RF EXPOSURE TEST REPORT

Application No.:	SUCR2512001219TL
Applicant:	KEYENCE CORPORATION
Address of Applicant:	1-3-14, Higashinakajima Higashiyodogawa-ku, Osaka 533-8555, Japan
Manufacturer:	KEYENCE CORPORATION
Address of Manufacturer:	1-3-14, Higashinakajima Higashiyodogawa-ku, Osaka 533-8555, Japan
EUT Description:	Handheld Terminal
Model No.:	BT-A800
Trade Mark:	KEYENCE
FCC ID:	RF41995B
Standards:	FCC 47CFR §2.1093
Date of Receipt:	2025-12-22
Date of Test:	2025-12-31 to 2026-01-24
Date of Issue:	2026-02-12
Test Result :	**PASS ***

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

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Revision Record			
Version	**Description**	**Date**	**Remark**
00	Original	2026-02-12	/

Authorized for issue by:		
Prepared By		Leon Liu **Leon Liu/ Project Engineer**
Approved By		Nick Hu **Nick Hu/ Reviewer**

TEST SUMMARY

Frequency Band	Maximum Reported SAR(W/kg)		
	Body	Hotspot	Product specific 10g SAR
WI-FI (2.4GHz)	0.57	**0.14**	/
WI-FI (5GHz)	**1.03**	/	/
WI-FI (6GHz)	0.58	/	/
BT	<0.10	<0.10	/
NFC	/	/	<0.10
SAR Limited(W/kg)	1.6		4.0
Maximum Simultaneous Transmission SAR (W/kg)			
Scenario	**Body**	**Hotspot**	**Product specific 10g SAR**
Sum SAR	1.59	0.25	<0.10
SPLSR	/	/	/
SPLSR Limited	0.04		0.1
Note: The Simultaneous transmission SAR is the same test position of the WiFi Antenna + WiFi/BT Antenna.			

Frequency Band	Max Report Power Density (W/m²)
WIFI 6E	**8.96**
PD Limited(W/kg)	10.00

Contents

1 General Information 6
1.1 General Description of EUT 6
1.2 Test Specification 7
1.3 RF exposure limits 8
1.4 Test Location 9
1.5 Test Engineer 9
1.6 Test Facility 9
2 Laboratory Environment 10
3 SAR Measurements System Configuraion 11
3.1 The SAR Measurement System 11
3.2 Isotropic E-field Proble EX3DV4 13
3.3 Data Acquisition Electronics (DAE) 14
3.4 SAM Twin Phantom 14
3.5 ELI Phantom 15
3.6 Device Holder for Transmitters 16
3.7 Measurement Procedure 17
3.7.1 Scanning procedure 17
3.7.2 Data storage 19
3.7.3 Data Evaluation by SEMCAD 19
4 PD Measurements System Configuraion 21
4.1 Power density measurement system 21
4.2 EUmmWaVe probe 22
4.3 Data Acquisition Electronics (DAE) 23
4.4 Measurement Procedure 23
5 SAR measurement variability and uncertainty 24
5.1 SAR measurement variability 24
5.2 SAR measurement uncertainty 24
6 PD measurement uncertainty 25
7 Desciption of Test Position 27
7.1 The Body Test Position 27
7.1.1 Terminals used next to or against the body 27
7.1.2 Wireless Router exposure conditions 27
7.2 Extremity exposure conditions 27
7.3 Proximity Sensor Triggering Test 28
7.3.1 Proximity sensor triggering distances 28
7.3.2 Proximity sensor coverage 30
7.3.3 Device tilt angle influences on proximity sensor triggering 30
8 SAR System Verificaion Procedure 31
8.1 Tissue Simulate Liquid 31
8.1.1 Recipes for Tissue Simulate Liquid 31
8.1.2 Measurement for Tissue Simulate Liquid 32
8.2 SAR System Check 33
8.2.1 Justification for Extended SAR Dipole Calibrations 34
8.2.2 Summary System Check Result(s) 35
8.2.3 Detailed System Check Results 35
9 PD System Verification Procedure 36
9.1 PD System Check Setting 36
9.2 PD System Check Results 38
9.3 Detailed System Check Results 38
10 Test Configuration 39
10.1 Operation Configurations 39

10.1.1 WIFI Test Configuration 39
10.1.2 BT Test Configuration 46
11 Test Result 47
11.1 DUT Antenna Locations (Back View) 47
11.2 Measurement of RF Conducted Power 48
11.2.1 RF Conducted Power reduction specification 48
11.2.2 RF Conducted Power Data 48
11.3 Measurement of SAR Data 49
11.3.1 SAR Result of NFC 50
11.3.2 SAR Result of WIFI 2.4G 51
11.3.3 SAR Result of WIFI 5G 53
11.3.4 SAR Result of WIFI 6E 55
11.3.5 SAR Result of BT 58
11.4 Measurement of PD Data 59
11.4.1 PD Result of WIFI 6E 60
11.5 Multiple Transmitter Evaluation 61
11.5.1 Simultaneous SAR test evaluation 61
11.5.2 Simultaneous Transmission SAR Summation Scenario 62
12 Equipment list 63
13 Calibration certificate 64
14 Photographs 64
Appendix A: Detailed System Check Results 64
Appendix B: Detailed Test Results 64
Appendix C: Calibration certificate 64
Appendix D: Photographs 64
Appendix E: Conducted RF Output Power 64

1 General Information

1.1 General Description of EUT

Product Name:	Handheld Terminal	
Model No.:	BT-A800	
Trade Mark:	KEYENCE	
Product Phase:	production unit	
Device Type:	portable device	
Exposure Category:	uncontrolled environment / general population	
SN:	BOES200018/ BOES200004/B0ES200005	
Hardware Version:	V1.04	
Software Version:	T23	
Antenna Type:	LDS Antenna	
Device Operating Configurations:		
Test Mode Configuration:	**WIFI**:DSSS,OFDM,OFDMA; **BT**:GFSK, π/4DQPSK,8DPSK **NFC**:ASK	
Frequency Bands:	Band	Tx(MHz)
	WIFI 2.4G	2412~2462
	WIFI 5G	5150~5250
		5250~5350
		5470~5725
		5725~5850
	WIFI 6E	5925~6425
		6425~6525
		6525~6875
		6875~7125
	BT	2402~2480
	NFC	13.56
RF Cable:	☒Provided by applicant ☐Provided by the laboratory	
Battery Information:	Model:	DX-BC6
	Normal Voltage:	3.6V
	Rated capacity:	6270mAh
	Manufacturer:	Getac Technology(Kunshan)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.

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 941225 D06	Hotspot Mode SAR v02r01
KDB 248227 D01	SAR Guidance for IEEE 802 11 Wi-Fi SAR v02r02
KDB 447498 D01	General RF Exposure Guidance v06
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
KDB 616217 D04	SAR for laptop and tablets v01r02

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 W/m^2

1.4 Test Location

All tests were performed at:
SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.
South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
No tests were sub-contracted.

1.5 Test Engineer

Test Engineer: Harry Wang

1.6 Test Facility

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

• A2LA (Certificate No. 6336.01)

SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd. is accredited by the American Association for Laboratory Accreditation (A2LA).

• FCC (Designation Number: CN1312)

SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd. has been recognized as an accredited testing laboratory.
Test Firm Registration Number: 717327

•ISED (CAB Identifier: CN0120)

SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.
Company Number: 27594

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

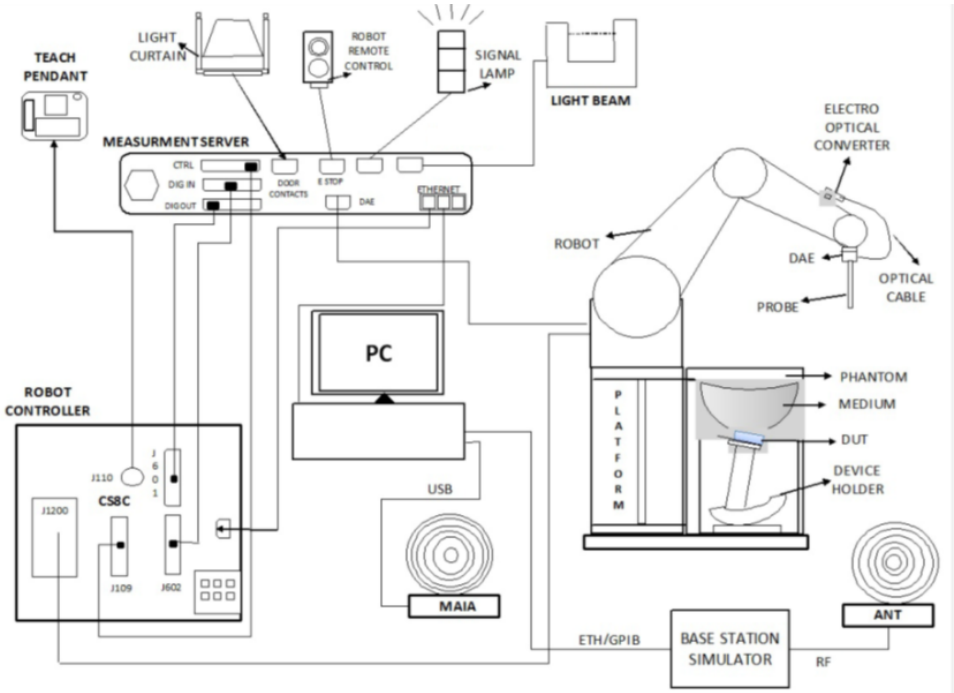
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-Simulate.

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 DASY 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. 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 4 MHz to 10 GHz. 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.

If the zoom scan measured as specified in the preceding paragraphs complies with both i) and ii), or if the psSAR is below 0,1 W/kg, no additional measurements are needed.

i) The smallest horizontal distance from the local SAR peaks to all points 3 dB below the SAR peak shall be larger than the horizontal grid steps in both x- and y-directions (∆x, ∆y). This shall be checked for the measured zoom scan plane conformal to the phantom at the distance zM1. The minimum distance shall be recorded in the SAR test report.

ii) The ratio of the SAR at the second measured point (M2) to the SAR at the closest measured point (M1) at the x-y location of the measured maximum SAR value shall be at least 30 %. This ratio (in %) shall be recorded in the SAR test report.

			≤ 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.

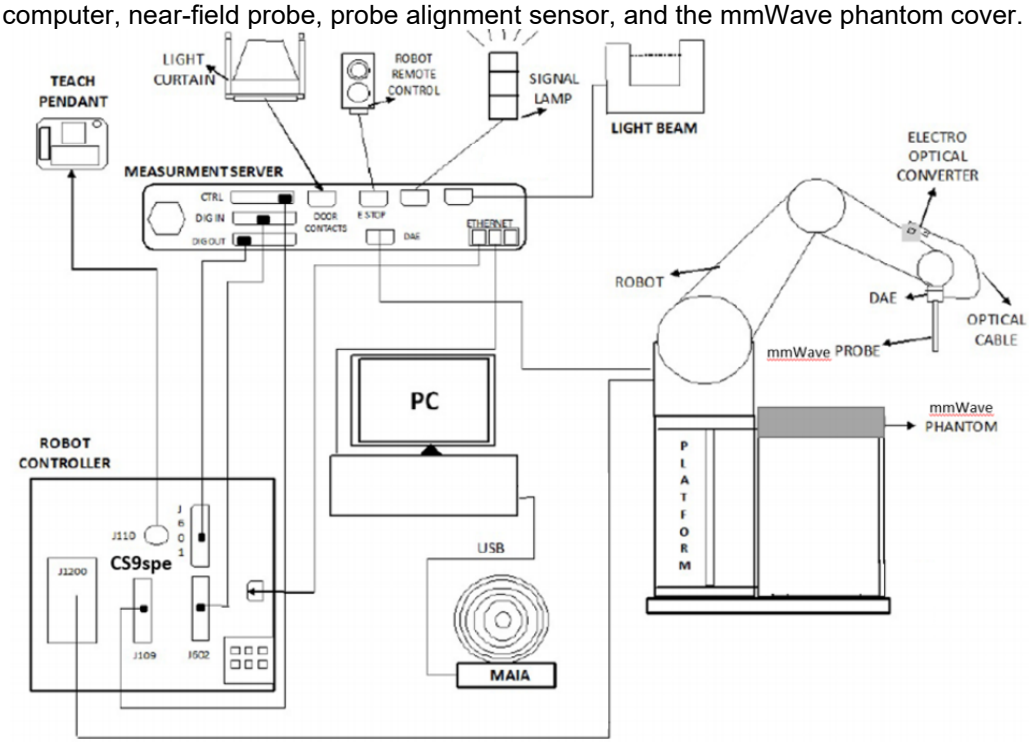
$$P_{pwe} = Etot^2 2 / 3770 \quad \text{or} \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

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 PD Measurements System Configuraion

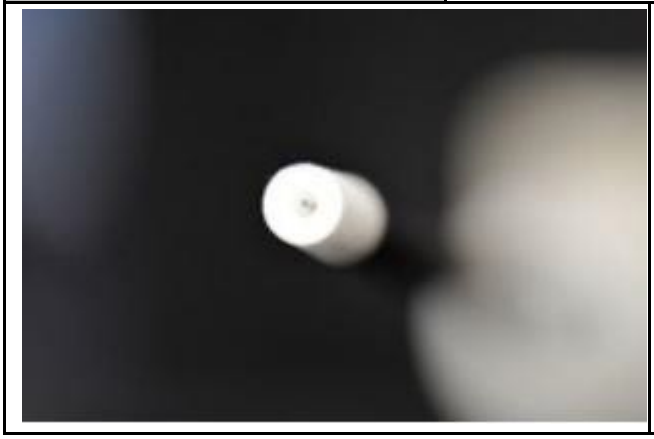
4.1 Power density measurement system

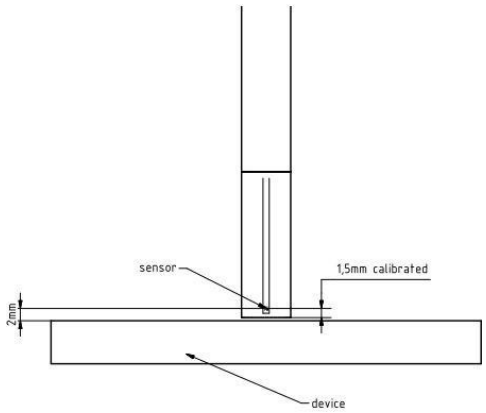
Power density measurements for mmWave frequencies were performed using SPEAG DASY8 or Higher with mmWave module. The system included a high precision robotics system (Staubli), robot controller, desktop computer, near-field probe, probe alignment sensor, and the mmWave phantom cover.



4.2 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	cDASY8 + 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.

4.3 Data Acquisition Electronics (DAE)

Model	DAE	
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY 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	

4.4 Measurement Procedure

Fine-resolution scans on 2 different planes are performed to reconstruct the E- and H-fields as well as the power density; the z-distance between the 2 planes is set to $\lambda/4$. The (x, y) grid step is also set $\lambda/4$, the grid extent is set to sufficiently large to identify the field pattern and the peak.

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.

6 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.

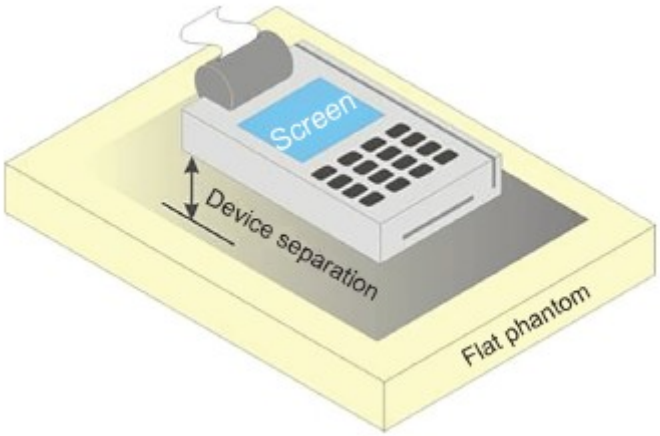
a	b	c	d	e	f=b*e/d	g
Error Description	**Uncertainty Value (±dB)**	**Probability**	**Div.**	**Ci**	**Standard Uncertainty (±dB)**	**Vi (Veff)**
Probe Calibration	0.49	N	1	1	0.49	∞
Probe correction	0.00	R	1.732	1	0.00	∞
Frequency response (BW ≤1 GHz)	0.20	R	1.732	1	0.12	∞
Sensor cross coupling	0.00	R	1.732	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	

7 Desciption of Test Position

7.1 The Body Test Position

7.1.1 Terminals used next to or against the body

A typical example of a device used next to the body is a credit card transaction authorization terminals, and point-of-sale and/or inventory terminals. The DUT shall be positioned with its base (bottom surface) and applicable edges against the flat phantom. The orientations and other use positions can be host device specific. Therefore, these should be determined according to the transmitter and antenna locations on the host device. A testing distance of 5mm or less is used for SAR testing of this type of device.



a) Wireless credit card transaction authorization terminal

7.1.2 Wireless Router exposure conditions

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed-use conditions for this type of devices. For devices with form factors smaller than 9 cm x 5 cm, a test separation distance of 5 mm is required.

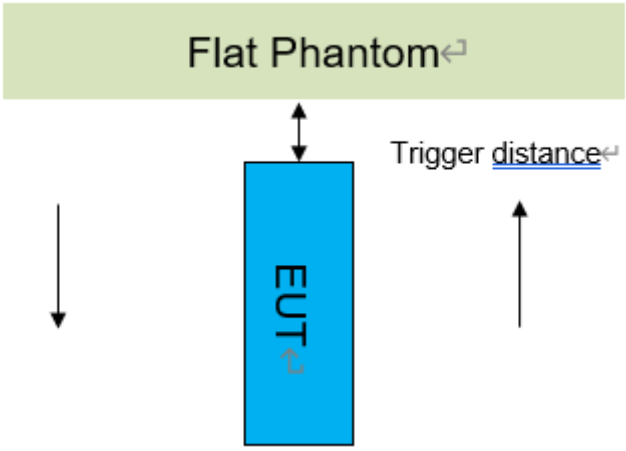
7.2 Extremity exposure conditions

Due to the SAR result, only the NFC frequency bands need to test with 0mm for the Product Specific 10-g SAR, the others are not required.

7.3 Proximity Sensor Triggering Test

7.3.1 Proximity sensor triggering distances

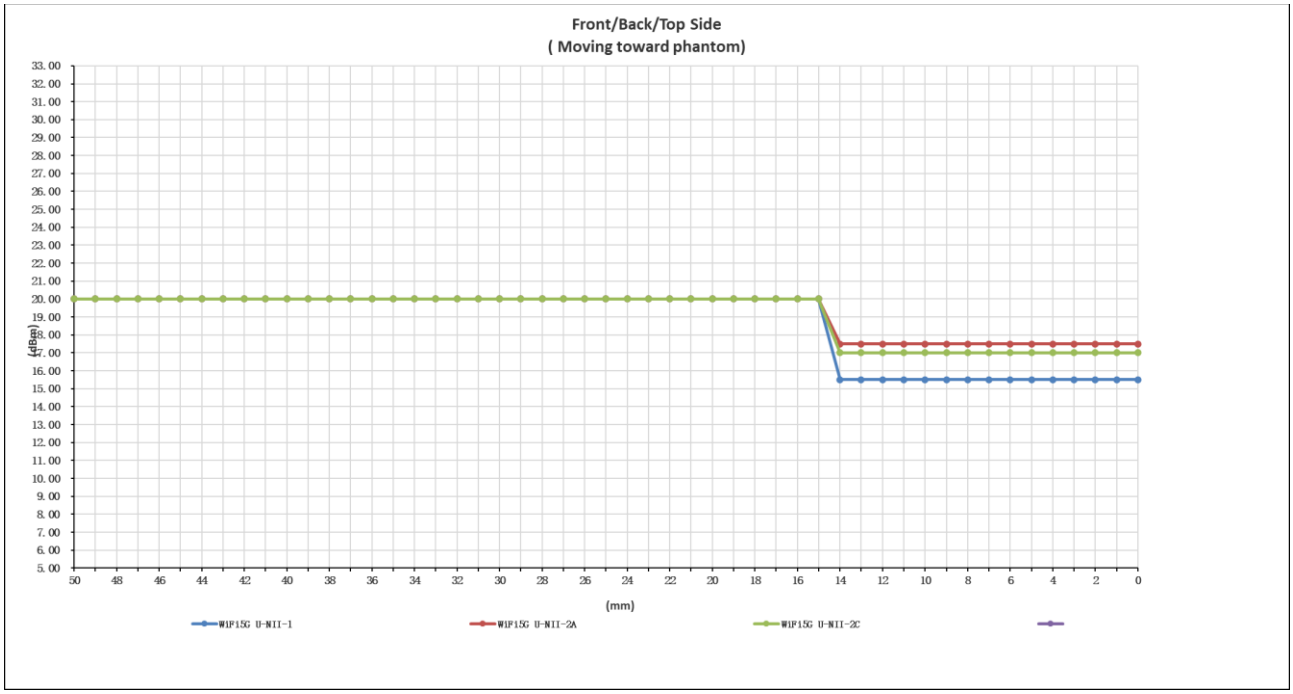
The Proximity sensor triggering was applied to the below table list antenna. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both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



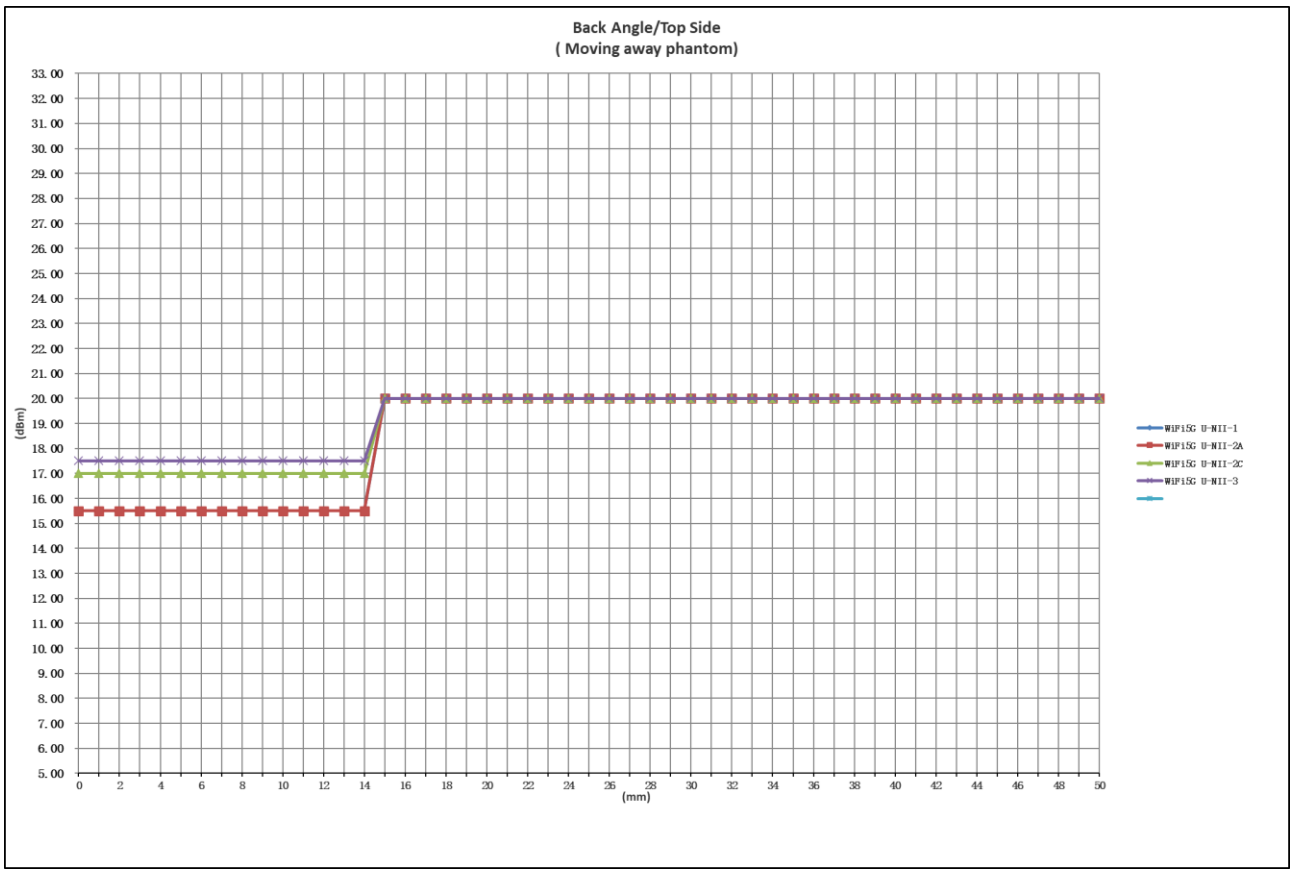
Proximity Sensor Triggering Distance(mm)				
Ant.5				
Position	Front side	Back Angle Side	Top Side	Bottom Side
Minimum	/	14	14	/

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

- Ant 5 DUT Moving Toward(Trigger)the Phantom



- Ant 5 DUT Moving Away(Release) from the Phantom

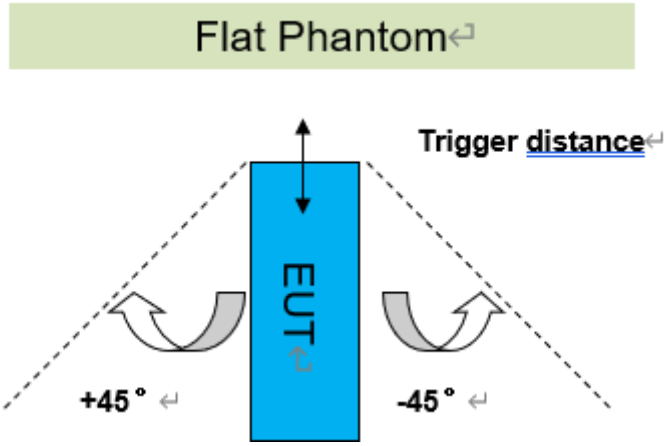


7.3.2 Proximity sensor coverage

If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user, but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. For p-sensor coverage testing, the device is moved and “along the direction of maximum antenna and sensor offset”.
The proximity sensor and main antenna use same metallic electrode, so there is no spatial offset.

7.3.3 Device tilt angle influences on proximity sensor triggering

The influence of device tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom.
Rotating the tablet around the edge next to the phantom in ≤ 10° increments until the tablet is ± 45° from the vertical position at 0°, and the maximum output power remains in the reduced mode.



Summary of Tablet Tilt Angle Influence on Proximity Sensor Triggering for Edge Side													
Band (MHz)	Minimum trigger distance Per KDB616217§6.2	Minimum trigger distance at which power reduction was maintained over ±45°	Power Reduction Status										
			-45°	-35°	-25°	-15°	-5°	0°	5°	15°	25°	35°	45°
Ant 5	Top Side 14mm	Top Side 14mm	on	on	on	on	on	on	on	on	on	on	on

8 SAR System Verificaion Procedure

8.1 Tissue Simulate Liquid

8.1.1 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		
Head Tissue Simulate Liquid (HBBL600-10000V6) 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

8.1.2 Measurement for Tissue Simulate Liquid

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

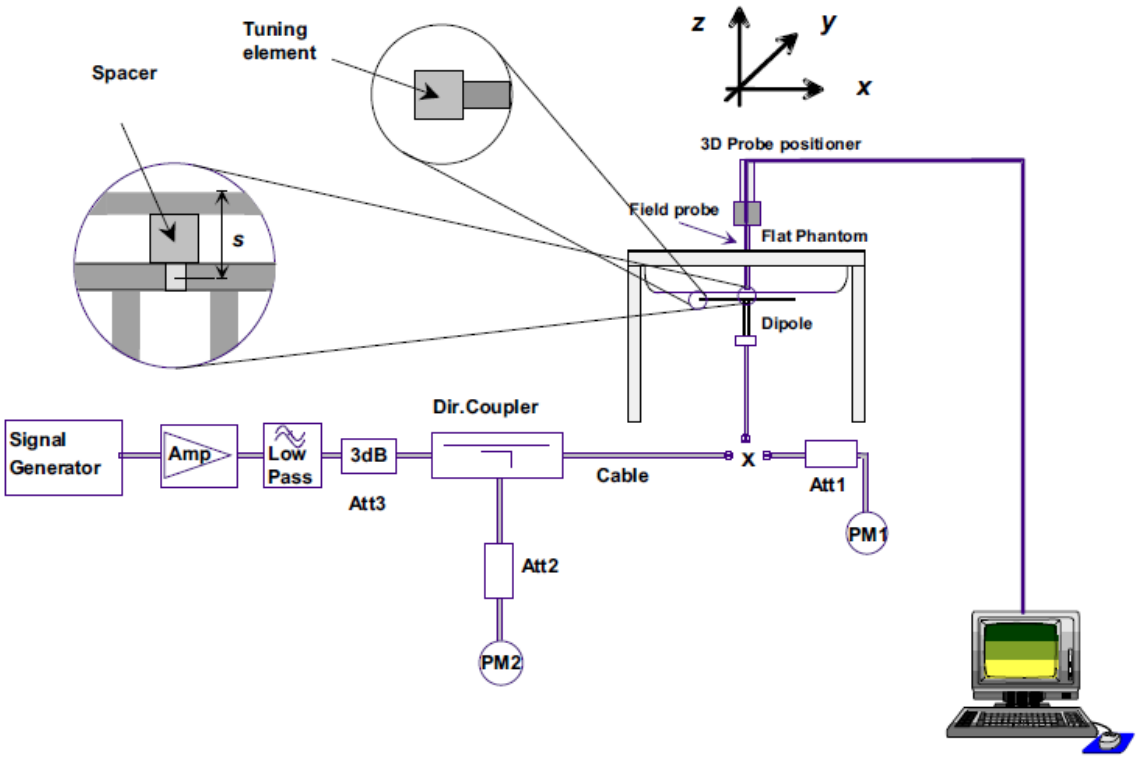
The temperature variation of the Tissue Simulate Liquids was 22±2°C.

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)		
13 Head	13	55.625	0.744	55.00	0.75	1.14%	-0.80%	22.4	2026/1/20
2450 Head	2450	38.639	1.804	39.20	1.80	-1.43%	0.22%	22.5	2025/12/31
2450 Head	2450	38.860	1.815	39.20	1.80	-0.87%	0.83%	22.8	2026/1/1
5250 Head	5250	37.029	4.873	35.90	4.71	3.14%	3.46%	22.3	2026/1/12
5600 Head	5600	36.667	5.241	35.50	5.07	3.29%	3.37%	22.5	2026/1/13
5750 Head	5750	36.519	5.401	35.40	5.22	3.16%	3.47%	22.4	2026/1/14
6500 Head	6500	34.300	6.320	34.50	6.07	-0.58%	4.12%	22.3	2026/1/15

Table 2： Measurement result of Tissue electric parameters

8.2 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

8.2.1 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.

8.2.2 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)		
CLA13_Head	0.11	0.07	0.44	0.28	0.42	0.27	4.76%	3.70%	22.4	2026/1/20
D2450V2_Head	12.90	6.07	51.60	24.28	52.70	24.60	-2.09%	-1.30%	22.5	2025/12/31
D2450V2_Head	13.00	6.11	52.00	24.44	52.70	24.60	-1.33%	-0.65%	22.8	2026/1/1
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	7.92	2.22	79.20	22.20	77.20	21.90	2.59%	1.37%	22.3	2026/1/12
D5GHzV2_5.6G_Head	8.29	2.29	82.90	22.90	81.10	22.80	2.22%	0.44%	22.5	2026/1/13
D5GHzV2_5.75G_Head	8.22	2.28	82.20	22.80	77.80	21.70	5.66%	5.07%	22.4	2026/1/14
D6500V2_Head	30.30	5.64	303.00	56.40	297.00	54.30	2.02%	3.87%	22.3	2026/1/15

Table 3： SAR System Check Result

8.2.3 Detailed System Check Results

Please see the Appendix A

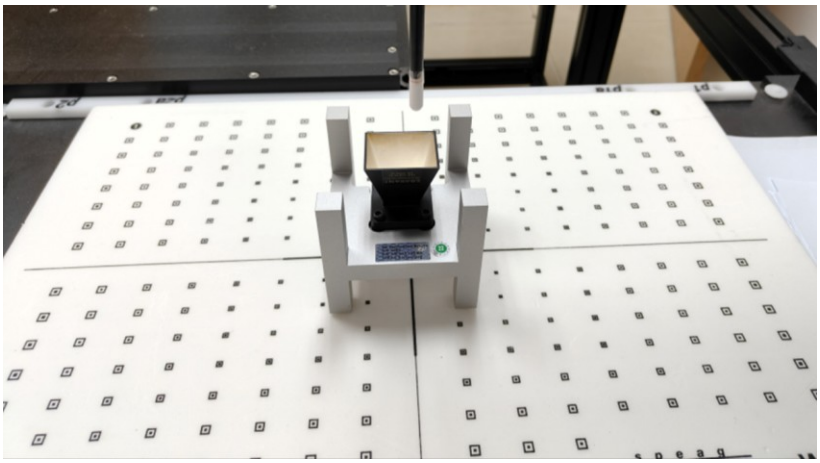
9 PD System Verification Procedure

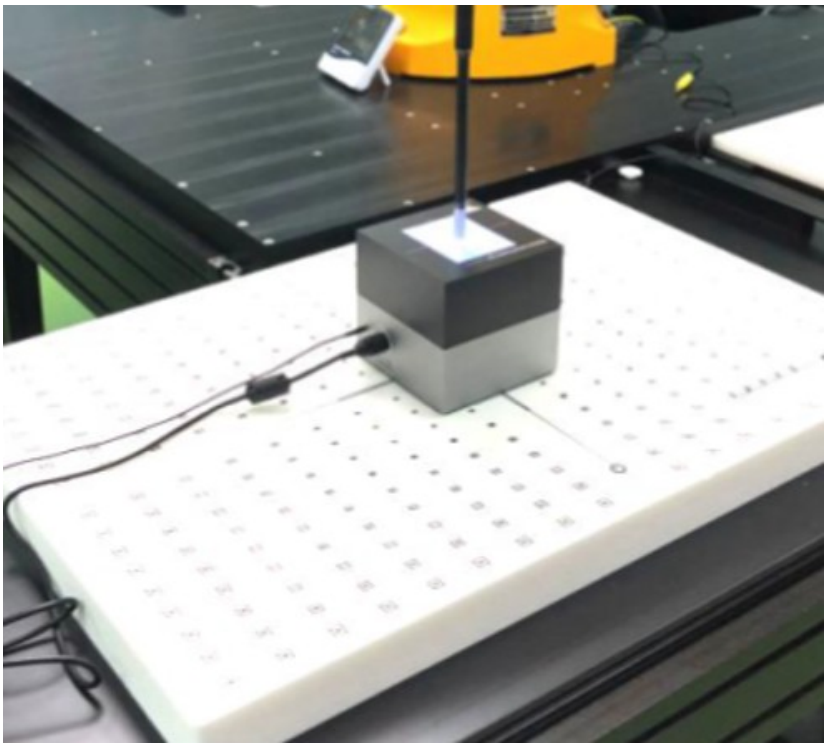
9.1 PD System Check Setting

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.

Settings for measurement of verification sources

Frequency [GHz]	Grid step	Grid extent X/Y [mm]	Measurement points
10	0.25 ($\frac{\lambda}{4}$)	120/120	16 × 16
30	0.25 ($\frac{\lambda}{4}$)	60/60	24 × 24
60	0.25 ($\frac{\lambda}{4}$)	32.5/32.5	26 × 26
90	0.25 ($\frac{\lambda}{4}$)	30/30	36 × 36





System Verification Setup Photo

9.2 PD System Check Results

Frequent	Measured PD W/m²	Target PD W/m²	Circular Deviation (Within ±0.66dB)	Test Date
	4cm²	4cm²	4cm²	
10G HZ Source	188	183	0.12	2026/1/24

9.3 Detailed System Check Results

Please see the Appendix A

10 Test Configuration

10.1 Operation Configurations

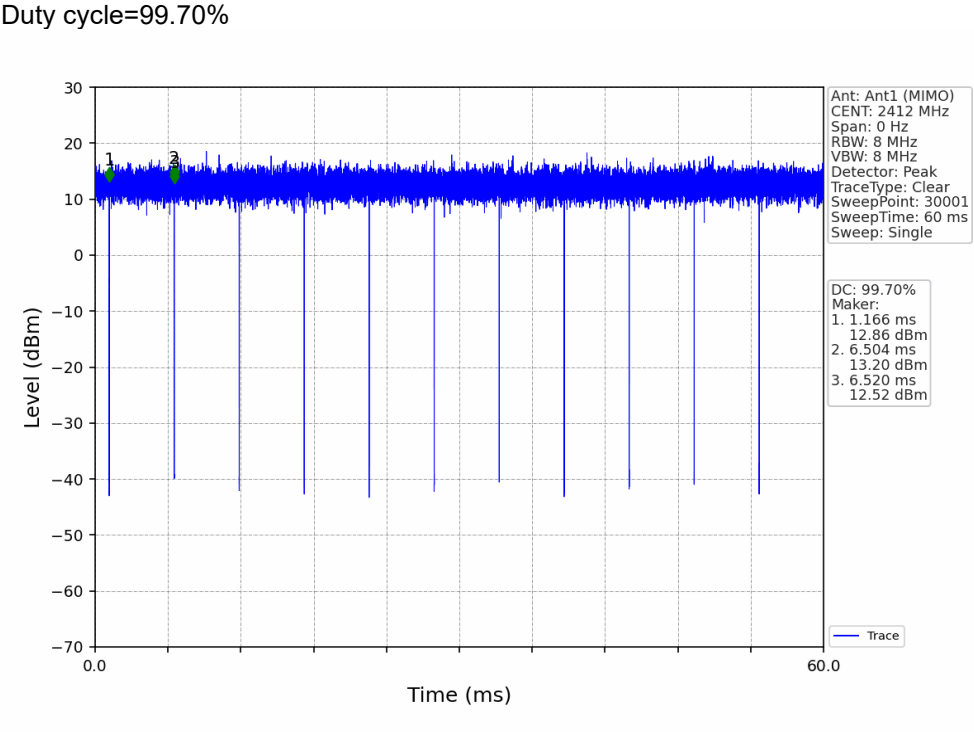
10.1.1 WIFI Test Configuration

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.

10.1.1.1 Duty cycle

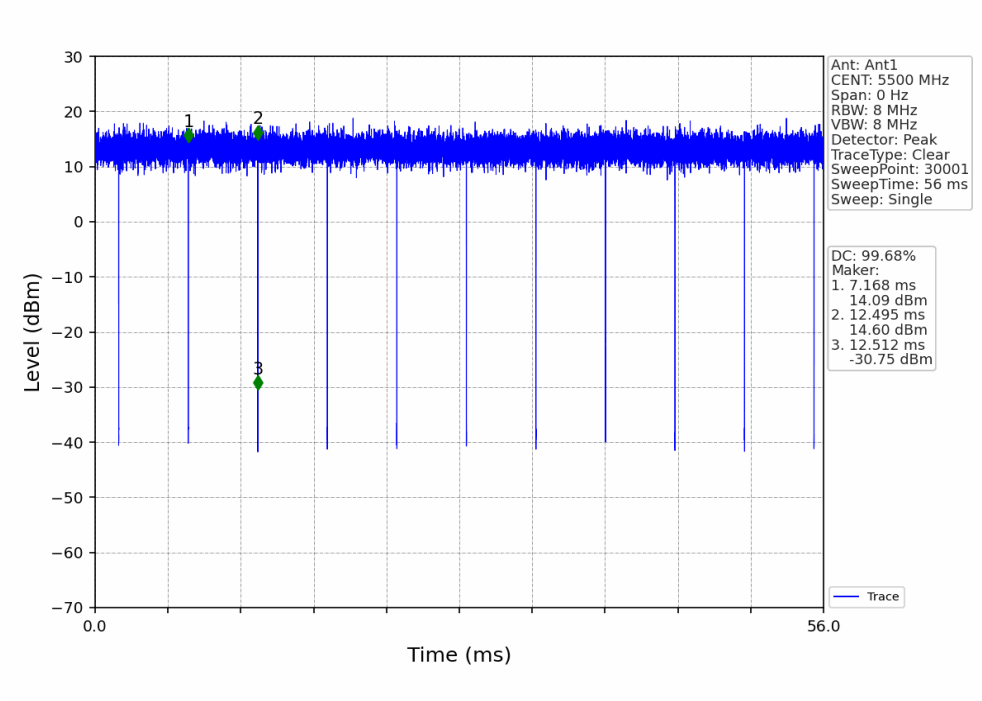
1) Wi-Fi 2.4GHz 802.11ax HE20:

Duty cycle=99.70%



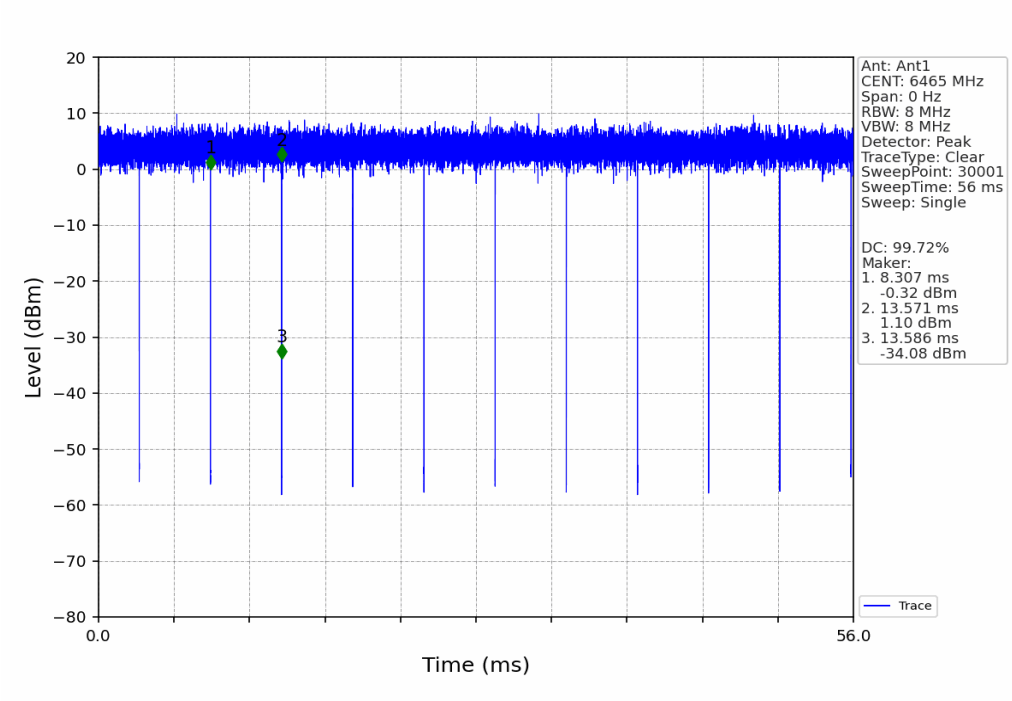
2) Wi-Fi 5GHz 802.11n HT20 (MIMO):

Duty cycle=99.68 %



3) Wi-Fi 6GHz 802.11be EHT80 (MIMO):

Duty cycle=99.72%



10.1.1.2 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.

10.1.1.3 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”

10.1.1.4 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.

10.1.1.5 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.

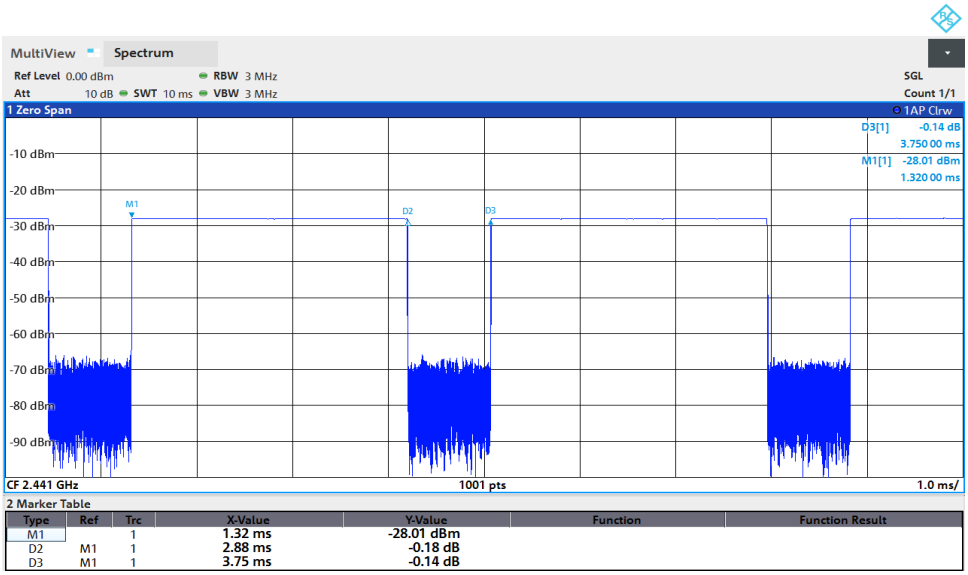
- **SAR Test Requirements for OFDM configurations**

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.

10.1.2 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.

BT DH5 Duty Cycle=76.80%



11 Test Result

11.1 DUT Antenna Locations (Back View)

The DUT Antenna Locations can be referred to Appendix D

Note:

1) The distance between the antennas and the sides of the EUT show as below table, when the antenna-to-edge distance is greater than 25mm, such position does not need to be SAR tested.

EUT Sides for SAR Testing							
Mode	Exposure Condition	Front	Back	Back Angle side	Left	Right	Top
Ant 5	Hotspot/Extremity	Yes	Yes	Yes	Yes	Yes	Yes
Ant 6	Hotspot/ Extremity	Yes	Yes	Yes	Yes	Yes	Yes

11.2 Measurement of RF Conducted Power

11.2.1 RF Conducted Power reduction specification

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

1) A fixed level power reduction is applied for some frequency bands when hotspot mode becomes active. When the hotspot is disabled, the power value will be recovered.

2) A fixed level power reduction is applied for some frequency bands when simultaneously transmitting with the other antennas in certain simultaneous transmission conditions.

3) The proximity sensor is used to indicate when the device is held close to a user's body exposure condition. It utilizes the proximity sensor to reduce the output power in specific wireless and operating modes of main antenna to ensure SAR compliance.

11.2.2 RF Conducted Power Data

The detailed power data can be referred to Appendix E Conducted RF Output Power.

11.3 Measurement of SAR Data

Note:

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

2) 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.

3) For WiFi 5G/6E does not support hotspot function.

4) For WiFi SAR test, as the highest reported SAR is smaller than 1.2 W/kg , and the tune-up of the other 802.11 modes are not higher than SAR measurement mode, therefore the adjusted SAR is ⩽ 1.2 W/kg for other 802.11 modes, SAR test for the other 802.11 modes are not required. For Product specific 10gSAR the highest reported SAR is smaller than 3.0 W/kg, SAR test for the other 802.11 modes are also not required.

5) WIFI 6E SAR is measured by using 6-7GHz parameters per IEC/IEEE 62209-1528:2020.

6) NFC is different from the working scenario of WIFI(Body/Hotspot) and does not participate in the simultaneous transmission.

11.3.1 SAR Result of NFC

NFC SAR Test Record									
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg) 10-g**	**Power drift (dB)**	**Scaled factor**	**Scaled SAR 10-g (W/kg)**	**Liquid Temp.(℃)**
NFC Test data (Separate 0mm)									
Front side	NFC	13.56MHz	100.00%	1.000	0.000	0.05	1.000	0.000	22.4
Back side	NFC	13.56MHz	100.00%	1.000	0.000	0.04	1.000	0.000	22.4
Back Angle side	NFC	13.56MHz	100.00%	1.000	0.064	-0.06	1.000	**0.064**	22.4
Left side	NFC	13.56MHz	100.00%	1.000	0.000	0.07	1.000	0.000	22.4
Right side	NFC	13.56MHz	100.00%	1.000	0.000	0.05	1.000	0.000	22.4
Top side	NFC	13.56MHz	100.00%	1.000	0.000	0.01	1.000	0.000	22.4

11.3.2 SAR Result of WIFI 2.4G

Wi-Fi 2.4G SAR Test Record											
sensor off Ant5 Test Record chain0											
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-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)											
Front side	802.11AX HE20	1/2412	99.70%	1.003	0.053	0.10	19.53	20.50	1.250	0.066	22.5
Back side	802.11AX HE20	1/2412	99.70%	1.003	0.000	0.07	19.53	20.50	1.250	0.000	22.5
Back Angle side	802.11AX HE20	1/2412	99.70%	1.003	0.452	-0.10	19.53	20.50	1.250	**0.567**	22.5
Left side	802.11AX HE20	1/2412	99.70%	1.003	0.217	-0.03	19.53	20.50	1.250	0.272	22.5
Right side	802.11AX HE20	1/2412	99.70%	1.003	0.000	0.05	19.53	20.50	1.250	0.000	22.5
Top side	802.11AX HE20	1/2412	99.70%	1.003	0.312	-0.08	19.53	20.50	1.250	0.391	22.5
Hotspot Test data (Separate 10mm)											
Front side	802.11AX HE20	1/2412	99.70%	1.003	0.000	0.04	19.53	20.50	1.250	0.000	22.8
Back side	802.11AX HE20	1/2412	99.70%	1.003	0.000	0.01	19.53	20.50	1.250	0.000	22.8
Back Angle side	802.11AX HE20	1/2412	99.70%	1.003	0.114	0.00	19.53	20.50	1.250	**0.143**	22.8
Left side	802.11AX HE20	1/2412	99.70%	1.003	0.000	0.08	19.53	20.50	1.250	0.000	22.8
Right side	802.11AX HE20	1/2412	99.70%	1.003	0.000	-0.09	19.53	20.50	1.250	0.000	22.8
Top side	802.11AX HE20	1/2412	99.70%	1.003	0.072	-0.06	19.53	20.50	1.250	0.090	22.8
Ant6 Test Record chain1											
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-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)											
Front side	802.11AX HE20	1/2412	99.70%	1.003	0.063	-0.07	19.39	20.50	1.291	0.082	22.5
Back side	802.11AX HE20	1/2412	99.70%	1.003	0.000	0.04	19.39	20.50	1.291	0.000	22.5
Back Angle side	802.11AX HE20	1/2412	99.70%	1.003	0.253	0.05	19.39	20.50	1.291	0.328	22.5
Left side	802.11AX HE20	1/2412	99.70%	1.003	0.000	-0.08	19.39	20.50	1.291	0.000	22.5
Right side	802.11AX HE20	1/2412	99.70%	1.003	0.265	0.02	19.39	20.50	1.291	**0.343**	22.5
Top side	802.11AX HE20	1/2412	99.70%	1.003	0.000	-0.02	19.39	20.50	1.291	0.000	22.5
Hotspot Test data (Separate 10mm)											
Front side	802.11AX HE20	1/2412	99.70%	1.003	0.000	-0.08	19.39	20.50	1.291	0.000	22.8
Back side	802.11AX HE20	1/2412	99.70%	1.003	0.000	0.06	19.39	20.50	1.291	0.000	22.8
Back Angle side	802.11AX HE20	1/2412	99.70%	1.003	0.083	-0.03	19.39	20.50	1.291	**0.107**	22.8
Left side	802.11AX HE20	1/2412	99.70%	1.003	0.000	0.02	19.39	20.50	1.291	0.000	22.8
Right side	802.11AX HE20	1/2412	99.70%	1.003	0.070	0.09	19.39	20.50	1.291	0.091	22.8
Top side	802.11AX HE20	1/2412	99.70%	1.003	0.000	-0.08	19.39	20.50	1.291	0.000	22.8
MIMO Test Record											
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-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)											
Front side	802.11AX HE20	1/2412	99.70%	1.003	0.075	-0.03	22.47	23.50	1.267	0.095	22.5
Back side	802.11AX HE20	1/2412	99.70%	1.003	0.000	-0.03	22.47	23.50	1.267	0.000	22.5
Back Angle side	802.11AX HE20	1/2412	99.70%	1.003	0.374	0.06	22.47	23.50	1.267	**0.475**	22.5
Left side	802.11AX HE20	1/2412	99.70%	1.003	0.199	-0.05	22.47	23.50	1.267	0.253	22.5
Right side	802.11AX HE20	1/2412	99.70%	1.003	0.222	-0.06	22.47	23.50	1.267	0.282	22.5
Top side	802.11AX HE20	1/2412	99.70%	1.003	0.295	0.02	22.47	23.50	1.267	0.375	22.5

Hotspot Test data (Separate 10mm)											
Front side	802.11AX HE20	1/2412	99.70%	1.003	0.000	-0.06	22.47	23.50	1.267	0.000	22.8
Back side	802.11AX HE20	1/2412	99.70%	1.003	0.000	-0.02	22.47	23.50	1.267	0.000	22.8
Back Angle side	802.11AX HE20	1/2412	99.70%	1.003	0.057	-0.03	22.47	23.50	1.267	**0.072**	22.8
Left side	802.11AX HE20	1/2412	99.70%	1.003	0.000	0.10	22.47	23.50	1.267	0.000	22.8
Right side	802.11AX HE20	1/2412	99.70%	1.003	0.000	0.08	22.47	23.50	1.267	0.000	22.8
Top side	802.11AX HE20	1/2412	99.70%	1.003	0.000	-0.10	22.47	23.50	1.267	0.000	22.8

11.3.3 SAR Result of WIFI 5G

Wi-Fi 5G SAR Test Record											
Ant5 Test Record chain0											
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(℃)
sensor on Body Test data of U-NII-2A (Separate 0mm)											
Back Angle side	802.11a	52/5260	99.24%	1.008	0.485	-0.02	14.28	15.50	1.324	**0.647**	22.3
Top side	802.11a	52/5260	99.24%	1.008	0.415	-0.10	14.28	15.50	1.324	0.554	22.3
sensor off Body Test data of U-NII-2A											
Front side - 0mm	802.11a	52/5260	99.24%	1.008	0.419	-0.04	18.80	20.00	1.318	**0.557**	22.3
Back side - 0mm	802.11a	52/5260	99.24%	1.008	0.307	0.09	18.80	20.00	1.318	0.408	22.3
Back Angle side - 13mm	802.11a	52/5260	99.24%	1.008	0.294	0.05	18.80	20.00	1.318	0.391	22.3
Left side - 0mm	802.11a	52/5260	99.24%	1.008	0.406	0.00	18.80	20.00	1.318	0.539	22.3
Right side - 0mm	802.11a	52/5260	99.24%	1.008	0.000	-0.04	18.80	20.00	1.318	0.000	22.3
Top side - 13mm	802.11a	52/5260	99.24%	1.008	0.176	0.02	18.80	20.00	1.318	0.234	22.3
sensor on Body Test data of U-NII-2C (Separate 0mm)											
Back Angle side	802.11a	100/5500	99.20%	1.008	0.574	-0.05	16.22	17.00	1.197	0.693	22.5
Top side	802.11a	100/5500	99.20%	1.008	0.857	0.07	16.22	17.00	1.197	**1.034**	22.5
sensor off Body Test data of U-NII-2C											
Front side - 0mm	802.11a	100/5500	99.20%	1.008	0.598	0.10	19.24	20.00	1.191	**0.718**	22.5
Back side - 0mm	802.11a	100/5500	99.20%	1.008	0.238	0.06	19.24	20.00	1.191	0.286	22.5
Back Angle side - 13mm	802.11a	100/5500	99.20%	1.008	0.455	-0.09	19.24	20.00	1.191	0.546	22.5
Left side - 0mm	802.11a	100/5500	99.20%	1.008	0.380	-0.05	19.24	20.00	1.191	0.456	22.5
Right side - 0mm	802.11a	100/5500	99.20%	1.008	0.147	0.09	19.24	20.00	1.191	0.176	22.5
Top side - 13mm	802.11a	100/5500	99.20%	1.008	0.318	-0.08	19.24	20.00	1.191	0.382	22.5
sensor on Body Test data of U-NII-3 (Separate 0mm)											
Back Angle side	802.11a	149/5745	99.20%	1.008	0.529	0.07	16.59	17.50	1.233	**0.657**	22.5
sensor off Body Test data of U-NII-3											
Front side - 0mm	802.11a	149/5745	99.20%	1.008	0.297	-0.08	19.06	20.00	1.242	0.372	22.4
Back side - 0mm	802.11a	149/5745	99.20%	1.008	0.137	-0.08	19.06	20.00	1.242	0.172	22.4
Back Angle side - 13mm	802.11a	149/5745	99.20%	1.008	0.402	-0.01	19.06	20.00	1.242	0.503	22.4
Left side - 0mm	802.11a	149/5745	99.20%	1.008	0.231	-0.07	19.06	20.00	1.242	0.289	22.4
Right side - 0mm	802.11a	149/5745	99.20%	1.008	0.000	-0.07	19.06	20.00	1.242	0.000	22.4
Top side - 0mm	802.11a	149/5745	99.20%	1.008	0.450	0.09	19.06	20.00	1.242	**0.563**	22.4
Ant6 Test Record chain0											
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-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											
Front side	802.11a	52/5260	99.24%	1.008	0.000	-0.07	19.05	20.00	1.239	0.000	22.3
Back side	802.11a	52/5260	99.24%	1.008	0.000	0.07	19.05	20.00	1.239	0.000	22.3
Back Angle side	802.11a	52/5260	99.24%	1.008	0.000	-0.06	19.05	20.00	1.239	0.000	22.3
Left side	802.11a	52/5260	99.24%	1.008	0.000	-0.09	19.05	20.00	1.239	0.000	22.3
Right side	802.11a	52/5260	99.24%	1.008	0.181	0.03	19.05	20.00	1.245	**0.227**	22.3
Top side	802.11a	52/5260	99.24%	1.008	0.000	0.03	19.05	20.00	1.239	0.000	22.3
Body Test data of U-NII-2C											
Front side	802.11a	100/5500	99.20%	1.008	0.000	0.10	18.96	20.00	1.239	0.000	22.5
Back side	802.11a	100/5500	99.20%	1.008	0.000	0.07	18.96	20.00	1.239	0.000	22.5
Back Angle side	802.11a	100/5500	99.20%	1.008	0.000	-0.01	18.96	20.00	1.239	0.000	22.5
Left side	802.11a	100/5500	99.20%	1.008	0.000	-0.07	18.96	20.00	1.239	0.000	22.5
Right side	802.11a	100/5500	99.20%	1.008	0.064	-0.04	18.96	20.00	1.271	**0.082**	22.5
Top side	802.11a	100/5500	99.20%	1.008	0.000	-0.03	18.96	20.00	1.239	0.000	22.5
Body Test data of U-NII-3											

Front side	802.11a	149/5745	99.20%	1.008	0.000	-0.10	18.82	20.00	1.239	**0.000**	22.4
Back side	802.11a	149/5745	99.20%	1.008	0.000	0.01	18.82	20.00	1.239	**0.000**	22.4
Back Angle side	802.11a	149/5745	99.20%	1.008	0.000	0.03	18.82	20.00	1.239	**0.000**	22.4
Left side	802.11a	149/5745	99.20%	1.008	0.000	-0.04	18.82	20.00	1.239	**0.000**	22.4
Right side	802.11a	149/5745	99.20%	1.008	0.000	-0.08	18.82	20.00	1.312	**0.000**	22.4
Top side	802.11a	149/5745	99.20%	1.008	0.000	-0.07	18.82	20.00	1.239	**0.000**	22.4
MIMO Test Record											
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg) 1-g**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Liquid Temp.(℃)**
sensor on Body Test data of U-NII-2A (Separate 0mm)											
Back Angle side	802.11n HT20	52/5260	99.66%	1.003	0.469	-0.02	17.34	18.50	1.306	**0.614**	22.3
Top side	802.11n HT20	52/5260	99.66%	1.003	0.401	0.08	17.34	18.50	1.306	0.525	22.3
sensor off Body Test data of U-NII-2A											
Front side - 0mm	802.11n HT20	52/5260	99.66%	1.003	0.361	0.09	21.84	23.00	1.308	**0.474**	22.3
Back side - 0mm	802.11n HT20	52/5260	99.66%	1.003	0.313	0.00	21.84	23.00	1.308	0.411	22.3
Back Angle side - 13mm	802.11n HT20	52/5260	99.66%	1.003	0.292	0.10	21.84	23.00	1.308	0.383	22.3
Left side - 0mm	802.11n HT20	52/5260	99.66%	1.003	0.333	0.02	21.84	23.00	1.308	0.437	22.3
Right side - 0mm	802.11n HT20	52/5260	99.66%	1.003	0.297	0.10	21.84	23.00	1.308	0.390	22.3
Top side - 13mm	802.11n HT20	52/5260	99.66%	1.003	0.184	0.04	21.84	23.00	1.308	0.241	22.3
sensor on Body Test data of U-NII-2C (Separate 0mm)											
Back Angle side	802.11n HT20	100/5500	99.68%	1.003	0.652	0.04	19.09	20.00	1.234	0.807	22.5
Top side	802.11n HT20	100/5500	99.68%	1.003	0.815	0.03	19.09	20.00	1.234	**1.009**	22.5
sensor off Body Test data of U-NII-2C											
Front side - 0mm	802.11n HT20	100/5500	99.68%	1.003	0.651	-0.04	22.06	23.00	1.242	**0.811**	22.5
Back side - 0mm	802.11n HT20	100/5500	99.68%	1.003	0.228	0.09	22.06	23.00	1.242	0.284	22.5
Back Angle side - 13mm	802.11n HT20	100/5500	99.68%	1.003	0.400	0.00	22.06	23.00	1.242	0.498	22.5
Left side - 0mm	802.11n HT20	100/5500	99.68%	1.003	0.389	-0.09	22.06	23.00	1.242	0.485	22.5
Right side - 0mm	802.11n HT20	100/5500	99.68%	1.003	0.151	0.03	22.06	23.00	1.242	0.188	22.5
Top side - 13mm	802.11n HT20	100/5500	99.68%	1.003	0.301	-0.03	22.06	23.00	1.242	0.375	22.5
sensor on Body Test data of U-NII-3 (Separate 0mm)											
Back Angle side	802.11n HT20	149/5745	99.68%	1.003	0.550	-0.08	19.53	20.50	1.250	**0.690**	22.4
sensor off Body Test data of U-NII-3											
Front side - 0mm	802.11n HT20	149/5745	99.68%	1.003	0.277	-0.01	22.02	23.00	1.253	0.348	22.4
Back side - 0mm	802.11n HT20	149/5745	99.68%	1.003	0.153	-0.04	22.02	23.00	1.253	0.192	22.4
Back Angle side - 13mm	802.11n HT20	149/5745	99.68%	1.003	0.351	0.02	22.02	23.00	1.253	**0.441**	22.4
Left side - 0mm	802.11n HT20	149/5745	99.68%	1.003	0.224	0.00	22.02	23.00	1.253	0.282	22.4
Right side - 0mm	802.11n HT20	149/5745	99.68%	1.003	0.000	0.07	22.02	23.00	1.253	0.000	22.4
Top side - 0mm	802.11n HT20	149/5745	99.68%	1.003	0.349	0.10	22.02	23.00	1.253	0.439	22.4

11.3.4 SAR Result of WIFI 6E

Wi-Fi 6E SAR Test Record													
Ant5 Test Record chain0													
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	APD W/m² (4cm²)	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Scaled APD W/m^2 (W/kg)	Liquid Temp.(℃)
Body SAR Test data of U-NII-5(Separate 0mm)													
Front side	802.11BE EHT80M	39/6145	99.68%	1.000	0.120	0.740	-0.06	18.89	19.50	1.151	0.138	0.852	22.3
Back side	802.11BE EHT80M	39/6145	99.68%	1.000	0.043	0.250	0.08	18.89	19.50	1.151	0.049	0.288	22.3
Back Angle side	802.11BE EHT80M	39/6145	99.68%	1.000	0.402	2.350	-0.05	18.89	19.50	1.151	**0.463**	**2.705**	22.3
Back Angle side	802.11BE EHT80M	7/5985	99.68%	1.000	0.380	2.140	0.06	18.74	19.50	1.191	0.453	2.549	22.3
Left side	802.11BE EHT80M	39/6145	99.68%	1.000	0.152	0.840	0.04	18.89	19.50	1.151	0.175	0.967	22.3
Right side	802.11BE EHT80M	39/6145	99.68%	1.000	0.000	0.000	0.08	18.89	19.50	1.151	0.000	0.000	22.3
Top side	802.11BE EHT80M	39/6145	99.68%	1.000	0.366	2.050	-0.07	18.89	19.50	1.151	0.421	2.360	22.3
Body SAR Test data of U-NII-6 (Separate 0mm)													
Front side	802.11BE EHT80M	103/6465	99.72%	1.000	0.056	0.360	0.07	18.66	19.50	1.213	0.068	0.437	22.3
Back side	802.11BE EHT80M	103/6465	99.72%	1.000	0.106	0.690	0.05	18.66	19.50	1.213	0.129	0.837	22.3
Back Angle side	802.11BE EHT80M	103/6465	99.72%	1.000	0.337	2.080	-0.04	18.66	19.50	1.213	0.409	2.523	22.3
Left side	802.11BE EHT80M	103/6465	99.72%	1.000	0.147	0.890	0.05	18.66	19.50	1.213	0.178	1.080	22.3
Right side	802.11BE EHT80M	103/6465	99.72%	1.000	0.000	0.000	0.10	18.66	19.50	1.213	0.000	0.000	22.3
Top side	802.11BE EHT80M	103/6465	99.72%	1.000	0.363	2.130	-0.04	18.66	19.50	1.213	**0.440**	**2.584**	22.3
sensor off Body SAR Test data of U-NII-7													
Front side	802.11BE EHT80M	151/6705	99.68%	1.000	0.077	0.440	0.05	17.82	18.50	1.169	0.090	0.514	22.3
Back side	802.11BE EHT80M	151/6705	99.68%	1.000	0.123	0.780	-0.07	17.82	18.50	1.169	0.144	0.912	22.3
Back Angle side	802.11BE EHT80M	151/6705	99.68%	1.000	0.462	2.920	-0.03	17.82	18.50	1.169	**0.540**	**3.413**	22.3
Left side	802.11BE EHT80M	151/6705	99.68%	1.000	0.120	0.680	0.06	17.82	18.50	1.169	0.140	0.795	22.3
Right side	802.11BE EHT80M	151/6705	99.68%	1.000	0.000	0.000	-0.02	17.82	18.50	1.169	0.000	0.000	22.3
Top side	802.11BE EHT80M	151/6705	99.68%	1.000	0.307	1.810	0.00	17.82	18.50	1.169	0.359	2.116	22.3
Body SAR Test data of U-NII-8 (Separate 0mm)													
Front side	802.11BE EHT80M	215/7025	99.72%	1.000	0.097	0.500	-0.08	17.50	18.50	1.259	0.122	0.630	22.3
Back side	802.11BE EHT80M	215/7025	99.72%	1.000	0.130	0.790	0.04	17.50	18.50	1.259	0.164	0.995	22.3
Back Angle side	802.11BE EHT80M	215/7025	99.72%	1.000	0.454	2.700	0.09	17.50	18.50	1.259	**0.572**	**3.399**	22.3
Left side	802.11BE EHT80M	215/7025	99.72%	1.000	0.092	0.500	0.01	17.50	18.50	1.259	0.116	0.630	22.3
Right side	802.11BE EHT80M	215/7025	99.72%	1.000	0.000	0.000	0.02	17.50	18.50	1.259	0.000	0.000	22.3
Top side	802.11BE EHT80M	215/7025	99.72%	1.000	0.441	2.560	-0.05	17.50	18.50	1.259	0.555	3.223	22.3
Ant6 Test Record chain0													
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-g	APD W/m² (4cm²)	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Scaled APD W/m^2 (W/kg)	Liquid Temp.(℃)
Body SAR Test data of U-NII-5 (Separate 0mm)													
Front side	802.11BE EHT80M	39/6145	99.68%	1.003	0.000	0.000	0.03	18.79	19.50	1.178	0.000	0.000	22.3
Back side	802.11BE EHT80M	39/6145	99.68%	1.003	0.000	0.000	-0.08	18.79	19.50	1.178	0.000	0.000	22.3
Back Angle side	802.11BE EHT80M	39/6145	99.68%	1.003	0.000	0.000	-0.10	18.79	19.50	1.178	0.000	0.000	22.3
Left side	802.11BE EHT80M	39/6145	99.68%	1.003	0.000	0.000	0.04	18.79	19.50	1.178	0.000	0.000	22.3
Right side	802.11BE EHT80M	39/6145	99.68%	1.003	0.036	0.230	0.10	18.79	19.50	1.178	**0.043**	**0.272**	22.3
Right side	802.11BE EHT80M	7/5985	99.68%	1.003	0.024	0.147	0.04	18.61	19.50	1.227	0.030	0.181	22.3
Top side	802.11BE EHT80M	39/6145	99.68%	1.003	0.000	0.000	0.04	18.79	19.50	1.178	0.000	0.000	22.3
Body SAR Test data of U-NII-6 (Separate 0mm)													
Front side	802.11BE EHT80M	103/6465	99.72%	1.003	0.000	0.000	-0.03	18.58	19.50	1.236	**0.000**	**0.000**	22.3

Back side	802.11BE EHT80M	103/6465	99.72%	1.003	0.000	0.000	-0.08	18.58	19.50	1.236	**0.000**	**0.000**	22.3
Back Angle side	802.11BE EHT80M	103/6465	99.72%	1.003	0.000	0.000	-0.07	18.58	19.50	1.236	**0.000**	**0.000**	22.3
Left side	802.11BE EHT80M	103/6465	99.72%	1.003	0.000	0.000	-0.06	18.58	19.50	1.236	**0.000**	**0.000**	22.3
Right side	802.11BE EHT80M	103/6465	99.72%	1.003	0.000	0.000	0.02	18.58	19.50	1.236	**0.000**	**0.000**	22.3
Top side	802.11BE EHT80M	103/6465	99.72%	1.003	0.000	0.000	-0.08	18.58	19.50	1.236	**0.000**	**0.000**	22.3
Body SAR Test data of U-NII-7													
Front side	802.11BE EHT80M	151/6705	99.68%	1.003	0.050	0.330	0.05	17.68	18.50	1.208	0.061	0.400	22.3
Back side	802.11BE EHT80M	151/6705	99.68%	1.003	0.000	0.000	0.06	17.68	18.50	1.208	0.000	0.000	22.3
Back Angle side	802.11BE EHT80M	151/6705	99.68%	1.003	0.075	0.420	0.01	17.68	18.50	1.208	0.091	0.509	22.3
Left side	802.11BE EHT80M	151/6705	99.68%	1.003	0.000	0.000	0.00	17.68	18.50	1.208	0.000	0.000	22.3
Right side	802.11BE EHT80M	151/6705	99.68%	1.003	0.440	2.600	-0.03	17.68	18.50	1.208	**0.533**	**3.150**	22.3
Top side	802.11BE EHT80M	151/6705	99.68%	1.003	0.000	0.000	-0.06	17.68	18.50	1.208	0.000	0.000	22.3
Body SAR Test data of U-NII-8 (Separate 0mm)													
Front side	802.11BE EHT80M	199/6945	99.72%	1.003	0.055	0.310	0.05	17.60	18.50	1.230	0.068	0.382	22.3
Back side	802.11BE EHT80M	199/6945	99.72%	1.003	0.000	0.000	0.10	17.60	18.50	1.230	0.000	0.000	22.3
Back Angle side	802.11BE EHT80M	199/6945	99.72%	1.003	0.071	0.380	-0.02	17.60	18.50	1.230	0.088	0.469	22.3
Left side	802.11BE EHT80M	199/6945	99.72%	1.003	0.000	0.000	-0.04	17.60	18.50	1.230	0.000	0.000	22.3
Right side	802.11BE EHT80M	199/6945	99.72%	1.003	0.445	2.650	-0.05	17.60	18.50	1.230	**0.549**	**3.269**	22.3
Top side	802.11BE EHT80M	199/6945	99.72%	1.003	0.000	0.000	-0.09	17.60	18.50	1.230	0.000	0.000	22.3
MIMO Test Record													
Test position	**Test mode**	**Test ch./Freq.**	**Duty Cycle**	**Duty Cycle Scaled factor**	**SAR (W/kg) 1-g**	**APD W/m² (4cm²)**	**Power drift (dB)**	**Conducted Power(dBm)**	**Tune up Limit(dBm)**	**Scaled factor**	**Scaled SAR 1-g (W/kg)**	**Scaled APD W/m^2 (W/kg)**	**Liquid Temp.(℃)**
Body SAR Test data of U-NII-5 (Separate 0mm)													
Front side	802.11BE EHT80M	39/6145	99.68%	1.003	0.107	0.660	0.10	21.85	22.50	1.163	0.125	0.770	22.3
Back side	802.11BE EHT80M	39/6145	99.68%	1.003	0.102	0.600	0.09	21.85	22.50	1.163	0.119	0.700	22.3
Back Angle side	802.11BE EHT80M	39/6145	99.68%	1.003	0.313	1.900	-0.07	21.85	22.50	1.163	0.365	2.216	22.3
Left side	802.11BE EHT80M	39/6145	99.68%	1.003	0.152	0.910	0.08	21.85	22.50	1.163	0.177	1.062	22.3
Right side	802.11BE EHT80M	39/6145	99.68%	1.003	0.067	0.360	0.03	21.85	22.50	1.163	0.078	0.420	22.3
Top side	802.11BE EHT80M	39/6145	99.68%	1.003	0.353	1.930	0.01	21.85	22.50	1.163	**0.412**	2.251	22.3
Top side	802.11BE EHT80M	7/5985	99.68%	1.003	0.340	1.870	0.07	21.69	22.50	1.206	0.411	**2.262**	22.3
Body SAR Test data of U-NII-6 (Separate 0mm)													
Front side	802.11BE EHT80M	103/6465	99.72%	1.003	0.067	0.390	0.09	21.63	22.50	1.222	0.082	0.478	22.3
Back side	802.11BE EHT80M	103/6465	99.72%	1.003	0.114	0.760	-0.09	21.63	22.50	1.222	0.140	0.932	22.3
Back Angle side	802.11BE EHT80M	103/6465	99.72%	1.003	0.451	2.790	-0.02	21.63	22.50	1.222	0.553	3.420	22.3
Left side	802.11BE EHT80M	103/6465	99.72%	1.003	0.175	1.150	0.02	21.63	22.50	1.222	0.214	1.410	22.3
Right side	802.11BE EHT80M	103/6465	99.72%	1.003	0.298	2.000	0.01	21.63	22.50	1.222	0.365	2.451	22.3
Top side	802.11BE EHT80M	103/6465	99.72%	1.003	0.455	2.980	0.03	21.63	22.50	1.222	**0.558**	**3.652**	22.3
Body SAR Test data of U-NII-7													
Front side - 0mm	802.11BE EHT80M	151/6705	99.68%	1.003	0.079	0.500	-0.07	20.76	21.50	1.186	0.094	0.595	22.3
Back side - 0mm	802.11BE EHT80M	151/6705	99.68%	1.003	0.107	0.650	-0.07	20.76	21.50	1.186	0.127	0.773	22.3
Back Angle side	802.11BE EHT80M	151/6705	99.68%	1.003	0.419	2.730	-0.02	20.76	21.50	1.186	0.498	3.247	22.3
Left side - 0mm	802.11BE EHT80M	151/6705	99.68%	1.003	0.119	0.770	0.03	20.76	21.50	1.186	0.142	0.916	22.3
Right side	802.11BE EHT80M	151/6705	99.68%	1.003	0.469	2.680	0.03	20.76	21.50	1.186	0.558	3.188	22.3
Top side	802.11BE EHT80M	151/6705	99.68%	1.003	0.488	3.160	0.04	20.76	21.50	1.186	**0.581**	**3.759**	22.3
Body SAR Test data of U-NII-8 (Separate 0mm)													
Front side	802.11BE EHT80M	199/6945	99.72%	1.003	0.099	0.550	-0.09	20.54	21.50	1.247	0.124	0.688	22.3

Back side	802.11BE EHT80M	199/6945	99.72%	1.003	0.112	0.690	-0.07	20.54	21.50	1.247	0.140	0.863	22.3
Back Angle side	802.11BE EHT80M	199/6945	99.72%	1.003	0.446	2.660	0.00	20.54	21.50	1.247	**0.558**	3.327	22.3
Left side	802.11BE EHT80M	199/6945	99.72%	1.003	0.095	0.510	0.10	20.54	21.50	1.247	0.119	0.638	22.3
Right side	802.11BE EHT80M	199/6945	99.72%	1.003	0.442	2.750	-0.06	20.54	21.50	1.247	0.553	**3.440**	22.3
Top side	802.11BE EHT80M	199/6945	99.72%	1.003	0.429	2.570	-0.05	20.54	21.50	1.247	0.537	3.214	22.3

11.3.5 SAR Result of BT

Bluetooth SAR Test Record											
Ant5 Test Record chain0											
Test position	Test mode	Test ch./Freq.	Duty Cycle	Duty Cycle Scaled factor	SAR (W/kg) 1-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)											
Front side	DH5	39/2441	76.80%	1.302	0.000	-0.01	10.36	12.00	1.459	0.000	22.5
Back side	DH5	39/2441	76.80%	1.302	0.000	-0.03	10.36	12.00	1.459	0.000	22.5
Back Angle side	DH5	39/2441	76.80%	1.302	0.018	0.09	10.36	12.00	1.459	**0.034**	22.5
Left side	DH5	39/2441	76.80%	1.302	0.000	0.09	10.36	12.00	1.459	0.000	22.5
Right side	DH5	39/2441	76.80%	1.302	0.000	-0.19	10.36	12.00	1.459	0.000	22.5
Top side	DH5	39/2441	76.80%	1.302	0.000	-0.15	10.36	12.00	1.459	0.000	22.5
Hotspot Test data (Separate 10mm)											
Front side	DH5	39/2441	76.80%	1.302	0.000	0.13	10.36	12.00	1.459	0.000	22.8
Back side	DH5	39/2441	76.80%	1.302	0.000	0.12	10.36	12.00	1.459	0.000	22.8
Back Angle side	DH5	39/2441	76.80%	1.302	0.002	0.09	10.36	12.00	1.459	**0.004**	22.8
Left side	DH5	39/2441	76.80%	1.302	0.000	0.09	10.36	12.00	1.459	0.000	22.8
Right side	DH5	39/2441	76.80%	1.302	0.000	0.18	10.36	12.00	1.459	0.000	22.8
Top side	DH5	39/2441	76.80%	1.302	0.000	-0.16	10.36	12.00	1.459	0.000	22.8

11.4 Measurement of PD Data

Note:

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

2) Since there is no different PD limit on different exposure conditions, therefore the PD test was performed of a 2mm separation between sensor and EUT surface to cover all exposure conditions of EUT.

3) Per equipment manufacturer guidance, power density was measured at d=2mm and d=λ/5mm using the same grid size and grid step size for some frequencies, surfaces and each antennas. The integrated Power Density (iPD) was calculated based on these measurements. Since iPD ratio between the two distances is < 1dB, the grid step (0.0625) was sufficient for determining compliance at d=2mm.

4) According to October 2020 TCB Workshop Interim procedures, power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 2.67 dB (85%) was used to determine the psPD measurement scaling factor.

5) Per October 2020 TCB Workshop Interim procedures, WIFI 6E start instead with a minimum of 5 test channels across the full band.

11.4.1 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 Sensor on															
Back Angle side	802.11be EHT80	151/6705	2	0.0625	99.68%	1.007	/	/	4.86	-0.08	20.76	21.50	1.5493	1.186	**8.955**
Back Angle side	802.11be EHT80	199/6945	2	0.0625	99.72%	1.007	/	/	3.90	-0.03	20.54	21.50	1.5493	1.247	7.556
Back Angle side	802.11be EHT80	215/7025	2	0.0625	99.72%	1.007	/	/	4.41	-0.05	20.39	21.50	1.5493	1.291	8.845
Power Density Test DATA Sensor off															
Front side	802.11be EHT80	39/6145	2	0.0625	99.68%	1.007	/	/	2.74	-0.10	21.85	22.50	1.5493	1.161	4.942
Back side	802.11be EHT80	39/6145	2	0.0625	99.68%	1.007	/	/	1.41	0.03	21.85	22.50	1.5493	1.161	2.543
Back Angle side	802.11be EHT80	39/6145	2	0.0625	99.68%	1.007	62.4	0.25	4.35	-0.08	21.85	22.50	1.5493	1.161	7.846
Back Angle side	802.11be EHT80	39/6145	9.8	0.0625	99.68%	1.007	58.1		1.43	0.08	21.85	22.50	1.5493	1.161	2.579
Left side	802.11be EHT80	39/6145	2	0.0625	99.68%	1.007	/	/	1.81	-0.10	21.85	22.50	1.5493	1.161	3.265
Right side	802.11be EHT80	39/6145	2	0.0625	99.68%	1.007	/	/	1.60	0.04	21.85	22.50	1.5493	1.161	2.886
Top side	802.11be EHT80	39/6145	2	0.0625	99.68%	1.007	/	/	3.52	-0.06	21.85	22.50	1.5493	1.161	6.349
Back Angle side	802.11be EHT80	103/6465	2	0.0625	99.72%	1.007	/	/	4.12	-0.06	21.63	22.50	1.5493	1.222	7.822
Back Angle side	802.11be EHT80	151/6705	11	0.0625	99.68%	1.007	/	/	2.57	0.09	21.76	22.50	1.5493	1.186	4.736
Back Angle side	802.11be EHT80	199/6945	11	0.0625	99.72%	1.007	/	/	2.63	-0.04	21.82	22.50	1.5493	1.169	4.777
Back Angle side	802.11be EHT80	215/7025	11	0.0625	99.72%	1.007	/	/	2.81	0.10	21.74	22.50	1.5493	1.191	5.200

11.5 Multiple Transmitter Evaluation

11.5.1 Simultaneous SAR test evaluation

No.	Simultaneous Tx Combination	Body	Hotspot	Product Specific 10-g (0mm)
1	WIFI 2.4G Ant6+BT Ant5	Yes	Yes	/
2	WIFI 2.4G Ant5+ WIFI 5G Ant6	Yes	Yes	/
3	WIFI 2.4G Ant6+ WIFI 5G Ant5	Yes	Yes	/
4	WIFI 2.4G Ant5+ WIFI 2.4G Ant6+WIFI 5G Ant5+WIFI 5G Ant6	Yes	Yes	/
5	WIFI 2.4G MIMO+WIFI 5G MIMO	Yes	Yes	/
6	WIFI 2.4G Ant5+ WIFI 2.4G Ant6+ WIFI 6G Ant5+WIFI 6G Ant6	Yes	Yes	/
7	WIFI 2.4G MIMO+WIFI 6G MIMO	Yes	Yes	/
8	WIFI 5G Ant5+WIFI 5G Ant6+BT Ant5	Yes	Yes	/
9	WIFI 5G MIMO+BT Ant5	Yes	Yes	/
10	WIFI 6G Ant5+WIFI 6G Ant6+BT Ant5	Yes	Yes	/
11	WIFI 6G MIMO+BT Ant5	Yes	Yes	/

11.5.2 Simultaneous Transmission SAR Summation Scenario

Body:

Test position	SARmax (W/kg)									
	WiFi 2.4G Ant5(chain0)	WiFi 2.4G Ant6(chain1)	WiFi 2.4G MIMO	WiFi 5G Ant5(chain0)	WiFi 5G Ant6(chain1)	WiFi 5G MIMO	WiFi 6G Ant5(chain0)	WiFi 6G Ant6(chain1)	WiFi 6G MIMO	BT Ant5
	1	2	3	4	5	6	7	8	9	10
Front side	0.066	0.082	0.095	0.718	0.000	0.811	0.138	0.068	0.125	0.000
Back side	0.000	0.000	0.000	0.408	0.000	0.411	0.164	0.000	0.140	0.000
Back Angle side	0.567	0.328	0.475	0.693	0.000	0.807	0.572	0.091	0.558	0.034
Left side	0.272	0.000	0.253	0.539	0.000	0.485	0.178	0.000	0.214	0.000
Right side	0.000	0.343	0.282	0.176	0.227	0.390	0.000	0.549	0.558	0.000
Top side	0.391	0.000	0.375	1.034	0.000	1.009	0.555	0.000	0.581	0.000

Test position	Summed SAR										
	2+10	1+5	2+4	1+2+4+5	3+6	1+2+7+8	3+9	4+5+10	6+10	7+8+10	9+10
Front side	0.082	0.066	0.800	0.866	0.906	0.354	0.220	0.718	0.811	0.206	0.125
Back side	0.000	0.000	0.408	0.408	0.411	0.164	0.140	0.408	0.411	0.164	0.140
Back Angle side	0.328	0.567	1.021	1.588	1.282	1.558	1.033	0.727	0.841	0.697	0.592
Left side	0.000	0.272	0.539	0.811	0.738	0.450	0.467	0.539	0.485	0.178	0.214
Right side	0.343	0.227	0.519	0.746	0.672	0.892	0.840	0.403	0.390	0.549	0.558
Top side	0.000	0.391	1.034	1.425	1.384	0.946	0.956	1.034	1.009	0.555	0.581

Hotspot:

Test position	SARmax (W/kg)				Summed SAR	
	WiFi 2.4G Ant5(chain0)	WiFi 2.4G Ant6(chain1)	WiFi 2.4G MIMO	BT Ant5		
	1	2	3	4	1+2	2+4
Front side	0.000	0.000	0.000	0.000	0.000	0.000
Back side	0.000	0.000	0.000	0.000	0.000	0.000
Back Angle side	0.143	0.107	0.072	0.004	0.250	0.111
Left side	0.000	0.000	0.000	0.000	0.000	0.000
Right side	0.000	0.091	0.000	0.000	0.091	0.091
Top side	0.090	0.000	0.000	0.000	0.090	0.000

12 Equipment list

Test Platform	SPEAG DASY Professional
Software Reference	DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)
	cDASY8 V16.4.0.5005

Hardware Reference

	Equipment	Manufacturer	Model	Serial Number	Calibration Date	Due date of calibration
☒	Test Phantom	SPEAG	SAM7	1702	NCR	NCR
☒	Test Phantom	SPEAG	Twin-SAM V8.0	2103	NCR	NCR
☒	Test Phantom	SPEAG	mmWave	1777	NCR	NCR
☒	DAE	SPEAG	DAE4	1740	2025-02-17	2026-02-16
☒	DAE	SPEAG	DAE4ip	1826	2025-02-17	2026-02-16
☒	E-Field Probe	SPEAG	EX3DV4	3982	2025-11-07	2026-11-06
☒	E-Field Probe	SPEAG	EX3DV4	7735	2025-01-29	2026-01-28
☒	E-U Probe	SPEAG	EUmmWV4	9718	2025-08-04	2026-08-03
☒	Validation Kits	SPEAG	CLA13	1032	2023-02-09	2026-02-08
☒	Validation Kits	SPEAG	D2450V2	922	2023-08-28	2026-08-27
☒	Validation Kits	SPEAG	D5GHzV2	1174	2023-08-23	2026-08-22
☒	Validation Kits	SPEAG	D6.5GHzV2	1030	2025-02-13	2028-02-12
☒	5G Verification Source	SPEAG	10GHz	2004	2024-08-20	2027-08-19
☒	Dielectric parameter probes	SPEAG	DAKS-3.5	1120	2025-08-25	2026-08-24
☒	Vector Network Analyzer and Vector Reflectometer	SPEAG	DAKS_VNA R140	50920	2025-08-25	2026-08-24
☒	Dielectric parameter probes	SPEAG	DAKS-12	1043	2025-09-22	2026-09-21
☒	Vector Network Analyzer and Vector Reflectometer	SPEAG	DAKS_VNA R60	21423005	2025-09-22	2026-09-21
☒	RF Bi-Directional Coupler	Agilent	86205-60001	MY31400031	NCR	NCR
☒	Signal Generator	R&S	SMB100A	182393	2025-02-05	2026-02-04
☒	Preamplifier	Qiji	YX28980933	202104001	NCR	NCR
☒	Preamplifier	QiJi	YX28982108	K2110F01	NCR	NCR
☒	USB Average Power Sensor	Keysight	U2002H	MY5639004	2025-09-10	2026-09-09
☒	USB Average Power Sensor	Agilent	U2002H	MY48200110	2025-11-20	2026-11-19
☒	USB Power Sensor	KEYSIGHT	U8481A	MZ52460001	2025-06-16	2026-06-14
☒	USB Power Sensor	KEYSIGHT	U8481A	MZ52460007	2025-06-16	2026-06-14
☒	Attenuator	SHX	TS2-3dB	30704	NCR	NCR
☒	Coaxial low pass filter	Mini-Circuits	VLF-2500(+)	NA	NCR	NCR
☒	Coaxial low pass filter	Microlab Fxr	LA-F13	NA	NCR	NCR
☒	DC POWER SUPPLY	SAKO	SK1730SL5A	NA	NCR	NCR
☒	Speed reading thermometer	LKM	DTM3000	NA	2025-09-16	2026-09-15
☒	Humidity and Temperature Indicator	MingGao	MingGao	NA	2025-09-16	2026-09-15
☒	Humidity and Temperature Indicator	ASONE	THA-02L	2201-1017	2025-09-18	2026-09-17

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

13 Calibration certificate

Please see the Appendix C

14 Photographs

Please see the Appendix D

Appendix A: Detailed System Check Results

Appendix B: Detailed Test Results

Appendix C: Calibration certificate

Appendix D: Photographs

Appendix E: Conducted RF Output Power

--- End of report ---