

**MOTOROLA SOLUTIONS**

CERTIFICATE 2518.05

SMM 826

DECLARATION OF COMPLIANCE SAR ASSESSMENT of PCII Report

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: 10/07/2025
Report Revision: B

Responsible Engineer: Yeng Yee Yeong (EME Engineer)
Report Author: Muhammad Hizami bin Ismail (EME Technician)
Date/s Tested: 06/21/2025, 07/15/2025 – 07/16/2025
Test Location: Penang EME Laboratory
Manufacturer: Motorola Solutions Inc. (Plantation)
Manufacturer Location: Motorola Solution Inc. (Plantation), 8000 West Sunrise Blvd MD 41-128, USA Plantation FL 333222-9947
DUT Description: Handheld Portable – APX 900 900MHz MODEL 2 PORTABLE
Test TX mode(s): CW (PTT), BT / BT LE, WLAN 802.11 b/g/n
Max. Power output: Refer table 3
Tx Frequency Bands: Refer table 3
Signaling type: Refer table 3
Model(s) Tested: H92WCF9PW6AN
Model(s) Certified: Refer 1.0 Introduction (HVIN/PMN)
Serial Number(s): 837TBK2531
Classification: Occupational/Controlled Environment
Applicant Name: Motorola Solutions Inc.
Applicant Address: Plot 2A, Medan Bayan Lepas, Mukim 12 SWD, 11900 Bayan Lepas, Penang, Malaysia
Firmware Version (FVIN): R36.01.00
FCC ID: AZ489FT7100
FCC Test Firm Registration Number: 823256
IC: 109U-89FT7100
ISED Test Site registration: 24843

The test results clearly demonstrate compliance with FCC Occupational/Controlled Environment RF Exposure limits of 8.0 W/kg averaged over 1 gram per the requirements of FCC 47 CFR § 2.1093 and RSS-102 (Issue 6)

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.

Saw Sun Hock (Approval Signatory)
Approved Date: 10/07/2025

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Report Revision History

Date	Revision	Comments
08/09/2025	A	Initial release
10/07/2025	B	Update model tested on cover page

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 H92WCF9PW6AN. The information herein is to show evidence of Class II Permissive Change compliance of the Driver Amplifier IC change in existing APX 900 family (FCC ID: AZ489FT7100). 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
H92WCF9PW6AN	H92WCF9PW6AN	APX 900	APX 900 900MHz MODEL 2 PORTABLE
H92WCH9PW7AN	H92WCH9PW7AN	APX 900	APX 900 900MHz MODEL 3 PORTABLE

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	896-901MHz	1.72	1.99 ¹
	935-940MHz	1.60	1.78 ²
*DSS	2402-2480 MHz (Bluetooth)	NA	NA
DTS	2412-2462 MHz (WLAN 802.11 b/g/n)	0.018	0.028
Simultaneous Results		1.74	2.02 ³

Note:

* denotes results not required per KDB (refer to section 13.3, 13.4 & 14.0).

¹ New highest SAR value 896-901MHz for face is 1.99 W/kg compared to previous on file SAR value of 1.30 W/kg

² New highest SAR value 935-940MHz for face is 1.78 W/kg compared to previous on file SAR value of 1.42 W/kg

³ New highest simultaneous SAR value 935-940MHz for face is 2.02 W/kg compared to previous on file SAR value of 1.45 W/kg

3.0 Abbreviations / Definitions

CNR: Calibration Not Required

CW: Continuous Wave

FSK: Frequency Shift Keying

DUT: Device Under Test

EME: Electromagnetic Energy

NA: Not Applicable

ISM: Industrial, Scientific and Medical

PTT: Push to Talk

SAR: Specific Absorption Rate

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 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
- FCC KDB – 248227 D01 802.11 Wi-Fi SAR v02r02

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) incorporating traditional simplex two-way radio transmission protocol. This device also contain WLAN technology for data capabilities over 802.11 b/g/n 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 GFSK Bluetooth transmission 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.

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

Radio Type	Band (MHz)	Transmission	Duty Cycle (%)	Conducted (Average Detector) Max Power (W)
LMR	896-901	FM	*50	3.00
LMR	935-940	FM	*50	3.00
BT	2402-2480	FHSS	77	0.0100
BT LE	2402-2480	FHSS	77	0.0100
WLAN	2412-2462	802.11b	100	0.0224
WLAN	2412-2462	802.11g	100	0.0083
WLAN	2412-2462	802.11n	100	0.0126

Note - * includes 50% PTT operation

The intended operating positions are “at the face” with the DUT at least 2.5cm 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. The following sections identify the test criteria and details for each accessory category applicable for this PCII filing. Detail listing of all approved offered accessories available in the original filing report.

7.1 Antennas

Table 4

Antenna No.	Antenna Models	Description	Selecte d for test	Tested
1	NAF5088B	Whip Antenna, 896-941 MHz; ½ wave; -3dBd gain	Yes	Yes

7.2 Batteries

Table 5

Battery No.	Battery Models	Description	Selecte d for test	Tested	Comments
1	PMNN4491E	IMPRES 2100 mAh, Li-Ion Slim High density Battery, IP68	Yes	Yes	

7.3 Body worn Accessories

Table 6

Body worn No.	Body worn Models	Description	Selecte d for test	Tested	Comments
1	PMLN4651A	2- Inch Spring Action Belt Clip	Yes	Yes	

7.4 Audio Accessories

None of the audio accessory is applicable for this PCII filing.

8.0 Description of Test System

DASY5™ Test System



8.1 Descriptions of Robotics/Probes/Readout Electronics

Table 7

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 8

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 9. 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 9

Ingredients	900MHz	
	Head	Body
Sugar	56.5	44.9
Diacetin	0	0
De ionized-Water	40.95	53.06
Salt	1.45	0.94
HEC	1	1
Bact.	0.1	0.1

9.0 Additional Test Equipment

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

Table 10

Equipment Type	Model Number	Serial Number	Calibration Date	Calibration Due Date
SPEAG PROBE	ES3DV3	3122	04/02/2025	04/02/2028
SPEAG DAE	DAE4	1294	12/08/2023	12/08/2026
POWER AMPLIFIER	50W100D	0357646	CNR	CNR
SIGNAL GENERATOR (VECTOR ESG 250KHZ-6GHZ)	E4438C	MY45091093	08/17/2024	08/17/2025
POWER METER	E4419B	MY45103725	07/18/2024	07/18/2025
POWER METER	E4416A	MY50001037	09/06/2024	09/06/2025
POWER SENSOR	E9301B	MY41495733	09/12/2024	09/12/2025
POWER SENSOR	E9301B	MY50280001	05/28/2025	05/28/2026
BI-DIRECTIONAL COUPLER	3020A	41935	08/20/2024	08/20/2025
POWER SOURCE	SE UMS 160 CB	4320	08/06/2024	08/06/2025
DATA LOGGER	DSB	16326831	12/08/2024	12/08/2025
THERMOMETER	HH806AU	080307	08/10/2024	08/10/2025
TEMPERATURE PROBE	80PK-22	06032017	10/16/2024	10/16/2025
NETWORK ANALYZER	E5071B	MY42403218	12/09/2024	12/09/2025
DATA LOGGER	DSB	16326831	12/08/2024	12/08/2025
THERMOMETER	HH806AU	080307	08/10/2024	08/10/2025
TEMPERATURE PROBE	80PK-22	06032017	10/16/2024	10/16/2025
DIELECTRIC ASSESSMENT KIT	DAK-3.5	1120	09/02/2024	09/02/2025
SPEAG DIPOLE	D900V2	1D025	11/11/2024	11/11/2027
POWER METER	E4419B	GB42420608	12/19/2024	12/19/2025
POWER SENSOR	E9301B	MY55210003	07/19/2024	07/19/2025

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 11

Dates	Probe Calibration Point		Probe SN	Measured Tissue Parameters		Validation		
				σ	ϵ_r	Sensitivity	Linearity	Isotropy
CW								
07/10/2024	Body	900	3122	0.95	52.82	Pass	Pass	Pass
07/08/2024	Head			0.90	40.10	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 12

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 (%)
3122	FCC Body	SPEAG D900V2 / 1d025	11.90 +/- 10%	0.35	11.17	250621	-6.1
	IEEE/IEC Head		11.10 +/- 10%	2.82	11.28	250715@	1.6

Note: '@' indicates that system verification check covers next test day

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 13

Frequency (MHz)	Tissue Type	Conductivity Target (S/m)	Dielectric Constant Target	Conductivity Meas. (S/m)	Dielectric Constant Meas.	Tested Date
896.0000	FCC Body	1.05 (0.99-1.10)	55.0 (52.3-57.8)	1.08	53.7	250621
	IEEE/IEC Head	0.97 (0.92-1.01)	41.5 (39.4-43.6)	0.91	44.6	250715@
899.0000	IEEE/IEC Head	0.97 (0.92-1.01)	41.5 (39.4-43.6)	0.91	44.6	250715@
900.0000	FCC Body	1.05 (1.00-1.10)	55.0 (52.2-57.8)	1.08	53.6	250621
	IEEE/IEC Head	0.97 (0.92-1.02)	41.5 (39.4-43.6)	0.91	44.6	250715@
901.0000	IEEE/IEC Head	0.97 (0.92-1.02)	41.5 (39.4-43.6)	0.91	44.6	250715@
935.0000	FCC Body	1.07 (1.00-1.10)	55.0 (52.2-57.8)	1.12	53.3	250621
	IEEE/IEC Head	0.99 (0.94-1.04)	41.5 (39.4-43.5)	0.93	44.5	250715@
938.0000	IEEE/IEC Head	0.99 (0.94-1.04)	41.5 (39.4-43.5)	0.93	44.5	250715@
940.0000	IEEE/IEC Head	0.99 (0.94-1.04)	41.5 (39.4-43.5)	0.93	44.5	250715@

Note: '@' indicates that tissue 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 14

	Target	Measured
Ambient Temperature	18 – 25 °C	Range: 20.6 – 22.8°C Avg. 21.7 °C
Tissue Temperature	18 – 25 °C	Range: 20.1-22.8°C Avg. 21.5°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 15

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		$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
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 $\leq$ 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. KDB 248227 D01 applied to WLAN test configurations.

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 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 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:

$$Max_Calc = SAR_meas \cdot 10^{\frac{-Drift}{10}} \cdot \frac{P_max}{P_int} \cdot DC$$

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

13.0 DUT Test Data

13.1 Assessment for FCC

13.1.1 Assessment for LMR

The DUT was assessed at the highest applicable configuration at the body and face found during the initial compliance assessment on filed with the FCC. SAR plots (bolded) of the highest SAR results are present in Appendix E.

Table 16

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									
NAF5088B	PMNN4491E	PMLN4651A	None(BT)	896.0000	3.00	-0.74	2.71	1.61	MFR-AB-250621-02
NAF5088B	PMNN4491E	PMLN4651A	None(BT)	935.0000	3.00	-0.88	2.46	1.51	MFR-AB-250621-03
Highest Face Configuration									
NAF5088B	PMNN4491E	@ front	None	896.0000	3.00	-0.96	3.15	1.96	MAN-FACE-250716-11@
NAF5088B	PMNN4491E	@ front	None	935.0000	3.00	-0.96	2.86	1.78	MAN-FACE-250716-12@

13.2 Additional assessment for ISED Canada

As per ISED Notice 2016-DRS001, additional tests only required the low, mid and high frequency channels for the highest configuration from Face that previous original filing (exceeded on filed SAR value). The SAR results are in Table below. SAR plots of the highest result for each sub bands and each test position (bolded) are presented in Appendix E.

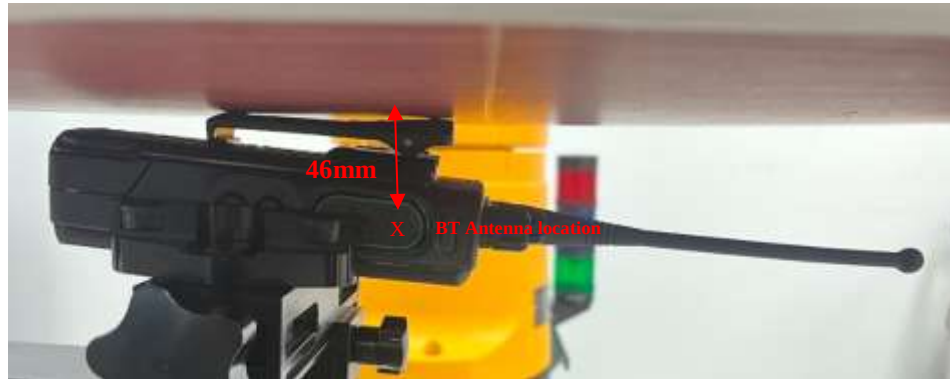
Table 17

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#
896 – 902MHz									
Highest Face Configuration									
NAF5088B	PMNN4491E	@ front	None	896.0000	3.00	-0.96	3.15	1.96	MAN-FACE-250716-11@
NAF5088B	PMNN4491E	@ front	None	899.0000	2.99	-0.76	3.33	1.99	MFR-FACE-250716-01@
NAF5088B	PMNN4491E	@ front	None	901.0000	3.00	-0.51	3.27	1.84	MFR-FACE-250716-02@
935 – 941MHz									
Highest Face Configuration									
NAF5088B	PMNN4491E	@ front	None	935.0000	3.00	-0.96	2.86	1.78	MAN-FACE-250716-12@
NAF5088B	PMNN4491E	@ front	None	938.0000	3.00	-0.65	2.89	1.68	MFR-FACE-250716-03@
NAF5088B	PMNN4491E	@ front	None	940.0000	2.98	-0.59	2.91	1.68	MFR-FACE-250716-04@

14.0 Assessments for Standalone BT

14.1 FCC Assessments for Standalone BT

Per guidelines in KDB 447498, the following formula was used to determine the test exclusion for standalone Bluetooth transmitter. The closest separation distance from the Bluetooth Antenna to the phantom is 46mm with PMLN4651A (Belt Clip), as indicated in the following picture:



$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] * [\sqrt{F_{(\text{GHz})}}] = 0.3, \text{ which is } \leq 3 \text{ for 1-g SAR}$$

Where:

Max. Power = 7.7mW (10*77% duty cycle)

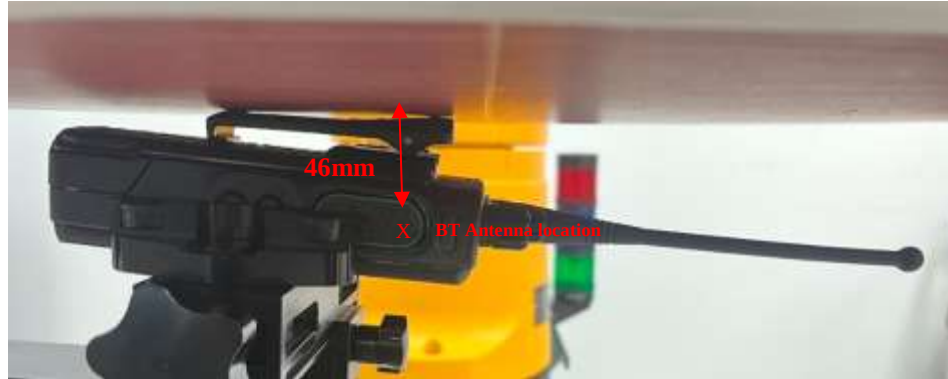
Min. test separation distance = 46 mm

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.

14.2 ISED Assessments for Standalone BT

The closest separation distance from the Bluetooth Antenna to the phantom is 46mm with PMLN4651A (Belt Clip), as indicated in the following picture:



Based on the Table 11 from RSS-102 (Issue 6), by applying interpolation formula at separation distance 46mm, the power limit is 209mW.

Table 11: Power limits for exemption from routine SAR evaluation based on the separation distance

Frequency (MHz)	≤ 5 mm (mW)	10 mm (mW)	15 mm (mW)	20 mm (mW)	25 mm (mW)	30 mm (mW)	35 mm (mW)	40 mm (mW)	45 mm (mW)	> 50 mm (mW)
≤ 300	45	116	139	163	189	216	246	280	319	362
450	32	71	87	104	124	147	175	208	248	296
835	21	32	41	54	72	96	129	172	228	298
1900	6	10	18	33	57	92	138	194	257	323
2450	3	7	16	32	56	89	128	170	209	245
3500	2	6	15	29	50	72	94	114	134	158
5800	1	5	13	23	32	41	54	74	102	128

Where:

Max. power = 7.7mW (10*77% duty cycle)

Since the output power level, 7.7mW is below the power limit of 209mW, SAR test is exempt for Bluetooth.

15.0 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 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#
NAF5088B	PMNN4491E	@ front	None	899.0000	3.00	-0.47	3.51	1.96	MAN-FACE-250716-09@

16.0 Simultaneous Transmission

These devices use a single transmitter module and antenna for both WLAN and BT. WLAN and BT cannot transmit simultaneously. Simultaneous transmission for BT had been excluded as mentioned in section 14.0. The maximum sourced-based-time-averaged output power for 802.11 b is 22.4mW while BT is 7.7mW. Therefore the measured SAR from 802.11b is used in conjunction with LMR for simultaneous results.

The Table below summarizes the simultaneous transmissions between LMR and WLAN bands.

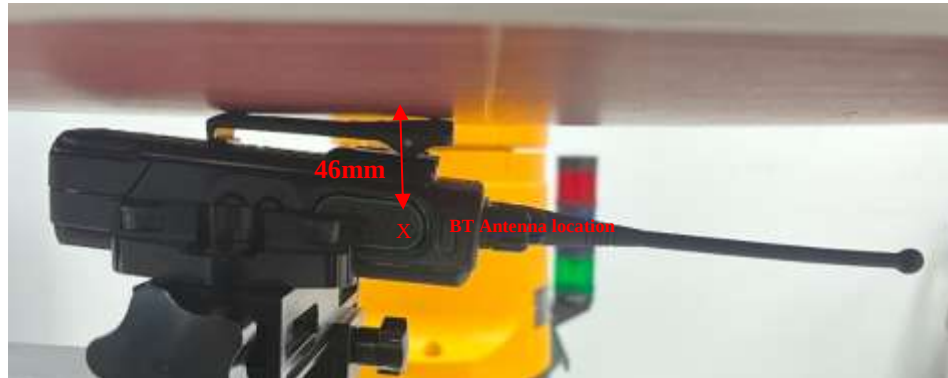
Table 21

		LMR Bands
Freq. (MHz)		450-512 MHz
WLAN Band	2412 - 2462	✓

16.1 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 $\leq 50\text{mm}$:

The closest separation distance from the Bluetooth Antenna to the phantom is 46 mm with a belt clip, as indicated in the picture below.



$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] * [\sqrt{F(\text{GHz})}/X] = 0.04 \text{ W/kg, which is } \leq 0.4 \text{ W/kg (1g)}$$

Where:

$X = 7.5$ for 1g-SAR; 18.75 for 10g

Max. Power = 7.7mW ($10\text{mW} * 77\%$ duty cycle)

Min. test separation distance = 46mm

$F(\text{GHz}) = 2.48 \text{ GHz}$

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

17.0 Results Summary

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

Table 19

Designator	Frequency band (MHz)	Max Calc at Body (W/kg)	Max Calc at Face (W/kg)
		1g-SAR	1g-SAR
FCC US			
LMR	896-901MHz	1.72	1.99 ¹
	935-940MHz	1.60	1.78 ²
*BT	2402-2480 MHz (Bluetooth)	NA	NA
WLAN 2.4 GHz	2412-2462 MHz (WLAN 802.11 b/g/n)	0.018	0.028
Highest Simultaneous Transmission SAR	Sum of SAR (W/kg)	1.74	2.02 ³
ISED Canada			
LMR	896-901MHz	1.72	1.99 ¹
	935-940MHz	1.60	1.78 ²
*BT	2402-2480 MHz (Bluetooth)	NA	NA
WLAN 2.4 GHz	2412-2462 MHz (WLAN 802.11 b/g/n)	0.018	0.028
Highest Simultaneous Transmission SAR	Sum of SAR (W/kg)	1.74	2.02 ³
Overall			
LMR	896-901MHz	1.72	1.99 ¹
	935-940MHz	1.60	1.78 ²
*BT	2402-2480 MHz (Bluetooth)	NA	NA
WLAN 2.4 GHz	2412-2462 MHz (WLAN 802.11 b/g/n)	0.018	0.028
Highest Simultaneous Transmission SAR	Sum of SAR (W/kg)	1.74	2.02 ³

All results are scaled to the maximum output power.

Note:

* denotes results not required per KDB (refer to section 13.3, 13.4 & 14.0).

¹ New highest SAR value 896-901MHz for face is 1.99 W/kg compared to previous on file SAR value of 1.30 W/kg

² New highest SAR value 935-940MHz for face is 1.78 W/kg compared to previous on file SAR value of 1.42 W/kg

³ New highest simultaneous SAR value 935-940MHz for face is 2.02 W/kg compared to previous on file SAR value of 1.45 W/kg

The test results clearly demonstrate compliance with FCC/ISED 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).

18.0 Variability Assessment

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

19.0 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

Table A.1: Uncertainty Budget for Device Under Test: 800 – 3000 MHz

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e = f(d,k)</i>	<i>f</i>	<i>g</i>	<i>h = c x f / e</i>	<i>i = c x g / e</i>	<i>k</i>
Uncertainty Component	IEEE 1528 section	Tol. (± %)	Prob Dist	Div.	<i>c_i</i> (1 g)	<i>c_i</i> (10 g)	1 g <i>u_i</i> (±%)	10 g <i>u_i</i> (±%)	<i>v_i</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)			<i>k</i> =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) *c_i* - sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.g) *u_i* – SAR uncertaintyh) *v_i* - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty

Table A.2: Uncertainty Budget for System Validation: 800 – 3000 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	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) c_i - sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.g) u_i – SAR uncertaintyh) v_i - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty

Appendix B

Probe Calibration Certificates

Calibration Laboratory of
Schmid & Partner
Engineering AG
 Zeughausstrasse 43, 8004 Zurich, Switzerland



34
S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
 The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **Motorola Solutions**
 Bayan Lepas, Malaysia

Certificate No. **ES-3122_Apr25**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3122**

Calibration procedure(s) **QA CAL-01.v10, QA CAL-12.v10, QA CAL-23.v6, QA CAL-25.v8**
 Calibration procedure for dosimetric E-field probes

Calibration date **April 02, 2025**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.
 All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3) °C and humidity < 70%.
 Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Calibration Date (Certificate No.)	Sched. Cal.
Power Sensor R&S NRP-33T	SN: 100967	26-Mar-25 (No. 217-04290)	Mar-26
Short [S6019i] + Attenuator [S6020i]	SN: L1119	26-Mar-25 (No. 217-04292)	Mar-26
OCP DAK-12	SN: 1016	24-Sept-24 (No. OCP-DAK12-1016_Sep24)	Sep-25
OCP DAK-3.5	SN: 1249	23-Sept-24 (No. OCP-DAK3.5-1249_Sep24)	Sep-25
Reference Probe EX3DV4	SN: 7349	10-Jan-25 (No. EX3-7349_Jan25)	Jan-26
DAE4	SN: 1301	07-Nov-24 (No. DAE4-1301_Nov24)	Nov-25
Secondary Standards	ID	Check Date (in house)	Sched. Check
ACAP 2020 Calibration Box	SN: L1404	30-Sept-24 (No. Report_ACAP2020E-Cave_20240930s)	Sep-25

Calibrated by	Name Claudio Leubler	Function Laboratory Technician	Signature
Approved by	Sven Kühn	Technical Manager	
Issued: April 02, 2025 This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			

Certificate No: ES-3122_Apr25

Page 1 of 10

Calibration Laboratory ofSchmid & Partner
Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
C Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Glossary

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization θ	θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\theta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices – Part 1528: Human Models, Instrumentation And Procedures (Frequency Range of 4 MHz to 10 GHz)", October 2020.
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\theta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * frequency_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal. DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).

ES3DV3 - SN:3122

April 02, 2025

Parameters of Probe: ES3DV3 - SN:3122

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k = 2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	1.29	1.22	1.46	±10.1%
DCP (mV) ^B	101.8	103.0	102.3	±4.7%

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Max dev.	Max Unc ^E k = 2
0	CW	X	0.00	0.00	1.00	0.00	122.8	±0.8%	±4.7%
		Y	0.00	0.00	1.00		142.1		
		Z	0.00	0.00	1.00		133.6		

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of Norm X,Y,Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6).
^B Linearization parameter uncertainty for maximum specified field strength.
^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

ES3DV3 - SN:3122

April 02, 2025

Parameters of Probe: ES3DV3 - SN:3122

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle	23.1°
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

ES3DV3 - SN:3122

April 02, 2025

Parameters of Probe: ES3DV3 - SN:3122**Calibration Parameter Determined in HSL**

f (MHz) ^C	Relative Permittivity ^F	Conductivity ^F (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc ^H (k = 2)
150	52.3	0.76	7.21	6.85	6.96	0.00	2.00	±13.3%
300	45.3	0.87	6.96	6.96	6.96	0.15	1.00	±13.3%
450	43.5	0.87	6.77	6.77	6.77	0.21	1.30	±13.3%
750	41.9	0.89	6.26	5.93	6.01	0.31	2.18	±11.0%
835	41.5	0.90	6.25	5.92	6.00	0.31	2.18	±11.0%
900	41.5	0.97	5.97	5.65	5.73	0.31	2.18	±11.0%

^C Frequency validity above 300 MHz of ±100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ±50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ±10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4–8 MHz, and ConvF assessed at 13 MHz is 9–19 MHz. Above 5 GHz frequency validity can be extended to ±110 MHz.

^F The probes are calibrated using tissue simulating liquids (TSL) that deviate for ϵ and σ by less than ±5% from the target values (typically better than ±3%) and are valid for TSL with deviations of up to ±10% if SAR correction is applied.

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ±1% for frequencies below 3 GHz and below ±2% for frequencies between 3–6 GHz at any distance larger than half the probe tip diameter from the boundary.

^H The stated uncertainty is the total calibration uncertainty (k = 2) of Norm-ConvF. This is equivalent to the uncertainty component with the symbol CF in Table 9 of IEC/IEEE 62209-1528:2020.

ES3DV3 - SN:3122

April 02, 2025

Parameters of Probe: ES3DV3 - SN:3122**Calibration Parameter Determined in MSL**

f (MHz) ^C	Relative Permittivity ^F	Conductivity ^F (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc ^H (k = 2)
150	61.9	0.80	6.95	6.61	6.74	0.00	2.00	±13.3%
300	58.2	0.92	6.73	6.73	6.73	0.08	1.35	±13.3%
450	56.7	0.94	6.71	6.71	6.71	0.15	1.20	±13.3%
750	55.5	0.96	6.24	5.99	5.89	0.35	2.18	±11.0%
835	55.2	0.97	5.99	5.74	5.64	0.35	2.18	±11.0%
900	55.0	1.05	6.04	5.80	5.70	0.35	2.18	±11.0%

^C Frequency validity above 300 MHz of ±100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ±50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ±10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4–9 MHz, and ConvF assessed at 13 MHz is 9–19 MHz. Above 5 GHz frequency validity can be extended to ±110 MHz.

^F The probes are calibrated using tissue simulating liquids (TSL) that deviate for ϵ and σ by less than ±5% from the target values (typically better than ±3%) and are valid for TSL with deviations of up to ±10% if SAR correction is applied.

^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ±1% for frequencies below 3 GHz and below ±2% for frequencies between 3–6 GHz at any distance larger than half the probe tip diameter from the boundary.

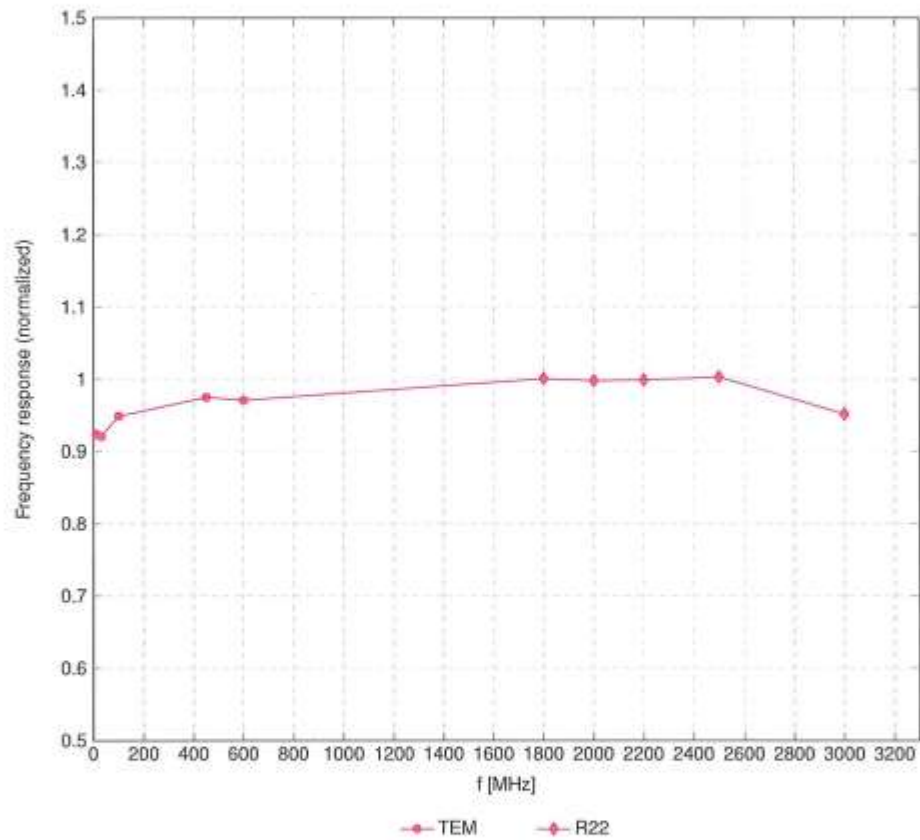
^H The stated uncertainty is the total calibration uncertainty (k = 2) of Norm-ConvF. This is equivalent to the uncertainty component with the symbol CF in Table 9 of IEC/IEEE 62209-1528:2020.

ES3DV3 - SN:3122

April 02, 2025

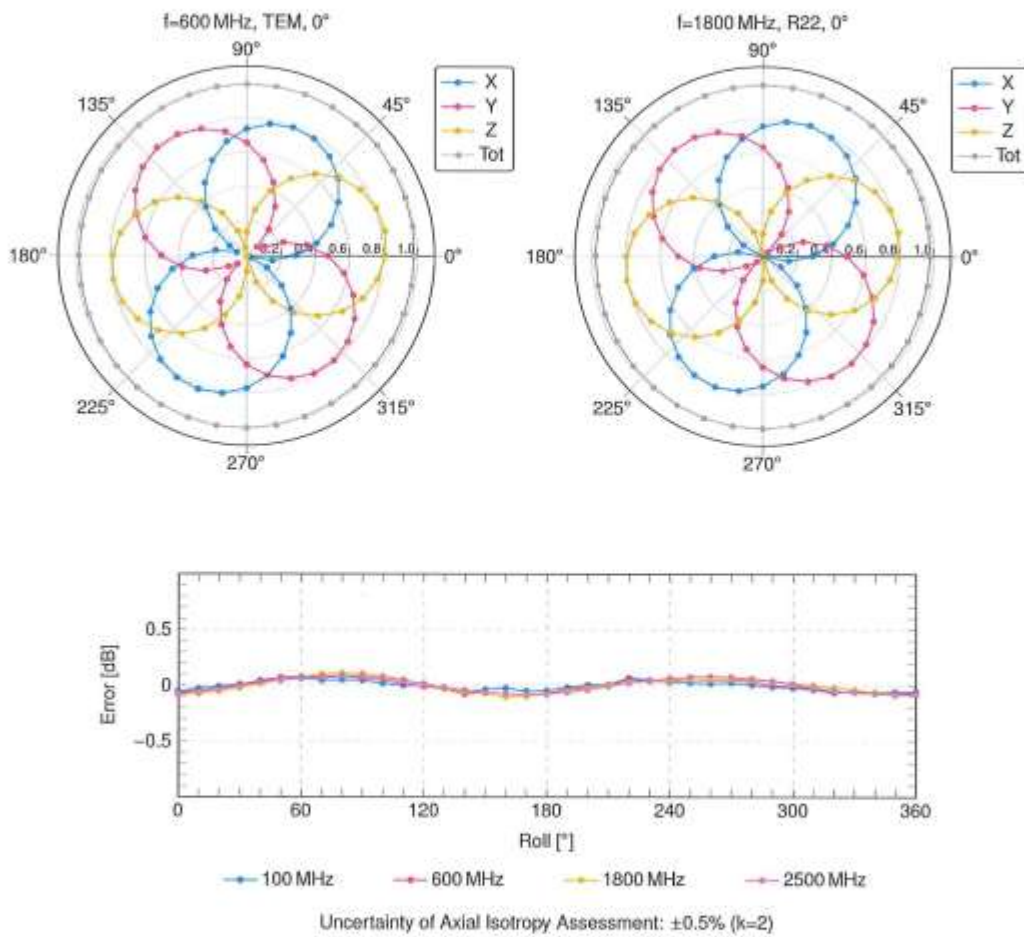
Frequency Response of E-Field

(TEM-Cell:if110 EXX, Waveguide:R22)

Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

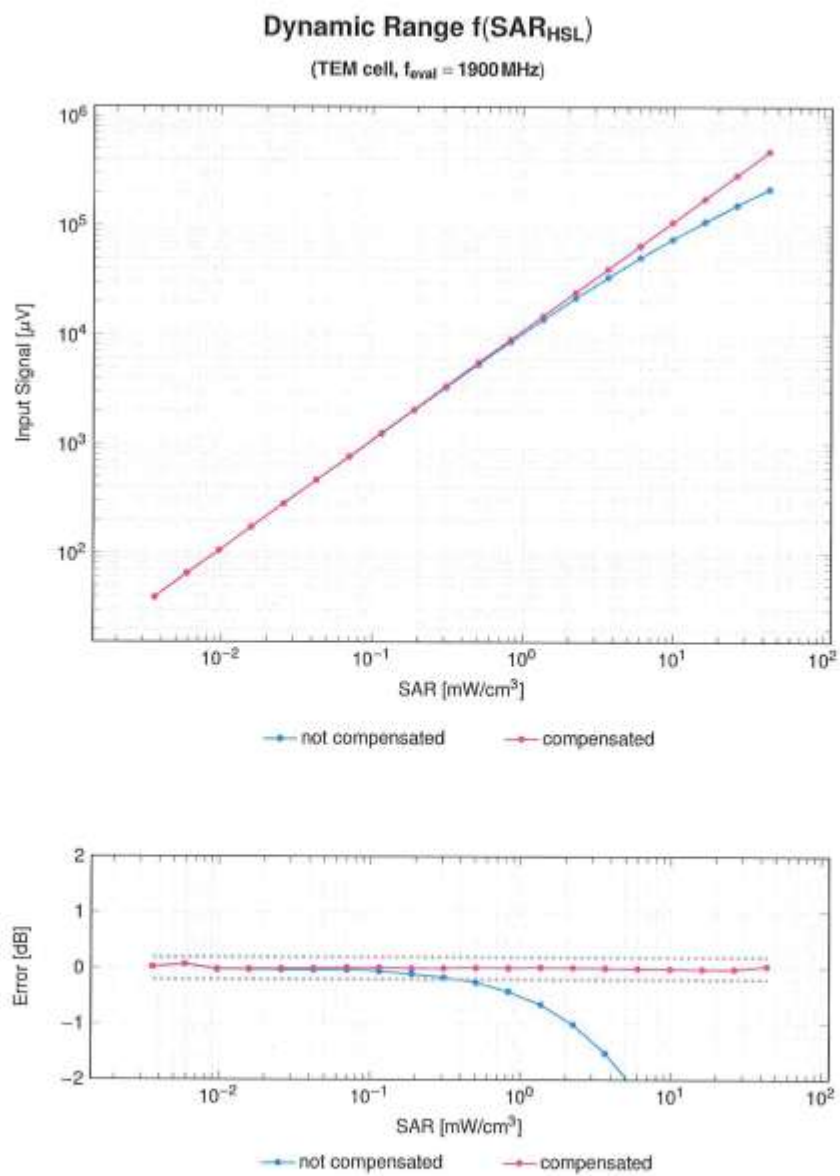
ES3DV3 - SN:3122

April 02, 2025

Receiving Pattern (ϕ), $\theta = 0^\circ$ 

ES3DV3 - SN:3122

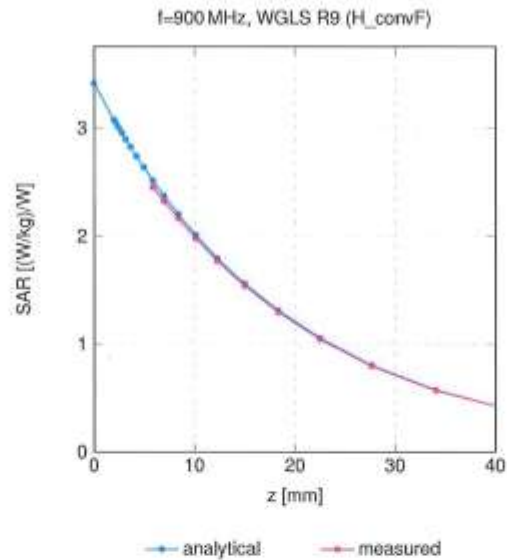
April 02, 2025



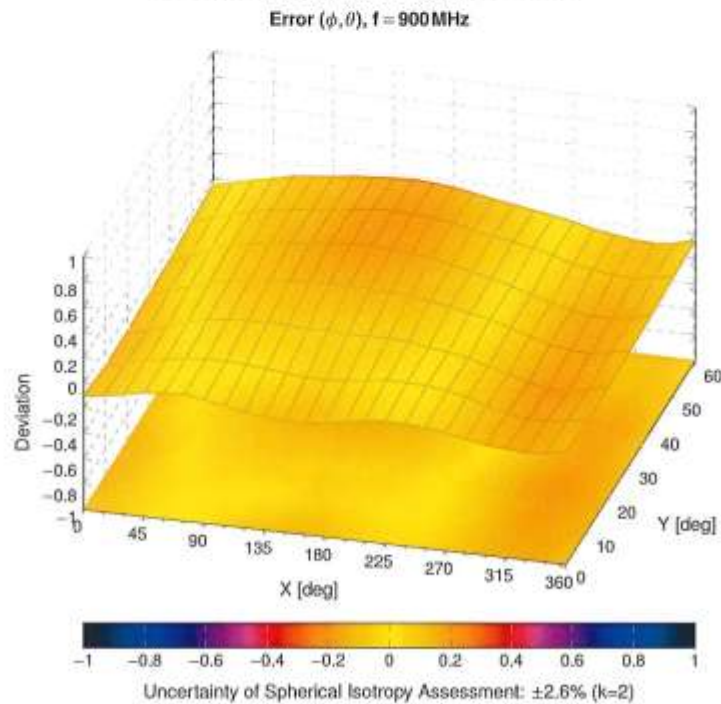
ES3DV3 - SN:3122

April 02, 2025

Conversion Factor Assessment



Deviation from Isotropy in Liquid



Appendix C

Dipole Calibration Certificates

Calibration Laboratory of**Schmid & Partner
Engineering AG**

Zeughausstrasse 43, 8004 Zurich, Switzerland

**S** Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificatesAccreditation No.: **SCS 0108**Client **Motorola Solutions**
Bayan Lepas, MalaysiaCertificate No. **D900V2-1d025_Nov24****CALIBRATION CERTIFICATE**Object **D900V2 - SN: 1d025**Calibration procedure(s) **QA CAL-05.v12**
Calibration Procedure for SAR Validation Sources between 0.7 - 3 GHzCalibration date **November 11, 2024**This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Cal
Power Sensor R&S NRP-33T	SN: 100967	28-Mar-24 (No. 217-04038)	Mar-25
Power Sensor R&S NRP18A	SN: 101859	22-Jul-24 (No. 4030A315008547)	Jul-25
Spectrum Analyzer R&S FSV40	SN: 101832	25-Jan-24 (No. 4030-315007551)	Jan-25
Mismatch; Short [S4188] Attenuator [S4423]	SN: 1152	28-Mar-24 (No. 217-04050)	Mar-25
OCP DAK-12	SN: 1016	24-Sep-24 (No. OCP-DAK12-1016_Sep24)	Sep-25
OCP DAK-3.5	SN: 1249	23-Sep-24 (No. OCP-DAK3.5-1249_Sep24)	Sep-25
Reference Probe EX3DV4	SN: 7349	03-Jun-24 (No. EX3-7349_Jun24)	Jun-25
DAE4ip	SN: 1836	28-Oct-24 (No. DAE4ip-1836_Oct24)	Oct-25

Secondary Standards	ID	Check Date (in house)	Scheduled Check
ACAD Source Box	SN: 1000	28-May-24 (No. 675-ACAD_Source_Box-240528)	May-25
Signal Generator R&S SMB100A	SN: 182081	28-May-24 (No. 675-CAL16-S4588-240528)	May-25
Mismatch; SMA	SN: 1102	22-May-24 (No. 675-Mismatch_SMA-240522)	May-25

	Name	Function	Signature
Calibrated by	Paulo Pina	Laboratory Technician	
Approved by	Sven Kühn	Technical Manager	
			Issued: November 12, 2024
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			

Certificate No: D900V2-1d025_Nov24

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Calibration Laboratory of
Schmid & Partner
Engineering AG
 Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary

TSL tissue simulating liquid
 ConvF sensitivity in TSL / NORM x,y,z
 N/A not applicable or not measured

Calibration is Performed According to the Following Standards

- IEC/IEEE 62209-1528, "Measurement Procedure For The Assessment Of Specific Absorption Rate Of Human Exposure To Radio Frequency Fields From Hand-Held And Body-Worn Wireless Communication Devices - Part 1528: Human Models, Instrumentation And Procedures (Frequency Range of 4 MHz to 10 GHz)", October 2020.
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation

- DASY System Handbook

Methods Applied and Interpretation of Parameters

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

D900V2 - SN: 1d025

November 11, 2024

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY8 Module SAR	16.4.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with spacer
Zoom Scan Resolution	dx, dy = 6mm, dz = 1.5mm	Graded Ratio = 1.5 mm (Z direction)
Frequency	900MHz $\pm$ 1MHz	

Head TSL parameters at 900 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.970 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	42.8 $\pm$ 6%	0.950 mho/m $\pm$ 6%
Head TSL temperature change during test	< 0.5 °C		

SAR result with Head TSL at 900 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR for nominal Head TSL parameters	24 dBm input power	2.79 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	11.1 W/kg $\pm$ 17.0% (k = 2)

SAR averaged over 10 cm³ (10 g) of Head TSL	Condition	
SAR for nominal Head TSL parameters	24 dBm input power	1.79 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	7.13 W/kg $\pm$ 16.5% (k = 2)

D900V2 - SN: 1d025

November 11, 2024

Body TSL parameters at 900 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.0	1.05 mho/m
Measured Body TSL parameters	(22.0 ±0.2)°C	55.4 ±6%	1.01 mho/m ±6%
Body TSL temperature change during test	< 0.5 °C		

SAR result with Body TSL at 900 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR for nominal Body TSL parameters	24 dBm input power	3.00 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	11.9 W/kg ±17.0% (k = 2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	Condition	
SAR for nominal Body TSL parameters	24 dBm input power	1.95 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	7.76 W/kg ±16.5% (k = 2)

D900V2 - SN: 1d025

November 11, 2024

Appendix (Additional assessments outside the scope of SCS 0108)**Antenna Parameters with Head TSL at 900 MHz**

Impedance	49.9 Ω – 6.6 j Ω
Return Loss	-23.6 dB

Antenna Parameters with Body TSL at 900 MHz

Impedance	45.8 Ω – 8.3 j Ω
Return Loss	-20.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.399 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured. The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard. No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
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D900V2 - SN: 1d025

November 11, 2024

System Performance Check Report

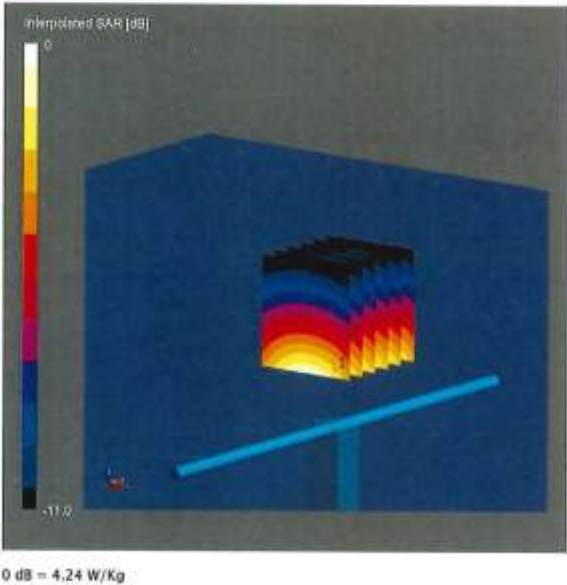
Summary			
Dipole	Frequency [MHz]	TSL	Power [dBm]
D900V2 - SN1d025	900	HSL	24

Exposure Conditions							
Phantom Section, TSL	Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat	15	CW, 0---		900, 0	9.36	0.95	42.8

Hardware Setup			
Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Flat V4.9 mod	HSL, 2024-11-04	EX3DV4 - SN7349, 2024-06-03	DAE4ip Sn1836, 2024-10-28

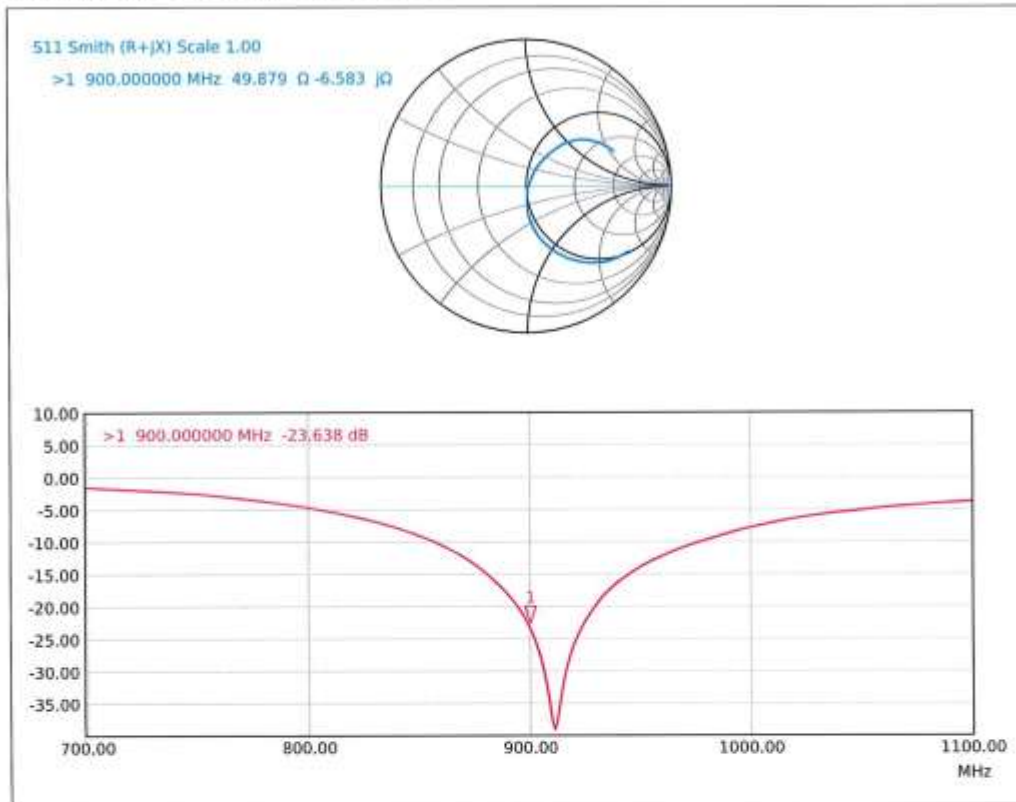
Scans Setup	
	Zoom Scan
Grid Extents [mm]	30 x 30 x 30
Grid Steps [mm]	6.0 x 6.0 x 1.5
Sensor Surface [mm]	1.4
Graded Grid	Yes
Grading Ratio	1.5
MAIA	N/A
Surface Detection	VMS + Gp
Scan Method	Measured

Measurement Results	
	Zoom Scan
Date	2024-11-04
ptSAR1g [W/Kg]	2.79
ptSAR10g [W/Kg]	1.79
Power Drift [dB]	0.00
Power Scaling	Disabled
Scaling Factor [dB]	
TSL Correction	Positive / Negative



D900V2 - SN: 1d025

November 11, 2024

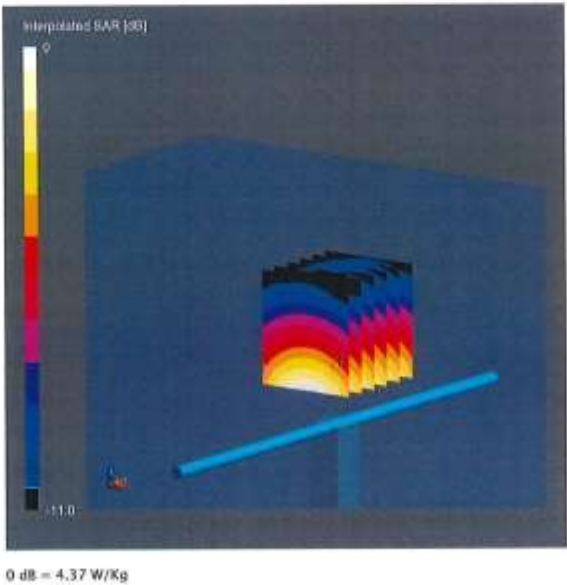
Impedance Measurement Plot for Head TSL

D900V2 - SN: 1d025

November 11, 2024

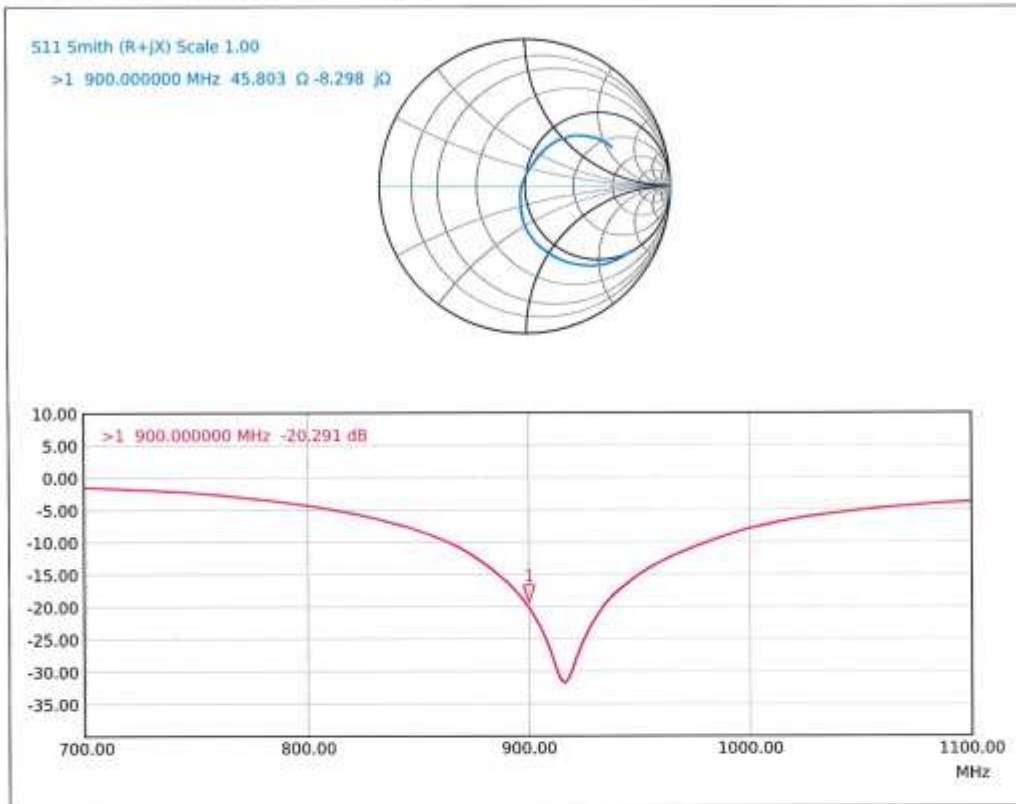
System Performance Check Report

Summary								
Dipole		Frequency [MHz]			TSL	Power [dBm]		
D900V2 - SN1d025		900			MSL	24		
Exposure Conditions								
Phantom Section, TSL	Test Distance [mm]	Band	Group, U/D	Frequency [MHz], Channel Number		Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat	15		CW, 0---	900, 0		9.81	1.01	55.4
Hardware Setup								
Phantom	TSL, Measured Date			Probe, Calibration Date			DAE, Calibration Date	
Flat V4.9 mod	MSL, 2024-11-11			EX3DV4 - SN7349, 2024-06-01			DAE4ip Sn1836, 2024-10-28	
Scans Setup				Measurement Results				
Zoom Scan				Zoom Scan				
Grid Extents [mm]				Date				
10 x 10 x 10				2024-11-11				
Grid Steps [mm]				psSAR1g (W/Kg)				
6.0 x 6.0 x 1.5				3.00				
Sensor Surface [mm]				psSAR10g (W/Kg)				
1.4				1.95				
Graded Grid				Power Drift [dB]				
Yes				0.00				
Grading Ratio				Power Scaling				
1.5				Disabled				
MASA				Scaling Factor [dB]				
N/A								
Surface Detection				TSL Correction				
All points				Positive / Negative				
Scan Method								
Measured								



D900V2 - SN: 1d025

November 11, 2024

Impedance Measurement Plot for Body TSL

Certificate No: D900V2-1d025_Nov24

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Dipole Data

The table below includes dipole impedance and return loss measurement data measured by Motorola Solutions' EME lab. The results meet the requirements stated in KDB 865664.

Dipole 900-1d025	Head			Body		
	Impedance		Return Loss	Impedance		Return Loss
Date Measured	real Ω	imag $j\Omega$	dB	real Ω	imag $j\Omega$	dB
12/01/2024	47.74	-6.33	-20.57	42.70	-5.05	-21.09

Appendix D

System Verification Check Scans

Motorola Solutions, Inc. EME Laboratory

Date/Time: 6/21/2025 1:10:36 AM

Robot#: DASY5-PG-2 | Run#: MIN-SYSP-900B-250621-01
 Dipole Model#: D900V2
 Phantom#: ELI4 1050
 Tissue Temp: 21.1 (C)
 Serial#: 1D025
 Test Freq: 900.0000 (MHz)
 Start Power: 31.6(mW)
 Rotation (1D): 0.057 dB
 Adjusted SAR (1W): 11.17 mW/g (1g)

Comments:

Communication System Band: Dipole 900, Communication System UID: 0, Duty Cycle: 1:1,
 Medium parameters used: $f = 900$ MHz; $\sigma = 1.083$ S/m; $\epsilon_r = 53.635$; $\rho = 1000$ kg/m³
 Probe: ES3DV3 - SN3122, Calibrated: 4/2/2025, Frequency: 900 MHz, ConvF(6.04, 5.8, 5.7) @ 900 MHz
 Electronics: DAE4 Sn1294, Calibrated: 12/8/2023

Below 2 GHz-Rev.2/System Performance Check/Dipole Area Scan 2 (41x121x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 20.73 V/m; Power Drift = 0.01 dB

Fast SAR: SAR(1 g) = 0.354 W/kg; SAR(10 g) = 0.232 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 0.424 W/kg

Below 2 GHz-Rev.2/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 20.73 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.522 W/kg

SAR(1 g) = 0.353 W/kg; SAR(10 g) = 0.230 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 19.2 mm

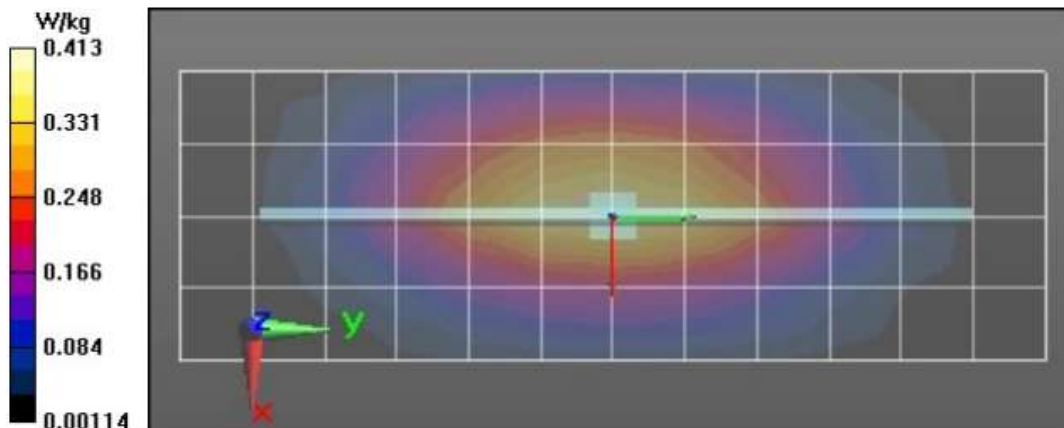
Ratio of SAR at M2 to SAR at M1 = 67.7%

Maximum value of SAR (measured) = 0.427 W/kg

Below 2 GHz-Rev.2/System Performance Check/Z-Axis Retraction (1x1x17): Measurement

grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 0.428 W/kg



Appendix E

DUT Scans

FCC Highest Assessments for LMR at Body – Table 16

Motorola Solutions, Inc. EME Laboratory
Date/Time: 6/21/2025 5:58:23 PM

Robot#: DASY5-PG-2 | Run#: MFR-AB-250621-02
Model#: H92WCF9PW6AN (PMUF1912A)
Phantom#: ELI4 1050
Tissue Temp: 22.2 (C)
Serial#: 837TBK2531
Antenna: NAF5088B
Test Freq: 896.0000 (MHz)
Battery: PMNN4491E
Carry Acc: PMLN4651A
Audio Acc: None(BT)
Start Power: 3.00(W)

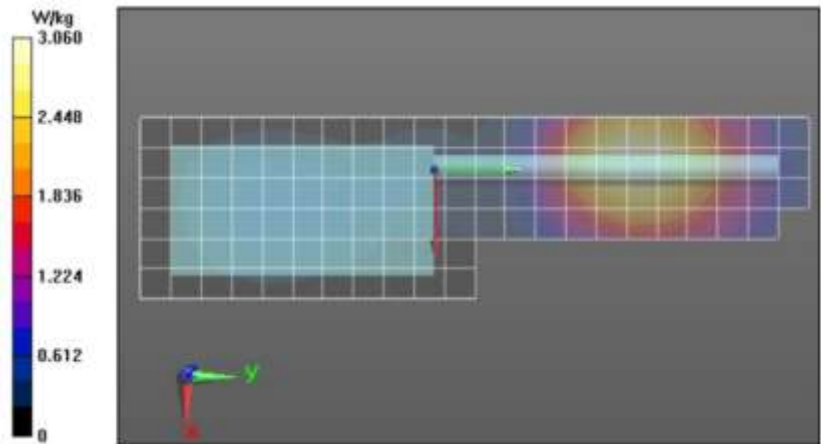
Comments:

Communication System Band: APX900 7/800, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 896 MHz; σ = 1.079 S/m; ϵ_r = 53.669; ρ = 1000 kg/m³
Probe: ES3DV3 - SN3122, Calibrated: 4/2/2025, Frequency: 896 MHz, ConvF(6.04, 5.8, 5.7) @ 896 MHz
Electronics: DAE4 Sn1294, Calibrated: 12/8/2023

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (61x231x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 55.71 V/m; Power Drift = -0.61 dB
Fast SAR: SAR(1 g) = 2.78 W/kg; SAR(10 g) = 1.93 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 3.15 W/kg

Below 2 GHz-Rev.2/Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm,
dy=7.5mm, dz=5mm
Reference Value = 55.71 V/m; Power Drift = -0.74 dB
Peak SAR (extrapolated) = 3.48 W/kg
SAR(1 g) = 2.71 W/kg; SAR(10 g) = 1.97 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid
Ratio of SAR at M2 to SAR at M1 = 75.6%
Maximum value of SAR (measured) = 3.03 W/kg

Below 2 GHz-Rev.2/Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm,
dz=10mm
Maximum value of SAR (measured) = 2.98 W/kg



FCC Highest Assessments for LMR at Face – Table 17

Motorola Solutions, Inc. EME Laboratory
Date/Time: 7/16/2025 12:00:42 AM

Robot#: DASY5-PG-2 | Run#: MFR-FACE-250716-01@
Model#: H92WCF9PW6AN (PMUF1912A)
Phantom#: ELI4 1022
Tissue Temp: 21.5 (C)
Serial#: 837TBK2531
Antenna: NAF5088B
Test Freq: 899.0000 (MHz)
Battery: PMNN4491E
Carry Acc: @front
Audio Acc: None
Start Power: 2.99 (W)

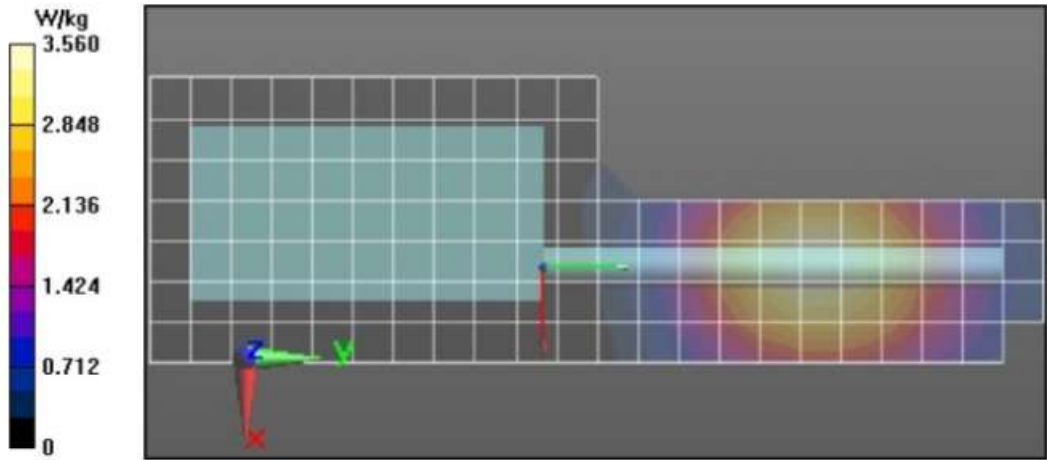
Comments:

Communication System Band: APX900 7/800, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 899 MHz; σ = 0.913 S/m; ϵ_r = 44.565; ρ = 1000 kg/m³
Probe: ES3DV3 - SN3122, Calibrated: 4/2/2025, Frequency: 899 MHz, ConvF(5.97, 5.65, 5.73) @ 899 MHz
Electronics: DAE4 Sn1294, Calibrated: 12/8/2023

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (71x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 59.29 V/m; Power Drift = -0.64 dB
Fast SAR: SAR(1 g) = 3.42 W/kg; SAR(10 g) = 2.34 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 3.65 W/kg

Below 2 GHz-Rev.2/Face Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 59.29 V/m; Power Drift = -0.76 dB
Peak SAR (extrapolated) = 3.74 W/kg
SAR(1 g) = 3.33 W/kg; SAR(10 g) = 2.53 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid
Ratio of SAR at M2 to SAR at M1 = 81.3%
Maximum value of SAR (measured) = 3.42 W/kg

Below 2 GHz-Rev.2/Face Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.38 W/kg



ISED Highest Assessments for LMR at Body – Table 16

Motorola Solutions, Inc. EME Laboratory
Date/Time: 6/21/2025 5:58:23 PM

Robot#: DASY5-PG-2 | Run#: MFR-AB-250621-02
Model#: H92WCF9PW6AN (PMUF1912A)
Phantom#: ELI4 1050
Tissue Temp: 22.2 (C)
Serial#: 837TBK2531
Antenna: NAF5088B
Test Freq: 896.0000 (MHz)
Battery: PMNN4491E
Carry Acc: PMLN4651A
Audio Acc: None(BT)
Start Power: 3.00(W)

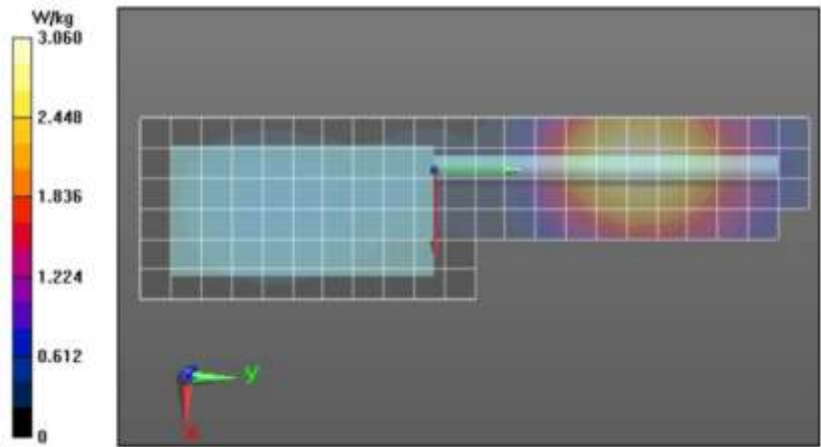
Comments:

Communication System Band: APX900 7/800, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 896 MHz; σ = 1.079 S/m; ϵ_r = 53.669; ρ = 1000 kg/m³
Probe: ES3DV3 - SN3122, Calibrated: 4/2/2025, Frequency: 896 MHz, ConvF(6.04, 5.8, 5.7) @ 896 MHz
Electronics: DAE4 Sn1294, Calibrated: 12/8/2023

Below 2 GHz-Rev.2/Ab Scan/1-Area Scan (61x231x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 55.71 V/m; Power Drift = -0.61 dB
Fast SAR: SAR(1 g) = 2.78 W/kg; SAR(10 g) = 1.93 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 3.15 W/kg

Below 2 GHz-Rev.2/Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 55.71 V/m; Power Drift = -0.74 dB
Peak SAR (extrapolated) = 3.48 W/kg
SAR(1 g) = 2.71 W/kg; SAR(10 g) = 1.97 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid
Ratio of SAR at M2 to SAR at M1 = 75.6%
Maximum value of SAR (measured) = 3.03 W/kg

Below 2 GHz-Rev.2/Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.98 W/kg



ISED Highest Assessments for LMR at Face – Table 17

Motorola Solutions, Inc. EME Laboratory
Date/Time: 7/16/2025 12:00:42 AM

Robot#: DASY5-PG-2 | Run#: MFR-FACE-250716-01@
Model#: H92WCF9PW6AN (PMUF1912A)
Phantom#: ELI4 1022
Tissue Temp: 21.5 (C)
Serial#: 837TBK2531
Antenna: NAF5088B
Test Freq: 899.0000 (MHz)
Battery: PMNN4491E
Carry Acc: @front
Audio Acc: None
Start Power: 2.99 (W)

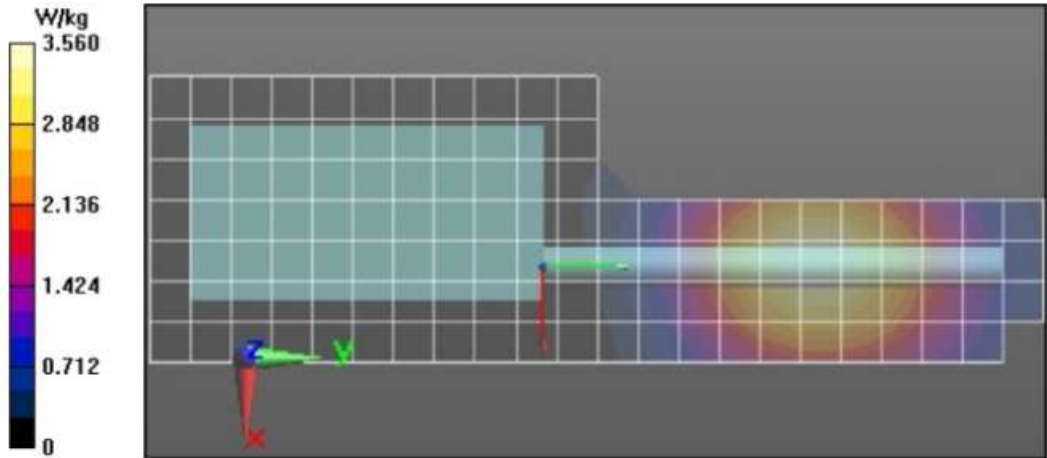
Comments:

Communication System Band: APX900 7/800, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 899 MHz; σ = 0.913 S/m; ϵ_r = 44.565; ρ = 1000 kg/m³
Probe: ES3DV3 - SN3122, Calibrated: 4/2/2025, Frequency: 899 MHz, ConvF(5.97, 5.65, 5.73) @ 899 MHz
Electronics: DAE4 Sn1294, Calibrated: 12/8/2023

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (71x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 59.29 V/m; Power Drift = -0.64 dB
Fast SAR: SAR(1 g) = 3.42 W/kg; SAR(10 g) = 2.34 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 3.65 W/kg

Below 2 GHz-Rev.2/Face Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 59.29 V/m; Power Drift = -0.76 dB
Peak SAR (extrapolated) = 3.74 W/kg
SAR(1 g) = 3.33 W/kg; SAR(10 g) = 2.53 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid
Ratio of SAR at M2 to SAR at M1 = 81.3%
Maximum value of SAR (measured) = 3.42 W/kg

Below 2 GHz-Rev.2/Face Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 3.38 W/kg



APPENDIX F

Shortened Scan of Highest SAR configuration

Shortened Scan Table 18

Motorola Solutions, Inc. EME Laboratory Date/Time: 7/16/2025 7:48:45 AM

Robot#: DASY5-PG-2 | Run#: MAN-FACE-250716-09@
 Model#: H92WCF9PW6AN (PMUF1912A)
 Phantom#: ELI4 1022
 Tissue Temp: 22.6 (C)
 Serial#: 837TBK2531
 Antenna: NAF5088B
 Test Freq: 899.0000 (MHz)
 Battery: PMNN4491E
 Carry Acc: @front
 Audio Acc: None
 Start Power: 2.99 (W)

Comments:

Communication System Band: APX900 7/800, Communication System UID: 0, Duty Cycle: 1:1,
 Medium parameters used: $f = 899$ MHz; $\sigma = 0.913$ S/m; $\epsilon_r = 44.565$; $\rho = 1000$ kg/m³
 Probe: ES3DV3 - SN3122, Calibrated: 4/2/2025, Frequency: 899 MHz, ConvF(5.97, 5.65, 5.73) @ 899 MHz
 Electronics: DAE4 Sn1294, Calibrated: 12/8/2023

Below 2 GHz-Rev.2/Face Scan/1-Area Scan (71x221x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 59.10 V/m; Power Drift = -0.70 dB

Fast SAR: SAR(1 g) = 3.17 W/kg; SAR(10 g) = 2.18 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 3.39 W/kg

Below 2 GHz-Rev.2/Face Scan/2-Volume Scan 2D (41x41x1): Interpolated grid: dx=0.7500 mm, dy=0.7500 mm, dz=1.000 mm

Reference Value = 59.10 V/m; Power Drift = -0.76 dB

Fast SAR: SAR(1 g) = 2.99 W/kg; SAR(10 g) = 2.09 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 3.16 W/kg

Below 2 GHz-Rev.2/Face Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 67.63 V/m; Power Drift = -0.48 dB

Peak SAR (extrapolated) = 3.96 W/kg

SAR(1 g) = 3.51 W/kg; SAR(10 g) = 2.67 W/kg (SAR corrected for target medium)

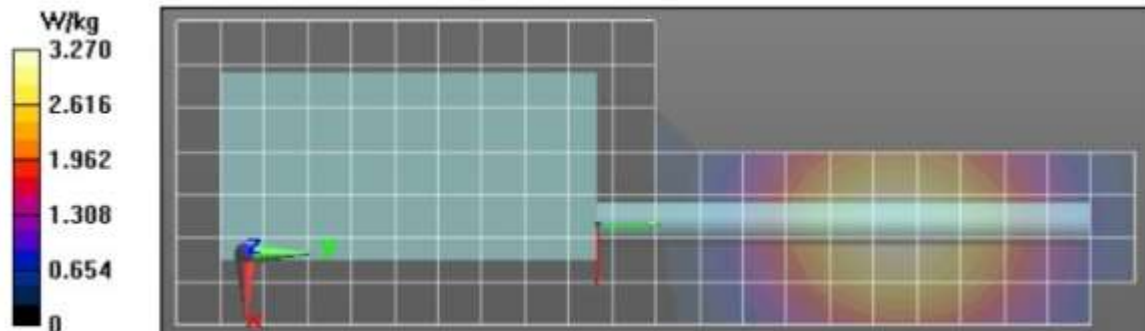
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 81.3%

Maximum value of SAR (measured) = 3.59 W/kg

Below 2 GHz-Rev.2/Face Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 3.14 W/kg



Shortened scan reflects highest SAR producing configuration and is compared to the full scan.

Scan Description	Referenced Table	Test Time (min.)	SAR 1g (W/kg)
Shorten scan (zoom)	18	8	1.96
Full scan (area & zoom)	17	30	1.99