

 MOTOROLA SOLUTIONS	    SMM 826 CERTIFICATE 2518.05
SAR TEST 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: 08/21/2026 Report Revision: B
Responsible Engineer: Report Author: Date/s Tested: Test Location: Manufacturer: Manufacturer Location: Hardware Receive Date: DUT Description: Test TX mode(s): Max. Power output: Tx Frequency Bands: Signaling type: Model(s) Tested: Model(s) Certified: (HVIN/PMN) Serial Number(s): Classification: Applicant Name: Applicant Address: Firmware Version (FVIN): FCC ID: FCC Test Firm Registration Number: FCC Designation Number: IC: ISED Test Site registration: CAB ID:	Yeng Yee Yeong (EME Engineer) Muhammad Hizami bin Ismail (Senior Technician) 05/13/2026 – 05/23/2026, 06/16/2026 Penang EME Laboratory Motorola Solutions Malaysia Sdn Bhd. Plot 2A, Medan Bayan Lepas Mukim, 12 SWD, 11900 Bayan Lepas, Penang, Malaysia 05/07/2026 Handheld Portable – EVX-S30 UHF 403-480 MHZ FKP CW (PTT) Refer table 3 Refer table 3 Refer table 3 AC146U503 Refer 1.0 Introduction 0075CH0128 Occupational/Controlled Environment Motorola Solutions Inc. Plot 2A, Medan Bayan Lepas Mukim, 12 SWD, 11900 Bayan Lepas, Penang, Malaysia D02.45Q.0B AZ489FT4980 This report contains results that are immaterial for FCC equipment approval, which are clearly identified. 823256 MY0004 109U-89FT4980 This report contains results that are immaterial for ISED equipment approval, which are clearly identified. 24843 MY0002
The test results clearly demonstrate compliance with 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)	
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: 08/21/2026	

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EX7B

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DUT Test Position Photos

DUT, Body worn and audio accessories Photos

Report Revision History

Date	Revision	Comments
06/22/2026	A	Initial release
08/21/2026	B	Update cover page to include FCC designation number and CAB ID

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 AC146U503. 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
AC146U503	AC146U503	EVX-S30	EVX-S30 UHF 403-480 MHZ FKP
AC146U004	AC146U004	EVX-S30	EVX-S30 H UHF 403-480 MHZ FKP
AC146U513	AC146U513	EVX-S30	EVX-S30 UHF 403-480 MHZ, YELLOW FKP

2.0 FCC SAR Summary

Table 1

Equipment Class	Frequency band (MHz)	Max Calc at Body (W/kg)	Max Calc at Face (W/kg)
		1g-SAR	1g-SAR
TNF	406.125 - 480	4.14	3.14

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

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

5.0 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	403-480	FM	50*	2.20
LMR	470-480	4FSK	25*	2.70
LMR	403-480	4FSK, Signaling	25*	3.20

Note - * includes 50% PTT operation

The intended operating positions are “at the face” with the DUT at least 25 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.

6.0 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.

6.1 Antennas

Table 4

Antenna No.	Antenna Models	Description	Selected for test	Tested
1	ATU-20AS	Stubby Antenna, 400 – 430 MHz, 9.17cm, ¼ wave, 1.8 dBi	Yes	Yes
2	ATU-20CS	Stubby Antenna, 420 – 450 MHz, 8.64cm, ¼ wave, 1.8 dBi	Yes	Yes
3	ATU-20DS	Stubby Antenna, 440 – 470 MHz, 8.43cm, ¼ wave, 1.8 dBi	Yes	Yes
4	ATU-20FS	Stubby Antenna, 450 – 480 MHz, 8.09cm, ¼ wave, 1.8 dBi	Yes	Yes
5	ATU-21AS	Stubby Antenna, 400 – 420 MHz, 5.00cm, ¼ wave, -5.13 dBi	Yes	Yes
6	ATU-21CS	Stubby Antenna, 420 – 440 MHz, 5.00cm, ¼ wave, -3.98 dBi	Yes	Yes
7	ATU-21DS	Stubby Antenna, 440 – 460 MHz, 5.00cm, ¼ wave, -4.28 dBi	Yes	Yes
8	ATU-21FS	Stubby Antenna, 460 – 480 MHz, 5.00cm, ¼ wave, -5.66 dBi	Yes	Yes
9	ATU-6C	Whip Antenna, 440 – 470 MHz, 15.40cm, ½ wave, 1.4 dBi	Yes	Yes
10	ATU-6D	Whip Antenna, 450 – 485 MHz, 14.80cm, ½ wave, 1.0 dBi	Yes	Yes
11	ATU-6A	Whip Antenna, 400 – 430 MHz, 16.30cm, ½ wave, 1.4 dBi	Yes	Yes
12	ATU-6B	Whip Antenna, 420 – 450 MHz, 15.80cm, ½ wave, 1.4 dBi	Yes	Yes

6.2 Battery

Table 5

Battery No.	Battery Models	Description	Selected for test	Tested	Comments
1	PMNN4468B	BT100x Motorola battery	Yes	Yes	Default Battery
2	FNB-V142LI	FNB-V142LI LI-ION BATTERY 2300 MAH	No	No	By similarity to PMNN4468B

6.3 Body worn Accessories

Table 6

Body worn No.	Body worn Models	Description	Selected for test	Tested	Comments
1	CLIP-27	EVX-S30 BELT CLIP KIT	Yes	Yes	
2	LCC-S24	LCC-S24 LEATHER CASE WITH BELT LOOP	Yes	Yes	
3	LCC-S24S	LCC-S24S LEATHER CASE WITH SWIVEL BELT LOOP	Yes	Yes	

6.4 Audio Accessories

Table 7

Audio No.	Audio Acc. Models	Description	Selected for test	Tested	Comments
1	MH-66F4B	MH-66F4B IP57 Submersible Speaker Microphone	Yes	Yes	Default Audio
2	MH-90A4B	MH-90A4B Compact Speaker Microphone	Yes	No	
3	MH-102B4B (AAL84X002)	ACCESSORY KIT,MH-102B4B EARPHONE MICROPHONE	Yes	No	
4	MH-89A4B	Earpiece microphone	Yes	No	
5	VH-190	MH-90A4B Compact Speaker Microphone	Yes	No	

7.0 Description of Test System

DASY5™ Test System



7.1 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	DAE3	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.

7.2 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			

7.3 Description of Simulated Tissue

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

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

Simulated Tissue Composition (percent by mass)

Table 10

Ingredients	450MHz
	Head
Sugar	56.0
Diacetin	0
De ionized-Water	39.1
Salt	3.8
HEC	1.0
Bact.	0.1

8.0 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	7486	01/19/2024	01/19/2027
SPEAG DAE	DAE3	374	07/18/2024	07/18/2027
AMPLIFIER POWER	10W1000C	312859	CNR	CNR
BI-DIRECTIONAL COUPLER	3020A	40295	07/09/2025	07/09/2026
VECTOR SIGNAL GENERATOR	SMCV100B	106433	04/23/2024	04/23/2027
POWER METER	E4419B	MY45102105	12/19/2024	11/07/2026
POWER METER	E4416A	MY50001037	08/04/2025	08/04/2026
POWER METER	E4416A	MY54020002	10/16/2025	10/16/2026
POWER SENSOR	E9301B	MY50280001	07/18/2025	07/18/2026
POWER SENSOR	E4412A	MY61060015	09/21/2025	09/21/2026
POWER SENSOR	E9301B	MY50280001	07/18/2025	07/18/2026
POWER SENSOR	E9301B	MY41495733	10/24/2025	10/24/2026
DATA LOGGER	DSB	16326820	12/18/2025	12/18/2026
DATA LOGGER	DSB	16398306	01/27/2026	01/27/2027
TEMPERATURE PROBE	80PK-22	5032017	01/24/2026	01/24/2027
THERMOMETER	HH202A	35881	01/24/2026	01/24/2027
NETWORK ANALYZER	E5071B	MY42403147	07/03/2025	07/03/2026
DIELECTRIC ASSESSMENT KIT	DAK-3.5	1120	07/28/2025	07/28/2026
SPEAG DIPOLE	D450V3	1077	01/30/2025	01/30/2028
SPEAG DIPOLE	D450V3	1054	07/16/2024	07/16/2027

9.0 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.

9.1 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								
02/13/2026	Body	450	7486	0.92	54.4	Pass	Pass	Pass
02/13/2026	Head	450		0.83	45.2	Pass	Pass	Pass

9.2 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 (%)
7486	IEEE/IEC Head	450-1054e	4.64 +/- 10%	1.22	4.88	260516@	5.17
				1.26	5.04	260517@	8.62
				1.25	5.00	260518@	7.76
				1.23	4.92	260519@	6.03
				1.23	4.92	260520@	6.03
				1.24	4.96	260521@	6.90
		450-1077e	4.53 +/- 10%	1.16	4.64	260616	0.00
				1.19	4.76	260514@	5.08
				1.21	4.84	260515@	6.84

Note: '@' indicates that system verification check covers next test day (within 24 hours)

9.3 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
403.0000	IEEE/ IEC Head	0.87 (0.83-0.91)	44.1 (41.9-46.3)	0.85	43.6	260519@
				0.83	43.2	260520@
				0.87	43.8	260616
406.2000		0.87 (0.83-0.91)	44 (41.8-46.2)	0.84	44.1	260516
				0.84	45.0	260517@
				0.85	43.4	260518@
419.9875		0.87 (0.83-0.91)	43.9 (41.7-46.1)	0.85	43.6	260519@
				0.86	43.3	260519@
				0.86	42.7	260521@
420.0125		0.87 (0.83-0.91)	43.9 (41.7-46.1)	0.84	43.0	260514@
				0.84	42.6	260515
				0.85	43.8	260516@
				0.85	44.7	260517@
				0.86	43.1	260518@
				0.89	43.4	260616
429.9875		0.87 (0.83-0.91)	43.7 (41.6-45.9)	0.85	42.8	260514@
				0.85	42.4	260515
				0.86	43.5	260516@
				0.86	44.5	260517@
449.9875		0.87 (0.83-0.91)	43.5 (41.3-45.7)	0.87	43.1	260516
450.0000		0.87 (0.83-0.91)	43.5 (41.3-45.7)	0.87	42.4	260514@
				0.87	42.0	260515@
				0.87	43.1	260516@
				0.87	44.1	260517@
				0.89	42.4	260518@
				0.88	42.4	260519@
				0.87	42.2	260520@
				0.88	42.1	260521@
				0.91	42.9	260616

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

Frequency (MHz)	Tissue Type	Conductivity Target (S/m)	Dielectric Constant Target	Conductivity Meas. (S/m)	Dielectric Constant Meas.	Tested Date
450.0125	IEEE/ IEC Head	0.87 (0.83-0.91)	43.5 (41.3-45.7)	0.88	42.4	260519@
455.0000		0.87 (0.83-0.91)	43.5 (41.3-45.6)	0.87	42.3	260514@
				0.87	41.9	260515@
				0.88	43.0	260516@
				0.88	44.0	260517@
459.9875		0.87 (0.83-0.91)	43.4 (41.3-45.6)	0.88	43.9	260517@
				0.90	42.2	260518@
				0.90	42.4	260519@
465.0000		0.87 (0.83-0.91)	43.4 (41.2-45.6)	0.88	42.1	260514@
				0.88	41.7	260515@
				0.89	42.7	260516@
				0.89	43.8	260517@
469.9875		0.87 (0.83-0.91)	43.4 (41.2-45.6)	0.91	42.3	260519@
479.9875		0.87 (0.83-0.92)	43.3 (41.2-45.5)	0.90	43.5	260517@
				0.91	41.9	260518@

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

10.0 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

	Target	Measured
Ambient Temperature	18 – 25 °C	Range: 21.1 – 22.8°C Avg. 22.0 °C
Tissue Temperature	18 – 25 °C	Range: 21.1 -23.2°C Avg. 22.2°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.

11.0 DUT Test Setup and Methodology

11.1 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.			

11.2 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.

11.3 DUT Positioning Procedures

The positioning of the device for each body location is described below and illustrated in Ex7B..

11.3.1 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.

11.3.2 Head

Not applicable.

11.3.3 Face

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

11.4 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

11.5 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.

11.6 DUT Test Plan

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

12.0 DUT Test Data for LMR

12.1 SAR assessment for LMR UHF

12.1.1 Assessment at FCC for 406.125 – 512 MHz

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)
	Body	ATU-20AS	PMNN4468B	CLIP-27	MH-66F4B	406.2000				
						419.9875				
						429.9875	2.16	-0.50	1.38	0.79
	Body	ATU-20CS	PMNN4468B	CLIP-27	MH-66F4B	420.0125	2.20	-0.58	5.24	2.99
						429.9875				
						439.9875				
						449.9875				
	Body	ATU-20DS	PMNN4468B	CLIP-27	MH-66F4B	440.0125				
						455.0000	2.14	-0.54	2.52	1.47
						469.9875				
	Body	ATU-20FS	PMNN4468B	CLIP-27	MH-66F4B	450.0125				
						465.0000	2.13	-0.70	1.41	0.86
						479.9875				
	Body	ATU-21AS	PMNN4468B	CLIP-27	MH-66F4B	406.2000	2.11	-0.28	0.88	0.49
						419.9875				
	Body	ATU-21CS	PMNN4468B	CLIP-27	MH-66F4B	420.0125	2.19	-0.07	0.75	0.38
						429.9875				
						439.9875				
	Body	ATU-21DS	PMNN4468B	CLIP-27	MH-66F4B	440.0125				
						449.9875				
						459.9875	2.18	-0.65	0.17	0.10
	Body	ATU-21FS	PMNN4468B	CLIP-27	MH-66F4B	460.0125				
						469.9875				
						479.9875	2.17	-0.85	0.18	0.11

Table 17 (Continued)

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)
	Body	ATU-6C	PMNN4468B	CLIP-27	MH-66F4B	440.0125				
						455.0000	2.14	-0.38	6.25	3.51
						469.9875				
	Body	ATU-6D	PMNN4468B	CLIP-27	MH-66F4B	450.0125				
						465.0000	2.12	-0.39	6.15	3.49
						479.9875				
	Body	ATU-6A	PMNN4468B	CLIP-27	MH-66F4B	406.2000				
						419.9875				
						429.9875	2.08	-0.15	4.08	2.23
	Body	ATU-6B	PMNN4468B	CLIP-27	MH-66F4B	420.0125	2.18	-0.17	2.29	1.20
						429.9875				
						439.9875				
						449.9875				
	Body	ATU-20AS	PMNN4468B	LCC-S24	MH-66F4B	406.2000				
						419.9875				
						429.9875	2.13	-0.52	2.42	1.41
	Body	ATU-20CS	PMNN4468B	LCC-S24	MH-66F4B	420.0125	2.20	-0.72	5.46	3.22
						429.9875				
						439.9875				
						449.9875				
	Body	ATU-20DS	PMNN4468B	LCC-S24	MH-66F4B	440.0125				
						455.0000	2.18	-0.90	3.81	2.37
						469.9875				
	Body	ATU-20FS	PMNN4468B	LCC-S24	MH-66F4B	450.0125				
						465.0000	2.18	-0.63	2.22	1.30
						479.9875				
	Body	ATU-21AS	PMNN4468B	LCC-S24	MH-66F4B	406.2000	2.13	-0.55	1.21	0.71
						419.9875				
	Body	ATU-21CS	PMNN4468B	LCC-S24	MH-66F4B	420.0125	2.20	-0.40	1.03	0.56
						429.9875				
						439.9875				
	Body	ATU-21DS	PMNN4468B	LCC-S24	MH-66F4B	440.0125				
						449.9875				
						459.9875	2.20	-0.68	0.36	0.21
	Body	ATU-21FS	PMNN4468B	LCC-S24	MH-66F4B	460.0125				
						469.9875				
						479.9875	2.16	-0.26	0.33	0.18

Table 17 (Continued)

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)
	Body	ATU-6C	PMNN4468B	LCC-S24	MH-66F4B	440.0125				
						455.0000	2.15	-0.40	5.68	3.19
						469.9875				
	Body	ATU-6D	PMNN4468B	LCC-S24	MH-66F4B	450.0125				
						465.0000	2.18	-0.26	6.59	3.53
						479.9875				
	Body	ATU-6A	PMNN4468B	LCC-S24	MH-66F4B	406.2000	2.16	-0.13	4.22	2.21
						419.9875				
1						429.9875	2.18	-0.35	7.14	3.91
	Body	ATU-6B	PMNN4468B	LCC-S24	MH-66F4B	420.0125	2.20	-0.29	6.92	3.70
						429.9875				
						439.9875				
						449.9875	2.15	-0.32	5.15	2.84
	Body	ATU-20AS	PMNN4468B	LCC-S24S	MH-66F4B	406.2000				
						419.9875				
						429.9875	2.17	-0.69	0.51	0.30
	Body	ATU-20CS	PMNN4468B	LCC-S24S	MH-66F4B	420.0125	2.20	-0.80	0.71	0.43
						429.9875				
						439.9875				
						449.9875				
	Body	ATU-20DS	PMNN4468B	LCC-S24S	MH-66F4B	440.0125				
						455.0000	2.15	-0.64	1.41	0.84
						469.9875				
	Body	ATU-20FS	PMNN4468B	LCC-S24S	MH-66F4B	450.0125				
						465.0000	2.17	-0.62	1.03	0.60
						479.9875				
	Body	ATU-21AS	PMNN4468B	LCC-S24S	MH-66F4B	406.2000	2.14	-0.35	0.21	0.11
						419.9875				
	Body	ATU-21CS	PMNN4468B	LCC-S24S	MH-66F4B	420.0125	2.20	-0.49	0.12	0.07
						429.9875				
						439.9875				
	Body	ATU-21DS	PMNN4468B	LCC-S24S	MH-66F4B	440.0125				
						449.9875				
						459.9875	2.20	-0.91	0.04	0.03
	Body	ATU-21FS	PMNN4468B	LCC-S24S	MH-66F4B	460.0125				
						469.9875				
						479.9875	2.18	-0.55	0.01	0.01

Table 17 (Continued)

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)
	Body	ATU-6C	PMNN4468B	LCC-S24S	MH-66F4B	440.0125				
						455.0000	2.17	-0.41	2.00	1.11
						469.9875				
	Body	ATU-6D	PMNN4468B	LCC-S24S	MH-66F4B	450.0125				
						465.0000	2.17	-0.37	1.71	0.94
						479.9875				
	Body	ATU-6A	PMNN4468B	LCC-S24S	MH-66F4B	406.2000				
						419.9875				
						429.9875	2.16	-0.08	1.60	0.83
	Body	ATU-6B	PMNN4468B	LCC-S24S	MH-66F4B	420.0125	2.20	-0.06	0.62	0.31
						429.9875				
						439.9875				
						449.9875				
	Face	ATU-20AS	PMNN4468B	LCC-S24S	MH-66F4B	406.2000				
						419.9875				
						429.9875	2.16	-0.75	3.77	2.28
	Face	ATU-20CS	PMNN4468B	LCC-S24S	MH-66F4B	420.0125	2.20	-0.20	2.42	1.27
						429.9875				
						439.9875				
						449.9875				
2	Face	ATU-20DS	PMNN4468B	LCC-S24S	MH-66F4B	440.0125				
						455.0000	2.18	-0.51	5.54	3.14
						469.9875				
	Face	ATU-20FS	PMNN4468B	LCC-S24S	MH-66F4B	450.0125				
						465.0000	2.17	-0.58	4.62	2.68
						479.9875				
	Face	ATU-21AS	PMNN4468B	LCC-S24S	MH-66F4B	406.2000	2.15	-0.48	0.73	0.42
						419.9875				
	Face	ATU-21CS	PMNN4468B	LCC-S24S	MH-66F4B	420.0125	2.20	-0.85	1.20	0.73
						429.9875				
						439.9875				
	Face	ATU-21DS	PMNN4468B	LCC-S24S	MH-66F4B	440.0125				
						449.9875				
						459.9875	2.20	-0.12	0.35	0.18
	Face	ATU-21FS	PMNN4468B	LCC-S24S	MH-66F4B	460.0125				
						469.9875				
						479.9875	2.19	-0.18	0.42	0.22

Table 17 (Continued)

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)
	Face	ATU-6C	PMNN4468B	LCC-S24S	MH-66F4B	440.0125				
						455.0000	2.18	-0.31	4.26	2.31
						469.9875				
	Face	ATU-6D	PMNN4468B	LCC-S24S	MH-66F4B	450.0125				
						465.0000	2.18	-0.38	4.68	2.58
						479.9875				
	Face	ATU-6A	PMNN4468B	LCC-S24S	MH-66F4B	406.2000				
						419.9875				
						429.9875	2.17	-0.13	2.89	1.51
	Face	ATU-6B	PMNN4468B	LCC-S24S	MH-66F4B	420.0125	2.20	-0.27	1.48	0.79
						429.9875				
						439.9875				
						449.9875				

12.1.2 Assessment at ISED for 406.125 – 430 MHz

Based on the assessment results for body and face per KDB643646 D01, additional tests were not required for the ISED, Industry Canada frequency range (406.125 – 430 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)
	Body	ATU-6A	PMNN4468B	LCC-S24	MH-66F4B	406.2000	2.15	-0.17	4.90	2.61
3						419.9875	2.13	-0.17	7.74	4.14
						429.9875	2.18	-0.35	7.14	3.91
	Face	ATU-20AS	PMNN4468B	Front @ 2.5cm	N/A	406.2000	2.16	-0.16	2.32	1.23
4						419.9875	2.14	-0.01	5.68	2.93
						429.9875	2.16	-0.75	3.77	2.28

12.1.3 Assessment at ISED for 450 – 470 MHz

Based on the assessment results for body and face per KDB643646 D01, additional tests were not required for the ISED, Industry Canada frequency range (450 – 470 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 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	ATU-6D	PMNN4468B	CLIP-27	MH-66F4B	450.0125	2.16	-0.19	4.99	2.65
						459.9875	2.17	-0.38	6.58	3.64
						465.0000	2.12	-0.39	6.15	3.49
6	Face	ATU-20DS	PMNN4468B	Front @ 2.5cm	N/A	450.0125	2.16	-0.12	5.16	2.70
						455.0000	2.18	-0.51	5.54	3.14
						469.9875	2.15	-0.37	3.48	1.94

12.1.4 Assessment for outside FCC Frequency range

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	ATU-20AS	PMNN4468B	LCC-S24	MH-66F4B	403.0000	2.17	-0.32	5.90	3.22
	Body	ATU-21AS	PMNN4468B	LCC-S24	MH-66F4B	403.0000	2.18	-0.38	2.75	1.51
	Body	ATU-6A	PMNN4468B	LCC-S24	MH-66F4B	403.0000	2.14	-0.08	4.51	2.36
8	Face	ATU-20AS	PMNN4468B	Front @ 2.5cm	N/A	403.0000	2.16	-0.19	2.09	1.11
	Face	ATU-21AS	PMNN4468B	Front @ 2.5cm	N/A	403.0000	2.15	-0.61	0.78	0.46
	Face	ATU-6A	PMNN4468B	Front @ 2.5cm	N/A	403.0000	2.18	-0.37	1.42	0.78

13.0 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 21

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)
9	Body	ATU-6A	PMNN4468B	LCC-S24	MH-66F4B	419.9875	2.15	-0.13	6.54	3.45

14.0 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 22

Designator	Frequency band (MHz)	Max Calc at Body (W/kg)	Max Calc at Face (W/kg)
		1g-SAR	1g-SAR
FCC			
LMR	406.125 - 480	4.14	3.14
ISED			
LMR	406.125 - 430	4.14	2.93
	450 - 470	3.64	3.14
Overall			
LMR	403 - 480	4.14	3.14

All results are scaled to the maximum output power.

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).

15.0 Variability Assessment

Per the guidelines in KDB 865664 SAR variability assessment is required because SAR results are above 4.0W/kg (Occupational).

The Table below includes test results of the original measurement(s), the repeated measurement(s), and the ratio (SAR_{high}/SAR_{low}) for the applicable test configuration(s).

Table 23

Run#	Antenna	Battery	Carry Accessory	Cable Accessory	Test Freq. (MHz)	Adj. Calc. 1g-SAR (W/kg)	Ratio	Comments
AR(AIZ)-AB-260519-18	ATU-6A	PMNN4468B	LCC-S24	MH-66F4B	419.9875	4.01	1.19	No additional repeated scans is required due to the Ratio (SAR_{high}/SAR_{low}) < 1.20
AR(AIZ)-AB-260522-05@						3.37		

16.0 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 300 MHz to 3000 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	2.8	R	1.73	1	1	1.6	1.6
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	0.7	N	1.00	1	1	0.7	0.7
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	0.14	0.14	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	3.3	R	1.73	0.78	0.71	1.5	1.4
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				12.0	12.0
Expanded Uncertainty (95% CONFIDENCE LEVEL)			$k=2$				24.1	23.9

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 uncertainty
- h) ν_i - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty

Uncertainty Budget for System Validation (dipole & flat phantom), for 300 MHz to 6000 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>
Uncertainty Component	IEEE 1528 section (2020)	Tol. (± %)	Prob Dist	Div. ^a q_1	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	1.2	N	1.00	1	1	1.2	1.2
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	0.005 mm	N	1.00	0.29	0.29	0.2	0.2
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	3.4	R	1.73	0.78	0.71	1.5	1.4
Shell permittivity	8.4.2.3	14	R	1.73	0.25	0.25	2.0	2.0
Distance between the radiating element of the DUT and the phantom medium	8.4.2.4	1.3	N	1.00	2	2	2.6	2.6
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				9.8	9.7
Expanded Uncertainty (95% CONFIDENCE LEVEL)								
			$k=2$				19.7	19.5

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 uncertainty
- h) vi - 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



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.
EX-7486_Jan24

CALIBRATION CERTIFICATE

Object
 EX3DV4 - SN:7486

Calibration procedure(s)
 QA CAL-01.v10, QA CAL-12.v10, QA CAL-14.v7, QA CAL-23.v6,
 QA CAL-25.v8
 Calibration procedure for dosimetric E-field probes

Calibration date
 January 19, 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 $(22 \pm 3)^\circ\text{C}$ and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP2	SN: 104778	30-Mar-23 (No. 217-03804/03805)	Mar-24
Power sensor NRP-Z91	SN: 103244	30-Mar-23 (No. 217-03804)	Mar-24
OCP DAK-3.5 (weighted)	SN: 1249	05-Oct-23 (OCP-DAK3.5-1249_Oct23)	Oct-24
OCP DAK-12	SN: 1016	05-Oct-23 (OCP-DAK12-1016_Oct23)	Oct-24
Reference 20 dB Attenuator	SN: CC2552 (20x)	30-Mar-23 (No. 217-03809)	Mar-24
DAE4	SN: 660	16-Mar-23 (No. DAE4-660_Mar23)	Mar-24
Reference Probe EX3DV4	SN: 7349	03-Nov-23 (No. EX3-7349_Nov23)	Nov-24

Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-22)	In house check: Jun-24
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-22)	In house check: Jun-24
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-22)	In house check: Jun-24
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-22)	In house check: Jun-24
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-22)	In house check: Oct-24

	Name	Function	Signature
Calibrated by	Jeton Kastrati	Laboratory Technician	
Approved by	Sven Kühn	Technical Manager	
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			

Issued: January 19, 2024

Certificate No: EX-7486_Jan24

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



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 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).

EX3DV4 - SN:7486

January 19, 2024

Parameters of Probe: EX3DV4 - SN:7486**Basic Calibration Parameters**

	Sensor X	Sensor Y	Sensor Z	Unc (k = 2)
Norm ($\mu V/(\sqrt{V/m})^2$) ^A	0.38	0.47	0.49	±10.1%
DCP (mV) ^B	99.5	91.0	98.7	±4.7%

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu V}$	C	D dB	VR mV	Max dev.	Max Unc ^E k = 2
0	CW	X	0.00	0.00	1.00	0.00	161.3	±3.0%	±4.7%
		Y	0.00	0.00	1.00		176.3		
		Z	0.00	0.00	1.00		162.8		
10352	Pulse Waveform (200Hz, 10%)	X	8.51	78.58	15.21	10.00	60.0	±2.6%	±9.6%
		Y	20.00	92.88	21.55		60.0		
		Z	20.00	88.92	19.08		60.0		
10353	Pulse Waveform (200Hz, 20%)	X	20.00	88.54	17.15	6.99	80.0	±1.8%	±9.6%
		Y	20.00	97.21	22.44		80.0		
		Z	20.00	92.24	19.60		80.0		
10354	Pulse Waveform (200Hz, 40%)	X	20.00	102.86	22.41	3.98	95.0	±1.8%	±9.6%
		Y	20.00	115.00	29.35		95.0		
		Z	20.00	106.27	24.97		95.0		
10355	Pulse Waveform (200Hz, 60%)	X	7.29	160.00	50.37	2.22	120.0	±1.8%	±9.6%
		Y	4.95	160.00	55.51		120.0		
		Z	20.00	145.54	41.09		120.0		
10387	QPSK Waveform, 1 MHz	X	2.61	76.53	19.85	1.00	150.0	±3.5%	±9.6%
		Y	2.99	78.70	21.36		150.0		
		Z	2.29	73.55	18.80		150.0		
10388	QPSK Waveform, 10 MHz	X	2.70	73.00	18.75	0.00	150.0	±2.5%	±9.6%
		Y	3.45	77.16	20.83		150.0		
		Z	2.71	72.53	18.53		150.0		
10396	64-QAM Waveform, 100 kHz	X	2.36	69.62	19.47	3.01	150.0	±2.6%	±9.6%
		Y	3.05	78.15	27.09		150.0		
		Z	3.46	76.54	22.65		150.0		
10399	64-QAM Waveform, 40 MHz	X	3.66	68.65	16.96	0.00	150.0	±2.4%	±9.6%
		Y	3.93	69.71	17.81		150.0		
		Z	3.69	68.54	16.92		150.0		
10414	WLAN CCDF, 64-QAM, 40 MHz	X	4.79	66.32	16.18	0.00	150.0	±3.5%	±9.6%
		Y	5.08	66.82	16.78		150.0		
		Z	4.87	66.29	16.18		150.0		

Note: For details on UID parameters see Appendix

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.

EX3DV4 - SN:7486

January 19, 2024

Parameters of Probe: EX3DV4 - SN:7486**Sensor Model Parameters**

	C1 fF	C2 fF	α V^{-1}	T1 $ms V^{-2}$	T2 $ms V^{-1}$	T3 ms	T4 V^{-2}	T5 V^{-1}	T6
x	32.5	241.67	35.62	6.18	0.00	5.02	0.54	0.12	1.01
y	40.7	324.06	40.40	9.76	0.30	5.10	0.00	0.07	1.04
z	36.4	273.63	36.32	10.44	0.00	5.05	1.89	0.00	1.01

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle	16.7°
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

Note: Measurement distance from surface can be increased to 3–4 mm for an Area Scan job.

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January 19, 2024

Parameters of Probe: EX3DV4 - SN:7486**Calibration Parameter Determined in Head Tissue Simulating Media**

f (MHz) ^C	Relative Permittivity ^F	Conductivity ^F (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k = 2)
150	52.3	0.76	13.40	13.40	13.40	0.00	1.00	±13.3%
300	45.3	0.87	12.21	12.21	12.21	0.09	1.00	±13.3%
450	43.5	0.87	11.18	11.18	11.18	0.16	1.30	±13.3%
750	41.9	0.89	10.17	10.17	10.17	0.33	1.20	±12.0%
835	41.5	0.90	10.10	10.10	10.10	0.44	0.80	±12.0%
900	41.5	0.97	9.87	9.87	9.87	0.43	0.80	±12.0%
1450	40.5	1.20	8.85	8.85	8.85	0.39	0.80	±12.0%
1810	40.0	1.40	8.58	8.58	8.58	0.26	0.86	±12.0%
1900	40.0	1.40	8.37	8.37	8.37	0.33	0.86	±12.0%
2100	39.8	1.49	8.33	8.33	8.33	0.32	0.86	±12.0%
2300	39.5	1.67	8.00	8.00	8.00	0.35	0.90	±12.0%
2450	39.2	1.80	7.87	7.87	7.87	0.36	0.90	±12.0%
2600	39.0	1.96	7.80	7.80	7.80	0.36	0.90	±12.0%
3500	37.9	2.91	7.23	7.23	7.23	0.30	1.35	±14.0%
3700	37.7	3.12	7.08	7.08	7.08	0.30	1.35	±14.0%
3900	37.5	3.32	6.66	6.66	6.66	0.40	1.60	±14.0%
5250	35.9	4.71	5.53	5.53	5.53	0.40	1.80	±14.0%
5500	35.6	4.96	4.87	4.87	4.87	0.40	1.80	±14.0%
5600	35.5	5.07	4.72	4.72	4.72	0.40	1.80	±14.0%
5750	35.4	5.22	4.91	4.91	4.91	0.40	1.80	±14.0%

^C Frequency validity above 300 MHz of ±100 MHz only applies for DASV 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 TSL with deviations from the target of less than ±5% are used, the calibration uncertainties are 11, 1% for 0.7 - 3 GHz and 13.1% for 3 - 6 GHz.

^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.

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January 19, 2024

Parameters of Probe: EX3DV4 - SN:7486**Calibration Parameter Determined in Body Tissue Simulating Media**

f (MHz) ^C	Relative Permittivity ^F	Conductivity ^F (S/m)	ConvF X	ConvF Y	ConvF Z	Alpha ^G	Depth ^G (mm)	Unc (k = 2)
150	61.9	0.80	12.89	12.89	12.89	0.00	1.00	±13.3%
300	58.2	0.92	11.75	11.75	11.75	0.02	1.35	±13.3%
450	56.7	0.94	11.43	11.43	11.43	0.11	1.20	±13.3%
750	55.5	0.96	10.22	10.22	10.22	0.50	0.80	±12.0%
835	55.2	0.97	10.03	10.03	10.03	0.52	0.80	±12.0%
900	55.0	1.05	9.90	9.90	9.90	0.44	0.80	±12.0%
1450	54.0	1.30	8.88	8.88	8.88	0.32	0.80	±12.0%
1810	53.3	1.52	8.56	8.56	8.56	0.32	0.86	±12.0%
1900	53.3	1.52	8.19	8.19	8.19	0.36	0.86	±12.0%
2100	53.2	1.62	8.15	8.15	8.15	0.39	0.86	±12.0%
2300	52.9	1.81	8.06	8.06	8.06	0.37	0.90	±12.0%
2450	52.7	1.95	7.97	7.97	7.97	0.27	0.90	±12.0%
2600	52.5	2.16	7.90	7.90	7.90	0.29	0.90	±12.0%
3500	51.3	3.31	6.70	6.70	6.70	0.40	1.35	±14.0%
3700	51.0	3.55	6.58	6.58	6.58	0.40	1.35	±14.0%
5250	48.9	5.36	4.72	4.72	4.72	0.50	1.90	±14.0%
5500	48.6	5.65	4.15	4.15	4.15	0.50	1.90	±14.0%
5600	48.5	5.77	4.08	4.08	4.08	0.50	1.90	±14.0%
5750	48.3	5.94	4.21	4.21	4.21	0.50	1.90	±14.0%

^C Frequency validity above 300 MHz of ±100 MHz only applies for QASY 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, 126, 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 TSL with deviations from the target of less than ±5% are used, the calibration uncertainties are 11.1% for 0.7 - 3 GHz and 13.1% for 3 - 6 GHz.

^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.

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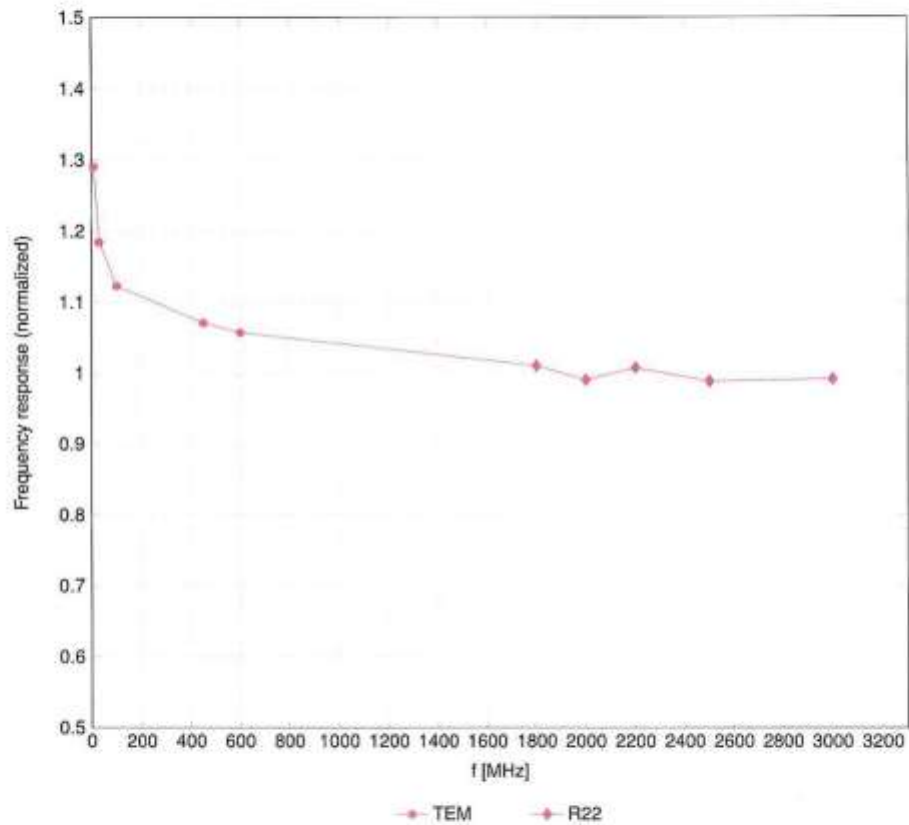
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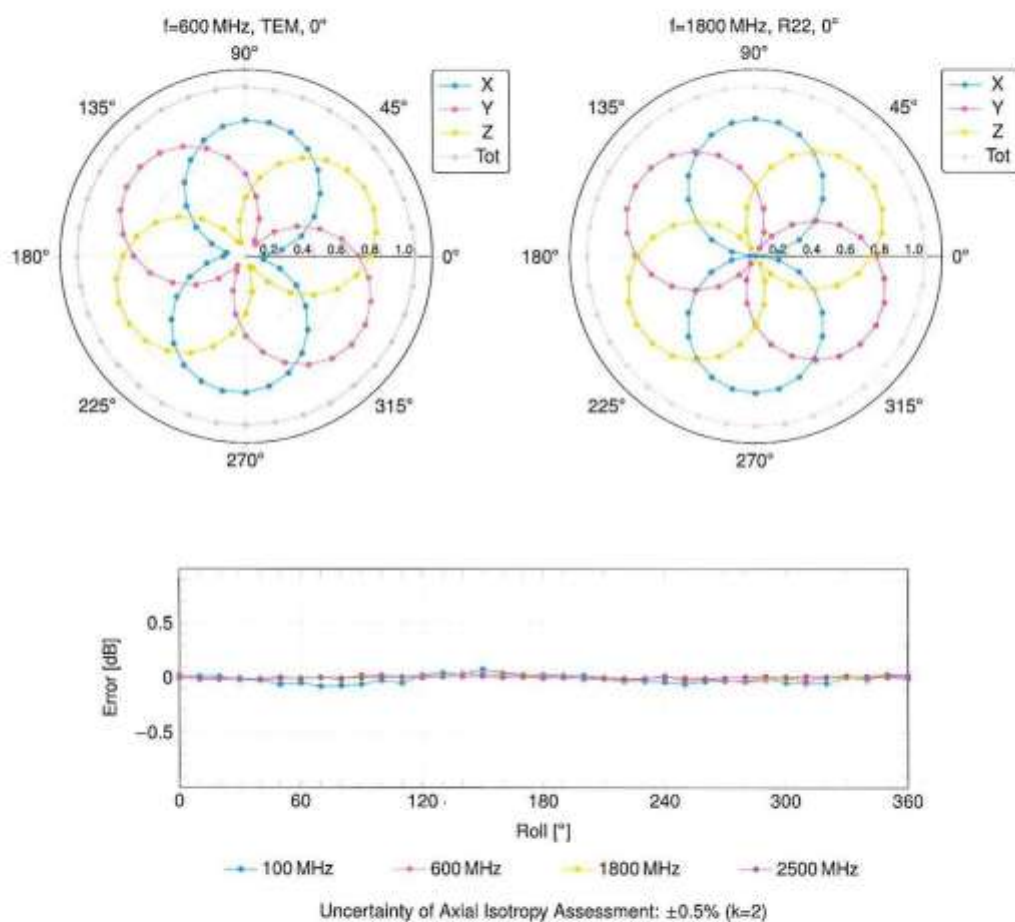
Frequency Response of E-Field

(TEM-Cell:III110 EXX, Waveguide:R22)

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

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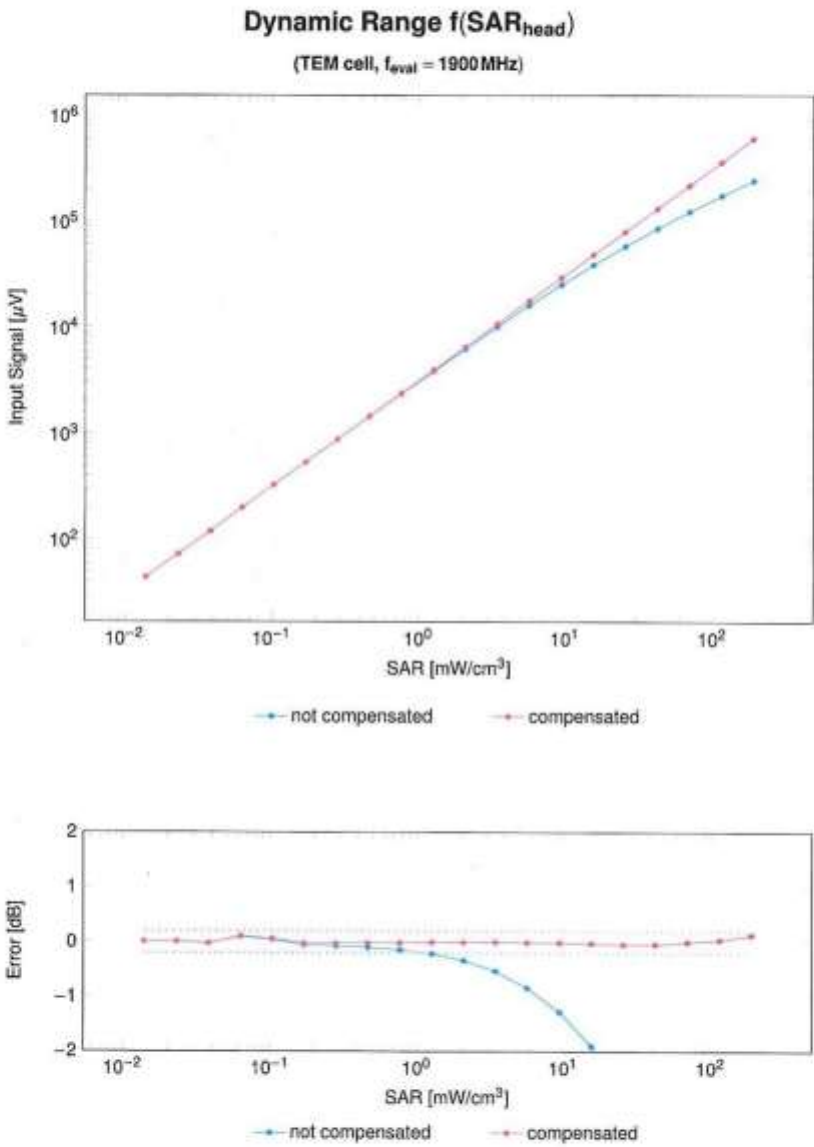
Receiving Pattern (ϕ), $\theta = 0^\circ$ 

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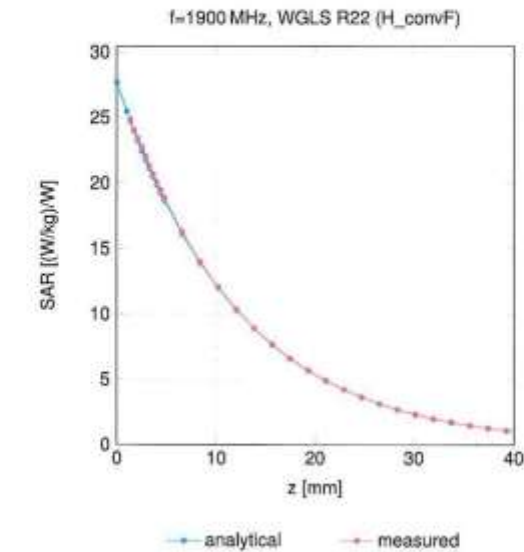
January 19, 2024



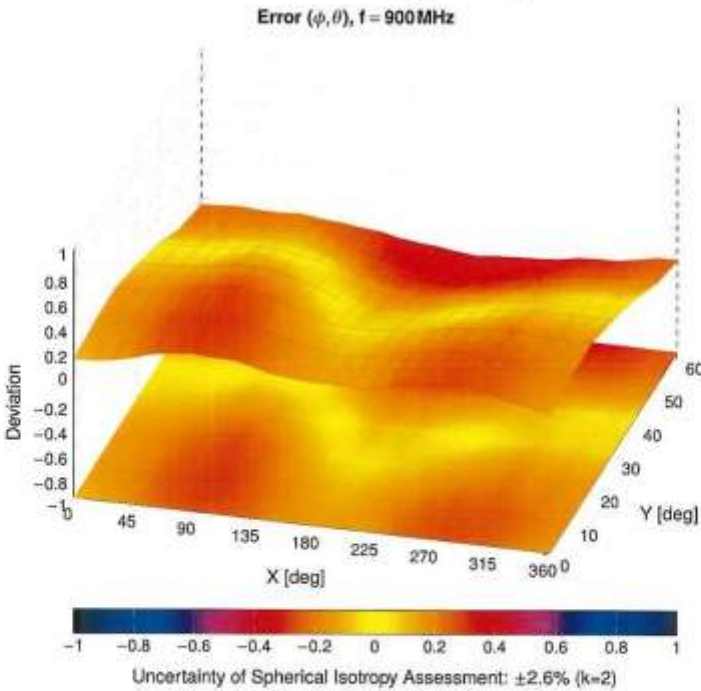
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Conversion Factor Assessment



Deviation from Isotropy in Liquid



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Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^k k = 2
0		CW	CW	0.00	±4.7
10010	CAB	SAR Validation (Square, 100 ms, 10 ms)	Test	10.00	±9.6
10011	CAC	UMTS-FDD (WCDMA)	WCDMA	2.91	±9.6
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	±9.6
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	±9.6
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	±9.6
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	±9.6
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	±9.6
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.02	±9.6
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	±9.6
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	±9.6
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	±9.6
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	±9.6
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	±9.6
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	±9.6
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	±9.6
10033	CAA	IEEE 802.15.1 Bluetooth (Pi/4-DQPSK, DH1)	Bluetooth	7.74	±9.6
10034	CAA	IEEE 802.15.1 Bluetooth (Pi/4-DQPSK, DH3)	Bluetooth	4.53	±9.6
10035	CAA	IEEE 802.15.1 Bluetooth (Pi/4-DQPSK, DH5)	Bluetooth	3.83	±9.6
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	±9.6
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	±9.6
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	±9.6
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	±9.6
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, Pi/4-DQPSK, Fullrate)	AMPS	7.78	±9.6
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	±9.6
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	±9.6
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	±9.6
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	±9.6
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	±9.6
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	±9.6
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	±9.6
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.80	±9.6
10062	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	±9.6
10063	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.83	±9.6
10064	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	±9.6
10065	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	±9.6
10066	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	±9.6
10067	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	±9.6
10068	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	±9.6
10069	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	±9.6
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	±9.6
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.82	±9.6
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	±9.6
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	±9.6
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	±9.6
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	±9.6
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	±9.6
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	±9.6
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, Pi/4-DQPSK, Fullrate)	AMPS	4.77	±9.6
10080	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	±9.6
10097	CAC	UMTS-FDD (HSDPA)	WCDMA	3.98	±9.6
10098	CAC	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	±9.6
10099	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	±9.6
10100	CAF	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	±9.6
10101	CAF	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	±9.6
10102	CAF	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	±9.6
10103	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	±9.6
10104	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	±9.6
10105	CAH	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	±9.6
10108	CAH	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	±9.6
10109	CAH	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	±9.6
10110	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	±9.6
10111	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	±9.6

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10112	CAH	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	±9.6
10113	CAH	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	±9.6
10114	CAD	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	±9.6
10115	CAD	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	±9.6
10116	CAD	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	±9.6
10117	CAD	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	±9.6
10118	CAD	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	±9.6
10119	CAD	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	±9.6
10140	CAF	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	±9.6
10141	CAF	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	±9.6
10142	CAF	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	±9.6
10143	CAF	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	±9.6
10144	CAF	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	±9.6
10145	CAG	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	±9.6
10146	CAG	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	±9.6
10147	CAG	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	±9.6
10148	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	±9.6
10150	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	±9.6
10151	CAH	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	±9.6
10152	CAH	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	±9.6
10153	CAH	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	±9.6
10154	CAH	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	±9.6
10155	CAH	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	±9.6
10156	CAH	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	±9.6
10157	CAH	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	±9.6
10158	CAH	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	±9.6
10159	CAH	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	±9.6
10160	CAF	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	±9.6
10161	CAF	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	±9.6
10162	CAF	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	±9.6
10166	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	±9.6
10167	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	±9.6
10168	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	±9.6
10169	CAF	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	±9.6
10170	CAF	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10171	AAF	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	±9.6
10172	CAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	±9.6
10173	CAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10174	CAH	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10175	CAH	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	±9.6
10176	CAH	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10177	CAJ	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	±9.6
10178	CAH	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10179	CAH	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10180	CAH	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10181	CAF	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	±9.6
10182	CAF	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10183	AAE	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10184	CAF	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	±9.6
10185	CAF	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	±9.6
10186	AAF	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10187	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	±9.6
10188	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	±9.6
10189	AAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	±9.6
10193	CAD	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	±9.6
10194	CAD	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	±9.6
10195	CAD	IEEE 802.11n (HT Greenfield, 85 Mbps, 64-QAM)	WLAN	8.21	±9.6
10196	CAD	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	±9.6
10197	CAD	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	±9.6
10198	CAD	IEEE 802.11n (HT Mixed, 85 Mbps, 64-QAM)	WLAN	8.27	±9.6
10219	CAD	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	±9.6
10220	CAD	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	±9.6
10221	CAD	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	±9.6
10222	CAD	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.08	±9.6
10223	CAD	IEEE 802.11n (HT Mixed, 80 Mbps, 16-QAM)	WLAN	8.48	±9.6
10224	CAD	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	±9.6

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10225	CAC	UMTS-FDD (HSPA+)	WCDMA	9.97	±9.6
10226	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	±9.6
10227	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	±9.6
10228	CAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	±9.6
10229	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10230	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10231	CAE	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	±9.6
10232	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10233	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10234	CAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	±9.6
10235	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10236	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10237	CAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	±9.6
10238	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	±9.6
10239	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	±9.6
10240	CAG	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	±9.6
10241	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	±9.6
10242	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	±9.6
10243	CAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	±9.6
10244	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	±9.6
10245	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	±9.6
10246	CAE	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	±9.6
10247	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	±9.6
10248	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	±9.6
10249	CAH	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	±9.6
10250	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	±9.6
10251	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	±9.6
10252	CAH	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	±9.6
10253	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	±9.6
10254	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	±9.6
10255	CAG	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	±9.6
10256	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	±9.6
10257	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	±9.6
10258	CAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	±9.6
10259	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	±9.6
10260	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	±9.6
10261	CAE	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	±9.6
10262	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	±9.6
10263	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	±9.6
10264	CAH	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	±9.6
10265	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	±9.6
10266	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	±9.6
10267	CAH	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	±9.6
10268	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	±9.6
10269	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	±9.6
10270	CAG	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	±9.6
10274	CAC	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	±9.6
10275	CAC	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	±9.6
10277	CAA	PHS (QPSK)	PHS	11.81	±9.6
10278	CAA	PHS (QPSK, BW 884 MHz, Roll-off 0.5)	PHS	11.81	±9.6
10279	CAA	PHS (QPSK, BW 884 MHz, Roll-off 0.38)	PHS	12.18	±9.6
10290	AAB	CDMA2000, RC1, SQ55, Full Rate	CDMA2000	3.91	±9.6
10291	AAB	CDMA2000, RC3, SQ55, Full Rate	CDMA2000	3.46	±9.6
10292	AAB	CDMA2000, RC3, SQ32, Full Rate	CDMA2000	3.39	±9.6
10293	AAB	CDMA2000, RC3, SQ3, Full Rate	CDMA2000	3.50	±9.6
10295	AAB	CDMA2000, RC1, SQ3, 1/8th Rate 25 fr.	CDMA2000	12.49	±9.6
10297	AAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	±9.6
10298	AAE	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	±9.6
10299	AAE	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	±9.6
10300	AAE	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	±9.6
10301	AAA	IEEE 802.16e WIMAX (29:18, 5 ms, 10 MHz, QPSK, PUSC)	WIMAX	12.03	±9.6
10302	AAA	IEEE 802.16e WIMAX (29:18, 5 ms, 10 MHz, QPSK, PUSC, 3 CTRL symbols)	WIMAX	12.57	±9.6
10303	AAA	IEEE 802.16e WIMAX (31:15, 5 ms, 10 MHz, 64QAM, PUSC)	WIMAX	12.52	±9.6
10304	AAA	IEEE 802.16e WIMAX (29:18, 5 ms, 10 MHz, 64QAM, PUSC)	WIMAX	11.86	±9.6
10305	AAA	IEEE 802.16e WIMAX (31:15, 10 ms, 10 MHz, 64QAM, PUSC, 15 symbols)	WIMAX	15.24	±9.6
10306	AAA	IEEE 802.16e WIMAX (29:18, 10 ms, 10 MHz, 64QAM, PUSC, 18 symbols)	WIMAX	14.67	±9.6

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10307	AAA	IEEE 802.16e WiMAX (29.18, 10 ms, 10 MHz, QPSK, PUSC, 16 symbols)	WiMAX	14.49	±9.6
10308	AAA	IEEE 802.16e WiMAX (29.18, 10 ms, 10 MHz, 16QAM, PUSC)	WiMAX	14.46	±9.6
10309	AAA	IEEE 802.16e WiMAX (29.18, 10 ms, 10 MHz, 16QAM, AMC 2x3, 16 symbols)	WiMAX	14.58	±9.6
10310	AAA	IEEE 802.16e WiMAX (29.18, 10 ms, 10 MHz, QPSK, AMC 2x3, 16 symbols)	WiMAX	14.57	±9.6
10311	AAE	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	±9.6
10313	AAA	IDEN 1.3	IDEN	10.51	±9.8
10314	AAA	IDEN 1.6	IDEN	13.46	±9.8
10315	AAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.71	±9.6
10316	AAB	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	±9.6
10317	AAE	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.36	±9.6
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	±9.6
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	±9.6
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	±9.6
10355	AAA	Pulse Waveform (200Hz, 80%)	Generic	2.22	±9.6
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	±9.6
10397	AAA	QPSK Waveform, 1 MHz	Generic	5.10	±9.6
10398	AAA	QPSK Waveform, 10 MHz	Generic	5.22	±9.6
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	±9.6
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	±9.6
10400	AAE	IEEE 802.11ac WiFi (20 MHz, 64-QAM, 96pc duty cycle)	WLAN	8.37	±9.6
10401	AAE	IEEE 802.11ac WiFi (40 MHz, 64-QAM, 96pc duty cycle)	WLAN	8.60	±9.6
10402	AAE	IEEE 802.11ac WiFi (80 MHz, 64-QAM, 96pc duty cycle)	WLAN	8.53	±9.6
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	±9.6
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	±9.6
10406	AAB	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	±9.6
10410	AAH	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4)	LTE-TDD	7.82	±9.6
10414	AAA	WLAN CDDF, 64-QAM, 40 MHz	Generic	8.54	±9.6
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)	WLAN	1.54	±9.6
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.23	±9.6
10417	AAC	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)	WLAN	8.23	±9.6
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 96pc duty cycle, Long preamble)	WLAN	8.14	±9.6
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 96pc duty cycle, Short preamble)	WLAN	8.19	±9.6
10422	AAC	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	±9.6
10423	AAC	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	±9.6
10424	AAC	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	±9.6
10425	AAC	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	±9.6
10426	AAC	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	±9.6
10427	AAC	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	±9.6
10430	AAE	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	±9.6
10431	AAE	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	±9.6
10432	AAD	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	±9.6
10433	AAD	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	±9.6
10434	AAB	W-CDMA (BS Test Model 1, 64 DPCCH)	WCDMA	8.60	±9.6
10435	AAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10447	AAE	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	±9.6
10448	AAE	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.53	±9.6
10449	AAD	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.51	±9.6
10450	AAD	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	±9.6
10451	AAB	W-CDMA (BS Test Model 1, 64 DPCCH, Clipping 44%)	WCDMA	7.59	±9.6
10453	AAE	Validation (Square, 10 ms, 1 ms)	Test	10.00	±9.6
10456	AAC	IEEE 802.11ac WiFi (160 MHz, 64-QAM, 96pc duty cycle)	WLAN	8.63	±9.6
10457	AAB	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	±9.6
10458	AAA	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	±9.6
10459	AAA	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	±9.6
10460	AAB	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	±9.6
10461	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10462	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.30	±9.6
10463	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	±9.6
10464	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10465	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
10466	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
10467	AAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10468	AAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
10469	AAG	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.56	±9.6
10470	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10471	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6

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10472	AAG	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
10473	AAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.82	±9.6
10474	AAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
10475	AAF	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
10477	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.32	±9.6
10478	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.57	±9.6
10479	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10480	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.18	±9.6
10481	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	±9.6
10482	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.71	±9.6
10483	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.39	±9.6
10484	AAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.47	±9.6
10485	AAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.59	±9.6
10486	AAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.38	±9.6
10487	AAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.60	±9.6
10488	AAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.70	±9.6
10489	AAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	±9.6
10490	AAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6
10491	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10492	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.41	±9.6
10493	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	±9.6
10494	AAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10495	AAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.37	±9.6
10496	AAG	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6
10497	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.87	±9.6
10498	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.40	±9.6
10499	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.68	±9.6
10500	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.67	±9.6
10501	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.44	±9.6
10502	AAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.52	±9.6
10503	AAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.72	±9.6
10504	AAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.31	±9.6
10505	AAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.54	±9.6
10506	AAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10507	AAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.36	±9.6
10508	AAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.55	±9.6
10509	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.99	±9.6
10510	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.49	±9.6
10511	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.51	±9.6
10512	AAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)	LTE-TDD	7.74	±9.6
10513	AAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.42	±9.6
10514	AAG	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)	LTE-TDD	8.45	±9.6
10515	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)	WLAN	1.58	±9.6
10516	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)	WLAN	1.57	±9.6
10517	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)	WLAN	1.58	±9.6
10518	AAC	IEEE 802.11a/n WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)	WLAN	8.23	±9.6
10519	AAC	IEEE 802.11a/n WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)	WLAN	8.39	±9.6
10520	AAC	IEEE 802.11a/n WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)	WLAN	8.12	±9.6
10521	AAC	IEEE 802.11a/n WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)	WLAN	7.97	±9.6
10522	AAC	IEEE 802.11a/n WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)	WLAN	8.45	±9.6
10523	AAC	IEEE 802.11a/n WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)	WLAN	8.08	±9.6
10524	AAC	IEEE 802.11a/n WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)	WLAN	8.27	±9.6
10525	AAC	IEEE 802.11ac WiFi (20 MHz, MCS0, 99pc duty cycle)	WLAN	8.36	±9.6
10526	AAC	IEEE 802.11ac WiFi (20 MHz, MCS1, 99pc duty cycle)	WLAN	8.42	±9.6
10527	AAC	IEEE 802.11ac WiFi (20 MHz, MCS2, 99pc duty cycle)	WLAN	8.21	±9.6
10528	AAC	IEEE 802.11ac WiFi (20 MHz, MCS3, 99pc duty cycle)	WLAN	8.36	±9.6
10529	AAC	IEEE 802.11ac WiFi (20 MHz, MCS4, 99pc duty cycle)	WLAN	8.36	±9.6
10531	AAC	IEEE 802.11ac WiFi (20 MHz, MCS8, 99pc duty cycle)	WLAN	8.43	±9.6
10532	AAC	IEEE 802.11ac WiFi (20 MHz, MCS7, 99pc duty cycle)	WLAN	8.29	±9.6
10533	AAC	IEEE 802.11ac WiFi (20 MHz, MCS8, 99pc duty cycle)	WLAN	8.38	±9.6
10534	AAC	IEEE 802.11ac WiFi (40 MHz, MCS0, 99pc duty cycle)	WLAN	8.45	±9.6
10535	AAC	IEEE 802.11ac WiFi (40 MHz, MCS1, 99pc duty cycle)	WLAN	8.45	±9.6
10536	AAC	IEEE 802.11ac WiFi (40 MHz, MCS2, 99pc duty cycle)	WLAN	8.32	±9.6
10537	AAC	IEEE 802.11ac WiFi (40 MHz, MCS3, 99pc duty cycle)	WLAN	8.44	±9.6
10538	AAC	IEEE 802.11ac WiFi (40 MHz, MCS4, 99pc duty cycle)	WLAN	8.54	±9.6
10540	AAC	IEEE 802.11ac WiFi (40 MHz, MCS8, 99pc duty cycle)	WLAN	8.39	±9.6

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10541	AAC	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)	WLAN	8.46	±9.6
10542	AAC	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)	WLAN	8.65	±9.6
10543	AAC	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)	WLAN	8.65	±9.6
10544	AAC	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)	WLAN	8.47	±9.6
10545	AAC	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)	WLAN	8.55	±9.6
10546	AAC	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)	WLAN	8.35	±9.6
10547	AAC	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)	WLAN	8.49	±9.6
10548	AAC	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)	WLAN	8.37	±9.6
10550	AAC	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)	WLAN	8.38	±9.6
10551	AAC	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)	WLAN	8.50	±9.6
10552	AAC	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)	WLAN	8.42	±9.6
10553	AAC	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)	WLAN	8.45	±9.6
10554	AAD	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)	WLAN	8.48	±9.6
10555	AAD	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)	WLAN	8.47	±9.6
10556	AAD	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)	WLAN	8.50	±9.6
10557	AAD	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)	WLAN	8.52	±9.6
10558	AAD	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)	WLAN	8.61	±9.6
10560	AAD	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)	WLAN	8.73	±9.6
10561	AAD	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)	WLAN	8.56	±9.6
10562	AAD	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)	WLAN	8.69	±9.6
10563	AAD	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)	WLAN	8.77	±9.6
10564	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9Mbps, 99pc duty cycle)	WLAN	8.25	±9.6
10565	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12Mbps, 99pc duty cycle)	WLAN	8.45	±9.6
10566	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18Mbps, 99pc duty cycle)	WLAN	8.13	±9.6
10567	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24Mbps, 99pc duty cycle)	WLAN	8.00	±9.6
10568	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36Mbps, 99pc duty cycle)	WLAN	8.37	±9.6
10569	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48Mbps, 99pc duty cycle)	WLAN	8.10	±9.6
10570	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54Mbps, 99pc duty cycle)	WLAN	8.30	±9.6
10571	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1Mbps, 90pc duty cycle)	WLAN	1.99	±9.6
10572	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2Mbps, 90pc duty cycle)	WLAN	1.99	±9.6
10573	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5Mbps, 90pc duty cycle)	WLAN	1.98	±9.6
10574	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11Mbps, 90pc duty cycle)	WLAN	1.98	±9.6
10575	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6Mbps, 90pc duty cycle)	WLAN	8.59	±9.6
10576	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9Mbps, 90pc duty cycle)	WLAN	8.60	±9.6
10577	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12Mbps, 90pc duty cycle)	WLAN	8.70	±9.6
10578	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18Mbps, 90pc duty cycle)	WLAN	8.49	±9.6
10579	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24Mbps, 90pc duty cycle)	WLAN	8.36	±9.6
10580	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36Mbps, 90pc duty cycle)	WLAN	8.76	±9.6
10581	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48Mbps, 90pc duty cycle)	WLAN	8.35	±9.6
10582	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54Mbps, 90pc duty cycle)	WLAN	8.67	±9.6
10583	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6Mbps, 90pc duty cycle)	WLAN	8.59	±9.6
10584	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9Mbps, 90pc duty cycle)	WLAN	8.60	±9.6
10585	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12Mbps, 90pc duty cycle)	WLAN	8.70	±9.6
10586	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18Mbps, 90pc duty cycle)	WLAN	8.49	±9.6
10587	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24Mbps, 90pc duty cycle)	WLAN	8.36	±9.6
10588	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36Mbps, 90pc duty cycle)	WLAN	8.76	±9.6
10589	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48Mbps, 90pc duty cycle)	WLAN	8.35	±9.6
10590	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54Mbps, 90pc duty cycle)	WLAN	8.67	±9.6
10591	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)	WLAN	8.63	±9.6
10592	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)	WLAN	8.79	±9.6
10593	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)	WLAN	8.64	±9.6
10594	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)	WLAN	8.74	±9.6
10595	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)	WLAN	8.74	±9.6
10596	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)	WLAN	8.71	±9.6
10597	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)	WLAN	8.72	±9.6
10598	AAC	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)	WLAN	8.50	±9.6
10599	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)	WLAN	8.79	±9.6
10600	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)	WLAN	8.88	±9.6
10601	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)	WLAN	8.82	±9.6
10602	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)	WLAN	8.94	±9.6
10603	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)	WLAN	9.03	±9.6
10604	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)	WLAN	8.76	±9.6
10605	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)	WLAN	8.97	±9.6
10606	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)	WLAN	8.82	±9.6
10607	AAC	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)	WLAN	8.64	±9.6
10608	AAC	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)	WLAN	8.77	±9.6

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UID	Rev	Communication System Name	Group	PAR (dB)	Unc ^k k = 2
10609	AAC	IEEE 802.11ac WiFi (20 MHz, MCS2, 90pc duty cycle)	WLAN	8.57	±9.6
10610	AAC	IEEE 802.11ac WiFi (20 MHz, MCS3, 90pc duty cycle)	WLAN	8.78	±9.6
10611	AAC	IEEE 802.11ac WiFi (20 MHz, MCS4, 90pc duty cycle)	WLAN	8.70	±9.6
10612	AAC	IEEE 802.11ac WiFi (20 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6
10613	AAC	IEEE 802.11ac WiFi (20 MHz, MCS6, 90pc duty cycle)	WLAN	8.94	±9.6
10614	AAC	IEEE 802.11ac WiFi (20 MHz, MCS7, 90pc duty cycle)	WLAN	8.59	±9.6
10615	AAC	IEEE 802.11ac WiFi (20 MHz, MCS8, 90pc duty cycle)	WLAN	8.62	±9.6
10616	AAC	IEEE 802.11ac WiFi (40 MHz, MCS0, 90pc duty cycle)	WLAN	8.82	±9.6
10617	AAC	IEEE 802.11ac WiFi (40 MHz, MCS1, 90pc duty cycle)	WLAN	8.81	±9.6
10618	AAC	IEEE 802.11ac WiFi (40 MHz, MCS2, 90pc duty cycle)	WLAN	8.58	±9.6
10619	AAC	IEEE 802.11ac WiFi (40 MHz, MCS3, 90pc duty cycle)	WLAN	8.66	±9.6
10620	AAC	IEEE 802.11ac WiFi (40 MHz, MCS4, 90pc duty cycle)	WLAN	8.87	±9.6
10621	AAC	IEEE 802.11ac WiFi (40 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6
10622	AAC	IEEE 802.11ac WiFi (40 MHz, MCS6, 90pc duty cycle)	WLAN	8.68	±9.6
10623	AAC	IEEE 802.11ac WiFi (40 MHz, MCS7, 90pc duty cycle)	WLAN	8.62	±9.6
10624	AAC	IEEE 802.11ac WiFi (40 MHz, MCS8, 90pc duty cycle)	WLAN	8.96	±9.6
10625	AAC	IEEE 802.11ac WiFi (40 MHz, MCS9, 90pc duty cycle)	WLAN	8.96	±9.6
10626	AAC	IEEE 802.11ac WiFi (80 MHz, MCS0, 90pc duty cycle)	WLAN	8.83	±9.6
10627	AAC	IEEE 802.11ac WiFi (80 MHz, MCS1, 90pc duty cycle)	WLAN	8.88	±9.6
10628	AAC	IEEE 802.11ac WiFi (80 MHz, MCS2, 90pc duty cycle)	WLAN	8.71	±9.6
10629	AAC	IEEE 802.11ac WiFi (80 MHz, MCS3, 90pc duty cycle)	WLAN	8.85	±9.6
10630	AAC	IEEE 802.11ac WiFi (80 MHz, MCS4, 90pc duty cycle)	WLAN	8.72	±9.6
10631	AAC	IEEE 802.11ac WiFi (80 MHz, MCS5, 90pc duty cycle)	WLAN	8.81	±9.6
10632	AAC	IEEE 802.11ac WiFi (80 MHz, MCS6, 90pc duty cycle)	WLAN	8.74	±9.6
10633	AAC	IEEE 802.11ac WiFi (80 MHz, MCS7, 90pc duty cycle)	WLAN	8.83	±9.6
10634	AAC	IEEE 802.11ac WiFi (80 MHz, MCS8, 90pc duty cycle)	WLAN	8.80	±9.6
10635	AAC	IEEE 802.11ac WiFi (80 MHz, MCS9, 90pc duty cycle)	WLAN	8.81	±9.6
10636	AAD	IEEE 802.11ac WiFi (160 MHz, MCS0, 90pc duty cycle)	WLAN	8.83	±9.6
10637	AAD	IEEE 802.11ac WiFi (160 MHz, MCS1, 90pc duty cycle)	WLAN	8.79	±9.6
10638	AAD	IEEE 802.11ac WiFi (160 MHz, MCS2, 90pc duty cycle)	WLAN	8.86	±9.6
10639	AAD	IEEE 802.11ac WiFi (160 MHz, MCS3, 90pc duty cycle)	WLAN	8.85	±9.6
10640	AAD	IEEE 802.11ac WiFi (160 MHz, MCS4, 90pc duty cycle)	WLAN	8.98	±9.6
10641	AAD	IEEE 802.11ac WiFi (160 MHz, MCS5, 90pc duty cycle)	WLAN	9.06	±9.6
10642	AAD	IEEE 802.11ac WiFi (160 MHz, MCS6, 90pc duty cycle)	WLAN	9.08	±9.6
10643	AAD	IEEE 802.11ac WiFi (160 MHz, MCS7, 90pc duty cycle)	WLAN	8.89	±9.6
10644	AAD	IEEE 802.11ac WiFi (160 MHz, MCS8, 90pc duty cycle)	WLAN	9.05	±9.6
10645	AAD	IEEE 802.11ac WiFi (160 MHz, MCS9, 90pc duty cycle)	WLAN	9.11	±9.6
10646	AAH	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	±9.6
10647	AAG	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)	LTE-TDD	11.96	±9.6
10648	AAA	CDMA2000 (1x Advanced)	CDMA2000	3.45	±9.6
10652	AAF	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	±9.6
10653	AAF	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	±9.6
10654	AAE	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	±9.6
10655	AAF	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	±9.6
10658	AAB	Pulse Waveform (200Hz, 10%)	Test	10.00	±9.6
10659	AAB	Pulse Waveform (200Hz, 20%)	Test	6.99	±9.6
10660	AAB	Pulse Waveform (200Hz, 40%)	Test	3.98	±9.6
10661	AAB	Pulse Waveform (200Hz, 60%)	Test	2.22	±9.6
10662	AAB	Pulse Waveform (200Hz, 80%)	Test	0.97	±9.6
10670	AAA	Bluetooth Low Energy	Bluetooth	2.19	±9.6
10671	AAC	IEEE 802.11ax (20 MHz, MCS0, 90pc duty cycle)	WLAN	9.09	±9.6
10672	AAC	IEEE 802.11ax (20 MHz, MCS1, 90pc duty cycle)	WLAN	8.57	±9.6
10673	AAC	IEEE 802.11ax (20 MHz, MCS2, 90pc duty cycle)	WLAN	8.78	±9.6
10674	AAC	IEEE 802.11ax (20 MHz, MCS3, 90pc duty cycle)	WLAN	8.74	±9.6
10675	AAC	IEEE 802.11ax (20 MHz, MCS4, 90pc duty cycle)	WLAN	8.90	±9.6
10676	AAC	IEEE 802.11ax (20 MHz, MCS5, 90pc duty cycle)	WLAN	8.77	±9.6
10677	AAC	IEEE 802.11ax (20 MHz, MCS6, 90pc duty cycle)	WLAN	8.73	±9.6
10678	AAC	IEEE 802.11ax (20 MHz, MCS7, 90pc duty cycle)	WLAN	8.78	±9.6
10679	AAC	IEEE 802.11ax (20 MHz, MCS8, 90pc duty cycle)	WLAN	8.89	±9.6
10680	AAC	IEEE 802.11ax (20 MHz, MCS9, 90pc duty cycle)	WLAN	8.80	±9.6
10681	AAC	IEEE 802.11ax (20 MHz, MCS10, 90pc duty cycle)	WLAN	8.82	±9.6
10682	AAC	IEEE 802.11ax (20 MHz, MCS11, 90pc duty cycle)	WLAN	8.83	±9.6
10683	AAC	IEEE 802.11ax (20 MHz, MCS0, 99pc duty cycle)	WLAN	8.42	±9.6
10684	AAC	IEEE 802.11ax (20 MHz, MCS1, 99pc duty cycle)	WLAN	8.28	±9.6
10685	AAC	IEEE 802.11ax (20 MHz, MCS2, 99pc duty cycle)	WLAN	8.33	±9.6
10686	AAC	IEEE 802.11ax (20 MHz, MCS3, 99pc duty cycle)	WLAN	8.28	±9.6

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10687	AAC	IEEE 802.11ax (20 MHz, MCS4, 99pc duty cycle)	WLAN	8.45	±9.6
10688	AAC	IEEE 802.11ax (20 MHz, MCS5, 99pc duty cycle)	WLAN	8.29	±9.6
10689	AAC	IEEE 802.11ax (20 MHz, MCS6, 99pc duty cycle)	WLAN	8.55	±9.6
10690	AAC	IEEE 802.11ax (20 MHz, MCS7, 99pc duty cycle)	WLAN	8.29	±9.6
10691	AAC	IEEE 802.11ax (20 MHz, MCS8, 99pc duty cycle)	WLAN	8.25	±9.6
10692	AAC	IEEE 802.11ax (20 MHz, MCS9, 99pc duty cycle)	WLAN	8.29	±9.6
10693	AAC	IEEE 802.11ax (20 MHz, MCS10, 99pc duty cycle)	WLAN	8.25	±9.6
10694	AAC	IEEE 802.11ax (20 MHz, MCS11, 99pc duty cycle)	WLAN	8.57	±9.6
10695	AAC	IEEE 802.11ax (40 MHz, MCS0, 90pc duty cycle)	WLAN	8.78	±9.6
10696	AAC	IEEE 802.11ax (40 MHz, MCS1, 90pc duty cycle)	WLAN	8.91	±9.6
10697	AAC	IEEE 802.11ax (40 MHz, MCS2, 90pc duty cycle)	WLAN	8.61	±9.6
10698	AAC	IEEE 802.11ax (40 MHz, MCS3, 90pc duty cycle)	WLAN	8.89	±9.6
10699	AAC	IEEE 802.11ax (40 MHz, MCS4, 90pc duty cycle)	WLAN	8.82	±9.6
10700	AAC	IEEE 802.11ax (40 MHz, MCS5, 90pc duty cycle)	WLAN	8.73	±9.6
10701	AAC	IEEE 802.11ax (40 MHz, MCS6, 90pc duty cycle)	WLAN	8.86	±9.6
10702	AAC	IEEE 802.11ax (40 MHz, MCS7, 90pc duty cycle)	WLAN	8.70	±9.6
10703	AAC	IEEE 802.11ax (40 MHz, MCS8, 90pc duty cycle)	WLAN	8.82	±9.6
10704	AAC	IEEE 802.11ax (40 MHz, MCS9, 90pc duty cycle)	WLAN	8.56	±9.6
10705	AAC	IEEE 802.11ax (40 MHz, MCS10, 90pc duty cycle)	WLAN	8.69	±9.6
10706	AAC	IEEE 802.11ax (40 MHz, MCS11, 90pc duty cycle)	WLAN	8.66	±9.6
10707	AAC	IEEE 802.11ax (40 MHz, MCS0, 99pc duty cycle)	WLAN	8.32	±9.6
10708	AAC	IEEE 802.11ax (40 MHz, MCS1, 99pc duty cycle)	WLAN	8.55	±9.6
10709	AAC	IEEE 802.11ax (40 MHz, MCS2, 99pc duty cycle)	WLAN	8.33	±9.6
10710	AAC	IEEE 802.11ax (40 MHz, MCS3, 99pc duty cycle)	WLAN	8.29	±9.6
10711	AAC	IEEE 802.11ax (40 MHz, MCS4, 99pc duty cycle)	WLAN	8.39	±9.6
10712	AAC	IEEE 802.11ax (40 MHz, MCS5, 99pc duty cycle)	WLAN	8.67	±9.6
10713	AAC	IEEE 802.11ax (40 MHz, MCS6, 99pc duty cycle)	WLAN	8.33	±9.6
10714	AAC	IEEE 802.11ax (40 MHz, MCS7, 99pc duty cycle)	WLAN	8.26	±9.6
10715	AAC	IEEE 802.11ax (40 MHz, MCS8, 99pc duty cycle)	WLAN	8.45	±9.6
10716	AAC	IEEE 802.11ax (40 MHz, MCS9, 99pc duty cycle)	WLAN	8.30	±9.6
10717	AAC	IEEE 802.11ax (40 MHz, MCS10, 99pc duty cycle)	WLAN	8.48	±9.6
10718	AAC	IEEE 802.11ax (40 MHz, MCS11, 99pc duty cycle)	WLAN	8.24	±9.6
10719	AAC	IEEE 802.11ax (80 MHz, MCS0, 90pc duty cycle)	WLAN	8.81	±9.6
10720	AAC	IEEE 802.11ax (80 MHz, MCS1, 90pc duty cycle)	WLAN	8.87	±9.6
10721	AAC	IEEE 802.11ax (80 MHz, MCS2, 90pc duty cycle)	WLAN	8.76	±9.6
10722	AAC	IEEE 802.11ax (80 MHz, MCS3, 90pc duty cycle)	WLAN	8.55	±9.6
10723	AAC	IEEE 802.11ax (80 MHz, MCS4, 90pc duty cycle)	WLAN	8.70	±9.6
10724	AAC	IEEE 802.11ax (80 MHz, MCS5, 90pc duty cycle)	WLAN	8.90	±9.6
10725	AAC	IEEE 802.11ax (80 MHz, MCS6, 90pc duty cycle)	WLAN	8.74	±9.6
10726	AAC	IEEE 802.11ax (80 MHz, MCS7, 90pc duty cycle)	WLAN	8.72	±9.6
10727	AAC	IEEE 802.11ax (80 MHz, MCS8, 90pc duty cycle)	WLAN	8.68	±9.6
10728	AAC	IEEE 802.11ax (80 MHz, MCS9, 90pc duty cycle)	WLAN	8.65	±9.6
10729	AAC	IEEE 802.11ax (80 MHz, MCS10, 90pc duty cycle)	WLAN	8.84	±9.6
10730	AAC	IEEE 802.11ax (80 MHz, MCS11, 90pc duty cycle)	WLAN	8.67	±9.6
10731	AAC	IEEE 802.11ax (80 MHz, MCS0, 99pc duty cycle)	WLAN	8.42	±9.6
10732	AAC	IEEE 802.11ax (80 MHz, MCS1, 99pc duty cycle)	WLAN	8.46	±9.6
10733	AAC	IEEE 802.11ax (80 MHz, MCS2, 99pc duty cycle)	WLAN	8.40	±9.6
10734	AAC	IEEE 802.11ax (80 MHz, MCS3, 99pc duty cycle)	WLAN	8.25	±9.6
10735	AAC	IEEE 802.11ax (80 MHz, MCS4, 99pc duty cycle)	WLAN	8.33	±9.6
10736	AAC	IEEE 802.11ax (80 MHz, MCS5, 99pc duty cycle)	WLAN	8.27	±9.6
10737	AAC	IEEE 802.11ax (80 MHz, MCS6, 99pc duty cycle)	WLAN	8.36	±9.6
10738	AAC	IEEE 802.11ax (80 MHz, MCS7, 99pc duty cycle)	WLAN	8.42	±9.6
10739	AAC	IEEE 802.11ax (80 MHz, MCS8, 99pc duty cycle)	WLAN	8.29	±9.6
10740	AAC	IEEE 802.11ax (80 MHz, MCS9, 99pc duty cycle)	WLAN	8.48	±9.6
10741	AAC	IEEE 802.11ax (80 MHz, MCS10, 99pc duty cycle)	WLAN	8.60	±9.6
10742	AAC	IEEE 802.11ax (80 MHz, MCS11, 99pc duty cycle)	WLAN	8.43	±9.6
10743	AAC	IEEE 802.11ax (160 MHz, MCS0, 90pc duty cycle)	WLAN	8.94	±9.6
10744	AAC	IEEE 802.11ax (160 MHz, MCS1, 90pc duty cycle)	WLAN	9.16	±9.6
10745	AAC	IEEE 802.11ax (160 MHz, MCS2, 90pc duty cycle)	WLAN	8.93	±9.6
10746	AAC	IEEE 802.11ax (160 MHz, MCS3, 90pc duty cycle)	WLAN	9.11	±9.6
10747	AAC	IEEE 802.11ax (160 MHz, MCS4, 90pc duty cycle)	WLAN	9.04	±9.6
10748	AAC	IEEE 802.11ax (160 MHz, MCS5, 90pc duty cycle)	WLAN	8.93	±9.6
10749	AAC	IEEE 802.11ax (160 MHz, MCS6, 90pc duty cycle)	WLAN	8.90	±9.6
10750	AAC	IEEE 802.11ax (160 MHz, MCS7, 90pc duty cycle)	WLAN	8.79	±9.6
10751	AAC	IEEE 802.11ax (160 MHz, MCS8, 90pc duty cycle)	WLAN	8.82	±9.6
10752	AAC	IEEE 802.11ax (160 MHz, MCS9, 90pc duty cycle)	WLAN	8.61	±9.6

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10753	AAC	IEEE 802.11ax (160MHz, MCS10, 90pc duty cycle)	WLAN	8.00	±9.6
10754	AAC	IEEE 802.11ax (160MHz, MCS11, 90pc duty cycle)	WLAN	8.94	±9.6
10755	AAC	IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle)	WLAN	8.64	±9.6
10756	AAC	IEEE 802.11ax (160MHz, MCS1, 99pc duty cycle)	WLAN	8.77	±9.6
10757	AAC	IEEE 802.11ax (160MHz, MCS2, 99pc duty cycle)	WLAN	8.77	±9.6
10758	AAC	IEEE 802.11ax (160MHz, MCS3, 99pc duty cycle)	WLAN	8.69	±9.6
10759	AAC	IEEE 802.11ax (160MHz, MCS4, 99pc duty cycle)	WLAN	8.58	±9.6
10760	AAC	IEEE 802.11ax (160MHz, MCS5, 99pc duty cycle)	WLAN	8.49	±9.6
10761	AAC	IEEE 802.11ax (160MHz, MCS6, 99pc duty cycle)	WLAN	8.58	±9.6
10762	AAC	IEEE 802.11ax (160MHz, MCS7, 99pc duty cycle)	WLAN	8.49	±9.6
10763	AAC	IEEE 802.11ax (160MHz, MCS8, 99pc duty cycle)	WLAN	8.53	±9.6
10764	AAC	IEEE 802.11ax (160MHz, MCS9, 99pc duty cycle)	WLAN	8.54	±9.6
10765	AAC	IEEE 802.11ax (160MHz, MCS10, 99pc duty cycle)	WLAN	8.54	±9.6
10766	AAC	IEEE 802.11ax (160MHz, MCS11, 99pc duty cycle)	WLAN	8.51	±9.6
10767	AAE	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	7.99	±9.6
10768	AAD	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	±9.6
10769	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	±9.6
10770	AAD	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±9.6
10771	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±9.6
10772	AAD	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.23	±9.6
10773	AAD	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.03	±9.6
10774	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	±9.6
10775	AAD	5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	±9.6
10776	AAD	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	±9.6
10777	AAC	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	±9.6
10778	AAD	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.34	±9.6
10779	AAC	5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.42	±9.6
10780	AAD	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	±9.6
10781	AAD	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	±9.6
10782	AAD	5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.43	±9.6
10783	AAE	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	±9.6
10784	AAD	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.29	±9.6
10785	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.40	±9.6
10786	AAD	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.35	±9.6
10787	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.44	±9.6
10788	AAD	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	±9.6
10789	AAD	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.37	±9.6
10790	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	±9.6
10791	AAE	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.83	±9.6
10792	AAD	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.92	±9.6
10793	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.95	±9.6
10794	AAD	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	±9.6
10795	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.84	±9.6
10796	AAD	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	±9.6
10797	AAD	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.01	±9.6
10798	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	±9.6
10799	AAD	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	±9.6
10801	AAD	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	±9.6
10802	AAD	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.67	±9.6
10803	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	±9.6
10805	AAD	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.6
10806	AAD	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.37	±9.6
10809	AAD	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.6
10810	AAD	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.6
10812	AAD	5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	±9.6
10817	AAE	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	±9.6
10818	AAD	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	±9.6
10819	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.33	±9.6
10820	AAD	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.30	±9.6
10821	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.6
10822	AAD	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.6
10823	AAD	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.36	±9.6
10824	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.39	±9.6
10825	AAD	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	±9.6
10827	AAD	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.42	±9.6
10829	AAD	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.43	±9.6

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10829	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.40	±9.6
10830	AAD	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.63	±9.6
10831	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.73	±9.6
10832	AAD	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.74	±9.6
10833	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	±9.6
10834	AAD	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.75	±9.6
10835	AAD	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	±9.6
10836	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.66	±9.6
10837	AAD	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.68	±9.6
10839	AAD	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	±9.6
10840	AAD	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.67	±9.6
10841	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.71	±9.6
10843	AAD	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.49	±9.6
10844	AAD	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	±9.6
10846	AAD	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	±9.6
10854	AAD	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	±9.6
10855	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	±9.6
10856	AAD	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	±9.6
10857	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.35	±9.6
10858	AAD	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	±9.6
10859	AAD	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	±9.6
10860	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	±9.6
10861	AAD	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.40	±9.6
10863	AAD	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	±9.6
10864	AAD	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	±9.6
10865	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	±9.6
10866	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10868	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.89	±9.6
10869	AAE	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	±9.6
10870	AAE	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.86	±9.6
10871	AAE	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	5.75	±9.6
10872	AAE	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.52	±9.6
10873	AAE	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	±9.6
10874	AAE	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	±9.6
10875	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	±9.6
10876	AAE	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.39	±9.6
10877	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	7.95	±9.6
10878	AAE	5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.41	±9.6
10879	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.12	±9.6
10880	AAE	5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.38	±9.6
10881	AAE	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	±9.6
10882	AAE	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.96	±9.6
10883	AAE	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.57	±9.6
10884	AAE	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.53	±9.6
10885	AAE	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	±9.6
10886	AAE	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	±9.6
10887	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	±9.6
10888	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.35	±9.6
10889	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.02	±9.6
10890	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.40	±9.6
10891	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.13	±9.6
10892	AAE	5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.41	±9.6
10897	AAC	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.66	±9.6
10898	AAB	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	±9.6
10899	AAB	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	±9.6
10900	AAB	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10901	AAB	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10902	AAB	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10903	AAB	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10904	AAB	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10905	AAB	5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10906	AAB	5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	±9.6
10907	AAC	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.78	±9.6
10908	AAB	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	±9.6
10909	AAB	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.96	±9.6
10910	AAB	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	±9.6

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10911	AAB	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	±0.6
10912	AAB	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10913	AAB	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10914	AAB	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.85	±0.6
10915	AAB	5G NR (DFT-s-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.83	±0.6
10916	AAB	5G NR (DFT-s-OFDM, 50% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	±0.6
10917	AAB	5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.94	±0.6
10918	AAC	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	±0.6
10919	AAB	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	±0.6
10920	AAB	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	±0.6
10921	AAB	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10922	AAB	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.82	±0.6
10923	AAB	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10924	AAB	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10925	AAB	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.95	±0.6
10926	AAB	5G NR (DFT-s-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	±0.6
10927	AAB	5G NR (DFT-s-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.94	±0.6
10928	AAC	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	±0.6
10929	AAC	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	±0.6
10930	AAC	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	±0.6
10931	AAC	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±0.6
10932	AAC	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±0.6
10933	AAC	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±0.6
10934	AAC	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±0.6
10935	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	±0.6
10936	AAC	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.00	±0.6
10937	AAC	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.77	±0.6
10938	AAC	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	±0.6
10939	AAC	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.82	±0.6
10940	AAC	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.89	±0.6
10941	AAC	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	±0.6
10942	AAC	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	±0.6
10943	AAD	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.95	±0.6
10944	AAC	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.81	±0.6
10945	AAC	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	±0.6
10946	AAC	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	±0.6
10947	AAC	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	±0.6
10948	AAC	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.94	±0.6
10949	AAC	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	±0.6
10950	AAC	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.94	±0.6
10951	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.92	±0.6
10952	AAA	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.25	±0.6
10953	AAA	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.15	±0.6
10954	AAA	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.23	±0.6
10955	AAA	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.42	±0.6
10956	AAA	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.14	±0.6
10957	AAA	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.31	±0.6
10958	AAA	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.61	±0.6
10959	AAA	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.33	±0.6
10960	AAC	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.32	±0.6
10961	AAB	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.36	±0.6
10962	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.40	±0.6
10963	AAB	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.55	±0.6
10964	AAC	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.29	±0.6
10965	AAB	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.37	±0.6
10966	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.55	±0.6
10967	AAB	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.42	±0.6
10968	AAB	5G NR DL (CP-OFDM, TM 3.1, 100 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.49	±0.6
10972	AAB	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	11.59	±0.6
10973	AAB	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	9.06	±0.6
10974	AAB	5G NR (CP-OFDM, 100% RB, 100 MHz, 256-QAM, 30 kHz)	5G NR FR1 TDD	10.28	±0.6
10978	AAA	ULLA BDR	ULLA	1.16	±0.6
10979	AAA	ULLA HDR4	ULLA	8.58	±0.6
10980	AAA	ULLA HDR8	ULLA	10.32	±0.6
10981	AAA	ULLA HDRp4	ULLA	3.19	±0.6
10982	AAA	ULLA HDRp8	ULLA	3.43	±0.6

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10983	AAA	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.31	±0.6
10984	AAA	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.42	±0.6
10985	AAA	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.54	±0.6
10986	AAA	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.50	±0.6
10987	AAA	5G NR DL (CP-OFDM, TM 3.1, 60 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.53	±0.6
10988	AAA	5G NR DL (CP-OFDM, TM 3.1, 70 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.38	±0.6
10989	AAA	5G NR DL (CP-OFDM, TM 3.1, 80 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.33	±0.6
10990	AAA	5G NR DL (CP-OFDM, TM 3.1, 90 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.52	±0.6
11003	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	10.24	±0.6
11004	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	10.73	±0.6
11005	AAA	5G NR DL (CP-OFDM, TM 3.1, 25 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.70	±0.6
11006	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.55	±0.6
11007	AAA	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.46	±0.6
11008	AAA	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.51	±0.6
11009	AAA	5G NR DL (CP-OFDM, TM 3.1, 25 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.75	±0.6
11010	AAA	5G NR DL (CP-OFDM, TM 3.1, 30 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.95	±0.6
11011	AAA	5G NR DL (CP-OFDM, TM 3.1, 40 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.96	±0.6
11012	AAA	5G NR DL (CP-OFDM, TM 3.1, 50 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.68	±0.6
11013	AAA	IEEE 802.11be (320 MHz, MCS1, 99pc duty cycle)	WLAN	8.47	±0.6
11014	AAA	IEEE 802.11be (320 MHz, MCS2, 99pc duty cycle)	WLAN	8.45	±0.6
11015	AAA	IEEE 802.11be (320 MHz, MCS3, 99pc duty cycle)	WLAN	8.44	±0.6
11016	AAA	IEEE 802.11be (320 MHz, MCS4, 99pc duty cycle)	WLAN	8.44	±0.6
11017	AAA	IEEE 802.11be (320 MHz, MCS5, 99pc duty cycle)	WLAN	8.41	±0.6
11018	AAA	IEEE 802.11be (320 MHz, MCS6, 99pc duty cycle)	WLAN	8.40	±0.6
11019	AAA	IEEE 802.11be (320 MHz, MCS7, 99pc duty cycle)	WLAN	8.29	±0.6
11020	AAA	IEEE 802.11be (320 MHz, MCS8, 99pc duty cycle)	WLAN	8.27	±0.6
11021	AAA	IEEE 802.11be (320 MHz, MCS9, 99pc duty cycle)	WLAN	8.46	±0.6
11022	AAA	IEEE 802.11be (320 MHz, MCS10, 99pc duty cycle)	WLAN	8.36	±0.6
11023	AAA	IEEE 802.11be (320 MHz, MCS11, 99pc duty cycle)	WLAN	8.09	±0.6
11024	AAA	IEEE 802.11be (320 MHz, MCS12, 99pc duty cycle)	WLAN	8.42	±0.6
11025	AAA	IEEE 802.11be (320 MHz, MCS13, 99pc duty cycle)	WLAN	8.37	±0.6
11026	AAA	IEEE 802.11be (320 MHz, MCS0, 99pc duty cycle)	WLAN	8.39	±0.6

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

Appendix C

Dipole Calibration Certificates

24

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



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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. **D450V3-1077_Jan25**

CALIBRATION CERTIFICATE

Object **D450V3 - SN:1077**

Calibration procedure(s) **QA CAL-15.v11**
Calibration Procedure for SAR Validation Sources below 700 MHz

Calibration date: **January 30, 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 #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP2	SN: 104778	26-Mar-24 (No. 217-04036/04037)	Mar-25
Power sensor NRP-Z91	SN: 103244	26-Mar-24 (No. 217-04036)	Mar-25
Power sensor NRP-Z91	SN: 103245	26-Mar-24 (No. 217-04037)	Mar-25
Reference 20 dB Attenuator	SN: BH9394 (20k)	26-Mar-24 (No. 217-04046)	Mar-25
Type-N mismatch combination	SN: 310982 / 06327	26-Mar-24 (No. 217-04047)	Mar-25
Reference Probe EX3DV4	SN: 3877	06-Jan-25 (No. EX3-3877_Jan25)	Jan-26
DAE4	SN: 654	18-Oct-24 (No. DAE4-654_Oct24)	Oct-25
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter NRP2	SN: 107193	09-Nov-21 (in house check Jun-24)	In house check: Jun-26
Power sensor NRP-Z91	SN: 100922	15-Dec-09 (in house check Jun-24)	In house check: Jun-26
Power sensor NRP-Z91	SN: 100418	01-Jan-04 (in house check Jun-24)	In house check: Jun-26
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-24)	In house check: Jun-26
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Sep-24)	In house check: Sep-26

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Sven Kühn	Technical Manager	

Issued: January 31, 2025

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: D450V3-1077_Jan25

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 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 source is mounted in a touch configuration below the center marking of the flat phantom.
- Return Loss:** This parameter is measured with the source positioned under the liquid filled phantom (as described in the measurement condition clause). The Return Loss ensures low reflected power. 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%.

Measurement Conditions

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

DASY Version	DASY52	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	ELI4 Flat Phantom	Shell thickness: 2 ± 0.2 mm
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	450 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	43.5	0.87 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	42.4 $\pm$ 6 %	0.87 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	1.14 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	4.53 W/kg $\pm$ 18.1 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	0.759 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	3.02 W/kg $\pm$ 17.6 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	56.7	0.94 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	56.6 $\pm$ 6 %	0.93 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	1.18 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	4.76 W/kg $\pm$ 18.1 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condillon	
SAR measured	250 mW input power	0.799 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	3.22 W/kg $\pm$ 17.6 % (k=2)

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

Impedance, transformed to feed point	57.6 Ω - 2.9 j Ω
Return Loss	- 22.5 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	54.1 Ω - 7.9 j Ω
Return Loss	- 21.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.350 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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DASY5 Validation Report for Head TSL

Date: 30.01.2025

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 450 MHz; Type: D450V3; Serial: D450V3 - SN:1077

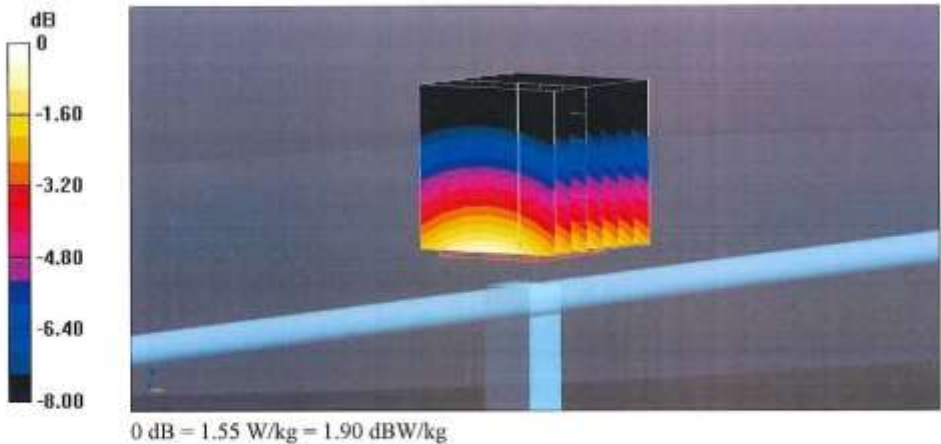
Communication System: UID 0 - CW; Frequency: 450 MHz
Medium parameters used: $f = 450\text{ MHz}$; $\sigma = 0.87\text{ S/m}$; $\epsilon_r = 42.4$; $\rho = 1000\text{ kg/m}^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

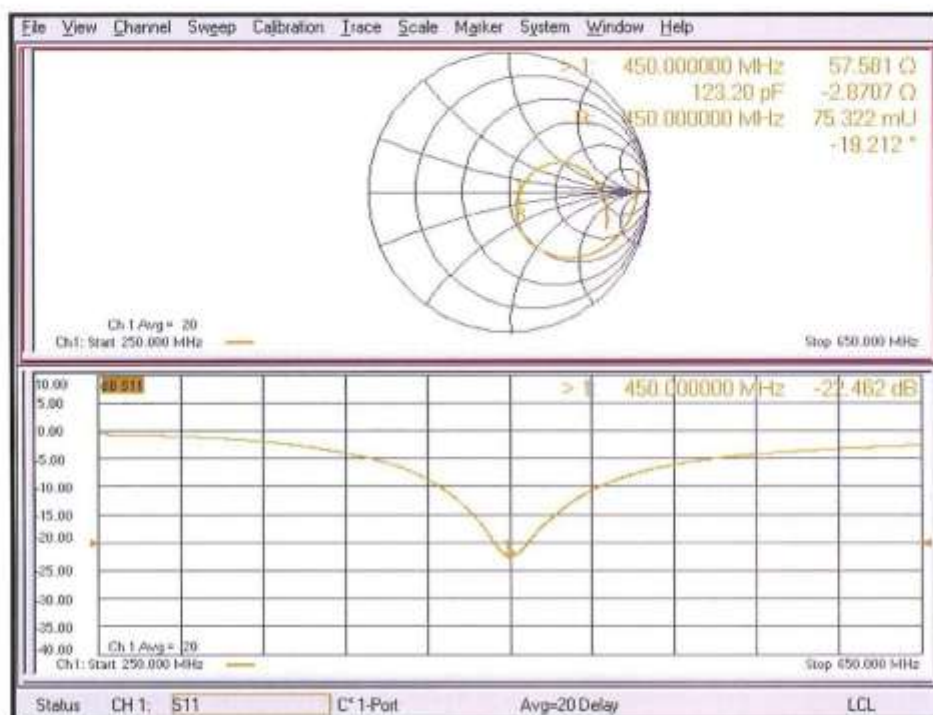
- Probe: EX3DV4 - SN3877; ConvF(10.79, 10.79, 10.79) @ 450 MHz; Calibrated: 06.01.2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn654; Calibrated: 18.10.2024
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: TP:2034
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole Calibration for Head Tissue/d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 39.07 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 1.80 W/kg
SAR(1 g) = 1.14 W/kg; SAR(10 g) = 0.759 W/kg
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid (> 15 mm)
Ratio of SAR at M2 to SAR at M1 = 63.5%
Maximum value of SAR (measured) = 1.55 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 30.01.2025

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 450 MHz; Type: D450V3; Serial: D450V3 - SN:1077

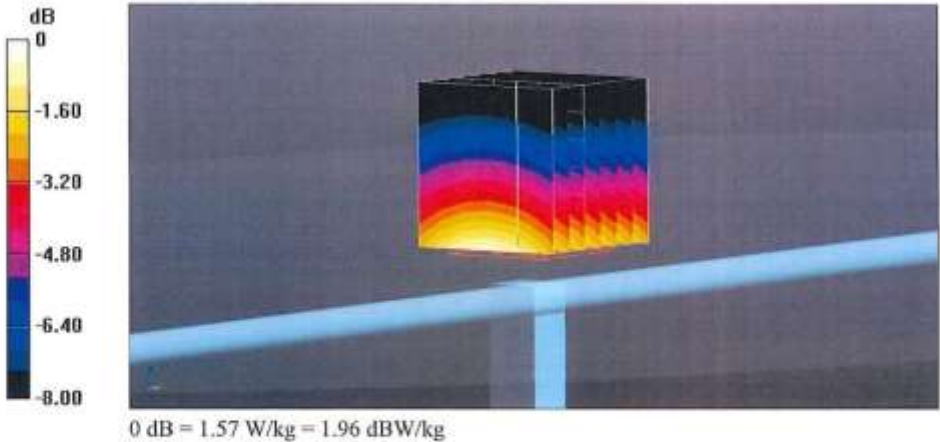
Communication System: UID 0 - CW; Frequency: 450 MHz
Medium parameters used: $f = 450\text{ MHz}$; $\sigma = 0.93\text{ S/m}$; $\epsilon_r = 56.6$; $\rho = 1000\text{ kg/m}^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

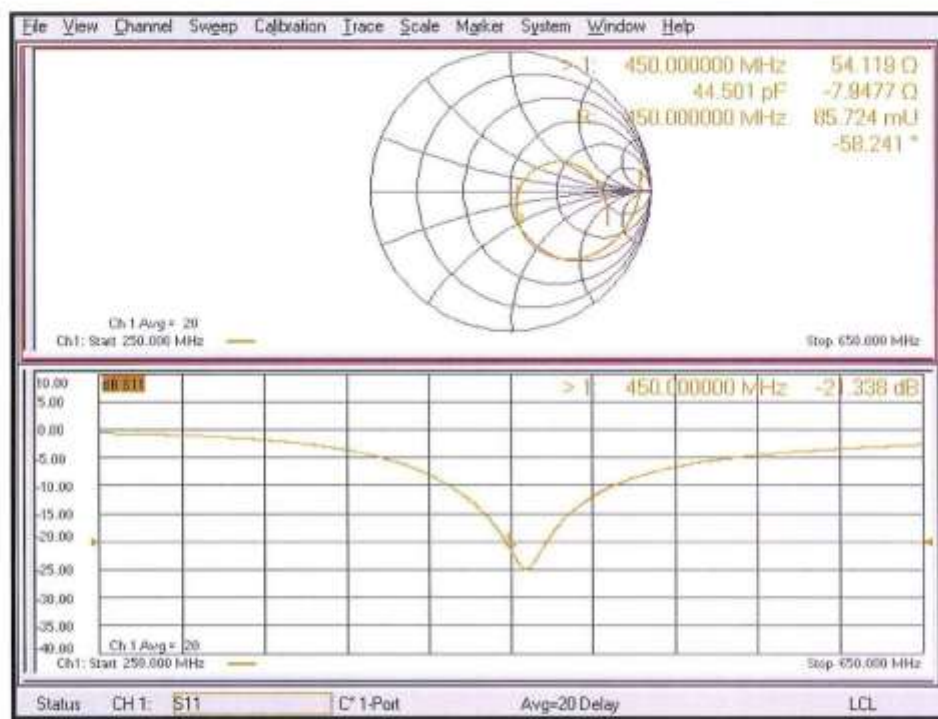
- Probe: EX3DV4 - SN3877; ConvF(10.75, 10.75, 10.75) @ 450 MHz; Calibrated: 06.01.2025
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn654; Calibrated: 18.10.2024
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: TP:2034
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole Calibration for Body Tissue/d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 42.88 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.80 W/kg
SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.799 W/kg
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid ($> 15\text{ mm}$)
Ratio of SAR at M2 to SAR at M1 = 65.9%
Maximum value of SAR (measured) = 1.57 W/kg



Impedance Measurement Plot for Body TSL



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Client **Motorola Solutions**
Bayan Lepas, Malaysia

Certificate No. **D450V3-1054_Jul24**

CALIBRATION CERTIFICATE

Object **D450V3 - SN:1054**

Calibration procedure(s) **QA CAL-15.v11**
Calibration Procedure for SAR Validation Sources below 700 MHz

Calibration date: **July 16, 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 $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP2	SN: 104778	26-Mar-24 (No. 217-04036/04037)	Mar-25
Power sensor NRP-Z91	SN: 103244	26-Mar-24 (No. 217-04036)	Mar-25
Power sensor NRP-Z91	SN: 103245	26-Mar-24 (No. 217-04037)	Mar-25
Reference 20 dB Attenuator	SN: BH9394 (20k)	26-Mar-24 (No. 217-04046)	Mar-25
Type-N mismatch combination	SN: 310982 / 06327	26-Mar-24 (No. 217-04047)	Mar-25
Reference Probe EX3DV4	SN: 3877	10-Jan-24 (No. EX3-3877_Jan24)	Jan-25
DAE4	SN: 654	15-Jan-24 (No. DAE4-654_Jan24)	Jan-25

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter NRP2	SN: 107193	08-Nov-21 (in house check Dec-22)	In house check: Dec-24
Power sensor NRP-Z91	SN: 100922	15-Dec-09 (in house check Dec-22)	In house check: Dec-24
Power sensor NRP-Z91	SN: 100418	01-Jan-04 (in house check Dec-22)	In house check: Dec-24
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-24)	In house check: Jun-26
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-22)	In house check: Oct-24

Calibrated by: **Krešimir Franjić** **Laboratory Technician**

Signature

Approved by: **Sven Kühn** **Technical Manager**

[Signature]

Issued: July 16, 2024

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: **D450V3-1054_Jul24**

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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:

- a) 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.
- b) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- c) 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 source is mounted in a touch configuration below the center marking of the flat phantom.
- *Return Loss:* This parameter is measured with the source positioned under the liquid filled phantom (as described in the measurement condition clause). The Return Loss ensures low reflected power. 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%.

Measurement Conditions

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

DASY Version	DASY52	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	ELI4 Flat Phantom	Shell thickness: 2 ± 0.2 mm
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	450 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	43.5	0.87 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	45.4 $\pm$ 6 %	0.88 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	1.16 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	4.64 W/kg $\pm$ 18.1 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	0.773 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	3.09 W/kg $\pm$ 17.6 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	56.7	0.94 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	56.5 $\pm$ 6 %	0.95 mho/m $\pm$ 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	1.19 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	4.72 W/kg $\pm$ 18.1 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	0.804 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	3.19 W/kg $\pm$ 17.6 % (k=2)

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

Impedance, transformed to feed point	58.1 Ω - 1.5 j Ω
Return Loss	- 22.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	55.6 Ω - 4.4 j Ω
Return Loss	- 23.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.351 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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DASY5 Validation Report for Head TSL

Date: 15.07.2024

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 450 MHz; Type: D450V3; Serial: D450V3 - SN:1054

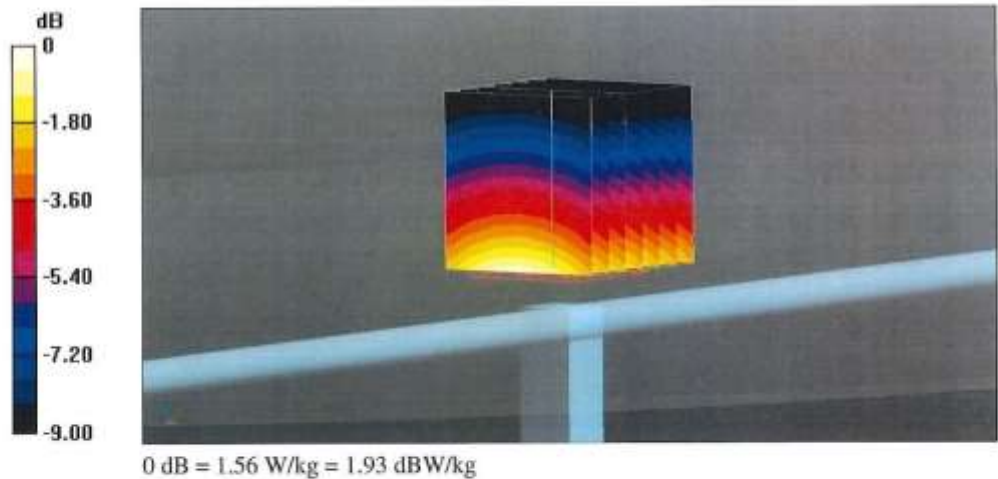
Communication System: UID 0 - CW; Frequency: 450 MHz
Medium parameters used: $f = 450\text{ MHz}$; $\sigma = 0.88\text{ S/m}$; $\epsilon_r = 45.4$; $\rho = 1000\text{ kg/m}^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

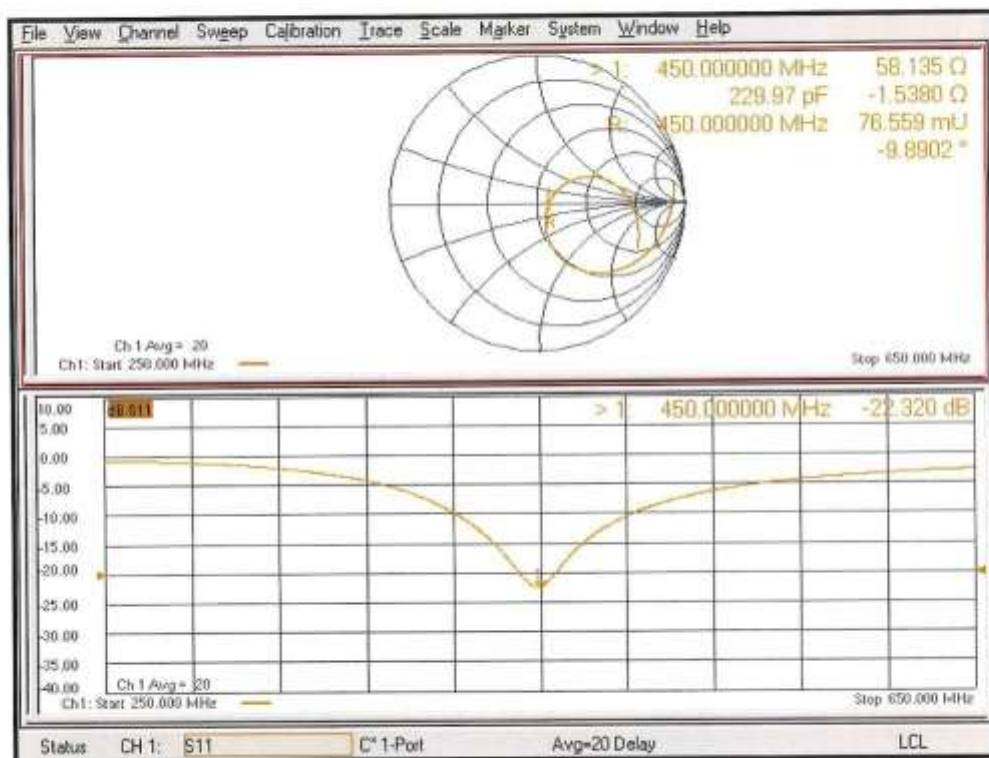
- Probe: EX3DV4 - SN3877; ConvF(10.64, 10.64, 10.64) @ 450 MHz; Calibrated: 10.01.2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn654; Calibrated: 15.01.2024
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: TP:2034
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole Calibration for Head Tissue/ $d=15\text{mm}$, $P_{in}=250\text{mW}$ /Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 38.96 V/m ; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.80 W/kg
SAR(1 g) = 1.16 W/kg ; SAR(10 g) = 0.773 W/kg
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid ($> 15\text{ mm}$)
Ratio of SAR at M2 to SAR at M1 = 64.1%
Maximum value of SAR (measured) = 1.56 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 16.07.2024

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 450 MHz; Type: D450V3; Serial: D450V3 - SN:1054

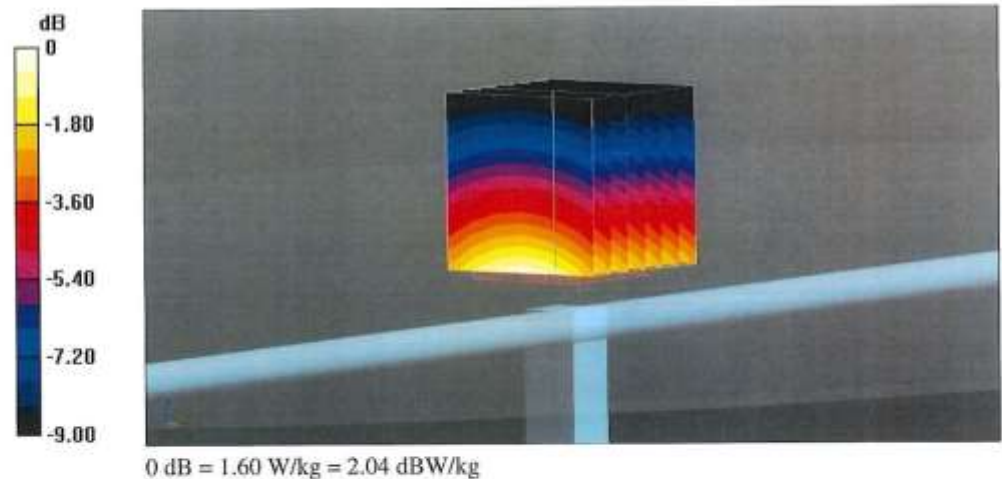
Communication System: UID 0 - CW; Frequency: 450 MHz
Medium parameters used: $f = 450\text{ MHz}$; $\sigma = 0.95\text{ S/m}$; $\epsilon_r = 56.5$; $\rho = 1000\text{ kg/m}^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

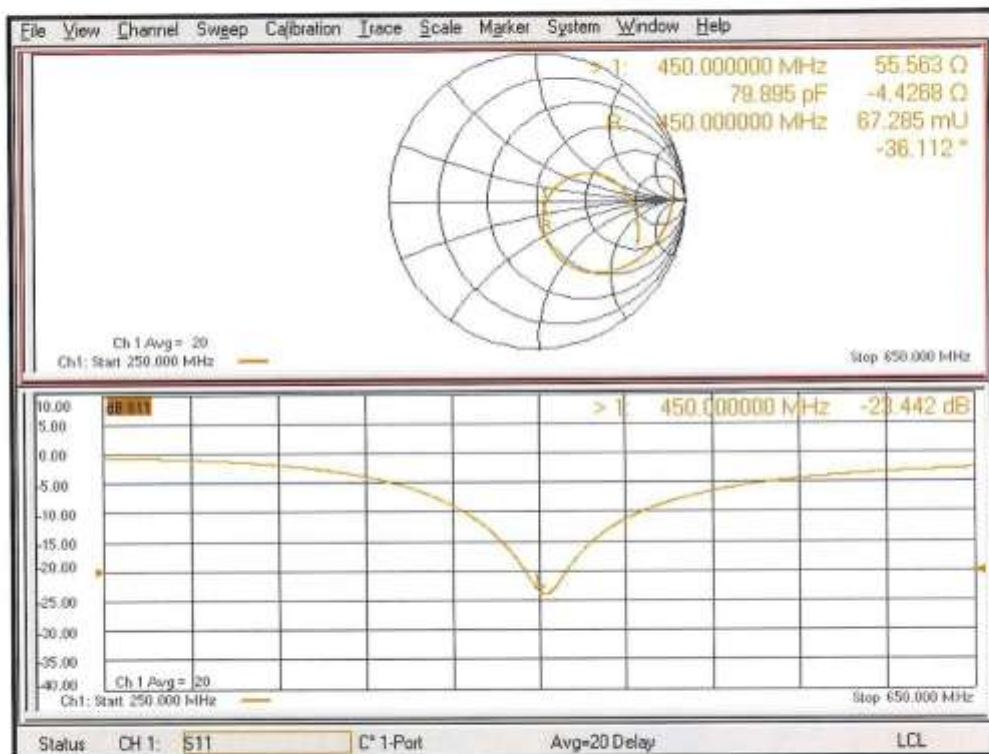
- Probe: EX3DV4 - SN3877; ConvF(10.64, 10.64, 10.64) @ 450 MHz; Calibrated: 10.01.2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn654; Calibrated: 15.01.2024
- Phantom: ELI v6.0; Type: QDOVA003AA; Serial: TP:2034
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Dipole Calibration for Body Tissue/d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{ mm}$, $dy=5\text{ mm}$, $dz=5\text{ mm}$
Reference Value = 42.70 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.82 W/kg
SAR(1 g) = 1.19 W/kg; SAR(10 g) = 0.804 W/kg
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid (> 15 mm)
Ratio of SAR at M2 to SAR at M1 = 65.5%
Maximum value of SAR (measured) = 1.60 W/kg



Impedance Measurement Plot for Body TSL



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 450-1054	Head			Body		
	Impedance		Return Loss	Impedance		Return Loss
Date Measured	real Ω	imag $j\Omega$	dB	real Ω	imag $j\Omega$	dB
08/15/2024	62.26	-6.15	-20.27	53.29	-7.90	-20.53
07/14/2025	57.67	-6.26	-21.80	53.99	-7.72	-21.56

Dipole 450-1077	Head			Body		
	Impedance		Return Loss	Impedance		Return Loss
Date Measured	real Ω	imag $j\Omega$	dB	real Ω	imag $j\Omega$	dB
03/13/2025	56.26	-3.45	-21.16	51.56	-9.72	-20.54
01/25/2026	54.76	-3.90	-22.20	49.86	-11.05	-21.79

Appendix D

System Verification Check Scans

Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/15/2026 4:21:17 PM

Robot#: DASY5-PG-3 | Run#: AR(AIZ)-SYSP-450H-260515-10
 Dipole Model#: D450V3
 Phantom#: ELI4 1090
 Tissue Temp: 22.5 (C)
 Serial#: 1077
 Test Freq: 450.0000 (MHz)
 Start Power: 250 (mW)
 Rotation (1D): 0.047 dB
 Adjusted SAR (1W): 4.84mW/g (1g)

Comments:

Communication System Band: Dipole 450, Communication System UID: 0, Duty Cycle: 1:1,
 Medium parameters used: $f = 450$ MHz; $\sigma = 0.868$ S/m; $\epsilon_r = 41.952$; $\rho = 1000$ kg/m³
 Probe: EX3DV4 - SN7486, Calibrated: 1/19/2024, Frequency: 450 MHz, ConvF(11.18, 11.18, 11.18) @ 450 MHz
 Electronics: DAE3 Sn374, Calibrated: 7/18/2024

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (41x221x1):

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

Reference Value = 45.58 V/m; Power Drift = -0.03 dB

Fast SAR: SAR(1 g) = 1.35 W/kg; SAR(10 g) = 0.934 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 1.70 W/kg

Below 2 GHz-Rev.3/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:

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

Reference Value = 45.58 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.97 W/kg

SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.802 W/kg (SAR corrected for target medium)

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

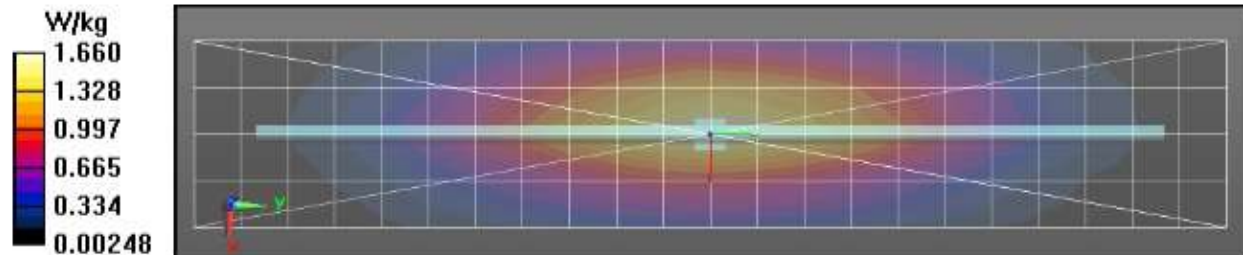
Ratio of SAR at M2 to SAR at M1 = 62%

Maximum value of SAR (measured) = 1.69 W/kg

Below 2 GHz-Rev.3/System Performance Check/Z-Axis Retraction (1x1x17): Measurement

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

Maximum value of SAR (measured) = 1.73 W/kg



Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/17/2026 7:46:36 PM

Robot#: DASY5-PG-3 | Run#: MHY-SYSP-450H-260517-16
 Dipole Model#: D450V3
 Phantom#: ELI4 1090
 Tissue Temp: 22.1 (C)
 Serial#: 1054
 Test Freq: 450.0000 (MHz)
 Start Power: 250 (mW)
 Rotation (1D): 0.054 dB
 Adjusted SAR (1W): 5.04 mW/g (1g)

Comments:

Communication System Band: Dipole 450, Communication System UID: 0, Duty Cycle: 1:1,
 Medium parameters used: $f = 450$ MHz; $\sigma = 0.874$ S/m; $\epsilon_r = 44.128$; $\rho = 1000$ kg/m³
 Probe: EX3DV4 - SN7486, Calibrated: 1/19/2024, Frequency: 450 MHz, ConvF(11.18, 11.18, 11.18) @ 450 MHz
 Electronics: DAE3 Sn374, Calibrated: 7/18/2024

Below 2 GHz-Rev.3/System Performance Check/Dipole Area Scan 2 (41x221x1):

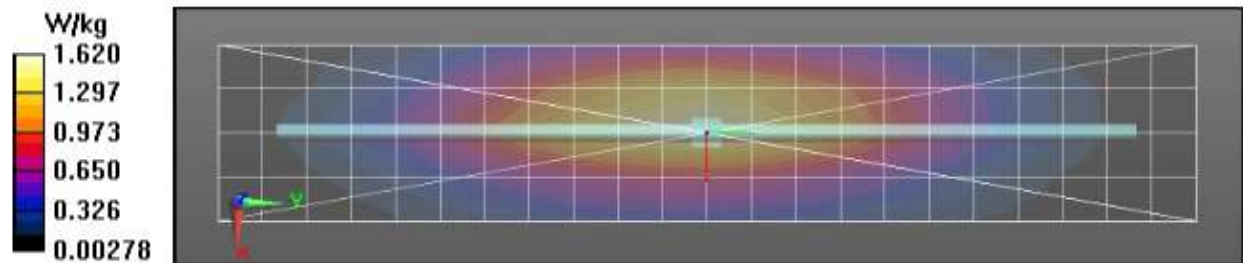
Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm
 Reference Value = 45.58 V/m; Power Drift = -0.05 dB
Fast SAR: SAR(1 g) = 1.35 W/kg; SAR(10 g) = 0.938 W/kg (SAR corrected for target medium)
 Maximum value of SAR (interpolated) = 1.69 W/kg

Below 2 GHz-Rev.3/System Performance Check/0-Degree Cube (5x5x7)/Cube 0:

Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm
 Reference Value = 45.58 V/m; Power Drift = -0.05 dB
 Peak SAR (extrapolated) = 2.01 W/kg
SAR(1 g) = 1.26 W/kg; SAR(10 g) = 0.840 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 = 62.9%
 Maximum value of SAR (measured) = 1.73 W/kg

Below 2 GHz-Rev.3/System Performance Check/Z-Axis Retraction (1x1x17): Measurement

grid: $dx=20$ mm, $dy=20$ mm, $dz=10$ mm
 Maximum value of SAR (measured) = 1.73 W/kg



Appendix E

DUT Scans

FCC Highest Assessments for LMR at Body – SAR Plot 1

Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/16/2026 8:26:31 PM

Robot#: DASY5-PG-3 | Run#: MHY-AB-260516-07
 Model#: AC146U503 (PMUE5989A)
 Phantom#: ELI4 1090
 Tissue Temp: 22.1 (C)
 Serial#: 0075CH0128
 Antenna: ATU-6A
 Test Freq: 429.9875 (MHz)
 Battery: PMNN4468B
 Carry Acc: LCC-S24
 Audio Acc: MH-66F4B
 Start Power: 2.18 (W)

Comments:

Communication System Band: EVX-30, Communication System UID: 0, Duty Cycle: 1:1,
 Medium parameters used: $f = 429.988$ MHz; $\sigma = 0.855$ S/m; $\epsilon_r = 43.517$; $\rho = 1000$ kg/m³
 Probe: EX3DV4 - SN7486, Calibrated: 1/19/2024, Frequency: 429.988 MHz, ConvF(11.18, 11.18, 11.18) @ 429.988 MHz
 Electronics: DAE3 Sn374, Calibrated: 7/18/2024

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (61x201x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 107.7 V/m; Power Drift = -0.27 dB

Fast SAR: SAR(1 g) = 7.84 W/kg; SAR(10 g) = 5.56 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 9.60 W/kg

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

Reference Value = 107.7 V/m; Power Drift = -0.35 dB

Peak SAR (extrapolated) = 10.8 W/kg

SAR(1 g) = 7.14 W/kg; SAR(10 g) = 4.95 W/kg (SAR corrected for target medium)

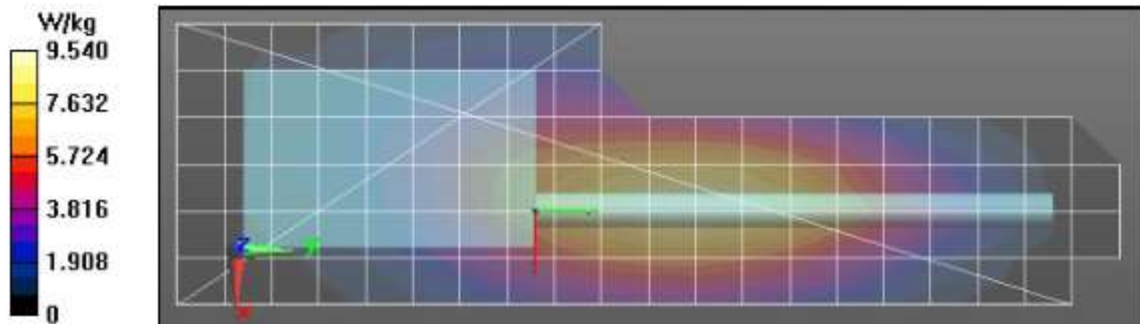
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 65.4%

Maximum value of SAR (measured) = 9.32 W/kg

Below 2 GHz-Rev.3/Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 9.29 W/kg



FCC Highest Assessments for LMR at Face – SAR Plot 2

Motorola Solutions, Inc. EME Laboratory
Date/Time: 5/17/2026 9:38:57 PM

Robot#: DASY5-PG-3 | Run#: MHY-FACE-260517-17
Model#: AC146U503 (PMUE5989A)
Phantom#: ELI4 1090
Tissue Temp: 21.9 (C)
Serial#: 0075CH0128
Antenna: ATU-20DS
Test Freq: 455.0000 (MHz)
Battery: PMNN4468B
Carry Acc: Front @ 2.5cm
Audio Acc: N/A
Start Power: 2.18 (W)

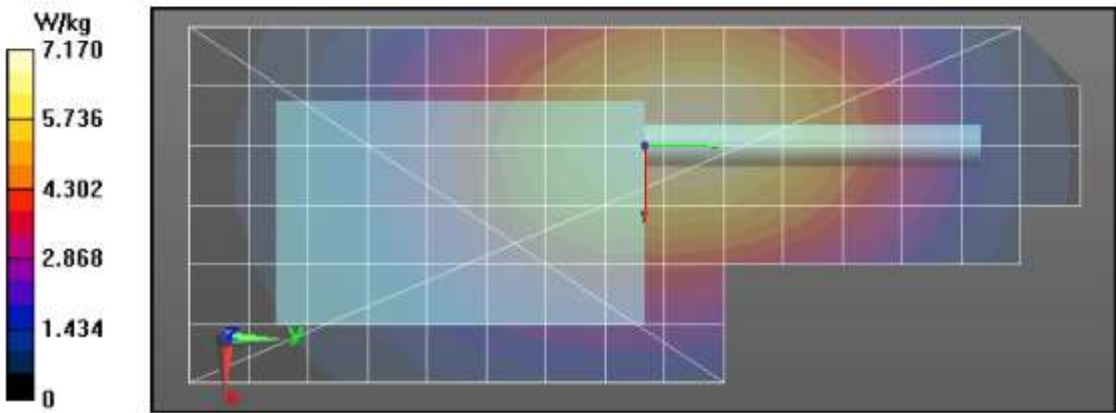
Comments:

Communication System Band: EVX-30, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: $f = 455\text{ MHz}$; $\sigma = 0.879\text{ S/m}$; $\epsilon_r = 44.026$; $\rho = 1000\text{ kg/m}^3$
Probe: EX3DV4 - SN7486, Calibrated: 1/19/2024, Frequency: 455 MHz, ConvF(11.18, 11.18, 11.18) @ 455 MHz
Electronics: DAE3 Sn374, Calibrated: 7/18/2024

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (61x211x1): Interpolated grid: $dx=1.500\text{ mm}$, $dy=1.500\text{ mm}$
Reference Value = 96.06 V/m; Power Drift = -0.39 dB
Fast SAR: SAR(1 g) = 5.91 W/kg; SAR(10 g) = 4.3 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 7.27 W/kg

Below 2 GHz-Rev.3/Face Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$
Reference Value = 96.06 V/m; Power Drift = -0.51 dB
Peak SAR (extrapolated) = 7.85 W/kg
SAR(1 g) = 5.54 W/kg; SAR(10 g) = 4.05 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 = 70.7%
Maximum value of SAR (measured) = 6.99 W/kg

Below 2 GHz-Rev.3/Face Scan/4-Z-Axis Scan (1x1x17): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$, $dz=10\text{mm}$
Maximum value of SAR (measured) = 6.88 W/kg



ISED Highest Assessments for LMR (406.125 – 430 MHz) at Body – SAR Plot 3

Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/19/2026 11:19:48 PM

Robot#: DASY5-PG-3 | Run#: AR(AIZ)-AB-260519-18
 Model#: AC146U503 (PMUE5989A)
 Phantom#: ELI4 1090
 Tissue Temp: 22.3 (C)
 Serial#: 0075CH0128
 Antenna: ATU-6A
 Test Freq: 419.9875 (MHz)
 Battery: PMNN4468B
 Carry Acc: LCC-S24
 Audio Acc: MH-66F4B
 Start Power: 2.13 (W)

Comments:

Communication System Band: EVX-30, Communication System UID: 0, Duty Cycle: 1:1,
 Medium parameters used: $f = 419.988$ MHz; $\sigma = 0.862$ S/m; $\epsilon_r = 43.255$; $\rho = 1000$ kg/m³
 Probe: EX3DV4 - SN7486, Calibrated: 1/19/2024, Frequency: 419.988 MHz, ConvF(11.18, 11.18, 11.18) @ 419.988 MHz
 Electronics: DAE3 Sn374, Calibrated: 7/18/2024

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (61x201x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 109.0 V/m; Power Drift = -0.09 dB

Fast SAR: SAR(1 g) = 8.34 W/kg; SAR(10 g) = 5.94 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 10.3 W/kg

Below 2 GHz-Rev.3/Ab Scan/3-Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm,

dy=7.5mm, dz=5mm

Reference Value = 109.0 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 11.8 W/kg

SAR(1 g) = 7.71 W/kg; SAR(10 g) = 5.32 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 21 mm

Ratio of SAR at M2 to SAR at M1 = 64.9%

Maximum value of SAR (measured) = 10.2 W/kg

Below 2 GHz-Rev.3/Ab Scan/3-Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm,

dy=7.5mm, dz=5mm

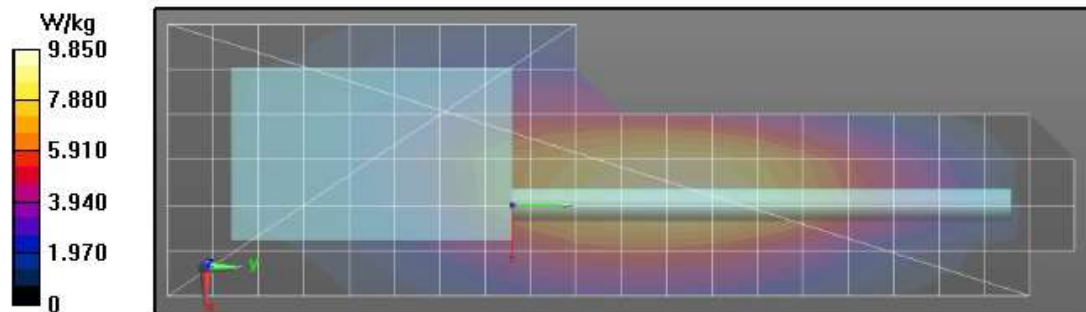
Reference Value = 109.0 V/m; Power Drift = -0.17 dB

Maximum value of SAR (measured) = 10.2 W/kg

Below 2 GHz-Rev.3/Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm,

dz=10mm

Maximum value of SAR (measured) = 10.1 W/kg



ISED Highest Assessments for LMR (450 – 470 MHz) at Body – SAR Plot 5

Motorola Solutions, Inc. EME Laboratory
Date/Time: 5/20/2026 1:10:54 AM

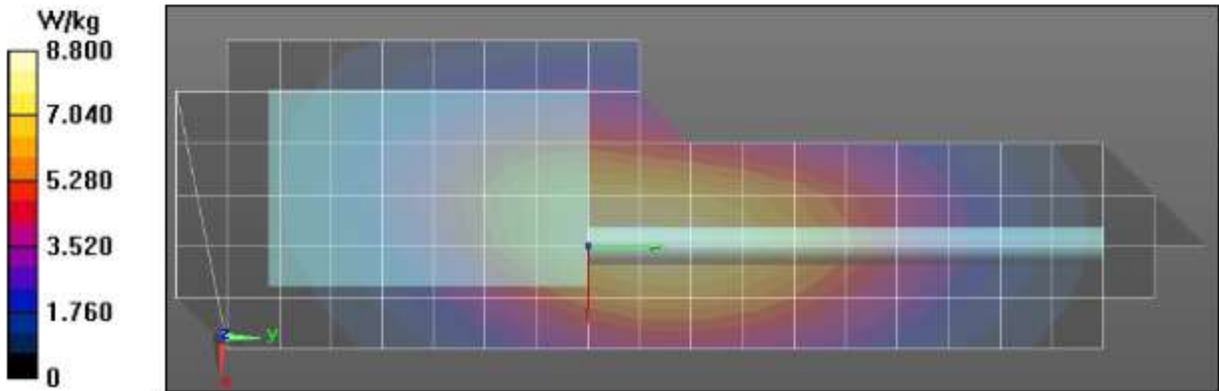
Robot#: DASY5-PG-3 | Run#: AR(AIZ)-AB-260520-02@
Model#: AC146U503 (PMUE5989A)
Phantom#: ELI4 1090
Tissue Temp: 22.4 (C)
Serial#: 0075CH0128
Antenna: ATU-6D
Test Freq: 459.9875 (MHz)
Battery: PMNN4468B
Carry Acc: CLIP-27
Audio Acc: MH-66F4B
Start Power: 2.17 (W)
Comments:

Communication System Band: EVX-30, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: $f = 459.988 \text{ MHz}$; $\sigma = 0.896 \text{ S/m}$; $\epsilon_r = 42.38$; $\rho = 1000 \text{ kg/m}^3$
Probe: EX3DV4 - SN7486, Calibrated: 1/19/2024, Frequency: 459.988 MHz, ConvF(11.18, 11.18, 11.18) @ 459.988 MHz
Electronics: DAE3 Sn374, Calibrated: 7/18/2024

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (61x201x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$
Reference Value = 96.09 V/m; Power Drift = -0.28 dB
Fast SAR: SAR(1 g) = 7.15 W/kg; SAR(10 g) = 5.12 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 8.87 W/kg

Below 2 GHz-Rev.3/Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$,
 $dy=7.5\text{mm}$, $dz=5\text{mm}$
Reference Value = 96.09 V/m; Power Drift = -0.38 dB
Peak SAR (extrapolated) = 9.58 W/kg
SAR(1 g) = 6.58 W/kg; SAR(10 g) = 4.71 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 = 68.7%
Maximum value of SAR (measured) = 8.46 W/kg

Below 2 GHz-Rev.3/Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$,
 $dz=10\text{mm}$
Maximum value of SAR (measured) = 8.38 W/kg



ISED Highest Assessments for LMR (406.125 – 430 MHz) at Face – SAR Plot 4

Motorola Solutions, Inc. EME Laboratory
Date/Time: 5/20/2026 10:12:08 AM

Robot#: DASY5-PG-3 | Run#: MHN-FACE-260520-07@
Model#: AC146U503 (PMUE5989A)
Phantom#: ELI4 1090
Tissue Temp: 22.1 (C)
Serial#: 0075CH0128
Antenna: ATU-20AS
Test Freq: 419.9875 (MHz)
Battery: PMNN4468B
Carry Acc: Front @ 2.5cm
Audio Acc: N/A
Start Power: 2.14 (W)

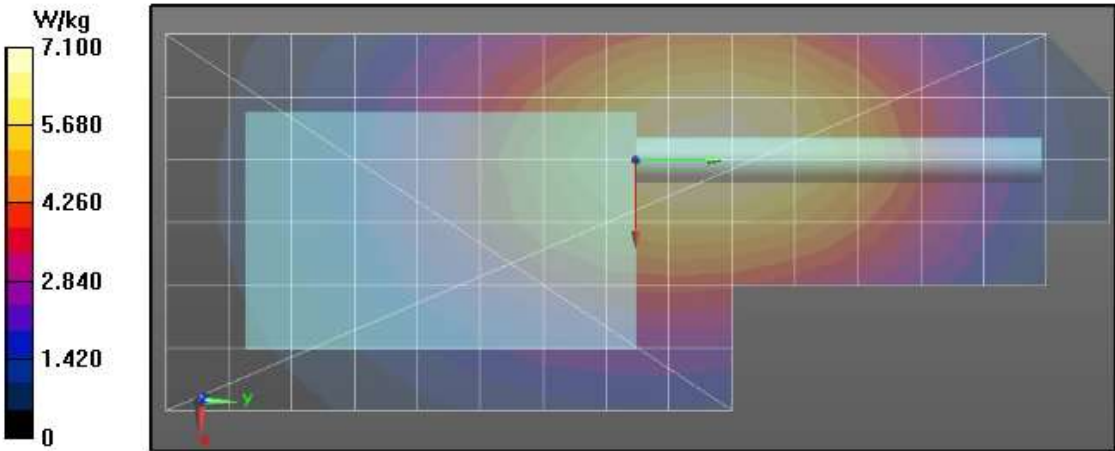
Comments:

Communication System Band: EVX-30, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 419.988 MHz; $\sigma = 0.862$ S/m; $\epsilon_r = 43.255$; $\rho = 1000$ kg/m³
Probe: EX3DV4 - SN7486, Calibrated: 1/19/2024, Frequency: 419.988 MHz, ConvF(11.18, 11.18, 11.18) @ 419.988 MHz
Electronics: DAE3 Sn374, Calibrated: 7/18/2024

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (61x211x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 91.97 V/m; Power Drift = 0.04 dB
Fast SAR: SAR(1 g) = 5.89 W/kg; SAR(10 g) = 4.3 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 7.20 W/kg

Below 2 GHz-Rev.3/Face Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 91.97 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 7.95 W/kg
SAR(1 g) = 5.68 W/kg; SAR(10 g) = 4.19 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 = 71.2%
Maximum value of SAR (measured) = 7.10 W/kg

Below 2 GHz-Rev.3/Face Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 7.01 W/kg



ISED Highest Assessments for LMR (450 – 470 MHz) at Face – SAR Plot 6

Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/17/2026 9:38:57 PM

Robot#: DASY5-PG-3 | Run#: MHY-FACE-260517-17
 Model#: AC146U503 (PMUE5989A)
 Phantom#: EL14 1090
 Tissue Temp: 21.9 (C)
 Serial#: 0075CH0128
 Antenna: ATU-20DS
 Test Freq: 455.0000 (MHz)
 Battery: PMNN4468B
 Carry Acc: Front @ 2.5cm
 Audio Acc: N/A
 Start Power: 2.18 (W)

Comments:

Communication System Band: EVX-30, Communication System UID: 0, Duty Cycle: 1:1,

Medium parameters used: $f = 455$ MHz; $\sigma = 0.879$ S/m; $\epsilon_r = 44.026$; $\rho = 1000$ kg/m³

Probe: EX3DV4 - SN7486, Calibrated: 1/19/2024, Frequency: 455 MHz, ConvF(11.18, 11.18, 11.18) @ 455 MHz

Electronics: DAE3 Sn374, Calibrated: 7/18/2024

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (61x211x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 96.06 V/m; Power Drift = -0.39 dB

Fast SAR: SAR(1 g) = 5.91 W/kg; SAR(10 g) = 4.3 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 7.27 W/kg

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

Reference Value = 96.06 V/m; Power Drift = -0.51 dB

Peak SAR (extrapolated) = 7.85 W/kg

SAR(1 g) = 5.54 W/kg; SAR(10 g) = 4.05 W/kg (SAR corrected for target medium)

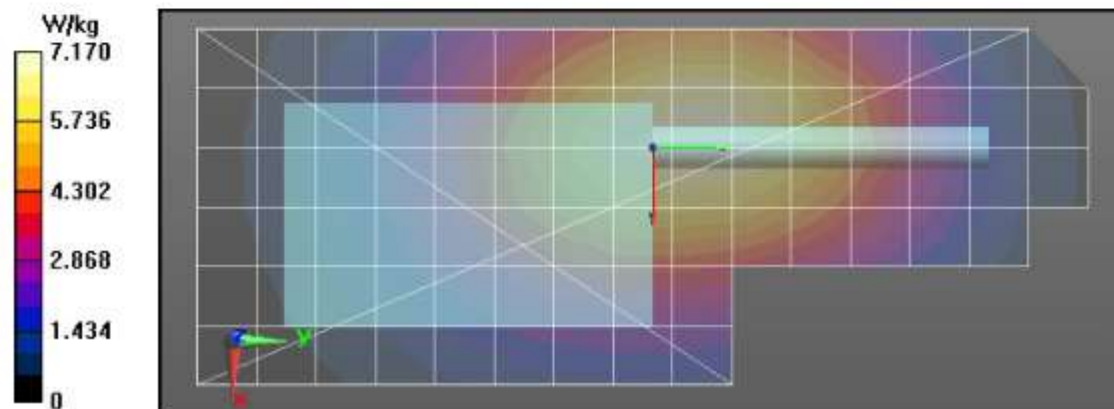
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid

Ratio of SAR at M2 to SAR at M1 = 70.7%

Maximum value of SAR (measured) = 6.99 W/kg

Below 2 GHz-Rev.3/Face Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 6.88 W/kg



Outside FCC Highest Assessments for LMR at Body – SAR Plot 7

Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/20/2026 3:09:43 AM

Robot#: DASY5-PG-3 | Run#: AR(AIZ)-AB-260520-03@

Model#: AC146U503 (PMUE5989A)

Phantom#: ELI4 1090

Tissue Temp: 22.1 (C)

Serial#: 0075CH0128

Antenna: ATU-20AS

Test Freq: 403.0000 (MHz)

Battery: PMNN4468B

Carry Acc: LCC-S24

Audio Acc: MH-66F4B

Start Power: 2.17 (W)

Comments:

Communication System Band: EVX-30, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: $f = 403 \text{ MHz}$; $\sigma = 0.848 \text{ S/m}$; $\epsilon_r = 43.619$; $\rho = 1000 \text{ kg/m}^3$
Probe: EX3DV4 - SN7486, Calibrated: 1/19/2024, Frequency: 403 MHz, ConvF(11.18, 11.18, 11.18) @ 403 MHz
Electronics: DAE3 Sn374, Calibrated: 7/18/2024

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (61x171x1):

Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$
Reference Value = 97.76 V/m; Power Drift = 0.01 dB
Fast SAR: SAR(1 g) = 7 W/kg; SAR(10 g) = 4.75 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 8.78 W/kg

Below 2 GHz-Rev.3/Ab Scan/3-Zoom Scan (6x9x7)/Cube 0:

Measurement grid: $dx=7.5\text{mm}$,
 $dy=7.5\text{mm}$, $dz=5\text{mm}$
Reference Value = 97.76 V/m; Power Drift = -0.32 dB
Peak SAR (extrapolated) = 12.1 W/kg
SAR(1 g) = 5.9 W/kg; SAR(10 g) = 4.06 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 13.4 mm
Ratio of SAR at M2 to SAR at M1 = 44.9%
Maximum value of SAR (measured) = 8.95 W/kg

Below 2 GHz-Rev.3/Ab Scan/4-Z-Axis Scan (1x1x17):

Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$,
 $dz=10\text{mm}$
Maximum value of SAR (measured) = 8.56 W/kg

The figure is a 2D SAR plot. On the left, a vertical color scale bar represents SAR values in W/kg, ranging from 0 (dark blue) to 7.750 (yellow). The plot area shows a grid of points. A rectangular region on the right side of the plot shows higher SAR values, indicated by yellow and orange colors, while the rest of the plot is mostly blue and purple, indicating lower values. A small green arrow points to a specific location on the right side of the grid, near the center of the high-SAR region.

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Outside FCC Highest Assessments for LMR at Face – SAR Plot 8

Motorola Solutions, Inc. EME Laboratory

Date/Time: 5/20/2026 10:07:26 PM

Robot#: DASY5-PG-3 | Run#: AR(AIZ)-FACE-260520-13

Model#: AC146U503 (PMUE5989A)

Phantom#: EL14 1090

Tissue Temp: 21.8 (C)

Serial#: 0075CH0128

Antenna: ATU-20AS

Test Freq: 403.0000 (MHz)

Battery: PMNN4468B

Carry Acc: Front @ 2.5cm

Audio Acc: N/A

Start Power: 2.16 (W)

Comments:

Communication System Band: EVX-30, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 403 MHz; $\sigma = 0.832$ S/m; $\epsilon_r = 43.248$; $\rho = 1000$ kg/m³
Probe: EX3DV4 - SN7486, Calibrated: 1/19/2024, Frequency: 403 MHz, ConvF(11.18, 11.18, 11.18) @ 403 MHz
Electronics: DAE3 Sn374, Calibrated: 7/18/2024

Below 2 GHz-Rev.3/Face Scan/1-Area Scan (61x211x1):

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

Reference Value = 56.36 V/m; Power Drift = -0.17 dB

Fast SAR: SAR(1 g) = 2.15 W/kg; SAR(10 g) = 1.57 W/kg (SAR corrected for target medium)

Maximum value of SAR (interpolated) = 2.56 W/kg

Below 2 GHz-Rev.3/Face Scan/3-Zoom Scan (5x5x7)/Cube 0:

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

Reference Value = 56.36 V/m; Power Drift = -0.19 dB

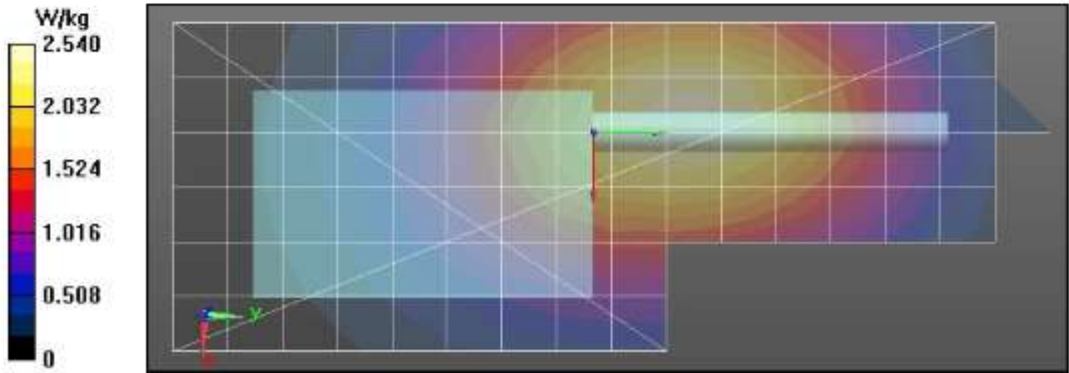
Peak SAR (extrapolated) = 2.84 W/kg

SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.55 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 = 71.5%

Maximum value of SAR (measured) = 2.54 W/kg



APPENDIX F

Shortened Scan of Highest SAR configuration

Shortened Scan – SAR Plot 9

Motorola Solutions, Inc. EME Laboratory
Date/Time: 5/22/2026 4:35:43 AM

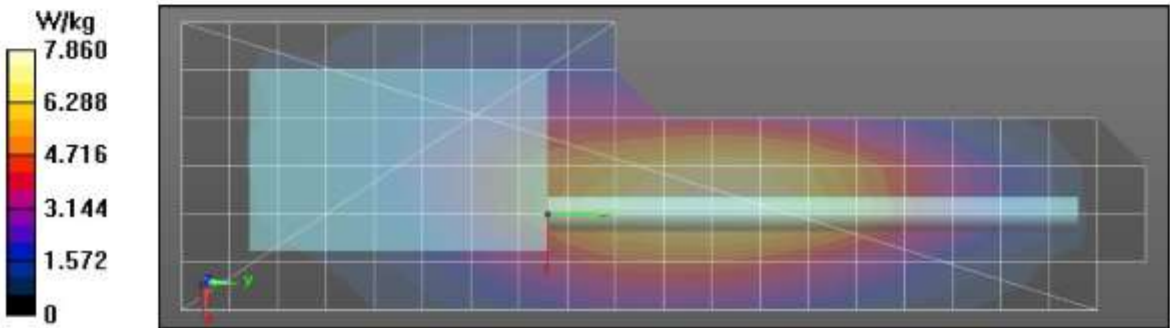
Robot#: DASY5-PG-3 | Run#: AR(AIZ)-AB-260522-05@
Model#: AC146U503 (PMUE5989A)
Phantom#: ELI4 1090
Tissue Temp: 22.8 (C)
Serial#: 0075CH0128
Antenna: ATU-6A
Test Freq: 419.9875 (MHz)
Battery: PMNN4468B
Carry Acc: LCC-S24
Audio Acc: MH-66F4B
Start Power: 2.15 (W)

Comments: Shorten Scan
Communication System Band: EVX-30, Communication System UID: 0, Duty Cycle: 1:1,
Medium parameters used: f = 419.988 MHz; $\sigma = 0.858$ S/m; $\epsilon_r = 42.679$; $\rho = 1000$ kg/m³
Probe: EX3DV4 - SN7486, Calibrated: 1/19/2024, Frequency: 419.988 MHz, ConvF(11.18, 11.18, 11.18) @ 419.988 MHz
Electronics: DAE3 Sn374, Calibrated: 7/18/2024

Below 2 GHz-Rev.3/Ab Scan/1-Area Scan (61x201x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 98.56 V/m; Power Drift = -0.08 dB
Fast SAR: SAR(1 g) = 6.62 W/kg; SAR(10 g) = 4.73 W/kg (SAR corrected for target medium)
Maximum value of SAR (interpolated) = 8.15 W/kg

Below 2 GHz-Rev.3/Ab Scan/3-Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 103.5 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 9.85 W/kg
SAR(1 g) = 6.54 W/kg; SAR(10 g) = 4.55 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 = 66.2%
Maximum value of SAR (measured) = 8.59 W/kg

Below 2 GHz-Rev.3/Ab Scan/4-Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 8.16 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)	21	10	3.37
Full scan (area & zoom)	18	25	4.01

Appendix G

Conducted Output Power

Conducted Output Power (LMR)

Freq	Test Freq (MHz)	Power (W)
UHF (403 – 480 MHz)	403.0000	2.15
	406.2000	2.15
	419.9875	2.14
	420.0125	2.20
	429.9875	2.16
	430.0000	2.15
	439.9875	2.09
	440.0125	2.16
	449.9875	2.14
	450.0125	2.15
	455.0000	2.17
	459.9875	2.19
	460.0125	2.13
	465.0000	2.18
	469.9875	2.16
	479.9875	2.17

Exhibit 7B APPENDIX

DUT Test Position Photos

Photos available in Exhibit 7B

Exhibit 7B APPENDIX

DUT, Body worn and audio accessories Photos

Photos available in Exhibit 7B