ELEMENT MATERIALS TECHNOLOGY
(Formerly PCTEST)
18855 Adams Court, Morgan Hill, CA 95037, USA
Tel. +1.408.538.5600
http://www.element.com

RF EXPOSURE TEST REPORT

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

Date of Testing:
07/28/2026 – 08/17/2026
Test Report Issue Date:
08/18/2026
Test Site/Location:
Element, Morgan Hill, CA, USA
Document Serial No.:
1C2606090044-06.BCG-R1

FCC ID: **BCG-A3531**

APPLICANT: **APPLE, INC.**

DUT Type: Wireless Earbud
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: A3531

Equipment Class	Band & Mode	Tx Frequency	Head 1g SAR (W/kg)	Body-Worn 1g SAR (W/kg)
DSS/DTS	2.4 GHz Bluetooth	2402 - 2480 MHz	0.13	0.24
NII	NB U-NII 1	5154 - 5245 MHz	<0.1	0.18
NII	NB U-NII 3	5731 - 5844 MHz	<0.1	0.15
6VL	NB U-NII 5	6108 - 6420 MHz	<0.1	<0.1
Equipment Class	Band & Mode	Tx Frequency	Head APD (W/m^2)	Body-Worn APD (W/m^2)
6VL	NB U-NII 5	6108 - 6420 MHz	0.29	0.44
Equipment Class	Band & Mode	Tx Frequency	Head PD (W/m^2)	Body-Worn PD (W/m^2)
6VL	NB U-NII 5	6108 - 6420 MHz	0.44	0.64

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 issued test report(s) and dispose of it accordingly.

This wireless portable device 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 1.6 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.

Revision Summary

Revision	Description	Issue Date	Revised By
-	Initial Release	08/11/2026	WKR0000010082
R1	Addressed TCB Comments	08/18/2026	WKR0000010082

TABLE OF CONTENTS

1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
Bluetooth	Data	2402 - 2480 MHz
NB UNII-1	Data	5157 - 5245 MHz
NB UNII-3	Data	5731 - 5844 MHz
NB UNII-5	Data	6108 - 6420 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

Mode / Band	Duty Cycle	Modulated Average (dBm)	
Bluetooth BDR	**34%**	Maximum	**12.50**
		Nominal	**11.50**
Bluetooth EDR	**77%**	Maximum	**13.00**
		Nominal	**12.00**
Bluetooth HDR4/8 1-Slot	**34%**	Maximum	**13.50**
		Nominal	**12.50**
Bluetooth HDR4/8 3/5-Slot	**77%**	Maximum	**13.00**
		Nominal	**12.00**
Bluetooth HDRp4/8	**100%**	Maximum	**13.00**
		Nominal	**12.00**
Bluetooth LE1M	**100%**	Maximum	**13.00**
		Nominal	**12.00**
Bluetooth LE2M	**15%**	Maximum	**16.50**
		Nominal	**15.50**

Mode / Band	Duty Cycle	Modulated Average (dBm)	
NB UNII-1 BDR	**34%**	Maximum	**10.00**
		Nominal	**9.00**
NB UNII-1 HDR4/8 1-Slot	**34%**	Maximum	**10.50**
		Nominal	**9.50**
NB UNII-1 HDR4/8 3/5-Slot	**77%**	Maximum	**10.00**
		Nominal	**9.00**
NB UNII-1 HDRp4/8	**100%**	Maximum	**10.00**
		Nominal	**9.00**
NB UNII-1 LE1M	**100%**	Maximum	**10.00**
		Nominal	**9.00**
NB UNII-1 LE2M	**15%**	Maximum	**10.00**
		Nominal	**9.00**

Mode / Band	Duty Cycle	Modulated Average (dBm)	
NB UNII-3 BDR	**34%**	Maximum	**13.00**
		Nominal	**12.00**
NB UNII-3 HDR4/8 1-Slot	**34%**	Maximum	**11.00**
		Nominal	**10.00**
NB UNII-3 HDR4/8 3/5-Slot	**77%**	Maximum	**9.00**
		Nominal	**8.00**
NB UNII-3 HDRp4/8	**100%**	Maximum	**9.00**
		Nominal	**8.00**
NB UNII-3 LE1M	**100%**	Maximum	**9.00**
		Nominal	**8.00**
NB UNII-3 LE2M	**15%**	Maximum	**13.50**
		Nominal	**12.50**

Mode / Band	Duty Cycle	Modulated Average (dBm) 6108 MHz (Low)		Modulated Average (dBm) 6185 MHz (Low-Mid) & 6264 MHz (Mid)		Modulated Average (dBm) 6342 MHz (Mid-High) & 6420 MHz (High)	
NB UNII-5 BDR	34%	Maximum	-1.50	Maximum	-2.00	Maximum	-2.25
		Nominal	-2.50	Nominal	-3.00	Nominal	-3.25
NB UNII-5 HDR4 1-Slot	34%	Maximum	1.00	Maximum	0.50	Maximum	0.25
		Nominal	0.00	Nominal	-0.50	Nominal	-0.75
NB UNII-5 HDR8 1-Slot	34%	Maximum	3.50	Maximum	3.00	Maximum	2.75
		Nominal	2.50	Nominal	2.00	Nominal	1.75
NB UNII-5 HDR4 3-Slot	77%	Maximum	1.00	Maximum	0.50	Maximum	0.25
		Nominal	0.00	Nominal	-0.50	Nominal	-0.75
NB UNII-5 HDR8 3-Slot	77%	Maximum	3.50	Maximum	3.00	Maximum	2.75
		Nominal	2.50	Nominal	2.00	Nominal	1.75
NB UNII-5 HDR4 5-Slot	77%	Maximum	1.00	Maximum	0.50	Maximum	0.25
		Nominal	0.00	Nominal	-0.50	Nominal	-0.75
NB UNII-5 HDR8 5-Slot	77%	Maximum	3.50	Maximum	3.00	Maximum	2.75
		Nominal	2.50	Nominal	2.00	Nominal	1.75
NB UNII-5 HDRp4	100%	Maximum	1.00	Maximum	0.50	Maximum	0.25
		Nominal	0.00	Nominal	-0.50	Nominal	-0.75
NB UNII-5 HDRp8	100%	Maximum	3.50	Maximum	3.00	Maximum	2.75
		Nominal	2.50	Nominal	2.00	Nominal	1.75
NB UNII-5 LE1M	100%	Maximum	-1.50	Maximum	-2.00	Maximum	-2.25
		Nominal	-2.50	Nominal	-3.00	Nominal	-3.25
NB UNII-5 LE2M	15%	Maximum	-1.50	Maximum	-2.00	Maximum	-2.25
		Nominal	-2.50	Nominal	-3.00	Nominal	-3.25

1.4 DUT Antenna Locations

Based on the expected use conditions, Head SAR was evaluated. Per manufacturer request, Body-Worn SAR was evaluated as an additional conservative SAR test condition. The antenna is located inside BCG-A3531– which is a wireless Bluetooth earbud for the Right ear. A diagram showing the location of the device antenna can be found in the DUT Antenna Diagram & SAR Test Setup Photographs Appendix. More information about the configurations evaluated for SAR can be found in Section 4.2 and Section 4.3.

1.5 Simultaneous Transmission Capabilities

This Device does not support any Simultaneous transmission Scenarios.

1.6 Guidance Applied

- FCC KDB Publication 447498 D04v01 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- IEEE 1528-2013
- SPEAG DASY6 Application Note (Interim Procedures for Devices Operating at 6-10 GHz) (Nov 2021)
- IEC TR 63170:2018
- IEC 62479:2010
- SPEAG DASY6/8 System Handbook

1.7 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.

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 IEEE 1528-2013:

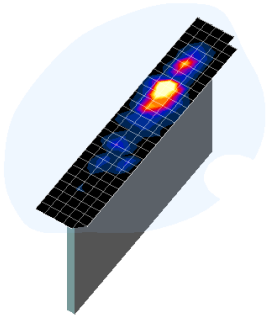

Figure 3-1
Sample SAR Area Scan

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) and IEEE 1528-2013.
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) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the cDASY6 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 completed 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.

4.2 Positioning for Head

This device is a wireless Bluetooth earbud for the right ear which is designed to be used in the ear canal. The antenna is located inside the earbud. SAR was evaluated with a separation distance of 0 mm between the earbud (the ear tip facing the phantom) and the flat phantom. The phantom is filled with head tissue equivalent medium.

4.3 Body-Worn Exposure Conditions

Per manufacturer request, Body-Worn SAR was evaluated as an additional conservative SAR test condition for the right earbud. The DUT was evaluated with a separation distance of 5 mm between the back side of the earbud and the flat phantom. Additional test positions were evaluated for a more conservative analysis. The phantom is filled with head tissue equivalent medium.

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.

7 RF CONDUCTED POWERS

7.1 Bluetooth/NB UNII Conducted Powers

Table 7-1
Bluetooth Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
			[dBm]	[mW]
2402	1.0	0	12.45	17.579
2440	1.0	19	12.41	17.418
2480	1.0	39	12.39	17.338

Table 7-2
NB UNII Average RF Power

Type	Band	Frequency	Channel	Average
LE1M	U-NII 1	5157	Low	9.91
		5200	Mid	9.85
		5245	High	9.79
LE1M	U-NII 3	5731	Low	8.69
		5788	Mid	8.52
		5844	High	8.44
HDRp8	U-NII 5	6108	Low	2.14
		6185	Low-Mid	1.52
		6264	Mid	1.55
		6342	Mid-High	2.34
		6420	High	2.73

7.2 Bluetooth/NB UNII Duty Cycle Plots

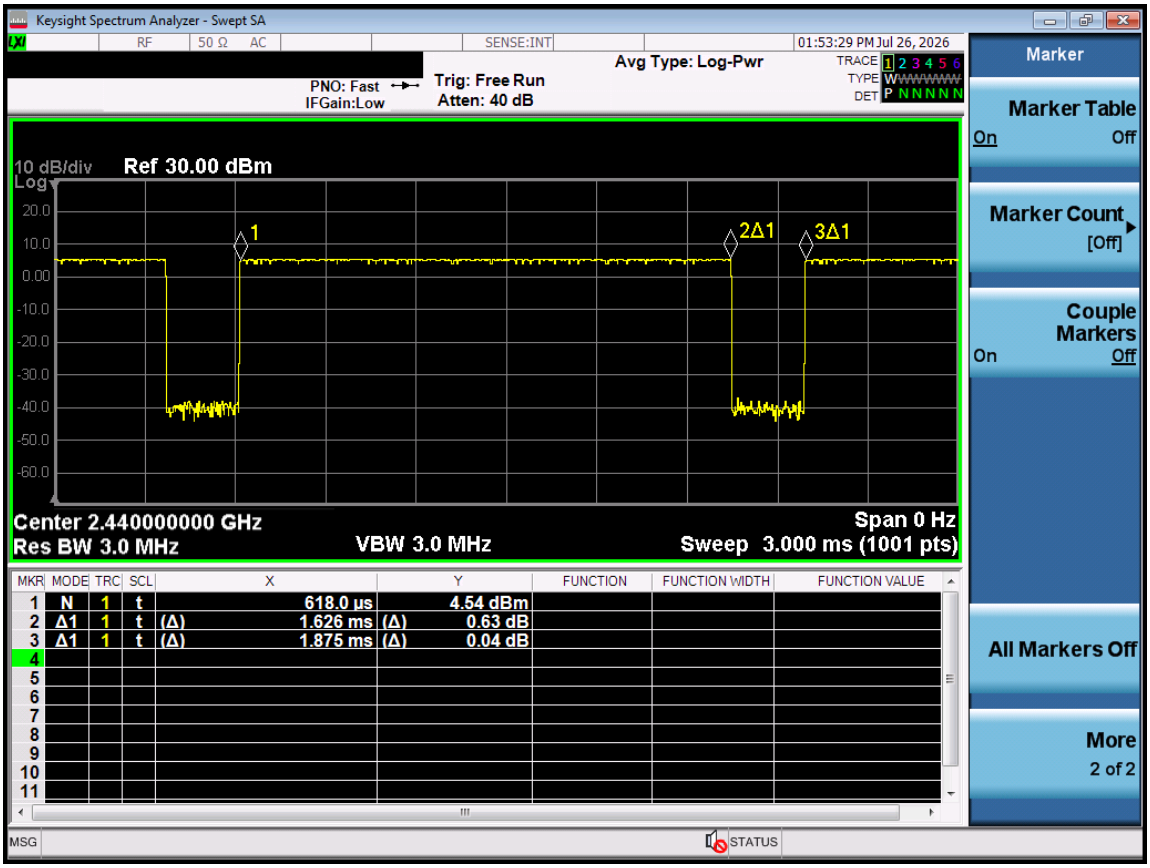

Figure 7-1
2.4 GHz Bluetooth Transmission Plot

Equation 7-1
2.4 GHz Bluetooth Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{1.626\ ms}{1.875\ ms} * 100\% = 86.72\%$$

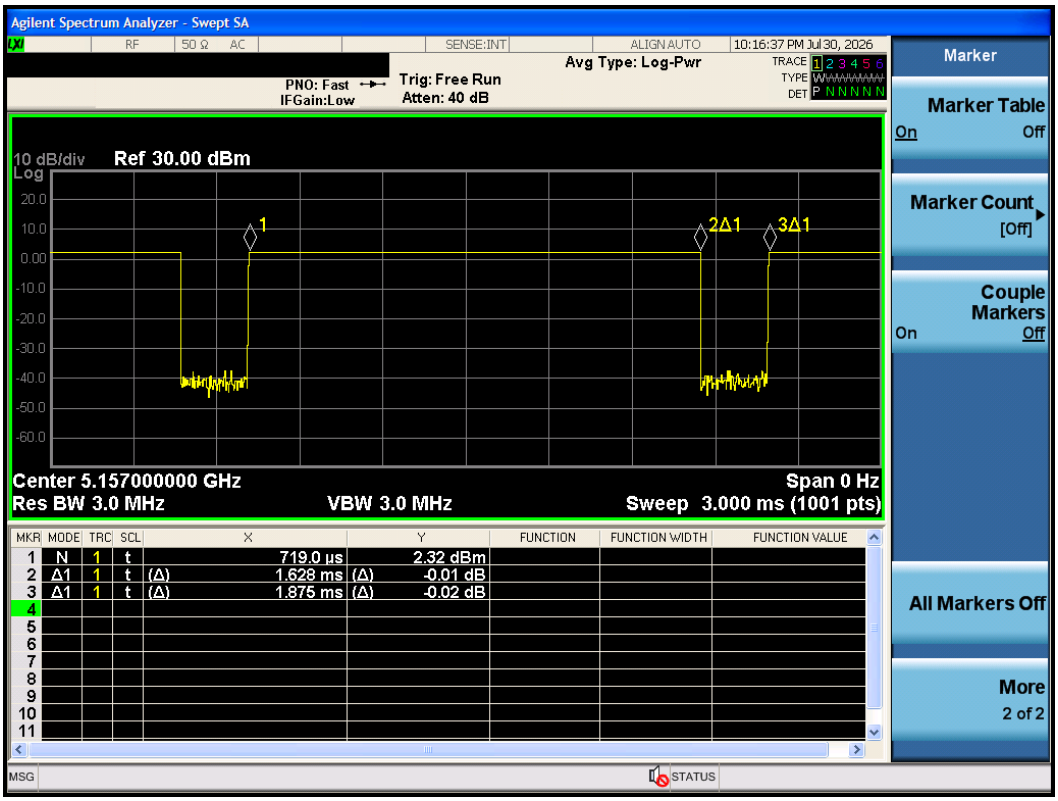

Figure 7-2
NB UNII-1 Transmission Plot

Equation 7-2
NB UNII-1 Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{1.628\ ms}{1.875\ ms} * 100\% = 86.83\%$$

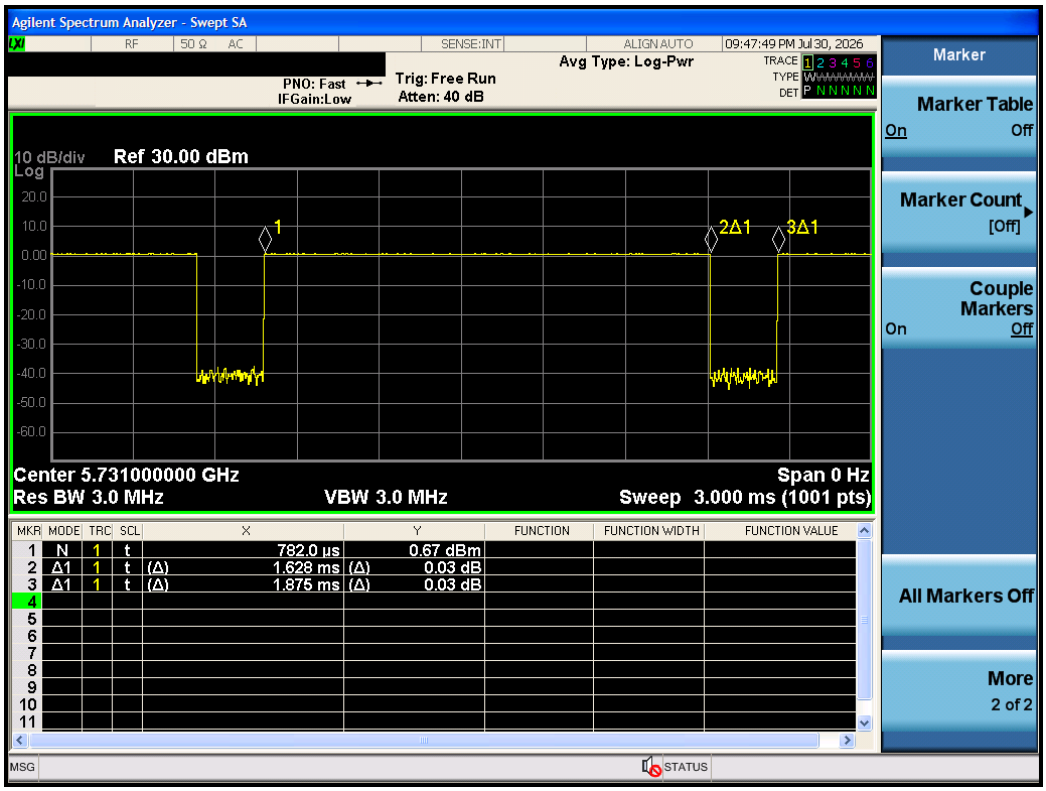

Figure 7-3
NB UNII-3 Transmission Plot

Equation 7-3
NB UNII-3 Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{1.628\ ms}{1.875\ ms} * 100\% = 86.83\%$$

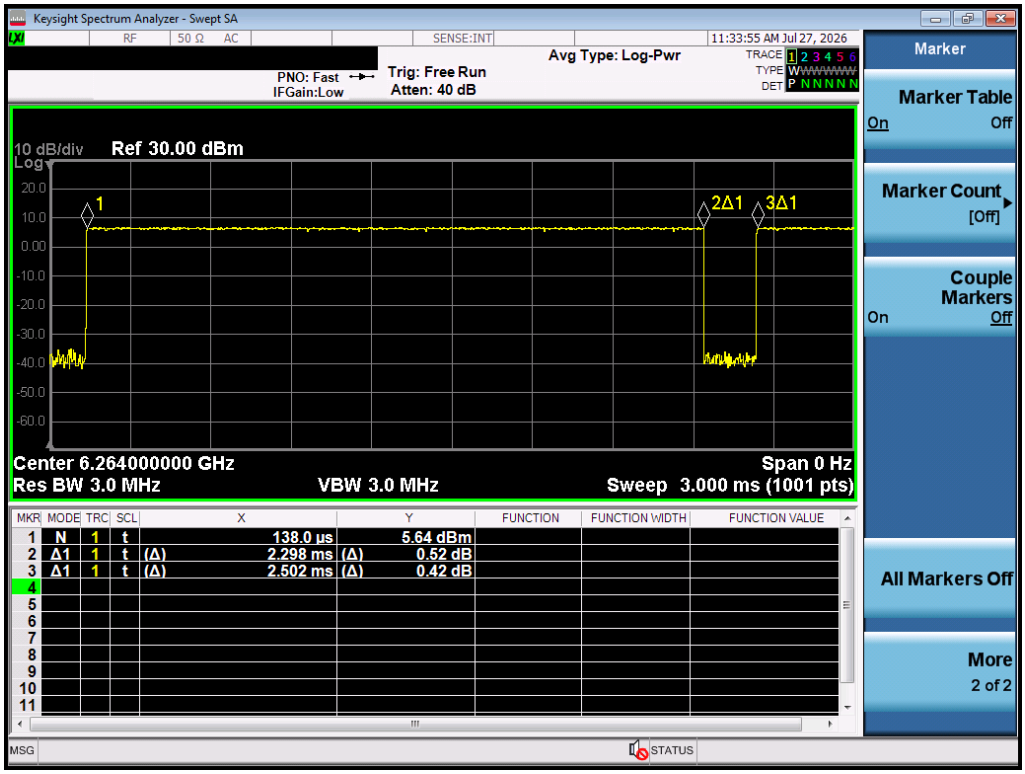

Figure 7-4
NB UNII-5 Transmission Plot

Equation 7-4
NB UNII-5 Duty Cycle Calculation

$$\textbf{Duty Cycle} = \frac{\textbf{Pulse Width}}{\textbf{Period}} * 100\% = \frac{2.298\ ms}{2.502\ ms} * 100\% = 91.85\%$$

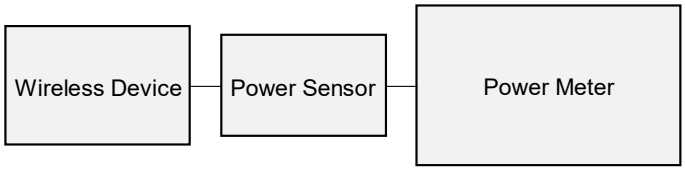

Figure 7-5
Power Measurement Setup

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
8/7/2026	2450 Head	24.8	2300	1.665	38.806	1.670	39.500	-0.30%	-1.76%
			2310	1.676	38.773	1.679	39.480	-0.18%	-1.79%
			2320	1.687	38.740	1.687	39.460	0.00%	-1.82%
			2400	1.776	38.419	1.756	39.289	1.14%	-2.21%
			2450	1.831	38.243	1.800	39.200	1.72%	-2.44%
			2480	1.862	38.118	1.833	39.162	1.58%	-2.67%
			2500	1.885	38.040	1.855	39.136	1.62%	-2.80%
			2510	1.897	38.002	1.866	39.123	1.66%	-2.87%
			2535	1.927	37.911	1.893	39.092	1.80%	-3.02%
			2550	1.944	37.859	1.909	39.073	1.83%	-3.11%
			2560	1.954	37.824	1.920	39.060	1.77%	-3.16%
			2600	1.998	37.660	1.964	39.009	1.73%	-3.46%
			2650	2.057	37.467	2.018	38.945	1.93%	-3.80%
			2680	2.090	37.355	2.051	38.907	1.90%	-3.99%
			2700	2.113	37.266	2.073	38.882	1.93%	-4.16%
8/4/2026	5200-5800 Head	19.0	5150	4.388	35.589	4.608	36.050	-4.77%	-1.28%
			5160	4.401	35.575	4.618	36.040	-4.70%	-1.29%
			5170	4.413	35.553	4.629	36.030	-4.67%	-1.32%
			5180	4.424	35.527	4.635	36.009	-4.55%	-1.34%
			5190	4.438	35.504	4.645	35.998	-4.46%	-1.37%
			5200	4.450	35.487	4.655	35.986	-4.40%	-1.39%
			5210	4.457	35.478	4.666	35.975	-4.48%	-1.38%
			5220	4.463	35.464	4.676	35.963	-4.56%	-1.39%
			5240	4.487	35.420	4.696	35.940	-4.45%	-1.45%
			5250	4.500	35.404	4.706	35.929	-4.38%	-1.46%
			5260	4.512	35.386	4.717	35.917	-4.35%	-1.48%
			5270	4.524	35.373	4.727	35.906	-4.29%	-1.48%
			5280	4.537	35.340	4.737	35.894	-4.22%	-1.54%
			5290	4.549	35.312	4.748	35.883	-4.19%	-1.59%
			5300	4.563	35.302	4.758	35.871	-4.10%	-1.59%
			5310	4.577	35.295	4.768	35.860	-4.01%	-1.58%
			5320	4.587	35.278	4.778	35.849	-4.00%	-1.59%
			5500	4.785	34.934	4.963	35.643	-3.59%	-1.99%
			5510	4.798	34.920	4.973	35.632	-3.52%	-2.00%
			5520	4.810	34.910	4.983	35.620	-3.47%	-1.99%
			5530	4.820	34.888	4.994	35.609	-3.48%	-2.02%
			5540	4.829	34.865	5.004	35.597	-3.50%	-2.06%
			5550	4.839	34.852	5.014	35.586	-3.49%	-2.06%
			5560	4.851	34.837	5.024	35.574	-3.44%	-2.07%
			5580	4.877	34.794	5.045	35.551	-3.33%	-2.13%
			5600	4.902	34.741	5.065	35.529	-3.22%	-2.22%
			5610	4.915	34.731	5.076	35.518	-3.17%	-2.22%
			5620	4.927	34.722	5.086	35.506	-3.13%	-2.21%
			5640	4.948	34.678	5.106	35.483	-3.09%	-2.27%
			5660	4.970	34.640	5.127	35.460	-3.06%	-2.31%
			5670	4.979	34.630	5.137	35.449	-3.08%	-2.31%
			5680	4.990	34.615	5.147	35.437	-3.05%	-2.32%
			5690	5.003	34.596	5.158	35.426	-3.01%	-2.34%
			5700	5.017	34.569	5.168	35.414	-2.92%	-2.39%
			5710	5.033	34.548	5.178	35.403	-2.80%	-2.42%
			5720	5.047	34.528	5.188	35.391	-2.72%	-2.44%
			5745	5.065	34.499	5.214	35.363	-2.86%	-2.44%
			5750	5.069	34.486	5.219	35.357	-2.87%	-2.46%
			5755	5.075	34.475	5.224	35.351	-2.85%	-2.48%
			5765	5.087	34.456	5.234	35.340	-2.81%	-2.50%
			5775	5.098	34.454	5.245	35.329	-2.80%	-2.48%
			5785	5.110	34.448	5.255	35.317	-2.76%	-2.46%
			5795	5.124	34.422	5.265	35.305	-2.68%	-2.50%
			5800	5.131	34.411	5.270	35.300	-2.64%	-2.52%
			5805	5.138	34.396	5.275	35.294	-2.60%	-2.54%
			5825	5.161	34.350	5.296	35.271	-2.55%	-2.61%
			5835	5.171	34.326	5.305	35.230	-2.53%	-2.57%
			5845	5.183	34.305	5.315	35.210	-2.48%	-2.57%
			5850	5.188	34.294	5.320	35.200	-2.48%	-2.57%
			5855	5.194	34.286	5.325	35.197	-2.46%	-2.59%
			5865	5.204	34.275	5.336	35.190	-2.47%	-2.60%
			5875	5.214	34.272	5.347	35.183	-2.49%	-2.59%
			5885	5.226	34.262	5.357	35.177	-2.45%	-2.60%
			5905	5.246	34.221	5.379	35.163	-2.47%	-2.68%

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
7/28/2026	6000 Head	19.1	5935	5.218	34.546	5.411	35.143	-3.57%	-1.70%
			5970	5.256	34.476	5.448	35.120	-3.52%	-1.83%
			5985	5.274	34.448	5.464	35.110	-3.48%	-1.89%
			6000	5.293	34.426	5.480	35.100	-3.41%	-1.92%
			6025	5.327	34.392	5.510	35.070	-3.32%	-1.93%
			6065	5.370	34.310	5.557	35.022	-3.37%	-2.03%
			6075	5.382	34.290	5.569	35.010	-3.36%	-2.06%
			6085	5.397	34.268	5.580	34.998	-3.28%	-2.09%
			6185	5.513	34.083	5.698	34.878	-3.25%	-2.28%
			6275	5.622	33.924	5.805	34.770	-3.15%	-2.43%
			6285	5.630	33.910	5.816	34.758	-3.20%	-2.44%
			6305	5.652	33.875	5.840	34.734	-3.22%	-2.47%
			6345	5.713	33.827	5.887	34.686	-2.96%	-2.48%
			6475	5.857	33.608	6.041	34.530	-3.05%	-2.67%
			6485	5.868	33.586	6.052	34.518	-3.04%	-2.70%
			6500	5.883	33.553	6.070	34.500	-3.08%	-2.74%
			6505	5.889	33.541	6.076	34.494	-3.08%	-2.76%
			6545	5.942	33.475	6.122	34.446	-2.94%	-2.82%
			6665	6.092	33.273	6.265	34.302	-2.76%	-3.00%
			6675	6.100	33.255	6.273	34.290	-2.76%	-3.02%
			6685	6.109	33.239	6.285	34.278	-2.80%	-3.03%
			6715	6.137	33.174	6.319	34.242	-2.88%	-3.12%
			6785	6.229	33.063	6.400	34.158	-2.67%	-3.21%
			6825	6.261	32.994	6.447	34.110	-2.89%	-3.27%
			6985	6.451	32.750	6.633	33.918	-2.74%	-3.44%
			6995	6.461	32.734	6.644	33.906	-2.75%	-3.46%
			7000	6.464	32.725	6.650	33.900	-2.80%	-3.47%
			7005	6.468	32.719	6.656	33.894	-2.82%	-3.47%
			7025	6.490	32.687	6.680	33.870	-2.84%	-3.49%
			7500	7.066	31.891	7.240	33.300	-2.40%	-4.23%
			7980	7.631	31.121	7.816	32.724	-2.37%	-4.90%
8/2/2026	6000 Head	19.0	5935	5.173	35.053	5.411	35.143	-4.40%	-0.26%
			5970	5.219	35.020	5.448	35.120	-4.20%	-0.28%
			5985	5.236	35.010	5.464	35.110	-4.17%	-0.28%
			6000	5.251	34.989	5.480	35.100	-4.18%	-0.32%
			6025	5.280	34.922	5.510	35.070	-4.17%	-0.42%
			6065	5.333	34.814	5.557	35.022	-4.03%	-0.59%
			6075	5.348	34.802	5.569	35.010	-3.97%	-0.59%
			6085	5.363	34.795	5.580	34.998	-3.89%	-0.58%
			6185	5.478	34.604	5.698	34.878	-3.86%	-0.79%
			6275	5.596	34.462	5.805	34.770	-3.60%	-0.89%
			6285	5.601	34.443	5.816	34.758	-3.70%	-0.91%
			6305	5.617	34.398	5.840	34.734	-3.82%	-0.97%
			6345	5.688	34.341	5.887	34.686	-3.38%	-0.99%
			6475	5.837	34.131	6.041	34.530	-3.38%	-1.16%
			6485	5.852	34.119	6.052	34.518	-3.30%	-1.16%
			6500	5.866	34.105	6.070	34.500	-3.36%	-1.14%
			6505	5.870	34.103	6.076	34.494	-3.39%	-1.13%
			6545	5.902	34.012	6.122	34.446	-3.59%	-1.26%
			6665	6.059	33.805	6.265	34.302	-3.29%	-1.45%
			6675	6.071	33.781	6.273	34.290	-3.22%	-1.48%
			6685	6.081	33.761	6.285	34.278	-3.25%	-1.51%
			6715	6.116	33.715	6.319	34.242	-3.21%	-1.54%
			6785	6.214	33.598	6.400	34.158	-2.91%	-1.64%
			6825	6.245	33.530	6.447	34.110	-3.13%	-1.70%
			6985	6.429	33.270	6.633	33.918	-3.08%	-1.91%
			6995	6.445	33.252	6.644	33.906	-3.00%	-1.93%
			7000	6.455	33.243	6.650	33.900	-2.93%	-1.94%
			7005	6.464	33.237	6.656	33.894	-2.88%	-1.94%
			7025	6.496	33.219	6.680	33.870	-2.75%	-1.92%
			7500	7.040	32.414	7.240	33.300	-2.76%	-2.66%
			7980	7.618	31.590	7.816	32.724	-2.53%	-3.47%

The above measured tissue parameters were used in the cDASY6 software. The cDASY6 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: Per April 2019 TCB Workshop Notes, single head-tissue simulating liquid specified in IEC 62209-1 is permitted to use for all SAR tests.

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

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 (%)	Measured SAR 10g (W/kg)	1W Target SAR 10g (W/kg)	1W Normalized SAR 10g (W/kg)	Deviation 10g (%)	Measured 4cm2 APD (W/m2)	1W Target 4cm2 APD (W/m2)	1W Normalized 4cm2 APD (W/m2)	Deviation 4cm2 APD (%)
AM16	2450	HEAD	08/07/2026	23.9	23.8	0.10	855	7551	1323	5.130	53.300	51.300	-3.75%	2.330	25.000	23.300	-6.80%				
AM8	5250	HEAD	08/04/2026	21.1	19.0	0.05	1066	7490	1644	4.130	77.900	82.600	6.03%	1.180	22.500	23.600	4.89%				
AM8	5600	HEAD	08/04/2026	21.1	19.0	0.05	1066	7490	1644	4.040	81.800	80.800	-1.22%	1.150	23.700	23.000	-2.95%				
AM8	5750	HEAD	08/04/2026	21.1	19.0	0.05	1066	7490	1644	3.930	80.700	78.600	-2.60%	1.130	23.200	22.600	-2.59%				
AM8	5850	HEAD	08/04/2026	21.1	19.0	0.05	1066	7490	1644	4.060	77.400	81.200	4.91%	1.150	22.200	23.000	3.60%				
AM2	6500	HEAD	07/28/2026	23.1	19.2	0.025	1019	7420	1408	7.480	289.000	299.200	3.53%	1.390	53.600	55.600	3.73%	33.6	1300	1344	3.38%
AM2	6500	HEAD	08/02/2026	22.1	20.1	0.025	1019	7420	1408	7.470	289.000	298.800	3.39%	1.380	53.600	55.200	2.99%	33.6	1300	1344	3.38%

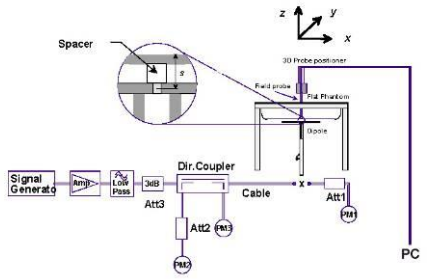

Figure 8-1
System Verification Setup Diagram

Figure 8-2
System Verification Setup Photo

8.3 Power Density Test System Verification

The system was verified to be within ±0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check.

The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes.

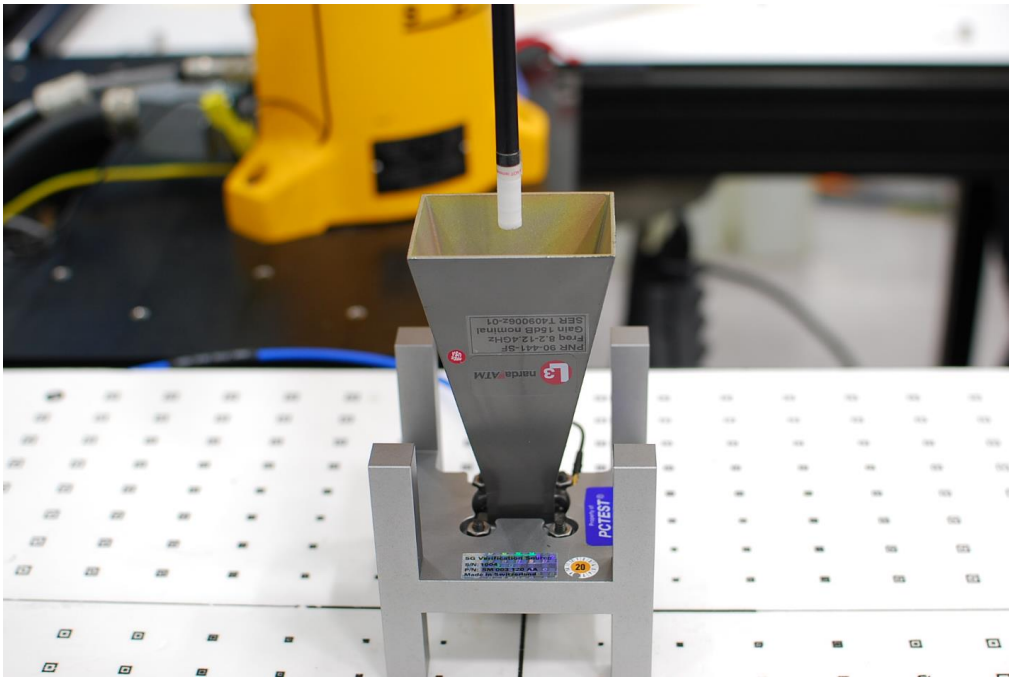

Figure 8-3
System Verification Setup Photo

Table 8-3
10 GHz Verification Results

System Verification												
System	Frequency (GHz)	Date	Source S/N	DAE S/N	Probe S/N	Prad (mW)	Normal psPD (W/m² over 4 cm²)		Deviation (dB)	Total psPD (W/m² over 4 cm²)		Deviation (dB)
							Measured	Target		Measured	Target	
AM5	10	08/17/2026	1006 - 10/7/2025	1403	9364	93.9	58.90	55.30	0.27	59.20	55.80	0.26

Note: A **10 mm distance spacing** was used from the reference horn antenna aperture to the probe element.

9 SAR DATA SUMMARY

9.1 2.4 GHz Bluetooth Standalone Head SAR

Table 9-1

Exposure	Band / Mode	Earbud	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]	Plot #
Head	2.4 GHz Bluetooth LE	Right	J5MHTP0004R0001HBN	86.72	-0.01	2402	0	1	13.00	12.45	Front	0	0.098	1.135	1.153	0.128	A1
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 100% transmission duty factor to determine compliance as the most conservative transmission duty factor.

9.2 5 GHz NB U-NII 1 Standalone Head SAR

Table 9-2

Exposure	Band / Mode	Earbud	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]	Plot #
Head	NB U-NII 1	Right	J5MHTP0001V0001HBN	86.83	0.08	5157	Low	1	10.00	9.91	Front	0	0.063	1.021	1.152	0.074	A2
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 100% transmission duty factor to determine compliance as the most conservative transmission duty factor.

9.3 5 GHz NB U-NII 3 Standalone Head SAR

Table 9-3

Exposure	Band / Mode	Earbud	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]	Plot #
Head	NB U-NII 3	Right	J5MHTP0004R0001HBN	86.83	0.06	5731	Low	1	9.00	8.69	Front	0	0.060	1.074	1.152	0.074	A3
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 100% transmission duty factor to determine compliance as the most conservative transmission duty factor.

9.4 6 GHz NB U-NII 5 Standalone Head SAR

Table 9-4

Exposure	Band / Mode	Earbud	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]	Plot #
Head	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.01	6108	Low	8	3.50	2.14	Front	0	0.026	1.368	1.089	0.039	
Head	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.07	6185	Low-Mid	8	3.00	1.52	Front	0	0.031	1.406	1.089	0.047	
Head	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.07	6264	Mid	8	3.00	1.55	Front	0	0.037	1.396	1.089	0.056	A4
Head	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.07	6342	Mid-High	8	2.75	2.34	Front	0	0.026	1.099	1.089	0.031	
Head	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.08	6420	High	8	2.75	2.73	Front	0	0.029	1.005	1.089	0.032	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Head 1.6 W/kg (mW/g) averaged over 1 gram						

Exposure	Band/ Mode	Earbud	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 APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]
Head	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.01	6108	Low	8	3.50	2.14	Front	0	0.133	1.368	1.089	0.198
Head	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.07	6185	Low-Mid	8	3.00	1.52	Front	0	0.159	1.406	1.089	0.243
Head	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.07	6264	Mid	8	3.00	1.55	Front	0	0.193	1.396	1.089	0.293
Head	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.07	6342	Mid-High	8	2.75	2.34	Front	0	0.131	1.099	1.089	0.157
Head	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.08	6420	High	8	2.75	2.73	Front	0	0.144	1.005	1.089	0.158

Note: The reported SAR was scaled to 100% transmission duty factor to determine compliance as the most conservative transmission duty factor.

9.5 2.4 GHz Bluetooth Standalone Body-Worn SAR

Table 9-5

Exposure	Band / Mode	Earbud	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]	Plot #
Body-worn	2.4 GHz Bluetooth LE	Right	J5MHTP0004R0001HBN	86.72	0.04	2402	0	1	13.00	12.45	Back	5	0.182	1.135	1.153	0.238	A5
Body-worn	2.4 GHz Bluetooth LE	Right	J5MHTP0004R0001HBN	86.72	0.03	2402	0	1	13.00	12.45	Right	5	0.174	1.135	1.153	0.228	
Body-worn	2.4 GHz Bluetooth LE	Right	J5MHTP0004R0001HBN	86.72	0.07	2402	0	1	13.00	12.45	Left	5	0.181	1.135	1.153	0.237	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: The reported SAR was scaled to 100% transmission duty factor to determine compliance as the most conservative transmission duty factor.

9.6 5 GHz NB U-NII 1 Standalone Body-Worn SAR

Table 9-6

Exposure	Band / Mode	Earbud	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]	Plot #
Body-worn	NB U-NII 1	Right	J5MHTP0001V0001HBN	86.83	0.02	5157	Low	1	10.00	9.91	Back	5	0.153	1.021	1.152	0.180	A6
Body-worn	NB U-NII 1	Right	J5MHTP0001V0001HBN	86.83	0.06	5157	Low	1	10.00	9.91	Right	5	0.129	1.021	1.152	0.152	
Body-worn	NB U-NII 1	Right	J5MHTP0001V0001HBN	86.83	0.09	5157	Low	1	10.00	9.91	Left	5	0.057	1.021	1.152	0.067	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: The reported SAR was scaled to 100% transmission duty factor to determine compliance as the most conservative transmission duty factor.

9.7 5 GHz NB U-NII 3 Standalone Body-Worn SAR

Table 9-7

Exposure	Band / Mode	Earbud	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]	Plot #
Body-worn	NB U-NII 3	Right	J5MHTP0004R0001HBN	86.83	0.01	5731	Low	1	9.00	8.69	Back	5	0.124	1.074	1.152	0.153	A7
Body-worn	NB U-NII 3	Right	J5MHTP0004R0001HBN	86.83	0.07	5731	Low	1	9.00	8.69	Right	5	0.104	1.074	1.152	0.129	
Body-worn	NB U-NII 3	Right	J5MHTP0004R0001HBN	86.83	0.05	5731	Low	1	9.00	8.69	Left	5	0.088	1.074	1.152	0.109	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: The reported SAR was scaled to 100% transmission duty factor to determine compliance as the most conservative transmission duty factor.

9.8 6 GHz NB U-NII 5 Standalone Body-Worn SAR

Table 9-8

Exposure	Band / Mode	Earbud	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]	Plot #
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.15	6108	Low	8	3.50	2.14	Back	5	0.053	1.368	1.089	0.079	
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	-0.04	6185	Low-Mid	8	3.00	1.52	Back	5	0.046	1.406	1.089	0.070	
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	-0.04	6264	Mid	8	3.00	1.55	Back	5	0.053	1.396	1.089	0.081	
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	-0.16	6342	Mid-High	8	2.75	2.34	Back	5	0.051	1.099	1.089	0.061	
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.08	6420	High	8	2.75	2.73	Back	5	0.061	1.005	1.089	0.067	A8
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.04	6108	Low	8	3.50	2.14	Right	5	0.021	1.368	1.089	0.031	
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.05	6108	Low	8	3.50	2.14	Left	5	0.017	1.368	1.089	0.025	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram						

Exposure	Band/ Mode	Earbud	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 APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.15	6108	Low	8	3.50	2.14	Back	5	0.263	1.368	1.089	0.392
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	-0.04	6185	Low-Mid	8	3.00	1.52	Back	5	0.229	1.406	1.089	0.351
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	-0.04	6264	Mid	8	3.00	1.55	Back	5	0.292	1.396	1.089	0.444
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	-0.16	6342	Mid-High	8	2.75	2.34	Back	5	0.264	1.099	1.089	0.316
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.08	6420	High	8	2.75	2.73	Back	5	0.312	1.005	1.089	0.341
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.04	6108	Low	8	3.50	2.14	Right	5	0.120	1.368	1.089	0.179
Body-worn	NB U-NII 5	Right	J5MHS3000CX0001HBN	91.85	0.05	6108	Low	8	3.50	2.14	Left	5	0.107	1.368	1.089	0.159

Note: The reported SAR was scaled to 100% transmission duty factor to determine compliance as the most conservative transmission duty factor.

9.9 SAR Test Notes

General Notes:

1. Batteries are fully charged at the beginning of the SAR measurements.
2. Liquid tissue depth was at least 15.0 cm for all frequencies.
3. 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.
4. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D04v01.
5. To demonstrate compliance for Head, SAR testing was performed on a flat phantom filled with head tissue equivalent medium.
6. Per manufacturer request, Body-Worn SAR was additionally evaluated as a conservative SAR test condition for the right earbud (A3531).
7. Per FCC KDB 865664 D01v01r04, variability SAR tests were performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg.
8. The orange highlights throughout the report represent the highest scaled SAR per Equipment Class.

Bluetooth/NB UNII Notes

1. Bluetooth/NB UNII SAR was evaluated with a test mode with hopping disabled with DH5 operation. The reported SAR was scaled to the 100% transmission duty factor to determine compliance for a more conservative exposure analysis. See section 7.2 for the time domain plot and calculation for the duty factor of the device.

9.10 Power Density Data

MEASUREMENT RESULTS																				
Frequency (MHz)	Channel	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift (dB)	Spacing (mm)	Earbud	DUT Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Grid Step (λ)	iPD (W/m²)	Scaling Factor for Measurement Uncertainty per IEC 62479	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Normal psPD (W/m²)	Scaled Normal psPD (W/m²)	Total psPD (W/m²)	Scaled Total psPD (W/m²)	Plot #
6264	Mid	3.00	1.55	0.05	2	Right	J5MHTP0004R0001HBN	8.0	Front	91.85	0.041	0.208	1.610	1.396	1.089	0.170	0.416	0.181	0.443	A9
6264	Mid	3.00	1.55	0.07	5	Right	J5MHTP0004R0001HBN	8.0	Back	91.85	0.041	0.262	1.610	1.396	1.089	0.248	0.607	0.260	0.636	A10
47 CFR §1.1310 - SAFETY LIMIT Spatial Average Uncontrolled Exposure / General Population							Power Density 10 W/m² averaged over 4 cm²													

9.11 Power Density Notes

1. The manufacturer has confirmed that the devices tested have the same physical, mechanical, and thermal characteristics and are within operational tolerances expected for production units.
2. Batteries are fully charged at the beginning of the measurements.
3. Power density was calculated by repeated E-field measurements on two measurement planes separated by λ/4.
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.
5. Per FCC guidance and equipment manufacturer guidance, power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 2.80 dB (90.5%) was used to determine the psPD measurement scaling factor.
6. Per equipment manufacturer guidance, power density was measured at d=2mm and d=λ/5mm using the same grid size and grid step size for some frequencies and surfaces. The integrated Power Density (iPD) was calculated based on these measurements. Since iPD ratio between the two distances is ≥ -1dB, the grid step was sufficient for determining compliance at d=2mm.
7. PTP-PR algorithm was used during psPD measurement and calculations.
8. Per KDB 388624 D02, the OVER6G checklist was simplified for the 6-8.5 GHz range by requiring a single power density measurement in correspondence to the largest SAR value that was measured. Therefore, PD testing was evaluated for the worst case cfg. per mode/band and exposure condition from the SAR testing.

10 SAR MEASUREMENT VARIABILITY

10.1 Measurement Variability

Per FCC KDB Publication 865664 D01v01r04, SAR measurement variability was not assessed since all measured SAR values are <0.8W/kg for 1g and <0.2 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 per IEEE 1528-2013 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	11/2/2025	Annual	11/2/2026	MY45093852
Agilent	E4438C	ESG Vector Signal Generator	3/23/2026	Annual	3/23/2027	MY45092078
Agilent	N5182A	MXG Vector Signal Generator	4/13/2026	Annual	4/13/2027	MY48180366
Agilent	8753ES	S-Parameter Vector Network Analyzer	10/28/2025	Annual	10/28/2026	MY40003841
Agilent	8753ES	S-Parameter Vector Network Analyzer	10/27/2025	Annual	10/27/2026	US39170118
Agilent	E5515C	Wireless Communications Test Set	CBT	N/A	CBT	GB46310798
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	8/21/2025	Annual	8/21/2026	1138001
Anritsu	ML2496A	Power Meter	7/17/2026	Annual	7/17/2027	1840005
Anritsu	MA2411B	Pulse Power Sensor	10/14/2025	Annual	10/14/2026	1726262
Anritsu	MA2411B	Pulse Power Sensor	10/14/2025	Annual	10/14/2026	1027293
Insize	1108-150	Insize - Digital Caliper	1/7/2026	Annual	1/7/2027	1410255640
Anritsu	MA24106A	USB Power Sensor	2/20/2026	Annual	2/20/2027	1520501
Anritsu	MA24106A	USB Power Sensor	12/12/2025	Annual	12/12/2026	1344554
Control Company	4352	Long Stem Thermometer	12/22/2025	Biennial	12/22/2027	250770121
Control Company	4352	Long Stem Thermometer	12/22/2025	Biennial	12/22/2027	250770096
Control Company	4040	Therm./ Clock/ Humidity Monitor	12/29/2025	Biennial	12/29/2027	250778120
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/24/2025	Biennial	10/24/2027	250652331
Control Company	4040	Therm./ Clock/ Humidity Monitor	10/15/2024	Biennial	10/15/2026	240763503
Keysight Technologies	N9020A	MXA Signal Analyzer	6/5/2026	Annual	6/5/2027	MY54500644
Agilent	N9020A	MXA Signal Analyzer	7/7/2025	Biennial	7/7/2027	MY56470202
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	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	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
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	NC-100	Torque Wrench	5/29/2025	Biennial	5/29/2027	N/A
SPEAG	DAK-3.5	Dielectric Assessment Kit	11/10/2025	Annual	11/10/2026	1277
SPEAG	DAKS-3.5	Portable Dielectric Assessment Kit	7/13/2026	Annual	7/13/2027	1039
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)	3/3/2026	Annual	3/3/2027	1102
GW Instek	GPS-3030DD	DC Power Supply	N/A	N/A	N/A	EI883874
SPEAG	5G Verification Source 10GHz	10GHz System Verification Antenna	10/7/2025	Annual	10/7/2026	1006
SPEAG	D2450V2	2450 MHz SAR Dipole	11/10/2025	Annual	11/10/2026	855
SPEAG	D5GHzV2	5 GHz SAR Dipole	11/8/2024	Biennial	11/8/2026	1066
SPEAG	D6.5GHzV2	6.5 GHz SAR Dipole	10/14/2025	Annual	10/14/2026	1019
SPEAG	DAE4	Dasy Data Acquisition Electronics	10/14/2025	Annual	10/14/2026	1408
SPEAG	DAE4	Dasy Data Acquisition Electronics	12/3/2025	Annual	12/3/2026	1644
SPEAG	DAE4	Dasy Data Acquisition Electronics	10/22/2025	Annual	10/22/2026	1403
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/10/2026	Annual	3/10/2027	1323
SPEAG	EX3DV4	SAR Probe	3/10/2026	Annual	3/10/2027	7551
SPEAG	EX3DV4	SAR Probe	10/9/2025	Annual	10/9/2026	7420
SPEAG	EX3DV4	SAR Probe	12/23/2025	Annual	12/23/2026	7490
SPEAG	EUmmWV3	EUmmWV3 Probe	6/10/2026	Annual	6/10/2027	9364

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

SAR Uncertainty Budget based on IEEE 1528-2013 and SPEAG (0.3 GHz to 6 GHz)

a	b	c	d	e *f(d,k)*	f	g	h cxf/e	i cxg/e	k
Uncertainty component	**Reference**	**Tol. (± %)**	**Prob. dist.**	**Dvi.**	**ci (1g)**	**ci (10g)**	**1g ui (± %)**	**10g ui (± %)**	**vi**
Measurement system									
Probe calibration	E.2.1	6.55	N	1	1	1	6.55	6.55	∞
Axial isotropy	E.2.2	0.25	N	1	0.707	0.707	0.18	0.18	∞
Hemispherical isotropy	E.2.2	1.30	N	1	0.707	0.707	0.92	0.92	∞
Boundary effect	E.2.3	2.00	R	1.73	1	1	1.15	1.15	∞
Linearity	E.2.4	0.30	R	1.73	1	1	0.17	0.17	∞
System detection limits	E.2.4	0.25	R	1.73	1	1	0.14	0.14	∞
Modulation response	E.2.5	4.80	R	1.73	1	1	2.77	2.77	∞
Readout electronics	E.2.6	0.30	N	1	1	1	0.30	0.30	∞
Response time	E.2.7	1.01	R	1.73	1	1	0.58	0.58	∞
Integration time	E.2.8	2.60	R	1.73	1	1	1.50	1.50	∞
RF ambient conditions - noise	E.6.1	3.00	R	1.73	1	1	1.73	1.73	∞
RF ambient conditions - reflections	E.6.1	3.00	R	1.73	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	E.6.2	0.04	R	1.73	1	1	0.02	0.02	∞
Probe positioning with respect to phantom shell	E.6.3	0.80	R	1.73	1	1	0.46	0.46	∞
Extrapolation, interpolation, and integration algorithms for max. SAR evaluation	E.5	4.00	R	1.73	1	1	2.31	2.31	∞
Test sample related									
Test sample positioning	E.4.2	3.12	N	1	1	1	3.12	3.12	35
Device holder uncertainty	E.4.1	1.67	N	1	1	1	1.67	1.67	5
Output power variation - SAR drift	E.2.9	5.00	R	1.73	1	1	2.89	2.89	∞
SAR scaling	E.6.5	0.00	R	1.73	1	1	0.00	0.00	∞
Phantom and tissue parameters									
Phantom shell uncertainty - shape, thickness and permittivity	E.3.1	7.60	R	1.73	1	1	4.39	4.39	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	E.3.2	0.00	N	1	1	1	0.00	0.00	∞
Liquid conductivity measurement	E.3.3	2.50	N	1	0.78	0.71	1.95	1.78	∞
Liquid permittivity measurement	E.3.3	2.50	N	1	0.23	0.26	0.58	0.65	∞
Liquid conductivity - temperature uncertainty	E.3.4	3.36	R	1.73	0.78	0.71	1.51	1.38	∞
Liquid permittivity - temperature uncertainty	E.3.4	0.77	R	1.73	0.23	0.26	0.10	0.12	∞
Liquid Conductivity - deviation from target values	E.3.2	5.00	R	1.73	0.64	0.43	1.85	1.24	∞
Liquid Permittivity - deviation from target values	E.3.2	5.00	R	1.73	0.60	0.49	1.73	1.41	∞
Combined standard uncertainty							**11.0**	**10.8**	**40**
Expanded uncertainty (95% confidence interval)							**21.9**	**21.6**	

PD Uncertainty Budget based on IEC IEEE 63195-1 for PTP-PR Reconstruction Mode and/or IPD Measurement at d < λ/5 under 24 GHz

Symbol	Source of uncertainty	Description	Unc. ± dB	Prob. Dist.	Div. qi	ci	Standard uncertainty ± dB	vi
	Uncertainty terms dependent on the measurement system							
CAL	Calibration	8.4.1	0.49	N	1	1	0.49	∞
COR	Probe correction	8.4.2	0.00	R	1.73	1	0.00	∞
FRS	Frequency response	8.4.3	0.20	R	1.73	1	0.12	∞
SCC	Sensor cross coupling	8.4.4	0.00	R	1.73	1	0.00	∞
ISO	Isotropy	8.4.5	0.50	R	1.73	1	0.29	∞
LIN	System linearity error	8.4.6	0.20	R	1.73	1	0.12	∞
PSC	Probe scattering	8.4.7	0.00	R	1.73	1	0.00	∞
PPO	Probe positioning offset	8.4.8	0.30	R	1.73	1	0.17	∞
PPR	Probe positioning repeatability	8.4.9	0.04	R	1.73	1	0.02	∞
SMO	Sensor mechanical offset	8.4.10	0.02	R	1.73	1	0.01	∞
PSR	Probe spatial resolution	8.4.11	0.00	R	1.73	1	0.00	∞
FLD	Field impedance dependence	8.4.12	0.00	R	1.73	1	0.00	∞
MED	Measurement drift	8.4.13	0.00	R	1.73	1	0.00	∞
APN	Amplitude and phase noise	8.4.14	0.04	R	1.73	1	0.02	∞
TR	Measurement area truncation	8.4.15	0.10	R	1.73	1	0.06	∞
DAQ	Data acquisition	8.4.16	0.03	N	1	1	0.03	∞
SMP	Sampling	8.4.17	0.00	R	1.73	1	0.00	∞
REC	Field reconstruction	8.4.18	2.00	R	1.73	1	1.15	∞
SNR	Signal-to-noise ratio	8.4.19	0.00	N	1	1	0.00	∞
TRA	Forward and backward transformation	8.4.20	0.70	R	1.73	1	0.40	∞
SCA	Power density scaling	8.4.21	0.00	R	1.73	1	0.00	∞
SAV	Spatial averaging	8.4.22	0.10	R	1.73	1	0.06	∞
COM	Exposure combining	8.4.23	0.00	N	1	1	0.00	∞
SDL	System detection limit		0.04	R	1.73	1	0.02	∞
	Uncertainty terms dependent on the DUT and environmental factors							
PC	Probe coupling with DUT	8.5.1	0.00	R	1.73	1	0.00	∞
MOD	Modulation response	8.5.2	0.40	R	1.73	1	0.23	∞
IT	Integration time	8.5.3	0.00	R	1.73	1	0.00	∞
RT	Response time	8.5.4	0.00	R	1.73	1	0.00	∞
DH	Device holder influence	8.5.5	0.10	R	1.73	1	0.06	∞
DA	DUT alignment	8.5.6	0.00	R	1.73	1	0.00	∞
AC	RF ambient conditions	8.5.7	0.04	R	1.73	1	0.02	∞
TEM	Laboratory temperature	8.5.8	0.00	R	1.73	1	0.00	∞
REF	Reflections in laboratory	8.5.9	0.04	R	1.73	1	0.02	∞
MSI	Immunity / secondary reception	8.5.10	0.00	R	1.73	1	0.00	∞
DRI	DUT drift	8.5.11	0.22	R	1.73	1	0.13	∞
u(ΔSAR)	**Combined uncertainty**						**1.40**	
U	**Expanded unsertainty and effective degrees of freedom (95 % confidence interval)**						**2.80**	

APD Uncertainty Budget based on IEC 63446 and IEC/IEEE 62209-1528 (6 GHz to 10 GHz)

Symbol	Error Description	Unc. ± dB	Prob. Dist.	Div. qi	ci (1g) / (1cm2)	ci (10g) / (4cm2)	Standard uncertainty ± dB (1g) / (1cm2)	Standard uncertainty ± dB (10g) / (4cm2)	vi
	Uncertainty terms dependent on the measurement system								
psSAR	Module SAR V16.2	14.2	N	1	1	0.99	14.20	14.10	∞
PDC	Power Density Conversion	13.5	R	1.73	1	1	7.79	7.79	∞
u(ΔSAR)	**Combined uncertainty**						**16.20**	**16.11**	
U	**Expanded unsertainty and effective degrees of freedom (95 % confidence interval)**						**32.40**	**32.22**	
	Expanded unsertainty and effective degrees of freedom (95 % confidence interval) in dB						**1.22**	**1.21**	

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]

14 REFERENCES

[1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, Aug. 1996.

[2] ANSI/IEEE C95.1-2005, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, 2006.

[3] ANSI/IEEE C95.1-1992, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, Sept. 1992.

[4] ANSI/IEEE C95.3-2002, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave, New York: IEEE, December 2002.

[5] IEEE Standards Coordinating Committee 39 –Standards Coordinating Committee 34 – IEEE Std. 1528-2013, IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.

[6] NCRP, National Council on Radiation Protection and Measurements, Biological Effects and Exposure Criteria for RadioFrequency Electromagnetic Fields, NCRP Report No. 86, 1986. Reprinted Feb. 1995.

[7] T. Schmid, O. Egger, N. Kuster, Automated E-field scanning system for dosimetric assessments, IEEE Transaction on Microwave Theory and Techniques, vol. 44, Jan. 1996, pp. 105-113.

[8] K. Pokovic, T. Schmid, N. Kuster, Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies, ICECOM97, Oct. 1997, pp. 1 -124.

[9] K. Pokovic, T. Schmid, and N. Kuster, E-field Probe with improved isotropy in brain simulating liquids, Proceedings of the ELMAR, Zadar, Croatia, June 23-25, 1996, pp. 172-175.

[10] Schmid & Partner Engineering AG, Application Note: Data Storage and Evaluation, June 1998, p2.

[11] V. Hombach, K. Meier, M. Burkhardt, E. Kuhn, N. Kuster, The Dependence of EM Energy Absorption upon Human Modeling at 900 MHz, IEEE Transaction on Microwave Theory and Techniques, vol. 44 no. 10, Oct. 1996, pp. 1865-1873.

[12] N. Kuster and Q. Balzano, Energy absorption mechanism by biological bodies in the near field of dipole antennas above 300MHz, IEEE Transaction on Vehicular Technology, vol. 41, no. 1, Feb. 1992, pp. 17-23.

[13] G. Hartsgrove, A. Kraszewski, A. Surowiec, Simulated Biological Materials for Electromagnetic Radiation Absorption Studies, University of Ottawa, Bioelectromagnetics, Canada: 1987, pp. 29-36.

[14] Q. Balzano, O. Garay, T. Manning Jr., Electromagnetic Energy Exposure of Simulated Users of Portable Cellular Telephones, IEEE Transactions on Vehicular Technology, vol. 44, no.3, Aug. 1995.

[15] W. Gander, Computermathematick, Birkhaeuser, Basel, 1992.

[16] W.H. Press, S.A. Teukolsky, W.T. Vetterling, and B.P. Flannery, Numerical Recipes in C, The Art of Scientific Computing, Second edition, Cambridge University Press, 1992.

[17] N. Kuster, R. Kastle, T. Schmid, Dosimetric evaluation of mobile communications equipment with known precision, IEEE Transaction on Communications, vol. E80-B, no. 5, May 1997, pp. 645-652.

[18] CENELEC CLC/SC111B, European Prestandard (prENV 50166-2), Human Exposure to Electromagnetic Fields High-frequency: 10kHz-300GHz, Jan. 1995.

[19] Prof. Dr. Niels Kuster, ETH, Eidgenössische Technische Hoschschule Zürich, Dosimetric Evaluation of the Cellular Phone.

[20] IEC 62209-1, Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1: Devices used next to the ear (Frequency range of 300 MHz to 6 GHz), July 2016.

[21] Innovation, Science, Economic Development Canada RSS-102 Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) Issue 5, March 2015.

[22] Health Canada Safety Code 6 Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz – 300 GHz, 2015

[23] FCC SAR Test Procedures for 2G-3G Devices, Mobile Hotspot and UMPC Devices KDB Publications 941225, D01-D07

[24] SAR Measurement Guidance for IEEE 802.11 Transmitters, KDB Publication 248227 D01

[25] FCC SAR Considerations for Handsets with Multiple Transmitters and Antennas, KDB Publications 648474 D03-D04

[26] FCC SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers, FCC KDB Publication 616217 D04

[27] FCC SAR Measurement and Reporting Requirements for 100MHz – 6 GHz, KDB Publications 865664 D01-D02

[28] FCC General RF Exposure Guidance and SAR Procedures for Dongles, KDB Publication 447498, D01-D02

[29] Anexo à Resolução No. 533, de 10 de Septembro de 2009.