

# Test Report

**Report No.:** MTi240419009-04E1

**Date of issue:** 2024-07-01

**Applicant:** Shenzhen Gudsen Technology Co., Ltd.

**Product name:** Vision GS Steering Wheel

**Model(s):** Vision GS, W06, W14

**FCC ID:** 2AMJR-W08VGS

Shenzhen Microtest Co., Ltd.

<http://www.mtitest.cn>

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Test Result Certification	
<b>Applicant:</b>	Shenzhen Gudsen Technology Co., Ltd.
<b>Address:</b>	Room 1903-1904, Building 3, Nanshan Zhiyuan Chongwen Park, No. 3370 Liuxian Avenue, Nanshan District, Shenzhen, China
<b>Manufacturer:</b>	Shenzhen Gudsen Technology Co., Ltd.
<b>Address:</b>	Room 1903-1904, Building 3, Nanshan Zhiyuan Chongwen Park, No. 3370 Liuxian Avenue, Nanshan District, Shenzhen, China
<b>Product description</b>	
<b>Product name:</b>	Vision GS Steering Wheel
<b>Trademark:</b>	MOZA
<b>Model name:</b>	Vision GS
<b>Series Model(s):</b>	W06, W14
<b>Standards:</b>	47 CFR Part 15.249
<b>Test Method:</b>	ANSI C63.10-2013
<b>Date of Test</b>	
<b>Date of test:</b>	2024-05-14 to 2024-06-29
<b>Test result:</b>	Pass

<b>Test Engineer</b>	:	<i>Letter. Lan.</i>
		(Letter Lan)
<b>Reviewed By</b>	:	<i>David. Lee</i>
		(David Lee)
<b>Approved By</b>	:	<i>Leon Chen</i>
		(Leon Chen)

## 1 General Description

### 1.1 Description of the EUT

Product name:	Vision GS Steering Wheel
Model name:	Vision GS
Series Model(s):	W06, W14
Model difference:	All the models are the same circuit and module, except the model name and color.
Electrical rating:	Input: DC 12V/0.3A, 3.6W
Accessories:	N/A
Hardware version:	AS23-BA0-HW BM-RS-V14B
Software version:	V1.2.1.22
Test sample(s) number:	MTi240419009-04S1001
<b>RF specification</b>	
Operating frequency range:	2406 ~ 2480MHz
Channel number:	75
Modulation type:	GFSK
Antenna(s) type:	PCB
Antenna(s) gain:	2dBi

### 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	2406	20	2426	40	2446	60	2466
1	2407	21	2427	41	2447	61	2467
2	2408	22	2428	42	2448	62	2468
3	2409	23	2429	43	2449	63	2469
4	2410	24	2430	44	2450	64	2470
5	2411	25	2431	45	2451	65	2471
6	2412	26	2432	46	2452	66	2472
7	2413	27	2433	47	2453	67	2473
8	2414	28	2434	48	2454	68	2474
9	2415	29	2435	49	2455	69	2475
10	2416	30	2436	50	2456	70	2476
11	2417	31	2437	51	2457	71	2477

12	2418	32	2438	52	2458	72	2478
13	2419	33	2439	53	2459	73	2479
14	2420	34	2440	54	2460	74	2480
15	2421	35	2441	55	2461	-	-
16	2422	36	2442	56	2462	-	-
17	2423	37	2443	57	2463	-	-
18	2424	38	2444	58	2464	-	-
19	2425	39	2445	59	2465	-	-

### Test Channel List

#### Operation Band: 2.4G

Bandwidth (MHz)	Lowest Channel (LCH) (MHz)	Middle Channel (MCH) (MHz)	Highest Channel (HCH) (MHz)
1	2406	2445	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: RS21 Wireless tool V1.0.1

For power setting, refer to below table.

Mode	2406MHz	2445MHz	2480MHz
GFSK	0	00	

### 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

Support equipment list			
Description	Model	Serial No.	Manufacturer
Base	/	/	Shenzhen Gudsen Technology Co., Ltd.
adapter	DYS6480-3601000P	/	Shenzhen Gudsen Technology Co., Ltd.
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.

## 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

Note: The device is a DC power supply and does not apply to conducted emissions.



### 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

#### 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	2024-03-20	2025-03-19
2	ESG Series Analog Ssignal Generator	Agilent	E4421B	GB40051240	2024-03-21	2025-03-20
3	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2024-03-21	2025-03-20
4	Synthesized Sweeper	Agilent	83752A	3610A01957	2024-03-21	2025-03-20
5	MXA Signal Analyzer	Agilent	N9020A	MY50143483	2024-03-21	2025-03-20
6	RF Control Unit	Tonscend	JS0806-1	19D8060152	2024-03-21	2025-03-20
7	Band Reject Filter Group	Tonscend	JS0806-F	19D8060160	2024-03-21	2025-03-20
8	ESG Vector Signal Generator	Agilent	N5182A	MY50143762	2024-03-20	2025-03-19
9	DC Power Supply	Agilent	E3632A	MY40027695	2024-03-21	2025-03-20
Field strength of fundamental Band edge emissions (Radiated) Emissions in frequency bands (above 1GHz)						
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2024-03-20	2025-03-19
2	Double Ridged Broadband Horn Antenna	schwarabeck	BBHA 9120 D	2278	2023-06-17	2025-06-16
3	Amplifier	Agilent	8449B	3008A01120	2024-03-20	2025-03-19
4	MXA signal analyzer	Agilent	N9020A	MY54440859	2024-03-21	2025-03-20
5	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2024-03-21	2025-03-20
6	Horn antenna	Schwarzbeck	BBHA 9170	00987	2023-06-17	2025-06-16
7	Pre-amplifier	Space-Dtronics	EWLAN1840 G	210405001	2024-03-21	2025-03-20
Emissions in frequency bands (below 1GHz)						
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101166	2024-03-20	2025-03-19
2	TRILOG Broadband Antenna	schwarabeck	VULB 9163	9163-1338	2023-06-11	2025-06-10
3	Active Loop Antenna	Schwarzbeck	FMZB 1519 B	00066	2024-03-23	2025-03-22
4	Amplifier	Hewlett-Packard	8447F	3113A06184	2024-03-20	2025-03-19

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

## 6 Radio Spectrum Matter Test Results (RF)

### 6.1 Occupied Bandwidth

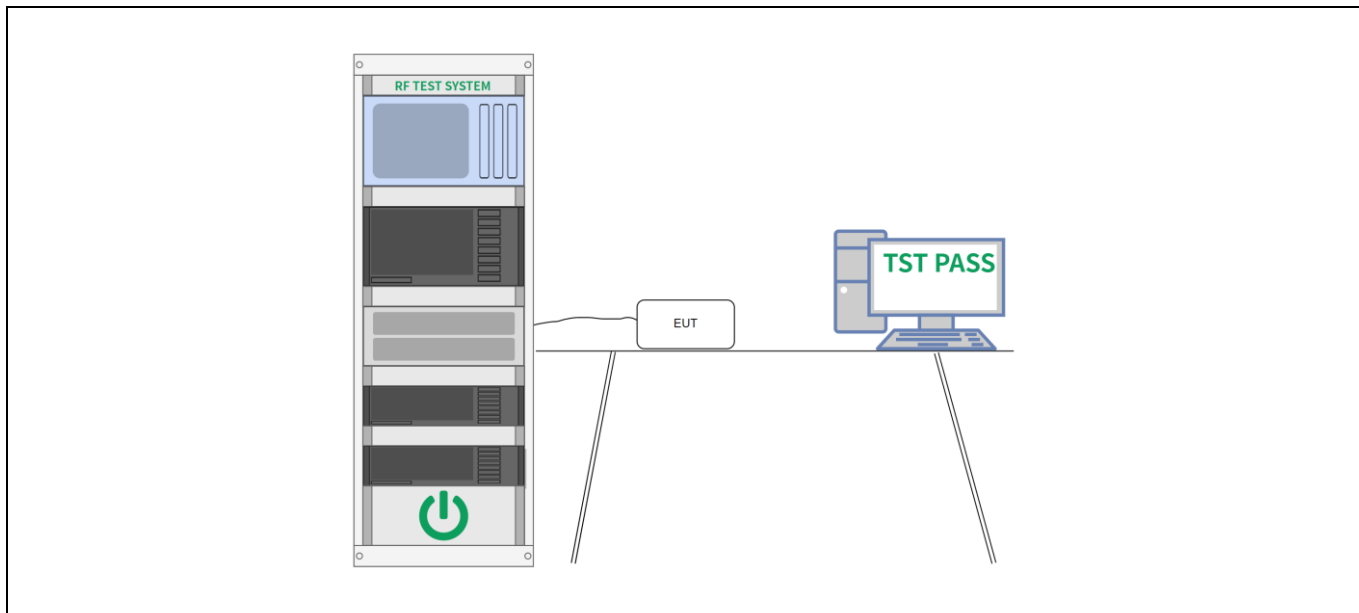
Test Requirement:	47 CFR 15.215(c)
Test Limit:	Refer to 47 CFR 15.215(c), intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the 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 C63.10-2013, section 6.9.2
Procedure:	<p>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.</p> <p>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.</p> <p>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 <math>[10 \log (OBW/RBW)]</math> below the reference level. Specific guidance is given in 4.1.5.2.</p> <p>d) Steps a) through c) might require iteration to adjust within the specified tolerances.</p> <p>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.</p> <p>f) Set detection mode to peak and trace mode to max hold.</p> <p>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).</p> <p>h) Determine the “-xx dB down amplitude” using <math>[(\text{reference value}) - xx]</math>. Alternatively, this calculation may be made by using the marker-delta function of the instrument.</p> <p>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).</p> <p>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</p>

	<p>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 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.</p> <p>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).</p>
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#### 6.1.1 E.U.T. Operation:

Operating Environment:					
Temperature:	24 °C	Humidity:	54 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

#### 6.1.2 Test Setup Diagram:

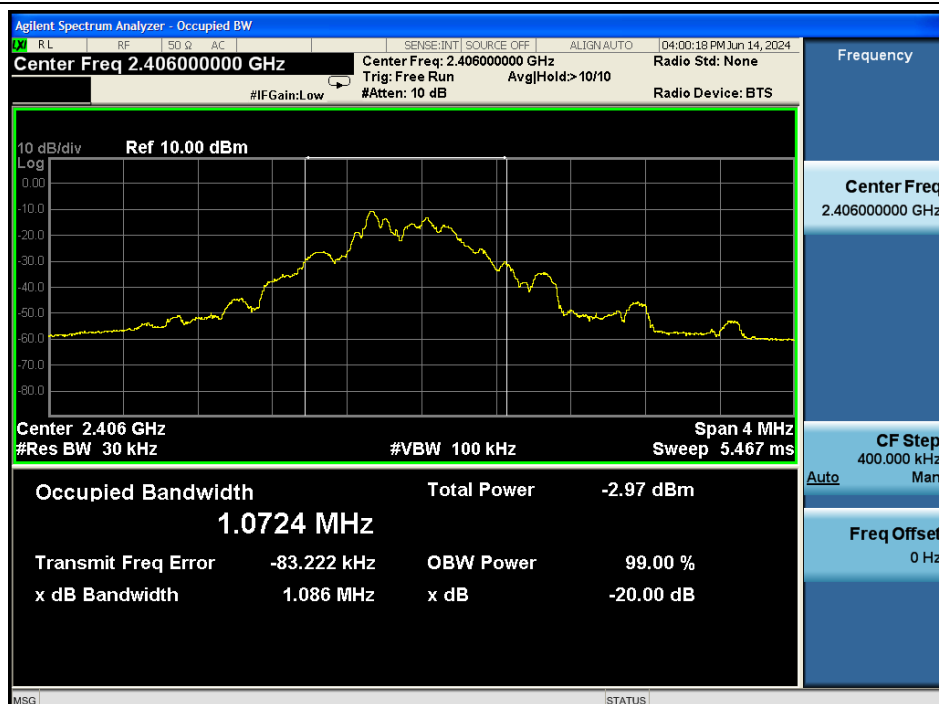


#### 6.1.3 Test Data:

Test Mode	Antenna	Frequency [MHz]	20db EBW [MHz]
Mode1	Ant1	2406	1.086
Mode1	Ant1	2445	1.000
Mode 1	Ant1	2480	0.998

## Test plots

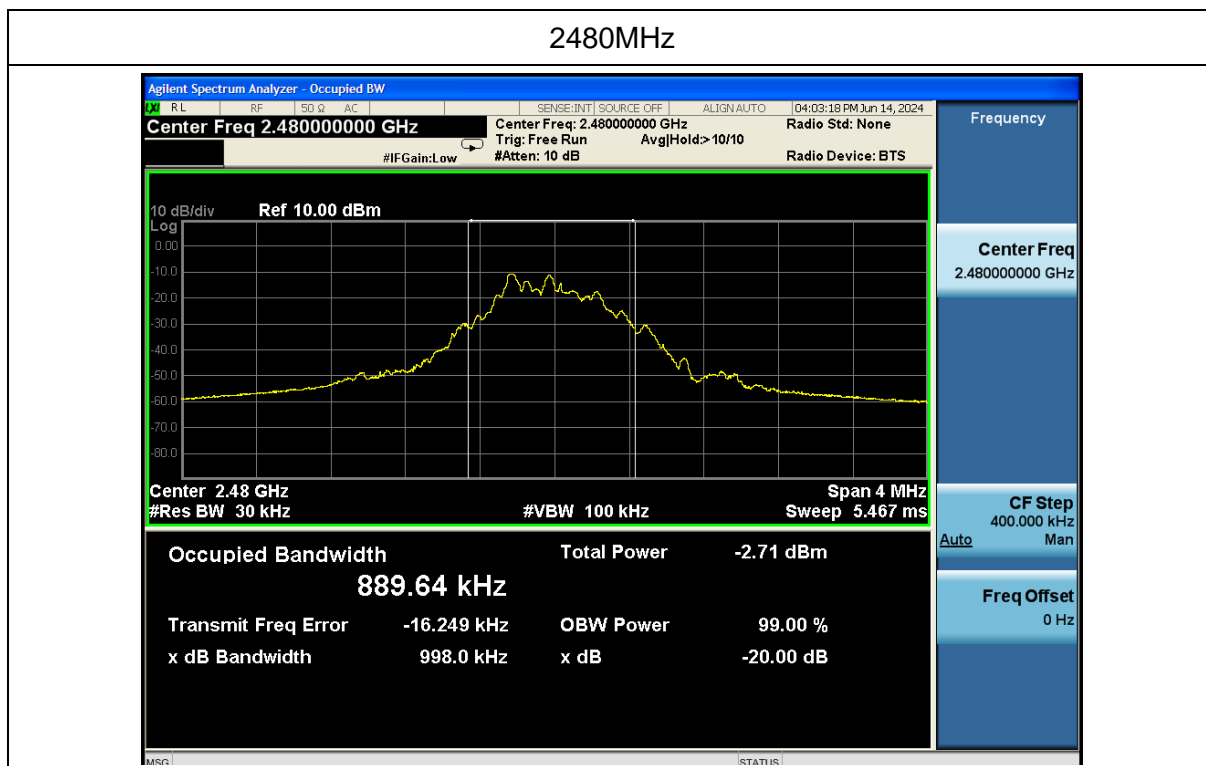
2406MHz



2445MHz



2480MHz



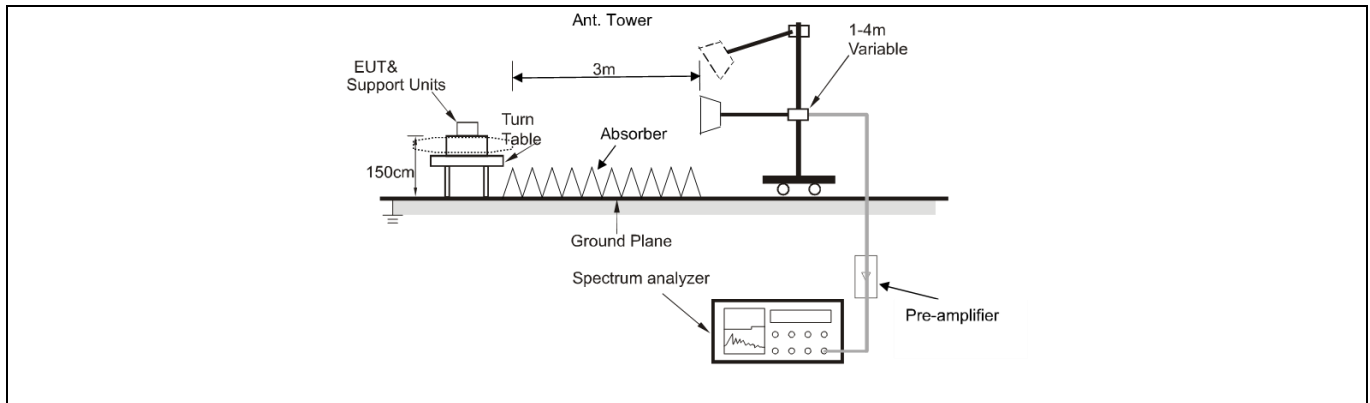
## 6.2 Field strength of fundamental

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 C63.10-2013 section 6.6		
Procedure:	ANSI C63.10-2013 section 6.6		

### 6.2.1 E.U.T. Operation:

Operating Environment:					
Temperature:	31.7 °C	Humidity:	56.1 %	Atmospheric Pressure:	100 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

### 6.2.2 Test Setup Diagram:



**6.2.3 Test Data:**

Mode1 / Polarization: Horizontal / CH: L							
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB Detector
1		2406.000	86.86	-12.47	74.39	114.00	-39.61 peak
2	*	2406.000	86.30	-12.47	73.83	94.00	-20.17 AVG



Mode1 / Polarization: Vertical / CH: L

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB Detector
1		2406.000	87.64	-12.47	75.17	114.00	-38.83 peak
2	*	2406.000	87.05	-12.47	74.58	94.00	-19.42 AVG

Mode1 / Polarization: Horizontal / CH: M

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		2445.000	88.08	-12.65	75.43	114.00	-38.57	peak
2	*	2445.000	87.48	-12.65	74.83	94.00	-19.17	AVG

Mode1 / Polarization: Vertical / CH: M

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		2445.000	89.57	-12.65	76.92	114.00	-37.08	peak
2	*	2445.000	89.01	-12.65	76.36	94.00	-17.64	AVG

Mode1 / Polarization: Horizontal / CH: H

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		2480.000	89.85	-12.51	77.34	114.00	-36.66	peak
2	*	2480.000	89.34	-12.51	76.83	94.00	-17.17	AVG

Mode1 / Polarization: Vertical / CH: H

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		2480.000	91.35	-12.51	78.84	114.00	-35.16	peak
2	*	2480.000	90.79	-12.51	78.28	94.00	-15.72	AVG

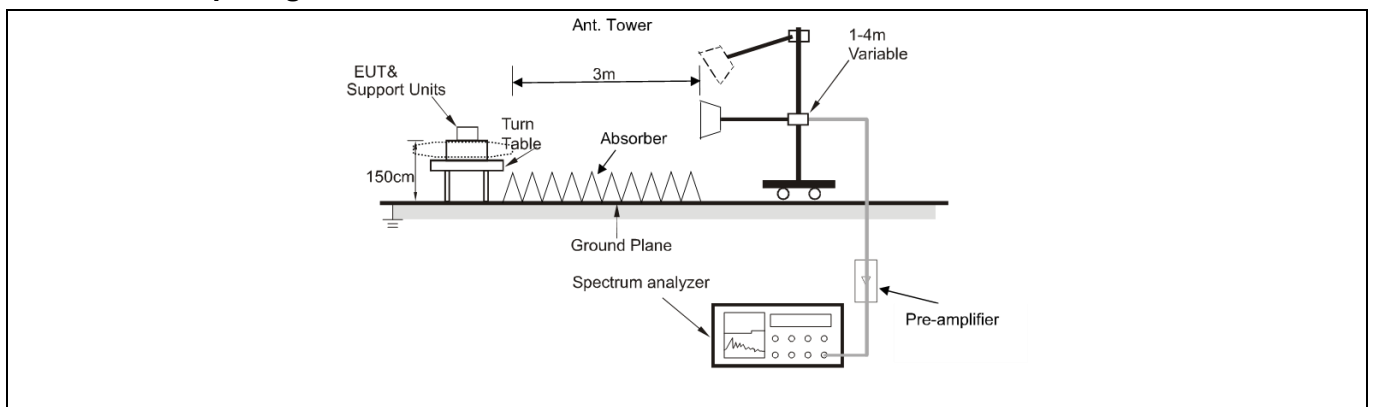
### 6.3 Band edge emissions (Radiated)

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:	<div>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.</div> <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> <div>** 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.</div>			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 C63.10-2013 section 6.6.4																										
Procedure:	ANSI C63.10-2013 section 6.6.4																										

#### 6.3.1 E.U.T. Operation:

Operating Environment:					
Temperature:	31.7 °C	Humidity:	56.1 %	Atmospheric Pressure:	100 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

#### 6.3.2 Test Setup Diagram:



**6.3.3 Test Data:**

Mode1 / Polarization: Horizontal / CH: L

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		2310.000	53.31	-2.66	50.65	74.00	-23.35	peak
2		2310.000	43.23	-2.66	40.57	54.00	-13.43	AVG
3		2390.000	55.33	-2.03	53.30	74.00	-20.70	peak
4		2390.000	42.54	-2.03	40.51	54.00	-13.49	AVG
5		2400.000	61.67	-1.95	59.72	74.00	-14.28	peak
6	*	2400.000	43.03	-1.95	41.08	54.00	-12.92	AVG

Mode1 / Polarization: Vertical / CH: L

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		2310.000	52.94	-12.92	40.02	74.00	-33.98	peak
2		2310.000	42.64	-12.92	29.72	54.00	-24.28	AVG
3		2390.000	54.06	-12.49	41.57	74.00	-32.43	peak
4		2390.000	42.68	-12.49	30.19	54.00	-23.81	AVG
5		2400.000	61.51	-12.44	49.07	74.00	-24.93	peak
6	*	2400.000	42.76	-12.44	30.32	54.00	-23.68	AVG



Mode1 / Polarization: Horizontal / CH: H

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	2483.500	64.84	-12.50	52.34	74.00	-21.66	peak
2		2483.500	43.74	-12.50	31.24	54.00	-22.76	AVG
3		2500.000	52.99	-12.41	40.58	74.00	-33.42	peak
4		2500.000	42.36	-12.41	29.95	54.00	-24.05	AVG

Mode1 / Polarization: Vertical / CH: H

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	2483.500	66.61	-12.50	54.11	74.00	-19.89	peak
2		2483.500	44.13	-12.50	31.63	54.00	-22.37	AVG
3		2500.000	52.89	-12.41	40.48	74.00	-33.52	peak
4		2500.000	42.51	-12.41	30.10	54.00	-23.90	AVG

#### 6.4 Emissions in frequency bands (below 1GHz)

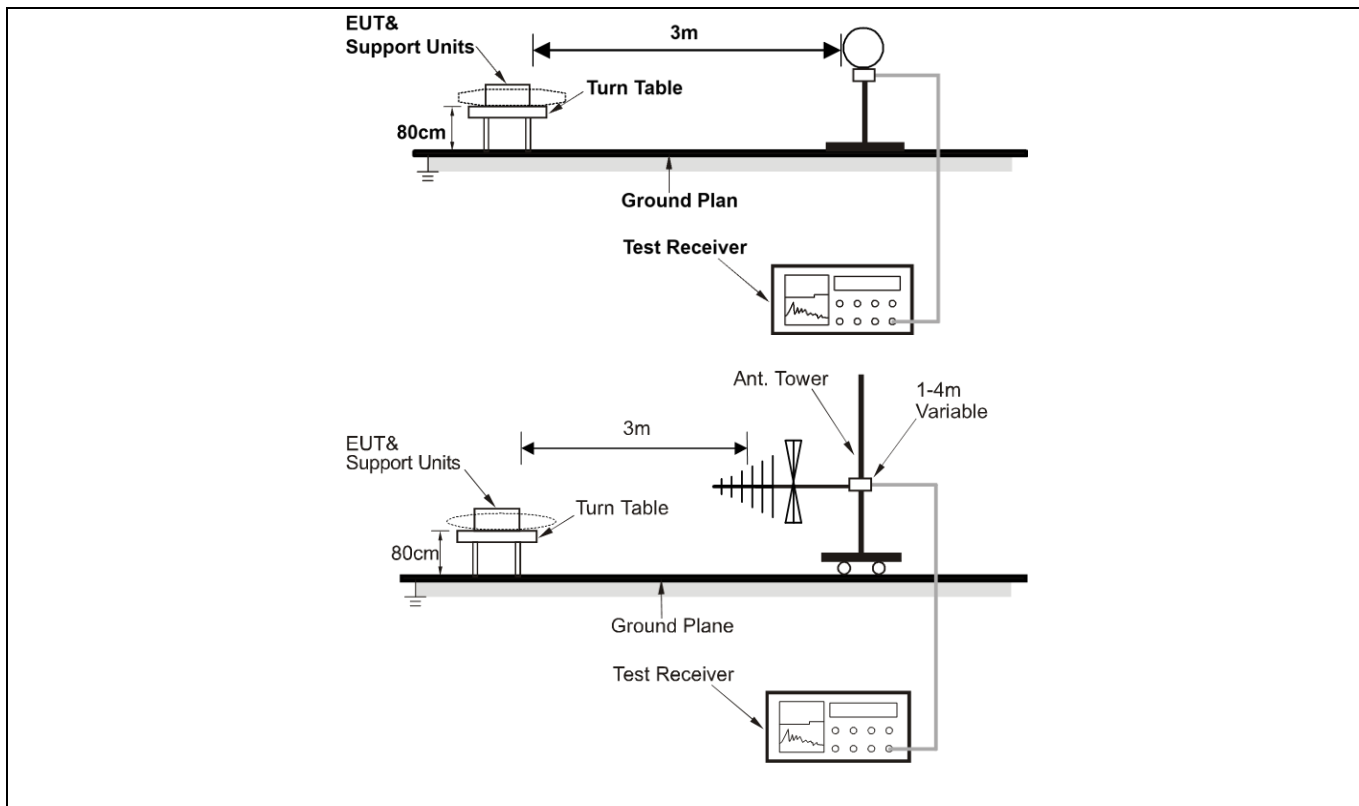
Test Requirement:	47 CFR 15.249(a) 47 CFR 15.249(d) 47 CFR 15.249(e)																																									
Test Limit:	<p>Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:</p> <table><tr><th>Fundamental frequency</th><th>Field strength of fundamental (millivolts/meter)</th><th>Field strength of harmonics (microvolts/meter)</th></tr><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></table> <p>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.</p> <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> <p>** 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.</p> <p>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.</p>			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 C63.10-2013 section 6.5																																									
Procedure:	ANSI C63.10-2013 section 6.5																																									

##### 6.4.1 E.U.T. Operation:

Operating Environment:					
Temperature:	31.7 °C	Humidity:	56.1 %	Atmospheric Pressure:	100 kPa

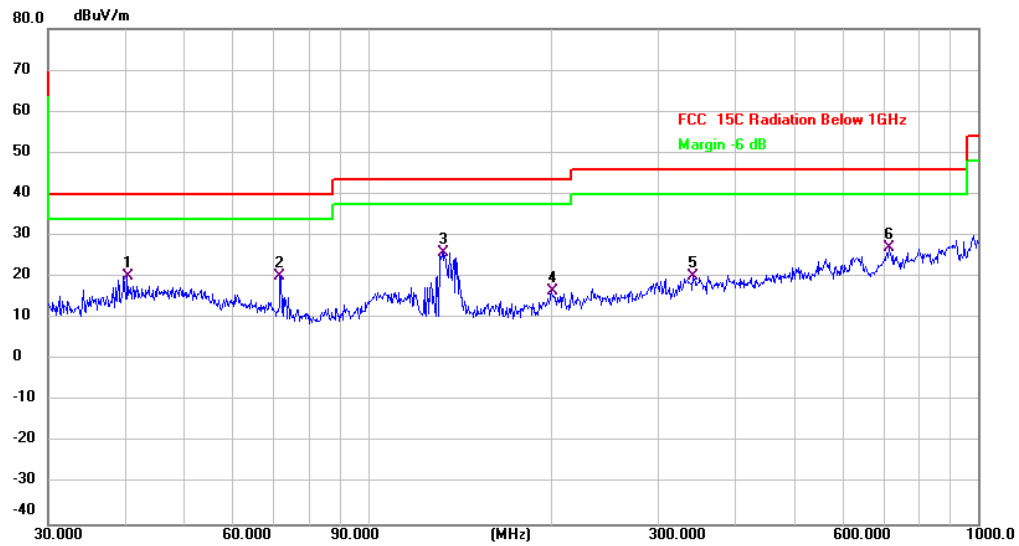
Pre test mode:	Mode1
Final test mode:	Mode1

#### 6.4.2 Test Setup Diagram:



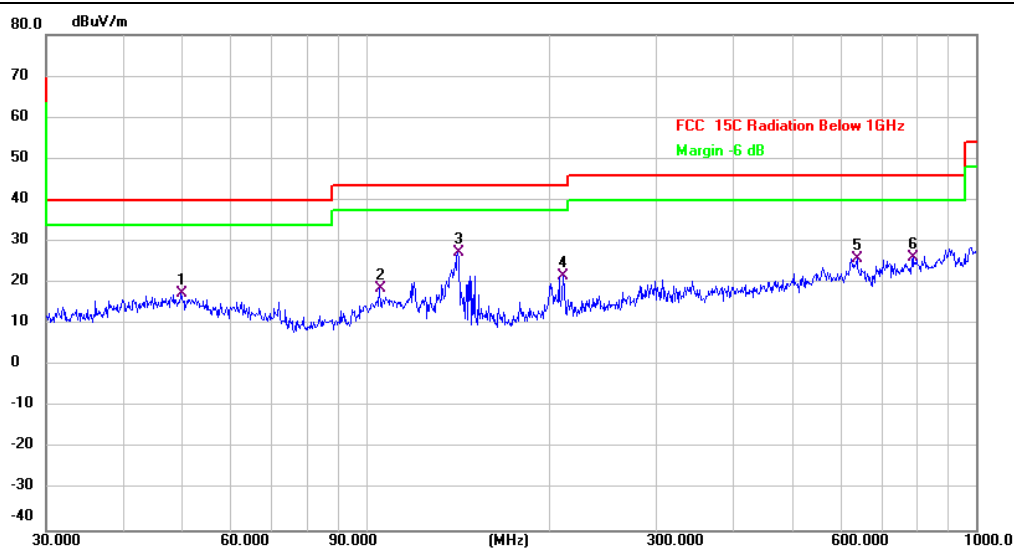
**6.4.3 Test Data:**

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		40.4172	28.66	-8.48	20.18	40.00	-19.82	QP	
2		71.8320	31.36	-11.28	20.08	40.00	-19.92	QP	
3	*	132.2206	37.66	-11.71	25.95	43.50	-17.55	QP	
4		200.6881	22.76	-6.34	16.42	43.50	-27.08	QP	
5		341.9786	24.10	-3.85	20.25	46.00	-25.75	QP	
6		714.1734	26.24	0.67	26.91	46.00	-19.09	QP	

Mode1 / Polarization: Vertical / CH: M



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		49.8814	24.71	-7.32	17.39	40.00	-22.61	QP	
2		105.2718	25.92	-7.28	18.64	43.50	-24.86	QP	
3	*	141.3298	37.12	-9.79	27.33	43.50	-16.17	QP	
4		210.7860	30.59	-8.80	21.79	43.50	-21.71	QP	
5		638.3686	26.12	-0.36	25.76	46.00	-20.24	QP	
6		787.8513	25.38	0.91	26.29	46.00	-19.71	QP	

## 6.5 Emissions in frequency bands (above 1GHz)

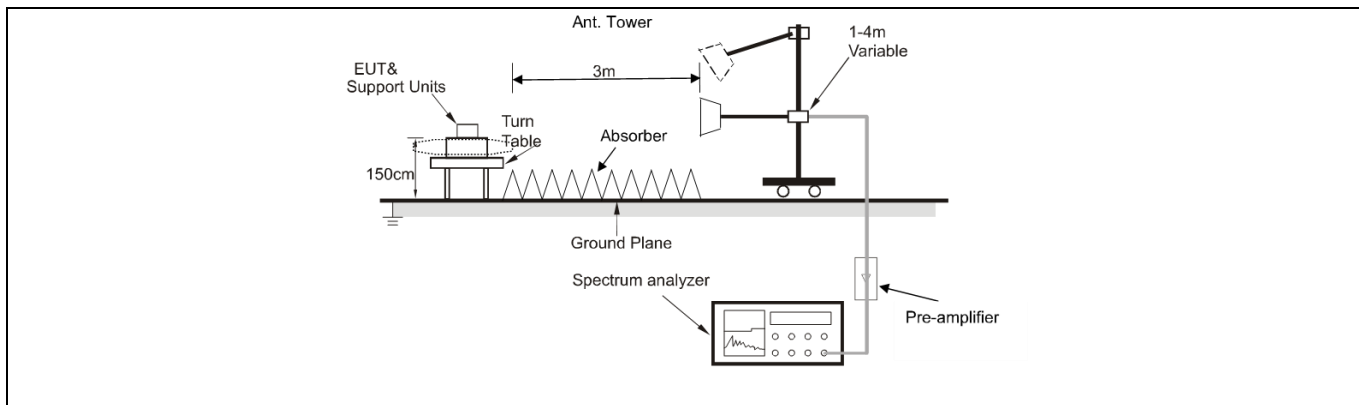
Test Requirement:	47 CFR 15.249(a) 47 CFR 15.249(d) 47 CFR 15.249(e)																																									
Test Limit:	<p>Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:</p> <table><tr><th>Fundamental frequency</th><th>Field strength of fundamental (millivolts/meter)</th><th>Field strength of harmonics (microvolts/meter)</th></tr><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></table> <p>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.</p> <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> <p>** 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.</p> <p>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.</p>			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)																																								
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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 C63.10-2013 section 6.6																																									
Procedure:	ANSI C63.10-2013 section 6.6																																									

### 6.5.1 E.U.T. Operation:

Operating Environment:					
Temperature:	31.7 °C	Humidity:	56.1 %	Atmospheric Pressure:	100 kPa

Pre test mode:	Mode1
Final test mode:	Mode1

### 6.5.2 Test Setup Diagram:





**6.5.3 Test Data:**

Mode1 / Polarization: Horizontal / CH: L

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		4812.000	64.56	-7.72	56.84	74.00	-17.16	peak
2		4812.000	57.86	-7.72	50.14	54.00	-3.86	AVG
3		7218.000	61.50	0.75	62.25	74.00	-11.75	peak
4	*	7218.000	49.51	0.75	50.26	54.00	-3.74	AVG
5		9624.000	48.16	1.88	50.04	74.00	-23.96	peak
6		9624.000	44.41	1.88	46.29	54.00	-7.71	AVG

Mode1 / Polarization: Vertical / CH: L

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		4812.000	65.03	-7.72	57.31	74.00	-16.69	peak
2		4812.000	57.08	-7.72	49.36	54.00	-4.64	AVG
3		7218.000	57.91	0.75	58.66	74.00	-15.34	peak
4	*	7218.000	49.49	0.75	50.24	54.00	-3.76	AVG
5		9624.000	47.76	1.88	49.64	74.00	-24.36	peak
6		9624.000	44.39	1.88	46.27	54.00	-7.73	AVG

Mode1 / Polarization: Horizontal / CH: M

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		4890.000	66.91	-7.85	59.06	74.00	-14.94	peak
2	*	4890.000	58.04	-7.85	50.19	54.00	-3.81	AVG
3		7335.000	58.49	0.71	59.20	74.00	-14.80	peak
4		7335.000	48.55	0.71	49.26	54.00	-4.74	AVG
5		9780.000	47.72	2.65	50.37	74.00	-23.63	peak
6		9780.000	43.50	2.65	46.15	54.00	-7.85	AVG

Mode1 / Polarization: Vertical / Band: 2.4G / BW: 1 / CH: M

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		4890.000	66.05	-7.85	58.20	74.00	-15.80	peak
2		4890.000	58.09	-7.85	50.24	54.00	-3.76	AVG
3		7335.000	55.36	0.71	56.07	74.00	-17.93	peak
4	*	7335.000	50.07	0.71	50.78	54.00	-3.22	AVG
5		9780.000	47.12	2.65	49.77	74.00	-24.23	peak
6		9780.000	42.53	2.65	45.18	54.00	-8.82	AVG

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
1		4960.000	65.20	-7.73	57.47	74.00	-16.53	peak
2	*	4960.000	57.87	-7.73	50.14	54.00	-3.86	AVG
3		7440.000	54.59	0.78	55.37	74.00	-18.63	peak
4		7440.000	49.36	0.78	50.14	54.00	-3.86	AVG
5		9920.000	48.37	2.47	50.84	74.00	-23.16	peak
6		9920.000	42.80	2.47	45.27	54.00	-8.73	AVG

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
1		4960.000	66.40	-7.73	58.67	74.00	-15.33	peak
2	*	4960.000	58.09	-7.73	50.36	54.00	-3.64	AVG
3		7440.000	59.38	0.78	60.16	74.00	-13.84	peak
4		7440.000	49.49	0.78	50.27	54.00	-3.73	AVG
5		9920.000	48.30	2.47	50.77	74.00	-23.23	peak
6		9920.000	42.79	2.47	45.26	54.00	-8.74	AVG

## Photographs of the test setup

Refer to Appendix - Test Setup Photos

## Photographs of the EUT

Refer to Appendix - EUT Photos

**----End of Report----**