TEST REPORT

FCC SAR Test for SM-X520
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-SR-2502-FC015

DATE OF ISSUE
February 21, 2025

Tested by
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TEST REPORT

Part 1 SAR Test for certification

REPORT NO.
HCT-SR-2502-FC015

DATE OF ISSUE
Feb. 21, 2025

FCC ID
A3LSMX520

Applicant	SAMSUNG Electronics Co., Ltd 129, Samsung-ro, Yeongtong-gu, Suwon-Si, Gyeonggi-do, 16677, Korea
Product Name Model Name	Tablet SM-X520
Date of Test	Jan. 22, 2025~Feb. 04, 2025
Location of Test	■ Permanent Testing Lab□ On Site Testing Lab (Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA)
ISED Rule Part(s)	CFR § 2.1093
Test Results	PASS (SAR Limit : 1.6 W/kg) Refer to the clause 3.2 Attestation of test result

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	Feb. 21, 2025	Initial Release

Notice

Content
The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated. The test results have only been applied with the test methods required by the standard(s). The laboratory is not accredited for the test results marked *. Information provided by the applicant is marked **. Test results provided by external providers are marked ***. When confirmation of authenticity of this test report is required, please contact www.hct.co.kr The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

CONTENTS

1. Test Regulations

The tests documented in this report were performed in accordance with FCC CFR § 2.1093, IEEE 1528-2013, ANSI C63.26-2015 the following FCC Published RF exposure KDB procedures:

- FCC KDB Publication 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB Publication 447498 D01 General RF Exposure Guidance v06
- FCC KDB Publication 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- FCC KDB Publication 865664 D02 SAR Reporting v01r02
- FCC KDB Publication 484596 D01 Referencing Test Data v02r03
- FCC KDB Publication 616217 D04 SAR Tablets v01r02

In Addition to the above, the following information was used.

- April 2015 TCB Workshop Notes (Simultaneous transmission summation clarified)
- October 2016 TCB Workshop Notes (Bluetooth Duty Factor)
- April 2019 TCB Workshop Notes (Tissue Simulating Liquid (TSL))
- April 2019 TCBC Workshop Notes (IEEE 802.11ax)

2. Test Location

2.1 Test Laboratory

Company Name	HCT Co., Ltd.
Address	74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si,Gyeonggi-do, 17383 KOREA
Telephone	031-645-6300
Fax.	031-645-6401

2.2 Test Facilities

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

Korea	National Radio Research Agency (Designation No. KR0032)
	KOLAS (Testing No. KT197)

3. Information of the EUT

3.1 General Information of the EUT

Model Name	SM-X520
Equipment Type	Tablet
FCC ID	A3LSMX520
Application Type	Certification
Applicant	SAMSUNG Electronics Co., Ltd.

3.2 Attestation of test result of device under test

The Highest Reported SAR			
Band	Tx. Frequency	Equipment Class	Reported SAR (W/kg) Reported 1g Body SAR
2.4 ㎓ WLAN	2 412 ㎒~ 2 462 ㎒	DTS	0.50
U-NII-1	5 180 ㎒~ 5 240 ㎒	NII	N/A
U-NII-2A	5 260 ㎒~ 5 320 ㎒	NII	0.77
U-NII-2C	5 500 ㎒~ 5 720 ㎒	NII	**0.95**
U-NII-3	5 745 ㎒~ 5 825 ㎒	NII	0.87
U-NII-4	5 845 ㎒~ 5 885 ㎒	NII	0.85
Bluetooth	2 402 ㎒~ 2 480 ㎒	DSS	0.27
Simultaneous Transmission Analysis Results			**1.01**
Date(s) of Tests:	Jan. 22, 2025~Feb. 04, 2025		

This model is a de-population variant model of the basic model SM-X528U [Report No: No: HCT-SR-2502-FC009] and the data-reuse test was performed according to 5.1.2.2 of RSS-102.SAR.Meas except WLAN 2.4 GHz

4. Device Under Test Description

4.1 DUT specification

Device Wireless specification overview		
Band & Mode	Operating Mode	Tx Frequency
U-NII-1	Data	5 180 ㎒ ~ 5 240 ㎒
U-NII-2A	Data	5 260 ㎒ ~ 5 320 ㎒
U-NII-2C	Data	5 500 ㎒ ~ 5 720 ㎒
U-NII-3	Data	5 745 ㎒ ~ 5 825 ㎒
U-NII-4	Data	5 845 ㎒~ 5 885 ㎒
2.4 ㎓ WLAN	Data	2 412 ㎒ ~ 2 462 ㎒
Bluetooth / LE 5.3	Data	2 402 ㎒ ~ 2 480 ㎒
S-Pen	Data	531.25 ㎑, 562.5 ㎑, 593.75 ㎑

Device Description		
Battery	EB-BX526ABY (ATL, SDI)	
Cover	EF-DX720(Variant 1), EF-DX725(Variant 2)	
S Pen	EJ-PX510	
Device Serial Numbers	Mode	Serial Number
	WLAN 2.4 ㎓, 5 ㎓, BT	XLD0618M, XLD0161M, XLD0074M
	The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics are within operational tolerances expected for production units.	

4.2 Nominal and Maximum Output Power Specifications

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 D01v06.

4.2.1 WIFI output power 2.4 ㎓, 5 ㎓

a. Maximum Power

Mode	IEEE 802.11					
	SISO					
	a	b	g	n	ac	ax(SU)
2.4GHz		16.0 12ch : 5 13ch : 1	17.0 12ch : 5 13ch : 1	16.0 12ch : 5 13ch : 1		16.0 12ch : 5 13ch : 1
5GHz (20MHzBW)	16.0 36/40ch : 11.0 44/48ch : 11.5 52/56/60/64ch : 14.0 100/104/108ch : 11.0 112ch : 13.0 177ch :14.0			15.0 36/40ch : 11.0 44/48ch : 11.5 52/56/60/64ch : 14.0 100/104/108ch : 11.0 112ch : 13.0 177ch :14.0	15.0 36/40ch : 11.0 44/48ch : 11.5 52/56/60/64ch : 14.0 100/104/108ch : 11.0 112ch : 13.0 177ch :14.0	15.0 36/40ch : 11.0 44/48ch : 11.5 52/56/60/64ch : 14.0 100/104/108ch : 11.0 112ch : 13.0 177ch :14.0
5GHz (40MHzBW)				13.0 38ch : 10 46/62ch : 11 102ch : 9.5 110ch : 10.5	13.0 38ch : 10 46/62ch : 11 102ch : 9.5 110ch : 10.5	13.0 38ch : 10 46/62ch : 11 102ch : 9.5 110ch : 10.5
5GHz (80MHzBW)					12.0 42ch : 9 58ch : 11 106ch : 8	12.0 42ch : 9 58ch : 11 106ch : 8

Mode	IEEE 802.11					
	MIMO					
	a	b	g	n	ac	ax(SU)
2.4GHz		19.0 12ch : 8 13ch : 4	20.0 12ch : 8 13ch : 4	19.0 12ch : 8 13ch : 4		19.0 12ch : 8 13ch : 4
5GHz (20MHzBW)	19.0 36/40ch : 14.0 44/48ch : 14.5 52/56/60/64ch : 17.0 100/104/108ch : 14.0 112ch : 16.0 177ch :17.0			18.0 36/40ch : 14.0 44/48ch : 14.5 52/56/60/64ch : 17.0 100/104/108ch : 14.0 112ch : 16.0 177ch :17.0	18.0 36/40ch : 14.0 44/48ch : 14.5 52/56/60/64ch : 17.0 100/104/108ch : 14.0 112ch : 16.0 177ch :17.0	18.0 36/40ch : 14.0 44/48ch : 14.5 52/56/60/64ch : 17.0 100/104/108ch : 14.0 112ch : 16.0 177ch :17.0
5GHz (40MHzBW)				16.0 38ch : 13 46/62ch : 14 102ch :12.5 110ch : 13.5	16.0 38ch : 13 46/62ch : 14 102ch :12.5 110ch : 13.5	16.0 38ch : 13 46/62ch : 14 102ch :12.5 110ch : 13.5
5GHz (80MHzBW)					15.0 42ch : 9 58ch : 11 106ch : 8	15.0 42ch : 9 58ch : 11 106ch : 8

(Upper Tolerance: target +1.0 dB)

b. Reduced Power

Mode	IEEE 802.11					
	SISO					
	a	b	g	n	ac	ax(SU)
2.4GHz		10.0 12ch : 5 13ch : 1	10.0 12ch : 5 13ch : 1	10.0 12ch : 5 13ch : 1		10.0 12ch : 5 13ch : 1
5GHz (20MHzBW)	7.0 177ch :5			7.0 177ch : 5	7.0 177ch : 5	7.0 177ch : 5
5GHz (40MHzBW)				7.0	7.0	7.0
5GHz (80MHzBW)					7.0	7.0

Mode	IEEE 802.11					
	MIMO					
	a	b	g	n	ac	ax(SU)
2.4GHz		13.0 12ch : 8 13ch : 4	13.0 12ch : 8 13ch : 4	13.0 12ch : 8 13ch : 4		13.0 12ch : 8 13ch : 4
5GHz (20MHzBW)	10.0 177ch :8			10.0 177ch : 8	10.0 177ch : 8	10.0 177ch : 8
5GHz (40MHzBW)				10.0	10.0	10.0
5GHz (80MHzBW)					10.0	10.0

(Upper Tolerance: target +1.0 dB)

c. 11ax RU Maximum Power

Tones	IEEE 802.11							
	SISO				MIMO			
	2.4G	5G/20Mhz	5G/40Mhz	5G/80Mhz	2.4G	5G/20Mhz	5G/40Mhz	5G/80Mhz
26T	10 12ch : 5 13ch : 1	10	10	10	13 12ch : 8 13ch : 4	13	13	13
52T	10 12ch : 5 13ch : 1	10	10	10	13 12ch : 8 13ch : 4	13	13	13
106T	10 12ch : 5 13ch : 1	10	10	10	13 12ch : 8 13ch : 4	13	13	13
242T	10 12ch : 5 13ch : 1	10	10	10	13 12ch : 8 13ch : 4	13	13	13
484T			10 102ch : 9.5	10 102ch : 9.5			13 102ch : 12.5	13 102ch : 12.5
996T				10 42ch : 9.5 102ch : 9.5				13 42ch :12.5 102ch : 12.5

(Upper Tolerance: target +1.0 dB)

d. 11ax RU Reduced Power

Tones	IEEE 802.11							
	SISO				MIMO			
	2.4G	5G/20Mhz	5G/40Mhz	5G/80Mhz	2.4G	5G/20Mhz	5G/40Mhz	5G/80Mhz
26T	10.0 12ch : 5 13ch : 1	7.0 177ch : 5	7.0	7.0	13 12ch : 8 13ch : 4	10.0 177ch : 8	10.0	10.0
52T	10.0 12ch : 5 13ch : 1	7.0 177ch : 5	7.0	7.0	13 12ch : 8 13ch : 4	10.0 177ch : 8	10.0	10.0
106T	10 12ch : 5 13ch : 1	7.0 177ch : 5	7.0	7.0	13 12ch : 8 13ch : 4	10.0 177ch : 8	10.0	10.0
242T	10 12ch : 5 13ch : 1	7.0 177ch : 5	7.0	7.0	13 12ch : 8 13ch : 4	10.0 177ch : 8	10.0	10.0
484T			7.0	7.0			10.0	10.0
996T				7.0				10.0

(Upper Tolerance: target +1.0 dB)

4.2.2 Bluetooth output power

a. Maximum Power

Mode	Max
BDR	14.5
EDR	9.0
BLE	14.0

(Upper Tolerance: target +1.0 dB)

b. Reduced Power

Mode	Max
BDR	10.0
EDR	9.0
BLE	9.5

(Upper Tolerance: target +1.0 dB)

4.3 SAR Summation Scenario

According to FCC KDB 447498 D01v06, 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. Possible transmission paths for the EUT are shown below paths and are mode in same rectangle to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.
This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB 447498 D01v06.

BT	2.4G		5G		Scenario
Ant. 1	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
O	X	X	X	X	Bluetooth Ant. 1
O	X	X	X	O	Bluetooth Ant. 1+ 5 GHz Wi-Fi Ant.2
O	X	X	O	O	Bluetooth Ant. 1+ 5 GHz Wi-Fi MIMO
X	O	X	X	X	2.4 GHz Wi-Fi Ant. 1
X	O	O	X	X	2.4 GHz Wi-Fi MIMO
X	X	X	X	O	5 GHz Wi-Fi Ant. 2
X	X	X	O	O	5 GHz Wi-Fi MIMO

Note:
1. 2.4 GHz Bluetooth and 2.4 GHz WLAN cannot transmit simultaneously.
2. 2.4 GHz WLAN and 5 GHz WLAN cannot transmit simultaneously.
3. The highest reported SAR for each exposure condition is used for SAR summation purpose.
4. Wi-Fi Hotspot is supported for 2.4 GHz/UNII-3 of 5 GHz WLAN.
5. This device supports 2x2 MIMO Tx for WLAN 802.11a/b/g/n/ac/ax. 802.11a/g/n/ac/ax supports CDD and STBC and 802.11n/ac/ax additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.

4.4 SAR Test Considerations

4.4.1 WiFi

Since wireless router operations are not allowed by the chipset firmware using U-NII-1, U-NII-2A, U-NII-2C and U-NII-4, WiFi Hotspot SAR test and combinations are considered only 2.4 GHz and U-NII-3 for SAR with respected to wireless router configurations according to FCC KDB 941225 D06v02r01.

Since U-NII-1 and U-NII-2A Bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg for 1g SAR and is less than 3.0 W/kg for 10g SAR, SAR is not required for U-NII-1 Band according to FCC KDB 248227 D01v02r02.

This device supports IEEE 802.11ax with the following features:

a) Up to 80 MHz Bandwidth only for 5 GHz
b) Up to 20 MHz Bandwidth only for 2.4 GHz
c) 2Tx antenna output
d) Up to 1024 QAM is supported
e)TDWR and Band gap channels are supported for 5 GHz

Per April 2019 TCB Workshop Notes, SAR testing was not required for 802.11ax when applying the initial test configuration procedures of KDB 248227, with 802.11ax considered a higher order 802.11 mode.

5. Introduction

The FCC has adopted the guidelines for evaluating the environmental effects of radio frequency radiation in ET Docket 93-62 on Aug. 6, 1996 to protect the public and workers from the potential hazards of RF emissions due to FCC regulated portable devices.

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz. 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York 10017. The measurement procedure described in IEEE/ANSI C95.3-1992 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave is used for guidance in measuring SAR due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in Biological Effects and Exposure Criteria for Radio Frequency Electromagnetic Fields," NCRP Report No. 86 NCRP, 1986, Bethesda, MD 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

SAR Definition

Specific Absorption Rate (SAR) is defined as the time derivative of the incremental electromagnetic energy (d*W*) absorbed by (dissipated in) an incremental mass (d*m*) contained in a volume element (d*V*) of a given density (*r*). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body.

$$SAR = \frac{d}{dt}\left(\frac{dU}{dm}\right)$$

Figure 1. SAR Mathematical Equation

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

Where:
= conductivity of the tissue-simulant material (S/m)
= mass density of the tissue-simulant material (kg/m³)
= Total RMS electric field strength (V/m)

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

6. Description of test equipment

6.1 SAR MEASUREMENT SETUP

These measurements are performed using the DASY4 automated dosimetric assessment system. It is made by Schmid& Partner Engineering AG (SPEAG) in Zurich, Switzerland. It consists of high precision robotics system (Staubli), robot controller, Pentium III computer, near-field probe, probe alignment sensor, and the generic twin phantom containing the brain equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF) (see Figure.2).

A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The PC with Windows XP or Windows 7 or Window 10 or Window 11 is working with SAR Measurement system DASY4 & DASY5& DASY6 &DASY8 A/D interface card, monitor, mouse, and keyboard. The Staubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.

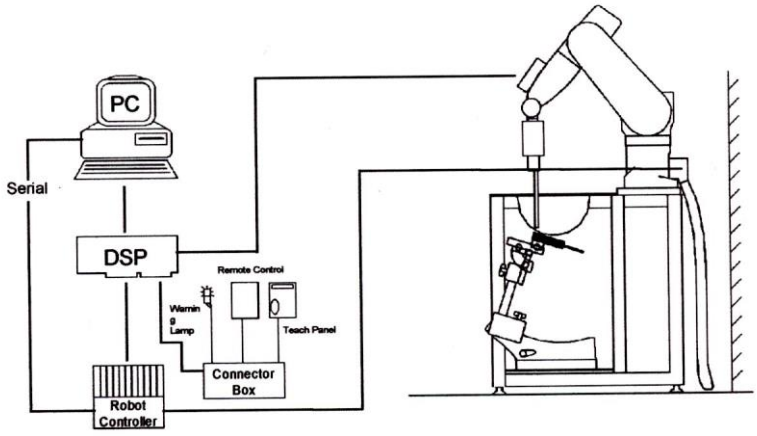


Figure 2. HCT SAR Lab. Test Measurement Set-up

The DAE consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer. The system is described in detail in.

7. SAR Measurement Procedure

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

1. The SAR distribution at the exposed side of the head or body was measured at a distance no more than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the DUT's head and body area and the horizontal grid resolution was depending on the FCC KDB 865664 D01v01r04 table 4-1 & IEEE 1528-2013.

2. Based on step, the area of the maximum absorption was determined by sophisticated interpolations routines implemented in DASY software. When an Area Scan has measured all reachable point. DASY system computes the field maximal found in the scanned are, within a range of the maximum. SAR at this fixed point was measured and used as a reference value.

3. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB 865664 D01v01r04 table 4-1 and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (reference from the DASY manual.)

   a. The data at the surface were extrapolated, since the center of the dipoles is no more than 2.7 ㎜ away from the tip of the probe (it is different from the probe type) and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

   b. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions. The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.

   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan. If the value changed by more than 5 %, the SAR evaluation and drift measurements were repeated.

Area scan and zoom scan resolution setting follow KDB 865664 D01v01r04 quoted below.

<table>
<tr><td colspan="3"></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5±1 mm</td><td>·δ·ln(2)±0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surfacenormal at the measurement location</td><td>30°±1°</td><td>20°±1°</td></tr>
<tr><td colspan="3" rowspan="2">MaximumareascanSpatial resolution: Δx_{Area},Δy_{Area}</td><td>≤ 2 GHz: ≤15 mm
2-3 GHz: ≤12 mm</td><td>3-4 GHz: ≤12 mm
4-6 GHz: ≤10 mm</td></tr>
<tr><td colspan="2">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.</td></tr>
<tr><td colspan="3">Maximum zoom scan Spatial resolution: Δx_{zoom},Δy_{zoom}</td><td>≤ 2 GHz: ≤8mm
2-3 GHz: ≤5mm*</td><td>3-4 GHz: ≤5 mm*
4-6 GHz: ≤4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan Spatial resolution normal to phantom surface</td><td colspan="2">uniform grid:$\Delta z_{zoom}(n)$</td><td>≤ 5 mm</td><td>3-4 GHz: ≤4 mm
4-5 GHz: ≤3 mm
5-6 GHz: ≤2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{zoom}(1)$: between1st two Points closest to phantom surface</td><td>≤ 4 mm</td><td>3-4 GHz: ≤3 mm
4-5 GHz: ≤2.5 mm
5-6 GHz: ≤2 mm</td></tr>
<tr><td>$\Delta z_{zoom}(n>1)$:between subsequent Points</td><td colspan="2">≤1.5·$\Delta z_{zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3-4 GHz: ≥28 mm
4-5 GHz: ≥25 mm
5-6 GHz: ≥22 mm</td></tr>
<tr><td colspan="5">Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.
* When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

8. Description of Test Position

8.1 Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity ε and loss tangent δ=0.02.

8.2 SAR Testing for Tablet Per KDB Publication 616217 D04v01r02

Per FCC KDB Publication 616217 D04v01r02, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR Exclusion Threshold in KDB 447498 D01v06 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.

8.3 Proximity Sensor Considerations.

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

When the sensor detects a user is touching the device on or near to the antenna the device reduces the maximum allowed output power However, the proximity sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, an additional exposure condition 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 616217 D04 Section 8 and additional FCC/ISED guidance were used as a guideline for selecting SAR test distances for this device at these additional exposure conditions. The smallest separation distance determined by the sensor triggering and sensor coverage for each applicable edge, minus 1 mm. was used as the test separation distance for SAR testing. Sensor triggering distance evaluation is provided in a separate document.

The required separation distance to evaluate SAR at full powers were:

Wireless technologies	Position	§ 6.2 Triggering Distance [mm]	§ 6.3 Coverage	§ 6.4 Tilt Angle	Worst case distance for Body SAR [mm]
WIFI 1 Ant	Rear	19	N/A	N/A	18
	Top	19	N/A	N/A	18
	Right	11	N/A	N/A	10
WIFI 2 Ant	Rear	19	N/A	N/A	18
	Top	19	N/A	N/A	18
	Left	11	N/A	N/A	10

9. RF Exposure Limits

HUMAN EXPOSURE	UNCONTROLLED ENVIRONMENT General Population (W/kg)	CONTROLLED ENVIRONMENT Occupational (W/kg)
SPATIAL PEAK SAR * (Partial Body)	1.6	8.0
SPATIAL AVERAGE SAR ** (Whole Body)	0.08	0.4
SPATIAL PEAK SAR *** (Hands / Feet / Ankle / Wrist)	4.0	20.0

NOTES:

*The Spatial Peak value of the SAR averaged over any 1 g of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

** The Spatial Average value of the SAR averaged over the whole-body.

*** The Spatial Peak value of the SAR averaged over any 10 g of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

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 mad 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.

10. FCC SAR General Measurement Procedures

Power Measurements for licensed transmitters are performed using a base simulator under digital average power.

10.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v06, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as Reported SAR. The highest reported SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

10.2 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

10.2.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.
A periodic duty factor is required for current generation SAR system to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92-96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

10.2.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII2A Bands, when the same maximum output power is specified for both Bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is > 1.2 W/kg for 1g SAR or > 3.0 W/kg for 10g SAR. When different maximum output powers are specified for the Bands, SAR measurement for the U-NII Band with the lower maximum output power is not required unless the highest reported SAR for the U-NII Band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two Bands, is > 1.2 W/kg for 1g SAR or > 3.0 W/kg for 10g SAR.

10.2.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 ㎒ (5.47 ㎓ – 5.85 ㎓), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 ㎓ – 5.65 ㎓ in U-

NII-2C Band must be disabled with acceptable mechanisms and documented in the equipment certification.
Unless Band gap channels are permanently disabled, SAR must be considered for these channels.

10.2.4 Initial Test Position Procedure

For exposure conditions with multiple test positions, such as handset operating nest to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g SAR and ≤ 1.0 W/kg for 10g SAR, no additional testing for the remaining test position is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg for 1g SAR and ≤ 2.0 W/kg for 10g SAR or all test positions are measured.

10.2.5 2.4 ㎓ SAR test Requirements

SAR is measured for 2.4 ㎓ 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:
1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS is that exposure configuration.
2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

2.4 ㎓ 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 ㎓ Band, the Initial Test Configuration Procedures should be followed.

10.2.6 OFDM Transmission Mode and SAR Test Channel Selection

For the 2.4 ㎓ and 5 ㎓ Bands, when the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency Band or aggregated Band, SAR is measured using the configuration with the largest channel Bandwidth, lowest order modulation and lowest data rate and lowest order 802.11 a/g/n/ac mode. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11 ac or 802.11g and 802.11n with the same channel Bandwidth, modulation and data rate etc., the lower order 802.11 mode i.2., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency Band or aggregated Band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

10.2.7 Initial Test Configuration Procedure

For OFDM, in both 2.4 ㎓ and 5 ㎓ Bands, an initial test configuration is determined for each frequency Band and aggregated Band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency Band or aggregated Band, SAR is measured using the configuration(s) with the largest channel Bandwidth, lowest order modulation, and lowest data rate. If the average RF output powers of the highest identical transmission modes are within 0.25 dB of each other, mid channel of the transmission mode with highest average RF output power is the initial test channel. Otherwise, the channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is ≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements.

10.2.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency Band and aggregated Band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position on procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg for 1g SAR and ≤ 3.0 W/kg for 10g SAR, no additional SAR tests for the subsequent test configurations are required.

11. Output Power Specifications

11.1 WIFI Conducted Power measurement method

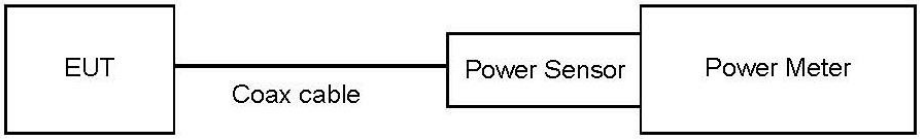
Un-Licensed Bands (DTS Band)

Test Description	Test Procedure Used
Conducted Output Power	- KDB 558074 v05 – Section 8.3.2.3 - ANSI 63.10-2013 – Section 11.9.2.3

Test Procedure

1. Measure the duty cycle.
2. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
3. Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Test setup



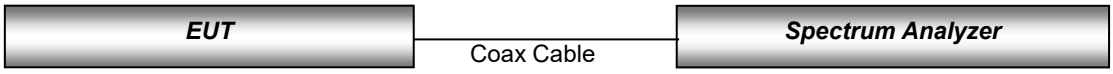
Un-Licensed Bands(NII Band)

Test Description	Test Procedure Used
Conducted Output Power	- KDB 789033 D02 v02r01 – Section E.3.a

Test Procedure

1. Measure the duty cycle.
2. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
3. Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Test setup



11.4.1 IEEE 802.11 (2.4 GHz) Maximum and Reduced Conducted Power

Mode	Frequency [MHz]	Channel	Pmax		
			IEEE 802.11 (2.4 GHz) Average RF Conducted Power [dBm]		
			WIFI 1	WIFI 2	MIMO
802.11b	2 412	1	16.32	16.35	19.34
	2 437	6	16.67	15.83	19.28
	2 462	11	16.74	15.94	19.36

Mode	Frequency [MHz]	Channel	Plimit		
			IEEE 802.11 (2.4 GHz) Average RF Conducted Power [dBm]		
			WIFI 1	WIFI 2	MIMO
802.11b	2 412	1	10.51	10.44	13.49
	2 437	6	10.94	9.26	13.19
	2 462	11	10.71	10.10	13.43

11.4.2 IEEE 802.11 (5 ㎓) Maximum and Reduced Conducted Power

Frequency [㎒]	Channel	Pmax		
		IEEE 802.11 a (20 ㎒ BW)Conducted Power [dBm]		
		WIFI 1	WIFI 2	MIMO
5 180	36	11.46	11.53	14.51
5 200	40	10.81	11.52	14.19
5 220	44	11.32	12.35	14.87
5 240	48	11.85	12.20	15.04
5 260	52	14.58	14.49	17.54
5 280	56	14.03	14.09	17.07
5 300	60	14.60	14.85	17.74
5 320	64	14.54	14.71	17.64
5 500	100	11.45	11.81	14.65
5 520	104	11.28	11.71	14.51
5 540	108	11.43	11.86	14.66
5 560	112	13.17	13.44	16.32
5 580	116	16.12	16.28	19.21
5 720	144	16.12	16.33	19.23
5 745	149	15.77	15.95	18.87
5 785	157	16.44	16.47	19.46
5 825	165	16.46	16.48	19.48
5 845	169	15.97	16.65	19.33
5 865	173	16.26	16.40	19.34
5 885	177	14.25	14.20	17.24

Frequency [㎒]	Channel	Plimit		
		IEEE 802.11 ac(80 ㎒ BW)Conducted Power [dBm]		
		WIFI 1	WIFI 2	MIMO
5 210	42	7.77	6.80	10.32
5 290	58	7.28	6.78	10.05
5 530	106	7.81	7.56	10.70
5 610	122	7.67	7.28	10.49
5 690	138	7.89	7.46	10.69
5 775	155	7.54	7.24	10.40
5 855	171	7.67	6.68	10.21

Note:

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

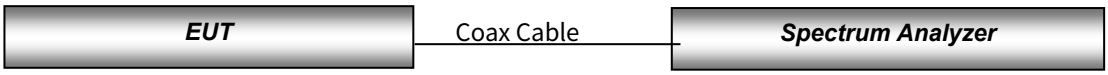
▪ Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.

▪ For transmission mode 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. For configurations with multiple mid-Band channels, due to an even number of channels, both channels were measured.

Test Configuration



11.5 Bluetooth Maximum Conducted Power

11.5.1BluetoothMaximum Conducted Power

Pmax

Mode	Channel	Max. Average Conducted Power [dBm]
DH5	0	14.63
	39	14.88
	78	14.87
2-DH5	0	8.60
	39	8.83
	78	9.20
3-DH5	0	8.64
	39	8.84
	78	9.21

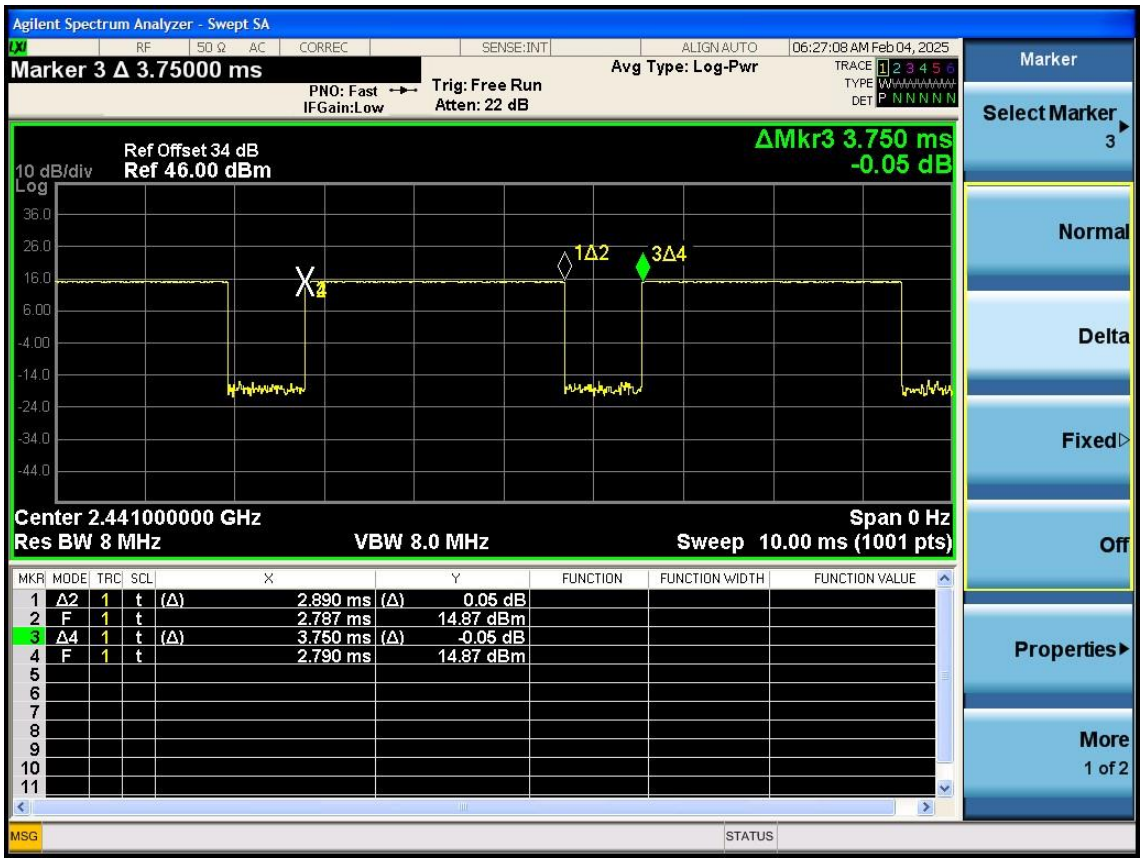
Plimit

Mode	Channel	Max. Average Conducted Power [dBm]
DH5	0	9.56
	39	9.62
	78	10.16

Per October 2016 TCB Workshop Notes:

When call box and Bluetooth protocol are used for Bluetooth SAR measurement, time-domain plot is required to identify duty factor for supporting the test setup and result.
Bluetooth duty cycle was measured using Bluetooth tester equipment (CBT / R&S) with Bluetooth.

Bluetooth Duty cycle Measurement results



Bluetooth Duty Cycle

Duty Cycle = (BT On Time / BT Full Time) = (2.890/3.750) = 0.771

The maximum duty cycle defined by chipset manufacturer is 78.0 % The duty cycle of DH5 measured by DUT was 77.1 %, and the measured SAR results was compensated by applying the maximum duty cycle

12. System Verification

12.1 Tissue Verification

The head simulating material is calibrated by HCT using the DAKS 3.5 to determine the conductivity and permittivity.

Date of Tests	Tissue Temp. (°C)	Tissue Type	Freq. (MHz)	Measured Conductivity σ (S/m)	Measured Dielectric Constant, ε	Target Conductivity σ (S/m)	Target Dielectric Constant, ε	% dev σ	% dev ε
01/23/2025	20.6	2 450H	2 400	1.750	38.800	1.756	39.290	-0.34	-1.25
			2 450	1.810	38.700	1.800	39.200	+0.56	-1.28
			2 500	1.860	38.500	1.855	39.140	+0.27	-1.64
01/22/2025	20.3	2 450H	2 400	1.790	40.000	1.756	39.290	+1.94	+1.81
			2 450	1.840	39.800	1.800	39.200	+2.22	+1.53
			2 500	1.900	39.700	1.855	39.140	+2.43	+1.43
01/24/2025	23.2	5 180H-5 320H	5 180	4.592	35.190	4.635	36.010	-0.93	-2.28
			5 250	4.678	34.956	4.706	35.930	-0.60	-2.71
			5 280	4.721	34.882	4.737	35.894	-0.34	-2.82
			5 320	4.778	34.833	4.778	35.846	+0.00	-2.83
01/31/2025	23.0	5 500H-5 600H	5 500	5.064	34.698	4.963	35.640	+2.04	-2.64
			5 600	5.171	34.511	5.065	35.530	+2.10	-2.87
			5 750	5.385	34.400	5.219	35.360	+3.18	-2.72
02/03/2025	21.8	5 750H-5 825H	5 750	5.246	35.379	5.219	35.360	+0.51	+0.05
			5 800	5.177	35.375	5.270	35.300	-1.76	+0.21
			5 825	5.146	35.336	5.296	35.270	-2.83	+0.19
02/04/2025	21.9	5 800H-5 885H	5 800	5.285	35.401	5.270	35.300	+0.29	+0.29
			5 835	5.245	35.324	5.306	35.258	-1.15	+0.19
			5 845	5.238	35.286	5.316	35.246	-1.47	+0.11
			5 855	5.235	35.243	5.326	35.235	-1.71	+0.02
			5 865	5.235	35.193	5.337	35.225	-1.90	-0.09
			5 875	5.239	35.136	5.347	35.215	-2.02	-0.22
			5 885	5.247	35.080	5.357	35.205	-2.05	-0.35

12.2 System Verification

◆WLAN Band

Input Power: 50 ㎽

Freq.	Date	Probe	Dipole	Liquid	Amb. Temp.	Liquid Temp.	1 W Target SAR_{1g} (SPEAG)	50 ㎽ Measured SAR_{1g}	1 W Normalized SAR_{1g}	Deviation	Limit
[㎒]		(S/N)	(S/N)		[°C]	[°C]	[W/kg]	[W/kg]	[W/kg]	[%]	[%]
2 450	01/22/2025	7751	743	Head	20.4	20.3	51.80	2.64	52.80	+1.93	± 10
2 450	01/23/2025			Head	20.7	20.6	51.80	2.59	51.80	+0.00	± 10
5 250	01/24/2025	7309	1107	Head	23.3	23.2	80.20	4.00	80.00	-0.25	± 10
5 600	01/31/2025			Head	23.1	23.0	82.10	4.38	87.60	+6.70	± 10
5 750	02/03/2025			Head	21.9	21.8	79.90	4.08	81.60	+2.13	± 10
5 800	02/04/2025			Head	22.0	21.9	79.30	4.20	84.00	+5.93	± 10

12.3 SAR Test System Verification Procedure

SAR measurement was prior to assessment; the system is verified to the ± 10 % of the specifications at each frequency Band by using the system verification kit. (Graphic Plots Attached)
- Cabling the system, using the verification kit equipment.
- Dipole antenna was placed below the flat phantom.
- The measured one-gram SAR at the surface of the phantom above the dipole feed-point should be within 10 % of the target reference value.

Note;
SAR Verification was performed according to the FCC KDB 865664 D01v01r04.

13. SAR Test Data Summary

13.1 Body SAR Measurement Results

DTS Body SAR																		
Frequency		Mode	Ant.	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	SENSOR	Duty Cycle	Distance (mm)	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Reported SAR (W/kg)	Plot No.
MHz	Ch.																	
2 437	6	802.11b	1	20	1Mbps	11.0	10.94	-0.07	Rear	ACTIVE	99.1	0	0.624	0.427	1.014	1.009	0.437	
2 437	6	802.11b	1	20	1Mbps	11.0	10.94	0.06	Right	ACTIVE	99.1	0	0.566	0.386	1.014	1.009	0.395	
2 437	6	802.11b	1	20	1Mbps	11.0	10.94	0.13	Top	ACTIVE	99.1	0	0.313	0.248	1.014	1.009	0.254	
2 462	11	802.11b	1	20	1Mbps	17.0	16.74	0.03	Rear	INACTIVE	99.1	18	0.030	0.057	1.062	1.009	0.061	
2 462	11	802.11b	1	20	1Mbps	17.0	16.74	-0.07	Right	INACTIVE	99.1	10	0.071	0.249	1.062	1.009	0.267	
2 462	11	802.11b	1	20	1Mbps	17.0	16.74	0.02	Top	INACTIVE	99.1	18	0.099	0.078	1.062	1.009	0.084	
2 412	1	802.11b	1	20	1Mbps	11.0	10.51	-0.02	Rear	ACTIVE	99.1	0	0.593	0.374	1.119	1.009	0.422	
2 462	11	802.11b	1	20	1Mbps	11.0	10.71	-0.07	Rear	ACTIVE	99.1	0	0.546	0.391	1.069	1.009	0.422	
2 412	1	802.11b	1,2	20	1M	14.0	13.49	-0.08	Rear	ACTIVE	99.1	0	0.421	0.323	1.138	1.009	0.371	
2 412	1	802.11b	1,2	20	1M	14.0	13.49	0.02	Left	ACTIVE	99.1	0	0.004	0.000	1.138	1.009	0.000	
2 412	1	802.11b	1,2	20	1M	14.0	13.49	0.04	Right	ACTIVE	99.1	0	0.484	0.322	1.138	1.009	0.370	
2 412	1	802.11b	1,2	20	1M	14.0	13.49	0.12	Top	ACTIVE	99.1	0	0.244	0.190	1.138	1.009	0.218	
2 462	11	802.11b	1,2	20	1M	20.0	19.36	0.03	Rear	INACTIVE	99.1	18	0.060	0.048	1.276	1.009	0.062	
2 462	11	802.11b	1,2	20	1M	20.0	19.36	-0.03	Left	INACTIVE	99.1	10	0.005	0.002	1.276	1.009	0.003	
2 462	11	802.11b	1,2	20	1M	20.0	19.36	0.01	Right	INACTIVE	99.1	10	0.205	0.160	1.276	1.009	0.206	
2 462	11	802.11b	1,2	20	1M	20.0	19.36	0.01	Top	INACTIVE	99.1	18	0.091	0.063	1.276	1.009	0.081	
2 437	6	802.11b	1,2	20	1M	14.0	13.19	-0.02	Rear	ACTIVE	99.1	0	0.518	0.330	1.493	1.009	**0.497**	**A1**
2 462	11	802.11b	1,2	20	1M	14.0	13.43	-0.01	Rear	ACTIVE	99.1	0	0.492	0.304	1.230	1.009	0.377	
2 437	6	802.11b	1	20	1	11.0	10.94	-0.15	Rear	ACTIVE	99.1	0	0.056	0.048	1.014	1.009	0.049	#
2 437	6	802.11b	1	20	1	11.0	10.94	-0.13	Rear	ACTIVE	99.1	0	0.157	0.111	1.014	1.009	0.114	•
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population											Body 1.6 W/kg Averaged over 1 gram							

: Tablet Mode with Cover Variant 1
• : Tablet Mode with Cover Variant 2

The WLAN 2.4GHz mode was re-tested as the output Power was different from the basic model [SM-X528U].

Spot Check Verification Results : 5 ㎓ Body SAR (1g)																										
Reference Model Measurement Results																		Variant Model Measurement Results								
Frequency		Mode	Ant	Band width	Data Rate	Tune - Up Limit	Meas. Power	Power Drift	Test Position	Sensor	Duty Cycle	Distance	Area Scan Peak SAR	1g Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Tune-Up Limit	Meas. Power	Power Drift	Area Scan Peak SAR	1g Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Plot No.
㎒	Ch.			(㎒)	(Mbps)	(dB)	(dB)	(dB)			(%)	(mm)	(W/kg)	(W/kg)		(Duty)	(W/kg)	(dB)	(dB)	(dB)	(W/kg)	(W/kg)		(Duty)	(W/kg)	
5 290	58	802.11ac	2	80	MCS0	8	6.82	0	Rear	ACTIVE	86.1	0	0.893	0.259	1.312	1.161	0.395	8.0	6.78							
5 290	58	802.11ac	2	80	MCS0	8	6.82	0	Left	ACTIVE	86.1	0	0.687	0.268	1.312	1.161	**0.408**	8.0	6.78	0.17	1.420	0.499	1.324	1.161	**0.767**	-
5 290	58	802.11ac	2	80	MCS0	8	6.82	0	Top	ACTIVE	86.1	0	0.0752	0.028	1.312	1.161	0.043	8.0	6.78							
5 300	60	802.11a	2	20	6	15	14.85	0.03	Rear	INACTIVE	93.5	18	0.0622	0.00834	1.035	1.070	0.009	15.0	14.85							
5 300	60	802.11a	2	20	6	15	14.85	0.06	Left	INACTIVE	93.5	10	0.380	0.175	1.035	1.070	0.194	15.0	14.85							
5 300	60	802.11a	2	20	6	15	14.85	0	Top	INACTIVE	93.5	18	0.127	0.047	1.035	1.070	0.052	15.0	14.85							
5 530	106	802.11ac	2	80	MCS0	8	7.11	0	Rear	ACTIVE	86.1	0	2.120	0.451	1.227	1.161	0.643	8.0	7.56	0.00	1.220	0.473	1.107	1.161	0.608	-
5 530	106	802.11ac	2	80	MCS0	8	7.11	0	Left	ACTIVE	86.1	0	1.390	0.524	1.227	1.161	0.747	8.0	7.56	0.15	2.030	0.704	1.107	1.161	0.905	-
5 530	106	802.11ac	2	80	MCS0	8	7.11	0	Top	ACTIVE	86.1	0	0.253	0.069	1.227	1.161	0.098	8.0	7.56							
5 720	144	802.11a	2	20	6	17	16.33	0	Rear	INACTIVE	93.5	18	0.193	0.088	1.167	1.07	0.110	17.0	16.33							
5 720	144	802.11a	2	20	6	17	16.33	0.1	Left	**INACTIVE**	93.5	10	0.932	**0.432**	1.167	1.07	**0.539**	17.0	16.33	0.07	1.060	0.451	1.167	1.070	0.563	**A2**
5 720	144	802.11a	2	20	6	17	16.33	0	Top	INACTIVE	93.5	18	0.213	0.099	1.167	1.07	0.124	17.0	16.33							
5 610	122	802.11ac	2	80	MCS0	8	7.05	0	Left	**ACTIVE**	86.1	0	1.740	**0.587**	1.245	1.161	**0.849**	8.00	7.28	0.14	1.830	0.695	1.180	1.161	**0.952**	**A3**
5 690	138	802.11ac	2	80	MCS0	8	7.04	0	Left	ACTIVE	86.1	0	1.550	0.436	1.247	1.161	0.631	8.0	7.46	0.13	1.430	0.528	1.132	1.161	0.694	-
5 775	155	802.11ac	2	80	MCS0	8	7.31	0	Rear	ACTIVE	86.1	0	0.849	0.251	1.172	1.161	0.342	8.0	7.24							
5 775	155	802.11ac	2	80	MCS0	8	7.31	0	Left	ACTIVE	86.1	0	1.150	0.433	1.172	1.161	0.589	8.0	7.24	0.08	2.580	0.630	1.191	1.161	**0.871**	-
5 775	155	802.11ac	2	80	MCS0	8	7.31	0	Top	ACTIVE	86.1	0	0.309	0.061	1.172	1.161	0.083	8.0	7.24							
5 825	165	802.11a	2	20	6	17	16.48	0	Rear	INACTIVE	93.5	18	0	0	1.127	1.070	0	17.0	16.48							
5 825	165	802.11a	2	20	6	17	16.48	0.15	Left	INACTIVE	93.5	10	0.730	0.291	1.127	1.070	0.351	17.0	16.48							
5 825	165	802.11a	2	20	6	17	16.48	0	Top	INACTIVE	93.5	18	0.134	0.053	1.127	1.070	0.064	17.0	16.48							
5 855	171	802.11ac	2	80	MCS0	8	6.75	0	Rear	ACTIVE	86.1	0	0.740	0.226	1.334	1.161	0.350	8.0	6.68							
5 855	171	802.11ac	2	80	MCS0	8	6.75	0	Left	ACTIVE	86.1	0	1.710	0.527	1.334	1.161	**0.817**	8.0	6.68	0.02	1.570	0.518	1.355	1.161	0.815	-
5 855	171	802.11ac	2	80	MCS0	8	6.75	0	Top	ACTIVE	86.1	0	0.262	0.039	1.334	1.161	0.060	8.0	6.68							
5 845	169	802.11a	2	20	6	17	16.65	0	Rear	INACTIVE	93.5	18	0	0	1.084	1.070	0	17.0	16.65							
5 845	169	802.11a	2	20	6	17	16.65	0.18	Left	INACTIVE	93.5	10	0.738	0.301	1.084	1.070	0.349	17.0	16.65							
5 845	169	802.11a	2	20	6	17	16.65	0.18	Top	INACTIVE	93.5	18	0.133	0.059	1.084	1.070	0.068	17.0	16.65							

ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Body 1.6 W/kg Averaged over 1 gram

Spot Check Verification Results : 5GHz Body SAR (1g)																										
Reference Model Measurement Results																			Variant Model Measurement Results							
Frequency		Mode	Ant	Band width	Data Rate	Tune - Up Limit	Meas. Power	Power Drift	Test Position	Sensor	Duty Cycle	Distance	Area Scan Peak SAR	1g Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Tune-Up Limit	Meas. Power	Power Drift	Area Scan Peak SAR	1g Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Plot No.
㎒	Ch.			(㎒)	(Mbps)	(dB)	(dB)	(dB)			(%)	(mm)	(W/kg)	(W/kg)		(Duty)	(W/kg)	(dB)	(dB)	(dB)	(W/kg)	(W/kg)		(Duty)	(W/kg)	
5 290	58	802.11ac	1+2	80	MCS0	11	10.31	0	Rear	ACTIVE	86.1	0	0.841	0.225	1.312	1.161	0.343	11.0	10.05							
5 290	58	802.11ac	1+2	80	MCS0	11	10.31	0	Left	ACTIVE	86.1	0	0.635	0.206	1.312	1.161	0.314	11.0	10.05							
5 290	58	802.11ac	1+2	80	MCS0	11	10.31	0	Right	ACTIVE	86.1	0	0.946	0.270	1.312	1.161	0.411	11.0	10.05	0.02	1.600	0.415	1.324	1.161	0.638	-
5 290	58	802.11ac	1+2	80	MCS0	11	10.31	0.07	Top	ACTIVE	86.1	0	0.154	0.019	1.312	1.161	0.028	11.0	10.05							
5 300	60	802.11a	1+2	20	6	18	17.74	0	Rear	INACTIVE	93.5	18	0.144	0.025	1.096	1.070	0.029	18.0	17.74							
5 300	60	802.11a	1+2	20	6	18	17.74	0.19	Left	INACTIVE	93.5	10	0.358	0.162	1.096	1.070	0.19	18.0	17.74							
5 300	60	802.11a	1+2	20	6	18	17.74	0.13	Right	INACTIVE	93.5	10	0.417	0.177	1.096	1.070	0.207	18.0	17.74							
5 300	60	802.11a	1+2	20	6	18	17.74	0.16	Top	INACTIVE	93.5	18	0.100	0.035	1.096	1.070	0.041	18.0	17.74							
5 530	106	802.11ac	1+2	80	MCS0	11	10.41	0	Rear	ACTIVE	86.1	0	1.72	0.451	1.227	1.161	0.643	11.0	10.70	-0.15	1.350	0.347	1.107	1.161	0.446	-
5 530	106	802.11ac	1+2	80	MCS0	11	10.41	0	Left	ACTIVE	86.1	0	1.54	0.433	1.227	1.161	0.617	11.0	10.70	0.16	1.290	0.380	1.107	1.161	0.489	-
5 530	106	802.11ac	1+2	80	MCS0	11	10.41	0	Right	ACTIVE	86.1	0	0.669	0.165	1.227	1.161	0.235	11.0	10.70							
5 530	106	802.11ac	1+2	80	MCS0	11	10.41	0	Top	ACTIVE	86.1	0	0.301	0.052	1.227	1.161	0.074	11.0	10.70							
5 720	144	802.11a	1+2	20	6	20	19.23	0	Rear	INACTIVE	93.5	18	0.189	0.073	1.225	1.070	0.096	20.0	19.23							
5 720	144	802.11a	1+2	20	6	20	19.23	0.19	Left	INACTIVE	93.5	10	0.858	**0.373**	1.225	1.070	**0.489**	20.0	19.23	-0.13	0.939	0.389	1.225	1.070	0.510	-
5 720	144	802.11a	1+2	20	6	20	19.23	0.17	Right	INACTIVE	93.5	10	0.287	0.118	1.225	1.070	0.155	20.0	19.23							
5 720	144	802.11a	1+2	20	6	20	19.23	0	Top	INACTIVE	93.5	18	0.149	0.062	1.225	1.070	0.081	20.0	19.23							
5 775	155	802.11ac	1+2	80	MCS0	11	10.52	0	Rear	ACTIVE	86.1	0	1.310	0.419	1.172	1.161	0.570	11.0	10.40	0.12	1.880	0.406	1.191	1.161	0.562	-
5 775	155	802.11ac	1+2	80	MCS0	11	10.52	0	Left	ACTIVE	86.1	0	1.580	0.476	1.172	1.161	0.648	11.0	10.40	0.17	1.250	0.452	1.191	1.161	0.625	-
5 775	155	802.11ac	1+2	80	MCS0	11	10.52	0	Right	ACTIVE	86.1	0	0.915	0.238	1.172	1.161	0.324	11.0	10.40							
5 775	155	802.11ac	1+2	80	MCS0	11	10.52	0	Top	ACTIVE	86.1	0	0.241	0.047	1.172	1.161	0.064	11.0	10.40							
5 825	165	802.11a	1+2	20	6	20	19.48	0	Rear	INACTIVE	93.5	18	0.103	0.031	1.132	1.070	0.038	20.0	19.48							
5 825	165	802.11a	1+2	20	6	20	19.48	0.02	Left	INACTIVE	93.5	10	0.577	0.234	1.132	1.070	0.283	20.0	19.48							
5 825	165	802.11a	1+2	20	6	20	19.48	0.17	Right	INACTIVE	93.5	10	0.343	0.138	1.132	1.070	0.167	20.0	19.48							
5 825	165	802.11a	1+2	20	6	20	19.48	0.13	Top	INACTIVE	93.5	18	0.173	0.066	1.132	1.070	0.080	20.0	19.48							
5 855	171	802.11ac	1+2	80	MCS0	11	10.24	0	Rear	ACTIVE	86.1	0	1.070	0.137	1.334	1.161	0.212	11.0	10.21							
5 855	171	802.11ac	1+2	80	MCS0	11	10.24	0	Left	ACTIVE	86.1	0	1.510	**0.458**	1.334	1.161	**0.710**	11.0	10.21	0.02	1.870	0.540	1.355	1.161	**0.850**	-
5 855	171	802.11ac	1+2	80	MCS0	11	10.24	0	Right	ACTIVE	86.1	0	0.809	0.224	1.334	1.161	0.347	11.0	10.21							
5 855	171	802.11ac	1+2	80	MCS0	11	10.24	0	Top	ACTIVE	86.1	0	0.253	0.033	1.334	1.161	0.051	11.0	10.21							
5 865	173	802.11a	1+2	20	6	20	19.34	0	Rear	INACTIVE	93.5	18	0.162	0.032	1.186	1.070	0.041	20.0	19.34							
5 865	173	802.11a	1+2	20	6	20	19.34	0.13	Left	INACTIVE	93.5	10	0.535	0.223	1.186	1.070	0.283	20.0	19.34							
5 865	173	802.11a	1+2	20	6	20	19.34	0.17	Right	INACTIVE	93.5	10	0.348	0.140	1.186	1.070	0.178	20.0	19.34							
5 865	173	802.11a	1+2	20	6	20	19.34	0.16	Top	INACTIVE	93.5	18	0.165	0.070	1.186	1.070	0.089	20.0	19.34							

ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Body 1.6 W/kg Averaged over 1 gram

Spot Check Measurement Results : DSS Body SAR (1g)																					
Reference Model Measurement Results													Variant Model Measurement Results								
Frequency		Mode	Ant	Tune-Up Limit	Meas. Power	Power Drift	Test Position	Sensor	Distance	1g Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Tune-Up Limit	Meas. Power	Power Drift	1g Meas. SAR	Scaling Factor	Scaling Factor	Scaled SAR	Plot No.
MHz	Ch.			(dB)	(dB)	(dB)			(mm)	(W/kg)		(Duty)	(W/kg)	(dB)	(dB)	(dB)	(W/kg)		(Duty)	(W/kg)	
2 480	78	DH-5	1	11	10.25	0	Rear	Active	0	0.295	1.189	1.013	0.355	11.0	10.16						
2 480	78	DH-5	1	11	10.25	0.06	Right	Active	0	0.293	1.189	1.013	0.353	11.0	10.16						
2 480	78	DH-5	1	11	10.25	-0.03	Top	Active	0	0.179	1.189	1.013	0.216	11.0	10.16						
2 441	39	DH-5	1	15.5	14.79	-0.08	Rear	Inactive	18	0.011	1.178	1.013	0.013	15.5	14.88						
2 441	39	DH-5	1	15.5	14.79	0.07	Right	Inactive	10	0.042	1.178	1.013	**0.050**	15.5	14.88	0.05	0.023	1.153	1.012	**0.027**	**A4**
2 441	39	DH-5	1	15.5	14.79	-0.07	Top	Inactive	18	0.031	1.178	1.013	0.037	15.5	14.88						
2 402	0	DH-5	1	11	9.81	0	Rear	Active	0	0.263	1.315	1.013	0.350	11.0	9.56						
2 441	39	DH-5	1	11	9.89	0	Rear	Active	0	0.282	1.291	1.013	**0.369**	11.0	9.62	-0.10	0.192	1.374	1.012	**0.267**	**A5**
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population														Body 1.6 W/kg Averaged over 1 gram							

5 GHz WLAN Body Case SAR																		
Frequency		Mode	Ant.	Band width (MHz)	Data Rate (Mbps)	Tune-Up Limit (dBm)	Meas. Power (dBm)	Power Drift (dB)	Test Position	SENSOR	Duty Cycle	Distance (mm)	Area Scan Peak SAR (W/kg)	Meas. SAR (W/kg)	Scaling Factor	Scaling Factor (Duty)	Reported SAR (W/kg)	Plot No.
MHz	Ch.																	
5 610	122	802.11ac	2	80	MCS0	8.0	7.28	0.09	Left	ACTIVE	86.1	0	1.280	0.339	1.271	1.161	0.465	#
5 610	122	802.11ac	2	80	MCS0	8.0	7.28	0.09	Left	ACTIVE	86.1	0	0.490	0.070	1.271	1.161	0.096	•
ANSI/ IEEE C95.1 - 2005– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population													Body 1.6 W/kg Averaged over 1 gram					

: Tablet Mode with Keyboard Variant 1

• : Tablet Mode with Keyboard Variant 2

13.2 SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, FCC KDB Procedure.
2. Batteries are fully charged at the beginning of the SAR measurements. A standard battery was used for all SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB 447498 D01v06.
6. This device utilizes power reduction for some wireless mode and technologies, as outlined in sec. 4 The maximum output power allowed for each transmitter and exposure condition was evaluated for SAR compliance based on expected use conditions and simultaneous scenarios.
7. Tests of the use conditions of the cover accessories were performed under the maximum SAR measurement conditions of each antenna.

WLAN Notes:

1. The initial test position procedures were applied. For initial test position, the highest extrapolated peak SAR will be used. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g SAR and ≤ 1.0 W/kg for 10g SAR, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR results is ≤ 0.8 W/kg for 1g SAR and ≤ 2.0 W/kg for 10 g SAR or all test position are measured.
2. Per KDB 2482227 D01v02r02 justification for test configurations of 2.4 GHz WiFi Single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement.
3. Per KDB 2482227 D01v02r02 justification for test configurations of 5 GHz WiFi Single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission mode was not investigated since the highest reported SAR for initial test configuration adjusted by the ration of maximum output powers is less than 1.2 W/kg for 1 g SAR and less than 3.0 W/kg for 10 g SAR.
4. When the maximum reported 1g averaged SAR is ≤ 0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg or all test channels were measured.
5. The device was configured to transmit continuously at the required data rated, channel Bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated WLAN test reports.

Bluetooth Notes:

1. Bluetooth SAR was measured with the device connected to a call box with hopping disabled with DH5 operation and Tx Tests mode type. In the technical documentation, the maximum duty factor of the declared BT was applied to the SAR results. Please see sec.11 for the time-domain plot and calculation for duty factor of the device.

14. Simultaneous SAR Analysis

This device contains transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per KDB Publication 447498 D01v06 section 4.3.2 and IEEE 62209-1528 simultaneous transmission SAR test exclusion may be applied when the sum of 1g SAR and 10g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is ≤1.6W/kg for 1g SAR and ≤4 W/kg for 10g SAR. The different test positions in an exposure condition may be considered collectively to determine SAR exclusion according to the sum of 1g or 10g SAR.

Simultaneous Transmission Summation Scenario with 5 ㎓ WLAN & Bluetooth					
	5 ㎓ WLAN SISO Ant.2	5 ㎓ WLAN MIMO	BT	Σ 1-g SAR	Σ 1-g SAR
	(W/kg)	(W/kg)	(W/kg)	(W/kg)	(W/kg)
	1	2	3	1+3	2+3
Rear	0.643	0.643	0.369	1.012	**1.012**
Front					
Left	0.952	0.850		0.952	0.850
Right		0.638	0.353	0.353	0.991
Top	0.124	0.089	0.216	0.340	0.305
Bottom					

The simultaneous transmission evaluation of this model was evaluated as the highest maximum SAR value among the SAR report [No: HCT-SR-2502-FC009] results of the Basic Model[SM-X528U] and the spot check measurement results.

15. Measurement Uncertainty

The measured SAR was <1.5 W/Kg for 1g SAR and <3.75 W/Kg, for 10g SAR for all frequency Bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis per IEEE1528-2013 was not required.

16. SAR Test Equipment

Manufacturer	Type / Model	S/N	Calib. Date	Calib.Interval	Calib.Due
SPEAG	SAM Phantom	-	N/A	N/A	N/A
SPEAG	ELI Phantom	-	N/A	N/A	N/A
HP	SAR System Control PC	-	N/A	N/A	N/A
Staubli #1-R	CS8Cspeag-TX90	F12/ 5K9GA1/ C/ 01	N/A	N/A	N/A
Staubli #3	CS9spe-TX2-90	F/24/0058554/C/001	N/A	N/A	N/A
TESTO 1-R	175-H1/Thermometer	40331936309	12/26/2024	Annual	12/26/2025
TESTO 3	175-H1/Thermometer	40331939309	12/26/2024	Annual	12/26/2025
N/A 1-R	Teach Pendant (Joystick)	D2114210603	N/A	N/A	N/A
N/A 3	Teach Pendant (Joystick)	D21144508	N/A	N/A	N/A
SPEAG	E-Field Probe EX3DV4	7751	09/19/2024	Annual	09/19/2025
SPEAG	E-Field Probe EX3DV4	7309	06/19/2024	Annual	06/19/2025
SPEAG	DAE4	1866	05/02/2024	Annual	05/02/2025
SPEAG	DAE4	868	09/19/2024	Annual	09/19/2025
SPEAG	Dipole D2450V2	743	03/14/2024	Annual	03/14/2025
SPEAG	Dipole D5 GHz V2	1107	04/19/2024	Annual	04/19/2025
Agilent	Power Meter E4419B	MY41291386	09/11/2024	Annual	09/11/2025
Agilent	Power Meter N1911A	MY45101406	05/21/2024	Annual	05/21/2025
Agilent	Power Sensor 8481A	SG1091286	09/12/2024	Annual	09/12/2025
H.P	Power Sensor 8481A	MY41090675	09/12/2024	Annual	09/12/2025
Agilent	Wideband Power Sensor N1921A	MY55220026	07/30/2024	Annual	07/30/2025
Agilent	11636B/Power Divider	58698	01/13/2025	Annual	01/13/2026
SPEAG	DAKS 3.5	1031	04/22/2024	Annual	04/22/2025
SPEAG	Vector Reflectometer	0050813	04/15/2024	Annual	04/15/2025
EMPOWER	RF Power Amplifier	1084	05/21/2024	Annual	05/21/2025
EMPOWER	RF Power Amplifier	1041D/C0508	05/21/2024	Annual	05/21/2025
EMPOWER	RF Power Amplifier	1011	09/11/2024	Annual	09/11/2025
MICRO LAB	LP Filter / LA-15N	10453	09/11/2024	Annual	09/11/2025
MICRO LAB	LP Filter / LA-30N	-	09/11/2024	Annual	09/11/2025
MICRO LAB	LP Filter / LA-60N	32011	09/11/2024	Annual	09/11/2025
Agilent	Attenuator (3dB) 8693B	MY39260298	08/20/2024	Annual	08/20/2025
HP	Attenuator (20dB) 8493C	09271	08/20/2024	Annual	08/20/2025
Agilent	Directional Bridge 86205A	3140A04581	04/22/2024	Annual	04/22/2025
KEYSIGHT	MXA Signal Analyzer	MY49100108	01/07/2025	Annual	01/07/2026
H.P	Network Analyzer /8753ES	JP39240221	12/23/2024	Annual	12/23/2025
Agilent	SIGNAL GENERATOR N5182A	MY47070230	03/19/2024	Annual	03/19/2025
Agilent	MXA Signal Analyzer N9020A	MY50510407	06/04/2024	Annual	06/04/2025
ROHDE&SCHWARZ	BLUETOOTH TESTER CBT	100272	01/16/2024	Annual	01/16/2025
ROHDE&SCHWARZ	BLUETOOTH TESTER CBT	100272	01/13/2025	Annual	01/13/2026

Note: All measurements were performed within the valid calibration period of the specific equipment.

* The E-field probe was calibrated by SPEAG, by the waveguide technique procedure. Dipole Verification measurement is performed by HCT Lab. before each test. The brain/body simulating material is calibrated by HCT using the DAKS 3.5 to determine the conductivity and permittivity (dielectric constant) of the brain/body-equivalent material

17. Conclusion

The SAR measurement indicates that the EUT complies with the RF radiation exposure limits of Health Canada Safety Code 6.

These measurements were taken to simulate the RF effects exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

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

18. References

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Appendix A. DUT Ant. Information & SETUP PHOTO

Please refer to test DUT Ant. Information &setup photo file no. as follows:

Report No.
HCT-SR-2502-FC015-P

Appendix B. – SAR Test Plots

Test Laboratory: HCT CO., LTD
EUT Type: Tablet
Ambient Temperature: 20.7 ℃
Liquid Temperature: 20.6 ℃
Test Date: 01/23/2025
Plot No.: A1
Band: WLAN 2.4 GHz WIFI 1+2

Measurement Report for Device, BACK, WLAN 2.4GHz, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps), Channel 6 (2437.000 MHz)

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	WLAN 2.4GHz	WLAN, 10012-CAB	2437.000, 6	6.75	1.79	38.7

Hardware Setup

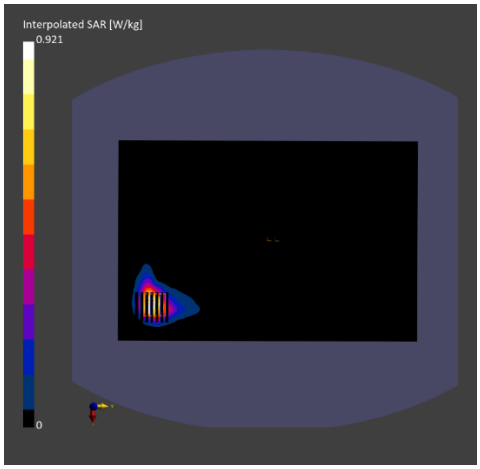
Phantom	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt) - xxxx	EX3DV4 - SN7751, 2024-09-19	DAE4ip Sn1866, 2024-05-02

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	200.0 x 300.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Grading Ratio	N/A	1.5

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.401	0.330
psSAR10g [W/Kg]	0.197	0.170
Power Drift [dB]	-0.01	-0.02
M2/M1 [%]		72.4
Dist 3dB Peak [mm]		5.4



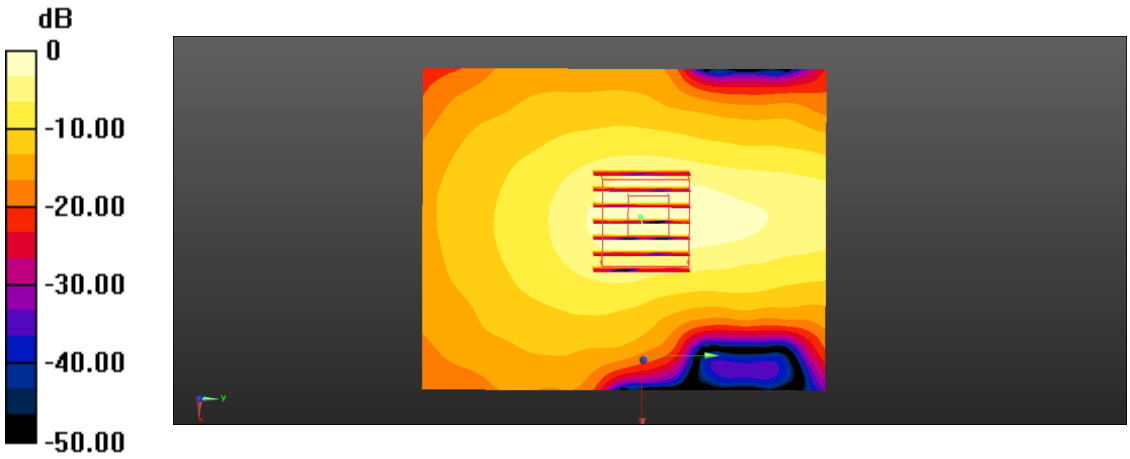
Test Laborator: HCT CO., LTD
EUT Type: Tablet
Ambient Temperature: 23.1 ℃
Liquid Temperature: 23.0 ℃
Test Date: 01/31/2025
Plot No.: A2
Band: WLAN 5 GHz WIFI2

Communication System: UID 10317 - AAE, IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle); Frequency: 5720 MHz;Duty Cycle: 1:6.85962
Medium parameters used: f = 5720 MHz; σ = 5.391 S/m; ε_r = 34.382; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7309; ConvF(5.04, 4.62, 5.33) @ 5720 MHz; Calibrated: 2024-06-19
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2024-09-19
- Phantom: SAM_Front_2011217; Type: QD000P40CB; Serial: 1514
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

802.11a Body Left 6Mbps 144ch/Area Scan (81x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.06 W/kg
802.11a Body Left 6Mbps 144ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 13.76 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.98 W/kg
SAR(1 g) = 0.451 W/kg; SAR(10 g) = 0.161 W/kg
Smallest distance from peaks to all points 3 dB below = 8.8 mm
Ratio of SAR at M2 to SAR at M1 = 59.2%
Maximum value of SAR (measured) = 1.08 W/kg



0 dB = 1.08 W/kg = 0.33 dBW/kg

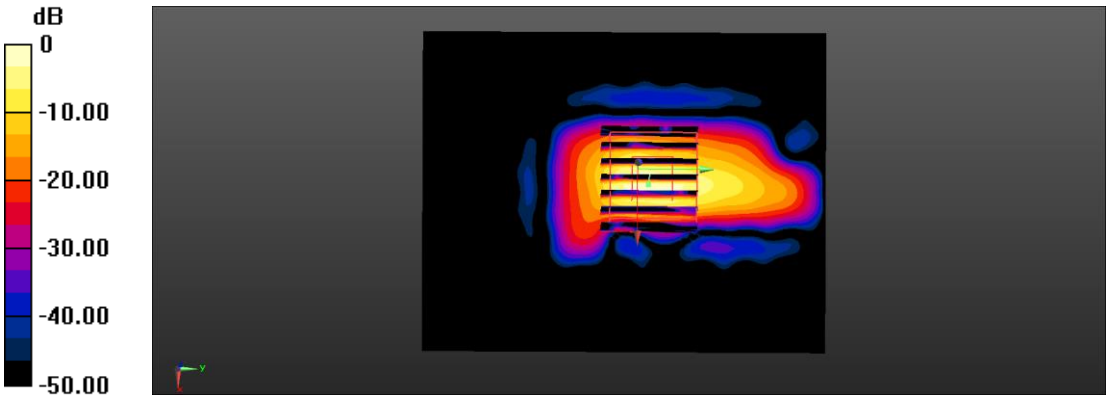
Test Laboratory: HCT CO., LTD
EUT Type: Tablet
Ambient Temperature: 23.1 ℃
Liquid Temperature: 23.0 ℃
Test Date: 01/31/2025
Plot No.: A3
Band: WLAN 5 GHz WIFI2

Communication System: UID 10626 - AAD, IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle);
Frequency: 5610 MHz;Duty Cycle: 1:7.6366
Medium parameters used: f = 5610 MHz; σ = 5.189 S/m; ε_r = 34.49; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7309; ConvF(5.04, 4.62, 5.33) @ 5610 MHz; Calibrated: 2024-06-19
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2024-09-19
- Phantom: SAM_Front_2011217; Type: QD000P40CB; Serial: 1514
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

802.11ac80 Body Left MCS0 122ch/Area Scan (81x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.83 W/kg
802.11ac80 Body Left MCS0 122ch/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 14.47 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 5.18 W/kg
SAR(1 g) = 0.695 W/kg; SAR(10 g) = 0.139 W/kg
Smallest distance from peaks to all points 3 dB below = 4 mm
Ratio of SAR at M2 to SAR at M1 = 53.4%
Maximum value of SAR (measured) = 2.35 W/kg



0 dB = 2.35 W/kg = 3.71 dBW/kg

Test Laboratory: HCT CO., LTD
EUT Type: Tablet
Ambient Temperature: 20.4 ℃
Liquid Temperature: 20.3 ℃
Test Date: 01/22/2025
Plot No.: A4
Band: Bluetooth

Measurement Report for Device, EDGE RIGHT, ISM 2.4 GHz Band, IEEE 802.15.1 Bluetooth (GFSK, DH5), Channel 39 (2441.000 MHz)

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 RIGHT, 10.00	ISM 2.4 GHz Band	Bluetooth, 10032-CAA	2441.000, 39	6.75	1.83	39.8

Hardware Setup

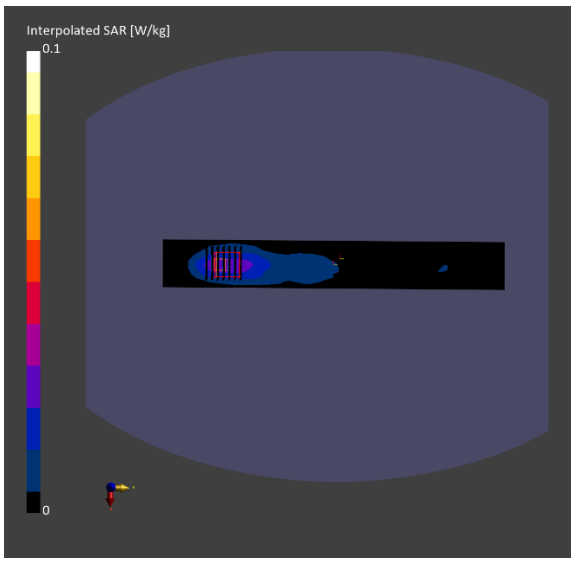
Phantom	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt)	EX3DV4 - SN7751, 2024-09-19	DAE4ip Sn1866, 2024-05-02

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	42.0 x 300.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	7.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Grading Ratio	N/A	1.5

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.024	0.023
psSAR10g [W/Kg]	0.013	0.013
Power Drift [dB]	0.10	0.05
M2/M1 [%]		88.8
Dist 3dB Peak [mm]		9.9



Test Laboratory: HCT CO., LTD
EUT Type: Tablet
Ambient Temperature: 20.4 ℃
Liquid Temperature: 20.3 ℃
Test Date: 01/22/2025
Plot No.: A5
Band: Bluetooth

Measurement Report for Device, BACK, ISM 2.4 GHz Band, IEEE 802.15.1 Bluetooth (GFSK, DH5), Channel 39 (2441.000 MHz)

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	ISM 2.4 GHz Band	Bluetooth, 10032-CAA	2441.000, 39	6.75	1.83	39.8

Hardware Setup

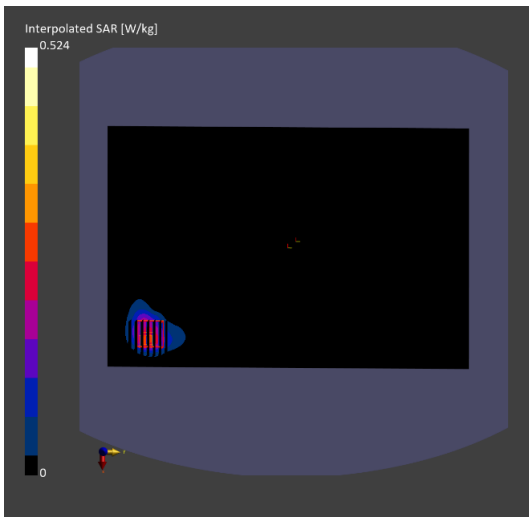
Phantom	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt)	EX3DV4 - SN7751, 2024-09-19	DAE4ip Sn1866, 2024-05-02

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	200.0 x 300.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Grading Ratio	N/A	1.5

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	0.226	0.192
psSAR10g [W/Kg]	0.110	0.095
Power Drift [dB]	0.11	-0.10
M2/M1 [%]		70.8
Dist 3dB Peak [mm]		6.5



Appendix C. – Dipole Verification Plots

■ Verification Data (2 450 MHz Head)

Test Laboratory: HCT CO., LTD
EUT Type: Tablet
Ambient Temperature: 20.4 ℃
Liquid Temperature: 20.3 ℃
Test Date: 01/22/2025
Band: Bluetooth
Measurement Report for Device, , , CW, Channel 0 (2450.000 MHz)

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	,		CW, 0--	2450.000, 0	6.75	1.84	39.8

Hardware Setup

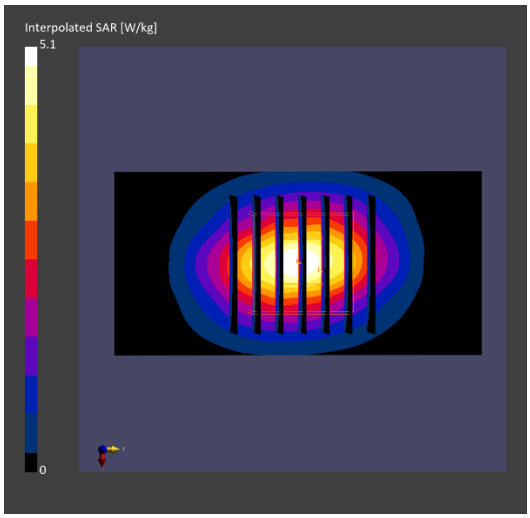
Phantom	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt)	EX3DV4 - SN7751, 2024-09-19	DAE4ip Sn1866, 2024-05-02

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 80.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Grading Ratio	N/A	1.5

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	2.67	2.64
psSAR10g [W/Kg]	1.23	1.26
Power Drift [dB]	0.00	0.00
M2/M1 [%]		82.8
Dist 3dB Peak [mm]		9.0



■ Verification Data (2 450 MHz Head)

Test Laboratory: HCT CO., LTD
EUT Type: Tablet
Ambient Temperature: 20.7 ℃
Liquid Temperature: 20.6 ℃
Test Date: 01/23/2025
Band: 2.4 GHz WLAN
Measurement Report for Device, , , CW, Channel 0 (2450.000 MHz)

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	,		CW, 0--	2450.000, 0	6.75	1.81	38.7

Hardware Setup

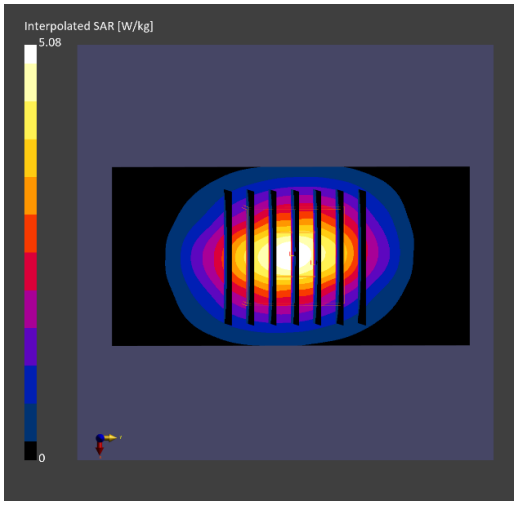
Phantom	Probe, Calibration Date	DAE, Calibration Date
ELI V5.0 (20deg probe tilt)	EX3DV4 - SN7751, 2024-09-19	DAE4ip Sn1866, 2024-05-02

Scans Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	40.0 x 80.0	30.0 x 30.0 x 30.0
Grid Steps [mm]	10.0 x 10.0	5.0 x 5.0 x 1.5
Sensor Surface [mm]	3.0	1.4
Grading Ratio	N/A	1.5

Measurement Results

	Area Scan	Zoom Scan
psSAR1g [W/Kg]	2.62	2.59
psSAR10g [W/Kg]	1.21	1.24
Power Drift [dB]	0.00	0.01
M2/M1 [%]		82.3
Dist 3dB Peak [mm]		9.0



■ **Verification Data (5 250 MHz Head)**

Test Laboratory: HCT CO., LTD
EUT Type: Tablet
Ambient Temperature: 23.3 °C
Liquid Temperature: 23.2 °C
Test Date: 01/24/2025
Band: 5 GHz WLAN

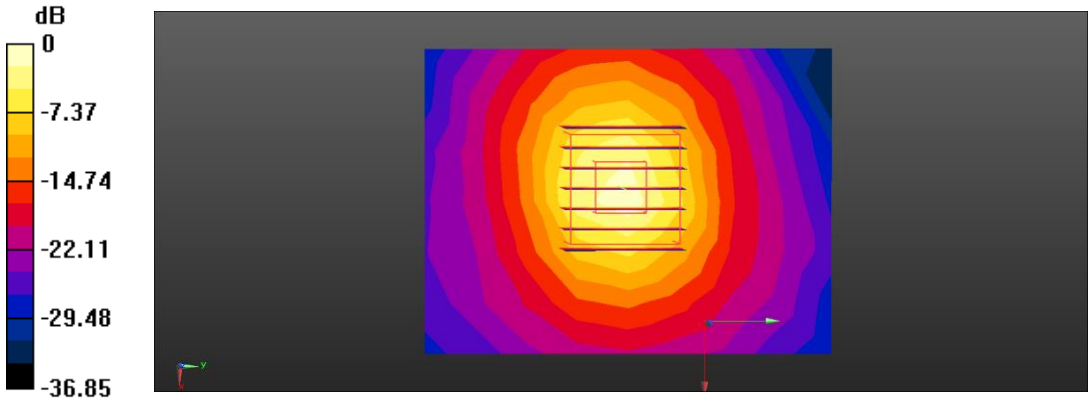
Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.678 S/m; ε_r = 34.956; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7309; ConvF(5.54, 5.07, 5.86) @ 5250 MHz; Calibrated: 2024-06-19
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2024-09-19
- Phantom: SAM_Front_2011217; Type: QD000P40CB; Serial: 1514
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

5250MHz Head Verification/Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 8.42 W/kg

5250MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 45.20 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 15.2 W/kg
SAR(1 g) = 4 W/kg; SAR(10 g) = 1.21 W/kg
Smallest distance from peaks to all points 3 dB below = 7.5 mm
Ratio of SAR at M2 to SAR at M1 = 66.3%
Maximum value of SAR (measured) = 9.62 W/kg



0 dB = 9.62 W/kg = 9.83 dBW/kg

■ **Verification Data (5 600 MHz Head)**

Test Laboratory: HCT CO., LTD
EUT Type: Tablet
Ambient Temperature: 23.1 °C
Liquid Temperature: 23.0 °C
Test Date: 01/31/2025
Band: 5 GHz WLAN

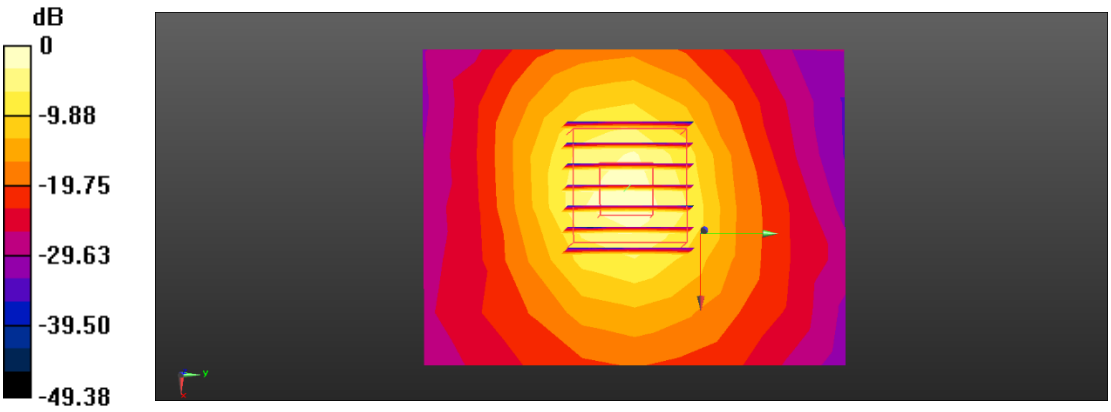
Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.171 S/m; ε_r = 34.511; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7309; ConvF(5.04, 4.62, 5.33) @ 5600 MHz; Calibrated: 2024-06-19
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2024-09-19
- Phantom: SAM_Front_2011217; Type: QD000P40CB; Serial: 1514
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

5600MHz Head Verification/Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 9.57 W/kg

5600MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 45.48 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 18.4 W/kg
SAR(1 g) = 4.38 W/kg; SAR(10 g) = 1.31 W/kg
Smallest distance from peaks to all points 3 dB below = 7.6 mm
Ratio of SAR at M2 to SAR at M1 = 62.9%
Maximum value of SAR (measured) = 10.9 W/kg



0 dB = 10.9 W/kg = 10.37 dBW/kg

■ **Verification Data (5 750 MHz Head)**

Test Laboratory: HCT CO., LTD
EUT Type: Tablet
Ambient Temperature: 21.9 °C
Liquid Temperature: 21.8 °C
Test Date: 02/03/2025
Band: 5 GHz WLAN

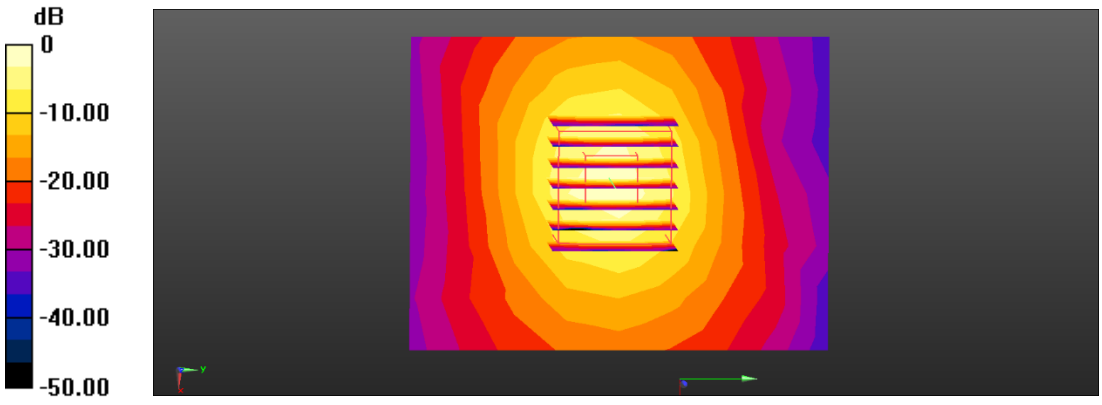
Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 5.246 S/m; ε_r = 35.379; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7309; ConvF(5.04, 4.62, 5.33) @ 5750 MHz; Calibrated: 2024-06-19
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2024-09-19
- Phantom: SAM_Front_2011217; Type: QD000P40CB; Serial: 1514
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

5750MHz Head Verification/Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 9.13 W/kg

5750MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 43.51 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 18.0 W/kg
SAR(1 g) = 4.08 W/kg; SAR(10 g) = 1.22 W/kg
Smallest distance from peaks to all points 3 dB below = 7.6 mm
Ratio of SAR at M2 to SAR at M1 = 61.2%
Maximum value of SAR (measured) = 10.3 W/kg



0 dB = 10.3 W/kg = 10.13 dBW/kg

■ **Verification Data (5 800 ㎒ Head)**

Test Laboratory:	**HCT CO., LTD**
EUT Type:	**Tablet**
Ambient Temperature:	**22.0 ℃**
Liquid Temperature:	**21.9 ℃**
Test Date:	**02/04/2025**
Band:	**5 ㎓ WLAN**

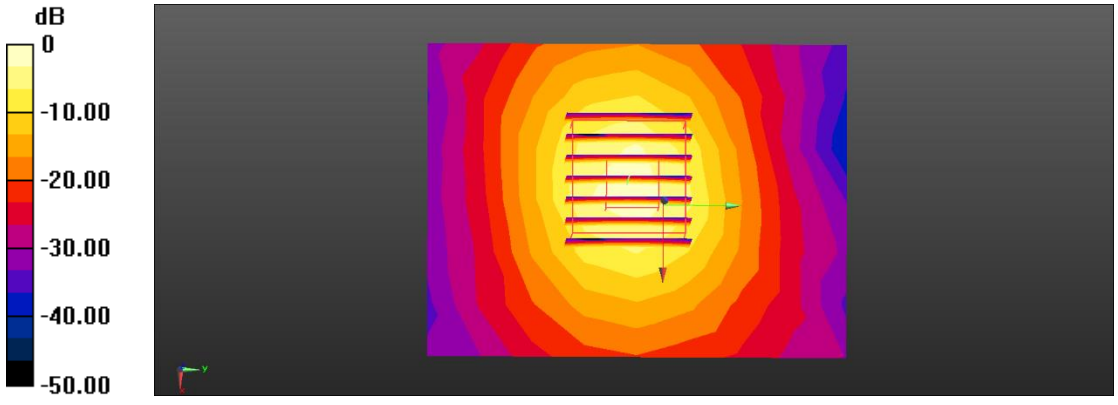
Communication System: UID 0, CW (0); Frequency: 5800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 5.285 S/m; ε_r = 35.401; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7309; ConvF(5.05, 4.62, 5.34) @ 5800 MHz; Calibrated: 2024-06-19
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn868; Calibrated: 2024-09-19
- Phantom: SAM_Front_2011217; Type: QD000P40CB; Serial: 1514
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

5800MHz Head Verification/Area Scan (7x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 9.38 W/kg

5800MHz Head Verification/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 44.15 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 19.1 W/kg
SAR(1 g) = 4.2 W/kg; SAR(10 g) = 1.25 W/kg
Smallest distance from peaks to all points 3 dB below = 7.5 mm
Ratio of SAR at M2 to SAR at M1 = 60.5%
Maximum value of SAR (measured) = 10.7 W/kg



0 dB = 10.7 W/kg = 10.29 dBW/kg

Appendix D. – SAR Tissue Characterization

The brain and muscle mixtures consist of a viscous gel using hydrox-ethyl cellulose (HEC) gelling agent and saline solution (see Table 3.1). Preservation with a bacteriacide is added and visual inspection is made to make sure air bubbles are not trapped during the mixing process. The mixture is calibrated to obtain proper dielectric constant (permittivity) and conductivity of the desired tissue. The mixture characterizations used for the brain and muscle tissue simulating liquids are according to the data by C. Gabriel and G. Harts grove.

Ingredients (% by weight)	Frequency (MHz)			
	2 450 – 2 700		3500 - 5 800	
Tissue Type	Head	Body	Head	Body
Water	71.88	73.20	65.52	78.66
Salt (NaCl)	0.16	0.1	0.0	0.0
Sugar	0.0	0.0	0.0	0.0
HEC	0.0	0.0	0.0	0.0
Bactericide	0.0	0.0	0.0	0.0
Triton X-100	19.97	0.0	17.24	10.67
DGBE	7.99	26.70	0.0	0.0
Diethylene glycol hexyl ether	-	-	-	-

Salt:	99 % Pure Sodium Chloride	Sugar:	98 % Pure Sucrose
Water:	De-ionized, 16M resistivity	HEC:	Hydroxyethyl Cellulose
DGBE:	99 % Di (ethylene glycol) butyl ether, [2-(2-butoxyethoxy) ethanol]		
Triton X-100(ultra-pure):	Polyethylene glycol mono [4-(1,1,3,3-tetramethylbutyl) phenyl] ether		

Composition of the Tissue Equivalent Matter

Appendix E. – SAR System Validation

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

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

SAR System No.	Probe	Probe Type	Probe Calibration Point		Dipole	Date	Dielectric Parameters		CW Validation			Modulation Validation		
							Measured Permittivity	Measured Conductivity	Sensitivity	Probe Linearity	Probe Isotropy	MOD. Type	Duty Factor	PAR
16	7751	EX3DV4	Head	2 450	743	2024-10-01	39.1	1.84	PASS	PASS	PASS	OFDM	N/A	PASS
9	7309	EX3DV4	Head	5 250	1107	2024-06-30	35.8	4.72	PASS	PASS	PASS	OFDM	N/A	PASS
9	7309	EX3DV4	Head	5 600	1107	2024-06-30	35.2	5.10	PASS	PASS	PASS	OFDM	N/A	PASS
9	7309	EX3DV4	Head	5 750	1107	2024-06-30	35.4	5.22	PASS	PASS	PASS	OFDM	N/A	PASS
9	7309	EX3DV4	Head	5 800	1107	2024-06-30	35.3	5.26	PASS	PASS	PASS	OFDM	N/A	PASS

SAR System Validation Summary

Note;

All measurement were performed using probes calibrated for CW signal only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04. SAR system were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to KDB 865664 D01v01r04.