

SAR EVALUATION REPORT

**FCC 47 CFR § 2.1093
IEC/IEEE Std 62209-1528: 2020
IEC/IEEE 63195-1:2022**

For

MOBILE COMPUTER WITH BARCODE READER

MODEL NUMBER: JTSHICN

REPORT NUMBER: 4791876642-1-SAR-3

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Prepared for

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Revision History

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

Note:

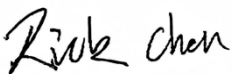
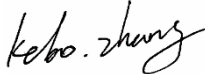
- 1) This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
- 2) The measurement result for the sample received is <Pass> according to < IEEE Std. 1528>when <Simple Acceptance> decision rule is applied.

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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 IEC/IEEE Std 62209-1528: 2020 IEC/IEEE 63195-1:2022 Published RF exposure KDB procedures						
Exposure Category	SAR Limits (W/Kg)		Power Density Limits (W/m² over 4cm²)				
	Peak spatial-average (1g of tissue)	Extremities (hands, wrists, ankles, etc.) (10g of tissue)	APD (Absorbed Power Density)	IPD (Incident Power Density)			
General population / Uncontrolled exposure	1.6	4	20.0	10.0			
The Highest Reported SAR (W/kg)							
RF Exposure Conditions	Equipment Class						
	NII						
	The Highest Reported SAR (W/kg)	APD (W/m ²)	IPD (W/m ²)				
Body 1-g (0 mm)	0.020	2.864	7.109				
Extremity 10-g (0 mm)	0.156						
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 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 Nov 2017; RF Exposure Procedures (WiGig / 60 GHz RF Exposure Evaluation)

TCB Workshop Apr 2024; RF Exposure Guidance Updates (SAR / PD variations vs. frequency)

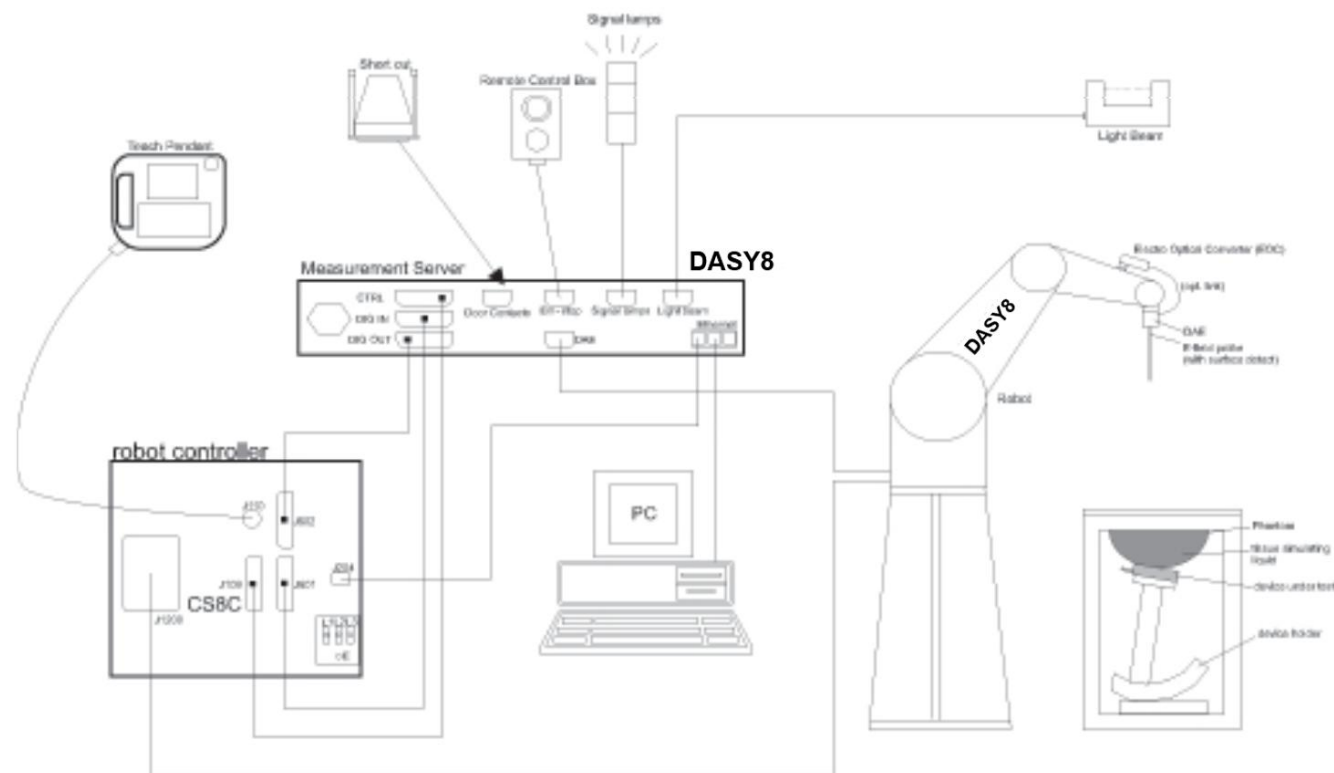
3. Facilities and Accreditation

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 IEC/IEEE 62209-1528:2020. 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 IEC/IEEE 62209-1528:2020:

Table 3 – Area scan parameters

Parameter	DUT transmit frequency being tested	
	$f \leq 3 \text{ GHz}$	$3 \text{ GHz} < f \leq 10 \text{ GHz}$
Maximum distance between the measured points (geometric centre of the sensors) and the inner phantom surface (z_{M1} in Figure 20 in mm)	5 ± 1	$\delta \ln(2)/2 \pm 0,5^a$
Maximum spacing between adjacent measured points in mm (see O.8.3.1) ^b	20, or half of the corresponding zoom scan length, whichever is smaller	$60/f$, or half of the corresponding zoom scan length, whichever is smaller
Maximum angle between the probe axis and the phantom surface normal (α in Figure 20) ^c	5° (flat phantom only) 30° (other phantoms)	5° (flat phantom only) 20° (other phantoms)
Tolerance in the probe angle	1°	1°
^a δ is the penetration depth for a plane-wave incident normally on a planar half-space. ^b See Clause O.8 on how Δx and Δy may be selected for individual area scan requirements. ^c The probe angle relative to the phantom surface normal is restricted due to the degradation in the measurement accuracy in fields with steep spatial gradients. The measurement accuracy decreases with increasing probe angle and increasing frequency. This is the reason for the tighter probe angle restriction at frequencies above 3 GHz.		

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 IEC/IEEE 62209-1528:2020:

Parameter	DUT transmit frequency being tested	
	$f \leq 3 \text{ GHz}$	$3 \text{ GHz} < f \leq 10 \text{ GHz}$
Maximum distance between the closest measured points and the phantom surface (z_{M1} in Figure 20 and Table 3, in mm)	5	$\delta \ln(2)/2^a$
Maximum angle between the probe axis and the phantom surface normal (α in Figure 20)	5° (flat phantom only) 30° (other phantoms)	5° (flat phantom only) 20° (other phantoms)
Maximum spacing between measured points in the x- and y-directions (Δx and Δy , in mm)	8	$24/f^b$
For uniform grids: Maximum spacing between measured points in the direction normal to the phantom shell (Δz_1 in Figure 20, in mm)	5	$10/(f - 1)$
For graded grids: Maximum spacing between the two closest measured points in the direction normal to the phantom shell (Δz_1 in Figure 20, in mm)	4	$12/f$
For graded grids: Maximum incremental increase in the spacing between measured points in the direction normal to the phantom shell ($R_z = \Delta z_2/\Delta z_1$ in Figure 20)	1,5	1,5
Minimum edge length of the zoom scan volume in the x- and y-directions (L_z in O.8.3.2, in mm)	30	22
Minimum edge length of the zoom scan volume in the direction normal to the phantom shell (L_n in O.8.3.2 in mm)	30	22
Tolerance in the probe angle	1°	1°
^a δ is the penetration depth for a plane-wave incident normally on a planar half-space.		
^b This is the maximum spacing allowed, which might not work for all circumstances.		

Step 4: Power drift measurement

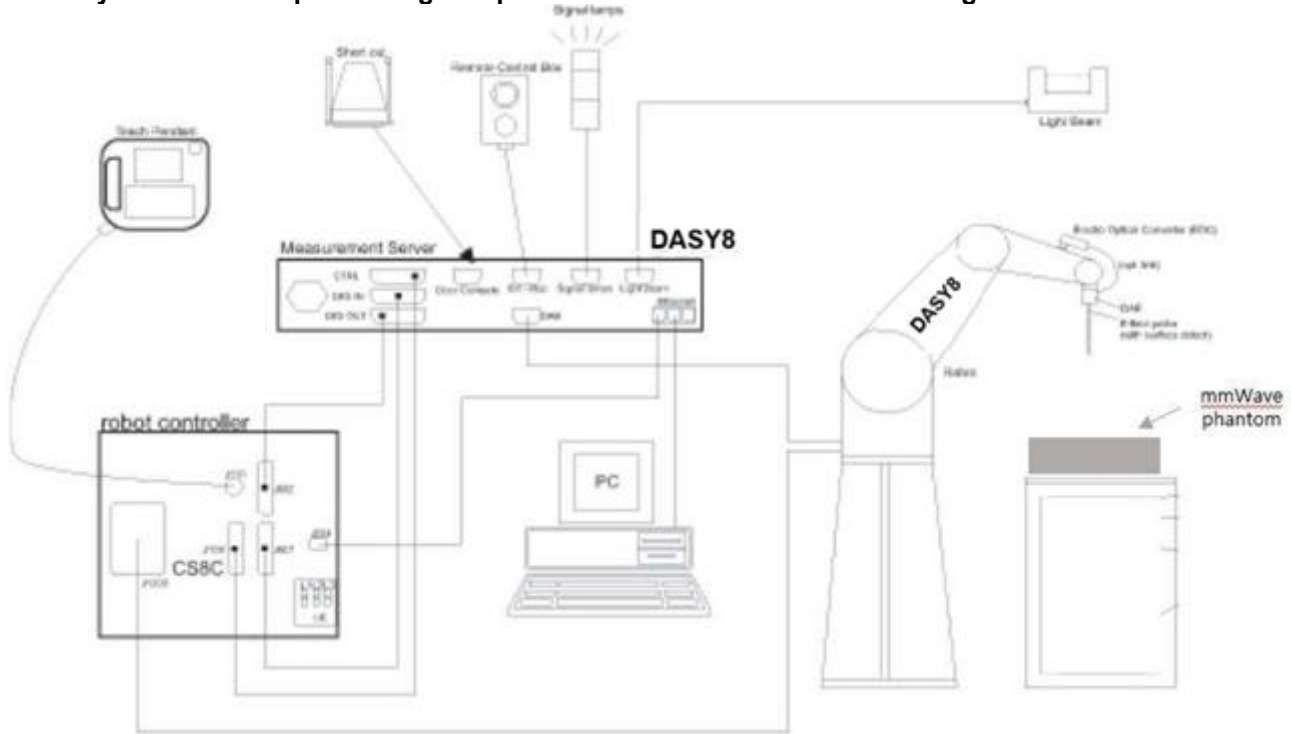
The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in Db from the reading conducted within the last Power Reference Measurement. 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. Incident Power Density 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.

4.4. Power Density 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 device under test.

Step 2: 5G Scan

The steps in the X, Y, and Z directions are specified in terms of fractions of the signal wavelength, λ . Area Scan Parameters extracted from SPEAG, 5G Module V1.2 Application Note.

Recommended settings for measurement of verification sources

Frequency [GHz]	Grid step	Grid extent X/Y [mm]	Measurement points
10	$0.125 (\frac{\lambda}{8})$	60/60	18 × 18
30	$0.25 (\frac{\lambda}{4})$	60/60	26 × 26
45	$0.25 (\frac{\lambda}{4})$	42/42	28 × 28
60	$0.25 (\frac{\lambda}{4})$	32.5/32.5	28 × 28
90	$0.25 (\frac{\lambda}{4})$	30/30	38 × 38

The minimum distance of probe sensors to verification source surface, horn antenna, is 10 mm.

Per equipment manufacturer guidance for 6 - 10GHz, Power density was measured at d=2mm and d=M5mm using same grid size and grid step size for some frequencies and surfaces. The integrated power Density (iPD) was calculated based on these measurements. Since iPD ratio between the two distances is < 1dB, the grid step was sufficient for determining compliance at d=2mm.

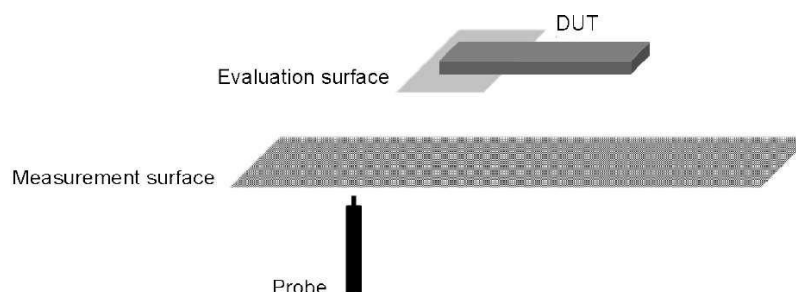
Step 3: Power drift measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1. When the drift is larger than $\pm 5\%$, test is repeated from step1.

4.5. Total Field and Power Flux Density Reconstruction(measurement distance)

Reconstruction algorithms are used to project or transform the measured fields from the measurement surface to the evaluation surface (below fig) in order to determine power density or to compute spatial-average and/or local power density with known uncertainty.

Manufacture has developed a reconstruction approach based on the Gerchberg-Saxton algorithm, which benefits from the availability of the E-field polarization ellipse information obtained with the EUMMWVx probe. This reconstruction algorithm, together with the ability of the probe to measure extremely close to the source without perturbing the field, permits reconstruction of the E- and H-fields, as well as of the power density, on measurement planes.



4.6. 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	E5071B	MY42302220	2026.03.10
Dielectric parameter probes	SPEAG	DAK 3.5	1341	2026.07.13
Signal Generator	Rohde & Schwarz	SMR20	100648	2026.03.10
Directional Coupler	Talent Microwave	TC-0518010S	220420003	NCR
Power Sensor	Rohde & Schwarz	NPR-Z21	101651	2026.03.10
Power Sensor	Rohde & Schwarz	NPR-Z21	104189	2026.03.10
Preamplifier	QiJi	YX28982301	TOWE-EQSR-021	NCR
Dosimetric E-Field Probe	SPEAG	EX3DV4	7733	2026.09.07
5G Probe	SPEAG	EUmmWV4	9638	2026.8.20
Data Acquisition Electronic	SPEAG	DAE4	1739	2026.09.07
Verification kit	SPEAG	5G verification source 10GHz	1075	2026.08.12
Dipole Kit 6.5 GHz	SPEAG	D6.5GHzV2	1080	2026.09.03
Software	SPEAG	DASY8	N/A	NCR
Phantom	SPEAG	SAM V8.0	2178	NCR
Phantom	SPEAG	mmWave	1121	NCR
Thermometer	HiSiDiKe	TP300	TOWE-EQSR-023	2026.03.11
Thermometer	BingYu	HTC-1	TOWE-EQSR-025	2026.06.03

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

5.1. Uncertainty budget list (4MHz to 10GHz)

Input quantity X_i (source of uncertainty)	Unc. ($\pm$)	Prob. Dist. PDF_i	Unc. $a(x_i)$	C_i (1g)	C_i (10g)	U_i (1g) (%)	U_i (10g) (%)
Measurement system errors							
Probe calibration	18.6	N ($k = 2$)	2	1	1	9.3	9.3
Probe calibration drift	1.7	R	$\sqrt{3}$	1	1	1.0	1.0
Probe linearity and detection limit	0.9	R	$\sqrt{3}$	1	1	0.5	0.5
Broadband signal	0.5	R	$\sqrt{3}$	1	1	0.3	0.3
Probe isotropy	3.2	R	$\sqrt{3}$	1	1	1.8	1.8
Other probe and data acquisition errors	0.6	N	1	1	1	0.6	0.6
RF ambient and noise	3.0	R	$\sqrt{3}$	1	1	1.7	1.7
Probe positioning errors	0.5	N	1	0.33	0.33	0.2	0.2
Data processing errors	4.0	R	$\sqrt{3}$	1	1	2.3	2.3
Phantom and device (DUT or validation antenna) errors							
Measurement of phantom conductivity(σ)	2.5	N	1	0.78	0.71	2.0	1.8
Temperature effects (medium)	2.7	R	$\sqrt{3}$	0.78	0.71	1.2	1.1
Shell permittivity	14.0	R	$\sqrt{3}$	0.5	0.5	4.0	4.0
Distance between the radiating element of the DUT and the phantom medium	2.0	N	1	2	2	4.0	4.0
Repeatability of positioning the DUT or source against the phantom	2.9	N	1	1	1	2.9	2.9
Device holder effects	3.6	N	1	1	1	3.6	3.6
Effect of operating mode on probe sensitivity	2.4	R	$\sqrt{3}$	1	1	1.4	1.4
Time-average SAR	0.0	R	$\sqrt{3}$	1	1	0.0	0.0
Variation in SAR due to drift in output of DUT	2.5	N	1	1	1	2.5	2.5
Validation antenna uncertainty (validation measurement only)	0.0	N	1	1	1	0.0	0.0
Uncertainty in accepted power (validation measurement only)	0.0	N	1	1	1	0.0	0.0
Corrections to the SAR result (if applied)							
Phantom deviation from target (ϵ', σ)	1.9	N	1	1	0.84	1.9	1.6
SAR scaling	0.0	R	$\sqrt{3}$	1	1	0.0	0.0
Combined uncertainty	\					14.30	14.20
Expanded uncertainty and effective degrees of freedom ($k = 2$)	\					28.59	28.39

5.2.Incident Power Density Measurement Uncertainty

Applicable for Power Density Measurements						
a	b	c	d	e	f=b*e/d	g
Error Description	Uncertainty Value (±dB)	Probability	Div.	Ci	Standard Uncertainty (±dB)	Vi (Veff)
Uncertainty terms dependent on the measurement system						
Probe Calibration	0.49	N	1	1	0.49	∞
Probe correction	0.00	R	1.732	1	0.00	∞
Frequency response (BW ≤1 GHz)	0.20	R	1.732	1	0.12	∞
Sensor cross coupling	0.00	R	1.732	1	0.00	∞
Isotropy	0.50	R	1.732	1	0.29	∞
Linearity	0.20	R	1.732	1	0.12	∞
Probe scattering	0.00	R	1.732	1	0.00	∞
Probe positioning offset	0.30	R	1.732	1	0.17	∞
Probe positioning repeatability	0.04	R	1.732	1	0.02	∞
Sensor mechanical offset	0.00	R	1.732	1	0.00	∞
Probe spatial resolution	0.00	R	1.732	1	0.00	∞
Field impedance dependance	0.00	R	1.732	1	0.00	∞
Amplitude and phase drift	0.00	R	1.732	1	0.00	∞
Amplitude and phase noise	0.04	R	1.732	1	0.02	∞
Measurement area truncation	0.00	R	1.732	1	0.00	∞
Data acquisition	0.03	N	1	1	0.03	∞
Sampling	0.00	R	1.732	1	0.00	∞
Field reconstruction	2.00	R	1.732	1	1.15	∞
Forward transformation	0.00	R	1.732	1	0.00	∞
Power density scaling	0.00	R	1.732	1	0.00	∞
Spatial averaging	0.10	R	1.732	1	0.06	∞
System detection limit	0.04	R	1.732	1	0.02	∞
Uncertainty terms dependent on the DUT and environmental factors						
Probe coupling with DUT	0.00	R	1.732	1	0.00	∞
Modulation response	0.40	R	1.732	1	0.23	∞
Integration time	0.00	R	1.732	1	0.00	∞
Response time	0.00	R	1.732	1	0.00	∞
Device holder influence	0.10	R	1.732	1	0.06	∞
DUT alignment	0.00	R	1.732	1	0.00	∞
RF ambient conditions	0.04	R	1.732	1	0.02	∞
Ambient reflections	0.04	R	1.732	1	0.02	∞
Immunity / secondary reception	0.00	R	1.732	1	0.00	∞
Drift of the DUT		R	1.732	1	0.00	∞
Combined Std. Uncertainty					1.33	
Expanded STD Uncertainty (95%) · K=2					2.67	

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
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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 6GHz Wi-Fi & Indoor Client

Mode	Freq(MHz)	RU size	RU Index	Av.Power (dBm)			Tune-up (dBm)		
				ANT0	ANT1	Total	ANT0	ANT1	Total
802.11a	5955	SU	/	4.40	4.34	7.38	5.00	5.00	8.00
	6175	SU	/	3.85	4.40	7.14	4.00	5.00	7.50
	6415	SU	/	4.22	3.79	7.02	5.00	4.00	7.50
	6435	SU	/	5.02	4.73	7.89	6.00	5.00	8.50
	6475	SU	/	5.08	4.84	7.97	6.00	5.00	8.50
	6515	SU	/	5.07	4.82	7.96	6.00	5.00	8.50
	6535	SU	/	5.15	4.61	7.90	6.00	5.00	8.50
	6715	SU	/	5.33	4.60	7.99	6.00	5.00	8.50
	6855	SU	/	5.39	4.37	7.92	6.00	5.00	8.50
	6875	SU	/	5.19	4.63	7.93	6.00	5.00	8.50
	7015	SU	/	4.85	4.83	7.85	5.00	5.00	8.00
	7115	SU	/	5.29	4.46	7.91	6.00	5.00	8.50
802.11AX 20M	5955	26	0	-3.16	-2.43	0.23	-3.00	-2.00	0.50
		52	37	-0.53	0.48	3.01	0.00	1.00	3.50
		106	53	2.09	3.39	5.80	3.00	4.00	6.50
		SU	/	6.86	6.12	9.52	7.00	7.00	10.00
	6175	26	4	-2.87	-0.70	1.36	-2.00	0.00	2.00
		52	38	-1.18	0.80	2.93	-1.00	1.00	3.00
		106	53	2.38	2.48	5.44	3.00	3.00	6.00
		SU	/	6.27	6.84	9.57	7.00	7.00	10.00
	6415	26	8	-3.26	-3.07	-0.15	-3.00	-3.00	0.00
		52	40	-0.90	-0.75	2.19	0.00	0.00	3.00
		106	54	2.46	1.95	5.22	3.00	2.00	5.50
		SU	/	6.67	6.56	9.63	7.00	7.00	10.00
	6435	26	0	-2.68	-2.51	0.42	-2.00	-2.00	1.00
		52	37	-0.42	-0.09	2.76	0.00	0.00	3.00
		106	53	2.96	2.60	5.79	3.00	3.00	6.00
		SU	/	7.00	6.30	9.67	8.00	7.00	10.50
	6475	26	4	-1.81	-1.75	1.23	-1.00	-1.00	2.00
		52	38	-0.38	-0.22	2.71	0.00	0.00	3.00
		106	53	1.63	2.00	4.83	2.00	3.00	5.50
		SU	/	5.17	4.91	8.05	6.00	5.00	8.50
	6515	26	8	-2.50	-2.34	0.59	-2.00	-2.00	1.00
		52	40	-0.37	-0.05	2.80	0.00	0.00	3.00
		106	54	2.02	2.41	5.23	3.00	3.00	6.00
		SU	/	5.28	5.19	8.25	6.00	6.00	9.00
	6535	26	0	-2.69	-2.39	0.47	-2.00	-2.00	1.00
		52	37	-0.24	0.00	2.89	0.00	1.00	3.50
		106	53	2.39	2.62	5.52	3.00	3.00	6.00

		SU	/	5.30	5.00	8.16	6.00	6.00	9.00
	6715	26	4	-2.04	-1.44	1.28	-2.00	-1.00	1.50
		52	38	-0.37	0.26	2.97	0.00	1.00	3.50
		106	53	2.22	3.04	5.66	3.00	4.00	6.50
		SU	/	4.19	5.08	7.67	5.00	6.00	8.50
	6855	26	8	-2.54	-2.55	0.47	-2.00	-2.00	1.00
		52	40	-0.21	0.08	2.95	0.00	1.00	3.50
		106	54	2.36	2.68	5.53	3.00	3.00	6.00
		SU	/	5.02	4.78	7.91	6.00	5.00	8.50
	6875	26	0	-2.66	-2.32	0.52	-2.00	-2.00	1.00
		52	37	-0.03	0.18	3.09	0.00	1.00	3.50
		106	53	2.39	2.85	5.64	3.00	3.00	6.00
		SU	/	5.31	4.80	8.07	6.00	5.00	8.50
	7015	26	4	-1.74	-1.77	1.26	-1.00	-1.00	2.00
		52	38	-0.14	0.05	2.97	0.00	1.00	3.50
		106	53	2.06	2.48	5.29	3.00	3.00	6.00
		SU	/	4.91	5.07	8.00	5.00	6.00	8.50
	7095	26	4	-3.28	-2.20	0.30	-3.00	-2.00	1.00
		52	38	-0.51	0.53	3.05	0.00	1.00	4.00
		106	53	2.23	3.17	5.74	3.00	4.00	6.00
		SU	/	4.69	5.12	7.92	5.00	6.00	8.00
	7115	26	8	-15.63	-14.46	-12.00	-15.00	-14.00	-11.00
		52	40	-13.87	-12.62	-10.19	-13.00	-12.00	-10.00
		106	54	-11.71	-10.61	-8.11	-11.00	-10.00	-8.00
		SU	/	-4.52	-3.37	-0.90	-4.00	-3.00	0.00
802.11AX 40M	5965	SU	/	7.35	7.08	10.23	8.00	8.00	11.00
	6165	SU	/	7.09	7.74	10.44	8.00	8.00	11.00
	6405	SU	/	7.30	7.51	10.42	8.00	8.00	11.00
	6445	SU	/	7.34	7.20	10.28	8.00	8.00	11.00
	6485	SU	/	7.59	7.40	10.51	8.00	8.00	11.00
	6525	SU	/	7.84	7.43	10.65	8.00	8.00	11.00
	6565	SU	/	7.58	7.12	10.37	8.00	8.00	11.00
	6725	SU	/	7.56	7.58	10.58	8.00	8.00	11.00
	6845	SU	/	8.21	7.89	11.06	9.00	8.00	11.50
	6885	SU	/	7.77	7.38	10.59	8.00	8.00	11.00
	7005	SU	/	7.71	7.92	10.83	8.00	8.00	11.00
	7085	SU	/	7.76	7.73	10.76	8.00	8.00	11.00
802.11AX 80M	5985	SU	/	10.22	9.63	12.95	11.00	10.00	13.50
	6145	SU	/	10.33	9.71	13.04	11.00	10.00	13.50
	6385	SU	/	9.66	9.83	12.76	10.00	10.00	13.00
	6465	SU	/	10.14	10.01	13.09	11.00	11.00	14.00
	6545	SU	/	10.10	9.63	12.88	11.00	10.00	13.50
	6705	SU	/	10.19	10.12	13.17	11.00	11.00	14.00
	6785	SU	/	10.57	9.87	13.24	11.00	10.00	13.50
	6865	SU	/	10.03	9.29	12.69	11.00	10.00	13.50
	6945	SU	/	10.52	9.69	13.14	11.00	10.00	13.50

	7025	SU	/	10.22	10.02	13.13	11.00	11.00	14.00
802.11AX 160M	6025	SU	/	13.28	13.14	16.22	14.00	14.00	16.50
	6185	SU	/	12.66	12.57	15.63	13.00	13.00	16.00
	6345	SU	/	12.91	12.52	15.73	13.00	13.00	16.00
	6505	SU	/	13.35	12.78	16.08	14.00	13.00	16.50
	6665	SU	/	13.47	12.78	16.15	14.00	13.00	16.50
	6825	SU	/	13.55	12.89	16.24	14.00	13.00	16.50
	6985	SU	/	13.53	12.83	16.20	14.00	13.00	16.50

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)	RU size	RU Index	Av.Power (dBm)						Tune-up (dBm)		
				ANT0	ANT1	ANT1 mW	ANT2 mW	Total mW	Total	ANT0	ANT1	Total
802.11AX 80M	5985	SU	/	7.63	8.06	5.79	6.40	12.19	10.86	8.00	8.50	11.50
	6145	SU	/	7.75	8.13	5.96	6.50	12.46	10.95	8.00	8.50	11.50
	6385	SU	/	8.12	8.28	6.49	6.73	13.22	11.21	8.50	8.50	11.50
	6465	SU	/	7.58	7.47	5.73	5.58	11.31	10.54	8.00	8.00	11.00
	6545	SU	/	7.51	8.08	5.64	6.43	12.06	10.81	8.00	8.50	11.50
	6705	SU	/	7.64	7.56	5.81	5.70	11.51	10.61	8.00	8.00	11.00
	6785	SU	/	8.00	8.32	6.31	6.79	13.10	11.17	8.50	8.50	11.50
	6865	SU	/	7.51	7.76	5.64	5.97	11.61	10.65	8.00	8.00	11.00
	6945	SU	/	7.93	8.17	6.21	6.56	12.77	11.06	8.00	8.50	11.50
	7025	SU	/	7.68	7.45	5.86	5.56	11.42	10.58	8.00	8.00	11.00
802.11AX 160M	6025	SU	/	8.31	8.18	6.78	6.58	13.35	11.26	9.00	9.00	11.50
	6185	SU	/	7.68	7.65	5.86	5.82	11.68	10.68	8.00	8.00	11.00
	6345	SU	/	7.94	7.58	6.22	5.73	11.95	10.77	8.00	8.00	11.00
	6505	SU	/	7.84	7.64	6.08	5.81	11.89	10.75	9.00	8.00	11.50
	6665	SU	/	8.53	7.83	7.13	6.07	13.20	11.20	9.00	8.00	11.50
	6825	SU	/	8.64	7.96	7.31	6.25	13.56	11.32	9.00	8.00	11.50
	6985	SU	/	8.58	7.99	7.21	6.30	13.51	11.31	9.00	8.00	11.50

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.

7.2. Test Results of 6GHz Wi-Fi & Standard Power Client

Mode	Freq(MHz)	RU size	RU Index	Av.Power (dBm)			Tune-up (dBm)		
				ANT0	ANT1	Total	ANT0	ANT1	Total
802.11a	5955	SU	/	12.92	12.70	15.82	13.00	13.00	16.00
	6175	SU	/	12.46	12.89	15.69	13.00	13.00	16.00
	6415	SU	/	12.77	12.7	15.75	13.00	13.00	16.00
	6535	SU	/	12.83	12.34	15.60	13.00	13.00	16.00
	6715	SU	/	12.85	12.22	15.56	13.00	13.00	16.00
	6855	SU	/	12.85	11.98	15.45	13.00	13.00	16.00
802.11AX 20M	5955	26	0	13.42	13.10	16.27	14.00	14.00	16.50
		52	37	13.29	12.85	16.09	14.00	13.00	16.50
		106	53	13.36	12.89	16.14	14.00	13.00	16.50
		SU	/	13.71	13.45	16.59	14.00	14.00	17.00
	6175	26	4	11.85	12.17	15.02	12.00	13.00	15.50
		52	38	11.80	11.97	14.90	12.00	12.00	15.00
		106	53	12.06	12.19	15.14	13.00	13.00	16.00
		SU	/	12.59	13.28	15.96	13.00	14.00	16.50
	6415	26	8	12.81	12.59	15.71	13.00	13.00	16.00
		52	40	12.68	12.37	15.54	13.00	13.00	16.00
		106	54	12.54	12.35	15.46	13.00	13.00	16.00
		SU	/	13.06	12.88	15.98	14.00	13.00	16.50
	6535	26	0	13.57	12.71	16.17	14.00	13.00	16.50
		52	37	13.37	12.55	15.99	14.00	13.00	16.50
		106	53	13.24	12.61	15.95	14.00	13.00	16.50
		SU	/	13.76	13.26	16.53	14.00	14.00	17.00
	6715	26	4	12.96	12.19	15.60	13.00	13.00	16.00
		52	38	13.04	12.49	15.78	14.00	13.00	16.50
		106	53	13.16	12.62	15.91	14.00	13.00	16.50
		SU	/	13.78	12.84	16.35	14.00	13.00	16.50
	6855	26	8	13.20	12.30	15.78	14.00	13.00	16.50
		52	40	13.14	12.29	15.75	14.00	13.00	16.50
		106	54	13.11	12.30	15.73	14.00	13.00	16.50
		SU	/	13.34	12.87	16.12	14.00	13.00	16.50
802.11AX 40M	5965	SU	/	12.98	12.54	15.78	13.00	13.00	16.00
	6165	SU	/	12.10	12.12	15.12	13.00	13.00	16.00
	6405	SU	/	12.64	12.15	15.41	13.00	13.00	16.00
	6565	SU	/	12.80	11.94	15.40	13.00	12.00	15.50
	6725	SU	/	13.72	12.69	16.25	14.00	13.00	16.50
	6845	SU	/	13.19	12.16	15.72	14.00	13.00	16.50
802.11AX 80M	5985	SU	/	13.11	12.63	15.89	14.00	13.00	16.50
	6145	SU	/	12.72	12.79	15.77	13.00	13.00	16.00
	6385	SU	/	12.80	12.66	15.74	13.00	13.00	16.00

802.11AX 160M	6625	SU	/	13.33	12.59	15.99	14.00	13.00	16.50
	6705	SU	/	13.53	12.83	16.20	14.00	13.00	16.50
	6785	SU	/	13.51	12.71	16.14	14.00	13.00	16.50
	6025	SU	/	13.30	13.24	16.28	14.00	14.00	16.50
	6185	SU	/	12.91	12.77	15.85	13.00	13.00	16.00
	6345	SU	/	12.89	12.59	15.75	13.00	13.00	16.00
	6665	SU	/	12.95	12.33	15.66	13.00	13.00	16.00

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.

Sensor ON:

Mode	Freq(MHz)	RU size	RU Index	Av.Power (dBm)						Tune-up (dBm)		
				ANT0	ANT1	ANT1 mW	ANT2 mW	Total mW	Total	ANT0	ANT1	Total
802.11a	5955	SU	/	7.96	7.72	6.25	5.92	12.17	10.85	8.00	8.00	11.00
	6175	SU	/	7.52	7.95	5.65	6.24	11.89	10.75	8.00	8.00	11.00
	6415	SU	/	7.86	7.74	6.11	5.94	12.05	10.81	8.00	8.00	11.00
	6535	SU	/	7.85	7.40	6.10	5.50	11.59	10.64	8.00	8.00	11.00
	6715	SU	/	7.89	7.30	6.15	5.37	11.52	10.62	8.00	8.00	11.00
	6855	SU	/	7.93	7.02	6.21	5.04	11.24	10.51	8.00	8.00	11.00
802.11AX 20M	5955	26	0	8.51	8.14	7.10	6.52	13.61	11.34	9.00	9.00	11.50
		52	37	8.32	7.92	6.79	6.19	12.99	11.13	9.00	8.00	11.50
		106	53	8.44	7.94	6.98	6.22	13.21	11.21	9.00	8.00	11.50
		SU	/	8.77	8.53	7.53	7.13	14.66	11.66	9.00	9.00	12.00
	6175	26	4	6.90	7.24	4.90	5.30	10.19	10.08	7.00	8.00	11.00
		52	38	6.82	7.06	4.81	5.08	9.89	9.95	7.00	7.00	11.00
		106	53	7.12	7.22	5.15	5.27	10.42	10.18	8.00	8.00	11.00
		SU	/	7.64	8.36	5.81	6.85	12.66	11.03	8.00	9.00	11.50
	6415	26	8	7.85	7.62	6.10	5.78	11.88	10.75	8.00	8.00	11.00
		52	40	7.70	7.43	5.89	5.53	11.42	10.58	8.00	8.00	11.00
		106	54	7.57	7.43	5.71	5.53	11.25	10.51	8.00	8.00	11.00
		SU	/	8.54	8.23	7.14	6.65	13.80	11.40	9.00	8.00	12.00
	6535	26	0	8.66	7.78	7.35	6.00	13.34	11.25	9.00	8.00	11.50
		52	37	8.44	7.60	6.98	5.75	12.74	11.05	9.00	8.00	11.50
		106	53	8.32	7.65	6.79	5.82	12.61	11.01	9.00	8.00	11.50
		SU	/	8.84	8.33	7.66	6.81	14.46	11.60	9.00	9.00	12.00
	6715	26	4	8.03	7.23	6.35	5.28	11.64	10.66	8.00	8.00	11.00
		52	38	8.09	7.55	6.44	5.69	12.13	10.84	9.00	8.00	11.00
		106	53	8.22	7.70	6.64	5.89	12.53	10.98	9.00	8.00	11.00
		SU	/	8.85	7.86	7.67	6.11	13.78	11.39	9.00	8.00	11.50
	6855	26	8	8.24	7.37	6.67	5.46	12.13	10.84	9.00	8.00	11.00
		52	40	8.19	7.36	6.59	5.45	12.04	10.81	9.00	8.00	11.00

		106	54	8.14	7.34	6.52	5.42	11.94	10.77	9.00	8.00	11.00
		SU	/	8.41	7.92	6.93	6.19	13.13	11.18	9.00	8.00	11.50
802.11AX 40M	5965	SU	/	8.05	7.57	6.38	5.71	12.10	10.83	8.00	8.00	11.00
	6165	SU	/	7.17	7.19	5.21	5.24	10.45	10.19	8.00	8.00	11.00
	6405	SU	/	7.68	7.21	5.86	5.26	11.12	10.46	8.00	8.00	11.00
	6565	SU	/	7.87	7.02	6.12	5.04	11.16	10.48	8.00	7.00	11.00
	6725	SU	/	8.78	7.72	7.55	5.92	13.47	11.29	9.00	8.00	11.50
	6845	SU	/	8.23	7.25	6.65	5.31	11.96	10.78	9.00	8.00	11.00
802.11AX 80M	5985	SU	/	8.13	7.69	6.50	5.87	12.38	10.93	9.00	8.00	11.00
	6145	SU	/	7.81	7.85	6.04	6.10	12.13	10.84	8.00	8.00	11.00
	6385	SU	/	7.82	7.75	6.05	5.96	12.01	10.80	8.00	8.00	11.00
	6625	SU	/	8.38	7.68	6.89	5.86	12.75	11.05	9.00	8.00	11.50
	6705	SU	/	8.57	7.92	7.19	6.19	13.39	11.27	9.00	8.00	11.50
	6785	SU	/	8.56	7.77	7.18	5.98	13.16	11.19	9.00	8.00	11.50
802.11AX 160M	6025	SU	/	8.33	8.28	6.81	6.73	13.54	11.32	9.00	9.00	11.50
	6185	SU	/	8.00	7.81	6.31	6.04	12.35	10.92	8.00	8.00	11.00
	6345	SU	/	7.91	7.67	6.18	5.85	12.03	10.80	8.00	8.00	11.00
	6665	SU	/	7.98	7.37	6.28	5.46	11.74	10.70	8.00	8.00	11.00

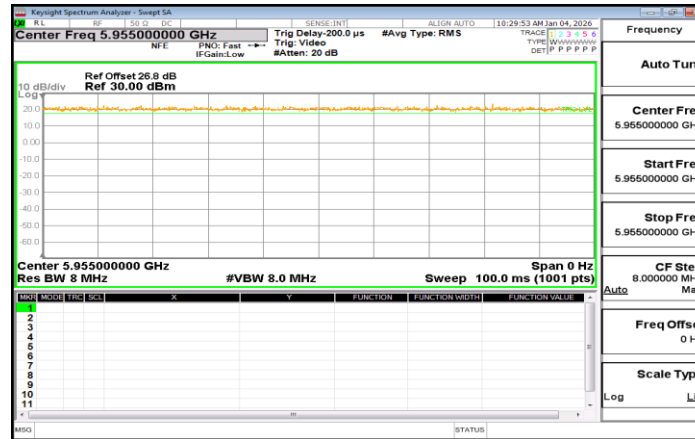
Note:

- 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.

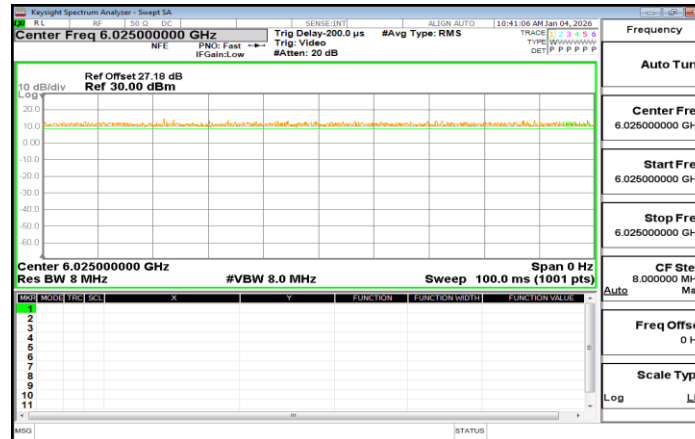
7.3. Duty Cycle

Test Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)
802.11 ax 20M	100.00	100.00	1.0000	100.00
802.11 ax 160M	100.00	100.00	1.0000	100.00

802.11 ax 20M 5955MHz



802.11 ax 160M 6025MHz



8. Test Configuration

8.1.6GHz Wi-Fi SAR Test Requirements

6GHz Wi-Fi operating modes are tested independently according to the service requirements in each frequency band for each antenna. 11a/ax20/ ax40/ ax80/ax160 MIMO modes are tested on the maximum average output power mode.

8.2.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	6GHz W-Fi	
	ANT 0	ANT 1
Sensor on	9	9

9.2.Proximity Sensor Triggering Test

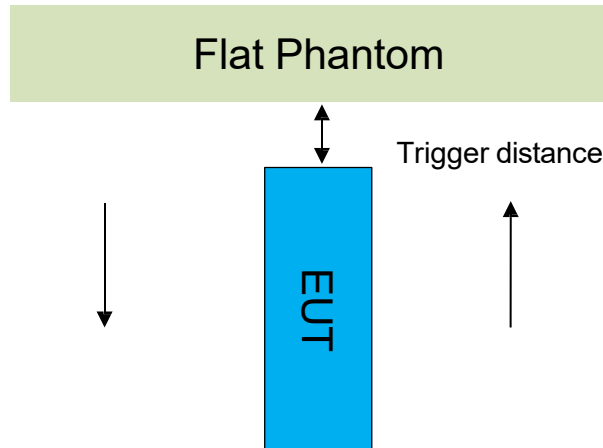
Proximity sensor coverage

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.

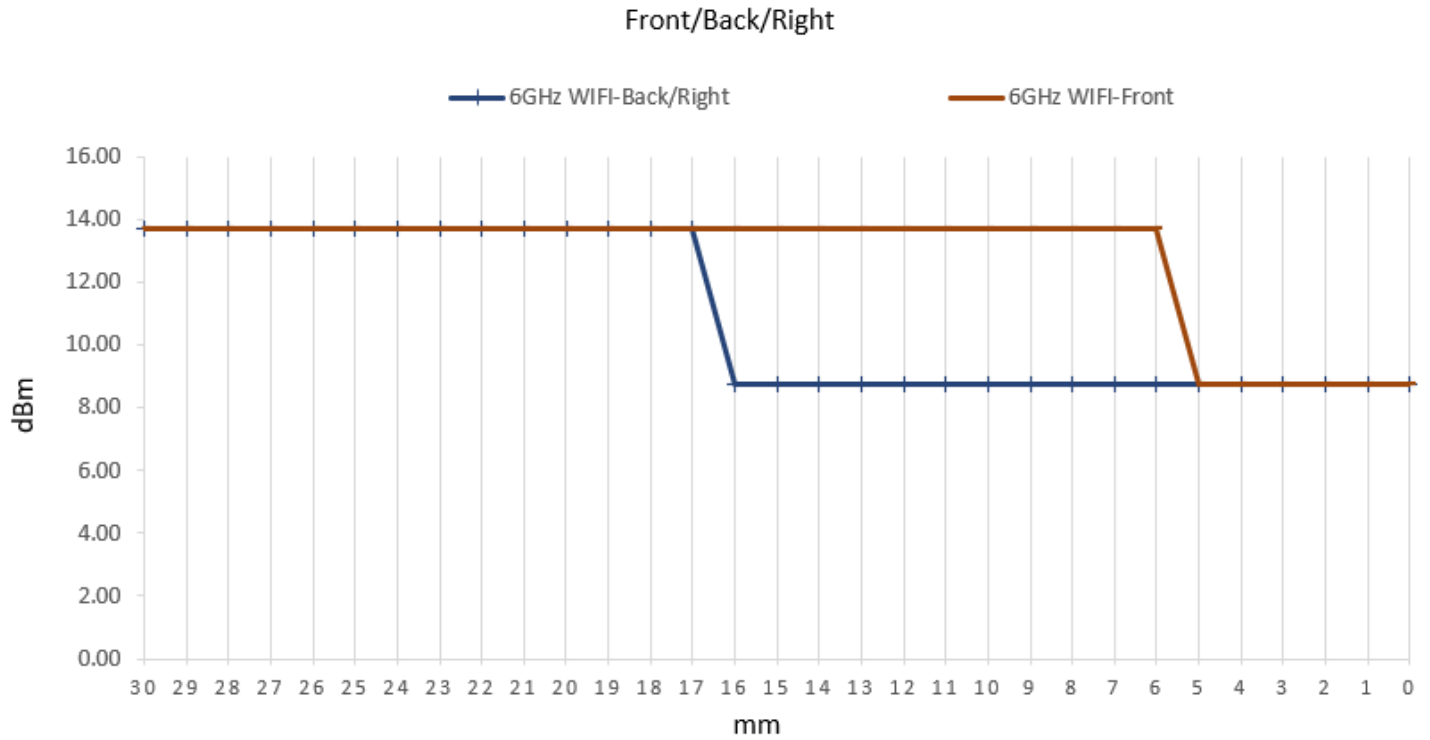


Proximity Sensor Triggering Distance(mm)						
ANT0						
Position	Front Surface	Back Surface	Top Edge	Bottom Edge	Left Edge	Right Edge
Minimum (mm)	5	16	/	/	/	16
Required SAR Test	Yes	Yes	/	/	/	Yes
ANT1						
Minimum (mm)	5	16	/	/	16	/
Required SAR Test	Yes	Yes	/	/	Yes	/

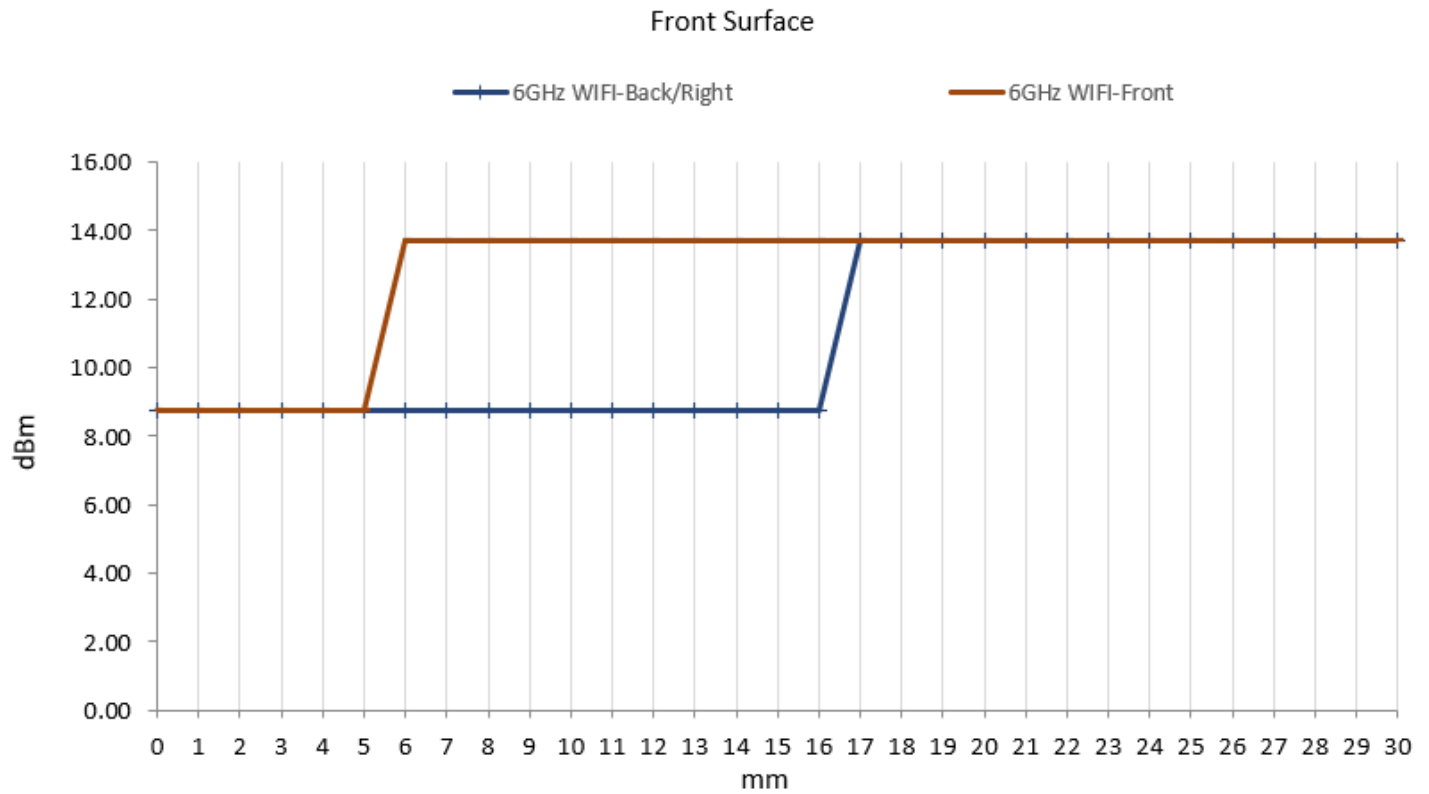
Note:

- 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.

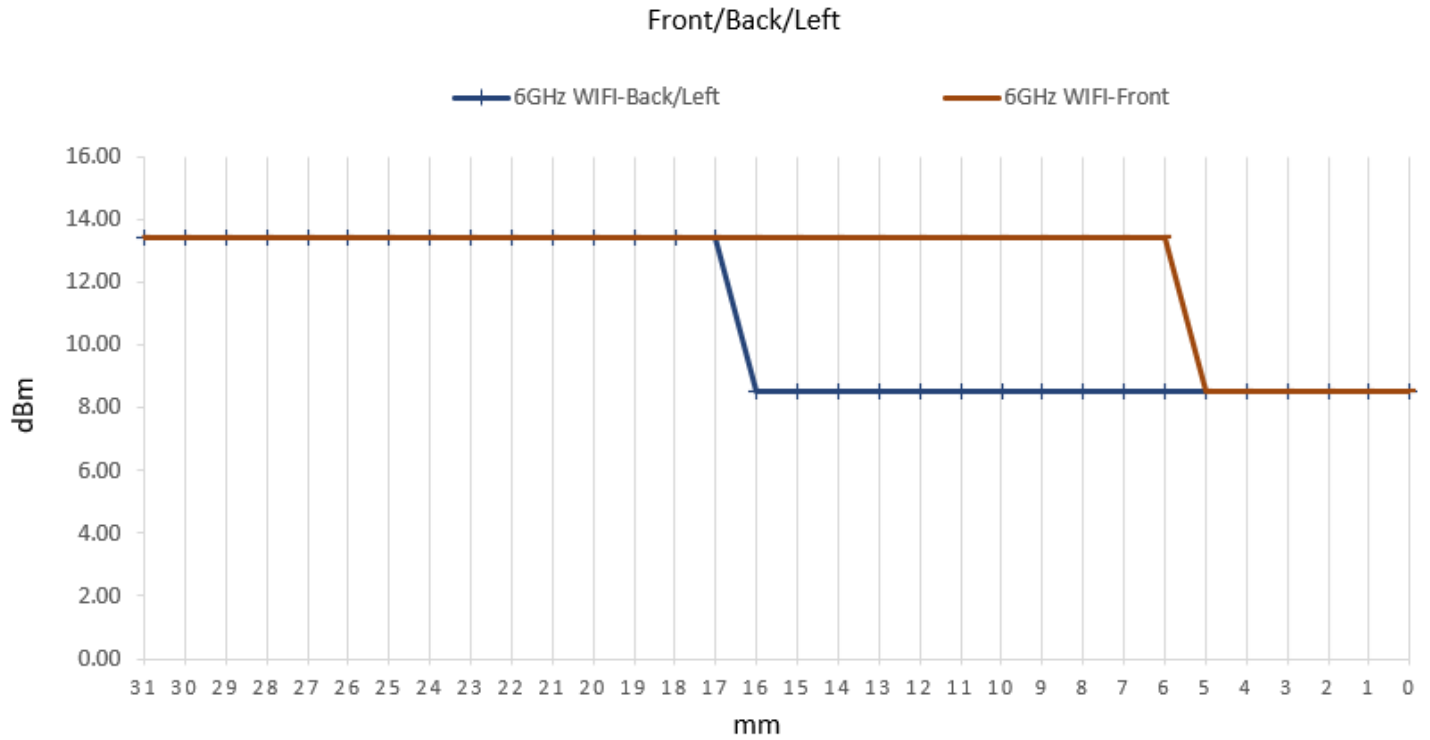
DUT moved toward (Trigger) the Phantom-ANT 0



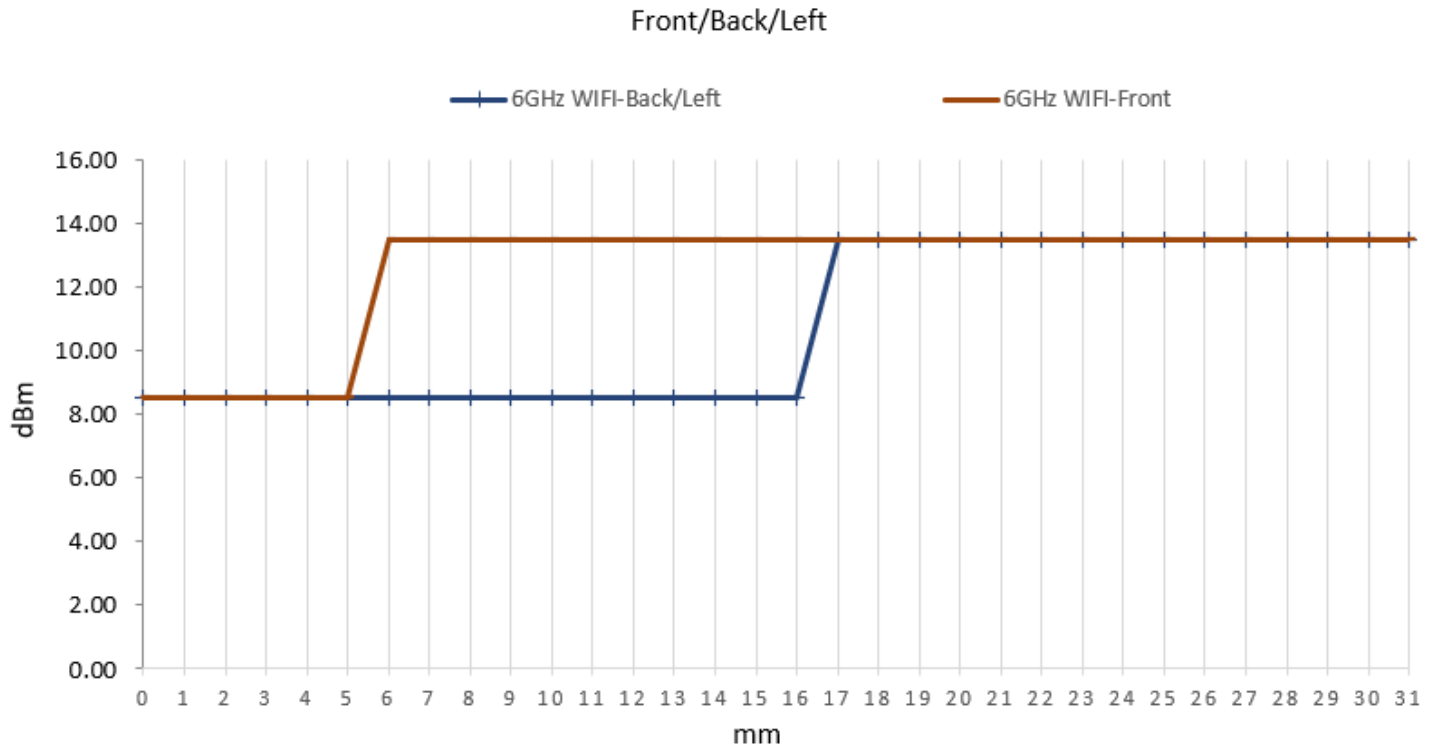
DUT moved away (Release) from the Phantom-ANT 0



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-3_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

Refer to Table 2 within the IEC/IEEE Std 62209-1528: 2020

Target Frequency (MHz)	Tissue parameters	
	ϵ_r	σ (S/m)
5800	35.3	5.27
6000	35.1	5.48
6500	34.5	6.07
7000	33.9	6.65
7500	33.3	7.24
8000	32.7	7.84
8500	32.1	8.46

IEC/IEEE Std 62209-1528: 2020

Refer to Table 3 within the IEC/IEEE Std 62209-1528: 2020 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 6500	5950	34.200	5.530	35.15	5.43	-2.70	1.84	±5	21.0	January 15, 2026
	6500	34.200	6.070	34.50	6.07	-0.87	0.00			
	7000	34.000	6.600	33.90	6.65	0.29	-0.75			

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.

Frequency (MHz)	Tissue Type	Dipole	S/N	Target SAR (1W)		Measured SAR (100mW)		Measured SAR (normalized to 1W)		Deviation (Limit $\pm 10\%$)		Date
				1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	$\Delta 1g$	$\Delta 10g$	
6500	Head	D6.5GHzV2	1096	289	53.4	30.1	5.7	301.00	57.00	4.15%	6.74%	January 15, 2026

12. IPD (Incident Power Density) System with Dielectric Property

12.1. Dielectric Property

Media is air so Relative Permittivity (ϵ_r) and Conductivity (σ) is 1.

12.2. System Check

The system was verified to be within ± 0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check. The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes.

Reference Target PD Values

PD System Results								
Frequency (GHz)	PD Verification Source	Distance (mm)	S/N	Measured psPDtot+4cm ² (W/m ²)	Target psPDtot+4cm ² (W/m ²)	Deviation (Limit ± 0.66 dB)	Date	
10	10GHz_1075	10	9499	59.80	56.70	0.23	2026/1/16	

13. Measured and Reported (Scaled) SAR and APD Results

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 (%)

KDB 447498 D01 General RF Exposure Guidance:

A) Per KDB447498 D01, all SAR measurement results are scaled to the maximum tune-up tolerance limit to demonstrate SAR compliance.

B) Testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

- ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz.
- ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

Per KDB865664 D01 v01r04:

For each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/Kg; if the deviation among the repeated measurement is $\leq 20\%$, and the measured SAR < 1.45 W/Kg, only one repeated measurement is required.

13.1.SAR Test Results of 6GHz Wi-Fi

MIMO													
RF Exposure Condition	Test position	Distance (mm)	Mode	Ch./Freq.(MHz)	SAR (W/kg) 10g	Duty Cycle	Duty Cycle Scaling Factor	Conducted Power(dBm)	Tune up Limit(dBm)	Scaling Factor	Reported 10g SAR (W/kg)	Measured APD (W/m^2)	Reported APD (W/m^2)
Extremity	Front Surface	0	802.11ax 20M	1/5955	0.012	100.00%	1.000	11.66	12.00	1.081	0.013	/	/
Extremity	Front Surface	4	802.11ax 20M	1/5955	0.011	100.00%	1.000	16.59	17.00	1.099	0.012	/	/
Extremity	Back Surface_Left	0	802.11ax 20M	1/5955	0.080	100.00%	1.000	11.66	12.00	1.081	0.087	/	/
Extremity	Back Surface_Left	15	802.11ax 20M	1/5955	0.057	100.00%	1.000	16.59	17.00	1.099	0.063	/	/
Extremity	Back Surface_Right	0	802.11ax 20M	1/5955	0.144	100.00%	1.000	11.66	12.00	1.081	0.156	/	/
Extremity	Back Surface_Right	15	802.11ax 20M	1/5955	0.065	100.00%	1.000	16.59	17.00	1.099	0.071	/	/
Extremity	Left Edge	0	802.11ax 20M	1/5955	0.042	100.00%	1.000	11.66	12.00	1.081	0.045	/	/
Extremity	Left Edge	15	802.11ax 20M	1/5955	0.043	100.00%	1.000	16.59	17.00	1.099	0.047	/	/
Extremity	Right Edge	0	802.11ax 20M	1/5955	0.073	100.00%	1.000	11.66	12.00	1.081	0.079	/	/
Extremity	Right Edge	15	802.11ax 20M	1/5955	0.075	100.00%	1.000	16.59	17.00	1.099	0.082	/	/
Extremity	Top Edge	0	802.11ax 20M	1/5955	0.016	100.00%	1.000	16.59	17.00	1.099	0.018	/	/
Extremity	Back Surface_Right	0	802.11ax 20M	93/6415	0.054	100.00%	1.000	11.40	12.00	1.148	0.062	1.290	1.481
Extremity	Back Surface_Right	0	802.11ax 160M	111/6505	0.102	100.00%	1.000	10.75	11.50	1.189	0.121	2.410	2.864
Extremity	Back Surface_Right	0	802.11ax 20M	117/6535	0.081	100.00%	1.000	11.60	12.00	1.096	0.089	1.910	2.094
Extremity	Back Surface_Right	0	802.11ax 160M	207/6985	0.078	100.00%	1.000	11.31	11.50	1.045	0.081	1.840	1.922

MIMO													
RF Exposure Condition	Test position	Distance (mm)	Mode	Ch./Freq.(MHz)	SAR (W/kg) 1g	Duty Cycle	Duty Cycle Scaling Factor	Conducted Power(dBm)	Tune up Limit(dBm)	Scaling Factor	SAR (W/kg) 1g	Measured APD (W/m^2)	Reported APD (W/m^2)
Body	Front Surface-Parallel back clip	0	802.11ax 20M	1/5955	0.015	100.00%	1.000	16.59	17.00	1.099	0.016	/	/
Body	Front Surface-back clip is tilted	0	802.11ax 20M	1/5955	0.018	100.00%	1.000	16.59	17.00	1.099	0.020	/	/

Note:

- 1) The SAR testing was set to transmit at maximum power for all tests.
- 2) 802.11ax20M/ax160M is the maximum power mode, so there is no need to test other modes.

14.IPD (Incident Power density) Results

MIMO												
Test position	Mode	Ch./Freq.(MHz)	Gap (mm)	Grid Step (λ)	Normal psPD (W/m ²)	Total psPD (W/m ²)	Duty Cycle	Conducted Power(dBm)	Tune up Limit(dBm)	Scaling Factor for Measurement Uncertainty	Reported Normal psPD (W/m ²)	Reported Total psPD (W/m ²)
Front Surface	802.11ax 20M	1/5955	2.000	0.0625	0.412	0.454	100.00%	11.66	12.00	1.1223	0.500	0.551
Front Surface	802.11ax 20M	1/5955	4.000	0.0625	0.623	0.783	100.00%	16.59	17.00	1.1223	0.768	0.966
Back Surface_Left	802.11ax 20M	1/5955	2.000	0.0625	2.630	3.890	100.00%	11.66	12.00	1.1223	3.192	4.721
Back Surface_Left	802.11ax 20M	1/5955	15.000	0.0625	1.930	2.250	100.00%	16.59	17.00	1.1223	2.380	2.775
Back Surface_Right	802.11ax 20M	1/5955	2.000	0.0625	3.860	4.860	100.00%	11.66	12.00	1.1223	4.685	5.899
Left Edge	802.11ax 20M	1/5955	2.000	0.0625	1.020	1.950	100.00%	11.66	12.00	1.1223	1.238	2.367
Left Edge	802.11ax 20M	1/5955	15.000	0.0625	0.896	1.480	100.00%	16.59	17.00	1.1223	1.105	1.825
Right Edge	802.11ax 20M	1/5955	2.000	0.0625	2.190	2.770	100.00%	11.66	12.00	1.1223	2.658	3.362
Right Edge	802.11ax 20M	1/5955	15.000	0.0625	2.040	2.480	100.00%	16.59	17.00	1.1223	2.516	3.059
Top Edge	802.11ax 20M	1/5955	2.000	0.0625	0.256	0.287	100.00%	16.59	17.00	1.1223	0.316	0.354
Back Surface_Right	802.11ax 20M	93/6415	2.000	0.0625	2.460	2.820	100.00%	11.40	12.00	1.1223	3.170	3.634
Back Surface_Right	802.11ax 160M	111/6505	2.000	0.0625	3.700	5.330	100.00%	10.75	11.50	1.1223	4.935	7.109
Back Surface_Right	802.11ax 160M	111/6505	15.000	0.0625	2.390	2.560	100.00%	16.08	16.50	1.1223	2.955	3.165
Back Surface_Right	802.11ax 20M	117/6535	2.000	0.0625	2.700	3.990	100.00%	11.60	12.00	1.1223	3.323	4.910
Back Surface_Right	802.11ax 160M	207/6985	2.000	0.0625	4.090	4.890	100.00%	11.31	11.50	1.1223	4.795	5.733

Note:

- 1) Per TCBC workshop guide, Incident power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 2.65 dB (84.1%) was used to determine the psPD measurement scaling factor.
- 2) Power density test data were scaled to tune-up limit using measurement system tool.
- 3) Grid Step setting were using the automatic grid step function of measurement system tool.
- 4) Per manufacturer guide, Incident power density was measured at d=2mm and d=Lamda/5mm using the same grid size and grid step size for some frequencies and surfaces. iPD(integrated Power Density) was calculated based on these measurements. Since iPD ratio between the two distance is < 1dB, the grid step was sufficient for determining compliance at d=2mm.

15. 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)
8	WLAN 5GHz(chain 0) + BT(chain 0)

15.1. 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) 2.4G Wi-Fi data from 4791876642-1-SAR-1_FCC SAR Report.

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.
- 2) 2.4G Wi-Fi data from 4791876642-1-SAR-1_FCC SAR Report.

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.
- 2) 5G Wi-Fi data from 4791876642-1-SAR-1_FCC SAR Report.

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.
- 2) 5G Wi-Fi data from 4791876642-1-SAR-1_FCC SAR Report.

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.

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.

Appendixes

Refer to separated files for the following appendixes.

4791876642-1-SAR-3_App A Photo

4791876642-1-SAR-3_App B System Check Plots

4791876642-1-SAR-3_App C Highest Test Plots

4791876642-1-SAR-3_App D Cal. Certificates

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