FCC SAR TEST REPORT

Application No.:	SZCR2505001928AT
Applicant:	DT Research, Inc.
Address of Applicant:	3RD FL NO 36 WUQUAN 7TH RD WUGU DISTRICT, NEW TAIPEI, Taiwan
Manufacturer:	DT Research, Inc.
Address of Manufacturer:	2000 Concourse Drive, San Jose, CA 95131, USA
EUT Description:	Rugged Tablet
Model No.:	DT301xxxxx (x=0-9, A-Z, - or null, or ., or /) ♣
♣	Please refer to page 3 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark:	DT Research
FCC ID:	YE3600-BE200NG
Standards:	FCC 47CFR §2.1093
Date of Receipt:	2025-05-27
Date of Test:	2025-05-30 to 2025-06-17
Date of Issue:	2025-07-18
Test Result :	**PASS***

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Keny Xu
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Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2025-07-18		Original

Authorized for issue by:				
		Edison Li **Edison Li/Project Engineer**		
		Eric Fu **Eric Fu/Reviewer**		

TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)
	Body
WI-FI (2.4GHz)	0.37
WI-FI (5GHz)	**1.19**
WI-FI 6E	1.13
BT	1.10
SAR Limited(W/kg)	1.6
Maximum Simultaneous Transmission SAR (W/kg)	
Scenario	Body
Sum SAR	1.19
SPLSR	/
SPLSR Limited	0.04

Frequency Band	Reported PD (W/m²)
WIFI 6E	4.72
PD Limit	10.00

Remark:

Model No.: DT301xxxxx (x=0-9, A-Z, - or null, or ., or /)

Only the model DT301YA was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used and internal wiring and functions were identical for the above models, with only difference on model No..

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1 General Information

1.1 General Description of EUT

Product Name:	Rugged Tablet		
Model No.:	DT301YA		
Trade Mark:	DT Research		
Product Phase:	production unit		
Device Type:	portable device		
Exposure Category:	uncontrolled environment / general population		
SN:	030AW7429		
Hardware Version:	R1.0		
Software Version:	Windows 11		
Antenna Type:	PIFA Antenna		
Antenna Gain:	Band	Antenna 1	Antenna 2
	WIFI 2.4G	3.4dBi	3.5dBi
	WIFI 5G	2.2dBi	4.0dBi
	WIFI 6G	3.4dBi	3.8dBi
	BT/BLE	3.4dBi	
	(Provided by Manufacturer)		
Device Operating Configurations:			
Modulation Mode:	**WIFI**:DSSS,OFDM,OFDMA; **BT**:GFSK, π/4DQPSK,8DPSK **BLE**:GFSK		
Frequency Bands:	Band	Tx(MHz)	
	WIFI 2.4G	2412~2472	
	WIFI 5G	5150~5250	
		5250~5350	
		5470~5725	
		5725~5850	
	Wi-Fi 6E	5925~6425	
		6425~6525	
		6525~6875	

		6875~7125
	BT	2402~2480
RF Cable:	☒Provided by applicant ☐Provided by the laboratory	
Battery Information1:	Model 1:	ACC-006-60K(3ICP9/36/115)
	Normal Voltage:	DC 11.4V
	Rated capacity:	5400mAh
	Manufacturer:	Guangdong Pow-Tech New Power Co., Ltd.
Battery Information2:	Model 2:	PT352044-2S(2ICP4/20/44)
	Normal Voltage:	DC 7.4V
	Rated capacity:	250mAh
	Manufacturer:	Guangdong Pow-Tech New Power Co., Ltd.

Note:
*Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information , SGS is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
Remark:
As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

1.1.1 DUT Antenna Locations

The DUT Antenna Locations can be referred to Appendix D

1.2 Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
ANSI/IEEE C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.
IEEE 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
IEC/IEEE 62209-1528:2020	Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices –Part 1528: Human models, instrumentation, and procedures(Frequency range of 4 MHz to 10 GHz)
IEC/IEEE 63195-1:2022	Assessment of power density of human exposure to radio frequency fields from wireless devices in close proximity to the head and body (frequency range of 6 GHz to 300 GHz) – Part 1: Measurement procedure
KDB 248227 D01	SAR Guidance for IEEE 802 11 Wi-Fi SAR v02r02
KDB 447498 D04	Interim General RF Exposure Guidance v01
KDB 616217 D04	SAR for laptop and tablets v01r02
KDB 865664 D01	SAR Measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02	RF Exposure Reporting v01r02
KDB 690783 D01	SAR Listings on Grants v01r03

1.3 RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain*Trunk)	1.60 mW/g	8.00 mW/g
Spatial Average SAR** (Whole Body)	0.08 mW/g	0.40 mW/g
Spatial Peak SAR*** (Hands/Feet/Ankle/Wrist)	4.00 mW/g	20.00 mW/g

Notes:
* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time
** The Spatial Average value of the SAR averaged over the whole body.
*** The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.
Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation.)

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.
Peak Spatially Averaged Power Density was evaluated over a circular area of 4cm2 per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

Note: 1.0 mW/cm^2 is equal to 10.0 W/m^2

1.4 Test Location

All tests were performed at:
SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch
No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057.
Tel: +86 755 2601 2053 Fax: +86 755 2671 0594
No tests were sub-contracted.

1.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI (Member No. 1937)**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1336**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.
Designation Number: CN1336. Test Firm Registration Number: 787754.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.
CAB identifier: CN0006.
IC#: 4620C.

2 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

3 SAR Measurements System Configuraion

3.1 The SAR Measurement System

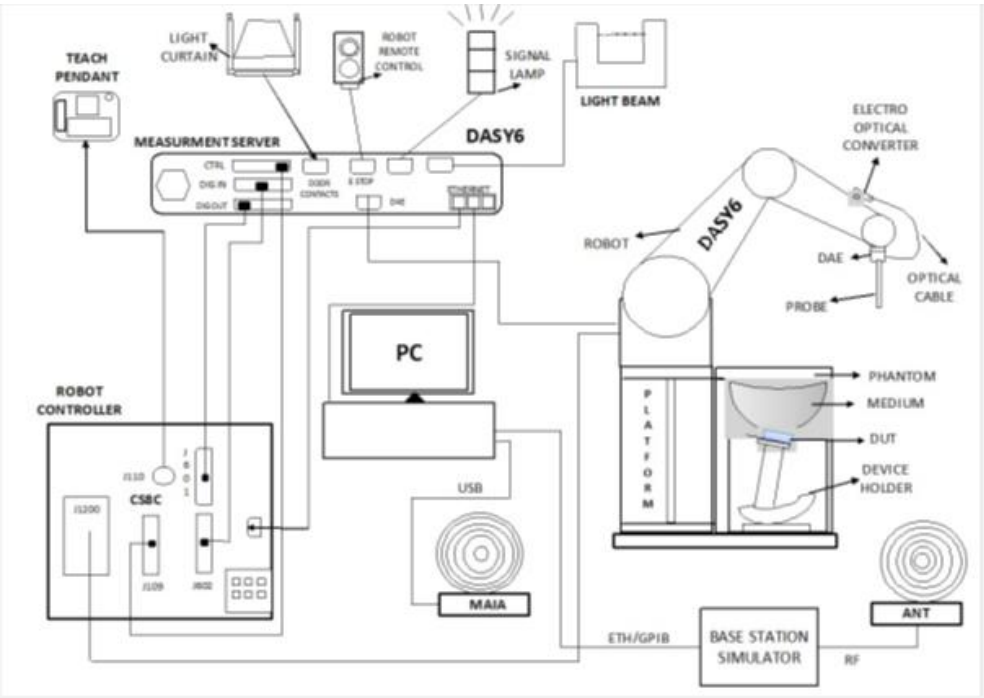
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-Simulate.

The DASY system for performing compliance tests consists of the following items:
A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software. An arm extension for accommodation the data acquisition electronics (DAE).

A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.

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 between optical and electrical of the signals for the digital communication to DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.



F-1. SAR Measurement System Configuration

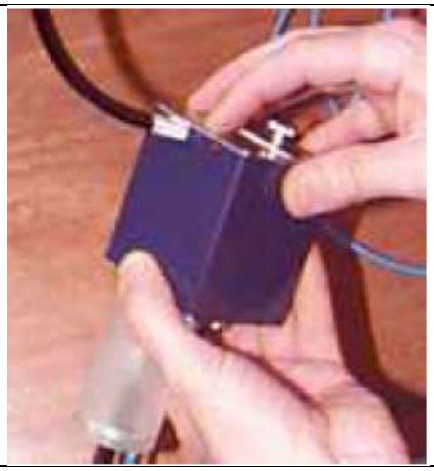
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows system.
- DASY software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand, right-hand and Body Worn usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validating the proper functioning of the system.

3.2 Isotropic E-field Proble EX3DV4

	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.
Compatibility	DASY52 SAR and higher, EASY4/MRI

3.3 Data Acquisition Electronics (DAE)

Model	DAE
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY4/5 embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop.
Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV,400mV)
Input Offset Voltage	< 5µV (with auto zero)
Input Bias Current	< 50 f A
Dimensions	60 x 60 x 68 mm



3.4 SAM Twin Phantom

Material	Vinylester, glass fiber reinforced (VE-GF)
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)
Dimensions (incl. Wooden Support)	Length: 1000 mm Width: 500 mm Height: adjustable feet
Filling Volume	pprox.. 25 liters
Wooden Support	SPEAG standard phantom table

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.
Twin SAM V5.0 has the same shell geometry and is manufactured from the same material as Twin SAM V4.0, but has reinforced top structure.

3.5 ELI Phantom

Material	Vinylester, glass fiber reinforced (VE-GF)
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)
Shell Thickness	2.0 ± 0.2 mm(bottom plate)
Dimensions	Major axis: 600 mm Minor axis: 400 mm
Filling Volume	pprox.. 30 liters
Wooden Support	SPEAG standard phantom table

Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEEE 1528 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.
ELI V5.0 has the same shell geometry and is manufactured from the same material as ELI4 but has reinforced top structure.

3.6 Device Holder for Transmitters

F-2. Device Holder for Transmitters

- The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation centres for both scales are the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

- The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity ε=3 and loss tangent δ=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

3.7 Measurement Procedure

3.7.1 Scanning procedure

Step 1: Power reference measurement

The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure.

Step 2: Area scan

The SAR distribution at the exposed side of the head was measured at a distance of 4mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15mm*15mm or 12mm*12mm or 10mm*10mm.Based on the area scan data, the area of the maximum absorption was determined by spline interpolation.

Step 3: Zoom scan

Around this point, a volume of 32mm*32mm*30mm (f≤2GHz), 30mm*30mm*30mm (f for 2-3GHz) and 24mm*24mm*22mm (f for 5-6GHz) was assessed by measuring 5x5x7 points (f≤2GHz), 7x7x7 points (f for 2-3GHz) and 7x7x12 points (f for 5-6GHz). On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

The data at the surface was extrapolated, since the centre of the dipoles is 2.0mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2mm. (This can be variable. Refer to the probe specification).The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The volume was integrated with the trapezoidal algorithm. One thousand points were interpolated to calculate the average. All neighbouring volumes were evaluated until no neighboring volume with a higher average value was found.

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std. 1528-2013.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Step 4: Power reference measurement (drift)

The Power Drift Measurement job measures the field at the same location as the most recent power reference measurement job within the same procedure, and with the same settings. The indicated drift is mainly the variation of the DUT's output power and should vary max ± 5 %.

3.7.2 Data storage

The DASY software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension “DAE”. The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated. The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [m W/g], [m W/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

3.7.3 Data Evaluation by SEMCAD

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters:	- Sensitivity	Normi, ai0, ai1, ai2
	- Conversion factor	ConvFi
	- Diode compression point	Dcpi
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	ε
	- Density	ρ

These parameters must be set correctly in the software. They can be found in the component documents, or they can be imported into the software from the configuration files issued for the DASY components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot cf / dcp_i$$

With Vi = compensated signal of channel I (I = x, y, z)
Ui = input signal of channel I (I = x, y, z)
cf = crest factor of exciting field (DASY parameter)
dcp I = diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:
E-field probes:

$$E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$$

H-field probes:

$$H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1} f + a_{i2} f^2) / f$$

With Vi = compensated signal of channel I (I = x, y, z)
Normi = sensor sensitivity of channel I (I = x, y, z)
[mV/(V/m)2] for E-field Probes
ConvF = sensitivity enhancement in solution
aij = sensor sensitivity factors for H-field probes
f = carrier frequency [GHz]
Ei = electric field strength of channel I in V/m
Hi = magnetic field strength of channel I in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = (E_x^2 + E_Y^2 + E_z^2)^{1/2}$$

The primary field data are used to calculate the derived field units.

$$SAR = (Etot^2 \cdot \sigma) / (\varepsilon \cdot 1000)$$

with SAR = local specific absorption rate in mW/g
Etot = total field strength in V/m
σ= conductivity in [mho/m] or [Siemens/m]
ε= equivalent tissue density in g/cm3

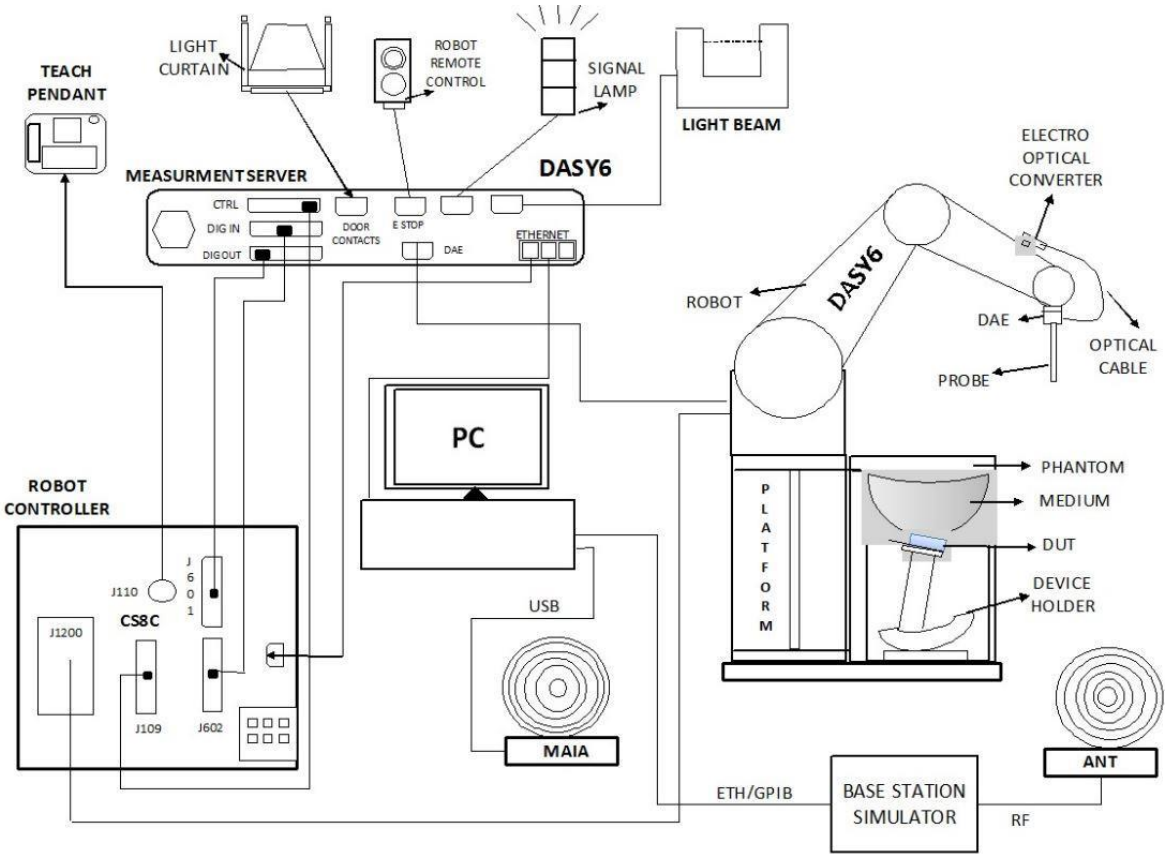
Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = Etot^2{}_2 / 3770 \text{ or } P_{pwe} = H_{tot}^2 \cdot 37.7$$

with Ppwe = equivalent power density of a plane wave in mW/cm2
Etot = total electric field strength in V/m
Htot = total magnetic field strength in A/m

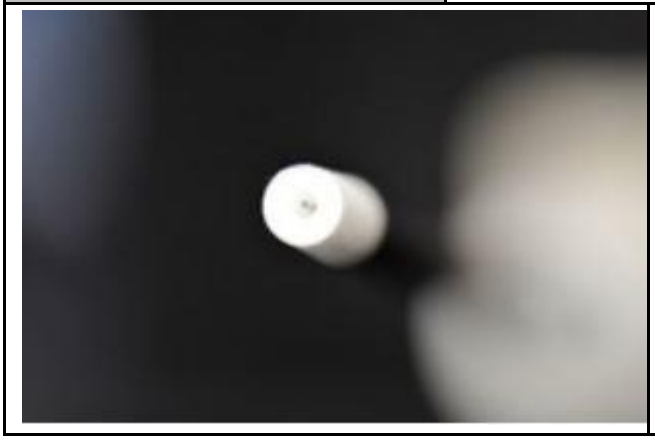
4 Power density measurement system

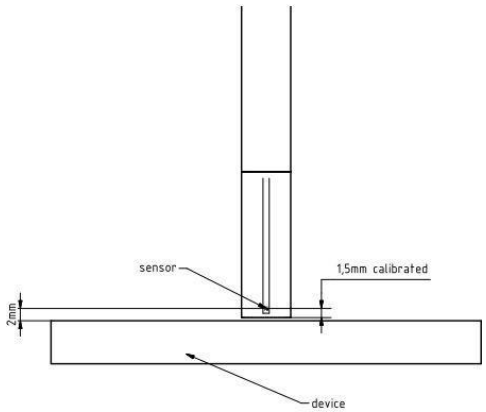
Power density measurements for mmWave frequencies were performed using SPEAG DASY6 with cDASY6 5G module. The DASY6 included a high precision robotics system (Staubli), robot controller, desktop computer, near-field probe, probe alignment sensor, and the 5G phantom cover.



4.1 EUmmWaVe probe

Frequency	750 MHz – 110 GHz
Probe Overall Length	320 mm
Probe Body Diameter	8.0 mm
Tip Length	23.0 mm
Tip Diameter	8.0 mm
Probe's two dipoles length	0.9 mm – Diode loaded
Dynamic Range	< 20 V/m - 10000 V/m with PRE-10 (min < 50 V/m - 3000 V/m)
Position Precision	< 0.2 mm
Distance between diode sensors and probe's tip	1.5 mm
Minimum Mechanical separation between probe tip and a Surface	0.5 mm
Applications	E-field measurements of 5G devices and other mm-wave transmitters operating above 10GHz in < 2 mm distance from device (free-space) Power density, H-field and far-field analysis using total field reconstruction.
Compatibility	cDASY6 + 5G-Module SW1.0 and higher





The EUmmWaVe probe is based on the pseudo-vector probe design, which not only measures the field magnitude but also derives its polarization ellipse. The design entails two small 0.8mm dipole sensors mechanically protected by high-density foam, printed on both sides of a 0.9mm wide and 0.12mm thick glass substrate. The body of the probe is specifically constructed to minimize distortion by the scattered fields. The probe consists of two sensors with different angles (1 and 2) arranged in the same plane in the probe axis. Three or more measurements of the two sensors are taken for different probe rotational angles to derive the amplitude and polarization information. The probe design allows measurements at distances as small as 2mm from the sensors to the surface of the device under test (DUT). The typical sensor to probe tip distance is 1.5 mm. The exact distance is calibrated.

5 SAR measurement variability and uncertainty

5.1 SAR measurement variability

Per KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04, SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. The additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

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 (~ 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.

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.

5.2 SAR 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, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. The equivalent ratio (1.5/1.6) is applied to extremity and occupational exposure conditions.

5.3 PD measurement uncertainty

Declaration of Conformity:
The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type An evaluation of uncertainty. The e valuation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed stand ard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quan tify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience and knowle dge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtai ned from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangu lar distributions indicated in t able below.

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi plying Factor[a]	1/k[b]	1/√3	1/√6	1/√2

Standard Uncertainty for Assumed Distribution
(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) κ is the coverage factor

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in thefollowing tables.
Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined s

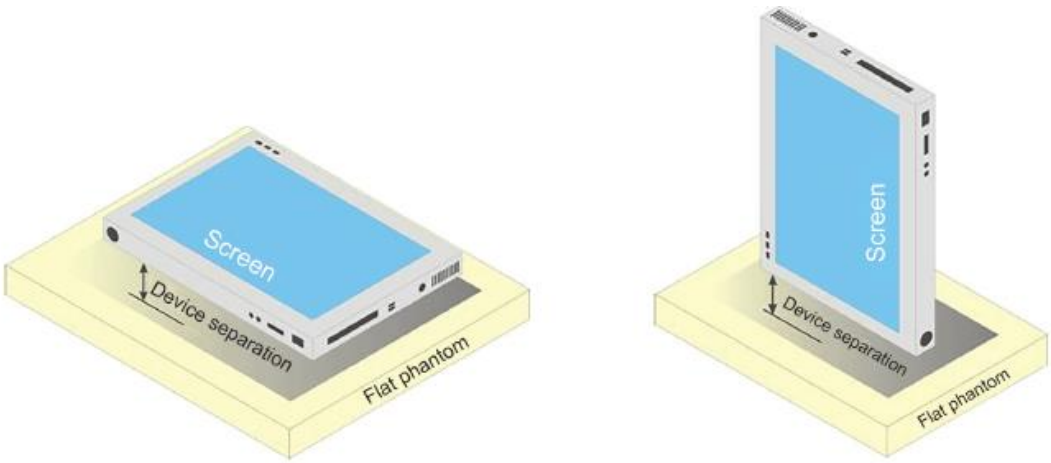
The judgment of conformity in thereport is based on the measurement results excluding the measurement uncertainty.

a	b	c	d	e	f=b*e/d	g
Error Description	**Uncertainty Value (±dB)**	**Probability**	**Div.**	**Ci**	**Standard Uncertainty (±dB)**	**Vi (Veff)**
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	∞
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 Desciption of Test Position

6.1 Tablet Computers used next to or against the body

The overall diagonal dimension of the display section of a tablet is > 20 cm, Per FCC KDB 616217, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. SAR evaluation for the front surface of tablet display screens are generally not necessary. The SAR Exclusion Threshold in KDB 447498 D04 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.



a) Tablet form factor portable computer

7 SAR System Verificaion Procedure

7.1 Tissue Simulate Liquid

7.1.1 Recipes for Tissue Simulate Liquid

The bellowing tables give the recipes for tissue simulating liquids to be used in different frequency bands:

Ingredients (% by weight)	Frequency (MHz)				
	450	700-1000	1700-2000	2300-2500	2500-2700
Water	38.56	40.30	55.24	55.00	54.92
Salt (NaCl)	3.95	1.38	0.31	0.2	0.23
Sucrose	56.32	57.90	0	0	0
HEC	0.98	0.24	0	0	0
Bactericide	0.19	0.18	0	0	0
Tween	0	0	44.45	44.80	44.85
Salt: 99+% Pure Sodium Chloride Water: De-ionized, 16 MΩ+ resistivity Tween: Polyoxyethylene (20) sorbitan monolaurate			Sucrose: 98+% Pure Sucrose HEC: Hydroxyethyl Cellulose		
HSL5GHz is composed of the following ingredients: (Manufactured by SPEAG) Water: 50-65% Mineral oil: 10-30% Emulsifiers: 8-25% Sodium salt: 0-1.5%					

Table 1： Recipe of Tissue Simulate Liquid

7.1.2 Measurement for Tissue Simulate Liquid

The Conductivity (σ) and Permittivity (εr) are listed in Table 2. For the SAR measurement given in this report.

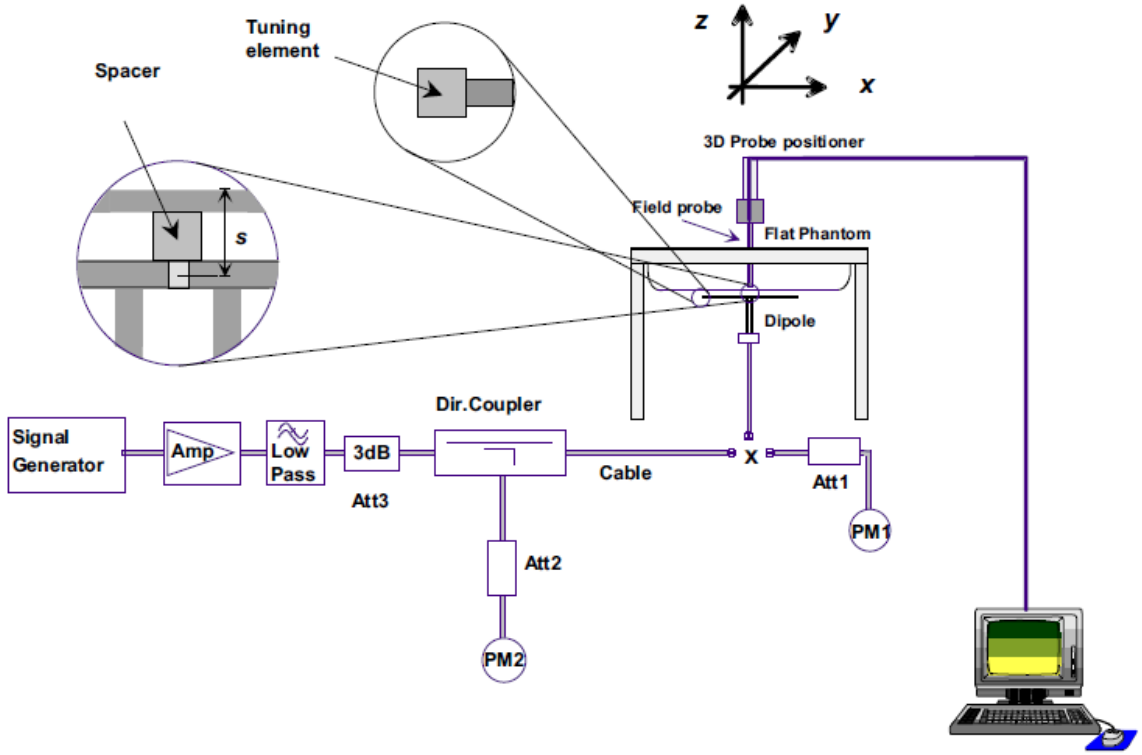
The temperature variation of the Tissue Simulate Liquids was 22±2°C.

Tissue Type	Measured Frequency (MHz)	Measured Tissue		Target Tissue (±5%)		Deviation (Within ±5%)		Liquid Temp. (℃)	Test Date
		ε_r	σ(S/m)	ε_r	σ(S/m)	ε_r	σ(S/m)		
2450 Head	2450	40.000	1.760	39.20	1.80	2.04%	-2.22%	22.1	2025/6/13
5250 Head	5250	35.700	4.580	35.90	4.71	-0.56%	-2.76%	21.9	2025/6/25
5600 Head	5600	34.800	4.960	35.50	5.07	-1.97%	-2.17%	21.9	2025/6/25
5750 Head	5750	34.700	5.150	35.40	5.22	-1.98%	-1.34%	21.9	2025/6/25
6500 Head	6500	34.200	6.270	34.50	6.07	-0.87%	3.29%	22.0	2025/7/4

Table 2： Measurement result of Tissue electric parameters

7.2 SAR System Check

The microwave circuit arrangement for system Check is sketched in F-12. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the following table (A power level of 250mW (below 3GHz) or 100mW (3-6GHz) was input to the dipole antenna). During the tests, the ambient temperature of the laboratory was in the range 22±2°C, the relative humidity was in the range 60% and the liquid depth above the ear reference points was above 15±0.5 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



F-12.The microwave circuit arrangement used for SAR system Check

7.2.1 Justification for Extended SAR Dipole Calibrations

1) Instead of the typical annual calibration recommended by measurement standards, longer calibration intervals of up to three years may be considered when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable according to the following requirements. 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) Return-loss is within 20% of calibrated measurement;

d) Impedance 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.

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7.2.2 Summary System Check Result(s)

Validation Kit	Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W)	Target SAR (normalized to 1W)	Deviation (Within ±10%)		Liquid Temp. (℃)	Test Date
	1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)	1-g(W/kg)	10-g(W/kg)		
D2450V2_Head	12.60	6.30	50.40	25.20	52.20	24.30	-3.45%	3.70%	22.1	2025/6/13
Validation Kit	**Measured SAR 100mW**	**Measured SAR 100mW**	**Measured SAR (normalized to 1W)**	**Measured SAR (normalized to 1W)**	**Target SAR (normalized to 1W)**	**Target SAR (normalized to 1W)**	**Deviation (Within ±10%)**		**Liquid Temp. (℃)**	**Test Date**
	1g (W/kg)	**10g (W/kg)**	**1g (W/kg)**	**10g (W/kg)**	**1-g(W/kg)**	**10-g(W/kg)**	**1-g(W/kg)**	**10-g(W/kg)**		
D5GHzV2_5.25G_Head	7.32	2.21	73.20	22.10	77.30	22.10	-5.30%	0.00%	21.9	2025/6/25
D5GHzV2_5.6G_Head	8.14	2.50	81.40	25.00	81.30	23.10	0.12%	8.23%	21.9	2025/6/25
D5GHzV2_5.75G_Head	7.30	2.18	73.00	21.80	77.10	21.30	-5.32%	2.35%	21.9	2025/6/25
D6500V2_Head	26.50	5.92	265.00	59.20	291.00	53.90	-8.93%	9.83%	22.0	2025/7/4

Table 3： SAR System Check Result

7.2.3 Detailed System Check Results

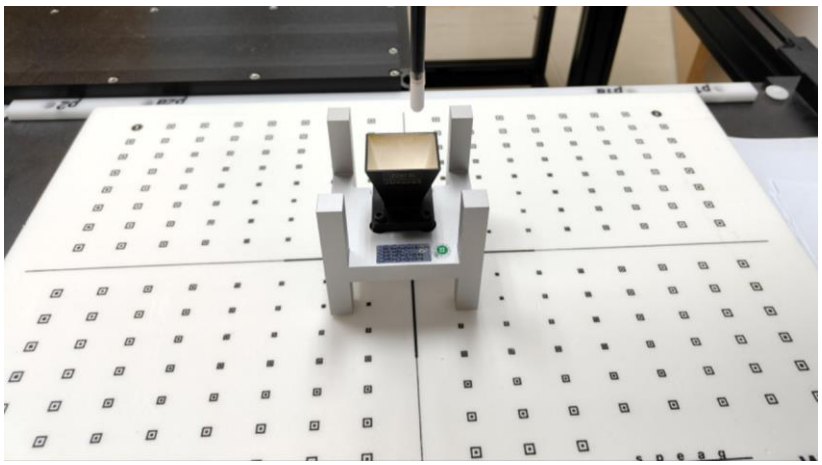
Please see the Appendix A

8 PD 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.

Frequent	Measured PD W/m²	Target PD W/m²	Circular Deviation (Within ±0.66dB)	Test Date
	4cm²	4cm²	4cm²	
10G HZ Source	185.00	174	0.27	2025/6/23

Note: 1. Measured PD after normalized to Pard power with DASY Calibration Certificate in Appendix A.



9 Test Configuration

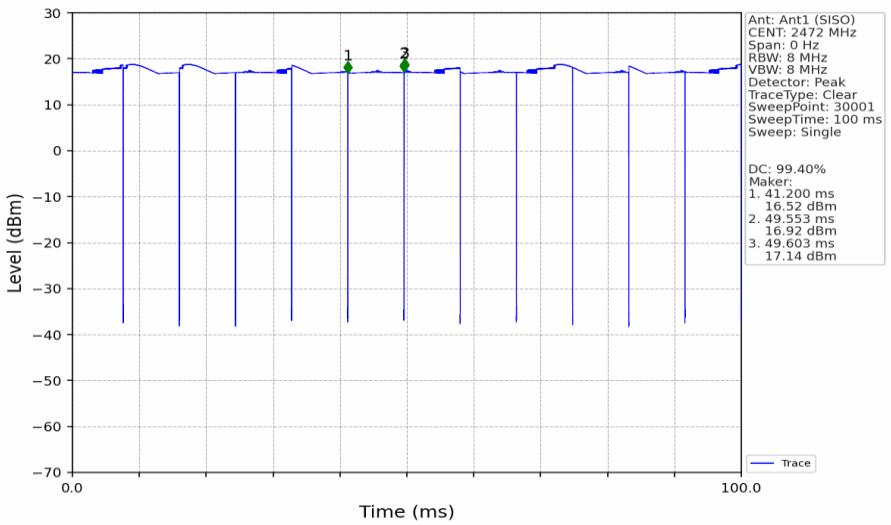
9.1 Operation Configurations

9.1.1 WIFI Test Configuration

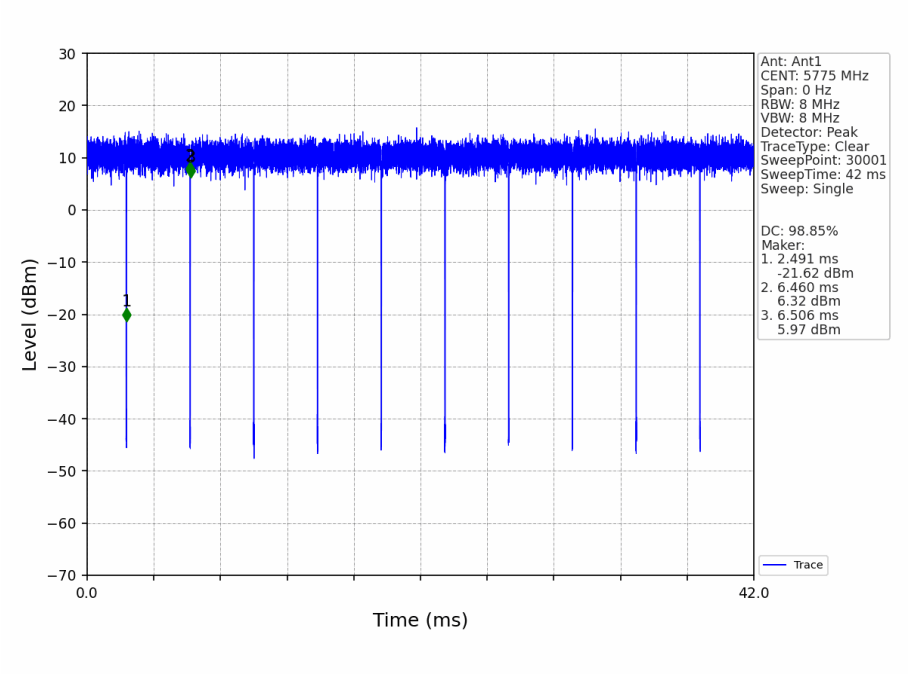
A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement.

9.1.1.1 Duty cycle

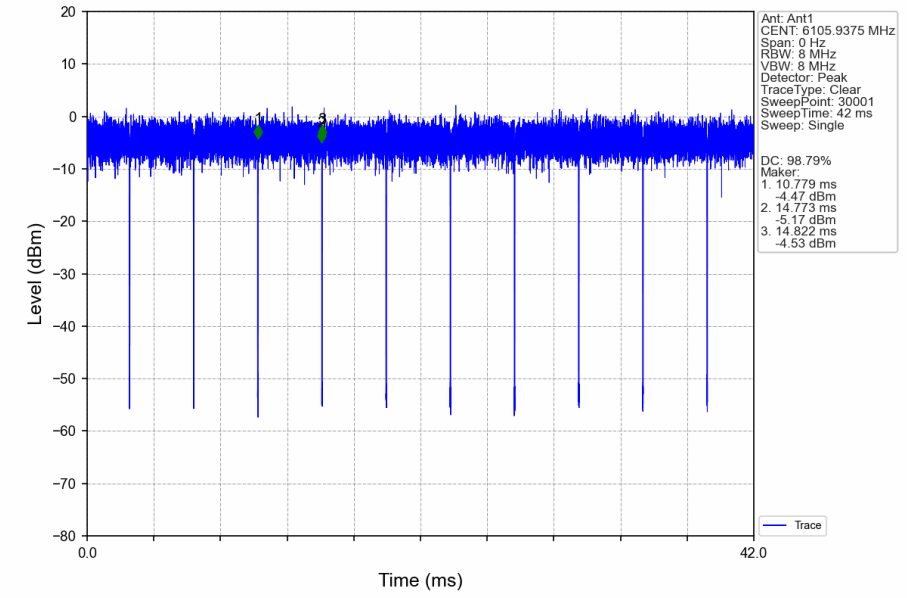
1) Wi-Fi 2.4GHz 802.11b:Duty cycle=99.40%



2) Wi-Fi 5GHz 802.11ac80:Duty cycle=98.85%



3) Wi-Fi 6E 802.11be:Duty cycle=98.79%



9.1.1.2 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.

9.1.1.3 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”

9.1.1.4 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.

9.1.1.5 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：

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 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.

9.1.1.6 5 GHz WiFi PD Procedures

Power Density General Notes:

1. The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermalcharacteristics and are within operational tolerances expected for production units.

2. Batteries are fully charged at the beginning of the measurements.

3. Absorbed power density (APD) using a 4cm^2 averaging area is reported based on SAR measurements.

4. Power density was calculated by repeated E-field measurements on two measurement planes separatedby λ/4.

5. The device was configured to transmit continuously at the required data rate, channel bandwidth andsignal modulation, using the highest transmission duty factor supported by the test mode tools.

6. Per FCC guidance and equipment manufacturer guidance, power density results were scaled accordingto IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of2.67 dB (84.9%) was used to determine the psPD measurement scaling factor.

7. Per April 2021 TCB Workshop, For the highest SAR test configurations also measure incident PD (total) usingpower-density reconstruction methodin 2 mm closest measurement plane.

8. Since this device is considered a phablet and there is no different PD limit ondifferent exposure conditions, therefore select highestphablet SAR at 0 mm test distance and configurations evaluate power density. Since there is no different PD limit on different exposure conditions, therefore the PD test was performed of a 2mm separation between Probe sensor and EUT surface to cover all exposure conditions of phablet.

9. IPD is measured for all edges and surfaces of the device with a transmitting antenna located within 25 mm from that surface or edge.

10. Per October 2020 TCB Workshop,PTP-PR algorithm was used during psPD measurement and calculations.

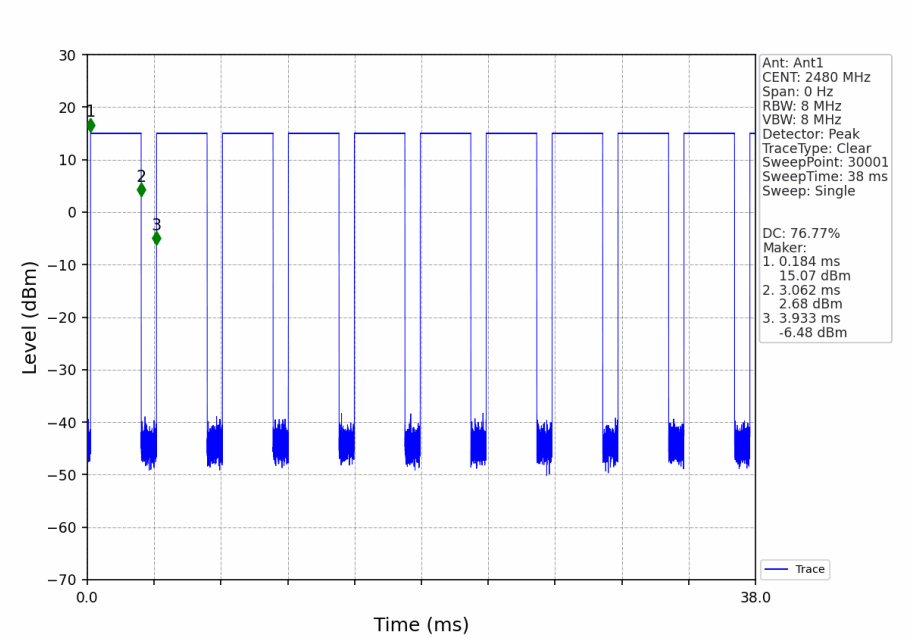
11. The measurement procedure consists of measuring the PDinc at two different distances: 2 mm (compliance distance) and λ/5. Thegrid extents should be large enough to fully capture the transmitted energy. The grid step should be fine enough to demonstrate that the integrated Power Density iPDn fulfill the criterion described below. Since iPD ratio between the two distances is≥-1dB, the grid step (0.0625) was sufficient for determining compliance at d=2mm.

$$10*\log_{10}\frac{\mathrm{iPDn}(2mm)}{\mathrm{iPDn}(\lambda/5)} \geq -1$$

9.1.2 BT Test Configuration

For the Bluetooth SAR tests, a communication link is set up with the test mode software for BT mode test. Bluetooth USES frequency hopping technology to divide the transmitted data into packets and transmit the packets respectively through 79 designated Bluetooth channels, frequency hops at 1600 hops/second per the Bluetooth standard, the EUT is operated at the RF continuous emission mode.

4) DH5 Duty Cycle=76.77%



10 Test Result

10.1 Measurement of RF Conducted Power

10.1.1 Conducted Power of WIFI 2.4G

WIFI 2.4G Ant 1(Aux)					
Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11b	1	2412	1	13.79	14.50
	7	2442		13.88	14.50
	13	2472		14.09	14.50
802.11g	1	2412	6	13.85	14.50
	7	2442		13.92	14.50
	13	2472		13.99	14.50
802.11n HT20	1	2412	6.5	13.69	14.50
	7	2442		13.78	14.50
	13	2472		13.88	14.50
802.11n HT40	3	2422	13.5	13.94	14.50
	7	2442		14.00	14.50
	11	2462		14.05	14.50
802.11ax HE20	1	2412	MCS0	13.56	14.50
	7	2442		13.67	14.50
	13	2472		13.72	14.50
802.11ax HE40	3	2422	MCS0	13.85	14.50
	7	2442		13.93	14.50
	11	2462		14.04	14.50
802.11be EHT20	1	2412	MCS0	13.58	14.50
	7	2442		13.65	14.50
	13	2472		13.73	14.50
802.11be EHT40	3	2422	MCS0	13.83	14.50
	7	2442		13.88	14.50
	11	2462		14.03	14.50

WIFI 2.4G Ant 2(Main)					
Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11b	1	2412	1	13.96	14.50
	7	2442		13.88	14.50
	13	2472		13.53	14.50
802.11g	1	2412	6	13.91	14.50
	7	2442		13.88	14.50
	13	2472		13.51	14.50

802.11n HT20	1	2412	6.5	13.74	14.50
	7	2442		13.73	14.50
	13	2472		13.15	14.50
802.11n HT40	3	2422	13.5	13.98	14.50
	7	2442		13.97	14.50
	11	2462		13.70	14.50
802.11ax HE20	1	2412	MCS0	13.61	14.50
	7	2442		13.59	14.50
	13	2472		13.40	14.50
802.11ax HE40	3	2422	MCS0	13.94	14.50
	7	2442		13.92	14.50
	11	2462		13.68	14.50
802.11be EHT20	1	2412	MCS0	13.70	14.50
	7	2442		13.59	14.50
	13	2472		13.39	14.50
802.11be EHT40	3	2422	MCS0	13.90	14.50
	7	2442		13.88	14.50
	11	2462		13.69	14.50

WIFI 2.4G MIMO					
Mode	Channel	Frequency(MHz)	Data Rate(Mbps)	Average Power (dBm)	Tune up
802.11b	1	2412	1	/	/
	7	2442		/	/
	13	2472		/	/
802.11g	1	2412	6	/	/
	7	2442		/	/
	13	2472		/	/
802.11n HT20	1	2412	6.5	**16.73**	17.50
	7	2442		**16.77**	17.50
	13	2472		**16.54**	17.50
802.11n HT40	3	2422	13.5	**16.97**	17.50
	7	2442		**17.00**	17.50
	11	2462		**16.89**	17.50
802.11ax HE20	1	2412	MCS0	**16.60**	17.50
	7	2442		**16.64**	17.50
	13	2472		**16.57**	17.50
802.11ax HE40	3	2422	MCS0	**16.91**	17.50
	7	2442		**16.94**	17.50
	11	2462		**16.87**	17.50
802.11be EHT20	1	2412	MCS0	**16.65**	17.50
	7	2442		**16.63**	17.50
	13	2472		**16.57**	17.50

802.11be EHT40	3	2422	MCS0	**16.88**	17.50
	7	2442		**16.89**	17.50
	11	2462		**16.87**	17.50

10.1.2 Conducted Power of WIFI 5G

WIFI 5G Ant 1(Aux)					
5GHz		Channel	Frequency(MHz)	Average Power (dBm)	Tune up
5GHz U-NII-1	802.11a	36	5180	13.50	14.00
		40	5200	13.51	14.00
		48	5240	13.49	14.00
	802.11n HT20	36	5180	13.06	14.00
		40	5200	13.19	14.00
		48	5240	13.32	14.00
	802.11n HT40	38	5190	13.23	14.00
		46	5230	13.39	14.00
	802.11ac VHT20	36	5180	13.09	14.00
		40	5200	13.09	14.00
		48	5240	13.27	14.00
	802.11ac VHT40	38	5190	13.00	14.00
		46	5230	13.18	14.00
	802.11ac VHT80	42	5210	13.32	14.00
	802.11ax HE20	36	5180	12.89	14.00
		40	5200	12.99	14.00
		48	5240	13.14	14.00
	802.11ax HE40	38	5190	12.82	14.00
		46	5230	12.97	14.00
	802.11ax HE80	42	5210	13.20	14.00
	802.11be EHT20	36	5180	12.77	14.00
		40	5200	12.78	14.00
		48	5240	13.00	14.00
	802.11be EHT40	38	5190	12.97	14.00
		46	5230	13.17	14.00
	802.11be EHT80	42	5210	13.25	14.00
5GHz		Channel	Frequency(MHz)	Average Power (dBm)	Tune up
5GHz U-NII-2A	802.11a	52	5260	13.51	14.00
		60	5300	13.73	14.00
		64	5320	13.70	14.00
	802.11n HT20	52	5260	13.46	14.00
		60	5300	13.74	14.00
		64	5320	13.52	14.00
	802.11n	54	5270	13.75	14.00

	HT40	62	5310	13.38	14.00
	802.11ac VHT20	52	5260	13.38	14.00
		60	5300	13.63	14.00
		64	5320	13.63	14.00
	802.11ac VHT40	54	5270	13.54	14.00
		62	5310	13.20	14.00
	802.11ac VHT80	58	5290	13.76	14.00
	802.11ac VHT160	50	5250	13.53	14.00
	802.11ax HE20	52	5260	13.24	14.00
		60	5300	13.33	14.00
		64	5320	13.31	14.00
	802.11ax HE40	54	5270	13.35	14.00
		62	5310	13.01	14.00
	802.11ax HE80	58	5290	13.62	14.00
	802.11ax HE160	50	5250	13.32	14.00
	802.11be EHT20	52	5260	13.17	14.00
		60	5300	13.45	14.00
		64	5320	13.45	14.00
	802.11be EHT40	54	5270	13.56	14.00
		62	5310	13.15	14.00
	802.11be EHT80	58	5290	13.67	14.00
	802.11be EHT160	50	5250	13.55	14.00

5GHz		Channel	Frequency(MHz)	Average Power (dBm)	Tune up
5GHz UNII-2C	802.11a	100	5500	12.54	13.00
		116	5580	12.31	13.00
		140	5700	12.15	13.00
	802.11n HT20	100	5500	12.47	13.00
		116	5580	12.18	13.00
		140	5700	12.02	13.00
	802.11n HT40	102	5510	12.40	13.00
		110	5550	12.33	13.00
		134	5670	11.53	13.00
	802.11ac VHT20	100	5500	12.32	13.00
		116	5580	12.05	13.00
		140	5700	11.84	13.00
	802.11ac	102	5510	12.19	13.00

	VHT40	110	5550	12.15	13.00
		134	5670	11.39	13.00
	802.11ac VHT80	106	5530	12.67	13.00
		138	5690	12.39	13.00
	802.11ac VHT160	114	5570	12.48	13.00
	802.11ax HE20	100	5500	12.04	13.00
		116	5580	11.80	13.00
		140	5700	11.55	13.00
	802.11ax HE40	102	5510	12.01	13.00
		110	5550	11.94	13.00
		134	5670	11.26	13.00
	802.11ax HE80	106	5530	12.47	13.00
		138	5690	12.25	13.00
	802.11ax HE160	114	5570	12.37	13.00
	802.11be EHT20	100	5500	12.18	13.00
		116	5580	11.97	13.00
		140	5700	11.74	13.00
	802.11be EHT40	102	5510	12.15	13.00
		110	5550	12.16	13.00
		134	5670	11.31	13.00
	802.11be EHT80	106	5530	12.60	13.00
		138	5690	12.35	13.00
	802.11be EHT160	114	5570	12.45	13.00
5GHz		Channel	Frequency(MHz)	Average Power (dBm)	Tune up
5GHz UNII-3	802.11a	149	5745	7.34	7.50
		157	5785	7.38	7.50
		165	5825	6.93	7.50
	802.11n HT20	149	5745	7.21	7.50
		157	5785	7.22	7.50
		165	5825	6.82	7.50
	802.11n HT40	151	5755	7.47	7.50
		159	5795	7.28	7.50
	802.11ac VHT20	149	5745	6.95	7.50
		157	5785	6.98	7.50
		165	5825	6.57	7.50
	802.11ac VHT40	151	5755	7.29	7.50
		159	5795	7.10	7.50
	802.11ac VHT80	155	5775	7.28	7.50
	802.11ax	149	5745	6.75	7.50

	HE20	157	5785	6.76	7.50
		165	5825	6.36	7.50
	802.11ax HE40	151	5755	7.16	7.50
		159	5795	6.98	7.50
	802.11ax HE80	155	5775	7.09	7.50
	802.11be EHT20	149	5745	6.90	7.50
		157	5785	6.90	7.50
		165	5825	6.49	7.50
	802.11be EHT40	151	5755	7.20	7.50
		159	5795	7.04	7.50
	802.11be EHT80	155	5775	7.15	7.50

WIFI 5G Ant 2(Main)					
5GHz		Channel	Frequency(MHz)	Average Power (dBm)	Tune up
5GHz U-NII-1	802.11a	36	5180	13.31	14.00
		40	5200	13.07	14.00
		48	5240	13.16	14.00
	802.11n HT20	36	5180	13.08	14.00
		40	5200	12.93	14.00
		48	5240	12.95	14.00
	802.11n HT40	38	5190	13.11	14.00
		46	5230	13.12	14.00
	802.11ac VHT20	36	5180	13.05	14.00
		40	5200	12.86	14.00
		48	5240	12.89	14.00
	802.11ac VHT40	38	5190	12.94	14.00
		46	5230	12.89	14.00
	802.11ac VHT80	42	5210	13.34	14.00
	802.11ax HE20	36	5180	12.89	14.00
		40	5200	12.80	14.00
		48	5240	12.75	14.00
	802.11ax HE40	38	5190	12.71	14.00
		46	5230	12.69	14.00
	802.11ax HE80	42	5210	13.23	14.00
	802.11be EHT20	36	5180	12.78	14.00
		40	5200	12.61	14.00
		48	5240	12.68	14.00
	802.11be	38	5190	12.89	14.00

	EHT40	46	5230	12.91	14.00
	802.11be EHT80	42	5210	13.25	14.00
5GHz		Channel	Frequency(MHz)	Average Power (dBm)	Tune up
5GHz U-NII-2A	802.11a	52	5260	13.08	14.00
		60	5300	13.15	14.00
		64	5320	13.37	14.00
	802.11n HT20	52	5260	13.07	14.00
		60	5300	13.14	14.00
		64	5320	13.11	14.00
	802.11n HT40	54	5270	13.33	14.00
		62	5310	13.39	14.00
	802.11ac VHT20	52	5260	12.96	14.00
		60	5300	13.06	14.00
		64	5320	13.18	14.00
	802.11ac VHT40	54	5270	13.12	14.00
		62	5310	13.22	14.00
	802.11ac VHT80	58	5290	13.47	14.00
	802.11ac VHT160	50	5250	13.07	14.00
	802.11ax HE20	52	5260	12.79	14.00
		60	5300	12.73	14.00
		64	5320	12.91	14.00
	802.11ax HE40	54	5270	12.93	14.00
		62	5310	13.02	14.00
	802.11ax HE80	58	5290	13.31	14.00
	802.11ax HE160	50	5250	12.81	14.00
	802.11be EHT20	52	5260	12.76	14.00
		60	5300	12.91	14.00
		64	5320	13.04	14.00
	802.11be EHT40	54	5270	13.14	14.00
		62	5310	13.13	14.00
	802.11be EHT80	58	5290	13.39	14.00
	802.11be EHT160	50	5250	13.03	14.00
5GHz		Channel	Frequency(MHz)	Average Power (dBm)	Tune up
5GHz UNII-2C	802.11a	100	5500	12.09	13.00
		116	5580	11.85	13.00
		140	5700	12.39	13.00

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	802.11n HT20	100	5500	12.05	13.00
		116	5580	11.75	13.00
		140	5700	12.25	13.00
	802.11n HT40	102	5510	12.19	13.00
		110	5550	12.07	13.00
		134	5670	12.11	13.00
	802.11ac VHT20	100	5500	11.86	13.00
		116	5580	11.59	13.00
		140	5700	12.11	13.00
	802.11ac VHT40	102	5510	12.00	13.00
		110	5550	11.89	13.00
		134	5670	12.01	13.00
	802.11ac VHT80	106	5530	12.26	13.00
		138	5690	11.90	13.00
	802.11ac VHT160	114	5570	12.45	13.00
	802.11ax HE20	100	5500	11.57	13.00
		116	5580	11.33	13.00
		140	5700	11.84	13.00
	802.11ax HE40	102	5510	11.74	13.00
		110	5550	11.67	13.00
		134	5670	11.84	13.00
	802.11ax HE80	106	5530	12.09	13.00
		138	5690	11.69	13.00
	802.11ax HE160	114	5570	12.23	13.00
	802.11be EHT20	100	5500	11.73	13.00
		116	5580	11.49	13.00
		140	5700	11.99	13.00
	802.11be EHT40	102	5510	11.92	13.00
		110	5550	11.85	13.00
		134	5670	11.85	13.00
	802.11be EHT80	106	5530	12.17	13.00
		138	5690	11.84	13.00
	802.11be EHT160	114	5570	12.28	13.00
5GHz		Channel	Frequency(MHz)	Average Power (dBm)	Tune up
5GHz UNII-3	802.11a	149	5745	6.72	7.50
		157	5785	6.31	7.50
		165	5825	5.87	7.50
	802.11n HT20	149	5745	6.61	7.50
		157	5785	6.21	7.50
		165	5825	5.77	7.50

	802.11n HT40	151	5755	6.85	7.50
		159	5795	6.37	7.50
	802.11ac VHT20	149	5745	6.38	7.50
		157	5785	5.99	7.50
		165	5825	5.50	7.50
	802.11ac VHT40	151	5755	6.67	7.50
		159	5795	6.24	7.50
	802.11ac VHT80	155	5775	6.53	7.50
	802.11ax HE20	149	5745	6.17	7.50
		157	5785	5.81	7.50
		165	5825	5.54	7.50
	802.11ax HE40	151	5755	6.53	7.50
		159	5795	6.13	7.50
	802.11ax HE80	155	5775	6.39	7.50
	802.11be EHT20	149	5745	6.32	7.50
		157	5785	5.92	7.50
		165	5825	5.52	7.50
	802.11be EHT40	151	5755	6.59	7.50
		159	5795	6.17	7.50
	802.11be EHT80	155	5775	6.45	7.50

WIFI 5G MIMO					
5GHz		Channel	Frequency(MHz)	Average Power (dBm)	Tune up
5GHz U-NII-1	802.11a	36	5180	/	/
		40	5200	/	/
		48	5240	/	/
	802.11n HT20	36	5180	**16.08**	17.00
		40	5200	**16.07**	17.00
		48	5240	**16.15**	17.00
	802.11n HT40	38	5190	**16.18**	17.00
		46	5230	**16.27**	17.00
	802.11ac VHT20	36	5180	**16.08**	17.00
		40	5200	**15.99**	17.00
		48	5240	**16.09**	17.00
	802.11ac VHT40	38	5190	**15.98**	17.00
		46	5230	**16.05**	17.00
	802.11ac VHT80	42	5210	**16.34**	17.00
	802.11ax HE20	36	5180	**15.90**	17.00
		40	5200	**15.91**	17.00

		48	5240	**15.96**	17.00
	802.11ax HE40	38	5190	**15.78**	17.00
		46	5230	**15.84**	17.00
	802.11ax HE80	42	5210	**16.23**	17.00
	802.11be EHT20	36	5180	**15.79**	17.00
		40	5200	**15.71**	17.00
		48	5240	**15.85**	17.00
	802.11be EHT40	38	5190	**15.94**	17.00
		46	5230	**16.05**	17.00
	802.11be EHT80	42	5210	**16.26**	17.00
5GHz		Channel	Frequency(MHz)	Average Power (dBm)	Tune up
5GHz U-NII-2A	802.11a	52	5260	/	/
		60	5300	/	/
		64	5320	/	/
	802.11n HT20	52	5260	**16.28**	17.00
		60	5300	**16.46**	17.00
		64	5320	**16.33**	17.00
	802.11n HT40	54	5270	**16.56**	17.00
		62	5310	**16.40**	17.00
	802.11ac VHT20	52	5260	**16.19**	17.00
		60	5300	**16.36**	17.00
		64	5320	**16.42**	17.00
	802.11ac VHT40	54	5270	**16.35**	17.00
		62	5310	**16.22**	17.00
	802.11ac VHT80	58	5290	**16.63**	17.00
	802.11ac VHT160	50	5250	**16.32**	17.00
	802.11ax HE20	52	5260	**16.03**	17.00
		60	5300	**16.05**	17.00
		64	5320	**16.12**	17.00
	802.11ax HE40	54	5270	**16.16**	17.00
		62	5310	**16.03**	17.00
	802.11ax HE80	58	5290	**16.48**	17.00
	802.11ax HE160	50	5250	**16.08**	17.00
	802.11be EHT20	52	5260	**15.98**	17.00
		60	5300	**16.20**	17.00
		64	5320	**16.26**	17.00
	802.11be EHT40	54	5270	**16.37**	17.00
		62	5310	**16.15**	17.00

	802.11be EHT80	58	5290	**16.54**	17.00
	802.11be EHT160	50	5250	**16.31**	17.00
5GHz		Channel	Frequency(MHz)	Average Power (dBm)	Tune up
5GHz UNII-2C	802.11a	100	5500	/	/
		116	5580	/	/
		140	5700	/	/
	802.11n HT20	100	5500	**15.28**	16.00
		104	5520	**14.98**	16.00
		108	5540	**15.15**	16.00
	802.11n HT40	102	5510	**15.31**	16.00
		110	5550	**15.21**	16.00
		134	5670	**14.84**	16.00
	802.11ac VHT20	100	5500	**15.11**	16.00
		104	5520	**14.84**	16.00
		108	5540	**14.99**	16.00
	802.11ac VHT40	102	5510	**15.11**	16.00
		110	5550	**15.03**	16.00
		134	5670	**14.72**	16.00
	802.11ac VHT80	106	5530	**15.48**	16.00
		138	5690	**15.16**	16.00
	802.11ac VHT160	114	5570	**15.48**	16.00
	802.11ax HE20	100	5500	**14.82**	16.00
		104	5520	**14.58**	16.00
		108	5540	**14.71**	16.00
	802.11ax HE40	102	5510	**14.89**	16.00
		110	5550	**14.82**	16.00
		134	5670	**14.57**	16.00
	802.11ax HE80	106	5530	**15.29**	16.00
		138	5690	**14.99**	16.00
	802.11ax HE160	114	5570	**15.31**	16.00
	802.11be EHT20	100	5500	**14.97**	16.00
		104	5520	**14.75**	16.00
		108	5540	**14.88**	16.00
	802.11be EHT40	102	5510	**15.05**	16.00
		110	5550	**15.02**	16.00
		134	5670	**14.60**	16.00
	802.11be EHT80	106	5530	**15.40**	16.00
		138	5690	**15.11**	16.00

	802.11be EHT160	114	5570	**15.38**	16.00
5GHz		Channel	Frequency(MHz)	Average Power (dBm)	Tune up
5GHz UNII-3	802.11a	149	5745	/	/
		157	5785	/	/
		165	5825	/	/
	802.11n HT20	149	5745	**9.93**	10.50
		153	5765	**9.75**	10.50
		157	5785	**9.34**	10.50
	802.11n HT40	151	5755	**10.18**	10.50
		159	5795	**9.86**	10.50
	802.11ac VHT20	149	5745	**9.68**	10.50
		153	5765	**9.52**	10.50
		157	5785	**9.08**	10.50
	802.11ac VHT40	151	5755	**10.00**	10.50
		159	5795	**9.70**	10.50
	802.11ac VHT80	155	5775	**9.93**	10.50
	802.11ax HE20	149	5745	**9.48**	10.50
		153	5765	**9.32**	10.50
		157	5785	**8.98**	10.50
	802.11ax HE40	151	5755	**9.87**	10.50
		159	5795	**9.59**	10.50
	802.11ax HE80	155	5775	**9.76**	10.50
	802.11be EHT20	149	5745	**9.63**	10.50
		153	5765	**9.45**	10.50
		157	5785	**9.04**	10.50
	802.11be EHT40	151	5755	**9.92**	10.50
		159	5795	**9.64**	10.50
	802.11be EHT80	155	5775	**9.82**	10.50

10.1.3 Conducted Power of WIFI 6E

WIFI 6E Ant 1(Aux)						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Average Power (dBm)	Tune up
U - NII - 5 6.2GHz	802.11ax HEW20	1	5955	MCS0	8.29	9
		45	6175		8.34	9
		93	6415		8.24	9
	802.11ax HEW40	3	5985	MCS0	8.37	9
		43	6165		8.32	9
		91	6405		8.34	9
	802.11ax HEW80	7	5985	MCS0	8.55	9
		39	6145		8.52	9
		87	6385		8.63	9
	802.11ax HEW160	15	6025	MCS0	8.61	9
		47	6185		8.64	9
		79	6345		8.57	9
	802.11be EHT20	1	5955	MCS0	8.79	9
		45	6175		8.73	9
		93	6415		8.58	9
	802.11be EHT40	3	5985	MCS0	8.66	9
		43	6165		8.45	9
		91	6405		8.84	9
	802.11be EHT80	7	5985	MCS0	8.57	9
		39	6145		8.50	9
		87	6385		8.56	9
	802.11be EHT160	15	6025	MCS0	8.48	9
		47	6185		8.67	9
		79	6345		8.79	9
	802.11be EHT320	31	6105	MCS0	8.45	9
		63	6265		8.54	9
U - NII - 6 6.5GHz	802.11ax HEW20	97	6435	MCS0	7.95	8.5
		105	6475		7.95	8.5
		113	6515		7.79	8.5
	802.11ax HEW40	99	6445	MCS0	7.74	8.5
		107	6485		7.97	8.5
	802.11ax HEW80	103	6465	MCS0	8.06	8.5
		119	6545		7.98	8.5
	802.11ax HEW160	111	6505	MCS0	7.86	8.5
	802.11be EHT20	97	6435	MCS0	7.95	8.5
		105	6475		8.19	8.5

		113	6515		8.06	8.5
	802.11be EHT40	99	6445	MCS0	8.28	8.5
		107	6485		8.37	8.5
	802.11be EHT80	103	6465	MCS0	8.17	8.5
		119	6545		8.11	8.5
	802.11be EHT160	111	6505	MCS0	8.13	8.5
	802.11be EHT320	95	6425	MCS0	7.96	8.5
		127	6585		7.89	8.5
U - NII - 7 6.7GHz	802.11ax HEW20	117	6535	MCS0	6.58	7.5
		149	6695		6.51	7.5
		181	6855		6.82	7.5
	802.11ax HEW40	115	6525	MCS0	6.73	7.5
		147	6685		6.59	7.5
		179	6845		6.58	7.5
	802.11ax HEW80	135	6625	MCS0	6.84	7.5
		151	6705		6.79	7.5
		167	6785		6.92	7.5
	802.11ax HEW160	143	6665	MCS0	7.21	7.5
		175	6825		7.29	7.5
	802.11be EHT20	117	6535	MCS0	6.99	7.5
		149	6695		6.67	7.5
		181	6855		6.58	7.5
	802.11be EHT40	115	6525	MCS0	6.53	7.5
		147	6685		6.71	7.5
		179	6845		6.45	7.5
	802.11be EHT80	135	6625	MCS0	6.38	7.5
		151	6705		6.64	7.5
		167	6785		6.49	7.5
	802.11be EHT160	143	6665	MCS0	6.54	7.5
		175	6825		6.41	7.5
	802.11be EHT320	159	6745	MCS0	6.33	7.5
U - NII - 8 7.0GHz	802.11ax HEW20	185	6875	MCS0	6.93	8
		209	6995		6.92	8
		233	7115		6.90	8
	802.11ax HEW40	187	6885	MCS0	6.82	8
		227	7085		6.98	8
	802.11ax HEW80	183	6865	MCS0	7.54	8
		199	6945		7.38	8
		215	7025		7.53	8

	802.11ax HEW160	207	6985	MCS0	7.96	8
	802.11be EHT20	185	6875	MCS0	7.50	8
		209	6995		7.22	8
		233	7115		7.31	8
	802.11be EHT40	187	6885	MCS0	7.15	8
		227	7085		7.61	8
	802.11be EHT80	183	6865	MCS0	7.22	8
		199	6945		7.11	8
		215	7025		7.31	8
	802.11be EHT160	207	6985	MCS0	7.25	8
	802.11be EHT320	191	6905	MCS0	6.87	8

WIFI 6E Ant 2(Main)						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Average Power (dBm)	Tune up
U - NII - 5 6.2GHz	802.11ax HEW20	1	5955	MCS0	8.26	9
		45	6175		8.34	9
		93	6415		8.21	9
	802.11ax HEW40	3	5985	MCS0	8.19	9
		43	6165		8.31	9
		91	6405		8.32	9
	802.11ax HEW80	7	5985	MCS0	8.34	9
		39	6145		8.36	9
		87	6385		8.44	9
	802.11ax HEW160	15	6025	MCS0	8.38	9
		47	6185		8.45	9
		79	6345		8.59	9
	802.11be EHT20	1	5955	MCS0	8.23	9
		45	6175		8.35	9
		93	6415		8.67	9
	802.11be EHT40	3	5985	MCS0	8.53	9
		43	6165		8.63	9
		91	6405		8.36	9
	802.11be EHT80	7	5985	MCS0	8.44	9
		39	6145		8.38	9
		87	6385		8.53	9
	802.11be EHT160	15	6025	MCS0	8.46	9
		47	6185		8.66	9
		79	6345		8.25	9

	802.11be EHT320	31	6105	MCS0	8.56	9
		63	6265		8.55	9
U - NII - 6 6.5GHz	802.11ax HEW20	97	6435	MCS0	8.07	8.5
		105	6475		7.92	8.5
		113	6515		7.93	8.5
	802.11ax HEW40	99	6445	MCS0	7.96	8.5
		107	6485		8.09	8.5
	802.11ax HEW80	103	6465	MCS0	8.08	8.5
		119	6545		7.94	8.5
	802.11ax HEW160	111	6505	MCS0	8.16	8.5
	802.11be EHT20	97	6435	MCS0	8.21	8.5
		105	6475		8.12	8.5
		113	6515		8.04	8.5
	802.11be EHT40	99	6445	MCS0	8.12	8.5
		107	6485		8.06	8.5
	802.11be EHT80	103	6465	MCS0	8.32	8.5
		119	6545		8.42	8.5
	802.11be EHT160	111	6505	MCS0	8.23	8.5
	802.11be EHT320	95	6425	MCS0	8.08	8.5
		127	6585		8.17	8.5
U - NII - 7 6.7GHz	802.11ax HEW20	117	6535	MCS0	6.73	7.5
		149	6695		6.46	7.5
		181	6855		6.58	7.5
	802.11ax HEW40	115	6525	MCS0	6.67	7.5
		147	6685		6.46	7.5
		179	6845		6.54	7.5
	802.11ax HEW80	135	6625	MCS0	6.51	7.5
		151	6705		6.52	7.5
		167	6785		6.69	7.5
	802.11ax HEW160	143	6665	MCS0	6.95	7.5
		175	6825		6.89	7.5
	802.11be EHT20	117	6535	MCS0	6.64	7.5
		149	6695		6.48	7.5
		181	6855		6.75	7.5
	802.11be EHT40	115	6525	MCS0	6.26	7.5
		147	6685		6.25	7.5
		179	6845		6.52	7.5
	802.11be EHT80	135	6625	MCS0	6.47	7.5
		151	6705		6.63	7.5

		167	6785		6.58	7.5
	802.11be EHT160	143	6665	MCS0	6.45	7.5
		175	6825		6.25	7.5
	802.11be EHT320	159	6745	MCS0	6.26	7.5
U - NII - 8 7.0GHz	802.11ax HEW20	185	6875	MCS0	6.69	8
		209	6995		6.65	8
		233	7115		6.66	8
	802.11ax HEW40	187	6885	MCS0	6.91	8
		227	7085		6.97	8
	802.11ax HEW80	183	6865	MCS0	6.83	8
		199	6945		6.98	8
		215	7025		7.08	8
	802.11ax HEW160	207	6985	MCS0	7.14	8
	802.11be EHT20	185	6875	MCS0	6.96	8
		209	6995		6.93	8
		233	7115		6.92	8
	802.11be EHT40	187	6885	MCS0	6.99	8
		227	7085		6.87	8
	802.11be EHT80	183	6865	MCS0	6.87	8
		199	6945		6.99	8
		215	7025		6.89	8
	802.11be EHT160	207	6985	MCS0	7.05	8
	802.11be EHT320	191	6905	MCS0	6.95	8

WIFI 6E MIMO						
Band	Mode	Channel	Frequency (MHz)	Data Rate	Average Power (dBm)	Tune up
U - NII - 5 6.2GHz	802.11ax HEW20	1	5955	MCS0	11.29	12.00
		45	6175		11.35	12.00
		93	6415		11.24	12.00
	802.11ax HEW40	3	5985	MCS0	11.29	12.00
		43	6165		11.33	12.00
		91	6405		11.34	12.00
	802.11ax HEW80	7	5985	MCS0	11.46	12.00
		39	6145		11.45	12.00
		87	6385		11.55	12.00
	802.11ax HEW160	15	6025	MCS0	11.51	12.00
		47	6185		11.56	12.00
		79	6345		11.59	12.00

	802.11be EHT20	1	5955	MCS0	11.53	12.00
		45	6175		11.55	12.00
		93	6415		11.64	12.00
	802.11be EHT40	3	5985	MCS0	11.61	12.00
		43	6165		11.55	12.00
		91	6405		11.62	12.00
	802.11be EHT80	7	5985	MCS0	11.52	12.00
		39	6145		11.45	12.00
		87	6385		11.56	12.00
	802.11be EHT160	15	6025	MCS0	11.48	12.00
		47	6185		11.68	12.00
		79	6345		11.54	12.00
	802.11be EHT320	31	6105	MCS0	11.52	12.00
		63	6265		11.56	12.00
U - NII - 6 6.5GHz	802.11ax HEW20	97	6435	MCS0	11.02	11.50
		105	6475		10.95	11.50
		113	6515		10.87	11.50
	802.11ax HEW40	99	6445	MCS0	10.86	11.50
		107	6485		11.04	11.50
	802.11ax HEW80	103	6465	MCS0	11.08	11.50
		119	6545		10.97	11.50
	802.11ax HEW160	111	6505	MCS0	11.02	11.50
	802.11be EHT20	97	6435	MCS0	11.09	11.50
		105	6475		11.17	11.50
		113	6515		11.06	11.50
	802.11be EHT40	99	6445	MCS0	11.21	11.50
		107	6485		11.23	11.50
	802.11be EHT80	103	6465	MCS0	11.26	11.50
		119	6545		11.28	11.50
	802.11be EHT160	111	6505	MCS0	11.19	11.50
	802.11be EHT320	95	6425	MCS0	11.03	11.50
		127	6585		11.04	11.50
U - NII - 7 6.7GHz	802.11ax HEW20	117	6535	MCS0	9.67	10.50
		149	6695		9.50	10.50
		181	6855		9.71	10.50
	802.11ax HEW40	115	6525	MCS0	9.71	10.50
		147	6685		9.54	10.50
		179	6845		9.57	10.50
	802.11ax	135	6625	MCS0	9.69	10.50

	HEW80	151	6705		9.67	10.50
		167	6785		9.82	10.50
	802.11ax HEW160	143	6665	MCS0	10.09	10.50
		175	6825		10.10	10.50
	802.11be EHT20	117	6535	MCS0	9.83	10.50
		149	6695		9.59	10.50
		181	6855		9.68	10.50
	802.11be EHT40	115	6525	MCS0	9.41	10.50
		147	6685		9.50	10.50
		179	6845		9.50	10.50
	802.11be EHT80	135	6625	MCS0	9.44	10.50
		151	6705		9.65	10.50
		167	6785		9.55	10.50
	802.11be EHT160	143	6665	MCS0	9.51	10.50
		175	6825		9.34	10.50
	802.11be EHT320	159	6745	MCS0	9.31	10.50
U - NII - 8 7.0GHz	802.11ax HEW20	185	6875	MCS0	9.82	11.00
		209	6995		9.80	11.00
		233	7115		9.79	11.00
	802.11ax HEW40	187	6885	MCS0	9.88	11.00
		227	7085		9.99	11.00
	802.11ax HEW80	183	6865	MCS0	10.21	11.00
		199	6945		10.19	11.00
		215	7025		10.32	11.00
	802.11ax HEW160	207	6985	MCS0	10.58	11.00
	802.11be EHT20	185	6875	MCS0	10.25	11.00
		209	6995		10.09	11.00
		233	7115		10.13	11.00
	802.11be EHT40	187	6885	MCS0	10.08	11.00
		227	7085		10.27	11.00
	802.11be EHT80	183	6865	MCS0	10.06	11.00
		199	6945		10.06	11.00
		215	7025		10.12	11.00
	802.11be EHT160	207	6985	MCS0	10.16	11.00
	802.11be EHT320	191	6905	MCS0	9.92	11.00

10.1.4 Conducted Power of BT

BT		Average Conducted Power(dBm)			Tune up
Band	Channel	0	39	78	
BT	GFSK	14.08	14.39	14.51	15.00
	π/4DQPSK	11.73	12.03	12.19	12.50
	8DPSK	11.58	11.89	12.07	12.50
Band	Channel	0	19	39	Tune up
BLE 1M	GFSK	13.43	13.77	13.97	14.50
BLE 2M	GFSK	10.57	10.87	11.11	11.50

10.2 SAR-based Exemption

The following SAR test exclusion Thresholds based on KDB 447498 D04 Interim General RF Exposure Guidance v01 Appendix B B.4

Ant1:

Band	Exposure Condition	f (GHz)	Pmax	Pmax	separation distance**(cm)**				
			EIRP (dBm)	(mw)	Back side	Left side	Right side	Top side	Bottom side
WIFI 2.4G	Body 0mm	2.450	17.90	61.66	0.50	0.50	26.31	13.81	0.50
WIFI 5.2G	Body 0mm	5.200	16.20	41.69	0.50	0.50	26.31	13.81	0.50
WIFI 5.3G	Body 0mm	5.300	16.20	41.69	0.50	0.50	26.31	13.81	0.50
WIFI 5.5G	Body 0mm	5.500	16.20	41.69	0.50	0.50	26.31	13.81	0.50
WIFI 5.8G	Body 0mm	5.800	9.70	9.33	0.50	0.50	26.31	13.81	0.50
BT	Body 0mm	2.450	18.40	69.18	0.50	0.50	26.31	13.81	0.50

Band	Calculated Value					SAR Test (Yes or No)				
	Back side	Left side	Right side	Top side	Bottom side	Back side	Left side	Right side	Top side	Bottom side
WIFI 2.4G	2.74	2.74	3060.00	1512.82	2.74	Yes	Yes	No	No	Yes
WIFI 5.2G	1.50	1.50	3060.00	1423.98	1.50	Yes	Yes	No	No	Yes
WIFI 5.3G	1.48	1.48	3060.00	1421.80	1.48	Yes	Yes	No	No	Yes
WIFI 5.5G	1.44	1.44	3060.00	1417.57	1.44	Yes	Yes	No	No	Yes
WIFI 5.8G	1.38	1.38	3060.00	1411.53	1.38	Yes	Yes	No	No	Yes
BT	2.74	2.74	3060.00	1512.82	2.74	Yes	Yes	No	No	Yes

Ant2:

Band	Exposure Condition	f (GHz)	Pmax	Pmax	separation distance**(cm)**				
			EIRP (dBm)	(mw)	Back side	Left side	Right side	Top side	Bottom side
WIFI 2.4G	Body 0mm	2.450	18.00	63.10	0.50	25.82	0.50	0.50	14.20
WIFI 5.2G	Body 0mm	5.200	18.00	63.10	0.50	25.82	0.50	0.50	14.20
WIFI 5.3G	Body 0mm	5.300	18.00	63.10	0.50	25.82	0.50	0.50	14.20
WIFI 5.5G	Body 0mm	5.500	18.00	63.10	0.50	25.82	0.50	0.50	14.20
WIFI 5.8G	Body 0mm	5.800	11.50	14.13	0.50	25.82	0.50	0.50	14.20

Band	Calculated Value					SAR Test（Yes or No）				
	Back side	Left side	Right side	Top side	Bottom side	Back side	Left side	Right side	Top side	Bottom side
WIFI 2.4G	2.74	3060.00	2.74	2.74	1595.12	Yes	No	Yes	Yes	No
WIFI 5.2G	1.50	3060.00	1.50	1.50	1508.29	Yes	No	Yes	Yes	No
WIFI 5.3G	1.48	3060.00	1.48	1.48	1506.15	Yes	No	Yes	Yes	No
WIFI 5.5G	1.44	3060.00	1.44	1.44	1502.01	Yes	No	Yes	Yes	No
WIFI 5.8G	1.38	3060.00	1.38	1.38	1496.09	Yes	No	Yes	Yes	No

Note:

1. Maximum power is the source-based time-average power and represents the maximum RF output power among production units
2. Per KDB 447498 D04, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. Per KDB 447498 D04, standalone SAR test exclusion threshold is applied; If the distance of the antenna to the user is < 5mm, 5mm is used to determine SAR exclusion threshold
4. Per KDB 447498 D04, the 1-g and 10-g SAR test exclusion thresholds for 300 MHz to 6 GHz

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). Pth is given by Formula (B.2).

$$P_{\text{th}}\,(\text{mW}) = ERP_{20\,\text{cm}}\,(\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases} \qquad \text{(B.1)}$$

$$P_{\text{th}}\,(\text{mW}) = \begin{cases} ERP_{20\,\text{cm}}(d/20\ \text{cm})^{x} & d \le 20\ \text{cm} \\ ERP_{20\,\text{cm}} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases} \qquad \text{(B.2)}$$

where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\,\text{cm}}\sqrt{f}}\right)$$

and *f* is in GHz, *d* is the separation distance (cm), and *ERP* 20cm is per Formula (B.1).

The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)									
	5	10	15	20	25	30	35	40	45	50
300	39	65	88	110	129	148	166	184	201	217
450	22	44	67	89	112	135	158	180	203	226
835	9	25	44	66	90	116	145	175	207	240
1900	3	12	26	44	66	92	122	157	195	236
2450	3	10	22	38	59	83	111	143	179	219
3600	2	8	18	32	49	71	96	125	158	195
5800	1	6	14	25	40	58	80	106	136	169

5. when 10-g extremity SAR applies, SAR test exemption may be considered by applying a factor of 2.5 to the SAR-based exemption thresholds.

10.3 Measurement of SAR Data

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

2) Per KDB 447498 D04, 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:

- ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
- ≤ 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.

WiFi 2.4G:

1) When the highest reported SAR for the initial test configuration 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 test for the other 802.11 modes are not required.

WiFi 5G:

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. As 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.

When the highest reported SAR for the initial test configuration 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 test for the other 802.11 modes are not required.

10.3.1 SAR Result of WIFI 2.4G

Wi-Fi 2.4G SAR Test Record												
Ant1 Test Record												
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Body Test data (Separate 0mm)												
Back side	802.11b	13/2472	99.40%	1.006	0.028	0.008	0.08	14.09	14.50	1.099	0.031	22.1
Left side	802.11b	13/2472	99.40%	1.006	0.232	0.086	0.18	14.09	14.50	1.099	0.257	22.1
Bottom side	802.11b	13/2472	99.40%	1.006	0.067	0.030	-0.01	14.09	14.50	1.099	0.074	22.1
Ant2 Test Record												
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Body Test data (Separate 0mm)												
Back side	802.11b	1/2412	99.40%	1.006	0.039	0.018	-0.17	13.96	14.50	1.132	0.044	22.1
Right side	802.11b	1/2412	99.40%	1.006	0.255	0.099	0.05	13.96	14.50	1.132	0.291	22.1
Top side	802.11b	1/2412	99.40%	1.006	0.043	0.019	0.07	13.96	14.50	1.132	0.049	22.1
MIMO Test Record												
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Body Test data (Separate 0mm)												
Back side	802.11n HT40	7/2442	98.78%	1.012	0.070	0.035	-0.01	17.00	17.50	1.123	0.080	22.1
Left side	802.11n HT40	7/2442	98.78%	1.012	0.277	0.107	0.16	17.00	17.50	1.123	0.315	22.1
Right side	802.11n HT40	7/2442	98.78%	1.012	0.328	0.130	0.01	17.00	17.50	1.123	**0.373**	22.1
Top side	802.11n HT40	7/2442	98.78%	1.012	0.054	0.015	0.17	17.00	17.50	1.123	0.061	22.1
Bottom side	802.11n HT40	7/2442	98.78%	1.012	0.048	0.022	0.01	17.00	17.50	1.123	0.055	22.1

10.3.2 SAR Result of WIFI 5G

Wi-Fi 5G SAR Test Record												
Ant1 Test Record												
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Body Test data of U-NII-2A (Separate 0mm)												
Back side	802.11ac-VHT160	50/5250	98.85%	1.012	0.033	0.018	0.11	13.53	14.00	1.114	0.037	21.9
Left side	802.11ac-VHT160	50/5250	98.85%	1.012	0.654	0.159	0.01	13.53	14.00	1.114	0.737	21.9
Bottom side	802.11ac-VHT160	50/5250	98.85%	1.012	0.043	0.015	-0.18	13.53	14.00	1.114	0.048	21.9
Body Test data of U-NII-2C (Separate 0mm)												
Back side	802.11ac-VHT160	114/5570	98.85%	1.012	0.056	0.012	-0.14	12.48	13.00	1.127	0.064	21.9
Left side	802.11ac-VHT160	114/5570	98.85%	1.012	0.269	0.056	0.00	12.48	13.00	1.127	0.307	21.9
Bottom side	802.11ac-VHT160	114/5570	98.85%	1.012	0.082	0.028	-0.10	12.48	13.00	1.127	0.094	21.9
Body Test data of U-NII-3 (Separate 0mm)												
Back side	802.11ac-VHT80	155/5775	98.85%	1.012	0.051	0.024	0.09	7.28	7.50	1.052	0.054	21.9
Left side	802.11ac-VHT80	155/5775	98.85%	1.012	0.253	0.073	-0.16	7.28	7.50	1.052	0.269	21.9
Bottom side	802.11ac-VHT80	155/5775	98.85%	1.012	0.064	0.013	-0.02	7.28	7.50	1.052	0.068	21.9
Ant2 Test Record												
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Body Test data of U-NII-2A (Separate 0mm)												
Back side	802.11ac-VHT160	50/5250	98.85%	1.012	0.071	0.024	-0.16	13.07	14.00	1.239	0.089	21.9
Right side	802.11ac-VHT160	50/5250	98.85%	1.012	0.813	0.170	0.08	13.07	14.00	1.239	1.019	21.9
Top side	802.11ac-VHT160	50/5250	98.85%	1.012	0.256	0.102	-0.03	13.07	14.00	1.239	0.321	21.9
Body Test data of U-NII-2C (Separate 0mm)												
Back side	802.11ac-VHT160	114/5570	98.85%	1.012	0.074	0.026	0.03	12.45	13.00	1.135	0.085	21.9
Right side	802.11ac-VHT160	114/5570	98.85%	1.012	1.040	0.299	-0.11	12.45	13.00	1.135	**1.194**	21.9
Right side with hand shank	802.11ac-VHT160	114/5570	98.85%	1.012	0.783	0.268	-0.01	12.45	13.00	1.135	0.899	21.9
Right side-Repeated	802.11ac-VHT160	114/5570	98.85%	1.012	0.997	0.278	0.03	12.45	13.00	1.135	1.145	21.9
Top side	802.11ac-VHT160	114/5570	98.85%	1.012	0.229	0.051	0.10	12.45	13.00	1.135	0.263	21.9
Body Test data of U-NII-3 (Separate 0mm)												
Back side	802.11ac-VHT80	155/5775	98.85%	1.012	0.066	0.014	-0.09	6.53	7.50	1.250	0.083	21.9
Right side	802.11ac-VHT80	155/5775	98.85%	1.012	0.385	0.122	-0.17	6.53	7.50	1.250	0.487	21.9
Top side	802.11ac-VHT80	155/5775	98.85%	1.012	0.058	0.014	-0.01	6.53	7.50	1.250	0.073	21.9
MIMO Test Record												
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg) 1-g**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
Body Test data of U-NII-2A (Separate 0mm)												
Back side	802.11ac-VHT160	50/5250	98.85%	1.012	0.088	0.036	0.05	16.32	17.00	1.169	0.104	21.9
Left side	802.11ac-VHT160	50/5250	98.85%	1.012	0.664	0.191	0.08	16.32	17.00	1.169	0.786	21.9

Right side	802.11ac-VHT160	50/5250	98.85%	1.012	0.982	0.313	0.03	16.32	17.00	1.169	1.162	21.9
Top side	802.11ac-VHT160	50/5250	98.85%	1.012	0.163	0.052	-0.04	16.32	17.00	1.169	0.193	21.9
Bottom side	802.11ac-VHT160	50/5250	98.85%	1.012	0.041	0.021	0.15	16.32	17.00	1.169	0.049	21.9
Body Test data of U-NII-2C (Separate 0mm)												
Back side	802.11ac-VHT160	114/5570	98.85%	1.012	0.207	0.147	-0.08	15.48	16.00	1.127	0.236	21.9
Left side	802.11ac-VHT160	114/5570	98.85%	1.012	0.455	0.191	0.17	15.48	16.00	1.127	0.519	21.9
Right side	802.11ac-VHT160	114/5570	98.85%	1.012	0.975	0.291	0.00	15.48	16.00	1.127	1.112	21.9
Top side	802.11ac-VHT160	114/5570	98.85%	1.012	0.124	0.048	0.18	15.48	16.00	1.127	0.141	21.9
Bottom side	802.11ac-VHT160	114/5570	98.85%	1.012	0.049	0.014	0.15	15.48	16.00	1.127	0.056	21.9
Body Test data of U-NII-3 (Separate 0mm)												
Back side	802.11ac-VHT80	155/5775	98.85%	1.012	0.046	0.021	0.14	9.93	10.50	1.140	0.053	21.9
Left side	802.11ac-VHT80	155/5775	98.85%	1.012	0.299	0.081	0.05	9.93	10.50	1.140	0.345	21.9
Right side	802.11ac-VHT80	155/5775	98.85%	1.012	0.315	0.076	0.00	9.93	10.50	1.140	0.363	21.9
Top side	802.11ac-VHT80	155/5775	98.85%	1.012	0.054	0.013	-0.15	9.93	10.50	1.140	0.062	21.9
Bottom side	802.11ac-VHT80	155/5775	98.85%	1.012	0.038	0.018	0.11	9.93	10.50	1.140	0.044	21.9

Test Position	Test ch./Freq.	Measured SAR (W/kg)	1st Repeated	Ratio	2nd Repeated	3rd Repeated
Right side	114/5570	1.040	0.997	1.043	N/A	N/A

Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.

2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

5) 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. The repeated measurement results must be clearly identified in the SAR report.

10.3.3 SAR Result of WIFI 6E

Wi-Fi 6E SAR Test Record												
Ant1 Test Record												
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Body Test data of U-NII-5 (Separate 0mm)												
Back side	802.11be-EHT320	63/6265	98.79%	1.012	0.028	0.014	0.17	8.54	9.00	1.112	0.032	22.2
Left side	802.11be-EHT320	63/6265	98.79%	1.012	0.241	0.058	0.08	8.54	9.00	1.112	0.271	22.2
Right side	802.11be-EHT320	63/6265	98.79%	1.012	0.037	0.017	-0.06	8.54	9.00	1.112	0.042	22.2
Top side	802.11be-EHT320	63/6265	98.79%	1.012	0.037	0.017	-0.15	8.54	9.00	1.112	0.042	22.2
Bottom side	802.11be-EHT320	63/6265	98.79%	1.012	0.055	0.013	0.18	8.54	9.00	1.112	0.062	22.2
Body Test data of U-NII-6 (Separate 0mm)												
Back side	802.11be-EHT320	95/6425	98.79%	1.012	0.028	0.013	-0.04	7.96	8.50	1.132	0.032	22.2
Left side	802.11be-EHT320	95/6425	98.79%	1.012	0.253	0.062	-0.08	7.96	8.50	1.132	0.290	22.2
Right side	802.11be-EHT320	95/6425	98.79%	1.012	0.068	0.017	0.06	7.96	8.50	1.132	0.078	22.2
Top side	802.11be-EHT320	95/6425	98.79%	1.012	0.040	0.010	-0.05	7.96	8.50	1.132	0.046	22.2
Bottom side	802.11be-EHT320	95/6425	98.79%	1.012	0.045	0.012	0.11	7.96	8.50	1.132	0.052	22.2
Body Test data of U-NII-7 (Separate 0mm)												
Back side	802.11be-EHT320	159/6745	98.79%	1.012	0.050	0.013	0.01	6.33	7.50	1.309	0.066	22.2
Left side	802.11be-EHT320	159/6745	98.79%	1.012	0.123	0.040	-0.13	6.33	7.50	1.309	0.163	22.2
Right side	802.11be-EHT320	159/6745	98.79%	1.012	0.034	0.015	0.06	6.33	7.50	1.309	0.045	22.2
Top side	802.11be-EHT320	159/6745	98.79%	1.012	0.028	0.013	-0.13	6.33	7.50	1.309	0.037	22.2
Bottom side	802.11be-EHT320	159/6745	98.79%	1.012	0.029	0.013	0.15	6.33	7.50	1.309	0.038	22.2
Body Test data of U-NII-8 (Separate 0mm)												
Back side	802.11be-EHT320	191/6905	98.79%	1.012	0.028	0.013	0.16	6.87	8.00	1.297	0.037	22.2
Left side	802.11be-EHT320	191/6905	98.79%	1.012	0.398	0.142	0.05	6.87	8.00	1.297	0.523	22.2
Right side	802.11be-EHT320	191/6905	98.79%	1.012	0.028	0.012	0.16	6.87	8.00	1.297	0.037	22.2
Top side	802.11be-EHT320	191/6905	98.79%	1.012	0.045	0.010	-0.13	6.87	8.00	1.297	0.059	22.2
Bottom side	802.11be-EHT320	191/6905	98.79%	1.012	0.051	0.024	-0.12	6.87	8.00	1.297	0.067	22.2
Ant2 Test Record												
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Body Test data of U-NII-5 (Separate 0mm)												
Back side	802.11be-EHT320	31/6105	98.79%	1.012	0.050	0.008	-0.07	8.56	9.00	1.107	0.056	22.2
Left side	802.11be-EHT320	31/6105	98.79%	1.012	0.022	0.005	0.08	8.56	9.00	1.107	0.025	22.2
Right side	802.11be-EHT320	31/6105	98.79%	1.012	0.653	0.083	0.08	8.56	9.00	1.107	0.731	22.2
Top side	802.11be-EHT320	31/6105	98.79%	1.012	0.043	0.009	-0.10	8.56	9.00	1.107	0.048	22.2
Bottom side	802.11be-EHT320	31/6105	98.79%	1.012	0.026	0.006	-0.18	8.56	9.00	1.107	0.029	22.2
Right side	802.11be-EHT320	63/6265	98.79%	1.012	0.982	0.209	0.08	8.55	9.00	1.109	1.103	22.2

Body Test data of U-NII-6 (Separate 0mm)												
Back side	802.11be-EHT320	127/6585	98.79%	1.012	0.041	0.013	0.09	8.17	8.50	1.079	0.045	22.2
Left side	802.11be-EHT320	127/6585	98.79%	1.012	0.029	0.007	-0.12	8.17	8.50	1.079	0.032	22.2
Right side	802.11be-EHT320	127/6585	98.79%	1.012	1.000	0.214	0.02	8.17	8.50	1.079	1.092	22.2
Top side	802.11be-EHT320	127/6585	98.79%	1.012	0.028	0.012	-0.08	8.17	8.50	1.079	0.031	22.2
Bottom side	802.11be-EHT320	127/6585	98.79%	1.012	0.020	0.010	0.08	8.17	8.50	1.079	0.022	22.2
Right side	802.11be-EHT320	95/6425	98.79%	1.012	0.348	0.076	-0.07	8.08	8.50	1.102	0.388	22.2
Body Test data of U-NII-7 (Separate 0mm)												
Back side	802.11be-EHT320	159/6745	98.79%	1.012	0.029	0.009	0.17	6.26	7.50	1.330	0.039	22.2
Left side	802.11be-EHT320	159/6745	98.79%	1.012	0.018	0.008	0.19	6.26	7.50	1.330	0.024	22.2
Right side	802.11be-EHT320	159/6745	98.79%	1.012	0.816	0.179	0.13	6.26	7.50	1.330	1.099	22.2
Top side	802.11be-EHT320	159/6745	98.79%	1.012	0.018	0.005	-0.02	6.26	7.50	1.330	0.024	22.2
Bottom side	802.11be-EHT320	159/6745	98.79%	1.012	0.019	0.005	0.02	6.26	7.50	1.330	0.026	22.2
Body Test data of U-NII-8 (Separate 0mm)												
Back side	802.11be-EHT320	191/6905	98.79%	1.012	0.016	0.007	0.07	6.95	8.00	1.274	0.021	22.2
Left side	802.11be-EHT320	191/6905	98.79%	1.012	0.013	0.006	-0.04	6.95	8.00	1.274	0.017	22.2
Right side	802.11be-EHT320	191/6905	98.79%	1.012	0.837	0.173	0.03	6.95	8.00	1.274	1.079	22.2
Top side	802.11be-EHT320	191/6905	98.79%	1.012	0.014	0.005	-0.05	6.95	8.00	1.274	0.018	22.2
Bottom side	802.11be-EHT320	191/6905	98.79%	1.012	0.019	0.004	0.00	6.95	8.00	1.274	0.024	22.2

MIMO Test Record

Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Body Test data of U-NII-5 (Separate 0mm)												
Back side	802.11be-EHT320	63/6265	98.79%	1.012	0.040	0.014	-0.05	11.56	12.00	1.108	0.045	22.1
Left side	802.11be-EHT320	63/6265	98.79%	1.012	0.252	0.071	0.02	11.56	12.00	1.108	0.283	22.1
Right side	802.11be-EHT320	63/6265	98.79%	1.012	0.551	0.144	-0.05	11.56	12.00	1.108	0.618	22.1
Top side	802.11be-EHT320	63/6265	98.79%	1.012	0.035	0.008	0.19	11.56	12.00	1.108	0.039	22.1
Bottom side	802.11be-EHT320	63/6265	98.79%	1.012	0.032	0.008	-0.02	11.56	12.00	1.108	0.036	22.1
Body Test data of U-NII-6 (Separate 0mm)												
Back side	802.11be-EHT320	127/6585	98.79%	1.012	0.047	0.016	-0.13	11.04	11.50	1.111	0.053	22.1
Left side	802.11be-EHT320	127/6585	98.79%	1.012	0.162	0.051	-0.09	11.04	11.50	1.111	0.182	22.1
Right side	802.11be-EHT320	127/6585	98.79%	1.012	0.774	0.179	0.12	11.04	11.50	1.111	0.871	22.1
Top side	802.11be-EHT320	127/6585	98.79%	1.012	0.029	0.007	0.15	11.04	11.50	1.111	0.033	22.1
Bottom side	802.11be-EHT320	127/6585	98.79%	1.012	0.038	0.009	0.15	11.04	11.50	1.111	0.043	22.1
Right side	802.11be-EHT320	95/6425	98.79%	1.012	0.462	0.094	-0.07	11.03	11.50	1.114	0.521	22.1
Body Test data of U-NII-7 (Separate 0mm)												
Back side	802.11be-EHT320	159/6745	98.79%	1.012	0.036	0.014	0.06	9.31	10.50	1.317	0.048	22.1
Left side	802.11be-EHT320	159/6745	98.79%	1.012	0.118	0.045	0.17	9.31	10.50	1.317	0.157	22.1
Right side	802.11be-EHT320	159/6745	98.79%	1.012	0.847	0.186	0.05	9.31	10.50	1.317	**1.129**	22.1
Right side-Repeated	802.11be-EHT320	159/6745	98.79%	1.012	0.833	0.180	0.02	9.31	10.50	1.317	1.110	22.1
Top side	802.11be-EHT320	159/6745	98.79%	1.012	0.018	0.004	-0.17	9.31	10.50	1.317	0.024	22.1

Bottom side	802.11be-EHT320	159/6745	98.79%	1.012	0.015	0.004	0.12	9.31	10.50	1.317	0.020	22.1
Body Test data of U-NII-8 (Separate 0mm)												
Back side	802.11be-EHT320	191/6905	98.79%	1.012	0.071	0.015	-0.04	9.92	11.00	1.282	0.092	22.1
Left side	802.11be-EHT320	191/6905	98.79%	1.012	0.190	0.055	0.00	9.92	11.00	1.282	0.247	22.1
Right side	802.11be-EHT320	191/6905	98.79%	1.012	0.852	0.184	-0.05	9.92	11.00	1.282	1.106	22.1
Top side	802.11be-EHT320	191/6905	98.79%	1.012	0.078	0.016	0.18	9.92	11.00	1.282	0.101	22.1
Bottom side	802.11be-EHT320	191/6905	98.79%	1.012	0.046	0.010	0.06	9.92	11.00	1.282	0.060	22.1

Test Position	Test ch./Freq.	Measured SAR (W/kg)	1st Repeated	Ratio	2nd Repeated	3rd Repeated
Right side	159/6745	0.847	0.833	1.017	N/A	N/A

Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.

2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

5) 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. The repeated measurement results must be clearly identified in the SAR report.

10.3.4 SAR Result of BT

Bluetooth SAR Test Record												
Ant1 Test Record												
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	SAR (W/kg) 10-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
Body Test data (Separate 0mm)												
Back side	DH5	78/2480	76.77%	1.303	0.120	0.065	-0.09	14.51	15.00	1.119	0.175	22.1
Left side	DH5	78/2480	76.77%	1.303	0.751	0.288	-0.05	14.51	15.00	1.119	**1.095**	22.1
Bottom side	DH5	78/2480	76.77%	1.303	0.148	0.068	0.14	14.51	15.00	1.119	0.216	22.1
Left side	DH5	0/2402	76.77%	1.303	0.628	0.249	0.08	14.08	15.00	1.236	1.011	22.1
Left side	DH5	39/2441	76.77%	1.303	0.683	0.272	0.01	14.39	15.00	1.151	1.024	22.1

10.4 Measurement of PD Data

10.4.1 PD Result of Wifi 6E

Wi-Fi 6E PD Test Record MIMO															
Test position	Test mode	Test ch./Freq.	Distance (mm)	Grid Step (λ)	Duty Cycle	Duty Cycle Scaled factor	iPDn	iPD ratio	Measured PD 4cm^2 (W/m^2)	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaling Factor for measurement uncertainty	Tune up Scaled factor	Scaled PD 4cm^2 (W/m^2)
Power Density Test DATA															
Back side	802.11be-EHT320	63/6265	2	0.0625	98.79%	1.012	/	/	0.77	-0.05	11.56	12.00	1.5493	1.108	1.337
Left side	802.11be-EHT320	63/6265	2	0.0625	98.79%	1.012	/	/	0.29	0.14	11.56	12.00	1.5493	1.108	0.504
Right side	802.11be-EHT320	63/6265	2	0.0625	98.79%	1.012	8.45	0.52	2.72	0.03	11.56	12.00	1.5493	1.108	**4.724**
Right side	802.11be-EHT320	63/6265	9.6	0.0625	98.79%	1.012	7.50		1.48	0.09	11.56	12.00	1.5493	1.108	2.571
Top side	802.11be-EHT320	63/6265	2	0.0625	98.79%	1.012	/	/	0.11	-0.09	11.56	12.00	1.5493	1.108	0.191
Bottom side	802.11be-EHT320	63/6265	2	0.0625	98.79%	1.012	/	/	0.03	-0.15	11.56	12.00	1.5493	1.108	0.052
Right side	802.11be-EHT320	127/6585	2	0.0625	98.79%	1.012	/	/	2.31	0.09	11.04	11.50	1.5493	1.111	4.024
Right side	802.11be-EHT320	159/6745	2	0.0625	98.79%	1.012	/	/	1.35	-0.04	9.31	10.50	1.5493	1.317	2.787
Right side	802.11be-EHT320	191/6905	2	0.0625	98.79%	1.012	/	/	2.32	0.05	9.92	11.00	1.5493	1.282	4.664
Right side	802.11be-EHT320	95/6425	2	0.0625	98.79%	1.012	/	/	2.61	0.06	11.03	11.50	1.5493	1.114	4.559

10.5 Multiple Transmitter Evaluation

10.5.1 Simultaneous SAR test evaluation

No.	Simultaneous Tx Combination	Body
1	WLAN 2.4GHz Main(Ant2) + BT Aux(Ant1)	Yes
2	WLAN 2.4GHz Main(Ant2) + WLAN 2.4GHz Aux(Ant1)	Yes
3	WLAN 5GHz Main(Ant2) + BT Aux(Ant1)	Yes
4	WLAN 5GHz Main(Ant2) + WLAN 5GHZ Aux(Ant1)	Yes
5	WLAN 6GHz Main(Ant2) + BT Aux(Ant1)	Yes
6	WLAN 6GHz Main(Ant2) + WLAN 6GHz Aux(Ant1)	Yes

10.5.2 Simultaneous Transmission SAR Summation Scenario

Test position	SARmax (W/kg)							Summed SAR	
	WiFi 2.4G Ant1	WiFi 2.4G Ant2	WiFi 2.4G MIMO	WiFi 5G&6E Ant1	WiFi 5G&6E Ant2	WiFi 5G&6E MIMO	BT		
	1	2	3	4	5	6	7	2+7	5+7
Back side	0.031	0.044	0.080	0.066	0.089	0.236	0.175	0.219	0.264
Left side	0.257	/	0.315	0.737	0.032	0.786	1.095	1.095	1.127
Right side	/	0.291	0.373	0.078	1.194	1.162	/	0.291	1.194
Top side	/	0.049	0.061	0.059	0.321	0.193	/	0.049	0.321
Bottom side	0.074	/	0.055	0.094	0.029	0.060	0.216	0.216	0.245

11 Equipment list

Test Platform		SPEAG DASY Professional				
Description		SAR Test System				
Software Reference		cDASY6 V16.4.0.5005 cDASY6 Module mmWave_V3.2.0.1840				
Hardware Reference						
Equipment		Manufacturer	Model	Inventory No.	Calibration Date	Due date of calibration
☒	Test Phantom	SPEAG	ELI	SZ-WSR-A-024	NCR	NCR
☒	Test Phantom	SPEAG	mmWave	SZ-WSR-A-029	NCR	NCR
☒	DAE	SPEAG	DAE4	SZ-WSR-M-028	2025/04/27	2026/04/26
☒	E-Field Probe	SPEAG	EX3DV4	SZ-WSR-M-079	2024/11/20	2025/11/19
☒	Validation Kits	SPEAG	D2450V2	SZ-WSR-M-039	2022/11/02	2025/11/01
☒	Validation Kits	SPEAG	D5GHzV2	SZ-WSR-M-046	2022/11/01	2025/10/31
☒	Validation Kits	SPEAG	D6.5GHzV2	SZ-WSR-M-080	2023/09/11	2026/09/10
☒	5G Verification Source	SPEAG	10GHz	SZ-WSR-M-049	2024/08/20	2025/08/19
☒	Dielectric parameter probes	SPEAG	DAK-3.5	SZ-WSR-M-093	2024/11/18	2025/11/17
☒	Agilent Network Analyzer	Agilent	E5071C	SZ-WSR-M-067	2024/12/19	2025/12/18
☒	RF Bi-Directional Coupler	Agilent	86205-60001	SZ-WSR-A-004	NCR	NCR
☒	Signal Generator	Agilent	N5171B	SZ-WSR-M-006	2025/01/07	2026/01/06
☒	Preamplifier	Mini-Circuits	ZHL-42W	SZ-WSR-A-001	NCR	NCR
☒	Preamplifier	Compliance Directions Systems Inc.	AMP28-3W	SZ-WSR-A-002	NCR	NCR
☒	Power Meter	Agilent	E4416A	SZ-WSR-M-007	2025/01/07	2026/01/06
☒	Power Sensor	Agilent	8481H	SZ-WSR-M-008	2025/01/07	2026/01/06
☒	Power Sensor	R&S	NRP-Z92	SZ-WSR-M-009	2025/01/08	2026/01/07
☒	Attenuator	SHX	TS2-3dB	SZ-WSR-A-012	NCR	NCR
☒	Speed reading thermometer	Zhengzhou Boyang Instrument	TP3001	SZ-WSR-M-014	2025/05/19	2026/05/18
☒	Temperature	MingGao	T809	SZ-WSR-M-015	2025/05/19	2026/05/18
☒	Temperature	MingGao	T809	SZ-WSR-M-016	2025/05/19	2026/05/18
☒	Humidity and Temperature Indicator	CHIGAO	HTC-1	SZ-WSR-M-013	2025/05/16	2026/05/15
☒	Humidity and Temperature Indicator	CHIGAO	HTC-1	SZ-WSR-M-012	2025/05/16	2026/05/15

Note: All the equipment are within the valid period when the tests are performed.

12 Calibration certificate

Please see the Appendix C

13 Photographs

Please see the Appendix D

Appendix A: Detailed System Check Results

Appendix B: Detailed Test Results

Appendix C: Calibration certificate

Appendix D: Photographs

-- End of report --

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