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RF EXPOSURE REPORT

Applicant Name:
Apple, Inc.
One Apple Park Way
Cupertino, CA 95014 USA

Date of Testing:
06/16/2025 – 07/21/2025
Test Report Issue Date:
08/11/2025
Test Site/Location:
Element, Morgan Hill, CA, USA
Document Serial No.:
1C2503270031-12.BCG-R1

FCC ID: **BCG-A3333**

APPLICANT: **APPLE, INC.**

DUT Type: Watch
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: A3333, A3451

Equipment Class	Band & Mode	Tx Frequency	SAR	
			1g Head (W/kg)	10g Extremity (W/kg)
DTS	2.4 GHz WIFI	2412 - 2472 MHz	0.37	<0.1
NII	5 GHz WIFI	U-NII-1: 5180 - 5240 MHz U-NII-2A: 5260 - 5320 MHz U-NII-2C: 5500 - 5720 MHz U-NII-3: 5745 - 5825 MHz	0.28	<0.1
DSS/DTS	2.4 GHz Bluetooth	2402 - 2480 MHz	0.27	<0.1
NII	802.15.4 ab-NB	5728.75 - 5846.25 MHz	<0.1	<0.1
DXX	NFC	13.56 MHz	N/A	<0.1
Simultaneous SAR per KDB 690783 D01v01r03:			**0.55**	**<0.1**

Note: This revised Test Report supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issue test report(s) and dispose of them accordingly.

This watch has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.8 of this report; for North American frequency bands only.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

RJ Ortanez
Executive Vice President

The SAR Tick is an initiative of the Mobile & Wireless Forum (MWF). While a product may be considered eligible, use of the SAR Tick logo requires an agreement with the MWF. Further details can be obtained by emailing: sartick@mwfai.info.

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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
2.4 GHz WLAN	Voice/Data	2412 - 2472 MHz
5 GHz WIFI	Voice/Data	U-NII-1: 5180 - 5240 MHz U-NII-2A: 5260 - 5320 MHz U-NII-2C: 5500 - 5720 MHz U-NII-3: 5745 - 5825 MHz
Bluetooth	Data	2402 - 2480 MHz
802.15.4 ab-NB	Data	5728.75 - 5846.25 MHz
UWB	Data	6489.6 - 7987.2 MHz
NFC	Data	13.56 MHz

1.2 Power Reduction for SAR

There is no power reduction used for any band/mode implemented in this device for SAR purposes.

1.3 Nominal and Maximum Output Power Specifications

This device operates using the following maximum and nominal output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D04v01.

1.3.1 Maximum Output Power – WiFi Mode

Mode/ Band			IEEE 802.11b (2.4 GHz)		IEEE 802.11g (2.4 GHz)		IEEE 802.11n (2.4 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm)	20 MHz Bandwidth	1	20.00	19.00	17.00	16.00	17.00	16.00
		2	20.00	19.00	19.00	18.00	19.00	18.00
		3	20.00	19.00	19.00	18.00	19.00	18.00
		4	20.00	19.00	19.00	18.00	19.00	18.00
		5	20.00	19.00	19.00	18.00	19.00	18.00
		6	20.00	19.00	19.00	18.00	19.00	18.00
		7	20.00	19.00	19.00	18.00	19.00	18.00
		8	20.00	19.00	19.00	18.00	19.00	18.00
		9	20.00	19.00	19.00	18.00	19.00	18.00
		10	20.00	19.00	19.00	18.00	19.00	18.00
		11	20.00	19.00	17.00	16.00	17.00	16.00
		12	20.00	19.00	14.50	13.50	14.50	13.50
		13	18.00	17.00	2.50	1.50	2.50	1.50

Mode/ Band			IEEE 802.11a (5 GHz)		IEEE 802.11n (5 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm)	20 MHz Bandwidth	36	17.00	16.00	17.00	16.00
		40	17.00	16.00	17.00	16.00
		44	17.00	16.00	17.00	16.00
		48	17.00	16.00	17.00	16.00
		52	17.00	16.00	17.00	16.00
		56	17.00	16.00	17.00	16.00
		60	17.00	16.00	17.00	16.00
		64	17.00	16.00	17.00	16.00
		100	17.00	16.00	17.00	16.00
		104	17.00	16.00	17.00	16.00
		108	17.00	16.00	17.00	16.00
		112	17.00	16.00	17.00	16.00
		116	17.00	16.00	17.00	16.00
		120	17.00	16.00	17.00	16.00
		124	17.00	16.00	17.00	16.00
		128	17.00	16.00	17.00	16.00
		132	17.00	16.00	17.00	16.00
		136	15.00	14.00	15.00	14.00
		140	12.50	11.50	12.50	11.50
		144	17.00	16.00	17.00	16.00
		149	17.00	16.00	17.00	16.00
		153	17.00	16.00	17.00	16.00
		157	17.00	16.00	17.00	16.00
		161	17.00	16.00	17.00	16.00
		165	17.00	16.00	17.00	16.00

1.3.2 Maximum Output Power – Bluetooth Mode

Mode / Band		Modulated Average - Single Tx Chain (dBm)
Bluetooth BDR/LE	Maximum	**18.50**
	Nominal	**17.50**
Bluetooth EDR	Maximum	**13.50**
	Nominal	**12.50**
Bluetooth HDR	Maximum	**13.50**
	Nominal	**12.50**

1.3.3 Maximum Output Power – 802.15.4 ab-NB

Mode / Band		Modulated Average - Single Tx Chain (dBm)
802.15.4 ab-NB	Maximum	**16.00**
	Nominal	**14.00**

1.4 DUT Antenna Locations

A diagram showing the location of the device antennas can be found in the DUT Antenna Diagram & SAR Test Setup Photographs Appendix**.**

1.5 Near Field Communications (NFC) Antenna

This DUT has NFC operations. The NFC antenna is integrated into the device for this model. Therefore, all SAR tests were performed with the device which already incorporates the NFC antenna. A diagram showing the location of the NFC antenna can be found in the DUT Antenna Diagram & SAR Test Setup Photographs Appendix**.**

1.6 Simultaneous Transmission Capabilities

According to FCC KDB Publication 447498 D04v01, transmitters are considered to be operating simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds.

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D04v01 4.3.2 procedures.

Table 1-1
Simultaneous Transmission Scenarios

No.	Capable Transmit Configuration	Head	Extremity
1	2.4 GHz WI-FI + 802.15.4 ab-NB + NFC*	Yes*	Yes
2	2.4 GHz WI-FI + UWB + NFC*	Yes*	Yes
3	2.4 GHz Bluetooth + 5 GHz WI-FI + NFC*	Yes*	Yes
4	2.4 GHz Bluetooth + 802.15.4 ab-NB + NFC*	Yes*	Yes
5	2.4 GHz Bluetooth + UWB + NFC*	Yes*	Yes

1. 2.4 GHz WLAN and 2.4 GHz Bluetooth cannot transmit simultaneously.
2. 2.4 GHz WLAN and 5 GHz WLAN cannot transmit simultaneously.
3. 802.15.4ab-NB and 5 GHz WLAN cannot transmit simultaneously.
4. This device supports VOWIFI.
5. * NFC was evaluated for extremity based on expected usage conditions.

1.7 Miscellaneous SAR Test Considerations

(A) WIFI/BT

This device supports channel 1-13 for 2.4 GHz WLAN. However, because channel 12/13 targets are not higher than that of channels 1-11, channels 1, 6, and 11 were considered for SAR testing per FCC KDB 248227 D01V02R02

Since U-NII-1 and U-NII-2A bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg, SAR is not required for U-NII-1 band according to FCC KDB Publication 248227 D01v02r02.

Per October 2022 TCB Workshop, the 1 mW test exemption is allowed for 6-8.5 GHz UWB in multi-transmitter end products. No further evaluation for UWB is required.

1.8 Guidance Applied

- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D04v01 (General SAR Guidance, Wrist-worn Device Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- IEEE 1528-2013
- November 2017, October 2018, April 2019, November 2019, October 2020 TCBC Workshop Notes
- SPEAG DASY6 System Handbook

1.9 Device Serial Numbers

Several samples with identical hardware were used to support SAR testing. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical, and thermal characteristics and are within operational tolerances expected for production units. The serial numbers used for each test are indicated alongside the results in Section 9.

1.10 Device Housing Types and Wrist Band Types

This device has one housing type that was evaluated independently for SAR: Aluminum. The device can also be used with different wristband accessories. The non-metallic wrist accessory, sport band, was evaluated for all exposure conditions. The available metallic wrist accessories, metal links band and metal loop band, were additionally evaluated.

2 INTRODUCTION

The FCC and Innovation, Science, and Economic Development Canada have adopted the guidelines for evaluating the environmental effects of radio frequency (RF) radiation in ET Docket 93-62 on Aug. 6, 1996, and Health Canada Safety Code 6 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices. [1]

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz [3] and Health Canada RF Exposure Guidelines Safety Code 6 [22]. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave [4] is used for guidance in measuring the Specific Absorption Rate (SAR) due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the International Committee for Non-Ionizing Radiation Protection (ICNIRP) in Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," Report No. Vol 74. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

2.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 2-1).

Equation 2-1
SAR Mathematical Equation

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

SAR is expressed in units of Watts per Kilogram (W/kg).

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

where:

σ = conductivity of the tissue-simulating material (S/m)
ρ = mass density of the tissue-simulating material (kg/m^3)
E = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relation to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.[6]

3 DOSIMETRIC ASSESSMENT

3.1 Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and:

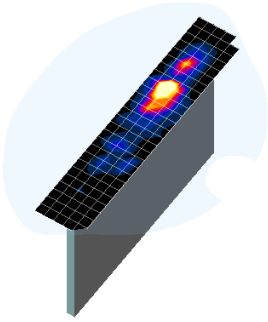

Figure 3-1
Sample SAR Area Scan

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface, and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 3-1).
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 3-1). On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):

   a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 3-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).

   b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.

   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

Table 3-1
Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04*

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

*Also compliant to IEEE 1528-2013 Table 6

4 TEST CONFIGURATION POSITIONS

4.1 Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity ε = 3 and loss tangent δ = 0.02. Additionally, a manufacturer provided low-loss foam was used to position the device for head SAR evaluations.

4.2 Positioning for Head

Devices that are designed to be worn on the wrist may operate in speaker mode for voice communication, with the device worn on the wrist and positioned next to the mouth. When next-to-mouth SAR evaluation is required, the device is positioned at 10 mm from a flat phantom filled with head tissue-equivalent medium. The device is evaluated with wrist bands strapped together to represent normal use conditions.

4.3 Extremity Exposure Configurations

Devices that are designed or intended for use on extremities or mainly operated in extremity only exposure conditions: i.e., hands, wrists, feet, and ankles, may require extremity SAR evaluation. When the device also operates in close proximity to the user's body, SAR compliance for the body is also required. When extremity SAR evaluation is required, the device is evaluated with the back of the device touching the flat phantom, which is filled with head tissue-equivalent medium. The device was evaluated with Sport wristband unstrapped and touching the phantom. For Metal Loop and Metal Links wristbands, the device was evaluated with wristbands strapped and the distance between wristbands and the phantom was minimized to represent the spacing created by actual use conditions.

5 RF EXPOSURE LIMITS

5.1 Uncontrolled Environment

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The 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.

5.2 Controlled Environment

CONTROLLED ENVIRONMENTS are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e., as a result of employment or occupation). 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.

5.3 RF Exposure Limits for Frequencies Below 6 GHz

Table 5-1
SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT *General Population* (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT *Occupational* (W/kg) or (mW/g)
Peak Spatial Average SAR Head	1.6	8.0
Whole Body SAR	0.08	0.4
Peak Spatial Average SAR Hands, Feet, Ankle, Wrists, etc.	4.0	20

1. The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
2. The Spatial Average value of the SAR averaged over the whole body.
3. The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

5.4 RF Exposure Limits for Frequencies Above 6 GHz

Per §1.1310 (d)(3), the MPE limits are applied for frequencies above 6 GHz. Power Density is expressed in units of W/m^2 or mW/cm^2.

Peak Spatially Averaged Power Density was evaluated over a circular area of 4 cm^2 per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes.

Table 6-2
Human Exposure Limits Specified in FCC 47 CFR §1.1310

Human Exposure to Radiofrequency (RF) Radiation Limits		
Frequency Range [MHz]	**Power Density** [mW/cm^2]	**Average Time** [Minutes]
(A) Limits For Occupational / Controlled Environments		
1,500 – 100,000	5.0	6
(B) Limits For General Population / Uncontrolled Environments		
1,500 – 100,000	1.0	30

Note: 1.0 mW/cm^2 is 10 W/m^2

6 FCC MEASUREMENT PROCEDURES

6.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D04v01, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as *reported* SAR. The highest *reported* SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

6.2 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset-based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

6.2.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.

A periodic duty factor is required for current generation SAR systems to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

6.2.2 U-NII-1 and U-NII-2A

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, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is > 1.2 W/kg. When different maximum output powers are specified for the bands, SAR measurement for the U-NII band with the lower maximum output power is not required unless the highest reported SAR for the U-NII band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two bands, is > 1.2 W/kg. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

6.2.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 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, SAR must be considered for these channels. Each band is tested independently according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

6.2.4 2.4 GHz SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the 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 position 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 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

6.2.5 OFDM Transmission Mode and SAR Test Channel Selection

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, and 802.11n 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 or 802.11g then 802.11n, is used for SAR measurement. When the maximum output power are 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.

6.2.6 Initial Test Configuration Procedure

For OFDM, 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, lowest data rate and lowest order IEEE 802.11 mode. The channel of the transmission mode with the highest average RF output conducted 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 measurements (See Section 6.2.5). When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

6.2.7 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the

subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the subsequent test configurations are required. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

7 RF CONDUCTED POWERS

7.1 WLAN Conducted Powers

Table 7-1
2.4 GHz WLAN Maximum Average RF Power

2.4GHz WIFI (20MHz 802.11b SISO ANT1)			
Freq. [MHz]	**Channel**	**Detector**	**Conducted Power [dBm]**
2412	1	Average	18.83
2437	6		19.01
2462	11		19.00
2.4GHz WIFI (20MHz 802.11g SISO ANT1)			
Freq. [MHz]	**Channel**	**Detector**	**Conducted Power [dBm]**
2412	1	Average	15.92
2437	6		17.67
2462	11		15.63
2.4GHz WIFI (20MHz 802.11n SISO ANT1)			
Freq. [MHz]	**Channel**	**Detector**	**Conducted Power [dBm]**
2412	1	Average	15.47
2437	6		17.57
2462	11		15.60

Table 7-2
5 GHz WLAN Maximum Average RF Power

5GHz WIFI (20MHz 802.11a SISO ANT1)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5180	36	16.09
	5200	40	16.34
	5220	44	16.20
	5240	48	16.24
UNII-2A	5260	52	16.07
	5280	56	16.06
	5300	60	16.20
	5320	64	16.25
UNII-2C	5500	100	16.15
	5600	120	16.30
	5620	124	16.04
	5720	144	16.08
UNII-3	5745	149	16.10
	5785	157	15.92
	5825	165	15.95
5GHz WIFI (20MHz 802.11n SISO ANT1)			
Band	**Freq. [MHz]**	**Channel**	**Avg. Conducted Power [dBm]**
UNII-1	5180	36	15.99
	5200	40	16.08
	5220	44	16.09
	5240	48	15.98
UNII-2A	5260	52	15.91
	5280	56	16.11
	5300	60	15.71
	5320	64	16.05
UNII-2C	5500	100	16.08
	5600	120	16.23
	5620	124	15.92
	5720	144	15.92
UNII-3	5745	149	15.87
	5785	157	15.78
	5825	165	16.00

Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission modes with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-band channels, due to an even number of channels, both channels were measured.

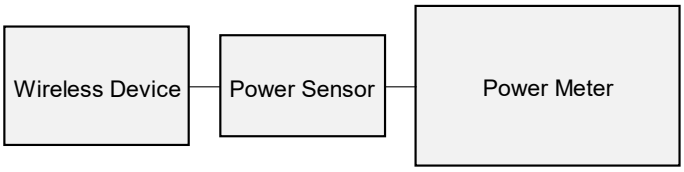

Figure 7-1
Power Measurement Setup

7.2 Bluetooth Conducted Powers

Table 7-3
Bluetooth Average RF Power

Frequency [MHz]	Modulation	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
				[dBm]	[mW]
2402	GFSK	1.0	0	17.09	51.168
2441	GFSK	1.0	39	17.05	50.699
2480	GFSK	1.0	78	17.14	51.761

Note 1: Bluetooth was evaluated with a test mode with 100% transmission duty factor.

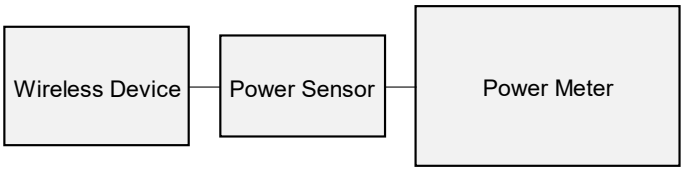

Figure 7-2
Power Measurement Setup

7.3 802.15.4 ab-NB Conducted Powers

Table 7-4
802.15.4 ab-NB Average RF Power

Frequency [MHz]	Modulation	Data Rate [Mbps]	Channel	Avg Conducted Power	
				[dBm]	[mW]
5728.75	O-QPSK	1.0	Low	15.15	32.734
5786.25	O-QPSK	1.0	Middle	15.22	33.266
5846.25	O-QPSK	1.0	High	15.28	33.729

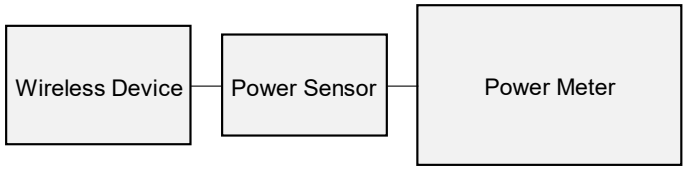

Figure 7-3
Power Measurement Setup

7.4 802.15.4 ab-NB Duty Cycle

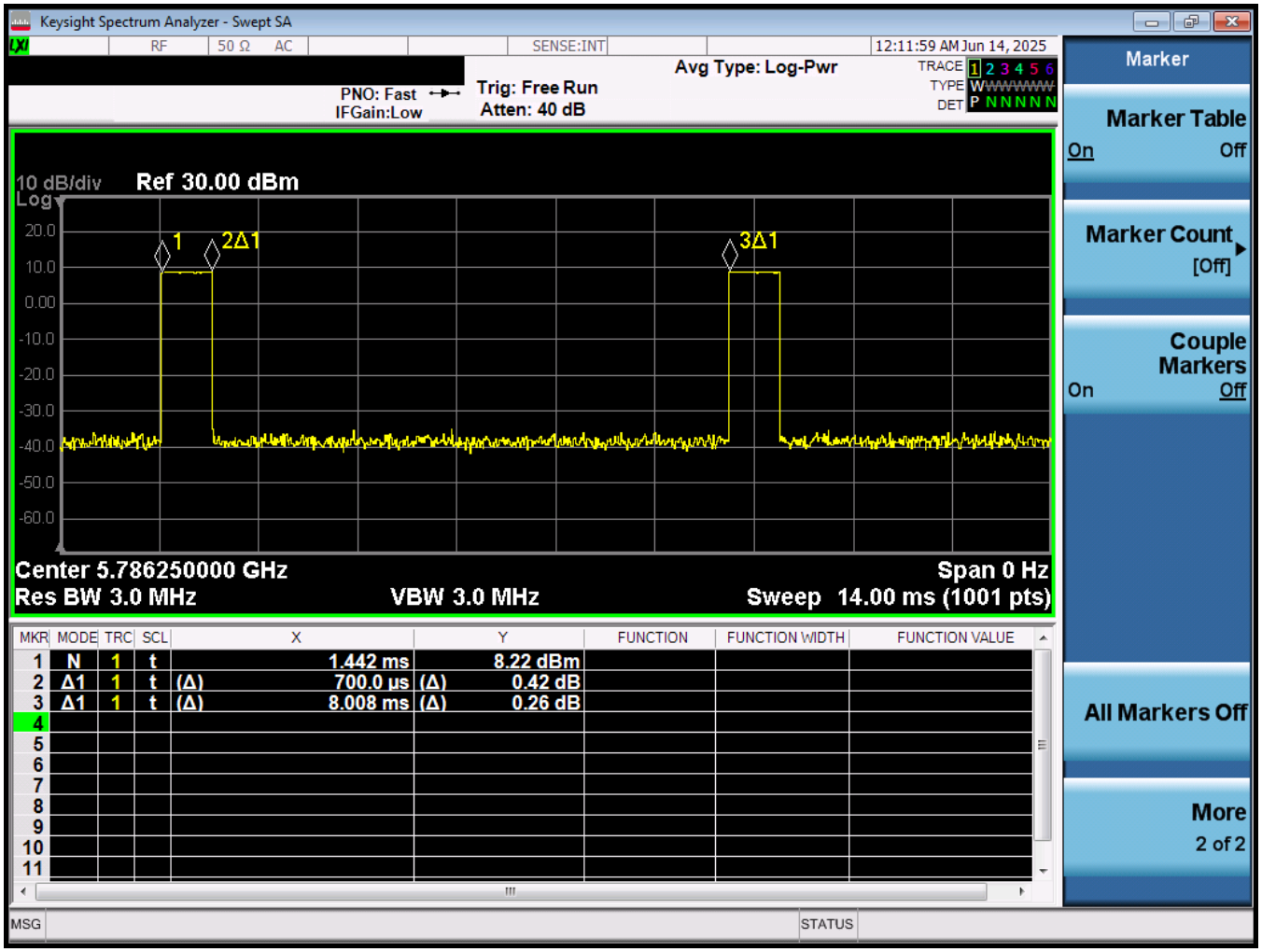

Figure 7-4
802.15.4 ab-NB Transmission Plot

Equation 7-1
802.15.4 ab-NB Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{0.700\ ms}{8.008\ ms} * 100\% = 8.74\%$$

8 SYSTEM VERIFICATION

8.1 Tissue Verification

Table 8-1
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
7/7/2025	30 Head	24.5	4	0.743	54.453	0.750	55.000	-0.93%	-0.99%
			6	0.743	53.919	0.750	55.000	-0.93%	-1.97%
			12	0.744	52.683	0.750	55.000	-0.80%	-4.21%
			13	0.744	52.592	0.750	55.000	-0.80%	-4.38%
			14	0.744	52.524	0.750	55.000	-0.80%	-4.50%
6/16/2025	2450 Head	22.0	2300	1.701	40.010	1.670	39.500	1.86%	1.29%
			2310	1.709	39.992	1.679	39.480	1.79%	1.30%
			2320	1.717	39.979	1.687	39.460	1.78%	1.32%
			2400	1.776	39.855	1.756	39.289	1.14%	1.44%
			2450	1.814	39.791	1.800	39.200	0.78%	1.51%
			2480	1.837	39.721	1.833	39.162	0.22%	1.43%
			2500	1.854	39.684	1.855	39.136	-0.05%	1.40%
			2510	1.861	39.677	1.866	39.123	-0.27%	1.42%
			2535	1.879	39.659	1.893	39.092	-0.74%	1.45%
			2550	1.890	39.634	1.909	39.073	-1.00%	1.44%
			2560	1.897	39.609	1.920	39.060	-1.20%	1.41%
			2600	1.931	39.528	1.964	39.009	-1.68%	1.33%
			2650	1.974	39.474	2.018	38.945	-2.18%	1.36%
			2680	1.998	39.417	2.051	38.907	-2.58%	1.31%
			2700	2.015	39.371	2.073	38.882	-2.80%	1.26%

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
6/27/2025	5200-5800 Head	19.9	5150	4.524	36.649	4.608	36.050	-1.82%	1.66%
			5160	4.535	36.638	4.618	36.040	-1.80%	1.66%
			5170	4.549	36.617	4.629	36.030	-1.73%	1.63%
			5180	4.562	36.596	4.635	36.009	-1.57%	1.63%
			5190	4.576	36.577	4.645	35.998	-1.49%	1.61%
			5200	4.585	36.570	4.655	35.986	-1.50%	1.62%
			5210	4.595	36.555	4.666	35.975	-1.52%	1.61%
			5220	4.606	36.528	4.676	35.963	-1.50%	1.57%
			5240	4.635	36.469	4.696	35.940	-1.30%	1.47%
			5250	4.647	36.468	4.706	35.929	-1.25%	1.50%
			5260	4.654	36.460	4.717	35.917	-1.34%	1.51%
			5270	4.665	36.445	4.727	35.906	-1.31%	1.50%
			5280	4.680	36.425	4.737	35.894	-1.20%	1.48%
			5290	4.694	36.399	4.748	35.883	-1.14%	1.44%
			5300	4.704	36.380	4.758	35.871	-1.13%	1.42%
			5310	4.710	36.364	4.768	35.860	-1.22%	1.41%
			5320	4.723	36.343	4.778	35.849	-1.15%	1.38%
			5500	4.931	36.009	4.963	35.643	-0.64%	1.03%
			5510	4.943	35.993	4.973	35.632	-0.60%	1.01%
			5520	4.953	35.980	4.983	35.620	-0.60%	1.01%
			5530	4.966	35.958	4.994	35.609	-0.56%	0.98%
			5540	4.979	35.924	5.004	35.597	-0.50%	0.92%
			5550	4.989	35.897	5.014	35.586	-0.50%	0.87%
			5560	5.001	35.881	5.024	35.574	-0.46%	0.86%
			5580	5.024	35.871	5.045	35.551	-0.42%	0.90%
			5600	5.048	35.827	5.065	35.529	-0.34%	0.84%
			5610	5.059	35.800	5.076	35.518	-0.33%	0.79%
			5620	5.072	35.787	5.086	35.506	-0.28%	0.79%
			5640	5.099	35.749	5.106	35.483	-0.14%	0.75%
			5660	5.125	35.706	5.127	35.460	-0.04%	0.69%
			5670	5.133	35.697	5.137	35.449	-0.08%	0.70%
			5680	5.138	35.682	5.147	35.437	-0.17%	0.69%
			5690	5.150	35.662	5.158	35.426	-0.16%	0.67%
			5700	5.167	35.639	5.168	35.414	-0.02%	0.64%
			5710	5.182	35.623	5.178	35.403	0.08%	0.62%
			5720	5.194	35.605	5.188	35.391	0.12%	0.60%
			5745	5.225	35.557	5.214	35.363	0.21%	0.55%
			5750	5.233	35.541	5.219	35.357	0.27%	0.52%
			5755	5.240	35.528	5.224	35.351	0.31%	0.50%
			5765	5.252	35.504	5.234	35.340	0.34%	0.46%
			5775	5.263	35.483	5.245	35.329	0.34%	0.44%
			5785	5.272	35.480	5.255	35.317	0.32%	0.46%
			5795	5.282	35.465	5.265	35.305	0.32%	0.45%
			5800	5.288	35.457	5.270	35.300	0.34%	0.44%
			5805	5.294	35.448	5.275	35.294	0.36%	0.44%
			5825	5.317	35.428	5.296	35.271	0.40%	0.45%
			5835	5.327	35.418	5.305	35.230	0.41%	0.53%
			5845	5.337	35.400	5.315	35.210	0.41%	0.54%
			5850	5.342	35.385	5.320	35.200	0.41%	0.53%
			5855	5.348	35.369	5.325	35.197	0.43%	0.49%
			5865	5.366	35.334	5.336	35.190	0.56%	0.41%
			5875	5.379	35.308	5.347	35.183	0.60%	0.36%
			5885	5.392	35.292	5.357	35.177	0.65%	0.33%
			5905	5.406	35.264	5.379	35.163	0.50%	0.29%

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
7/21/2025	5200-5800 Head	20.0	5150	4.483	35.297	4.608	36.050	-2.71%	-2.09%
			5160	4.496	35.277	4.618	36.040	-2.64%	-2.12%
			5170	4.506	35.258	4.629	36.030	-2.66%	-2.14%
			5180	4.514	35.237	4.635	36.009	-2.61%	-2.14%
			5190	4.527	35.214	4.645	35.998	-2.54%	-2.18%
			5200	4.544	35.201	4.655	35.986	-2.38%	-2.18%
			5210	4.560	35.197	4.666	35.975	-2.27%	-2.16%
			5220	4.567	35.176	4.676	35.963	-2.33%	-2.19%
			5240	4.580	35.114	4.696	35.940	-2.47%	-2.30%
			5250	4.594	35.105	4.706	35.929	-2.38%	-2.29%
			5260	4.604	35.096	4.717	35.917	-2.40%	-2.29%
			5270	4.616	35.086	4.727	35.906	-2.35%	-2.28%
			5280	4.628	35.059	4.737	35.894	-2.30%	-2.33%
			5290	4.642	35.032	4.748	35.883	-2.23%	-2.37%
			5300	4.654	35.013	4.758	35.871	-2.19%	-2.39%
			5310	4.662	35.005	4.768	35.860	-2.22%	-2.38%
			5320	4.676	35.000	4.778	35.849	-2.13%	-2.37%
			5500	4.872	34.646	4.963	35.643	-1.83%	-2.80%
			5510	4.881	34.638	4.973	35.632	-1.85%	-2.79%
			5520	4.894	34.620	4.983	35.620	-1.79%	-2.81%
			5530	4.908	34.586	4.994	35.609	-1.72%	-2.87%
			5540	4.921	34.556	5.004	35.597	-1.66%	-2.92%
			5550	4.927	34.535	5.014	35.586	-1.74%	-2.95%
			5560	4.936	34.526	5.024	35.574	-1.75%	-2.95%
			5580	4.955	34.501	5.045	35.551	-1.78%	-2.95%
			5600	4.984	34.459	5.065	35.529	-1.60%	-3.01%
			5610	4.998	34.438	5.076	35.518	-1.54%	-3.04%
			5620	5.008	34.434	5.086	35.506	-1.53%	-3.02%
			5640	5.031	34.374	5.106	35.483	-1.47%	-3.13%
			5660	5.056	34.326	5.127	35.460	-1.38%	-3.20%
			5670	5.064	34.321	5.137	35.449	-1.42%	-3.18%
			5680	5.072	34.316	5.147	35.437	-1.46%	-3.16%
			5690	5.087	34.291	5.158	35.426	-1.38%	-3.20%
			5700	5.098	34.266	5.168	35.414	-1.35%	-3.24%
			5710	5.107	34.253	5.178	35.403	-1.37%	-3.25%
			5720	5.119	34.233	5.188	35.391	-1.33%	-3.27%
			5745	5.155	34.192	5.214	35.363	-1.13%	-3.31%
			5750	5.159	34.178	5.219	35.357	-1.15%	-3.33%
			5755	5.164	34.167	5.224	35.351	-1.15%	-3.35%
			5765	5.176	34.148	5.234	35.340	-1.11%	-3.37%
			5775	5.188	34.131	5.245	35.329	-1.09%	-3.39%
			5785	5.199	34.114	5.255	35.317	-1.07%	-3.41%
			5795	5.208	34.096	5.265	35.305	-1.08%	-3.42%
			5800	5.214	34.088	5.270	35.300	-1.06%	-3.43%
			5805	5.218	34.081	5.275	35.294	-1.08%	-3.44%
			5825	5.236	34.050	5.296	35.271	-1.13%	-3.46%
			5835	5.247	34.033	5.305	35.230	-1.09%	-3.40%
			5845	5.258	34.023	5.315	35.210	-1.07%	-3.37%
			5850	5.265	34.020	5.320	35.200	-1.03%	-3.35%
			5855	5.269	34.010	5.325	35.197	-1.05%	-3.37%
			5865	5.279	33.990	5.336	35.190	-1.07%	-3.41%
			5875	5.291	33.956	5.347	35.183	-1.05%	-3.49%
			5885	5.303	33.924	5.357	35.177	-1.01%	-3.56%
			5905	5.327	33.886	5.379	35.163	-0.97%	-3.63%

The above measured tissue parameters were used in the DASY software. The DASY software was used to perform interpolation to determine the dielectric parameters at the SAR test device frequencies (per KDB Publication 865664 D01v01r04 and IEEE 1528-2013 6.6.1.2). The tissue parameters listed in the SAR test plots may slightly differ from the table above due to significant digit rounding in the software.

Note: All frequencies were measured to be within 5% of targets listed in IEC/IEEE 62209-1528:2020 (Head). Per IEC/IEEE 62209-1528:2020, since the dielectric properties of the tissue simulating are all equal or less than 5% of the target values, SAR was not scaled. The measurement uncertainty of 5% for deviation of conductivity and liquid permittivity from the target was added to the uncertainty budget in Section 16.

8.2 Test System Verification

Prior to SAR assessment, the system is verified to ±10% of the SAR measurement on the reference dipole at the time of calibration by the calibration facility. Full system validation status and result summary can be found in the SAR System Validation Appendix.

Table 8-2
System Verification Results – 1g

System Verification TARGET & MEASURED													
SAR System	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp. (C)	Liquid Temp. (C)	Input Power (W)	Source SN	Probe SN	DAE	Measured SAR 1g (W/kg)	1W Target SAR 1g (W/kg)	1W Normalized SAR 1g (W/kg)	Deviation 1g (%)
AM11	2450	HEAD	06/16/2025	22.1	22.0	0.10	750	7551	1323	5.600	53.300	56.000	5.07%
AM8	5250	HEAD	06/27/2025	20.8	19.2	0.05	1163	7499	1465	3.840	78.800	76.800	-2.54%
AM8	5600	HEAD	06/27/2025	20.8	19.2	0.05	1163	7499	1465	4.210	80.900	84.200	4.08%
AM8	5750	HEAD	06/27/2025	20.8	19.2	0.05	1163	7499	1465	3.730	78.100	74.600	-4.48%
AM8	5850	HEAD	06/27/2025	20.8	19.2	0.05	1163	7499	1465	3.740	79.800	74.800	-6.27%

Table 8-3
System Verification Results – 10g

System Verification TARGET & MEASURED													
SAR System	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp. (C)	Liquid Temp. (C)	Input Power (W)	Source SN	Probe SN	DAE	Measured SAR 10g (W/kg)	1W Target SAR 10g (W/kg)	1W Normalized SAR 10g (W/kg)	Deviation 10g (%)
AM14	13	HEAD	07/07/2025	21.6	23.2	1.00	1004	3746	1237	0.373	0.355	0.373	5.07%
AM11	2450	HEAD	06/16/2025	22.1	22.0	0.10	750	7551	1323	2.600	25.100	26.000	3.59%
AM8	5250	HEAD	06/27/2025	20.8	19.2	0.05	1163	7499	1465	1.120	22.300	22.400	0.45%
AM8	5600	HEAD	06/27/2025	20.8	19.2	0.05	1163	7499	1465	1.210	23.000	24.200	5.22%
AM8	5750	HEAD	06/27/2025	20.8	19.2	0.05	1163	7499	1465	1.080	22.100	21.600	-2.26%
AM8	5750	HEAD	07/21/2025	20.8	19.4	0.05	1066	7499	1465	1.100	23.200	22.000	-5.17%
AM8	5850	HEAD	06/27/2025	20.8	19.2	0.05	1163	7499	1465	1.080	22.500	21.600	-4.00%

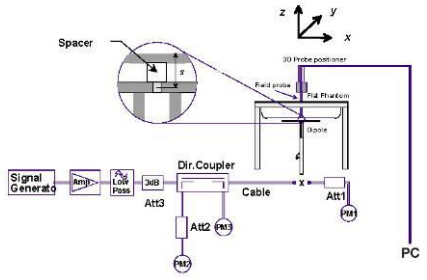

Figure 8-1
System Verification Setup Diagram

Figure 8-2
System Verification Setup Photo

9 SAR DATA SUMMARY

9.1 2.4 GHz WIFI SISO Standalone Head SAR

Table 9-1

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Housing Type	Wristband Type	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #
Head	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	Aluminum	Sport	KW2YC	99.76	-0.01	2437.00	6	1.0	20.0	19.01	Front	10	0.290	1.256	1.002	0.365	0.228	A1
Head	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	Aluminum	Metal Loop	KW2YC	99.76	0.01	2437.00	6	1.0	20.0	19.01	Front	10	0.235	1.256	1.002	0.296	0.185	
Head	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	Aluminum	Metal Links	KW2YC	99.76	-0.02	2437.00	6	1.0	20.0	19.01	Front	10	0.193	1.256	1.002	0.243	0.152	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Head 1.6 W/kg (mW/g) averaged over 1 gram							

9.2 2.4 GHz WIFI SISO Standalone Extremity SAR

Table 9-2

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Housing Type	Wristband Type	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #
Extremity	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	Aluminum	Sport	T23FY	99.76	-0.02	2437.00	6	1.0	20.0	19.01	Back	0	0.031	1.256	1.002	0.039	0.010	
Extremity	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	Aluminum	Metal Loop	T23FY	99.76	0.00	2437.00	6	1.0	20.0	19.01	Back	0	0.025	1.256	1.002	0.031	0.008	
Extremity	2.4 GHz WIFI/ IEEE 802.11b	22	DSSS	Aluminum	Metal Links	T23FY	99.76	-0.08	2437.00	6	1.0	20.0	19.01	Back	0	0.031	1.256	1.002	0.039	0.010	A2
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Extremity 4.0 W/kg (mW/g) averaged over 10 grams							

9.3 5 GHz WIFI SISO Standalone Head SAR

Table 9-3

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Housing Type	Wristband Type	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #
Head	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Sport	90NVJ	93.29	0.08	5320.00	64	U-NII-2A	6.0	17.0	16.25	Front	10	0.175	1.189	1.072	0.223	0.139	
Head	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Sport	90NVJ	93.29	0.00	5600.00	120	U-NII-2C	6.0	17.0	16.30	Front	10	0.223	1.175	1.072	0.281	0.176	A3
Head	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Sport	90NVJ	93.29	-0.05	5745.00	149	U-NII-3	6.0	17.0	16.10	Front	10	0.215	1.230	1.072	0.283	0.177	
Head	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Metal Loop	90NVJ	93.29	0.04	5320.00	64	U-NII-2A	6.0	17.0	16.25	Front	10	0.171	1.189	1.072	0.218	0.136	
Head	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Metal Loop	90NVJ	93.29	-0.08	5600.00	120	U-NII-2C	6.0	17.0	16.30	Front	10	0.207	1.175	1.072	0.261	0.163	
Head	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Metal Loop	90NVJ	93.29	0.05	5745.00	149	U-NII-3	6.0	17.0	16.10	Front	10	0.191	1.230	1.072	0.252	0.158	
Head	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Metal Links	90NVJ	93.29	-0.06	5320.00	64	U-NII-2A	6.0	17.0	16.25	Front	10	0.164	1.189	1.072	0.209	0.131	
Head	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Metal Links	90NVJ	93.29	0.13	5600.00	120	U-NII-2C	6.0	17.0	16.30	Front	10	0.192	1.175	1.072	0.242	0.151	
Head	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Metal Links	90NVJ	93.29	0.02	5745.00	149	U-NII-3	6.0	17.0	16.10	Front	10	0.184	1.230	1.072	0.243	0.152	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Head 1.6 W/kg (mW/g) averaged over 1 gram							

9.4 5 GHz WIFI SISO Standalone Extremity SAR

Table 9-4

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Housing Type	Wristband Type	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #
Extremity	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Sport	T23FY	93.29	0.06	5320.00	64	U-NII-2A	6.0	17.0	16.25	Back	0	0.011	1.189	1.072	0.014	0.004	
Extremity	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Sport	90NVJ	93.29	0.06	5600.00	120	U-NII-2C	6.0	17.0	16.30	Back	0	0.021	1.175	1.072	0.026	0.007	
Extremity	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Sport	90NVJ	93.29	0.06	5745.00	149	U-NII-3	6.0	17.0	16.10	Back	0	0.023	1.230	1.072	0.030	0.008	
Extremity	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Metal Loop	T23FY	93.29	0.08	5320.00	64	U-NII-2A	6.0	17.0	16.25	Back	0	0.017	1.189	1.072	0.022	0.006	
Extremity	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Metal Loop	90NVJ	93.29	0.03	5600.00	120	U-NII-2C	6.0	17.0	16.30	Back	0	0.027	1.175	1.072	0.034	0.009	
Extremity	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Metal Loop	90NVJ	93.29	-0.04	5745.00	149	U-NII-3	6.0	17.0	16.10	Back	0	0.034	1.230	1.072	0.045	0.011	A4
Extremity	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Metal Links	T23FY	93.29	0.01	5320.00	64	U-NII-2A	6.0	17.0	16.25	Back	0	0.012	1.189	1.072	0.015	0.004	
Extremity	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Metal Links	90NVJ	93.29	0.16	5600.00	120	U-NII-2C	6.0	17.0	16.30	Back	0	0.023	1.175	1.072	0.029	0.007	
Extremity	5 GHz WIFI/ IEEE 802.11a	20	OFDM	Aluminum	Metal Links	90NVJ	93.29	0.00	5745.00	149	U-NII-3	6.0	17.0	16.10	Back	0	0.032	1.230	1.072	0.042	0.011	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Extremity 4.0 W/kg (mW/g) averaged over 10 grams							

9.5 2.4 GHz Bluetooth SISO Standalone Head SAR

Table 9-5

Exposure	Band / Mode	Service / Modulation	Housing Type	Wristband Type	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #
Head	2.4 GHz Bluetooth	FHSS	Aluminum	Metal Loop	T23FY	100.00	0.02	2480.00	78	1	18.5	17.14	Front	10	0.156	1.368	1.000	0.213	0.133	
Head	2.4 GHz Bluetooth	FHSS	Aluminum	Sport	T23FY	100.00	0.00	2480.00	78	1	18.5	17.14	Front	10	0.194	1.368	1.000	0.265	0.166	A5
Head	2.4 GHz Bluetooth	FHSS	Aluminum	Metal Links	T23FY	100.00	-0.01	2480.00	78	1	18.5	17.14	Front	10	0.150	1.368	1.000	0.205	0.128	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram							

9.6 2.4 GHz Bluetooth SISO Standalone Extremity SAR

Table 9-6

Exposure	Band / Mode	Service / Modulation	Housing Type	Wristband Type	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #
Extremity	2.4 GHz Bluetooth	FHSS	Aluminum	Sport	KW2YC	100.00	-0.13	2480.00	78	1	18.5	17.14	Back	0	0.010	1.368	1.000	0.014	0.004	
Extremity	2.4 GHz Bluetooth	FHSS	Aluminum	Metal Loop	KW2YC	100.00	-0.19	2480.00	78	1	18.5	17.14	Back	0	0.017	1.368	1.000	0.023	0.006	
Extremity	2.4 GHz Bluetooth	FHSS	Aluminum	Metal Links	KW2YC	100.00	0.00	2480.00	78	1	18.5	17.14	Back	0	0.019	1.368	1.000	0.026	0.007	A6
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Extremity 4.0 W/kg (mW/g) averaged over 10 grams							

9.7 5 GHz 802.15.4 ab-NB SISO Standalone Head SAR

Table 9-7

Exposure	Band / Mode	Service / Modulation	Housing Type	Wristband Type	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #
Head	802.15.4 ab-NB	O-QPSK	Aluminum	Sport	90NVJ	8.74	0.05	5846.3	High	1	16.0	15.28	Front	10	0.012	1.180	1.018	0.014	0.009	
Head	802.15.4 ab-NB	O-QPSK	Aluminum	Metal Loop	90NVJ	8.74	0.01	5846.3	High	1	16.0	15.28	Front	10	0.015	1.180	1.018	0.018	0.011	A7
Head	802.15.4 ab-NB	O-QPSK	Aluminum	Metal Links	90NVJ	8.74	0.01	5846.3	High	1	16.0	15.28	Front	10	0.009	1.180	1.018	0.011	0.007	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram							

Note: The reported SAR was scaled to the 8.9% transmission duty factor.

9.8 5 GHz 802.15.4 ab-NB SISO Standalone Extremity SAR

Table 9-8

Exposure	Band / Mode	Service / Modulation	Housing Type	Wristband Type	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #
Extremity	802.15.4 ab-NB	O-QPSK	Aluminum	Sport	90NVJ	8.74	0.08	5846.25	High	1	16.0	15.28	Back	0	0.000	1.180	1.018	0.000	0.000	A8
Extremity	802.15.4 ab-NB	O-QPSK	Aluminum	Metal Loop	90NVJ	8.74	0.04	5846.25	High	1	16.0	15.28	Back	0	0.000	1.180	1.018	0.000	0.000	
Extremity	802.15.4 ab-NB	O-QPSK	Aluminum	Metal Links	90NVJ	8.74	0.09	5846.25	High	1	16.0	15.28	Back	0	0.000	1.180	1.018	0.000	0.000	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Extremity 4.0 W/kg (mW/g) averaged over 10 grams							

Note: The reported SAR was scaled to the 8.9% transmission duty factor.

9.9 NFC Standalone Extremity SAR

Table 9-9

Exposure	Band / Mode	Signal Type	Housing Type	Wristband Type	Serial Number	Power Drift [dB]	Frequency [MHz]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #
Extremity	NFC	B	Aluminum	Sport	TDY2T	0.05	13.60	Back	0	0.000	0.000	A9
Extremity	NFC	B	Aluminum	Metal Loop	TDY2T	0.01	13.60	Back	0	0.000	0.000	
Extremity	NFC	B	Aluminum	Metal Links	TDY2T	0.01	13.60	Back	0	0.000	0.000	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Extremity 4.0 W/kg (mW/g) averaged over 10 grams				

SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in FCC KDB Publication 447498 D04v01.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical, and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D04v01.
6. Per FCC KDB Publication 865664 D01v01r04, variability SAR tests were not required since measured SAR results for all frequency bands were less than 0.8 W/kg and 2.0 W/kg for 10g SAR.
7. This device has one housing type: Aluminum. The non-metallic wrist accessory, sport band, was evaluated for all exposure conditions. The available metallic wrist accessories, metal links band and metal loop band, were additionally evaluated.
8. This device is a portable wrist-worn device and does not support any other use conditions. Therefore, the procedures in FCC KDB Publication 447498 D04v01 Section 5.2 have been applied for extremity and next to mouth (head) conditions.
9. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.

WLAN Notes:

1. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 6.2.4 for more information.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. 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 1.2 W/kg for 1g evaluations. See Section 6.2.5 for more information.
3. When the maximum reported 1g averaged SAR is ≤0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg for 1g evaluations or all test channels were measured. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.
4. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance.

Bluetooth Notes

1. To determine compliance, Bluetooth SAR was measured with the maximum power condition. Bluetooth was evaluated with a test mode with 100% transmission duty factor.

802.15.4 ab-Nb Notes

1. 802.15.4 ab-NB SAR was scaled to the 8.9% transmission duty factor to determine compliance since the duty factor of the device is limited to 8.9% per manufacturer. See Section 7.4 for the time domain plot and calculation for the duty factor of the device.

10 SAR MEASUREMENT VARIABILITY

10.1 Measurement Variability

Per FCC KDB Publication 865664 D01v01, SAR measurement variability was not assessed for each frequency band since all measured SAR values are < 0.8 W/kg for 1g SAR and < 2.0 W/kg for 10g SAR.

10.2 Measurement Uncertainty

The measured SAR was <1.5 W/kg for 1g and <3.75 W/kg for 10g for all frequency bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis was not required.

11 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	E4404B	Spectrum Analyzer	N/A	N/A	N/A	MY45113242
Agilent	E4438C	ESG Vector Signal Generator	10/23/2024	Annual	10/23/2025	MY45093852
Agilent	E4438C	ESG Vector Signal Generator	11/15/2024	Annual	11/15/2025	MY45092078
Agilent	N5182A	MXG Vector Signal Generator	5/30/2025	Annual	5/30/2026	MY48180366
Agilent	N5182A	MXG Vector Signal Generator	12/5/2024	Annual	12/5/2025	US46240505
Agilent	8753ES	S-Parameter Vector Network Analyzer	1/6/2025	Annual	1/6/2026	MY40001472
Agilent	8753ES	S-Parameter Vector Network Analyzer	9/25/2024	Annual	9/25/2025	MY40003841
Agilent	E5515C	Wireless Communications Test Set	CBT	N/A	CBT	GB46310798
Agilent	E5515C	Wireless Communications Test Set	CBT	N/A	CBT	GB41450275
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433973
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433974
Amplifier Research	150A100C	Amplifier	CBT	N/A	CBT	350132
Anritsu	MN8110B	I/O Adaptor	CBT	N/A	CBT	6261747881
Anritsu	ML2496A	Power Meter	2/10/2025	Annual	2/10/2026	1306009
Anritsu	ML2496A	Power Meter	2/10/2025	Annual	2/10/2026	1351001
Anritsu	MA2411B	Pulse Power Sensor	9/5/2024	Annual	9/5/2025	1726262
Anritsu	MA2411B	Pulse Power Sensor	10/21/2024	Annual	10/21/2025	1027293
Anritsu	MA24106A	USB Power Sensor	5/29/2025	Annual	5/29/2026	1344554
Anritsu	MA24106A	USB Power Sensor	10/29/2024	Annual	10/29/2025	1248508
Insize	1108-150	Digital Caliper	2/252025	Annual	2/25/2026	711245294
Control Company	4052	Long Stem Thermometer	2/27/2024	Biennial	2/27/2026	240174346
Control Company	4052	Long Stem Thermometer	2/27/2024	Biennial	2/27/2026	240171096
Control Company	4052	Long Stem Thermometer	2/27/2024	Biennial	2/27/2026	240171059
Control Company	4040	Therm./ Clock/ Humidity Monitor	4/15/2024	Biennial	4/15/2026	240310280
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/15/2024	Biennial	10/15/2026	240763503
Control Company	4040	Therm./ Clock/ Humidity Monitor	4/15/2024	Biennial	4/15/2026	240310282
Keysight Technologies	N9020A	MXA Signal Analyzer	5/7/2025	Annual	5/7/2026	US46470561
Agilent	N9020A	MXA Signal Analyzer	7/24/2024	Annual	7/24/2025	MY51240479
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
Mini-Circuits	VLF-6000+	Low Pass Filter DC to 6000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	VLF-6000+	Low Pass Filter DC to 6000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	ZUDC10-83-S+	Directional Coupler	CBT	N/A	CBT	2050
Mini-Circuits	PWR-4GHS	9-KHz-4000MHz USB Power Sensor	6/20/2025	Annual	6/20/2026	12503270057
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Seekonk	NC-100	Torque Wrench	CBT	N/A	CBT	22217
Seekonk	NC-100	Torque Wrench	4/2/2024	Biennial	4/2/2026	1262
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	CBT	N/A	CBT	120504
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	CBT	N/A	CBT	109366
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	CBT	N/A	CBT	155128
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	CBT	N/A	CBT	102060
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	CBT	N/A	CBT	167112
SPEAG	DAK-3.5	Dielectric Assessment Kit	11/5/2024	Annual	11/5/2025	1277
SPEAG	DAKS-3.5	Portable Dielectric Assessment Kit	8/7/2024	Annual	8/7/2025	1041
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1237
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1331
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1390
SPEAG	DAK-12	Dielectric Assessment Kit (4MHz - 3GHz)	3/10/2025	Annual	3/10/2026	1102
SPEAG	CLA-13	Confined Loop Antenna	11/11/2024	Annual	11/11/2025	1004
SPEAG	D2450V2	2450 MHz SAR Dipole	5/13/2025	Annual	5/13/2026	750
SPEAG	D5GHzV2	5 GHz SAR Dipole	2/21/2025	Annual	2/21/2026	1163
SPEAG	D5GHzV2	5 GHz SAR Dipole	11/8/2024	Annual	11/8/2025	1066
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/8/2025	Annual	1/8/2026	1465
SPEAG	DAE4	Dasy Data Acquisition Electronics	10/10/2024	Annual	10/10/2025	1237
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/15/2025	Annual	4/15/2026	1323
SPEAG	EX3DV4	SAR Probe	4/16/2025	Annual	4/16/2026	7551
SPEAG	EX3DV4	SAR Probe	10/15/2024	Annual	10/15/2025	3746
SPEAG	EX3DV4	SAR Probe	1/14/2025	Annual	1/14/2026	7499

Note: CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler, or filter were connected to a calibrated source (i.e., a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements. Each equipment item was used solely within its respective calibration period.

12 MEASUREMENT UNCERTAINTIES

Applicable for SAR measurements < 6 GHz:

a	b	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	IEEE 1528 Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i 1gm	c_i 10 gms	1gm u_i (± %)	10gms u_i (± %)	v_i
Measurement System									
Probe Calibration	E2.1	7	N	1	1	1	7.0	7.0	∞
Axial Isotropy	E2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E2.2	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	E2.3	2	R	1.732	1	1	1.2	1.2	∞
Linearity	E2.4	0.3	N	1	1	1	0.3	0.3	∞
System Detection Limits	E2.4	0.25	R	1.732	1	1	0.1	0.1	∞
Modulation Response	E2.5	4.8	R	1.732	1	1	2.8	2.8	∞
Readout Electronics	E2.6	0.3	N	1	1	1	0.3	0.3	∞
Response Time	E2.7	0.8	R	1.732	1	1	0.5	0.5	∞
Integration Time	E2.8	2.6	R	1.732	1	1	1.5	1.5	∞
RF Ambient Conditions - Noise	E6.1	3	R	1.732	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E6.1	3	R	1.732	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E6.2	0.8	R	1.732	1	1	0.5	0.5	∞
Probe Positioning w/ respect to Phantom	E6.3	6.7	R	1.732	1	1	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E5	4	R	1.732	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E4.2	3.12	N	1	1	1	3.1	3.1	35
Device Holder Uncertainty	E4.1	1.67	N	1	1	1	1.7	1.7	5
Output Power Variation - SAR drift measurement	E2.9	5	R	1.732	1	1	2.9	2.9	∞
SAR Scaling	E6.5	0	R	1.732	1	1	0.0	0.0	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E3.1	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	E3.3	4.3	N	1	0.78	0.71	3.3	3.0	76
Liquid Permittivity - measurement uncertainty	E3.3	4.2	N	1	0.23	0.26	1.0	1.1	75
Liquid Conductivity - Temperature Uncertainty	E3.4	3.4	R	1.732	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	E3.4	0.6	R	1.732	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	E3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	E3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)			RSS				12.2	12.0	191
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				24.4	24.0	

The above measurement uncertainties are according to IEEE Std. 1528-2013

13 CONCLUSION

13.1 Measurement Conclusion

The SAR evaluation indicates that the EUT complies with the RF radiation exposure limits of the FCC and Innovation, Science, and Economic Development Canada, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g., ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g., age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables. [3]

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