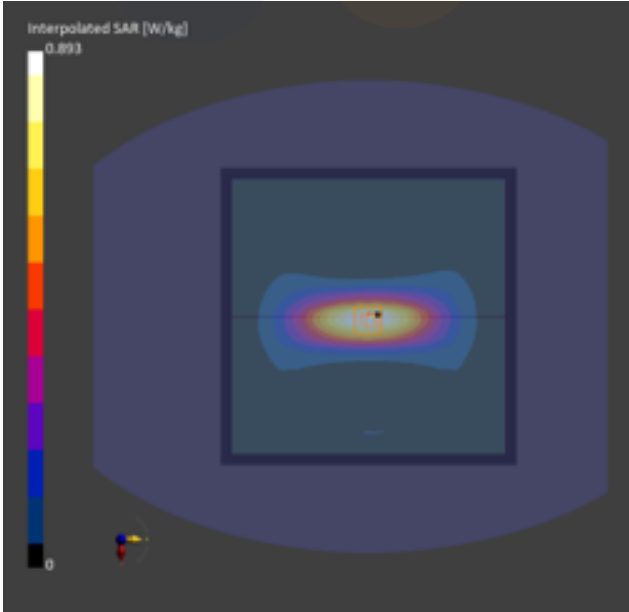
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2097	HBBL4-250V3, 2025-01-23	EX3DV4 - SN3928, 2024-02-22	DAE4 Sn1756, 2024-09-13

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	240.0 x 240.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	No	Yes
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-01-23	2025-01-23
psSAR1g [W/kg]	0.536	0.518
psSAR8g [W/kg]	0.449	0.345
psSAR10g [W/kg]	0.435	0.326
psAPD (1.0cm2, sq) [W/m2]		N/A
psAPD (4.0cm2, sq) [W/m2]		N/A
Power Drift [dB]		0.01



Eurofins KCTL Co.,Ltd.

Measurement Report for D2450V2 – SN1091, FRONT, Validation band, UID 0 -, (2450.000MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
D2450V2 – SN1091,Speag	10.0 x 10.0 x 290.0	SN1091	Validation Dipole

Exposure Conditions

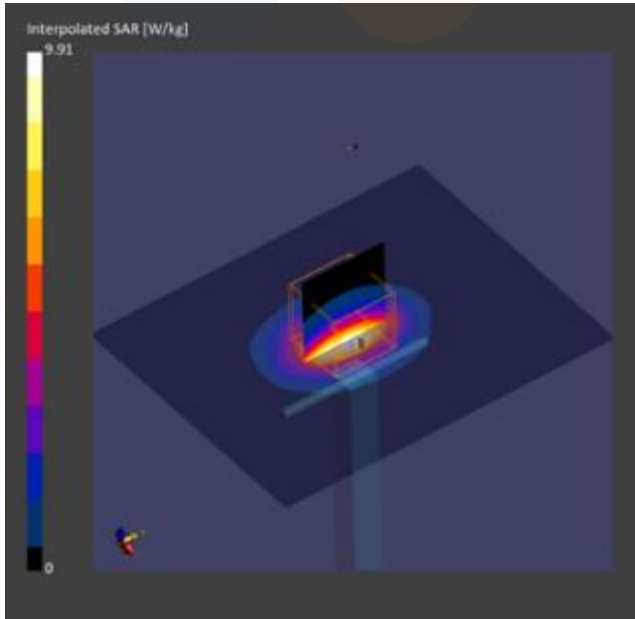
Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	FRONT, 10.00	Validation band	CW, 0--	2450.000	7.44	1.83	38.3

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2189	HBBL-600-10000 , 2025-02-26	EX3DV4 - SN7851, 2024-07-17	DAE4 Sn1759, 2024-11-19

Scan Setup

	Area Scan	Zoom Scan	Measurement Results	Area Scan	Zoom Scan
Grid Extents [mm]	96.0 x 120.0	30.0 x 30.0 x 30.0	Date	2025-02-26	2025-02-26
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0	psSAR1g [W/kg]	5.12	5.20
Sensor Surface [mm]	3.0	1.4	psSAR8g [W/kg]	2.66	2.73
Graded Grid	No	Yes	psSAR10g [W/kg]	2.41	2.48
Grading Ratio	N/A	1.5	psAPD (1.0cm2, sq) [W/m2]		N/A
MAIA	N/A	N/A	psAPD (4.0cm2, sq) [W/m2]		N/A
Surface	VMS + 6p	VMS + 6p	Power Drift [dB]		0.00
Detection			Peak SAR [W/kg]		9.91
Scan Method	Measured	Measured			



Date: 3/11/2025

Test Laboratory: Eurofins KCTL Co.,Ltd.

File Name: [2450 MHz Verification Input Power 100 mW 2025-03-11.da5:0](#)

DUT: Dipole 2450 MHz D2450V2, Type: D2450V2, Serial: D2450V2 - SN:1091

Communication System: UID 0, CW (0); Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2450$ MHz; $\sigma = 1.797$ S/m; $\epsilon_r = 37.664$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928; ConvF(6.95, 6.67, 7.67) @ 2450 MHz; Calibrated: 2/21/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 1/21/2025
- Phantom: ELI V8.0_Left; Type: QD OVA 004 Ax; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/2450 MHz Verification Input Power 100 mW 2025-03-11/Area Scan (10x11x1):

Measurement grid: dx=12mm, dy=12mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 6.49 W/kg

Configuration/2450 MHz Verification Input Power 100 mW 2025-03-11/Zoom Scan (7x7x7)/Cube 0:

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

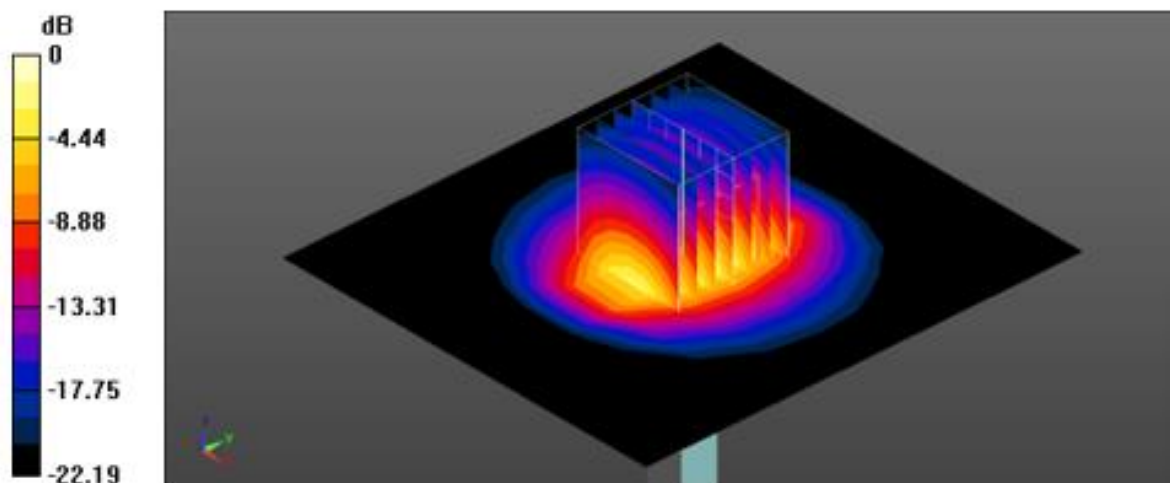
Reference Value = 74.30 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 10.8 W/kg

SAR(1 g) = 5.41 W/kg; SAR(10 g) = 2.53 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 8.77 W/kg



0 dB = 8.77 W/kg = 9.43 dBW/kg

Eurofins KCTL Co.,Ltd.

Measurement Report for D5GHzV2, FRONT, D5GHz, UID 0 -, (5250.000MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
D5GHzV2, Speag	10.0 x 10.0 x 300.0	1134	Validation Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	FRONT, 10.00	D5GHz	CW, 0--	5250.000	5.47	4.55	35.8

Hardware Setup

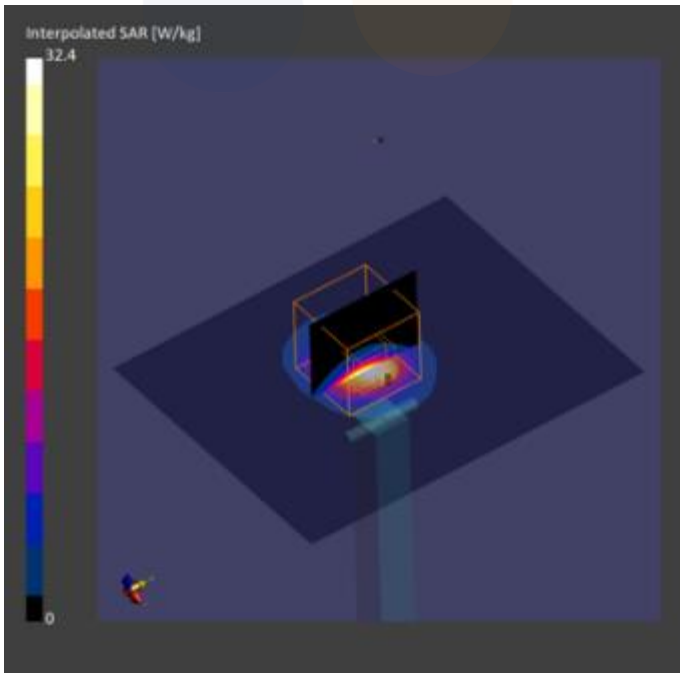
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2189	HBBL-600-10000 , 2025-02-26	EX3DV4 - SN7851, 2024-07-17	DAE4 Sn1759, 2024-11-19

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 100.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	No	Yes
Grading Ratio	N/A	1.4
MAIA	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-02-26	2025-02-26
psSAR1g [W/kg]	7.11	8.10
psSAR8g [W/kg]	2.62	2.76
psSAR10g [W/kg]	2.27	2.39
psAPD (1.0cm2, sq) [W/m2]		N/A
psAPD (4.0cm2, sq) [W/m2]		N/A
Power Drift [dB]		0.12
Peak SAR [W/kg]		32.4



Eurofins KCTL Co.,Ltd.

Measurement Report for D5GHzV2, FRONT, D5GHz, UID 0 -, (5600.000MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
D5GHzV2, Speag	10.0 x 10.0 x 300.0	1134	Validation Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	FRONT, 10.00	D5GHz	CW, 0--	5600.000	4.83	4.94	35.0

Hardware Setup

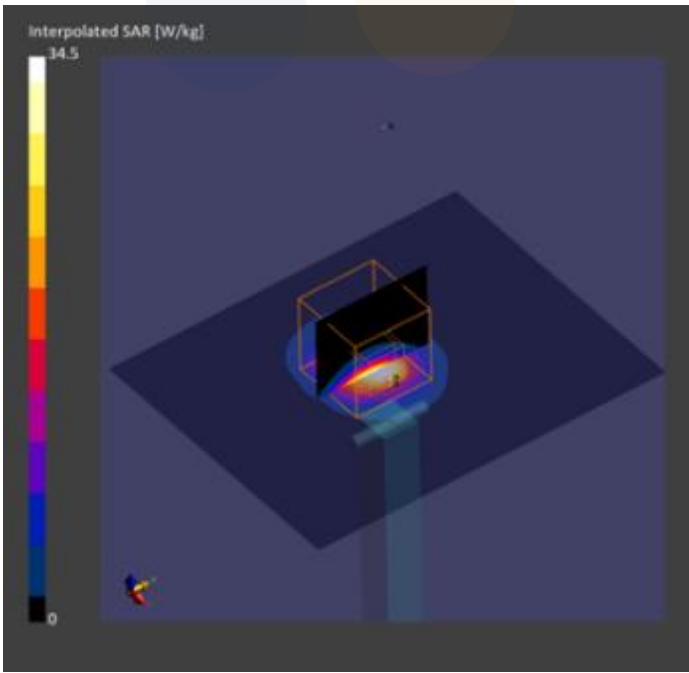
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2189	HBBL-600-10000 , 2025-02-26	EX3DV4 - SN7851, 2024-07-17	DAE4 Sn1759, 2024-11-19

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 100.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	No	Yes
Grading Ratio	N/A	1.4
MAIA	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-02-26	2025-02-26
psSAR1g [W/kg]	7.48	8.50
psSAR8g [W/kg]	2.72	2.90
psSAR10g [W/kg]	2.35	2.51
psAPD (1.0cm2, sq) [W/m2]		N/A
psAPD (4.0cm2, sq) [W/m2]		N/A
Power Drift [dB]		0.02
Peak SAR [W/kg]		34.5



Eurofins KCTL Co.,Ltd.

Measurement Report for D5GHzV2, FRONT, D5GHz, UID 0 -, (5800.000MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
D5GHzV2, Speag	10.0 x 10.0 x 300.0	1134	Validation Dipole

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz]	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	FRONT, 10.00	D5GHz	CW, 0--	5800.000	4.93	5.20	34.6

Hardware Setup

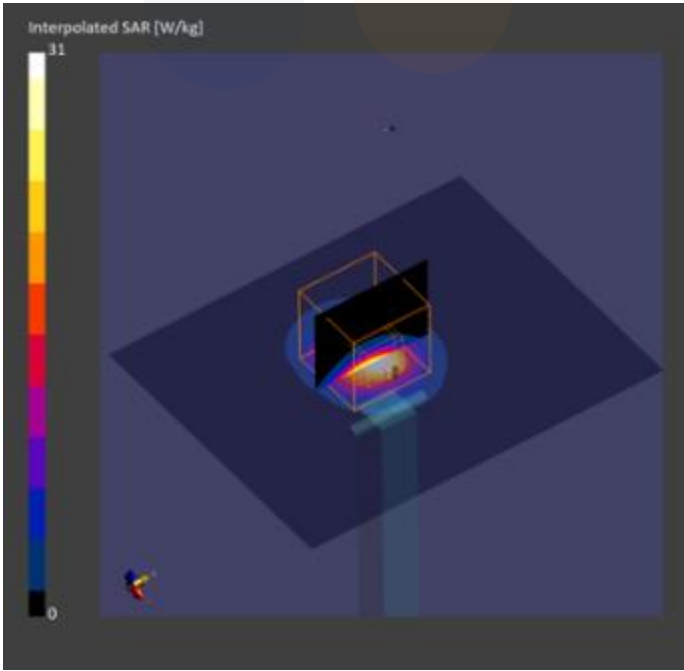
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2189	HBBL-600-10000 , 2025-02-26	EX3DV4 - SN7851, 2024-07-17	DAE4 Sn1759, 2024-11-19

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	80.0 x 100.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	No	Yes
Grading Ratio	N/A	1.4
MAIA	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-02-26	2025-02-26
psSAR1g [W/kg]	7.18	7.56
psSAR8g [W/kg]	2.60	2.58
psSAR10g [W/kg]	2.25	2.23
psAPD (1.0cm2, sq) [W/m2]		N/A
psAPD (4.0cm2, sq) [W/m2]		N/A
Power Drift [dB]		0.02
Peak SAR [W/kg]		31.0



15. Test Results

1)

Eurofins KCTL Co.,Ltd.

Measurement Report for SM-X350, BACK, Custom Band, UID 0 -, Channel 11 (2462.000MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
SM-X350, SAMSUNG	243.0 x 171.0 x 12.0	R32XC01BHJY	Tablet + Ant.1

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	BACK, 0.00	Custom Band	CW, 0--	2462.000, 11	7.44	1.84	38.3

Hardware Setup

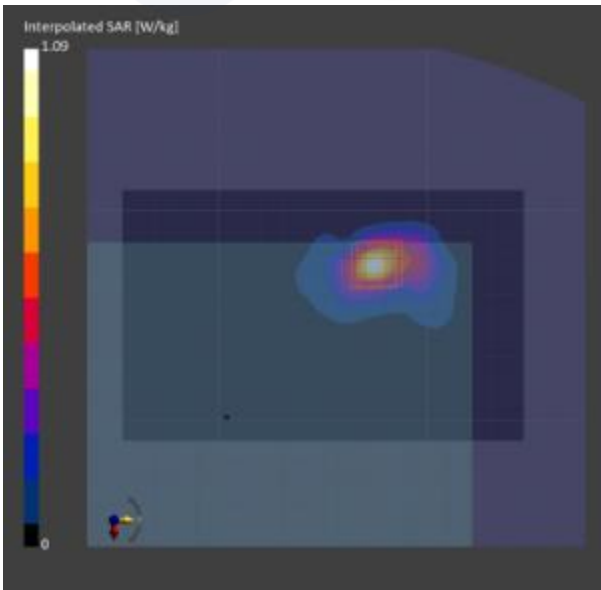
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2189	HBBL-600-10000 , 2025-02-26	EX3DV4 - SN7851, 2024-07-17	DAE4 Sn1759, 2024-11-19

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 180.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	No	Yes
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-02-26	2025-02-26
psSAR1g [W/kg]	0.473	0.517
psSAR8g [W/kg]	0.231	0.254
psSAR10g [W/kg]	0.208	0.228
psAPD (1.0cm2, sq) [W/m2]		N/A
psAPD (4.0cm2, sq) [W/m2]		N/A
Power Drift [dB]		-0.01
Peak SAR [W/kg]		1.09



2)

Eurofins KCTL Co.,Ltd.

Measurement Report for SM-X350, EDGE LEFT, Custom Band, UID 0 -, Channel 11 (2462.000MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
SM-X350, SAMSUNG	171.0 x 243.0 x 12.0	R32XC01BHJY	Phone + Ant.2

Exposure Conditions

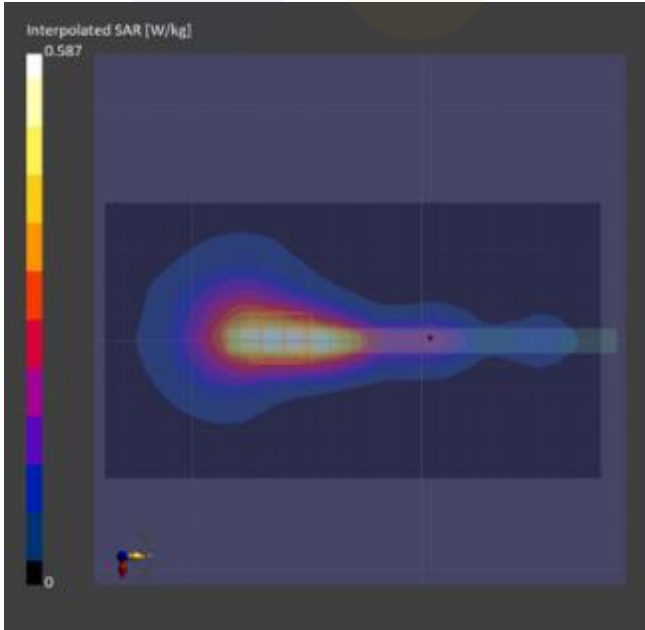
Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	EDGE LEFT, 0.00	Custom Band	CW, 0--	2462.000, 11	7.44	1.84	38.3

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2189	HBBL-600-10000 , 2025-02-26	EX3DV4 - SN7851, 2024-07-17	DAE4 Sn1759, 2024-11-19

Scan Setup

	Area Scan	Zoom Scan	Measurement Results	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 200.0	30.0 x 30.0 x 30.0	Date	2025-02-26	2025-02-26
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0	psSAR1g [W/kg]	0.295	0.302
Sensor Surface [mm]	3.0	1.4	psSAR8g [W/kg]	0.166	0.171
Graded Grid	No	Yes	psSAR10g [W/kg]	0.153	0.158
Grading Ratio	N/A	1.5	psAPD (1.0cm2, sq) [W/m2]		N/A
MAIA	N/A	N/A	psAPD (4.0cm2, sq) [W/m2]		N/A
Surface	VMS + 6p	VMS + 6p	Power Drift [dB]		-0.01
Detection			Peak SAR [W/kg]		0.587
Scan Method	Measured	Measured			



3)

Eurofins KCTL Co.,Ltd.

Measurement Report for SM-X350, BACK, Custom Band, UID 0 -, Channel 11 (2462.000MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
SM-X350, SAMSUNG	243.0 x 171.0 x 12.0	R32XC01BHJY	Tablet + MIMO

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	BACK, 0.00	Custom Band	CW, 0--	2462.000, 11	7.44	1.84	38.3

Hardware Setup

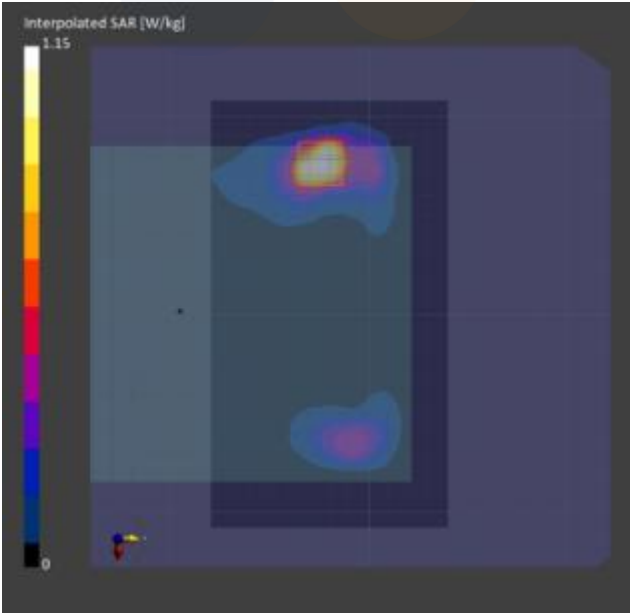
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2189	HBBL-600-10000 , 2025-02-26	EX3DV4 - SN7851, 2024-07-17	DAE4 Sn1759, 2024-11-19

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	204.0 x 120.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	12.0 x 12.0	5.0 x 5.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	No	Yes
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-02-26	2025-02-26
psSAR1g [W/kg]	0.466	0.534
psSAR8g [W/kg]	0.249	0.259
psSAR10g [W/kg]	0.226	0.233
psAPD (1.0cm2, sq) [W/m2]		N/A
psAPD (4.0cm2, sq) [W/m2]		N/A
Power Drift [dB]		-0.14
Peak SAR [W/kg]		1.15



4)

Eurofins KCTL Co.,Ltd.

Measurement Report for SM-X350, EDGE LEFT, Custom Band, UID 0 -, Channel 64 (5320.000MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
SM-X350, SAMSUNG	171.0 x 243.0 x 12.0	R32XC01BHJY	Tablet + MIMO

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	EDGE LEFT, 0.00	Custom Band	CW, 0--	5320.000, 64	5.47	4.62	35.7

Hardware Setup

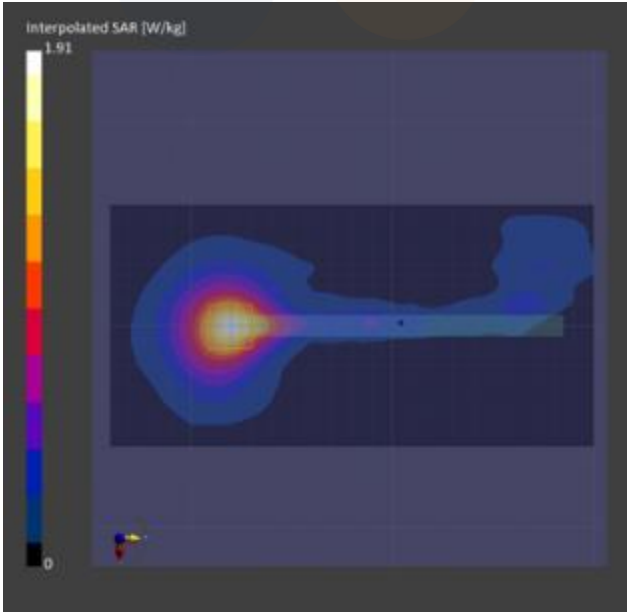
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2189	HBBL-600-10000 , 2025-02-26	EX3DV4 - SN7851, 2024-07-17	DAE4 Sn1759, 2024-11-19

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 240.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	No	Yes
Grading Ratio	N/A	1.4
MAIA	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-02-26	2025-02-26
psSAR1g [W/kg]	0.492	0.521
psSAR8g [W/kg]	0.222	0.233
psSAR10g [W/kg]	0.201	0.211
psAPD (1.0cm2, sq) [W/m2]		N/A
psAPD (4.0cm2, sq) [W/m2]		N/A
Power Drift [dB]		0.06
Peak SAR [W/kg]		1.91



5)

Eurofins KCTL Co.,Ltd.

Measurement Report for SM-X350, EDGE LEFT, Custom Band, UID 0 -, Channel 120 (5600.000MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
SM-X350, SAMSUNG	171.0 x 243.0 x 12.0	R32XC01BHJY	Tablet + MIMO

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	EDGE LEFT, 0.00	Custom Band	CW, 0--	5600.000, 120	4.83	4.94	35.0

Hardware Setup

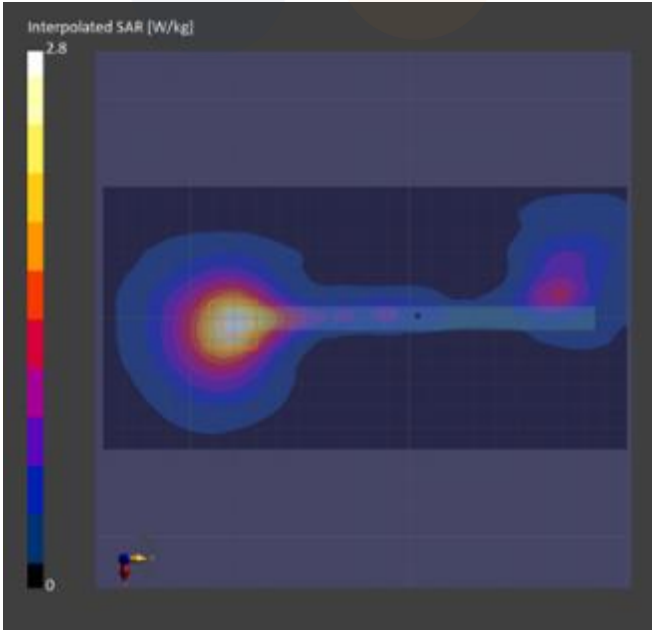
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2189	HBBL-600-10000 , 2025-02-26	EX3DV4 - SN7851, 2024-07-17	DAE4 Sn1759, 2024-11-19

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 240.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	No	Yes
Grading Ratio	N/A	1.4
MAIA	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-02-26	2025-02-26
psSAR1g [W/kg]	0.648	0.722
psSAR8g [W/kg]	0.296	0.323
psSAR10g [W/kg]	0.269	0.294
psAPD (1.0cm2, sq) [W/m2]		N/A
psAPD (4.0cm2, sq) [W/m2]		N/A
Power Drift [dB]		-0.05
Peak SAR [W/kg]		2.80



6)

Eurofins KCTL Co.,Ltd.

Measurement Report for SM-X350, EDGE LEFT, Custom Band, UID 0 -, Channel 149 (5745.000MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
SM-X350, SAMSUNG	171.0 x 243.0 x 12.0	R32XC01BHJY	Tablet + MIMO

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	EDGE LEFT, 0.00	Custom Band	CW, 0--	5745.000, 149	4.93	5.12	34.7

Hardware Setup

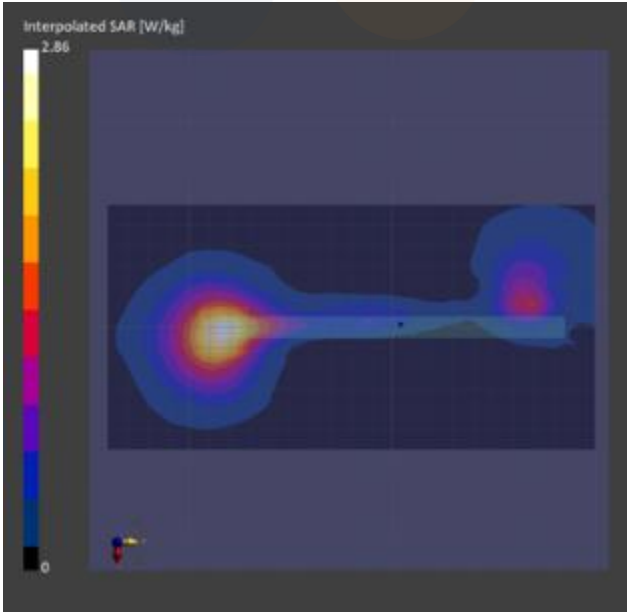
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2189	HBBL-600-10000 , 2025-02-26	EX3DV4 - SN7851, 2024-07-17	DAE4 Sn1759, 2024-11-19

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 240.0	24.0 x 24.0 x 22.0
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4
Sensor Surface [mm]	3.0	1.4
Graded Grid	No	Yes
Grading Ratio	N/A	1.4
MAIA	N/A	N/A
Surface	VMS + 6p	VMS + 6p
Detection		
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-02-26	2025-02-26
psSAR1g [W/kg]	0.654	0.714
psSAR8g [W/kg]	0.295	0.314
psSAR10g [W/kg]	0.267	0.282
psAPD (1.0cm2, sq) [W/m2]		N/A
psAPD (4.0cm2, sq) [W/m2]		N/A
Power Drift [dB]		0.02
Peak SAR [W/kg]		2.86



7)

Eurofins KCTL Co.,Ltd.

Measurement Report for SM-X350, EDGE LEFT, Custom Band, UID 0 -, Channel 177 (5885.000MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
SM-X350, SAMSUNG	171.0 x 243.0 x 12.0	R32XC01BHJY	Tablet + MIMO

Exposure Conditions

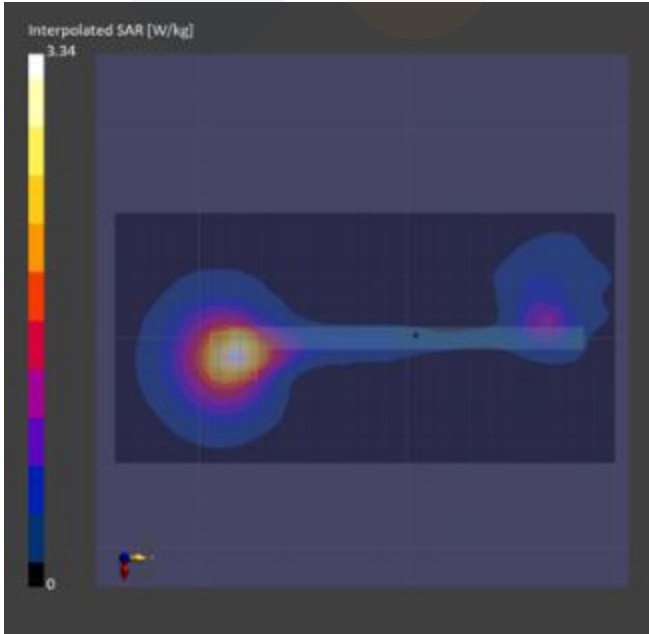
Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	EDGE LEFT, 0.00	Custom Band	CW, 0--	5885.000, 177	4.93	5.27	34.4

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2189	HBBL-600-10000 , 2025-02-26	EX3DV4 - SN7851, 2024-07-17	DAE4 Sn1759, 2024-11-19

Scan Setup

	Area Scan	Zoom Scan	Measurement Results	Area Scan	Zoom Scan
Grid Extents [mm]	120.0 x 240.0	24.0 x 24.0 x 22.0	Date	2025-02-26	2025-02-26
Grid Steps [mm]	10.0 x 10.0	4.0 x 4.0 x 1.4	psSAR1g [W/kg]	0.725	0.791
Sensor Surface [mm]	3.0	1.4	psSAR8g [W/kg]	0.320	0.345
Graded Grid	No	Yes	psSAR10g [W/kg]	0.289	0.312
Grading Ratio	N/A	1.4	psAPD (1.0cm2, sq) [W/m2]		N/A
MAIA	N/A	N/A	psAPD (4.0cm2, sq) [W/m2]		N/A
Surface	VMS + 6p	VMS + 6p	Power Drift [dB]		0.02
Detection			Peak SAR [W/kg]		3.34
Scan Method	Measured	Measured			



8)

Date: 3/11/2025

Test Laboratory: Eurofins KCTL Co.,Ltd.

File Name: [1. Bluetooth_Ant.1 Body.da53:0](#)

DUT: SM-X350, Type: Tablet, Serial: R32XC01BG3J

Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz; Duty Cycle: 1:1.30167
Medium parameters used (interpolated): $f = 2441$ MHz; $\sigma = 1.792$ S/m; $\epsilon_r = 37.666$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(6.95, 6.67, 7.67) @ 2441 MHz; Calibrated: 2/21/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 1/21/2025
- Phantom: ELI V8.0_Left; Type: QD OVA 004 Ax; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration/Bluetooth_Ant.1_BDR_DH5_CH39_Rear_0 mm Grip Sensor/Area Scan (11x11x1):

Measurement grid: dx=12mm, dy=12mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.724 W/kg

Configuration/Bluetooth_Ant.1_BDR_DH5_CH39_Rear_0 mm Grip Sensor/Zoom Scan (7x7x7)/Cube

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

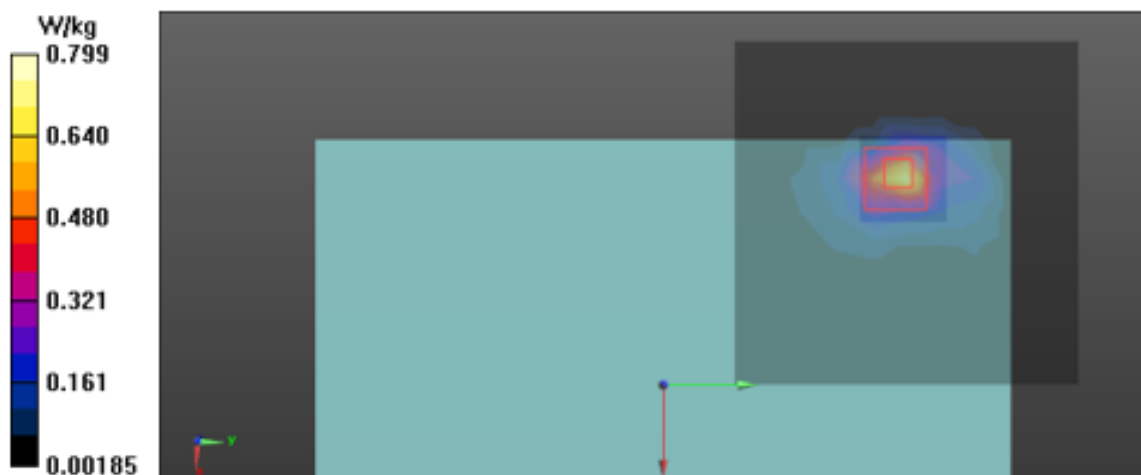
Reference Value = 20.70 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.20 W/kg

SAR(1 g) = 0.430 W/kg; SAR(10 g) = 0.184 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.799 W/kg



9)

Date: 3/11/2025

Test Laboratory: Eurofins KCTL Co.,Ltd.

File Name: [2. Bluetooth_Ant.2 Body.da53:0](#)

DUT: SM-X350, Type: Tablet, Serial: R32XC01BG3J

Communication System: UID 0, Bluetooth (0); Frequency: 2402 MHz; Duty Cycle: 1:1.30167
Medium parameters used (interpolated): $f = 2402$ MHz; $\sigma = 1.752$ S/m; $\epsilon_r = 37.732$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3928;ConvF(6.95, 6.67, 7.67) @ 2402 MHz; Calibrated: 2/21/2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn666; Calibrated: 1/21/2025
- Phantom: ELI V8.0_Left; Type: QD OVA 004 Ax; Serial: 2098
- Measurement SW: DASY52, Version 52.10 (4);

Configuration 2/Bluetooth_Ant.2_BDR_DH5_CH0_Left_0 mm/Area Scan (11x13x1): Measurement grid:
dx=12mm, dy=12mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.380 W/kg

Configuration 2/Bluetooth_Ant.2_BDR_DH5_CH0_Left_0 mm/Zoom Scan (7x8x7)/Cube 0:

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

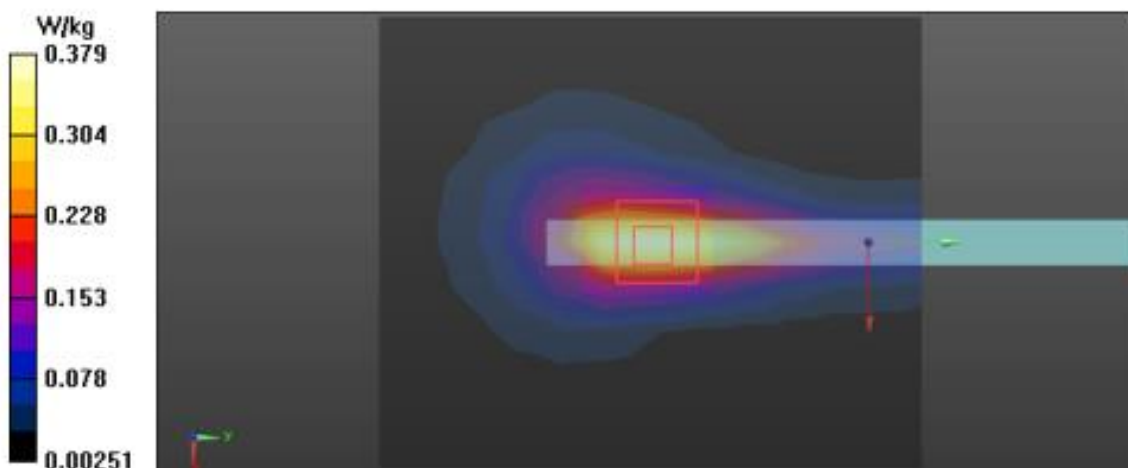
Reference Value = 15.84 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.472 W/kg

SAR(1 g) = 0.236 W/kg; SAR(10 g) = 0.120 W/kg

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.379 W/kg



10)

Eurofins KCTL Co.,Ltd.

Measurement Report for SM-X350, FRONT, Custom Band, UID 0 -, Channel 13600 (13.600MHz)

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	Serial Number	DUT Type
SM-X350, Samsung	243.0 x 170.0 x 11.0	R32XC01B95V	Tablet

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	FRONT, 0.00	Custom Band	CW, 0--	13.600, 13600	14.72	0.737	56.4

Hardware Setup

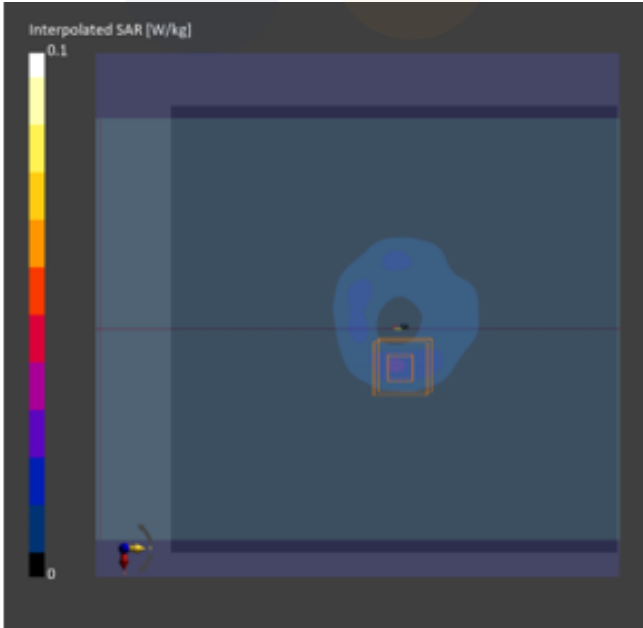
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 - 2097	HBBL4-250V3, 2025-01-23	EX3DV4 - SN3928, 2024-02-22	DAE4 Sn1756, 2024-09-13

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	180.0 x 180.0	32.0 x 32.0 x 30.0
Grid Steps [mm]	15.0 x 15.0	8.0 x 8.0 x 5.0
Sensor Surface [mm]	3.0	1.4
Graded Grid	No	Yes
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2025-01-23	2025-01-23
psSAR1g [W/kg]	0.022	0.019
psSAR8g [W/kg]	0.015	0.008
psSAR10g [W/kg]	0.014	0.007
psAPD (1.0cm2, sq) [W/m2]		N/A
psAPD (4.0cm2, sq) [W/m2]		N/A
Power Drift [dB]		0.10



Appendixes List

Appendix A	A.1 Probe Calibration certificate (EX3DV4_SN3928) (2024-02-22)
	A.2 Probe Calibration certificate (EX3DV4_SN3928) (2025-02-21)
	A.3 Probe Calibration certificate (EX3DV4_SN7851)
	A.4 Dipole Calibration certificate (CLA13_SN1019)
	A.5 Dipole Calibration certificate (D2450V2_SN1091)
	A.6 Dipole Calibration certificate (D5GHzv2_SN1134)
	A.7 Justification for Extended SAR Dipole Calibrations
Appendix B	SAR Tissue Specification
Appendix C	Power Reduction Verification
Appendix D	#Antenna Location & Distance
Appendix E	EUT Photo
Appendix F	Test Setup Photo