FCC Radio Test Report

FCC ID: 2APP7-PWB2101

Original Grant

Report No.	:	TB-FCC159138
Applicant	:	Shenzhen D8 Technology Co., Ltd
Equipment Under Test (EUT)		
EUT Name	:	Wireless Charger
Model No.	:	PWB-2101
Serial Model No.	:	Please see the page of 4
Brand Name	:	N/A
Receipt Date	:	2018-04-04
Test Date	:	2018-04-05 to 2018-05-02
Issue Date	:	2018-05-03
Standards	:	FCC Part 15: 2017, Subpart C(15.209)
Test Method	:	ANSI C63.10: 2013
Conclusions	:	**PASS**

In the configuration tested, the EUT complied with the standards specified above,

Test/Witness Engineer	:	Jason Xu
Engineer Supervisor	:	Ivan Su
Engineer Manager	:	Ray Lai

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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Revision History

Report No.	Version	Description	Issued Date
TB-FCC159138	Rev.01	Initial issue of report	2018-05-03

1. General Information about EUT

1.1 Client Information

Applicant	:	Shenzhen D8 Technology Co., Ltd
Address	:	501, Bldg3,182 Design Park, Bulan Road, Longgang, Shenzhen, China
Manufacturer	:	Shenzhen D8 Technology Co., Ltd
Address	:	501, Bldg3,182 Design Park, Bulan Road, Longgang, Shenzhen, China

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Wireless Charger	
Models No.	:	PWB-2101, PWB-2102, PWB-2103, PWB-2104, PWB-2105, PWB-2106, PWB-2107, PWB-2108, PWB-2109, PWB-2110, PWB-2111, PWB-2112, PWB-2113, PWB-2114, PWB-2115, PWB-2116, PWB-2117, PWB-2118, PWB-2119, PWB-2120, PWB-2121, PWB-2122, PWB-2123	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is apperance.	
Product Description	:	Operation Frequency:	110KHz-205KHz
		Modulation Type:	MSK
		Antenna:	Coil Antenna
Power Supply	:	Input: 5V/2A, 9V/ 1.67A Output: 5V/1A, 9V/ 1.1A	
Charging Distance	:	≤8mm	
Software Version	:	N/A	
Hardware Version	:	N/A	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note:

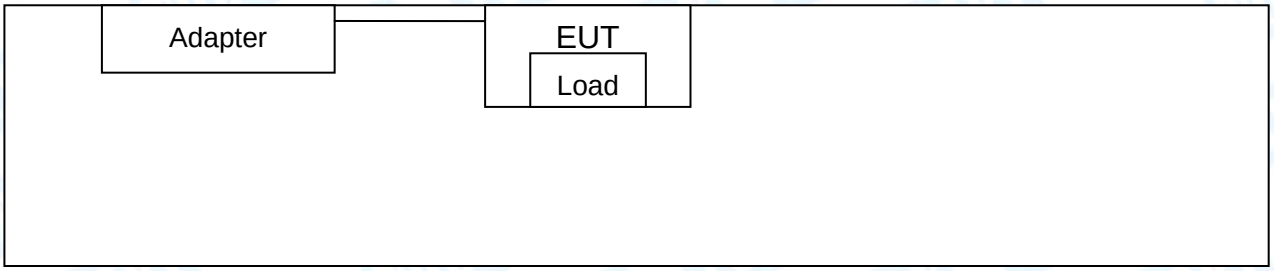
(1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

(2) Channel List:

Low Frequency(KHz)	Middle Frequency(KHz)	High Frequency(KHz)
113	159	205
Note: Operation Frequency=110+1*k, k∈（0,1,2,3.....,92）		

1.3 Block Diagram Showing the Configuration of System Tested

Charging + TX Mode



1.4 Description of Support Units

Name	Model	S/N	Manufacturer	Used " √ "
Load	5V/9V	----	CHIPSVISION	√
Adapter	EP-TA200	----	SAMSUNG	√
Input: AC100-240V,50/60Hz, 0.5A Output: DC 9V, 1.67A or DC 5V, 2A.				

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

Pretest Mode	
Final Test Mode	**Description**
Mode 1	TX Mode(Low CH)
Mode 2	TX Mode(Middle CH)
Mode 3	TX Mode(High CH)
Mode 4	Keeping TX Mode(5V/1A)
Mode 5	Keeping TX Mode(9V/1.1A)
For Conducted Test	
Final Test Mode	**Description**
Mode 4	Keeping TX Mode(5V/1A)
Mode 5	Keeping TX Mode(9V/1.1A)

For Radiated Test	
Final Test Mode	**Description**
Mode 4	Keeping TX Mode(5V/1A)
Mode 5	Keeping TX Mode(9V/1.1A)
For Bandwidth Test	
Final Test Mode	**Description**
Mode 1	TX Mode(Low CH)

Note:

(1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

TX Mode: Transmitting mode.

(2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.

(3) The EUT is considered a portable unit; in normal use it was positioned on X-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

1.6 Description of Test Software Setting

During testing channel& Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of RF setting.

Test Software Version	**N/A**
Frequency	113-205 KHz

1.7 Measurement Uncertainty

The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U_{Lab})
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	±3.42 dB ±3.42 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.40 dB
Radiated Emission	Level Accuracy: Above 1000MHz	±4.20 dB

1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025：2005 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.

IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

2. Test Summary

FCC Part 15 Subpart C(15.209)			
Standard Section	**Test Item**	**Judgment**	**Remark**
15.207(a)	Conducted Emission	PASS	N/A
15.209(a)(f)	Radiated emissions	PASS	N/A
15.215	Bandwidth	PASS	N/A
Note: N/A is an abbreviation for Not Applicable.			

3. Test Equipment

Conducted Emission Test					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jul. 20, 2017	Jul. 19, 2018
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 20, 2017	Jul. 19, 2018
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 20, 2017	Jul. 19, 2018
LISN	Rohde & Schwarz	ENV216	101131	Jul. 21, 2017	Jul. 20, 2018
Radiation Emission Test					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 20, 2017	Jul. 19, 2018
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 20, 2017	Jul. 19, 2018
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar.16, 2018	Mar. 15, 2019
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar.16, 2018	Mar. 15, 2019
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar.16, 2018	Mar. 15, 2019
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar.16, 2018	Mar. 15, 2019
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jul. 03, 2017	Jul. 02, 2018
Pre-amplifier	Sonoma	310N	185903	Mar.17, 2018	Mar. 16, 2019
Pre-amplifier	HP	8449B	3008A00849	Mar.17, 2018	Mar. 16, 2019
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar.17, 2018	Mar. 16, 2019
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Antenna Conducted Emission					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Cal. Due Date**
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 20, 2017	Jul. 19, 2018
Spectrum Analyzer	Rohde & Schwarz	ESCI	100010/007	Jul. 20, 2017	Jul. 19, 2018
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Oct. 26, 2017	Oct. 25, 2018
Vector Signal Generator	Agilent	N5182A	MY50141294	Oct. 26, 2017	Oct. 25, 2018
Analog Signal Generator	Agilent	N5181A	MY50141953	Oct. 26, 2017	Oct. 25, 2018
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO26	Oct. 26, 2017	Oct. 25, 2018
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO29	Oct. 26, 2017	Oct. 25, 2018
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO31	Oct. 26, 2017	Oct. 25, 2018
	DARE!! Instruments	RadiPowerRPR3006W	17I00015SNO33	Oct. 26, 2017	Oct. 25, 2018

4. Conducted Emission Test

4.1 Test Standard and Limit

4.1.1Test Standard

FCC Part 15.207

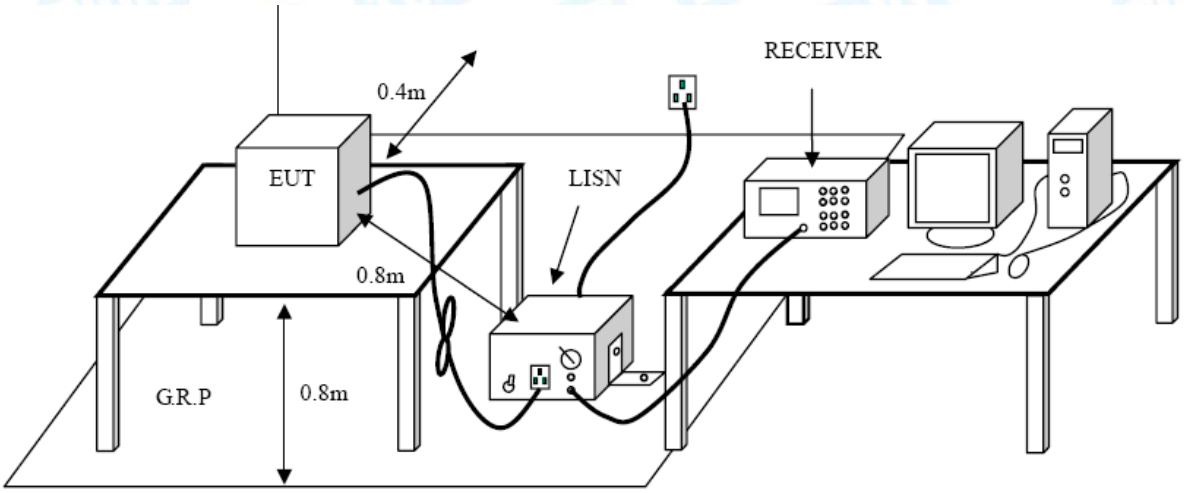
4.1.2 Test Limit

Conducted Emission Test Limit

Frequency	Maximum RF Line Voltage (dBμV)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Notes:
(1) *Decreasing linearly with logarithm of the frequency.
(2) The lower limit shall apply at the transition frequencies.
(3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2 Test Setup



4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9 kHz, and the test frequency band is from 0.15MHz to 30MHz.

4.4 EUT Operating Mode

Please refer to the description of test mode.

4.5 Test Data

Please refer to the Attachment A.

5. Radiated Emission Test

5.1 Test Standard and Limit

5.1.1 Test Standard

FCC Part 15.209(a)(f)

5.1.2 Test Limit

Radiated Emission Limits (9 kHz~1000 MHz)

Frequency (MHz	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Radiated Emission Limit (Above 1000MHz)

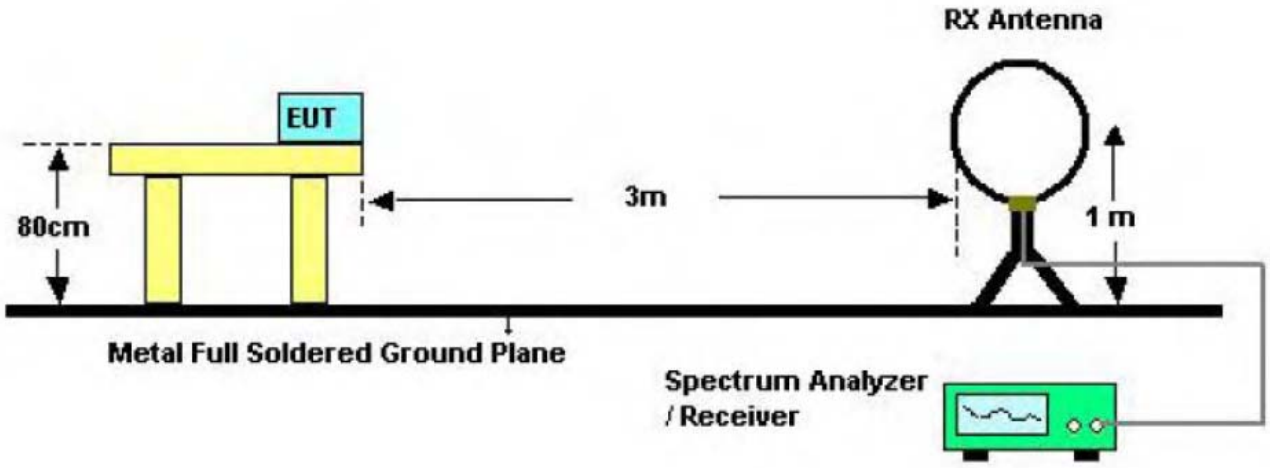
Frequency (MHz)	Distance of 3m (dBuV/m)	
	Peak	Average
Above 1000	74	54

Note:

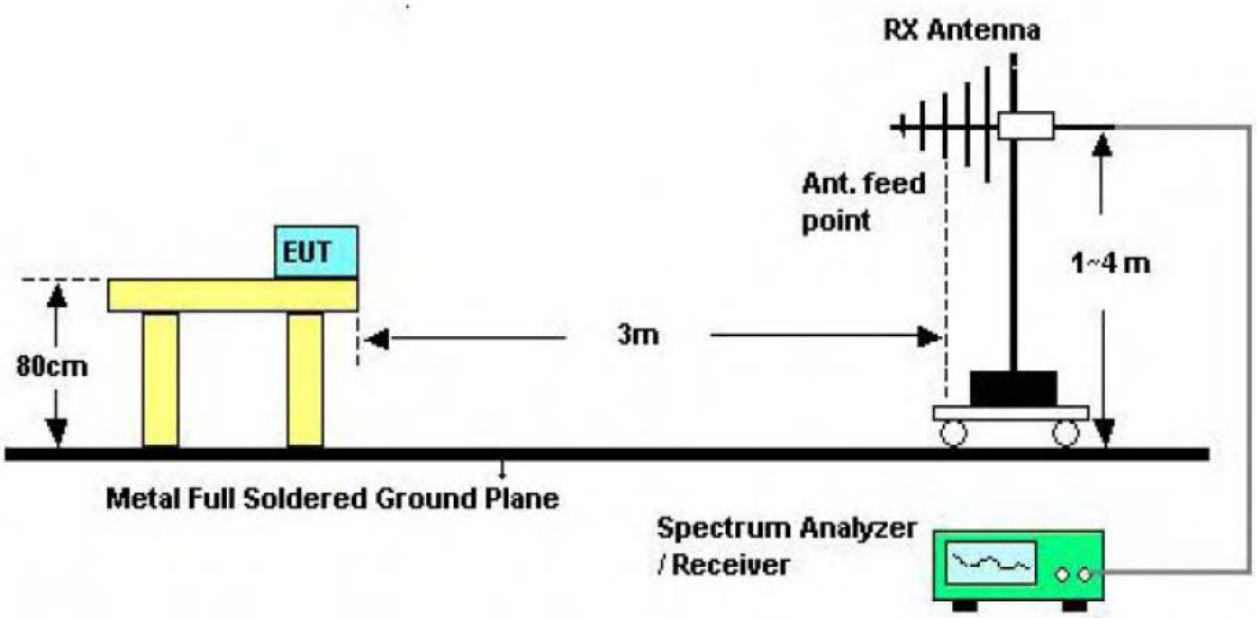
(1) The tighter limit applies at the band edges.

(2) Emission Level(dBuV/m)=20log Emission Level(uV/m)

5.2 Test Setup



Below 30MHz Test Setup



Below 1000MHz Test Setup

5.3 Test Procedure

(1) Measurements at frequency 9KHz~30MHz and Below 1GHz. The EUT was placed on a rotating 0.8m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna.The table was rotated 360 degrees to determine the position of the highest radiation.

(2) 9KHz~30MHz the test antenna 1m away from the ground, Both 0° and 90° antenna are set to make measurement.
Below 1GHz the test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.

(3) 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.

(4) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.

(5) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.

(6) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

(7) For 9kHz to 150kHz, Set the spectrum analyzer as:
RBW= 200Hz, VBW =1kHz, Detector= Quasi-Peak, Trace mode= Max hold,
Sweep- auto couple.
For 150kHz to 30MHz, Set the spectrum analyzer as:
RBW= 9KHz, VBW =30kHz, Detector= Quasi-Peak, Trace mode= Max hold,
Sweep- auto couple

(8) For the actual test configuration, please see the test setup photo.

5.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

5.5 Test Data

Please refer to the Attachment B.

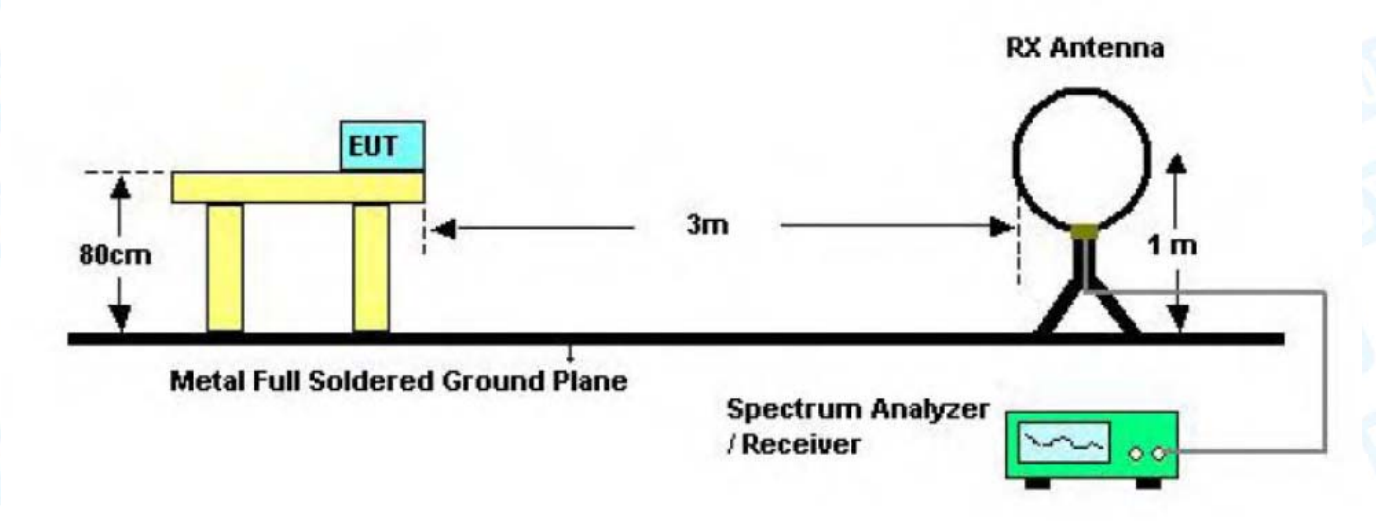
6. Bandwidth Measurement

6.1 Test Standard and Limit

5.1.1 Test Standard

FCC Part 15.215

6.2 Test Setup



6.3 Test Procedure

1. The transmitter shall be operated at its maximum carrier power measured under normal test conditions;
2. The span of the analyzer shall be set to capture all products of the modulation process,including the emission skirts.
3. The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) shall be approximately 3x RBW.

6.4 EUT Operating Condition

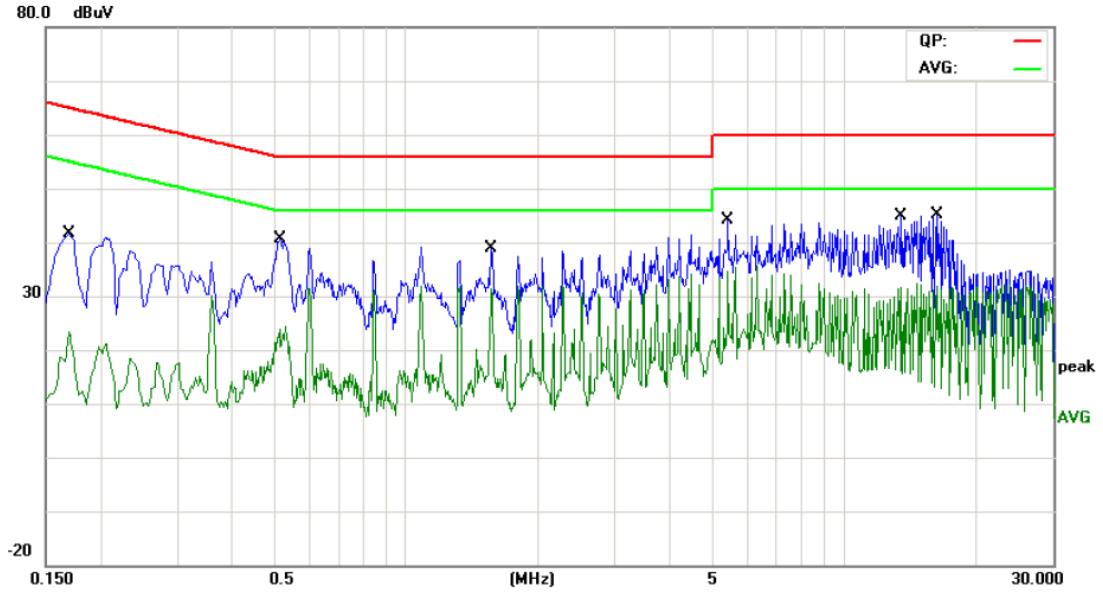
The Equipment Under Test was set to Continual Transmitting in maximum power.

6.5 Test Data

Please refer to the Attachment C.

Attachment A-- Conducted Emission Test Data

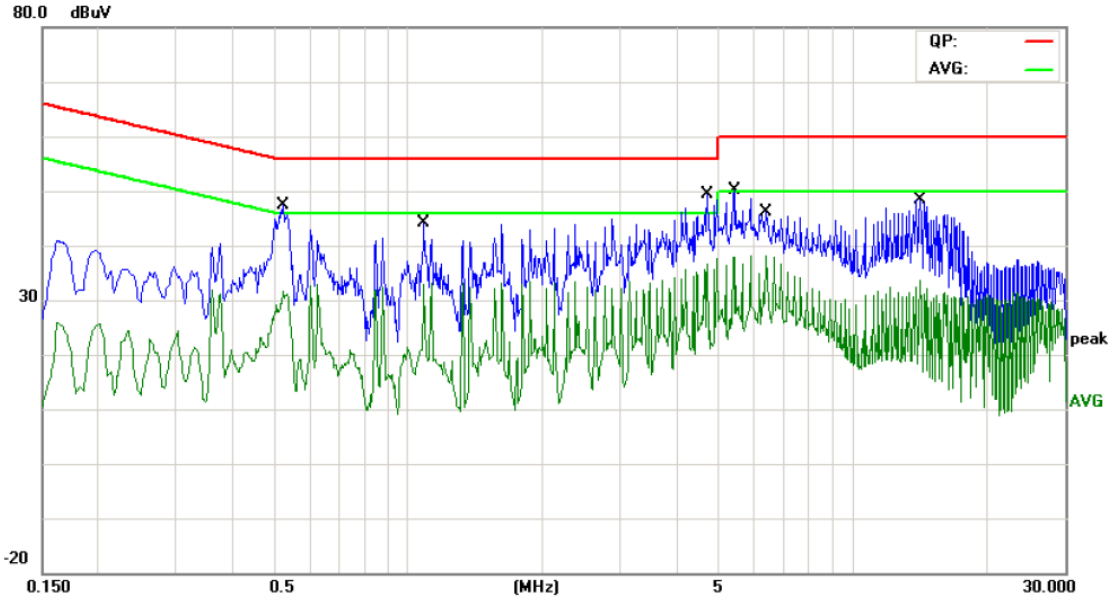
Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120V/60 Hz		
Terminal:	Line		
Test Mode:	TX Mode(9V/1.1A)		
Remark:	Only worse case is reported		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1700	27.07	9.64	36.71	64.96	-28.25	QP
2		0.1700	10.23	9.64	19.87	54.96	-35.09	AVG
3		0.5180	26.29	9.58	35.87	56.00	-20.13	QP
4		0.5180	12.78	9.58	22.36	46.00	-23.64	AVG
5		1.5660	24.91	9.60	34.51	56.00	-21.49	QP
6	*	1.5660	17.41	9.60	27.01	46.00	-18.99	AVG
7		5.4260	28.26	9.99	38.25	60.00	-21.75	QP
8		5.4260	21.02	9.99	31.01	50.00	-18.99	AVG
9		13.5180	23.75	10.50	34.25	60.00	-25.75	QP
10		13.5180	9.98	10.50	20.48	50.00	-29.52	AVG
11		16.3980	29.73	10.62	40.35	60.00	-19.65	QP
12		16.3980	19.61	10.62	30.23	50.00	-19.77	AVG

Emission Level= Read Level+ Correct Factor

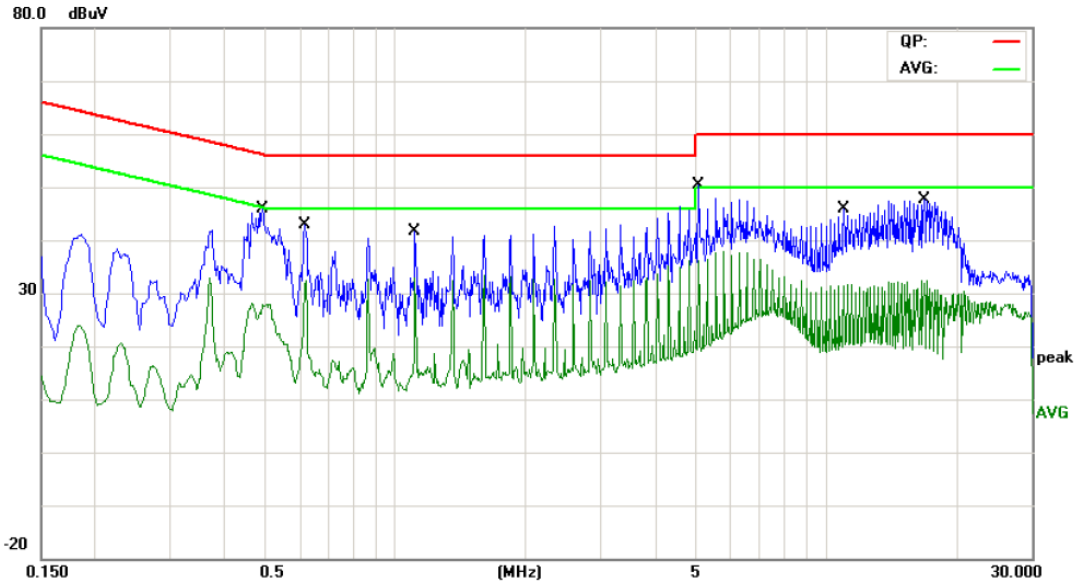
Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120V/60 Hz		
Terminal:	Neutral		
Test Mode:	TX Mode(9V/1.1A)		
Remark:	Only worse case is reported		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.5181	29.76	9.58	39.34	56.00	-16.66	QP
2		0.5181	19.75	9.58	29.33	46.00	-16.67	AVG
3		1.0859	28.59	9.59	38.18	56.00	-17.82	QP
4		1.0859	21.93	9.59	31.52	46.00	-14.48	AVG
5		4.6979	33.34	9.85	43.19	56.00	-12.81	QP
6	*	4.6979	24.54	9.85	34.39	46.00	-11.61	AVG
7		5.3820	30.48	9.98	40.46	60.00	-19.54	QP
8		5.3820	19.61	9.98	29.59	50.00	-20.41	AVG
9		6.3820	27.64	10.17	37.81	60.00	-22.19	QP
10		6.3820	20.75	10.17	30.92	50.00	-19.08	AVG
11		14.1380	18.28	10.55	28.83	60.00	-31.17	QP
12		14.1380	4.81	10.55	15.36	50.00	-34.64	AVG

Emission Level= Read Level+ Correct Factor

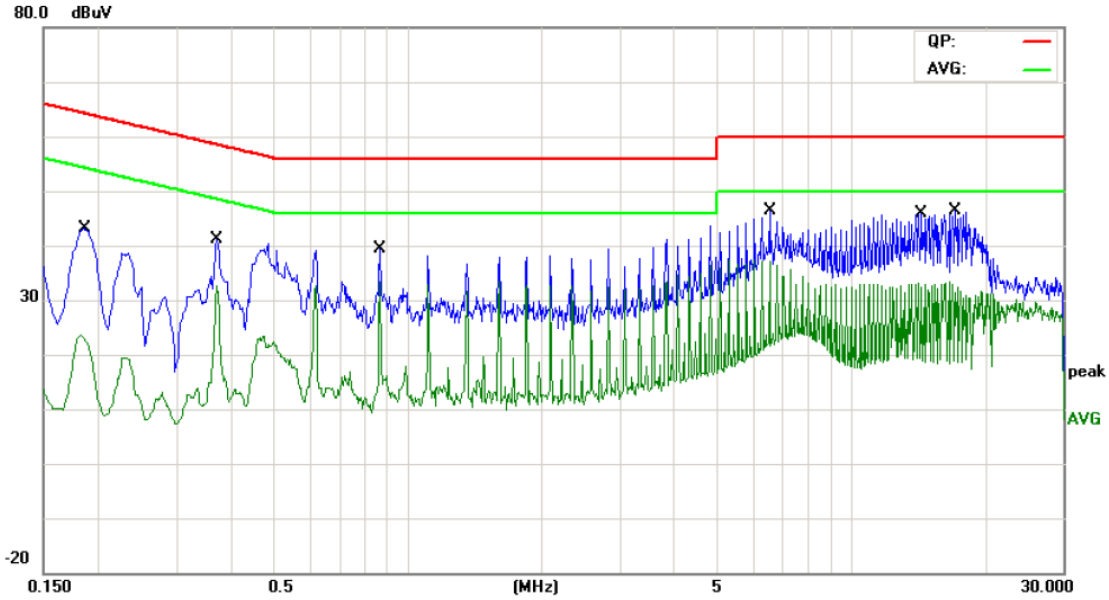
Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 240V/60 Hz		
Terminal:	Line		
Test Mode:	TX Mode(9V/1.1A)		
Remark:	Only worse case is reported		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.4900	28.28	9.60	37.88	56.17	-18.29	QP
2		0.4900	17.25	9.60	26.85	46.17	-19.32	AVG
3		0.6140	27.45	9.61	37.06	56.00	-18.94	QP
4		0.6140	21.74	9.61	31.35	46.00	-14.65	AVG
5		1.1100	28.14	9.60	37.74	56.00	-18.26	QP
6	*	1.1100	23.55	9.60	33.15	46.00	-12.85	AVG
7		5.0540	33.05	9.74	42.79	60.00	-17.21	QP
8		5.0540	27.06	9.74	36.80	50.00	-13.20	AVG
9		10.9700	30.66	10.13	40.79	60.00	-19.21	QP
10		10.9700	19.79	10.13	29.92	50.00	-20.08	AVG
11		16.8819	27.86	10.49	38.35	60.00	-21.65	QP
12		16.8819	12.10	10.49	22.59	50.00	-27.41	AVG

Emission Level= Read Level+ Correct Factor

Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 240V/60 Hz		
Terminal:	Neutral		
Test Mode:	TX Mode(9V/1.1A)		
Remark:	Only worse case is reported		



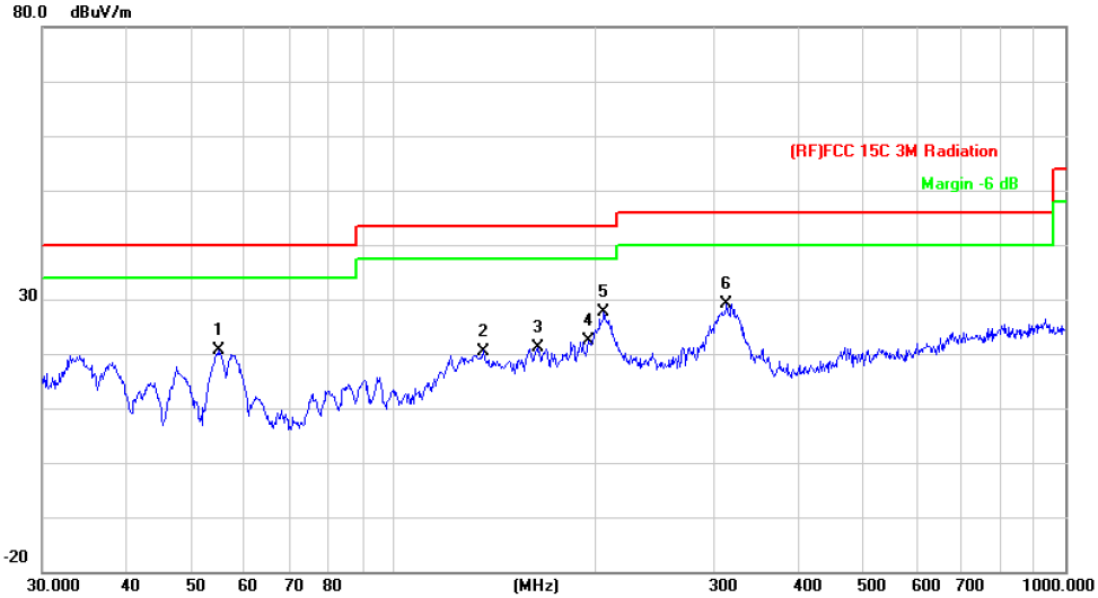
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1860	29.05	9.65	38.70	64.21	-25.51	QP
2		0.1860	12.63	9.65	22.28	54.21	-31.93	AVG
3		0.3700	27.25	9.58	36.83	58.50	-21.67	QP
4		0.3700	22.79	9.58	32.37	48.50	-16.13	AVG
5		0.8620	26.61	9.59	36.20	56.00	-19.80	QP
6	*	0.8620	23.49	9.59	33.08	46.00	-12.92	AVG
7		6.5300	30.96	10.20	41.16	60.00	-18.84	QP
8		6.5300	26.81	10.20	37.01	50.00	-12.99	AVG
9		14.4180	31.19	10.57	41.76	60.00	-18.24	QP
10		14.4180	21.97	10.57	32.54	50.00	-17.46	AVG
11		17.1259	31.90	10.63	42.53	60.00	-17.47	QP
12		17.1259	19.69	10.63	30.32	50.00	-19.68	AVG

Emission Level= Read Level+ Correct Factor

Attachment B-- Radiated Emission Test Data

30MHz~1GHz

Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX Mode(5V/1A)		
Remark:	Only worse case is reported		

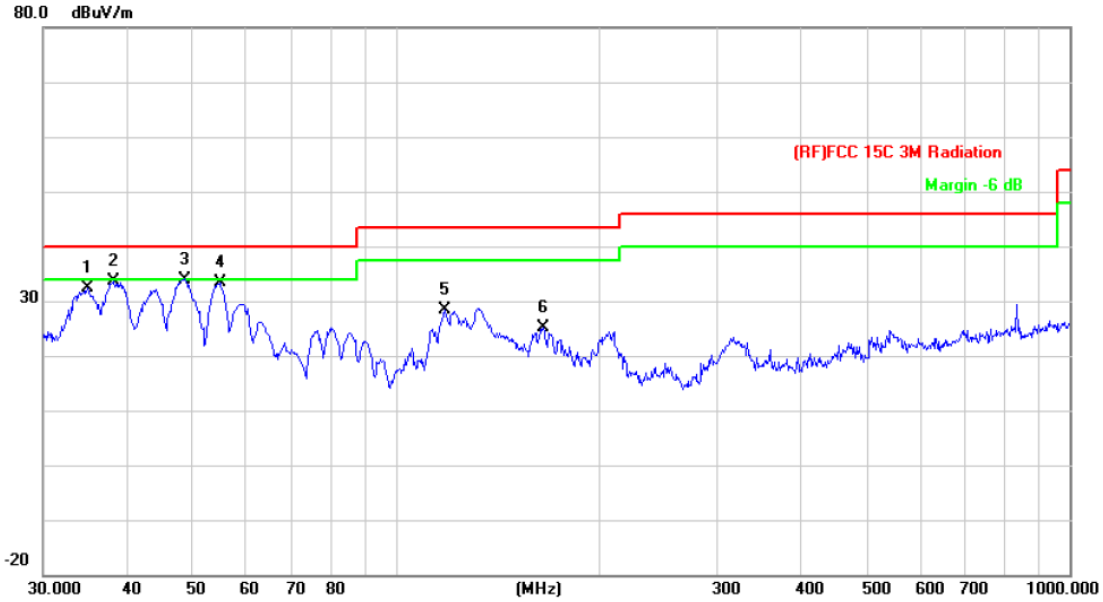


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		54.8348	44.50	-23.87	20.63	40.00	-19.37	peak
2		135.9822	41.92	-21.42	20.50	43.50	-23.00	peak
3		163.7550	41.24	-20.03	21.21	43.50	-22.29	peak
4		195.1365	42.22	-19.73	22.49	43.50	-21.01	peak
5	*	205.6751	46.90	-19.19	27.71	43.50	-15.79	peak
6		313.2760	44.53	-15.45	29.08	46.00	-16.92	peak

*:Maximum data x:Over limit !:over margin

Emission Level= Read Level+ Correct Factor

Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX Mode(5V/1A)		
Remark:	Only worse case is reported		

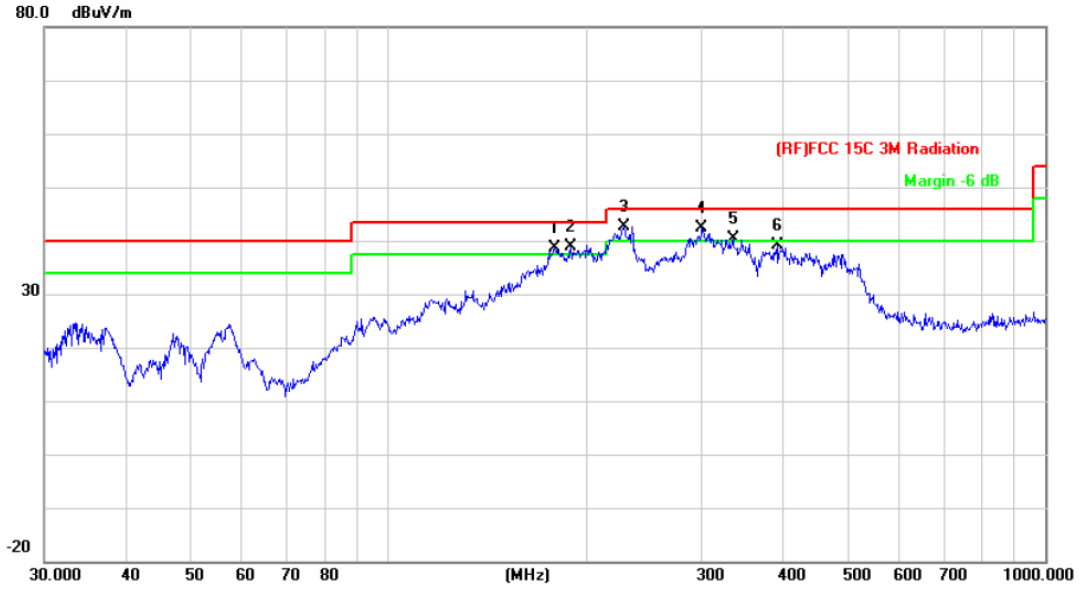


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		34.8823	48.86	-16.46	32.40	40.00	-7.60	peak
2		38.2120	52.08	-18.51	33.57	40.00	-6.43	peak
3	*	48.6719	57.24	-23.24	34.00	40.00	-6.00	peak
4		54.8348	57.30	-23.87	33.43	40.00	-6.57	peak
5		118.1862	50.09	-21.78	28.31	43.50	-15.19	peak
6		165.4866	45.21	-20.13	25.08	43.50	-18.42	peak

*:Maximum data x:Over limit !:over margin

Emission Level= Read Level+ Correct Factor

Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX Mode(9V/1.1A)		
Remark:	Only worse case is reported		

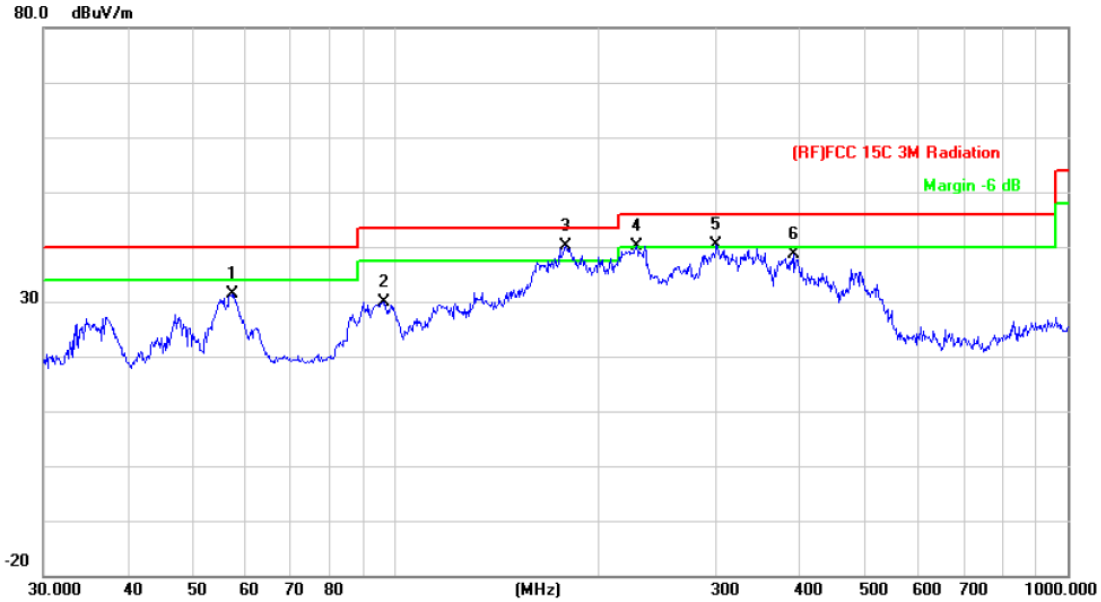


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	!	179.3863	58.53	-19.79	38.74	43.50	-4.76	peak
2	!	189.7384	58.85	-20.02	38.83	43.50	-4.67	peak
3	*	228.4901	60.83	-18.15	42.68	46.00	-3.32	peak
4	!	300.3672	58.27	-15.92	42.35	46.00	-3.65	peak
5	!	334.8589	54.85	-14.44	40.41	46.00	-5.59	peak
6		390.7225	51.63	-12.41	39.22	46.00	-6.78	peak

*:Maximum data x:Over limit !:over margin

Emission Level= Read Level+ Correct Factor

Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120/60Hz		
Ant. Pol.	Vertical		
Test Mode:	TX Mode(9V/1.1A)		
Remark:	Only worse case is reported		



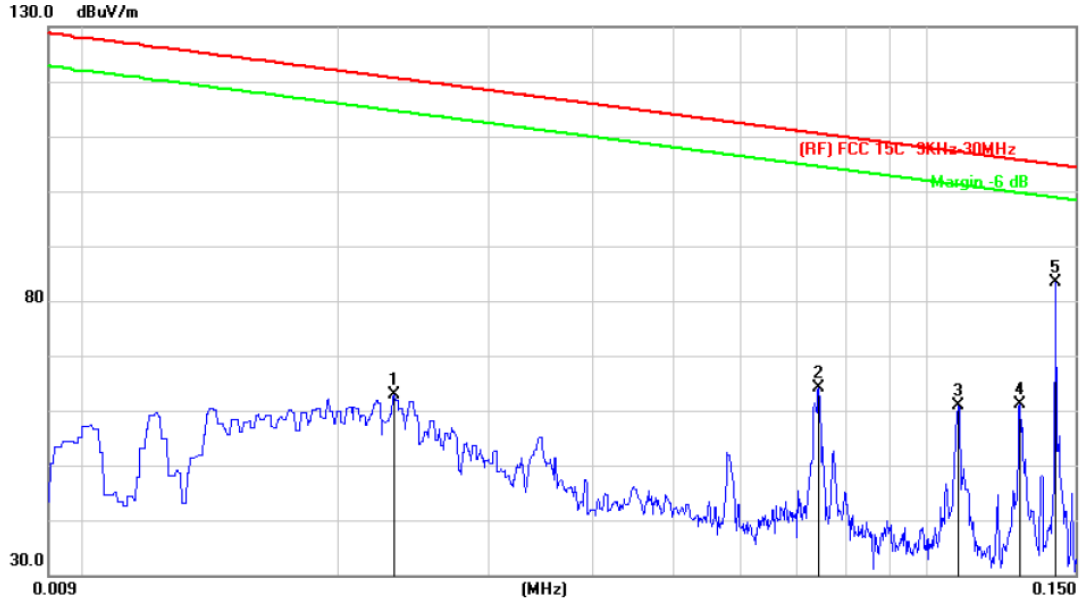
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		57.1914	55.21	-23.90	31.31	40.00	-8.69	peak
2		96.0986	51.51	-21.59	29.92	43.50	-13.58	peak
3	*	179.3863	60.03	-19.79	40.24	43.50	-3.26	peak
4	!	228.4901	58.33	-18.15	40.18	46.00	-5.82	peak
5	!	300.3672	56.27	-15.92	40.35	46.00	-5.65	peak
6		390.7225	51.13	-12.41	38.72	46.00	-7.28	peak

*:Maximum data x:Over limit !:over margin

Emission Level= Read Level+ Correct Factor

9KMz-30MHz

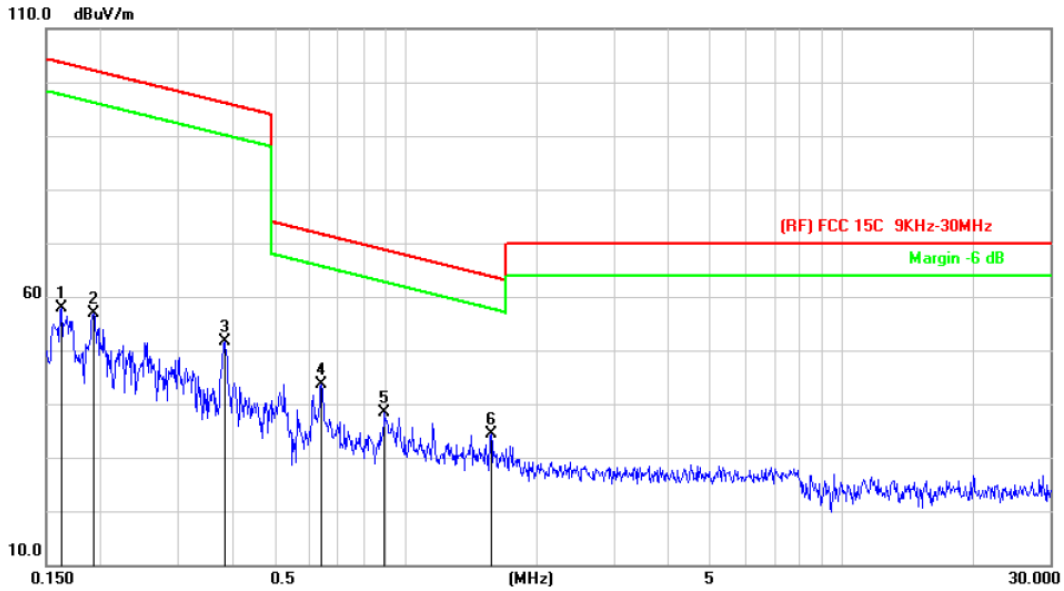
Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120/60Hz		
Ant. Pol.	Ant. 0°		
Test Mode:	TX Mode(5V/1A)		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		0.0232	73.00	-10.10	62.90	120.63	-57.73	peak
2		0.0743	74.12	-10.07	64.05	110.47	-46.42	peak
3		0.1088	65.09	-4.27	60.82	107.14	-46.32	peak
4		0.1291	66.22	-5.03	61.19	105.65	-44.46	peak
5	*	0.1422	89.01	-5.52	83.49	104.80	-21.31	peak

Emission Level= Read Level+ Correct Factor

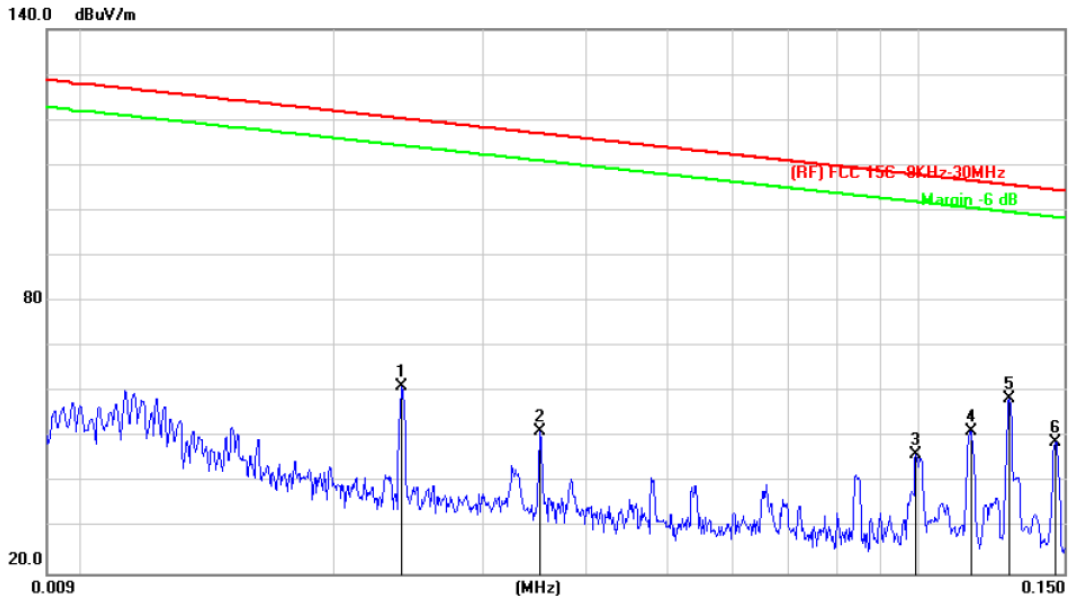
Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120/60Hz		
Ant. Pol.	Ant. 0°		
Test Mode:	TX Mode(5V/1A)		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		0.1624	64.15	-6.26	57.89	103.64	-45.75	peak
2		0.1924	64.34	-7.35	56.99	102.16	-45.17	peak
3		0.3852	60.60	-8.89	51.71	96.10	-44.39	peak
4	*	0.6406	53.35	-9.84	43.51	71.64	-28.13	peak
5		0.8944	48.55	-10.09	38.46	68.69	-30.23	peak
6		1.5684	44.66	-10.22	34.44	63.74	-29.30	peak

Emission Level= Read Level+ Correct Factor

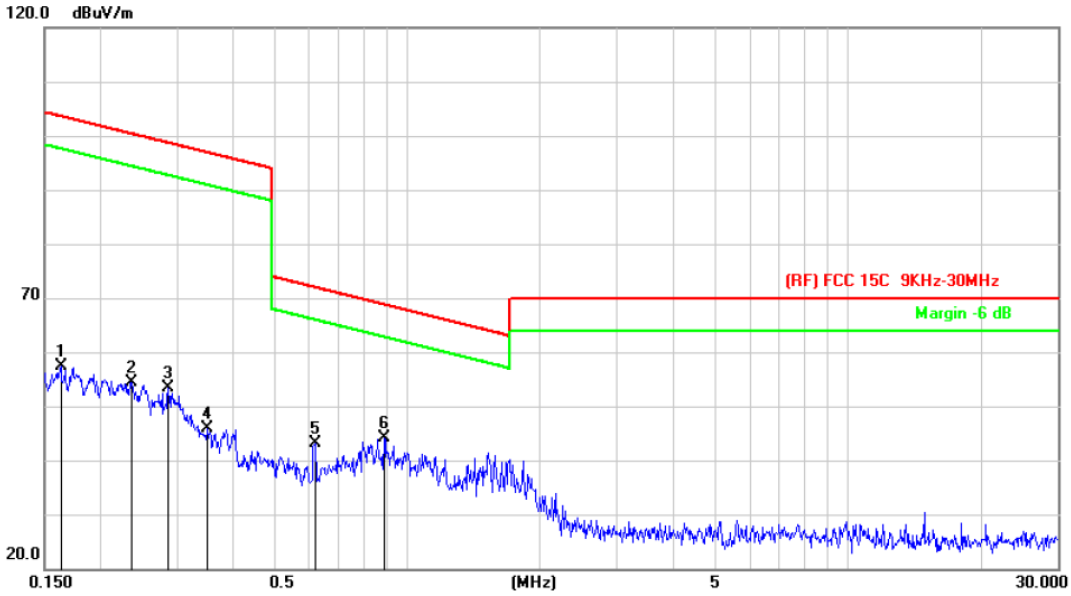
Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120/60Hz		
Ant. Pol.	Ant. 90°		
Test Mode:	TX Mode(5V/1A)		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		0.0240	71.32	-10.09	61.23	120.34	-59.11	peak
2		0.0352	61.21	-9.99	51.22	116.99	-65.77	peak
3		0.0995	56.38	-10.11	46.27	107.92	-61.65	peak
4		0.1158	55.91	-4.54	51.37	106.60	-55.23	peak
5	*	0.1289	63.43	-5.02	58.41	105.66	-47.25	peak
6		0.1462	54.51	-5.67	48.84	104.56	-55.72	peak

Emission Level= Read Level+ Correct Factor

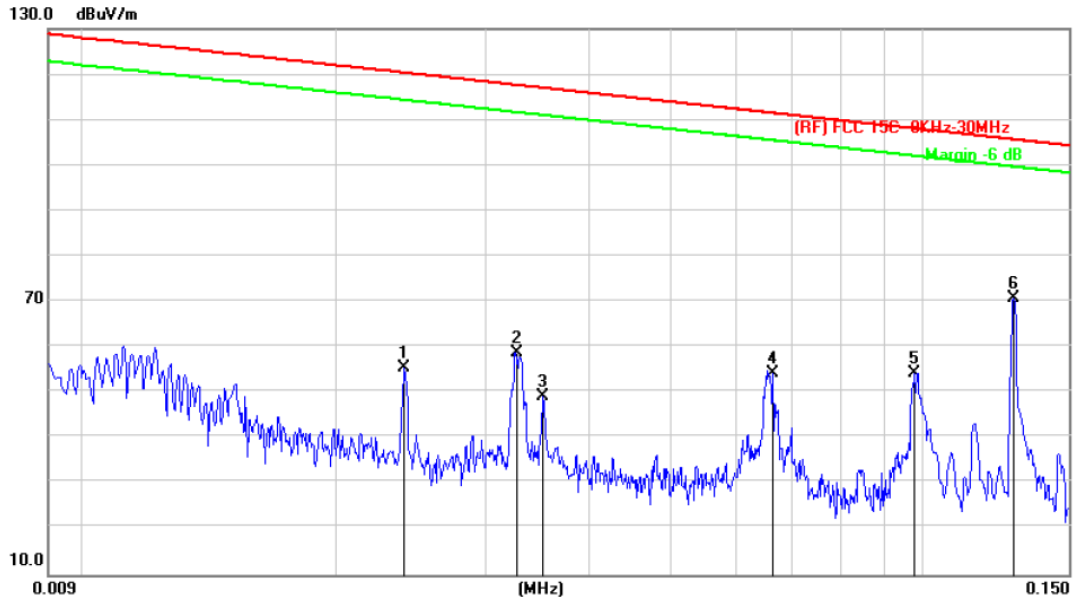
Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120/60Hz		
Ant. Pol.	Ant. 90°		
Test Mode:	TX Mode(5V/1A)		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		0.1633	63.77	-6.29	57.48	103.59	-46.11	peak
2		0.2366	62.29	-7.90	54.39	100.36	-45.97	peak
3		0.2863	61.70	-8.24	53.46	98.69	-45.23	peak
4		0.3520	54.56	-8.68	45.88	96.89	-51.01	peak
5		0.6173	52.82	-9.80	43.02	71.96	-28.94	peak
6	*	0.8850	54.12	-10.09	44.03	68.78	-24.75	peak

Emission Level= Read Level+ Correct Factor

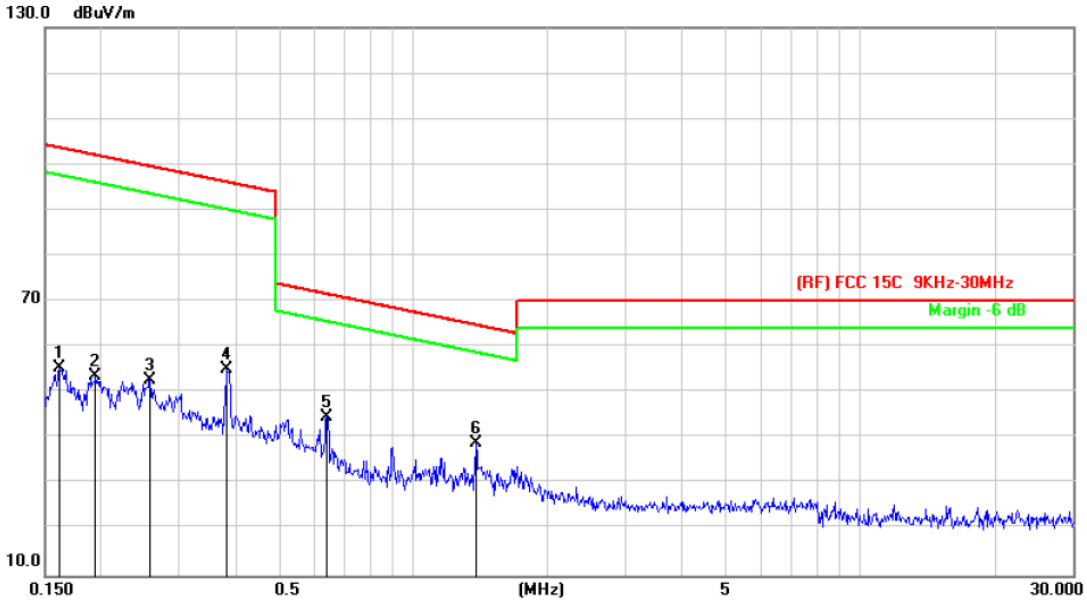
Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120/60Hz		
Ant. Pol.	Ant. 0°		
Test Mode:	TX Mode(9V/1.1A)		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		0.0240	65.50	-10.09	55.41	120.34	-64.93	peak
2		0.0326	68.58	-9.92	58.66	117.66	-59.00	peak
3		0.0352	59.26	-9.99	49.27	116.99	-67.72	peak
4		0.0663	64.25	-10.07	54.18	111.47	-57.29	peak
5		0.0981	64.48	-10.11	54.37	108.04	-53.67	peak
6	*	0.1289	75.80	-5.02	70.78	105.66	-34.88	peak

Emission Level= Read Level+ Correct Factor

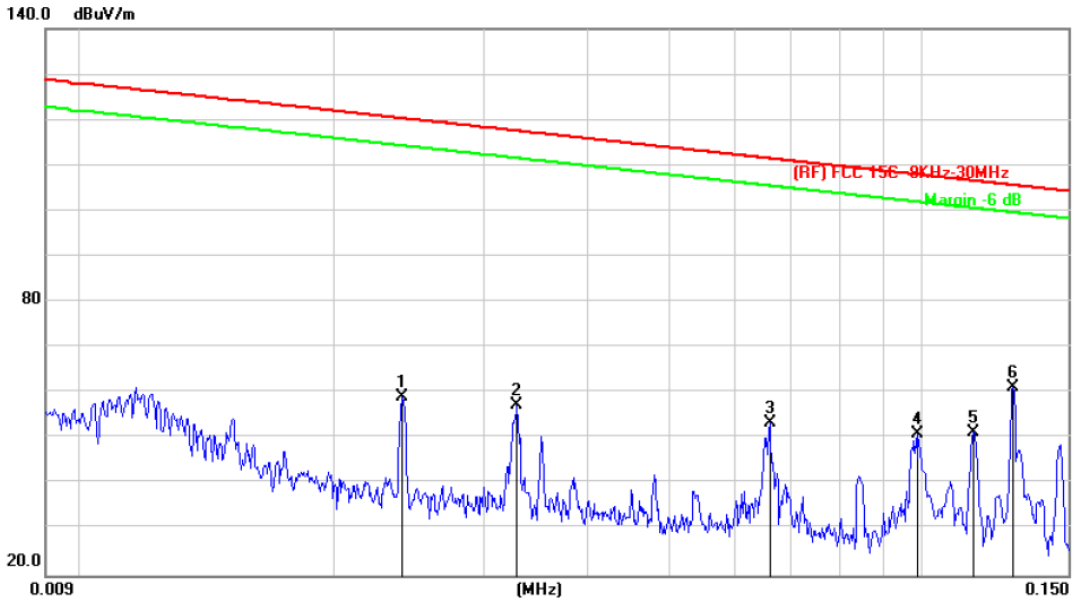
Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120/60Hz		
Ant. Pol.	Ant. 0°		
Test Mode:	TX Mode(9V/1.1A)		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		0.1615	61.75	-6.22	55.53	103.69	-48.16	peak
2		0.1945	61.07	-7.43	53.64	102.07	-48.43	peak
3		0.2575	60.90	-8.05	52.85	99.62	-46.77	peak
4		0.3832	64.12	-8.87	55.25	96.15	-40.90	peak
5		0.6406	54.64	-9.84	44.80	71.64	-26.84	peak
6	*	1.3810	49.09	-10.19	38.90	64.86	-25.96	peak

Emission Level= Read Level+ Correct Factor

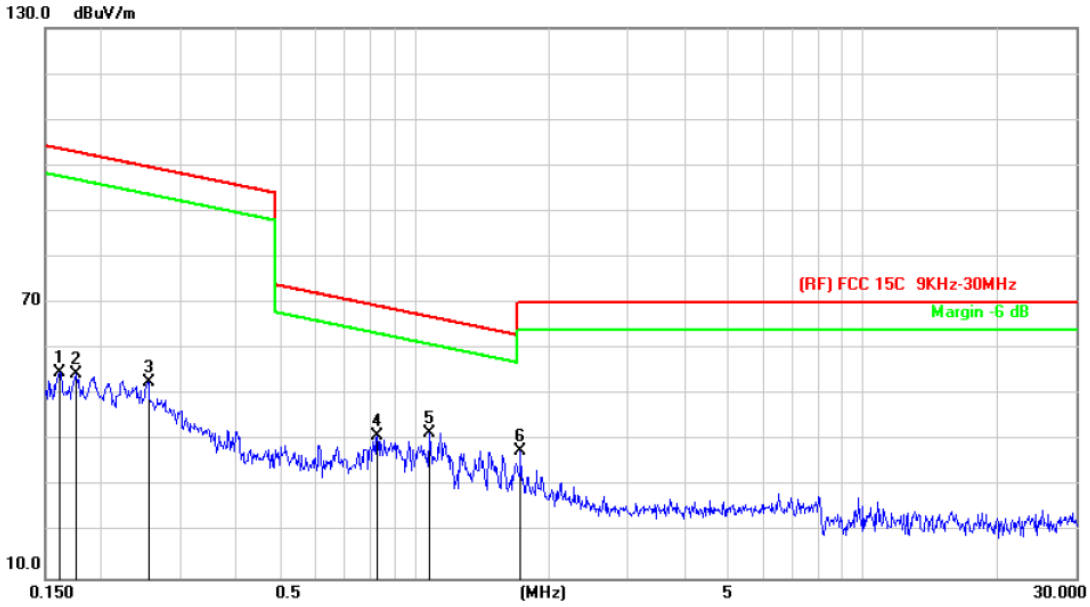
Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120/60Hz		
Ant. Pol.	Ant. 90°		
Test Mode:	TX Mode(9V/1.1A)		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		0.0240	69.17	-10.09	59.08	120.34	-61.26	peak
2		0.0329	67.23	-9.92	57.31	117.58	-60.27	peak
3		0.0660	63.39	-10.07	53.32	111.51	-58.19	peak
4		0.0991	61.03	-10.11	50.92	107.96	-57.04	peak
5		0.1155	55.93	-4.53	51.40	106.62	-55.22	peak
6	*	0.1289	66.18	-5.02	61.16	105.66	-44.50	peak

Emission Level= Read Level+ Correct Factor

Temperature:	25℃	**Relative Humidity:**	55%
Test Voltage:	AC 120/60Hz		
Ant. Pol.	Ant. 90°		
Test Mode:	TX Mode(9V/1.1A)		
Remark:	N/A		

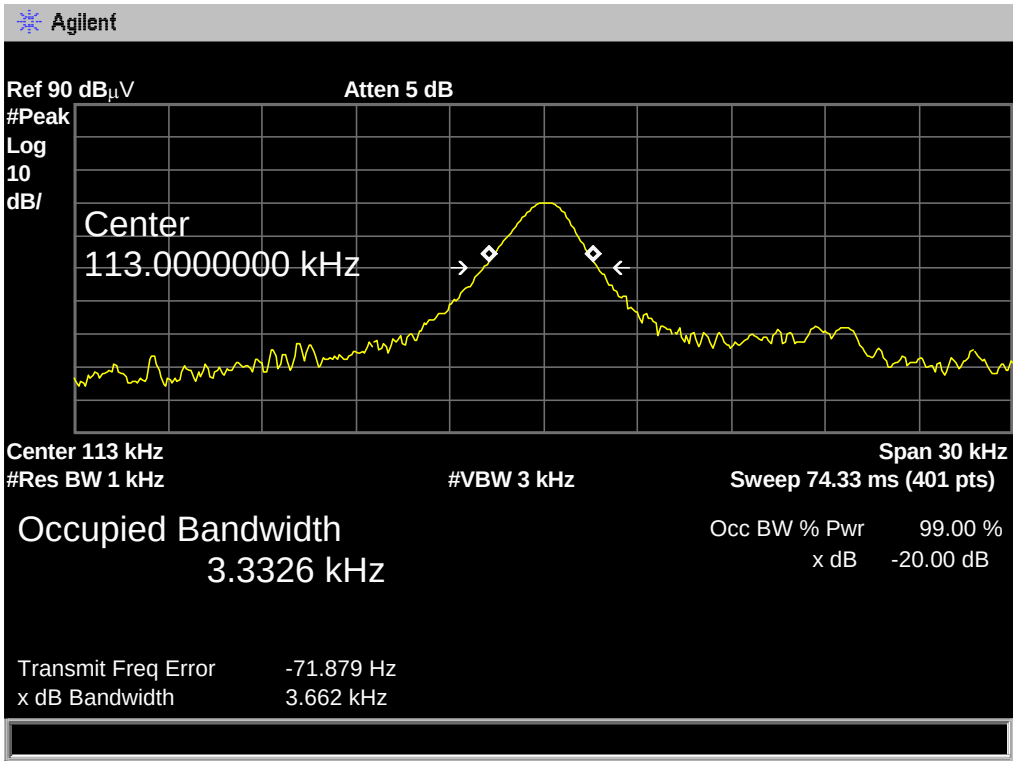


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		0.1615	61.20	-6.22	54.98	103.69	-48.71	peak
2		0.1758	61.31	-6.77	54.54	102.95	-48.41	peak
3		0.2548	60.71	-8.03	52.68	99.71	-47.03	peak
4		0.8261	50.97	-10.06	40.91	69.39	-28.48	peak
5	*	1.0824	51.91	-10.15	41.76	67.01	-25.25	peak
6		1.7253	48.09	-10.24	37.85	70.00	-32.15	peak

Emission Level= Read Level+ Correct Factor

Attachment C-- Bandwidth Measurement Data

Frequency (KHz)	20 dBc Bandwidth (kHz)	99% OBW (kHz)	Result
113	3.662	3.3326	PASS



-----END OF REPORT------