

 MOTOROLA SOLUTIONS	    SMM 826 CERTIFICATE 2518.05																																																								
SAR TEST REPORT Part 1 of 2																																																									
Motorola Solutions Inc. EME Test Laboratory Motorola Solutions Malaysia Sdn Bhd Plot 2A, Medan Bayan Lepas, Mukim 12 SWD 11900 Bayan Lepas Penang, Malaysia.	Date of Report: 09/15/2026 Report Revision: C																																																								
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ISED Test Site registration:	24843	CAB ID	MY0002	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. The results and statements contained in this report pertain only to the device(s) evaluated.
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Table of Contents:

1.0	Introduction	5
2.0	FCC SAR Summary	5
3.0	Abbreviations / Definitions.....	5
4.0	Referenced Standards and Guidelines	6
5.0	SAR Limits.....	6
6.0	Description of Device Under Test (DUT)	7
7.0	Optional Accessories and Test Criteria.....	8
7.1	Antennas	8
7.2	Battery	8
7.3	Body worn Accessory.....	8
7.4	Audio Accessories	9
8.0	Description of Test System.....	9
8.1	Descriptions of Robotics/Probes/Readout Electronics	10
8.2	Description of Phantom(s)	10
8.3	Description of Simulated Tissue	11
9.0	Additional Test Equipment	12
10.0	SAR Measurement System Validation and Verification	13
10.1	System Validation.....	13
10.2	System Verification	13
10.3	Equivalent Tissue Test Results	14
11.0	Environmental Test Conditions	15
12.0	DUT Test Setup and Methodology	15
12.1	Measurements.....	15
12.2	DUT Configuration(s).....	16
12.3.1	Body	16

12.3.2	Head.....	17
12.3.3	Face.....	17
12.4	DUT Test Channels.....	17
12.5	SAR Result Scaling Methodology.....	17
12.6	DUT Test Plan.....	18
13.0	DUT Test Data for LMR.....	18
13.1	SAR assessment for LMR VHF	18
13.1.1	Assessment at FCC for 150.8-173.4MHz	18
13.1.2	Assessment at ISSED for 138-174MHz.....	19
13.1.3	Assessment for outside FCC Frequency range.....	19
14.0	Shortened Scan Assessment.....	20
15.0	Results Summary.....	21
16.0	Variability Assessment	21
17.0	System Uncertainty	21

APPENDICES

A Measurement Uncertainty Budget

Part 2

APPENDICES

- B Probe Calibration Certificates
- C Dipole Calibration Certificates
- D System Verification Check Scans
- E DUT Scans
- F Shortened Scan of Highest SAR configuration
- G Conducted Output Power

EX7B

APPENDICES

DUT Test Position Photos

DUT, Body worn and audio accessories Photos

Report Revision History

Date	Revision	Comments
07/24/2026	A	Initial release
08/24/2026	B	Update cover page to include FCC Designation Number & CAB ID
09/15/2026	C	Update the antenna gain in section 7.0

1.0 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 AAH88LDK8AA3AN. This device is classified as Occupational/Controlled and model certified is listed as below:

Models	Hardware Version ID Number (HVIN)	Product Marketing Name (PMN)	Description
AAH88LDK8AA3AN	AAH88LDK8AA3AN	BPR 45	TANAPA BPR 45 136-174 MHz 5W NKP

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	150.8 – 173.4	0.87	0.69

3.0 Abbreviations / Definitions

CNR:	Calibration Not Required
CW:	Continuous Wave
DUT:	Device Under Test
EME:	Electromagnetic Energy
FM:	Frequency Modulation
LMR:	Land Mobile Radio
NA:	Not Applicable
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
- 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 6) – Radio Frequency (RF) Exposure Compliance of Radio communication Apparatus (All Frequency Bands)
- 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

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 radio contains transmit and receive circuitry for digital two-way radio communications. The modulation scheme used for digital two-way radio communications is 4 Level Frequency Shift Keying (4FSK). 4FSK is a modulation technique that transmits information by altering the frequency of the carrier frequency (RF) signal. Data is converted into complex symbols, which alter the RF signal and transmit the information. When the signal is received, the change in frequency is converted back into symbols and then into the original data. The system can accommodate 2-voice channels in a standard 12.5 kHz channel as used in two-way radio.

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.

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) Maximum Power (W)
LMR	136-174	FM	50*	6.00
LMR	136-174	4FSK	25*	6.00

Note - * includes 50% PTT operation

The intended operating positions are "at the face" with the DUT at least 2.5 cm 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.

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	AN000489A01 ¹	ANTENNA MAG ONE VHF WHIP 136-155 MHZ, cm, 1/4 Wave, 2.81 dBi	Yes	Yes
2	AN000490A01 ²	ANTENNA MAG ONE VHF WHIP 152-174 MHZ, cm, 1/4 Wave, 2.80 dBi	Yes	Yes

Note 1: This antenna kit PN for inbox, antenna kits PN#PMAD4166A for customer ordering

Note 2: This antenna kit PN for inbox, antenna kits PN#PMAD4167A for customer ordering

7.2 Battery

Table 5

Battery No.	Battery Models	Description	Selected for test	Tested	Comments
1	PMNN4908A	BATTERY PACK, BATT LI-ION 2200 MAH	Yes	Yes	

7.3 Body worn Accessory

Table 6

Body worn No.	Body worn Models	Description	Selected for test	Tested	Comments
1	PMLN8741A	BELT CLIP MAG ONE 2 INCH	Yes	Yes	

7.4 Audio Accessories

Table 7

Audio No.	Audio Acc. Models	Description	Selected for test	Tested	Comments
1	PMMN4092A	REMOTE SPEAKER MIC, MAG ONE	Yes	Yes	Default Audio
2	PMLN6534A	EARBUD W IN-LINE MIC/PTT/VOX, MAGONE	Yes	*No	
3	PMLN6542A	ACCESSORY KIT, BREEZE HS W BOOM MIC & PTT MAGONE	Yes	*No	
4	PMLN6532A	SWIVEL EARPC W MIC/PTT MAGONE	Yes	*No	
5	PMLN6536A	2-WIRE W/ TRANS TUBE, BLACK	Yes	*No	
6	PMLN6530A	2-WIRE W/ TRANS TUBE, BLACK	Yes	*No	
7	PMLN6445A	2-W SURV(BEIGE)W CLR ACOUSTICEARPCS	No	No	By similarity to PMLN6530A
8	PMLN6531A	EARPC W IN-LINE MIC/PTT/VOX, MAG ONE	No	No	By similarity to PMLN6534A

Note -*Intended for test. Per KDB provision tests not required.

8.0 Description of Test System

DASY5™ Test 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	EX3DV4 (E-Field)

The **DASY5™ system** is operated per the instructions in the DASY5™ Users 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	150MHz
	Head
Sugar	55.4
Diacetin	0
De ionized-Water	38.35
Salt	5.15
HEC	1.0
Bact.	0.1

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	7511	7/23/2024	7/23/2027
SPEAG DAE	DAE4	1488	1/16/2024	1/16/2027
POWER AMPLIFIER	50W100D	0357646	CNR	CNR
AMPLIFIER	5S1G4	313326	CNR	CNR
VECTOR SIGNAL GENERATOR	E4438C	MY42081753	10/27/25	10/27/26
POWER METER	E4416A	MY54020002	10/16/25	10/16/26
POWER METER	E4416A	MY50001037	08/04/25	08/04/26
POWER SENSOR	E4412A	MY61060015	09/21/25	09/21/26
POWER SENSOR	E4412A	MY61020016	10/24/25	10/24/26
BI-DIRECTIONAL COUPLER	3022	77115	08/27/25	08/27/26
BI-DIRECTIONAL COUPLER	3020A	41931	08/27/25	08/27/26
DATA LOGGER	DSB	16326820	12/18/25	12/18/26
THERMOMETER	HH806AU	080307	08/29/25	08/29/26
TEMPERATURE PROBE	80PK-22	06032017	10/13/25	10/13/26
NETWORK ANALYZER	E5071B	MY42403218	12/31/25	12/31/26
DATA LOGGER	DSB	16398050	10/13/25	10/13/26
THERMOMETER	HH202A	35881	01/24/26	01/24/27
DIELECTRIC ASSESSMENT KIT	DAK-3.5	1120	07/28/25	07/28/26
SPEAG DIPOLE	CLA150	4010	07/16/24	07/16/27

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	ϵ_r	Sensitivity	Linearity	Isotropy
CW								
09/08/2025	Body	150	7511	0.79	60.5	Pass	Pass	Pass
09/09/2025	Head	150		0.74	53.2	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. 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 (%)
7511	IEEE/IEC Head	SPEAG D150V3 / 4010e	*3.59 +/- 10%	3.56	3.56	6/20/2026	-0.84
				3.42	3.42	6/21/2026	-4.74
				3.44	3.44	6/22/2026@	-4.18
				3.51	3.51	6/23/2026	-2.23
				3.80	3.80	7/1/2026	5.85

Note: '@' indicates that system verification check covers 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
138.0000	IEEE/ IEC Head	0.75 (0.71-0.79)	52.9 (50.2-55.5)	0.75	51.6	6/22/2026
144.4000		0.76 (0.72-0.79)	52.6 (49.9-55.2)	0.76	51.3	6/22/2026@
150.0000		0.76 (0.72-0.80)	52.3 (49.7-54.9)	0.75	51.9	6/20/2026
				0.75	51.9	6/21/2026
				0.76	51.1	6/22/2026
				0.78	52.9	7/1/2026
150.8000		0.76 (0.72-0.80)	52.3 (49.6-54.9)	0.76	51.0	6/22/2026
				0.78	52.9	7/1/2026
154.9875	0.76 (0.73-0.80)	52.1 (49.5-54.7)	0.77	50.8	6/22/2026@	
166.3000	0.77 (0.73-0.81)	51.5 (49.0-54.1)	0.77	50.4	6/22/2026	

Note: '@' indicates that system verification check covers 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 $\pm 2^{\circ}\text{C}$ 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

Ambient Temperature	Target	Measured
	18 – 25 °C	Range: 21.3 – 23.4°C Avg. 22.0 °C
Tissue Temperature	18 – 25 °C	Range: 20.7-22.6°C 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	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location		30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area} , Δy_{Area}		≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 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: Δx_{Zoom} , Δy_{Zoom}		≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 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. * 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 2.5 cm from the phantom.

12.4 DUT Test Channels

The number of test channels was determined by using the following IEEE 1528 equation. The use of this equation produces the same or more test channels compared to the FCC KDB 447498 number of test channels formula.

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

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 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:

$$\text{Max_Calc} = \text{SAR_meas} \cdot 10^{\frac{-\text{Drift}}{10}} \cdot \frac{P_{\text{max}}}{P_{\text{int}}} \cdot \text{DC}$$

P_{max} = Maximum Power (W)

P_{int} = Initial Power (W)

Drift = DASY drift results (dB)

SAR_meas = Measured 1-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 $P_{\text{int}} > P_{\text{max}}$, then $P_{\text{max}}/P_{\text{int}} = 1$.

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 50% duty cycle was applied to PTT configurations in the final results.

13.0 DUT Test Data for LMR

13.1 SAR assessment for LMR VHF

13.1.1 Assessment at FCC for 150.8-173.4MHz

Table 17

SAR Plot	Test Position	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)
1	Body	AN0000489A01	PMNN4908A	PMLN8741A	PMMN4092A	150.8000	5.99	-0.53	1.49	0.84
						152.0125				
						154.9875				
	Body	AN0000490A01	PMNN4908A	PMLN8741A	PMMN4092A	152.0125				
						154.9875				
						159.1000				
						166.3000	6.00	0.00	0.76	0.38
						173.4000				
2	Face	AN0000489A01	PMNN4908A	None @ Front 2.5cm	None	150.8000	5.98	-0.06	1.35	0.69
						152.0125				
						154.9875				
	Face	AN0000490A01	PMNN4908A	None @ Front 2.5cm	None	152.0125				
						154.9875				
						159.1000				
						166.3000	5.99	-0.71	0.49	0.29
						173.4000				

13.1.2 Assessment at ISED for 138-174MHz

Based on the assessment results for body and face per KDB643646 D01, additional tests were not required for the ISED, Industry Canada frequency range (138-174 MHz).

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. The SAR results are in Tables below. SAR plots are included in Appendix for the highest configuration.

Table 18

SAR Plot	Test Position	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)
3	Body	AN0000489A01	PMNN4908A	PMLN8741A	PMMN4092A	138.0000	5.92	-0.42	1.60	0.89
						144.4000	5.93	-0.91	2.18	1.36
						150.8000	5.99	-0.53	1.49	0.84
						154.9875	5.90	-0.84	1.05	0.65
4	Face	AN0000489A01	PMNN4908A	None @ Front 2.5cm	None	138.0000	5.92	-0.49	0.48	0.27
						144.4000	5.93	-0.20	0.68	0.36
						150.8000	5.98	-0.06	1.35	0.69
						154.9875	5.90	-0.28	0.75	0.41

13.1.3 Assessment for outside FCC Frequency range

Table 19

SAR Plot	Test Position	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)
5	Body	AN0000489A01	PMNN4908A	PMLN8741A	PMMN4092A	138.0000	5.92	-0.42	1.60	0.89
						144.4000	5.93	-0.91	2.18	1.36
6	Face	AN0000489A01	PMNN4908A	None @ Front 2.5cm	None	138.0000	5.92	-0.49	0.48	0.27
						144.4000	5.93	-0.20	0.68	0.36

14.0 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 D demonstrate that the scaling methodology used to determine the calculated SAR results presented herein are valid. The SAR result from the Table below is provided in Appendix F.

Table 20

SAR Plot	Test Position	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)
7	Body	AN0000489A01	PMNN4908A	PMLN8741A	PMMN4092A	150.8000	5.94	-0.13	1.68	0.87

15.0 Results Summary

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 97

Designator	Frequency band (MHz)	Max Calc at Body (W/kg)	Max Calc at Face (W/kg)
		1g-SAR	1g-SAR
FCC			
LMR	150.8 – 173.4	0.87	0.69
ISED			
LMR	138 - 174	1.36	0.69
Overall			
LMR	136 - 174	1.36	0.69

All results are scaled to the maximum output power.

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 6).

16.0 Variability Assessment

Per the guidelines in KDB 865664 SAR variability assessment is not required because SAR results are below 4.0W/kg (Occupational) or 0.8W/kg (General population).

17.0 System Uncertainty

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

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 Device Under Test, for 4 MHz to 300 MHz

Input quantity Xi (source of uncertainty)	IEEE 1528 section (2020)	Tol. (± %)	Prob Dist	Div. ^a q_i	c_i (1 g)	c_i (10 g)	1 g u_i (±%)	10 g u_i (±%)
Measurement System								
Probe Calibration	8.4.1.1	13.3	N (k = 2)	2.00	1	1	6.7	6.7
Probe Calibration Drift	8.4.1.2	1.7	R	1.73	1	1	1.0	1.0
Probe linearity and detection limit	8.4.1.3	4.7	R	1.73	1	1	2.7	2.7
Broadband signal	8.4.1.4	0.6	R	1.73	1	1	0.3	0.3
Probe isotropy	8.4.1.5	7.6	R	1.73	1	1	4.4	4.4
Other probe and data acquisition errors	8.4.1.6	0.8	N	1.00	1	1	0.8	0.8
RF ambient and noise	8.4.1.7	1.8	N	1.00	1	1	1.8	1.8
Probe positioning errors	8.4.1.8	0.006 mm	N	1.00	0.04	0.04	0.1	0.1
Data processing errors	8.4.1.9	1.2	N	1.00	1	1	1.2	1.2
Phantom and Device								
Measurement of phantom conductivity(σ)	8.4.2.1	2.5	N	1.00	0.78	0.71	2.0	1.8
Temperature effects (medium)	8.4.2.2	5.4	R	1.73	0.78	0.71	2.4	2.2
Shell permittivity	8.4.2.3	14	R	1.73	0	0	0.0	0.0
Distance between the radiating element of the DUT and the phantom medium	8.4.2.4	2	N	1.00	2	2	4.0	4.0
Repeatability of positioning the DUT or source against the phantom	8.4.2.5	2.8	N	1.00	1	1	2.8	2.8
Device holder effects	8.4.2.6	4.55	N	1.00	1	1	4.6	4.6
Effect of operating mode on probe sensitivity	8.4.2.7	2.4	R	1.73	1	1	1.4	1.4
Time-average SAR	8.4.2.8	1.7	R	1.73	1	1	1.0	1.0
Variation in SAR due to drift in output of DUT	8.4.2.9	5	R	1.73	1	1	2.9	2.9
Validation antenna uncertainty (validation measurement only)	8.4.2.10	0	N	1.00	1	1	0.0	0.0
Uncertainty in accepted power (validation measurement only)	8.4.2.11	0	N	1.00	1	1	0.0	0.0
Corrections to the SAR result (if applied)								
Phantom deviation from target (ϵ', σ)	8.4.3.1	1.9	N	1.00	1	0.84	1.9	1.6
SAR scaling	8.4.3.2	0	R	1.73	1	1	0.0	0.0
Combined Standard Uncertainty								
			RSS				12.1	12.0
Expanded Uncertainty (95% CONFIDENCE LEVEL)								
			$k=2$				24.2	24.0

Uncertainty Budget for System Validation (dipole & flat phantom), for 4 MHz to 300 MHz

Uncertainty Component	IEEE 1528 section (2020)	Tol. (± %)	Prob Dist	Div. ^a q_i	c_i (1 g)	c_i (10 g)	1 g u_i (±%)	10 g u_i (±%)
Measurement System								
Probe Calibration	8.4.1.1	13.3	N	2.00	1	1	6.7	6.7
Probe Calibration Drift	8.4.1.2	1.7	R	1.73	1	1	1.0	1.0
Probe linearity and detection limit	8.4.1.3	4.7	R	1.73	1	1	2.7	2.7
Broadband signal	8.4.1.4	0.0	R	1.73	1	1	0.0	0.0
Probe isotropy	8.4.1.5	4.7	R	1.73	1	1	2.7	2.7
Other probe and data acquisition errors	8.4.1.6	0.8	N	1.00	1	1	0.8	0.8
RF ambient and noise	8.4.1.7	0.6	N	1.00	1	1	0.6	0.6
Probe positioning errors	8.4.1.8	0.006 mm	N	1.00	0.04	0.04	0.1	0.1
Data processing errors	8.4.1.9	0.6	N	1.00	1	1	0.6	0.6
Phantom and Device								
Measurement of phantom conductivity(σ)	8.4.2.1	2.5	N	1.00	0.78	0.71	2.0	1.8
Temperature effects (medium)	8.4.2.2	5.4	R	1.73	0.78	0.71	2.4	2.2
Shell permittivity	8.4.2.3	14	R	1.73	0	0	0.0	0.0
Distance between the radiating element of the DUT and the phantom medium	8.4.2.4	1	N	1.00	2	2	2.0	2.0
Effect of operating mode on probe sensitivity	8.4.2.7	0	R	1.73	1	1	0.0	0.0
Time-average SAR	8.4.2.8	0	R	1.73	1	1	0.0	0.0
Validation antenna uncertainty (validation measurement only)	8.4.2.10	3.2	N	1.00	1	1	3.2	3.2
Uncertainty in accepted power (validation measurement only)	8.4.2.11	2	N	1.00	1	1	2.0	2.0
Corrections to the SAR result (if applied)								
Phantom deviation from target (ϵ', σ)	8.4.3.1	1.9	N	1.00	1	0.84	1.9	1.6
Combined Standard Uncertainty			RSS				9.6	9.5
Expanded Uncertainty (95% CONFIDENCE LEVEL)			$k=2$				19.3	19.0