MOTOROLA SOLUTIONS

SAMM 826

CERTIFICATE 2518.05

**DECLARATION OF COMPLIANCE SAR ASSESSMENT of PCII Report Part 1 of 2**

**Motorola Solutions Inc.**
**EME Test Laboratory**
Motorola Solutions Malaysia Sdn Bhd
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**Date of Report:** 07/22/2024
**Report Revision:** C

| | |
|---|---|
| **Responsible Engineer:** | Yeng Yee Yeong (EME Engineer) |
| **Report Author:** | Yeng Yee Yeong (EME Engineer) |
| **Date/s Tested:** | 03/19/2024-03/23/2024, 04/24/2024, 05/06/2024-05/11/2024, 05/13/2024-05/18/2024, 05/30/2024, 06/14/2024-06/15/2024 |
| **Manufacturer:** | Motorola Solutions Malaysia Sdn. Bhd. |
| **Manufacturer Location:** | Plot 2A, Medan Bayan Lepas Mukim, 12 SWD, 11900 Bayan Lepas, Penang, Malaysia |
| **DUT Description:** | Handheld Portable –<br>MOTOTRBO R7 403-512M 4W TIA NKP BT WIFI GPS ENABLED GOB<br>MOTOTRBO R7 403-512M 4W TIA FKP BT WIFI GPS ENABLED GOB |
| **Test TX mode(s):** | Refer table 3 |
| **Max. Power output:** | Refer table 3 |
| **Nominal Power:** | Refer table 3 |
| **Tx Frequency Bands:** | Refer table 3 |
| **Signaling type:** | Refer table 3 |
| **Model(s) Tested:** | AAH06RDC9RA1AN (PMUE5723DBA) (IC Model: PMUE5723ABA);<br>AAH06RDN9RA1AN (PMUE5722DBB) (IC Model: PMUE5722ABB) |
| **Model(s) Certified: (HVIN/PMN)** | Refer Section 1.0 Introduction |
| **Serial Number(s):** | 865EADC410, 865EAD9549, 865EADL063 |
| **Classification:** | Occupational/Controlled Environment |
| **Firmware Version (FVIN):** | D02.24.02.0078 |
| **Applicant Name:** | Motorola Solutions Inc. |
| **Applicant Address:** | Plot 2A, Medan Bayan Lepas Mukim, 12 SWD, 11900 Bayan Lepas, Penang, Malaysia |
| **FCC ID:** | AZ489FT7143<br>This report contains results that are immaterial for FCC equipment approval, Which are clearly identified. |
| **FCC Test Firm Registration Number:** | 823256 |
| **IC:** | 109U-89FT7143<br>This report contains results that are immaterial for ISED equipment approval, Which are clearly identified. |
| **ISED Test Site registration:** | 24843 |

The test results clearly demonstrate compliance with Occupational/Controlled Environment RF Exposure limits of 8 W/kg averaged over 1 gram per the requirements of FCC 47 CFR § 2.1093 and RSS-102 (Issue 5)

**Based on the information and the testing results provided herein, the undersigned certifies that when used as stated in the operating instructions supplied, said product complies with the national and international reference standards and guidelines listed in section 4.0 of this report (no deviation from standard methods). This report shall not be reproduced without written approval from an officially designated representative of the Motorola Solutions Inc EME Laboratory. I attest to the accuracy of the data and assume full responsibility for the completeness of these measurements. This reporting format is consistent with the suggested guidelines of the TIA TSB-150 December 2004. The results and statements contained in this report pertain only to the device(s) evaluated.**

**Saw Sun Hock (Approval Signatory)**
**Approved Date: 07/22/2024**

**Part 1 of 2**

**APPENDICES**

**Part 2 of 2**

**APPENDICES**

E System Verification Check Scans
F DUT Scans
G Shorten Scan of Highest SAR Configuration
H DUT Test Position Photos
I DUT, Body worn and audio accessories Photos

**Report Revision History**

| Date | Revision | Comments |
|---|---|---|
| 06/19/2024 | A | Initial release |
| 07/16/2024 | B | To update Manufacturer Name at Cover Page. |
| 07/22/2024 | C | To split the Appendix B & Appendix C from Report Part 1 of 2 |

## Introduction

This report details the utilization, test setup, test equipment, and test results of the Specific Absorption Rate (SAR) measurements performed at the Motorola Solutions Inc. EME Test Laboratory for handheld portable model number AAH06RDC9RA1AN (PMUE5723DBA) (IC Model: PMUE5723ABA) and AAH06RDN9RA1AN (PMUE5722DBB) (IC Model: PMUE5722ABB) where LMR is fully evaluated; whereas WLAN 2.4GHz and WLAN 5GHz are variant models from reference models with AAH06RDC9RA1AN (PMUE5723ABA) (IC Model: PMUE5723ABA) and AAH06RDN9RA1AN (PMUE5722ABB) (IC Model: PMUE5722ABB) with the same FCC ID: AZ489FT7143 / IC: 109U-89FT7143. The information herein is to show evidence of Class II Permissive Change compliance based on the SAR evaluation of Transmitter Line Up change. This device is classified as Occupational/Controlled Environment and model certified is listed as below:

| Model / Hardware Version ID Number (HVIN) | Product Marketing Name (PMN) | Description |
|---|---|---|
| AAH06RDC9RA1AN/ PMUE5723DBA (IC Model: PMUE5723ABA) | R7 | MOTOTRBO R7 403-512M 4W TIA NKP BT WIFI GPS ENABLED GOB |
| AAH06RDN9RA1AN/ PMUE5722DBB (IC Model: PMUE5722ABB) | R7 | MOTOTRBO R7 403-512M 4W TIA FKP BT WIFI GPS ENABLED GOB |
| AAH06RDC9RA1AN/ PMUE5723DAA (IC Model: PMUE5723AAA) | R7 | MOTOTRBO R7 403-512M 4W TIA NKP BT WIFI GPS ENABLED |
| AAH06RDC9WA1AN/ PMUE5723DAA (IC Model: PMUE5723AAA) | R7 | MOTOTRBO R7 403-512M 4W TIA NKP CFS BT WIFI GPS CAPABLE |
| AAH06RDC9WA1AN/ PMUE5723DBA (IC Model: PMUE5723ABA) | R7 | MOTOTRBO R7 403-512M 4W TIA NKP CFS BT WIFI GPS CAPABLE GOB |
| AAH06RDN9RA1AN/ PMUE5722DAB (IC Model: PMUE5722AAB) | R7 | MOTOTRBO R7 403-512M 4W TIA FKP BT WIFI GPS ENABLED |
| AAH06RDN9RA1AN/ PMUE5724DAB (IC Model: PMUE5724AAB) | R7 | MOTOTRBO R7 403-512M 4W FKP BT WIFI GPS ENABLED |
| AAH06RDN9WA1AN/ PMUE5722DAB (IC Model: PMUE5722AAB) | R7 | MOTOTRBO R7 403-512M 4W TIA FKP CFS BT WIFI GPS CAPABLE |
| AAH06RDN9WA1AN/ PMUE5722DBB (PMUE5722ABB) | R7 | MOTOTRBO R7 403-512M 4W TIA FKP CFS BT WIFI GPS CAPABLE GOB |
| AAH06RDN9WA1AN/ PMUE5724DAB (IC Model: PMUE5724AAB) | R7 | MOTOTRBO R7 403-512M 4W FKP CFS BT WIFI GPS CAPABLE |

## 2.0 FCC SAR Summary

**Table 1**

| Equipment Class | Frequency band (MHz) | Max Calc at Body (W/kg) | Max Calc at Face (W/kg) |
|---|---|---|---|
| | | 1g-SAR | 1g-SAR |
| TNF | 406.125-512MHz (LMR) | 6.53[1] | 4.83[1] |
| DTS | 2412-2462MHz | 0.042[2] | 0.056* |
| NII | 5180 – 5825MHz | 0.363* | 0.234* |
| **DSS | 2402-2480MHz | NA | NA |
| Simultaneous Results (LMR + WLAN) | | 6.89[3] | 5.06[3] |

* denotes SAR results from previous filing remain the same. (FCC ID: AZ489FT7143)

** denotes results not required per KDB (refer to section 15.0).

[1] denotes New highest SAR results at 406.125-512MHz for Body & Face compared to previous filing SAR results of 6.30 W/kg & 3.71 W/kg.

[2] denotes New highest SAR results at 2412-2462MHz for Body compared to previous filing SAR results of 0.029 W/kg.

[3] denotes New simultaneous SAR results (LMR + WLAN) for Body & Face compared to previous filing SAR results of 6.66 W/kg & 3.94 W/kg.

## 3.0 Abbreviations / Definitions

BT: Bluetooth
CNR: Calibration Not Required
CW: Continuous Wave
DSS: Direct Spread Spectrum
DUT: Device Under Test
EME: Electromagnetic Energy
FHSS: Frequency Hopping Spread Spectrum
FM: Frequency Modulation
LMR: Land Mobile Radio
NA: Not Applicable
OFDM: Orthogonal Frequency Division Multiplexing
PTT: Push to Talk
RSM: Remote Speaker Microphone
SAR: Specific Absorption Rate
TNF: Licensed Non-Broadcast Transmitter Held to Face

Audio accessories: These accessories allow communication while the DUT is worn on the body.

Body worn accessories: These accessories allow the DUT to be worn on the body of the user.

Maximum Power: Defined as the upper limit of the production line final test station

## 4.0 Referenced Standards and Guidelines

This product is designed to comply with the following applicable national and international standards and guidelines.

- Federal Communications Commission, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields", OET Bulletin 65, FCC, Washington, D.C.: 1997.
- Institute of Electrical and Electronics Engineers (IEEE) C95.1-2019
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 2020
- Ministry of Health (Canada) Safety Code 6 (2015), Limits of Human Exposure to Radio frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz
- RSS-102 (Issue 5) – Radio Frequency (RF) Exposure Compliance of Radio communication Apparatus (All Frequency Bands)
- Australian Communications Authority Radio communications (Electromagnetic Radiation - Human Exposure) Standard (2014)
- ANATEL, Brazil Regulatory Authority, Resolution No 700 of September 28, 2018 "Approves the Regulation on the Assessment of Human Exposure to Electric, Magnetic and Electromagnetic Fields Associated with the Operation of Radio communication Transmitting Stations.
- IEC/IEEE 62209-1528-2020- Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)
- FCC KDB – 643646 D01 SAR Test for PTT Radios v01r03
- FCC KDB – 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB – 865664 D02 RF Exposure Reporting v01r02
- FCC KDB – 447498 D01 General RF Exposure Guidance v06
- FCC KDB – 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB - 648474 D04 Handset SAR v01r03

## 5.0 SAR Limits

**Table 2**

| EXPOSURE LIMITS | SAR (W/kg) | |
|---|---|---|
| | (General Population / Uncontrolled Exposure Environment) | (Occupational / Controlled Exposure Environment) |
| Spatial Average - ANSI - (averaged over the whole body) | 0.08 | 0.4 |
| Spatial Peak - ANSI - (averaged over any 1-g of tissue) | 1.6 | 8.0 |
| Spatial Peak – ICNIRP/ANSI - (hands/wrists/feet/ankles averaged over 10-g) | 4.0 | 20.0 |
| Spatial Peak - ICNIRP - (Head and Trunk 10-g) | 2.0 | 10.0 |

## 6.0 Description of Device Under Test (DUT)

This portable device operates in the LMR bands using frequency modulation (FM). This device also contains WLAN technology for data capabilities over WLAN 2.4GHz and 5GHz.Wireless networks and Bluetooth technology for short range wireless devices.

The LMR bands in this device operate in a half-duplex system. A half-duplex system only allows the user to transmit or receive. This device cannot transmit and receive simultaneously. The user must stop transmitting in order to receive a signal or listen for a response, regardless of PTT button or use of voice activated audio accessories. This type of operation, along with the RF safety booklet, which instructs the user to transmit no more than 50% of the time, justifies the use of 50% duty factor for this device.

This device also incorporates a Class 1 Bluetooth device which is a Frequency Hopping Spread Spectrum (FHSS) technology. The Bluetooth radio modem is used to wireless link audio accessories. The maximum actual transmission duty cycle is imposed by the Bluetooth standard. The maximum duty cycle for BT is 77% and BT LE is 62.74% (1M) and 33.64% (2M). Refer to section 14.0 Simultaneous Transmission Exclusion.

Table 3 below summarizes the technologies, bands, maximum duty cycles and maximum output powers. Maximum output powers are defined as upper limit of the production line final test station.

**Table 3**

| Technology | Transmit Band (MHz) | Transmission | Duty Cycle (%) | Conducted (Average Detector) Power | |
|---|---|---|---|---|---|
| | | | | Nominal Power (W) | Maximum Power (W) |
| LMR | 400-527 | FM | 50(1) | 4.00 | 4.80 |
| Bluetooth | 2402 - 2480 | FHSS | 77 | 0.0100 | 0.0120 |
| Bluetooth LE (1M) | | | 62.47 | 0.0063 | 0.0080 |
| Bluetooth LE (2M) | | | 33.64 | 0.0063 | 0.0080 |
| 802.11b | 2412 - 2462 | DSSS, OFDM | 802.11b - 98.88 | 0.0251 | 0.0316 |
| 802.11g | | | 802.11g - 96.88 | | |
| 802.11n | | | 802.11n- 98.01 | | |

(1) includes 50% PTT operation

**Table 3 (Continued)**

| Technology | Transmit Band (MHz) | Transmission | Duty Cycle (%) | Conducted (Average Detector) Power | |
|---|---|---|---|---|---|
| | | | | Nominal Power (W) | Maximum Power (W) |
| 802.11a (20MHz) | 5180 - 5825 | OFDM | 97.01 | UNII-1, 2A: 0.05012 (CH64), 0.05012 (Other Channels) UNII-2C, 3: 0.02512 (CH100), 0.02512 (Other Channels) | (2) UNII-1, 2A: 0.0631 (CH64), 0.0631 (Other Channels) (2) UNII-2C, 3: 0.03162 (CH100), 0.03162 (Other Channels) |
| 802.11n (20MHz) | | | 97.97 | UNII-1, 2A: 0.03981 (CH36), 0.03162 (CH64), 05012 (Other Channels) UNII-2C, 3: 0.01995 (CH100), 0.02512 (Other Channels) | UNII-1, 2A: 0.05012 (CH36), 0.03981 (CH64), 0.0631 (Other Channels) UNII-2C, 3: 0.02512 (CH100), 0.03162 (Other Channels) |
| 802.11ac (20MHz) | | | 97.97 | UNII-1, 2A: 0.03981 (CH36), 0.03162 (CH64), 05012 (Other Channels) UNII-2C, 3: 0.01995 (CH100), 0.02512 (Other Channels) | UNII-1, 2A: 0.05012 (CH36), 0.03981 (CH64), 0.0631 (Other Channels) UNII-2C, 3: 0.02512 (CH100), 0.03162 (Other Channels) |

(2) For WLAN 5GHz 802.11a on CH64 & CH100, EME tested per the highest power as stated in the table above to be the same as the reference scans from previous filing Initial FCC Filing: FCC ID: AZ489FT7143 / IC: 109U-89FT7143. The latest declared Maximum Power for WLAN 5GHz 802.11a are CH64 (0.0512W) & CH100 (0.01995W).

The intended operating positions are “at the face” with the DUT at least 1 inch from the mouth, and “at the body” by means of the offered body worn accessories. Body worn audio and PTT operation is accomplished by means of optional remote accessories that are connected to the radio. Operation at the body without an audio accessory attached is possible by means of BT accessories.

## 7.0 Optional Accessories and Test Criteria

This device is offered with optional accessories. All accessories were individually evaluated during the test plan creation to determine if testing was required per the guidelines outlined in "SAR Test Reduction Considerations for Occupational PTT Radios" FCC KDB 643646 to assess compliance of this device. The following sections identify the test criteria and details for each accessory category. Refer to Exhibit 7B for antenna separation distances.

## 7.1 Antennas

**Table 4**

| Antenna No. | Antenna Models | Description | Selected for test | Tested |
|---|---|---|---|---|
| 1 | AN000348A01 | Antenna, Stubby, 400-527MHz, 90mm, ¼ wave, Ferrule, -0.4dBi | Yes | Yes |
| 2 | AN000350A01 | Antenna, Stubby, Antenna, Stubby, 400-450MHz, 60mm, ¼ wave, Ferrule, -1.7dBi | Yes | Yes |
| 3 | AN000351A01 | Antenna, Stubby, Antenna, Stubby, 440-490MHz, 60mm, ¼ wave, Ferrule -0.8dBi | Yes | Yes |
| 4 | AN000389A01 | Internal Antenna PCB Assembly ¼ wave, 1560-1610MHz, 2400-2485MHz, 2.3dBi 5150-5850MHz, 2.7dBi | Yes | Yes |
| 5 | PMAE4069A | Antenna, Stamped Metal, UHF Stubby ¼ wave, Antenna 400 - 450MHz, -1 dBi | Yes | Yes |
| 6 | PMAE4070A | UHF Stubby ¼ wave Antenna 440 - 490MHz, -1 dBi | Yes | Yes |
| 7 | PMAE4071A | UHF Stubby ¼ wave Antenna 470 - 527MHz, -1dBi | Yes | Yes |
| 8 | PMAE4079A | Antenna, Stamped Metal, UHF Slim ¼ wave Whip Antenna 400 - 527MHz, 0dBi | Yes | Yes |

## 7.2 Battery

**Table 5**

| Battery No. | Battery Models | Description | Selected for test | Tested | Comments |
|---|---|---|---|---|---|
| 1 | PMNN4807A | Battery Pack, Battery Impres Li-ion IP68 2200T | Yes | Yes | |
| 2 | PMNN4808A | Battery Li-ion IP68 2450t | Yes | Yes | |
| 3 | PMNN4809A | Battery Pack, Battery Impres Li-ion IP68 2850T | Yes | Yes | Default battery for body testing |
| 4 | PMNN4810A | Battery Pack, Battery Impres Li-ion Tia4950 IP68 3200T | Yes | Yes | Default battery for face testing |

## 7.3 Body worn Accessories

**Table 6**

| Body worn No. | Body worn Models | Description | Selected for test | Tested | Comments |
|---|---|---|---|---|---|
| 1 | HLN6602A | Universal Chest pack. | Yes | Yes | |
| 2 | NTN5243A | Strap | Yes | Yes | Tested with PMLN8302A & PMLN8304A |
| 3 | PMLN4651A | Belt Clip 2 Inch | Yes | Yes | |
| 4 | PMLN7008A | Carry Accessory-Belt Clip,2.5-Inch Belt Clip | Yes | Yes | |
| 5 | PMLN8299A | Hard Leather Carry Case 3 Inch Swivel Belt Loop Display | No | No | By similarity to PMLN8302A |
| 6 | PMLN8300A | Hard Leather Carry Case 2.5 Inch Swivel Belt Loop Display | No | No | By similarity to PMLN8303A |
| 7 | PMLN8301A | Hard Leather Carry Case 3 Inch Fixed Belt Loop Display | No | No | By similarity to PMLN8304A |
| 8 | PMLN8302A | Hard Leather Carry Case 3 Inch Swivel Belt Loop Non Display | Yes | Yes | Tested with NTN5243A, RLN6488A & PMLN8302A |
| 9 | PMLN8303A | Hard Leather Carry Case 2.5 Inch Swivel Belt Loop Non Display | No | No | By similarity to PMLN8302A |
| 10 | PMLN8304A | Hard Leather Carry Case 3 Inch Fixed Belt Loop Non Display | Yes | Yes | Tested with NTN5243A |
| 11 | RLN6486A | Fireman Radio Strap | No | No | By similarity to RLN6487A |
| 12 | RLN6487A | Fireman Radio Strap, XL | Yes | Yes | Tested with RLN6488A & PMLN8302A |
| 13 | RLN6488A | Anti-Sway Strap | Yes | Yes | Tested with RLN6487A & PMLN8302A |

## 7.4 Audio Accessories

**Table 7**

| Audio No. | Audio Acc. Models | Description | Selected for test | Tested | Comments |
|---|---|---|---|---|---|
| 1 | PMMN4128A | RM780 Impress Wind porting Remove Speaker Microphone, Large (IP68) | Yes | Yes | Default audio |
| 2 | PMLN8085A | Behind-The-Head Headset, CGAI Mini | No | No | By similarity with PMLN8086A |
| 3 | PMLN8086A | Over-The-Head Headset, CGAI Mini | Yes | Yes | |
| 4 | PMLN8265A | Accessory Kit, Headband Headset W/ Nexus | Yes | Yes | Tested withPMLN8297A, PMMN4150A & PMMN4151A |
| 5 | PMLN8266A | Accessory Kit, Neckband Headset W/ Nexus | No | No | By similarity with PMLN8265A |
| 6 | PMLN8267A | Accessory Kit, Hardhat Headset W/ Nexus | No | No | By similarity with PMLN8265A |
| 7 | PMLN8295A | 2-Wire Swivel Loud Audio Earpiece With Ear tip | Yes | Yes | |
| 8 | PMLN8297A | Audio Accessory-Audio Adapter, CGAI - Mini PTT Nexus Adapter | Yes | Yes | Tested with PMLN8265A |
| 9 | PMLN8337A | 1-Wire Single Ear bud With Removable Ear hook Loud Audio Earpiece | Yes | Yes | |
| 10 | PMLN8341A | Audio Accessory-Earpiece,1-Wire Xl Clear Tube Earpiece | No | No | By similarity with PMLN8337A |
| 11 | PMLN8342A | Audio Accessory-Earpiece,2-Wire Xl Clear Tube Earpiece | No | No | By similarity with PMLN8295A |
| 12 | PMLN8343A | Audio Accessory-Earpiece, 3-Wire XL Clear Tube Earpiece, CGAI Mini | Yes | Yes | |
| 13 | PMMN4131A | Audio Accessory-Remote Speaker Micro phone, Small Advance RSM, CGAI Mini | No | No | By similarity with PMMN4128A |
| 14 | PMMN4150A* | IMPRES Omni RSM with large front PTT, Nexus, 3.5mm (long cable) | Yes | Yes | Tested with PMLN8265A |
| 15 | PMMN4151A* | IMPRES Omni RSM with large front PTT, Nexus, 3.5mm (short cable) | Yes | Yes | Tested with PMLN8265A |
| 16 | PMMN4140A | Accessory Kit,RM760 RSM | No | No | By similarity with PMMN4128A |
| 17 | PMLN8644A* | Audio Accessory-Surveillance,1-Wire Surveillance Kit With Translucent Tube | No | No | By similarity with PMLN8341A |
| 18 | PMLN8645A* | Audio Accessory-Surveillance,2-Wire Surveillance Kit With Translucent Tube | Yes | Yes | |
| 19 | PMLN8646A* | Audio Accessory-Surveillance,3-Wire Surveillance Kit With Translucent Tube | Yes | Yes | |
| 20 | PMMN4131B* | Audio Accessory-Remote Speaker Micro phone, Small Advance RSM, CGAI Mini | No | No | By similarity with PMMN4131A |

Note: * Indicates the audio accessories added from addendum test.

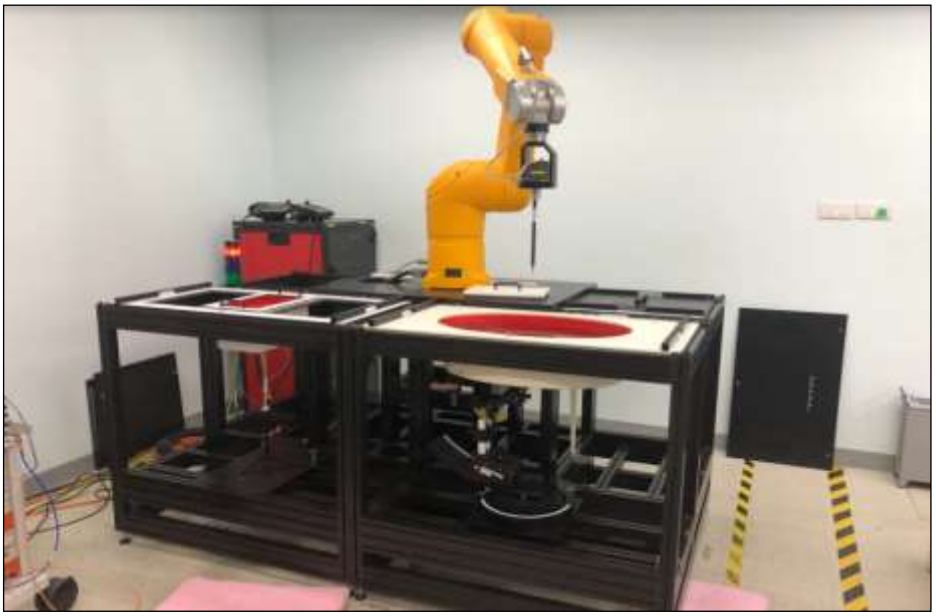
**Table 7 (Continued)**

| Audio No. | Audio Acc. Models | Description | Selected for test | Tested | Comments |
|---|---|---|---|---|---|
| 21 | GMMN4584A | Audio Accessory-Headset, Savox Non Atex Hc-2 Headset | No | No | By similarity with GMMN4585A |
| 22 | GMMN4585A | Audio Accessory-Headset, Savox Non Atex Hc-1 Headset | No | No | By similarity with GMMN4584A |
| 23 | PMLN7188B | Receive-Only Earpiece With Translucent Tube, 3.5mm Plug | No | No | |
| 24 | PMMN4151ABLK | Remote Speaker Microphone,Ns750, IMPRES Omni With Large Front PTT, Nexus,3.5mm Black (Short Cable) | No | No | By similarity with PMMN4151A |

## 8.0 Description of Test System

DASY5™ Tesy System

DASY6™ Tesy System



## 8.1 Descriptions of Robotics/Probes/Readout Electronics

**Table 8**

| Dosimetric System type | System version | DAE type | Probe Type |
|---|---|---|---|
| **Schmid & Partner Engineering AG SPEAG DASY 5** | 52.10.4.1527 | DAE4 | ES3DV4 (E-Field) |
| **Schmid & Partner Engineering AG SPEAG DASY 6** | V16.2.2.1588 | DAE4 | EX3DV4 (E-Field) |

The DASY5™ and DASY6™ is operated per the instructions in the DASY5™ and DASY6™ User's Manual. The complete manual is available directly from SPEAG™. All measurement equipment used to assess SAR compliance was calibrated according to ISO/IEC 17025 A2LA guidelines. Section 9.0 presents additional test equipment information. Appendices B and C present the applicable calibration certificates.

## 8.2 Description of Phantom(s)

**Table 9**

| Phantom Type | Phantom(s) Used | Material Parameters | Phantom Dimensions LxWxD (mm) | Material Thickness (mm) | Support Structure Material | Loss Tangent (wood) |
|---|---|---|---|---|---|---|
| Triple Flat | NA | 200MHz -6GHz; Er = 3-5, Loss Tangent = ≤0.05 | 280x175x175 | 2mm +/- 0.2mm | Wood | < 0.05 |
| SAM | NA | 300MHz -6GHz; Er = < 5, Loss Tangent = ≤0.05 | Human Model | | | |
| Oval Flat | √ | 300MHz -6GHz; Er = 4+/- 1, Loss Tangent = ≤0.05 | 600x400x190 | | | |

## 8.3 Description of Simulated Tissue

The sugar based simulate tissue is produced by placing the correct measured amount of De-ionized water into a large container. Each of the dried ingredients are weighed and added to the water carefully to avoid clumping. If the solution has a high sugar concentration the water is pre-heated to aid in dissolving the ingredients. The solution is mixed thoroughly, covered, and allowed to sit overnight prior to use.

The simulated tissue mixture was mixed based on the Simulated Tissue Composition indicated in Table 10. During the daily testing of this product, the applicable mixture was used to measure the Di-electric parameters at each of the tested frequencies to verify that the Di-electric parameters were within the tolerance of the tissue specifications.

**Simulated Tissue Composition (percent by mass)**

**Table 10**

| Ingredients | 450MHz | 2.45GHz(1) | 5GHz(1) |
|---|---|---|---|
| | Head | | |
| Sugar | 56.0 | NA | NA |
| Diacetin | 0 | NA | NA |
| De ionized – Water | 39.1 | NA | NA |
| Salt | 3.8 | NA | NA |
| HEC | 1.0 | NA | NA |
| Bact. | 0.1 | NA | NA |

Note: (1) SPEAG provides Motorola proprietary stimulant ingredients for the 2.45GHz and 5GHz band.

## 9.0 Additional Test Equipment

The Table below lists additional test equipment used during the SAR assessment.

**Table 11**

| Equipment Type | Model Number | Serial Number | Calibration Date | Calibration Due Date |
|---|---|---|---|---|
| SPEAG PROBE | EX3DV4 | 7816 | 10/06/23 | 10/06/24 |
| SPEAG PROBE | EX3DV4 | 7594 | 12/07/23 | 12/07/26 |
| SPEAG DAE | DAE4 | 729 | 06/09/21 | 06/09/24* |
| SPEAG DAE | DAE4 | 850 | 04/14/22 | 04/14/25 |
| SPEAG DAE | DAE4 | 688 | 10/10/2022 | 10/10/2025 |
| POWER SENSOR | E9301B | MY41495733 | 11/02/23 | 11/02/24 |
| POWER SENSOR | E9301B | MY41495594 | 08/21/23 | 08/21/24 |
| POWER SENSOR | E4412A | MY61050006 | 04/12/23 | 04/12/24* |
| POWER SENSOR | E9301B | MY50290001 | 06/16/23 | 06/16/24 |
| POWER SENSOR | E9301B | MY50280001 | 05/19/23 | 05/19/24* |
| POWER METER | E4417A | GB41292245 | 12/09/23 | 12/09/24 |
| POWER METER | E4419B | GB42420608 | 12/10/23 | 12/10/24 |
| POWER METER | E4418B | MY45100911 | 08/11/23 | 08/11/24 |
| POWER METER | E4416A | MY50001037 | 08/09/23 | 08/09/24 |
| POWER METER | E9301B | MY41495594 | 11/02/23 | 11/02/24 |
| POWER METER | E9301B | MY41495733 | 08/21/23 | 08/21/24 |
| POWER AMPLIFIER | 50W100D | 357646 | CNR | CNR |
| POWER AMPLIFIER | 50W 1000A | 14715 | CNR | CNR |
| AMPLIFIER | 5S1G4 | 313326 | CNR | CNR |
| AMPLIFIER | 5S4G11 | 312664 | CNR | CNR |
| AMPLIFIER | 5S4G11 | 312663 | CNR | CNR |
| VECTOR SIGNAL GENERATOR | E4438C | MY42081753 | 08/30/23 | 08/30/24 |
| SIGNAL GENERATOR ( VECTOR ESG 250KHZ-6GHZ ) | E4438C | MY45091093 | 06/26/23 | 06/26/24 |
| BI-DIRECTIONAL COUPLER | 3020A | 41931 | 07/18/23 | 07/18/24 |
| BI-DIRECTIONAL COUPLER | 3020A | 40295 | 06/09/23 | 06/09/24* |
| BI-DIRECTIONAL COUPLER | 3022 | 81640 | 06/09/23 | 06/09/24* |
| BI-DIRECTIONAL COUPLER | 3024 | 61136 | 07/18/23 | 07/18/24 |
| BI-DIRECTIONAL COUPLER | 3024 | 61178 | 11/27/23 | 11/27/24 |
| POWER SOURCE | SE UMS 160 CA | 4251 | 04/04/23 | 04/04/24* |
| POWER SOURCE | SE UMS 160 CB | 4320 | 10/12/23 | 10/12/24 |
| DIGITAL THERMOMETER WITH PROBE | HI98509 | 3CC770 | 05/30/23 | 05/29/24* |
| DATA LOGGER | DSB | 16326820 | 11/26/23 | 11/26/24 |
| DATA LOGGER | DSB | 16326831 | 11/26/23 | 11/26/24 |
| DATA LOGGER | DSB | 16398306 | 12/31/23 | 12/31/24 |
| NETWORK ANALYZER | E5071B | MY42403218 | 09/15/23 | 09/15/24 |
| DIELECTRIC ASSESSMENT KIT | DAK-3.5 | 1156 | 04/11/23 | 04/11/24* |
| DIELECTRIC ASSESSMENT KIT | DAK-3.5 | 1120 | 10/16/23 | 10/16/24 |

Note: * Indicates equipment used for SAR assessment before calibration due date.

**Table 11 (Continued)**

| Equipment Type | Model Number | Serial Number | Calibration Date | Calibration Due Date |
|---|---|---|---|---|
| THERMOMETER | HH202A | 35881 | 01/17/24 | 01/17/25 |
| TEMPERATURE PROBE | 80PK-22 | 05032017 | 12/28/23 | 12/28/24 |
| THERMOMETER | HH806AU | 080307 | 12/15/23 | 12/15/24 |
| TEMPERATURE PROBE | 80PK-22 | 06032017 | 12/15/23 | 12/15/24 |
| THERMOMETER | HH806AU | 080307 | 12/15/23 | 12/15/24 |
| TEMPERATURE PROBE | 80PK-22 | 06032017 | 12/15/23 | 12/15/24 |
| TEMPERATURE PROBE | 80PK-22 | 05032017 | 12/28/23 | 12/28/24 |
| SPEAG DIPOLE | D450V3 | 1077 | 07/09/21 | 07/09/24 |
| SPEAG DIPOLE | D5GHZV2 | 1026 | 09/24/21 | 09/24/24 |
| SPEAG DIPOLE | D2450V2 | 781 | 10/13/21 | 10/13/24 |

## 10.0 SAR Measurement System Validation and Verification

DASY output files of the probe/dipole calibration certificates and system verification test results are included in appendices B, C & D respectively.

### 10.1 System Validation

The SAR measurement system was validated according to procedures in KDB 865664. The validation status summary Table is below.

**Table 12**

| Dates | Probe Calibration Point | | Probe SN | Measured Tissue Parameters | | Validation | | |
|---|---|---|---|---|---|---|---|---|
| | | | | σ | $\epsilon_r$ | Sensitivity | Linearity | Isotropy |
| **CW** | | | | | | | | |
| 10/28/2023 | Head | 450 | 7816 | 0.90 | 42.70 | Pass | Pass | Pass |
| 1/6/2024 | Head | 2450 | 7594 | 1.80 | 38.21 | Pass | Pass | Pass |
| 1/8/2024 | Head | 5250 | 7594 | 4.41 | 33.81 | Pass | Pass | Pass |
| 11/04/2023 | Head | | 7816 | 4.40 | 33.06 | Pass | Pass | Pass |
| 1/9/2024 | Head | 5600 | 7594 | 4.80 | 33.34 | Pass | Pass | Pass |
| 1/10/2024 | Head | 5750 | 7594 | 4.95 | 33.08 | Pass | Pass | Pass |
| **WLAN** | | | | | | | | |
| 1/6/2024 | Head | 2450 | 7594 | 1.80 | 38.21 | Pass | Pass | Pass |
| 1/8/2024 | Head | 5250 | 7594 | 4.41 | 33.81 | Pass | Pass | Pass |
| 11/04/2023 | Head | | 7816 | 4.40 | 33.06 | Pass | Pass | Pass |
| 1/9/2024 | Head | 5600 | 7594 | 4.80 | 33.34 | Pass | Pass | Pass |
| 1/10/2024 | Head | 5750 | 7594 | 5.10 | 32.43 | Pass | Pass | Pass |

## 10.2 System Verification

System verification checks were conducted each day during the SAR assessment. The results are normalized to 1W. Appendix D includes DASY plots with the largest deviation from the qualified source SAR target for each dipole (bolded). The Table below summarizes the daily system check results used for the SAR assessment.

**Table 13**

| Probe Serial # | Tissue Type | Dipole Kit / Serial # | Ref SAR @ 1W (W/kg) | System Check Results Measured (W/kg) | System Check Test Results when normalized to 1W (W/kg) | Tested Date | Deviation (%) |
|---|---|---|---|---|---|---|---|
| 7816 | IEEE/IEC Head | SPEAG D450V3 / 1077 | 4.63 +/- 10% | 1.16 | 4.64 | 5/6/2024@ | 0.2 |
| | | | | 1.17 | 4.68 | 5/7/2024@ | 1.1 |
| | | | | 1.11 | 4.44 | 5/8/2024@ | -4.1 |
| | | | | 1.21 | 4.84 | 5/9/2024@ | 4.5 |
| | | | | 1.17 | 4.68 | 5/10/2024@ | 1.1 |
| | | | | 1.12 | 4.48 | 5/13/2024@ | -3.2 |
| | | | | 1.14 | 4.56 | 5/14/2024@ | -1.5 |
| | | | | 1.22 | 4.88 | 5/15/2024@ | **5.4** |
| | | | | 1.11 | 4.44 | 5/16/2024@ | -4.1 |
| | | | | 1.12 | 4.48 | 5/17/2024@ | -3.2 |
| | | | | 1.12 | 4.48 | 5/30/2024@ | -3.2 |
| 7594 | IEEE/IEC Head | SPEAG D2450V2 / 781 | 52.7 +/- 10% | 1.66 | 52.53 | 3/18/2024@ | **-0.3** |
| 7594 | | SPEAG D5250V2 / 1026 | 80.6 +/- 10% | 7.38 | 73.80 | 3/20/2024 | -8.4 |
| 7816 | | | | 7.69 | 76.90 | 6/13/2024@ | -4.6 |
| | | | | 7.62 | 76.20 | 6/15/2024 | -5.5 |
| 7594 | IEEE/IEC Head | SPEAG D5600V2 /1026 | 83.9 +/- 10% | 7.57 | 75.70 | 3/21/2024@ | **-9.8** |
| | | | | 7.68 | 76.80 | 3/22/2024 | -8.5 |
| | | SPEAG D5750V2 / 1026 | 79.7 +/- 10% | 7.38 | 73.80 | 3/22/2024@ | -7.4 |
| | | | | 7.42 | 74.20 | 3/23/2024 | -7.9 |
| | | | | 7.37 | 73.70 | 4/24/2024 | -8.6 |

Note: "@" indicates the System verification covered for next test day (within 24 hours)

## 10.3 Equivalent Tissue Test Results

Simulated tissue prepared for SAR measurements is measured daily and within 24 hours prior to actual SAR testing to verify that the tissue is within +/- 5% of target parameters at the center of the transmit band. This measurement is done using the applicable equipment indicated in section 9.0. The Table below summarizes the measured tissue parameters used for the SAR assessment.

**Table 14**

| Frequency (MHz) | Tissue Type | Conductivity Target (S/m) | Dielectric Constant Target | Conductivity Meas. (S/m) | Dielectric Constant Meas. | Tested Date |
|---|---|---|---|---|---|---|
| 400.00 | IEEE/ IEC Head | 0.87 (0.83-0.91) | 44.1 (41.9-46.3) | 0.832 | 42.922 | 5/18/2024 |
| 406.125 | | 0.87 (0.83-0.91) | 44 (41.8-46.2) | 0.874 | 42.280 | 5/6/2024 |
| | | | | 0.836 | 43.237 | 5/7/2024 |
| | | | | 0.836 | 43.052 | 5/8/2024 |
| | | | | 0.835 | 43.092 | 5/9/2024 |
| | | | | 0.836 | 43.739 | 5/10/2024@ |
| | | | | 0.837 | 43.290 | 5/13/2024@ |
| | | | | 0.836 | 43.102 | 5/14/2024 |
| 422.300 | | 0.87 (0.83-0.91) | 43.8 (41.6-46) | 0.854 | 42.616 | 5/17/2024 |
| 430.000 | | 0.87 (0.83-0.91) | 43.7 (41.6-45.9) | 0.860 | 42.435 | 5/17/2024 |
| 440.000 | | 0.87 (0.83-0.91) | 43.6 (41.4-45.8) | 0.865 | 42.487 | 5/6/2024@ |
| | | | | 0.865 | 42.487 | 5/7/2024@ |
| | | | | 0.865 | 42.359 | 5/9/2024@ |
| | | | | 0.867 | 42.398 | 5/14/2024@ |
| | | | | 0.865 | 42.309 | 5/15/2024@ |
| | | | | 0.859 | 42.390 | 5/16/2024@ |
| | | | | 0.869 | 42.226 | 5/17/2024 |
| 450.000 | | 0.87 (0.83-0.91) | 43.5 (41.3-45.7) | 0.874 | 42.280 | 5/6/2024 |
| | | | | 0.874 | 42.280 | 5/7/2024@ |
| | | | | 0.874 | 42.067 | 5/8/2024@ |
| | | | | 0.873 | 42.157 | 5/9/2024@ |
| | | | | 0.875 | 42.755 | 5/10/2024@ |
| | | | | 0.876 | 42.344 | 5/13/2024@ |
| | | | | 0.876 | 42.210 | 5/14/2024@ |
| | | | | 0.874 | 42.097 | 5/15/2024@ |
| | | | | 0.868 | 42.184 | 5/16/2024@ |
| | | | | 0.877 | 42.018 | 5/17/2024@ |
| | | | | 0.855 | 43.350 | 5/30/2024 |

Note: '@' indicates that tissue test result covered next test day (within 24 hours)

## Table 14 (Continued)

| Frequency (MHz) | Tissue Type | Conductivity Target (S/m) | Dielectric Constant Target | Conductivity Meas. (S/m) | Dielectric Constant Meas. | Tested Date |
|---|---|---|---|---|---|---|
| 457.900 | IEEE/ IEC Head | 0.87 (0.83-0.91) | 43.5 (41.3-45.6) | 0.880 | 42.111 | 5/6/2024@ |
| | | | | 0.880 | 42.111 | 5/7/2024@ |
| | | | | 0.880 | 41.992 | 5/9/2024@ |
| | | | | 0.881 | 42.584 | 5/10/2024@ |
| | | | | 0.883 | 42.045 | 5/14/2024@ |
| | | | | 0.881 | 41.929 | 5/15/2024@ |
| | | | | 0.874 | 42.031 | 5/16/2024@ |
| | | | | 0.884 | 41.858 | 5/17/2024 |
| 470.000 | | 0.87 (0.83-0.91) | 43.4 (41.2-45.6) | 0.891 | 41.883 | 5/6/2024@ |
| | | | | 0.891 | 41.883 | 5/7/2024@ |
| | | | | 0.891 | 41.664 | 5/8/2024@ |
| | | | | 0.890 | 41.762 | 5/9/2024@ |
| | | | | 0.892 | 42.333 | 5/10/2024@ |
| | | | | 0.893 | 41.946 | 5/13/2024@ |
| | | | | 0.894 | 41.789 | 5/14/2024@ |
| | | | | 0.891 | 41.706 | 5/15/2024@ |
| | | | | 0.885 | 41.783 | 5/16/2024@ |
| | | | | 0.894 | 41.624 | 5/17/2024@ |
| 475.000 | | 0.87 (0.83-0.92) | 43.4 (41.2-45.5) | 0.895 | 41.555 | 5/8/2024 |
| | | | | 0.894 | 41.659 | 5/9/2024@ |
| | | | | 0.898 | 41.676 | 5/14/2024@ |
| | | | | 0.896 | 41.621 | 5/15/2024@ |
| | | | | 0.889 | 41.686 | 5/16/2024@ |
| | | | | 0.898 | 41.523 | 5/17/2024 |
| 484.000 | | 0.87 (0.83-0.92) | 43.3 (41.2-45.5) | 0.903 | 41.595 | 5/6/2024@ |
| | | | | 0.903 | 41.595 | 5/7/2024 |
| | | | | 0.902 | 41.380 | 5/8/2024 |
| | | | | 0.902 | 41.479 | 5/9/2024@ |
| 490.000 | | 0.87 (0.83-0.92) | 43.3 (41.1-45.5) | 0.908 | 41.482 | 5/6/2024@ |
| | | | | 0.908 | 41.266 | 5/8/2024 |
| | | | | 0.907 | 41.370 | 5/9/2024@ |
| | | | | 0.910 | 41.197 | 5/14/2024@ |
| | | | | 0.908 | 41.366 | 5/15/2024@ |
| | | | | 0.901 | 41.382 | 5/16/2024@ |
| | | | | 0.910 | 41.233 | 5/17/2024 |
| | | | | 0.891 | 42.523 | 5/30/2024 |

Note: '@' indicates that tissue test result covered next test day (within 24 hours)

## Table 14 (Continued)

| Frequency (MHz) | Tissue Type | Conductivity Target (S/m) | Dielectric Constant Target | Conductivity Meas. (S/m) | Dielectric Constant Meas. | Tested Date |
|---|---|---|---|---|---|---|
| 496.200 | IEEE/ IEC Head | 0.87 (0.83-0.92) | 43.3 (41.1-45.4) | 0.913 | 41.359 | 5/7/2024 |
| | | | | 0.913 | 41.146 | 5/8/2024 |
| | | | | 0.912 | 41.266 | 5/9/2024@ |
| | | | | 0.914 | 41.826 | 5/10/2024@ |
| | | | | 0.914 | 41.197 | 5/14/2024 |
| 512.000 | | 0.87 (0.83-0.92) | 43.2 (41-45.3) | 0.918 | 41.202 | 5/7/2024 |
| | | | | 0.911 | 41.076 | 5/10/2024 |
| | | | | 0.910 | 42.089 | 5/30/2024 |
| 519.500 | | 0.87 (0.83-0.92) | 43.1 (41-45.3) | 0.901 | 41.383 | 5/18/2024 |
| 527.000 | | 0.88 (0.83-0.92) | 43.1 (40.9-45.2) | 0.907 | 41.242 | 5/18/2024@ |
| 2412.000 | | 1.77 (1.59-1.94) | 39.3 (35.3-43.2) | 1.843 | 42.506 | 3/18/2024@ |
| 2437.000 | | 1.79 (1.7-1.88) | 39.2 (35.3-43.1) | 1.865 | 42.456 | 3/18/2024@ |
| 2462.000 | | 1.81 (1.72-1.9) | 39.2 (35.3-43.1) | 1.888 | 42.413 | 3/18/2024@ |
| 5250.000 | | 4.71 (4.24-5.18) | 36.0 (32.4-39.5) | 4.686 | 38.378 | 3/20/2024 |
| | | | | 4.381 | 36.251 | 6/13/2024@ |
| | | | | 4.427 | 36.510 | 6/14/2024@ |
| 5260.000 | | 4.72 (4.25-5.19) | 35.9 (32.3-39.5) | 4.698 | 38.360 | 3/20/2024 |
| | | | | 4.394 | 36.231 | 6/13/2024@ |
| | | | | 4.438 | 36.488 | 6/14/2024@ |
| 5300.000 | | 4.76 (4.28-5.24) | 35.9 (32.3-39.5) | 4.744 | 38.290 | 3/20/2024 |
| | | | | 4.437 | 36.174 | 6/13/2024@ |
| | | | | 4.485 | 36.437 | 6/14/2024@ |
| 5320.000 | | 4.78 (4.3-5.26) | 35.9 (32.3-39.5) | 4.768 | 38.248 | 3/20/2024 |
| | | | | 4.454 | 36.143 | 6/13/2024@ |
| | | | | 4.504 | 36.414 | 6/14/2024@ |
| 5500.000 | | 4.97 (4.47-5.46) | 35.7 (32.1-39.2) | 5.393 | 38.048 | 3/21/2024 |
| | | | | 5.322 | 37.202 | 3/22/2024 |
| 5580.000 | | 5.74 (5.17-6.32) | 48.5 (43.6-53.3) | 5.499 | 37.872 | 3/21/2024 |
| 5640.000 | | 5.81 (5.23-6.39) | 48.4 (43.6-53.3) | 5.578 | 37.737 | 3/21/2024 |
| 5660.000 | | 5.84 (5.25-6.42) | 48.4 (43.6-53.2) | 5.531 | 36.853 | 3/23/2024 |
| 5745.000 | | 5.94 (5.34-6.53) | 48.3 (43.4-53.1) | 5.638 | 36.684 | 3/22/2024@ |
| | | | | 5.114 | 3.747 | 4/24/2024 |
| 5825.000 | | 5.30 (4.77-5.83) | 35.3 (31.7-38.8) | 5.739 | 36.529 | 3/22/2024@ |
| | | | | 5.600 | 36.712 | 3/23/2024 |

Note: '@' indicates that tissue test result covered next test day (within 24 hours)

## 11.0 Environmental Test Conditions

The EME Laboratory's ambient environment is well controlled resulting in very stable simulated tissue temperature and therefore stable dielectric properties. Simulated tissue temperature is measured prior to each scan to insure it is within +/ - 2°C of the temperature at which the dielectric properties were determined. The liquid depth within the phantom used for measurements was at least 15cm. Additional precautions are routinely taken to ensure the stability of the simulated tissue such as covering the phantoms when scans are not actively in process in order to minimize evaporation. The lab environment is continuously monitored. The Table below presents the range and average environmental conditions during the SAR tests reported herein:

**Table 15**

| | Target | Measured |
|---|---|---|
| **Ambient Temperature** | 18 – 25 ˚C | Range: 21.3 – 23.4˚C<br>Avg. 22.0 ˚C |
| **Tissue Temperature** | 18 – 25 ˚C | Range: 20.7-22.6˚C<br>Avg. 21.6˚C |

Relative humidity target range is a recommended target

The EME Lab RF environment uses a Spectrum Analyzer to monitor for extraneous large signal RF contaminants that could possibly affect the test results. If such unwanted signals are discovered the SAR scans are repeated.

# 12.0 DUT Test Setup and Methodology

## 12.1 Measurements

SAR measurements were performed using the DASY system described in section 8.0 using zoom scans Oval flat phantoms filled with applicable simulated tissue were used for body and face testing.

The Table below includes the step sizes and resolution of area and zoom scans per KDB 865664 requirements.

**Table 16**

| Description | | ≤ 3 GHz | > 3 GHz |
|---|---|---|---|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface | | 5 ± 1 mm | ½·δ·ln(2) ± 0.5 mm |
| Maximum probe angle from probe axis to phantom surface normal at the measurement location | | 30° ± 1° | 20° ± 1° |
| Maximum area scan spatial resolution: ΔxArea, ΔyArea | | ≤ 2 GHz: ≤ 15 mm<br>2 – 3 GHz: ≤ 12 mm | 3 – 4 GHz: ≤ 12 mm<br>4 – 6 GHz: ≤ 10 mm |
| | | When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device. | |
| Maximum zoom scan spatial resolution: ΔxZoom, ΔyZoom | | ≤ 2 GHz: ≤ 8 mm<br>2 – 3 GHz: ≤ 5 mm* | 3 – 4 GHz: ≤ 5 mm*<br>4 – 6 GHz: ≤ 4 mm* |
| Maximum zoom scan spatial resolution, normal to phantom surface | uniform grid: ΔzZoom(n) | ≤ 5 mm | 3 – 4 GHz: ≤ 4 mm<br>4 – 5 GHz: ≤ 3 mm<br>5 – 6 GHz: ≤ 2 mm |
| Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.<br>* When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz. | | | |

## 12.2 DUT Configuration(s)

The DUT is a portable device operational at the body and face as described in section 6.0 while using the applicable accessories listed in section 7.0. All accessories listed in section 7.0 of this report were considered when implementing the guidelines specified in KDB 643646.

## 12.3 DUT Positioning Procedures

The positioning of the device for each body location is described below and illustrated in Appendix G.

#### 12.3.1 Body

The DUT was positioned in normal use configuration against the phantom with the offered body worn accessory as well as with and without the offered audio accessories as applicable.

#### 12.3.2 Head

Not applicable.

#### 12.3.3 Face

The DUT was positioned with its' front and back sides separated 2.5cm from the phantom.

### 12.4 DUT Test Channels

The number of test channels was determined by using the following equation. The use of this equation produces the same or more test channels compared to the FCC KDB 447498 number of test channels formula.

$$N_c = 2 * roundup[10 * (f_{high} - f_{low}) / f_c] + 1$$

Where
$N_c$ = Number of channels
$F_{high}$ = Upper channel
$F_{low}$ = Lower channel
$F_c$ = Center channel

### 12.5 SAR Result Scaling Methodology

The calculated 1-gram and 10-gram averaged SAR results indicated as "Max Calc. 1g-SAR" in the data Tables is determined by scaling the measured SAR to account for power leveling variations and drift. Appendix F includes a shortened scan to justify SAR scaling for drift. For this device the "Max Calc. 1g-SAR are scaled using the following formula:

$$Max\_Calc = SAR\_meas \cdot 10^{\frac{-Drift}{10}} \cdot \frac{P\_\max}{P\_\text{int}} \cdot DC$$

P_max = Maximum Power (W)
P_int = Initial Power (W)
Drift = DASY drift results (dB)
SAR_meas = Measured 1-g or 10-g Avg. SAR (W/kg)
DC = Transmission mode duty cycle in % where applicable
50% duty cycle is applied for PTT operation

Note: for conservative results, the following are applied:
If P_int > P_max, then P_max/P_int = 1.
Drift = 1 for positive drift

Additional SAR scaling was applied using the methodologies outlined in FCC KDB 865664 using tissue sensitivity values. SAR was scaled for conditions where the tissue permittivity was measured above the nominal target and for tissue conductivity that was measured below the nominal target. Negative or reduced SAR scaling is not permitted.

### 12.6 DUT Test Plan

The guidelines and requirements outlined in section 4.0 were used to assess compliance of this device. All modes of operation identified in section 6.0 were considered during the development of the test plan. All tests were performed in CW and LTE modes and 50% duty cycle was applied to PTT configurations in the final results.

Standalone and simultaneous BT testing were assessed in sections 15.0 per the guidelines of KDB 447498.

## 13.0 DUT Test Data for LMR

### 13.1 LMR assessments at the Body for 406.125 – 512.000 MHz band

Battery PMNN4809A was selected as the default battery for assessments at the Body because it is the thinnest battery (refer to Exhibit 7B for battery illustration). The default battery was used during conducted power measurements for all test channels within FCC allocated frequency range (406.125-512.0 MHz) which are listed in Table 17. The channel with the highest conducted power will be identified as the default channel per KDB 643646 (SAR Test for PTT Radios).

**Table 17**

| Test Freq (MHz) | Power (W) |
|---|---|
| 406.125 | 4.780 |
| 422.300 | 4.760 |
| 435.400 | 4.730 |
| 440.000 | 4.730 |
| 441.400 | 4.720 |
| 450.000 | 4.790 |
| 457.900 | 4.700 |
| 470.000 | 4.780 |
| 475.000 | 4.730 |
| 484.000 | 4.680 |
| 490.000 | 4.730 |
| 496.200 | 4.760 |
| 512.000 | 4.720 |

### Assessments at the Body with Body worn HLN6602A

DUT assessment with offered antennas, default battery and, default body worn accessory per KDB 643646. Optional batteries were tested per the requirements of KDB 643646. Refer to Table 17 for highest output power channel. SAR plots of the highest results per Table (bolded) are presented in Appendix F.

**Table 18**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| AN000348A01 | PMNN4809A | HLN6602A | PMMN4128A | 406.125 | 4.78 | -0.21 | 4.81 | 2.53 | KM-AB-240506-12 |
| | | | | 422.300 | | | | | |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| AN000350A01 | | | | 406.125 | 4.79 | -0.13 | 3.32 | 1.71 | DAN-AB-240506-13 |
| | | | | 422.300 | | | | | |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | 4.80 | -0.45 | 6.65 | 3.69 | DAN-AB-240506-17 |
| AN000351A01 | | | | 440.000 | 4.75 | 0.72 | 8.79 | 4.44 | DAN-AB-240506-18 |
| | | | | 450.000 | 4.80 | -0.12 | 11.20 | 5.76 | DAN-AB-240506-15 |
| | | | | 457.900 | 4.74 | -0.37 | 7.77 | 4.28 | DAN-AB-240506-14 |
| | | | | 470.000 | 4.80 | -0.35 | 5.56 | 3.01 | DAN-AB-240506-16 |
| | | | | 475.000 | | | | | |
| | | | | 490.000 | | | | | |
| PMAE4069A | | | | 406.125 | | | | | |
| | | | | 422.300 | | | | | |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | 4.80 | -0.25 | 5.98 | 3.17 | DAN-AB-240506-19 |
| PMAE4070A | | | | 440.000 | 4.76 | 0.64 | 9.04 | 4.56 | DAN-AB-240507-01@ |
| | | | | 450.000 | 4.80 | 0.40 | 11.60 | 5.80 | DAN-AB-240506-20 |
| | | | | 457.900 | 4.73 | -0.01 | 10.60 | 5.39 | DAN-AB-240507-02@ |
| | | | | 470.000 | 4.80 | -0.30 | 7.36 | 3.94 | DAN-AB-240507-03@ |
| | | | | 475.000 | | | | | |
| | | | | 490.000 | 4.71 | -0.19 | 5.92 | 3.15 | DAN-AB-240507-04@ |

## Table 18 (Continued)

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| PMAE4071A | PMNN4809A | HLN6602A | PMMN4128A | 470.000 | 4.80 | -0.22 | 10.90 | 5.73 | DAN-AB-240507-05@ |
| | | | | 484.000 | 4.76 | -0.30 | 8.93 | 4.82 | DAN-AB-240507-06@ |
| | | | | 496.200 | 4.80 | -0.17 | 9.43 | 4.90 | KM-AB-240507-02 |
| | | | | 512.000 | 4.80 | 0.11 | 8.34 | 4.17 | KM-AB-240507-04 |
| PMAE4079A | | | | 406.125 | 4.76 | -0.15 | 5.04 | 2.63 | KM-AB-240507-05 |
| | | | | 422.300 | | | | | |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| Additional batteries | | | | | | | | | |
| AN000351A01 | PMNN4807A | HLN6602A | PMMN4128A | 450.000 | 4.79 | -0.35 | 10.20 | 5.54 | KM-AB-240507-07 |
| PMAE4070A | | | | 440.000 | 4.78 | -0.27 | 9.49 | 5.07 | KM-AB-240507-11 |
| | | | | 450.000 | 4.78 | -0.28 | 12.20 | **6.53** | KM-AB-240507-10 |
| | | | | 457.900 | 4.77 | -0.28 | 11.00 | 5.90 | KM-AB-240507-12 |
| PMAE4071A | | | | 470.000 | 4.75 | -0.31 | 11.50 | 6.24 | KM-AB-240507-13 |
| | | | | 484.000 | 4.72 | -0.23 | 9.72 | 5.21 | DAN-AB-240507-14 |
| AN000351A01 | PMNN4808A | | | 450.000 | 4.80 | -0.38 | 7.31 | 3.99 | DAN-AB-240507-15 |
| PMAE4070A | | | | 450.000 | 4.80 | -0.32 | 6.92 | 3.72 | DAN-AB-240507-16 |
| PMAE4071A | | | | 470.000 | 4.80 | -0.42 | 7.65 | 4.21 | DAN-AB-240507-17 |
| AN000351A01 | PMNN4810A | | | 450.000 | 4.59 | -0.30 | 7.38 | 4.13 | DAN-AB-240507-18 |
| PMAE4070A | | | | 450.000 | 4.59 | -0.28 | 7.73 | 4.31 | DAN-AB-240507-19 |
| PMAE4071A | | | | 470.000 | 4.43 | -0.28 | 7.49 | 4.33 | DAN-AB-240507-20 |

### Assessments at the Body with Body worn PMLN4651A

DUT assessment with offered antennas, default battery and, default body worn accessory per KDB 643646. Optional batteries were tested per the requirements of KDB 643646. Refer to Table 17 for highest output power channel.

**Table 19**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| AN000348A01 | PMNN4809A | PMLN4651A | PMMN4128A | 406.125 | 4.78 | -0.21 | 4.81 | 2.53 | KM-AB-240506-12 |
| | | | | 422.300 | | | | | |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| AN000350A01 | | | | 406.125 | | | | | |
| | | | | 422.300 | | | | | |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | 4.80 | -0.41 | 6.27 | 3.45 | DAN-AB-240508-01@ |
| AN000351A01 | | | | 440.000 | 4.76 | 0.69 | 6.77 | 3.41 | DAN-AB-240508-03@ |
| | | | | 450.000 | 4.80 | -0.29 | 9.63 | 5.15 | DAN-AB-240508-02@ |
| | | | | 457.900 | 4.74 | -0.21 | 8.70 | 4.62 | DAN-AB-240508-04@ |
| | | | | 470.000 | 4.74 | -0.33 | 5.60 | 3.06 | DAN-AB-240508-05@ |
| | | | | 475.000 | | | | | |
| | | | | 490.000 | | | | | |
| PMAE4069A | | | | 406.125 | | | | | |
| | | | | 422.300 | | | | | |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | 4.80 | -0.32 | 5.28 | 2.84 | DAN-AB-240508-06@ |
| PMAE4070A | | | | 440.000 | | | | | |
| | | | | 450.000 | 4.80 | -0.33 | 7.28 | 3.93 | DAN-AB-240508-08 |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | 4.74 | -0.29 | 7.62 | 4.12 | DAN-AB-240508-09 |
| | | | | 475.000 | 4.75 | -0.28 | 6.34 | 3.42 | DAN-AB-240508-10 |
| | | | | 490.000 | 4.74 | -0.18 | 6.10 | 3.22 | DAN-AB-240508-11 |

## Table 19 (Continued)

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| PMAE4071A | PMNN4809A | PMLN4651A | PMMN4128A | 470.000 | 4.74 | -0.19 | 10.60 | 5.61 | DAN-AB-240508-12 |
| | | | | 484.000 | 4.75 | -0.26 | 8.82 | 4.73 | DAN-AB-240508-13 |
| | | | | 496.200 | 4.76 | -0.11 | 7.73 | 4.00 | DAN-AB-240508-14 |
| | | | | 512.000 | | | | | |
| PMAE4079A | | | | 406.125 | 4.78 | -0.14 | 4.07 | 2.11 | DAN-AB-240508-15 |
| | | | | 422.300 | | | | | |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| Additional batteries | | | | | | | | | |
| AN000351A01 | PMNN4807A | PMLN4651A | PMMN4128A | 450.000 | 4.72 | -0.23 | 8.78 | 4.71 | DAN-AB-240508-16 |
| PMAE4070A | | | | 470.000 | 4.75 | -0.20 | 7.38 | 3.90 | DAN-AB-240509-01@ |
| PMAE4071A | | | | 470.000 | 4.74 | -0.31 | 9.36 | 5.09 | DAN-AB-240508-02@ |
| AN000351A01 | PMNN4808A | | | 450.000 | 4.80 | -0.27 | 5.24 | 2.79 | KM-AB-240509-03@ |
| PMAE4070A | | | | 470.000 | 4.80 | -0.36 | 5.89 | 3.20 | AMF-AB-240509-04@ |
| PMAE4071A | | | | 470.000 | 4.80 | -0.49 | 7.68 | 4.30 | AMF-AB-240509-05@ |
| AN000351A01 | PMNN4810A | | | 450.000 | 4.64 | -0.27 | 5.61 | 3.09 | AMF-AB-240509-06@ |
| PMAE4070A | | | | 470.000 | 4.43 | -0.42 | 4.52 | 2.70 | DAN-AB-240509-08 |
| PMAE4071A | | | | 470.000 | 4.43 | -0.31 | 6.70 | 3.90 | DAN-AB-240509-09 |

### Assessments at the Body with Body worn PMLN7008A

DUT assessment with offered antennas, default battery and, default body worn accessory per KDB 643646. Optional batteries were tested per the requirements of KDB 643646. Refer to Table 17 for highest output power channel.

**Table 20**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| AN000348A01 | PMNN4809A | PMLN7008A | PMMN4128A | 406.125 | 4.77 | -0.18 | 3.93 | 2.06 | DAN-AB-240509-10 |
| | | | | 422.300 | | | | | |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| AN000350A01 | | | | 406.125 | | | | | |
| | | | | 422.300 | | | | | |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | 4.80 | -0.31 | 6.07 | 3.26 | DAN-AB-240509-11 |
| AN000351A01 | | | | 440.000 | 4.78 | -0.31 | 6.66 | 3.59 | DAN-AB-240509-13 |
| | | | | 450.000 | 4.80 | -0.30 | 9.42 | 5.05 | DAN-AB-240509-12 |
| | | | | 457.900 | 4.69 | -0.23 | 7.51 | 4.05 | DAN-AB-240509-14 |
| | | | | 470.000 | 4.77 | -0.36 | 5.23 | 2.86 | DAN-AB-240509-15 |
| | | | | 475.000 | | | | | |
| | | | | 490.000 | | | | | |
| PMAE4069A | | | | 406.125 | | | | | |
| | | | | 422.300 | | | | | |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | 4.80 | -0.31 | 5.46 | 2.93 | DAN-AB-240509-16 |
| PMAE4070A | | | | 440.000 | 4.78 | 0.64 | 6.89 | 3.46 | DAN-AB-240510-02@ |
| | | | | 450.000 | 4.80 | -0.30 | 9.10 | 4.88 | DAN-AB-240510-01@ |
| | | | | 457.900 | 4.70 | 0.15 | 10.40 | 5.31 | DAN-AB-240510-03@ |
| | | | | 470.000 | 4.76 | -0.32 | 7.70 | 4.18 | DAN-AB-240510-04@ |
| | | | | 475.000 | 4.77 | -0.13 | 7.32 | 3.79 | KM-AB-240510-05@ |
| | | | | 490.000 | 4.76 | -0.18 | 6.39 | 3.36 | KM-AB-240510-06@ |

## Table 20 (Continued)

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| PMAE4071A | PMNN4809A | PMLN7008A | PMMN4128A | 470.000 | 4.79 | -0.18 | 10.70 | 5.59 | KM-AB-240510-07@ |
| | | | | 484.000 | 4.78 | -0.20 | 8.88 | 4.67 | KM-AB-240510-08@ |
| | | | | 496.200 | 4.80 | -0.18 | 8.05 | 4.20 | KM-AB-240510-09@ |
| | | | | 512.000 | 4.80 | -0.39 | 7.46 | 4.08 | DAN-AB-240510-12 |
| PMAE4079A | | | | 406.125 | 4.77 | -0.12 | 4.25 | 2.20 | DAN-AB-240510-13 |
| | | | | 422.300 | | | | | |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| Additional batteries | | | | | | | | | |
| AN000351A01 | PMNN4807A | PMLN7008A | PMMN4128A | 450.0000 | 4.73 | -0.23 | 8.55 | 4.57 | DAN-AB-240510-14 |
| PMAE4070A | | | | 457.9000 | 4.77 | -0.23 | 9.19 | 4.88 | DAN-AB-240510-15 |
| PMAE4071A | | | | 470.0000 | 4.75 | -0.47 | 9.55 | 5.38 | DAN-AB-240510-16 |
| AN000351A01 | PMNN4808A | | | 450.0000 | 4.80 | -0.32 | 5.59 | 3.01 | DAN-AB-240510-17 |
| PMAE4070A | | | | 457.9000 | 4.80 | -0.36 | 6.97 | 3.79 | DAN-AB-240510-18 |
| PMAE4071A | | | | 470.0000 | 4.80 | -0.38 | 7.21 | 3.93 | DAN-AB-240511-01@ |
| AN000351A01 | PMNN4810A | | | 450.0000 | 4.64 | -0.23 | 6.43 | 3.51 | DAN-AB-240511-02@ |
| PMAE4070A | | | | 457.9000 | 4.51 | -0.35 | 6.87 | 3.96 | DAN-AB-240511-03@ |
| PMAE4071A | | | | 470.0000 | 4.43 | -0.27 | 7.26 | 4.19 | DAN-AB-240511-04@ |

### Assessments at the Body with Body worn PMLN8299A w/o belt loop w/ NTN5243A

DUT assessment with offered antennas, default battery and, default body worn accessory per KDB 643646. Optional batteries were tested per the requirements of KDB 643646. Refer to Table 17 for highest output power channel.

**Table 21**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| AN000348A01 | PMNN4809A | PMLN8299A w/o belt loop w/ NTN5243A | PMMN4128A | 406.125 | 4.78 | -0.19 | 3.17 | 1.66 | DAN-AB-240511-05@ |
| | | | | 422.300 | | | | | |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| AN000350A01 | | | | 406.125 | | | | | |
| | | | | 422.300 | | | | | |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | 4.80 | -0.40 | 4.24 | 2.32 | DAN-AB-240511-06@ |
| AN000351A01 | | | | 440.000 | | | | | |
| | | | | 450.000 | 4.80 | -0.27 | 6.35 | 3.38 | KM-AB-240511-07@ |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 490.000 | | | | | |
| PMAE4069A | | | | 406.125 | | | | | |
| | | | | 422.300 | | | | | |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | 4.80 | -0.31 | 4.03 | 2.16 | KM-AB-240511-08@ |
| PMAE4070A | | | | 440.000 | | | | | |
| | | | | 450.000 | 4.80 | -0.35 | 6.94 | 3.76 | KM-AB-240511-09@ |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | 4.79 | -0.27 | 5.36 | 2.86 | KM-AB-240511-10@ |
| | | | | 475.000 | | | | | |
| | | | | 490.000 | | | | | |

## Table 21 (Continued)

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| PMAE4071A | PMNN4809A | PMLN8299A w/o belt loop w/ NTN5243A | PMMN4128A | 470.000 | 4.80 | -0.26 | 7.41 | 3.93 | KM-AB-240511-11@ |
| | | | | 484.000 | | | | | |
| | | | | 496.200 | 4.80 | -0.13 | 6.16 | 3.17 | KM-AB-240511-12@ |
| | | | | 512.000 | | | | | |
| PMAE4079A | | | | 406.125 | 4.74 | -0.13 | 3.32 | 1.73 | KM-AB-240511-13@ |
| | | | | 422.300 | | | | | |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| Additional batteries | | | | | | | | | |
| PMAE4071A | PMNN4807A | PMLN8299A w/o belt loop w/ NTN5243A | PMMN4128A | 470.000 | 4.75 | -0.35 | 7.21 | 3.95 | DAN-AB-240513-02 |
| | PMNN4808A | | | | 4.80 | -0.38 | 5.34 | 2.91 | DAN-AB-240513-03 |
| | PMNN4810A | | | | 4.43 | -0.25 | 4.79 | 2.75 | DAN-AB-240513-04 |

### Assessments at the Body with Body worn PMLN8301A w/ NTN5243A

DUT assessment with offered antennas, default battery and, default body worn accessory per KDB 643646. Optional batteries were tested per the requirements of KDB 643646. Refer to Table 17 for highest output power channel.

**Table 22**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| AN000348A01 | PMNN4809A | PMLN8301A w/o belt loop w/ NTN5243A | PMMN4128A | 406.125 | 4.76 | -0.16 | 1.75 | 0.92 | DAN-AB-240513-05 |
| | | | | 422.300 | | | | | |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| AN000350A01 | | | | 406.125 | | | | | |
| | | | | 422.300 | | | | | |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | 4.80 | -0.38 | 2.71 | 1.48 | DAN-AB-240513-06 |
| AN000351A01 | | | | 440.000 | | | | | |
| | | | | 450.000 | 4.80 | -0.30 | 3.99 | 2.14 | DAN-AB-240513-07 |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 490.000 | | | | | |
| PMAE4069A | | | | 406.125 | | | | | |
| | | | | 422.300 | | | | | |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | 4.80 | -0.26 | 2.17 | 1.15 | DAN-AB-240513-08 |
| PMAE4070A | | | | 440.000 | | | | | |
| | | | | 450.000 | 4.80 | -0.29 | 4.00 | 2.14 | DAN-AB-240513-09 |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 490.000 | | | | | |

## Table 22 (Continued)

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| PMAE4071A | PMNN4809A | PMLN8301A w/o belt loop w/ NTN5243A | PMMN4128A | 470.000 | 4.76 | -0.24 | 4.37 | 2.33 | DAN-AB-240513-10 |
| | | | | 484.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| PMAE4079A | | | | 406.125 | 4.77 | -0.15 | 1.44 | 0.75 | DAN-AB-240513-11 |
| | | | | 422.300 | | | | | |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| Additional batteries | | | | | | | | | |
| PMAE4071A | PMNN4807A | PMLN8301A w/o belt loop w/ NTN5243A | PMMN4128A | 470.0000 | 4.75 | -0.26 | 3.87 | 2.08 | DAN-AB-240513-12 |
| | PMNN4808A | | | | 4.80 | -0.27 | 3.84 | 2.04 | KM-AB-240513-13 |
| | PMNN4810A | | | | 4.55 | -0.31 | 3.04 | 1.72 | KM-AB-240513-14 |

**Assessments at the Body with Body worn PMLN8299A w/o belt loop w/ RLN6487A w/ RLN6488A**

DUT assessment with offered antennas, default battery and, default body worn accessory per KDB 643646. Optional batteries were tested per the requirements of KDB 643646. Refer to Table 17 for highest output power channel.

**Table 23**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| AN000348A01 | PMNN4809A | PMLN8299A w/o belt loop w/ RLN6487A w/ RLN6488A | PMMN4128A | 406.125 | 4.72 | -0.14 | 2.69 | 1.41 | KM-AB-240514-01@ |
| | | | | 422.300 | | | | | |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| AN000350A01 | | | | 406.125 | | | | | |
| | | | | 422.300 | | | | | |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | 4.79 | -0.32 | 3.69 | 1.99 | KM-AB-240514-02@ |
| AN000351A01 | | | | 440.000 | | | | | |
| | | | | 450.000 | 4.78 | -0.21 | 6.10 | 3.21 | KM-AB-240514-03@ |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 490.000 | | | | | |
| PMAE4069A | | | | 406.125 | | | | | |
| | | | | 422.300 | | | | | |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | 4.79 | -0.32 | 3.60 | 1.94 | KM-AB-240514-04@ |
| PMAE4070A | | | | 440.000 | | | | | |
| | | | | 450.000 | 4.77 | -0.24 | 6.86 | 3.65 | KM-AB-240514-05@ |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | 4.76 | -0.19 | 6.13 | 3.23 | KM-AB-240514-06@ |
| | | | | 475.000 | | | | | |
| | | | | 490.000 | | | | | |

## Table 23 (Continued)

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| PMAE4071A | PMNN4809A | PMLN8299A w/o belt loop w/ RLN6487A w/ RLN6488A | PMMN4128A | 470.000 | 4.80 | -0.13 | 7.02 | 3.62 | KM-AB-240514-07@ |
| | | | | 484.000 | | | | | |
| | | | | 496.200 | 4.80 | -0.11 | 6.79 | 3.48 | DAN-AB-240514-09 |
| | | | | 512.000 | | | | | |
| PMAE4079A | | | | 406.125 | 4.77 | -0.33 | 3.45 | 1.87 | DAN-AB-240514-10 |
| | | | | 422.300 | | | | | |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| Additional batteries | | | | | | | | | |
| PMAE4070A | PMNN4807A | PMLN8299A w/o belt loop w/ RLN6487A w/ RLN6488A | PMMN4128A | 450.0000 | 4.73 | -0.24 | 7.13 | 3.82 | DAN-AB-240514-11 |
| | PMNN4808A | | | | 4.80 | -0.26 | 5.18 | 2.75 | DAN-AB-240514-12 |
| | PMNN4810A | | | | 4.64 | -0.27 | 5.29 | 2.91 | DAN-AB-240514-13 |

### Assessment at the Body with other audio accessories

Assessment of additional audio accessories per "KDB 643646 Body SAR Test Consideration for Audio Accessories without Built-in Antenna" Section 1, A.

**Table 24**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| PMAE4070A | PMNN4807A | HLN6602A | PMMN4150A | 440.000 | 4.75 | -0.23 | 9.13 | 4.86 | DAN-AB-240514-14 |
| | | | | 450.000 | 4.80 | -0.36 | 10.80 | 5.87 | DAN-AB-240514-15 |
| | | | | 457.900 | 4.78 | -0.35 | 11.10 | 6.04 | DAN-AB-240514-16 |
| | | | | 470.000 | 4.73 | -0.20 | 7.30 | 3.88 | KM-AB-240514-17 |
| | | | | 475.000 | 4.67 | -0.25 | 6.71 | 3.65 | KM-AB-240514-18 |
| | | | | 490.000 | 4.78 | -0.31 | 5.70 | 3.07 | KM-AB-240514-19 |
| | | | PMMN4151A | 440.000 | 4.78 | -0.21 | 8.18 | 4.31 | KM-AB-240514-20 |
| | | | | 450.000 | 4.77 | -0.27 | 12.00 | 6.43 | KM-AB-240515-01@ |
| | | | | 457.900 | 4.76 | -0.34 | 10.40 | 5.67 | KM-AB-240515-02@ |
| | | | | 470.000 | 4.64 | -0.24 | 7.51 | 4.11 | KM-AB-240515-03@ |
| | | | | 475.000 | 4.65 | -0.24 | 7.30 | 3.98 | KM-AB-240515-04@ |
| | | | | 490.000 | 4.65 | -0.25 | 6.08 | 3.32 | KM-AB-240515-05@ |
| | | | PMLN8086A | 440.000 | 4.78 | -0.22 | 9.72 | 5.13 | KM-AB-240515-06@ |
| | | | | 450.000 | 4.74 | -0.27 | 12.00 | 6.47 | KM-AB-240515-07@ |
| | | | | 457.900 | 4.76 | -0.30 | 11.50 | 6.21 | KM-AB-240515-08@ |
| | | | | 470.000 | 4.67 | -0.21 | 8.46 | 4.56 | KM-AB-240515-09@ |
| | | | | 475.000 | 4.71 | -0.23 | 7.46 | 4.01 | AR-AB-240515-11 |
| | | | | 490.000 | 4.65 | -0.26 | 7.12 | 3.90 | AR-AB-240515-12 |
| | | | PMLN8341A | 440.000 | 4.73 | -0.19 | 9.21 | 4.88 | AR-AB-240515-13 |
| | | | | 450.000 | 4.78 | -0.24 | 12.20 | 6.47 | AR-AB-240515-16 |
| | | | | 457.900 | 4.79 | -0.27 | 12.00 | 6.40 | AR-AB-240515-15 |
| | | | | 470.000 | 4.75 | -0.14 | 9.33 | 4.87 | AR-AB-240515-17 |
| | | | | 475.000 | 4.71 | -0.22 | 8.48 | 4.55 | AR-AB-240515-18 |
| | | | | 490.000 | 4.70 | -0.31 | 6.90 | 3.78 | AR-AB-240515-19 |
| | | | PMLN8342A | 440.000 | 4.79 | -0.20 | 7.81 | 4.10 | KM-AB-240515-20 |
| | | | | 450.000 | 4.79 | -0.27 | 11.40 | 6.08 | KM-AB-240515-21 |
| | | | | 457.900 | 4.78 | -0.35 | 11.00 | 5.99 | KM-AB-240515-22 |
| | | | | 470.000 | 4.73 | -0.28 | 8.49 | 4.59 | KM-AB-240515-23 |
| | | | | 475.000 | 4.71 | -0.23 | 7.91 | 4.25 | KM-AB-240515-24 |
| | | | | 490.000 | 4.68 | -0.31 | 6.98 | 3.84 | KM-AB-240516-01@ |

## Table 24 (Continued)

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| PMAE4070A | PMNN4807A | HLN6602A | PMLN8343A | 440.000 | 4.80 | -0.24 | 7.97 | 4.21 | KM-AB-240516-02@ |
| | | | | 450.000 | 4.77 | -0.30 | 10.90 | 5.88 | KM-AB-240516-03@ |
| | | | | 457.900 | 4.79 | -0.30 | 11.00 | 5.91 | KM-AB-240516-04@ |
| | | | | 470.000 | 4.72 | -0.04 | 8.47 | 4.35 | KM-AB-240516-05@ |
| | | | | 475.000 | 4.69 | -0.29 | 7.91 | 4.33 | KM-AB-240516-06@ |
| | | | | 490.000 | 4.78 | -0.31 | 6.44 | 3.47 | KM-AB-240516-07@ |
| | | | PMLN8337A | 440.000 | 4.80 | -0.22 | 9.72 | 5.11 | DAN-AB-240516-09 |
| | | | | 450.000 | 4.77 | -0.31 | 11.90 | 6.43 | DAN-AB-240516-10 |
| | | | | 457.900 | 4.78 | -0.34 | 11.00 | 5.97 | DAN-AB-240516-11 |
| | | | | 470.000 | 4.72 | -0.20 | 8.67 | 4.62 | DAN-AB-240516-12 |
| | | | | 475.000 | 4.67 | -0.28 | 7.92 | 4.34 | DAN-AB-240516-13 |
| | | | | 490.000 | 4.78 | -0.30 | 6.63 | 3.57 | DAN-AB-240516-14 |
| | | | PMLN8645A | 440.000 | 4.78 | -0.29 | 7.68 | 4.12 | DAN-AB-240516-15 |
| | | | | 450.000 | 7.76 | -0.27 | 11.80 | 6.28 | DAN-AB-240516-16 |
| | | | | 457.900 | 4.78 | -0.34 | 9.86 | 5.35 | DAN-AB-240516-17 |
| | | | | 470.000 | 4.71 | -0.26 | 8.46 | 4.58 | DAN-AB-240516-18 |
| | | | | 475.000 | 4.69 | -0.27 | 7.81 | 4.25 | DAN-AB-240516-19 |
| | | | | 490.000 | 4.78 | -0.29 | 6.75 | 3.62 | DAN-AB-240516-20 |
| | | | PMLN8646A | 440.000 | 4.76 | -0.08 | 7.51 | 3.86 | DAN-AB-240516-21 |
| | | | | 450.000 | 4.79 | -0.31 | 11.20 | 6.03 | KM-AB-240517-01@ |
| | | | | 457.900 | 4.74 | -0.08 | 11.00 | 5.67 | KM-AB-240517-02@ |
| | | | | 470.000 | 4.69 | -0.27 | 8.41 | 4.58 | KM-AB-240517-03@ |
| | | | | 475.000 | 4.66 | -0.33 | 7.72 | 4.29 | KM-AB-240517-04@ |
| | | | | 490.000 | 4.75 | -0.36 | 6.79 | 3.73 | KM-AB-240517-05@ |
| | | | PMLN8297A w/ PMLN8265A | 440.000 | 4.76 | -0.19 | 9.05 | 4.77 | KM-AB-240517-06@ |
| | | | | 450.000 | 4.78 | -0.26 | 11.60 | 6.18 | KM-AB-240517-07@ |
| | | | | 457.900 | 4.77 | -0.36 | 11.20 | 6.12 | KM-AB-240517-08@ |
| | | | | 470.000 | 4.69 | -0.23 | 8.71 | 4.70 | DAN-AB-240517-10 |
| | | | | 475.000 | 4.66 | -0.22 | 7.85 | 4.25 | DAN-AB-240517-11 |
| | | | | 490.000 | 4.72 | -0.31 | 6.66 | 3.64 | DAN-AB-240517-12 |

**Assessment of wireless BT configurations**

Assessment using the overall highest SAR configuration at the body from above without an audio accessory attached.

**Table 25**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| PMAE4070A | PMNN4807A | HLN6602A | None(BT) | 440.000 | 4.75 | -0.24 | 10.30 | 5.50 | DAN-AB-240517-13 |
| | | | | 450.000 | 4.76 | -0.32 | 11.80 | 6.40 | DAN-AB-240517-14 |
| | | | | 457.900 | 4.79 | -0.32 | 11.70 | 6.31 | DAN-AB-240517-15 |
| | | | | 470.000 | 4.67 | -0.25 | 9.71 | 5.29 | DAN-AB-240517-16 |
| | | | | 475.000 | 4.68 | -0.24 | 8.22 | 4.45 | DAN-AB-240517-17 |
| | | | | 490.000 | 4.71 | -0.35 | 7.10 | 3.92 | DAN-AB-240517-18 |

## 13.2 LMR assessments at the Face for 406.125 - 512.000MHz band

Battery PMNN4810A was selected as the default battery for assessments at the Face because it has the highest capacity (refer to Exhibit 7B for battery illustration). The default battery was used during conducted power measurements for all test channels within FCC allocated frequency range (406.1-512 MHz) which are listed in Table 26. The channel with the highest conducted power will be identified as the default channel per KDB 643646 (SAR Test for PTT Radios).

**Table 26**

| Test Freq (MHz) | Power (W) |
|---|---|
| 406.125 | 4.570 |
| 422.300 | 4.660 |
| 435.400 | 4.530 |
| 440.000 | 4.480 |
| 441.400 | 4.480 |
| 450.000 | 4.520 |
| 457.900 | 4.500 |
| 470.000 | 4.420 |
| 475.000 | 4.400 |
| 484.000 | 4.470 |
| 490.000 | 4.450 |
| 496.200 | 4.560 |
| 512.000 | 4.610 |

DUT assessment with offered antennas, default battery with front of DUT positioned 2.5cm facing phantom per KDB 643646. Optional batteries were tested per the requirements of KDB 643646. Refer to Table 26 for highest output power channel. SAR plots of the highest results per Table (bolded) are presented in Appendix F.

**Table 27**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| AN000348A01 | PMNN4810A | @ Front | N/A | 406.125 | | | | | |
| | | | | 422.300 | 4.66 | -0.25 | 4.26 | 2.32 | AR-FACE-240517-22 |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| AN000350A01 | | | | 406.125 | | | | | |
| | | | | 422.300 | 4.67 | -0.29 | 3.45 | 1.90 | AR-FACE-240517-23 |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | | | | | |
| AN000351A01 | | | | 440.000 | | | | | |
| | | | | 450.000 | 4.53 | -0.31 | 5.94 | 3.38 | AR-FACE-240530-12 |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 490.000 | | | | | |
| PMAE4069A | | | | 406.125 | | | | | |
| | | | | 422.300 | 4.67 | -0.16 | 3.46 | 1.84 | AR-FACE-240517-25 |
| | | | | 435.400 | | | | | |
| | | | | 450.000 | | | | | |
| PMAE4070A | | | | 440.000 | | | | | |
| | | | | 450.000 | 4.55 | -0.23 | 6.32 | 3.51 | AR-FACE-240530-13 |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 490.000 | 4.45 | 0.01 | 3.67 | 1.98 | AR-FACE-240530-14 |

## Table 27 (Continued)

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| PMAE4071A | PMNN4810A | @ Front | N/A | 470.000 | | | | | |
| | | | | 484.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | 4.48 | -0.31 | 3.29 | 1.89 | AR-FACE-240530-15 |
| PMAE4079A | | | | 406.125 | | | | | |
| | | | | 422.300 | 4.66 | -0.15 | 4.16 | 2.22 | AR-FACE-240517-28 |
| | | | | 440.000 | | | | | |
| | | | | 441.400 | | | | | |
| | | | | 457.900 | | | | | |
| | | | | 470.000 | | | | | |
| | | | | 475.000 | | | | | |
| | | | | 496.200 | | | | | |
| | | | | 512.000 | | | | | |
| Additional batteries | | | | | | | | | |
| PMAE4070A | PMNN4807A | @ Front | N/A | 450.0000 | 4.68 | -0.24 | 7.36 | 3.99 | AR-FACE-240517-29 |
| | PMNN4808A | | | | 4.51 | -0.18 | 7.02 | 3.89 | AR-FACE-240518-01@ |
| | PMNN4810A | | | | 4.75 | -0.18 | 7.79 | **4.10** | AR-FACE-240518-02@ |

## 14.0 DUT Test Data for WLAN

SAR test reduction is applied using the following criteria according to KDB 248227 D01:

a. For 2.4GHz 802.11 g/n SAR testing is not required when then highest reported SAR for DSSS is adjusted by ratio of OFDM to DSSS specified maximum output power and Adjusted SAR is ≤1.2 W/kg.

b. U-NII-1 SAR testing not required when U-NII-2A band highest reported SAR for a test Configuration is ≤1.2 W/kg.

c. For all positions/configurations, when reported SAR is >0.8W/kg, SAR is measured for These test positions/configurations on the subsequent next highest measured output Power channel(s) until the reported SAR is ≤1.2 W/kg or all required test Positions/ configurations are tested.

## 14.1 WLAN assessments for 802.11b/g/n (2.412-2.462GHz)

**Output Power Data**

These power measurements were used to determine the necessary modes for SAR testing according to KDB 248227.

**Table 28**

| Band | 802.11 | Ch. BW | Ch. | Freq. (MHz) | Measured conducted power (W) |
|---|---|---|---|---|---|
| 2.4 GHz | b | 20 | 1 | 2412 | 0.0259 |
| | | | 6 | 2437 | 0.0254 |
| | | | 11 | 2462 | 0.0233 |
| | g | 20 | 1 | 2412 | 0.0247 |
| | | | 6 | 2437 | 0.0241 |
| | | | 11 | 2462 | 0.0229 |
| | n | 20 | 1 | 2412 | 0.0257 |
| | | | 6 | 2437 | 0.0251 |
| | | | 11 | 2462 | 0.0239 |

The new derivative model was assessed with the previous highest applicable configuration at the Body and Face. SAR plots of the highest results per Table (bolded) are presented in Appendix F.

**Table 29**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| Highest Body Configuration | | | | | | | | | |
| AN000389A01 | PMNN4807A | HLN6602A | None | 2412 | 0.0243 | -0.16 | 0.022 | 0.029 | Previous Highest SAR at Body MFR-AB-210811-02# |
| | | | | | 0.0259 | -0.24 | 0.032 | **0.042** | AR-AB-240319-01@ |
| Highest Face Configuration | | | | | | | | | |
| AN000389A01 | PMNN4810A | None | None | 2462 | 0.0218 | 0.07 | 0.038 | 0.056 | Previous Highest SAR at Face MFR-FACE-210810-02# |
| | | | | | 0.0233 | -0.39 | 0.019 | **0.029** | EMR-FACE-240319-10@ |

## 14.2 Assessment for WLAN 5.0 GHz (802.11 a/n/ac)

### Output Power Data

These power measurements were used to determine the necessary modes for SAR testing according to KDB 248227.

**Table 30**

| Band | 802.11 | Ch. BW | Ch. | Freq. (MHz) | Measured conducted power (W) |
|---|---|---|---|---|---|
| **U-NII-1 (5.15-5.25GHz)** | a | 20 | 36 | 5180 | 0.0585 |
| | | | 40 | 5200 | 0.0607 |
| | | | 44 | 5220 | 0.0601 |
| | | | 48 | 5240 | 0.0631 |
| | n | | 36 | 5180 | 0.0480 |
| | | | 40 | 5200 | 0.0625 |
| | | | 44 | 5220 | 0.0509 |
| | | | 48 | 5240 | 0.0516 |
| | ac | | 36 | 5180 | 0.0480 |
| | | | 40 | 5200 | 0.0627 |
| | | | 44 | 5220 | 0.0513 |
| | | | 48 | 5240 | 0.0520 |
| **UNII-2A (5.25-5.35GHz)** | a | 20 | 52 | 5260 | 0.0507 |
| | | | 56 | 5280 | 0.0512 |
| | | | 60 | 5300 | 0.0511 |
| | | | 64 | 5320 | 0.0399 |
| | n | | 52 | 5260 | 0.0527 |
| | | | 56 | 5280 | 0.0530 |
| | | | 60 | 5300 | 0.0528 |
| | | | 64 | 5320 | 0.0328 |
| | ac | | 52 | 5260 | 0.0524 |
| | | | 56 | 5280 | 0.0530 |
| | | | 60 | 5300 | 0.0528 |
| | | | 64 | 5320 | 0.0328 |

**Table 30 (Continued)**

| Band | 802.11 | Ch. BW | Ch. | Freq. (MHz) | Measured conducted power (W) |
|---|---|---|---|---|---|
| U-NII-2C (5.47-5.65 GHz) | a | 20 | 100 | 5500 | 0.0183 |
| | | | 112 | 5560 | 0.0284 |
| | | | 116 | 5580 | 0.0303 |
| | | | 128 | 5640 | 0.0307 |
| | n | | 100 | 5500 | 0.0241 |
| | | | 112 | 5560 | 0.0300 |
| | | | 116 | 5580 | 0.0289 |
| | | | 128 | 5640 | 0.0296 |
| | ac | | 100 | 5500 | 0.0242 |
| | | | 112 | 5560 | 0.0297 |
| | | | 116 | 5580 | 0.0286 |
| | | | 128 | 5640 | 0.0294 |
| UNII-3 (5.65-5.85 GHz) | a | 20 | 132 | 5660 | 0.0281 |
| | | | 149 | 5745 | 0.0276 |
| | | | 165 | 5825 | 0.0279 |
| | n | | 132 | 5660 | 0.0290 |
| | | | 149 | 5745 | 0.0288 |
| | | | 165 | 5825 | 0.0292 |
| | ac | | 132 | 5660 | 0.0296 |
| | | | 149 | 5745 | 0.0287 |
| | | | 165 | 5825 | 0.0291 |

**(U-NII-2A 5.25-5.35 GHz)**

The new derivative model was assessed with the previous highest applicable configuration at the Body and Face. SAR plots of the highest results per Table (bolded) are presented in Appendix F.

**Table 31**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| Highest Body Configuration | | | | | | | | | |
| AN000389A01 | PMNN4809A | HLN6602A | None | 5260 | 0.0427 | -0.23 | 0.226 | 0.363 | Previous Highest SAR at Body MA(BAD)-AB-210901-02# |
| | | | | | 0.0507 | -0.23 | 0.203 | **0.274** | KM-AB-240614-03@ |
| Highest Face Configuration | | | | | | | | | |
| AN000389A01 | PMNN4807A | None | None | 5320 | 0.0404 | -0.04 | 0.144 | 0.234 | Previous Highest SAR at Face BL(SAN)-FACE-210806-07# |
| | | | | | 0.0399 | -0.31 | 0.088 | **0.154** | KM-FACE-240614-02@ |

**(U-NII-2C 5.47-5.65 GHz)**

The new derivative model was assessed with the previous highest applicable configuration at the Body and Face. SAR plots of the highest results per Table (bolded) are presented in Appendix F.

**Table 32**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| Highest Body Configuration | | | | | | | | | |
| AN000389A01 | PMNN4809A | HLN6602A | None | 5640 | 0.0213 | 0.05 | 0.074 | 0.113 | Previous Highest SAR at Body AF-AB-210812-08# |
| | | | | | 0.0307 | -0.18 | 0.131 | **0.145** | AR-AB-240322-02@ |
| Highest Face Configuration | | | | | | | | | |
| AN000389A01 | PMNN4808A | None | None | 5640 | 0.0212 | -0.25 | 0.050 | 0.082 | Previous Highest SAR at Face MFR-FACE-210809-03# |
| | | | | | 0.0307 | -0.20 | 0.037 | **0.041** | BL-FACE-240321-06 |

**(U-NII-3 5.47-5.65 GHz)**

The new derivative model was assessed with the previous highest applicable configuration at the Body and Face. SAR plots of the highest results per Table (bolded) are presented in Appendix F.

**Table 33**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| Highest Body Configuration | | | | | | | | | |
| AN000389A01 | PMNN4809A | HLN6602A | None | 5660 | 0.0217 | -0.17 | 0.080 | 0.122 | Previous Highest SAR at Body MHI-AB-210813-01# |
| | | | | | 0.0281 | -0.16 | 0.103 | **0.124** | BL-AB-240323-06 |
| Highest Face Configuration | | | | | | | | | |
| AN000389A01 | PMNN4810A | None | None | 5745 | 0.0271 | 0.31 | 0.057 | 0.068 | Previous Highest SAR at Face AF-FACE-210803-09# |
| | | | | | 0.0276 | -0.45 | 0.018 | **0.023** | AR-FACE-240424-11 |

## 14.3 Assessment for ISED, Canada

As per ISED Notice 2016-DRS001, additional tests were required for the low, mid and high frequency channels for the configuration with the highest SAR value. SAR plots of the highest results per Table (bolded) are presented in Appendix F.

**Table 34**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| Body 406 – 430MHz (UHF) | | | | | | | | | |
| AN000350A01 | PMNN4809A | HLN6602A | PMMN4128A | 406.1250 | 4.79 | -0.13 | 3.32 | 1.71 | DAN-AB-240506-13 |
| | | | | 422.3000 | 4.71 | -0.20 | 4.22 | 2.25 | DAN-AB-240517-19 |
| | | | | 430.0000 | 4.72 | 0.85 | 5.66 | **2.88** | DAN-AB-240517-20 |
| Body 450– 470MHz (UHF) | | | | | | | | | |
| PMAE4070A | PMNN4807A | HLN6602A | PMMN4128A | 450.0000 | 4.78 | -0.28 | 12.20 | **6.53** | KM-AB-240507-10 |
| | | | | 457.9000 | 4.77 | -0.28 | 11.00 | 5.90 | KM-AB-240507-12 |
| | | | | 470.0000 | 4.67 | -0.28 | 8.19 | 4.49 | DAN-AB-240517-21 |
| Face 406 – 430MHz (UHF) | | | | | | | | | |
| AN000348A01 | PMNN4810A | @ front | None | 406.1250 | 4.56 | -0.23 | 4.38 | 2.43 | AR-FACE-240518-03@ |
| | | | | 422.3000 | 4.66 | -0.25 | 4.26 | 2.32 | AR-FACE-240517-22 |
| | | | | 430.0000 | 4.55 | -0.19 | 4.49 | **2.47** | AR-FACE-240518-04@ |
| Face 450– 470MHz (UHF) | | | | | | | | | |
| PMAE4070A | PMNN4809A | @ front | None | 450.0000 | 7.79 | -0.18 | 7.79 | 4.10 | AR-FACE-240518-02@ |
| | | | | 457.9000 | 8.93 | -0.30 | 8.93 | **4.83** | AR-FACE-240518-05@ |
| | | | | 470.0000 | 7.06 | -0.14 | 7.06 | 3.72 | AR-FACE-240518-06@ |
| WLAN 2.4GHz (Body) | | | | | | | | | |
| AN000389A01 | PMNN4807A | HLN6602A | None | 2412.000 | 0.0259 | -0.24 | 0.032 | **0.042** | AR-AB-240319-01@ |
| | | | | 2437.000 | 0.0254 | -0.42 | 0.029 | 0.041 | AR-AB-240319-03@ |
| | | | | 2462.000 | 0.0240 | 0.02 | 0.014 | 0.019 | AR-AB-240319-04@ |
| WLAN 2.4GHz (Face) | | | | | | | | | |
| AN000389A01 | PMNN4810A | @ front | None | 2412.000 | 0.0251 | 0.06 | 0.015 | 0.019 | AR-FACE-240319-13@ |
| | | | | 2437.000 | 0.0245 | -0.43 | 0.013 | 0.019 | EMR-FACE-240319-11@ |
| | | | | 2462.000 | 0.0233 | -0.39 | 0.019 | **0.029** | EMR-FACE-240319-10@ |
| WLAN U-NII-2A 5.25 – 5.35GHz (Body) | | | | | | | | | |
| AN000389A01 | PMNN4807A | HLN6602A | None | 5260.000 | 0.0507 | -0.23 | 0.203 | 0.274 | KM-AB-240614-03@ |
| | | | | 5300.000 | 0.0511 | -0.30 | 0.182 | 0.248 | KM-AB-240614-04@ |
| | | | | 5320.000 | 0.0399 | -0.41 | 0.157 | **0.281** | KM-AB-240614-05@ |
| WLAN U-NII-2A 5.25 – 5.35GHz (Face) | | | | | | | | | |
| AN000389A01 | PMNN4807A | @ front | None | 5260.000 | 0.0507 | -0.27 | 0.086 | 0.117 | KM-FACE-240615-08@ |
| | | | | 5300.000 | 0.0511 | -0.06 | 0.085 | 0.110 | KM-FACE-240614-08@ |
| | | | | 5320.000 | 0.0399 | -0.31 | 0.088 | **0.154** | KM-FACE-240614-02@ |

**Table 34 (Continued)**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| WLAN U-NII-2C, 5.47-5.725GHz (Body) | | | | | | | | | |
| AN000389A01 | PMNN4809A | HLN6602A | None | 5500.000 | 0.0183 | 0.07 | 0.081 | 0.144 | AR-AB-240321-11 |
| | | | | 5580.000 | 0.0303 | -0.12 | 0.147 | **0.162** | AR-AB-240322-01@ |
| | | | | 5640.000 | 0.0307 | -0.18 | 0.131 | 0.145 | AR-AB-240322-02@ |
| WLAN U-NII-2C, 5.47-5.725GHz (Face) | | | | | | | | | |
| AN000389A01 | PMNN4808A | @ front | None | 5500.000 | 0.0183 | 0.16 | 0.024 | **0.043** | BL-FACE-240322-07 |
| | | | | 5580.000 | 0.0303 | -0.29 | 0.032 | 0.037 | BL-FACE-240321-08 |
| | | | | 5640.000 | 0.0307 | -0.20 | 0.037 | 0.041 | BL-FACE-240321-06 |
| WLAN U-NII-3, 5.65-5.85GHz (Body) | | | | | | | | | |
| AN000389A01 | PMNN4809A | HLN6602A | None | 5660.000 | 0.0281 | -0.16 | 0.103 | **0.124** | BL-AB-240323-06 |
| | | | | 5745.000 | 0.0276 | -0.09 | 0.045 | 0.054 | BL-AB-240323-07 |
| | | | | 5825.000 | 0.0279 | -0.26 | 0.035 | 0.043 | BL-AB-240323-08 |
| WLAN U-NII-3, 5.65-5.85GHz (Face) | | | | | | | | | |
| AN000389A01 | PMNN4810A | @ front | None | 5660.000 | 0.0281 | -0.15 | 0.032 | **0.038** | EMR-FACE-240322-10 |
| | | | | 5745.000 | 0.0276 | -0.45 | 0.018 | 0.024 | AR-FACE-240424-11 |
| | | | | 5825.000 | 0.0279 | 0.34 | 0.013 | 0.015 | EMR-FACE-240323-02@ |

## 15.0 Assessment at the Bluetooth band

Per guidelines in KDB 447498, the following formula was used to determine the test exclusion for standalone Bluetooth transmitter;

[(max. power of channel, including tune-up tolerance, mW)/ (min. test separation distance, mm)] *[$\sqrt{F}_{(GHz)}$] = 2.9, which is ≤ 3 for 1-g SAR

Where:

Max. Power = 9.26mW (12.02mW*77.00% duty cycle)
Min. test separation distance = 5mm for actual test separation < 5mm
F(GHz) = 2.48 GHz

Per the result from the calculation above, the standalone SAR assessment was not required for Bluetooth band. Therefore, SAR results for Bluetooth are not reported herein.

## 16.0 Assessment outside FCC part 90

Assessment of outside FCC Part 90 using the highest SAR configuration for each band from above. SAR plots of the highest results per Table (bolded) are presented in Appendix F.

**Table 35**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| Body | | | | | | | | | |
| AN000348A01 | PMNN4809A | HLN6602A | None (BT) | 400.000 | 4.45 | -0.33 | 5.33 | 3.10 | DAN-AB-240518-12 |
| | | | | 519.500 | 4.79 | -0.38 | 6.45 | 3.53 | DAN-AB-240518-21 |
| | | | | 527.000 | 4.75 | -0.47 | 6.40 | 3.60 | DAN-AB-240518-22 |
| AN000350A01 | | | | 400.000 | 4.44 | -0.38 | 4.42 | 2.61 | DAN-AB-240518-13 |
| PMAE4069A | | | | 400.000 | 4.44 | -0.27 | 3.96 | 2.28 | DAN-AB-240518-14 |
| PMAE4071A | | | | 519.500 | 4.80 | -0.38 | 8.64 | 4.72 | DAN-AB-240518-23 |
| | | | | 527.000 | 4.74 | -0.48 | 9.78 | **5.53** | DAN-AB-240518-24 |
| PMAE4079A | | | | 400.000 | 4.45 | -0.32 | 4.95 | 2.87 | DAN-AB-240518-15 |
| | | | | 519.500 | 4.79 | -0.33 | 6.87 | 3.71 | DAN-AB-240518-25 |
| | | | | 527.000 | 4.75 | -0.40 | 7.25 | 4.02 | DAN-AB-240518-26 |
| Face | | | | | | | | | |
| AN000348A01 | PMNN4809A | @ front | None | 400.000 | 4.38 | -0.16 | 4.95 | 2.81 | DAN-FACE-240518-16 |
| | | | | 519.500 | 4.78 | 0.76 | 4.33 | 2.17 | AR-FACE-240518-29 |
| | | | | 527.000 | 4.80 | -0.09 | 4.40 | 2.25 | AR-FACE-240518-30 |
| AN000350A01 | | | | 400.000 | 4.37 | -0.17 | 4.23 | 2.42 | DAN-FACE-240518-17 |
| PMAE4069A | | | | 400.000 | 4.38 | -0.39 | 3.58 | 2.15 | DAN-FACE-240518-18 |
| PMAE4071A | | | | 519.500 | 4.79 | -0.26 | 5.40 | 2.87 | AR-FACE-240518-31 |
| | | | | 527.000 | 4.80 | -0.29 | 5.72 | **3.06** | AR-FACE-240518-32 |
| PMAE4079A | | | | 400.0000 | 4.38 | -0.11 | 4.26 | 2.39 | DAN-FACE-240518-19 |
| | | | | 519.5000 | 4.79 | -0.36 | 3.74 | 2.04 | AR-FACE-240518-33 |
| | | | | 527.0000 | 4.80 | -0.33 | 4.36 | 2.35 | AR-FACE-240519-01@ |

## 17.0 Shortened Scan Assessment

A “shortened” scan using the highest SAR configuration overall from above was performed to validate the SAR drift of the full DASY5™ coarse and zoom scans. Note that the shortened scan represents the zoom scan performance result; this is obtained by first running a coarse scan to find the peak area and then, using a newly charged battery, a zoom scan only was performed. The results of the shortened cube scan presented in Appendix G demonstrate that the scaling methodology used to determine the calculated SAR results presented herein are valid. SAR plots of the highest results per Table (bolded) are presented in Appendix G.

**Table 36**

| Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq (MHz) | Init Pwr (W) | SAR Drift (dB) | Meas. 1g-SAR (W/kg) | Max Calc. 1g-SAR (W/kg) | Run# |
|---|---|---|---|---|---|---|---|---|---|
| PMAE4070A | PMNN4807A | HLN6602A | PMMN4128A | 450.000 | 4.77 | -0.06 | 11.60 | 5.92 | DAN-AB-240519-17 |

## 18.0 Simultaneous Transmission

The Table below summarizes the simultaneous transmission conditions for this device.

**Table 37**

| Exposure Conditions | Item | Capable Simultaneous Transmit Configurations |
|---|---|---|
| Body-Worn | 1 | LMR + WLAN 2.4 GHz |
| | 2 | LMR + WLAN 5 GHz |
| | 3 | LMR + WLAN 2.4 GHz + BT |
| | 4 | LMR + WLAN 5 GHz + BT |
| | 5 | LMR + BT |
| Face | 1 | LMR + WLAN 2.4 GHz |
| | 2 | LMR + WLAN 5 GHz |
| | 3 | LMR + WLAN 2.4 GHz + BT |
| | 4 | LMR + WLAN 5 GHz + BT |
| | 5 | LMR + BT |

WLAN 2.4 GHz and 5GHz are sharing the same antenna, only one technology to transmit at a single time. WLAN 2.4GHz and BT are sharing the same antenna and they are in the same frequency range, thus only WLAN 2.4GHz is selected for simultaneous transmission as the WLAN 2.4GHz power is higher than BT power, thus BT is exclude from simultaneous transmission.

## 18.1 Simultaneous Transmission Exclusion for BT

Per guidelines in KDB 447498, the following formula was used to determine the test exclusion to an antenna that transmits simultaneously with other antennas for test distances ≤ 50mm:

[(max. power of channel, including tune-up tolerance, mW)/ (min. test separation distance, mm)] *[√F (GHz)/X] = 0.39W/kg, which is ≤ 0.4 W/kg (1g)
Where:

X = 7.5 for 1g-SAR; 18.75 for 10g
Max. Power = 9.26mW (12.02mW*77.0% duty cycle)
Min. test separation distance = 5mm for actual test separation < 5mm
F(GHz) = 2.48 GHz

Per the result from the calculation above, simultaneous exclusion is applied and therefore SAR results are not reported herein.

## 18.2 Simultaneous Transmission between LMR, WLAN 2.4GHz, WLAN 5GHz

**Table 38**

| Exposure condition | Standalone SAR (W/kg) | | | Sum of SAR (W/kg) | |
|---|---|---|---|---|---|
| | LMR | 2.4GHz | 5GHz | LMR + 2.4GHz | LMR + 5GHz |
| Body worn Exposure | 6.53 | 0.042 | 0.281[2] | 6.57 | 6.81[3] |
| Face Exposure | 4.83 | 0.029[1] | 0.154[2] | 4.86 | 4.98[3] |

[1] denotes previous filing SAR result at 2412-2462MHz for Face was 0.056 W/kg.
[2] denotes previous filing SAR results at 5180-5825MHz for Body & Face were 0.363 W/kg & 0.243 W/kg.
[3] denotes latest Simultaneous SAR results (FCC US) based on current and previous filing for Body & Face are 6.89 W/kg & 5.06 W/kg.

The test results clearly demonstrate compliance with FCC Occupational/Controlled RF Exposure limits of 8 W/kg averaged over 1 gram per the requirements of FCC 47 CFR § 2.1093 and RSS-102 (Issue 5).

## 19.0 Results Summary

The test results are based on the test guidelines from section 4.0 and satisfying frequencies within FCC bands and ISED Canada Frequency bands, the highest Operational Maximum Calculated 1-gram average SAR values found for this filing:

**Table 39**

| Designator | Frequency band (MHz) | Max Calc at Body (W/kg) | Max Calc at Face (W/kg) |
|---|---|---|---|
| | | 1g-SAR | 1g-SAR |
| **FCC US** | | | |
| LMR | 406.125 - 512 | 6.53 | 4.83 |
| WLAN 2.4 GHz | 2412 - 2462 | 0.042 | 0.029[1] |
| WLAN 5 GHz | 5180 - 5825 | 0.281[2] | 0.154[2] |
| BT | 2402 - 2480 | NA | NA |
| Highest Simultaneous Transmission SAR | Sum of SAR (W/kg) | 6.81[3] | 4.98[3] |
| **ISED Canada** | | | |
| LMR | 406.125 – 430 | 2.88 | 2.47 |
| LMR | 450 - 470 | 6.53 | 4.83 |
| WLAN 2.4 GHz | 2412 - 2462 | 0.042 | 0.029[4] |
| WLAN 5 GHz | 5180 - 5825 | 0.281[5] | 0.154[5] |
| BT | 2402 - 2480 | NA | NA |
| Highest Simultaneous Transmission SAR | Sum of SAR (W/kg) | 6.81[6] | 4.98[6] |
| **Overall** | | | |
| LMR | 400 - 527 | 6.53[7] | 4.83 |
| WLAN 2.4 GHz | 2412 - 2472 | 0.042 | 0.029[8] |
| WLAN 5 GHz | 5180 - 5825 | 0.281[9] | 0.154[9] |
| BT | 2402 - 2480 | NA | NA |
| Highest Simultaneous Transmission SAR | Sum of SAR (W/kg) | 6.81[10] | 4.98[10] |

All results are scaled to the maximum output power.

Results summary is based on the current tested models.

[1] denotes previous filing SAR result at 2412-2462MHz for Face was 0.056 W/kg.

[2] denotes previous filing SAR results at 5180-5825MHz for Body & Face were 0.363 W/kg & 0.243 W/kg.

[3] denotes latest Simultaneous SAR results (FCC US) based on current and previous filing for Body & Face are 6.89 W/kg & 5.06 W/kg.

[4] denotes previous filing SAR result at 2412-2462MHz for Face was 0.056 W/kg.

[5] denotes previous filing SAR results at 5180-5825MHz for Body & Face were 0.363 W/kg & 0.243 W/kg.

[6] denotes the Simultaneous SAR results (ISED Canada) based on current and previous filing for Body & Face are 6.89 W/kg & 5.06 W/kg.

[7] denotes previous filing SAR result at 380-527MHz for Body was 6.71 W/kg.

[8] denotes previous filing SAR result at 2412-2462MHz for Face was 0.056 W/kg.

[9] denotes previous filing SAR results at 5180-5825MHz for Body & Face were 0.363 W/kg & 0.243 W/kg.

[10] denotes the latest Simultaneous SAR results (Overall) based on current and previous filing for Body & Face are 7.07 W/kg & 5.06 W/kg.

The test results clearly demonstrate compliance with FCC/ISED Occupational/Controlled Environment RF Exposure limits of 8 W/kg averaged over 1 gram per the requirements of FCC 47 CFR § 2.1093 and RSS-102 (Issue 5).

## 20.0 Variability Assessment

Per the guidelines in KDB 865664 SAR variability assessment is required because SAR results are above 4.0W/kg (Occupational) The Table below includes test results of the original measurement(s), the repeated measurement(s), and the ratio ($SAR_{high}/SAR_{low}$) for the applicable test configuration(s).

**Table 40**

| Run# | Antenna | Battery | Carry Accessory | Cable Accessory | Test Freq. (MHz) | Adj Calc. 1g-SAR (W/kg) | Ratio | Comments |
|---|---|---|---|---|---|---|---|---|
| KM-AB-240507-10 | PMAE4070A | PMNN4807A | HLN6602A | PMMN4128A | 450.000 | 6.51 | 1.11 | No additional repeated scans is required due to the Ratio ($SAR_{high}/SAR_{low}$) < 1.20 |
| DAN-AB-240519-17 | | | | | | 5.88 | | |

## 21.0 System Uncertainty

A system uncertainty analysis is not required for this report per KDB 865664 because the highest report SAR value Occupational exposure is less than 7.5W/kg. Choose applicable limits.

Per the guidelines of ISO/IEC 17025 a reported system uncertainty is required and therefore measurement uncertainty budget is included in Appendix A.

# Appendix A

## Measurement Uncertainty Budget

# Uncertainty Budget for System Validation (dipole & flat phantom) for 300 MHz to 800MHz

| *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 section** | **Tol. (± %)** | **Prob. Dist.** | **Div.** | **$c_i$ (1 g)** | **$c_i$ (10 g)** | **1 g $u_i$ (±%)** | **10 g $u_i$ (±%)** | **$v_i$** |
| **Measurement System** | | | | | | | | | |
| Probe Calibration | E.2.1 | 6.7 | N | 1.00 | 1 | 1 | 6.7 | 6.7 | ∞ |
| Axial Isotropy | E.2.2 | 4.7 | R | 1.73 | 1 | 1 | 2.7 | 2.7 | ∞ |
| Spherical Isotropy | E.2.2 | 9.6 | R | 1.73 | 0 | 0 | 0.0 | 0.0 | ∞ |
| Boundary Effect | E.2.3 | 1.0 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Linearity | E.2.4 | 4.7 | R | 1.73 | 1 | 1 | 2.7 | 2.7 | ∞ |
| System Detection Limits | E.2.5 | 1.0 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Readout Electronics | E.2.6 | 0.3 | N | 1.00 | 1 | 1 | 0.3 | 0.3 | ∞ |
| Response Time | E.2.7 | 1.1 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Integration Time | E.2.8 | 0.0 | R | 1.73 | 1 | 1 | 0.0 | 0.0 | ∞ |
| RF Ambient Conditions - Noise | E.6.1 | 3.0 | R | 1.73 | 1 | 1 | 1.7 | 1.7 | ∞ |
| RF Ambient Conditions - Reflections | E.6.1 | 0.0 | R | 1.73 | 1 | 1 | 0.0 | 0.0 | ∞ |
| Probe Positioner Mechanical Tolerance | E.6.2 | 0.4 | R | 1.73 | 1 | 1 | 0.2 | 0.2 | ∞ |
| Probe Positioning w.r.t. Phantom | E.6.3 | 1.4 | R | 1.73 | 1 | 1 | 0.8 | 0.8 | ∞ |
| Max. SAR Evaluation (ext., int., avg.) | E.5 | 3.4 | R | 1.73 | 1 | 1 | 2.0 | 2.0 | ∞ |
| **Dipole** | | | | | | | | | |
| Dipole Axis to Liquid Distance | 8, E.4.2 | 2.0 | R | 1.73 | 1 | 1 | 1.2 | 1.2 | ∞ |
| Input Power and SAR Drift Measurement | 8, 6.6.2 | 5.0 | R | 1.73 | 1 | 1 | 2.9 | 2.9 | ∞ |
| **Phantom and Tissue Parameters** | | | | | | | | | |
| Phantom Uncertainty | E.3.1 | 4.0 | R | 1.73 | 1 | 1 | 2.3 | 2.3 | ∞ |
| Liquid Conductivity (target) | E.3.2 | 5.0 | R | 1.73 | 0.64 | 0.43 | 1.8 | 1.2 | ∞ |
| Liquid Conductivity (measurement) | E.3.3 | 3.3 | R | 1.73 | 0.64 | 0.43 | 1.2 | 0.8 | ∞ |
| Liquid Permittivity (target) | E.3.2 | 5.0 | R | 1.73 | 0.6 | 0.49 | 1.7 | 1.4 | ∞ |
| Liquid Permittivity (measurement) | E.3.3 | 1.9 | R | 1.73 | 0.6 | 0.49 | 0.6 | 0.5 | ∞ |
| **Combined Standard Uncertainty** | | | RSS | | | | 10 | 9 | 99999 |
| **Expanded Uncertainty** (95% CONFIDENCE LEVEL) | | | *k*=2 | | | | 19 | 18 | |

Notes for uncertainty budget Tables:
a) Column headings *a-k* are given for reference.
b) Tol. - tolerance in influence quantity.
c) Prob. Dist. – Probability distribution
d) N, R - normal, rectangular probability distributions
e) Div. - divisor used to translate tolerance into normally distributed standard uncertainty
f) *ci* - sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.
g) *ui* – SAR uncertainty
h) *vi* - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty

# Uncertainty Budget for System Validation (dipole & flat phantom) for 800 MHz to 3 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 section** | **Tol. (± %)** | **Prob. Dist.** | **Div.** | **$c_i$ (1 g)** | **$c_i$ (10 g)** | **1 g $u_i$ (±%)** | **10 g $u_i$ (±%)** | **$v_i$** |
| **Measurement System** | | | | | | | | | |
| Probe Calibration | E.2.1 | 6.0 | N | 1.00 | 1 | 1 | 6.0 | 6.0 | ∞ |
| Axial Isotropy | E.2.2 | 4.7 | R | 1.73 | 1 | 1 | 2.7 | 2.7 | ∞ |
| Spherical Isotropy | E.2.2 | 9.6 | R | 1.73 | 0 | 0 | 0.0 | 0.0 | ∞ |
| Boundary Effect | E.2.3 | 1.0 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Linearity | E.2.4 | 4.7 | R | 1.73 | 1 | 1 | 2.7 | 2.7 | ∞ |
| System Detection Limits | E.2.5 | 1.0 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Readout Electronics | E.2.6 | 0.3 | N | 1.00 | 1 | 1 | 0.3 | 0.3 | ∞ |
| Response Time | E.2.7 | 1.1 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Integration Time | E.2.8 | 0.0 | R | 1.73 | 1 | 1 | 0.0 | 0.0 | ∞ |
| RF Ambient Conditions - Noise | E.6.1 | 3.0 | R | 1.73 | 1 | 1 | 1.7 | 1.7 | ∞ |
| RF Ambient Conditions - Reflections | E.6.1 | 0.0 | R | 1.73 | 1 | 1 | 0.0 | 0.0 | ∞ |
| Probe Positioner Mechanical Tolerance | E.6.2 | 0.4 | R | 1.73 | 1 | 1 | 0.2 | 0.2 | ∞ |
| Probe Positioning w.r.t. Phantom | E.6.3 | 1.4 | R | 1.73 | 1 | 1 | 0.8 | 0.8 | ∞ |
| Max. SAR Evaluation (ext., int., avg.) | E.5 | 3.4 | R | 1.73 | 1 | 1 | 2.0 | 2.0 | ∞ |
| **Dipole** | | | | | | | | | |
| Dipole Axis to Liquid Distance | 8, E.4.2 | 2.0 | R | 1.73 | 1 | 1 | 1.2 | 1.2 | ∞ |
| Input Power and SAR Drift Measurement | 8, 6.6.2 | 5.0 | R | 1.73 | 1 | 1 | 2.9 | 2.9 | ∞ |
| **Phantom and Tissue Parameters** | | | | | | | | | |
| Phantom Uncertainty | E.3.1 | 4.0 | R | 1.73 | 1 | 1 | 2.3 | 2.3 | ∞ |
| Liquid Conductivity (target) | E.3.2 | 5.0 | R | 1.73 | 0.64 | 0.43 | 1.8 | 1.2 | ∞ |
| Liquid Conductivity (measurement) | E.3.3 | 3.3 | R | 1.73 | 0.64 | 0.43 | 1.2 | 0.8 | ∞ |
| Liquid Permittivity (target) | E.3.2 | 5.0 | R | 1.73 | 0.6 | 0.49 | 1.7 | 1.4 | ∞ |
| Liquid Permittivity (measurement) | E.3.3 | 1.9 | R | 1.73 | 0.6 | 0.49 | 0.6 | 0.5 | ∞ |
| **Combined Standard Uncertainty** | | | RSS | | | | 9 | 9 | 99999 |
| **Expanded Uncertainty** (95% CONFIDENCE LEVEL) | | | *k*=2 | | | | 18 | 17 | |

Notes for uncertainty budget Tables:
a) Column headings *a-k* are given for reference.
b) Tol. - tolerance in influence quantity.
c) Prob. Dist. – Probability distribution
d) N, R - normal, rectangular probability distributions
e) Div. - divisor used to translate tolerance into normally distributed standard uncertainty
f) *ci* - sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.
g) *ui* – SAR uncertainty
h) *vi* - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty

# Uncertainty Budget for System Validation (dipole & flat phantom) for 3 to 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 section** | **Tol. (± %)** | **Prob. Dist.** | **Div.** | **$c_i$ (1 g)** | **$c_i$ (10 g)** | **1 g $u_i$ (±%)** | **10 g $u_i$ (±%)** | **$v_i$** |
| **Measurement System** | | | | | | | | | |
| Probe Calibration | E.2.1 | 7.0 | N | 1.00 | 1 | 1 | 7.0 | 7.0 | ∞ |
| Axial Isotropy | E.2.2 | 4.7 | R | 1.73 | 1 | 1 | 2.7 | 2.7 | ∞ |
| Spherical Isotropy | E.2.2 | 9.6 | R | 1.73 | 0 | 0 | 0.0 | 0.0 | ∞ |
| Boundary Effect | E.2.3 | 2.0 | R | 1.73 | 1 | 1 | 1.2 | 1.2 | ∞ |
| Linearity | E.2.4 | 4.7 | R | 1.73 | 1 | 1 | 2.7 | 2.7 | ∞ |
| System Detection Limits | E.2.5 | 1.0 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Readout Electronics | E.2.6 | 0.3 | N | 1.00 | 1 | 1 | 0.3 | 0.3 | ∞ |
| Response Time | E.2.7 | 1.1 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Integration Time | E.2.8 | 0.0 | R | 1.73 | 1 | 1 | 0.0 | 0.0 | ∞ |
| RF Ambient Conditions - Noise | E.6.1 | 3.0 | R | 1.73 | 1 | 1 | 1.7 | 1.7 | ∞ |
| RF Ambient Conditions - Reflections | E.6.1 | 0.0 | R | 1.73 | 1 | 1 | 0.0 | 0.0 | ∞ |
| Probe Positioner Mechanical Tolerance | E.6.2 | 1.0 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Probe Positioning w.r.t. Phantom | E.6.3 | 4.0 | R | 1.73 | 1 | 1 | 2.3 | 2.3 | ∞ |
| Max. SAR Evaluation (ext., int., avg.) | E.5 | 2.1 | R | 1.73 | 1 | 1 | 1.2 | 1.2 | ∞ |
| **Dipole** | | | | | | | | | |
| Dipole Axis to Liquid Distance | 8, E.4.2 | 2.0 | R | 1.73 | 1 | 1 | 1.2 | 1.2 | ∞ |
| Input Power and SAR Drift Measurement | 8, 6.6.2 | 5.0 | R | 1.73 | 1 | 1 | 2.9 | 2.9 | ∞ |
| **Phantom and Tissue Parameters** | | | | | | | | | |
| Phantom Uncertainty | E.3.1 | 4.0 | R | 1.73 | 1 | 1 | 2.3 | 2.3 | ∞ |
| Dielectric Parameter Correction | -- | 1.4 | N | 1.00 | 1 | 0.79 | 1.4 | 1.1 | ∞ |
| Liquid Conductivity (measurement) | E.3.3 | 3.3 | R | 1.73 | 0.64 | 0.43 | 1.2 | 0.8 | ∞ |
| Liquid Permittivity (measurement) | E.3.3 | 1.9 | R | 1.73 | 0.6 | 0.49 | 0.6 | 0.5 | ∞ |
| **Combined Standard Uncertainty** | | | RSS | | | | 10 | 10 | 99999 |
| **Expanded Uncertainty** (95% CONFIDENCE LEVEL) | | | *k*=2 | | | | 19 | 19 | |

Notes for uncertainty budget Tables:
a) Column headings *a-k* are given for reference.
b) Tol. - tolerance in influence quantity.
c) Prob. Dist. – Probability distribution
d) N, R - normal, rectangular probability distributions
e) Div. - divisor used to translate tolerance into normally distributed standard uncertainty
f) *ci* - sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.
g) *ui* – SAR uncertainty
h) *vi* - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty

# Uncertainty Budget for Device Under Test, for 100 MHz to 800 MHz

| *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 section** | **Tol. (± %)** | **Prob Dist** | **Div.** | **$c_i$ (1 g)** | **$c_i$ (10 g)** | **1 g $u_i$ (±%)** | **10 g $u_i$ (±%)** | **$v_i$** |
| **Measurement System** | | | | | | | | | |
| Probe Calibration | E.2.1 | 6.7 | N | 1.00 | 1 | 1 | 6.7 | 6.7 | ∞ |
| Axial Isotropy | E.2.2 | 4.7 | R | 1.73 | 0.707 | 0.707 | 1.9 | 1.9 | ∞ |
| Hemispherical Isotropy | E.2.2 | 9.6 | R | 1.73 | 0.707 | 0.707 | 3.9 | 3.9 | ∞ |
| Boundary Effect | E.2.3 | 1.0 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Linearity | E.2.4 | 4.7 | R | 1.73 | 1 | 1 | 2.7 | 2.7 | ∞ |
| System Detection Limits | E.2.5 | 1.0 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Readout Electronics | E.2.6 | 0.3 | N | 1.00 | 1 | 1 | 0.3 | 0.3 | ∞ |
| Response Time | E.2.7 | 1.1 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Integration Time | E.2.8 | 1.1 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| RF Ambient Conditions - Noise | E.6.1 | 3.0 | R | 1.73 | 1 | 1 | 1.7 | 1.7 | ∞ |
| RF Ambient Conditions - Reflections | E.6.1 | 0.0 | R | 1.73 | 1 | 1 | 0.0 | 0.0 | ∞ |
| Probe Positioner Mech. Tolerance | E.6.2 | 0.4 | R | 1.73 | 1 | 1 | 0.2 | 0.2 | ∞ |
| Probe Positioning w.r.t Phantom | E.6.3 | 1.4 | R | 1.73 | 1 | 1 | 0.8 | 0.8 | ∞ |
| Max. SAR Evaluation (ext., int., avg.) | E.5 | 3.4 | R | 1.73 | 1 | 1 | 2.0 | 2.0 | ∞ |
| **Test sample Related** | | | | | | | | | |
| Test Sample Positioning | E.4.2 | 3.2 | N | 1.00 | 1 | 1 | 3.2 | 3.2 | 29 |
| Device Holder Uncertainty | E.4.1 | 4.0 | N | 1.00 | 1 | 1 | 4.0 | 4.0 | 8 |
| SAR drift | 6.6.2 | 5.0 | R | 1.73 | 1 | 1 | 2.9 | 2.9 | ∞ |
| **Phantom and Tissue Parameters** | | | | | | | | | |
| Phantom Uncertainty | E.3.1 | 4.0 | R | 1.73 | 1 | 1 | 2.3 | 2.3 | ∞ |
| Liquid Conductivity (target) | E.3.2 | 5.0 | R | 1.73 | 0.64 | 0.43 | 1.8 | 1.2 | ∞ |
| Liquid Conductivity (measurement) | E.3.3 | 3.3 | N | 1.00 | 0.64 | 0.43 | 2.1 | 1.4 | ∞ |
| Liquid Permittivity (target) | E.3.2 | 5.0 | R | 1.73 | 0.6 | 0.49 | 1.7 | 1.4 | ∞ |
| Liquid Permittivity (measurement) | E.3.3 | 1.9 | N | 1.00 | 0.6 | 0.49 | 1.1 | 0.9 | ∞ |
| **Combined Standard Uncertainty** | | | RSS | | | | 12 | 11 | 482 |
| **Expanded Uncertainty** (95% CONFIDENCE LEVEL) | | | *k*=2 | | | | 23 | 23 | |

Notes for uncertainty budget Tables:
a) Column headings *a-k* are given for reference.
b) Tol. - tolerance in influence quantity.
c) Prob. Dist. – Probability distribution
d) N, R - normal, rectangular probability distributions
e) Div. - divisor used to translate tolerance into normally distributed standard uncertainty
f) *ci* - sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.
g) *ui* – SAR uncertainty
h) *vi* - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty

# Uncertainty Budget for Device Under Test, for 800 MHz to 3 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 section** | **Tol. (± %)** | **Prob Dist** | **Div.** | **$c_i$ (1 g)** | **$c_i$ (10 g)** | **1 g $u_i$ (±%)** | **10 g $u_i$ (±%)** | **$v_i$** |
| **Measurement System** | | | | | | | | | |
| Probe Calibration | E.2.1 | 6.0 | N | 1.00 | 1 | 1 | 6.0 | 6.0 | ∞ |
| Axial Isotropy | E.2.2 | 4.7 | R | 1.73 | 0.707 | 0.707 | 1.9 | 1.9 | ∞ |
| Hemispherical Isotropy | E.2.2 | 9.6 | R | 1.73 | 0.707 | 0.707 | 3.9 | 3.9 | ∞ |
| Boundary Effect | E.2.3 | 1.0 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Linearity | E.2.4 | 4.7 | R | 1.73 | 1 | 1 | 2.7 | 2.7 | ∞ |
| System Detection Limits | E.2.5 | 1.0 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Readout Electronics | E.2.6 | 0.3 | N | 1.00 | 1 | 1 | 0.3 | 0.3 | ∞ |
| Response Time | E.2.7 | 1.1 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Integration Time | E.2.8 | 1.1 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| RF Ambient Conditions - Noise | E.6.1 | 3.0 | R | 1.73 | 1 | 1 | 1.7 | 1.7 | ∞ |
| RF Ambient Conditions - Reflections | E.6.1 | 0.0 | R | 1.73 | 1 | 1 | 0.0 | 0.0 | ∞ |
| Probe Positioner Mech. Tolerance | E.6.2 | 0.4 | R | 1.73 | 1 | 1 | 0.2 | 0.2 | ∞ |
| Probe Positioning w.r.t Phantom | E.6.3 | 1.4 | R | 1.73 | 1 | 1 | 0.8 | 0.8 | ∞ |
| Max. SAR Evaluation (ext., int., avg.) | E.5 | 3.4 | R | 1.73 | 1 | 1 | 2.0 | 2.0 | ∞ |
| **Test sample Related** | | | | | | | | | |
| Test Sample Positioning | E.4.2 | 3.2 | N | 1.00 | 1 | 1 | 3.2 | 3.2 | 29 |
| Device Holder Uncertainty | E.4.1 | 4.0 | N | 1.00 | 1 | 1 | 4.0 | 4.0 | 8 |
| SAR drift | 6.6.2 | 5.0 | R | 1.73 | 1 | 1 | 2.9 | 2.9 | ∞ |
| **Phantom and Tissue Parameters** | | | | | | | | | |
| Phantom Uncertainty | E.3.1 | 4.0 | R | 1.73 | 1 | 1 | 2.3 | 2.3 | ∞ |
| Liquid Conductivity (target) | E.3.2 | 5.0 | R | 1.73 | 0.64 | 0.43 | 1.8 | 1.2 | ∞ |
| Liquid Conductivity (measurement) | E.3.3 | 3.3 | N | 1.00 | 0.64 | 0.43 | 2.1 | 1.4 | ∞ |
| Liquid Permittivity (target) | E.3.2 | 5.0 | R | 1.73 | 0.6 | 0.49 | 1.7 | 1.4 | ∞ |
| Liquid Permittivity (measurement) | E.3.3 | 1.9 | N | 1.00 | 0.6 | 0.49 | 1.1 | 0.9 | ∞ |
| **Combined Standard Uncertainty** | | | RSS | | | | 11 | 11 | 419 |
| **Expanded Uncertainty** (95% CONFIDENCE LEVEL) | | | *k*=2 | | | | 22 | 22 | |

Notes for uncertainty budget Tables:
a) Column headings *a-k* are given for reference.
b) Tol. - tolerance in influence quantity.
c) Prob. Dist. – Probability distribution
d) N, R - normal, rectangular probability distributions
e) Div. - divisor used to translate tolerance into normally distributed standard uncertainty
f) *ci* - sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.
g) *ui* – SAR uncertainty
h) *vi* - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty

# Uncertainty Budget for Device Under Test for 3 to 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 section** | **Tol. (± %)** | **Prob Dist** | **Div.** | **$c_i$ (1 g)** | **$c_i$ (10 g)** | **1 g $u_i$ (±%)** | **10 g $u_i$ (±%)** | **$v_i$** |
| **Measurement System** | | | | | | | | | |
| Probe Calibration | E.2.1 | 7.0 | N | 1.00 | 1 | 1 | 7.0 | 7.0 | ∞ |
| Axial Isotropy | E.2.2 | 4.7 | R | 1.73 | 0.707 | 0.707 | 1.9 | 1.9 | ∞ |
| Hemispherical Isotropy | E.2.2 | 9.6 | R | 1.73 | 0.707 | 0.707 | 3.9 | 3.9 | ∞ |
| Boundary Effect | E.2.3 | 2.0 | R | 1.73 | 1 | 1 | 1.2 | 1.2 | ∞ |
| Linearity | E.2.4 | 4.7 | R | 1.73 | 1 | 1 | 2.7 | 2.7 | ∞ |
| System Detection Limits | E.2.5 | 1.0 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Readout Electronics | E.2.6 | 0.3 | N | 1.00 | 1 | 1 | 0.3 | 0.3 | ∞ |
| Response Time | E.2.7 | 1.1 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Integration Time | E.2.8 | 1.1 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| RF Ambient Conditions - Noise | E.6.1 | 3.0 | R | 1.73 | 1 | 1 | 1.7 | 1.7 | ∞ |
| RF Ambient Conditions - Reflections | E.6.1 | 0.0 | R | 1.73 | 1 | 1 | 0.0 | 0.0 | ∞ |
| Probe Positioner Mech. Tolerance | E.6.2 | 1.0 | R | 1.73 | 1 | 1 | 0.6 | 0.6 | ∞ |
| Probe Positioning w.r.t Phantom | E.6.3 | 4.0 | R | 1.73 | 1 | 1 | 2.3 | 2.3 | ∞ |
| Max. SAR Evaluation (ext., int., avg.) | E.5 | 2.1 | R | 1.73 | 1 | 1 | 1.2 | 1.2 | ∞ |
| **Test sample Related** | | | | | | | | | |
| Test Sample Positioning | E.4.2 | 3.2 | N | 1.00 | 1 | 1 | 3.2 | 3.2 | 29 |
| Device Holder Uncertainty | E.4.1 | 4.0 | N | 1.00 | 1 | 1 | 4.0 | 4.0 | 8 |
| SAR drift | 6.6.2 | 5.0 | R | 1.73 | 1 | 1 | 2.9 | 2.9 | ∞ |
| **Phantom and Tissue Parameters** | | | | | | | | | |
| Phantom Uncertainty | E.3.1 | 4.0 | R | 1.73 | 1 | 1 | 2.3 | 2.3 | ∞ |
| Dielectric Parameter Correction | -- | 1.4 | N | 1.00 | 1 | 0.79 | 1.4 | 1.1 | ∞ |
| Liquid Conductivity (measurement) | E.3.3 | 3.3 | N | 1.00 | 0.64 | 0.43 | 2.1 | 1.4 | ∞ |
| Liquid Permittivity (measurement) | E.3.3 | 1.9 | N | 1.00 | 0.6 | 0.49 | 1.1 | 0.9 | ∞ |
| **Combined Standard Uncertainty** | | | RSS | | | | 12 | 12 | 504 |
| **Expanded Uncertainty** (95% CONFIDENCE LEVEL) | | | *k*=2 | | | | 23 | 23 | |

Notes for uncertainty budget Tables:
a) Column headings *a-k* are given for reference.
b) Tol. - tolerance in influence quantity.
c) Prob. Dist. – Probability distribution
d) N, R - normal, rectangular probability distributions
e) Div. - divisor used to translate tolerance into normally distributed standard uncertainty
f) *ci* - sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.
g) *ui* – SAR uncertainty
h) *vi* - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty

# Appendix D

## SAR Summary Results Table for FCC PAG review

# Table D.1 UHF SAR Summary Results

| Table # | Body / Head / Face | Antenna No. | Battery No. | Body Worn No. | Audio No. | Front / Back | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 406.1250 | 422.3000 | 430.000 | 435.4000 | 440.0000 | 441.4000 | 450.0000 | 457.9000 | 470.0000 | 475.0000 | 484.0000 | 490.0000 | 496.2000 | 512.0000 |
| 18 | Body | 1 | 3 | 1 | 1 | Back | 2.53 | | | | | | | | | | | | | |
| 18 | Body | 2 | 3 | 1 | 1 | Back | 1.71 | | | | | | | | | | | | | |
| 18 | Body | 2 | 3 | 1 | 1 | Back | | | | | | | 3.69 | | | | | | | |
| 18 | Body | 3 | 3 | 1 | 1 | Back | | | | | 4.44 | | | | | | | | | |
| 18 | Body | 3 | 3 | 1 | 1 | Back | | | | | | | 5.76 | | | | | | | |
| 18 | Body | 3 | 3 | 1 | 1 | Back | | | | | | | | 4.28 | | | | | | |
| 18 | Body | 3 | 3 | 1 | 1 | Back | | | | | | | | | 3.01 | | | | | |
| 18 | Body | 5 | 3 | 1 | 1 | Back | | | | | | | 3.17 | | | | | | | |
| 18 | Body | 6 | 3 | 1 | 1 | Back | | | | | 4.56 | | | | | | | | | |
| 18 | Body | 6 | 3 | 1 | 1 | Back | | | | | | | 5.80 | | | | | | | |
| 18 | Body | 6 | 3 | 1 | 1 | Back | | | | | | | | 5.39 | | | | | | |
| 18 | Body | 6 | 3 | 1 | 1 | Back | | | | | | | | | 3.94 | | | | | |
| 18 | Body | 6 | 3 | 1 | 1 | Back | | | | | | | | | | | | 3.15 | | |
| 18 | Body | 7 | 3 | 1 | 1 | Back | | | | | | | | | 5.73 | | | | | |
| 18 | Body | 7 | 3 | 1 | 1 | Back | | | | | | | | | | | 4.82 | | | |
| 18 | Body | 7 | 3 | 1 | 1 | Back | | | | | | | | | | | | | 4.90 | |
| 18 | Body | 7 | 3 | 1 | 1 | Back | | | | | | | | | | | | | | 4.17 |
| 18 | Body | 8 | 3 | 1 | 1 | Back | 2.63 | | | | | | | | | | | | | |
| 18 | Body | 3 | 1 | 1 | 1 | Back | | | | | | | 5.54 | | | | | | | |
| 18 | Body | 6 | 1 | 1 | 1 | Back | | | | | 5.07 | | | | | | | | | |
| 18 | Body | 6 | 1 | 1 | 1 | Back | | | | | | | 6.53 | | | | | | | |
| 18 | Body | 6 | 1 | 1 | 1 | Back | | | | | | | | 5.90 | | | | | | |
| 18 | Body | 7 | 1 | 1 | 1 | Back | | | | | | | | | 6.24 | | | | | |
| 18 | Body | 7 | 1 | 1 | 1 | Back | | | | | | | | | | | 5.21 | | | |
| 18 | Body | 3 | 2 | 1 | 1 | Back | | | | | | | 3.99 | | | | | | | |
| 18 | Body | 6 | 2 | 1 | 1 | Back | | | | | | | 3.72 | | | | | | | |
| 18 | Body | 7 | 2 | 1 | 1 | Back | | | | | | | | | 4.21 | | | | | |
| 18 | Body | 3 | 4 | 1 | 1 | Back | | | | | | | 4.13 | | | | | | | |
| 18 | Body | 6 | 4 | 1 | 1 | Back | | | | | | | 4.31 | | | | | | | |
| 18 | Body | 7 | 4 | 1 | 1 | Back | | | | | | | | | 4.33 | | | | | |
| 19 | Body | 1 | 3 | 3 | 1 | Back | 2.53 | | | | | | | | | | | | | |
| 19 | Body | 2 | 3 | 3 | 1 | Back | | | | | | | 3.45 | | | | | | | |
| 19 | Body | 3 | 3 | 3 | 1 | Back | | | | | 3.41 | | | | | | | | | |
| 19 | Body | 3 | 3 | 3 | 1 | Back | | | | | | | 5.15 | | | | | | | |
| 19 | Body | 3 | 3 | 3 | 1 | Back | | | | | | | | 4.62 | | | | | | |
| 19 | Body | 3 | 3 | 3 | 1 | Back | | | | | | | | | 3.06 | | | | | |
| 19 | Body | 5 | 3 | 3 | 1 | Back | | | | | | | 2.84 | | | | | | | |
| 19 | Body | 6 | 3 | 3 | 1 | Back | | | | | | | 3.93 | | | | | | | |
| 19 | Body | 6 | 3 | 3 | 1 | Back | | | | | | | | | 4.12 | | | | | |
| 19 | Body | 6 | 3 | 3 | 1 | Back | | | | | | | | | | 3.42 | | | | |
| 19 | Body | 6 | 3 | 3 | 1 | Back | | | | | | | | | | | | 3.22 | | |

# Table D.1 UHF SAR Summary Results (Continued)

| Table # | Body / Head / Face | Antenna No. | Battery No. | Body Worn No. | Audio No. | Front / Back | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 406.1250 | 422.3000 | 430.000 | 435.4000 | 440.0000 | 441.4000 | 450.0000 | 457.9000 | 470.0000 | 475.0000 | 484.0000 | 490.0000 | 496.2000 | 512.0000 |
| 19 | Body | 7 | 3 | 3 | 1 | Back | | | | | | | | | 5.61 | | | | | |
| 19 | Body | 7 | 3 | 3 | 1 | Back | | | | | | | | | | | 4.73 | | | |
| 19 | Body | 7 | 3 | 3 | 1 | Back | | | | | | | | | | | | | 4.00 | |
| 19 | Body | 8 | 3 | 3 | 1 | Back | 2.11 | | | | | | | | | | | | | |
| 19 | Body | 3 | 1 | 3 | 1 | Back | | | | | | | 4.71 | | | | | | | |
| 19 | Body | 6 | 1 | 3 | 1 | Back | | | | | | | | | 3.90 | | | | | |
| 19 | Body | 7 | 1 | 3 | 1 | Back | | | | | | | | | 5.09 | | | | | |
| 19 | Body | 3 | 2 | 3 | 1 | Back | | | | | | | 2.79 | | | | | | | |
| 19 | Body | 6 | 2 | 3 | 1 | Back | | | | | | | | | 3.20 | | | | | |
| 19 | Body | 7 | 2 | 3 | 1 | Back | | | | | | | | | 4.30 | | | | | |
| 19 | Body | 3 | 2 | 3 | 1 | Back | | | | | | | 3.09 | | | | | | | |
| 19 | Body | 6 | 2 | 3 | 1 | Back | | | | | | | | | 2.70 | | | | | |
| 19 | Body | 7 | 2 | 3 | 1 | Back | | | | | | | | | 3.90 | | | | | |
| 19 | Body | 7 | 3 | 3 | 1 | Back | | | | | | | | | 5.61 | | | | | |
| 19 | Body | 7 | 3 | 3 | 1 | Back | | | | | | | | | | | 4.73 | | | |
| 19 | Body | 7 | 3 | 3 | 1 | Back | | | | | | | | | | | | | 4.00 | |
| 19 | Body | 8 | 3 | 3 | 1 | Back | 2.11 | | | | | | | | | | | | | |
| 19 | Body | 3 | 1 | 3 | 1 | Back | | | | | | | 4.71 | | | | | | | |
| 19 | Body | 6 | 1 | 3 | 1 | Back | | | | | | | | | 3.90 | | | | | |
| 20 | Body | 1 | 3 | 4 | 1 | Back | 2.06 | | | | | | | | | | | | | |
| 20 | Body | 2 | 3 | 4 | 1 | Back | | | | | | | 3.26 | | | | | | | |
| 20 | Body | 3 | 3 | 4 | 1 | Back | | | | | 3.59 | | | | | | | | | |
| 20 | Body | 3 | 3 | 4 | 1 | Back | | | | | | | 5.05 | | | | | | | |
| 20 | Body | 3 | 3 | 4 | 1 | Back | | | | | | | | 4.05 | | | | | | |
| 20 | Body | 3 | 3 | 4 | 1 | Back | | | | | | | | | 2.86 | | | | | |
| 20 | Body | 5 | 3 | 4 | 1 | Back | | | | | | | 2.93 | | | | | | | |
| 20 | Body | 6 | 3 | 4 | 1 | Back | | | | | 3.46 | | | | | | | | | |
| 20 | Body | 6 | 3 | 4 | 1 | Back | | | | | | | 4.88 | | | | | | | |
| 20 | Body | 6 | 3 | 4 | 1 | Back | | | | | | | | 5.30 | | | | | | |
| 20 | Body | 6 | 3 | 4 | 1 | Back | | | | | | | | | 4.18 | | | | | |
| 20 | Body | 6 | 3 | 4 | 1 | Back | | | | | | | | | | 3.79 | | | | |
| 20 | Body | 6 | 3 | 4 | 1 | Back | | | | | | | | | | | | 3.36 | | |
| 20 | Body | 7 | 3 | 4 | 1 | Back | | | | | | | | | 5.59 | | | | | |
| 20 | Body | 7 | 3 | 4 | 1 | Back | | | | | | | | | | | 4.67 | | | |
| 20 | Body | 7 | 3 | 4 | 1 | Back | | | | | | | | | | | | | 4.20 | |
| 20 | Body | 7 | 3 | 4 | 1 | Back | | | | | | | | | | | | | | 4.08 |
| 20 | Body | 8 | 3 | 4 | 1 | Back | 2.20 | | | | | | | | | | | | | |
| 20 | Body | 3 | 1 | 4 | 1 | Back | | | | | | | 4.57 | | | | | | | |
| 20 | Body | 6 | 1 | 4 | 1 | Back | | | | | | | | 4.88 | | | | | | |
| 20 | Body | 7 | 1 | 4 | 1 | Back | | | | | | | | | 5.38 | | | | | |
| 20 | Body | 3 | 2 | 4 | 1 | Back | | | | | | | 3.01 | | | | | | | |

# Table D.1 UHF SAR Summary Results (Continued)

| Table # | Body / Head / Face | Antenna No. | Battery No. | Body Worn No. | Audio No. | Front / Back | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 406.1250 | 422.3000 | 430.000 | 435.4000 | 440.0000 | 441.4000 | 450.0000 | 457.9000 | 470.0000 | 475.0000 | 484.0000 | 490.0000 | 496.2000 | 512.0000 |
| 20 | Body | 6 | 2 | 4 | 1 | Back | | | | | | | | 3.79 | | | | | | |
| 20 | Body | 7 | 2 | 4 | 1 | Back | | | | | | | | | 3.93 | | | | | |
| 20 | Body | 3 | 4 | 4 | 1 | Back | | | | | | | 3.51 | | | | | | | |
| 20 | Body | 6 | 4 | 4 | 1 | Back | | | | | | | | 3.96 | | | | | | |
| 20 | Body | 7 | 4 | 4 | 1 | Back | | | | | | | | | 4.19 | | | | | |
| 21 | Body | 1 | 3 | 5, 2 | 1 | Back | 1.66 | | | | | | | | | | | | | |
| 21 | Body | 2 | 3 | 5, 2 | 1 | Back | | | | | | | 2.32 | | | | | | | |
| 21 | Body | 3 | 3 | 5, 2 | 1 | Back | | | | | | | 3.38 | | | | | | | |
| 21 | Body | 5 | 3 | 5, 2 | 1 | Back | | | | | | | 2.16 | | | | | | | |
| 21 | Body | 6 | 3 | 5, 2 | 1 | Back | | | | | | | 3.76 | | | | | | | |
| 21 | Body | 6 | 3 | 5, 2 | 1 | Back | | | | | | | | | 2.86 | | | | | |
| 21 | Body | 7 | 3 | 5, 2 | 1 | Back | | | | | | | | | 3.93 | | | | | |
| 21 | Body | 7 | 3 | 5, 2 | 1 | Back | | | | | | | | | | | | | 3.17 | |
| 21 | Body | 8 | 3 | 5, 2 | 1 | Back | 1.73 | | | | | | | | | | | | | |
| 21 | Body | 7 | 1 | 5, 2 | 1 | Back | | | | | | | | | 3.95 | | | | | |
| 21 | Body | 7 | 1 | 5, 2 | 1 | Back | | | | | | | | | 2.91 | | | | | |
| 21 | Body | 7 | 1 | 5, 2 | 1 | Back | | | | | | | | | 2.75 | | | | | |
| 22 | Body | 1 | 3 | 7, 2 | 1 | Back | 0.92 | | | | | | | | | | | | | |
| 22 | Body | 2 | 3 | 7, 2 | 1 | Back | | | | | | | 1.48 | | | | | | | |
| 22 | Body | 3 | 3 | 7, 2 | 1 | Back | | | | | | | 2.14 | | | | | | | |
| 22 | Body | 5 | 3 | 7, 2 | 1 | Back | | | | | | | 1.15 | | | | | | | |
| 22 | Body | 6 | 3 | 7, 2 | 1 | Back | | | | | | | 2.14 | | | | | | | |
| 22 | Body | 7 | 3 | 7, 2 | 1 | Back | | | | | | | | | 2.33 | | | | | |
| 22 | Body | 8 | 3 | 7, 2 | 1 | Back | | | | | | | | | 0.75 | | | | | |
| 22 | Body | 7 | 1 | 7, 2 | 1 | Back | | | | | | | | | 2.08 | | | | | |
| 22 | Body | 7 | 2 | 7, 2 | 1 | Back | | | | | | | | | 2.04 | | | | | |
| 22 | Body | 7 | 4 | 7, 2 | 1 | Back | | | | | | | | | 1.72 | | | | | |
| 23 | Body | 1 | 3 | 5, 12, 13 | 1 | Back | 1.41 | | | | | | | | | | | | | |
| 23 | Body | 2 | 3 | 5, 12, 13 | 1 | Back | | | | | | | 1.99 | | | | | | | |
| 23 | Body | 3 | 3 | 5, 12, 13 | 1 | Back | | | | | | | 3.21 | | | | | | | |
| 23 | Body | 5 | 3 | 5, 12, 13 | 1 | Back | | | | | | | 1.94 | | | | | | | |
| 23 | Body | 6 | 3 | 5, 12, 13 | 1 | Back | | | | | | | 3.65 | | | | | | | |
| 23 | Body | 6 | 3 | 5, 12, 13 | 1 | Back | | | | | | | | | 3.23 | | | | | |
| 23 | Body | 7 | 3 | 5, 12, 13 | 1 | Back | | | | | | | | | 3.62 | | | | | |
| 23 | Body | 7 | 3 | 5, 12, 13 | 1 | Back | | | | | | | | | | | | | 3.48 | |
| 23 | Body | 8 | 3 | 5, 12, 13 | 1 | Back | 1.87 | | | | | | | | | | | | | |
| 23 | Body | 6 | 1 | 5, 12, 13 | 1 | Back | | | | | | | 3.82 | | | | | | | |
| 23 | Body | 6 | 2 | 5, 12, 13 | 1 | Back | | | | | | | 2.75 | | | | | | | |
| 23 | Body | 6 | 3 | 5, 12, 13 | 1 | Back | | | | | | | 2.91 | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 14 | Back | | | | | 4.86 | | | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 14 | Back | | | | | | | 5.87 | | | | | | | |

# Table D.1 UHF SAR Summary Results (Continued)

| Table # | Body / Head / Face | Antenna No. | Battery No. | Body Worn No. | Audio No. | Front / Back | F1 406.1250 | F2 422.3000 | F3 430.000 | F4 435.4000 | F5 440.0000 | F6 441.4000 | F7 450.0000 | F8 457.9000 | F9 470.0000 | F10 475.0000 | F11 484.0000 | F12 490.0000 | F13 496.2000 | F14 512.0000 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | Body | 6 | 1 | 1 | 14 | Back | | | | | | | | 6.04 | | | | | | |
| 24 | Body | 6 | 1 | 1 | 14 | Back | | | | | | | | | 3.88 | | | | | |
| 24 | Body | 6 | 1 | 1 | 14 | Back | | | | | | | | | | 3.65 | | | | |
| 24 | Body | 6 | 1 | 1 | 14 | Back | | | | | | | | | | | | 3.07 | | |
| 24 | Body | 6 | 1 | 1 | 15 | Back | | | | | 4.31 | | | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 15 | Back | | | | | | | 6.43 | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 15 | Back | | | | | | | | 5.67 | | | | | | |
| 24 | Body | 6 | 1 | 1 | 15 | Back | | | | | | | | | 4.11 | | | | | |
| 24 | Body | 6 | 1 | 1 | 15 | Back | | | | | | | | | | 3.98 | | | | |
| 24 | Body | 6 | 1 | 1 | 15 | Back | | | | | | | | | | | | 3.32 | | |
| 24 | Body | 6 | 1 | 1 | 3 | Back | | | | | 5.13 | | | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 3 | Back | | | | | | | 6.47 | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 3 | Back | | | | | | | | 6.21 | | | | | | |
| 24 | Body | 6 | 1 | 1 | 3 | Back | | | | | | | | | 4.56 | | | | | |
| 24 | Body | 6 | 1 | 1 | 3 | Back | | | | | | | | | | 4.01 | | | | |
| 24 | Body | 6 | 1 | 1 | 3 | Back | | | | | | | | | | | | 3.90 | | |
| 24 | Body | 6 | 1 | 1 | 10 | Back | | | | | 4.88 | | | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 10 | Back | | | | | | | 6.47 | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 10 | Back | | | | | | | | 6.40 | | | | | | |
| 24 | Body | 6 | 1 | 1 | 10 | Back | | | | | | | | | 4.87 | | | | | |
| 24 | Body | 6 | 1 | 1 | 10 | Back | | | | | | | | | | 4.55 | | | | |
| 24 | Body | 6 | 1 | 1 | 10 | Back | | | | | | | | | | | | 3.78 | | |
| 24 | Body | 6 | 1 | 1 | 11 | Back | | | | | 4.10 | | | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 11 | Back | | | | | | | 6.08 | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 11 | Back | | | | | | | | 5.99 | | | | | | |
| 24 | Body | 6 | 1 | 1 | 11 | Back | | | | | | | | | 4.59 | | | | | |
| 24 | Body | 6 | 1 | 1 | 11 | Back | | | | | | | | | | 4.25 | | | | |
| 24 | Body | 6 | 1 | 1 | 11 | Back | | | | | | | | | | | | 3.84 | | |
| 24 | Body | 6 | 1 | 1 | 12 | Back | | | | | 4.21 | | | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 12 | Back | | | | | | | 5.88 | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 12 | Back | | | | | | | | 5.91 | | | | | | |
| 24 | Body | 6 | 1 | 1 | 12 | Back | | | | | | | | | 4.35 | | | | | |
| 24 | Body | 6 | 1 | 1 | 12 | Back | | | | | | | | | | 4.33 | | | | |
| 24 | Body | 6 | 1 | 1 | 12 | Back | | | | | | | | | | | | 3.47 | | |
| 24 | Body | 6 | 1 | 1 | 9 | Back | | | | | 5.11 | | | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 9 | Back | | | | | | | 6.43 | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 9 | Back | | | | | | | | 5.97 | | | | | | |
| 24 | Body | 6 | 1 | 1 | 9 | Back | | | | | | | | | 4.62 | | | | | |
| 24 | Body | 6 | 1 | 1 | 9 | Back | | | | | | | | | | 4.34 | | | | |
| 24 | Body | 6 | 1 | 1 | 9 | Back | | | | | | | | | | | | 3.57 | | |
| 24 | Body | 6 | 1 | 1 | 18 | Back | | | | | 4.12 | | | | | | | | | |

# Table D.1 UHF SAR Summary Results (Continued)

| Table # | Body / Head / Face | Antenna No. | Battery No. | Body Worn No. | Audio No. | Front / Back | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 406.1250 | 422.3000 | 430.000 | 435.4000 | 440.0000 | 441.4000 | 450.0000 | 457.9000 | 470.0000 | 475.0000 | 484.0000 | 490.0000 | 496.2000 | 512.0000 |
| 24 | Body | 6 | 1 | 1 | 18 | Back | | | | | | | 6.28 | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 18 | Back | | | | | | | | 5.35 | | | | | | |
| 24 | Body | 6 | 1 | 1 | 18 | Back | | | | | | | | | 4.58 | | | | | |
| 24 | Body | 6 | 1 | 1 | 18 | Back | | | | | | | | | | 4.25 | | | | |
| 24 | Body | 6 | 1 | 1 | 18 | Back | | | | | | | | | | | | 3.62 | | |
| 24 | Body | 6 | 1 | 1 | 19 | Back | | | | | 3.83 | | | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 19 | Back | | | | | | | 6.03 | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 19 | Back | | | | | | | | 5.67 | | | | | | |
| 24 | Body | 6 | 1 | 1 | 19 | Back | | | | | | | | | 4.58 | | | | | |
| 24 | Body | 6 | 1 | 1 | 19 | Back | | | | | | | | | | 4.29 | | | | |
| 24 | Body | 6 | 1 | 1 | 19 | Back | | | | | | | | | | | | 3.73 | | |
| 24 | Body | 6 | 1 | 1 | 8, 4 | Back | | | | | 4.77 | | | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 8, 4 | Back | | | | | | | 6.18 | | | | | | | |
| 24 | Body | 6 | 1 | 1 | 8, 4 | Back | | | | | | | | 6.12 | | | | | | |
| 24 | Body | 6 | 1 | 1 | 8, 4 | Back | | | | | | | | | 4.70 | | | | | |
| 24 | Body | 6 | 1 | 1 | 8, 4 | Back | | | | | | | | | | 4.25 | | | | |
| 24 | Body | 6 | 1 | 1 | 8, 4 | Back | | | | | | | | | | | | 3.64 | | |
| 25 | Body | 6 | 1 | 1 | None(BT) | Back | | | | | 5.50 | | | | | | | | | |
| 25 | Body | 6 | 1 | 1 | None(BT) | Back | | | | | | | 6.40 | | | | | | | |
| 25 | Body | 6 | 1 | 1 | None(BT) | Back | | | | | | | | 6.31 | | | | | | |
| 25 | Body | 6 | 1 | 1 | None(BT) | Back | | | | | | | | | 5.29 | | | | | |
| 25 | Body | 6 | 1 | 1 | None(BT) | Back | | | | | | | | | | 4.45 | | | | |
| 25 | Body | 6 | 1 | 1 | None(BT) | Back | | | | | | | | | | | | 3.92 | | |
| 27 | Face | 1 | 4 | @ Front | N/A | Front | | 2.32 | | | | | | | | | | | | |
| 27 | Face | 2 | 4 | @ Front | N/A | Front | | 1.90 | | | | | | | | | | | | |
| 27 | Face | 3 | 4 | @ Front | N/A | Front | | | | | | | 3.38 | | | | | | | |
| 27 | Face | 5 | 4 | @ Front | N/A | Front | | 1.84 | | | | | | | | | | | | |
| 27 | Face | 6 | 4 | @ Front | N/A | Front | | | | | | | 3.51 | | | | | | | |
| 27 | Face | 6 | 4 | @ Front | N/A | Front | | | | | | | | | | | | 1.98 | | |
| 27 | Face | 7 | 4 | @ Front | N/A | Front | | | | | | | | | | | | | | 1.89 |
| 27 | Face | 8 | 4 | @ Front | N/A | Front | | 2.22 | | | | | | | | | | | | |
| 27 | Face | 6 | 1 | @ Front | N/A | Front | | | | | | | 3.99 | | | | | | | |
| 27 | Face | 6 | 2 | @ Front | N/A | Front | | | | | | | 3.89 | | | | | | | |
| 27 | Face | 6 | 4 | @ Front | N/A | Front | | | | | | | 4.10 | | | | | | | |
| 34 | Body | 2 | 3 | 1 | 1 | Back | 1.71 | | | | | | | | | | | | | |
| 34 | Body | 2 | 3 | 1 | 1 | Back | | 2.25 | | | | | | | | | | | | |
| 34 | Body | 2 | 3 | 1 | 1 | Back | | | 2.88 | | | | | | | | | | | |
| 34 | Body | 6 | 1 | 1 | 1 | Back | | | | | | | 6.53 | | | | | | | |
| 34 | Body | 6 | 1 | 1 | 1 | Back | | | | | | | | 5.90 | | | | | | |
| 34 | Body | 6 | 1 | 1 | 1 | Back | | | | | | | | | 4.49 | | | | | |

# Table D.1 UHF SAR Summary Results (Continued)

| Table # | Body / Head / Face | Antenna No. | Battery No. | Body Worn No. | Audio No. | Front / Back | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12 | F13 | F14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 406.1250 | 422.3000 | 430.000 | 435.4000 | 440.0000 | 441.4000 | 450.0000 | 457.9000 | 470.0000 | 475.0000 | 484.0000 | 490.0000 | 496.2000 | 512.0000 |
| 34 | Face | 1 | 4 | @ Front | None | Front | 2.43 | | | | | | | | | | | | | |
| 34 | Face | 1 | 4 | @ Front | None | Front | | 2.32 | | | | | | | | | | | | |
| 34 | Face | 1 | 4 | @ Front | None | Front | | | 2.47 | | | | | | | | | | | |
| 34 | Face | 6 | 3 | @ Front | None | Front | | | | | | | 4.10 | | | | | | | |
| 34 | Face | 6 | 3 | @ Front | None | Front | | | | | | | | 4.83 | | | | | | |
| 34 | Face | 6 | 3 | @ Front | None | Front | | | | | | | | | 3.72 | | | | | |
| 35 | Body | 1 | 3 | 1 | None (BT) | Back | | | | | | | | | | | | | | |
| 35 | Body | 1 | 3 | 1 | None (BT) | Back | | | | | | | | | | | | | | |
| 35 | Body | 1 | 3 | 1 | None (BT) | Back | | | | | | | | | | | | | | |
| 35 | Body | 2 | 3 | 1 | None (BT) | Back | | | | | | | | | | | | | | |
| 35 | Body | 5 | 3 | 1 | None (BT) | Back | | | | | | | | | | | | | | |
| 35 | Body | 7 | 3 | 1 | None (BT) | Back | | | | | | | | | | | | | | |
| 35 | Body | 7 | 3 | 1 | None (BT) | Back | | | | | | | | | | | | | | |
| 35 | Body | 8 | 3 | 1 | None (BT) | Back | | | | | | | | | | | | | | |
| 35 | Body | 8 | 3 | 1 | None (BT) | Back | | | | | | | | | | | | | | |
| 35 | Body | 8 | 3 | 1 | None (BT) | Back | | | | | | | | | | | | | | |
| 35 | Face | 1 | 3 | 1 | None (BT) | Front | | | | | | | | | | | | | | |
| 35 | Face | 1 | 3 | 1 | None (BT) | Front | | | | | | | | | | | | | | |
| 35 | Face | 1 | 3 | 1 | None (BT) | Front | | | | | | | | | | | | | | |
| 35 | Face | 5 | 3 | 1 | None (BT) | Front | | | | | | | | | | | | | | |
| 35 | Face | 5 | 3 | 1 | None (BT) | Front | | | | | | | | | | | | | | |
| 35 | Face | 7 | 3 | 1 | None (BT) | Front | | | | | | | | | | | | | | |
| 35 | Face | 8 | 3 | 1 | None (BT) | Front | | | | | | | | | | | | | | |
| 35 | Face | 8 | 3 | 1 | None (BT) | Front | | | | | | | | | | | | | | |
| 35 | Face | 8 | 3 | 1 | None (BT) | Front | | | | | | | | | | | | | | |
| 36 | Body | 6 | 1 | 1 | 1 | Back | | | | | | | 5.92 | | | | | | | |

# Table D.2 WLAN 2.4GHz SAR Summary Results

| Table # | Body / Head / Face | Antenna No. | Battery No. | Body Worn No. | Audio No. | Front / Back | F1 | F2 | F3 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 2412.0000 | 2437.0000 | 2462.0000 |
| 29 | Body | 4 | 1 | 1 | None | Back | 0.042 | | |
| 29 | Face | 4 | 4 | None | None | Front | | | 0.029 |
| 34 | Body | 4 | 1 | 1 | None | Back | 0.042 | | |
| 34 | Body | 4 | 1 | 1 | None | Back | | 0.041 | |
| 34 | Body | 4 | 1 | 1 | None | Back | | | 0.019 |
| 34 | Face | 4 | 4 | @ Front | None | Front | 0.019 | | |
| 34 | Face | 4 | 4 | @ Front | None | Front | | 0.019 | |
| 34 | Face | 4 | 4 | @ Front | None | Front | | | 0.029 |

# Table D.3 WLAN 5GHz SAR Summary Results

| Table # | Body / Head / Face | Antenna No. | Battery No. | Body Worn No. | Audio No. | Front / Back | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 5260.0000 | 5280.0000 | 5300.0000 | 5320.0000 | 5500.0000 | 5560.0000 | 5580.0000 | 5640.0000 | 5660.0000 | 5745.0000 | 5825.0000 |
| 31 | Body | 4 | 3 | 1 | None | Back | 0.274 | | | | | | | | | | |
| 31 | Face | 4 | 1 | None | None | Front | | | | 0.154 | | | | | | | |
| 32 | Body | 4 | 3 | 1 | None | Back | | | | | | | | 0.145 | | | |
| 32 | Face | 4 | 2 | None | None | Front | | | | | | | | 0.041 | | | |
| 33 | Body | 4 | 3 | 1 | None | Back | | | | | | | | | 0.124 | | |
| 33 | Face | 4 | 4 | None | None | Front | | | | | | | | | | 0.023 | |
| 34 | Body | 4 | 1 | 1 | None | Back | 0.274 | | | | | | | | | | |
| 34 | Body | 4 | 1 | 1 | None | Back | | | 0.248 | | | | | | | | |
| 34 | Body | 4 | 1 | 1 | None | Back | | | | 0.281 | | | | | | | |
| 34 | Face | 4 | 1 | @ Front | None | Front | 0.117 | | | | | | | | | | |
| 34 | Face | 4 | 1 | @ Front | None | Front | | | 0.110 | | | | | | | | |
| 34 | Face | 4 | 1 | @ Front | None | Front | | | | 0.154 | | | | | | | |
| 34 | Body | 4 | 3 | 1 | None | Back | | | | | 0.144 | | | | | | |
| 34 | Body | 4 | 3 | 1 | None | Back | | | | | | | 0.162 | | | | |
| 34 | Body | 4 | 3 | 1 | None | Back | | | | | | | | 0.145 | | | |
| 34 | Face | 4 | 2 | @ Front | None | Front | | | | | 0.043 | | | | | | |
| 34 | Face | 4 | 2 | @ Front | None | Front | | | | | | | 0.037 | | | | |
| 34 | Face | 4 | 2 | @ Front | None | Front | | | | | | | | 0.041 | | | |
| 34 | Body | 4 | 3 | 1 | None | Back | | | | | | | | | 0.124 | | |
| 34 | Body | 4 | 3 | 1 | None | Back | | | | | | | | | | 0.054 | |
| 34 | Body | 4 | 3 | 1 | None | Back | | | | | | | | | | | 0.043 |
| 34 | Face | 4 | 4 | @ Front | None | Front | | | | | | | | | 0.038 | | |
| 34 | Face | 4 | 4 | @ Front | None | Front | | | | | | | | | | 0.024 | |
| 34 | Face | 4 | 4 | @ Front | None | Front | | | | | | | | | | | 0.015 |