EUROFINS ELECTRICAL TESTING SERVICE (SHENZHEN) CO., LTD.

RADIO TEST - REPORT

FCC/IC Compliance Test Report

Test Report Number: EFGX19120067-IE-01-E01

Content

Eurofins Electrical Testing Service (Shenzhen) Co., Ltd.
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1 General Information

1.1 Notes

The results of this test report relate exclusively to the item tested as specified in chapter "Description of test item" and are not transferable to any other test items.

Eurofins Product Testing Service (Shenzhen) Co., Ltd. is not responsible for any generalisations and conclusions drawn from this report. Any modification of the test item can lead to invalidity of test results and this test report may therefore be not applicable to the modified test item.

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Operator:

Date	Eurofins-Lab.	Name / Title	Signature
2019-12-19		Bruce Zheng / Project Engineer	

Technical responsibility for area of testing:

Date	Eurofins-Lab.	Name / Title	Signature
2019-12-19		Oliver Lai / RF Supervisor	

1.2 Testing laboratory

Eurofins Electrical Testing Service (Shenzhen) Co., Ltd.
1st Floor, Building 2, Chungu, Meisheng Huigu Science and Technology Park, No. 83 Dabao Road, Bao'an District, Shenzhen. P.R.China.
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The Laboratory has passed the Accreditation by the American Association for Laboratory Accrediation (A2LA). The Accreditation number is 5376.01
The Laboratory has been listed by industry Canada to perform electromagnetic emission measurements, The CAB identifier is CN0088

1.3 Details of approval holder

Name	:	Ningbo EverFlourish Smart Technology Corp.,Ltd
Address	:	77 Wuxiang East Road,Yinzhou,Ningbo, 315111, China
Telephone	:	N/A
Fax	:	N/A

1.4 Details of Manufacturer

Name	:	Ningbo EverFlourish Smart Technology Corp.,Ltd
Address	:	77 Wuxiang East Road,Yinzhou,Ningbo, 315111, China
Telephone	:	N/A
Fax	:	N/A

1.5 Application details

Date of receipt of application	:	December 10, 2019
Date of receipt of test item	:	December 10, 2019
Date of test	:	December 10, 2019 – December 19, 2019
Date of issue		December 19, 2019

1.6 Test item

Product type	:	Remote Control Transmitter
Model name	:	EMW202T-1
Brand	:	Everflourish
Serial number	:	N/A
Ratings	:	3.0Vdc supplied by a type “CR2032” Battery
Test voltage	:	3.0Vdc
FCC ID	:	VBA-EFEMW202T-1
IC	:	7098A-EFEMW202T11
PMN	:	Remote Control Transmitter
HVIN	:	EMW202T-1
Additional information	:	N/A

RadioTechnical data

Frequency range	:	433.92MHz
Radio Tech.	:	N/A
Frequency channel	:	1 Channel
Modulation	:	ASK
Antenna type	:	PCB antenna
Antenna gain	:	1dBi

1.7 Test standards

Test Standards	
FCC Part 15 Subpart C 2018 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators
RSS-210 Issue 9 August 2016	Licence-Exempt Radio Apparatus: Category I Equipment
RSS-GEN Issue 5 March 2019	RSS-Gen — General Requirements for Compliance of Radio Apparatus

Test Method
1: ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
2: ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices.

2 Technical test

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed. ☒

or

The deviations as specified were ascertained in the course of the tests performed. ☐

2.2 Test environment

Temperature	: 20	...	25°C
Relative humidity content	: 30	...	60%
Air pressure	: 100	...	101kPa

2.3 Measurement uncertainty

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

System Measurement Uncertainty	
Test Items	Extended Uncertainty
Uncertainty for Conducted RF test	RF Power Conducted: 1.16dB Frequency test involved: 1.05×10-7 or 1%
Uncertainty for Radiated Spurious Emission 25MHz-3000MHz	Horizontal: 4.46dB; Vertical: 4.54dB;
Uncertainty for Radiated Spurious Emission 3000MHz-18000MHz	Horizontal: 4.42dB; Vertical: 4.41dB;
Uncertainty for Radiated Spurious Emission 18000MHz-40000MHz	Horizontal: 4.63dB; Vertical: 4.62dB;

2.4 Test mode

The EUT was set at continuously transmitting during the test.

2.5 Test equipment utilized

EQUIPMENT ID	EQUIPMENT NAME	MODEL NO.	CAL. DUE DATE
23-2-13-01	EMI Test Receiver	ESR7	2020-04-04
23-2-13-02	Signal Analyzer	N9020B-544	2020-05-05
23-2-12-01	Active Loop Antenna	FMZB 1519B	2020-04-20
23-2-12-02	TRILOG Broadband Antenna	VULB9168	2020-04-13
23-2-12-03	Horn Antenna	3117	2020-04-13
23-2-12-04	Horn Antenna	BBHA 9170	2020-04-17
23-2-12-05	Universal Antenna Stand	CLSA0110	2020-04-13
23-2-10-01	Preamplifier	BBV9745	2020-04-15
23-2-10-02	Preamplifier	EMC001330	2020-04-15
23-2-10-03	Preamplifier	EMC051845SE	2020-05-06
23-2-10-14	Switch and Control Unit	ERIT-E-JS0806-SF1	N/A

2.6 Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.	S/N
N/A	N/A	N/A	N/A

2.7 Test software information

Test Software Version	N/A		
Modulation	Setting TX Power	TX Pattern	Packet Type
ASK	Default	Default	Default

Remark: The EUT has six buttons with same duty cycle and it was setted to continue transimitting by debug software, therefore we pressed one button to transmitting 433.92MHz Fundamental frequency during Testing.

2.8 Customized Configurations

EUT Conf.	Signal Description	Operating Frequency	Duty Cycle
TM1	ASK	433.92MHz	35 %

2.9 Test Environments

Enviroment Parameter	Temperature	Voltage	Relative Humidity
101.7Kpa	26.5℃	3.0Vdc	68.3%

2.10 Test results

☒ 1st test ☐ test after modification ☐ production test

Technical Requirements					
FCC Part 15 Subpart C/ RSS-210 Issue 9/RSS-Gen Issue 5					
Test Condition			Test Result	Verdict	Test Site
§15.207	RSS-GEN 8.8	Conducted emission AC power port	--	N/A	--
§15.231(a)(1)	RSS-210 A1.1	Automatically Deativate	Page 11	Pass	Site 1
§15.231(b)(3)	RSS-210 A1.2	Field strength of fundamental	Page 20	Pass	Site 1
§15.231(b)(3) §15.209 & §15.205	RSS-210 A1.2 RSS-GEN 6.13 RSS-GEN 8.9 RSS-GEN 8.10	Field strength of spurious emission	Page 22	Pass	Site 1
§15.231(c)	--	-20dB Bandwidth	Page 13	Pass	Site 1
--	RSS-GEN 6.7	99% Occupied Bandwidth	Page 13	Pass	Site 1
--	RSS-GEN 8.11	Frequency stability	Page 15	Pass	Site 1
§15.203	RSS-GEN 6.8	Antenna requirement	See note 1	Pass	--

Remark 1: N/A – Not Applicable.
Note 1: The EUT uses a PCB antenna, the gain: 1dBi. According to §15.203/RSS-GEN 6.8, it is considered sufficiently to comply with the provisions of this section.

3 Technical Requirement

3.1 Conducted Emission

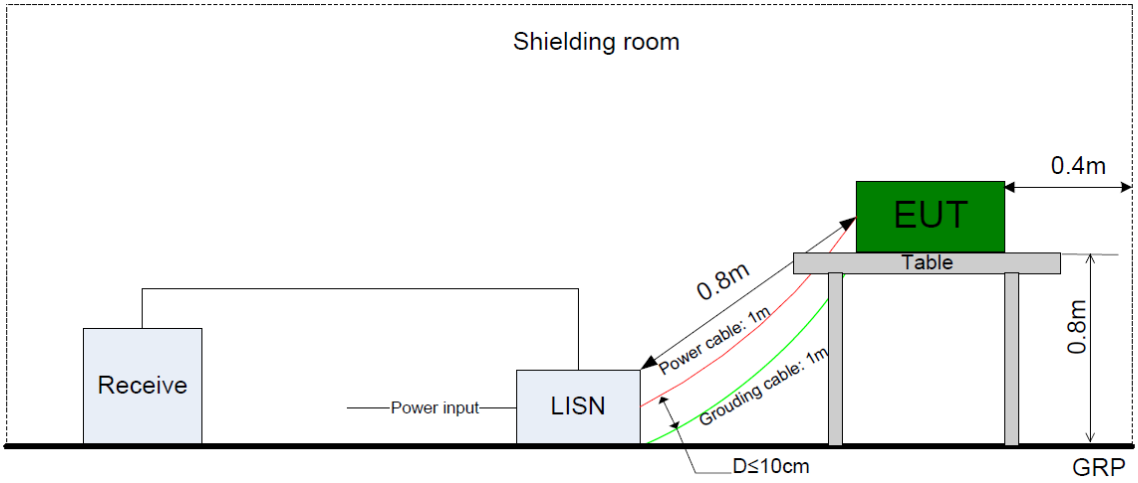
Test Method:
The test method was refered to the subclause 5.2 of ANSI C63.4-2014.

1. The EUT was placed on a table, which is 0.8m above ground plane
2. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
3. Maximum procedure was performed to ensure EUT compliance
4. A EMI test receiver is used to test the emissions from both sides of AC line

Test Setup:

The mains cable of the EUT (per AC/DC Adapter) must be connected to LISN. The LISN shall be placed 0.8 m from the boundary of EUT and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance is between the closest points of the LISN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8m from the LISN.

Ground connections, where required for safety purposes, shall be connected to the reference ground point of the LISN and, where not otherwise provided or specified by the manufacturer, shall be of same length as the mains cable and run parallel to the mains connection at a separation distance of not more than 0.1 m.



Limit:

Frequency MHz	QP Limit dBµV	AV Limit dBµV
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linear.

Test Result:

Not Applicable, the EUT was supplied by 3VDC from a type “CR2025” Battery.

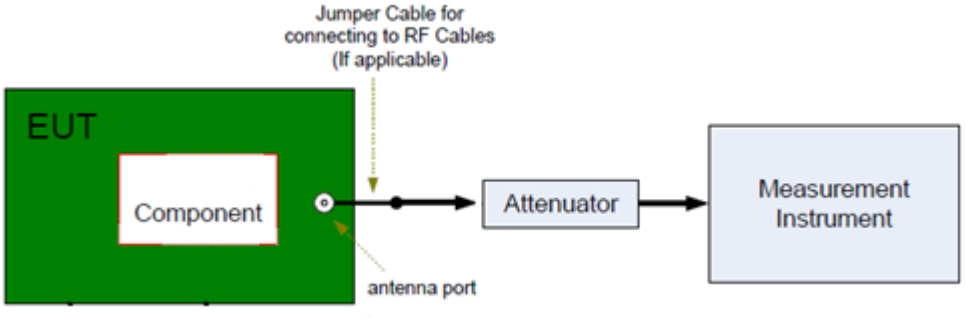
3.2 Automatically Deativate

Test Method

1. Connect EUT test port to spectrum analyzer.
2. Set the EUT to transmit maximum output power at 433.92MHz.
3. RBW=1MHz, VBW≥3RBW, Span=0MHz, Sweep = 10s, Detector function = Average, Sweep time = single
4. Remark transmission time and record test plot.

Test Setup:

The component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The press a button of the EUT is to emit the specified signals for the purpose of measurements.



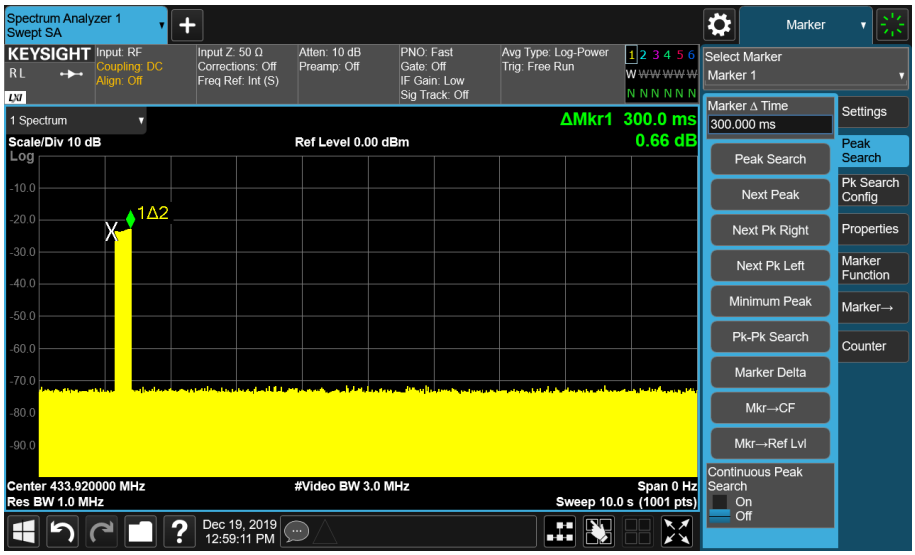
Limits:

According to §15.231 (a) (1), automatically deactivate limit as below:

(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

Test Data:

Time of Transmitting (ms)	Limit (sec)	Result
300	5	Pass



Test Result: Pass

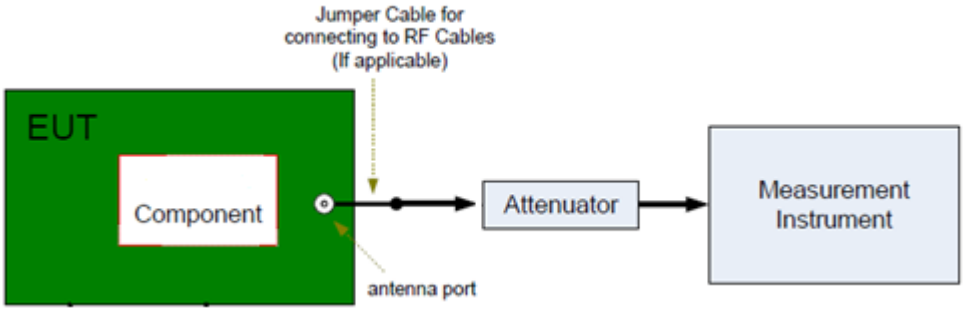
3.3 20dB & 99% bandwidth

Test Method:

1. Connect EUT test port to spectrum analyzer.
2. Set the EUT to transmit maximum output power at 433.92MHz.
3. Then set the EUT to transmit at high, middle and low frequency separately.
4. Set Span = approximately 1.5 to 5 times the 99% bandwidth.
5. Set RBW ≥ 1% to 5% of the 99% bandwidth, VBW ≥ RBW.
6. Set Sweep = auto.
7. Set Detector function = Average.
8. Allow the trace to stabilize.
9. Repeat above procedures until all frequencies measured were complete.

Test Setup:

The component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The press a button of the EUT is to emit the specified signals for the purpose of measurements.

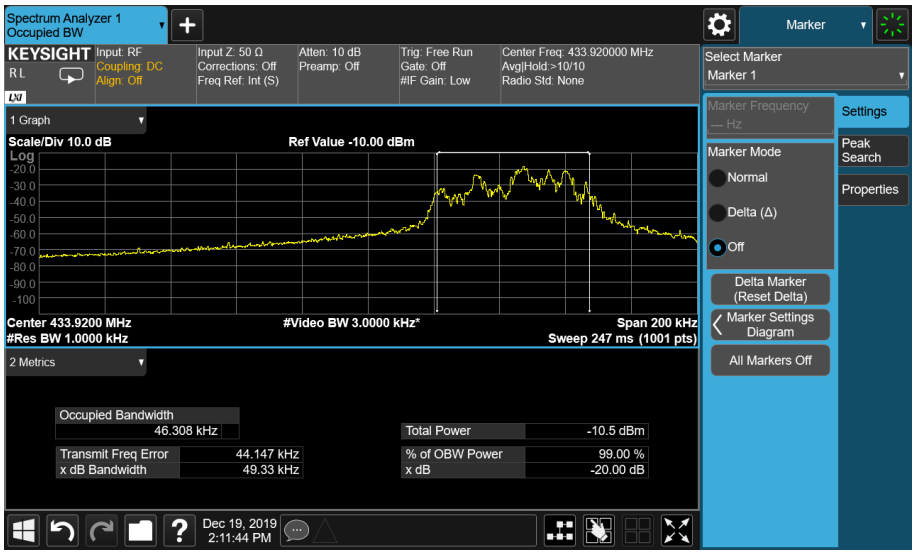


Limit:

According to §15.231 (c), automatically deactivate limit as below:
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.
According to RSS-GEN 6.7, no limit for 99% bandwidth:

Test Result

20dB Bandwidth (KHz)	99% Bandwidth (KHz)	Limit (KHz)	Result
44.147	46.308	1084.80	Pass



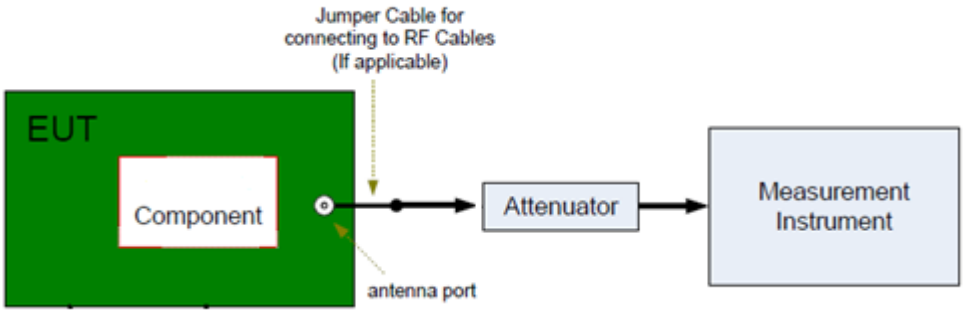
3.4 Frequency Stability

Test Method:

1. Connect EUT test port to spectrum analyzer.
2. Set the EUT to transmit maximum output power at 433.92MHz.
3. RBW=1K, VBW≥3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize, record the frequency value.

Test Setup:

The component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The press a button of the EUT is to emit the specified signals for the purpose of measurements.



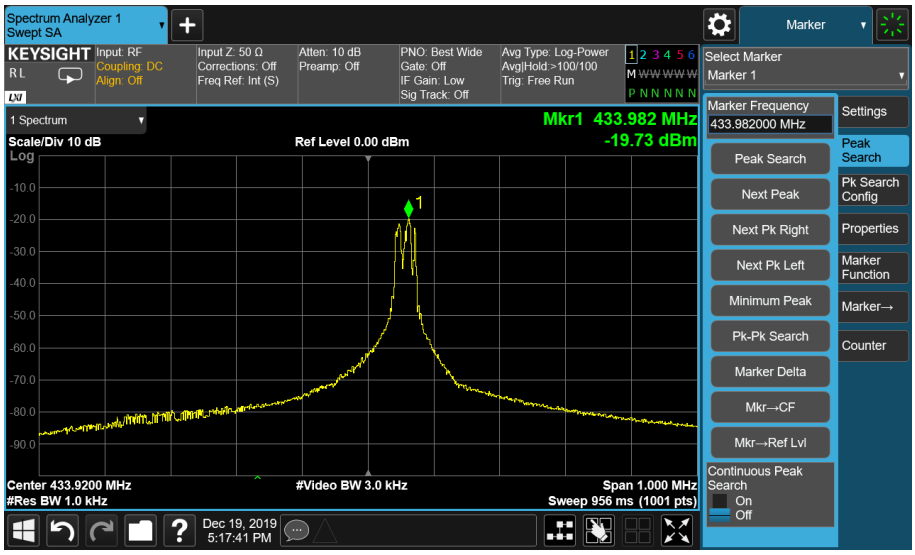
Limit:

According to RSS-GEN 8.11 limit as below:

the fundamental emissions of the radio apparatus should be kept within at least the central 80% of its permitted operating frequency band in order to minimize the possibility of out-of-band operation.

Test Result

Test Frequency (MHz)	Limit	Result
433.982	±80% of Permitted operating frequency	Pass



3.5 Field strength of fundamental and Field strength of spurious emission for transmitter

Test Method:

1: The EUT was place on a turn table which is 1.5m above ground plane for above 1GHz and 0.8m above ground for below 1GHz at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

2: The EUT was set 3 meters away from the interference – receiving antenna, which was mounted on the top of a variable – height antenna tower.

3: The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

4: For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

5: Use the following spectrum analyzer settings According to C63.10:

For Above 1GHz

Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 1MHz, VBW≥RBW for peak measurement and VBW = 10Hz for average measurement, Sweep = auto, Detector function = peak, Trace = max hold.

For Below 1GHz

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 100 KHz, VBW≥RBW for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

For Below 30MHz

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious
RBW = 200 Hz, VBW⩾RBW from 9KHz to 0.15MHz, RBW 9KHz VBW⩾RBW from 0.15MHz to 30MHz for peak measurement, Sweep = auto, Detector function = peak, Trace = max hold.

Note:

1: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Quasi-peak detection (QP) at frequency below 1GHz.

2: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for peak detection (PK) at frequency above 1GHz.

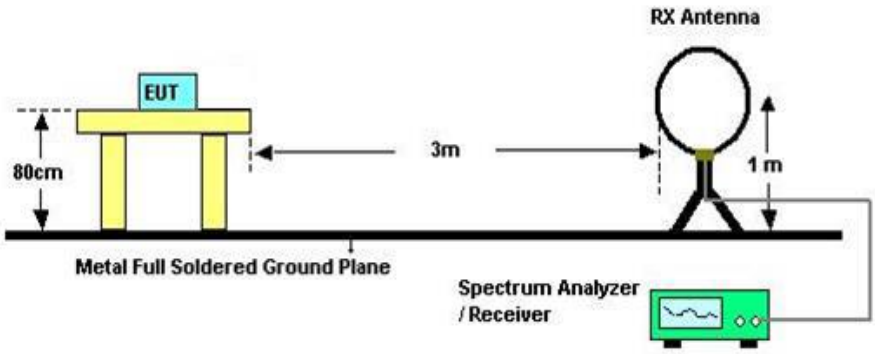
3: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average ((duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor (20log(1/duty cycle)).

4: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (duty cycle > 98%) for Average detection (AV) at frequency above 1GHz.

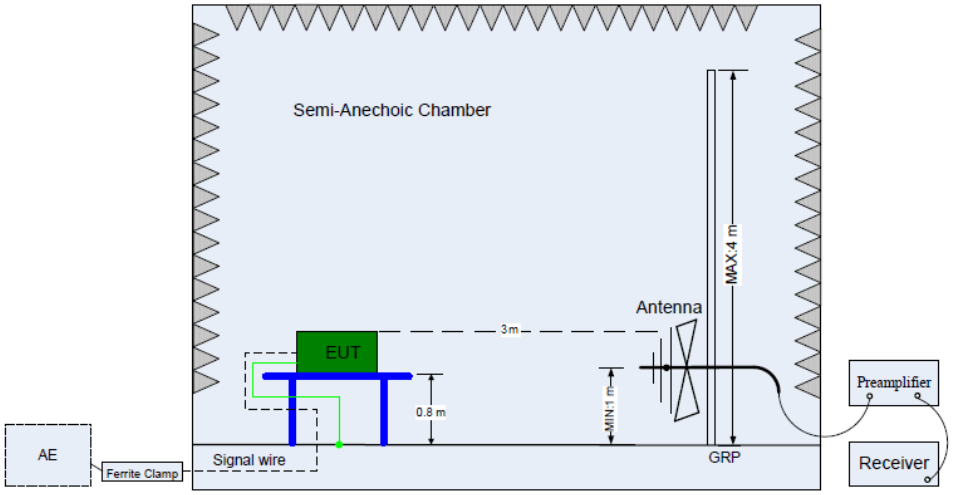
Test Setup:

Test Setup 1: Radiated Emission test below 30MHz

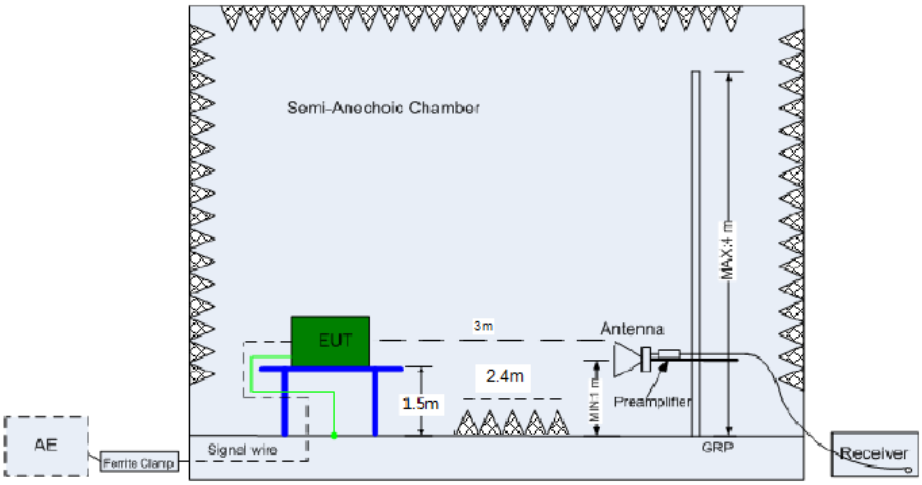
The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.4. The test distance is 3m. The setup is according to ANSI C63.4.



Test Setup 2: Radiated Emission test below 1GHz
The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.4. The test distance is 3m. The setup is according to ANSI C63.4.



Test Setup 3: Radiated Emission test above 1GHz
The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.4. The test distance is 3m. The setup is according to ANSI C63.4.



Limit:
Radiated emissions which fall in the restricted bands, as defined in section15.205, must comply with the radiated emission limits specified in section 15.209.

§ 15.209

Frequency MHz	Field Strength uV/m	Field Strength dBµV/m	Detector
30-88	100	40	QP
88-216	150	43.5	QP
216-960	200	46	QP
960-1000	500	54	QP
Above 1000	500	54	AV
Above 1000	5000	74	PK

§15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

RSS-GEN 8.10

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	1660 - 1710	9.0 - 9.2
0.495 - 0.505	16.69475 - 16.69525	1718.8 - 1722.2	9.3 - 9.5
2.1735 - 2.1905	25.5 - 25.67	2200 - 2300	10.6 - 12.7
3.020 - 3.026	37.5 - 38.25	2310 - 2390	13.25 - 13.4
4.125 - 4.128	73 - 74.6	2483.5 - 2500	14.47 - 14.5
4.17725 - 4.17775	74.8 - 75.2	2655 - 2900	15.35 - 16.2
.20725 - 4.20775	108 – 138	3260 – 3267	17.7 - 21.4
5.677 - 5.683	149.9 - 150.05	3332 - 3339	22.01 - 23.12
6.215 - 6.218	156.52475 - 156.52525	3345.8 - 3358	23.6 - 24.0
6.26775 - 6.26825	156.7 - 156.9	3500 - 4400	31.2 - 31.8
6.31175 - 6.31225	162.0125 - 167.17	4500 - 5150	36.43 - 36.5
8.291 - 8.294	167.72 - 173.2	5350 - 5460	Above 38.6
8.362 - 8.366	240 – 285	7250 - 7750	
8.37625 - 8.38675	322 - 335.4	8025 – 8500	
8.41425 - 8.41475	399.9 - 410		
12.29 - 12.293	608 - 614		
12.51975 - 12.52025	960 - 1427		

12.57675 - 12.57725	1435 - 1626.5		
13.36 - 13.41	1645.5 - 1646.5		

§15.231 (b) In addition to the provisions of §15.205, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emissions (microvolts/meter)
40.66-40.70	2,250	225
70-130	1,250	125
130-174	[1]1,250 to 3,750	[1]125 to 375
174-260	3,750	375
260-470	[1]3,750 to 12,500	[1]375 to 1,250
Above 470	12,500	1,250

RSS-210 A1.2 (b) Unwanted emissions shall be 10 times below the fundamental emissions field strength limits in Table A1 or comply with the limits specified in RSS-Gen, whichever is less stringent.

Fundamental Frequency (MHz), Excluding Restricted Frequency Bands Specified in RSS-Gen	Field Strength of the Fundamental Emissions (µV/m at 3m)
70-130	1,250
130-174	1,250 to 3,750*
174-260 (Note 1)	3,750
260-470 (Note 1)	3,750 to 12,500*
Above 470	12,500

* Linear interpolation with frequency, f, in MHz:
For 130-174 MHz: Field Strength (µV/m) = (56.82 × f)−6136
For 260-470 MHz: Field Strength (µV/m) = (41.67 × f)−7083
Note 1: Frequency bands 225-328.6 MHz and 335.4-399.9 MHz are designated for the exclusive use of the Government of Canada. Manufacturers should be aware of possible harmful interference and degradation of their licence-exempt radio equipment in these frequency bands.

Field Strength of the Fundamental Emissions
The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit.
Fundamental Average (dBµV/m) = 20log (41.67x433.92)-7083=80.83dBuV/m (Average)
Fundamental Peak (dBµV/m) = 80.83dBuV/m + 20 = 100.83dBuV/m

Remark:

(1) "*" means the emission(s) appear within the restrict bands shall follow the requirement of section 15.205.
(2) Data of measurement within this frequency range shown "--" in the table above means the reading of emissions are the noise floor or attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
(3) Above 1GHz: Corrector factor = Antenna Factor + Cable Loss - Amplifier Gain.
(4) Below 1GHz: Corrector factor = Antenna Factor + Cable Loss - Amplifier Gain.
(5) Note: The low frequency, which started from 9 kHz to 30MHz with X/Y/Z axis, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

Field Strength of the Fundamental Emissions
Horizontal
PK

Freq. [MHz]	PK Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
433.923	87.65	-13.01	100.83	13.18	100	95	Horizontal

PK with Duty factor (AV)

Freq. [MHz]	PK Level [dBµV/m]	Factor (dB)	Duty Factor (dB)	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
433.92	87.65	-13.01	-9.1	80.83	2.28	100	95	Horizontal

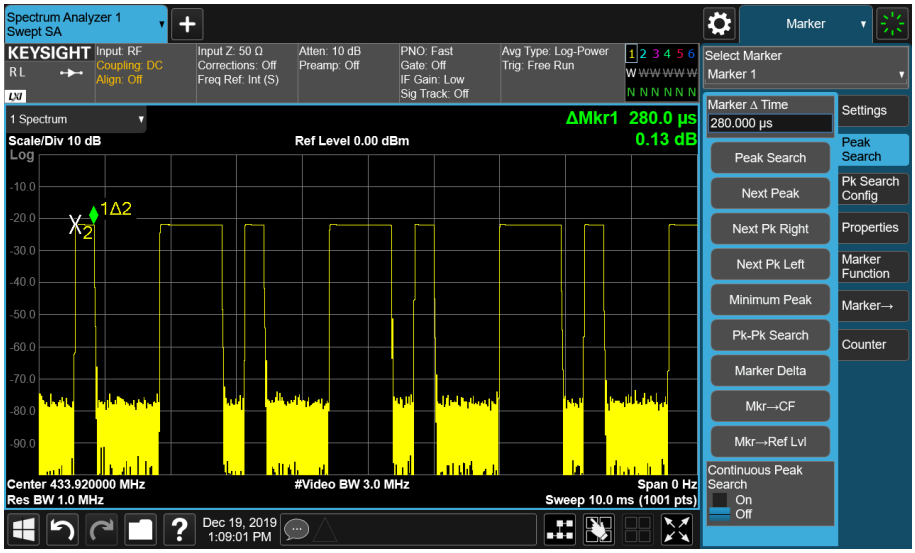
Vertical
PK

Freq. [MHz]	PK Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
433.923	74.48	-13.01	100.83	26.35	100	95	Vertical

PK with Duty factor (AV)

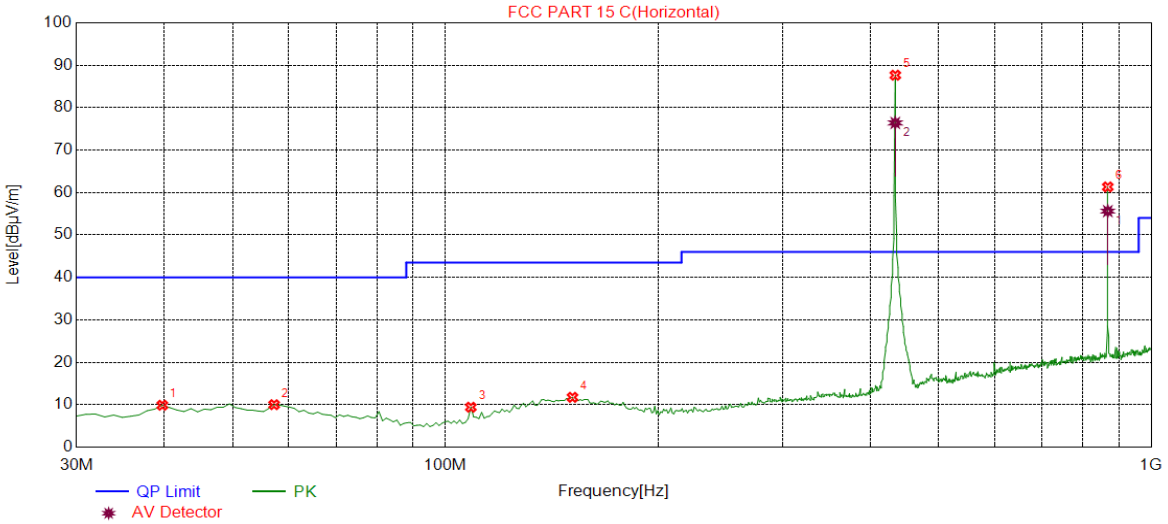
Freq. [MHz]	PK Level [dBµV/m]	Factor (dB)	Duty Factor (dB)	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
433.92	74.48	-13.01	-9.1	80.83	15.45	100	95	Vertical

Result of PK=Reading Level +Antenna Factor + Cable Loss - Amplifier Gain.
Result of AV= Reading Level +Antenna Factor + Cable Loss - Amplifier Gain+Duty factor.
Duty factor=20 log (14.43/41.20)=-9.1dB


Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Off
Input Z: 50 Ω
Corrections: Off
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Trig: Free Run
Marker
Select Marker
Marker 1
1 Spectrum
ΔMkr1 280.0 µs
0.13 dB
Scale/Div 10 dB
Ref Level 0.00 dBm
Log
1Δ2
Marker Δ Time
280.000 µs
Settings
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Minimum Peak
Pk-Pk Search
Marker Delta
Mkr→CF
Mkr→Ref Lvl
Pk Search Config
Properties
Marker Function
Marker→
Counter
Continuous Peak Search
On
Off
Center 433.920000 MHz
Res BW 1.0 MHz
#Video BW 3.0 MHz
Span 0 Hz
Sweep 10.0 ms (1001 pts)
Dec 19, 2019
1:09:01 PM

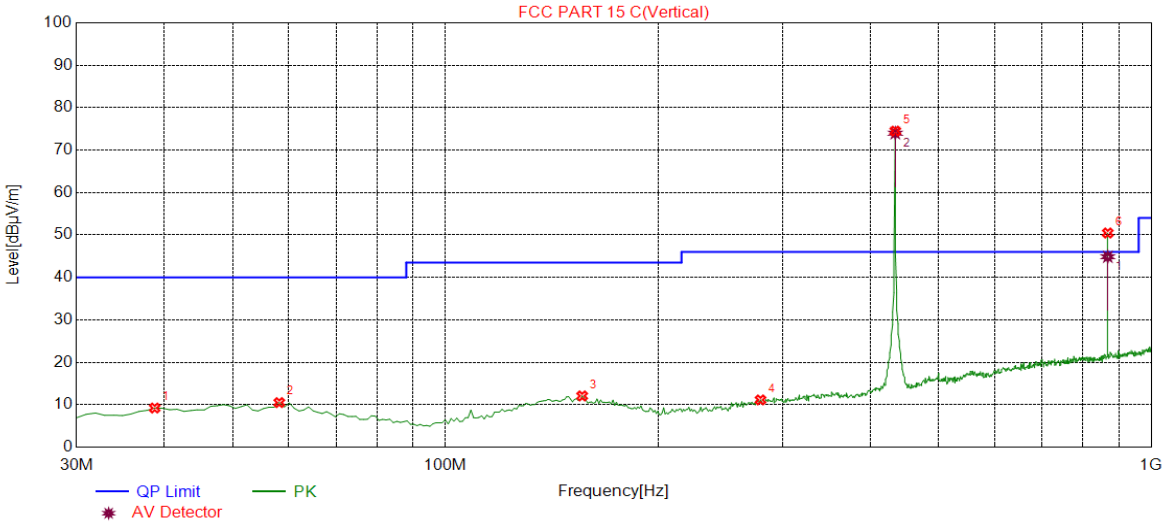

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Off
Input Z: 50 Ω
Corrections: Off
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
PNO: Best Close
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Trig: Free Run
Marker
Select Marker
Marker 1
1 Spectrum
ΔMkr1 930.0 µs
-0.03 dB
Scale/Div 10 dB
Ref Level 0.00 dBm
Log
1Δ2
Marker Δ Time
930.000 µs
Settings
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Minimum Peak
Pk-Pk Search
Marker Delta
Mkr→CF
Mkr→Ref Lvl
Pk Search Config
Properties
Marker Function
Marker→
Counter
Continuous Peak Search
On
Off
Center 0 Hz
Res BW 1.0 MHz
#Video BW 3.0 MHz
Span 0 Hz
Sweep 10.0 ms (1001 pts)
Dec 19, 2019
1:09:34 PM

Field strength of spurious emission for transmitter 30MHz – 1GHz



Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
39.7097	9.88	-16.44	40.00	30.12	100	232	Horizontal	QP
57.1872	10.02	-16.37	40.00	29.98	100	59	Horizontal	QP
108.648	9.42	-19.54	43.50	34.08	100	213	Horizontal	QP
151.371	11.75	-14.90	43.50	31.75	100	280	Horizontal	QP
867.947	61.33	-6.07	80.83	19.50	100	118	Horizontal	QP

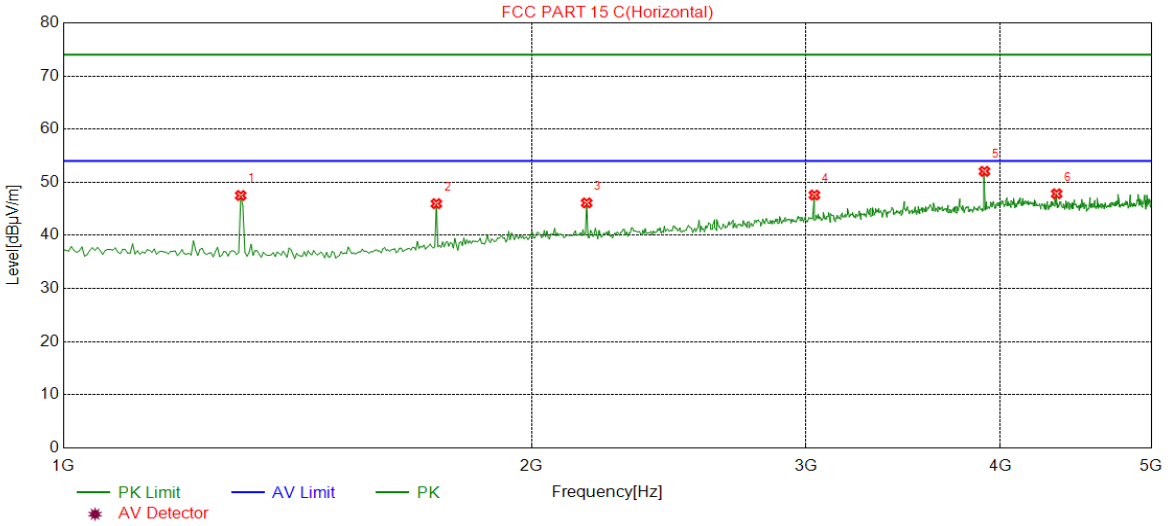
Freq. [MHz]	QP Level [dBµV/m]	Duty factor (dB)	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
867.947	61.33	-9.10	60.83	8.60	100	118	Horizontal	AV



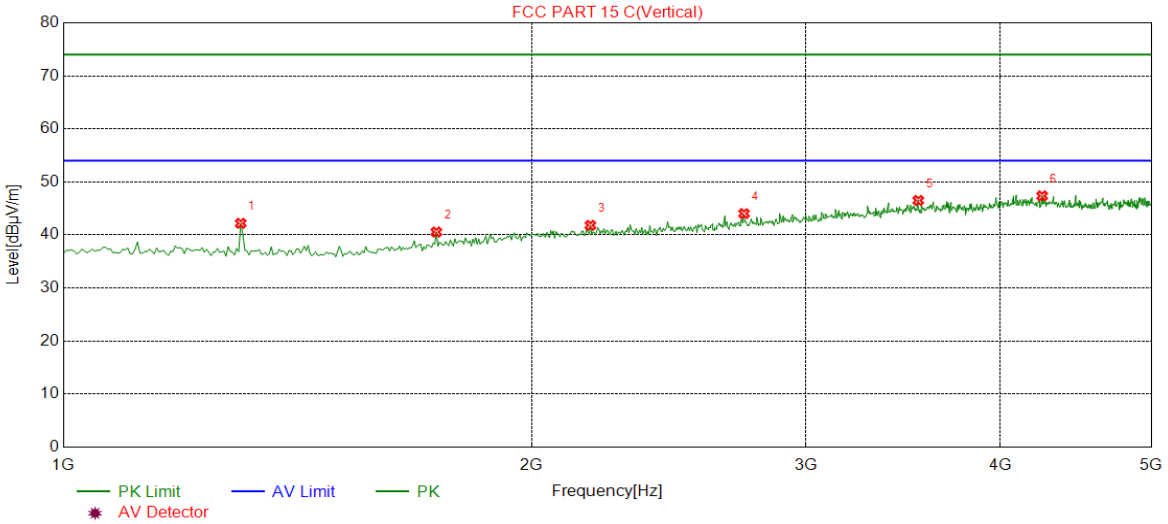
Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
38.7387	9.23	-16.63	40.00	30.77	100	308	Vertical	QP
58.1582	10.51	-16.41	40.00	29.49	100	346	Vertical	QP
156.226	12.08	-15.08	43.50	31.42	100	286	Vertical	QP
279.539	11.14	-16.23	46.00	34.86	100	24	Vertical	QP
867.947	50.47	-6.07	80.83	30.36	100	60	Vertical	QP

Freq. [MHz]	QP Level [dBµV/m]	Duty factor (dB)	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
867.947	50.47	-9.10	60.83	19.46	100	60	Horizontal	AV

Field strength of spurious emission for transmitter above 1GHz
According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.



Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1300.30	47.51	-27.62	74.00	26.49	150	29	Horizontal	PK
1736.73	45.98	-26.04	74.00	28.02	150	206	Horizontal	PK
2169.16	46.12	-23.47	74.00	27.88	150	135	Horizontal	PK
3038.03	47.60	-20.18	74.00	26.40	150	110	Horizontal	PK
3906.90	52.06	-16.60	74.00	21.94	150	83	Horizontal	PK
4347.34	47.84	-15.86	74.00	26.16	150	277	Horizontal	PK



Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1300.30	42.20	-27.62	74.00	31.80	150	24	Vertical	PK
1736.73	40.56	-26.04	74.00	33.44	150	5	Vertical	PK
2181.18	41.82	-23.46	74.00	32.18	150	256	Vertical	PK
2737.73	44.04	-21.51	74.00	29.96	150	60	Vertical	PK
3542.54	46.52	-18.13	74.00	27.48	150	338	Vertical	PK
4255.25	47.38	-16.15	74.00	26.62	150	189	Vertical	PK

END