

CFR 47 FCC PART 15 SUBPART C

TEST REPORT

For

30W Power Bank

MODEL NUMBER: MAG21210L

REPORT NUMBER: E04A25050259F00601

ISSUE DATE: May 29, 2025

FCC ID: 2AONA-MAG21210L

Prepared for

Shenzhen Pilot Technology Co., Ltd

**101 A1 Industrial Park, building a 1, No.7 Shankeng Road, Shanxia community,
Pinghu Street, Longgang District, Shenzhen City, China**

Prepared by

Guangdong Global Testing Technology Co., Ltd.

**Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park,
Dongguan city, Guangdong, People's Republic of China, 523808**

**This report is based on a single evaluation of the submitted sample(s) of the above mentioned
Product, it does not imply an assessment of the production of the products.**

**This report shall not be reproduced, except in full, without the written approval of Guangdong
Global Testing Technology Co., Ltd.**

Revision History

Rev.	Issue Date	Revisions	Revised By
V0	May 29, 2025	Initial Issue	

Summary of Test Results

Test Item	Limit/Requirement	Result
Antenna Requirement	FCC Part 15.203	Pass
AC Power Line Conducted Emission	FCC Part 15.207	Pass
20dB Bandwidth	FCC Part 15.215	Pass
Radiated Emission	FCC Part 15.205/15.209	Pass

Note:

1. N/A: In this whole report not applicable.

*This test report is only published to and used by the applicant, and it is not for evidence purpose in China.

*The measurement result for the sample received is <Pass> according to <CFR 47 FCC PART 15 SUBPART C> when <Accuracy Method> decision rule is applied.

CONTENTS

1. ATTESTATION OF TEST RESULTS.....	5
2. TEST METHODOLOGY.....	6
3. FACILITIES AND ACCREDITATION.....	6
4. CALIBRATION AND UNCERTAINTY	7
4.1. <i>MEASURING INSTRUMENT CALIBRATION</i>	<i>7</i>
4.2. <i>MEASUREMENT UNCERTAINTY.....</i>	<i>7</i>
5. EQUIPMENT UNDER TEST	8
5.1. <i>DESCRIPTION OF EUT</i>	<i>8</i>
5.2. <i>TEST MODE.....</i>	<i>8</i>
5.3. <i>SUPPORT UNITS FOR SYSTEM TEST</i>	<i>8</i>
5.4. <i>SETUP DIAGRAM</i>	<i>9</i>
6. MEASURING EQUIPMENT AND SOFTWARE USED.....	10
7. RADIATED TEST RESULTS	11
7.1. <i>Radiated Spurious Emission</i>	<i>15</i>
8. AC POWER LINE CONDUCTED EMISSION	27
9. 20DB BANDWIDTH.....	32
10. ANTENNA REQUIREMENT	35

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Shenzhen Pilot Technology Co., Ltd
Address: 101 A1 Industrial Park, building a 1, No.7 Shankeng Road,
Shanxia community, Pinghu Street, Longgang District, Shenzhen
City, China

Manufacturer Information

Company Name: Shenzhen Pilot Technology Co., Ltd
Address: 101 A1 Industrial Park, building a 1, No.7 Shankeng Road,
Shanxia community, Pinghu Street, Longgang District, Shenzhen
City, China

EUT Information

Product Description: 30W Power Bank
Model: MAG21210L
Series Model: /
Brand: /
Sample Received Date: May 22, 2025
Sample Status: Normal
Sample ID: A25050259 001
Date of Tested: May 22, 2025 to May 29, 2025

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 FCC PART 15 SUBPART C	Pass

Prepared By:

Win Huang

Win Huang

Project Engineer

Checked By:

Shawn Wen

Shawn Wen

Laboratory Leader

Approved By:

Shawn Wen

Shawn Wen

Laboratory Manager



2. TEST METHODOLOGY

All tests were performed in accordance with the standard CFR 47 FCC PART 15 SUBPART C

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	<p>A2LA (Certificate No.: 6947.01) Guangdong Global Testing Technology Co., Ltd. has been assessed and proved to be in compliance with A2LA.</p> <p>FCC (FCC Designation No.: CN1343) Guangdong Global Testing Technology Co., Ltd. has been recognized to perform compliance testing on equipment subject to Supplier's Declaration of Conformity (SDoC) and Certification rules</p> <p>ISED (Company No.: 30714) Guangdong Global Testing Technology Co., Ltd. has been registered and fully described in a report filed with ISED. The Company Number is 30714 and the test lab Conformity Assessment Body Identifier (CABID) is CN0148.</p>
---------------------------	--

Note: All tests measurement facilities use to collect the measurement data are located at Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park, Dongguan city, Guangdong, People's Republic of China, 523808

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 Items	k	Uncertainty
20dB Emission Bandwidth	2	± 9.2 PPM
Temperature	2	$\pm 0.5^{\circ}\text{C}$
Humidity	2	$\pm 3\%$
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.		

Test Item	Measurement Frequency Range	K	U(dB)
Conducted emissions from the AC mains power ports (AMN)	150 kHz ~ 30 MHz	2	3.37
Radiated emissions	9 kHz ~ 30 MHz	2	4.16
Radiated emissions	30 MHz ~ 1 GHz	2	3.79
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		30W Power Bank
Model		MAG21210L
Series Model		/
Model Difference		/
Hardware Version		V1.0
Software Version		V1.0
Ratings		Capacity: 10000mAh / 38.5Wh USB-C/USB-C Cable Input: 5V = 3A/9V = 3A USB-C/USB-C Cable Output: 5V = 3A/9V = 3A/10V = 2.25A(SCP)/12V = 2.5A/15V = 2A/20V = 1.5A Wireless Output: 5W/7.5W/10W/15W(Qi2 MPP) Total Output: 5V 3A(MAX)
Power Supply	DC	5V, 9V
	Battery	DC 3.85V 10000mAh, 38.5Wh
Operation Mode		Wireless Charging
Operating Frequency		113-205KHz for charging 360KHz for charging
Wireless Charging Power		5W/7.5W/10W/15W(Qi2 MPP) for charging
Modulation Technique		ASK
Antenna Type		Coil Antenna

5.2. TEST MODE

Test Mode	Description
M01	The EUT charges 15W load (113-205KHz)
M02	The EUT charges 15W load (360KHz)

5.3. SUPPORT UNITS FOR SYSTEM TEST

The following support units or accessories were used to form a representative test configuration during the tests.

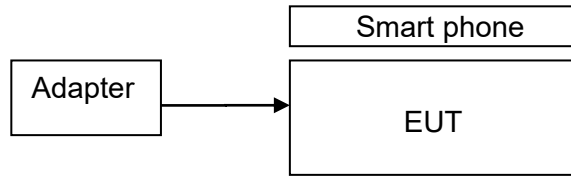
No.	Equipment	Manufacturer	Model No.	Serial No.	Note
1	Adapter	Xiaomi	MDY-11-EX	N/A	GTG Support
2	Smart phone	Xiao Mi	Mi 10	N/A	GTG Support

The following cables were used to form a representative test configuration during the tests.

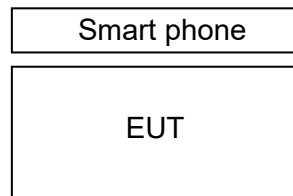
Item	Type of cable	Shielded Type	Ferrite Core	Length
C-1	USB-C cable	Unshielded	without ferrite	1.5 m

5.4. SETUP DIAGRAM

AC conducted emission:



Radiated Emission:



6. MEASURING EQUIPMENT AND SOFTWARE USED

Test Equipment of Radiated emissions below 1GHz					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
3m Semi-anechoic Chamber	ETS	9m*6m*6m	Q2146	2022/08/30	2025/08/29
EMI Test Receiver	Rohde & Schwarz	ESC13	101409	2024/09/14	2025/09/13
Spectrum Analyzer	KEYSIGHT	N9020A	MY51283932	2024/09/14	2025/09/13
Spectrum Analyzer	Rohde & Schwarz	FSV40	101413	2024/09/14	2025/09/13
Pre-Amplifier	HzEMC	HPA-9K0130	HYP A21001	2024/09/14	2025/09/13
Biconilog Antenna	Schwarzbeck	VULB 9168	01315	2022/10/10	2025/10/09
Biconilog Antenna	ETS	3142E	00243646	2025/02/22	2028/02/21
Loop Antenna	ETS	6502	243668	2025/02/22	2028/02/21
Test Software	Farad	EZ-EMC (Ver.FA-03A2 RE)	N/A	N/A	N/A

Test Equipment of Conducted emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Shielded Room	CHENG YU	8m*5m*4m	N/A	2022/10/29	2025/10/28
EMI Test Receiver	Rohde & Schwarz	ESR3	102647	2024/09/14	2025/09/13
LISN/AMN	Rohde & Schwarz	ENV216	102843	2024/09/14	2025/09/13
NNLK 8129 RC	Schwarzbeck	NNLK 8129 RC	5046	2024/09/14	2025/09/13
Test Software	Farad	EZ-EMC (Ver. EMC-con-3A1 1+)	N/A	N/A	N/A

7. RADIATED TEST RESULTS

LIMITS

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

Radiation Disturbance Test Limit for FCC (Class B) (9 kHz ~ 1 GHz)

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
		Quasi-Peak
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

FCC Emissions radiated outside of the specified frequency bands below 30 MHz			
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	Field Strength Limit (dBuV/m) at 3 m
			Quasi-Peak
0.009-0.490	2400/F(kHz)	300	128.5-93.8
0.490-1.705	24000/F(kHz)	30	73.8-63.0
1.705-30.0	30	30	69.5

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:¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

²Above 38.6c

TEST PROCEDURE

Below 30 MHz

The setting of the spectrum analyser

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), 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 15.209(a) limit.

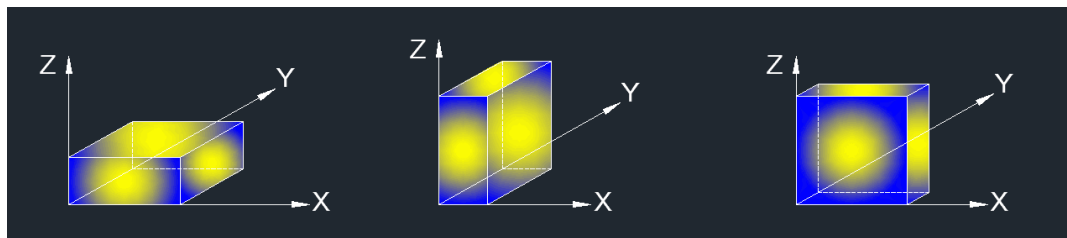
Below 1 GHz and above 30 MHz

The setting of the spectrum analyser

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

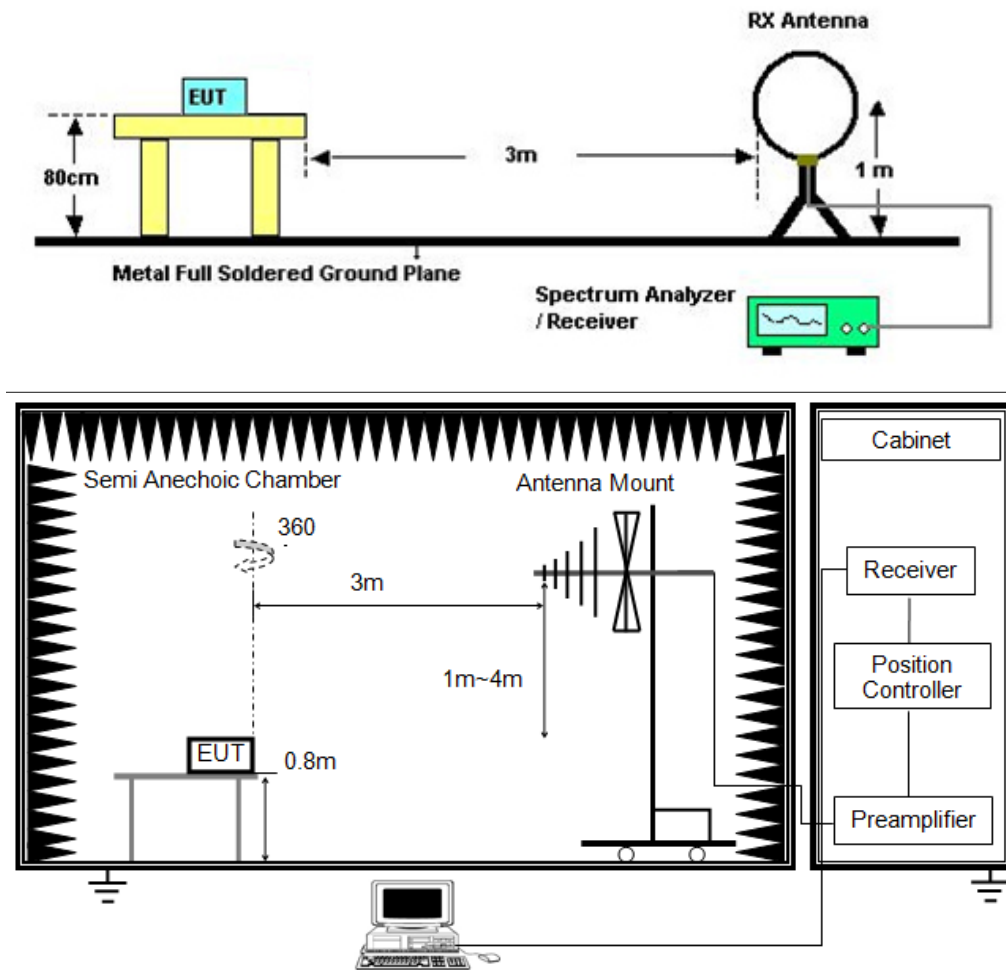
1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.5.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to 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.

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.

TEST SETUP



TEST ENVIRONMENT

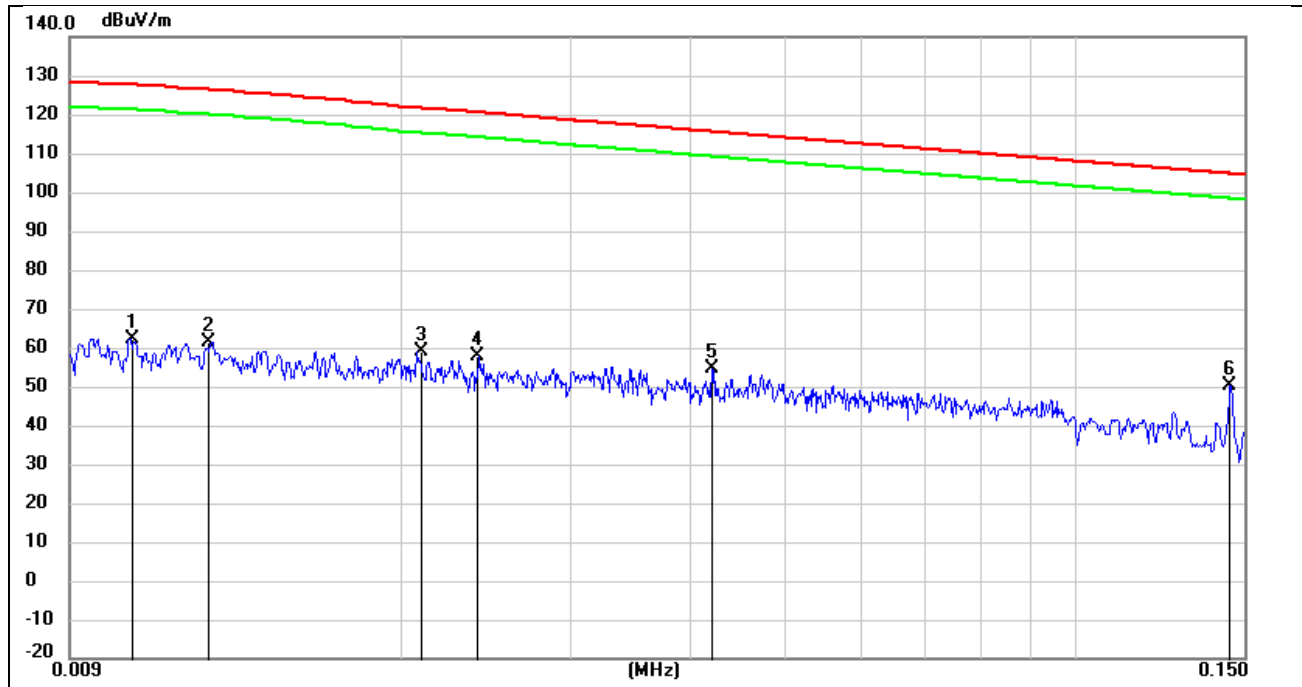
Temperature	22.9°C, 22.7°C	Relative Humidity	51%, 49%
Atmosphere Pressure	101kPa, 101kPa		

TEST RESULTS

7.1. RADIATED SPURIOUS EMISSION

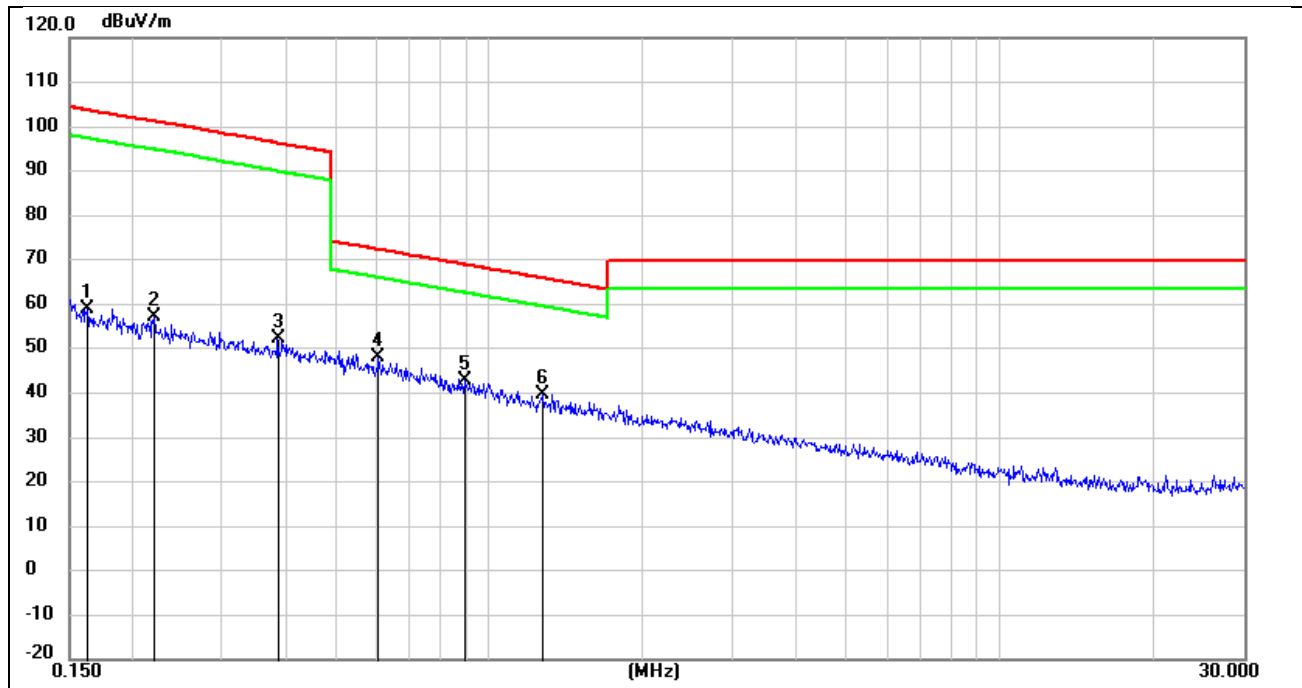
Undesirable radiated Spurious Emission below 30MHz (9KHz to 30MHz)

All modes have been tested and the worst result as bellow:



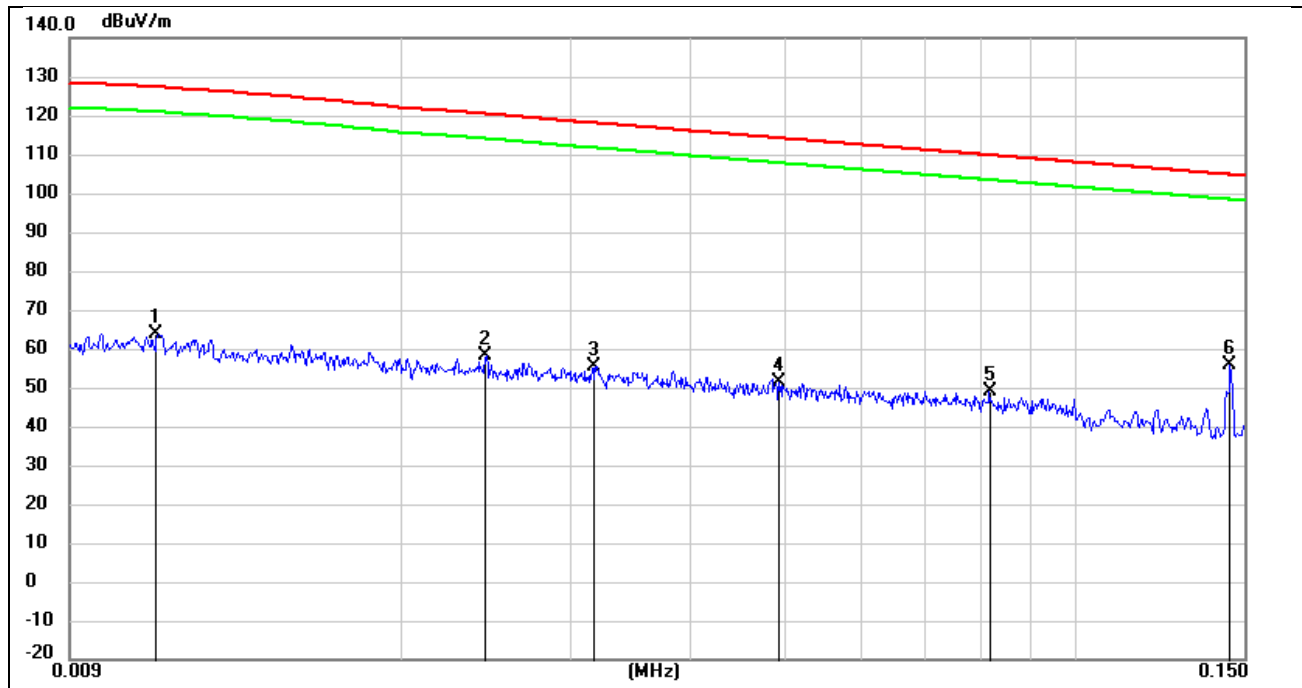
Mode: M01 Antenna: coaxial

No.	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB/m)	Measure-Ment (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	0.0104	44.01	18.38	62.39	127.36	-64.97	peak	
2	0.0126	43.96	17.42	61.38	126.03	-64.65	peak	
3	0.0208	45.02	14.09	59.11	121.30	-62.19	peak	
4	0.0240	44.20	13.80	58.00	120.17	-62.17	peak	
5	0.0420	42.35	12.19	54.54	115.17	-60.63	peak	
6 *	0.1450	39.52	10.69	50.21	104.38	-54.17	peak	



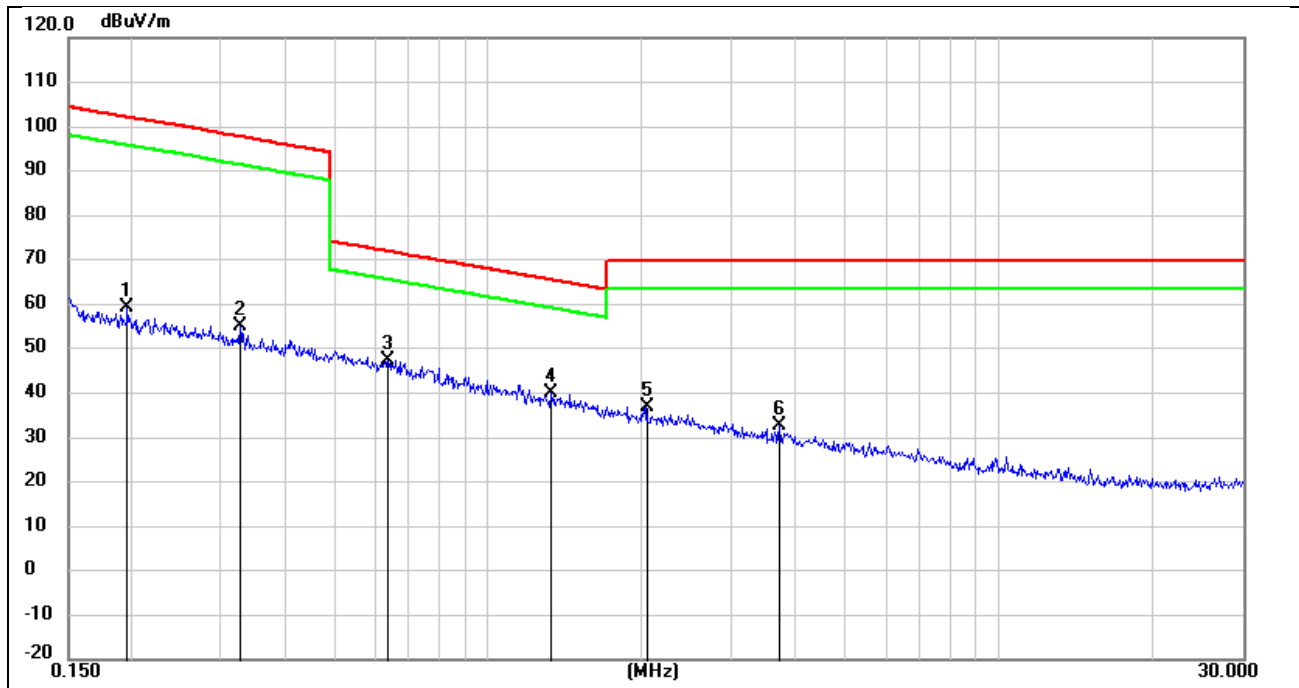
Mode: M01 Antenna: coaxial

No.	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB/m)	Measure-Ment (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	0.1624	48.14	10.67	58.81	103.40	-44.59	peak	
2	0.2197	46.48	10.62	57.10	100.89	-43.79	peak	
3	0.3852	41.67	10.55	52.22	95.93	-43.71	peak	
4 *	0.6043	37.41	10.52	47.93	71.98	-24.05	peak	
5	0.8897	32.14	10.54	42.68	68.63	-25.95	peak	
6	1.2688	29.02	10.57	39.59	65.55	-25.96	peak	



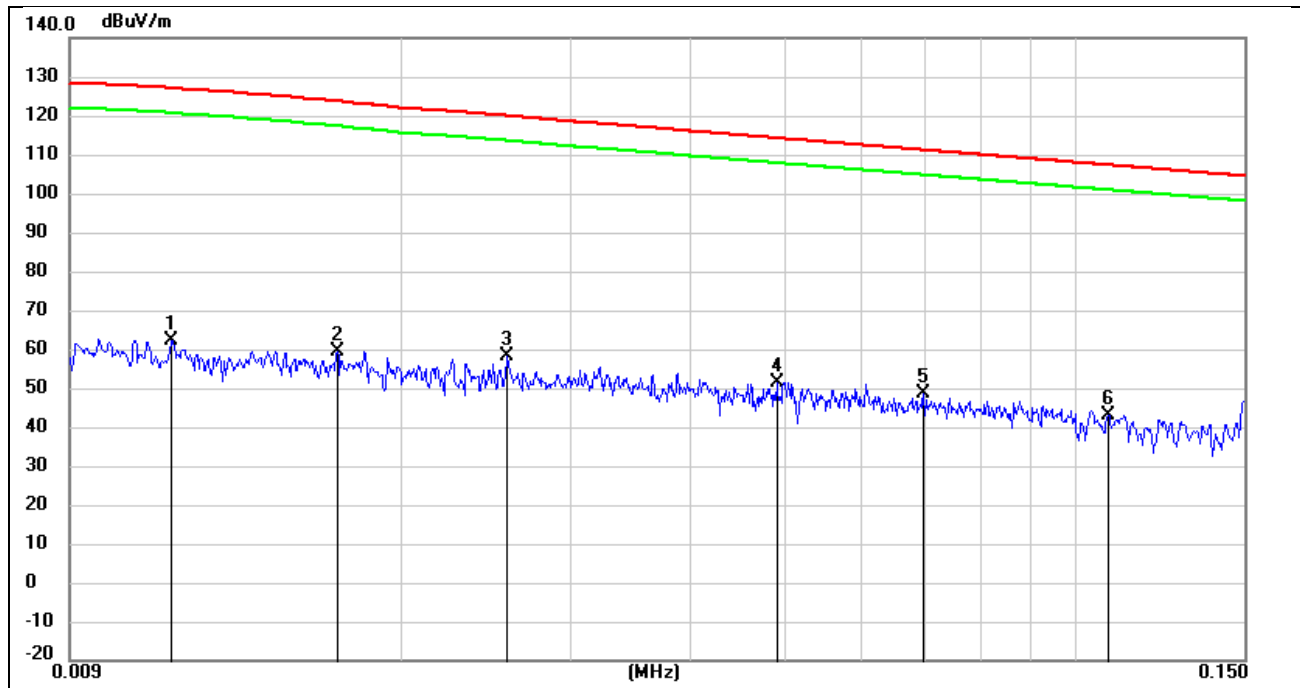
Mode: M01 Antenna: coplanar

No.	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB/m)	Measure-Ment (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	0.0111	45.56	18.08	63.64	126.94	-63.30	peak	
2	0.0244	44.39	13.76	58.15	120.03	-61.88	peak	
3	0.0317	42.36	13.11	55.47	117.64	-62.17	peak	
4	0.0492	39.90	11.54	51.44	113.78	-62.34	peak	
5	0.0817	37.88	10.93	48.81	109.37	-60.56	peak	
6 *	0.1450	45.14	10.69	55.83	104.38	-48.55	peak	



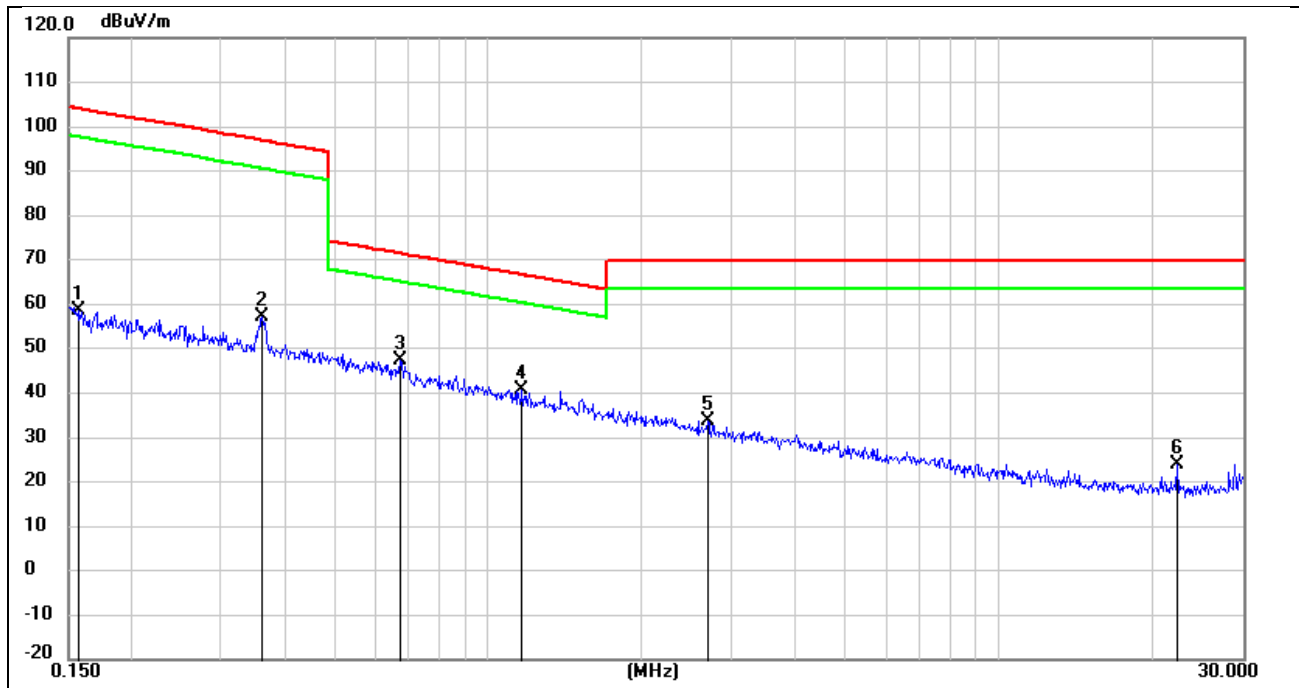
Mode: M01 Antenna: coplanar

No.	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB/m)	Measure-Ment (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	0.1955	48.48	10.64	59.12	101.78	-42.66	peak	
2	0.3251	44.49	10.57	55.06	97.43	-42.37	peak	
3 *	0.6338	36.89	10.52	47.41	71.59	-24.18	peak	
4	1.3238	29.37	10.58	39.95	65.18	-25.23	peak	
5	2.0441	26.30	10.63	36.93	69.54	-32.61	peak	
6	3.7001	21.81	10.77	32.58	69.54	-36.96	peak	



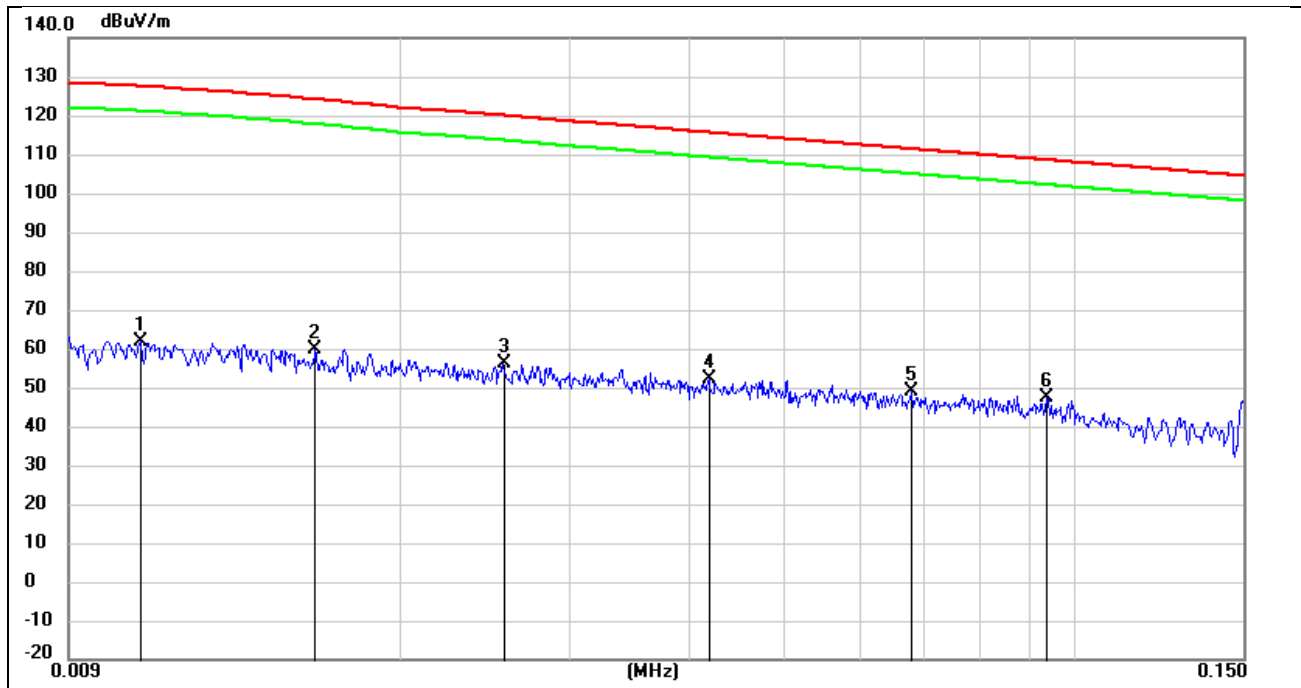
Mode: M02 Antenna: coaxial

No.	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB/m)	Measure-Ment (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	0.0115	44.31	17.90	62.21	126.70	-64.49	peak	
2	0.0171	44.08	15.44	59.52	123.33	-63.81	peak	
3 *	0.0257	44.37	13.65	58.02	119.57	-61.55	peak	
4	0.0491	39.82	11.55	51.37	113.79	-62.42	peak	
5	0.0698	37.50	11.07	48.57	110.73	-62.16	peak	
6	0.1082	32.41	10.76	43.17	106.93	-63.76	peak	



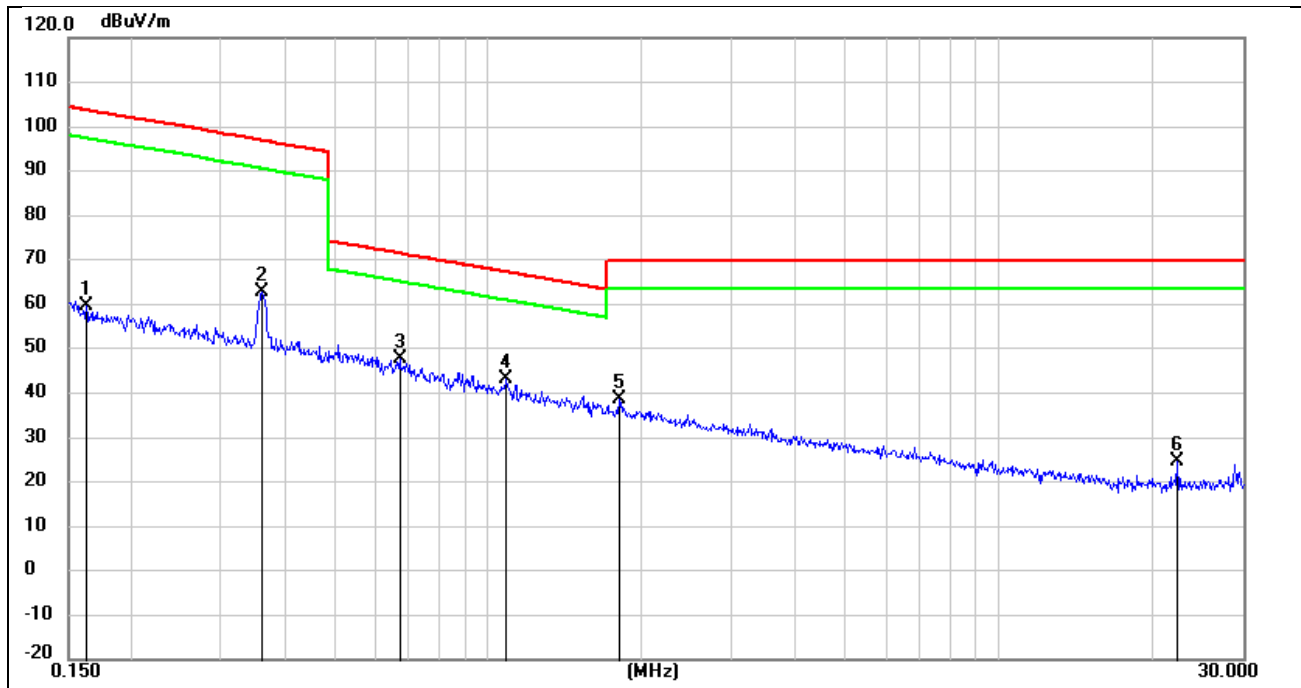
Mode: M02 Antenna: coaxial

No.	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB/m)	Measure-Ment (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	0.1565	47.83	10.67	58.50	103.72	-45.22	peak	
2	0.3615	46.52	10.56	57.08	96.52	-39.44	peak	
3 *	0.6683	36.93	10.53	47.46	71.12	-23.66	peak	
4	1.1595	30.10	10.56	40.66	66.33	-25.67	peak	
5	2.6925	22.96	10.69	33.65	69.54	-35.89	peak	
6	22.2980	14.08	9.74	23.82	69.54	-45.72	peak	



Mode: M02 Antenna: coplanar

No.	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB/m)	Measure-Ment (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	0.0107	43.63	18.25	61.88	127.18	-65.30	peak	
2	0.0162	44.04	15.83	59.87	123.87	-64.00	peak	
3	0.0256	42.60	13.66	56.26	119.61	-63.35	peak	
4	0.0417	39.83	12.22	52.05	115.23	-63.18	peak	
5	0.0678	37.76	11.11	48.87	110.99	-62.12	peak	
6 *	0.0938	36.59	10.83	47.42	108.17	-60.75	peak	



Mode: M02 Antenna: coplanar

No.	Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB/m)	Measure-Ment (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
1	0.1624	49.08	10.67	59.75	103.40	-43.65	peak	
2	0.3615	52.18	10.56	62.74	96.52	-33.78	peak	
3 *	0.6683	37.34	10.53	47.87	71.12	-23.25	peak	
4	1.0824	32.48	10.56	43.04	66.92	-23.88	peak	
5	1.8000	28.03	10.62	38.65	69.54	-30.89	peak	
6	22.2980	14.92	9.74	24.66	69.54	-44.88	peak	

Note:

1.Measurement = Reading Level + Correct Factor.

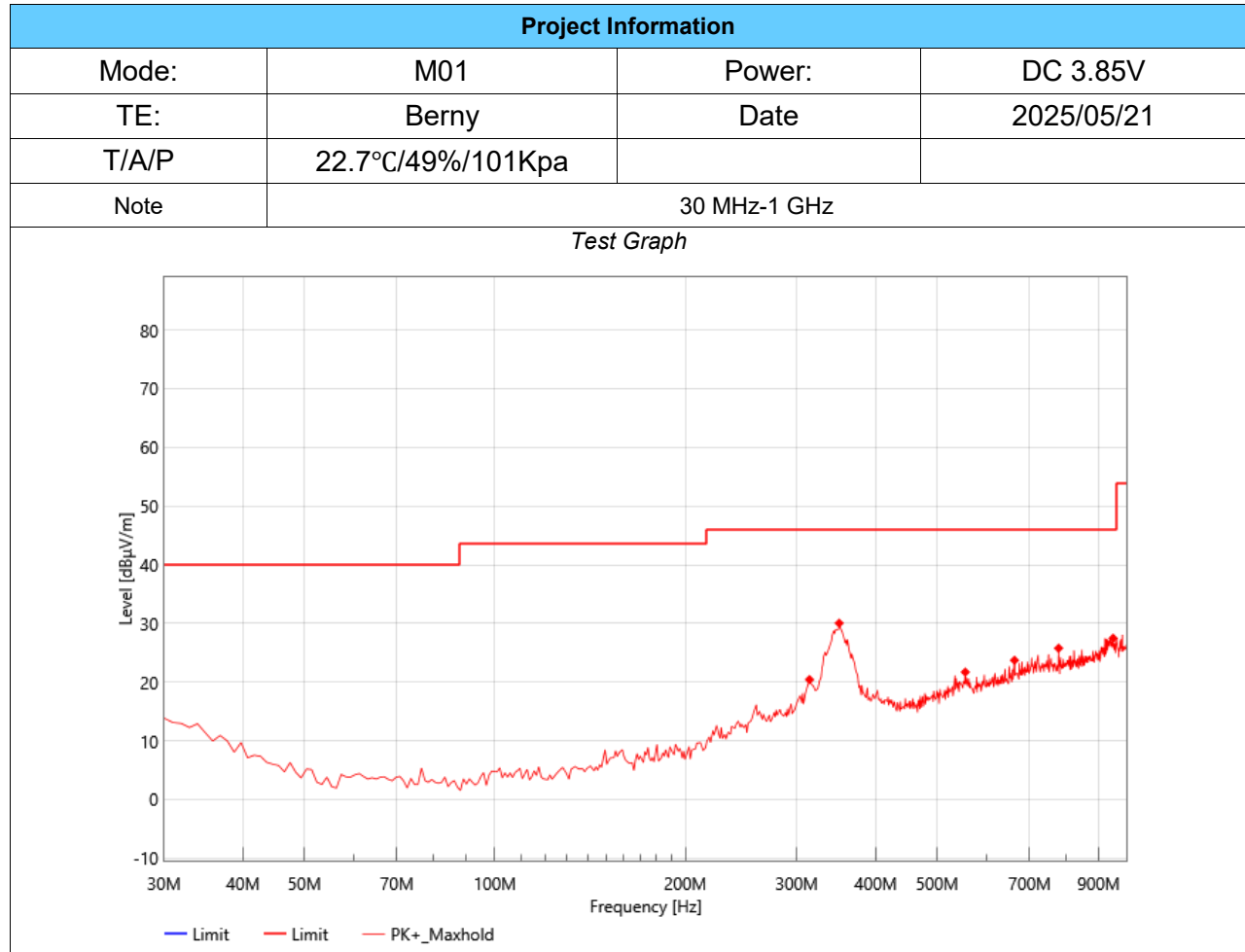
2.Margin= Measurement - Limit.

3. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)

All modes have been tested and the worst result as bellow:

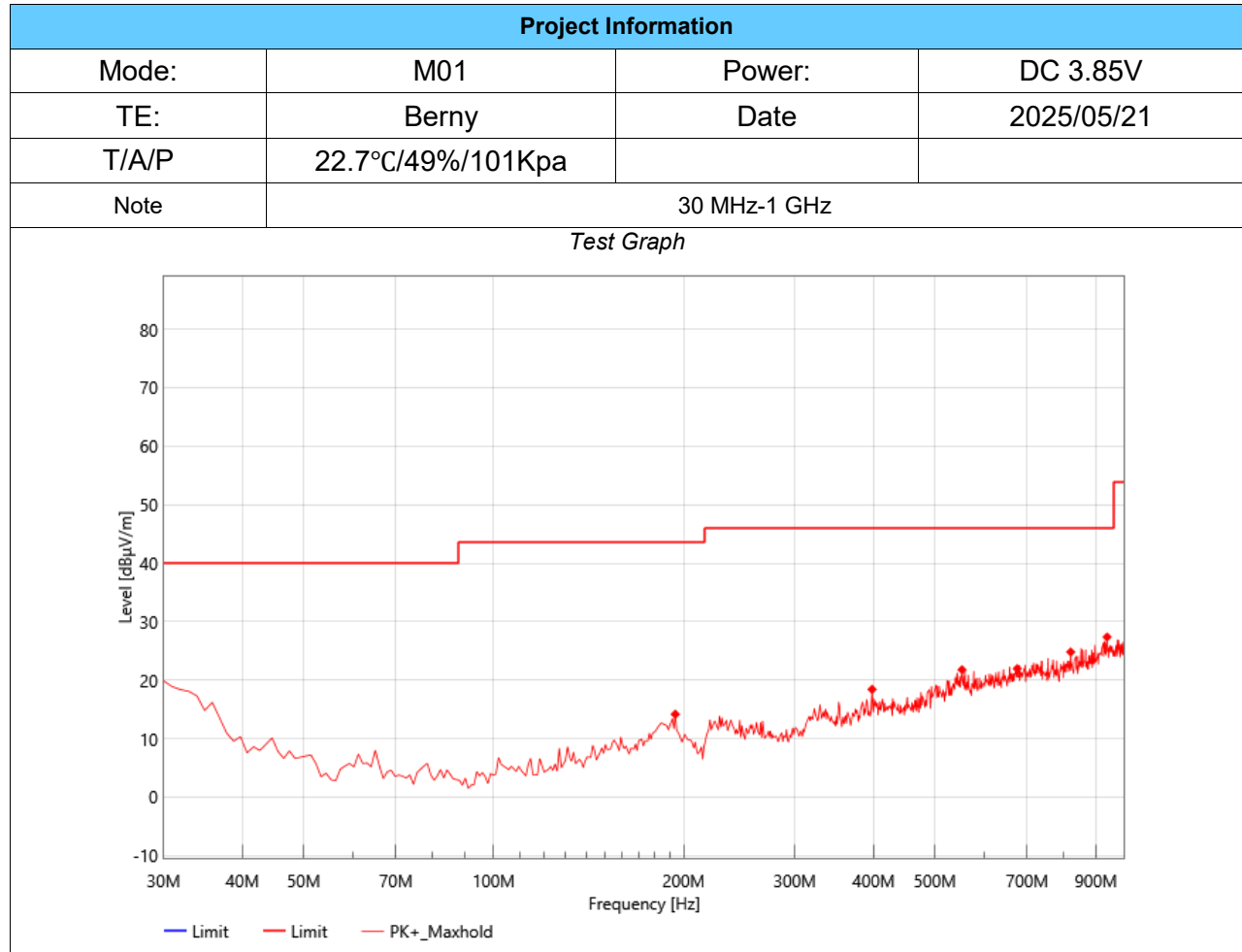
Test Result



Suspected Data List									
NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Detector	Verdict
1	314.21	38.37	20.45	-17.92	46.00	25.55	Horizontal	PK	PASS
2	350.10	46.26	30.06	-16.2	46.00	15.94	Horizontal	PK	PASS
3	553.80	31.39	21.73	-9.66	46.00	24.27	Horizontal	PK	PASS
4	662.44	31.51	23.74	-7.77	46.00	22.26	Horizontal	PK	PASS
5	777.87	32.19	25.79	-6.4	46.00	20.21	Horizontal	PK	PASS
6	948.59	29.81	27.50	-2.31	46.00	18.50	Horizontal	PK	PASS

Note:(1)Level=Reading+Factor
(2)Margin=Limit-Level]

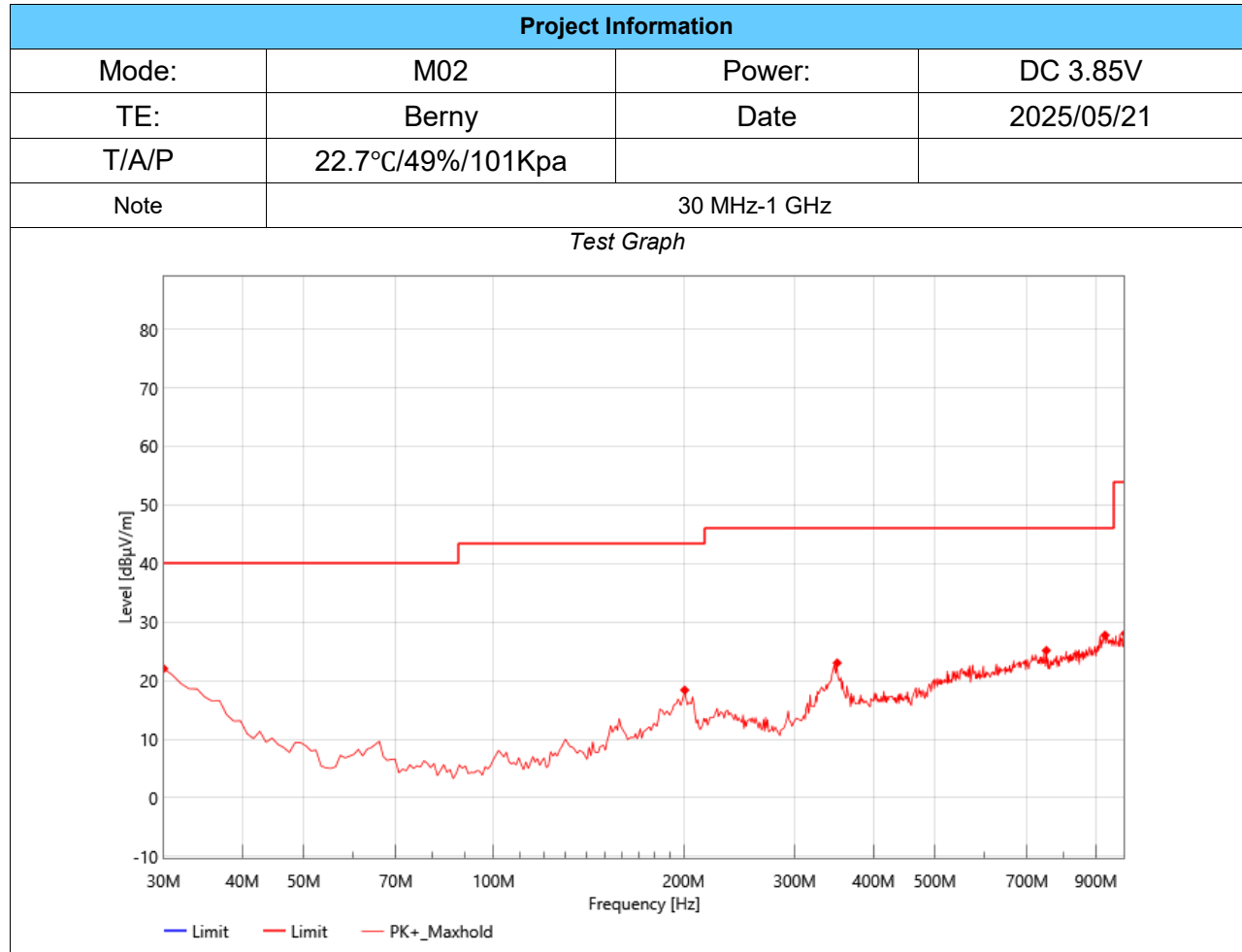
Test Result



Suspected Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Detector	Verdict
1	193.93	36.68	14.19	-22.49	43.50	29.31	Vertical	PK	PASS
2	397.63	32.16	18.44	-13.72	46.00	27.56	Vertical	PK	PASS
3	551.86	31.40	21.80	-9.6	46.00	24.20	Vertical	PK	PASS
4	675.05	29.31	21.99	-7.32	46.00	24.01	Vertical	PK	PASS
5	820.55	30.27	24.82	-5.45	46.00	21.18	Vertical	PK	PASS
6	936.95	29.56	27.40	-2.16	46.00	18.60	Vertical	PK	PASS

Note: (1) Level = Reading + Factor
 (2) Margin = Limit - Level]

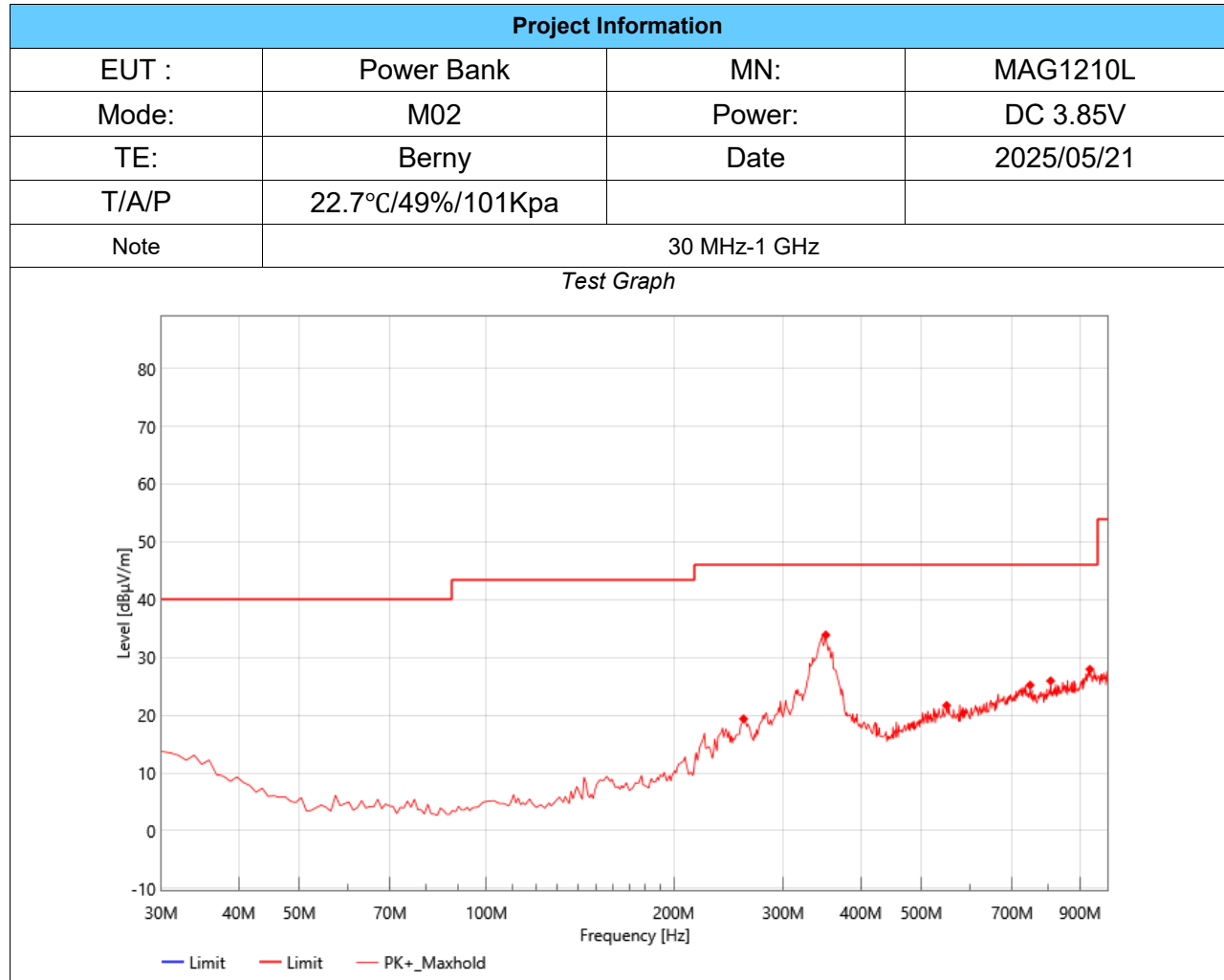
Test Result



Suspected Data List									
NO.	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Polarity	Detector	Verdict
1	30.00	36.39	22.07	-14.32	40.00	17.93	Vertical	PK	PASS
2	200.72	40.46	18.41	-22.05	43.50	25.09	Vertical	PK	PASS
3	350.10	39.25	23.05	-16.2	46.00	22.95	Vertical	PK	PASS
4	750.71	31.87	25.16	-6.71	46.00	20.84	Vertical	PK	PASS
5	930.16	29.88	27.78	-2.1	46.00	18.22	Vertical	PK	PASS
6	1000.00	30.28	28.05	-2.23	53.90	25.85	Vertical	PK	PASS

Note: (1) Level = Reading + Factor
 (2) Margin = Limit - Level]

Test Result



Suspected Data List									
NO.	Frequency [MHz]	Reading [dBµV]	Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Polarity	Detector	Verdict
1	258.92	37.76	19.38	-18.38	46.00	26.62	Horizontal	PK	PASS
2	351.07	50.03	33.90	-16.13	46.00	12.10	Horizontal	PK	PASS
3	548.95	31.23	21.70	-9.53	46.00	24.30	Horizontal	PK	PASS
4	747.80	31.85	25.22	-6.63	46.00	20.78	Horizontal	PK	PASS
5	806.97	31.54	25.96	-5.58	46.00	20.04	Horizontal	PK	PASS
6	933.07	30.12	27.95	-2.17	46.00	18.05	Horizontal	PK	PASS

Note:(1)Level=Reading+Factor
(2)Margin=Limit-Level]

8. AC POWER LINE CONDUCTED EMISSION

LIMITS

Please refer to CFR 47 FCC §15.207 (a)

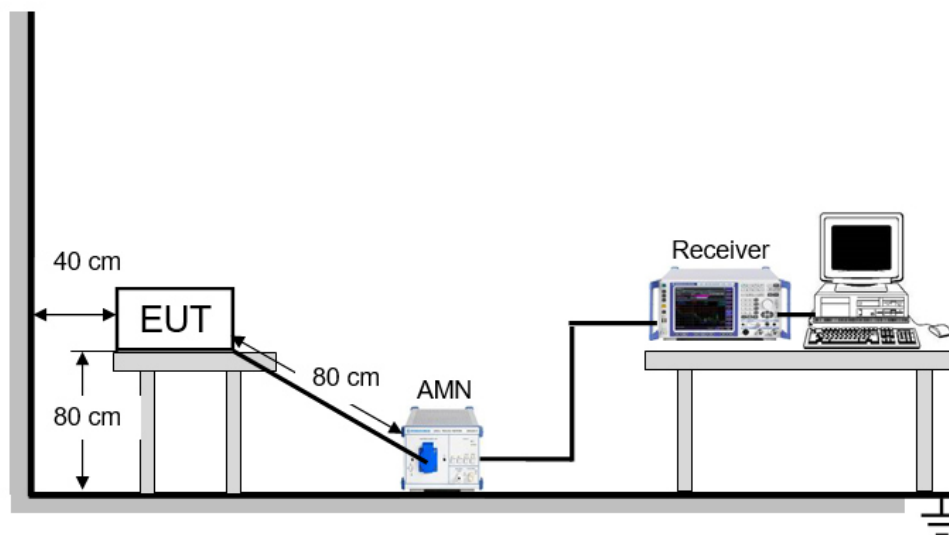
FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

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.

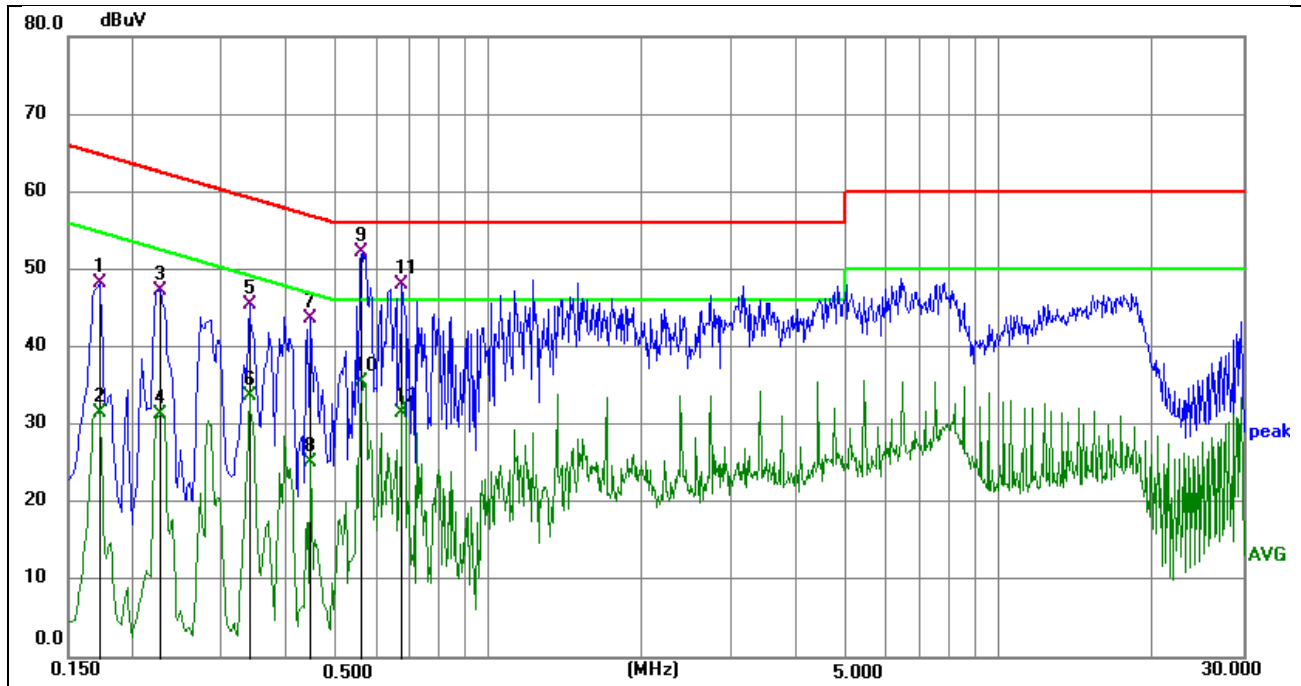
The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

TEST SETUP



TEST ENVIRONMENT

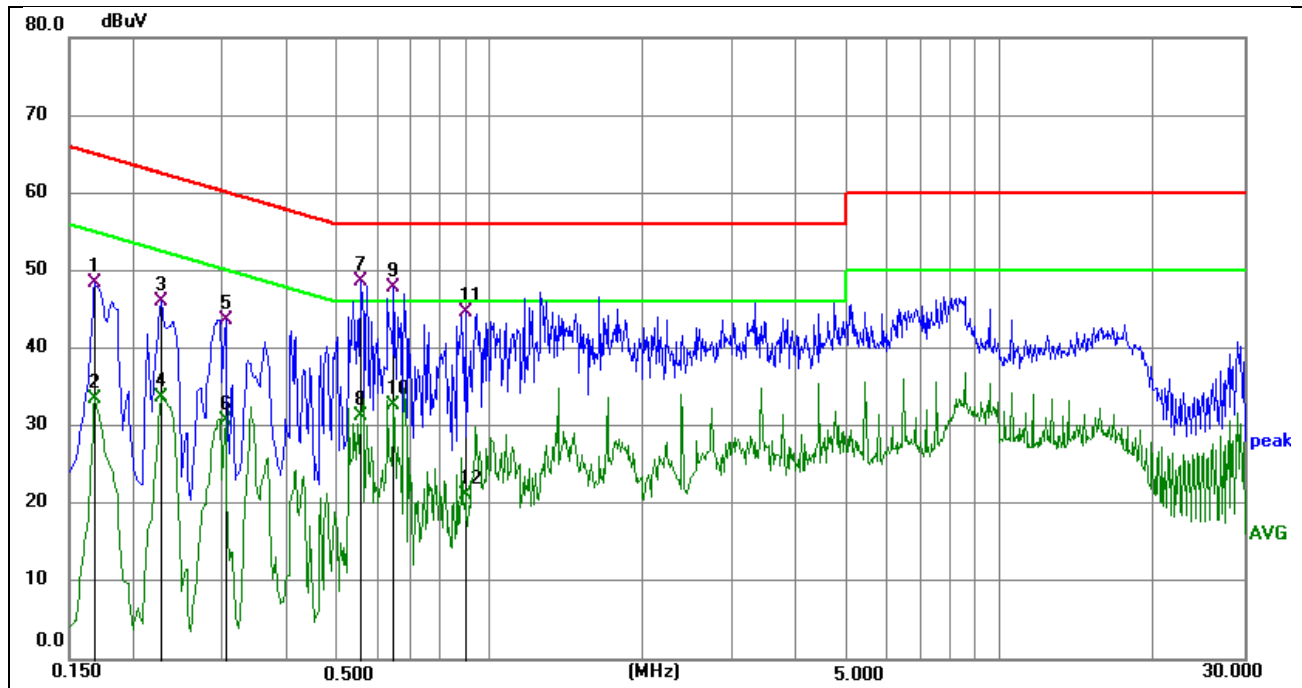
Temperature	23.2°C	Relative Humidity	52%
Atmosphere Pressure	101kPa		

TEST RESULTS

Phase: L1

Mode: M01

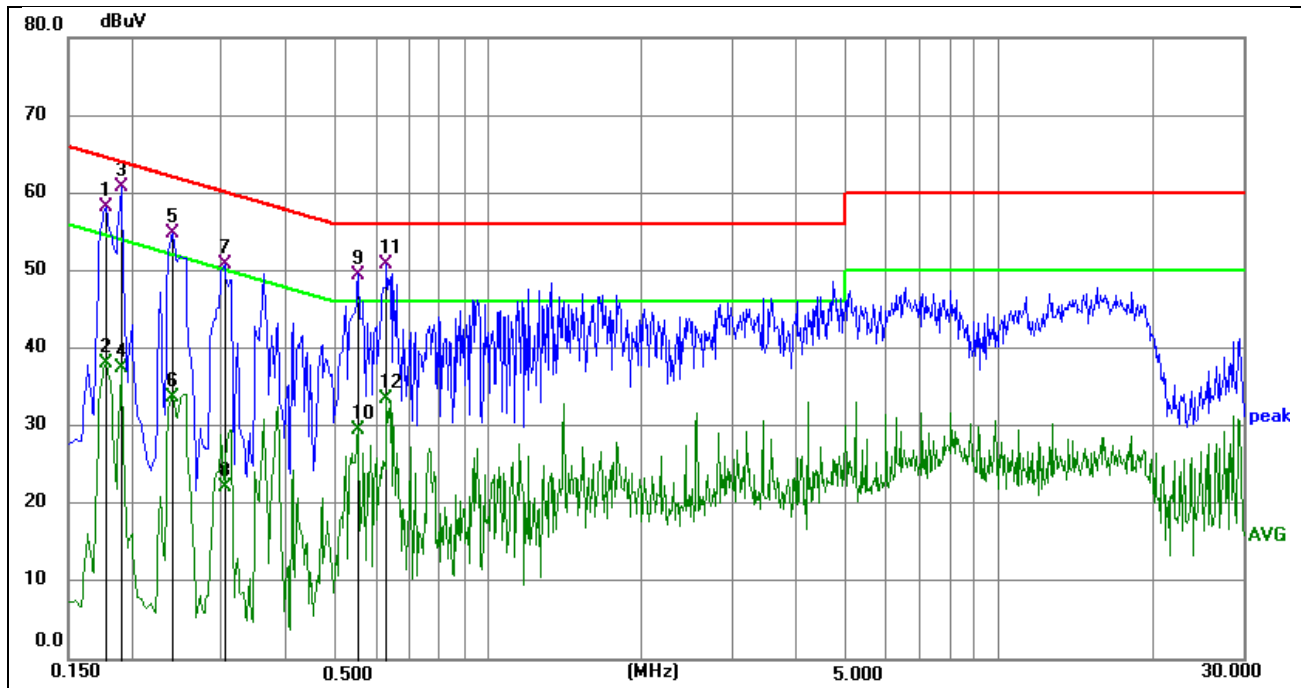
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1725	38.40	9.77	48.17	64.84	-16.67	QP
2	0.1725	21.75	9.77	31.52	54.84	-23.32	AVG
3	0.2265	37.46	9.78	47.24	62.58	-15.34	QP
4	0.2265	21.56	9.78	31.34	52.58	-21.24	AVG
5	0.3390	35.60	9.78	45.38	59.23	-13.85	QP
6	0.3390	23.94	9.78	33.72	49.23	-15.51	AVG
7	0.4470	33.85	9.79	43.64	56.93	-13.29	QP
8	0.4470	15.48	9.79	25.27	46.93	-21.66	AVG
9	0.5639	42.46	9.79	52.25	56.00	-3.75	QP
10	0.5639	25.68	9.79	35.47	46.00	-10.53	AVG
11	0.6765	38.35	9.80	48.15	56.00	-7.85	QP
12	0.6765	21.66	9.80	31.46	46.00	-14.54	AVG



Phase: N

Mode: M01

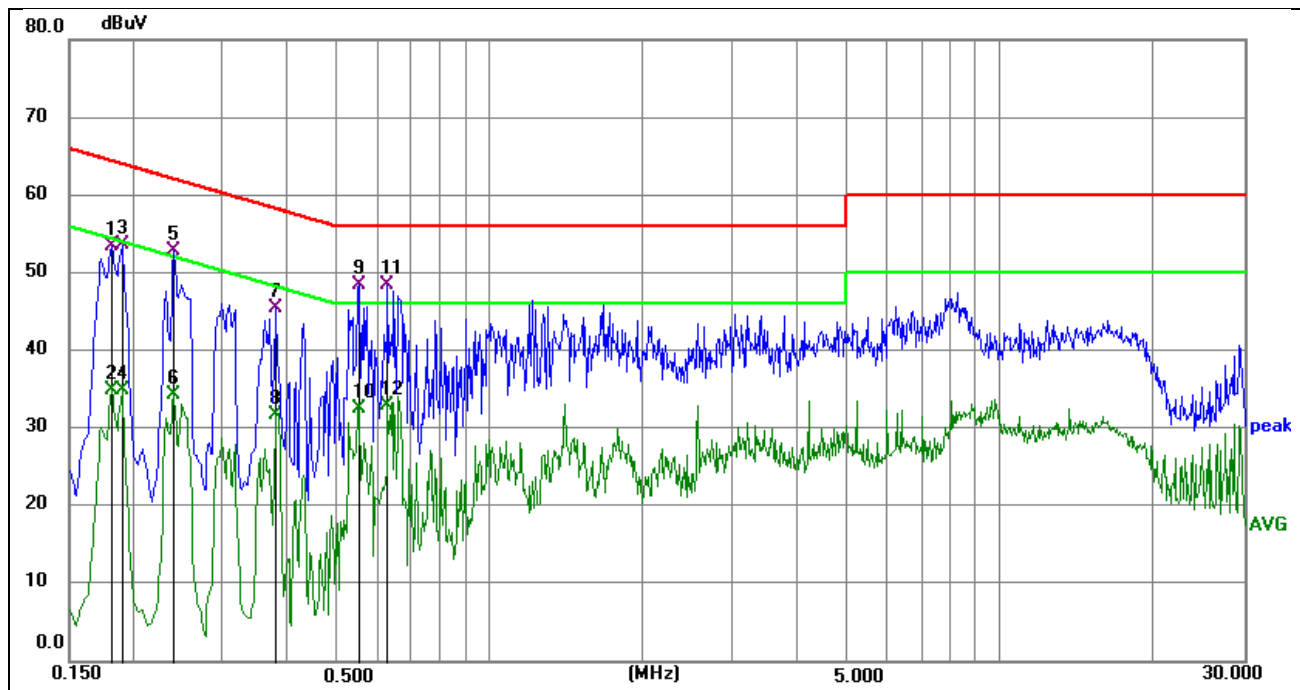
No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1680	38.78	9.67	48.45	65.06	-16.61	QP
2	0.1680	23.81	9.67	33.48	55.06	-21.58	AVG
3	0.2265	36.36	9.68	46.04	62.58	-16.54	QP
4	0.2265	24.14	9.68	33.82	52.58	-18.76	AVG
5	0.3030	34.10	9.68	43.78	60.16	-16.38	QP
6	0.3030	21.13	9.68	30.81	50.16	-19.35	AVG
7	0.5595	39.00	9.69	48.69	56.00	-7.31	QP
8	0.5595	21.62	9.69	31.31	46.00	-14.69	AVG
9	0.6495	38.14	9.70	47.84	56.00	-8.16	QP
10	0.6495	23.12	9.70	32.82	46.00	-13.18	AVG
11	0.8970	34.92	9.71	44.63	56.00	-11.37	QP
12	0.8970	11.55	9.71	21.26	46.00	-24.74	AVG



Phase: L1

Mode: M02

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1770	48.39	9.77	58.16	64.63	-6.47	QP
2	0.1770	28.37	9.77	38.14	54.63	-16.49	AVG
3	0.1905	51.02	9.78	60.80	64.01	-3.21	QP
4	0.1905	27.77	9.78	37.55	54.01	-16.46	AVG
5	0.2400	44.96	9.78	54.74	62.10	-7.36	QP
6	0.2400	24.05	9.78	33.83	52.10	-18.27	AVG
7	0.3030	40.99	9.78	50.77	60.16	-9.39	QP
8	0.3030	12.48	9.78	22.26	50.16	-27.90	AVG
9	0.5550	39.76	9.79	49.55	56.00	-6.45	QP
10	0.5550	19.86	9.79	29.65	46.00	-16.35	AVG
11	0.6315	41.05	9.80	50.85	56.00	-5.15	QP
12	0.6315	23.80	9.80	33.60	46.00	-12.40	AVG



Phase: N

Mode: M02

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1815	43.71	9.67	53.38	64.42	-11.04	QP
2	0.1815	25.31	9.67	34.98	54.42	-19.44	AVG
3	0.1905	44.02	9.68	53.70	64.01	-10.31	QP
4	0.1905	25.18	9.68	34.86	54.01	-19.15	AVG
5	0.2400	43.07	9.68	52.75	62.10	-9.35	QP
6	0.2400	24.65	9.68	34.33	52.10	-17.77	AVG
7	0.3795	35.72	9.69	45.41	58.29	-12.88	QP
8	0.3795	22.13	9.69	31.82	48.29	-16.47	AVG
9	0.5550	38.75	9.69	48.44	56.00	-7.56	QP
10	0.5550	22.90	9.69	32.59	46.00	-13.41	AVG
11	0.6315	38.81	9.70	48.51	56.00	-7.49	QP
12	0.6315	23.22	9.70	32.92	46.00	-13.08	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.
5. All the modes have been tested, only the worst data was recorded in the report.

9. 20DB BANDWIDTH

LIMITS

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. In the case of intentional radiators operating under the provisions of subpart E, the emission bandwidth may span across multiple contiguous frequency bands identified in that subpart. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

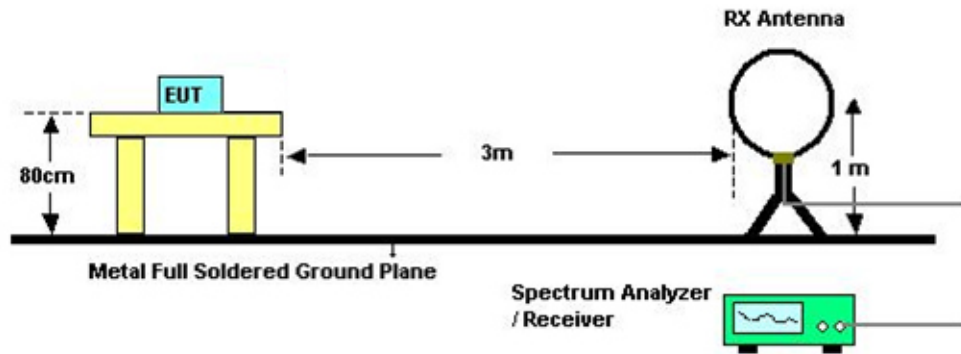
TEST PROCEDURE

- a.) The EUT operates at maximum output power according to the user manual.
- b.) If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.
- c.) If the EUT is a floor standing device, it is placed on the ground.
- d.) Auxiliary equipment and cables were positioned to simulate normal operation conditions.
- f.) The EUT is connected to DC Power Source or an adapter.
- e.) The measurement distance is 3 meter.
- f.) The EUT was set into operation.
- g.) Adjust the test instrument for the following setting.

RBW	1kHz
VBW	3*RBW
Detector	Peak
Sweep time	Auto
Trace Mode	Max hold

- h.) Allow trace to fully stabilize.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.3°C	Relative Humidity	51%
Atmosphere Pressure	101kPa		

TEST RESULTS

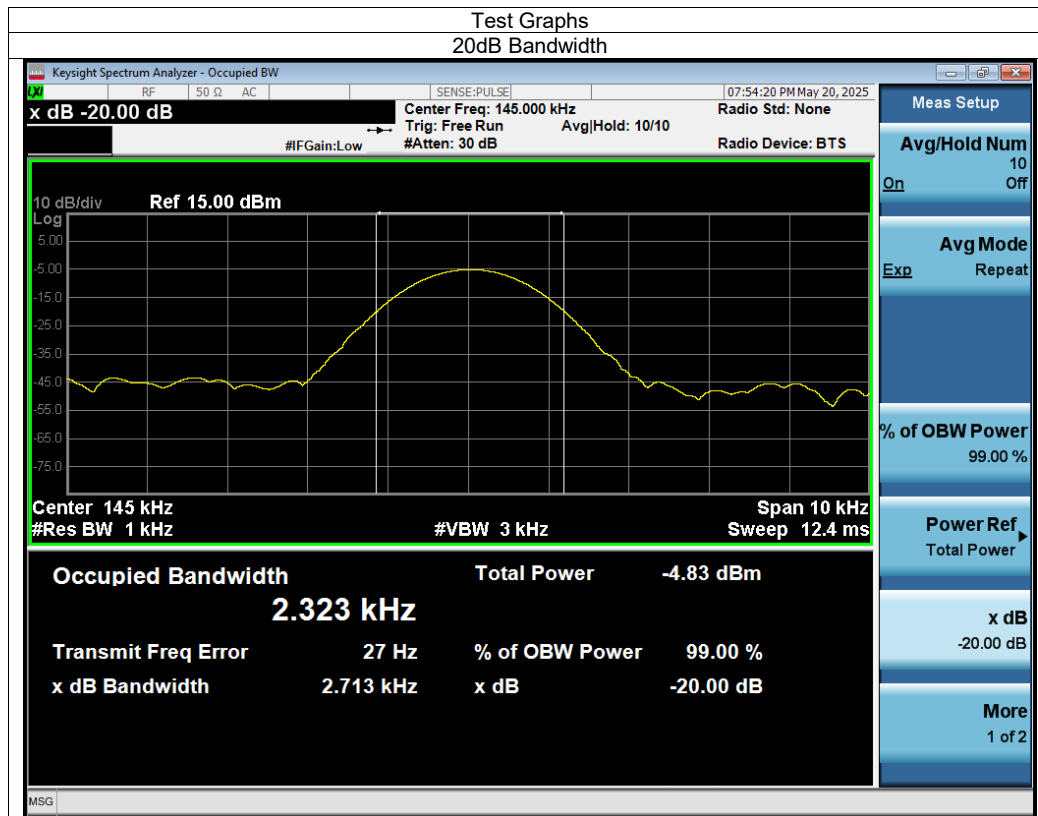
For M01

Frequency (kHz)	20dB Bandwidth (kHz)	Result
145	2.713	Pass

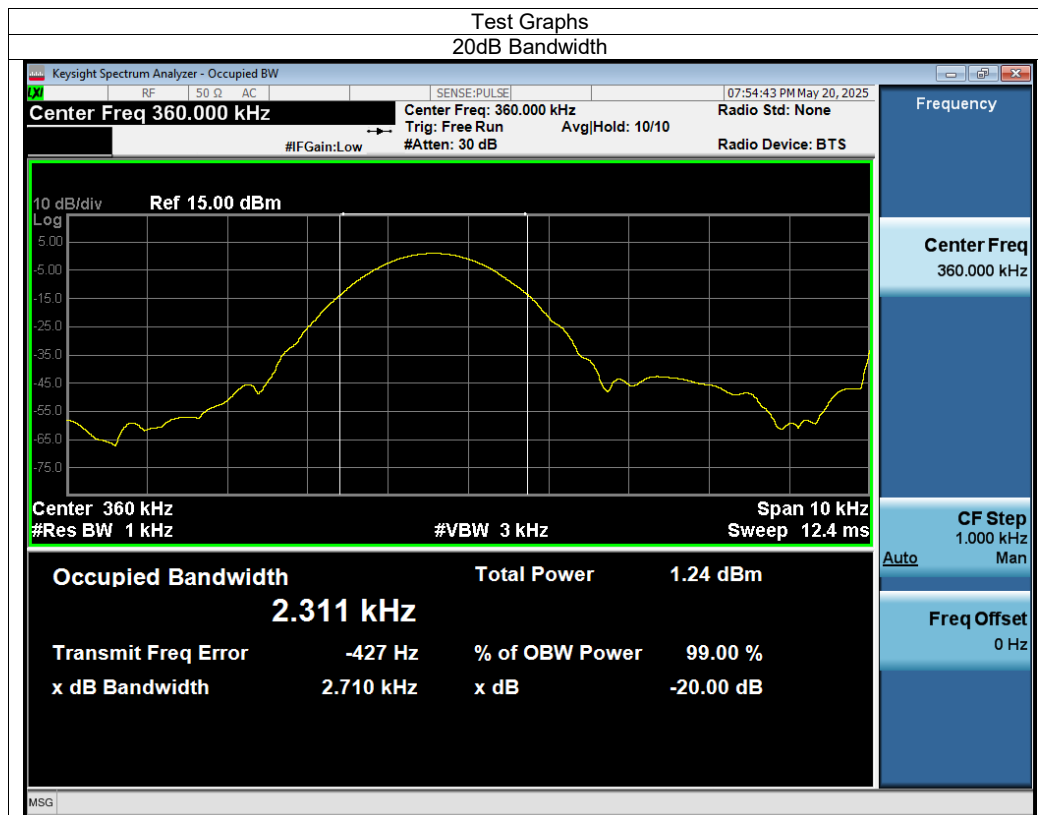
For M02

Frequency (kHz)	20dB Bandwidth (kHz)	Result
360	2.710	Pass

For M01:



For M02:



10. ANTENNA REQUIREMENT

REQUIREMENT

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.

DESCRIPTION

Pass.

END OF REPORT