CFR 47 FCC PART 15 SUBPART C
ISED RSS-210 ISSUE 11

TEST REPORT

For

DT80xx, DUAL TECH Motion Sensor

MODEL NUMBER: DT8050F24

REPORT NUMBER: 4791471272-RF-3

ISSUE DATE: November 7, 2024

FCC ID: 2BHWQ-DT8050
IC: 12252A-DT8050

Prepared for

FCC Company Name: Honeywell International Inc.
IC Company Name: Honeywell International Inc. Life Safety
12 Clintonville Road Northford CT 06472 United States Of America

Prepared by

UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch

Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China

Tel: +86 769 22038881
Fax: +86 769 33244054
Website: www.ul.com

Revision History

Rev.	Issue Date	Revisions	Revised By
V0	November 7, 2024	Initial Issue	

Summary of Test Results			
Clause	Test Items	FCC/IC Rules	Test Results
1	20dB Bandwidth	FCC Part 2.1049	Pass
2	99%dB Bandwidth	RSS-Gen Clause 6.7	Pass
3	TX Spurious Emission	CFR 47 FCC §15.249 (a)(d)(e) ISED RSS-210 Annex B B.10 CFR 47 FCC §15.205 and §15.209 RSS-GEN Clause 8.9 RSS-GEN Clause 8.10	Pass
4	AC Power Line Conducted Emission	FCC Part 15.207 RSS-GEN Clause 8.8	Pass
Note 1: This test report is only published to and used by the applicant, and it is not for evidence purpose in China. Note 2: The measurement result for the sample received is <Pass> according to < CFR 47 FCC PART 15 SUBPART C, ISED RSS-210 ISSUE 11 > when <Simple Acceptance> decision rule is applied.			

CONTENTS

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	FCC Company Name: Honeywell International Inc. IC Company Name: Honeywell International Inc. Life Safety
Address:	12 Clintonville Road Northford CT 06472 United States Of America

Manufacturer Information

Company Name:	Novar GmbH
Address:	Johannes-Mauthe-Strasse 14 D-72458 Albstadt / Germany

EUT Description

EUT Name:	DT80xx, DUAL TECH Motion Sensor
Model:	DT8050F24
Sample Status:	normal
Sample ID:	7587752-1
Sample Received Date:	September 5, 2024
Date of Tested:	September 5, 2024 ~ November 7, 2024

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 FCC PART 15 SUBPART C	Pass
ISED RSS-210 ISSUE 11	Pass

Prepared By:

Fanny Huang

Engineer Project Associate

Checked By:

Kebo Zhang

Senior Project Engineer

Approved By:

Stephen Guo

Operations Manager

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 414788 D01 Radiated Test Site v01r01, FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, ISED RSS-210 ISSUE 11 and ISED RSS-GEN Issue 5.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4102.01)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1187)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules **ISED (Company No.: 21320)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046. **VCCI (Registration No.: G-20192, C-20153, T-20155 and R-20202)** UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20192 and R-20202 Shielding Room B, the VCCI registration No. is C-20153 and T-20155

Note 1:
All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China.

Note 2:
The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd.
Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3:
For below 30 MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30 MHz had been correlated to measurements performed on an OFS.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Conduction emission	3.62dB
Radiation Emission test(include Fundamental emission) (9kHz-30MHz)	2.2dB
Radiation Emission test(include Fundamental emission) (30MHz-1GHz)	4.00dB
Radiation Emission test (1GHz to 26GHz)(include Fundamental emission)	5.78dB (1 GHz-18 GHz)
	5.23dB (18 GHz-26 GHz)
Radiated Emission (Included Fundamental Emission) (40 GHz to 110 GHz)	5.385 dB (40 GHz ~ 60 GHz)
	5.320 dB (60 GHz ~ 90 GHz)
	5.312 dB (90 GHz ~ 110 GHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	DT80xx, DUAL TECH Motion Sensor
Model	DT8050F24

Frequency Range:	24.00 ~ 24.25 GHz
Channel Number:	1
Type of Modulation:	CW
Antenna Type:	Planar array antenna
Antenna Gain:	9 dBi
Normal Test Voltage:	DC 12 V

5.2. SUPPORT UNITS FOR SYSTEM TEST

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Remarks
1	Power adapter	/	/	Input: AC 100-240V, 50-60Hz, 0.6A Output: DC 12V, 2A, 24W

I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	DC In	/	Unshielded	1.0	/

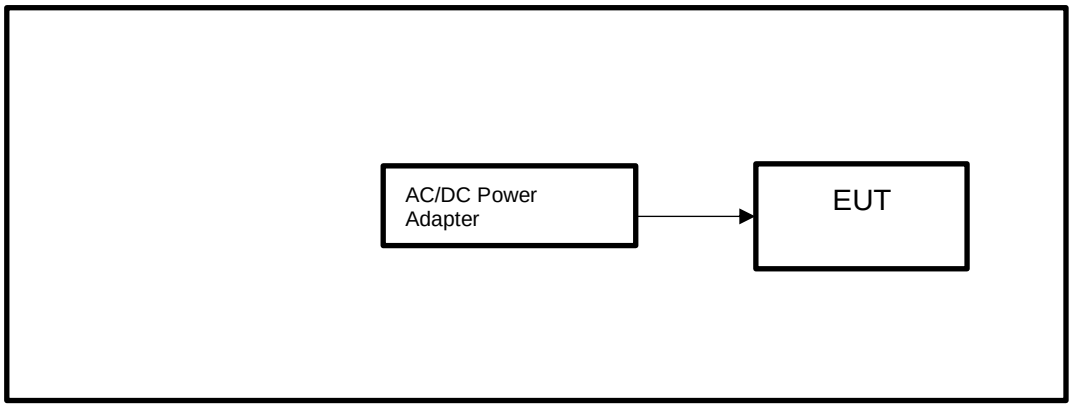
ACCESSORIES

Item	Accessory	Brand Name	Model Name	Description
/	/	/	/	/

TEST SETUP

The EUT can work in engineering mode with a software through a laptop.

SETUP DIAGRAM FOR TESTS



6. MEASURING EQUIPMENT AND SOFTWARE USED

Radiated Emissions for below 40GHz						
Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Due Date
MXE EMI Receiver	KESIGHT	N9038A	MY56400036	Oct.12, 2023	Sep.28, 2024	Sep.27, 2025
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130959	/	May.08, 2023	May.07 2026
Preamplifier	HP	8447D	2944A09099	Oct.12, 2023	Sep.28, 2024	Sep.27, 2025
EMI Measurement Receiver	R&S	ESR26	101377	Oct.12, 2023	Sep.28, 2024	Sep.27, 2025
Horn Antenna	TDK	HRN-0118	130939	/	Apr.29, 2022	Apr.28, 2025
Preamplifier	TDK	PA-02-0118	TRS-305-00067	Oct.12, 2023	Sep.28, 2024	Sep.27, 2025
Horn Antenna	Schwarzbeck	BBHA9170	697	/	Jun 30, 2024	Jun 29, 2027
Preamplifier	TDK	PA-02-2	TRS-307-00003	Oct.12, 2023	Sep.28, 2024	Sep.27, 2025
Preamplifier	TDK	PA-02-3	TRS-308-00002	Oct.12, 2023	Sep.28, 2024	Sep.27, 2025
Loop antenna	Schwarzbeck	1519B	00008	Dec.14, 2021	Dec.14, 2021	Dec.13, 2024
Preamplifier	TDK	PA-02-001-3000	TRS-302-00050	Oct.12, 2023	Sep.28, 2024	Sep.27, 2025
Test Software						
Description	Manufacturer		Name		Version	
Test Software for Radiated Emissions	Farad		EZ-EMC		Ver. UL-3A1.3	

Conducted Emissions						
Equipment	Manufacturer	Model No.	Serial No.	Upper Last Cal.	Last Cal.	Due Date
EMI Test Receiver	R&S	ESR3	101961	Oct.12, 2023	Sep.28, 2024	Sep.27, 2025
Two-Line V-Network	R&S	ENV216	101983	Oct.12, 2023	Sep.28, 2024	Sep.27, 2025
Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Oct.12, 2023	Sep.28, 2024	Sep.27, 2025
Software						
Description			Manufacturer	Name	Version	
Test Software for Conducted Emissions			Farad	EZ-EMC	Ver. UL-3A1	

Radiated Emissions for above 40GHz					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due. Date
MXA Signal Analyzer	KESIGHT	N9020A	MY54432249	Mar.07, 2024	Mar.07, 2025
Millimeter Wave Frequency Conversion Receiving Unit and Antenna (40-60GHz)	Tonscend	Tonscend MMFC-R190-L0F0	202305240000	May 14, 2024	May 13, 2025
Millimeter Wave Frequency Conversion Receiving Unit and Antenna (60-90GHz)	Tonscend	Tonscend MMFC-R120-L0F0	202305240000	Jan.01, 2024	Jan.01, 2025
Millimeter Wave Frequency Conversion Receiving Unit and Antenna (75-110GHz)	Tonscend	Tonscend MMFC-R100-L0F0	202305240000	May 09, 2024	May 08, 2025

Software			
Description	Manufacturer	Name	Version
mmWave Test Software	Tonscend	JS1120-mmWave Test Software	V1.0

7. TEST RESULTS

7.1. ON TIME AND DUTY CYCLE

LIMITS

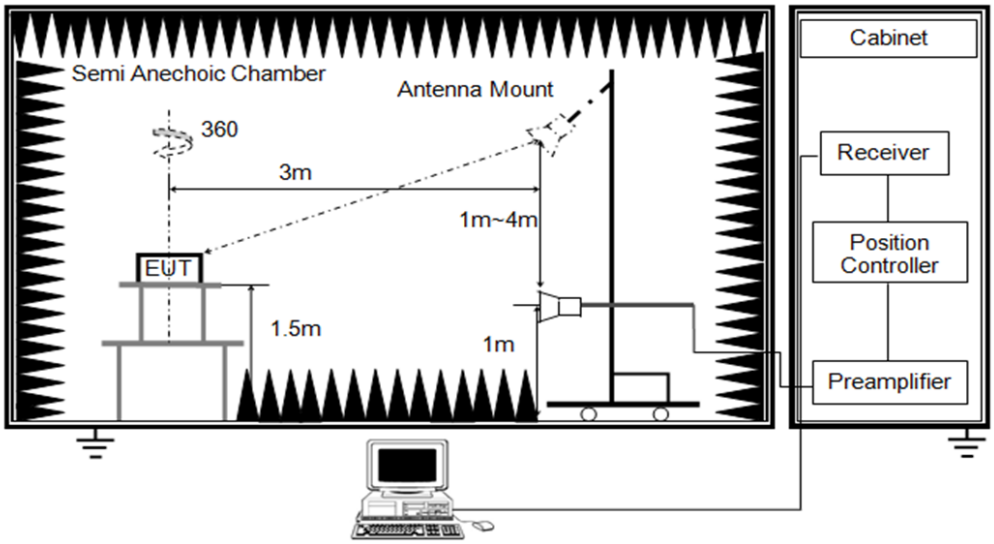
None; for reporting purposes only.

TEST PROCEDURE

Refer to ANSI C63.10-2013 Zero – Span Spectrum Analyzer method.

TEST SETUP

Above 1 GHz



a. Set RBW of spectrum analyzer to 8 MHz and VBW to 8 MHz.
b. Use a video trigger with the trigger level set to enable triggering only on full pulses.
c. Sweep Time is at least a 100 ms.
d. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
e. Measure the maximum time duration of one single pulse.

TEST ENVIRONMENT

Temperature	23.6°C	Relative Humidity	53%
Atmosphere Pressure	101kPa	Test Voltage	DC 12 V

RESULTS

Ton times (ms)	Period (ms)	Duty Cycle (Linear)	Duty Cycle Correction Factor
0.0059	0.0198	0.30	-10.46

Note: Duty Cycle Correction Factor=20log(x).
Where: x is Duty Cycle

Ton

7.2. 20 DB BANDWIDTH AND 99 % OCCUPIED BANDWIDTH

LIMITS

CFR 47 FCC Part15 (15.249) Subpart C RSS-Gen Issue 5			
Section	Test Item	Limit	Frequency Range (GHz)
CFR 47 FCC 15.249(d)	20dB Bandwidth	for reporting purposes only	24~24.25 GHz
ISED RSS-Gen Clause 6.7 Issue 5	99% Bandwidth	N/A	24~24.25 GHz

TEST PROCEDURE

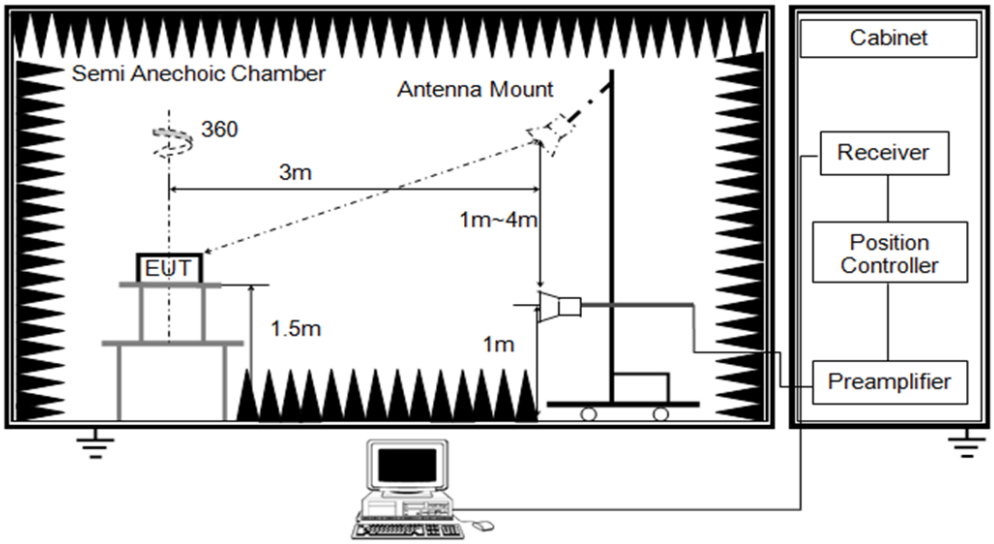
Spectrum analyzer and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	1 % to 5 % of the occupied bandwidth
VBW	approximately 3×RBW
Trace	Max hold
Sweep	Auto couple

Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB / 99 % relative to the maximum level measured in the fundamental emission.

TEST SETUP

Above 1 GHz



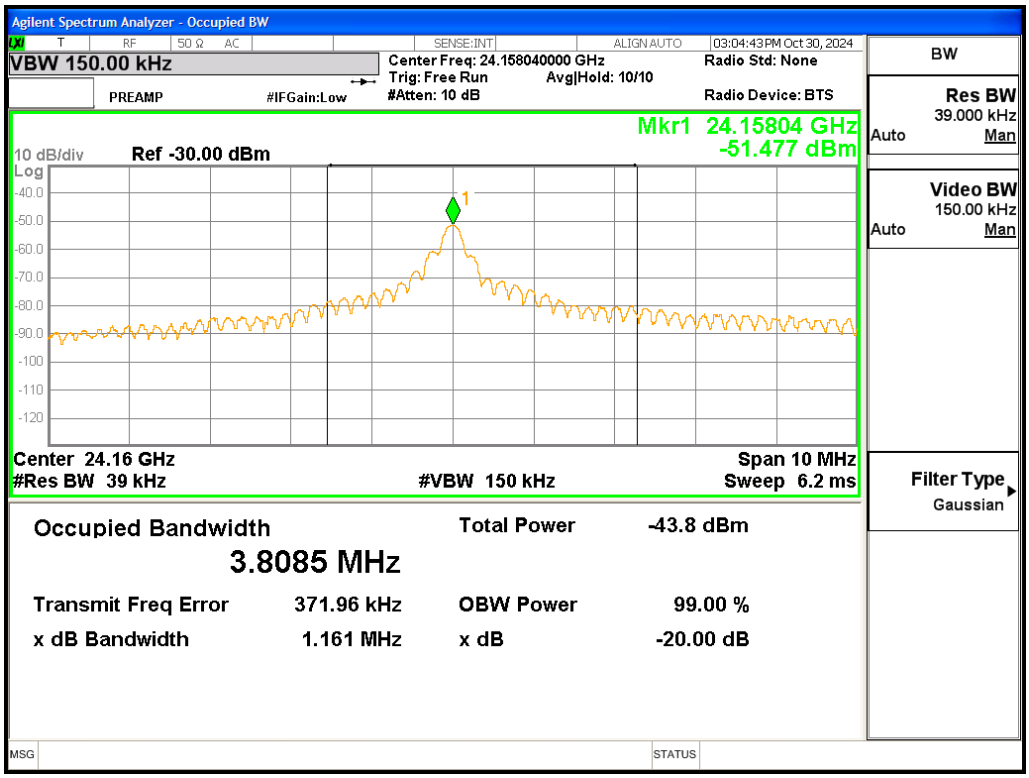
TEST ENVIRONMENT

Temperature	23.6°C	Relative Humidity	53%
Atmosphere Pressure	101kPa	Test Voltage	DC 12 V

RESULTS

Channel	20 dB bandwidth (MHz)	99 % bandwidth (MHz)	Result
1	1.161	3.8085	PASS

BANDWIDTH CH1



7.3. RADIATED TEST RESULTS

LIMITS

Please refer to CFR 47 FCC §15.205 and §15.209.

CFR 47 FCC §15.249 (a)(d)(c)(e) and ISED RSS-210 Issue 11 Annex B B.10

Please refer to ISED RSS-GEN Clause 8.9 and Clause 8.10.

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

The field strength of emissions from intentional radiators operated within these frequency bands			
Frequency (MHz)	Average Field strength of Fundamental	Average Field strength of Harmonics	Distance (m)
24000 - 24250	250 mV/m (107.96dBuV/m)	2500 uV/m (67.96dBuV/m)	3
	Peak Field strength of Fundamental	Peak Field strength of Harmonics	3
	127.96dBuV/m	87.96dBuV/m	3

Frequency (MHz)	Average Field strength of Fundamental	Average Field strength of Harmonics	Distance (m)
24000 - 24250	117.50	77.50	1
	Peak Field strength of Fundamental	Peak Field strength of Harmonics	1
	137.50	97.50	1

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.

[About Fundamental Measurement]
According to ANSI C63.10-2013, Clause 9, The carrier levels were confirmed at maximum direction of transmission. The maximum direction was searched under carefully since beam-widths are narrow.

Emissions radiated outside of the specified frequency bands above 30 MHz							
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m		Field Strength Limit (dBuV/m) at 1 m		Field Strength Limit (dBuV/m) at 0.75 m	
		Quasi-Peak		Quasi-Peak		Quasi-Peak	
30 - 88	100	40		/		/	
88 - 216	150	43.5		/		/	
216 - 960	200	46		/		/	
Above 960	500	54		/		/	
Above 1000	500	Peak	Average	Peak	Average	Peak	Average
		74	54	83.5	63.5	86	66

$$E_{SpecLimit} = E_{Meas} + 20\log\left(\frac{d_{Meas}}{d_{SpecLimit}}\right) \quad (20)$$

where

$E_{SpecLimit}$ is the field strength of the emission at the distance specified by the limit, in dBµV/m
E_{Meas} is the field strength of the emission at the measurement distance, in dBµV/m
d_{Meas} is the measurement distance, in m
$d_{SpecLimit}$ is the distance specified by the limit, in m

Distance factor:
26 GHz to 90 GHz=20log (1.00 m/3.00 m) = -9.5 dB
90 GHz to 110 GHz=20log (0.75 m/3.00 m) = -12 dB

FCC Emissions radiated outside of the specified frequency bands below 30 MHz		
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

ISED General field strength limits at frequencies below 30 MHz

Table 6 – General field strength limits at frequencies below 30 MHz		
Frequency	**Magnetic field strength (H-Field) (μA/m)**	**Measurement distance (m)**
9 - 490 kHz[Note 1]	6.37/F (F in kHz)	300
490 - 1705 kHz	63.7/F (F in kHz)	30
1.705 - 30 MHz	0.08	30

Note 1: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

ISED Restricted bands please refer to ISED RSS-GEN Clause 8.10

Table 7 – Restricted frequency bands[Note 1]		
MHz	**MHz**	**GHz**
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	156.52475 - 156.52525	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 – 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1646.5	Above 38.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 – 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 – 8500	
108 – 138		

Note 1: Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

FCC Restricted bands of operation refer to FCC §15.205 (a):

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			

Note: [1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2]Above 38.6c

TEST PROCEDURE

Below 30 MHz

The setting of the spectrum analyzer

RBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.4.

2. The EUT was arranged to its worst case and then 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. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.

5. The radiated emission limits 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.

6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode re-measured. 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 and average detector and reported.

7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.

8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to Y-51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

Below 1 GHz and above 30 MHz

The setting of the spectrum analyzer

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.5.

2. 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. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

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

5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. 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.

Above 1 GHz to 18 GHz

The setting of the spectrum analyzer

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.6.

2. 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. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 1.5 m above ground.

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

5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For average value=peak average + Duty Correction Factor

For the Duty Cycle and Correction Factor please refer to clause 7.1.ON TIME AND DUTY CYCLE.

Above 18 GHz to 90 GHz

The setting of the spectrum analyzer

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.6.

2. 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. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 1.5 m above ground.

4. The EUT was set 1 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For average value=peak average + Duty Correction Factor

For the Duty Cycle and Correction Factor please refer to clause 7.1.ON TIME AND DUTY CYCLE.

Above 90 GHz to 110 GHz

The setting of the spectrum analyzer

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.6.

2. 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. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 1.5 m above ground.

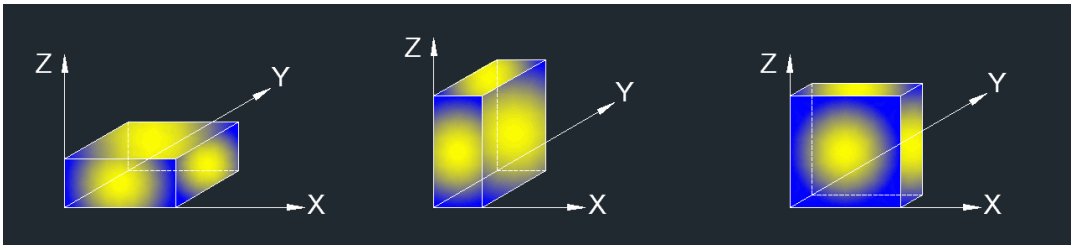
4. The EUT was set 0.75 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For average value=peak average + Duty Correction Factor

For the Duty Cycle and Correction Factor please refer to clause 7.1.ON TIME AND DUTY CYCLE.

X axis, Y axis, Z axis positions:



Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

For Radiate Spurious emission (9 kHz ~ 30 MHz):
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the QP limit, the QP result is deemed to comply with QP limit.
3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.
4. All modes have been tested, but only the worst data was recorded in the report.
5. dBuA/m= dBuV/m- 20Log10[120π] = dBuV/m- 51.5

For Radiate Spurious Emission (30 MHz ~ 1 GHz):
Note:
1. Result Level = Read Level + Correct Factor.
2. If the peak values are less than the QP limit, the QP result is deemed to comply with QP limit.
3. All modes have been tested, but only the worst data was recorded in the report.

For Radiate Spurious Emission (1 GHz ~ 3 GHz):
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
8. All modes have been tested, but only the worst data was recorded in the report.

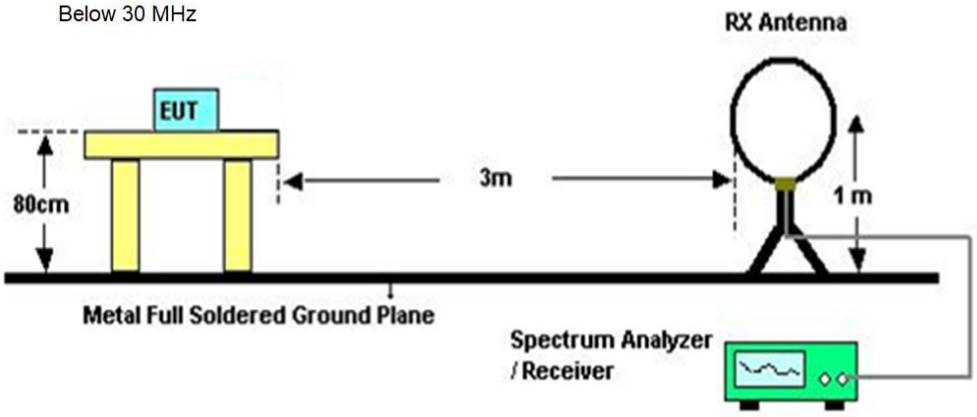
For Radiate Spurious Emission (3 GHz ~ 18 GHz):
Note:
1. Peak Result = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. AVG Result=Peak Result + Duty Cycle Correction Factor.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.
8. All modes have been tested, but only the worst data was recorded in the report.

For Radiate Spurious emission (18 GHz ~ 26 GHz):
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. AVG Result=Peak Result + Duty Cycle Correction Factor.
5. All modes have been tested, but only the worst data was recorded in the report.

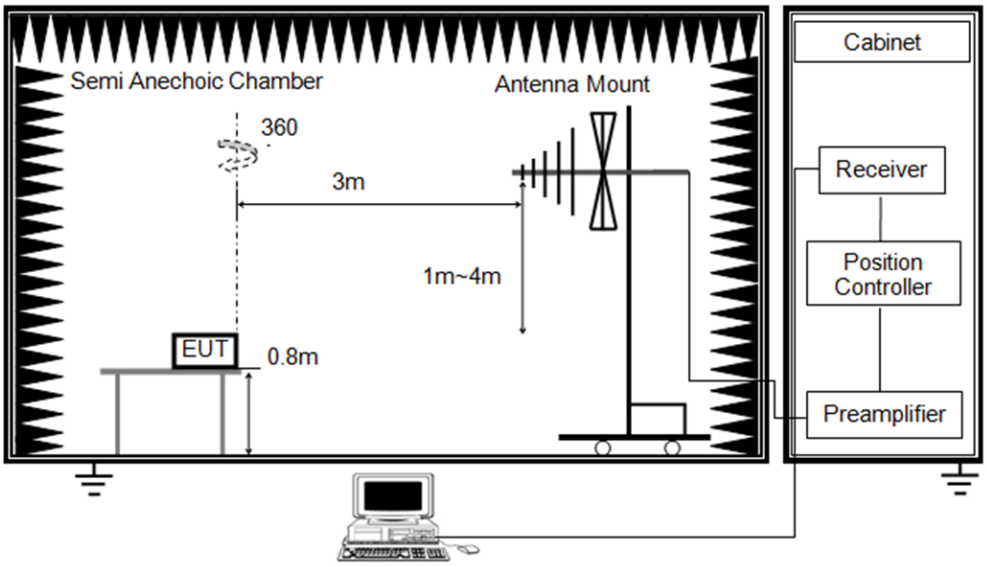
For Radiate Spurious emission (26 GHz ~ 110 GHz):
Note:
1. Measurement = Reading Level + Correct Factor.
2. If the peak values are less than the average limit of 54 dBuV/m, the average result is deemed to comply with average limit.
3. Peak: Peak detector.
4. AVG Result=Peak Result + Duty Cycle Correction Factor.
5. All modes have been tested, but only the worst data was recorded in the report.

TEST SETUP

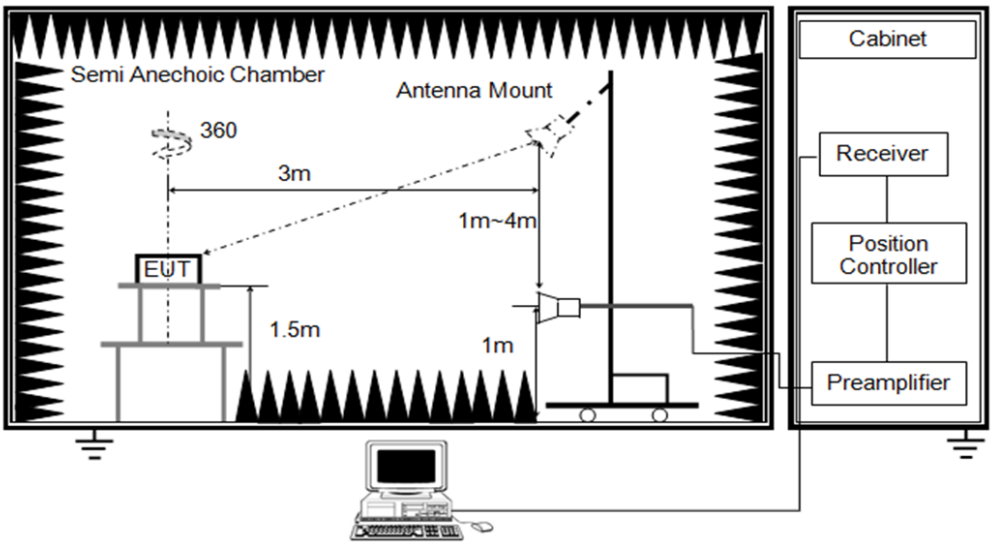
Below 30 MHz



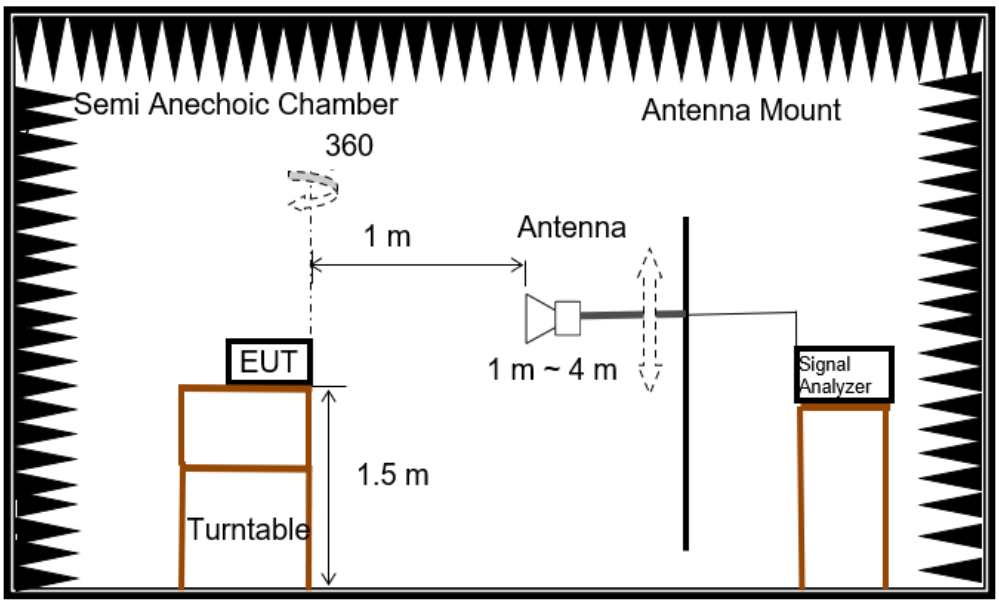
Below 1 GHz and above 30 MHz



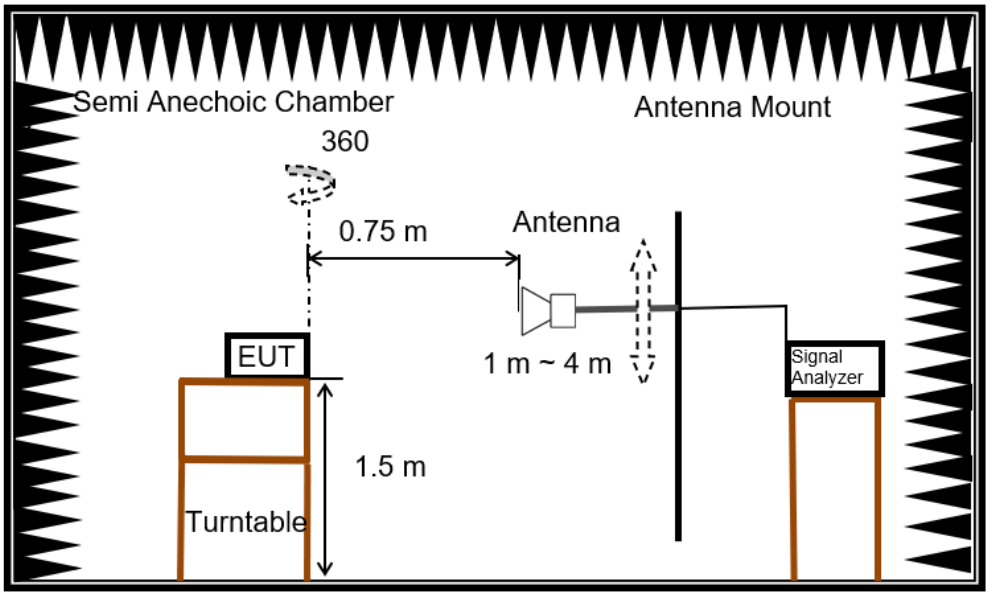
Above 1 GHz



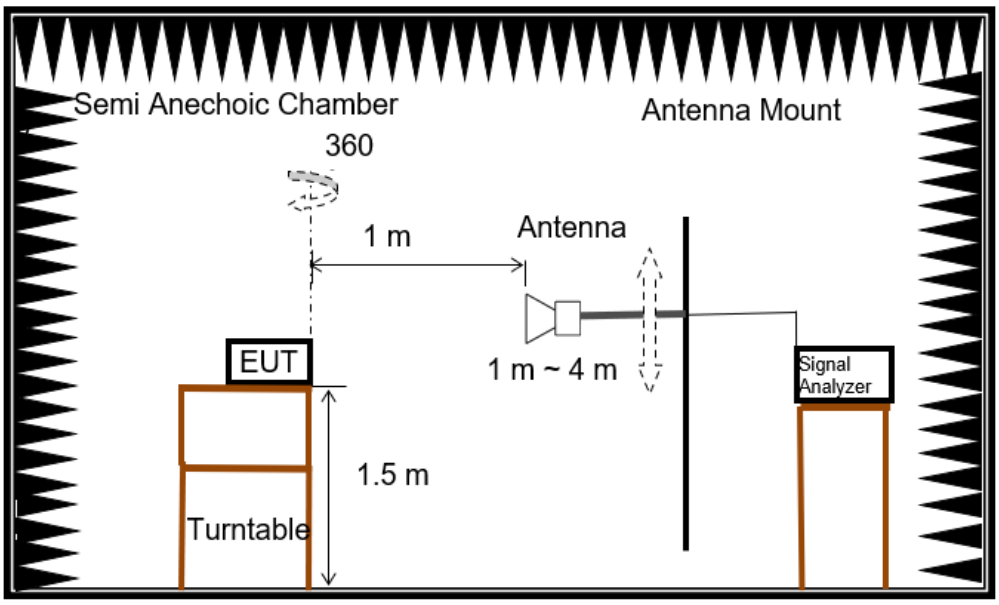
Above 26~90 GHz



Above 90~110 GHz



For Bandedge and Fundamental



TEST ENVIRONMENT

Temperature	24.1 °C	Relative Humidity	55%
Atmosphere Pressure	101 kPa	Test Voltage	DC 12 V

TEST RESULTS

7.3.1. FIELD STRENGTH OF INTENTIONAL EMISSIONS

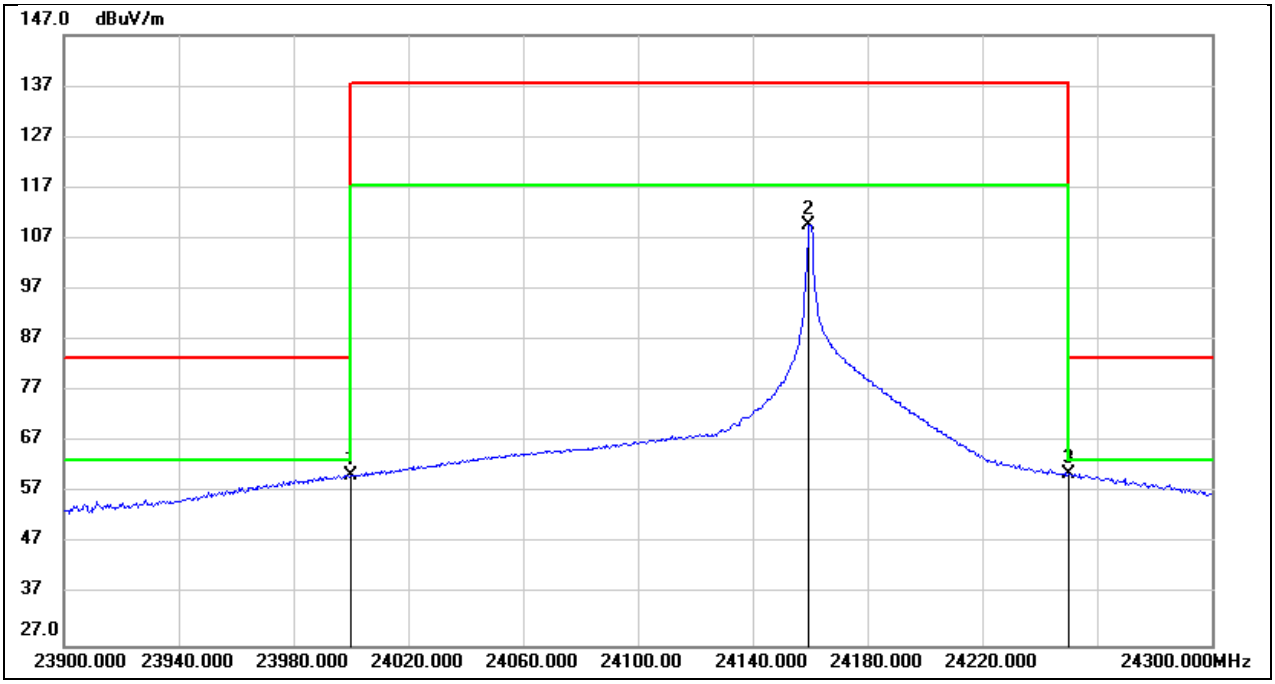
Frequency	Reading	Correct	Peak Result@1m	AVG Result@1m	Peak	AVG	Margin Peak	Margin AVG	Polarity
					Limit@1m	Limit@1m			
(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	
24200	110.42	-0.7	109.72	99.26	137.5	117.5	-27.78	-18.24	H
	103.39	-0.7	102.69	92.23	137.5	117.5	-34.81	-25.27	V

Peak Result@3m	AVG Result@3m	Peak	AVG	Margin Peak	Margin	Polarity
		Limit@3m	Limit@3m		AVG	
(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	
100.22	89.76	128	108	-27.78	-18.24	H
93.19	82.73	128	108	-34.81	-25.27	V

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

7.3.2. RESTRICTED BANDEDGE

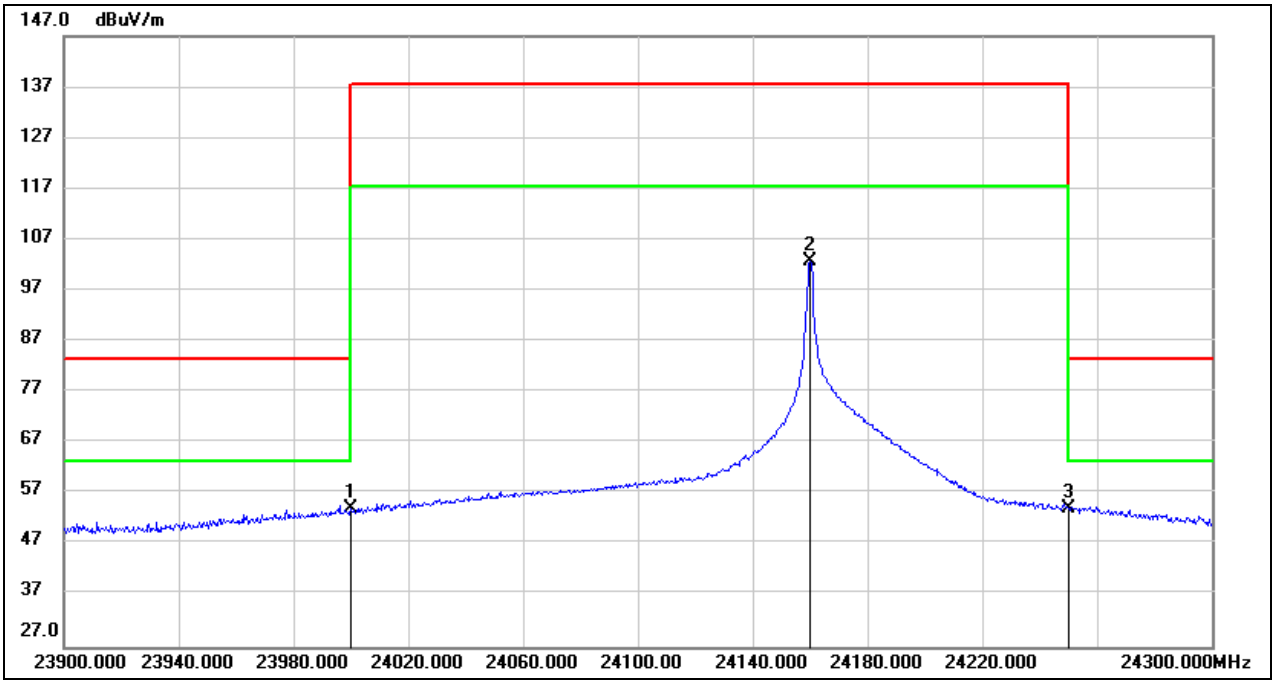
Test Mode:	CW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	24000	61.36	-1.01	60.35	83.54	50.85	74	-23.19	peak
2	24159.6	110.42	-0.7	109.72	137.5	/	/	/	Fundamental
3	24250	61.28	-0.54	60.74	83.54	51.24	74	-22.8	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test Mode:	CW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 12 V

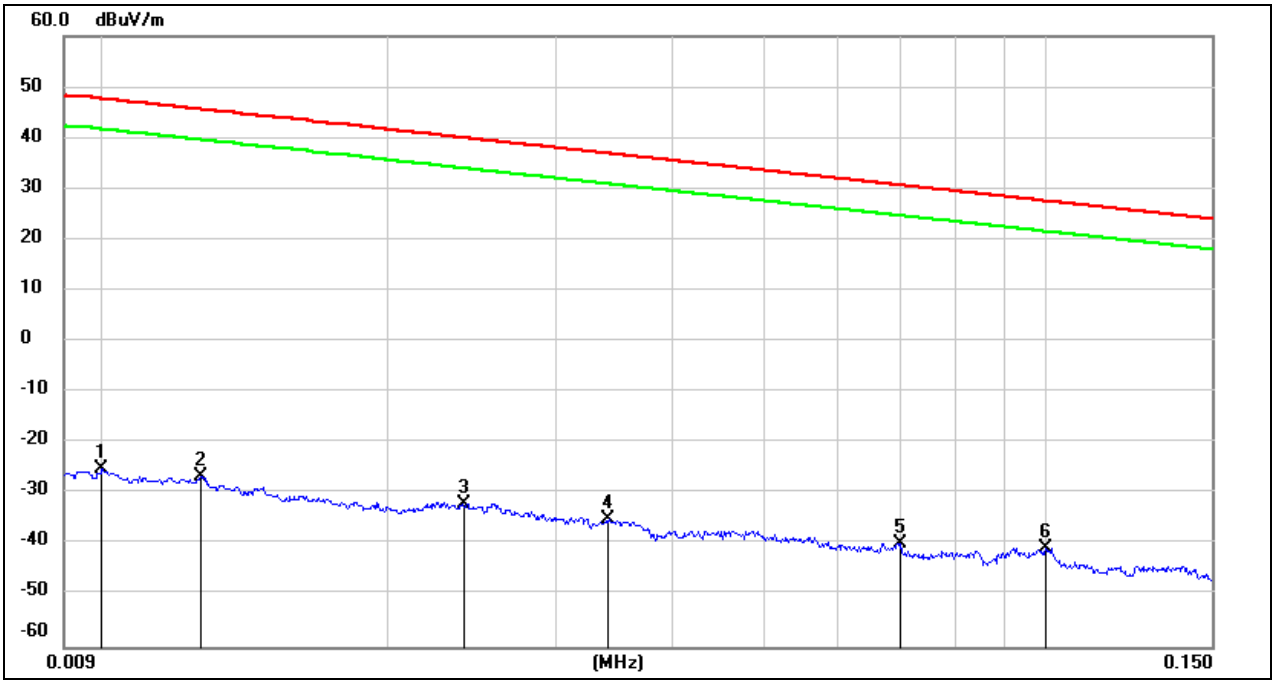


No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	24000	55.07	-1.01	54.06	83.54	44.56	74	-29.48	peak
2	24160	103.39	-0.7	102.69	137.5	/	/	/	Fundamental
3	24250	54.6	-0.54	54.06	83.54	44.56	74	-29.48	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

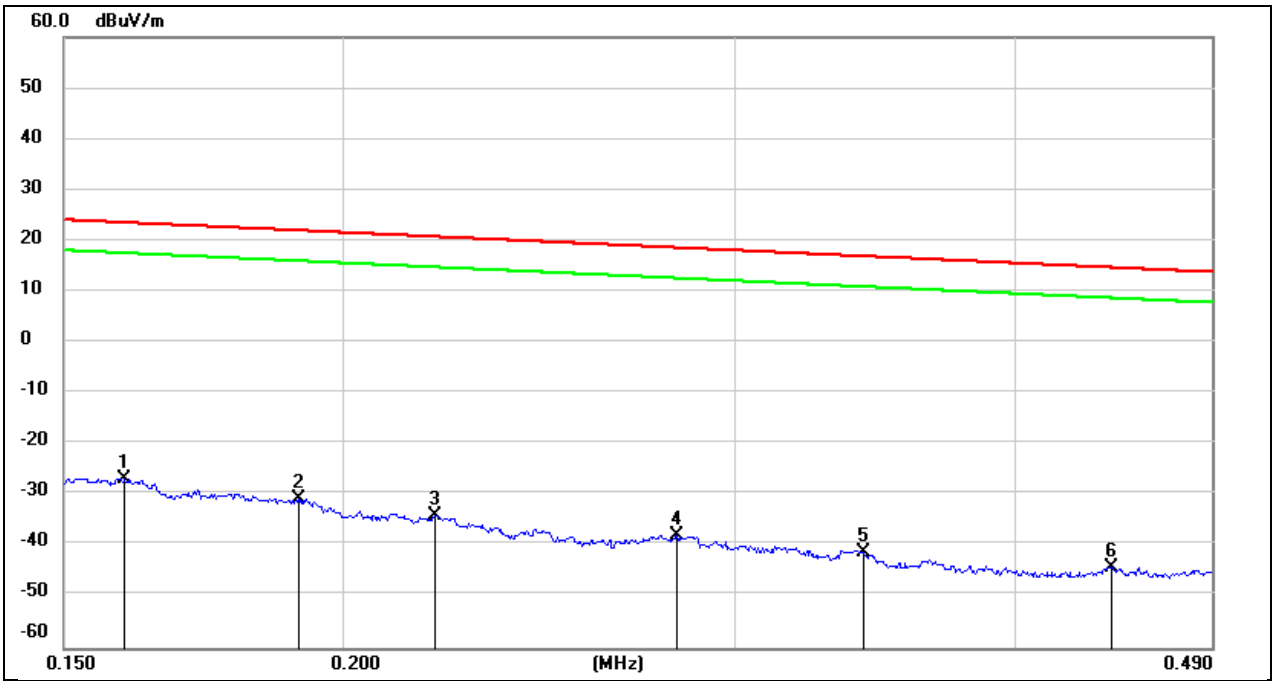
7.3.3. SPURIOUS EMISSIONS(9 kHz~30 MHz)

Test Mode:	CW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 12 V



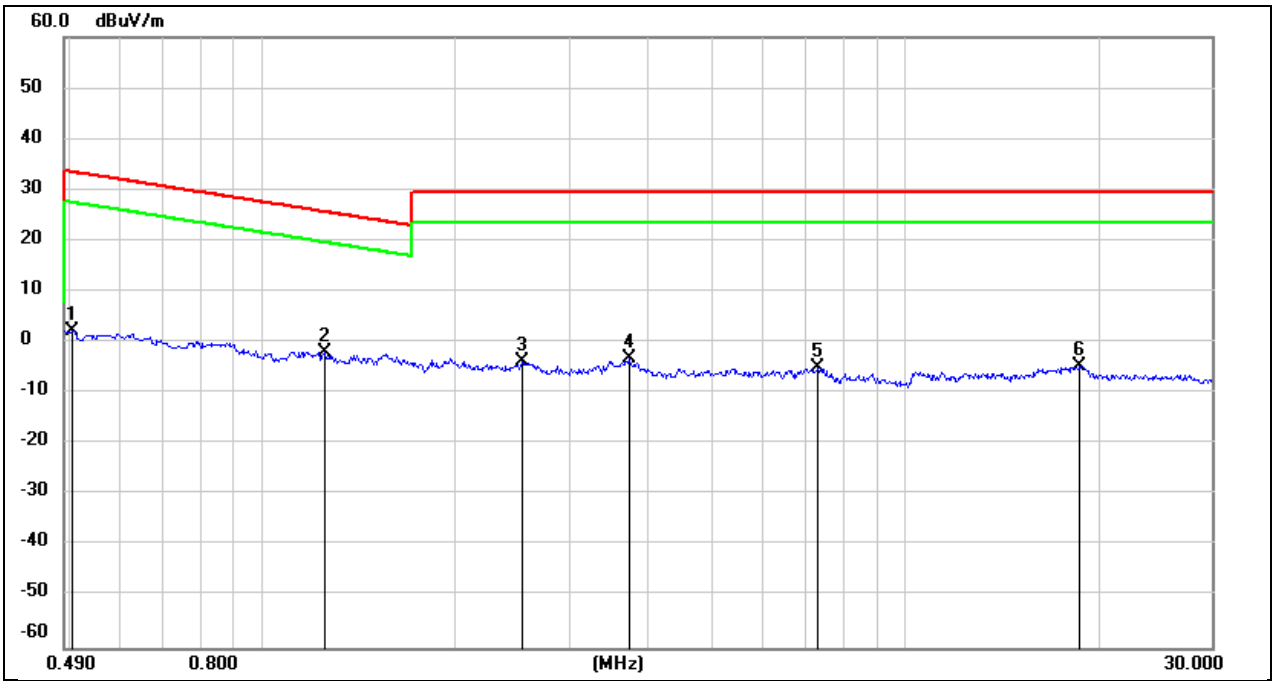
No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.0100	76.22	-101.40	-25.18	47.60	-76.68	-3.90	-72.78	peak
2	0.0126	74.93	-101.38	-26.45	45.59	-77.95	-5.91	-72.04	peak
3	0.0240	69.55	-101.36	-31.81	40.00	-83.31	-11.50	-71.81	peak
4	0.0342	66.36	-101.41	-35.05	36.92	-86.55	-14.58	-71.97	peak
5	0.0700	61.84	-101.57	-39.73	30.70	-91.23	-20.80	-70.43	peak
6	0.1000	61.17	-101.80	-40.63	27.60	-92.13	-23.90	-68.23	peak

Test Mode:	CW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.1597	74.85	-101.65	-26.80	23.54	-78.30	-27.96	-50.34	peak
2	0.1910	70.95	-101.70	-30.75	21.98	-82.25	-29.52	-52.73	peak
3	0.2200	67.74	-101.75	-34.01	20.75	-85.51	-30.75	-54.76	peak
4	0.2822	63.92	-101.83	-37.91	18.59	-89.41	-32.91	-56.50	peak
5	0.3422	60.59	-101.90	-41.31	16.92	-92.81	-34.58	-58.23	peak
6	0.4415	57.85	-102.01	-44.16	14.70	-95.66	-36.80	-58.86	peak

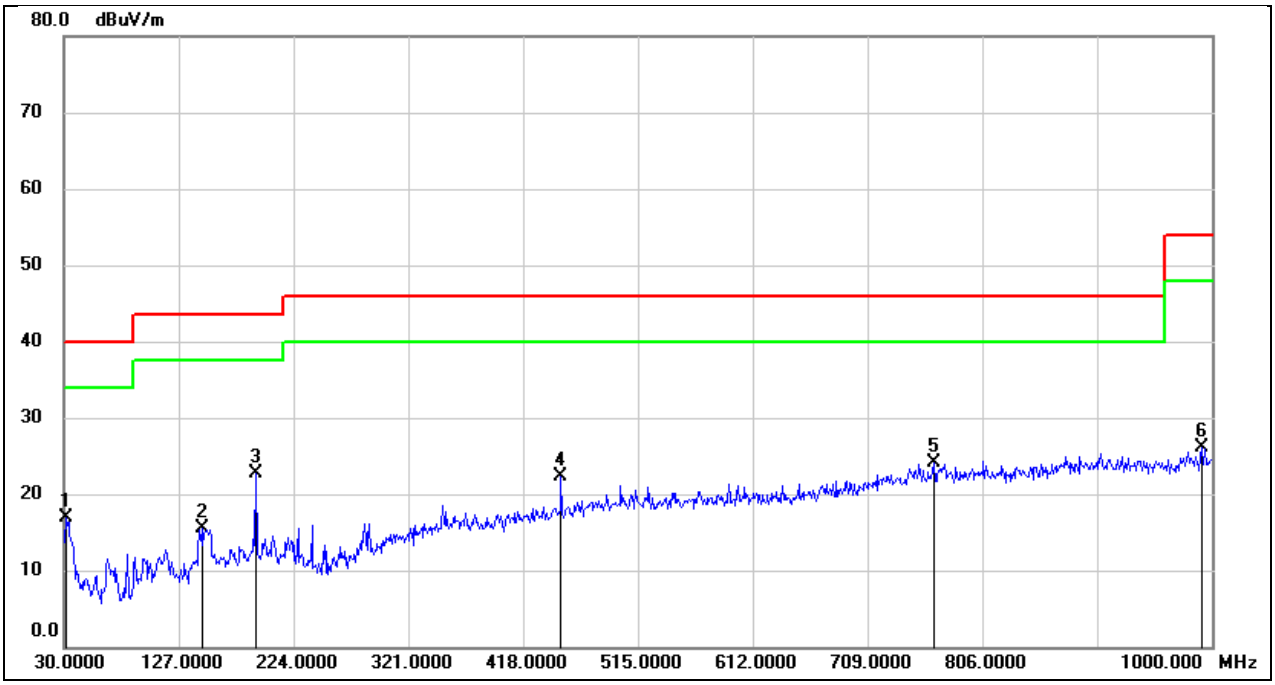
Test Mode:	CW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuA/m)	(dBuA/m)	(dB)	
1	0.5039	64.43	-62.07	2.36	33.56	-49.14	-17.94	-31.20	peak
2	1.2459	60.25	-62.16	-1.91	25.70	-53.41	-25.80	-27.61	peak
3	2.5301	57.82	-61.69	-3.87	29.54	-55.37	-21.96	-33.41	peak
4	3.7100	58.20	-61.41	-3.21	29.54	-54.71	-21.96	-32.75	peak
5	7.3361	56.08	-61.17	-5.09	29.54	-56.59	-21.96	-34.63	peak
6	18.7271	56.29	-60.88	-4.59	29.54	-56.09	-21.96	-34.13	peak

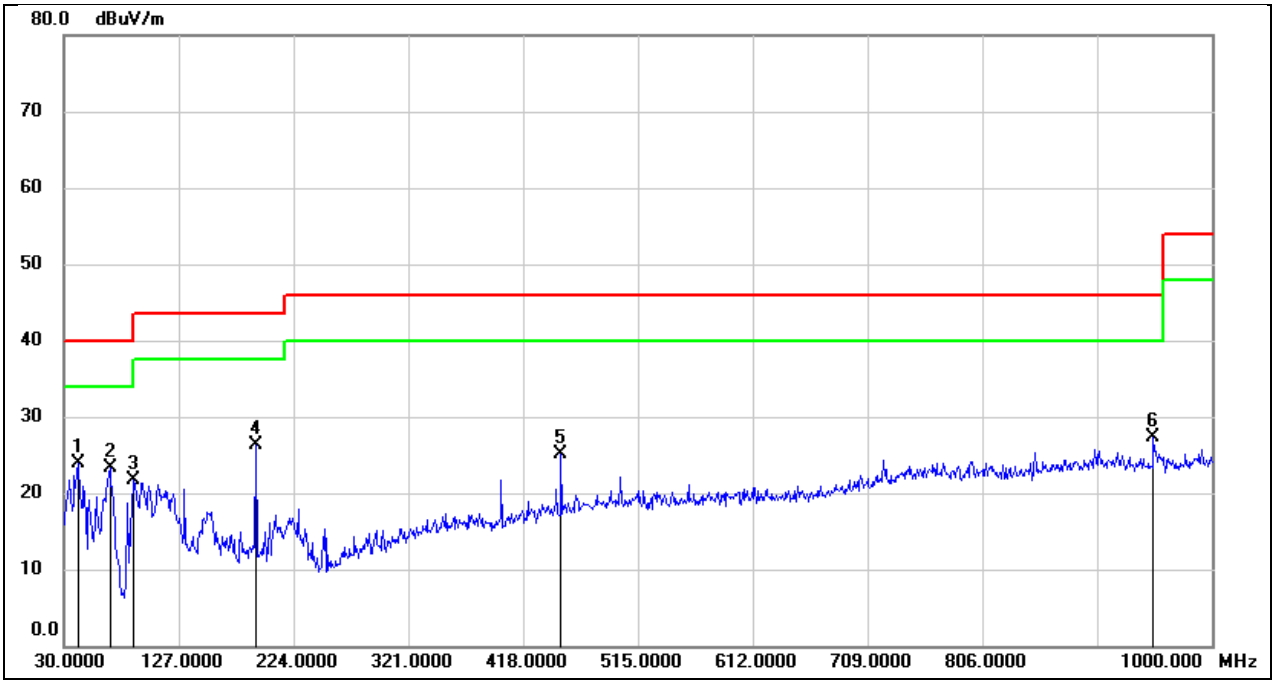
7.3.4. SPURIOUS EMISSIONS(30 MHz~1 GHz)

Test Mode:	CW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	31.9400	31.18	-14.22	16.96	40.00	-23.04	QP
2	146.4000	28.16	-12.74	15.42	43.50	-28.08	QP
3	191.9900	33.63	-10.99	22.64	43.50	-20.86	QP
4	450.0100	29.58	-7.33	22.25	46.00	-23.75	QP
5	765.2600	25.32	-1.14	24.18	46.00	-21.82	QP
6	991.2700	25.81	0.24	26.05	54.00	-27.95	QP

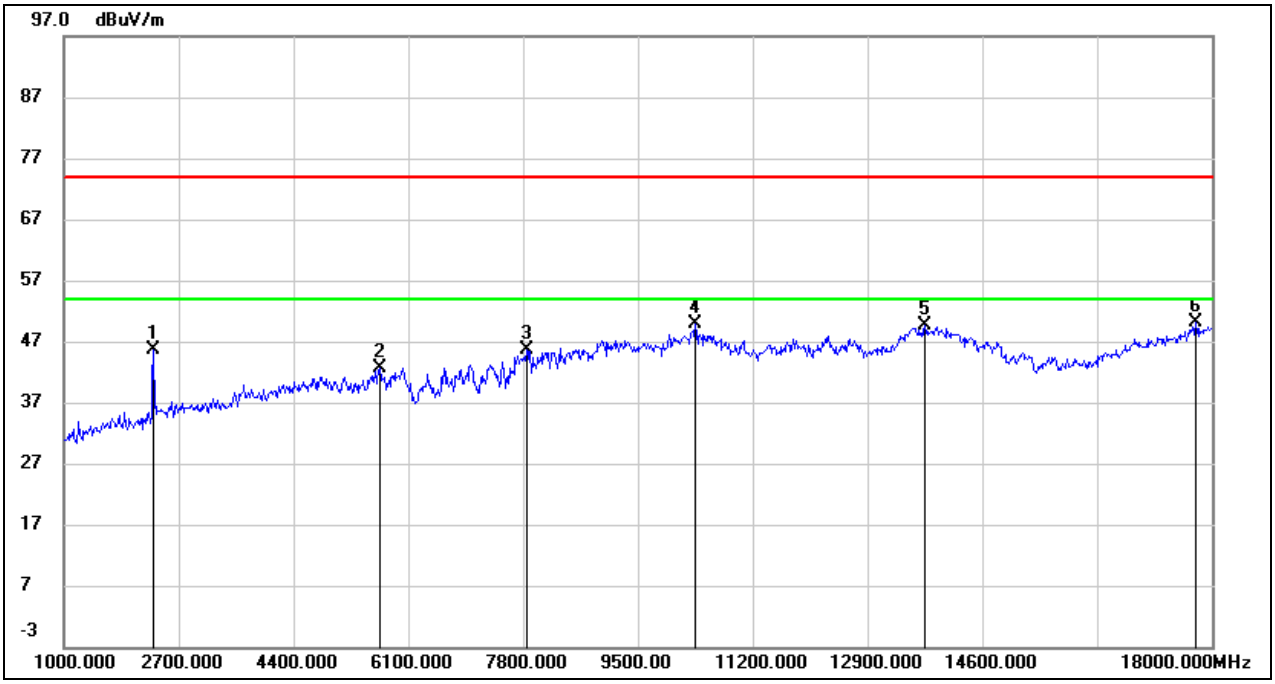
Test Mode:	CW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	41.6400	38.44	-14.55	23.89	40.00	-16.11	QP
2	68.8000	38.99	-15.72	23.27	40.00	-16.73	QP
3	89.1700	37.89	-16.15	21.74	43.50	-21.76	QP
4	191.9900	37.35	-10.99	26.36	43.50	-17.14	QP
5	450.0100	32.46	-7.33	25.13	46.00	-20.87	QP
6	950.5300	27.66	-0.34	27.32	46.00	-18.68	QP

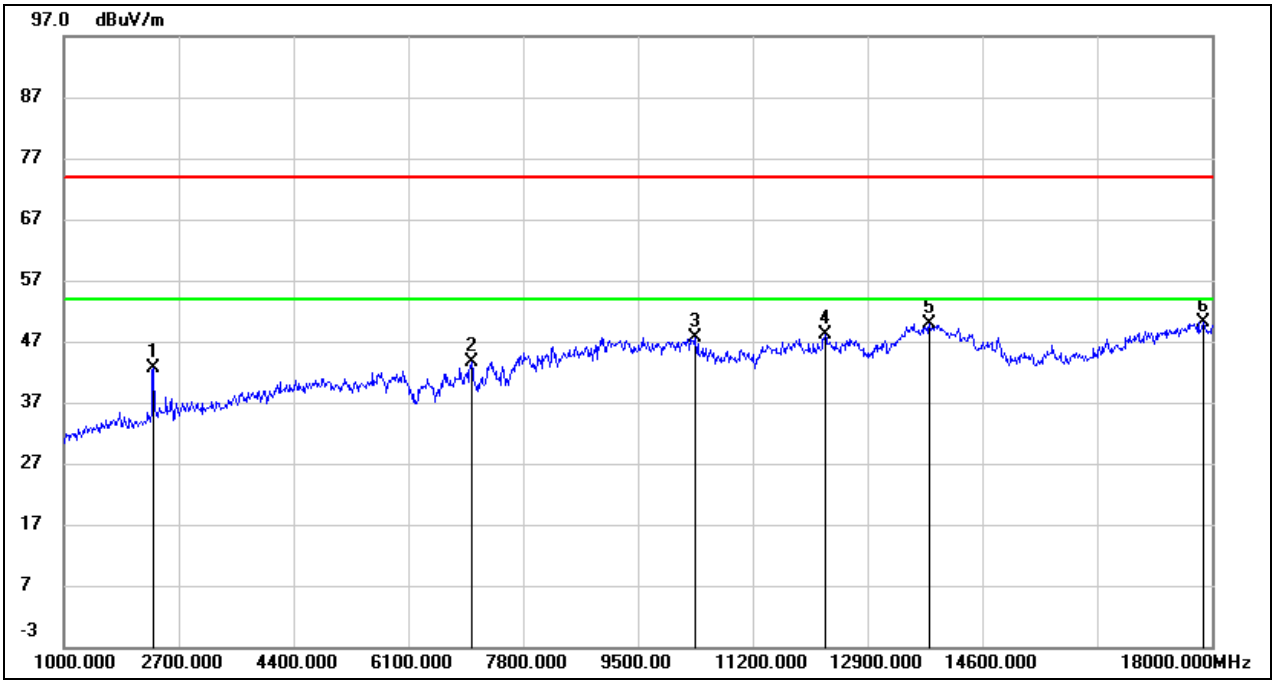
7.3.5. SPURIOUS EMISSIONS(1 GHz~18 GHz)

Test Mode:	CW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2326.000	53.91	-8.34	45.57	74.00	-28.43	peak
2	5675.000	40.51	2.09	42.60	74.00	-31.40	peak
3	7851.000	38.75	6.80	45.55	74.00	-28.45	peak
4	10350.000	37.08	12.75	49.83	74.00	-24.17	peak
5	13750.000	27.78	21.87	49.65	74.00	-24.35	peak
6	17762.000	25.37	24.80	50.17	74.00	-23.83	peak

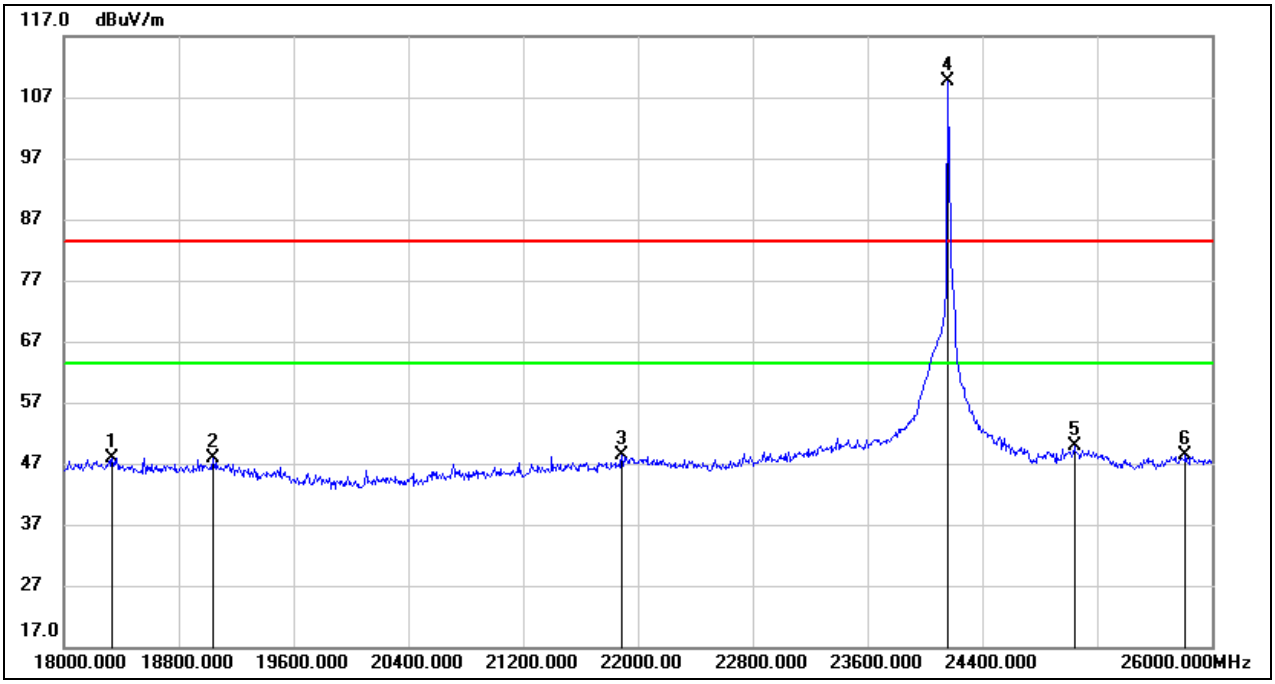
Test Mode:	CW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 12 V



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2326.000	51.01	-8.34	42.67	74.00	-31.33	peak
2	7035.000	36.99	6.64	43.63	74.00	-30.37	peak
3	10350.000	35.00	12.75	47.75	74.00	-26.25	peak
4	12271.000	29.92	18.16	48.08	74.00	-25.92	peak
5	13818.000	27.80	22.12	49.92	74.00	-24.08	peak
6	17864.000	24.81	25.42	50.23	74.00	-23.77	peak

7.3.6. SPURIOUS EMISSIONS(18 GHz~26 GHz)

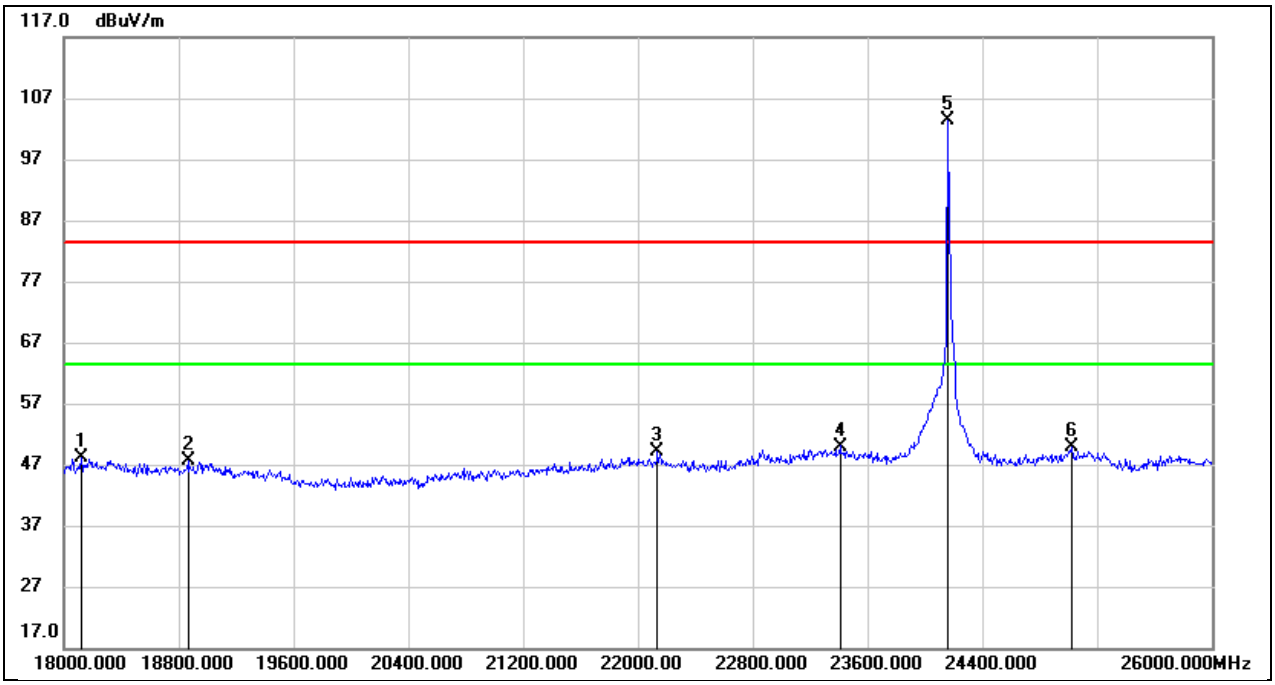
Test Mode:	CW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18336	50.58	-2.64	47.94	83.5	38.44	74	-35.56	peak
2	19040	50.07	-2.2	47.87	83.5	38.37	74	-35.63	peak
3	21888	50.1	-1.81	48.29	83.5	38.79	74	-35.21	peak
4	24160	110.42	-0.7	109.72	/	/	/	/	fundamental
5	25040	48.93	0.95	49.88	83.5	40.38	74	-33.62	peak
6	25816	48.65	-0.19	48.46	83.5	38.96	74	-35.04	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test Mode:	CW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 12 V

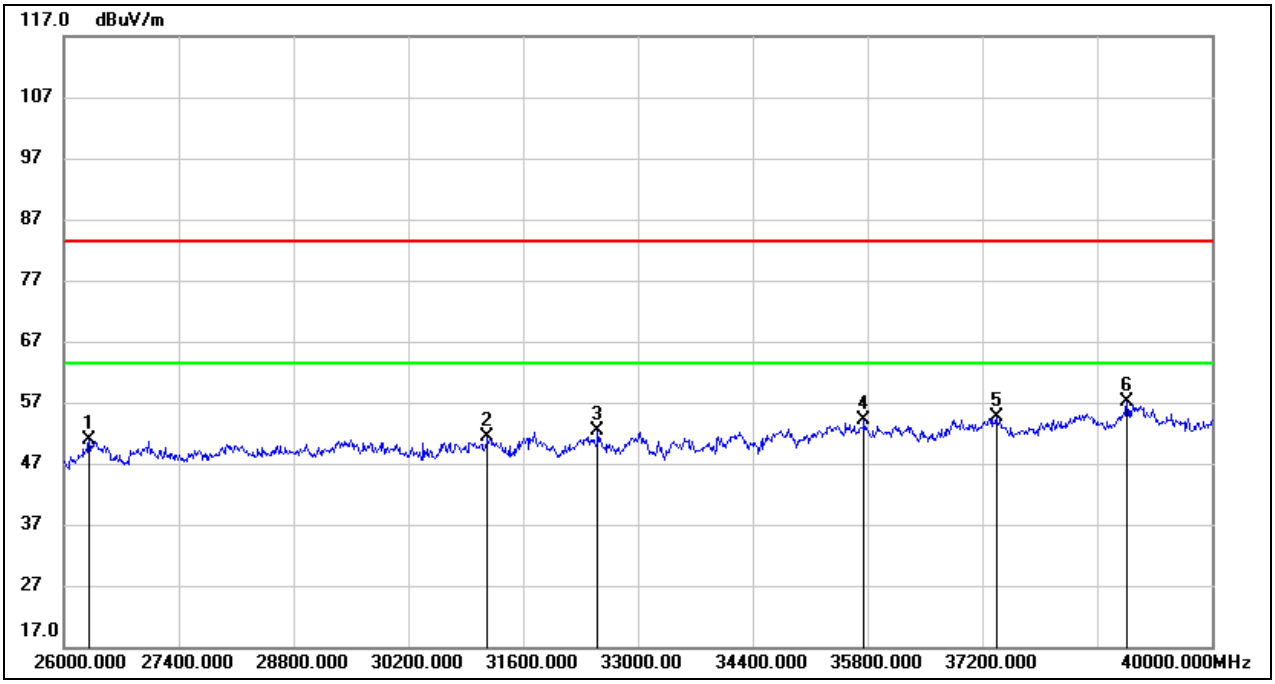


No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	18120	50.34	-2.2	48.14	83.5	38.64	74	-35.36	peak
2	18864	49.99	-2.42	47.57	83.5	38.07	74	-35.93	peak
3	22136	50.76	-1.74	49.02	83.5	39.52	74	-34.48	peak
4	23408	50.57	-0.57	50	83.5	40.5	74	-33.5	peak
5	24160	104.12	-0.7	103.42	/	/	/	/	fundamental
6	25024	48.84	0.96	49.8	83.5	40.3	74	-33.7	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

7.3.7. SPURIOUS EMISSIONS(26 GHz~40 GHz)

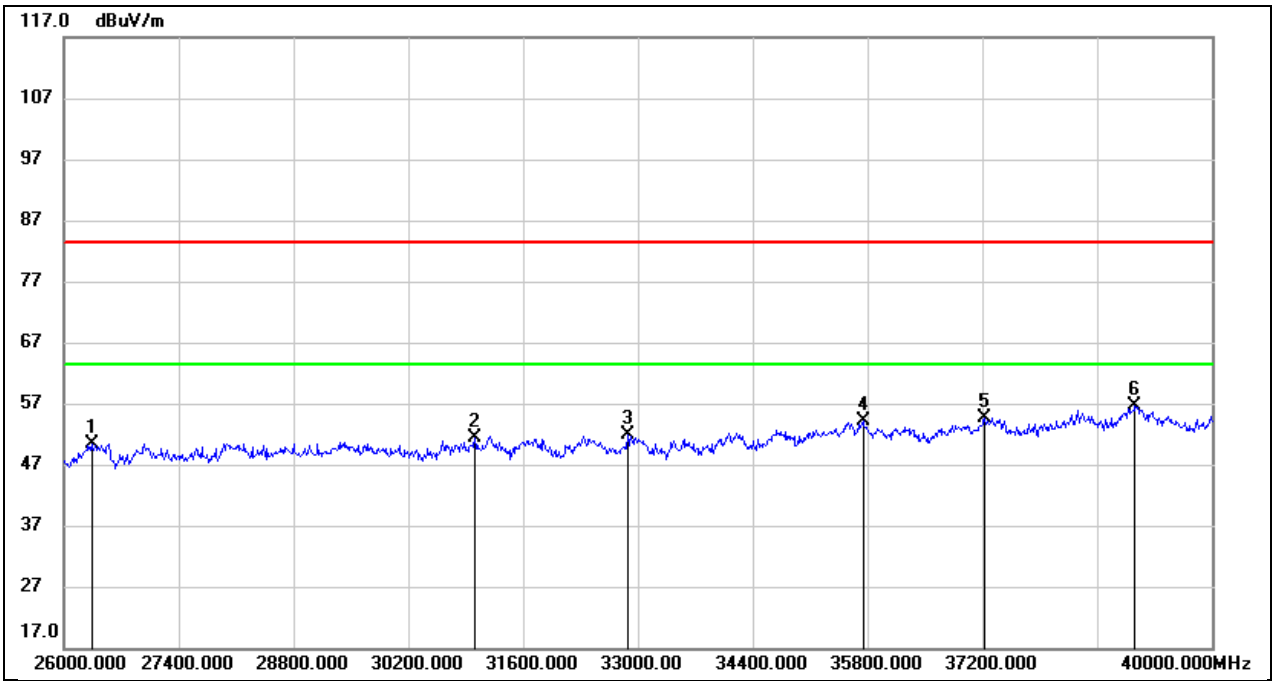
Test Mode:	CW	Test Channel:	1
Polarity:	Horizontal	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	26308	52.98	-2.03	50.95	83.5	41.45	74	-32.55	peak
2	31166	49.55	1.71	51.26	83.5	41.76	74	-32.24	peak
3	32510	50.45	1.92	52.37	83.5	42.87	74	-31.13	peak
4	35758	47.44	6.58	54.02	83.5	44.52	74	-29.48	peak
5	37368	47.6	7.11	54.71	83.5	45.21	74	-28.79	peak
6	38964	48.47	8.76	57.23	83.5	47.73	74	-26.27	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

Test Mode:	CW	Test Channel:	1
Polarity:	Vertical	Test Voltage:	DC 12 V

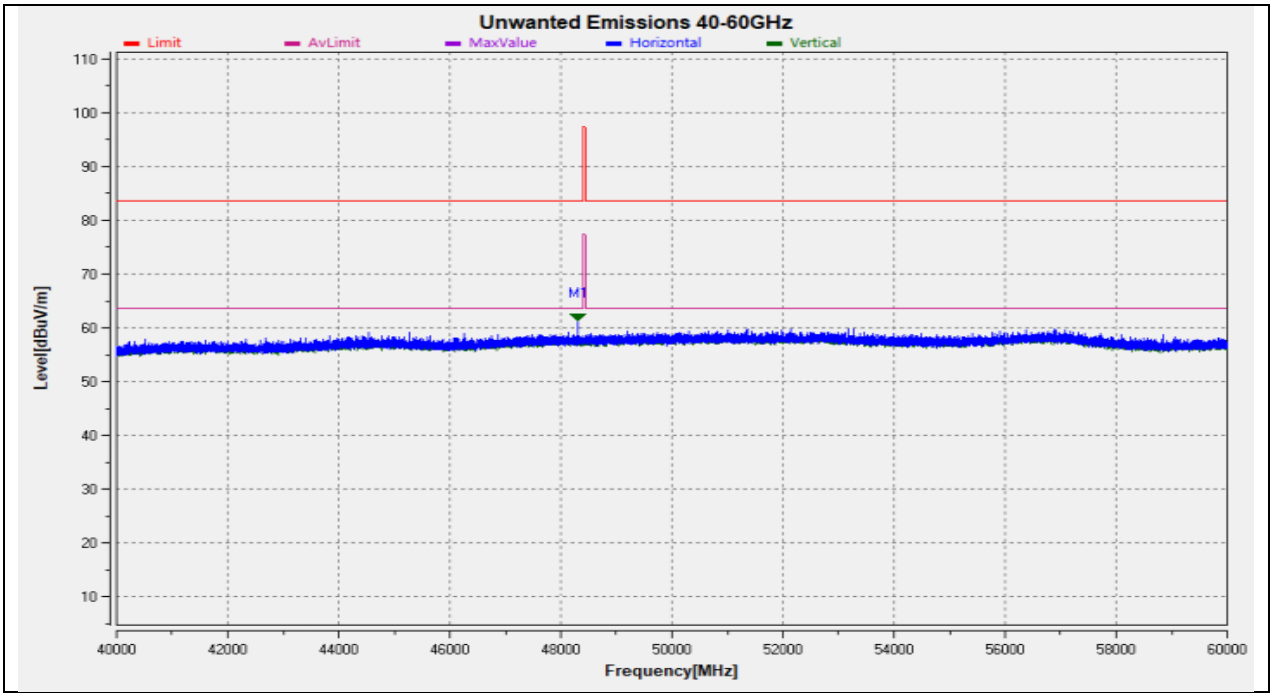


No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	26336	52.43	-2.02	50.41	83.5	40.91	74	-33.09	peak
2	31012	49.68	1.79	51.47	83.5	41.97	74	-32.03	peak
3	32874	49.39	2.56	51.95	83.5	42.45	74	-31.55	peak
4	35744	47.63	6.57	54.2	83.5	44.7	74	-29.3	peak
5	37228	47.42	7.12	54.54	83.5	45.04	74	-28.96	peak
6	39062	47.73	8.81	56.54	83.5	47.04	74	-26.96	peak

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

7.3.8. SPURIOUS EMISSIONS (40 GHz ~ 60 GHz)

Test Mode:	CW	Test Channel:	1
Polarity:	Horizontal & Vertical	Test Voltage:	DC 12 V

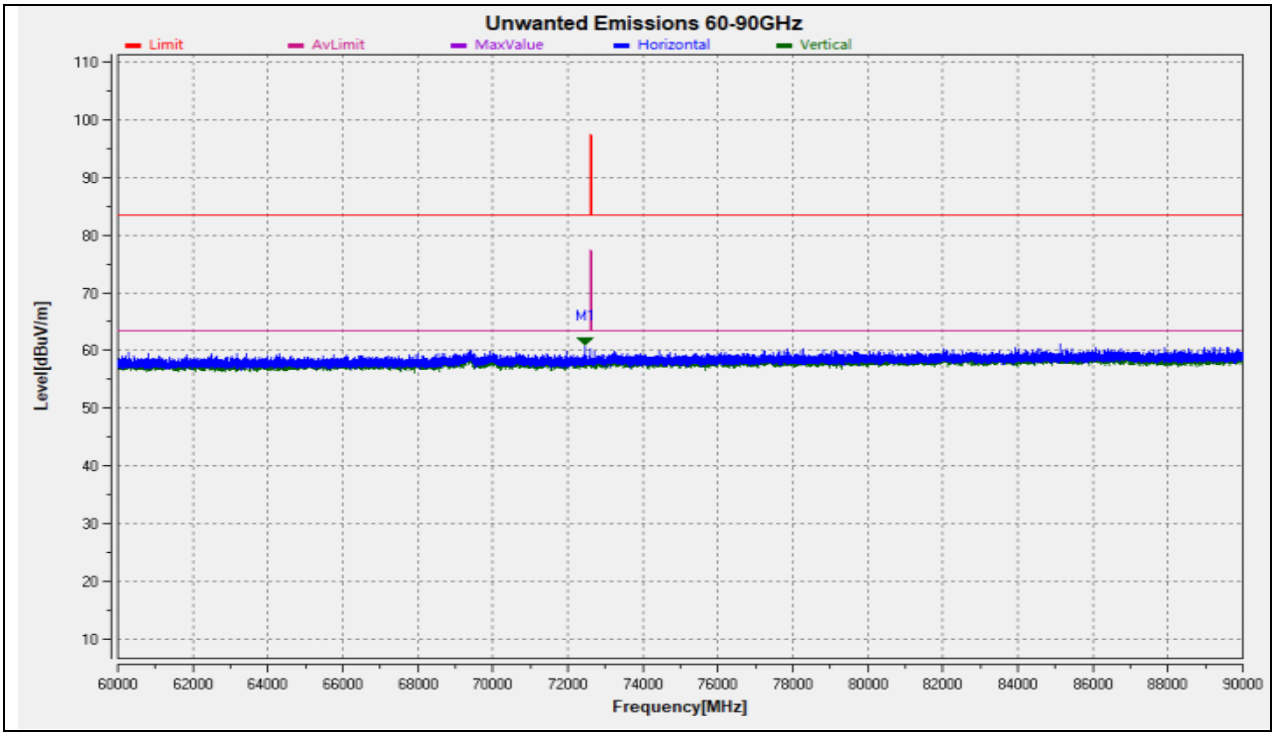


No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark	Polarity
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)		
1	48316.277	22.01	39.226	61.236	83.5	51.736	74	-22.264	peak	H

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

7.3.9. SPURIOUS EMISSIONS (60 GHz ~ 90 GHz)

Test Mode:	CW	Test Channel:	1
Polarity:	Horizontal & Vertical	Test Voltage:	DC 12 V

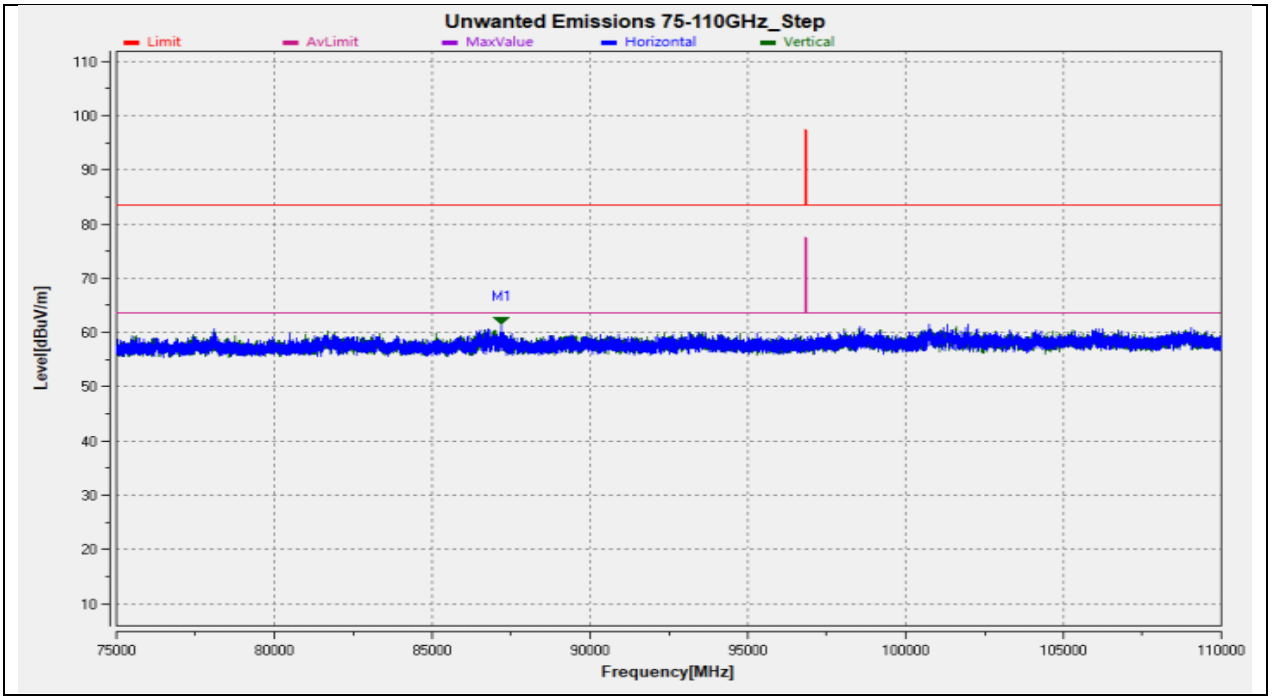


No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark	Polarity
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)		
1	72475	16.391	44.572	60.963	83.5	51.463	74	-22.537	peak	H

Distance correct factor=20log (1.00 m/3.00 m) = -9.5 dB

7.3.10. SPURIOUS EMISSIONS (90 GHz ~ 110 GHz)

Test Mode:	CW	Test Channel:	1
Polarity:	Horizontal & Vertical	Test Voltage:	DC 12 V



No.	Frequency	Reading	Correct	Result@1m	Limit@1m	Result@3m	Limit@3m	Margin	Remark	Polarity
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)		
1	87173	17.555	43.869	61.424	86	49.424	74	-24.576	peak	H

Distance correct factor=20log (0.75 m/3.00 m) = -12 dB

8. AC POWER LINE CONDUCTED EMISSION

LIMITS

Please refer to CFR 47 FCC §15.207 (a) and ISED RSS-Gen Clause 8.8

FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

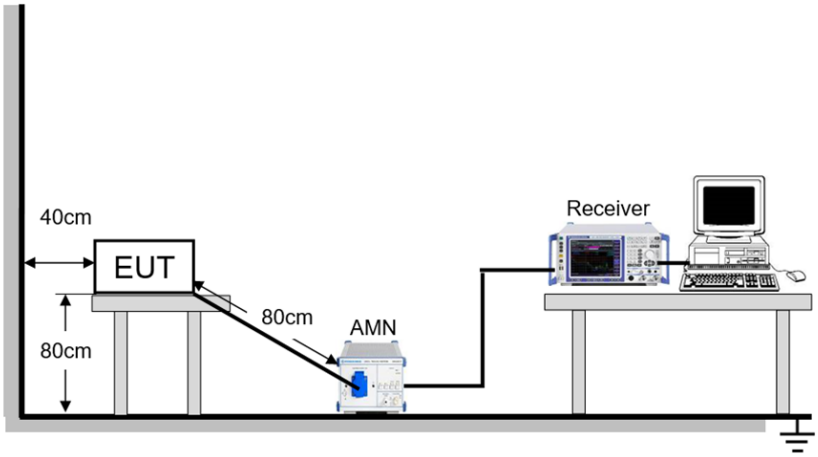
*Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

TEST SETUP

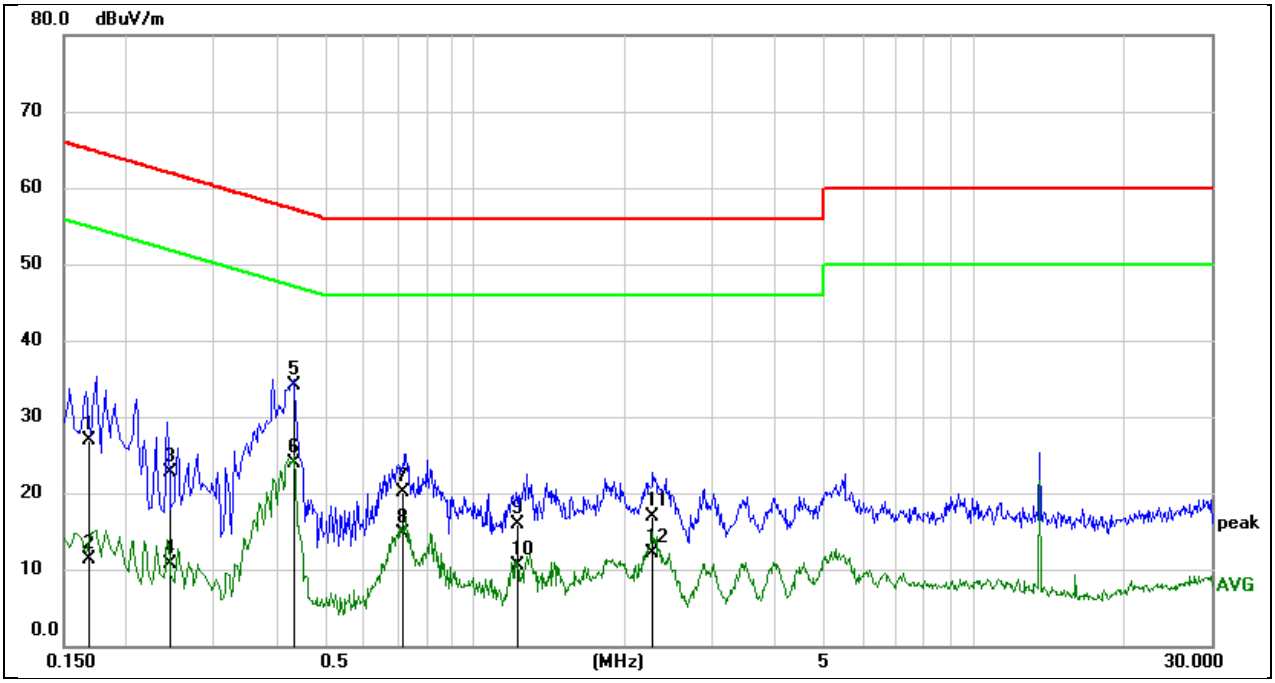


TEST ENVIRONMENT

Temperature	23.8℃	Relative Humidity	55.2%
Atmosphere Pressure	101kPa	Test Voltage	AC 120 V, 60 Hz

TEST RESULTS

Test Mode:	CW	Test Channel:	1
Line:	Line		

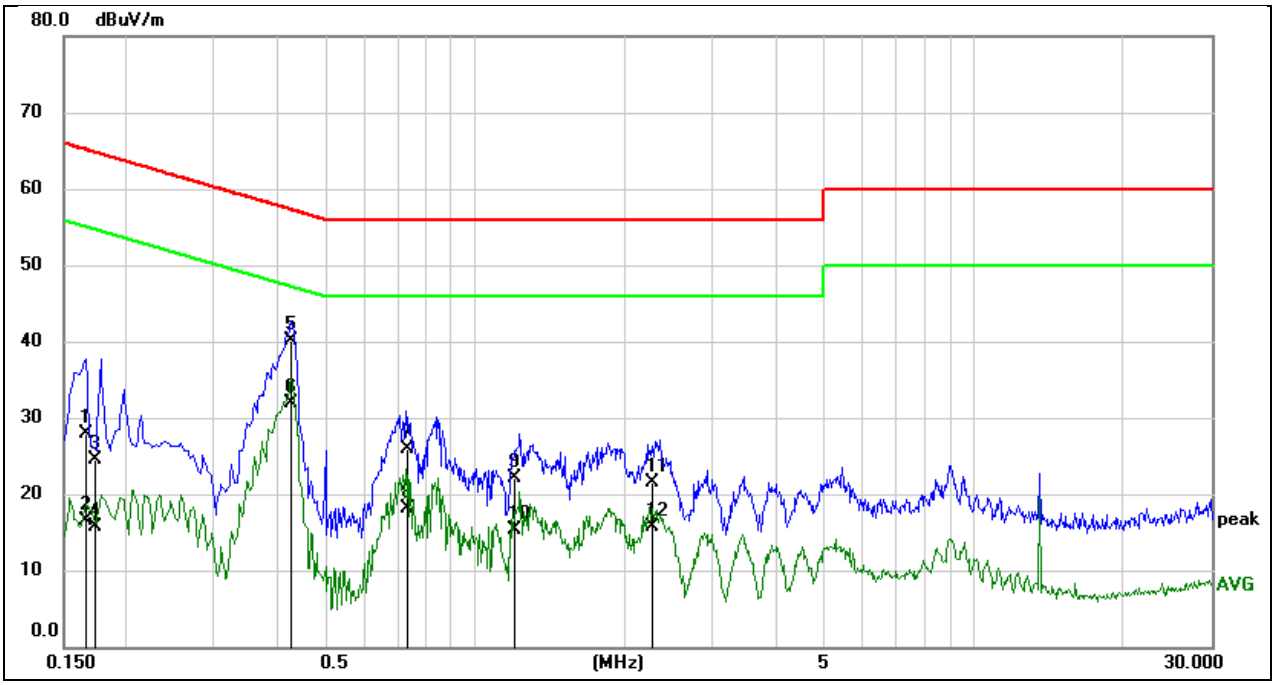


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1699	16.64	10.20	26.84	64.97	-38.13	QP
2	0.1699	1.04	10.20	11.24	54.97	-43.73	AVG
3	0.2445	12.59	10.12	22.71	61.94	-39.23	QP
4	0.2445	0.54	10.12	10.66	51.94	-41.28	AVG
5	0.4321	24.04	10.06	34.10	57.21	-23.11	QP
6	0.4321	13.82	10.06	23.88	47.21	-23.33	AVG
7	0.7158	10.06	10.02	20.08	56.00	-35.92	QP
8	0.7158	4.61	10.02	14.63	46.00	-31.37	AVG
9	1.2231	6.13	9.87	16.00	56.00	-40.00	QP
10	1.2231	0.56	9.87	10.43	46.00	-35.57	AVG
11	2.2786	6.86	10.08	16.94	56.00	-39.06	QP
12	2.2786	2.09	10.08	12.17	46.00	-33.83	AVG

Note:
1. Result = Reading + Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

Note: All the modes have been tested, only the worst data was recorded in the report.

Test Mode:	CW	Test Channel:	1
Line:	Neutral		



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1658	17.63	10.21	27.84	65.17	-37.33	QP
2	0.1658	6.33	10.21	16.54	55.17	-38.63	AVG
3	0.1737	14.23	10.19	24.42	64.78	-40.36	QP
4	0.1737	5.48	10.19	15.67	54.78	-39.11	AVG
5	0.4275	29.98	10.06	40.04	57.30	-17.26	QP
6	0.4275	21.81	10.06	31.87	47.30	-15.43	AVG
7	0.7344	15.91	10.01	25.92	56.00	-30.08	QP
8	0.7344	8.09	10.01	18.10	46.00	-27.90	AVG
9	1.2076	12.24	9.87	22.11	56.00	-33.89	QP
10	1.2076	5.47	9.87	15.34	46.00	-30.66	AVG
11	2.2708	11.35	10.08	21.43	56.00	-34.57	QP
12	2.2708	5.64	10.08	15.72	46.00	-30.28	AVG

Note:
1. Result = Reading + Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

Note: All the modes have been tested, only the worst data was recorded in the report.

9. ANTENNA REQUIREMENTS

APPLICABLE REQUIREMENTS

Please refer to FCC §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 manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

RESULTS

Complies

END OF REPORT