

Test Report

Report No. : MTi260727019-0102E1
Date of issue : 2026-08-04
Applicant : CHUG , INC.
Product : Wireless Receiver
Model(s) : BEMS01R
FCC ID : 2AO23-BEMS0IR

Shenzhen Microtest Co., Ltd.

TEST REPORT

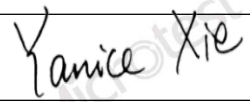
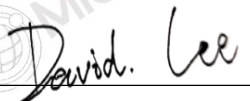
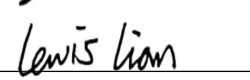
Report No.: MTi260727019-0102E1

Table of contents

1	General Description	4
1.1	Description of the EUT	4
1.2	Description of test modes	4
1.3	Environmental Conditions	6
1.4	Description of support units	6
1.5	Measurement uncertainty	6
2	Summary of Test Result	7
3	Test Facilities and accreditations	8
3.1	Test laboratory	8
4	List of test equipment	9
5	Evaluation Results (Evaluation)	11
5.1	Antenna requirement	11
6	Radio Spectrum Matter Test Results (RF)	12
6.1	Occupied Bandwidth	12
6.2	Field strength of fundamental	16
6.3	Band edge emissions (Radiated)	23
6.4	Emissions in frequency bands (below 1GHz)	29
6.5	Emissions in frequency bands (above 1GHz)	33
	Photographs of the test setup	41
	Photographs of the EUT	42

TEST REPORT

Report No.: MTi260727019-0102E1

Test Result Certification		
Applicant	CHUG , INC.	
Applicant Address	7157 Shady Oak Rd, Eden Prairie MN 55344, United States	
Manufacturer	CHUG , INC.	
Manufacturer Address	7157 Shady Oak Rd, Eden Prairie MN 55344, United States	
Factory	Si Yuan Tech Co.,Ltd	
Factory Address	Lot G3, road N5, ChauSon Industrial Park, ChauSon ward, Phu Ly City, H, Tinh Thanh Hoa, Ha Nam, Vietnam	
Product description		
Product name	Wireless	
Trademark	Zsou, GEMS, heyday, heyday™	
Model name	BEMS01R	
Series Model(s)	N/A	
Standards	47 CFR Part 15.249	
Test Method	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024	
Testing Information		
Date of test	2026-07-29 to 2026-08-03	
Test result	Pass	
Prepared by:	Yanice Xie	
Reviewed by:	David Lee	
Approved by:	Lewis Lian	

TEST REPORT

Report No.: MTi260727019-0102E1

1 General Description

1.1 Description of the EUT

Product name:	Wireless Receiver
Model name:	BEMS01R
Series Model(s):	N/A
Model difference:	N/A
Electrical rating:	Input: DC 5V
Accessories:	N/A
Test sample(s) number:	MTi260727019-01-R001
RF specification	
Operating frequency range:	2402-2480MHz
Channel number:	40
Modulation type:	GFSK
Antenna(s) type:	PCB Antenna
Antenna(s) gain:	1.71 dBi

1.2 Description of test modes

No.	Emission test modes
Mode1	TX

1.2.1 Operation channel list

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

TEST REPORT

Report No.: MTi260727019-0102E1

Test Channel List**Operation Band: 2.4G**

Lowest Channel (LCH) (MHz)	Middle Channel (MCH) (MHz)	Highest Channel (HCH) (MHz)
2402	2440	2480

Note: The test software provided by manufacturer is used to control EUT for working in engineering mode, that enables selectable channel, and capable of continuous transmitting mode.

Test Software: OnMicro FCC v6.9.2 Test

For power setting, refer to below table.

Mode	2402MHz	2440MHz	2480MHz
GFSK	4	4	4

TEST REPORT

Report No.: MTi260727019-0102E1

1.3 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15°C ~ 35°C
Humidity:	20% RH ~ 75% RH
Atmospheric pressure:	98 kPa ~ 101 kPa

1.4 Description of support units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support equipment list

Description	Model	Serial No.	Manufacturer
Laptop	e485	0E20AC5E-BE55-4970-8F1E-152D2E4549B1	Lenovo

Support cable list

Description	Length (m)	From	To
/	/	/	/

1.5 Measurement uncertainty

Measurement	Uncertainty
Occupied channel bandwidth	±3 %
Radiated spurious emissions (above 1GHz)	±5.3dB
Radiated spurious emissions (9kHz~30MHz)	±4.3dB
Radiated spurious emissions (30MHz~1GHz)	±4.7dB
Temperature	±1 °C
Humidity	± 5 %

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

TEST REPORT

Report No.: MTi260727019-0102E1

2 Summary of Test Result

No.	Item	Standard	Requirement	Result
1	Antenna requirement	47 CFR Part 15.249	47 CFR Part 15.203	Pass
2	Occupied Bandwidth	47 CFR Part 15.249	47 CFR 15.215(c)	Pass
3	Field strength of fundamental	47 CFR Part 15.249	47 CFR 15.249(a) 47 CFR 15.249(b)(1)	Pass
4	Band edge emissions (Radiated)	47 CFR Part 15.249	47 CFR 15.249(d)	Pass
5	Emissions in frequency bands (below 1GHz)	47 CFR Part 15.249	47 CFR 15.249(a) 47 CFR 15.249(d) 47 CFR 15.249(e)	Pass
6	Emissions in frequency bands (above 1GHz)	47 CFR Part 15.249	47 CFR 15.249(a) 47 CFR 15.249(d) 47 CFR 15.249(e)	Pass

TEST REPORT

Report No.: MTi260727019-0102E1

3 Test Facilities and accreditations

3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No.7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573
IC Registration No.:	21760
CABID:	CN0093

TEST REPORT

Report No.: MTi260727019-0102E1

4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
Occupied Bandwidth						
1	Wideband Radio Communication Tester	Rohde&schwarz	CMW500	149155	2026-03-09	2027-03-08
2	ESG Series Analog Ssignal Generator	Agilent	E4421B	GB40051240	2026-03-09	2027-03-08
3	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2026-03-10	2027-03-09
4	Synthesized Sweeper	Agilent	83752A	3610A01957	2026-03-10	2027-03-09
5	MXA Signal Analyzer	Agilent	N9020A	MY50143483	2026-03-09	2027-03-08
6	RF Control Unit	Tonscend	JS0806-1	19D8060152	2026-03-11	2027-03-10
7	Band Reject Filter Group	Tonscend	JS0806-F	19D8060160	2026-03-11	2027-03-10
8	ESG Vector Signal Generator	Agilent	N5182A	MY50143762	2026-03-10	2027-03-09
9	DC Power Supply	Agilent	E3632A	MY40027695	2026-03-09	2027-03-08
10	RF Test System	Tonscend	JS1120-3 Test System	V3.6.21	/	/
Field strength of fundamental Band edge emissions (Radiated) Emissions in frequency bands (above 1GHz)						
1	EMI Test Receiver	Rohde&schwarz	ESC17	101166	2026-03-10	2027-03-09
2	Double Ridged Broadband Horn Antenna	schwarabeck	BBHA 9120 D	2278	2025-05-27	2027-05-26
3	Amplifier	Agilent	8449B	3008A01120	2026-03-10	2027-03-09
4	MXA signal analyzer	Agilent	N9020A	MY54440859	2026-03-10	2027-03-09
5	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2026-03-10	2027-03-09
6	Horn antenna	Schwarzbeck	BBHA 9170	00987	2025-05-27	2027-05-26
7	Pre-amplifier	Space-Dtronics	EWLAN18 40G	210405001	2026-03-11	2027-03-10
8	EMI Test Software	Farad	EZ-EMC	Ver. EMEC-3A1	/	/
Emissions in frequency bands (below 1GHz)						
1	EMI Test Receiver	Rohde&schwarz	ESC17	101166	2026-03-10	2027-03-09
2	TRILOG Broadband Antenna	schwarabeck	VULB 9163	9163-1338	2025-05-23	2027-05-22
3	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00066	2026-03-08	2028-03-07

TEST REPORT

Report No.: MTi260727019-0102E1

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due
4	Amplifier	Hewlett-Packard	8447F	3113A06184	2026-03-10	2027-03-09
5	EMI Test Software	Farad	EZ-EMC	Ver. EMEC-3A1	/	/

TEST REPORT

Report No.: MTi260727019-0102E1

5 Evaluation Results (Evaluation)

5.1 Antenna requirement

Test Requirement:	Refer to 47 CFR Part 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.
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5.1.1 Conclusion:

The antenna of the EUT is permanently attached.
The EUT complies with the requirement of FCC PART 15.203.

TEST REPORT

Report No.: MTi260727019-0102E1

6 Radio Spectrum Matter Test Results (RF)

6.1 Occupied Bandwidth

Test Requirement:	47 CFR 15.215(c)
Test Limit:	Refer to 47 CFR 15.215(c), intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.
Test Method:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024, section 6.9.2
Procedure:	a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW. b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement. c) Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than $[10 \log (OBW/RBW)]$ below the reference level. Specific guidance is given in 4.1.5.2. d) Steps a) through c) might require iteration to adjust within the specified tolerances. e) The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target “-xx dB down” requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value. f) Set detection mode to peak and trace mode to max hold. g) Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value). h) Determine the “-xx dB down amplitude” using $[(\text{reference value}) - \text{xx}]$. Alternatively, this calculation may be made by using the marker-delta function of the instrument. i) If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j). j) Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-xx dB down amplitude” determined in step h). If a marker is below this “-xx dB down amplitude” value, then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the “-xx dB down amplitude” determined in step h). Reset the marker-delta function and

TEST REPORT

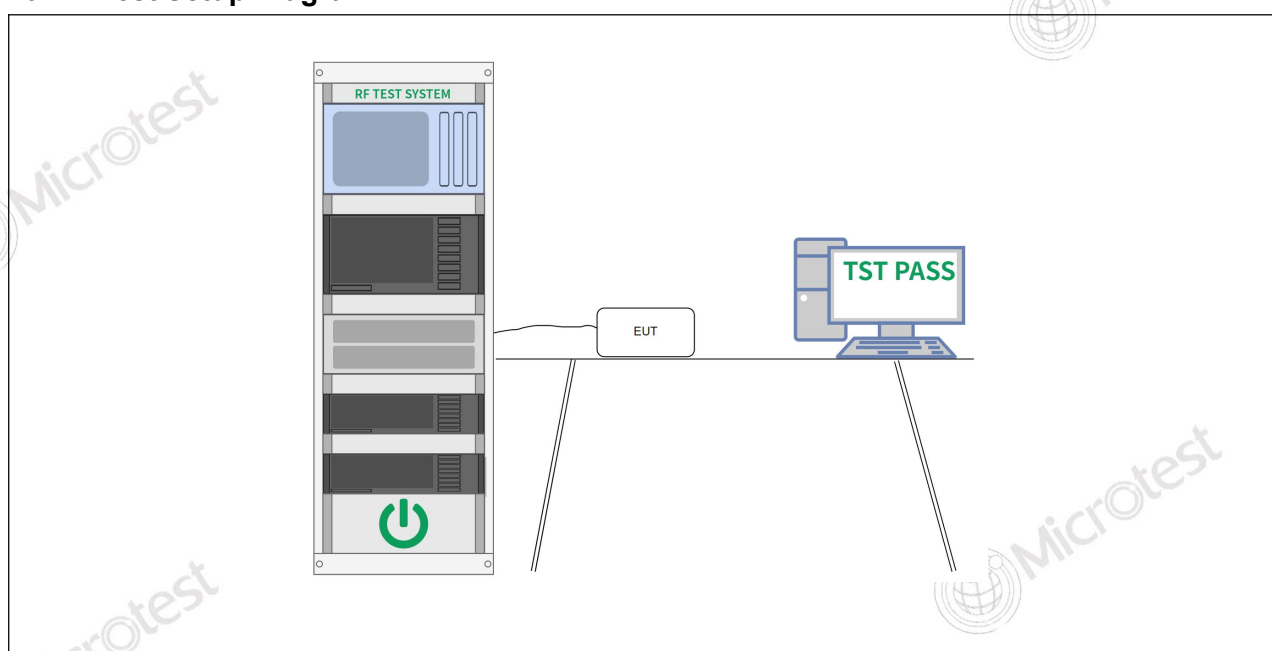
Report No.: MTi260727019-0102E1

	move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth. k) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).
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6.1.1 E.U.T. Operation:

Operating Environment:					
Temperature:	25.1 °C	Humidity:	45 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

6.1.2 Test Setup Diagram:



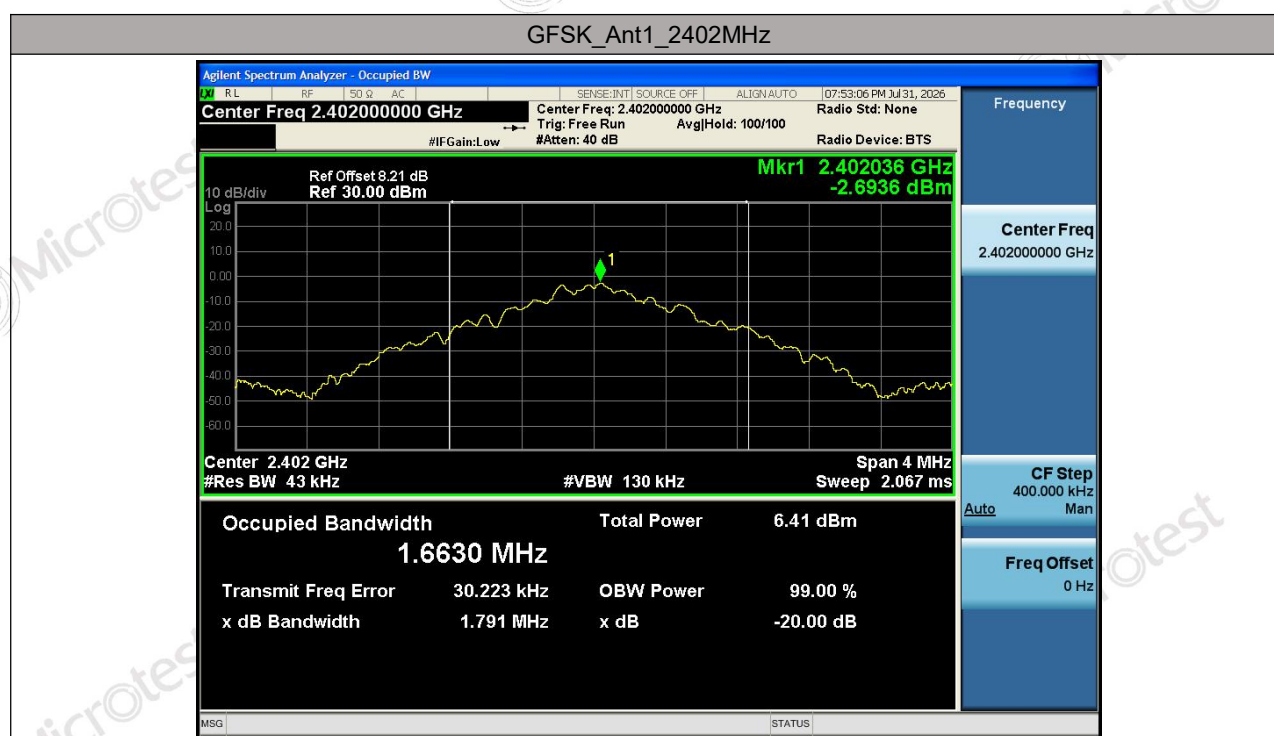
TEST REPORT

Report No.: MTi260727019-0102E1

6.1.3 Test Data:

Test Mode	Antenna	Frequency [MHz]	99% OBW [MHz]	20db BW [MHz]
GFSK	Ant1	2402	1.6630	1.791
		2440	1.7070	1.808
		2480	1.7489	1.861

Test Graphs



TEST REPORT

Report No.: MTi260727019-0102E1

GFSK_Ant1_2440MHz



GFSK_Ant1_2480MHz



TEST REPORT

Report No.: MTi260727019-0102E1

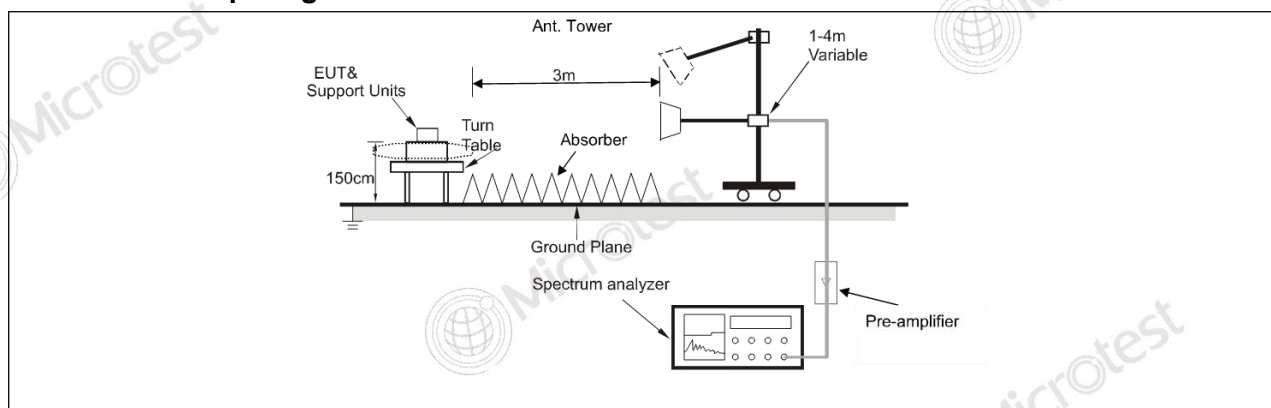
6.2 Field strength of fundamental

Test Requirement:	Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:		
	Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
	902-928 MHz	50	500
	2400-2483.5 MHz	50	500
	5725-5875 MHz	50	500
	24.0-24.25 GHz	250	2500
	The field strength of emissions in this band shall not exceed 2500 millivolts/meter.		
Test Method:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024 section 6.6		
Procedure:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024 section 6.6		

6.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	45 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

6.2.2 Test Setup Diagram:



TEST REPORT

Report No.: MTi260727019-0102E1

6.2.3 Test Data:

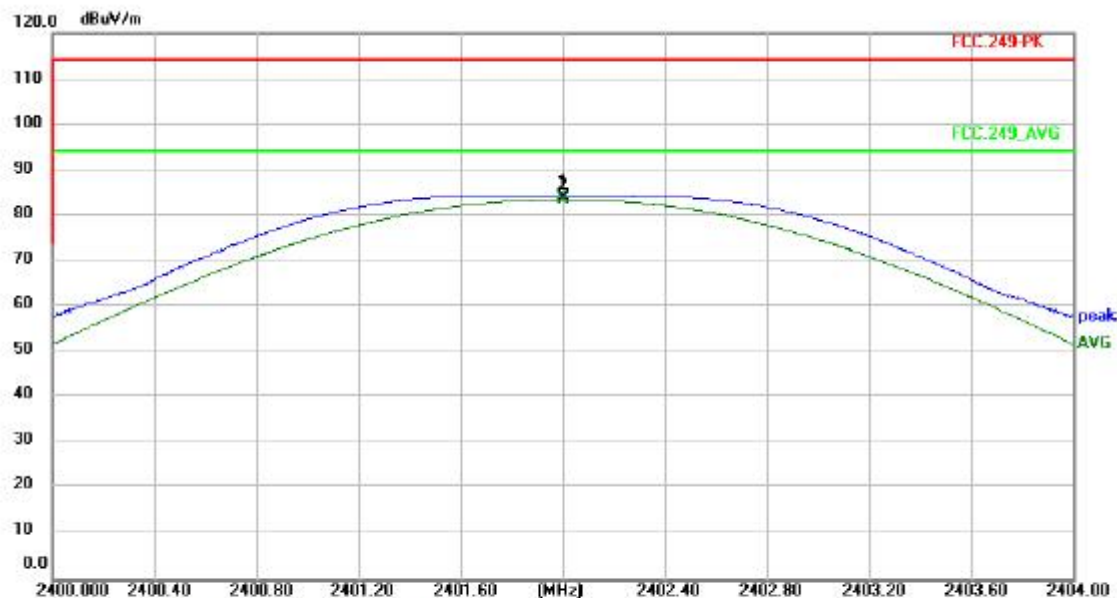
Calculation formula:

Measurement (dBμV/m) = Reading Level (dBμV) + Correct Factor (dB)

Correct Factor (dB) = Antenna Factor + Cable Loss - Preamplifier Factor

Over (dB) = Measurement (dBμV/m) - Limit (dBμV/m)

Mode1 / Polarization: Horizontal / CH: L

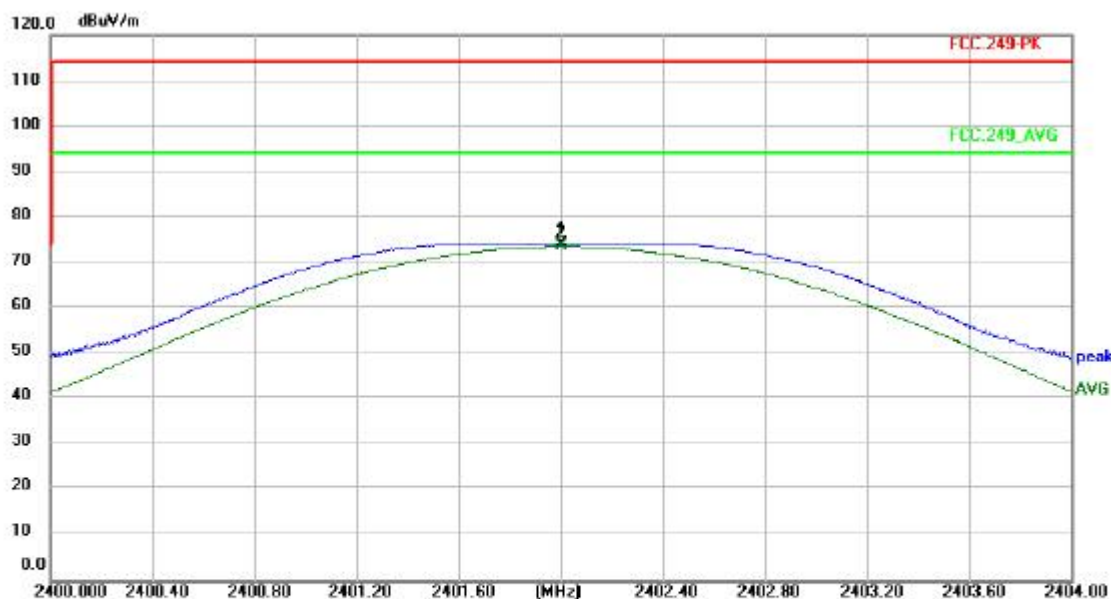


No.	Mk.	Freq. MHz	Reading Level dBμV	Correct Factor dB	Measure- ment dBμV/m	Limit dBμV/m	Over dB	Detector	Comment
1		2402.000	88.41	-4.29	84.12	114.00	-29.88	peak	
2	*	2402.000	87.86	-4.29	83.57	94.00	-10.43	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Vertical / CH: L

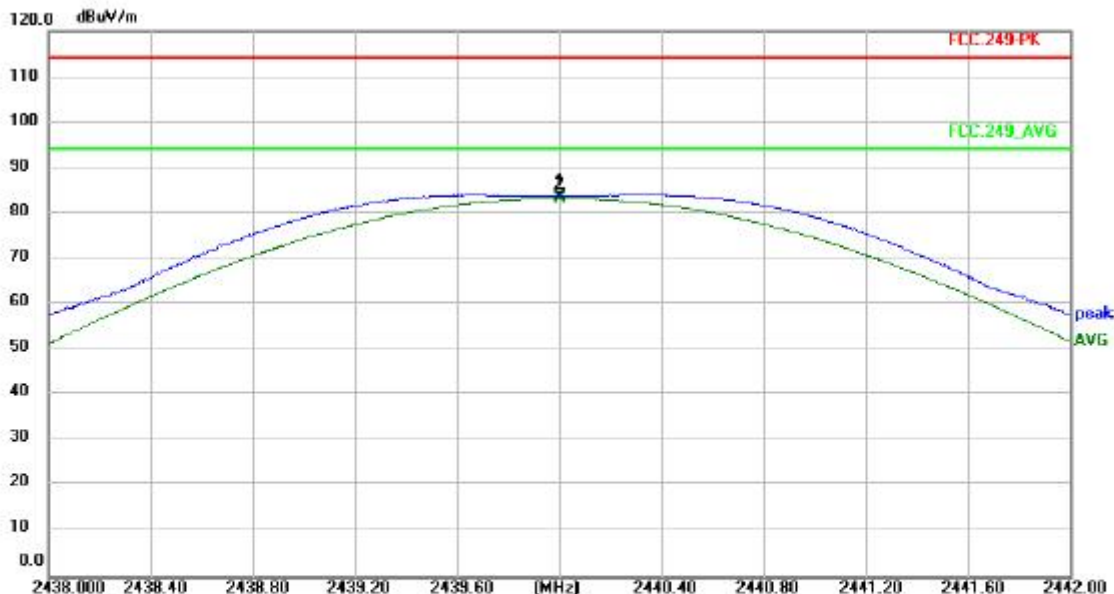


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB		
1		2402.000	78.49	-4.29	74.20	114.00	-39.80	peak	
2	*	2402.000	77.82	-4.29	73.53	94.00	-20.47	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Horizontal / CH: M

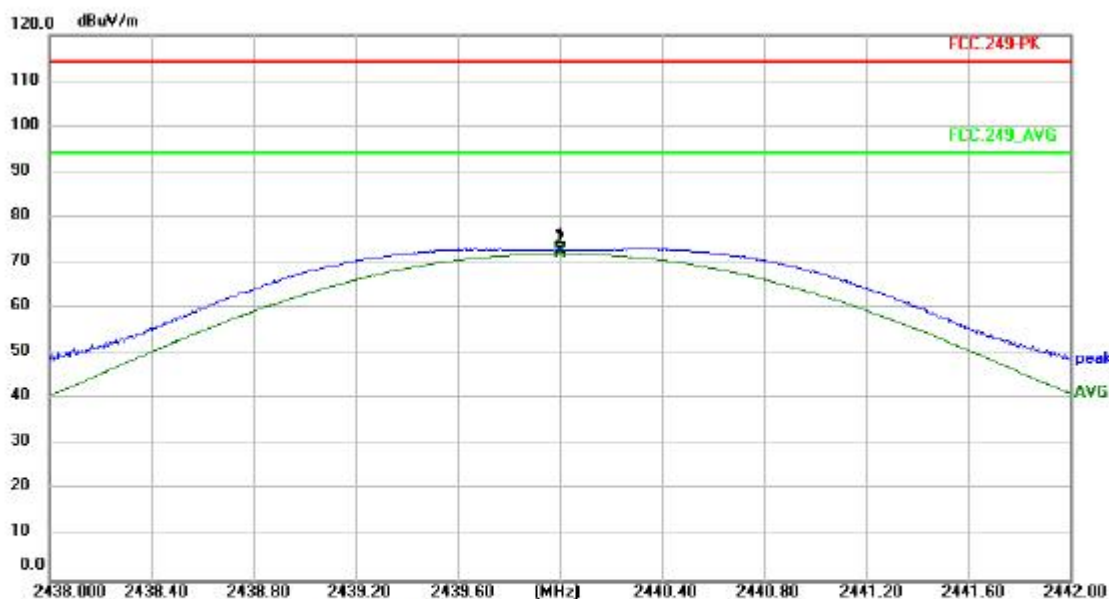


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2440.000	88.30	-4.35	83.95	114.00	-30.05	peak	
2	*	2440.000	87.66	-4.35	83.31	94.00	-10.69	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Vertical / CH: M

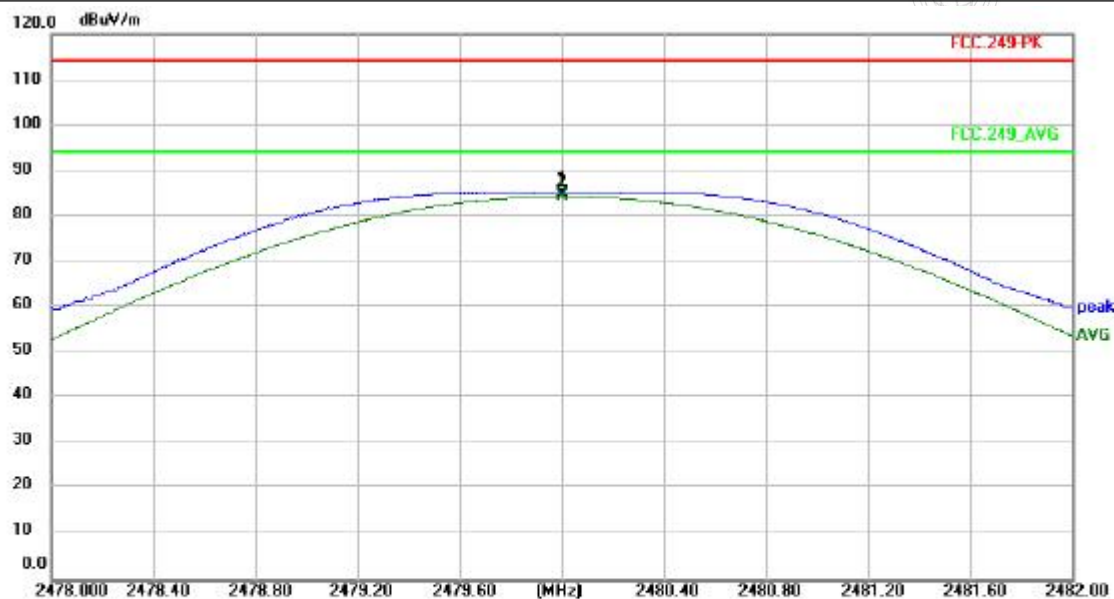


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2440.000	77.14	-4.35	72.79	114.00	-41.21	peak	
2	*	2440.000	76.41	-4.35	72.06	94.00	-21.94	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Horizontal / CH: H

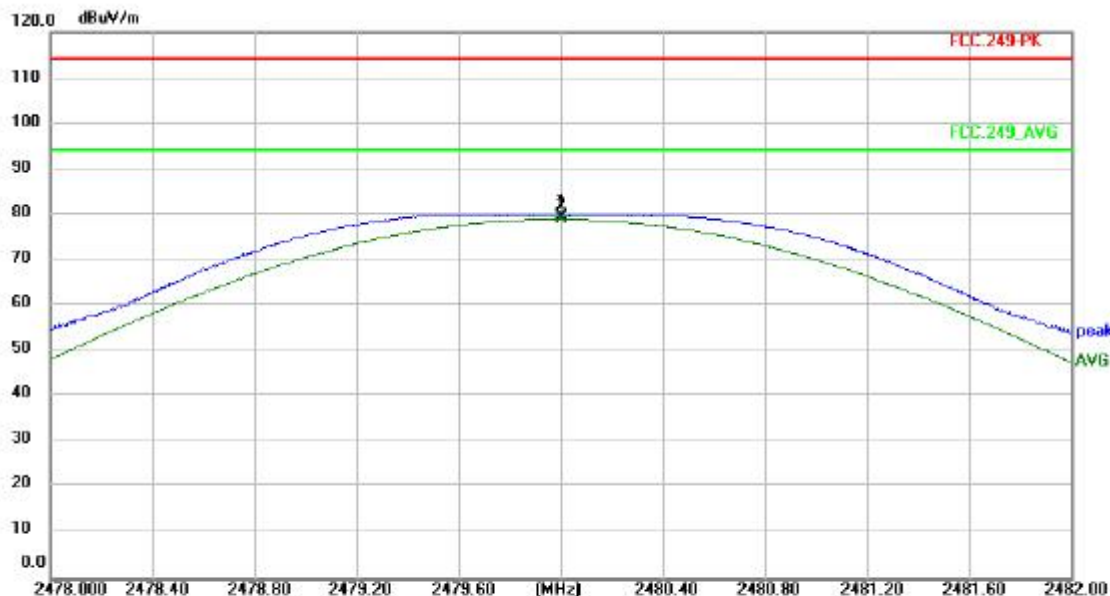


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2480.000	89.28	-4.24	85.04	114.00	-28.96	peak	
2	*	2480.000	88.65	-4.24	84.41	94.00	-9.59	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Vertical / CH: H



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV/m	dBuV/m	dB		
1		2480.000	83.90	-4.24	79.66	114.00	-34.34	peak	
2	*	2480.000	83.27	-4.24	79.03	94.00	-14.97	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

6.3 Band edge emissions (Radiated)

Test Requirement:	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.																										
Test Limit:	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation. <table><tr><th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr><tr><td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr><tr><td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr><tr><td>1.705-30.0</td><td>30</td><td>30</td></tr><tr><td>30-88</td><td>100 **</td><td>3</td></tr><tr><td>88-216</td><td>150 **</td><td>3</td></tr><tr><td>216-960</td><td>200 **</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>3</td></tr></table> ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.			Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	0.009-0.490	2400/F(kHz)	300	0.490-1.705	24000/F(kHz)	30	1.705-30.0	30	30	30-88	100 **	3	88-216	150 **	3	216-960	200 **	3	Above 960	500	3
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)																									
0.009-0.490	2400/F(kHz)	300																									
0.490-1.705	24000/F(kHz)	30																									
1.705-30.0	30	30																									
30-88	100 **	3																									
88-216	150 **	3																									
216-960	200 **	3																									
Above 960	500	3																									
Test Method:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024 section 6.6.4																										
Procedure:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024 section 6.6.4																										

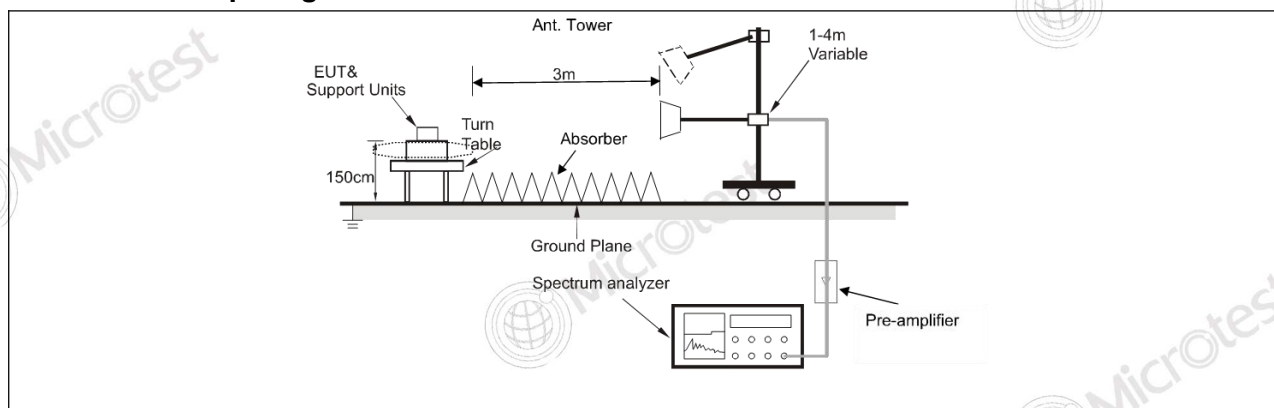
6.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	45 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				
Note:					
The amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported.					

TEST REPORT

Report No.: MTi260727019-0102E1

6.3.2 Test Setup Diagram:



TEST REPORT

Report No.: MTi260727019-0102E1

6.3.3 Test Data:

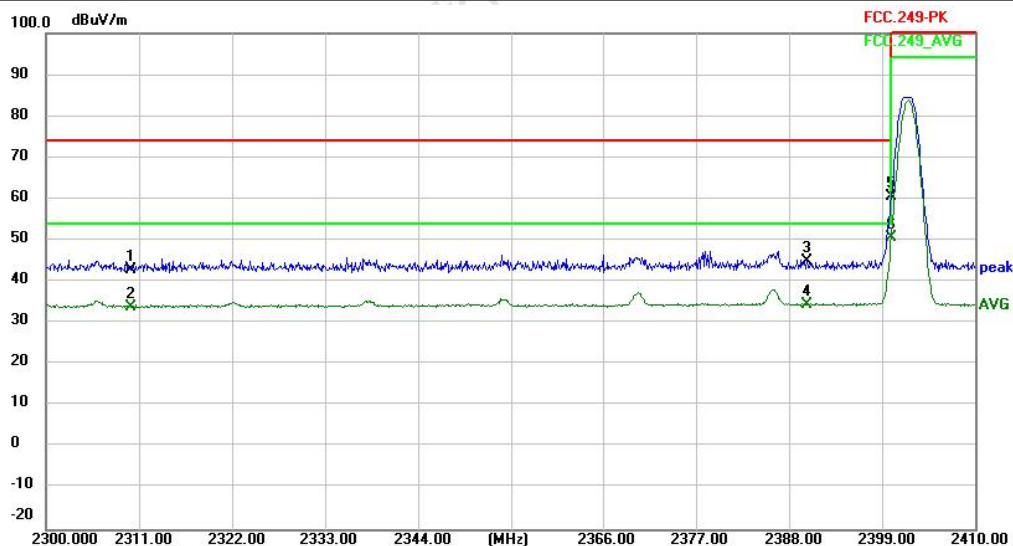
Calculation formula:

Measurement (dB μ V/m) = Reading Level (dB μ V) + Correct Factor (dB)

Correct Factor (dB) = Antenna Factor + Cable Loss - Preamplifier Factor

Over (dB) = Measurement (dB μ V/m) - Limit (dB μ V/m)

Mode1 / Polarization: Horizontal / CH: L

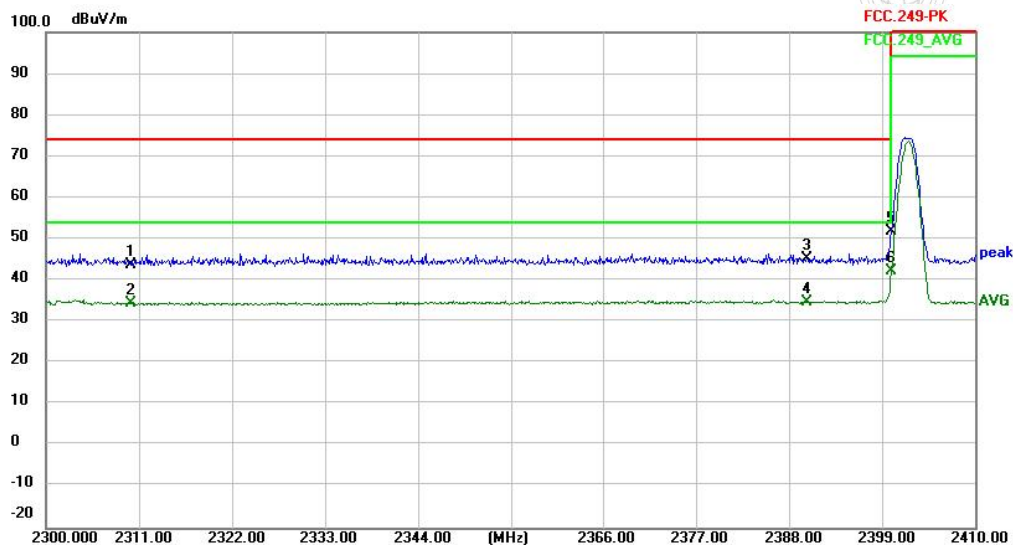


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	2310.000	47.37	-4.50	42.87	74.00	-31.13	peak	
2	2310.000	38.50	-4.50	34.00	54.00	-20.00	AVG	
3	2390.000	49.15	-4.31	44.84	74.00	-29.16	peak	
4	2390.000	38.87	-4.31	34.56	54.00	-19.44	AVG	
5	2400.000	64.77	-4.29	60.48	74.00	-13.52	peak	
6 *	2400.000	55.07	-4.29	50.78	54.00	-3.22	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Vertical / CH: L

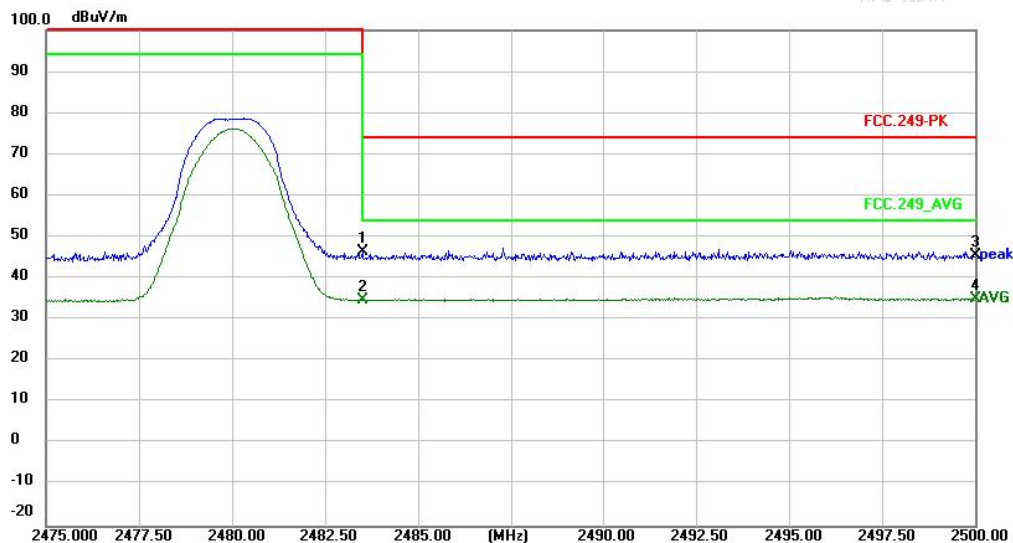


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2310.000	48.21	-4.50	43.71	74.00	-30.29	peak	
2		2310.000	38.84	-4.50	34.34	54.00	-19.66	AVG	
3		2390.000	49.60	-4.31	45.29	74.00	-28.71	peak	
4		2390.000	39.05	-4.31	34.74	54.00	-19.26	AVG	
5		2400.000	56.28	-4.29	51.99	74.00	-22.01	peak	
6	*	2400.000	46.41	-4.29	42.12	54.00	-11.88	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Horizontal / CH: H

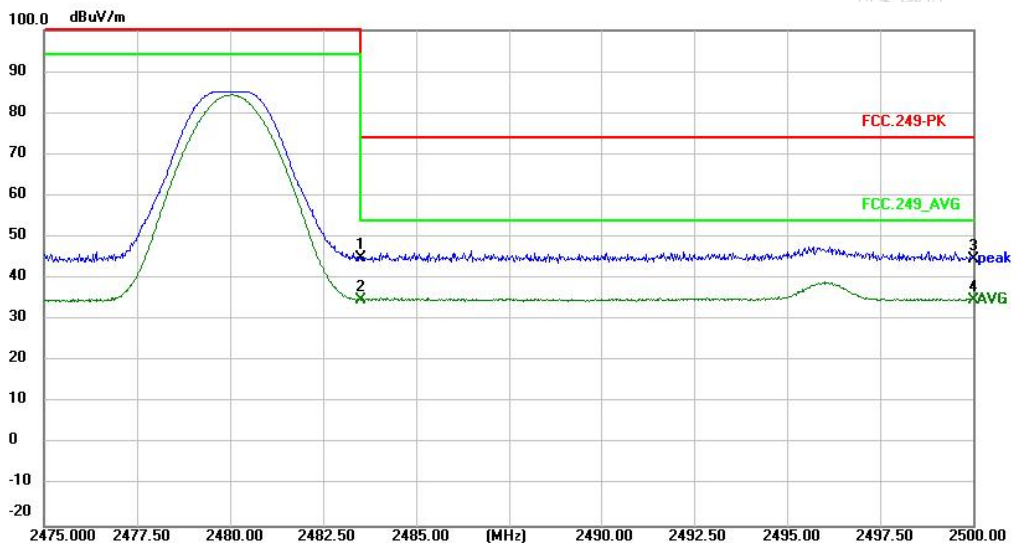


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit		Detector	Comment
		MHz	Level	Factor	ment	dBuV/m	dB		
			dBuV	dB	dBuV/m	dBuV/m	dB		
1		2483.500	50.76	-4.23	46.53	74.00	-27.47	peak	
2		2483.500	38.98	-4.23	34.75	54.00	-19.25	AVG	
3		2500.000	49.64	-4.15	45.49	74.00	-28.51	peak	
4	*	2500.000	39.16	-4.15	35.01	54.00	-18.99	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Vertical / CH: H



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit		Detector	Comment
		MHz	Level	Factor	ment	dBuV/m	dB		
			dBuV	dB	dBuV/m	dBuV/m	dB		
1		2483.500	49.18	-4.23	44.95	74.00	-29.05	peak	
2	*	2483.500	39.10	-4.23	34.87	54.00	-19.13	AVG	
3		2500.000	48.80	-4.15	44.65	74.00	-29.35	peak	
4		2500.000	38.93	-4.15	34.78	54.00	-19.22	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

6.4 Emissions in frequency bands (below 1GHz)

Test Requirement:	47 CFR 15.249(a) 47 CFR 15.249(d) 47 CFR 15.249(e)																																								
Test Limit:	Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following: <table border="1"> <thead> <tr> <th>Fundamental frequency</th><th>Field strength of fundamental (millivolts/meter)</th><th>Field strength of harmonics (microvolts/meter)</th></tr> </thead> <tbody> <tr> <td>902-928 MHz</td><td>50</td><td>500</td></tr> <tr> <td>2400-2483.5 MHz</td><td>50</td><td>500</td></tr> <tr> <td>5725-5875 MHz</td><td>50</td><td>500</td></tr> <tr> <td>24.0-24.25 GHz</td><td>250</td><td>2500</td></tr> </tbody> </table> Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation. <table border="1"> <thead> <tr> <th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr> </thead> <tbody> <tr> <td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr> <tr> <td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr> <tr> <td>1.705-30.0</td><td>30</td><td>30</td></tr> <tr> <td>30-88</td><td>100 **</td><td>3</td></tr> <tr> <td>88-216</td><td>150 **</td><td>3</td></tr> <tr> <td>216-960</td><td>200 **</td><td>3</td></tr> <tr> <td>Above 960</td><td>500</td><td>3</td></tr> </tbody> </table> ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.		Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)	902-928 MHz	50	500	2400-2483.5 MHz	50	500	5725-5875 MHz	50	500	24.0-24.25 GHz	250	2500	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	0.009-0.490	2400/F(kHz)	300	0.490-1.705	24000/F(kHz)	30	1.705-30.0	30	30	30-88	100 **	3	88-216	150 **	3	216-960	200 **	3	Above 960	500	3
Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)																																							
902-928 MHz	50	500																																							
2400-2483.5 MHz	50	500																																							
5725-5875 MHz	50	500																																							
24.0-24.25 GHz	250	2500																																							
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)																																							
0.009-0.490	2400/F(kHz)	300																																							
0.490-1.705	24000/F(kHz)	30																																							
1.705-30.0	30	30																																							
30-88	100 **	3																																							
88-216	150 **	3																																							
216-960	200 **	3																																							
Above 960	500	3																																							
Test Method:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024 section 6.5																																								

TEST REPORT

Report No.: MTi260727019-0102E1

Procedure:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024 section 6.5
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6.4.1 E.U.T. Operation:

Operating Environment:

Temperature:	23 °C	Humidity:	45 %	Atmospheric Pressure:	101 kPa
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Pre test mode: Mode1

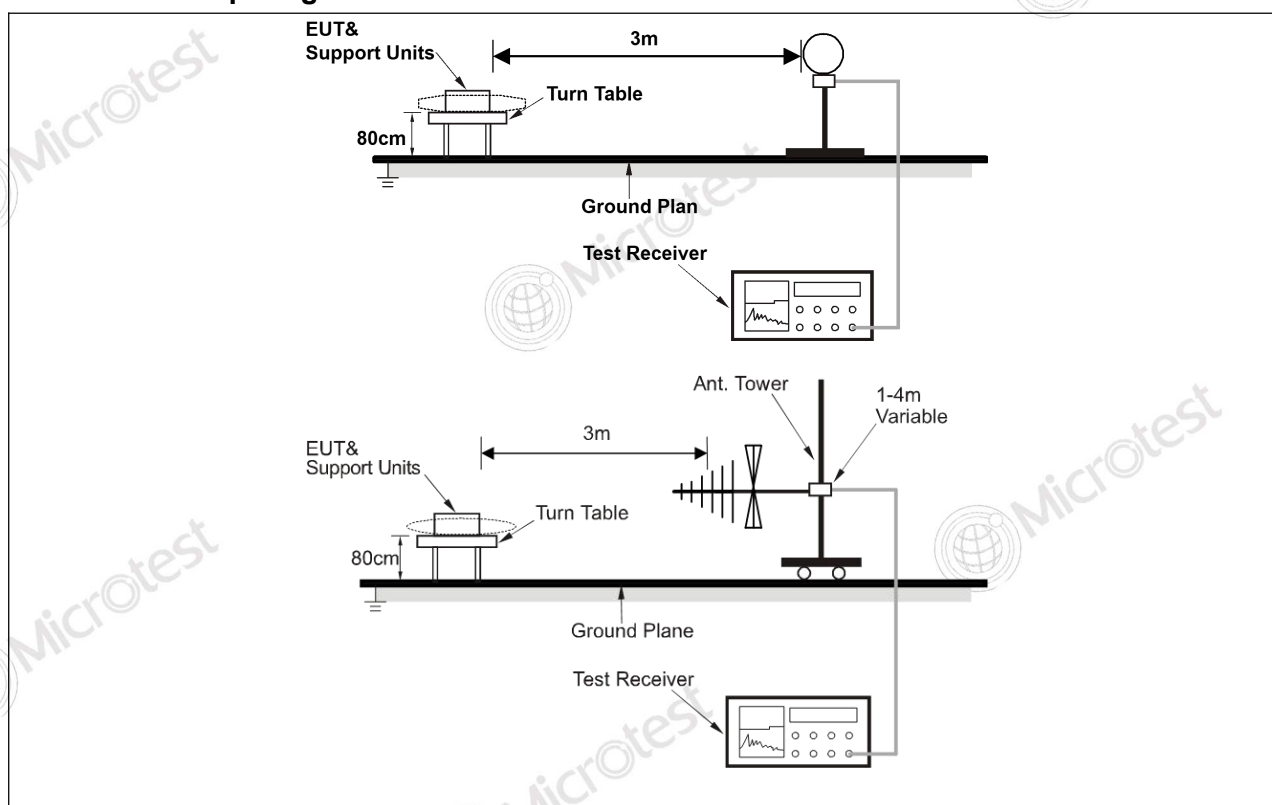
Final test mode: Mode1

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported.

All modes of operation of the EUT were investigated, and only the worst-case results are reported. There were no emissions found below 30MHz within 20dB of the limit.

6.4.2 Test Setup Diagram:



TEST REPORT

Report No.: MTi260727019-0102E1

6.4.3 Test Data:

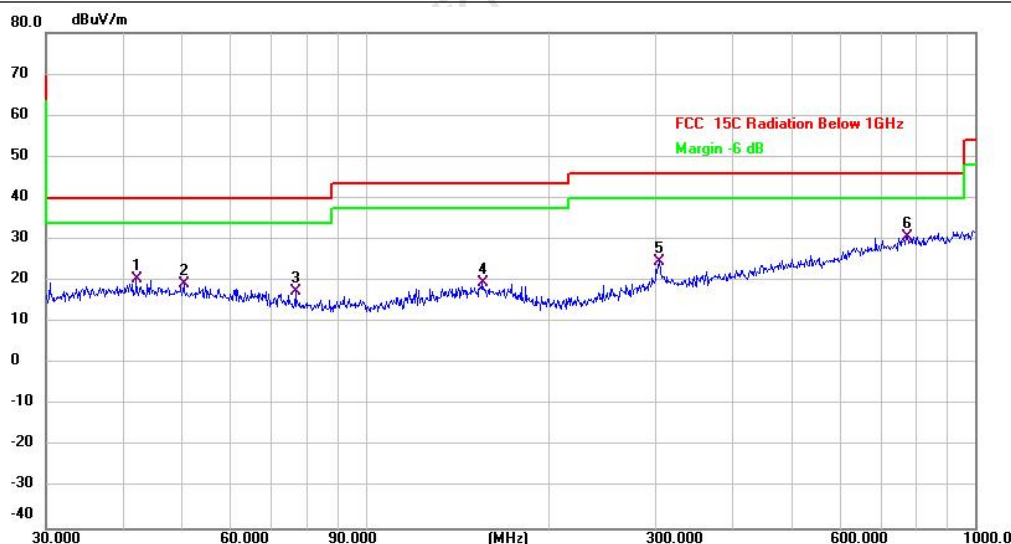
Calculation formula:

Measurement (dB μ V/m) = Reading Level (dB μ V) + Correct Factor (dB)

Correct Factor (dB) = Antenna Factor + Cable Loss - Preamplifier Factor

Over (dB) = Measurement (dB μ V/m) - Limit (dB μ V/m)

Mode1 / Polarization: Horizontal / CH: H

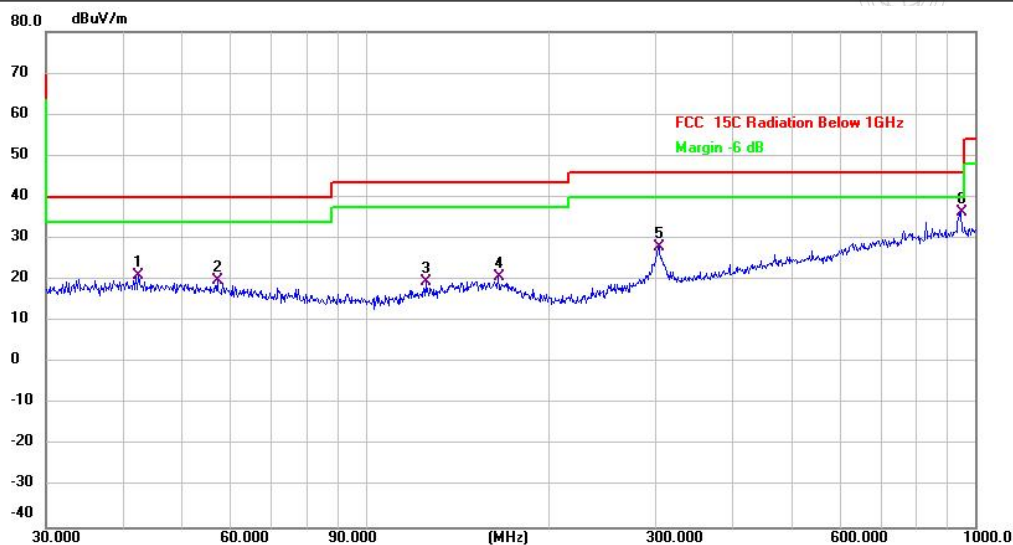


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	42.1542	27.66	-7.21	20.45	40.00	-19.55	QP	
2	50.4089	26.89	-7.63	19.26	40.00	-20.74	QP	
3	76.7808	28.12	-10.65	17.47	40.00	-22.53	QP	
4	155.3644	25.74	-6.22	19.52	43.50	-23.98	QP	
5	304.6099	30.37	-5.57	24.80	46.00	-21.20	QP	
6 *	774.1584	27.08	3.69	30.77	46.00	-15.23	QP	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Vertical / CH: H



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		42.4508	28.28	-7.24	21.04	40.00	-18.96	QP	
2		57.1914	27.84	-8.12	19.72	40.00	-20.28	QP	
3		125.4457	27.82	-8.24	19.58	43.50	-23.92	QP	
4		164.9075	27.56	-6.70	20.86	43.50	-22.64	QP	
5		303.5437	33.41	-5.60	27.81	46.00	-18.19	QP	
6	*	948.7610	30.47	5.87	36.34	46.00	-9.66	QP	

TEST REPORT

Report No.: MTi260727019-0102E1

6.5 Emissions in frequency bands (above 1GHz)

Test Requirement:	47 CFR 15.249(a) 47 CFR 15.249(d) 47 CFR 15.249(e)																																								
Test Limit:	Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following: <table border="1"> <thead> <tr> <th>Fundamental frequency</th><th>Field strength of fundamental (millivolts/meter)</th><th>Field strength of harmonics (microvolts/meter)</th></tr> </thead> <tbody> <tr> <td>902-928 MHz</td><td>50</td><td>500</td></tr> <tr> <td>2400-2483.5 MHz</td><td>50</td><td>500</td></tr> <tr> <td>5725-5875 MHz</td><td>50</td><td>500</td></tr> <tr> <td>24.0-24.25 GHz</td><td>250</td><td>2500</td></tr> </tbody> </table> Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation. <table border="1"> <thead> <tr> <th>Frequency (MHz)</th><th>Field strength (microvolts/meter)</th><th>Measurement distance (meters)</th></tr> </thead> <tbody> <tr> <td>0.009-0.490</td><td>2400/F(kHz)</td><td>300</td></tr> <tr> <td>0.490-1.705</td><td>24000/F(kHz)</td><td>30</td></tr> <tr> <td>1.705-30.0</td><td>30</td><td>30</td></tr> <tr> <td>30-88</td><td>100 **</td><td>3</td></tr> <tr> <td>88-216</td><td>150 **</td><td>3</td></tr> <tr> <td>216-960</td><td>200 **</td><td>3</td></tr> <tr> <td>Above 960</td><td>500</td><td>3</td></tr> </tbody> </table> ** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. As shown in § 15.35(b), for frequencies above 1000 MHz, the field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak field strength shall not exceed 2500 millivolts/meter at 3 meters along the antenna azimuth.		Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)	902-928 MHz	50	500	2400-2483.5 MHz	50	500	5725-5875 MHz	50	500	24.0-24.25 GHz	250	2500	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	0.009-0.490	2400/F(kHz)	300	0.490-1.705	24000/F(kHz)	30	1.705-30.0	30	30	30-88	100 **	3	88-216	150 **	3	216-960	200 **	3	Above 960	500	3
Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)																																							
902-928 MHz	50	500																																							
2400-2483.5 MHz	50	500																																							
5725-5875 MHz	50	500																																							
24.0-24.25 GHz	250	2500																																							
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)																																							
0.009-0.490	2400/F(kHz)	300																																							
0.490-1.705	24000/F(kHz)	30																																							
1.705-30.0	30	30																																							
30-88	100 **	3																																							
88-216	150 **	3																																							
216-960	200 **	3																																							
Above 960	500	3																																							
Test Method:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024 section 6.6																																								

TEST REPORT

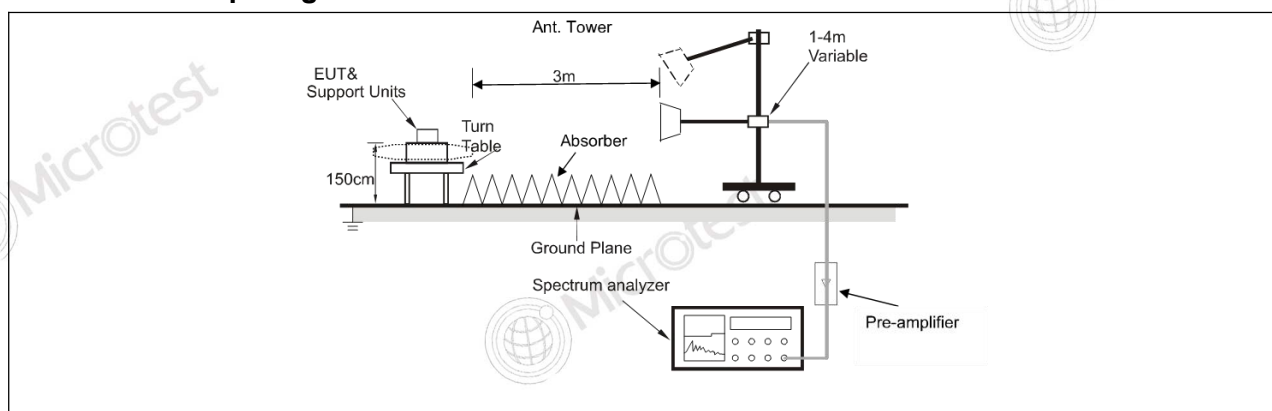
Report No.: MTi260727019-0102E1

Procedure:	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024+Errata to C63.10a-2024 section 6.6
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6.5.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23 °C	Humidity:	45 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				
Note: Test frequency are from 1GHz to 25GHz, the amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported. All modes of operation of the EUT were investigated, and only the worst-case results are reported.					

6.5.2 Test Setup Diagram:



TEST REPORT

Report No.: MTi260727019-0102E1

6.5.3 Test Data:

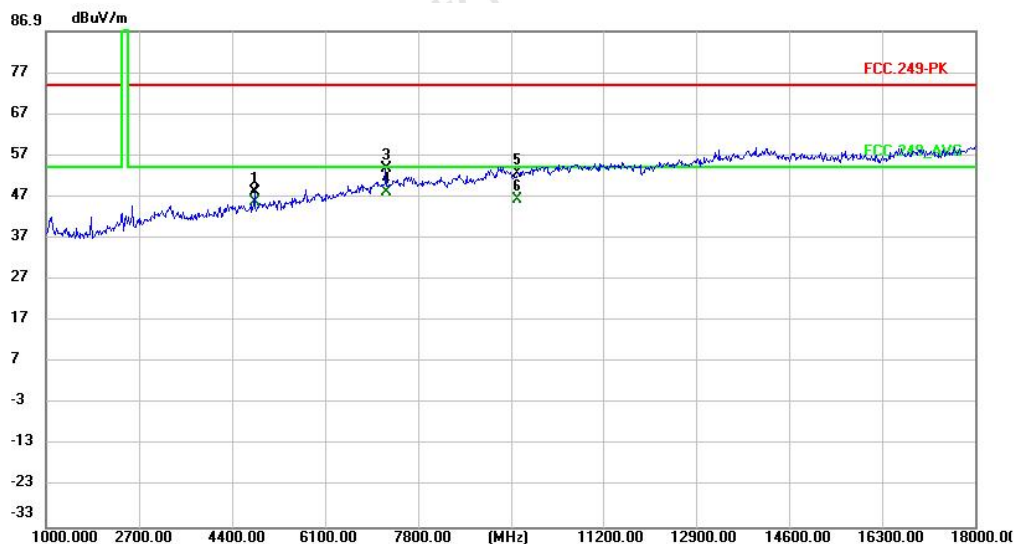
Calculation formula:

Measurement (dB μ V/m) = Reading Level (dB μ V) + Correct Factor (dB)

Correct Factor (dB) = Antenna Factor + Cable Loss - Preamplifier Factor

Over (dB) = Measurement (dB μ V/m) - Limit (dB μ V/m)

Mode1 / Polarization: Horizontal / CH: L

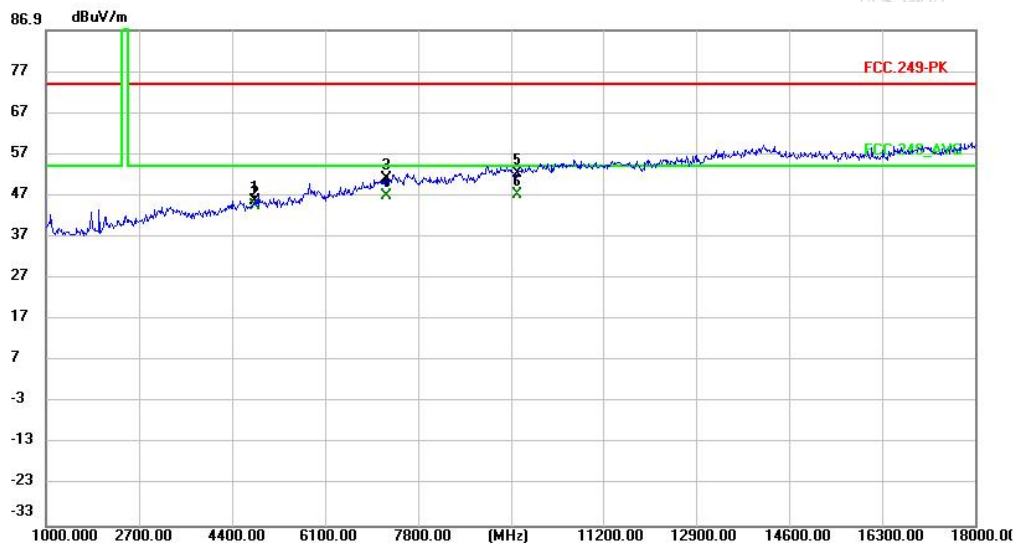


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	4804.000	46.30	1.78	48.08	74.00	-25.92	peak	
2	4804.000	43.80	1.78	45.58	54.00	-8.42	AVG	
3	7206.000	46.20	7.57	53.77	74.00	-20.23	peak	
4 *	7206.000	40.43	7.57	48.00	54.00	-6.00	AVG	
5	9608.000	43.69	8.79	52.48	74.00	-21.52	peak	
6	9608.000	37.35	8.79	46.14	54.00	-7.86	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Vertical / CH: L

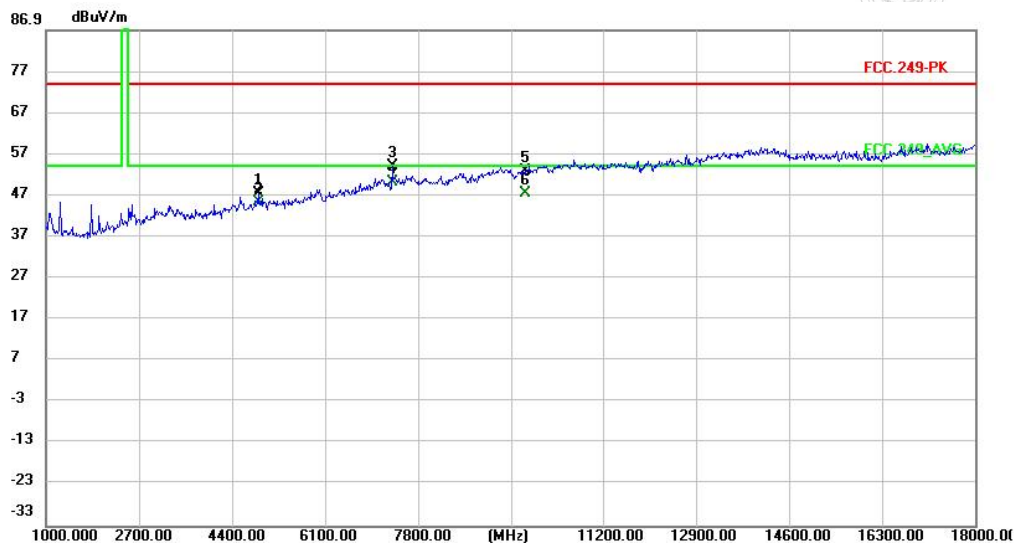


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		Comment
		MHz	Level	Factor	ment				
			dBuV	dB	dBuV/m	dBuV/m	dB	Detector	
1		4804.000	43.92	1.78	45.70	74.00	-28.30	peak	
2		4804.000	42.80	1.78	44.58	54.00	-9.42	AVG	
3		7206.000	43.44	7.57	51.01	74.00	-22.99	peak	
4		7206.000	39.20	7.57	46.77	54.00	-7.23	AVG	
5		9608.000	43.51	8.79	52.30	74.00	-21.70	peak	
6	*	9608.000	38.25	8.79	47.04	54.00	-6.96	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Horizontal / CH: M

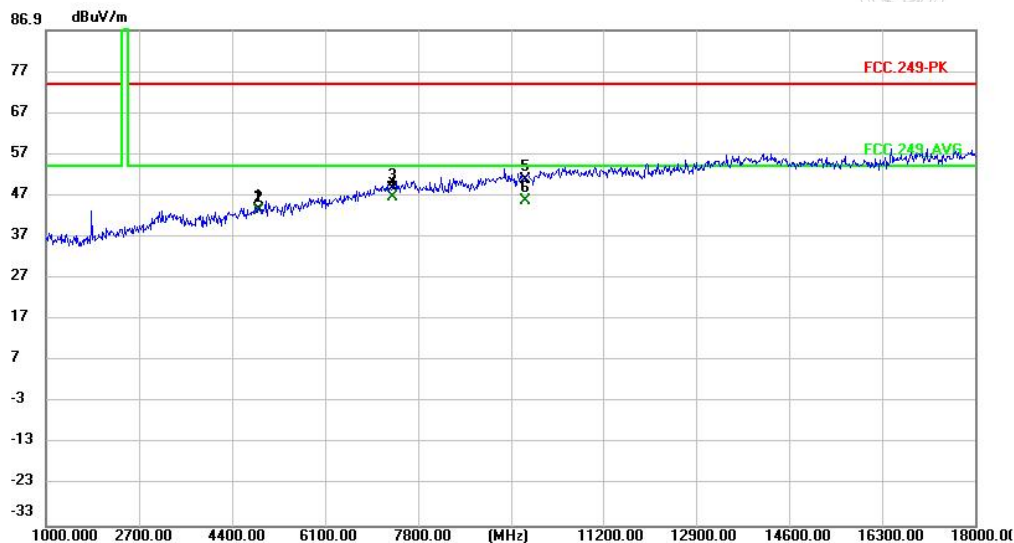


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		Detector	Comment
		MHz	Level	Factor	ment					
			dBuV	dB	dBuV/m	dBuV/m	dB			
1		4880.000	45.26	2.09	47.35	74.00	-26.65		peak	
2		4880.000	43.27	2.09	45.36	54.00	-8.64		AVG	
3		7320.000	46.24	7.90	54.14	74.00	-19.86		peak	
4	*	7320.000	42.28	7.90	50.18	54.00	-3.82		AVG	
5		9760.000	43.63	9.36	52.99	74.00	-21.01		peak	
6		9760.000	38.22	9.36	47.58	54.00	-6.42		AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Vertical / CH: M

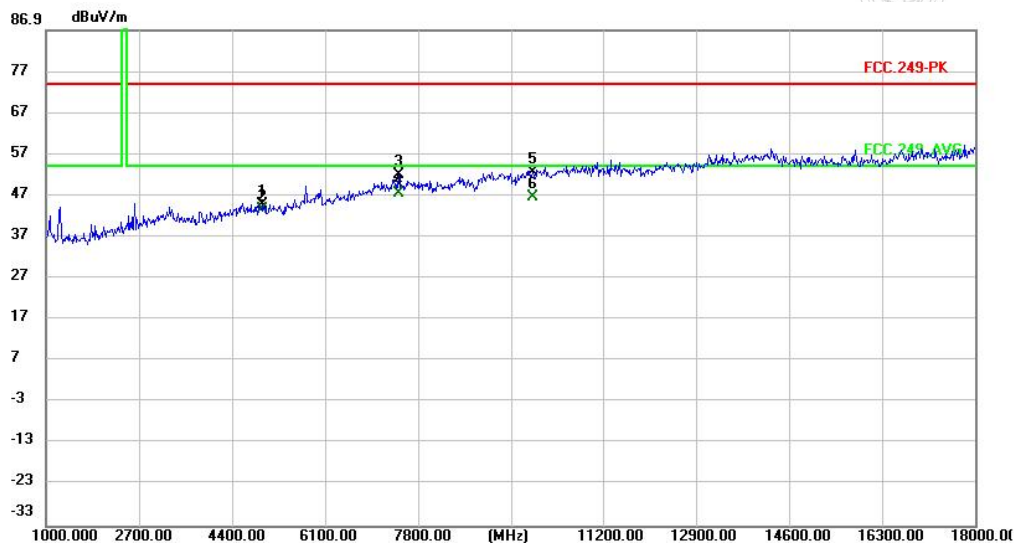


No.	Mk.	Freq.	Reading	Correct	Measure-	Limit		Detector	Comment
		MHz	Level	Factor	ment	dBuV/m	dB		
			dBuV	dB	dBuV/m	dBuV/m	dB		
1		4880.000	41.51	2.09	43.60	74.00	-30.40	peak	
2		4880.000	41.06	2.09	43.15	54.00	-10.85	AVG	
3		7320.000	40.74	7.90	48.64	74.00	-25.36	peak	
4	*	7320.000	38.67	7.90	46.57	54.00	-7.43	AVG	
5		9760.000	41.44	9.36	50.80	74.00	-23.20	peak	
6		9760.000	36.19	9.36	45.55	54.00	-8.45	AVG	

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Horizontal / CH: H

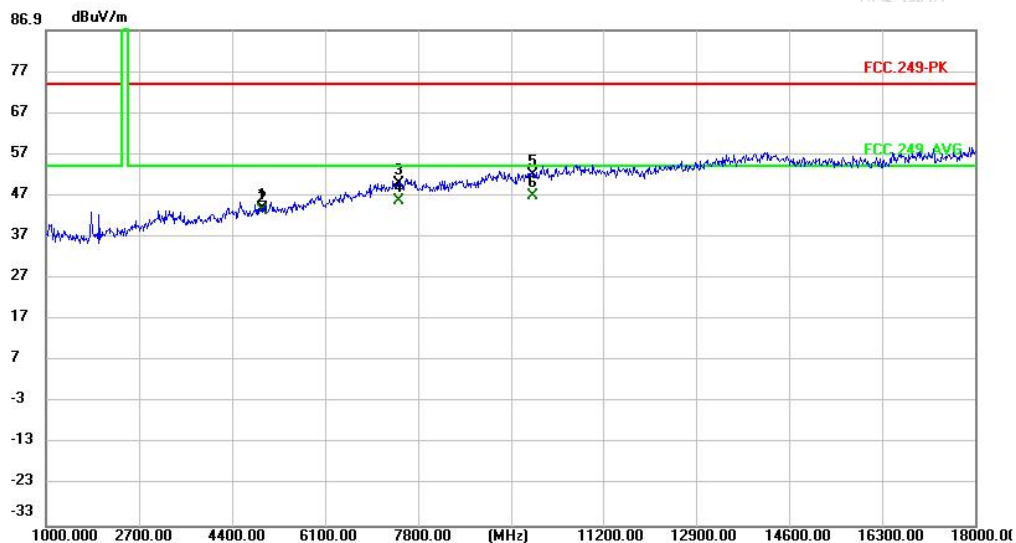


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector Comment
1		4960.000	42.17	2.45	44.62	74.00	-29.38	peak
2		4960.000	41.13	2.45	43.58	54.00	-10.42	AVG
3		7440.000	44.08	7.79	51.87	74.00	-22.13	peak
4	*	7440.000	39.77	7.79	47.56	54.00	-6.44	AVG
5		9920.000	43.28	9.17	52.45	74.00	-21.55	peak
6		9920.000	37.30	9.17	46.47	54.00	-7.53	AVG

TEST REPORT

Report No.: MTi260727019-0102E1

Mode1 / Polarization: Vertical / CH: H



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	
		MHz	Level	Factor	ment			
			dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		4960.000	41.42	2.45	43.87	74.00	-30.13	peak
2		4960.000	40.70	2.45	43.15	54.00	-10.85	AVG
3		7440.000	42.04	7.79	49.83	74.00	-24.17	peak
4		7440.000	37.79	7.79	45.58	54.00	-8.42	AVG
5		9920.000	42.91	9.17	52.08	74.00	-21.92	peak
6	*	9920.000	37.56	9.17	46.73	54.00	-7.27	AVG

TEST REPORT

Report No.: MTi260727019-0102E1

Photographs of the test setup

Refer to Appendix - Test Setup Photos

TEST REPORT

Report No.: MTi260727019-0102E1

Photographs of the EUT

Refer to Appendix - EUT Photos

TEST REPORT

Report No.: MTi260727019-0102E1

Statement

1. This report is invalid without the seal and signature of the laboratory.
2. The test results of this report are only responsible for the samples submitted. Client shall be responsible for representativeness of the sample and authenticity of the material.
3. The report shall not be partially reproduced without the written consent of the Laboratory.
4. This report is invalid if transferred, altered or tampered with in any form without authorization.
5. The observations or tests with special mark fall outside the scope of accreditation, and are only used for purpose of commission, research, training, internal quality control etc.
6. Any objection to this report shall be submitted to the laboratory within 15 days from the date of receipt of the report.

***** END OF REPORT *****