

SAR EVALUATION REPORT

**FCC 47 CFR § 2.1093
IEEE Std. 1528-2013**

For

MOBILE COMPUTER WITH BARCODE READER

MODEL NUMBER: JTSHICN

REPORT NUMBER: 4791876642-1-SAR-1

ISSUE DATE: January 23, 2026

FCC ID: U4GJTSHICN

Prepared for

**Datalogic S.r.l.
Via San Vitalino, 13
40012 Lippo di Calderara di Reno (BO) - Italy**

Prepared by

UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch

Room 101, Building 2, No.4, Information Road, Songshan Lake, Dongguan, Guangdong, China

Tel: +86 769 22038881

Fax: +86 769 33244054

Website: www.ul.com

Website: www.ul.com

Revision History

Rev.	Issue Date	Revisions	Revised By
V0	January 23, 2026	Initial Issue	\

Note:

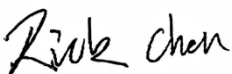
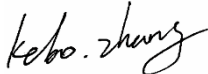
- 1) This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
- 2) The measurement result for the sample received is <Pass> according to < IEEE Std. 1528>when <Simple Acceptance> decision rule is applied.

Table of Contents

1.	Attestation of Test Results.....	5
2.	Test Specification, Methods and Procedures	6
3.	Facilities and Accreditation.....	7
4.	SAR Measurement System & Test Equipment.....	8
4.1.	SAR Measurement System.....	8
4.2.	SAR Scan Procedures	9
4.3.	Test Equipment.....	11
5.	Measurement Uncertainty	12
6.	Device Under Test (DUT) Information.....	13
6.1.	DUT Description.....	13
6.2.	Wireless Technology.....	13
7.	Conducted Output Power Measurement and tune-up tolerance	14
7.1.	Test Results of 2.4GHz Wi-Fi.....	14
7.2.	Test Results of 5GHz Wi-Fi.....	16
7.3.	Test Results of BT	22
7.4.	Duty Cycle	23
8.	Test Configuration	25
8.1.	<i>Wi-Fi Test Configuration</i>	<i>25</i>
8.1.1.	Initial Test Position Procedure	25
8.1.2.	Initial Test Configuration Procedure.....	25
8.1.3.	Sub Test Configuration Procedure.....	25
8.1.4.	2.4GHz Wi-Fi SAR Test Procedures.....	25
8.1.5.	5GHz Wi-Fi SAR Test Procedures.....	26
8.2.	<i>2.4GHz BT SAR Test Requirements</i>	<i>27</i>
8.3.	<i>Repeated measurements</i>	<i>27</i>
9.	Power reduction specification	28
9.1.	<i>Power reduction mechanism</i>	<i>28</i>
9.2.	<i>Proximity Sensor Triggering Test.....</i>	<i>29</i>
10.	RF Exposure Conditions	34
11.	Dielectric Property Measurements & System Check.....	35
11.1.	<i>Dielectric Property Measurements</i>	<i>35</i>
11.2.	<i>System Check.....</i>	<i>37</i>
12.	Measured and Reported (Scaled) SAR Results	39
12.1.	<i>SAR Test Reduction criteria are as follows:</i>	<i>39</i>
12.2.	<i>General Notes:.....</i>	<i>39</i>
12.3.	<i>Test Configuration:.....</i>	<i>40</i>
12.4.	<i>SAR Test Results of 2.4GHz Wi-Fi</i>	<i>45</i>

12.5.	SAR Test Results of 5GHz Wi-Fi U-NII-1	46
12.1.	SAR Test Results of 5GHz Wi-Fi U-NII-2A.....	47
12.2.	SAR Test Results of 5GHz Wi-Fi U-NII-2C.....	48
12.3.	SAR Test Results of 5GHz Wi-Fi U-NII-3	49
12.4.	SAR Test Results of BT	50
13.	Simultaneous Transmission SAR Analysis	51
13.1.	Simultaneously transmit SAR calculations	52
Appendixes		54
4791876642-1-SAR-1_App A Photo.....		54
4791876642-1-SAR-1_App B System Check Plots.....		54
4791876642-1-SAR-1_App C Highest Test Plots.....		54
4791876642-1-SAR-1_App D Cal. Certificates		54

1. Attestation of Test Results

Applicant Name	Datalogic S.r.l.		
Address	Via San Vitalino, 13 40012 Lippo di Calderara di Reno (BO) - Italy		
Manufacturer	Datalogic S.r.l.		
Address	Via San Vitalino, 13 40012 Lippo di Calderara di Reno (BO) - Italy		
EUT Name	MOBILE COMPUTER WITH BARCODE READER		
Brand	DATALOGIC		
Model	JTSHICN		
Sample Received Date	December 29, 2025		
Sample Status	Normal		
Sample ID	9255460		
Date of Tested	January 5, 2026 to January 23, 2026		
Applicable Standards	FCC 47 CFR § 2.1093 IEEE Std. 1528-2013 KDB publication		
SAR Limits (W/Kg)			
Exposure Category	Peak spatial-average (1g of tissue)	Extremities (hands, wrists, ankles, etc.) (10g of tissue)	
General population / Uncontrolled exposure	1.6	4	
Occupational / Controlled exposure	8	20	
The Highest Reported SAR (W/kg)			
RF Exposure Conditions	Equipment Class		
	DTS	U-NII	DSS
Body 1-g (0 mm)	0.464	0.477	0.020
Extremity 10-g (0 mm)	2.049	3.675	0.054
Simultaneous Transmission (1-g)	0.497		
Simultaneous Transmission (10-g)	3.729		
Test Results	Pass		
Prepared By:  Rick Chen Laboratory Engineer Associate	Reviewed By:  Kebo Zhang Operations Leader	Approved By:  Stephen Guo Laboratory Manager	

2. Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with IEEE Std.1528-2013 and the following FCC Published RF exposure KDB procedures:

- 447498 D01 General RF Exposure Guidance v06
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 248227 D01 802.11 Wi-Fi SAR v02r02
- 941225 D07 UMPC Mini Tablet v01
- 616217 D04 SAR for laptop and tablets v01r02

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

TCB workshop April 2024; RF Exposure Updates (SAR Evaluation for Complex Shapes)

April 2025 TCBC Workshop Interim for Simplified Guidance for Testing §2.1093-Portable Devices in the methods and procedures.

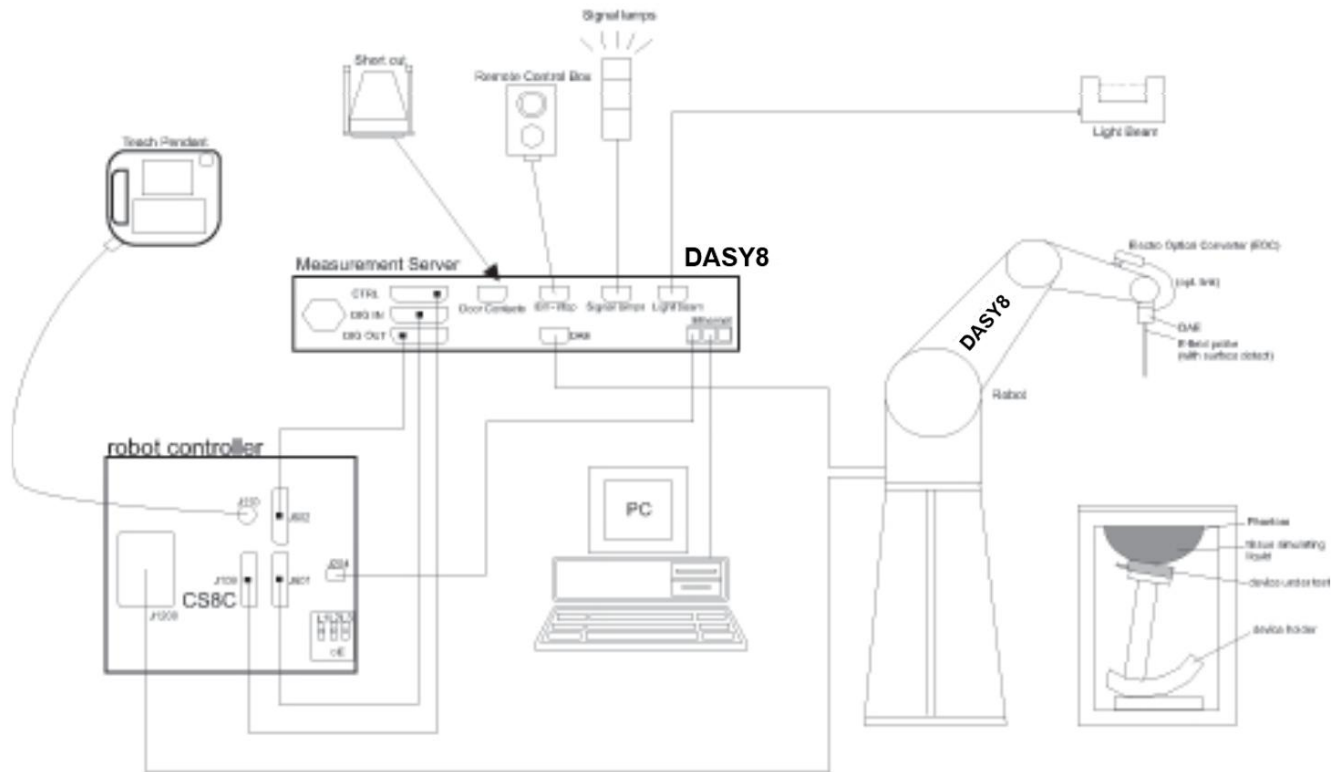
3. Facilities and Accreditation

Test Location	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
Address	Room 101, Building 2, No.4, Information Road, Songshan Lake, Dongguan, Guangdong, China.
Accreditation Certificate	A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch has been assessed and proved to be in compliance with A2LA. FCC (FCC Designation No.: CN1187) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules ISED (Company No.: 21320) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046. VCCI (Registration No.: C-20202, G-20240, R-20248 and T-20202) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch has been assessed and proved to be in compliance with VCCI, the membership No. is 3793. Facility Name: Chamber E, the VCCI registration No. is G-20240 and R-20248 Shielding Room F, the VCCI registration No. is C-20202 and T-20202
Description	All measurement facilities use to collect the measurement data are located at Room 101, Building 2, No.4, Information Road, Songshan Lake, Dongguan, Guangdong, China.

4. SAR Measurement System & Test Equipment

4.1. SAR Measurement System

The DASY8 system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win 10 and the DASY8 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

4.2. SAR Scan Procedures

Step 1: Power Reference Measurement

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

Step 2: Area Scan

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

Area Scan Parameters extracted from KDB 865664 D01 v01r04 SAR Measurement 100 MHz to 6 GHz

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 mm $\pm$ 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2)$ mm $\pm$ 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° $\pm$ 1°	20° $\pm$ 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 $\leq$ 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*

Step 3: Zoom Scan

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

Zoom Scan Parameters extracted from KDB 865664 D01 v01r04 SAR Measurement 100 MHz to 6 GHz

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{\text{Zoom}}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{\text{Zoom}}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$ 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 <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> 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 4: Power drift measurement

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

Step 5: Z-Scan (FCC only)

The Z Scan measures points along a vertical straight line. The line runs along the Z-axis of a one-dimensional grid. In order to get a reasonable extrapolation the extrapolated distance should not be greater than the step size in Z-direction.

4.3. Test Equipment

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

Name of equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
ENA Network Analyzer	Keysight	E5080A	MY55100583	2026.09.11
Dielectric Probe kit	SPEAG	SM DAK 040 SA	1155	2028.02.26
DC power supply	Keysight	E36103A	MY55350020	2026.09.11
Signal Generator	Rohde & Schwarz	SME06	837633\001	2026.12.25
Vector Signal Generator	Rohde & Schwarz	SMW200A	1412.0000K02-102983-sZ	2026.09.11
BI-Directional Coupler	KRYTAR	1850	54733	2026.09.11
Peak and Average Power Sensor	Keysight	E9325A	MY62220002	2026.09.11
Peak and Average Power Sensor	Keysight	E9325A	MY62220003	2026.09.11
Dual Channel PK Power Meter	Keysight	N1912A	MY55416024	2026.09.11
Amplifier	CORAD TECHNOLOGY LTD	AMF-4D-00400600-50-30P	1983561	NCR
Dosimetric E-Field Probe	SPEAG	EX3DV4	7383	2026.03.13
Data Acquisition Electronic	SPEAG	DAE4	1739	2026.09.07
Dipole Kit 2450 MHz	SPEAG	D2450V2	977	2027.12.25
Dipole Kit 5 GHz	SPEAG	D5GHzV2	1231	2027.12.24
Software	SPEAG	DASY8	N/A	NCR
Phantom	SPEAG	ELI V8.0	2178	NCR
Thermometer	/	GX-138	150709653	2026.09.15
Thermometer	VICTOR	ITHX-SD-5	18470005	2026.09.11

Note:

1) Per KDB865664D01 v01r04 requirements for dipole calibration, the test laboratory has adopted three-year extended calibration interval. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.

a) There is no physical damage on the dipole;

b) System check with specific dipole is within 10% of calibrated value;

c) The most recent return-loss result, measured at least annually, deviates by no more than 20% from the previous measurement.

d) The most recent measurement of the real or imaginary parts of the impedance, measured at least annually is within 5Ω from the previous measurement.

2) Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.

5. Measurement Uncertainty

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

Therefore, the measurement uncertainty is not required.

6. Device Under Test (DUT) Information

6.1. DUT Description

DUT is a Handheld Mobile computer with barcode reader with 2.4GHz/5GHz/6GHz Wi-Fi and BT/BLE NFC capabilities.

DUT Dimension	Overall (Length x Width x Height): 235 mm x 77 mm x 45 mm
---------------	---

6.2. Wireless Technology

Wireless technology	Frequency band
Wi-Fi	2.4 GHz
Wi-Fi	5 GHz
Wi-Fi	6 GHz
BT/BLE	2.4 GHz
NFC	13.56MHz

7. Conducted Output Power Measurement and tune-up tolerance

7.1. Test Results of 2.4GHz Wi-Fi

Mode	Freq(MHz)	AV Output Power (dBm)			Tune-up Limit (dBm)		
		ANT0	ANT1	MIMO	ANT0	ANT1	MIMO
802.11b	2412	22.59	21.96	25.30	23.00	22.00	25.50
	2437	22.68	22.52	25.61	23.00	23.00	26.00
	2462	21.92	20.86	24.43	22.00	21.00	25.00
802.11g	2412	20.05	20.00	23.04	20.50	20.50	23.50
	2437	20.99	20.58	23.80	21.00	21.00	24.00
	2462	20.06	19.99	23.04	21.00	21.00	24.00
802.11n 20M	2412	20.64	20.32	23.49	21.00	21.00	24.00
	2437	20.12	19.70	22.93	20.50	20.50	23.00
	2462	19.62	19.41	22.53	20.00	20.00	23.00
802.11n 40M	2422	19.97	19.68	22.84	20.00	20.00	23.00
	2437	19.56	19.40	22.49	20.00	20.00	23.00
	2452	19.88	19.73	22.82	20.00	20.00	23.00

Note:

- 1) The output power of the device was set to transmit at maximum power for all tests.
- 2) As per KDB 447498 D01 sec.4.1.d) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

RU:

Mode	Freq(MHz)	RU size	RU Index	AV Output Power (dBm)			Tune-up Limit (dBm)		
				ANT0	ANT1	MIMO	ANT0	ANT1	MIMO
802.11ax 20M	2412	26	0	18.30	18.18	21.25	18.50	18.50	21.50
		52	37	18.31	18.20	21.27	18.50	18.50	21.50
		106	53	16.25	16.16	19.22	16.50	16.50	19.50
		SU	/	18.96	19.23	22.11	19.50	19.50	22.50
	2437	26	4	18.60	18.45	21.54	19.00	19.00	22.00
		52	38	18.39	18.22	21.32	19.00	19.00	22.00
		106	53	18.86	18.85	21.87	19.00	19.00	22.00
		SU	/	19.35	19.15	22.26	19.50	19.50	22.50
	2462	26	8	13.48	13.28	16.39	14.00	14.00	17.00
		52	40	13.94	13.52	16.75	14.00	14.00	17.00
		106	54	14.13	13.85	17.00	14.50	14.00	17.50
		SU	/	19.33	19.28	22.32	19.50	19.50	22.50
802.11ax 40M	2422	SU	/	19.66	19.32	22.50	20.00	20.00	23.00
	2437	SU	/	19.25	19.03	22.15	20.00	20.00	23.00
	2452	SU	/	19.62	19.59	22.62	20.00	20.00	23.00

Note:

- 1) The output power of the device was set to transmit at maximum power for all tests.
- 2) As per KDB 447498 D01 sec.4.1.d) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

7.2. Test Results of 5GHz Wi-Fi

Mode	Freq(MHz)	AV Output Power (dBm)			Tune-up Limit (dBm)		
		ANT0	ANT1	MIMO	ANT0	ANT1	MIMO
802.11a	5180	17.23	15.39	19.42	18.50	15.50	20.00
	5200	17.26	15.47	19.47	18.50	15.50	20.00
	5240	16.81	15.48	19.21	17.00	15.50	19.50
	5260	18.04	17.57	20.82	18.50	18.00	21.50
	5280	18.19	17.63	20.93	18.50	18.00	21.50
	5320	18.30	17.93	21.13	18.50	18.00	21.50
	5500	18.21	17.44	20.85	18.50	18.00	21.50
	5580	18.65	17.85	21.28	19.00	18.00	21.50
	5700	18.06	17.40	20.75	18.50	18.00	21.50
	5720-2C	17.62	17.32	20.48	18.00	18.00	21.50
	5720-3	9.85	9.64	12.76	10.00	10.00	13.00
	5745	23.20	22.40	25.83	23.50	22.50	26.00
	5785	22.67	22.15	25.43	23.00	22.50	25.50
	5825	22.18	21.20	24.73	22.50	21.50	25.00
802.11n 20M	5180	17.36	15.77	19.65	17.50	16.00	20.00
	5200	17.48	15.90	19.77	17.50	16.00	20.00
	5240	17.22	15.98	19.65	17.50	16.00	20.00
	5260	18.84	18.05	21.47	19.00	19.00	22.00
	5280	17.93	17.55	20.75	18.00	18.00	21.00
	5320	18.18	17.70	20.96	18.50	18.00	21.00
	5500	17.92	17.36	20.66	18.50	18.00	21.00
	5580	18.39	17.61	21.03	18.50	18.00	21.50
	5700	18.51	17.80	21.18	19.00	18.00	21.50
	5720-2C	17.72	17.50	20.62	18.00	18.00	21.00
	5720-3	10.33	10.08	13.22	11.00	11.00	14.00
	5745	22.99	22.19	25.62	23.00	23.00	26.00
	5785	22.46	22.12	25.30	23.00	23.00	25.50
	5825	21.72	21.14	24.45	22.00	22.00	25.00
802.11ac 20M	5180	Covered by 802.11n 20M					
	5200						
	5240						
	5260						
	5280						
	5320						
	5500						
	5580						
	5700						
	5720-2C						
	5720-3						
	5745						
	5785						

	5825						
802.11n 40M	5190	18.89	18.15	21.55	19.00	19.00	22.00
	5230	19.82	18.51	22.22	20.00	19.00	22.50
	5270	18.46	16.86	20.74	19.00	17.00	21.00
	5310	18.04	16.34	20.28	19.00	17.00	21.00
	5510	18.56	17.18	20.93	19.00	18.00	21.00
	5550	19.11	18.36	21.76	20.00	19.00	22.00
	5670	19.18	17.82	21.56	20.00	18.00	22.00
	5710-2C	18.52	18.17	21.36	19.00	19.00	22.00
	5710-3	6.36	5.97	9.18	7.00	6.00	10.00
	5755	20.54	20.09	23.33	21.00	21.00	24.00
	5795	20.67	20.15	23.43	21.00	21.00	24.00
802.11ac 40M	5190	Covered by 802.11n 40M					
	5230						
	5270						
	5310						
	5510						
	5550						
	5670						
	5710-2C						
	5710-3						
	5755						
	5795						
802.11ac 80M	5210	18.06	16.42	20.33	19.00	17.00	21.00
	5290	18.03	16.51	20.35	19.00	17.00	21.00
	5530	18.08	16.77	20.48	19.00	17.00	21.00
	5610	18.67	17.82	21.28	19.00	18.00	21.50
	5690-2C	18.18	17.70	20.96	19.00	18.00	21.50
	5690-3	1.90	1.06	4.51	2.00	2.00	5.00
	5775	19.20	18.59	21.92	20.00	19.00	22.50
802.11ac 160M	5250-1	12.43	11.57	15.03	13.00	12.00	16.00
	5250-2a	11.65	11.14	14.41	12.00	12.00	15.00
	5570	16.67	15.66	19.20	17.00	16.00	20.00

Note:

- 1) The output power of the device was set to transmit at maximum power for all tests.
- 2) As per KDB 447498 D01 sec.4.1.d) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

RU:

Mode	Freq(MHz)	RU size	RU Index	AV Output Power (dBm)			Tune-up Limit (dBm)		
				ANT0	ANT1	MIMO	ANT0	ANT1	MIMO
802.11ax 20M	5180	26	0	9.76	8.67	12.26	10.00	9.00	12.50
		52	37	12.38	11.39	14.92	12.50	11.50	15.00
		106	53	15.17	13.89	17.59	15.50	14.50	18.00
		SU	/	17.63	15.88	19.85	18.00	16.50	20.00
	5200	26	4	11.26	8.98	13.28	11.50	9.50	13.50
		52	38	11.91	11.26	14.61	12.00	12.00	15.00
		106	53	15.11	13.81	17.52	15.50	14.50	18.00
		SU	/	17.66	15.91	19.88	18.00	16.50	20.50
	5240	26	8	9.98	8.30	12.23	10.00	9.00	12.50
		52	40	11.59	11.62	14.62	12.00	12.00	15.00
		106	54	14.81	13.95	17.41	15.00	14.00	17.50
		SU	/	17.34	15.86	19.67	18.00	16.50	20.50
	5260	26	0	11.11	9.83	13.53	12.00	10.00	14.50
		52	37	13.24	12.35	15.83	13.50	12.50	16.00
		106	53	16.05	14.82	18.49	16.50	15.50	19.00
		SU	/	18.03	17.56	20.81	18.50	18.00	21.50
	5280	26	4	11.60	11.22	14.42	12.00	12.00	15.00
		52	38	13.26	12.79	16.04	13.50	13.00	16.50
		106	53	16.16	14.98	18.62	16.50	15.50	19.00
		SU	/	18.35	17.65	21.02	18.50	18.00	21.50
	5320	26	8	10.69	9.65	13.21	11.00	10.00	13.50
		52	40	13.14	12.78	15.97	13.50	13.00	16.50
		106	54	16.10	15.27	18.72	16.50	15.50	19.00
		SU	/	18.64	17.30	21.03	19.00	18.00	21.50
	5500	26	0	11.04	9.86	13.50	11.50	10.50	14.00
		52	37	13.24	12.43	15.86	13.50	12.50	16.00
		106	53	16.19	14.96	18.63	16.50	15.50	19.00
		SU	/	18.26	17.39	20.86	18.50	17.50	21.00
	5580	26	4	11.63	11.00	14.34	12.50	12.50	15.50
		52	38	13.28	12.62	15.97	13.50	13.00	16.50
		106	53	16.03	15.14	18.62	16.50	15.50	19.00
		SU	/	18.40	17.22	20.86	18.50	17.50	21.00
	5700	26	8	11.31	10.57	13.97	11.50	11.00	14.50
		52	40	14.05	13.30	16.70	14.50	13.50	17.00
		106	54	16.54	15.62	19.11	17.00	16.00	19.50
		SU	/	18.12	17.26	20.72	18.50	17.50	21.00
	5720-2C	SU	/	17.09	16.97	20.04	17.50	17.00	20.50
	5720-3	SU	/	10.15	10.03	13.10	10.50	10.50	13.50
	5745	26	0	22.23	21.38	24.84	22.50	21.50	25.00
		52	37	21.96	21.16	24.59	22.00	21.50	25.00
		106	53	22.03	21.17	24.63	22.50	21.50	25.00
		SU	/	21.95	21.43	24.71	22.00	21.50	25.00

	5785	26	4	21.47	20.60	24.07	21.50	21.00	24.50
		52	38	21.27	20.58	23.95	21.50	21.00	24.50
		106	53	22.57	21.59	25.12	23.00	22.00	25.50
		SU	/	22.38	21.83	25.12	22.50	22.00	25.50
	5825	26	8	21.29	21.22	24.27	21.50	21.50	24.50
		52	40	21.18	21.28	24.24	21.50	21.50	24.50
		106	54	21.32	21.29	24.32	21.50	21.50	24.50
		SU	/	21.85	21.00	24.46	22.00	21.50	24.50
802.11ax 40M	5190	SU	/	18.77	17.27	21.09	19.00	18.00	21.50
	5230	SU	/	19.58	18.45	22.06	20.00	19.00	22.50
	5270	SU	/	18.99	17.32	21.25	19.50	18.00	21.50
	5310	SU	/	18.60	16.91	20.85	19.00	18.00	21.00
	5510	SU	/	18.25	16.51	20.48	18.50	17.50	21.00
	5550	SU	/	18.97	17.32	21.23	19.00	18.00	21.50
	5670	SU	/	18.89	17.97	21.46	19.00	18.00	21.50
	5710-2C	SU	/	18.50	18.17	21.35	19.00	19.00	21.50
	5710-3	SU	/	7.13	6.66	9.91	7.50	7.00	10.50
	5755	SU	/	19.60	19.06	22.35	20.00	20.00	22.50
	5795	SU	/	20.41	19.73	23.09	20.50	20.00	23.50
802.11ax 80M	5210	SU	/	17.59	15.93	19.85	18.00	17.00	20.00
	5290	SU	/	18.80	17.34	21.14	19.00	18.00	21.50
	5530	SU	/	18.00	16.42	20.29	19.00	17.50	20.50
	5610	SU	/	18.98	18.13	21.59	19.00	18.50	22.00
	5690-2C	SU	/	18.65	18.12	21.40	19.00	18.50	21.50
	5690-3	SU	/	3.06	2.41	5.76	4.00	3.00	6.00
	5775	SU	/	18.63	18.06	21.36	19.00	19.00	21.50
802.11ax 160M	5250-1	SU	/	12.86	12.65	15.77	13.00	13.00	16.00
	5250-2a	SU	/	12.11	12.15	15.14	13.00	13.00	16.00
	5570	SU	/	16.58	15.44	19.06	17.00	16.00	19.50

Note:

- 1) The output power of the device was set to transmit at maximum power for all tests.
- 2) As per KDB 447498 D01 sec.4.1.d) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

Sensor ON:

Mode	Freq(MHz)	AV Output Power (dBm)			Tune-up Limit (dBm)		
		ANT0	ANT1	MIMO	ANT0	ANT1	MIMO
802.11a	5745	20.65	19.85	23.28	21.00	20.00	23.50
	5785	20.08	19.58	22.85	20.50	20.00	23.00
	5825	19.61	18.68	22.38	20.00	19.00	22.50
802.11n 20M	5745	20.45	19.66	23.08	20.50	20.50	23.50
	5785	19.88	19.55	22.73	20.50	20.50	23.00
	5825	19.17	18.62	21.91	19.50	19.50	22.50
802.11ac 20M	5745	Covered by 802.11n 20M					
	5785						
	5825						
802.11n 40M	5755	18.01	17.57	20.81	18.50	18.50	21.50
	5795	18.12	17.60	20.88	18.50	18.50	21.50
802.11ac 40M	5755	Covered by 802.11n 40M					
	5795						
802.11ac 80M	5775	16.62	16.00	19.33	17.50	16.50	20.00

Note:

- 1) The output power of the device was set to transmit at maximum power for all tests.
- 2) As per KDB 447498 D01 sec.4.1.d) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

RU:

Mode	Freq(MHz)	RU size	RU Index	AV Output Power (dBm)			Tune-up Limit (dBm)		
				ANT0	ANT1	MIMO	ANT0	ANT1	MIMO
802.11ax 20M	5745	26	0	19.71	18.83	22.30	20.00	19.00	22.50
		52	37	19.40	18.60	22.03	19.50	19.00	22.50
		106	53	19.49	18.59	22.07	20.00	19.00	22.50
		SU	/	19.40	18.88	22.16	19.50	19.00	22.50
	5785	26	4	18.89	18.02	21.49	19.00	18.50	22.00
		52	38	18.74	18.06	21.42	19.00	18.50	22.00
		106	53	20.03	19.06	22.58	20.50	19.50	23.00
		SU	/	19.85	19.27	22.58	20.00	19.50	23.00
	5825	26	8	18.75	18.63	21.70	19.00	19.00	22.00
		52	40	18.61	18.73	21.68	19.00	19.00	22.00
		106	54	18.78	18.75	21.78	19.00	19.00	22.00
		SU	/	19.26	18.42	21.87	19.50	19.00	22.00
802.11ax 40M	5755	SU	/	17.02	16.51	19.78	17.50	17.50	20.00
	5795	SU	/	17.85	17.19	20.54	18.00	17.50	21.00
802.11ax 80M	5775	SU	/	16.10	15.51	18.83	16.50	16.50	19.00

Note:

- 1) The output power of the device was set to transmit at maximum power for all tests.
- 2) As per KDB 447498 D01 sec.4.1.d) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

7.3. Test Results of BT

Mode	Frequency (MHz)	AV Power (dBm)	Tune-up Limit (dBm)
DH5	2402	7.58	8.00
	2441	8.78	9.00
	2480	7.03	8.00
3DH5	2402	6.68	7.00
	2441	7.85	8.00
	2480	6.15	7.00
BLE_1M	2402	1.41	2.00
	2440	2.59	3.00
	2480	0.98	1.00
BLE_2M	2402	1.41	2.00
	2440	2.63	3.00
	2480	0.98	1.00

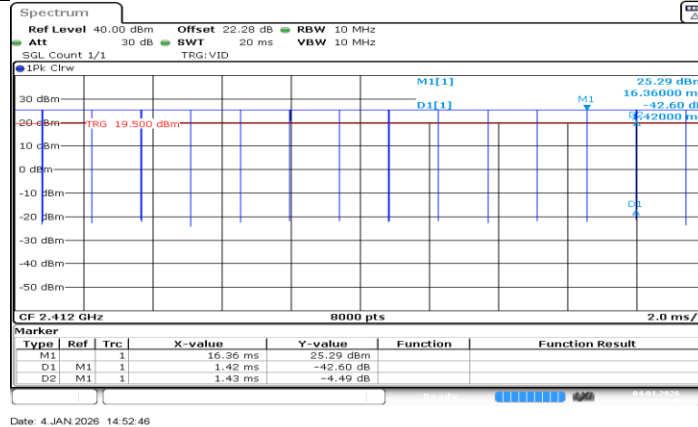
Note:

- 1) The output power of the device was set to transmit at maximum power for all tests.
- 2) As per KDB 447498 D01 sec.4.1.d) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.
- 3) The maximum output power mode DH5 was selected as the primary mode to test SAR for Bluetooth mode. SAR measurement is not required for the other modes, when the secondary mode is ≤ 0.25 dB higher than the primary mode.

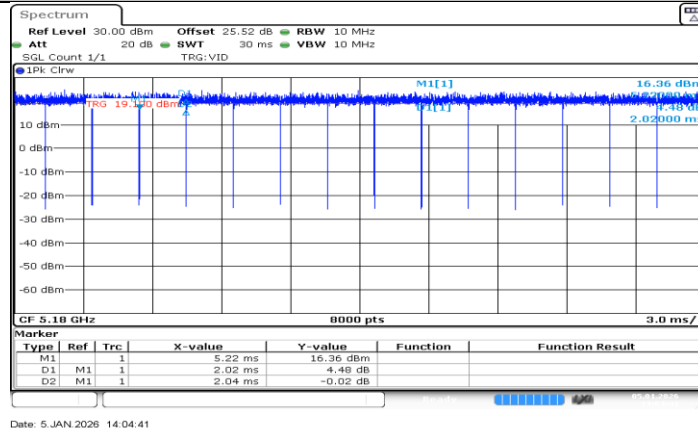
7.4. Duty Cycle

Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)
802.11b	1.42	1.43	0.9930	99.30
802.11a	2.02	2.04	0.9902	99.02
802.11n20M	5.42	5.43	0.9982	99.82
802.11n40M	5.41	5.43	0.9963	99.63
DH5	2.88	3.76	0.7660	76.60

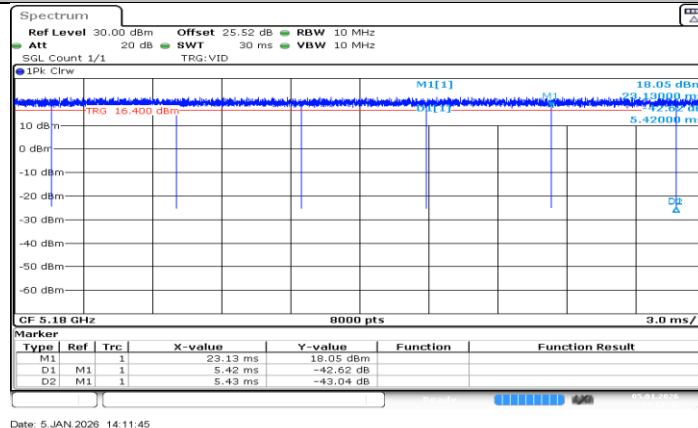
802.11b 2412MHz



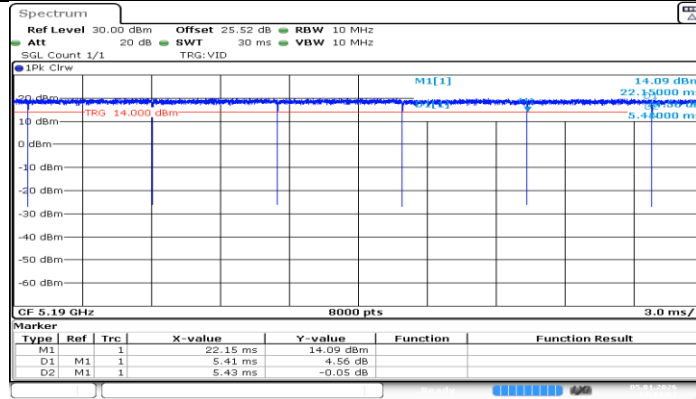
802.11a 5180MHz



802.11n20M 5180MHz

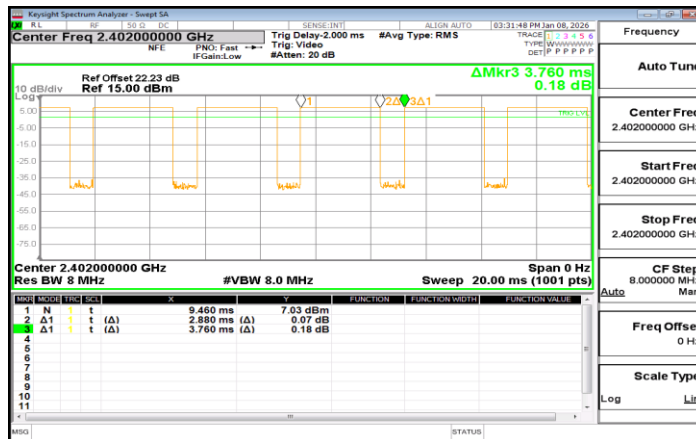


802.11n40M 5190MHz



Date: 5 JAN 2026 14:14:04

DH5 2402MHz



8. Test Configuration

8.1. Wi-Fi Test Configuration

For Wi-Fi SAR testing, a communication link is set up with the testing software for Wi-Fi mode test. During the test, at each test frequency channel, the EUT is operated at the RF continuous emission mode. The test procedures in KDB 248227D01 are applied.

8.1.1. Initial Test Position Procedure

For exposure condition with multiple test position, such as handsets operating next 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 position 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 $\leq 0.4\text{W/kg}$, no additional testing for the remaining test position is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR position until the reported SAR result is $\leq 0.8\text{W/kg}$ or all test position are measured. For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is $> 0.8\text{W/kg}$, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is $\leq 1.2\text{W/kg}$ or all required channels are tested.

8.1.2. Initial Test Configuration Procedure

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required (see section 5.3.2 of KDB 248227D01). SAR test reduction of subsequent highest output test channels is based on the reported SAR of the initial test configuration.

For next to the ear, hotspot mode and UMC mini-tablet exposure configurations where multiple test positions are required, the initial test position procedure is applied to minimize the number of test positions required for SAR measurement using the initial test configuration transmission mode. For fixed exposure conditions that do not have multiple SAR test positions, SAR is measured in the transmission mode determined by the initial test configuration.

When the reported SAR of the initial test configuration is $> 0.8\text{W/kg}$, SAR measurement is required for the subsequent next highest measured output power channel(s) in the initial test configuration until the reported SAR is $\leq 1.2\text{W/kg}$ or all required channels are tested.

8.1.3. Sub Test Configuration Procedure

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units.

When the highest reported SAR for the initial test configuration, according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is $\leq 1.2\text{W/kg}$, SAR is not required for that subsequent test configuration.

8.1.4. 2.4GHz Wi-Fi SAR Test Procedures

Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions.

A) 802.11b DSSS SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either a 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 (section 3.1 of KDB 248227D01) for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration 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.

B) 2.4GHz 802.11g/n OFDM SAR Test Exclusion Requirements

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3 of KDB 248227D01). SAR is not required for the following 2.4 GHz OFDM conditions.

- 1) When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
- 2) When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

C) SAR Test Requirements for OFDM configurations

When SAR measurement is required for 802.11 g/n OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

8.1.5. 5GHz Wi-Fi SAR Test Procedures

U-NII-1 and U-NII-2A Bands

For devices that operate in only one of the U-NII-1 and U-NII-2A bands, the normally required SAR procedures for OFDM configurations are applied. For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following:

- 1) When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, both bands are tested independently for SAR.
- 2) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, both bands are tested independently for SAR.
- 3) The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50. Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is > 1.2 W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channel is operating at a reduced maximum power and also qualifies for SAR test exclusion.

U-NII-2C and U-NII-3 Bands

The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), 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, all channels that operate at 5.60 – 5.65 GHz must be included to apply the SAR test reduction and measurement procedures.

When the same transmitter and antenna(s) are used for U-NII-2C band and U-NII-3 band or 5.8 GHz band of §15.247, the bands may be aggregated to enable additional channels with 20, 40 or 80 MHz bandwidth to span across the band gap, as illustrated in Appendix B. The maximum output power for the additional band gap channels is limited to the lower of those certified for the bands. Unless band gap channels are permanently disabled, they must be considered for SAR testing. The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. To maintain SAR measurement accuracy and to facilitate test reduction, the channels in U-NII-2C band above 5.65 GHz may be grouped with the 5.8 GHz channels in U-NII-3 or §15.247 band to enable two SAR probe calibration frequency points to cover the bands, including the band gap channels. When band gap channels are supported and the bands are not aggregated for SAR testing, band gap channels must be considered independently in each band according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

OFDM Transmission Mode and SAR Test Channel Selection

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. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 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.

8.2.2.4GHz BT SAR Test Requirements

2.4GHz BT operating modes are tested independently according to the service requirements in each frequency band for each antenna. DH5/3DH5/1M/2M SISO modes are tested on the maximum average output power mode.

8.3.Repeated measurements

Repeated measurements are required only when the measured SAR is ≥ 0.80 W/kg.¹⁸ If the measured SAR value of the initial repeated measurement is < 1.45 W/kg with $\leq 20\%$ variation, only one repeated measurement is required to reaffirm that the results are not expected to have substantial variations, which may introduce significant compliance concerns. A second repeated measurement is required only if the measured result for the initial repeated measurement is within 10% of the SAR limit and vary by more than 20%, which are often related to device and measurement setup difficulties. The following procedures are applied to determine if repeated measurements are required. The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.¹⁹ The repeated measurement results must be clearly identified in the SAR report. All measured SAR, including the repeated results, must be considered to determine compliance and for reporting according to KDB Publication 690783.

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

9. Power reduction specification

9.1. Power reduction mechanism

This device uses a single fixed level of power reduction through static table look-up for SAR compliance and it is triggered by a single event or operation.

- 1) A fixed level power reduction is applied for some frequency bands when simultaneously transmitting with the other antennas in certain simultaneous transmission conditions. The standalone SAR compliance still uses the standalone SAR results tested at the maximum output power level without any power reduction.
- 2) The proximity sensor is used to indicate when the device is held close to a user's body exposure condition. It utilizes the proximity sensor to reduce the output power in specific wireless and operating modes of main antenna to ensure SAR compliance (Refer to section 9.2 for detailed proximity Sensor information and validation data per KDB 616217).

The following tables summarize the key power reduction information. The detailed full power which is the Max. power the state can use and reduced tune-up specifications and conducted power measurement results are provided in section 7 of this report.

Standalone power level-Solo (dBm)		
Power Reduction Scenario	U-NII-3	
	ANT 0	ANT 1
	Sensor on 21.0	20.0

9.2. Proximity Sensor Triggering Test

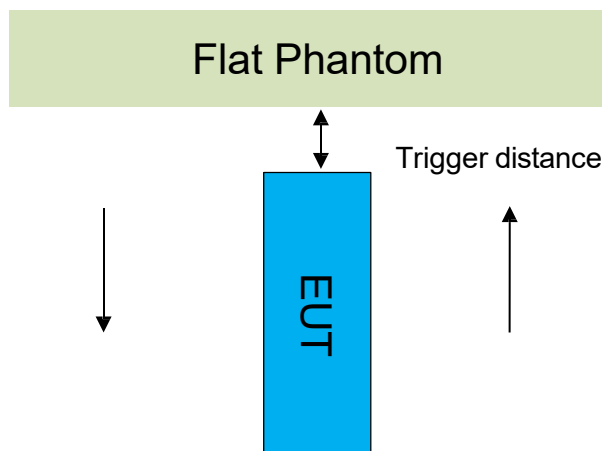
Proximity sensor coverage

If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. For p-sensor coverage testing, the device is moved and “along the direction of maximum antenna and sensor offset”.

The proximity sensor and main antenna use same metallic electrode, so there is no spatial offset.

Proximity sensor triggering distances:

Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed.

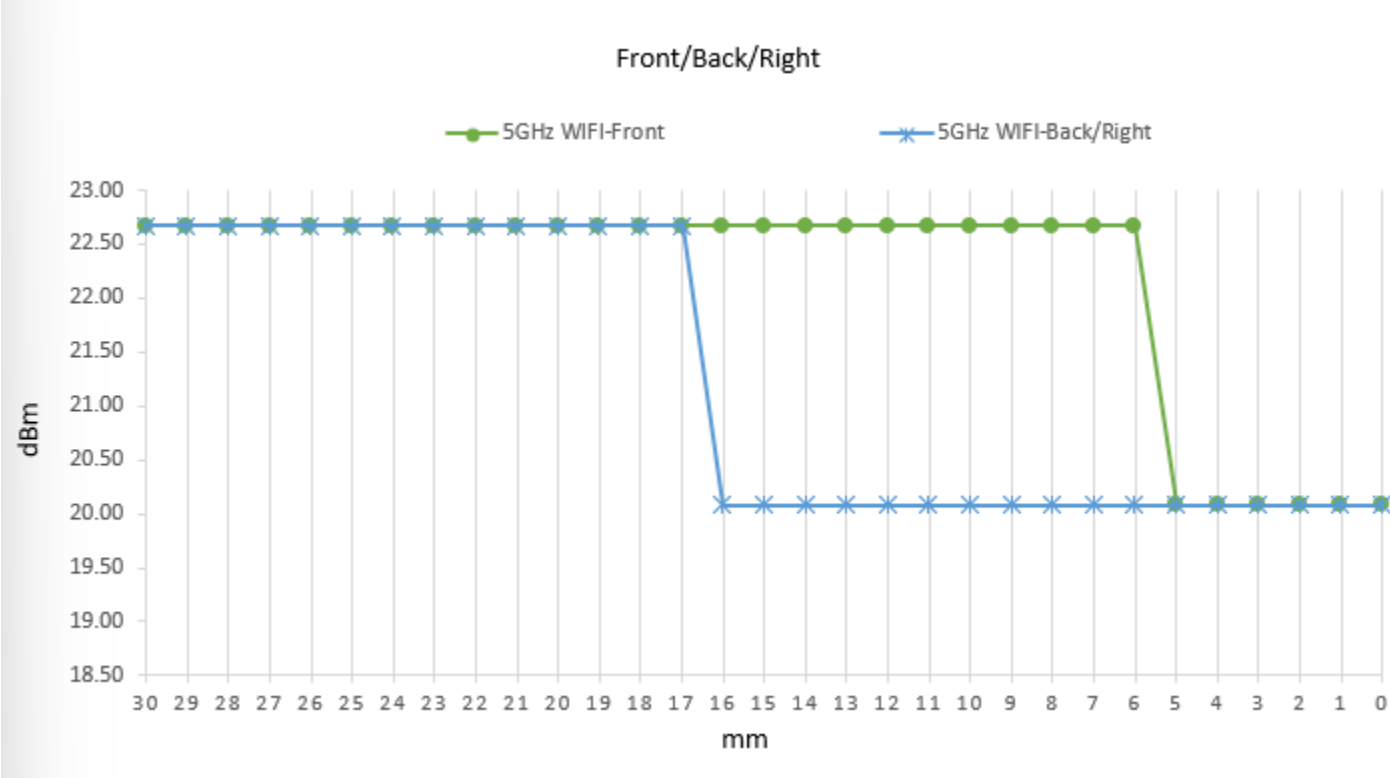


Proximity Sensor Triggering Distance(mm)						
ANT0						
Position	Front Surface	Back Surface	Top Edge	Bottom Edge	Left Edge	Right Edge
Minimum (mm)	5	16	/	/	/	16
Required SAR Test	Yes	Yes	/	/	/	Yes
ANT1						
Minimum (mm)	5	16	/	/	16	/
Required SAR Test	Yes	Yes	/	/	Yes	/

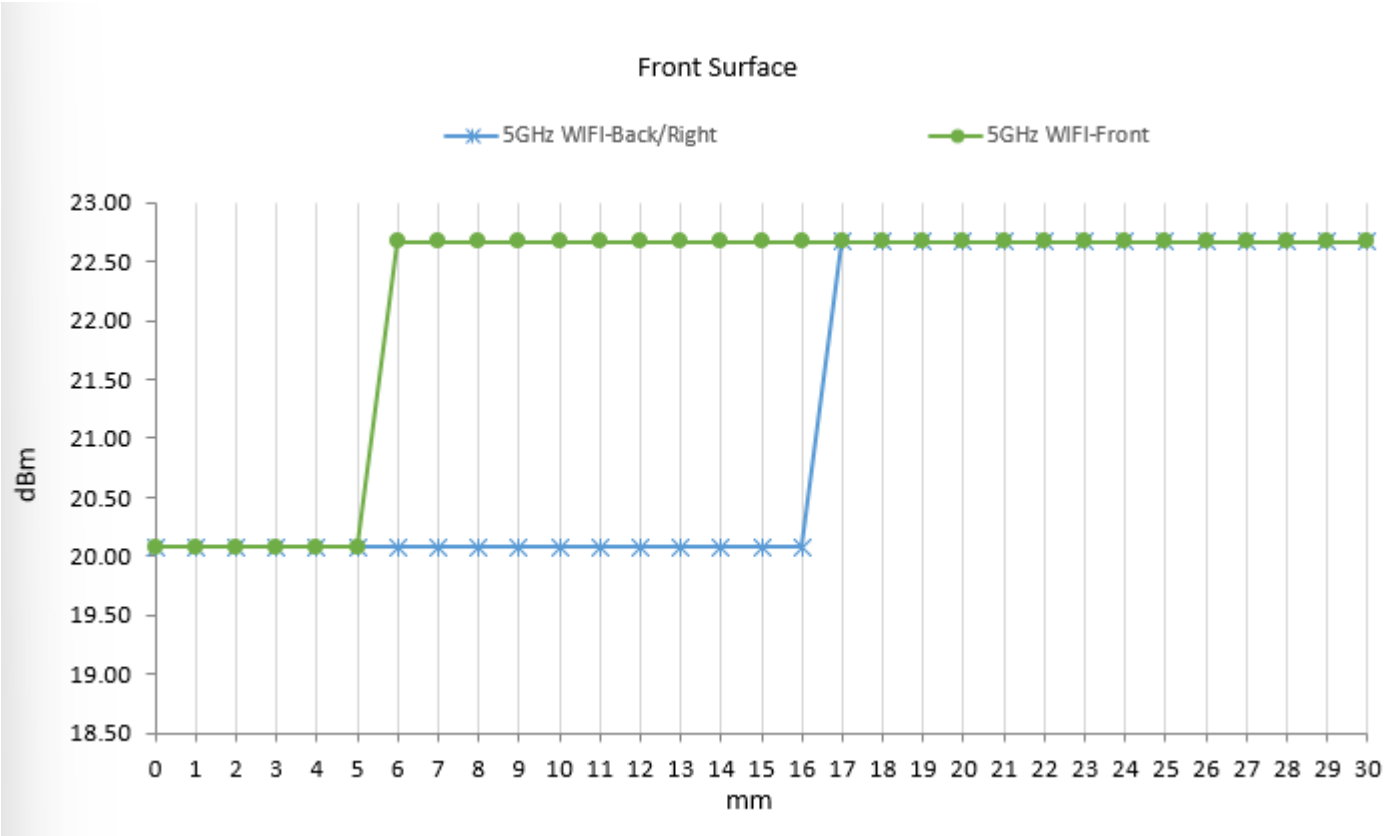
Note:

- SAR tests with proximity sensor power reduction are only required for the sides of frequency bands in the table above. For the other sides or other frequency bands of the device, SAR is still tested at the full power level with sensor off.

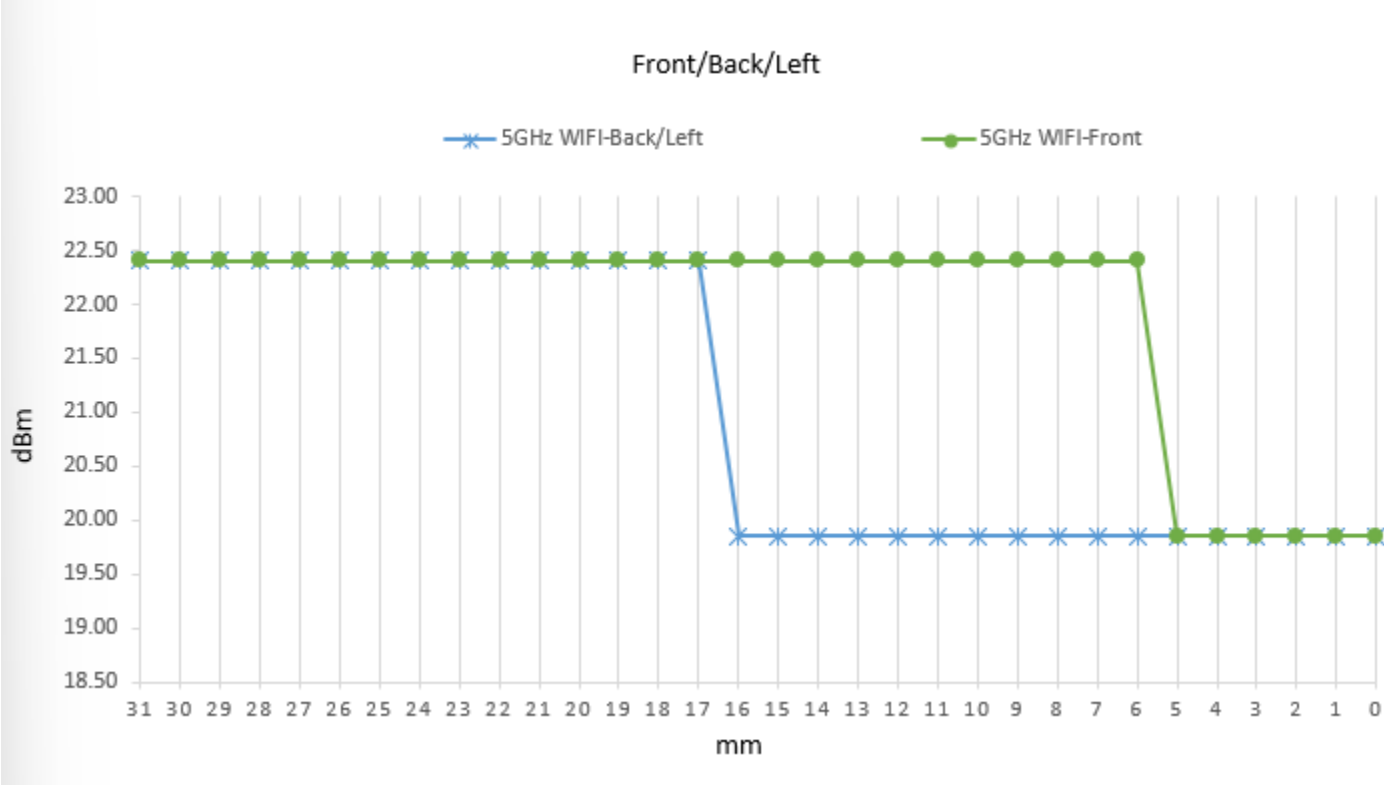
DUT moved toward (Trigger) the Phantom-ANT 0



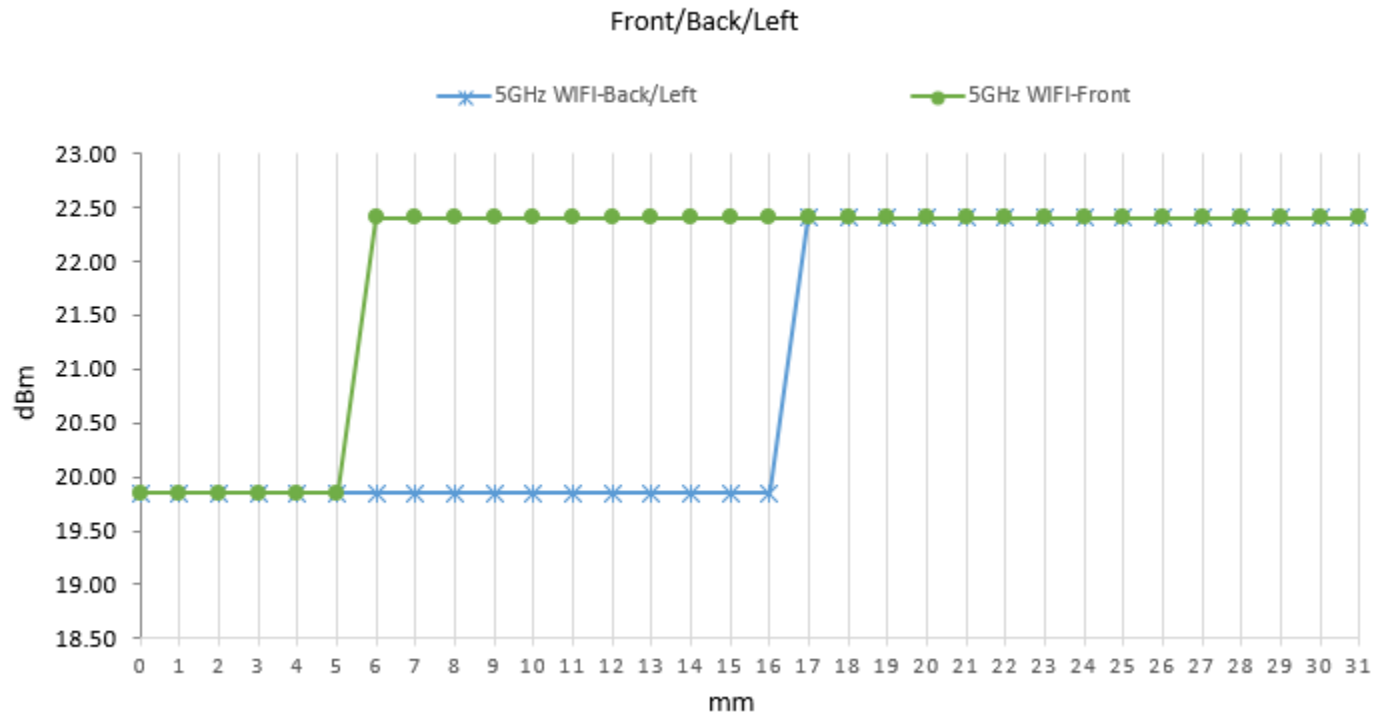
DUT moved away (Release) from the Phantom-ANT 0



DUT moved toward (Trigger) the Phantom-ANT 1



DUT moved away (Release) from the Phantom-ANT 1



10.RF Exposure Conditions

Wireless technologies	RF Exposure Conditions	DUT-to-User Separation
WLAN/BT	Extremity	0 mm
WLAN/BT	Body (Accessory - Back clip)	0 mm

Refer to the "4791876642-1-SAR-1_App A Photo" for the antenna location diagram.

As per KDB 941225 D07, when the antenna to-edge-distance is greater than 2.5 cm, SAR evaluation is not required for the corresponding position.

Antenna	Bottom Edge
ANT 0	No
ANT 1	No

11. Dielectric Property Measurements & System Check

11.1. Dielectric Property Measurements

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

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

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

Tissue Dielectric Parameters

FCC KDB 865664 D01 v01r04 SAR Measurement 100 MHz to 6 GHz

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

IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013 Dielectric Property Measurements Results:

Liquid	Freq.	Liquid Parameters				Deviation(%)		Limit (%)	Temp. (°C)	Test Date
		Measured		Target						
		ϵ_r	σ	ϵ_r	σ	ϵ_r	σ			
Head 2450	2400	40.000	1.790	39.29	1.76	1.81	1.70	±5	21.2	January 5, 2026
	2450	40.100	1.850	39.20	1.80	2.30	2.78			
	2480	40.200	1.870	39.16	1.83	2.66	2.19			
Head 5250	5160	35.600	4.460	36.03	4.61	-1.19	-3.25	±5	21.4	January 7, 2026
	5250	35.800	4.620	35.93	4.71	-0.36	-1.91			
	5340	35.400	4.740	35.83	4.80	-1.20	-1.25			
Head 5600	5500	35.600	5.040	35.64	4.96	-0.11	1.61	±5	21.2	January 9, 2026
	5600	35.600	5.110	35.53	5.07	0.20	0.79			
	5700	34.700	5.340	35.41	5.17	-2.01	3.29			
Head 5750	5660	35.500	5.150	35.46	5.13	0.11	0.39	±5	21.3	January 12, 2026
	5750	35.400	5.220	35.36	5.22	0.11	0.00			
	5840	35.200	5.330	35.27	5.30	-0.20	0.57			

11.2. System Check

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

System Performance Check Measurement Conditions:

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 ± 0.2 mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm for SAR measurements ≤ 3 GHz and ≥ 10.0 cm for measurements > 3 GHz.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1GHz) and 15 mm (below 1GHz) from dipole center to the simulating liquid surface.
- For area scan, standard grid spacing for head measurements is 15 mm in x- and y- dimension (≤ 2 GHz), 12 mm in x- and y-dimension (2-4 GHz) and 10 mm in x- and y- dimension (4-6GHz).
- For zoom scan, $\Delta x_{\text{zoom}}, \Delta y_{\text{zoom}} \leq 2$ GHz - ≤ 8 mm, 2-4 GHz - ≤ 5 mm and 4-6 GHz- ≤ 4 mm; $\Delta z_{\text{zoom}} \leq 3$ GHz - ≤ 5 mm, 3-4 GHz- ≤ 4 mm and 4-6 GHz- ≤ 2 mm.
- Distance between probe sensors and phantom surface was set to 3 mm except for 5 GHz band. For 5 GHz band, Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was set to 100 mW or 250 mW depend on the certificate of the dipoles.
- The results are normalized to 1 W input power.

System Check Results

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

T.S. Liquid		Measured Results		Target (Ref. value)	Delta (%)	Limit (%)	Temp. (°C)	Test Date
		Result of 0.1W input power (W/Kg)	Normalize to 1W (W/Kg)					
Head 2450	1-g	5.280	52.80	52.80	0.00	±10	21.2	January 5, 2026
	10-g	2.460	24.60	24.40	0.82			
Head 5250	1-g	7.850	78.50	77.50	1.29	±10	21.4	January 7, 2026
	10-g	2.260	22.60	21.80	3.67			
Head 5600	1-g	7.950	79.50	82.70	-3.87	±10	21.2	January 9, 2026
	10-g	2.280	22.80	23.10	-1.30			
Head 5750	1-g	7.870	78.70	77.90	1.03	±10	21.3	January 12, 2026
	10-g	2.250	22.50	21.50	4.65			

12. Measured and Reported (Scaled) SAR Results

12.1. SAR Test Reduction criteria are as follows:

- Reported SAR(W/kg) for Wi-Fi Measured SAR* Maximum Output Power scaling factor Duty Cycle scaling factor
- Duty Cycle scaling factor = 1 / Duty cycle (%)

12.2. General Notes:

- 1) As per KDB447498 D01, all SAR measurement results are scaled to the maximum tune-up tolerance limit to demonstrate SAR compliance.
- 2) As per KDB447498 D01, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - $\leq 0.8 \text{ W/kg}$ for 1-g or 2.0 W/kg for 10-g respectively, when the transmission band is $\leq 100 \text{ MHz}$.
 - $\leq 0.6 \text{ W/kg}$ or 1.5 W/kg , for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
 - $\leq 0.4 \text{ W/kg}$ or 1.0 W/kg , for 1-g or 10-g respectively, when the transmission band is $\geq 200 \text{ MHz}$.When the maximum output power variation across the required test channels is $> \frac{1}{2} \text{ dB}$, instead of the middle channel, the highest output power channel must be used.
- 3) As per KDB865664 D01 for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8 \text{ W/Kg}$; if the deviation among the repeated measurement is $\leq 20\%$, and the measured SAR $< 1.45 \text{ W/Kg}$, only one repeated measurement is required.
- 4) As per KDB865664 D02, SAR plot is only required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination; Plots are also required when the measured SAR is $> 1.5 \text{ W/kg}$, or $> 7.0 \text{ W/kg}$ for occupational exposure. The published RF exposure KDB procedures may require additional plots; for example, to support SAR to peak location separation ratio test exclusion and/or volume scan post-processing (Refer to appendix B for detailed SAR plots).
- 5) Additional SAR tests in simultaneous transmission fixed power reduction scenario are also tested in some frequency bands and required test positions for the SAR worst case, which are only used to ensure simultaneous transmission SAR test exclusion. The standalone SAR compliance still uses the SAR results tested at the maximum output power level.

12.3. Test Configuration:

Initial Test Position SAR Test Reduction Procedure

DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures. The initial test position procedure is described in the following:

- 1) . When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other (remaining) test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band. SAR is also not required for that exposure configuration in the subsequent test configuration(s).
- 2) . When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest extrapolated or estimated 1-g SAR conditions determined by area scans or next closest/smallest test separation distance and maximum RF coupling test positions based on manufacturer justification, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg or all required test positions (left, right, touch, tilt or subsequent surfaces and edges) are tested.
- 3) . For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested. a) Additional power measurements may be required for this step, which should be limited to those necessary for identifying the subsequent highest output power channels.

Initial Test Configuration Procedures

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required. SAR test reduction for subsequent highest output test channels is determined according to *reported* SAR of the initial test configuration.

For next to the ear, hotspot mode and UMC mini-tablet exposure configurations where multiple test positions are required, the initial test position procedure is applied to minimize the number of test positions required for SAR measurement using the initial test configuration transmission mode. For fixed exposure conditions that do not have multiple SAR test positions, SAR is measured in the transmission mode determined by the initial test configuration.

When the *reported* SAR of the initial test configuration is > 0.8 W/kg, SAR measurement is required for subsequent next highest measured output power channel(s) in the initial test configuration until *reported* SAR is ≤ 1.2 W/kg or all required channels are tested.

Subsequent Test Configuration Procedures

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units. The initial test position procedure is applied to next to the ear, UMPC mini-tablet and hotspot mode configurations. When the same maximum output power is specified for multiple transmission modes, additional power measurements may be required to determine if SAR measurements are required for subsequent highest output power channels in a subsequent test configuration. The subsequent test configuration and SAR measurement procedures are described in the following.

- 1) . When SAR test exclusion provisions of KDB Publication 447498 are applicable and SAR measurement is not required for the initial test configuration, SAR is also not required for the next highest maximum output power transmission mode subsequent test configuration(s) in that frequency band or aggregated band and exposure configuration.

- 2) . When the highest *reported* SAR for the initial test configuration (when applicable, include subsequent highest output channels), according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.
- 3) . The number of channels in the initial test configuration and subsequent test configuration can be different due to differences in channel bandwidth. When SAR measurement is required for a subsequent test configuration and the channel bandwidth is smaller than that in the initial test configuration, all channels in the subsequent test configuration that overlap with the larger bandwidth channel tested in the initial test configuration should be used to determine the highest maximum output power channel. This step requires additional power measurement to identify the highest maximum output power channel in the subsequent test configuration to determine SAR test reduction.
 - a) SAR should first be measured for the channel with highest measured output power in the subsequent test configuration.
 - b) SAR for subsequent highest measured maximum output power channels in the subsequent test configuration is required only when the *reported* SAR of the preceding higher maximum output power channel(s) in the subsequent test configuration is > 1.2 W/kg or until all required channels are tested. i) For channels with the same measured maximum output power, SAR should be measured using the channel closest to the center frequency of the larger channel bandwidth channel in the initial test configuration.
- 4) . SAR measurements for the remaining highest specified maximum output power OFDM transmission mode configurations that have not been tested in the initial test configuration (highest maximum output) or subsequent test configuration(s) (subsequent next highest maximum output power) is determined by recursively applying the subsequent test configuration procedures in this section to the remaining configurations according to the following:
 - a) replace “subsequent test configuration” with “next subsequent test configuration” (i.e., subsequent next highest specified maximum output power configuration)
 - b) replace “initial test configuration” with “all tested higher output power configurations”

2.4 GHz WiFi SAR Procedures

Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions. When SAR measurement is required for an OFDM configuration, the initial test configuration, subsequent test configuration and initial test position procedures are applied. The SAR test exclusion requirements for 802.11g/n OFDM configurations are described in following.

- **802.11b DSSS SAR Test Requirements**

SAR is measured for 2.4 GHz 802.11b DSSS using either a 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 in that exposure configuration.
- 2) . When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration 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 GHz 802.11g/n OFDM SAR Test Exclusion Requirements**

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3, including sub-sections). SAR is not required for the following 2.4 GHz OFDM conditions.

- 1) . When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
- 2) . When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

- **SAR Test Requirements for OFDM configurations**

When SAR measurement is required for 802.11 g/n OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

5 GHz WiFi SAR Procedures

- **U-NII-1 and U-NII-2A Bands**

For devices that operate in only one of the U-NII-1 and U-NII-2A bands, the normally required SAR procedures for OFDM configurations are applied. For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following :

- 4) When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, both bands are tested independently for SAR.
- 5) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, both bands are tested independently for SAR.
- 6) The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50. Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is > 1.2 W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channel is operating at a reduced maximum power and also qualifies for SAR test exclusion.

- **U-NII-2C and U-NII-3 Bands**

The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), 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, all channels that operate at 5.60 – 5.65 GHz must be included to apply the SAR test reduction and measurement procedures.

When the same transmitter and antenna(s) are used for U-NII-2C band and U-NII-3 band or 5.8 GHz band of §15.247, the bands may be aggregated to enable additional channels with 20, 40 or 80 MHz bandwidth to span across the band gap, as illustrated in Appendix B. The maximum output power for the additional band gap channels is limited to the lower of those certified for the bands. Unless band gap channels are permanently disabled, they must be considered for SAR testing. The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. To maintain SAR measurement accuracy and to facilitate test reduction, the channels in U-NII-2C band above 5.65 GHz may be grouped with the 5.8 GHz channels in U-NII-3 or §15.247 band to enable two SAR probe calibration frequency points to cover the bands, including the band gap channels. When band gap channels are supported and the bands are not aggregated for SAR testing, band gap channels must be considered independently in each band according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

- **OFDM Transmission Mode SAR Test Configuration and Channel Selection Requirements**

The initial test configuration for 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures. When multiple configurations in a frequency band have the same specified maximum output power, the initial test configuration is determined according to the following steps applied sequentially.

- 1) The largest channel bandwidth configuration is selected among the multiple configurations with the same specified maximum output power.
- 2) If multiple configurations have the same specified maximum output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.
- 3) If multiple configurations have the same specified maximum output power, largest channel bandwidth and lowest order modulation, the lowest data rate configuration among these configurations is selected.
- 4) When multiple transmission modes (802.11a/g/n/ac) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n. After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following. These channel selection procedures apply to both the initial test configuration and subsequent test configuration(s), with respect to the default power measurement procedures or additional power measurements required for further SAR test reduction. The same procedures also apply to subsequent highest output power channel(s) selection.
 - a) The channel closest to mid-band frequency is selected for SAR measurement.
 - b) For channels with equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

- **SAR Test Requirements for OFDM configurations**

When SAR measurement is required for 802.11 a/n/ac OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. When the same transmitter and antenna(s) are used for U-NII-1 and U-NII-2A bands, additional SAR test reduction applies. When band gap channels between U-NII-2C band and 5.8 GHz U-NII-3 or §15.247 band are supported, the highest maximum output power transmission mode configuration and maximum output power channel across the bands must be used to determine SAR test reduction, according to the initial test configuration and subsequent test configuration requirements. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

12.4.SAR Test Results of 2.4GHz Wi-Fi

MIMO										
RF Exposure Condition	Test Mode	Test Position	Dist. (mm)	Channel	Pwr. (dBm)		DC. (%)	Measured 10-g (W/Kg)	Pwr. Drift	Scaled (W/Kg)
					Tune-up	Meas.				
Extremity	802.11 b	Front Surface	0	6/2437	26.0	25.61	99.30	0.639	0.05	0.704
Extremity	802.11 b	Back Surface-Left	0	6/2437	26.0	25.61	99.30	1.430	0.01	1.575
Extremity	802.11 b	Back Surface-Left	0	1/2412	26.0	25.30	99.30	0.732	0.00	0.867
Extremity	802.11 b	Back Surface-Left	0	11/2462	25.0	24.43	99.30	0.877	0.03	1.006
Extremity	802.11 b	Back Surface-Right	0	6/2437	26.0	25.61	99.30	1.860	-0.01	2.049
Extremity	802.11 b	Back Surface-Right	0	1/2412	25.0	24.64	99.30	1.080	-0.12	1.181
Extremity	802.11 b	Back Surface-Right	0	11/2462	24.0	23.84	99.30	1.070	0.00	1.117
Extremity	802.11 b	Left Edge	0	6/2437	26.0	25.61	99.30	1.330	-0.01	1.465
Extremity	802.11 b	Right Edge	0	6/2437	26.0	25.61	99.30	1.160	0.03	1.278
Extremity	802.11 b	Top Edge	0	6/2437	26.0	25.61	99.30	0.118	0.08	0.130

MIMO										
RF Exposure Condition	Test Mode	Test Position	Dist. (mm)	Channel	Pwr. (dBm)		DC. (%)	Measured 1-g (W/Kg)	Pwr. Drift	Scaled (W/Kg)
					Tune-up	Meas.				
Body	802.11 b	Front Surface-Parallel back clip	0	6/2437	26.0	25.61	99.30	0.421	0.02	0.464
Body	802.11 b	Front Surface-back clip is tilted	0	6/2437	26.0	25.61	99.30	0.420	0.13	0.463

Note:

- 1) The SAR testing was set to transmit at maximum power for all tests.
- 2) 802.11b is the maximum power mode, so there is no need to test other modes.
- 3) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

12.5.SAR Test Results of 5GHz Wi-Fi U-NII-1

MIMO										
RF Exposure Condition	Test Mode	Test Position	Dist. (mm)	Channel	Pwr. (dBm)		DC. (%)	Measured 10-g (W/Kg)	Pwr. Drift	Scaled (W/Kg)
					Tune-up	Meas.				
Extremity	802.11 n 40M	Front Surface	0	46/5230	22.5	22.22	99.63	0.273	-0.17	0.292
Extremity	802.11 n 40M	Back Surface-Left	0	46/5230	22.5	22.22	99.63	0.630	-0.04	0.674
Extremity	802.11 n 40M	Back Surface-Right	0	46/5230	22.5	22.22	99.63	1.120	0.00	1.198
Extremity	802.11 n 40M	Left Edge	0	46/5230	22.5	22.22	99.63	0.524	-0.01	0.560
Extremity	802.11 n 40M	Right Edge	0	46/5230	22.5	22.22	99.63	1.370	-0.02	1.465
Extremity	802.11 n 40M	Right Edge	0	38/5190	22.0	21.55	99.63	0.773	-0.06	0.861
Extremity	802.11 n 40M	Top Edge	0	46/5230	22.5	22.22	99.63	0.080	0.06	0.086

MIMO										
RF Exposure Condition	Test Mode	Test Position	Dist. (mm)	Channel	Pwr. (dBm)		DC. (%)	Measured 1-g (W/Kg)	Pwr. Drift	Scaled (W/Kg)
					Tune-up	Meas.				
Body	802.11 n 40M	Front Surface-Parallel back clip	0	46/5230	22.5	22.22	99.63	0.099	-0.05	0.106
Body	802.11 n 40M	Front Surface-back clip is tilted	0	46/5230	22.5	22.22	99.63	0.126	-0.02	0.135

Note:

- 1) The SAR testing was set to transmit at maximum power for all tests.
- 2) 802.11n40M is the maximum power mode, so there is no need to test other modes.
- 3) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

12.1.SAR Test Results of 5GHz Wi-Fi U-NII-2A

MIMO										
RF Exposure Condition	Test Mode	Test Position	Dist. (mm)	Channel	Pwr. (dBm)		DC. (%)	Measured 10-g (W/Kg)	Pwr. Drift	Scaled (W/Kg)
					Tune-up	Meas.				
Extremity	802.11 n 20M	Front Surface	0	52/5260	22.0	21.47	99.82	0.168	0.02	0.190
Extremity	802.11 n 20M	Back Surface-Left	0	52/5260	22.0	21.47	99.82	1.270	0.09	1.437
Extremity	802.11 n 20M	Back Surface-Right	0	52/5260	22.0	21.47	99.82	1.610	-0.05	1.822
Extremity	802.11 n 20M	Back Surface-Right	0	56/5280	21.0	20.75	99.82	1.920	0.00	2.037
Extremity	802.11 n 20M	Back Surface-Right	0	64/5320	21.0	20.96	99.82	2.020	0.03	2.042
Extremity	802.11 n 20M	Left Edge	0	52/5260	22.0	21.47	99.82	0.357	0.07	0.404
Extremity	802.11 n 20M	Right Edge	0	52/5260	22.0	21.47	99.82	0.895	0.07	1.013
Extremity	802.11 n 20M	Top Edge	0	46/5230	22.0	21.47	99.82	0.047	0.03	0.053

MIMO										
RF Exposure Condition	Test Mode	Test Position	Dist. (mm)	Channel	Pwr. (dBm)		DC. (%)	Measured 1-g (W/Kg)	Pwr. Drift	Scaled (W/Kg)
					Tune-up	Meas.				
Body	802.11 n 40M	Front Surface-Parallel back clip	0	64/5320	21.0	20.96	99.82	0.103	-0.01	0.104
Body	802.11 n 40M	Front Surface-back clip is tilted	0	64/5320	21.0	20.96	99.82	0.196	0.08	0.198

Note:

- 4) The SAR testing was set to transmit at maximum power for all tests.
- 5) 802.11n20M is the maximum power mode, so there is no need to test other modes.
- 6) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

12.2.SAR Test Results of 5GHz Wi-Fi U-NII-2C

MIMO										
RF Exposure Condition	Test Mode	Test Position	Dist. (mm)	Channel	Pwr. (dBm)		DC. (%)	Measured 10-g (W/Kg)	Pwr. Drift	Scaled (W/Kg)
					Tune-up	Meas.				
Extremity	802.11 n 40M	Front Surface	0	110/5550	22.0	21.76	99.63	0.332	0.08	0.352
Extremity	802.11 n 40M	Back Surface-Right	0	110/5550	22.0	21.76	99.63	1.780	0.01	1.887
Extremity	802.11 n 40M	Back Surface-Right	0	102/5510	21.0	20.93	99.63	1.690	0.01	1.722
Extremity	802.11 n 40M	Back Surface-Right	0	134/5670	22.0	21.56	99.63	2.060	-0.01	2.286
Extremity	802.11 n 40M	Back Surface-Left	0	110/5550	22.0	21.76	99.63	1.210	-0.03	1.283
Extremity	802.11 n 40M	Back Surface-Left	0	102/5510	21.0	20.93	99.63	1.080	-0.04	1.100
Extremity	802.11 n 40M	Back Surface-Left	0	134/5670	22.0	21.56	99.63	0.894	-0.06	0.992
Extremity	802.11 n 40M	Left Edge	0	110/5550	22.0	21.76	99.63	0.778	0.01	0.825
Extremity	802.11 n 40M	Right Edge	0	110/5550	22.0	21.76	99.63	1.380	-0.05	1.463
Extremity	802.11 n 40M	Top Edge	0	110/5550	22.0	21.76	99.63	0.074	0.01	0.078

MIMO										
RF Exposure Condition	Test Mode	Test Position	Dist. (mm)	Channel	Pwr. (dBm)		DC. (%)	Measured 1-g (W/Kg)	Pwr. Drift	Scaled (W/Kg)
					Tune-up	Meas.				
Body	802.11 n 40M	Front Surface-Parallel back clip	0	134/5670	22.0	21.56	99.63	0.130	0.04	0.144
Body	802.11 n 40M	Front Surface-back clip is tilted	0	134/5670	22.0	21.56	99.63	0.215	0.06	0.239

Note:

- 1) The SAR testing was set to transmit at maximum power for all tests.
- 2) 802.11n40M is the maximum power mode, so there is no need to test other modes.
- 3) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

12.3.SAR Test Results of 5GHz Wi-Fi U-NII-3

MIMO										
RF Exposure Condition	Test Mode	Test Position	Dist. (mm)	Channel	Pwr. (dBm)		DC. (%)	Measured 10-g (W/Kg)	Pwr. Drift	Scaled (W/Kg)
					Tune-up	Meas.				
Extremity	802.11 a	Front Surface	0	149/5745	23.5	23.28	99.02	0.448	-0.06	0.476
Extremity	802.11 a	Front Surface	4	149/5745	26.0	25.83	99.02	0.353	0.14	0.371
Extremity	802.11 a	Back Surface-Left	0	149/5745	23.5	23.28	99.02	1.900	0.02	2.019
Extremity	802.11 a	Back Surface-Left	15	149/5745	23.5	23.28	99.02	0.598	-0.04	0.635
Extremity	802.11 a	Back Surface-Right	0	149/5745	23.5	23.28	99.02	3.290	-0.02	3.496
Extremity	802.11 a	Back Surface-Left	0	157/5785	23.0	22.85	99.02	1.910	-0.01	1.997
Extremity	802.11 a	Back Surface-Left	0	165/5825	22.5	22.18	99.02	1.950	0.01	2.120
Extremity	802.11 a	Back Surface-Right	0	157/5785	23.0	22.85	99.02	3.460	0.10	3.617
Extremity	802.11 a	Back Surface-Right	0	165/5825	22.5	22.38	99.02	3.540	0.02	3.675
Extremity	802.11 a	Back Surface-Right	15	165/5825	25.0	24.73	99.02	0.762	-0.07	0.819
Extremity	802.11 a	Left Edge	0	149/5745	23.5	23.28	99.02	1.230	-0.09	1.307
Extremity	802.11 a	Left Edge	15	149/5745	26.0	25.83	99.02	0.480	0.00	0.504
Extremity	802.11 a	Right Edge	0	149/5745	23.5	23.28	99.02	2.150	0.02	2.285
Extremity	802.11 a	Right Edge	0	157/5785	23.0	22.85	99.02	2.230	-0.02	2.331
Extremity	802.11 a	Right Edge	0	165/5825	22.5	22.18	99.02	2.310	0.01	2.511
Extremity	802.11 a	Right Edge	15	165/5825	26.0	25.83	99.02	0.712	0.04	0.748
Extremity	802.11 a	Top Edge	0	149/5745	26.0	25.83	99.02	0.159	0.08	0.167

MIMO										
RF Exposure Condition	Test Mode	Test Position	Dist. (mm)	Channel	Pwr. (dBm)		DC. (%)	Measured 1-g (W/Kg)	Pwr. Drift	Scaled (W/Kg)
					Tune-up	Meas.				
Body	802.11 a	Front Surface-Parallel back clip	0	157/5785	26.0	25.83	99.02	0.264	-0.04	0.277
Body	802.11 a	Front Surface-back clip is tilted	0	157/5785	26.0	25.83	99.02	0.454	0.19	0.477

Note:

- 1) The SAR testing was set to transmit at maximum power for all tests.
- 2) 802.11a is the maximum power mode, so there is no need to test other modes.
- 3) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).
- 4) It is in the Sensor ON state during the back and Right 0mm distance tests.
- 5) According to KDB 616217 D04: Conduct full-power verification tests at a Sensor trigger distance of -1mm.

12.4.SAR Test Results of BT

SISO										
RF Exposure Condition	Test Mode	Test Position	Dist. (mm)	Channel	Pwr. (dBm)		DC. (%)	Measured 10-g (W/Kg)	Pwr. Drift	Scaled (W/Kg)
					Tune-up	Meas.				
Extremity	DH5	Front Surface	0	39/2441	9.0	8.78	76.60	0.024	0.00	0.033
Extremity	DH5	Back Surface	0	39/2441	9.0	8.78	76.60	0.037	-0.11	0.051
Extremity	DH5	Back Surface	0	0/2402	9.0	7.58	76.60	0.030	-0.09	0.054
Extremity	DH5	Back Surface	0	78/2480	9.0	7.03	76.60	0.024	-0.02	0.049
Extremity	DH5	Left Edge	0	39/2441	9.0	8.78	76.60	0.007	0.03	0.010
Extremity	DH5	Right Edge	0	39/2441	9.0	8.78	76.60	0.023	0.07	0.032
Extremity	DH5	Top Edge	0	39/2441	9.0	8.78	76.60	0.002	-0.02	0.003
Extremity	DH5	Bottom Edge	0	39/2441	9.0	8.78	76.60	0.001	0.06	0.001

SISO										
RF Exposure Condition	Test Mode	Test Position	Dist. (mm)	Channel	Pwr. (dBm)		DC. (%)	Measured 1-g (W/Kg)	Pwr. Drift	Scaled (W/Kg)
					Tune-up	Meas.				
Extremity	DH5	Front Surface-Parallel back clip	0	0/2402	9.0	7.58	76.60	0.010	0.02	0.018
Extremity	DH5	Front Surface-back clip is tilted	0	0/2402	9.0	7.58	76.60	0.011	-0.02	0.020

Note:

- 1) The SAR testing was set to transmit at maximum power for all tests.
- 2) DH5 is the maximum power mode, so there is no need to test other modes.
- 3) Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

13. Simultaneous Transmission SAR Analysis

Simultaneous transmission possibilities	
No.	Simultaneous TX Combination
1	WLAN 2.4GHz(chain 1) + BT(chain 0)
2	WLAN 5GHz(chain 0) + BT(chain 0)
3	WLAN 5GHz(chain 1) + BT(chain 0)
4	WLAN 5GHz MIMO + BT(chain 0)
5	WLAN 6GHz(chain 0) + BT(chain 0)
6	WLAN 6GHz(chain 1) + BT(chain 0)
7	WLAN 6GHz MIMO + BT(chain 0)

13.1. Simultaneously transmit SAR calculations

2.4G Wi-Fi MIMO+BT					
RF Exposure Condition	Test Position	2.4GWi-Fi Max	BT Max	Σ SAR 10-g (W/kg)	Limit (W/kg)
Extremity	Front Surface	0.704	0.033	0.737	4.0 (W/kg)
Extremity	Back Surface	2.049	0.054	2.103	
Extremity	Left Edge	1.465	0.010	1.475	
Extremity	Right Edge	1.278	0.032	1.310	
Extremity	Top Edge	0.130	0.003	0.133	

Note:

- 1) Since the Wi-Fi test is in MIMO mode, the values in MIMO mode are used for simultaneous transmission calculation.

2.4G Wi-Fi MIMO+BT					
RF Exposure Condition	Test Position	2.4GWi-Fi Max	BT Max	Σ SAR 1-g (W/kg)	Limit (W/kg)
Body	Front Surface	0.464	0.020	0.484	1.6 (W/kg)

Note:

- 1) Since the Wi-Fi test is in MIMO mode, the values in MIMO mode are used for simultaneous transmission calculation.

5G Wi-Fi MIMO+BT					
RF Exposure Condition	Test Position	5GWi-Fi Max	BT Max	Σ SAR 10-g (W/kg)	Limit (W/kg)
Extremity	Front Surface	0.476	0.033	0.509	4.0 (W/kg)
Extremity	Back Surface	3.675	0.054	3.729	
Extremity	Left Edge	1.307	0.010	1.317	
Extremity	Right Edge	2.511	0.032	2.543	
Extremity	Top Edge	0.167	0.003	0.170	

Note:

- 1) Since the Wi-Fi test is in MIMO mode, the values in MIMO mode are used for simultaneous transmission calculation.

5G Wi-Fi MIMO+BT					
RF Exposure Condition	Test Position	5GWi-Fi Max	BT Max	Σ SAR 1-g (W/kg)	Limit (W/kg)
Body	Front Surface	0.477	0.020	0.497	1.6 (W/kg)

Note:

- 1) Since the Wi-Fi test is in MIMO mode, the values in MIMO mode are used for simultaneous transmission calculation.

6G Wi-Fi MIMO+BT					
RF Exposure Condition	Test Position	6GWi-Fi Max	BT Max	Σ SAR 10-g (W/kg)	Limit (W/kg)
Extremity	Front Surface	0.013	0.033	0.046	4.0 (W/kg)
Extremity	Back Surface	0.156	0.054	0.210	
Extremity	Left Edge	0.047	0.010	0.057	
Extremity	Right Edge	0.082	0.032	0.114	
Extremity	Top Edge	0.018	0.003	0.021	

Note:

- 1) Since the Wi-Fi test is in MIMO mode, the values in MIMO mode are used for simultaneous transmission calculation.
- 2) 6G Wi-Fi data from 4791876642-1-SAR-3_FCC SAR Report (Above 6GHz).

6G Wi-Fi MIMO+BT					
RF Exposure Condition	Test Position	6GWi-Fi Max	BT Max	Σ SAR 1-g (W/kg)	Limit (W/kg)
Body	Front Surface	0.020	0.020	0.040	1.6 (W/kg)

Note:

- 1) Since the Wi-Fi test is in MIMO mode, the values in MIMO mode are used for simultaneous transmission calculation.
- 2) 6G Wi-Fi data from 4791876642-1-SAR-3_FCC SAR Report (Above 6GHz).

Appendixes

Refer to separated files for the following appendixes.

4791876642-1-SAR-1_App A Photo

4791876642-1-SAR-1_App B System Check Plots

4791876642-1-SAR-1_App C Highest Test Plots

4791876642-1-SAR-1_App D Cal. Certificates

-----End of Report-----