TEST REPORT

Report No.	CISRR26062325101
Project No.	CISR260623251
FCC ID	2BWSV-PD511
Applicant	Shenzhen PaiPai Industries Co., Ltd.
Address	Room 309, Building A15, Taizhong Industrial Zone, No. 6 Xinfeng Road, Ailian Community, Longcheng Street, Longgang District, Shenzhen
Manufacturer	Shenzhen PaiPai Industries Co., Ltd.
Address	Room 309, Building A15, Taizhong Industrial Zone, No. 6 Xinfeng Road, Ailian Community, Longcheng Street, Longgang District, Shenzhen
Product Name	Dog training collar
Trade mark	-
Model/Type reference	PD 511
Listed Model(s)	PD509,PD509-TIO,PD509V,PD510, PD510-TIO,PD510V,PD511 PD511-Tio,PD511V,PD512,PD512-TIO,PD512V, PD513,PD513-TIO PD513V,PD517,PD517-TIO,PD517V,PD518,PD518-TIO,PD518V
Standard	47 CFR Part 15.231
Date of sample receipt	June 24, 2026
Test date	June 26, 2026 to July 13, 2026
Issue date	July 14, 2026
Test result	**Complied**

Lucas Huang

Reviewed by: Lucas Huang

Approved by: Hans Hu

The test results relate only to the tested samples.

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1. STANDARD AND APPLICABLE TEST METHODS

The tests were performed according to following standards:

47 CFR Part 15.231: Periodic operation in the band 40.66-40.70 MHz and above 70 MHz

ANSI C63.10-2020: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

2. REPORT VERSION

Version No.	Issue date	Description
00	July 14, 2026	Original

3. TEST DESCRIPTION

No.	Test Item	Standard Requirement	Result
1	Conducted Emission at AC power line	47 CFR 15.207(a)	Pass
2	20dB Bandwidth	47 CFR 15.231(c)	Pass
3	Transmit time	47 CFR 15.231(a)(1)	Pass
4	Duty Cycle	-	Pass
5	Field Strength of The Fundamental Signal	47 CFR 15.231(b)	Pass
6	Radiated Emission (below 1GHz)	47 CFR 15.231	Pass
7	Radiated Emission (above 1GHz)	47 CFR 15.231	Pass

Note:

– The measurement uncertainty is not included in the test result.

4. SUMMARY

4.1. Product Description *

Main unit information:	
Product Name:	Dog training collar
Trade mark:	-
Model No.:	PD 511
Listed Model(s):	PD509,PD509-TIO,PD509V,PD510, PD510-TIO,PD510V,PD511 PD511-Tio,PD511V,PD512,PD512-TIO,PD512V, PD513,PD513-TIO PD513V,PD517,PD517-TIO,PD517V,PD518,PD518-TIO,PD518V
Model difference:	Only the model name and the color of the exterior are different, while the internal structure remains the same. This does not affect the electromagnetic compatibility performance.
Power supply:	DC 5V by USB-C port DC 3.7V Internal battery
Hardware version:	-
Software version:	-
Accessory unit (AU) information:	
Battery information:	3.7V 300mAh

4.2. Radio Specification Description *

Modulation type:	ASK
Operation frequency:	433.92MHz
transmission mode:	Manual transmission
Antenna type:	Spring Antenna
Antenna gain:	-10dBi

Note:

1) *: As the above information is provided by the applicant, all relevant results and conclusions of this report are based solely on such information. Bangce lab shall not be liable for the authenticity, integrity, and resulting outcomes of the information, and/or the validity of the conclusions herein.

4.3. Modification of EUT

No modifications are made to the EUT during all test items.

4.4. Deviation from standards

None

4.5. Testing Site

Laboratory Name	Shenzhen Bangce Testing Technology Co., Ltd.
Laboratory Location	101, building 10, Yunli Intelligent Park, Shutianpu community, Matian Street, Guangming District, Shenzhen， Guangdong, China
Contact information	Tel: 86-755-2319 6848, email: service@cis-cn.net Website: http://www.cis-cn.net/
FCC registration number	736346
FCC designation number	CN1372

5. TEST CONFIGURATION

5.1. Test frequency list

Channel	Frequency (MHz)
CH1	433.92

5.2. Descriptions of test mode

No	Test mode	Description
Mode1	Transmit mode	Keep the EUT in continuously transmit
Mode2	Normal Transmit	Keep the EUT in normal transmit
Mode3	Charging mode	Keep the EUT in charging mode status

5.3. Test sample information

Type	Sample No.
Engineer sample	CISR260623251-S01
Normal sample	CISR260623251-S02

5.4. Environmental conditions

Type	Requirement
Temperature:	15~35°C
Relative Humidity:	25~75%
Air Pressure:	860~1060mbar

5.5. Statement of the measurement uncertainty

No.	Test Items	Measurement Uncertainty
1	Conducted Emission at AC power line (150kHz ~ 30MHz)	3.52dB
2	Bandwidth	0.19%
3	Time	2.3ns

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

5.6. Equipment Used during the Test

Conducted Emission at AC power line

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	8*4*3 Shielding room	SKET	8m*4m*3 m	CIS-EE012	2024-09-02	2027-09-01
2	EMI Test Receiver	ROHDE&SCHWARZ	ESPI7	CIS-EE043	2026-01-06	2027-01-05
3	LISN	SCHWARZBECK	NSLK 8127	CIS-EE044	2026-01-06	2027-01-05
4	LISN-AE	ETS	3810/2NM	CIS-EE075	2026-01-06	2027-01-05
5	RF Cable	SKET	-	CIS-EE071	2026-01-06	2027-01-05
6	Power Strip	BULL	GNIN-413	CIS-EE087	2026-01-06	2027-01-05
7	Test software	FARAD	EZ-CON	CIS-EE095	/	/
8	Thermohygrometer	DeLi	8866	CIS-EE069	2026-01-06	2027-01-05

20dB Bandwidth
Dwell Time
Duty Cycle

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	Spectrum analyzer	ROHDE&SCHWARZ	FSV-40N	CIS-EE076	2026-01-06	2027-01-05
2	Notch Filter Assembly	WCS	SMU-1003	CIS-EE093	2026-01-06	2027-01-05
3	Vector Signal Generator	Agilent	N5182A	CIS-RE012	2026-01-06	2027-01-05
4	Analog Signal Generator	Agilent	N5181A	CIS-RE013	2026-01-06	2027-01-05
5	Test software	WCS	WCN-Regulatory	CIS-EE103	/	/

Radiated Emission (above 1GHz)
Field Strength of The Fundamental Signal
Radiated Emission (below 1GHz)

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	9*6*6 anechoic chamber	SKET	9.3*6.3*6	N/A	2024-09-02	2027-09-01
2	Spectrum analyzer	Agilent	N9020A	MY50530263	2026-01-06	2027-01-05
3	Spectrum analyzer	R&S	FSV-40N	102130	2026-01-06	2027-01-05
4	Bilog Antenna	Schwarzbeck	VULB 9163	1463	2026-01-06	2029-01-05
5	Horn Antenna	SCHWARZBECK	BBHA	2487	2026-01-06	2029-01-05

			9120 D			
6	Active Loop Antenna	SCHWARZBECK	FMZB 1519B	/	2026-01-06	2029-01-05
7	RF Cable	Tonscend	Cable 1	/	2026-01-06	2027-01-05
8	RF Cable	Tonscend	Cable 2	/	2026-01-06	2027-01-05
9	RF Cable	SKET	Cable 3	/	2026-01-06	2027-01-05
10	L.I.S.N.#1	Schwarzbeck	NSLK8127	/	2026-01-06	2027-01-05
11	L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	/	2026-01-06	2027-01-05
12	Horn Antenna	SCHWARZBECK	BBHA9170	1130	2026-01-06	2029-01-05
13	Preamplifier	Tonscend	TAP18040048	AP21C806126	2026-01-06	2027-01-05
14	Variable-frequency power source	Pinhong	PH1110	/	2026-01-06	2027-01-05
15	6dB Attenuator	SKET	DC-6G	/	2026-01-06	2027-01-05
16	Antenna tower	SKT	Bk-4AT-BS	AT2021040101-V1	2026-01-06	2027-01-05

6. TEST RESULTS

6.1. Radio Spectrum Matter Test Results (RF)

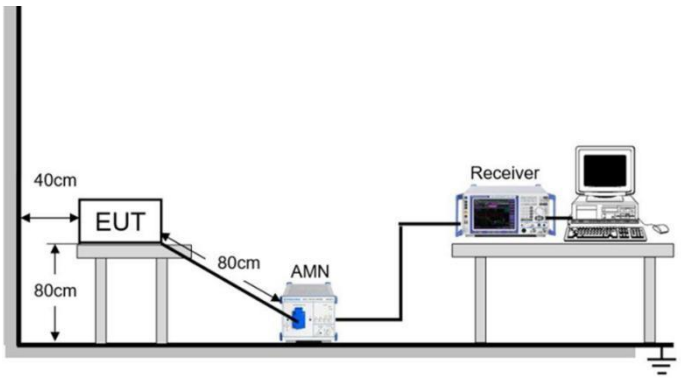
6.1.1. Conducted Emission at AC power line

Test Requirement:	Except as shown in paragraphs (b)and (c)of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN).
Test Limit:	Frequency of emission (MHz) / Conducted limit (dBμV): Quasi-peak / Average 0.15-0.5: 66 to 56* / 56 to 46* 0.5-5: 56 / 46 5-30: 60 / 50 *Decreases with the logarithm of the frequency.
Test Method:	ANSI C63.10-2020 section 6.2
Procedure:	1>. The EUT was setup according to ANSI C63.10 requirements. 2>. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. 3>. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. 4>. The peripheral devices are also connected to the main power through a LISN. (Refer to the block diagram of the test setup and photographs) 5>. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source. 6>. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length. 7>. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz. 8>. During the above scans, the emissions were maximized by cable manipulation.

6.1.1.1. E.U.T. Operation

Operating Environment:					
Temperature:	21.1 °C	Humidity:	62.6 %	Atmospheric Pressure:	102.8 kPa
Pre test mode:	Mode3				
Final test mode:	Mode3				

6.1.1.2. Test Setup Diagram

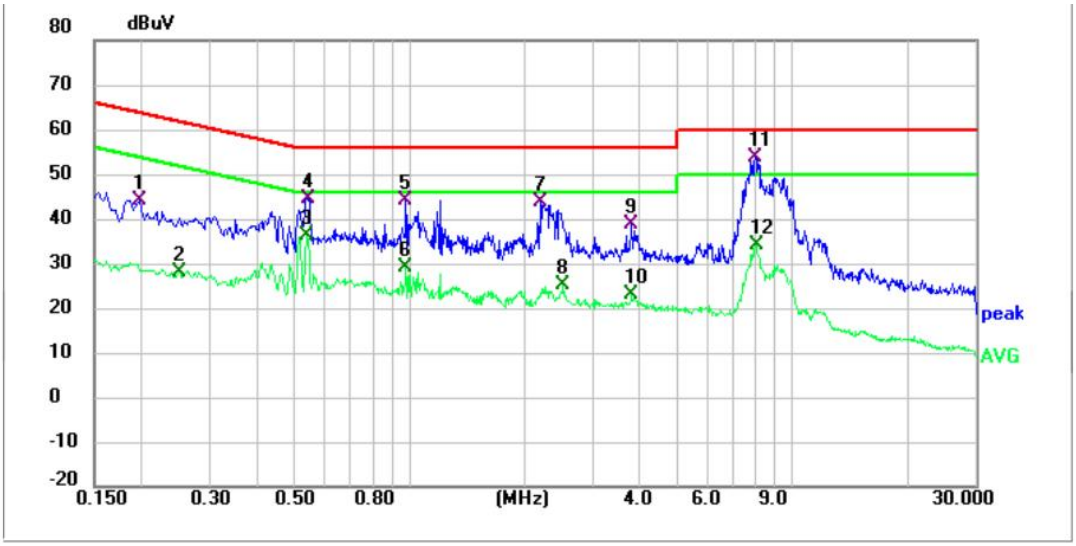


6.1.1.3. Test Result

Pass

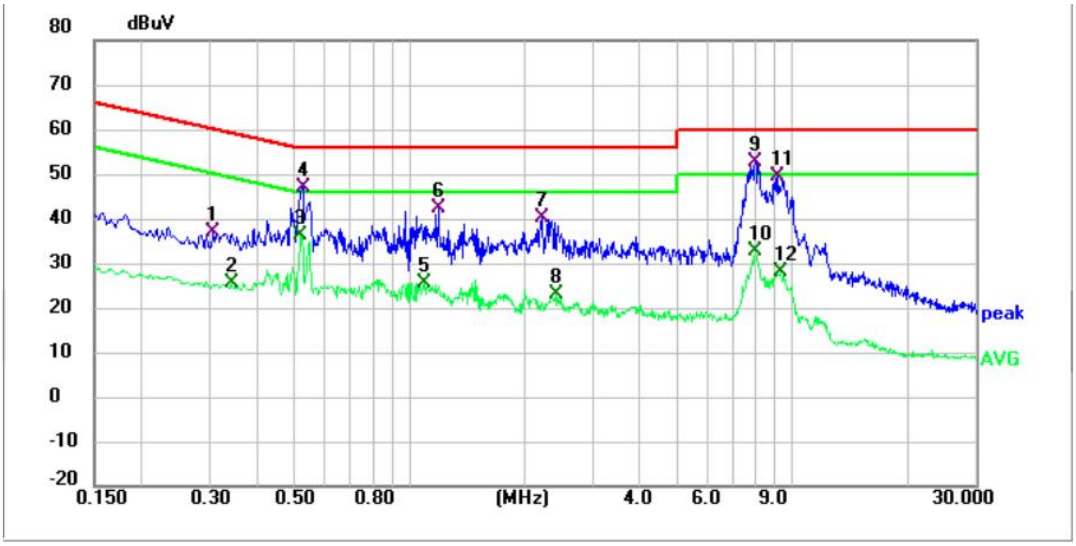
6.1.1.4. Test Data

Mode3 / Line: Line



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1980	33.98	10.17	44.15	63.69	19.54	QP
2	0.2495	17.95	10.16	28.11	51.77	23.66	AVG
3	0.5380	26.13	10.16	36.29	46.00	9.71	AVG
4	0.5420	34.23	10.16	44.39	56.00	11.61	QP
5	0.9740	34.05	10.19	44.24	56.00	11.76	QP
6	0.9740	18.77	10.19	28.96	46.00	17.04	AVG
7	2.1940	33.53	10.26	43.79	56.00	12.21	QP
8	2.5140	15.05	10.29	25.34	46.00	20.66	AVG
9	3.8100	28.36	10.34	38.70	56.00	17.30	QP
10	3.8100	12.63	10.34	22.97	46.00	23.03	AVG
11 *	8.0140	43.42	10.35	53.77	60.00	6.23	QP
12	8.0260	23.89	10.35	34.24	50.00	15.76	AVG

Mode3 / Line: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.3060	26.74	10.15	36.89	60.08	23.19	QP
2	0.3420	15.38	10.14	25.52	49.15	23.63	AVG
3	0.5180	26.11	10.12	36.23	46.00	9.77	AVG
4	0.5260	37.00	10.12	47.12	56.00	8.88	QP
5	1.0900	15.54	10.16	25.70	46.00	20.30	AVG
6	1.1860	32.10	10.17	42.27	56.00	13.73	QP
7	2.2139	29.83	10.23	40.06	56.00	15.94	QP
8	2.4260	12.71	10.25	22.96	46.00	23.04	AVG
9 *	8.0020	42.36	10.36	52.72	60.00	7.28	QP
10	8.0020	22.34	10.36	32.70	50.00	17.30	AVG
11	9.1780	39.15	10.37	49.52	60.00	10.48	QP
12	9.3100	17.50	10.36	27.86	50.00	22.14	AVG

Note:
1>. Level = Reading +Factor (Voltage Division Coefficient + Cable Loss + Attenuator Factor)
2>. Margin = Limit - Level

6.1.2. 20dB Bandwidth

Test Requirement:	47 CFR 15.231(c)
Test Limit:	The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.
Test Method:	ANSI C63.10-2020, 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 [(reference value) - 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 “íxx 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 “íxx 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. 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).

6.1.2.1. E.U.T. Operation

Operating Environment:					
Temperature:	22.8 °C	Humidity:	56 %	Atmospheric Pressure:	102.3 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

6.1.2.2. Test Setup Diagram

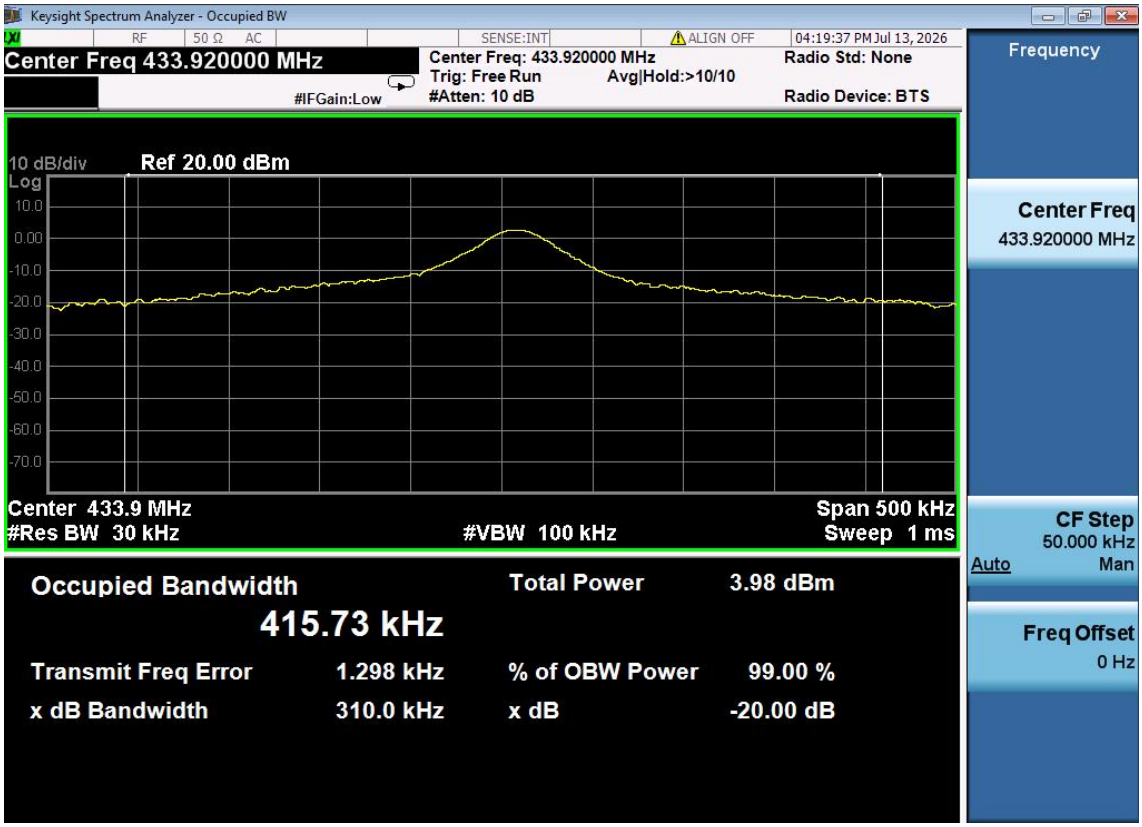
6.1.2.3. Test Result

Pass

6.1.2.4. Test Data

Test Channel	20dB Bandwidth (kHz)	Limit (kHz)	Result
CH1	310	1084.8	Pass

Note: Limit=0.25%*Center Frequency=1084.8 kHz



6.1.3. Transmit time

Test Requirement:	47 CFR 15.231(a)(1)
Test Limit:	(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released. (2) A transmitter activated automatically shall cease transmission within 5 seconds after activation.
Test Method:	ANSI C63.10-2020, Section 7.4
Procedure:	For evaluation of periodic operation characteristics, the following procedure may be used: a) Trigger the spectrum analyzer sweep on the RF waveform of the unlicensed wireless device. b) Set the spectrum analyzer sweep time greater than the specified time for periodic operation. c) Manually activate and deactivate the unlicensed wireless device and confirm that it ceases transmission within the specified time of deactivation. d) Document the test results. e) Verify and document that periodic transmissions at regular predetermined intervals do not exist, except where regulatory requirements allow polling or supervision transmissions, including data, to determine system integrity. Compliance is addressed by an attestation supported by the equipment theory of operation.

6.1.3.1. E.U.T. Operation

Operating Environment:					
Temperature:	22.1 °C	Humidity:	56.1 %	Atmospheric Pressure:	102.3 kPa
Pre test mode:	Mode2				
Final test mode:	Mode2				

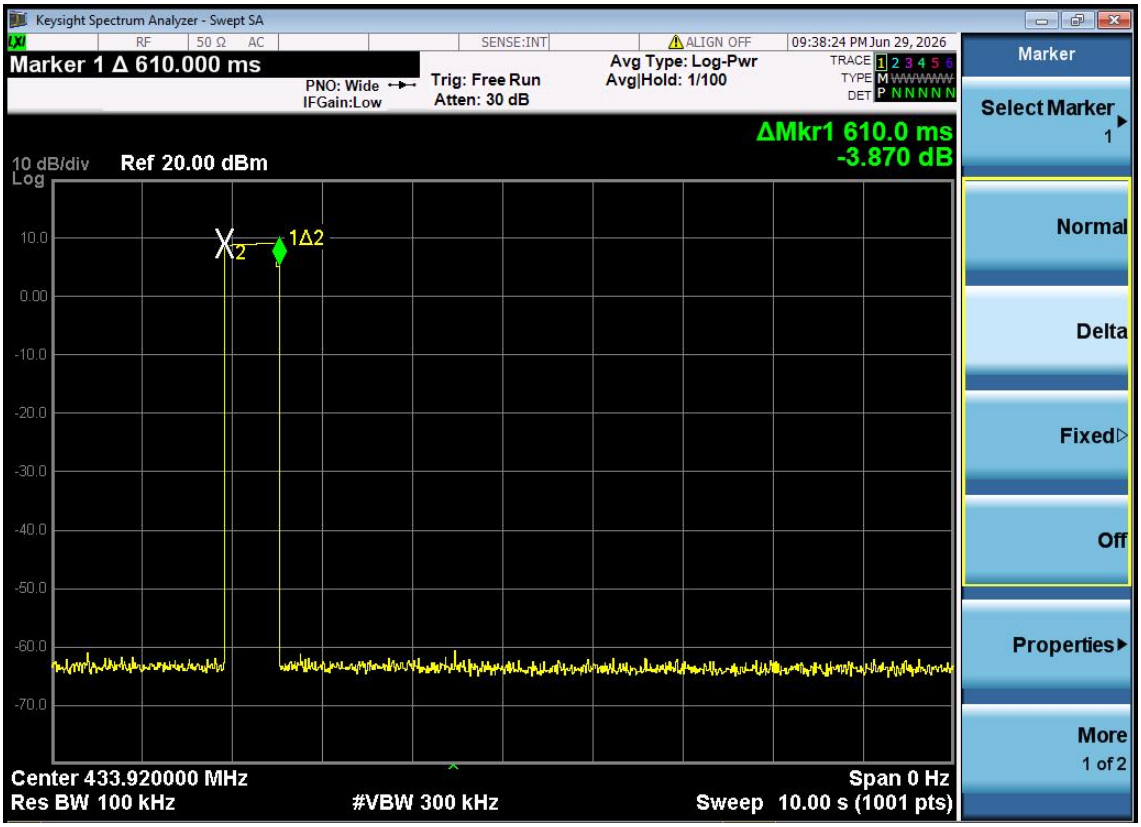
6.1.3.2. Test Setup Diagram

6.1.3.3. Test Result

Pass

6.1.3.4. Test Data

Transmission time (second)	Limit (second)	Result
0.61	5	Pass



6.1.4. Duty Cycle

Test Requirement:	-
Test Limit:	No limit, only for Report Use.
Test Method:	ANSI C63.10-2020, Section 7.5
Procedure:	a) Adjust and configure any EUT switches, controls, or input data streams to ensure that the EUT is transmitting or encoded to obtain the “worst-case” pulse ON time. b) Couple the final radio frequency output signal to the input of a spectrum analyzer. This may be performed by a radiated, direct connection (i.e., conducted) or by a “near-field” coupling method. The signal received shall be of sufficient level to trigger adequately the spectrum analyzer sweep display. NOTE—If the bandwidth of the pulse is greater than the RBW of the spectrum analyzer, then a similar measurement may be performed using a wideband digital storage oscilloscope (DSO). c) Adjust the center frequency of the spectrum analyzer to the center of the RF signal. d) Set the spectrum analyzer for ZERO span. e) Adjust the sweep time to obtain at least a 100 ms period of time on the horizontal display axis of the spectrum analyzer. f) If the pulse train is periodic (i.e., consists of a series of pulses that repeat in a characteristic pattern over a constant time period), and the period (T) is less than or equal to 100 ms, then: 1) Set the TRIGGER on the spectrum analyzer to capture at least one period of the pulse train, including any blanking intervals. 2) Determine the total maximum pulse “ON time” (t_{ON}) over one period of the pulse train. An example of a periodic pulse train and the associated period is shown in Figure 14. If the pulse train contains pulses of different widths, then t_{ON} is determined by summing the duration of all of the pulses within the pulse train [i.e., $t_{ON} = \Sigma(t1 + t2 + \ldots tn)$]. 3) The duty cycle is then determined by dividing the total maximum “ON time” by the period of the pulse train (t_{ON}/T). g) If the pulse train is nonperiodic or is periodic with a period that exceeds 100 ms, or as an alternative to step f), then: 1) Set the TRIGGER on the spectrum analyzer to capture the greatest amount of pulse “ON time” over 100 ms. 2) Find the 100 ms period that contains the maximum “on time”; this may require summing the duration of multiple pulses as described in step f2). 3) Determine the duty cycle by dividing the total maximum “ON time” by 100 ms (t_{ON} /100 ms).

6.1.4.1. E.U.T. Operation

Operating Environment:					
Temperature:	23.3 °C	Humidity:	55.3 %	Atmospheric Pressure:	102.3 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

6.1.4.2. Test Setup Diagram

6.1.4.3. Test Result

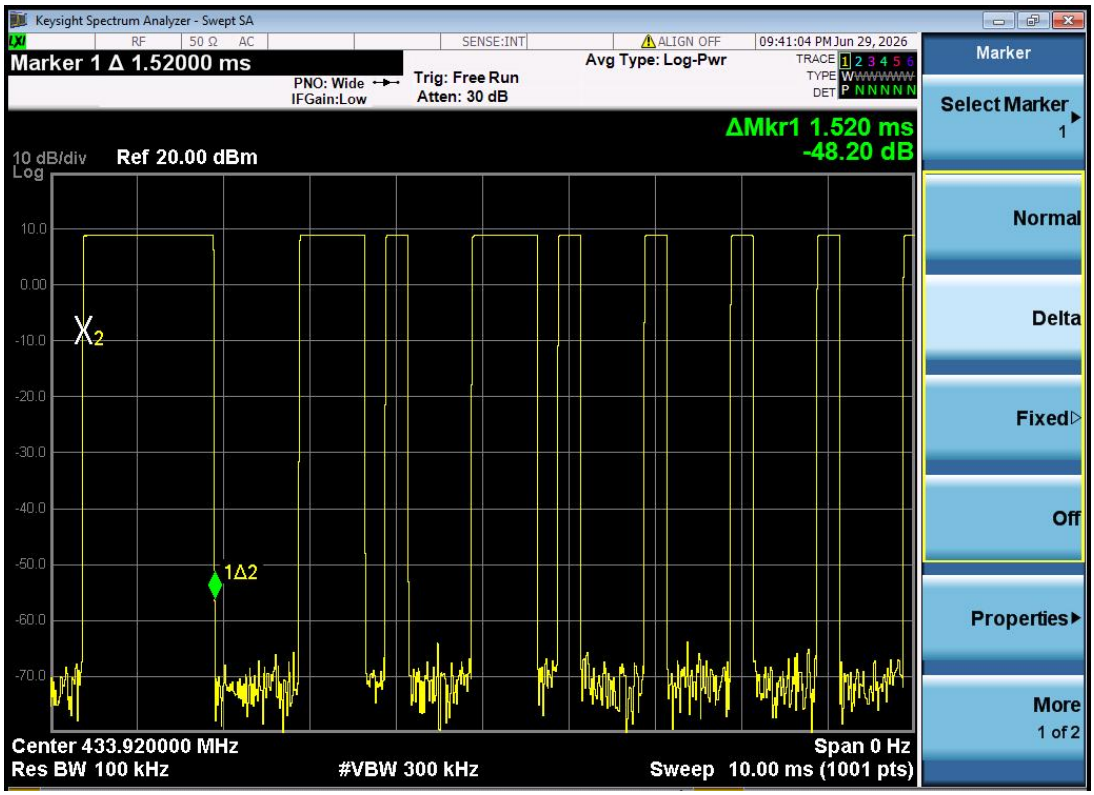
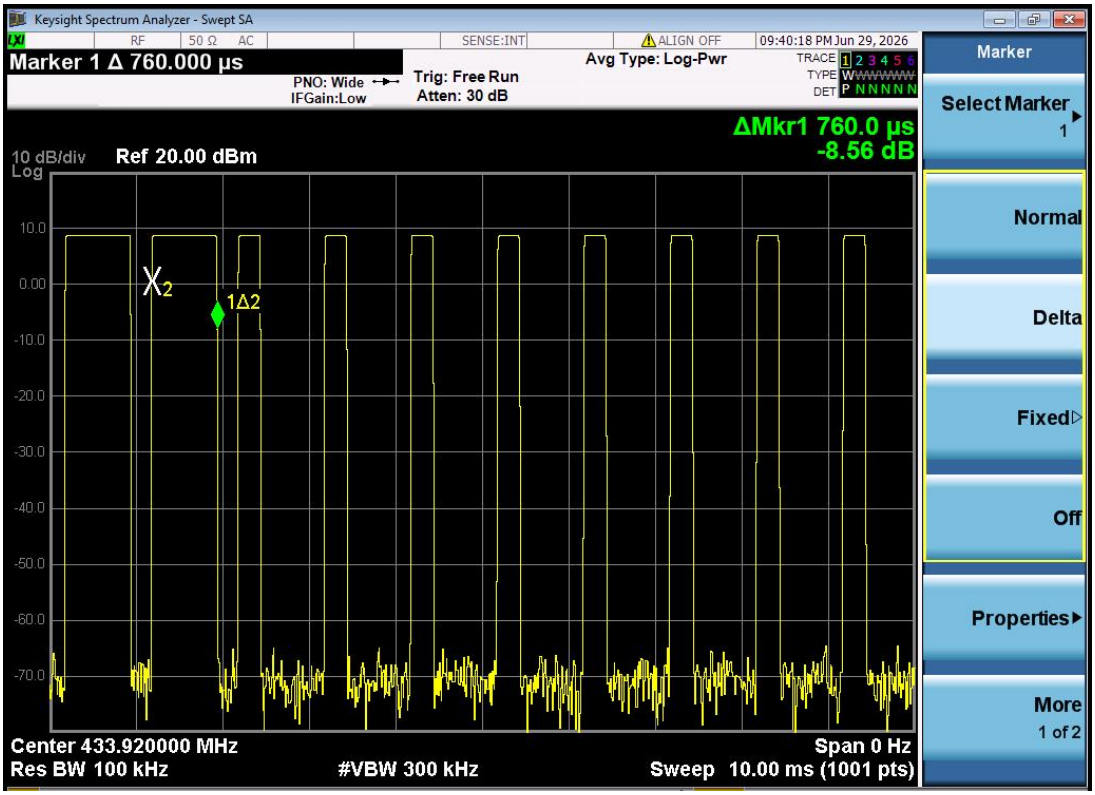
Pass

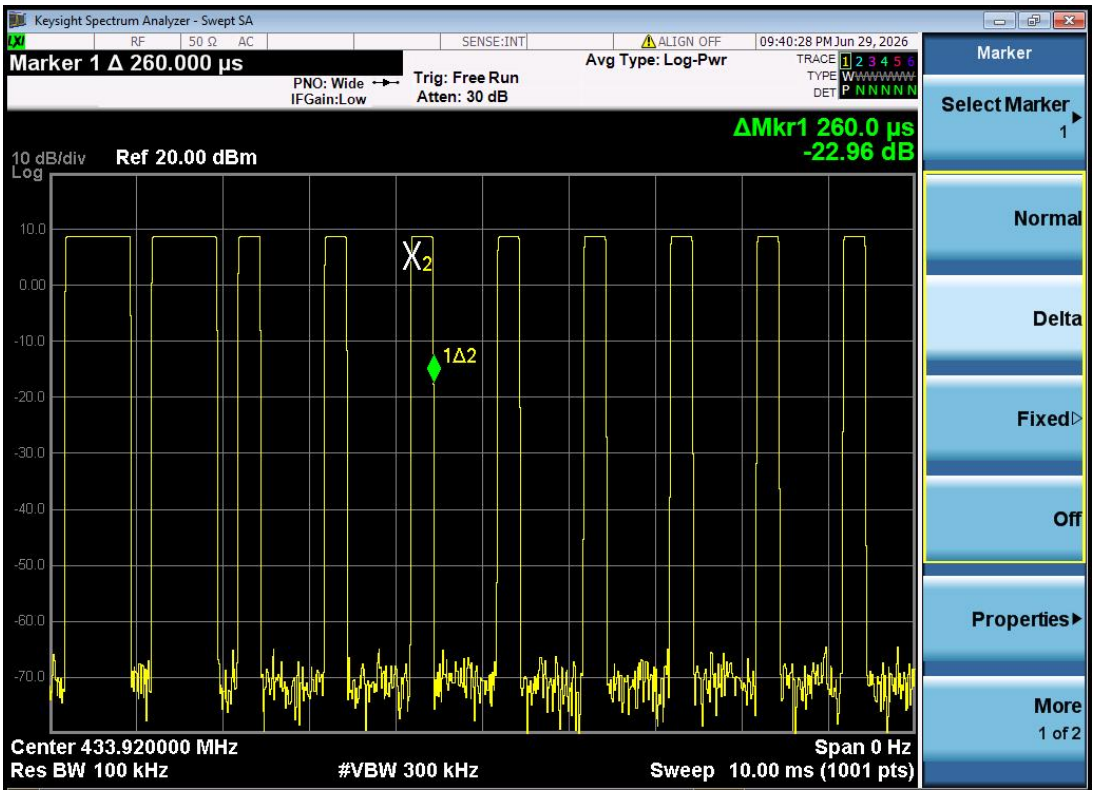
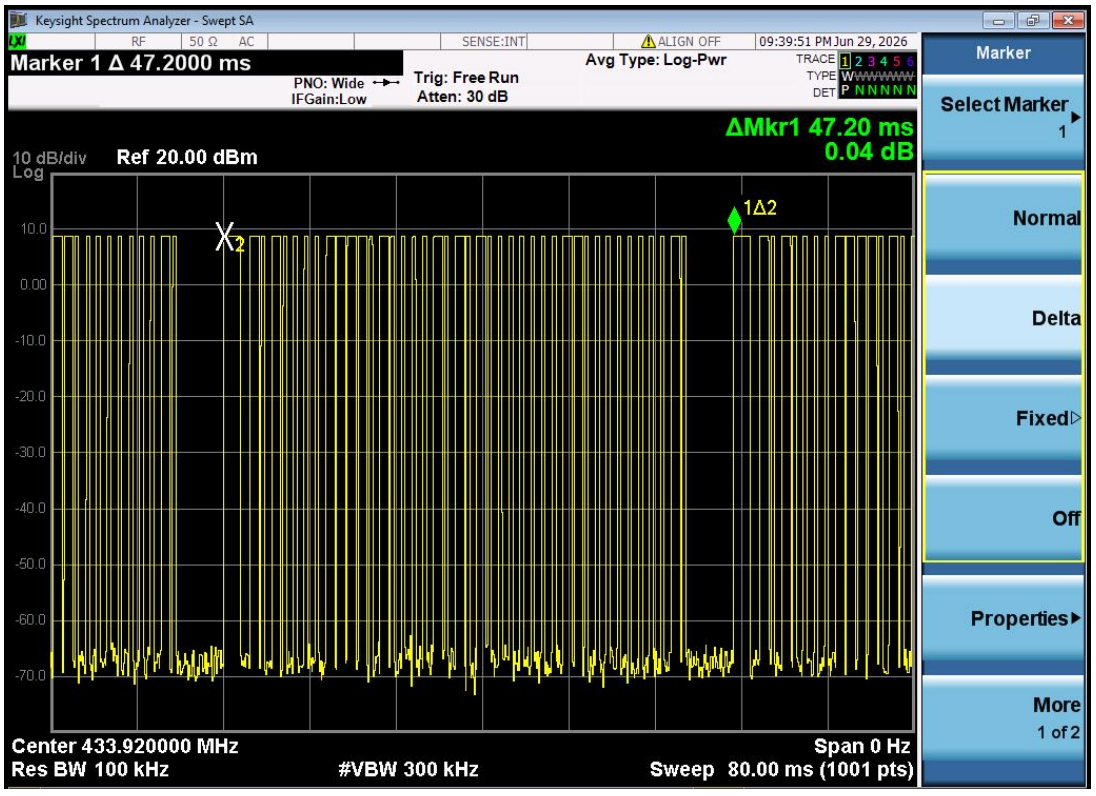
6.1.4.4. Test Data

T_{ON1} (ms) :	1.52
T_{ON1} number	1
T_{ON2} (ms) :	0.76
T_{ON2} number	13
T_{ON3} (ms) :	0.26
T_{ON3} number	28
Period (ms) :	47.2
Duty Cycle :	0.3958
Duty Cycle Corrected Factor:	-8.05

Note：

1) Duty cycle= Ton1* T_{ON1} number +Ton2* T_{ON2} number+Ton3* T_{ON3} number / T period
2) Duty Cycle Corrected Factor/DCCF=20*log (Duty Cycle)

T_{ON1} (ms) :	
T_{ON2} (ms) :	

T_{ON3} (ms) :	
Period (ms) :	

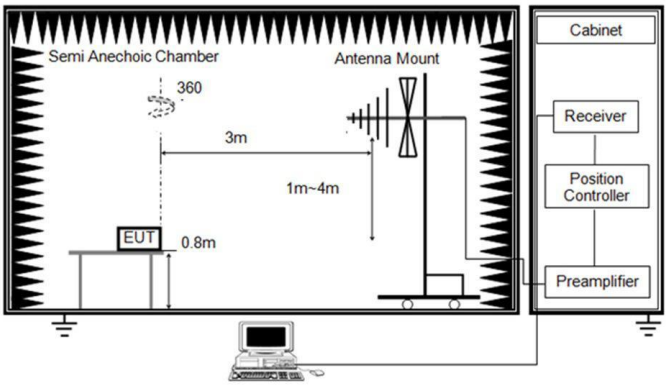
6.1.5. Field Strength of The Fundamental Signal

Test Requirement:	47 CFR 15.231(b)
Test Limit:	<table><tr><th>Fundamental frequency (MHz)</th><th>Field strength of fundamental (microvolts/meter)</th><th>Field strength of spurious emissions (microvolts/meter)</th></tr><tr><td>40.66-40.70</td><td>2,250</td><td>225</td></tr><tr><td>70-130</td><td>1,250</td><td>125</td></tr><tr><td>130-174</td><td>[1] 1,250 to 3,750</td><td>[1] 125 to 375</td></tr><tr><td>174-260</td><td>3,750</td><td>375</td></tr><tr><td>260-470</td><td>[1] 3,750 to 12,500</td><td>[1] 375 to 1,250</td></tr><tr><td>Above 470</td><td>12,500</td><td>1,250</td></tr></table> [1] Linear interpolations. (1) The above field strength limits are specified at a distance of 3 meters. The tighter limits apply at the band edges.
Test Method:	ANSI C63.10-2020, Section 6.5
Procedure:	1>. The EUT was setup and tested according to ANSI C63.10. 2>. The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. 3>. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower. 4>. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines. 5>. Set to the maximum power setting and enable the EUT transmit continuously. 6>. Use the following spectrum analyzer settings a) Span shall wide enough to fully capture the emission being measured; b) RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold; If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

6.1.5.1. E.U.T. Operation

Operating Environment:					
Temperature:	23.2 °C	Humidity:	55.3 %	Atmospheric Pressure:	102.8 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

6.1.5.2. Test Setup Diagram



Below 1 GHz and above 30 MHz

6.1.5.3. Test Result

Pass

6.1.5.4. Test Data

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarity
433.92	59.55	100.83	41.28	Peak	Horizontal
433.92	51.5	80.83	29.33	Average	Horizontal
433.92	65.88	100.83	34.95	Peak	Vertical
433.92	57.83	80.83	23	Average	Vertical

Note:

1) Level= Reading + Factor/Transd; Factor/Transd =Antenna Factor+ Cable Loss- Preamp Factor

2) Margin = Limit – Level

3) Average Level = Peak Level+Duty cycle corrected factor

This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in Y position.

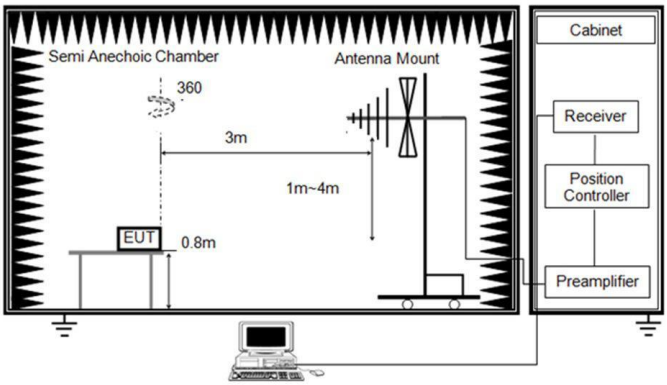
6.1.6. Radiated Emission (below 1GHz)

<table>
<tr><td>Test Requirement:</td><td>47 CFR 15.231</td></tr>
<tr><td>Test Limit:</td><td>
<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.
</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10-2020, Section 6.5</td></tr>
<tr><td>Procedure:</td><td>1>. The EUT was setup and tested according to ANSI C63.10.
2>. The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3>. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
4>. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5>. Set to the maximum power setting and enable the EUT transmit continuously.
6>. Use the following spectrum analyzer settings
a) Span shall wide enough to fully capture the emission being measured;
b) RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;
If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.</td></tr>
</table>

6.1.6.1. E.U.T. Operation

Operating Environment:					
Temperature:	23 °C	Humidity:	56.3 %	Atmospheric Pressure:	102.3 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

6.1.6.2. Test Setup Diagram



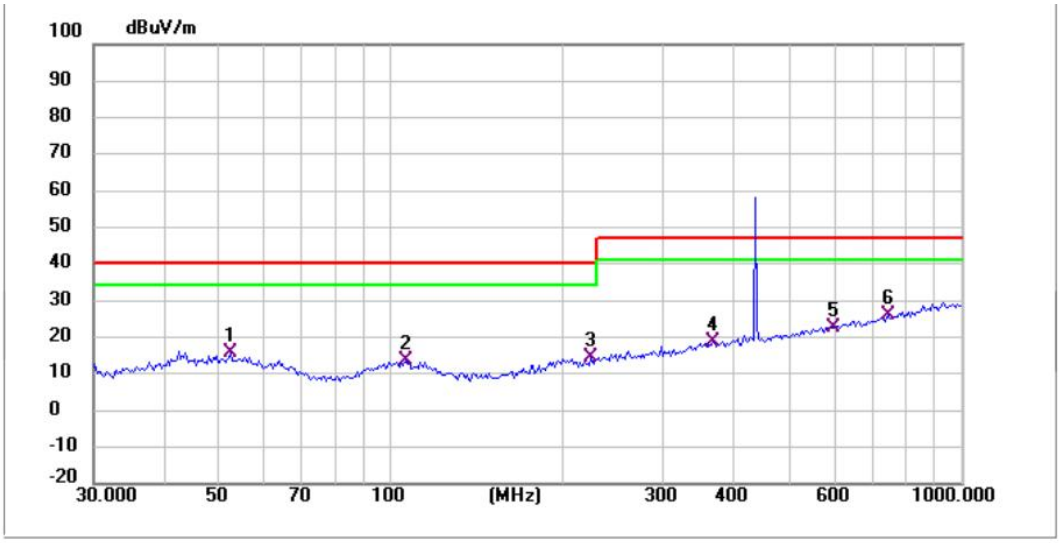
Below 1 GHz and above 30 MHz

6.1.6.3. Test Result

Pass

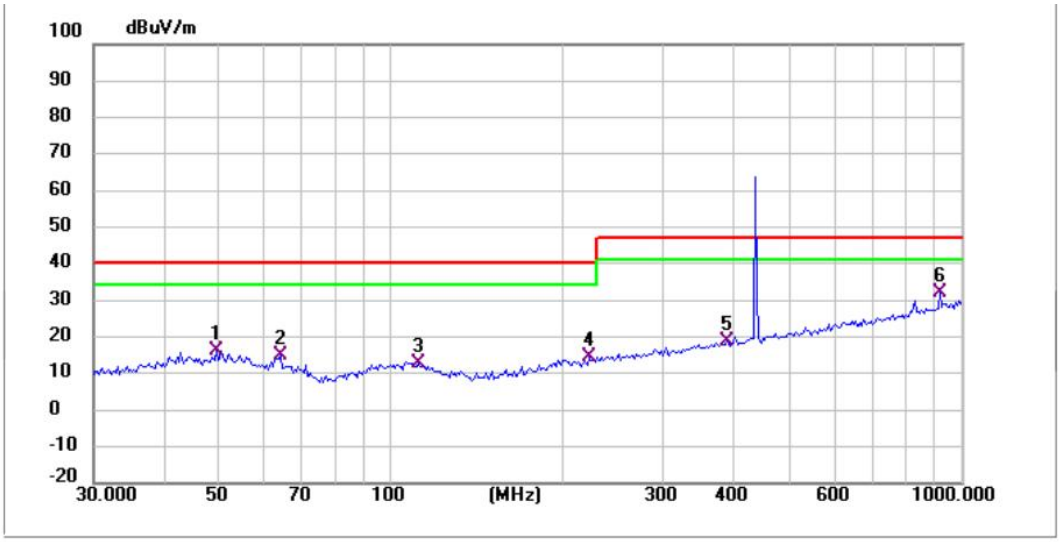
6.1.6.4. Test Data

Mode1 / Polarization: Horizontal / CH: M



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	52.2079	44.52	-28.68	15.84	40.00	24.16	QP
2	106.0126	43.96	-30.35	13.61	40.00	26.39	QP
3	224.5193	44.19	-29.80	14.39	40.00	25.61	QP
4	366.8231	44.82	-26.00	18.82	47.00	28.18	QP
5	595.1327	43.64	-20.79	22.85	47.00	24.15	QP
6 *	744.8661	44.44	-18.50	25.94	47.00	21.06	QP

Mode1 / Polarization: Vertical / CH: M



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	49.3594	44.87	-28.70	16.17	40.00	23.83	QP
2	63.9828	45.56	-30.56	15.00	40.00	25.00	QP
3	111.3468	43.86	-30.88	12.98	40.00	27.02	QP
4	222.9502	44.29	-29.93	14.36	40.00	25.64	QP
5	387.9920	44.28	-25.33	18.95	47.00	28.05	QP
6 *	919.2866	48.30	-16.27	32.03	47.00	14.97	QP

Note:
1>. For 9 kHz ~ 30 MHz Measurement
The EUT was pre-scanned this frequency band, found the radiated level 20dB lower than the limit, so don't show data on this report.
2>. Level= Reading + Factor (Antenna Factor+ Cable Loss- Preamp Factor)
3>. Margin = Limit – Level

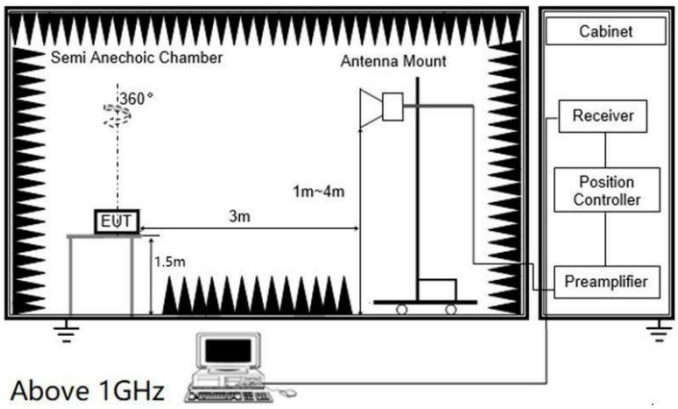
6.1.7. Radiated Emission (above 1GHz)

<table>
<tr><td>Test Requirement:</td><td>47 CFR 15.231</td></tr>
<tr><td>Test Limit:</td><td>
<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.
</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10-2020, Section 6.6</td></tr>
<tr><td>Procedure:</td><td>1>. The EUT was setup and tested according to ANSI C63.10.
2>. The EUT is placed on a turn table which is 0.8 meter above ground for 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3>. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
4>. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5>. Set to the maximum power setting and enable the EUT transmit continuously.
6>. Use the following spectrum analyzer settings
a) Span shall wide enough to fully capture the emission being measured;
b) Set RBW=1MHz, VBW=3MHz, Sweep time=auto, Detector=peak, Trace=max hold for Peak measurement
For average measurement: use duty cycle correction factor method (DCCF)
Average level = Peak level + DCCF</td></tr>
</table>

6.1.7.1. E.U.T. Operation

Operating Environment:					
Temperature:	23 °C	Humidity:	55.7 %	Atmospheric Pressure:	102.3 kPa
Pre test mode:	Mode1				
Final test mode:	Mode1				

6.1.7.2. Test Setup Diagram

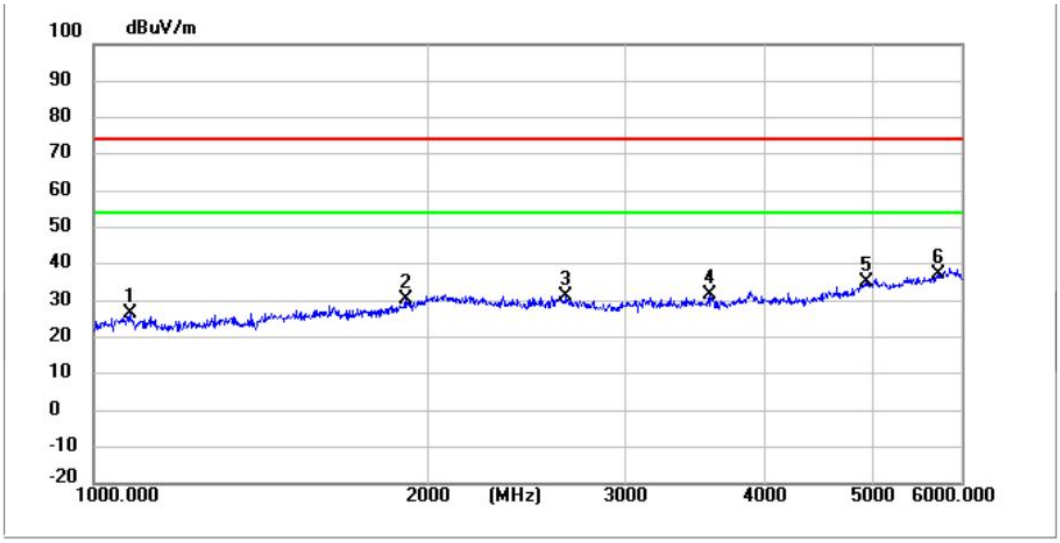


6.1.7.3. Test Result

Pass

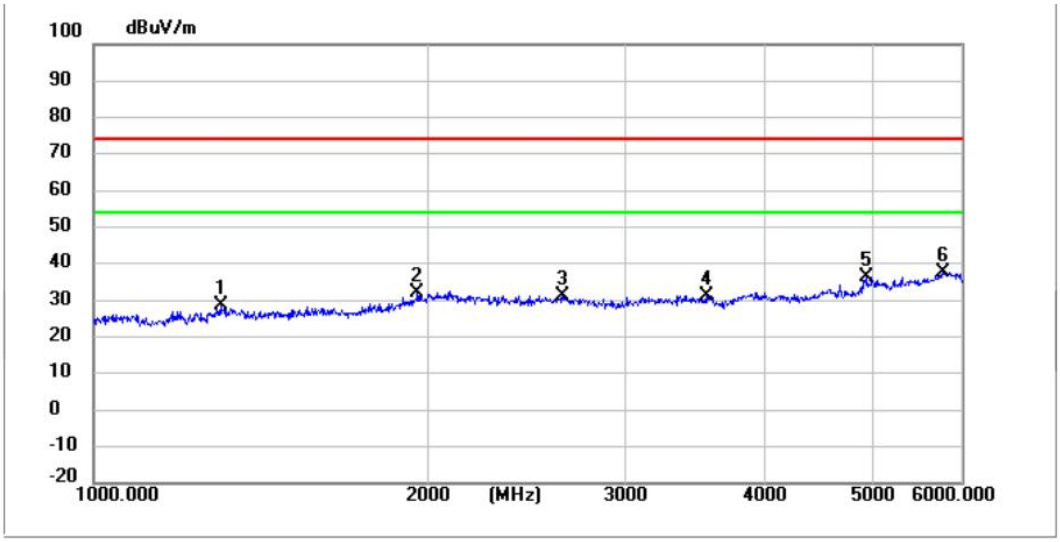
6.1.7.4. Test Data

Mode1 / Polarization: Horizontal / CH: M



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1079.0000	49.15	-22.79	26.36	74.00	47.64	peak
2	1908.5000	46.14	-15.78	30.36	74.00	43.64	peak
3	2659.5000	48.02	-16.74	31.28	74.00	42.72	peak
4	3576.5000	48.36	-16.69	31.67	74.00	42.33	peak
5	4927.5000	47.50	-12.34	35.16	74.00	38.84	peak
6 *	5721.0000	47.75	-10.37	37.38	74.00	36.62	peak

Mode1 / Polarization: Vertical / CH: M



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1303.0000	49.58	-20.79	28.79	74.00	45.21	peak
2	1954.0000	47.20	-15.22	31.98	74.00	42.02	peak
3	2637.0000	47.99	-16.65	31.34	74.00	42.66	peak
4	3543.5000	48.19	-16.79	31.40	74.00	42.60	peak
5	4930.5000	48.61	-12.33	36.28	74.00	37.72	peak
6 *	5794.5000	47.79	-9.95	37.84	74.00	36.16	peak

Note:
1>. Level= Reading + Factor (Antenna Factor+ Cable Loss- Preamp Factor)
2>. Margin = Limit – Level
3>. Average measurement was not performed if peak level is lower than average limit (54dBuV/m) above 1GHz.

------End of the report-----