FCC SAR Test Report

FCC ID: TVE-FONW80B

Project No.	:	2408G076
Equipment	:	FortiFone W80B
Brand Name	:	FORTINET,
Test Model	:	FON-W80B
Series Model	:	FON-W80Bxxxxxxxxxx, FortiFone W80Bxxxxxxxxxx, FORTIFONE-W80Bxxxxxxxxxx (where “x” can be used as “0-9”, or “A-Z”, or “-”, or blank for software changes or marketing purpose only)
Date of Receipt	:	Aug. 15, 2024
Date of Test	:	Aug. 20, 2024 ~ Nov. 15, 2024
Issued Date	:	Dec. 06, 2024
Report Version	:	R00
Test Sample	:	Engineering Sample No.: SSL20240815165
Standard(s)	:	Please refer to page 2.
Applicant	:	Fortinet, Inc.
Address	:	909 Kifer Road, Sunnyvale, CA 94086, USA
Manufacturer	:	Fortinet, Inc.
Address	:	909 Kifer Road, Sunnyvale, CA 94086, USA

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

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Standard(s)	:	**IEEE Std C95.1:2019** IEEE Standard for Safety Levels with Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 kHz to 300 GHz **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) **KDB447498 D04** Interim General RF Exposure Guidance v01 **KDB865664 D01** SAR measurement 100 MHz to 6 GHz v01r04 **KDB865664 D02** SAR Reporting v01r02

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. BTL assumes no responsibility for the data provided by the customer, any statements, inferences or generalizations drawn by the customer or others from the reports issued by BTL.

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Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.
Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCC SAR-1-2408G076	R00	Original Report.	Dec. 06, 2024	Valid

1. GENERAL INFORMATION

1.1 STATEMENT OF COMPLIANCE

Mode	Highest Reported Head SAR-1g (W/kg)	Highest Reported Body SAR-1g (W/kg)	Highest Reported Limbs SAR-10g (W/kg)
2.4G WLAN	1.462	0.311	1.168
5.2G WLAN	1.521	0.313	0.702
5.3G WLAN	1.419	0.380	0.657
5.6G WLAN	1.442	0.491	1.036
5.8G WLAN	1.234	0.411	0.370
Bluetooth	0.101	0.016	0.080

Note: The device is in compliance with Specific Absorption Rate (SAR) for general population uncontrolled exposure limits according to the FCC rule §2.1093, the ANSI C95.1:1992/IEEE C95.1:1991, the NCRP Report Number 86 for uncontrolled environment, and had been tested in accordance with the measurement methods and procedures specified in IEC/IEEE 62209-1528.

1.2 LABORATORY ENVIRONMENT

Temperature	Min. = 20ºC, Max. = 24ºC
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5Ω
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.	

1.3 GENERAL DESCRIPTION OF EUT

Equipment	FortiFone W80B
Brand Name	FORTINET,
Test Model	FON-W80B
Series Model	FON-W80Bxxxxxxxxxx, FortiFone W80Bxxxxxxxxxx, FORTIFONE-W80Bxxxxxxxxxx (where “x” can be used as “0-9”, or “A-Z”, or “-”, or blank for software changes or marketing purpose only)
Model Difference(s)	Only differ in model name.
Hardware Version	v1.0
Firmware Version	v7.0.0,build4053,2024.08.01
Modulation	BT(GFSK/π/4-DQPSK/8-DPSK), WiFi(DSSS/OFDM)

Operation Frequency Range(s)	Band	TX (MHz)	RX (MHz)
	Bluetooth	2400~2483.5	
	WLAN 2.4G	2400~2483.5	
	WLAN 5G	5150~5250	
		5250~5350	
		5470~5725	
		5725~5850	

Test Channels (low-mid-high)					
	0-39-78 (BT)				
	0-19-39 (BLE)				
	1-6-11 (WiFi 2.4G 802.11b/g/n HT20)				
	Band	WiFi 5.2G	WiFi 5.3G	WiFi 5.6G	WiFi 5.8G
	802.11a/n HT20 /ac VHT20	36-40-44-48	52-56-60-64	100-104-108-112-116-132-136-140	149-153-157-161-165
	802.11n HT40 /ac VHT40	38-46	54-62	102-110-118-126-134	151-159
	802.11ac VHT80	42	58	106-122	155

Antenna Information	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Frequency
	N/A	N/A	N/A	N/A	4.2	2400-2480
	N/A	N/A	N/A	N/A	1.6	5150-5250
	N/A	N/A	N/A	N/A	1.2	5250-5350
	N/A	N/A	N/A	N/A	1.6	5450-5700
	N/A	N/A	N/A	N/A	1.7	5750-5850

Other Information

Battery		
	Model Name	YJ563170
	Power Rating	Nominal voltage: 3.8V Charging limit voltage: 4.35V Battery capacity: 1900mAh 7.22Wh
	Manufacturer	YJ POWER GROUP LIMITED

Note: The antenna gain is provided by the manufacturer.

1.4 MAIN TEST INSTRUMENTS

Item	Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. Interval
1	Data Acquisition Electronics	Speag	DAE4	1390	Nov. 20, 2023	1 Year
2	E-field Probe	Speag	EX3DV4	7693	Oct. 31, 2023	1 Year
3	System Validation Dipole	Speag	D2450V2	919	Apr. 22, 2024	3 Years
4	System Validation Dipole	Speag	D5GHzV2	1160	Apr. 25, 2024	3 Years
5	Twin Sam Phantom	Speag	SAM-Twim V8.0	2081	N/A	N/A
6	Power Amplifier	Mini-Circuits	ZVE-8G+	520701341	Jan. 20, 2024	1 Year
7	DC Source metter	Iteck	IT6154	0061041267682 01001	Jun. 29, 2024	1 Year
8	Vector Network Analyzer	Agilent	E5071C	MY46102965	Jan. 20, 2024	1 Year
9	Signal Generator	Keysight	N5173B	MY59101420	Jan. 20, 2024	1 Year
10	Smart Power Sensor	R&S	NRP18S	101333	Jun. 01, 2024	1 Year
11	Smart Power Sensor	R&S	NRP-Z21	102209	Jan. 20, 2024	1 Year
12	3.5mm Economy Calibration Kit	Agilent	85052D	MY43252246	Nov. 10, 2023	1 Year
13	Dielectric Assessment Kit	Speag	DAK-3.5	1226	Jan. 24, 2022	3 Years
14	Coupler	Woken	0110A05601O-10	COM5BNW1A2	Jan. 20, 2024	1 Year
15	Digital Themometer	TES	TES-1310	210706071	Nov. 03, 2023	1 Year
16	Data Acquisition Electronics	Speag	DAE4	420	Mar. 19, 2024	1 Year
17	E-field Probe	Speag	EX3DV4	7544	Apr. 03, 2024	1 Year
18	Twin Sam Phantom	Speag	Twin Sam Phantom V5.0	1896	N/A	N/A

Note:
1. “N/A” denotes no model name, serial No. or calibration specified.
2.
1) Per KDB865664 D01 requirements for dipole calibration, the test laboratory has adopted three-year extended calibration interval. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.
a) There is no physical damage on the dipole;
b) System check with specific dipole is within 10% of calibrated value;
c) The most recent return-loss result, measured at least annually, deviates by no more than 20% from the previous measurement;
d) The most recent measurement of the real or imaginary parts of the impedance, measured at least annually is within 5Ω from the previous measurement.
2) Network analyzer probe calibration against air, distilled water and a short block performed before measuring liquid parameters.
3. The last used date of Probe (S/N: 7693) is Sep. 03, 2024, within the validation validity period.

2. RF EMISSIONS MEASUREMENT

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is SAR room at the location of Room 108, Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan City, Guangdong, People's Republic of China.
BTL's Registration Number for FCC: 747969.
BTL's Designation Number for FCC: CN1377.

2.2 MEASUREMENT UNCERTAINTY

Uncertainty Budget for Frequency range of 300 MHz to 3 GHz

Symbol	Input quantity *Xi* (source of uncertainty)	Unc. Value	Prob. Dist.	Div.	ci (1g)	ci (10g)	Std.Unc. (1g) (±%)	Std.Unc. (10g) (±%)
Measurement system errors								
CF	Probe calibration(±%)	12.0	N	2	1	1	6.0	6.0
***CF*drift**	Probe calibration drift(±%)	1.7	R	$\sqrt{3}$	1	1	1.0	1.0
LIN	Probe linearity and detection limit(±%)	4.7	R	$\sqrt{3}$	1	1	2.7	2.7
BBS	Broadband signal(±%)	3.0	R	$\sqrt{3}$	1	1	1.7	1.7
ISO	Probe isotropy(±%)	7.6	R	$\sqrt{3}$	1	1	4.4	4.4
DAE	Other probe and data acquisition errors(±%)	0.7	N	1	1	1	0.7	0.7
AMB	RF ambient and noise(±%)	1.8	N	1	1	1	1.8	1.8
D*xyz*	Probe positioning errors(±mm)	0.006	N	1	0.14	0.14	0.08	0.08
DAT	Data processing errors(±%)	1.2	N	1	1	1	1.2	1.2
Phantom and device (DUT or validation antenna) errors								
***LIQ*(*σ*)**	Conductivity (meas.)(±%)	2.5	N	1	0.78	0.71	2.0	1.8
***LIQ*(*T*c)**	Conductivity (temp.)(±%)	3.3	R	$\sqrt{3}$	0.78	0.71	1.5	1.4
EPS	Phantom Permittivity(±%)	14	R	$\sqrt{3}$	0	0	0.0	0.0
DIS	Distance DUT - TSL(±%)	2	N	1	2	2	4.0	4.0
Dxyz	Device Positioning(±%)	0.5	N	1	1	1	0.5	0.5
H	Device Holder(±%)	1	N	1	1	1	1.0	1.0
MOD	DUT Modulationm(±%)	2.4	R	$\sqrt{3}$	1	1	1.4	1.4
TAS	Time-average SAR(±%)	1.7	R	$\sqrt{3}$	1	1	1.0	1.0
***RF*drift**	DUT drift(±%)	1.6	N	1	1	1	1.6	1.6
VAL	Val Antenna Unc.(±%)	0	N	1	1	1	0.0	0.0
***P*in**	Unc. Input Power(±%)	0	N	1	1	1	0.0	0.0
Corrections to the SAR result								
***C*(*ε¢*,*σ*)**	Deviation to Target(±%)	1.9	N	1	1	0.84	1.9	1.6
***C*(*R*)**	SAR scaling(±%)	0	R	$\sqrt{3}$	1	1	0.0	0.0
***u*(D*SAR*)**	Combined uncertainty						10.2	10.1
	Coverage Factor for 95%						k=2	k=2
U	Expanded uncertainty					*U* =	20.4	20.2
a Other probability distributions and divisors may be used if they better represent available knowledge of the quantities concerned.								

Uncertainty Budget for Frequency range of 3 GHz to 6 GHz

Symbol	Input quantity *Xi* (source of uncertainty)	Unc. Value	Prob. Dist.	Div.	ci (1g)	ci (10g)	Std.Unc. (1g) (±%)	Std.Unc. (10g) (±%)
Measurement system errors								
CF	Probe calibration(±%)	14.0	N	2	1	1	7.0	7.0
***CF*drift**	Probe calibration drift(±%)	1.7	R	$\sqrt{3}$	1	1	1.0	1.0
LIN	Probe linearity and detection limit(±%)	4.7	R	$\sqrt{3}$	1	1	2.7	2.7
BBS	Broadband signal(±%)	2.6	R	$\sqrt{3}$	1	1	1.5	1.5
ISO	Probe isotropy(±%)	7.6	R	$\sqrt{3}$	1	1	4.4	4.4
DAE	Other probe and data acquisition errors(±%)	1.2	N	1	1	1	1.2	1.2
AMB	RF ambient and noise(±%)	1.8	N	1	1	1	1.8	1.8
D*xyz*	Probe positioning errors(±mm)	0.005	N	1	0.29	0.29	0.15	0.15
DAT	Data processing errors(±%)	2.3	N	1	1	1	2.3	2.3
Phantom and device (DUT or validation antenna) errors								
***LIQ*(*σ*)**	Conductivity (meas.)(±%)	2.5	N	1	0.78	0.71	2.0	1.8
***LIQ*(*T*c)**	Conductivity (temp.)(±%)	3.4	R	$\sqrt{3}$	0.78	0.71	1.5	1.4
EPS	Phantom Permittivity(±%)	14	R	$\sqrt{3}$	0.25	0.25	2.0	2.0
DIS	Distance DUT - TSL(±%)	2	N	1	2	2	4.0	4.0
D*xyz*	Device Positioning(±%)	0.3	N	1	1	1	0.3	0.3
H	Device Holder(±%)	1.9	N	1	1	1	1.9	1.9
MOD	DUT Modulationm(±%)	2.4	R	$\sqrt{3}$	1	1	1.4	1.4
TAS	Time-average SAR(±%)	1.7	R	$\sqrt{3}$	1	1	1.0	1.0
***RF*drift**	DUT drift(±%)	0.2	N	1	1	1	0.2	0.2
VAL	Val Antenna Unc.(±%)	0	N	1	1	1	0.0	0.0
***P*in**	Unc. Input Power(±%)	0	N	1	1	1	0.0	0.0
Corrections to the SAR result								
***C*(*ε¢*,*σ*)**	Deviation to Target(±%)	1.9	N	1	1	0.84	1.9	1.6
***C*(*R*)**	SAR scaling(±%)	0	R	$\sqrt{3}$	1	1	0.0	0.0
***u*(D*SAR*)**	Combined uncertainty						11.2	11.1
	Coverage Factor for 95%						k=2	k=2
U	Expanded uncertainty					*U* =	22.4	22.2
a Other probability distributions and divisors may be used if they better represent available knowledge of the quantities concerned.								

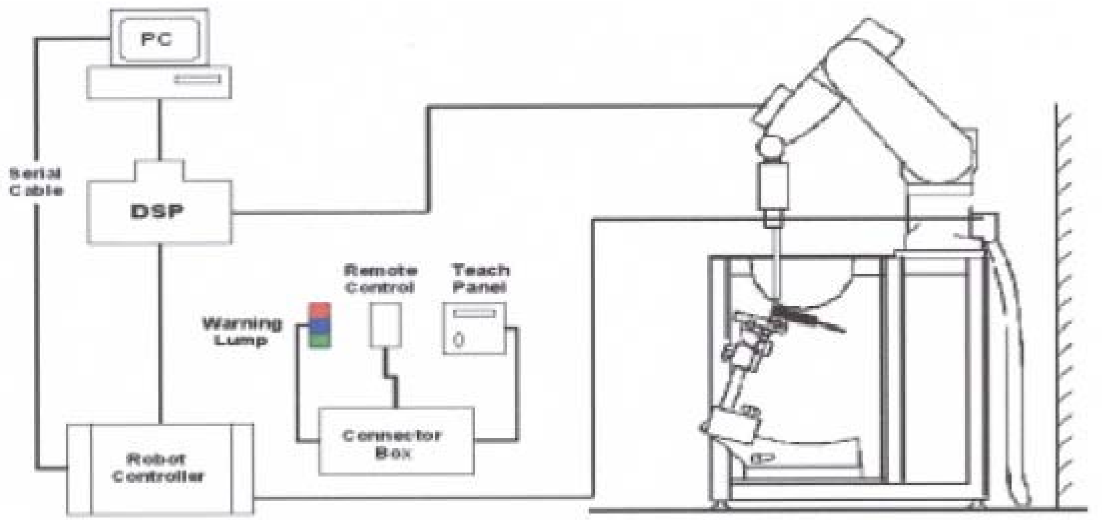
3. SAR MEASUREMENTS SYSTEM CONFIGURATION

3.1 SAR MEASUREMENT SET-UP

The DASY5 system for performing compliance tests consists of the following items:

1. A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
2. 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.
3. A data acquisition electronic (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.
4. A unit to operate the optical surface detector which is connected to the EOC.
5. The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY5 measurement server.
6. TheDASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows.
7. DASY5 software and SEMCAD data evaluation software.
8. Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
9. The generic twin phantom enabling the testing of left-hand and right-hand usage.
10. The device holder for handheld mobile phones.
11. Tissue simulating liquid mixed according to the given recipes.
12. System validation dipoles allowing to validate the proper functioning of the system.

3.1.1 TEST SETUP LAYOUT



3.2 DASY5 E-FIELD PROBE SYSTEM

The SAR measurements were conducted with the dosimetric probe EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

3.2.1 PROBE SPECIFICATION

EX3DV4

Construction	Symmetrical design with triangular core Interleaved sensors 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 HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 μW/g to > 100 mW/g Linearity:± 0.2dB
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Distance from probe tip to dipole centers: 1.0 mm

E-field Probe

3.2.2 E-FIELD PROBE CALIBRATION

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than ±10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies bellow 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermostat-based temperature probe is used in conjunction with the E-field probe.

$$\mathbf{SAR} = \mathbf{C}\frac{\Delta T}{\Delta t}$$

Where: Δt=Exposure time (30 seconds),

C =Heat capacity of tissue (brain or muscle),

ΔT=Temperature increase due to RF exposure.

Or $$\mathbf{SAR} = \frac{|E|^2 \sigma}{\rho}$$

Where: σ= Simulated Tissue Conductivity,

ρ=Tissue density (kg/m3).

3.2.3 OTHER TEST EQUIPMENT

3.2.3.1. Device Holder for Transmitters

Construction: Simple but effective and easy-to-use extension for Mounting Device that facilitates the testing of larger devices (e.g., laptops, cameras, etc.) It is light weight and fits easily on the upper part of the Mounting Device in place of the phone positioner. The extension is fully compatible with the Twin SAM, ELI and SAM v6.0 Phantoms.
Material: POM, Acrylic glass, Foam

3.2.3.2 Phantom

Model	Twin SAM	
Construction	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEC/IEEE 62209-1528. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.	
Shell Thickness	2 ± 0.2 mm	
Filling Volume	Approx. 25 liters	
Dimensions	Length:1000mm; Width: 500mm Height: adjustable feet	
Aailable	Special	

3.2.4 SCANNING PROCEDURE

The DASY5 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

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. The indicated drift is mainly the variation of the DUT’s output power and should vary max. ± 5 %.

The “surface check” measurement tests the optical surface detection system of the DASY5 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ± 0.1mm). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within ± 30°.)

- Area Scan

The “area scan” measures the SAR above the DUT or verification dipole on a parallel plane to the surface. It is used to locate the approximate location of the peak SAR with 2D spline interpolation. The robot performs a stepped movement along one grid axis while the local electrical field strength is measured by the probe. The probe is touching the surface of the SAM during acquisition of measurement values. The standard scan uses large grid spacing for faster measurement. Standard grid spacing for head measurements is 15 mm in x- and y- dimension (≤2GHz)，12 mm inx- and y- dimension (2-4 GHz) and 10mm in x- and y- dimension (4-6GHz). If a finer resolution is needed, the grid spacing can be reduced. Grid spacing and orientation have no influence on the SAR result. For special applications where the standard scan method does not find the peak SAR within the grid, e.g. mobile phones with flip cover, the grid can be adapted in orientation.

- Zoom Scan

A “zoom scan” measures the field in a volume around the 2D peak SAR value acquired in the previous “coarse” scan. This is a fine grid with maximum scan spatial resolution: Δx_{zoom}, Δy_{zoom}≤ 2GHz -≤8mm, 2-4GHz -≤ 5 mm and 4-6 GHz-≤ 4mm; Δz_{zoom}≤ 3GHz -≤ 5 mm, 3-4 GHz-≤ 4mm and 4-6GHz-≤ 2mm where the robot additionally moves the probe along the z-axis away from the bottom of the Phantom. DASY is also able to perform repeated zoom scans if more than 1 peak is found during area scan. In this document, the evaluated peak 1g and 10g averaged SAR values are shown in the 2D-graphics in Appendix B. Test results relevant for the specified standard (see chapter 1.4.) are shown in table form in chapter 7.2.

A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 2 mm steps. This measurement shows the continuity of the liquid and can - depending in the field strength – also show the liquid depth.

The following table summarizes the area scan and zoom scan resolutions per FCC KDB 865664D01:

Frequency	Maximun Area Scan resolution (Δx_{area}, Δy_{area})	Maximun Zoom Scan spatial resolution (Δx_{Zoom}, Δy_{Zoom})	Maximun Zoom Scan spatial resolution			Minimum zoom scan volume (x,y,z)
			Uniform Grid	Graded Grad		
			$\Delta z_{Zoom}(n)$	$\Delta z_{Zoom}(1)$*	$\Delta z_{Zoom}(n>1)$*	
≤2GHz	≤15mm	≤8mm	≤5mm	≤4mm	≤1.5*$\Delta z_{Zoom}(n-1)$	≥30mm
2-3GHz	≤12mm	≤5mm	≤5mm	≤4mm	≤1.5*$\Delta z_{Zoom}(n-1)$	≥30mm
3-4GHz	≤12mm	≤5mm	≤4mm	≤3mm	≤1.5*$\Delta z_{Zoom}(n-1)$	≥28mm
4-5GHz	≤10mm	≤4mm	≤3mm	≤2.5mm	≤1.5*$\Delta z_{Zoom}(n-1)$	≥25mm
5-6GHz	≤10mm	≤4mm	≤2mm	≤2mm	≤1.5*$\Delta z_{Zoom}(n-1)$	≥22mm

3.2.5 SPATIAL PEAK SAR EVALUATION

The spatial peak SAR - value for 1 and 10 g is evaluated after the Cube measurements have been done. The basis of the evaluation are the SAR values measured at the points of the fine cube grid consisting of 5 x 5 x 7 points (with 8mm horizontal resolution) or 7 x 7 x 7 points (with 5mm horizontal resolution) or 8 x 8 x 7 points (with 4mm horizontal resolution). The algorithm that finds the maximal averaged volume is separated into three different stages.

- The data between the dipole center of the probe and the surface of the phantom are extrapolated. This data cannot be measured since the center of the dipole is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is about 1 mm (see probe calibration sheet). The extrapolated data from a cube measurement can be visualized by selecting “Graph Evaluated”.
- The maximum interpolated value is searched with a straight-forward algorithm. Around this maximum the SAR - values averaged over the spatial volumes (1g or 10 g) are computed using the 3d-spline interpolation algorithm. If the volume cannot be evaluated (i.e., if a part of the grid was cut off by the boundary of the measurement area) the evaluation will be started on the corners of the bottom plane of the cube.
- All neighboring volumes are evaluated until no neighboring volume with a higher average value is found.

Extrapolation

The extrapolation is based on a least square algorithm [W. Gander, Computer mathematic, p.168-180]. Through the points in the first 3 cm along the z-axis, polynomials of order four are calculated. These polynomials are then used to evaluate the points between the surface and the probe tip. The points, calculated from the surface, have a distance of 1 mm from each other.

Interpolation

The interpolation of the points is done with a 3d-Spline. The 3d-Spline is composed of three one-dimensional splines with the "Not a knot"-condition [W. Gander, Computer mathematic, p.141-150] (x, y and z -direction) [Numerical Recipes in C, Second Edition, p.123ff].

Volume Averaging

At First the size of the cube is calculated. Then the volume is integrated with the trapezoidal algorithm. 8000 points (20x20x20) are interpolated to calculate the average.

Advanced Extrapolation

DASY5 uses the advanced extrapolation option which is able to compensate boundary effects on E-field probes.

3.2.6 DATA STORAGE AND EVALUATION

3.2.6.1 Data Storage

The DASY5 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], [mW/g], [mW/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.

3.2.7 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	$Norm_i$, a_{i0}, a_{i1}, a_{i2}
	Conversion factor	$ConvF_i$
	Diode compression point	Dcp_i
Device parameters:	Frequency	f
	Crest factor	cf
Media parameters:	Conductivity	
	Density	

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 DASY5 components. In the direct measuring mode of the multi meter 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	V_i = compensated signal of channel i	(i = x, y, z)
	U_i = 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 V_i = compensated signal of channel i (i = x, y, z)

$Norm_i$ = 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]

E_i = electric field strength of channel i in V/m

H_i = 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.

$$SAR = (E_{tot})^2 \cdot \sigma \,/\, (\rho \cdot 1000)$$

With SAR = local specific absorption rate in mW/g

E_{tot} = total field strength in V/m

= conductivity in [mho/m] or [Siemens/m]

= equivalent tissue density in g/cm^3

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.

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

With P_{pwe} = equivalent power density of a plane wave in mW/cm^2

E_{tot} = total field strength in V/m

H_{tot} = total magnetic field strength in A/m

4. SYSTEM VERIFICATION PROCEDURE

4.1 TISSUE VERIFICATION

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectic parameter are within the tolerances of the specified target values. The measured conductivity and relative permittivity should be within ± 5% of the target values.

The following materials are used for producing the tissue-equivalent materials.

Tissue Type	Bactericide	DGBE	HEC	NaCl	Sucrose	Triton X-100	Water	Diethylene Glycol Mono-hexylether
Head 2450	-	45.0	-	0.1	-	-	54.9	-
Head 5G	-	-	-	-	-	17.2	65.5	17.3

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

Tissue Verification									
Tissue Type	Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (εr)	Targeted Conductivity (σ)	Targeted Permittivity (εr)	Deviation Conductivity (σ) (%)	Deviation Permittivity (εr) (%)	Date
Head	2450	22.5	1.840	39.600	1.80	39.2	2.22	1.02	Sep. 02, 2024
Head	2450	22.4	1.822	39.968	1.80	39.2	1.22	1.96	Nov. 05, 2024
Head	5250	22.1	4.780	35.800	4.71	36.0	1.49	-0.42	Sep. 03, 2024
Head	5250	22.2	4.719	35.442	4.71	36.0	0.19	-1.41	Nov. 06, 2024
Head	5600	22.1	5.250	35.000	5.07	35.5	3.55	-1.41	Sep. 03, 2024
Head	5600	22.2	5.106	34.743	5.07	35.5	0.71	-2.13	Nov. 06, 2024
Head	5750	22.1	5.380	34.600	5.22	35.4	3.07	-2.12	Sep. 03, 2024
Head	5750	22.2	5.296	34.340	5.22	35.4	1.46	-2.86	Nov. 06, 2024

Note:
1)The dielectric parameters of the tissue-equivalent liquid should be measured under similar ambient conditions and within 2 °C of the conditions expected during the SAR evaluation to satisfy protocol requirements.
2)KDB 865664 was ensured to be applied for probe calibration frequencies greater than or equal to 50MHz of the EUT frequencies.
3)The above measured tissue parameters were used in the DASY software to perform interpolation via the DASY software to determine actual dielectric parameters at the test frequencies. The SAR test plots may slightly differ from the table above since the DASY rounds to three significant digits.

4.2 SYSTEM CHECK

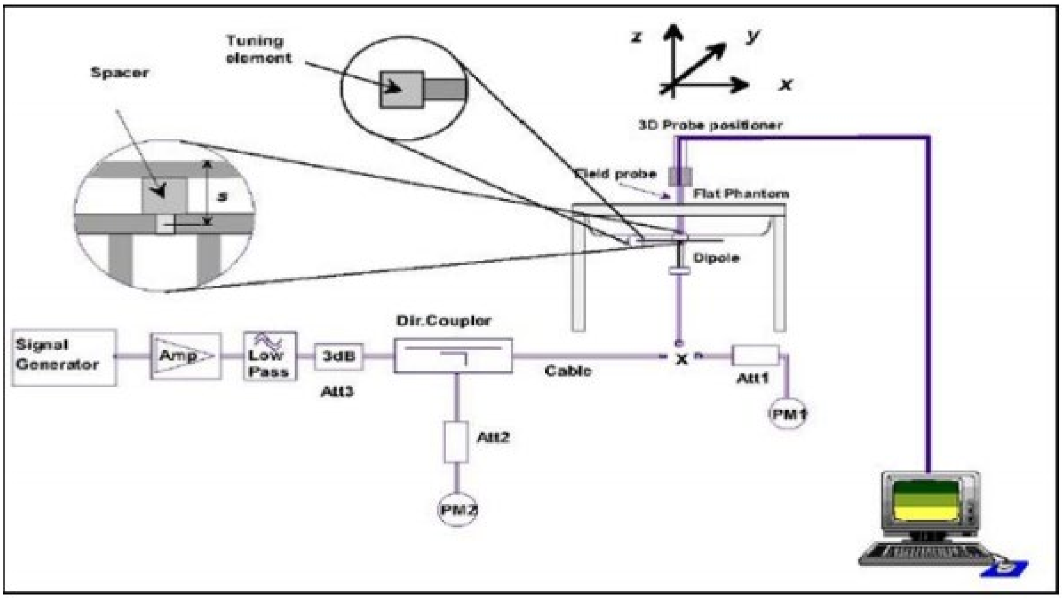
The system check is performed for verifying the accuracy of the complete measurement system and performance of the software. The system check is performed with tissue equivalent material according to IEC/IEEE 62209-1528 (described above). The following table shows system check results for all frequency bands and tissue liquids used during the tests.

System Check	Date	Frequency (MHz)	Targeted SAR 1g (W/kg)	Measured SAR 1g (W/kg)	normalized SAR 1g (W/kg)	Deviation 1g (%)	Dipole S/N
Head	Sep. 02, 2024	2450	52.10	13.30	53.20	2.11	919
Head	Nov. 05, 2024	2450	52.10	12.90	51.60	-0.96	919
Head	Sep. 03, 2024	5250	78.00	7.64	76.40	-2.05	1160
Head	Nov. 06, 2024	5250	78.00	7.62	76.20	-2.31	1160
Head	Sep. 03, 2024	5600	80.60	8.25	82.50	2.36	1160
Head	Nov. 06, 2024	5600	80.60	8.09	80.90	0.37	1160
Head	Sep. 03, 2024	5750	76.50	7.65	76.50	0.00	1160
Head	Nov. 06, 2024	5750	76.50	7.38	73.80	-3.53	1160

4.3 SYSTEM CHECK PROCEDURE

The system check is performed by using a system check dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a plexiglass spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 250mW (below 3GHz) or 100mW (3-6GHz). To adjust this power a power meter is used.
The power sensor is connected to the cable before the system check to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the system check to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test.

System check results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system (±10 %).



5. SAR MEASUREMENT VARIABILITY AND UNCERTAINTY

5.1 SAR MEASUREMENT VARIABILITY

Per KDB865664 D01 SAR measurement 100 MHz to 6 GHz, 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.

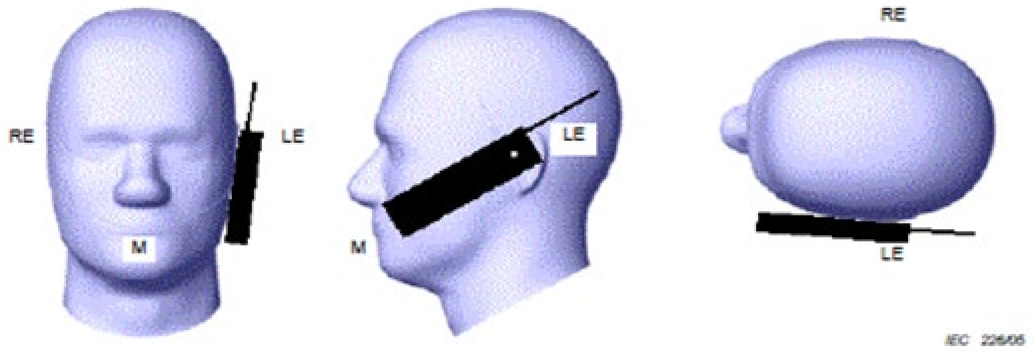
The detailed repeated measurement results are shown in Section 7.2.

6. OPERATIONAL CONDITIONS DURING TEST

6.1 TEST POSITION

6.1.1 HEAD TEST CONFIGURATION

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.



Key

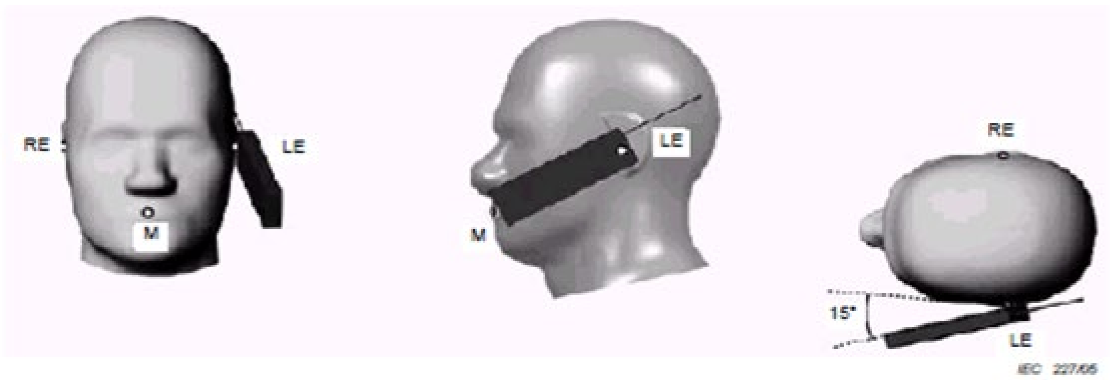
M Mouth reference point

LE Left ear reference point (ERP)

RE Right ear reference point (ERP)

Figure 1 Cheek position of the wireless device on the left side of SAM

Note1: Cheek position of the wireless device on Right side of SAM also is similar to the left side represented above.



Key

M Mouth reference point

LE Left ear reference point (ERP)

RE Right ear reference point (ERP)

Figure 2 Tilt position of the wireless device on the left side of SAM

Note2: Tilt position of the wireless device on Right side of SAM also is similar to the left side represented above.

6.1.2 BODY-WORN TEST CONFIGURATION

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device. The distance between the device and the phantom was kept 15mm.
Worst case scenario is to add attachments for testing.

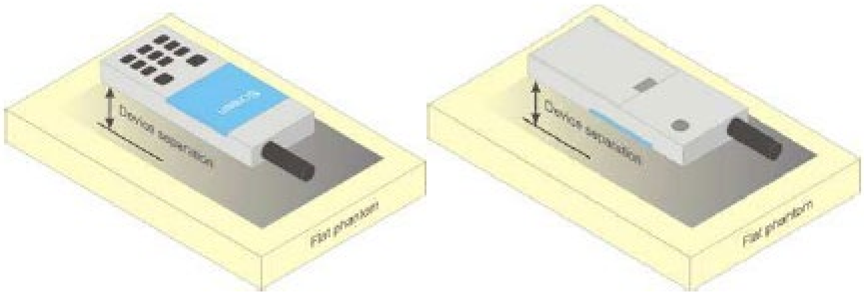


Figure 3 Test positions for body-worn device

The location of the antennas inside EUT is shown as below:

FortiFone FON-W80B

Antenna	Front Face	Rear Face	Left Side	Right Side	Top Side	Bottom Side
Ant	Yes	Yes	No	No	No	No

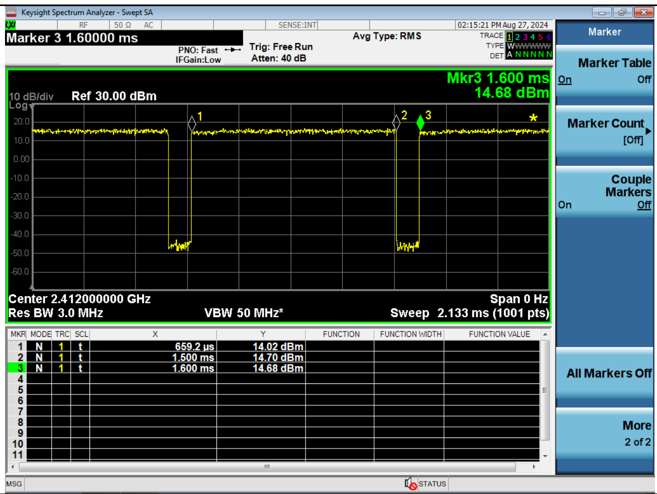
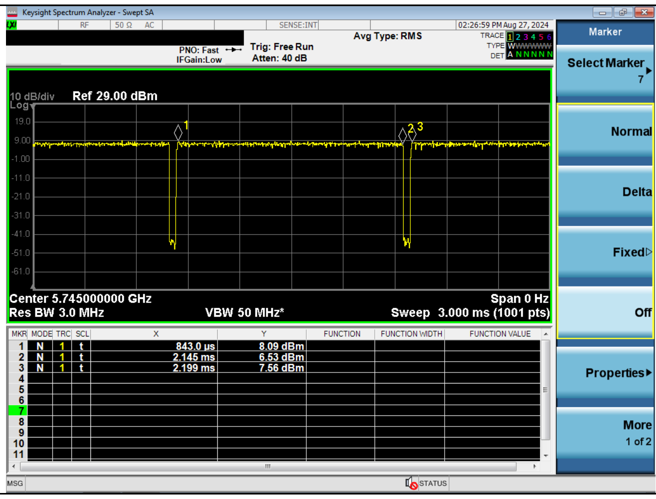
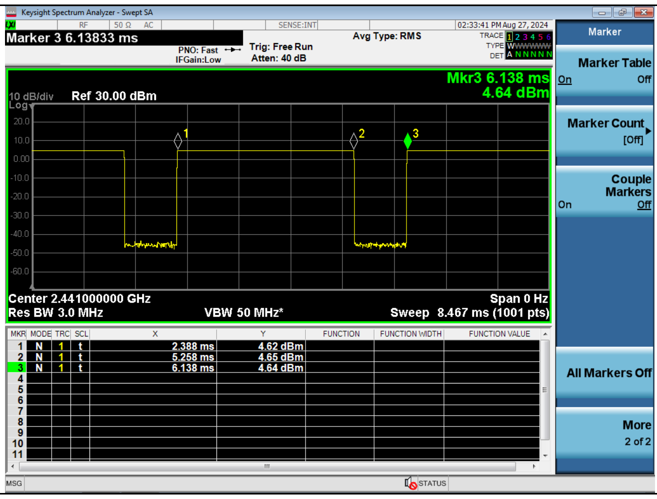
Note: The distance of the positions to edge which more than 25mm are not required to be tested.

6.2 SAR TEST CONFIGURATION

6.2.1 WIFI TEST CONFIGURATION

For WLAN / BT SAR testing, WLAN / BT engineering testing software installed on the DUT can provide continuous transmitting RF signal.

For WiFi SAR testing, a communication link is set up with the test mode software for WiFi mode test. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode. The RF signal utilized in SAR measurement has 100% duty cycle and its crest factor is 1. The test procedures in KDB 248227 D01 are applied.

<table>
<tr><th>Duty Cycle</th><th>Duty Cycle</th></tr>
<tr><td>WiFi 2.4G</td><td>WiFi 5G</td></tr>
<tr><td>89.37%</td><td>96.02%</td></tr>
<tr><td>
</td><td>
</td></tr>
<tr><th>Duty Cycle</th><td></td></tr>
<tr><td>BT</td><td></td></tr>
<tr><td>76.53%</td><td></td></tr>
<tr><td>
</td><td></td></tr>
</table>

6.1.4.1 2.4G SAR Test Requirements

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. 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 2.4 GHz 802.11g/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.

6.1.4.2 5G SAR Test Requirements

✧ **U-NII-1 and U-NII-2A Band**

For devices that operate in both U-NII-1 and U-NII-2A bands, 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. 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.

✧ **U-NII-2C, 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, the channels at 5.60 – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification.
Unless band gap channels are permanently disabled, they must be considered for SAR testing.
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.11 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.

6.1.4.3 OFDM transmission mode and SAR test channel selection

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

6.1.4.4 Initial test configuration procedure

For OFDM, in both 2.4GHz and 5GHz bands, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, and lowest data rate. If the average RF output powers of the highest identical transmission modes are within 0.25 dB of each other, mid channel of the transmission mode with highest average RF output powers is the initial test channel. Otherwise, the channel of the transmission mode with the highest average RF output power will be the initial test configuration.
When the reported SAR is ≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is ≤ 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurement.

7. TEST RESULT

7.1 CONDUCTED POWER RESULTS

7.1.1 CONDUCTED POWER MEASUREMENTS OF BT

BT	Average Conducted Power(dBm)			
	Max. Tune up	CH0	CH39	CH78
		2402MHz	2441MHz	2480MHz
DH5	6.00	**4.27**	**4.36**	**4.33**
2DH5	4.00	3.69	3.81	3.74
3DH5	4.00	3.65	3.79	3.71

BT	Average Conducted Power(dBm)			
	Max. Tune up	CH0	CH19	CH39
		2402MHz	2440MHz	2480MHz
BLE(1M)	5.00	3.46	3.55	3.43
BLE(2M)	5.00	3.37	3.44	3.35

Note:
1) The Average conducted power of BT is measured with RMS detector.
2) The tested channel results are marks in bold.

7.1.2 CONDUCTED POWER MEASUREMENTS OF WIFI

1. Conducted power measurements of WiFi 2.4G

Band	Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Max. Tune up	Average Power(dBm)
2.4G WIFI	802.11b	1	2412	1	18.50	**18.41**
		6	2437		18.50	**18.25**
		11	2462		18.50	**18.04**
	802.11g	1	2412	6	17.50	17.38
		6	2437		17.50	17.28
		11	2462		17.50	17.00
	802.11n HT20	1	2412	MCS0	18.50	18.28
		6	2437		18.50	18.21
		11	2462		18.50	17.94

Note:
1) The Average conducted power of WiFi 2.4G is measured with RMS detector.
2) Per KDB248227 D01, for WiFi 2.4G, the highest measured maximum output power Channel for DSSS modes (802.11b) was selected for SAR measurement. SAR for OFDM modes (2.4GHz 802.11g/n) was not required When the highest reported SAR for DSSS is adjusted by the ratio of OFDM modes (802.11g/n) to DSSS modes (802.11b) specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
3) The tested channel results are marks in bold.

2. Conducted power measurements of WiFi 5.2G

Band	Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Max. Tune up	Average Power(dBm)
5.2G WIFI	802.11a	36	5180	6	14.00	13.58
		40	5200		14.00	**13.78**
		44	5220		14.00	**13.69**
		48	5240		14.00	**13.72**
	802.11n HT20	36	5180	MCS0	14.00	13.55
		40	5200		14.00	13.47
		44	5220		14.00	13.56
		48	5240		14.00	13.55
	802.11n HT40	38	5190	MCS0	14.00	13.33
		46	5230		14.00	13.48
	802.11ac VHT20	36	5180	MCS0	14.00	13.51
		40	5200		14.00	13.62
		44	5220		14.00	13.48
		48	5240		14.00	13.57
	802.11ac VHT40	38	5190	MCS0	14.00	13.36
		46	5230		14.00	13.43
	802.11ac VHT80	42	5210	MCS0	14.00	13.25

Note:
1) The Average conducted power of WiFi 5.2G is measured with RMS detector.
2) The tested channel results are marks in bold.

3. Conducted power measurements of WiFi 5.3G

Band	Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Max. Tune up	Average Power(dBm)
5.3G WIFI	802.11a	52	5260	6	14.00	13.28
		56	5280		14.00	13.42
		60	5300		14.00	13.17
		64	5320		14.00	12.89
	802.11n HT20	52	5260	MCS0	14.00	13.06
		56	5280		14.00	13.18
		60	5300		14.00	12.96
		64	5320		14.00	12.74
	802.11n HT40	54	5270	MCS0	14.00	13.34
		62	5310		14.00	13.57
	802.11ac VHT20	52	5260	MCS0	14.00	**13.70**
		56	5280		14.00	**13.78**
		60	5300		14.00	**13.66**
		64	5320		14.00	13.22
	802.11ac VHT40	54	5270	MCS0	14.00	13.15
		62	5310		14.00	13.21
	802.11ac VHT80	58	5290	MCS0	14.00	13.04

Note:
1) The Average conducted power of WiFi 5.3G is measured with RMS detector.
2) The tested channel results are marks in bold.

4. Conducted power measurements of WiFi 5.6G

Band	Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Max. Tune up	Average Power(dBm)
5.6G WIFI	802.11a	100	5500	6	14.00	13.16
		104	5520		14.00	13.03
		108	5540		14.00	12.87
		112	5560		14.00	12.94
		116	5580		14.00	13.21
		132	5660		14.00	13.04
		136	5680		14.00	12.82
		140	5700		14.00	12.96
	802.11n HT20	100	5500	MCS0	14.00	13.08
		104	5520		14.00	12.90
		108	5540		14.00	12.81
		112	5560		14.00	13.12
		116	5580		14.00	13.04
		132	5660		14.00	12.83
		136	5680		14.00	13.09
		140	5700		14.00	13.21
	802.11n HT40	102	5510	MCS0	14.00	13.10
		110	5550		14.00	13.13
		118	5590		14.00	13.25
		126	5630		14.00	12.97
		134	5670		14.00	12.95
	802.11ac VHT20	100	5500	MCS0	14.00	13.11
		104	5520		14.00	13.17
		108	5540		14.00	13.06
		112	5560		14.00	12.88
		116	5580		14.00	13.04
		132	5660		14.00	12.95
		136	5680		14.00	13.14
		140	5700		14.00	13.09
	802.11ac VHT40	102	5510	MCS0	14.00	**13.23**
		110	5550		14.00	**13.25**
		118	5590		14.00	**13.44**
		126	5630		14.00	13.16
		134	5670		14.00	13.12
	802.11ac VHT80	106	5530	MCS0	14.00	12.88
		122	5610		14.00	13.06

Note:
1) The Average conducted power of WiFi 5.6G is measured with RMS detector.
2) The tested channel results are marks in bold.

5. Conducted power measurements of WiFi 5.8G

Band	Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Max. Tune up	Average Power(dBm)
5.8G WIFI	802.11a	149	5745	6	14.00	13.53
		153	5765		14.00	13.29
		157	5785		14.00	13.44
		161	5805		14.00	13.38
		165	5825		14.00	13.36
	802.11n HT20	149	5745	MCS0	14.00	13.08
		153	5765		14.00	13.24
		157	5785		14.00	13.39
		161	5805		14.00	13.16
		165	5825		14.00	13.03
	802.11n HT40	151	5755	MCS0	14.00	13.21
		159	5795		14.00	13.36
	802.11ac VHT20	149	5745	MCS0	14.00	**13.87**
		153	5765		14.00	13.41
		157	5785		14.00	13.55
		161	5805		14.00	**13.73**
		165	5825		14.00	**13.69**
	802.11ac VHT40	151	5755	MCS0	14.00	13.29
		159	5795		14.00	13.23
	802.11ac VHT80	155	5775	MCS0	14.00	13.08

Note:
1) The Average conducted power of WiFi 5.8G is measured with RMS detector.
2) The tested channel results are marks in bold.

7.2 SAR TEST RESULTS

General Notes:

1) Per KDB447498 D04, all measurement SAR results are scaled to the maximum tune-up tolerance limit to demonstrate compliant.
2) Per KDB447498 D04, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is: ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz. When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.
3) Per KDB865664 D01, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8W/kg; if the deviation among the repeated measurement is ≤ 20%, and the measured SAR < 1.45W/kg, only one repeated measurement is required.

WLAN Notes:

1. For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When 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. Otherwise, SAR is evaluated at the subsequent highest peak SAR position until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
2. Justification for test configurations for WLAN per KDB Publication 248227 for 2.4GHz WiFi single transmission chain operations, the highest measured maximum output power Channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section7.1 for more information.
3. Justification for test configurations for WLAN per KDB Publication 248227 for 5GHz WiFi single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed power. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2W/kg. See Section 7.1 for more information.

7.2.1 SAR MEASUREMENT RESULT OF HEAD

1. Head SAR test results of WiFi 2.4G

Test No.	Mode	Channel	Test Position	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
W01	802.11b	1	Right Cheek	1	89.37	18.5	18.41	-0.03	**1.28**	**0.608**	**1.462**
W02	802.11b	1	Right Tilted	1	89.37	18.5	18.41	0.04	0.688	0.345	0.786
W03	802.11b	1	Left Cheek	1	89.37	18.5	18.41	-0.01	0.821	0.437	0.938
W04	802.11b	1	Left Tilted	1	89.37	18.5	18.41	0.06	0.467	0.249	0.533
W05	802.11b	6	Right Cheek	1	89.37	18.5	18.25	-0.05	1.19	0.607	1.410
W06	802.11b	11	Right Cheek	1	89.37	18.5	18.04	-0.02	1.16	0.58	1.443
W07	802.11b	1	Right Cheek(Repeated)	1	89.37	18.5	18.41	-0.07	1.25	0.604	1.428

Note: The value with boldface is the maximum SAR Value of each test band.

2. Head SAR test results of BT

Test No.	Mode	Channel	Test Position	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
B01	BT DH5	39	Right Cheek	1	76.53	6	4.36	0.08	0.051	0.025	0.097
B02	BT DH5	39	Right Tilted	1	76.53	6	4.36	-0.02	<0.001	<0.001	<0.001
B03	BT DH5	39	Left Cheek	1	76.53	6	4.36	0.03	<0.001	<0.001	<0.001
B04	BT DH5	39	Left Tilted	1	76.53	6	4.36	0.09	<0.001	<0.001	<0.001
B05	BT DH5	0	Right Cheek	1	76.53	6	4.27	0.07	**0.052**	**0.025**	**0.101**
B06	BT DH5	78	Right Cheek	1	76.53	6	4.33	0.05	0.044	0.021	0.084

Note: The value with boldface is the maximum SAR Value of each test band.

3. Head SAR test results of WiFi 5G

Test No.	Mode	Channel	Test Position	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
W08	802.11a	40	Right Cheek	6	96.02	14	13.78	0	1.17	0.252	1.282
W09	802.11a	40	Right Tilted	6	96.02	14	13.78	0.13	0.812	0.193	0.890
W10	802.11a	40	Left Cheek	6	96.02	14	13.78	0.04	0.621	0.17	0.680
W11	802.11a	40	Left Tilted	6	96.02	14	13.78	-0.01	0.534	0.131	0.585
W12	802.11a	44	Right Cheek	6	96.02	14	13.69	0.01	**1.36**	**0.369**	**1.521**
W13	802.11a	48	Right Cheek	6	96.02	14	13.72	-0.06	1.32	0.401	1.466
W14	802.11a	44	Right Cheek(Repeated)	6	96.02	14	13.69	0.02	1.29	0.356	1.443
W15	802.11ac VHT20	56	Right Cheek	MCS0	96.02	14	13.78	0.04	1.11	0.34	1.216
W16	802.11ac VHT20	56	Right Tilted	MCS0	96.02	14	13.78	0.08	0.773	0.272	0.847
W17	802.11ac VHT20	56	Left Cheek	MCS0	96.02	14	13.78	-0.17	0.614	0.238	0.673
W18	802.11ac VHT20	56	Left Tilted	MCS0	96.02	14	13.78	-0.06	0.479	0.198	0.525
W19	802.11ac VHT20	52	Right Cheek	MCS0	96.02	14	13.70	0.02	1.13	0.346	1.261
W20	802.11ac VHT20	60	Right Cheek	MCS0	96.02	14	13.66	0.13	**1.26**	**0.368**	**1.419**
W21	802.11ac VHT20	60	Right Cheek(Repeated)	MCS0	96.02	14	13.66	-0.04	1.19	0.351	1.340
W22	802.11ac VHT40	118	Right Cheek	MCS0	96.02	14	13.44	-0.01	1.07	0.209	1.268
W23	802.11ac VHT40	118	Right Tilted	MCS0	96.02	14	13.44	-0.08	0.842	0.182	0.998
W24	802.11ac VHT40	118	Left Cheek	MCS0	96.02	14	13.44	0	0.955	0.19	1.131
W25	802.11ac VHT40	118	Left Tilted	MCS0	96.02	14	13.44	0.15	0.761	0.187	0.902
W26	802.11ac VHT40	102	Right Cheek	MCS0	96.02	14	13.23	0.02	**1.16**	**0.247**	**1.442**
W27	802.11ac VHT40	110	Right Cheek	MCS0	96.02	14	13.25	0.03	0.994	0.211	1.230
W28	802.11ac VHT40	102	Right Cheek(Repeated)	MCS0	96.02	14	13.23	0.07	1.03	0.225	1.281
W29	802.11ac VHT20	149	Right Cheek	MCS0	96.02	14	13.87	0.02	**1.15**	**0.348**	**1.234**
W30	802.11ac VHT20	149	Right Tilted	MCS0	96.02	14	13.87	0.14	0.914	0.293	0.981
W31	802.11ac VHT20	149	Left Cheek	MCS0	96.02	14	13.87	0.02	0.807	0.252	0.866
W32	802.11ac VHT20	149	Left Tilted	MCS0	96.02	14	13.87	-0.05	0.736	0.245	0.790
W33	802.11ac VHT20	161	Right Cheek	MCS0	96.02	14	13.73	-0.01	0.981	0.296	1.087
W34	802.11ac VHT20	165	Right Cheek	MCS0	96.02	14	13.69	0.02	0.934	0.279	1.045
W35	802.11ac VHT20	149	Right Cheek(Repeated)	MCS0	96.02	14	13.87	0.06	1.06	0.341	1.137

Note: The value with boldface is the maximum SAR Value of each test band.

7.2.2 SAR MEASUREMENT RESULT OF BODY

1. Body SAR test results of WiFi 2.4G

Test No.	Mode	Channel	Test Position	Separation Distance (mm)	Accessory	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
W36	802.11b	1	Front Face	15	/	1	89.37	18.5	18.41	-0.03	0.26	0.149	0.297
W37	802.11b	1	Rear Face	15	/	1	89.37	18.5	18.41	0.02	0.171	0.104	0.195
W38	802.11b	6	Front Face	15	/	1	89.37	18.5	18.25	-0.06	**0.262**	**0.151**	**0.311**
W39	802.11b	11	Front Face	15	/	1	89.37	18.5	18.04	-0.09	0.24	0.138	0.299
W91	802.11b	6	Rear Face	0	Belt Clip+ Headphone	1	89.37	18.5	18.25	0.04	0.153	0.075	0.181
W92	802.11b	6	Rear Face	0	Belt Clip	1	89.37	18.5	18.25	0.02	0.155	0.076	0.184
W93	802.11b	6	Front Face	15	Protective Case	1	89.37	18.5	18.25	0.07	0.201	0.111	0.238

Note:
1) The value with boldface is the maximum SAR Value of each test band.
2) For the worst band of Body SAR, add use condition SAR test for mounting fixture.

2. Body SAR test results of BT

Test No.	Mode	Channel	Test Position	Separation Distance (mm)	Accessory	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
B07	BT DH5	39	Front Face	15	/	1	76.53	6	4.36	0.03	0.008	0.004	0.015
B08	BT DH5	39	Rear Face	15	/	1	76.53	6	4.36	0	<0.001	<0.001	<0.001
B09	BT DH5	0	Front Face	15	/	1	76.53	6	4.27	-0.03	**0.008**	**0.004**	**0.016**
B10	BT DH5	78	Front Face	15	/	1	76.53	6	4.33	0.02	0.007	0.003	0.013
B18	BT DH5	0	Rear Face	0	Belt Clip+ Headphone	1	76.53	6	4.27	0	<0.001	<0.001	<0.001
B19	BT DH5	0	Rear Face	0	Belt Clip	1	76.53	6	4.27	-0.01	<0.001	<0.001	<0.001
B20	BT DH5	0	Front Face	15	Protective Case	1	76.53	6	4.27	0	0.005	0.002	0.010

Note:
1) The value with boldface is the maximum SAR Value of each test band.
2) For the worst band of Body SAR, add use condition SAR test for mounting fixture.

3. Body SAR test results of WiFi 5G

Test No.	Mode	Channel	Test Position	Separation Distance (mm)	Accessory	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 1g SAR (W/kg)
W40	802.11a	40	Front Face	15	/	6	96.02	14	13.78	0.03	**0.286**	**0.119**	**0.313**
W41	802.11a	40	Rear Face	15	/	6	96.02	14	13.78	-0.06	0.149	0.07	0.163
W42	802.11a	44	Front Face	15	/	6	96.02	14	13.69	0.09	0.278	0.115	0.311
W43	802.11a	48	Front Face	15	/	6	96.02	14	13.72	0.05	0.276	0.113	0.307
W94	802.11a	40	Rear Face	0	Belt Clip+ Headphone	6	96.02	14	13.78	0.03	0.102	0.044	0.112
W95	802.11a	40	Rear Face	0	Belt Clip	6	96.02	14	13.78	-0.06	0.105	0.046	0.115
W96	802.11a	40	Front Face	15	Protective Case	6	96.02	14	13.78	-0.01	0.218	0.092	0.239
W44	802.11ac VHT20	56	Front Face	15	/	MCS0	96.02	14	13.78	0.04	0.267	0.108	0.293
W45	802.11ac VHT20	56	Rear Face	15	/	MCS0	96.02	14	13.78	0.01	0.128	0.056	0.140
W46	802.11ac VHT20	52	Front Face	15	/	MCS0	96.02	14	13.70	0.08	0.26	0.106	0.290
W47	802.11ac VHT20	60	Front Face	15	/	MCS0	96.02	14	13.66	0.03	**0.337**	**0.132**	**0.380**
W97	802.11ac VHT20	60	Rear Face	0	Belt Clip+ Headphone	MCS0	96.02	14	13.66	0	0.111	0.048	0.125
W98	802.11ac VHT20	60	Rear Face	0	Belt Clip	MCS0	96.02	14	13.66	-0.02	0.114	0.049	0.128
W99	802.11ac VHT20	60	Front Face	15	Protective Case	MCS0	96.02	14	13.66	0.03	0.281	0.115	0.316
W48	802.11ac VHT40	118	Front Face	15	/	MCS0	96.02	14	13.44	0.07	0.394	0.152	0.467
W49	802.11ac VHT40	118	Rear Face	15	/	MCS0	96.02	14	13.44	0.13	0.176	0.084	0.209
W50	802.11ac VHT40	102	Front Face	15	/	MCS0	96.02	14	13.23	0.08	0.377	0.147	0.469
W51	802.11ac VHT40	110	Front Face	15	/	MCS0	96.02	14	13.25	0.01	**0.397**	**0.156**	**0.491**
W100	802.11ac VHT40	110	Front Face	15	Protective Case	MCS0	96.02	14	13.25	0.06	0.349	0.135	0.432
W101	802.11ac VHT40	110	Rear Face	0	Belt Clip+ Headphone	MCS0	96.02	14	13.25	-0.02	0.157	0.066	0.194
W102	802.11ac VHT40	110	Rear Face	0	Belt Clip	MCS0	96.02	14	13.25	0	0.162	0.068	0.201
W52	802.11ac VHT20	149	Front Face	15	/	MCS0	96.02	14	13.87	0.03	**0.383**	**0.151**	**0.411**
W53	802.11ac VHT20	149	Rear Face	15	/	MCS0	96.02	14	13.87	-0.03	0.234	0.093	0.251
W54	802.11ac VHT20	161	Front Face	15	/	MCS0	96.02	14	13.73	0.05	0.34	0.135	0.377
W55	802.11ac VHT20	165	Front Face	15	/	MCS0	96.02	14	13.69	-0.03	0.315	0.125	0.352
W103	802.11ac VHT20	149	Rear Face	0	Belt Clip+ Headphone	MCS0	96.02	14	13.87	0.03	0.104	0.045	0.112
W104	802.11ac VHT20	149	Rear Face	0	Belt Clip	MCS0	96.02	14	13.87	-0.02	0.11	0.046	0.118
W105	802.11ac VHT20	149	Front Face	15	Protective Case	MCS0	96.02	14	13.87	0.04	0.341	0.133	0.366

Note:
1) The value with boldface is the maximum SAR Value of each test band.
2) For the worst band of Body SAR, add use condition SAR test for mounting fixture.

7.2.3 SAR MEASUREMENT RESULT OF LIMBS

1. Limbs SAR test results of WiFi 2.4G

Test No.	Mode	Channel	Test Position	Separation Distance (mm)	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 10g SAR (W/kg)
W56	802.11b	1	Front Face	0	1	89.37	18.5	18.41	0.19	1.950	0.931	1.064
W57	802.11b	1	Rear Face	0	1	89.37	18.5	18.41	-0.03	1.163	0.591	0.675
W58	802.11b	1	Left Side	0	1	89.37	18.5	18.41	0.07	1.308	0.606	0.692
W59	802.11b	1	Right Side	0	1	89.37	18.5	18.41	0.01	0.121	0.060	0.069
W60	802.11b	1	Top Side	0	1	89.37	18.5	18.41	0.08	1.083	0.421	0.481
W61	802.11b	6	Front Face	0	1	89.37	18.5	18.25	0.08	1.910	0.920	1.090
W62	802.11b	11	Front Face	0	1	89.37	18.5	18.04	0.01	**1.960**	**0.939**	**1.168**

Note: The value with boldface is the maximum SAR Value of each test band.

2. Limbs SAR test results of BT

Test No.	Mode	Channel	Test Position	Separation Distance (mm)	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 10g SAR (W/kg)
B11	BT DH5	39	Front Face	0	1	76.53	6	4.36	0.09	0.079	0.041	0.077
B12	BT DH5	39	Rear Face	0	1	76.53	6	4.36	0	<0.001	<0.001	<0.001
B13	BT DH5	39	Left Side	0	1	76.53	6	4.36	-0.02	0.058	0.028	0.053
B14	BT DH5	39	Right Side	0	1	76.53	6	4.36	0	<0.001	<0.001	<0.001
B15	BT DH5	39	Top Side	0	1	76.53	6	4.36	0.06	0.047	0.022	0.042
B16	BT DH5	0	Front Face	0	1	76.53	6	4.27	0.05	0.078	0.040	0.078
B17	BT DH5	78	Front Face	0	1	76.53	6	4.33	-0.01	**0.080**	**0.042**	**0.080**

Note: The value with boldface is the maximum SAR Value of each test band.

3. Limbs SAR test results of WiFi 5G

Test No.	Mode	Channel	Test Position	Separation Distance (mm)	Data Rate	Duty Cycle (%)	Maximum Tune-up (dBm)	Conducted Power (dBm)	Power Drift (dB)	SAR 1g (W/kg)	SAR 10g (W/kg)	Reported 10g SAR (W/kg)
W63	802.11a	40	Front Face	0	6	96.02	14	13.78	0.13	1.292	0.354	0.388
W64	802.11a	40	Rear Face	0	6	96.02	14	13.78	0.05	0.344	0.11	0.121
W65	802.11a	40	Left Side	0	6	96.02	14	13.78	-0.06	2.037	0.463	0.507
W66	802.11a	40	Right Side	0	6	96.02	14	13.78	0.02	0.079	0.028	0.031
W67	802.11a	40	Top Side	0	6	96.02	14	13.78	-0.05	2.340	0.587	0.643
W68	802.11a	44	Top Side	0	6	96.02	14	13.69	0	2.420	0.620	0.693
W69	802.11a	48	Top Side	0	6	96.02	14	13.72	-0.04	**2.480**	**0.632**	**0.702**
W70	802.11ac VHT20	56	Front Face	0	MCS0	96.02	14	13.78	0.07	1.611	0.363	0.398
W71	802.11ac VHT20	56	Rear Face	0	MCS0	96.02	14	13.78	0.03	0.346	0.106	0.116
W72	802.11ac VHT20	56	Left Side	0	MCS0	96.02	14	13.78	-0.04	2.216	0.445	0.488
W73	802.11ac VHT20	56	Right Side	0	MCS0	96.02	14	13.78	0	0.066	0.023	0.025
W74	802.11ac VHT20	56	Top Side	0	MCS0	96.02	14	13.78	-0.08	2.240	0.567	0.621
W75	802.11ac VHT20	52	Top Side	0	MCS0	96.02	14	13.70	-0.02	2.250	0.572	0.638
W76	802.11ac VHT20	60	Top Side	0	MCS0	96.02	14	13.66	-0.06	**2.320**	**0.583**	**0.657**
W77	802.11ac VHT40	118	Front Face	0	MCS0	96.02	14	13.44	0.14	2.521	0.572	0.678
W78	802.11ac VHT40	118	Rear Face	0	MCS0	96.02	14	13.44	0.08	0.604	0.149	0.177
W79	802.11ac VHT40	118	Left Side	0	MCS0	96.02	14	13.44	-0.06	3.328	0.711	0.842
W80	802.11ac VHT40	118	Right Side	0	MCS0	96.02	14	13.44	0	0.095	0.024	0.028
W81	802.11ac VHT40	118	Top Side	0	MCS0	96.02	14	13.44	-0.05	2.820	0.749	0.887
W82	802.11ac VHT40	102	Top Side	0	MCS0	96.02	14	13.23	-0.02	**3.310**	**0.833**	**1.036**
W83	802.11ac VHT40	110	Top Side	0	MCS0	96.02	14	13.25	-0.06	2.960	0.752	0.931
W84	802.11ac VHT20	149	Front Face	0	MCS0	96.02	14	13.87	0.09	1.557	0.302	0.324
W85	802.11ac VHT20	149	Rear Face	0	MCS0	96.02	14	13.87	-0.05	0.284	0.063	0.068
W86	802.11ac VHT20	149	Left Side	0	MCS0	96.02	14	13.87	-0.14	1.668	0.286	0.307
W87	802.11ac VHT20	149	Right Side	0	MCS0	96.02	14	13.87	-0.02	0.047	0.011	0.012
W88	802.11ac VHT20	149	Top Side	0	MCS0	96.02	14	13.87	-0.01	1.480	0.328	0.352
W89	802.11ac VHT20	161	Top Side	0	MCS0	96.02	14	13.73	-0.06	**1.280**	**0.334**	**0.370**
W90	802.11ac VHT20	165	Top Side	0	MCS0	96.02	14	13.69	-0.03	1.250	0.329	0.368

Note: The value with boldface is the maximum SAR Value of each test band.

7.3 MULTIPLE TRANSMITTER EVALUATION

The following tables list information which is relevant for the decision if a simultaneous transmit evaluation is necessary according to FCC KDB447498 D04 Interim General RF Exposure Guidance v01.

The location of the antennas inside the EUT is shown as below:

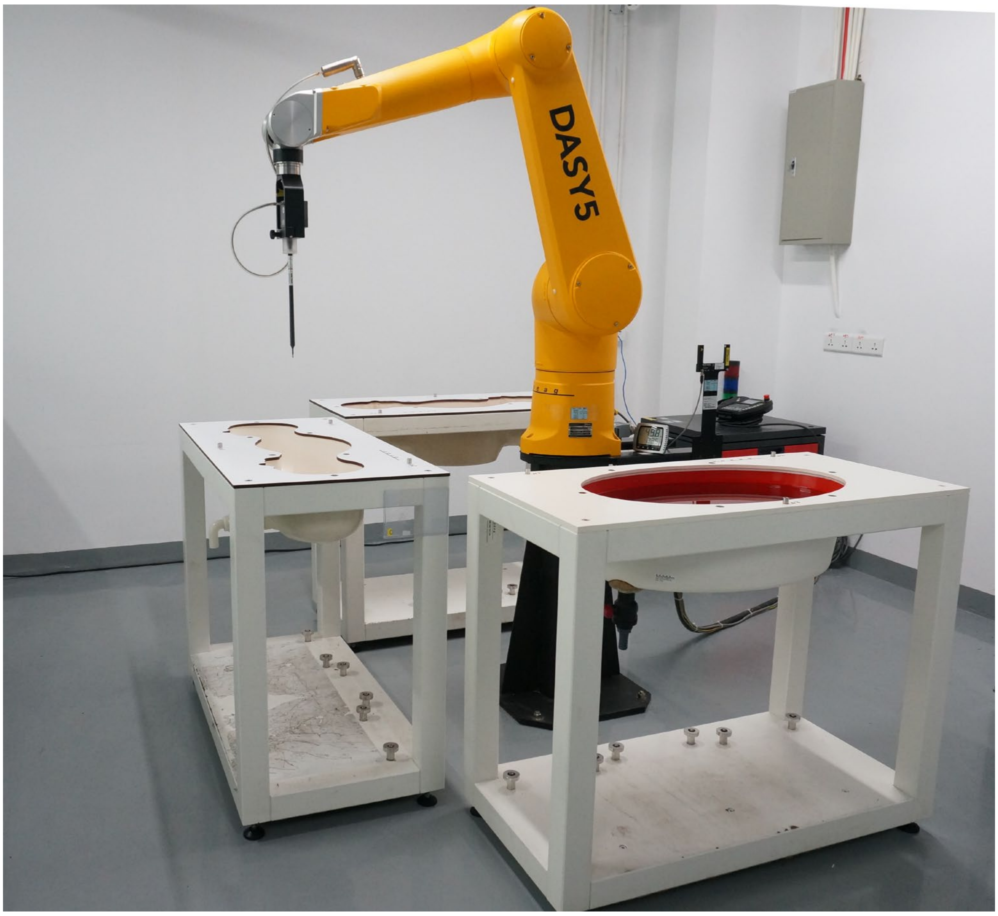
FortiFone FON-W80B

Note: The EUT only has one antenna and does not have synchronous transmission function.

APPENDIX

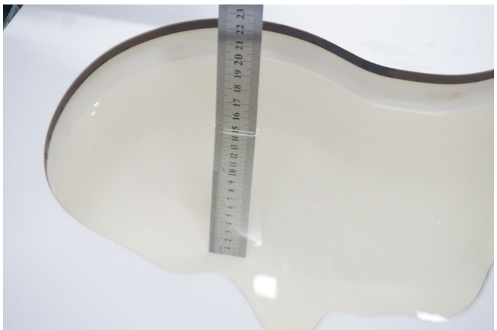
1. TEST LAYOUT

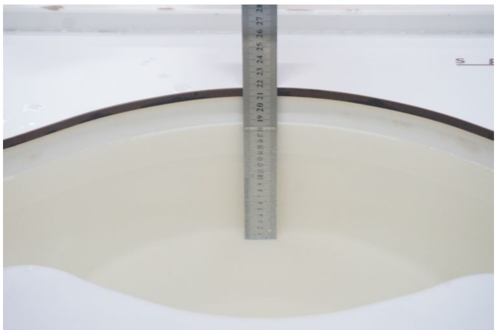
Specific Absorption Rate Test Layout



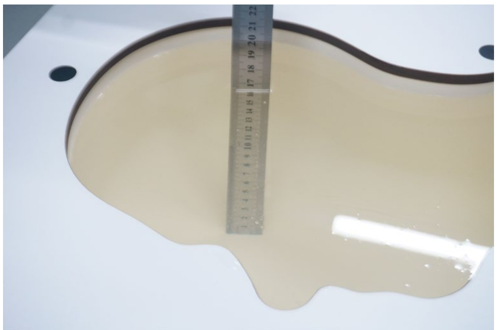
Liquid depth in the flat Phantom (≥15cm depth)

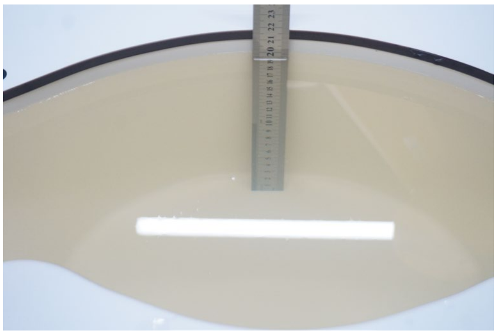
HSL_2300MHz-2700MHz_Head_15.0cm HSL_2300MHz-2700MHz_Body_18.3cm





HSL_4500MHz-6000MHz_Head_16.5cm HSL_4500MHz-6000MHz_Body_19.5cm





Appendix A. SAR Plots of System Verification

(Pls See BTL-FCC SAR-1-2408G076_Appendix A.)

Appendix B. SAR Plots of SAR Measurement

(Pls See BTL-FCC SAR-1-2408G076_Appendix B.)

Appendix C. Calibration Certificate

(Pls See BTL-FCC SAR-1-2408G076_Appendix C.)

Appendix D. Photographs of the Test Set-Up

(Pls See BTL-FCC SAR-1-2408G076_Appendix D.)

End of Test Report