



TEST REPORT

Applicant: Acer Incorporated

Address: 8F, 88, Sec. 1, Xintai 5th Rd. Xizhi, New Taipei City

221 Taiwan

Equipment Type: Tablet PC

Model Name: A25004

Brand Name: acer

Marketing Name: A8-21M

FCC ID: HLZA25004

Test Standard: FCC 47 CFR Part 2.1093

(refer to section 3.1)

Maximum SAR: Body 2.4GHz(1 g): 0.97 W/kg

Body 5GHz(1 g): 1.02 W/kg

Sample Arrival Date: May 18, 2025

Test Date: May 25, 2025 - May 29, 2025

Date of Issue: Aug. 08, 2025

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

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Revision History

Version

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Initial Issue

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1 GENERAL INFORMATION

1.1 Test Laboratory

| Name | Shenzhen BALUN Technology Co., Ltd. |
|--------------|--|
| Addross | Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, |
| Address | Nanshan District, Shenzhen, Guangdong Province, P. R. China |
| Phone Number | +86 755 6685 0100 |

1.2 Test Location

| Name | Shenzhen BALUN Technology Co., Ltd. | |
|-----------------------------|--|--|
| | ☐ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi | |
| | Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China | |
| Location | 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, | |
| | No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, | |
| | Nanshan District, Shenzhen, Guangdong Province, P. R. China | |
| A core ditation Cartificate | The laboratory is a testing organization accredited by FCC as a | |
| Accreditation Certificate | accredited testing laboratory. The designation number is CN1196. | |

1.3 Test Environment Condition

| Ambient Temperature | 18℃ to 25℃ |
|---------------------|------------|
| Ambient Relative | 30% to 70% |
| Humidity | |



2 PRODUCT INFORMATION

2.1 Applicant Information

| Applicant | Acer Incorporated |
|-----------|---|
| Address | 8F, 88, Sec.1 Xintai 5th Rd. Xizhi, New Taipei City 221, Taiwan |

2.2 Manufacturer Information

| Manufacturer | Acer Incorporated |
|--------------|---|
| Address | 8F, 88, Sec.1 Xintai 5th Rd. Xizhi, New Taipei City 221, Taiwan |

2.3 General Description for Equipment under Test (EUT)

| EUT Name | Tablet PC |
|-----------------------|-------------------------------------|
| Model Name Under Test | A25004 |
| Series Model Name | N/A |
| Description of Model | N/A |
| name differentiation | N/A |
| Marketing Name | A8-21M |
| Hardware Version | 868A537-20T25G-LC |
| Software Version | Acer_AV0V0_A8-21M_RV00RC01_EEA_GEN1 |
| Dimensions (Approx.) | N/A |
| Weight (Approx.) | N/A |

2.4 Ancillary Equipment

| | Battery | |
|-----------------------|-----------------|-----------------------------------|
| | Brand Name | UTL |
| | Model No. | U2855138PV-1S2P |
| Ancillant Equipment 1 | Serial No. | N/A |
| Ancillary Equipment 1 | Capacitance | 6000 mAh |
| | Rated Voltage | 3.8 V |
| | Limited Voltage | 4.35 V |
| | Manufacturer | SHENZHEN UTILITY ENERGY CO., LTD. |



2.5 Technical Information

| Network and Wireless | Bluetooth (BR+EDR+BLE) |
|----------------------|--|
| connectivity | WIFI 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac and 802.11ax |

The requirement for the following technical information of the EUT was tested in this report:

| Operating Mode | 2.4G WIFI; 5G WIFI; Bluetooth | |
|-------------------|---------------------------------|-----------------------|
| | 802.11b/g | 2412 ~ 2462 MHz |
| | 802.11n(HT20/HT40) | 2412 ~ 2462 MHz |
| | 802.11ax(HE20/HE40) | 2412 ~ 2462 MHz |
| | 802.11a | 5150 ~ 5250 MHz |
| | | 5250 ~ 5350 MHz |
| | 002.11d | 5470 ~ 5725 MHz |
| | | 5725 ~ 5850 MHz |
| | | 5150 ~ 5250 MHz |
| | 802.11n(HT20/HT40) | 5250 ~ 5350 MHz |
| Frequency Range | 602.1111(H120/H140) | 5470 ~ 5725 MHz |
| Trequency range | | 5725 ~ 5850 MHz |
| | 802.11 ac(VHT20/VHT40/VHT80) | 5150 ~ 5250 MHz |
| | | 5250 ~ 5350 MHz |
| | | 5470 ~ 5725 MHz |
| | | 5725 ~ 5850 MHz |
| | | 5150 ~ 5250 MHz |
| | 802.11 ax(HE20/HE40/HE80) | 5250 ~ 5350 MHz |
| | | 5470 ~ 5725 MHz |
| | | 5725 ~ 5850 MHz |
| | Bluetooth | 2402 ~ 2480 MHz |
| Antenna Type | WLAN | PIFA Antenna |
| Antenna Type | Bluetooth | PIFA Antenna |
| Hotspot Function | N/A | |
| Exposure Category | General Population/Uncontr | rolled exposure |
| Product Type | Portable Device | |
| EUT Type | | ☐ Identical prototype |



3 SUMMARY OF TEST RESULT

3.1 Test Standards

| No. | Identity | Document Title |
|-----|-----------------------|--|
| 1☆ | 47 CFR Part 2.1093 | Radiofrequency radiation exposure evaluation: portable devices |
| | ANSI/IEEE Std.C95.1- | IEEE Standard for Safety Levels with Respect to Human |
| 2 | 1992 | Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to |
| | | 300 GHz |
| 3☆ | KDB 447498 D04 v01 | 447498 D04 Interim General RF Exposure Guidance v01 |
| 4☆ | KDB 865664 D01 v01r04 | SAR Measurement 100 MHz to 6 GHz |
| 5☆ | KDB 865664 D02 v01r02 | RF Exposure Reporting |
| 6☆ | KDB 248227 D01 v02r02 | SAR Guidance for IEEE 802.11 (Wi-Fi) Transmitters |
| 7☆ | KDB 616217 D04 v01r02 | SAR for laptop and tablets |



3.2 Device Category and SAR Limit

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user.

Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

Table of Exposure Limits:

| | SAR Value (W/Kg) | | | |
|--|-----------------------|--------------------|--|--|
| Body Position | General Population/ | Occupational/ | | |
| | Uncontrolled Exposure | ControlledExposure | | |
| Whole-Body SAR | 0.08 | 0.4 | | |
| (averaged over the entire body) | 0.08 | 0.4 | | |
| Partial-Body SAR | 1.60 | 8.0 | | |
| (averaged over any 1 gram of tissue) | 1.00 | 8.0 | | |
| SAR for hands, wrists, feet and | | | | |
| ankles | 4.0 | 20.0 | | |
| (averaged over any 10 grams of tissue) | | | | |

NOTE:

General Population/Uncontrolled Exposure: Locations where there is the exposure of individuals who have no knowledge or control of their exposure. General population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

Occupational/Controlled Exposure: Locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.



3.3 Test Result Summary

3.3.1 Highest SAR

| | | Maximum Scaled SAR | Maximum Report SAR |
|-----------------|-----------|--------------------|--------------------|
| Equipment Class | Band | (W/kg) | (W/kg) |
| | | Body (0mm) | Body (0mm) |
| DTS | 2.4G WIFI | 0.97 | |
| U-NII-2A | 5.3G WIFI | 1.02 | |
| U-NII-2C | 5.6G WIFI | 0.83 | 1.02 |
| U-NII-3 | 5.8G WIFI | 0.91 | |
| DSS | Bluetooth | 0.08 | |
| Limit (W/kg) | | 1.0 | 60 |
| Verdict | | Pa | ISS |

3.3.2 Highest Simultaneous Transmission SAR Values

| Equipment Class | Maximum Report SAR (W/kg) |
|-----------------|---------------------------|
| Equipment Class | Body (0mm) |
| DTS | 0.97 |
| NII | 1.09 |
| DSS | 1.09 |
| Limit (W/kg) | 1.60 |
| Verdict | Pass |

Note: The simultaneous transmission SAR detail please refer to section 12.2.



3.4 Test Uncertainty

According to KDB 865664 D01, when the highest measured 1 g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis is not required in SAR reports submitted for equipment approval.

The maximum 1 g SAR for the EUT in this report is 1.02 W/kg, which is lower than 1.5 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.



4 MEASUREMENT SYSTEM

4.1 Specific Absorption Rate (SAR) Definition

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$SAR = \frac{d}{dt} \left(\frac{dW}{dm} \right) = \frac{d}{dt} \left(\frac{dW}{\rho dv} \right)$$

SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

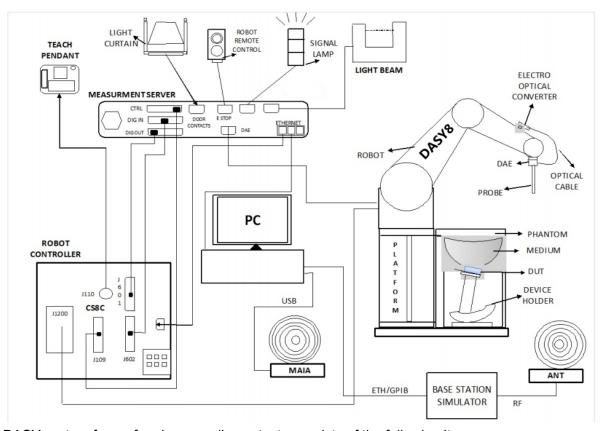
Where: σ is the conductivity of the tissue,

pis the mass density of the tissue and E is the RMS electrical field strength.



4.2 DASY SAR System

4.2.1 DASY SAR System Diagram



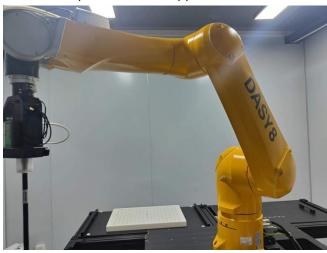
The DASY system for performing compliance tests consists of the following items:

- 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.
- A data acquisition electronic (DAE) which performs the signal amplification, signal multiplexing, ADconversion, 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 DASY measurement server.
- 6. The DASY measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation.
- 7. DASY 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.



4.2.2 Robot

The Dasy SAR system uses the high precision robots. Symmetrical design with triangular core Built-in optical fiber for surface detection system For the 6-axis controller system, Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents). The robot series have many features that are important for our application:



- High precision (repeatability ±0.02 mm)
- High reliability (industrial design)
- Low maintenance costs (virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements (brush less synchron motors; no stepper motors)
- Low ELF interference (motor control _elds shielded via the closed metallic construction shields)



4.2.3 E-Field Probe

The probe is specially designed and calibrated for use in liquids with high permittivities for the measurements the Specific Dosimetric E-Field Probe EX3DV4-SN: 7510 with following specifications is used.

Construction Symmetrical design with triangular core Built-in optical fiber for surface detection system

Built-in shielding against static charges PEEK enclosure material (resistant to organic

solvents, e.g., glycolether)

Calibration ISO/IEC 17025 calibration service available

Frequency 4 MHz to 10 GHz; Linearity: ± 0.2 dB

Directivity ± 0.2 dB in HSL (rotation around probe axis); ± 0.4 dB in HSL (rotation normal to probe

axis)

Dynamic range $5 \mu W/g$ to > 100 mW/g; Linearity: $\pm 0.2 dB$

Dimensions Overall length: 337 mm (Tip: 9 mm) Tip diameter: 2.5 mm (Body: 10 mm) Distance from

probe tip to dipole centers: 1.0 mm

Application General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic

scanning in arbitrary phantoms (EX3DV4)



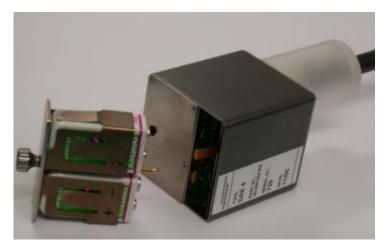
E-Field Probe Calibration Process

Probe calibration is realized, in compliance with IEC/IEEE 62209-1528 and IEEE 1528 std, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the IEC/IEEE 62209-1528 annexe technique using reference guide at the five frequencies.



4.2.4 Data Acquisition Electronics

The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converte and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock.



- Input Impedance: 200MOhm
- The Inputs: Symmetrical and Floating
- Commom Mode Rejection: Above 80dB



4.2.5 Phantoms

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.



- ·Left hand
- ·Right hand
- ·Flat phantom

Photo of Phantom SN1859



| Serial Number | Material | Length | Height |
|---------------|------------------------------------|--------|--------|
| SN 1859 SAM | Vinylester, glass fiber reinforced | 1000 | 500 |



4.2.6 Device Holder

The DASY device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA"s only. If necessary an additional support of polystyrene material is used. Larger DUT"s (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values. Therefore those devices are normally only tested at the flat part of the SAM.

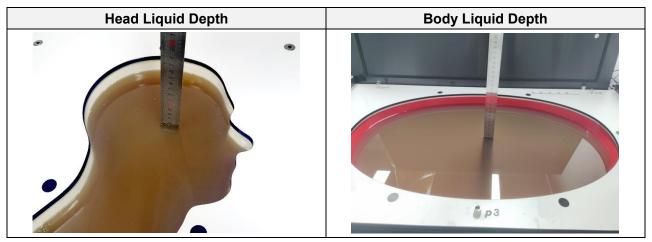


The positioning system allows obtaining cheek and tilting position with a very good accuracy. Incompliance with CENELEC, the tilt angle uncertainty is lower than 1°.



4.2.7 Simulating Liquid

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5%.



The following table gives the recipes for tissue simulating liquid and the theoretical Conductivity/Permittivity.

The following table gives the recipes for tissue simulating liquid.

| TSL | Manufacturer / Model | Freq Range (MHz) | Main Ingredients |
|---------------|---------------------------|---------------------|---|
| Head WideBand | SPEAG HBBL600- 10000V6 | 600-10000 | Ethanediol, Sodium petroleum sulfonate, Hexylene Glycol / 2-Methyl-pentane-2.4- diol, Alkoxylated alcohol |



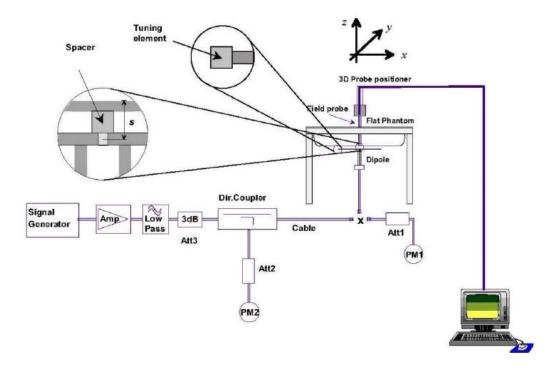
SYSTEM VERIFICATION

5.1 Purpose of System Check

The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of the system in order to guarantee reproducible results. The system performance check uses normal SAR measurements in a simplified setup with a well characterized source. This setup was selected to give a high sensitivity to all parameters that might fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.

5.2 System Check Setup

In the simplified setup for system evaluation, the EUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:

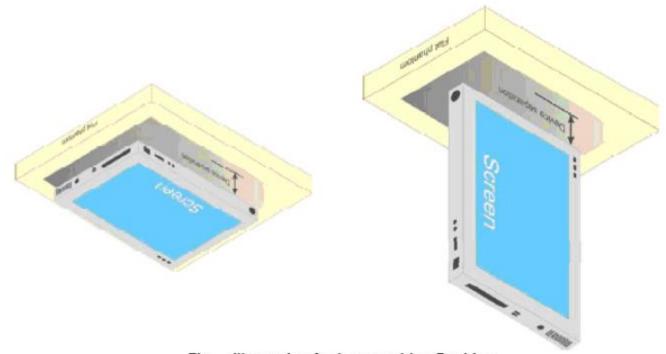




6 TEST POSITION CONFIGURATIONS

6.1 Tablet Exposure Condition

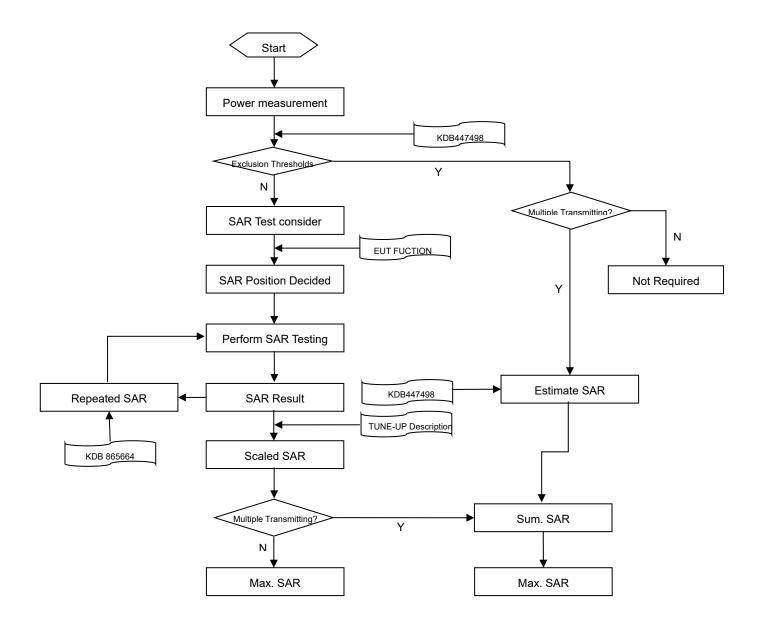
This DUT was tested in two different positions. They are back side and left edge in these positions, the surface of DUT is touching with phantom 0mm.





7 MEASUREMENT PROCEDURE

7.1 Measurement Process Diagram





7.2 SAR Scan General Requirement

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

| | | | ≤3GHz | >3GHz |
|---------------------------|---|--|--------------------------------|---------------------------------|
| Maximum distance from o | closest meas | surement point | 5±1 mm | ½·δ·ln(2)±0.5 mm |
| (geometric center of prob | (geometric center of probe sensors) to phantom surface | | | 72 0 III(2)±0.0 IIIIII |
| Maximum probe angle from | Maximum probe angle from probe axis to phantom surface | | | 20°±1° |
| normal at the measureme | ent location | | 30°±1° | 20 21 |
| | | | ≤ 2 GHz: ≤ 15 mm | 3–4 GHz: ≤ 12 mm |
| | | | 2 – 3 GHz: ≤ 12 mm | 4 – 6 GHz: ≤ 10 mm |
| | | | When the x or y dimension of t | he test device, in the |
| Maximum area scan spat | ial resolution | n: Δx Area , Δy Area | measurement plane orientation | n, is smaller than the above, |
| | | | the measurement resolution m | ust be ≤ the corresponding x or |
| | | | y dimension of the test device | with at least one measurement |
| | | | point on the test device. | |
| Maximum zoom soan sna | Maximum zoom scan spatial resolution: Δx Zoom , Δy Zoom | | ≤ 2 GHz: ≤ 8 mm | 3–4 GHz: ≤ 5 mm* |
| Maximum 200m Scan Spa | iliai resolulio | л. дх 200m , ду 200m | 2 –3 GHz: ≤ 5 mm* | 4 – 6 GHz: ≤ 4 mm* |
| | | | ≤ 5 mm | 3–4 GHz: ≤ 4 mm |
| | unifor | m grid: Δz Zoom (n) | | 4–5 GHz: ≤ 3 mm |
| Maximum zoom scan | | | | 5–6 GHz: ≤ 2 mm |
| spatial resolution, | | Δz Zoom (1): between | | 3–4 GHz: ≤ 3 mm |
| normal to phantom | | 1st two points closest | ≤ 4 mm | 4–5 GHz: ≤ 2.5 mm |
| surface | graded | to phantom surface | | 5–6 GHz: ≤ 2 mm |
| grid | grid | Δz Zoom (n>1): between subsequent points | ≤ 1.5·Δz Zoom (n-1) | |
| Minimum zoom | | | | 3–4 GHz: ≥ 28 mm |
| scan volume | | x, y, z | ≥30 mm | 4–5 GHz: ≥ 25 mm |
| 30411 70141110 | | | | 5–6 GHz: ≥ 22 mm |

Note:

- 1. δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.
- 2. * When zoom scan is required and the reported SAR from the area scan based 1 g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.



7.3 Measurement Procedure

The following steps are used for each test position

- a. Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- b. Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- c. Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to 16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
- d. Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 *32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

7.4 Area & Zoom Scan Procedure

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01v01r04 quoted below.

When the 1 g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.



8 CONDUCTED RF OUPUT POWER

8.1 WIFI

8.1.1 2.4G WIFI

| Pand (CHz) | Mode | Channel | Erog (MHz) | Average | Tune-up | SAR Test |
|------------|--------------------------------|---------|-------------|-------------|-------------|----------|
| Band (GHz) | iviode | Channel | Freq. (MHz) | Power (dBm) | Limit (dBm) | Require. |
| | | 1 | 2412 | 9.87 | 10.00 | Yes |
| | 802.11b | 6 | 2437 | 9.02 | 10.00 | Yes |
| | | 11 | 2462 | 9.24 | 10.00 | Yes |
| | | 1 | 2412 | 9.25 | 10.00 | No |
| | 802.11g | 6 | 2437 | 8.98 | 10.00 | No |
| | | 11 | 2462 | 9.31 | 10.00 | No |
| | | 1 | 2412 | 9.43 | 10.00 | No |
| | 802.11n(HT20) 802.11n(HT40) | 6 | 2437 | 9.16 | 10.00 | No |
| 0.4 | | 11 | 2462 | 9.50 | 10.00 | No |
| 2.4 | | 3 | 2422 | 9.33 | 10.00 | No |
| | | 6 | 2437 | 9.35 | 10.00 | No |
| | | 9 | 2452 | 9.57 | 10.00 | No |
| | | 1 | 2412 | 9.47 | 10.00 | No |
| | 802.11ax(HE20) | 6 | 2437 | 9.54 | 10.00 | No |
| | | 11 | 2462 | 9.37 | 10.00 | No |
| | | 3 | 2422 | 9.82 | 10.00 | No |
| | 802.11ax(HE40) | 6 | 2437 | 9.68 | 10.00 | No |
| | | 9 | 2452 | 9.56 | 10.00 | No |

Note: According KDB 248227 D01 SAR is not required for the following 2.4 GHz OFDM conditions. 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 \leq 1.2 W/kg.

Adjusted SAR = Report SAR * (max power (OFDM)/ max power (DSSS)) = 0.966 * (10.00mW/10.00mW) = 0.966 W/Kg, so the 2.4G OFDM SAR test is not required.

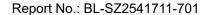


8.1.2 5G WIFI

| Band (GHz) | Mode | Channel | Freq. (MHz) | Average | Tune-up | SAR Test |
|------------|-------------------|---------|-------------|-------------|-------------|----------|
| | | | 5400 | Power (dBm) | Limit (dBm) | Require. |
| | | 36 | 5180 | 13.46 | 13.50 | No |
| | 802.11a | 44 | 5220 | 12.55 | 13.50 | No |
| | | 48 | 5240 | 12.97 | 13.50 | No |
| | | 36 | 5180 | 13.20 | 13.50 | No |
| | 802.11n(HT20) | 44 | 5220 | 12.90 | 13.50 | No |
| | | 48 | 5240 | 12.03 | 13.50 | No |
| | 802.11n(HT40) | 38 | 5190 | 12.72 | 13.50 | No |
| | 332(| 46 | 5230 | 12.07 | 13.50 | No |
| | | 36 | 5180 | 12.57 | 13.50 | No |
| 5.2 | 802.11ac(VHT20) | 44 | 5220 | 12.66 | 13.50 | No |
| 5.2 | | 48 | 5240 | 12.11 | 13.50 | No |
| | 902 44 co(\/UT40\ | 38 | 5190 | 12.55 | 13.50 | No |
| | 802.11ac(VHT40) | 46 | 5230 | 12.10 | 13.50 | No |
| | 802.11ac(VHT80) | 42 | 5210 | 12.75 | 13.50 | No |
| | | 36 | 5180 | 12.46 | 12.50 | No |
| | 802.11ax(HE20) | 44 | 5220 | 11.82 | 12.00 | No |
| | | 48 | 5240 | 10.72 | 12.00 | No |
| | 000 44(11540) | 38 | 5190 | 11.42 | 12.00 | No |
| | 802.11ax(HE40) | 46 | 5230 | 10.91 | 12.00 | No |
| | 802.11ax(HE80) | 42 | 5210 | 10.41 | 12.00 | No |
| | | 52 | 5260 | 12.93 | 13.50 | No |
| | 802.11a | 60 | 5300 | 12.76 | 13.50 | No |
| | | 64 | 5320 | 12.60 | 13.50 | No |
| | | 52 | 5260 | 13.01 | 13.50 | No |
| | 802.11n(HT20) | 60 | 5300 | 12.83 | 13.50 | No |
| | , , | 64 | 5320 | 12.61 | 13.50 | No |
| | | 54 | 5270 | 12.99 | 13.50 | No |
| | 802.11n(HT40) | 62 | 5310 | 12.66 | 13.50 | No |
| 5.3 | | 52 | 5260 | 12.92 | 13.50 | No |
| | 802.11ac(VHT20) | 60 | 5300 | 12.76 | 13.50 | No |
| | | 64 | 5320 | 12.60 | 13.50 | No |
| | | 54 | 5270 | 12.94 | 13.50 | No |
| | 802.11ac(VHT40) | 62 | 5310 | 12.65 | 13.50 | No |
| | 802.11ac(VHT80) | 58 | 5290 | 12.03 | 13.50 | Yes |
| | 002.11ac(V11100) | 52 | 5290 | 11.98 | 12.00 | No |
| | 802.11ax(HE20) | | | | | |
| | | 60 | 5300 | 11.82 | 12.00 | No |



| | | 64 | 5320 | 11.55 | 12.00 | No |
|-----|--------------------|-----|------|-------|-------|-----|
| | | 54 | 5270 | 11.86 | 12.00 | No |
| | 802.11ax(HE40) | 62 | 5310 | 11.70 | 12.00 | No |
| | 802.11ax(HE80) | 58 | 5290 | 11.82 | 12.00 | No |
| | | 100 | 5500 | 13.37 | 13.50 | No |
| | 802.11a | 116 | 5580 | 13.32 | 13.50 | No |
| | | 140 | 5700 | 12.76 | 13.50 | No |
| | | 100 | 5500 | 13.33 | 13.50 | No |
| | 802.11n(HT20) | 116 | 5580 | 13.30 | 13.50 | No |
| | | 140 | 5700 | 12.87 | 13.50 | No |
| | | 102 | 5510 | 13.41 | 13.50 | No |
| | 802.11n(HT40) | 118 | 5590 | 13.38 | 13.50 | No |
| | | 134 | 5670 | 12.60 | 13.50 | No |
| | | 100 | 5500 | 13.30 | 13.50 | No |
| | 802.11ac(VHT20) | 116 | 5580 | 13.34 | 13.50 | No |
| | | 140 | 5700 | 12.66 | 13.50 | No |
| 5.6 | | 102 | 5510 | 13.34 | 13.50 | No |
| | 802.11ac(VHT40) | 118 | 5590 | 13.33 | 13.50 | No |
| | | 134 | 5670 | 12.63 | 13.50 | No |
| | 222 (4 (1117-22) | 106 | 5530 | 13.24 | 13.50 | Yes |
| | 802.11ac(VHT80) | 122 | 5610 | 13.32 | 13.50 | Yes |
| | 802.11ax(HE20) | 100 | 5500 | 12.26 | 12.50 | No |
| | | 116 | 5580 | 12.37 | 12.50 | No |
| | | 140 | 5700 | 11.80 | 12.50 | No |
| | | 102 | 5510 | 11.27 | 12.00 | No |
| | 802.11ax(HE40) | 118 | 5590 | 11.14 | 12.00 | No |
| | | 134 | 5670 | 11.48 | 12.00 | No |
| | 000.44 (UE00) | 106 | 5530 | 11.20 | 12.00 | No |
| | 802.11ax(HE80) | 122 | 5610 | 10.90 | 12.00 | No |
| | | 149 | 5745 | 10.73 | 11.00 | No |
| | 802.11a | 157 | 5785 | 10.51 | 11.00 | No |
| | | 165 | 5825 | 10.31 | 11.00 | No |
| | | 149 | 5745 | 10.02 | 11.00 | No |
| 5.0 | 802.11n(HT20) | 157 | 5785 | 10.84 | 11.00 | No |
| 5.8 | | 165 | 5825 | 10.54 | 11.00 | No |
| | 000 44 (17.40) | 151 | 5755 | 10.88 | 11.00 | No |
| | 802.11n(HT40) | 159 | 5795 | 10.72 | 11.00 | No |
| | 000 (1) " " " ==== | 149 | 5745 | 9.98 | 11.00 | No |
| | 802.11ac(VHT20) | 157 | 5785 | 10.84 | 11.00 | No |





| | | 165 | 5825 | 10.60 | 11.00 | No |
|--|------------------|-----|------|-------|-------|-----|
| | | | | | | |
| | 802.11ac(VHT40) | 151 | 5755 | 10.85 | 11.00 | No |
| | 002.11ac(V11140) | 159 | 5795 | 10.81 | 11.00 | No |
| | 802.11ac(VHT80) | 155 | 5775 | 10.83 | 11.00 | Yes |
| | | 149 | 5745 | 9.98 | 11.00 | No |
| | 802.11ax(HE20) | 157 | 5785 | 10.82 | 11.00 | No |
| | | 165 | 5825 | 10.48 | 11.00 | No |
| | 802.11ax(HE40) | 151 | 5755 | 10.89 | 11.00 | No |
| | | 159 | 5795 | 10.67 | 11.00 | No |
| | 802.11ax(HE80) | 155 | 5775 | 10.88 | 11.00 | No |

Note: 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, each band is tested independently for SAR.



8.2 Bluetooth

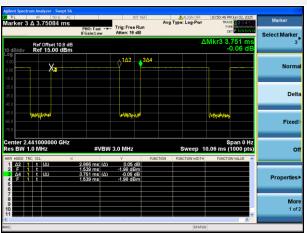
| Mode | GFSK | | | | π/4-DQPSK | |
|---------------------|-------|-----------|-------|-------|-----------|-------|
| Channel | 0 | 39 | 78 | 0 | 39 | 78 |
| Frequency (MHz) | 2402 | 2441 | 2480 | 2402 | 2441 | 2480 |
| Average Power (dBm) | -2.17 | -2.07 | -4.55 | -6.03 | -5.84 | -5.41 |
| Tune-Up Limit (dBm) | -1.00 | -1.00 | -4.00 | -5.00 | -5.00 | -5.00 |
| SAR Test Require | Yes | Yes | Yes | No | No | No |
| Mode | | 8-DPSK | | | 1 | |
| Channel | 0 | 39 | 78 | 1 | 1 | 1 |
| Frequency (MHz) | 2402 | 2441 | 2480 | 1 | 1 | 1 |
| Average Power (dBm) | -5.87 | -5.71 | -5.28 | 1 | 1 | 1 |
| Tune-Up Limit (dBm) | -5.00 | -5.00 | -5.00 | 1 | 1 | 1 |
| SAR Test Require | No | No | No | 1 | 1 | 1 |
| Mode | | BLE-1Mbps | | | BLE-2Mbps | |
| Channel | 0 | 19 | 39 | 1 | 19 | 38 |
| Frequency (MHz) | 2402 | 2440 | 2480 | 2404 | 2440 | 2478 |
| Average Power (dBm) | -1.99 | -1.88 | -1.44 | -2.05 | -1.93 | -1.50 |
| Tune-Up Limit (dBm) | -1.00 | -1.00 | -1.00 | -1.00 | -1.00 | -1.00 |
| SAR Test Require | Yes | Yes | Yes | No | No | No |

Note: Since Bluetooth BR mode is the maximum output power mode, SAR measurements were performed with test software using DH5 modulation, and SAR measurement is not required for the EDR and LE. When the secondary mode is \leq ½ dB higher than the primary mode.

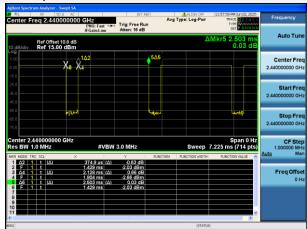
Note: The Bluetooth BT DH5 duty cycle is 76.41% and BLE-1Mbps duty cycle is 85.02% as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.

Duty Cycle

GFSK



BLE-1Mbps

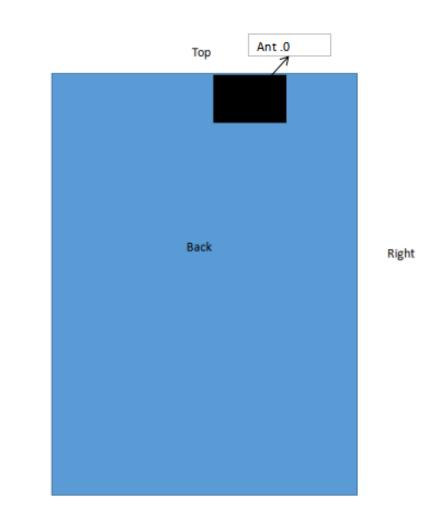




9 TEST EXCLUSION CONSIDERATION

9.1 Antenna location sketch

Left



| Antenna | Support Bands |
|---------|-------------------------|
| Ant.0 | WIFI 2.4G/5G, Bluetooth |



9.2 SAR Test Consideration Table

According with FCC KDB 447498 D04, Appendix B, The SAR-based exemption formula applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). The following table shows the power threshold from 5mm to 50mm.

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



9.2.1 SAR Test Consideration

This host is a Tablet PC, under normal use the RF exposure scenarios are shown in the table below:

| RF Exposure Position | RF Exposure Scenarios |
|----------------------|-----------------------|
| Back Side | Body |
| Left Edge | Body |
| Right Edge | Body |
| Top Edge | Body |
| Bottom Edge | Body |

Ant.0 Body RF exposure scenarios

| Test Position | Mode | Bluetooth | WLAN | U-NII-2A | U-NII-2C | U-NII-3 |
|----------------|--------------------------|------------|---------|------------|-----------|----------|
| Configurations | Wode | Didetootii | 2.4GHz | 0-1411-271 | 0-1411-20 | 0-1111-0 |
| Calculat | ed Frequency (MHz) | 2480 | 2462 | 5320 | 5710 | 5825 |
| | Distance to User (mm) | | | 0 | | |
| | Max. Peak Power (dBm) | -1.00 | 10.00 | 13.50 | 13.50 | 11.00 |
| Back Side | Max. Peak Power (mW) | 0.79 | 10.00 | 22.39 | 22.39 | 12.59 |
| | Exclusion Threshold (mW) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | SAR Test Required | Yes | Yes | Yes | Yes | Yes |
| | Distance to User (mm) | | | 75 | | |
| | Max. Peak Power (dBm) | -1.00 | 10.00 | 13.50 | 13.50 | 11.00 |
| Left Edge | Max. Peak Power (mW) | 0.79 | 10.00 | 22.39 | 22.39 | 12.59 |
| | Exclusion Threshold (mW) | 472.43 | 473.16 | 401.55 | 395.55 | 393.87 |
| | SAR Test Required | No | No | No | No | No |
| | Distance to User (mm) | | | 30 | | |
| | Max. Peak Power (dBm) | -1.00 | 10.00 | 13.50 | 13.50 | 11.00 |
| Right Edge | Max. Peak Power (mW) | 0.79 | 10.00 | 22.39 | 22.39 | 12.59 |
| | Exclusion Threshold (mW) | 82.48 | 82.73 | 60.23 | 58.50 | 58.02 |
| | SAR Test Required | No | No | No | No | No |
| | Distance to User (mm) | | | 0 | | |
| | Max. Peak Power (dBm) | -1.00 | 10.00 | 13.50 | 13.50 | 11.00 |
| Top Edge | Max. Peak Power (mW) | 0.79 | 10.00 | 22.39 | 22.39 | 12.59 |
| | Exclusion Threshold (mW) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | SAR Test Required | Yes | Yes | Yes | Yes | Yes |
| | Distance to User (mm) | | | 215 | | |
| | Max. Peak Power (dBm) | -1.00 | 10.00 | 13.50 | 13.50 | 11.00 |
| Bottom Edge | Max. Peak Power (mW) | 0.79 | 10.00 | 22.39 | 22.39 | 12.59 |
| | Exclusion Threshold (mW) | 3511.95 | 3511.55 | 3554.29 | 3558.25 | 3559.36 |
| | SAR Test Required | No | No | No | No | No |



Note:

- Maximum power is the source-based time-average power and represents the maximum RF output power including tune-up tolerance among production units
- 2. Per KDB 447498 D04, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
- 3. Per KDB 447498 D04, standalone SAR test exclusion threshold is applied; If the distance of the antenna to the user is < 5mm, 5mm is used to determine SAR exclusion threshold
- 4. Per KDB 447498 D04, for separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive), the threshold Pth (mW) is given by Following:

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

where

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

- a. f(GHz) is the RF channel transmit frequency in GHz
- b. d is the separation distance (cm), The result is rounded to one decimal place for comparison
- c. ERP_{20cm} are determined by:

$$ERP_{20cm}(mW) = f(x) = \begin{cases} 2040f & 0.3GHz \le f < 1.5GHz \\ 3060 & 1.5GHz \le f \le 6GHz \end{cases}$$

- 5. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion.8. For each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 1/4dB higher than those measured at the lowest data rate
- 6. Per KDB 248227 D01 SAR is not required for the following 2.4 GHz OFDM conditions.
 - a. When KDB Publication 447498 D04 SAR test exclusion applies to the OFDM configuration.
 - b. 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 $\leq 1.2 \text{ W/kg}$.
- 7. Per KDB 248227 D01 SAR is not required for the following U-NII-1 and U-NII-2A bands conditions.
 - a. 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, each band is tested independently for SAR.
 - b. 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, each band is tested independently for SAR.



10 TEST RESULT

- 1. The reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WIFI signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)".
 - c. For WIFI/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
- 2. Absorbed power density (APD) using a 4cm2 averaging area is reported based on SAR measurements.
- 3. Per KDB 447498 D04, for each exposure position, 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 midband or highest output power channel is:
 - $\cdot \leqslant 0.8$ W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is $\leqslant 100$ MHz
 - $\cdot \leqslant 0.6$ 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
 - $\cdot \leqslant 0.4$ W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
- 4. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is \ge 0.8W/kg

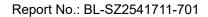


10.1 Bluetooth

| Mode | Antenn a | Position | Dist. (mm) | Ch. | Freq. (MHz) | Power Drift (dB) | 1g Meas SAR (W/kg) | Meas. Power (dBm) | Max. tune-up power (dBm) | Scaling Factor | Duty cycle (%) | Duty cycle Factor | 1g Scaled SAR (W/kg) | Meas. No. |
|-----------|-------------|--------------------|---------------|---------------|----------------|------------------|-----------------------------|-------------------------|-----------------------------------|-------------------|----------------------|-------------------------|-------------------------------|--------------|
| | | Back Side | 0 | 39 | 2441 | -0.05 | 0.012 | -2.07 | -1.00 | 1.279 | 76.41 | 1.309 | 0.020 | / |
| 5 | | Top Edge | 0 | 39 | 2441 | 0.16 | 0.037 | -2.07 | -1.00 | 1.279 | 76.41 | 1.309 | 0.062 | / |
| DH5 | Ant.0 | Top Edge | 0 | 0 | 2402 | 0.07 | 0.041 | -2.17 | -1.00 | 1.309 | 76.41 | 1.309 | 0.070 | / |
| | | Top Edge | 0 | 78 | 2480 | 0.05 | 0.028 | -4.55 | -4.00 | 1.135 | 76.41 | 1.309 | 0.042 | / |
| | | Back Side | 0 | 39 | 2480 | 7.00 | 0.016 | -1.44 | -1.00 | 1.107 | 85.02 | 1.176 | 0.021 | / |
| BLE 1M | Ant.0 | Top Edge | 0 | 39 | 2480 | -0.03 | 0.046 | -1.44 | -1.00 | 1.107 | 85.02 | 1.176 | 0.060 | / |
| DLE IIVI | AIII.U | Top Edge | 0 | 0 | 2402 | -0.14 | 0.051 | -1.99 | -1.00 | 1.256 | 85.02 | 1.176 | 0.075 | 1# |
| | | Top Edge | 0 | 19 | 2440 | 0.05 | 0.043 | -1.88 | -1.00 | 1.225 | 85.02 | 1.176 | 0.062 | 1 |
| Note: Ref | er to ANNE | X C for the detail | led test data | a for each to | est configur | ation. | • | | | • | • | | • | |

10.2WIFI 2.4GHz

| Mode | Antenn a | Position | Dist. (mm) | Ch. | Freq. (MHz) | Power Drift (dB) | 1g Meas SAR (W/kg) | Meas. Power (dBm) | Max. tune-up power (dBm) | Scaling Factor | Duty cycle (%) | Duty cycle Factor | 1g Scaled SAR (W/kg) | Meas. No. |
|-----------|-------------|--------------------|---------------|---------------|----------------|------------------------|-----------------------------|-------------------------|-----------------------------------|-------------------|----------------------|-------------------------|-------------------------------|--------------|
| Body | | | | | | | | | | | | | | |
| | | Back Side | 0 | 1 | 2412 | -0.11 | 0.073 | 9.87 | 10.00 | 1.030 | 96.21 | 1.039 | 0.078 | / |
| 802.11 | Ant.0 | Top Edge | 0 | 1 | 2412 | -0.10 | 0.752 | 9.87 | 10.00 | 1.030 | 96.21 | 1.039 | 0.805 | / |
| b | Ant.0 | Top Edge | 0 | 6 | 2437 | -0.13 | 0.680 | 9.02 | 10.00 | 1.253 | 96.21 | 1.039 | 0.885 | / |
| | | Top Edge | 0 | 11 | 2462 | -0.06 | 0.781 | 9.24 | 10.00 | 1.191 | 96.21 | 1.039 | 0.966 | 2# |
| Note: Ref | er to ANNE | X C for the detail | led test data | a for each to | est configur | ation. | | | | | | | | |





10.3WIFI 5GHz

| Fre. Band | Mode | Anten na | Position | Dist. (mm) | Ch. | Freq. (MHz) | Power Drift (dB) | 1g Meas SAR (W/kg) | Meas. Power (dBm) | Max. tune-up power (dBm) | Scalin g Factor | Duty cycle (%) | Duty cycle Factor | 1g Scaled SAR (W/kg) | Meas. No. |
|--------------|--|-------------|-----------|---------------|-----|----------------|------------------------|-----------------------------|-------------------------|-----------------------------------|-----------------------|----------------------|-------------------------|-------------------------------|--------------|
| Body | | | | | | | | | | | | | | | |
| 5.3G | 802.11 | Ant O | Back Side | 0 | 58 | 5290 | -0.19 | 0.274 | 12.90 | 13.50 | 1.148 | 95.71 | 1.045 | 0.329 | / |
| 5.3G | ac80 | Ant.0 | Top Edge | 0 | 58 | 5290 | -0.17 | 0.848 | 12.90 | 13.50 | 1.148 | 95.71 | 1.045 | 1.017 | 3# |
| | 000.44 | | Back Side | 0 | 122 | 5610 | -0.10 | 0.314 | 13.32 | 13.50 | 1.042 | 95.71 | 1.045 | 0.342 | / |
| 5.6G | 802.11 | Ant.0 | Top Edge | 0 | 122 | 5610 | 0.10 | 0.726 | 13.32 | 13.50 | 1.042 | 95.71 | 1.045 | 0.791 | / |
| | ac80 | | Top Edge | 0 | 106 | 5530 | -0.01 | 0.746 | 13.24 | 13.50 | 1.062 | 95.71 | 1.045 | 0.828 | 4# |
| 5.8G | 802.11 | Ant.0 | Back Side | 0 | 155 | 5775 | -0.04 | 0.277 | 10.83 | 11.00 | 1.040 | 95.71 | 1.045 | 0.301 | / |
| 5.8G | ac80 | Ant.0 | Top Edge | 0 | 155 | 5775 | 0.14 | 0.835 | 10.83 | 11.00 | 1.040 | 95.71 | 1.045 | 0.907 | 5# |
| Note: Re | Note: Refer to ANNEX C for the detailed test data for each test configuration. | | | | | | | | | | | | | | |



11 SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are ≤ 1.45 W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is ≤ 1.10 , the highest SAR configuration for either head or body tissue-equivalent medium may be used to perform the repeated measurement. These 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.

SAR repeated measurement procedure:

- 1. When the highest measured SAR is < 0.80 W/kg, repeated measurement is not required.
- 2. When the highest measured SAR is >= 0.80 W/kg, repeat that measurement once.
- 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, perform a second repeated measurement.
- 4. If the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20, and the original, first or second repeated measurement is >= 1.5 W/kg, perform a third repeated measurement.

| Frequency | Wireless | | RF Exposure | | Highest | Repeated | Highest | Largest to |
|------------|----------------------|---------|-------------|---------------|--------------|----------|--------------|------------|
| . , | | Antenna | • | Test Position | Measured SAR | SAR | Measured SAR | Smallest |
| Band (MHz) | (MHz) Band Condition | | Conditions | | (W/kg) | (Yes/No) | (W/kg) | SAR Radio |
| 5290 | 802.11ac80 | Ant.0 | Body | Top Edge | 0.848 | Yes | 0.832 | 1.02 |
| 5775 | 802.11ac80 | Ant.0 | Body | Top Edge | 0.835 | Yes | 0.824 | 1.01 |

Note: The ratio of largest to smallest SAR for the original and first repeated measurements is < 1.20, the second repeated measurement is not required.



12 SIMULTANEOUS TRANSMISSION

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna. When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR 1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR 1g is greater than the SAR limit (SAR 1g 1.6 W/kg), SAR test exclusion is determined by the SAR to Peak Location Ratio (SPLSR). According KDB 447498 D04, simultaneous transmission:

- a) SPLSR = (SAR1 + SAR2)^{A1.5} / R_i (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)² + (y1-y2)² + (z1-z2)²], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan. SAR1 is the highest reported or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition. SAR2 is the highest reported or estimated SAR for the second of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition as the first.
- b) If SPLSR \leqslant 0.04, simultaneously transmission SAR measurement is not necessary.
- c) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.

12.1 Simultaneous Transmission Mode Considerations

| No. | Simultaneous Tx Combination | Body |
|-----|-----------------------------|------|
| 1 | WIFI5G+BT | Yes |

Note:

- 1. WiFi 2.4G and Bluetooth share the same antenna, and can't transmit simultaneously.
- 2. The maximum SAR summation is calculated based on the same configuration and test position.

12.2Sum SAR of Simultaneous Transmission

| | Stand al | one SAR | CIIM CAD |
|-----------|-----------|----------------|---------------|
| Position | 1 | 2 | SUM SAR |
| | Bluetooth | MAX. WLAN 5GHz | Sum SAR (1+2) |
| Back Side | 0.021 | 0.342 | 0.363 |
| Top Edge | 0.075 | 1.017 | 1.092 |

Note:

1: The highest Summed 1g SAR is 1.092 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

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13 TEST EQUIPMENTS LIST

| Description | Manufacturer | Model | Serial No./Version | Cal. Date | Cal. Due |
|------------------------------|---------------|-------------|--------------------|------------|------------|
| PC | Dell | N/A | N/A | N/A | N/A |
| Test Software | Speag | DASY8 | 16.2.2.1588 | N/A | N/A |
| 2450MHz Validation Dipole | Speag | D2450V2 | SN: 952 | 2024/05/07 | 2027/05/06 |
| 5GHz Validation Dipole | Speag | D5GHzV2 | SN: 1200 | 2024/05/09 | 2027/05/08 |
| Data Acquisition Electronics | Speag | DAE4 | SN: 1710 | 2025/01/20 | 2026/01/19 |
| E-Field Probe | Speag | EX3DV4 | SN: 7510 | 2024/06/25 | 2025/06/24 |
| Signal Generator | Keysight | N5173B | MY62150163 | 2024/08/12 | 2025/08/11 |
| Power Meter | R&S | NRVD-B2 | 835843/014 | 2024/08/08 | 2025/08/07 |
| Power Sensor | R&S | NRV-Z4 | 100381 | 2024/08/08 | 2025/08/07 |
| Power Sensor | R&S | NRV-Z2 | 100211 | 2024/08/08 | 2025/08/07 |
| Network Analyzer | Agilent | E5071C | MY46103472 | 2024/09/11 | 2025/09/10 |
| Thermometer | Elitech | RC-4HC | EF7239002655 | 2024/10/31 | 2025/10/30 |
| Thermometer | Elitech | RC-4HC | EF7216002974 | 2024/10/31 | 2025/10/30 |
| Power Amplifier | Mini-Circuits | ZVA-183W-S+ | 932502132 | N/A | N/A |
| Dielectric Probe Kit | Speag | DAK3.5 | SN: 1312 | N/A | N/A |
| Phantom | Speag | SAM | SN: 1859 | N/A | N/A |
| Attenuator | COM-MW | ZA-S1-31 | 1305003187 | N/A | N/A |
| Directional coupler | AA-MCS | AAMCS-UDC | 000272 | N/A | N/A |

Note: For dipole antennas, BALUN has adopted 3 years as calibration intervals, and on annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:

- 1. There is no physical damage on the dipole;
- 2. System validation with specific dipole is within 10% of calibrated value;
- 3. Return-loss in within 20% of calibrated measurement.
- 4. Impedance (real or imaginary parts) in within 5 Ohms of calibrated measurement.



ANNEX A SIMULATING LIQUID VERIFICATION RESULT

The dielectric parameters of the liquids were verified prior to the SAR evaluation using a DAK3.5 Dielectric Probe Kit.

Head Liquid

| Date | Liquid Type | Fre. (MHz) | Temp. | Meas. Conductivity (σ) (S/m) | Meas. Permittivity (ε) | Target Conductivity (σ) (S/m) | Target Permittivity (ε) | Conductivity Tolerance (%) | Permittivity Tolerance (%) |
|----------------|----------------|---------------|-------------|------------------------------|------------------------------|-------------------------------|-------------------------------|----------------------------|----------------------------|
| 2025.05.25 | Head | 2450 | 21.3 | 1.84 | 38.39 | 1.80 | 39.20 | 2.22 | -2.07 |
| 2025.05.26 | Head | 2450 | 21.2 | 1.80 | 38.28 | 1.80 | 39.20 | 0.00 | -2.35 |
| 2025.05.27 | Head | 5250 | 21.3 | 4.69 | 36.66 | 4.71 | 35.93 | -0.42 | 2.03 |
| 2025.05.28 | Head | 5600 | 21.0 | 5.02 | 35.11 | 5.07 | 35.53 | -0.99 | -1.18 |
| 2025.05.29 | Head | 5750 | 21.5 | 5.22 | 35.57 | 5.22 | 35.36 | 0.00 | 0.59 |
| Note: The teld | oranco lim | ait of Cond | ductivity o | nd Parmittivity is | 5± 50/ | | | | |

Note: The tolerance limit of Conductivity and Permittivity is± 5%.



ANNEX B SYSTEM CHECK RESULT

Comparing to the original SAR value provided by SPEAG, the validation data should be within its specification of 10 %(for 1 g).

Head liquid 1g

| Dete | Liquid | Freq. | Power | Measured | Normalized | Dipole SAR | Tolerance | | | | | |
|------------------|--|-------|-------|------------|------------|------------|-----------|--|--|--|--|--|
| Date | Туре | (MHz) | (mW) | SAR (W/kg) | SAR (W/kg) | (W/kg) | (%) | | | | | |
| 2025.05.25 | Head | 2450 | 100 | 5.160 | 51.60 | 52.60 | -1.90 | | | | | |
| 2025.05.26 | Head | 2450 | 100 | 5.250 | 52.50 | 52.60 | -0.19 | | | | | |
| 2025.05.27 | Head | 5250 | 100 | 7.670 | 76.70 | 77.70 | -1.29 | | | | | |
| 2025.05.28 | Head | 5600 | 100 | 7.780 | 77.80 | 81.30 | -4.31 | | | | | |
| 2025.05.29 | Head | 5750 | 100 | 7.930 | 79.30 | 77.60 | 2.19 | | | | | |
| Note: The tolera | Note: The tolerance limit of System validation ±10%. | | | | | | | | | | | |

Please refer the document "BL-SZ2541711-ASC.pdf".



ANNEX C TEST DATA

Please refer the document "BL-SZ2541711-ATD.pdf".

ANNEX D EUT EXTERNAL PHOTOS

Please refer the document "BL-SZ2541711-AW.pdf".

ANNEX E SAR TEST SETUP PHOTOS

Please refer the document "BL-SZ2541711-AS.pdf".

ANNEX F CALIBRATION REPORT

Please refer the document "BL-SZ2541711-AC.pdf".

ANNEX G TUNE-UP PROCEDURE

Please refer the document "BL-SZ2541711-AT-1.pdf".



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