



**RF SAFETY
LAB**

A NEXT GENERATION
TEST LABORATORY™

Next Generation Test Laboratory Inc. (RF Safety Laboratory, LLC)
5520 Research Park Drive, Suite 140, Catonsville, Maryland 21228 USA
ISED Lab Code: 32002; FCC Designation Number: US3274
ANAB 17025 Certificate Number: AT-3274; CAB Identifier: US0239

+1 202 240 9240; info@rfsafetylab.com

SAR EVALUATION REPORT

FCC ID:	IPH-05001
IC:	1792A-05001
HVIN/PMN/Model(s):	A05001
FVIN:	63.23
Device Type:	Portable Digital Transceiver
Report Issue Date:	Aug 15, 2025

Garmin International, Inc.

1200 E. 151st Street,
Olathe, KS 66062, United States

Certification

FCC Equipment Class	Head SAR [W/kg]	1g Simultaneous Tx SAR [W/kg]	Extremity SAR [W/kg]	10g Simultaneous Tx SAR [W/kg]
PCT	0.42	1.04	0.76	2.37
DTS	0.47	1.04	1.27	2.37
NII	0.15	1.04	0.35	2.37
DSS	< 0.10	1.04	0.13	2.37
FCC Limits	1.6	1.6	4.0	4.0

Radio	Head SAR [W/kg]	1g Simultaneous Tx SAR [W/kg]	Extremity SAR [W/kg]	Extremity 10g Simultaneous Tx SAR [W/kg]
WWAN	0.42	1.04	0.76	2.37
2.4 GHz WIFI	0.47	1.04	1.27	2.37
5 GHz WIFI	0.15	1.04	0.35	2.37
2.4 GHz Bluetooth	0.06	1.04	0.13	2.37
ISED Limits	1.6	1.6	4.0	4.0

The measurement evaluations presented in this report are based on the maximum performance of the tested device(s), which has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment / general population exposure federal limits in 47CFR § 1.1310 and Health Canada Safety Code 6 and has been tested in accordance with the measurement procedures specified within this report.

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This document has been revised and replaces all previously issued versions of this document with the same Test Report S/N.



Steve Liu
President



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1. DUT Specifics

1.1. Device under Test

The device under test is a portable digital transceiver, incorporating the technologies listed in Table 1-1 below. The manufacturer has confirmed that the device is within operational tolerances expected for production units and has the same physical, mechanical, and thermal characteristics expected for production units. The serial number of the device used for each test is indicated alongside the results.

1.2. Maximum SAR per Mode

Table 1-1 Maximum SAR Summary

Band/Mode	Frequency (MHz)	Head SAR [W/kg]	Extremity SAR [W/kg]
LTE-M Band 12	699 - 716 MHz	0.000	0.078
LTE-M Band 4	1710 - 1755 MHz	0.419	0.758
LTE-M Band 2	1850 - 1910 MHz	0.386	0.567
2.4 GHz WIFI	2412 - 2472 MHz	0.466	1.270
5 GHz WIFI	5180 - 5240; 5745 - 5825 MHz	0.151	0.345
2.4 GHz Bluetooth	2402 - 2480 MHz	0.058	0.125

1.3. LTE-M Supported Bandwidths and Modulations

Table 1-2 LTE-M Bands and Modulations

Band	Bandwidth (MHz)	UL Modulation
LTE-M Band 12	10, 5, 3, 1.4	QPSK, 16QAM
LTE-M Band 4	20, 15, 10, 5, 3, 1.4	QPSK, 16QAM
LTE-M Band 2	20, 15, 10, 5, 3, 1.4	QPSK, 16QAM



1.4. Maximum Time-Averaged Power From Manufacturer

The manufacturer has confirmed that this device follows the below target output power specifications and tolerances. SAR values were scaled to the maximum allowed power (including tolerance) to determine compliance per KDB Publication 447498 D04v01.

Table 1-3 LTE-M Target RF Output Power

LTE	
Band/Mode	Modulated Average Nominal Power [dBm]
	Head/Extremity
LTE-M Band 12	23.0
LTE-M Band 4	23.0
LTE-M Band 2	23.0
Upper Tolerance: +2.0 dB	
Lower Tolerance: -2.0 dB	

Table 1-4 2.4 GHz WIFI Target RF Output Power

2.4 GHz WIFI Maximum Power [dBm] - SISO						
Power Level	Channel Bandwidth [MHz]	Mode		802.11b	802.11g	802.11n
		Channel	Freq. [MHz]	Antenna A05001-A1	Antenna A05001-A1	Antenna A05001-A1
Max	22 (802.11b)/ 20 (802.11g/n)	All		17.0	17.5	17.5
		11	2462		16.5	15.0
		12	2467	15.0	12.5	13.0
		13	2472	13.0	10.0	11.5
Tolerance: +/- 2 dB						

Table 1-5 5 GHz WIFI Target RF Output Power

5 GHz WIFI Maximum Power [dBm] - SISO				
Power Level	Channel Bandwidth [MHz]	Band	Mode	802.11a
			Channel	Antenna A05001-A1
Max	20	UNII-1	36 - 48	17
		UNII-3	149	14
		UNII-3	153 - 165	13.5
Tolerance: +/-2 dB				



Table 1-6 2.4 GHz Bluetooth Target RF Output Power

2.4 GHz Bluetooth Maximum Power [dBm]				
	Mode	Data Rate	Channel	Antenna A05001-A1
Max	Bluetooth	1/2/3Mbps	0-50	6.5
			50-78	7.5
	BLE	1/2Mbps	37	-1.5
			0-35	3.0
			36-39	-1.0
Tolerance: +/-2 dB				

1.5. Test Guidance Applied

- IEEE 1528-2013 (FCC)
- IEC/IEEE 62209-1528:2020 (ISED)
- RSS-102 Issue 6 (ISED)
- RSS-102.SAR.MEAS (ISED)
- Health Canada Safety Code 6 (ISED)
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices) (FCC/ISED)
- FCC KDB Publication 447498 D04v01 (General SAR Guidance) (FCC/ISED)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz) (FCC)
- FCC KDB Publication 941225 D05v02r05 (4G) (FCC/ISED)

2. DUT Conducted Powers

2.1. Power Measurement Setup

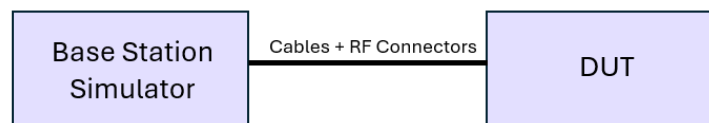


Figure 2-1 Online Power Measurement Setup

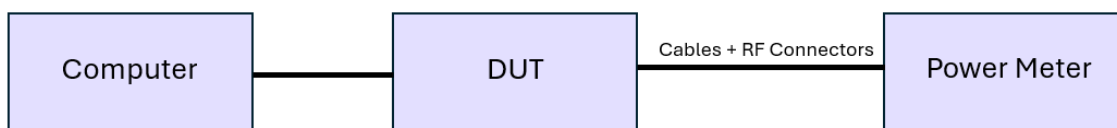


Figure 2-2 FTM Power Measurement Setup



2.2. LTE-M Conducted Powers

Note:

1. Per FCC KDB Publication 941225 D05v02r05, LTE SAR for the lower bandwidths and for higher order modulations was not required for testing since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth and the reported LTE SAR for the highest bandwidth was less than 1.45 W/kg. Conducted powers for the higher order modulations and for the lower bandwidths for all LTE Bands are included in the Secondary Mode Conducted Power Appendix. When 10g SAR measurement is considered, a factor of 2.5 is applied to the 1g thresholds for the equivalent test cases.
2. Some bands do not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Table 2-1

LTE-M Band 12		Frequency [MHz]			707.5	MPR [dB]
Antenna:	A05001-A2	Channel Number			23095	
Bandwidth [MHz]:	10	Channel Number			23095	
Power Level	Modulation	RB Size	RB Offset	NB Postion	Conducted Powers [dBm]	MPR [dB]
Max	QPSK	1	0	1	23.73	
		1	2	3	23.84	
		1	5	6	23.59	
		3	0	1	23.74	
		3	2	3	23.64	
		3	3	6	23.43	
		6	0	1	22.99	
		6	0	3	22.89	
		6	0	6	22.82	1



Table 2-2

LTE-M Band 4		Frequency [MHz]			1732.5	MPR [dB]
Antenna:	A05001-A3	Channel Number			20175	
Bandwidth [MHz]:	20	Conducted Powers [dBm]				
Power Level	Modulation	RB Size	RB Offset	NB Postion		
Max	QPSK	1	0	1	23.33	0
		1	0	7	23.44	0
		1	5	14	23.59	0
		3	0	1	23.24	0
		3	0	7	23.40	0
		3	3	14	23.53	0
		6	0	1	23.08	0
		6	0	7	23.10	0
		6	0	14	23.39	0

Table 2-3

LTE-M Band 2		Frequency [MHz]			1860	1880	1900	MPR [dB]
Antenna:	A05001-A3	Channel Number			18700	18900	19100	
Bandwidth [MHz]:	20	Conducted Powers [dBm]						
Power Level	Modulation	RB Size	RB Offset	NB Postion				
Max	QPSK	1	0	1	23.58	23.85	23.83	0
		1	0	7	23.59	23.70	23.53	0
		1	5	14	23.82	23.84	23.60	0
		3	0	1	23.52	23.76	23.52	0
		3	0	7	23.55	23.61	23.70	0
		3	3	14	23.65	23.50	23.69	0
		6	0	1	23.67	23.69	23.61	0
		6	0	7	23.44	23.59	23.60	0
		6	0	14	23.59	23.53	23.59	0



2.3. WIFI Conducted Powers

Table 2-4

2.4 GHz WIFI Conducted Power [dBm] - SISO						
Power Level	Channel Bandwidth [MHz]	Mode		802.11b	802.11g	802.11n
		Ch.	Freq. [MHz]	Antenna A05001-A1	Antenna A05001-A1	Antenna A05001-A1
Max	22 (802.11b)/ 20 (802.11g/n)	1	2412	17.27	17.68	17.57
		6	2437	17.45	18.07	17.97
		11	2462	17.50	16.97	15.39

Table 2-5

5 GHz WIFI Conducted Power [dBm] - SISO					
Power Level	Channel Bandwidth [MHz]	Band	Mode		802.11a
			Channel	Freq. [MHz]	Antenna A05001-A1
Max	20	UNII-1	36	5180	17.33
		UNII-1	40	5200	17.17
		UNII-1	44	5220	17.13
		UNII-1	48	5240	17.09
		UNII-3	149	5745	14.13
		UNII-3	157	5785	13.67
		UNII-3	165	5825	13.78

2.4. Bluetooth Conducted Powers

Table 2-6

2.4 GHz Bluetooth Conducted Power [dBm]			
Power Level/Mode	Channel	Freq [MHz]	Antenna A05001-A1
Max / Bluetooth	0	2402	6.86
	39	2441	6.66
	78	2480	7.55



3. DUT SAR Test Results

3.1. LTE-M SAR Data

Table 3-1

Exposure Condition	Band/Mode	Antenna	DUT SN	Power Drift [dB]	Maximum Duty Cycle [%]	Configure d Duty Cycle [%]	Frequency [MHz]	Channel	Modulation/Configuration	RB Size	RB Offset	NB Position	Maximum Allowed Power [dBm]	Measured Conducted Power [dBm]	MPR [dB]	Separation Distance [mm]	Position	Measured 1g SAR [W/kg]	Reported 1g SAR [W/kg]	Measured 10g SAR [W/kg]	Reported 10g SAR [W/kg]	Test Plot
Head	LTE-M Band 12	A05001-A2	00230	0.19	30.5%	30.5%	707.5	23095	QPSK - 10 MHz	1	2	3	25.00	23.84	0	10	Front	0.000	0.000	-	-	-
Head	LTE-M Band 12	A05001-A2	00230	-0.08	30.5%	30.5%	707.5	23095	QPSK - 10 MHz	3	0	1	25.00	23.74	0	10	Front	0.000	0.000	-	-	1
Extremity	LTE-M Band 12	A05001-A2	00230	0.04	30.5%	30.5%	707.5	23095	QPSK - 10 MHz	1	2	3	25.00	23.84	0	0	Back	-	-	0.048	0.063	-
Extremity	LTE-M Band 12	A05001-A2	00230	0.19	30.5%	30.5%	707.5	23095	QPSK - 10 MHz	3	0	1	25.00	23.74	0	0	Back	-	-	0.058	0.078	2

Table 3-2

Exposure Condition	Band/Mode	Antenna	DUT SN	Power Drift [dB]	Maximum Duty Cycle [%]	Configure d Duty Cycle [%]	Frequency [MHz]	Channel	Modulation/Configuration	RB Size	RB Offset	NB Position	Maximum Allowed Power [dBm]	Measured Conducted Power [dBm]	MPR [dB]	Separation Distance [mm]	Position	Measured 1g SAR [W/kg]	Reported 1g SAR [W/kg]	Measured 10g SAR [W/kg]	Reported 10g SAR [W/kg]	Test Plot
Head	LTE-M Band 4	A05001-A3	00460	-0.11	30.5%	30.5%	1732.5	20175	QPSK - 20 MHz	1	5	14	25.00	23.59	0	10	Front	0.303	0.419	-	-	3
Head	LTE-M Band 4	A05001-A3	00460	0.07	30.5%	30.5%	1732.5	20175	QPSK - 20 MHz	3	3	14	25.00	23.53	0	10	Front	0.283	0.397	-	-	-
Extremity	LTE-M Band 4	A05001-A3	00460	0.08	30.5%	30.5%	1732.5	20175	QPSK - 20 MHz	1	5	14	25.00	23.59	0	0	Back	-	-	0.548	0.758	4
Extremity	LTE-M Band 4	A05001-A3	00460	0.05	30.5%	30.5%	1732.5	20175	QPSK - 20 MHz	3	3	14	25.00	23.53	0	0	Back	-	-	0.529	0.742	-

Table 3-3

Exposure Condition	Band/Mode	Antenna	DUT SN	Power Drift [dB]	Maximum Duty Cycle [%]	Configure d Duty Cycle [%]	Frequency [MHz]	Channel	Modulation/Configuration	RB Size	RB Offset	NB Position	Maximum Allowed Power [dBm]	Measured Conducted Power [dBm]	MPR [dB]	Separation Distance [mm]	Position	Measured 1g SAR [W/kg]	Reported 1g SAR [W/kg]	Measured 10g SAR [W/kg]	Reported 10g SAR [W/kg]	Test Plot
Head	LTE-M Band 2	A05001-A3	00230	0.18	30.5%	30.5%	1860	18700	QPSK - 20 MHz	1	5	14	25.00	23.82	0	10	Front	0.294	0.386	-	-	-
Head	LTE-M Band 2	A05001-A3	00230	0.05	30.5%	30.5%	1880	18900	QPSK - 20 MHz	1	0	1	25.00	23.85	0	10	Front	0.296	0.386	-	-	5
Head	LTE-M Band 2	A05001-A3	00230	0.05	30.5%	30.5%	1900	19100	QPSK - 20 MHz	1	0	1	25.00	23.83	0	10	Front	0.264	0.346	-	-	-
Head	LTE-M Band 2	A05001-A3	00230	-0.03	30.5%	30.5%	1880	18900	QPSK - 20 MHz	3	0	1	25.00	23.76	0	10	Front	0.280	0.373	-	-	-
Extremity	LTE-M Band 2	A05001-A3	00230	0.01	30.5%	30.5%	1860	18700	QPSK - 20 MHz	1	5	14	25.00	23.82	0	0	Back	-	-	0.432	0.567	6
Extremity	LTE-M Band 2	A05001-A3	00230	0.06	30.5%	30.5%	1880	18900	QPSK - 20 MHz	1	0	1	25.00	23.85	0	0	Back	-	-	0.402	0.524	-
Extremity	LTE-M Band 2	A05001-A3	00230	-0.09	30.5%	30.5%	1900	19100	QPSK - 20 MHz	1	0	1	25.00	23.83	0	0	Back	-	-	0.367	0.480	-
Extremity	LTE-M Band 2	A05001-A3	00230	0.01	30.5%	30.5%	1880	18900	QPSK - 20 MHz	3	0	1	25.00	23.76	0	0	Back	-	-	0.393	0.523	-

3.2. WIFI SAR Data

Table 3-4

Exposure Condition	Band/Mode	Antenna	DUT SN	Power Drift [dB]	Maximum Duty Cycle [%]	Measured Duty Cycle [%]	Frequency [MHz]	Channel	Modulation/Configuration	Data Rate [Mbps]	Maximum Allowed Power [dBm]	Measured Conducted Power [dBm]	Separation Distance [mm]	Position	Measured 1g SAR [W/kg]	Reported 1g SAR [W/kg]	Measured 10g SAR [W/kg]	Reported 10g SAR [W/kg]	Test Plot
Head	2.4 GHz WIFI	A05001-A1	63011	-0.16	100.0%	100.0%	2412	1	IEEE 802.11b - 22 MHz	1	19.00	17.27	10	Front	0.279	0.416	-	-	-
Head	2.4 GHz WIFI	A05001-A1	63011	0.00	100.0%	100.0%	2437	6	IEEE 802.11b - 22 MHz	1	19.00	17.45	10	Front	0.290	0.414	-	-	-
Head	2.4 GHz WIFI	A05001-A1	63011	-0.19	100.0%	100.0%	2462	11	IEEE 802.11b - 22 MHz	1	19.00	17.50	10	Front	0.330	0.466	-	-	7
Extremity	2.4 GHz WIFI	A05001-A1	63011	-0.16	100.0%	100.0%	2412	1	IEEE 802.11b - 22 MHz	1	19.00	17.27	0	Back	-	-	0.694	1.034	-
Extremity	2.4 GHz WIFI	A05001-A1	63011	0.17	100.0%	100.0%	2437	6	IEEE 802.11b - 22 MHz	1	19.00	17.45	0	Back	-	-	0.837	1.196	-
Extremity	2.4 GHz WIFI	A05001-A1	63011	-0.14	100.0%	100.0%	2462	11	IEEE 802.11b - 22 MHz	1	19.00	17.50	0	Back	-	-	0.899	1.270	8

Table 3-5

Exposure Condition	Band/Mode	Antenna	DUT SN	Power Drift [dB]	Maximum Duty Cycle [%]	Measured Duty Cycle [%]	Frequency [MHz]	Channel	Modulation/Configuration	Data Rate [Mbps]	UNII Band	Maximum Allowed Power [dBm]	Measured Conducted Power [dBm]	Separation Distance [mm]	Position	Measured 1g SAR [W/kg]	Reported 1g SAR [W/kg]	Measured 10g SAR [W/kg]	Reported 10g SAR [W/kg]	Test Plot
Head	5 GHz WIFI	A05001-A1	63011	0.07	100.0%	88.9%	5180	36	IEEE 802.11a/h - 20 MHz	6	UNII-1	19.00	17.33	10	Front	0.090	0.149	-	-	9
Head	5 GHz WIFI	A05001-A1	59983	-0.15	100.0%	88.9%	5200	40	IEEE 802.11a/h - 20 MHz	6	UNII-1	19.00	17.17	10	Front	0.088	0.151	-	-	-
Head	5 GHz WIFI	A05001-A1	63011	-0.13	100.0%	88.9%	5240	48	IEEE 802.11a/h - 20 MHz	6	UNII-1	19.00	17.09	10	Front	0.083	0.145	-	-	-
Head	5 GHz WIFI	A05001-A1	59983	0.07	100.0%	88.9%	5745	149	IEEE 802.11a/h - 20 MHz	6	UNII-3	16.00	14.13	10	Front	0.022	0.038	-	-	-
Extremity	5 GHz WIFI	A05001-A1	63011	0.12	100.0%	88.9%	5180	36	IEEE 802.11a/h - 20 MHz	6	UNII-1	19.00	17.33	0	Back	-	-	0.168	0.278	-
Extremity	5 GHz WIFI	A05001-A1	59983	0.09	100.0%	88.9%	5200	40	IEEE 802.11a/h - 20 MHz	6	UNII-1	19.00	17.17	0	Back	-	-	0.202	0.345	10
Extremity	5 GHz WIFI	A05001-A1	63011	0.07	100.0%	88.9%	5240	48	IEEE 802.11a/h - 20 MHz	6	UNII-1	19.00	17.09	0	Back	-	-	0.176	0.307	-
Extremity	5 GHz WIFI	A05001-A1	63011	0.17	100.0%	88.9%	5745	149	IEEE 802.11a/h - 20 MHz	6	UNII-3	16.00	14.13	0	Back	-	-	0.029	0.050	-



3.3. Bluetooth SAR Data

Table 3-6

Exposure Condition	Band/Mode	Antenna	DUT SN	Power Drift [dB]	Maximum Duty Cycle [%]	Measured Duty Cycle [%]	Frequency [MHz]	Channel	Modulation/Configuration	Maximum Allowed Power [dBm]	Measured Conducted Power [dBm]	Separation Distance [mm]	Position	Measured 1g SAR [W/kg]	Reported 1g SAR [W/kg]	Measured 10g SAR [W/kg]	Reported 10g SAR [W/kg]	Test Plot
Head	2.4 GHz Bluetooth	A05001-A1	59983	0.05	100.0%	100.0%	2402	0	FHSS	8.50	6.86	10	Front	0.020	0.029	-	-	-
Head	2.4 GHz Bluetooth	A05001-A1	59983	-0.03	100.0%	100.0%	2441	39	FHSS	8.50	6.66	10	Front	0.030	0.046	-	-	-
Head	2.4 GHz Bluetooth	A05001-A1	59983	-0.16	100.0%	100.0%	2480	78	FHSS	9.50	7.55	10	Front	0.037	0.058	-	-	11
Extremity	2.4 GHz Bluetooth	A05001-A1	59983	-0.04	100.0%	100.0%	2402	0	FHSS	8.50	6.86	0	Back	-	-	0.055	0.080	-
Extremity	2.4 GHz Bluetooth	A05001-A1	59983	-0.01	100.0%	100.0%	2441	39	FHSS	8.50	6.66	0	Back	-	-	0.078	0.119	-
Extremity	2.4 GHz Bluetooth	A05001-A1	59983	0.06	100.0%	100.0%	2480	78	FHSS	9.50	7.55	0	Back	-	-	0.080	0.125	12

3.4. General SAR Testing Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013 and FCC KDB Publication 447498 D04v01 for FCC.
2. The test data reported are the worst-case SAR values according to test procedures specified in IEC/IEEE 62209-1528 and RSS-102.SAR.MEAS for ISED.
3. Per IEC/IEEE 62209-1528, SAR testing was performed using probes calibrated for the modulation specific signal.
4. SAR evaluations were made in accordance with the latest version of RSS-102 Issue 6 and RSS-102.SAR.MEAS, then IEC/IEEE 62209-1528. FCC KDB Publications listed in RSS-102 can be used as supplementary procedures due to limitation of technology specific testing protocols in the international standards.
5. Liquid tissue depth was at least 15.0 cm for all frequencies.
6. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D04v01.
7. Batteries are fully charged at the beginning of the SAR measurements.
8. Per IEC/IEEE 62209-1528, the worst case configuration was additionally evaluated for all channels.
9. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.
10. Since this device is a portable wrist-worn device and does not support any other use conditions, the procedures in FCC KDB Publication 447498 D04v01 section 5.2 have been applied for extremity and next to mouth (head) condition.
11. Simultaneous transmission analysis is provided in Appendix E.

3.5. LTE-M Notes:

1. LTE-M test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r05. The general test procedures used for testing can be found in Section 8.3.
2. LTE-M SAR for the higher modulations and lower bandwidths were not tested since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth; and the reported LTE-M SAR for the highest bandwidth was less than 1.45 W/kg for all configurations according to FCC KDB 941225



D05v02r05.

3. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3E-1
4. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
5. Per FCC KDB Publication 447498 D04v01, when the reported 1g SAR measured at the highest output power channel in a given a test configuration was $> 0.8 \text{ W/kg}$, testing at the other channels was required for such test configurations.

3.6. WLAN Notes:

1. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI operations, the initial test configuration was selected according to the 802.11 transmission modes with the highest maximum allowed powers. SAR for other 802.11 modes was not required due to the maximum allowed powers and the highest reported SAR.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg for 1g evaluations.
3. When the maximum reported 1g averaged SAR is $\leq 0.8 \text{ W/kg}$, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was $\leq 1.20 \text{ W/kg}$ or all test channels were measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency is considered for SAR measurements.
4. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated Part 15 test reports.
5. Per KDB Publication 248227 D01v02r02, channels 12 and 13 are not required for SAR testing when their maximum outpower is not higher than channel 1, 6 and 11.

3.7. Bluetooth Note:

1. Per October 2016 TCB Workshop Notes, the reported SAR was scaled to the 100.0% transmission duty factor for Bluetooth to determine compliance.



4. DUT SAR Measurement Variability Requirement

Per FCC KDB Publication 865664 D01v01r04, SAR measurement variability was not required since the measured SAR results for a frequency band were less than 0.8 W/kg for 1g SAR and 2.0 W/kg for 10g SAR.

5. General Introduction

Title 47 of the Code of Federal Regulations (CFR) pertains to United States Federal regulation for Telecommunications. The **Federal Communications Commission (FCC)** is the agency responsible for implementing and enforcing these regulations. The rules define a **radiofrequency device** as any device which in its operation is capable of emitting radiofrequency energy by radiation, conduction, or other means.

47CFR §2.1093(b) states, “A **portable device** is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that the RF source's radiating structure(s) **is/are within 20 centimeters of the body of the user.**”

Also, 47CFR §2.1093(d)(6) states, that General population/uncontrolled exposure limits defined in §1.1310 “apply to portable devices intended for use by consumers or persons who are exposed as a consequence of their employment and may not be fully aware of the potential for exposure or cannot exercise control over their exposure.”

47CFR §2.1093(d)(2) states that evaluation of compliance within FCC’s SAR limits can be demonstrated by laboratory measurements. This test report serves this purpose.

6. Background on Radiofrequency (RF) Exposure Limits

6.1. Controlled Environment

Controlled environments are defined as locations where the RF field intensities have been adequately characterized by means of measurement or calculation and exposure is incurred by persons who are: aware of the potential for RF field exposure, cognizant of the intensity of the RF fields in their environment, aware of the potential health risks associated with RF field exposure and able to control their risk using mitigation strategies. In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.



6.2. Uncontrolled Environment

Uncontrolled environments are defined as locations where either insufficient assessment of RF fields have been conducted or where persons who are allowed access to these areas have not received proper RF field awareness/safety training and have no means to assess or, if required, to mitigate their exposure to RF fields. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed, or in which persons who may not be made fully aware of the potential for exposure, or cannot exercise control over their exposure. Members of the general public would fall under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

6.3. RF Exposure Limits for 100kHz – 6 GHz

Table 6-1 Human Exposure to RF Radiation Limits in 47 CFR §1.1310 and Health Canada Safety Code 6- SAR
Basic Restrictions for frequencies 100kHz ~ 6 GHz

Environment	Condition	SAR	Averaging volume
Uncontrolled / General Population	Head, Neck Trunk	1.6 W/kg	1g cube
	Extremity	4.0 W/kg	10g cube
Controlled	Head/Trunk	8 W/kg	1g cube
	Extremity / Limbs	20 W/kg	10g cube

7. RF Safety Laboratory SAR Measurement System

7.1. SAR Measurement Hardware and Software

Peak spatially averaged SAR (psSAR) measurements are performed using a DASY8 robot system with cDASY8 module SAR software. The DASY8 is made by SPEAG in Switzerland and consists of a 6-axis robot, robot controller, computer, dosimetric probe, probe alignment light beam unit, and various SAR phantoms.

7.2. E-Field Probe

Manufacturer	Schmid & Partner Engineering AG
Model	EX3DV4
Description	Smallest isotropic electric (E-) field probe for high precision specific absorption rate (SAR) measurements
Frequency Range	4 MHz - 10.0 GHz



Dynamic Range	10 μ W/g – >100 mW/g
Overall Length (mm)	337
Body Diameter (mm)	12
Tip Length (mm)	9
Tip Diameter (mm)	2.5
Probe Tip to Sensor X Calibration Point (mm)	1
Probe Tip to Sensor Y Calibration Point (mm)	1
Applications	High precision dosimetric measurements in any exposure scenario (e.g. very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better than 30%
Compatibility	DASY8 robot + cDASY8 module SAR software

7.3. Peak Spatially Averaged SAR (psSAR) Measurements

SAR Evaluations are performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04, IEEE 1528:2013 and IEC/IEEE 62209-1528:

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface, and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04, IEEE 1528:2013 and IEC/IEEE 62209-1528.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04, IEEE 1528:2013 and IEC/IEEE 62209-1528. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):
 - a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than the area scan and zoomscan resolutions specified in FCC KDB Publication 865664 D01v01r04 section 2.7.1, IEEE 1528:2013 table 6, and IEC/IEEE 62209-1528 table 3 & table 4. The extrapolation was based on a least-squares



algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).

- b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.
- c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
- d. The zoom scan is confirmed to meet both of the following parameters if the result is $> 0.1 \text{ W/kg}$. If the result does not meet the below parameters, it is re-measured with a finer resolution scan until the below parameters are met.
 - (1) The smallest horizontal distance from the local SAR peaks to all points 3 dB below the SAR peak shall be larger than the horizontal grid steps in both x- and y-directions.
 - (2) The ratio of the SAR at the second measured point (M2) to the SAR at the closest measured point (M1) at the x-y location of the measured maximum SAR value shall be at least 30%
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

7.4. Test Positions

7.4.1. Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity $\epsilon = 3$ and loss tangent $\delta = 0.02$.

7.4.2. Positioning for Head

Devices that are designed to be worn on the wrist may operate in speaker mode for voice communication with the device worn on the wrist and positioned next to the mouth. When next-to-mouth SAR evaluation is required, the device is positioned at 10 mm from a flat phantom filled with head tissue-equivalent medium. The device is evaluated with wrist bands strapped together to represent normal use conditions.

7.4.3. Extremity Exposure Configurations

Devices that are designed or intended for use on extremities or mainly operated in extremity only exposure conditions; i.e., hands, wrists, feet and ankles, may require extremity SAR evaluation. When the device also operates in close proximity to the user's body, SAR compliance for the body is also



required. The 1g body and 10g extremity SAR Exclusion Thresholds found in KDB Publication 447498 D04v01 should be applied to determine SAR test requirements.

7.5. RF Safety Laboratory SAR System Measurement Uncertainty

SAR Uncertainty for DUTs According to 62209-1528										
(Frequencies: 300 MHz - 6 GHz)										
Symbol	Input Quantity (Xi) (Source of Uncertainty)	62209-1528 Ref	Unc. (xi)	Prob. Dist. PDFi	Div(qi)	ci (1g)	ci (10g)	Std Unc (1g)	Std. Unc (10g)	vi
Measurement System Errors										
CF	Probe Calibration	8.4.1.1	13.1%	N (k=2)	2	1	1	6.55%	6.6%	∞
CFdrift	Probe Calibration Drift	8.4.1.2	1.7%	R	√3	1	1	1.0%	1.0%	∞
LIN	Probe Linearity and Detection Limit	8.4.1.3	4.7%	R	√3	1	1	2.7%	2.7%	∞
BBS	Broadband Signal	8.4.1.4	2.8%	R	√3	1	1	1.6%	1.6%	∞
ISO	Probe Isotropy	8.4.1.5	7.6%	R	√3	1	1	4.4%	4.4%	∞
DAE	Other probe and data acquisition errors	8.4.1.6	1.2%	N	1	1	1	1.2%	1.2%	∞
AMB	RF Ambient and Noise	8.4.1.7	1.8%	N	1	1	1	1.8%	1.8%	∞
Δxyz	Probe Positioning Errors	8.4.1.8	0.005 mm	N	1	0.29	0.29	0.2%	0.2%	
DAT	Data Processing Errors	8.4.1.9	2.3%	N	1	1	1	2.3%	2.3%	∞
Phantom and Device Errors										
LIQ(σ)	Measurement of Phantom Conductivity	8.4.2.1	2.5%	N	1	0.78	0.71	2.0%	1.8%	∞
LIQ(Tc)	Temperature Effects (Medium)	8.4.2.2	3.4%	R	√3	0.78	0.71	1.5%	1.4%	∞
EPS	Shell Permittivity	8.4.2.3	14.0%	R	√3	0.25	0.25	2.0%	2.0%	∞
DIS	Distance between the radiating element of the DUT and the phantom medium	8.4.2.4	2.0%	N	1	2	2	4.0%	4.0%	∞
Dxyz	Repeatability of Positioning the DUT or source against the phantom	8.4.2.5	1.0%	N	1	1	1	1.0%	1.0%	5
H	Device Holder Effects	8.4.2.6	3.6%	N	1	1	1	3.6%	3.6%	8
MOD	Effect of Operating mode on probe sensitivity	8.4.2.7	2.4%	R	√3	1	1	1.4%	1.4%	∞
RFdrift	Variation in SAR due to Drift in output of DUT	8.4.2.9	2.5%	N	1	1	1	2.5%	2.5%	∞
VAL	Validation Antenna Uncertainty (Validation measurement only)	8.4.2.10	0.0%	N	1	1	1	0.0%	0.0%	∞
Pin	Uncertainty in Accepted Power (Validation Measurement only)	8.4.2.11	0.0%	N	1	1	1	0.0%	0.0%	∞
Correction to the SAR Results										
C(ε',σ)	Phantom Deviation from Target (ε',σ)	8.4.3.1	1.9%	N	1	1	0.84	1.9%	1.6%	∞
C(R)	SAR Scaling	8.4.3.2	0.0%	R	√3	1	1	0.0%	0.0%	∞
u(ΔSAR)	Combined Uncertainty							11.6%	11.5%	∞
U	Expanded Uncertainty and Effective Degrees of Freedom (k=2)							23.2%	23.1%	



8. Technology Specific Test Setup Requirements

8.1. Measured and Reported SAR

Per FCC KDB Publication 447498 D04v01, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as *reported* SAR. The highest *reported* SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

8.2. Procedures Used to Establish RF Signal for SAR

Devices under test are evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device is tested throughout the SAR test at maximum output power, the SAR measurement system measures a “point SAR” at an arbitrary reference point at the start and end of the 1 gram and 10 gram SAR evaluation, to assess for any power drifts during the evaluation.

8.3. SAR Measurement Conditions for LTE-M

LTE-M modes are tested according to FCC KDB 941225 D05v02r05 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR. The R&S CMW500 or Anritsu MT8000A simulators are used for LTE-M output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

8.3.1. Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

8.3.2. MPR and A-MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3E-1.

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.



8.3.3. Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r05:

1. Per Section 5.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
 - a. The required channel and offset combination with the highest maximum output power is required for SAR.
 - b. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
 - c. When the reported SAR for a required test channel is > 1.45 W/kg, SAR is required for all RB offset configurations for that channel.
2. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.
3. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is < 0.8 W/kg.
4. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to $\frac{1}{2}$ dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is < 1.45 W/kg.
5. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.4. SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

8.4.1. General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.



A periodic duty factor is required for current generation SAR systems to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% duty factor to determine compliance at the maximum tune-up tolerance limit.

8.4.2. Initial Test Position Procedure

The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg, no additional testing for the remaining test positions is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.4.3. 2.4 GHz SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

- 1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements.

2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is > 1.2 W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.4.4. OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a,



802.11n or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., then 802.11n or 802.11g then 802.11n, is used for SAR measurement.

8.4.5. Initial Test Configuration Procedure

For OFDM, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order IEEE 802.11 mode. The channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is ≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is ≤ 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

8.4.6. Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the subsequent test configurations are required. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.



9. Equipment List

Manufacturer	Model	Description	Serial Number	Calibration Date	Calibration Due	CBT
Amplifier Research	1554G8AM1	RF Broadband Amplifier (4 - 8 GHz)	0554497			✓
Amplifier Research	551G4	RF Broadband Amplifier (800 MHz - 4.2 GHz)	331258			✓
Anritsu	MA24118A	Microwave USB Power Sensor (10MHz - 18 GHz)	2123431	1/13/2025	1/13/2026	
Anritsu	MA24118A	Microwave USB Power Sensor (10MHz - 18 GHz)	2123500	1/13/2025	1/13/2026	
Anritsu	S820E	Vector Network Analyzer	2348026	11/30/2023	11/30/2025	
Control Company	4040	Ambient Thermometer	230581662	8/28/2023	8/28/2025	
Control Company	4040	Ambient Thermometer	230581657	8/28/2023	8/28/2025	
Control Company	4352	Long Stem Liquid Thermometer	230662212	9/28/2023	9/28/2025	
Control Company	4352	Long Stem Liquid Thermometer	230662223	9/28/2023	9/28/2025	
Hewlett Packard	8648C	HP Signal Generator	3537A01741	3/10/2025	3/10/2026	
Micro-Coax	UFB205A-0-0240-30x30	SMA M-F RF test Cable (DC - 18 GHz)	-			✓
Mini-Circuits	BW-N20W20+	20dB RF Fixed Attenuator (DC - 18 GHz)	-			✓
Mini-Circuits	BW-N20W20+	20dB RF Fixed Attenuator (DC - 18 GHz)	-			✓
Mini-Circuits	BW-S3W2+	3dB RF Fixed Attenuator (DC - 18 GHz)	-			✓
Mini-Circuits	BW-S3W2+	3dB RF Fixed Attenuator (DC - 18 GHz)	-			✓
Mini-Circuits	CBL-6FT-SMNM+	Precision Test Cable SMA/N (DC - 18 GHz)	3318			✓
Mini-Circuits	CBL-6FT-SMNM+	Precision Test Cable SMA/N (DC - 18 GHz)	3335			✓
Mini-Circuits	CBL-6FT-SMNM+	Precision Test Cable SMA/N (DC - 18 GHz)	3329			✓
Mini-Circuits	NF-SF50+	RF Adapter N Male to SMA Female (DC - 18 GHz)	-			✓
Mini-Circuits	VLF-6000+	Coaxial Low Pass Filter (DC - 6 GHz)	-			✓
Mini-Circuits	VLF-3000+	Coaxial Low Pass Filter (DC - 3 GHz)	-			✓
Mini-Circuits	VLF-1000+	Coaxial Low Pass Filter (DC - 1 GHz)	-			✓
Mitutoyo	CD-4" AX	Digital Caliper	B23243217	9/28/2023	9/28/2025	
Narda	4226-20 (26733)	20 dB SMA Directional Coupler (0.5 - 18 GHz)	0201			✓
Rohde & Schwarz	SMCV100B	R&S SMCV100B Vector Signal Generator (VSG)	103882	12/21/2023	12/19/2025	
Rohde & Schwarz	CMW500	CMW500 Radio Communication Test Station	1201.0002K50-167186-cf	1/12/2024	1/12/2026	
SPEAG	D1750V2	1750 MHz System Validation Dipole	1205	10/11/2023	10/10/2026	
SPEAG	D1900V2	1900 MHz System Validation Dipole	5d252	10/6/2023	10/5/2026	
SPEAG	D2450V2	2450 MHz System Validation Dipole	1112	11/15/2024	11/15/2026	
SPEAG	D5GHzV2	5GHz System Validation Dipole	1396	11/15/2024	11/15/2026	
SPEAG	D750V3	750 MHz System Validation Dipole	1235	10/11/2023	10/10/2026	
SPEAG	DAE4ip	Data Acquisition Electronics with Integ. Power	1905	4/25/2025	4/25/2026	
SPEAG	DAE4ip	Data Acquisition Electronics with Integ. Power	1839	9/4/2024	9/4/2025	
SPEAG	DAK-3.5	DAK-3.5 Dielectric Probe	1349	9/2/2024	9/2/2025	
SPEAG	EX3DV4	SAR Measurement Probe	7836	9/12/2024	9/12/2025	
SPEAG	EX3DV4	SAR Measurement Probe	7859	5/5/2025	5/5/2026	
SPEAG	Powersource1	Signal Generator	4341	1/9/2025	1/9/2026	
SPEAG	SE UMS 171 E	MAIA Modulation and Interference Analyzer	1814			
SPEAG	SE UMS 171 E	MAIA Modulation and Interference Analyzer	1817			
SPEAG	SE UMS 176 C	ANT Wideband Communication Antenna	1579			
SPEAG	SE UMS 176 C	ANT Wideband Communication Antenna	1601			

✓Note: Components calibrated before testing. Prior to testing, the measurement paths containing a cable, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator, power sensor, or VNA) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements.



**RF SAFETY
LAB**

A NEXT GENERATION
TEST LABORATORY™

Next Generation Test Laboratory Inc. (RF Safety Laboratory, LLC)
5520 Research Park Drive, Suite 140, Catonsville, Maryland 21228 USA
ISED Lab Code: 32002; FCC Designation Number: US3274
ANAB 17025 Certificate Number: AT-3274; CAB Identifier: US0239
☎ +1 202 240 9240; ✉ info@rfsafetylab.com

10. Conclusion

The SAR evaluation indicates that the DUT is capable of compliance with the RF radiation exposure limits of the FCC and ISED, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.