FCC TEST REPORT

FCC ID:2AY3K-YFW-F191

Applicant:	**Shenzhen Yongfengwang Technology Co., LTD**
Address:	302 3/F, Buding B, NO.154, Huating Road, Langkou Community, Dalang Street, Longhua District, Shenzhen
Manufacturer:	**Shenzhen Yongfengwang Technology Co., LTD**
Address:	302 3/F, Buding B, NO.154, Huating Road, Langkou Community, Dalang Street, Longhua District, Shenzhen
EUT:	**3 in 1 Wireless Charing Station**
Trade Mark:	N/A
Model Number:	YFW-F191 F191, US_F191_B, US_F191_H, US_F191_RJ, US_F191_S, DE_F191_B, DE_F191_S, UK_F191_B, UK_F191_S
Date of Receipt:	May 06, 2025
Test Date:	May 06, 2025 to May 12, 2025
Date of Report:	May 12, 2025
Prepared By:	Shenzhen DL Testing Technology Co., Ltd.
Address:	101-201, Building C, Shuanghuan, No.8, Baoqing Roa Baolong Industrial Zone, Baolong Street, Longgang Shenzhen, Guangdong, China
Applicable Standards:	FCC CFR Title 47 Part 15 Subpart C
Test Result:	Pass
Report Number:	DLE-250522011R

Prepared (Test Engineer):	Dimon Tan	Dimon Tan
Reviewer (Supervisor):	Jack Bu	Jack Bu
Approved (Manager):	Jade Yang	Jade Yang

This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.

TABLE OF CONTENTS

1. VERSION **3**
2. TEST SUMMARY **4**
2.1 TEST FACILITY 5
2.2 MEASUREMENT UNCERTAINTY 5
3. GENERAL INFORMATION **6**
3.1 GENERAL DESCRIPTION OF EUT 6
3.2 TEST MODE 7
3.3 BLOCK DIAGRAM OF EUT CONFIGURATION 10
3.4 TEST CONDITIONS 11
3.5 DESCRIPTION OF SUPPORT UNITS (CONDUCTED MODE) 11
3.6 EQUIPMENTS LIST FOR ALL TEST ITEMS 12
4. CONDUCTED EMISSION TEST **14**
4.1 CONDUCTED EMISSION MEASUREMENT 14
4.1.1 POWER LINE CONDUCTED EMISSION Limits 14
4.1.2 TEST PROCEDURE 14
4.1.3 DEVIATION FROM TEST STANDARD 14
4.1.4 TEST SETUP 15
4.1.5 EUT OPERATING CONDITIONS 15
4.1.6 TEST RESULT 16
5. RADIATED EMISSION MEASUREMENT **18**
5.1 RADIATED EMISSION LIMITS 18
5.2 ANECHOIC CHAMBER TEST SETUP DIAGRAM 19
5.3 TEST PROCEDURE 20
5.4 DEVIATION FROM TEST STANDARD 20
5.5 TEST RESULT 20
6. 20DB BANDWIDTH TEST **33**
6.1 TEST PROCEDURE 33
6.2 LIMIT 33
6.3 TEST SETUP 33
6.4 DEVIATION FROM STANDARD 33
6.5 TEST RESULT 34
7. ANTENNA REQUIREMENT **36**
8. TEST SETUP PHOTO **37**
9. EUT CONSTRUCTIONAL DETAILS **37**

1. VERSION

Report No.	Version	Description	Approved
DLE-250522011R	Rev.01	Initial issue of report	May 12, 2025

2. TEST SUMMARY

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	Pass
Spurious Emission	15.209(a)(f)	Pass
20dB Bandwidth	15.215	Pass

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

2.1 TEST FACILITY

Shenzhen DL Testing Technology Co., Ltd.
Add. : 101-201, Building C, Shuanghuan, No.8, Baoqing Roa Baolong Industrial Zone, Baolong Stree Longgang Shenzhen, Guangdong, China

FCC Test Firm Registration Number: 854456
Designation Number: CN1307
IC Registered No.: 27485
CAB identifier: CN0118

2.2 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 %.

No.	Item	Uncertainty
1	3m camber Radiated spurious emission(9KHz-30MHz)	U=4.5dB
2	3m camber Radiated spurious emission(30MHz-1GHz)	U=4.8dB
3	3m chamber Radiated spurious emission(1GHz-6GHz)	U=4.9dB
4	3m chamber Radiated spurious emission(6GHz-40GHz)	U=5.0dB
5	Conducted disturbance	U=3.2dB
6	RF conducted Spurious Emission	U=2.2dB
7	RF Occupied Bandwidth	U=1.8MHz
8	humidity uncertainty	U=5.3%
9	Temperature uncertainty	U=0.59℃

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Product Name:	3 in 1 Wireless Charing Station
Model No.:	YFW-F191
Serial No.:	F191, US_F191_B, US_F191_H, US_F191_RJ, US_F191_S, DE_F191_B, DE_F191_S, UK_F191_B, UK_F191_S
Model Difference:	All the model are the same circuit , only the model name are different.
Hardware Version:	V 1.0
Software Version:	V 1.1
Operation Frequency:	ANT 1&2: 115kHz ~ 205kHz ANT 3:300kHz ~ 350kHz
Modulation Type:	ASK
Antenna Type:	Loop Coil Antenna
Antenna Gain:	0dBi
Ratings:	Input: 5V⎓3A, 9V⎓3A Phone Output:: 5W, 7.5W, 10W, 15W Max Earphone Output: 5W Max Watch Output: 5W Max
Transmitting Mode:	Keep the EUT in continuously wireless charging mode

3.2 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 above was evaluated respectively.

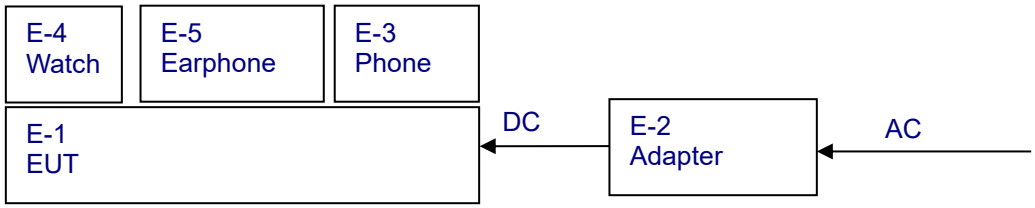
EUT mode of operation before folding:

Test Modes:	Test Coil:	Description:
Mode 1	ANT 1	AC/DC Adapter + EUT + Phone 15W (Battery Status: <1%)
Mode 2		AC/DC Adapter + EUT + Phone 15W (Battery Status: 50%)
Mode 3		AC/DC Adapter + EUT + Phone 15W (Battery Status: >98%)
Mode 4		AC/DC Adapter + EUT + Phone 10W (Battery Status: <1%)
Mode 5		AC/DC Adapter + EUT + Phone 10W (Battery Status: 50%)
Mode 6		AC/DC Adapter + EUT + Phone 10W (Battery Status: >98%)
Mode 7		AC/DC Adapter + EUT + Phone 7.5W (Battery Status: <1%)
Mode 8		AC/DC Adapter + EUT + Phone 7.5W (Battery Status: 50%)
Mode 9		AC/DC Adapter + EUT + Phone 7.5W (Battery Status: >98%)
Mode 10		AC/DC Adapter + EUT + Phone 5W (Battery Status: <1%)
Mode 11		AC/DC Adapter + EUT + Phone 5W (Battery Status: 50%)
Mode 12		AC/DC Adapter + EUT + Phone 5W (Battery Status: >98%)
Mode 13	ANT 2	AC/DC Adapter + EUT + Earphone 5W (Battery Status: <1%)
Mode 14		AC/DC Adapter + EUT + Earphone 5W (Battery Status: 50%)
Mode 15		AC/DC Adapter + EUT + Earphone 5W (Battery Status: >98%)
Mode 16	ANT 3	AC/DC Adapter + EUT + Watch 5W (Battery Status: <1%)
Mode 17		AC/DC Adapter + EUT + Watch 5W (Battery Status: 50%)
Mode 18		AC/DC Adapter + EUT + Watch 5W (Battery Status: >98%)
Mode 19	ANT1 + ANT2+ANT3	AC/DC Adapter + EUT + Phone 15W + Earphone 5W +Watch 5W (Battery Status: <1%)
Mode 20		AC/DC Adapter + EUT + Phone 15W + Earphone 5W +Watch 5W (Battery Status: 50%)
Mode 21		AC/DC Adapter + EUT + Phone 15W + Earphone 5W +Watch 5W (Battery Status: >98%)
Mode 22	ANT1 + ANT2	AC/DC Adapter + EUT + Phone 15W + Earphone 5W (Battery Status: <1%)
Mode 23		AC/DC Adapter + EUT + Phone 15W + Earphone 5W (Battery Status: 50%)
Mode 24		AC/DC Adapter + EUT + Phone 15W + Earphone 5W (Battery Status: >98%)
Mode 25	ANT1 + ANT3	AC/DC Adapter + EUT + Phone 15W + Watch 5W (Battery Status: <1%)
Mode 26		AC/DC Adapter + EUT + Phone 15W + Watch 5W (Battery Status: 50%)

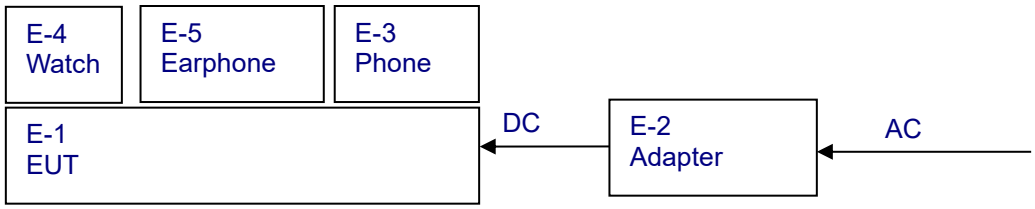
Mode 27		AC/DC Adapter + EUT + Phone 15W + Watch 5W (Battery Status: >98%)
Mode 28	ANT2 + ANT3	AC/DC Adapter + EUT + Earphone 5W +Watch 5W (Battery Status: <1%)
Mode 29		AC/DC Adapter + EUT + Earphone 5W +Watch 5W (Battery Status: 50%)
Mode 30		AC/DC Adapter + EUT + Earphone 5W +Watch 5W (Battery Status: >98%)

3.3 BLOCK DIAGRAM OF EUT CONFIGURATION

Conducted Emission



Radiated Emission



3.4 TEST CONDITIONS

Temperature: 23~26℃

Relative Humidity: 54~63 %

3.5 DESCRIPTION OF SUPPORT UNITS (CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	3 in 1 Wireless Charing Station	N/A	YFW-F191	N/A	EUT
E-2	AC/DC Adapter	HUAWEI	HW-200200CP1	N/A	Auxiliary
E-3	Phone	Apple	iPhone 13 Por Max	N/A	Auxiliary
E-4	Watch	Apple	iWatch SE	N/A	Auxiliary
E-5	Earphone	Apple	AirPods 2	N/A	Auxiliary

Item	Shielded Type	Ferrite Core	Length	Note
C1	NO	NO	0.8M	DC cable unshielded

Note:

(1) The support equipment was authorized by Declaration of Confirmation.
(2) For detachable type I/O cable should be specified the length in cm in『Length』column.
(3) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

3.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Conduction Emissions Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	N/A	Sep. 30, 2024	Sep. 29, 2025
2	LISN	CYBERTEK	EM5040A	E1850400149	N/A	Sep. 30, 2024	Sep. 29, 2025
3	Test Cable	N/A	C-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
4	EMI Test Receiver	R&S	ESCI3	101393	4.42 SP3	Sep. 29, 2024	Sep. 28, 2025
5	EMC Software	Frad	EZ-EMC	Ver.EMC-CON 3A1.1	N/A	\	\

Radiation Emissions & Radiation Spurious Emissions Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	N9020A	MY55370835	A.17.05	Sep. 29, 2024	Sep. 28, 2025
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Sep. 30, 2024	Sep. 29, 2025
3	EMI Test Receiver (9kHz-7GHz)	R&S	ESCI7	100969	4.32	Sep. 29, 2024	Sep. 28, 2025
4	Bilog Antenna (30MHz-1500MHz)	Schwarzbeck	VULB9168	00877	N/A	Sep. 30, 2024	Sep. 29, 2025
5	Horn Antenna (1GHz-18GHz)	Agilent	AH-118	071145	N/A	Sep. 30, 2024	Sep. 29, 2025
6	Horn Antenna (15GHz-40GHz)	A.H.System	SAS-574	588	N/A	Sep. 30, 2024	Sep. 29, 2025
7	Loop Antenna	TESEQ	HLA6121	58357	N/A	Oct. 11, 2024	Oct. 10, 2025
8	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	60747	N/A	Sep. 29, 2024	Sep. 28, 2025
9	Amplifier (1GHz-26.5GHz)	HuiPu	8449B	3008A00315	N/A	Sep. 29, 2024	Sep. 28, 2025
10	Amplifier (500MHz-40GHz)	QuanJuDa	DLE-161	097	N/A	Sep. 30, 2024	Sep. 29, 2025
11	Test Cable	N/A	R-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
12	Test Cable	N/A	R-02	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
13	Test Cable	N/A	R-03	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
14	D.C. Power Supply	LongWei	TPR-6405D	GQ7516	N/A	Sep. 29, 2024	Sep. 28, 2025
15	EMC Software	Frad	EZ-EMC	Ver.EMC-CO N 3A1.1	N/A	\	\
16	Turntable	MF	MF-7802BS	N/A	N/A	\	\
17	Antenna tower	MF	MF-7802BS	N/A	N/A	\	\

RF Conducted Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	N9020A	MY55370835	A.17.05	Sep. 29, 2024	Sep. 28, 2025
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Sep. 30, 2024	Sep. 29, 2025
3	Test Cable	N/A	RF-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
4	Test Cable	N/A	RF-02	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
5	Test Cable	N/A	RF-03	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
6	ESG Signal Generator	Agilent	E4421B	GB40051203	B.03.84	Sep. 29, 2024	Sep. 28, 2025
7	Signal Generator	Agilent	N5182A	MY47420215	A.01.87	Sep. 29, 2024	Sep. 28, 2025
8	Magnetic Field Probe Tester	Narda	ELT-400	0-0344/M-1752	N/A	Sep. 29, 2024	Sep. 28, 2025
9	Van der Hoofden measuring head	Schwarzbeck Mess-elektronik	VDHH 9502	9502-039	N/A	Sep. 30, 2024	Sep. 29, 2025
10	Wideband Radio Communication Test	R&S	CMW500	106504	V 3.7.22	Sep. 30, 2024	Sep. 29, 2025
11	MWRF Power Meter Test system	MW	MW100-RFCB	10371	N/A	Sep. 29, 2024	Sep. 28, 2025
12	D.C. Power Supply	LongWei	TPR-6405D	GQ7516	N/A	Sep. 29, 2024	Sep. 28, 2025
13	RF Software	MW	MTS8310	V2.0.0.0	N/A	\	\

4. CONDUCTED EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

4.1.1 POWER LINE CONDUCTED EMISSION Limits

FREQUENCY (MHz)	Limit (dBuV)		Standard
	Quas-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) *Decreases with the logarithm of the frequency.

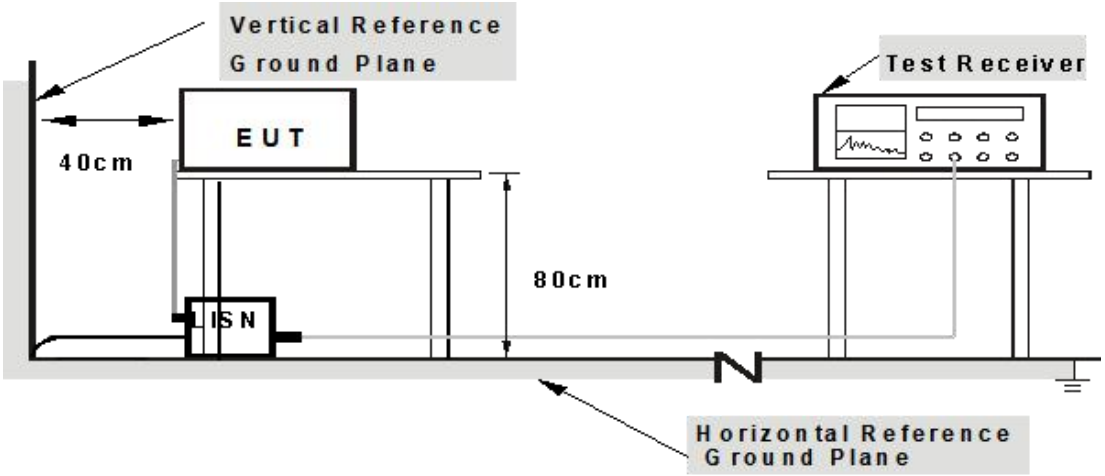
4.1.2 TEST PROCEDURE

a. 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.
b. 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.
c. 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.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



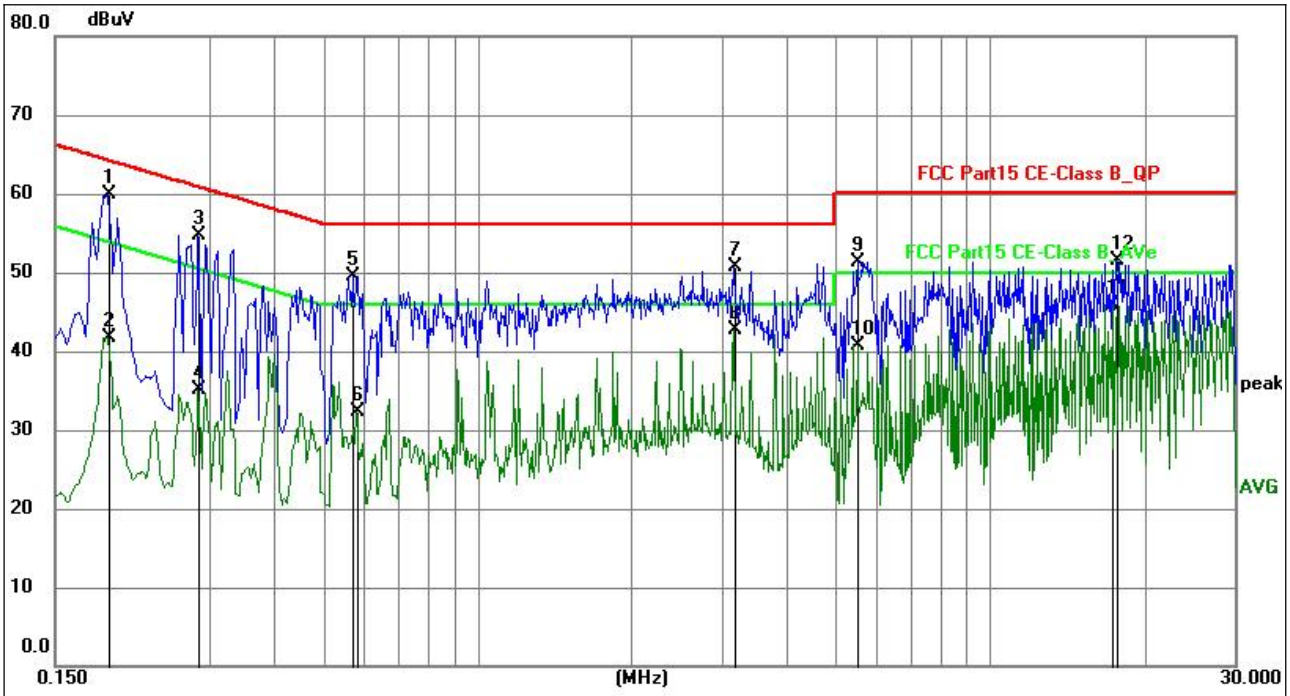
Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

4.1.6 TEST RESULT

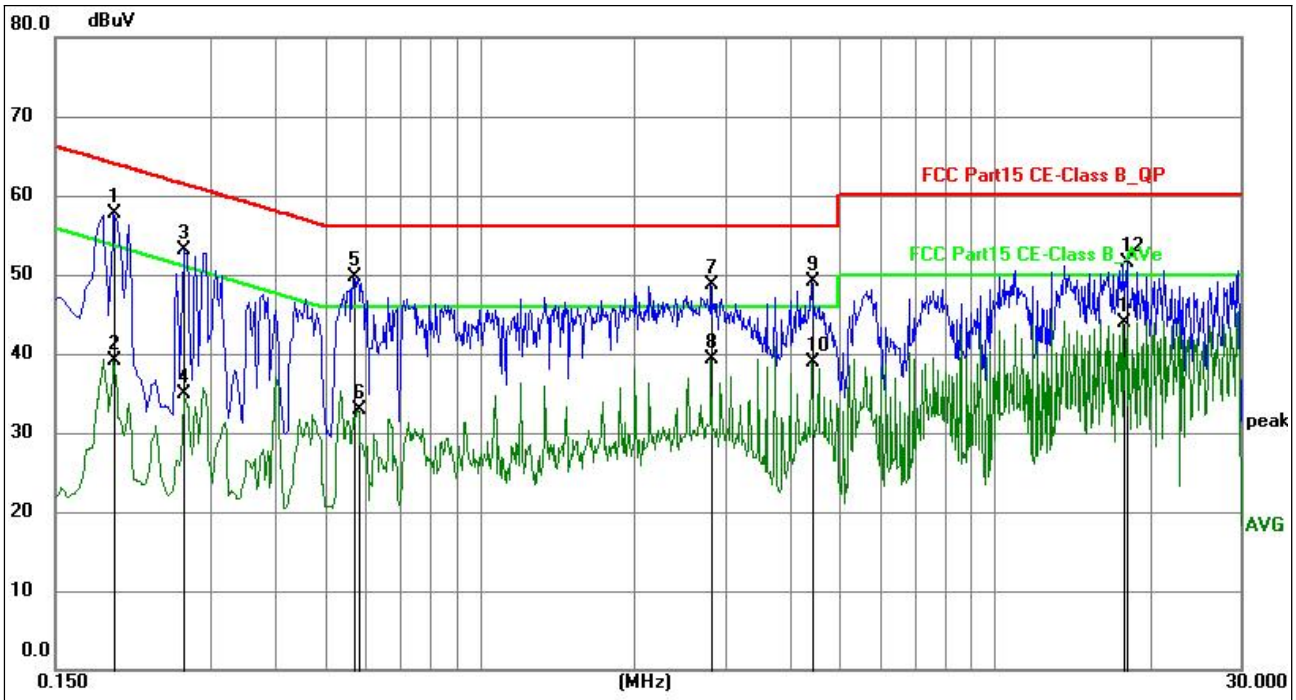
Temperature :	26℃	Relative Humidity :	54%
Pressure :	101kPa	Phase :	L
Test Voltage :	DC 9V	Test Mode :	Mode 19



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1905	39.64	20.34	59.98	64.01	-4.03	QP	P	
2	0.1905	21.42	20.34	41.76	54.01	-12.25	AVG	P	
3	0.2850	34.26	20.35	54.61	60.67	-6.06	QP	P	
4	0.2850	14.66	20.35	35.01	50.67	-15.66	AVG	P	
5	0.5729	29.30	20.29	49.59	56.00	-6.41	QP	P	
6	0.5819	11.93	20.29	32.22	46.00	-13.78	AVG	P	
7	3.1605	30.36	20.33	50.69	56.00	-5.31	QP	P	
8	3.1605	22.39	20.33	42.72	46.00	-3.28	AVG	P	
9	5.5319	31.03	20.37	51.40	60.00	-8.60	QP	P	
10	5.5319	20.35	20.37	40.72	50.00	-9.28	AVG	P	
11	17.3535	25.42	20.50	45.92	50.00	-4.08	AVG	P	
12	17.6235	30.95	20.50	51.45	60.00	-8.55	QP	P	

Notes:
1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi - Peak and Average measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Lisn factor+ Cable loss factor + limiter factor.
5.Margin = Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 19 recorded.

Temperature :	26℃	Relative Humidity :	54%
Pressure :	101kPa	Phase :	N
Test Voltage :	DC 9V	Test Mode :	Mode 19



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1949	37.41	20.35	57.76	63.83	-6.07	QP	P	
2	0.1949	18.71	20.35	39.06	53.83	-14.77	AVG	P	
3	0.2670	32.82	20.35	53.17	61.21	-8.04	QP	P	
4	0.2670	14.47	20.35	34.82	51.21	-16.39	AVG	P	
5	0.5684	29.49	20.30	49.79	56.00	-6.21	QP	P	
6	0.5819	12.59	20.30	32.89	46.00	-13.11	AVG	P	
7	2.8095	28.32	20.33	48.65	56.00	-7.35	QP	P	
8	2.8095	18.95	20.33	39.28	46.00	-6.72	AVG	P	
9	4.4160	28.82	20.34	49.16	56.00	-6.84	QP	P	
10	4.4160	18.51	20.34	38.85	46.00	-7.15	AVG	P	
11	17.7720	23.30	20.52	43.82	50.00	-6.18	AVG	P	
12	18.0419	30.98	20.52	51.50	60.00	-8.50	QP	P	

Notes:
1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi - Peak and Average measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Lisn factor+ Cable loss factor + limiter factor.
5.Margin = Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 19 recorded.

5. RADIATED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.209
Test Method:	ANSI C63.10:2013
Test Frequency Range:	9kHz to 1GHz
Test site:	Measurement Distance: 3m
Receiver setup:	

Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

5.1 RADIATED EMISSION LIMITS

Limits for frequency below 30MHz

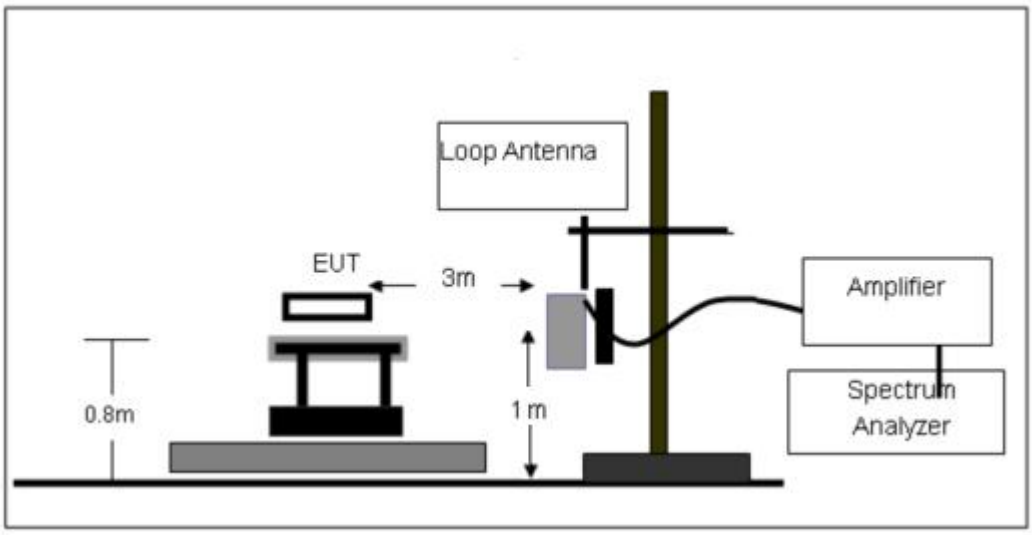
Frequency	Limit (uV/m)	Measurement Distance(m)	Remark
0.009-0.490	2400/F(kHz)	300	Quasi-peak Value
0.490-1.705	24000/F(kHz)	30	Quasi-peak Value
1.705-30	30	30	Quasi-peak Value

Limits for frequency Above 30MHz

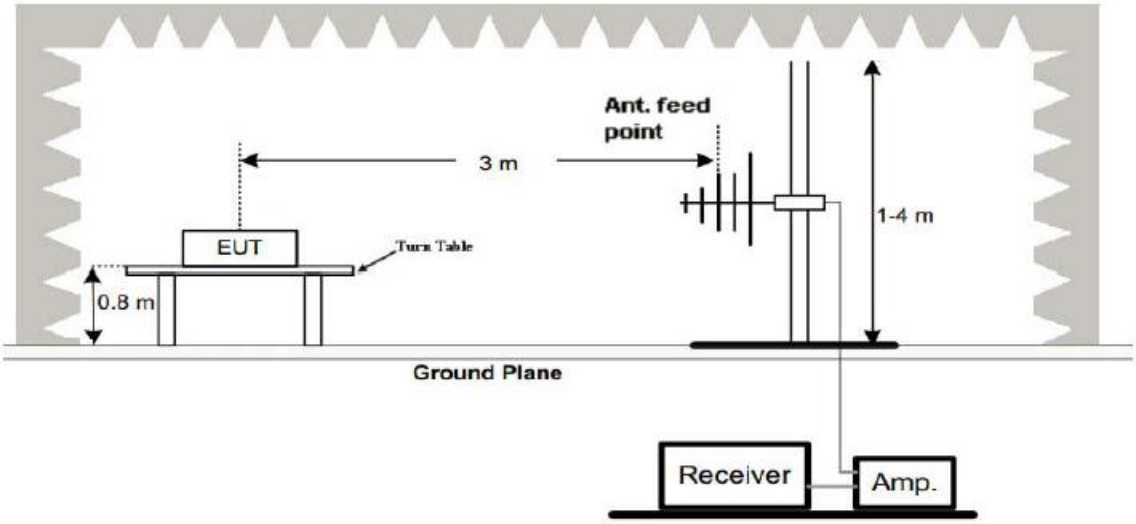
Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.00	Quasi-peak Value
88MHz-216MHz	43.50	Quasi-peak Value
216MHz-960MHz	46.00	Quasi-peak Value
960MHz-1GHz	54.00	Quasi-peak Value
Above 1GHz	54.00	Average Value
	74.00	Peak Value

5.2 ANECHOIC CHAMBER TEST SETUP DIAGRAM

(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209 and FCC 15.205 limits.

5.3 TEST PROCEDURE

Below 30MHz
a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meterssemi-anechoic chamber. The table was rotated 360 degrees to determine the position of thehighest radiation.
b. The EUT was set 3 meters away from the interference-receiving loop antenna and in thecenter of a loop antenna, which was mounted on the top of a variable-height antenna tower.
c. For each suspected emission, the EUT was arranged to its worst case, the height ofinterference-receiving loop antenna centre is 1 meter above the ground, and the rotatable tablewas turned from 0 degrees to 360 degrees to find the maximum reading.
d. Both coaxial (loop plane perpendicular to the ground plane and to the measurement axis) andcoplanar (loop plane perpendicular to the ground plane and coplanar with the measurement axis)polarizations of the antenna are set to make the measurement.
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth withmaximum hold mode when the test frequency is below 1 GHz.

30MHz-1GHz
a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meterssemi-anechoic chamber. The table was rotated 360 degrees to determine the position of thehighest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mountedon the top of a variable-height antenna tower.
c. The antenna is a broadband antenna, and its height is varied from one meter to four metersabove the ground to determine the maximum value of the field strength. Both horizontal andvertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antennawas tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degreesto 360 degrees to find the maximum reading.
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth withmaximum hold mode when the test frequency is below 1 GHz.

5.4 DEVIATION FROM TEST STANDARD

No deviation

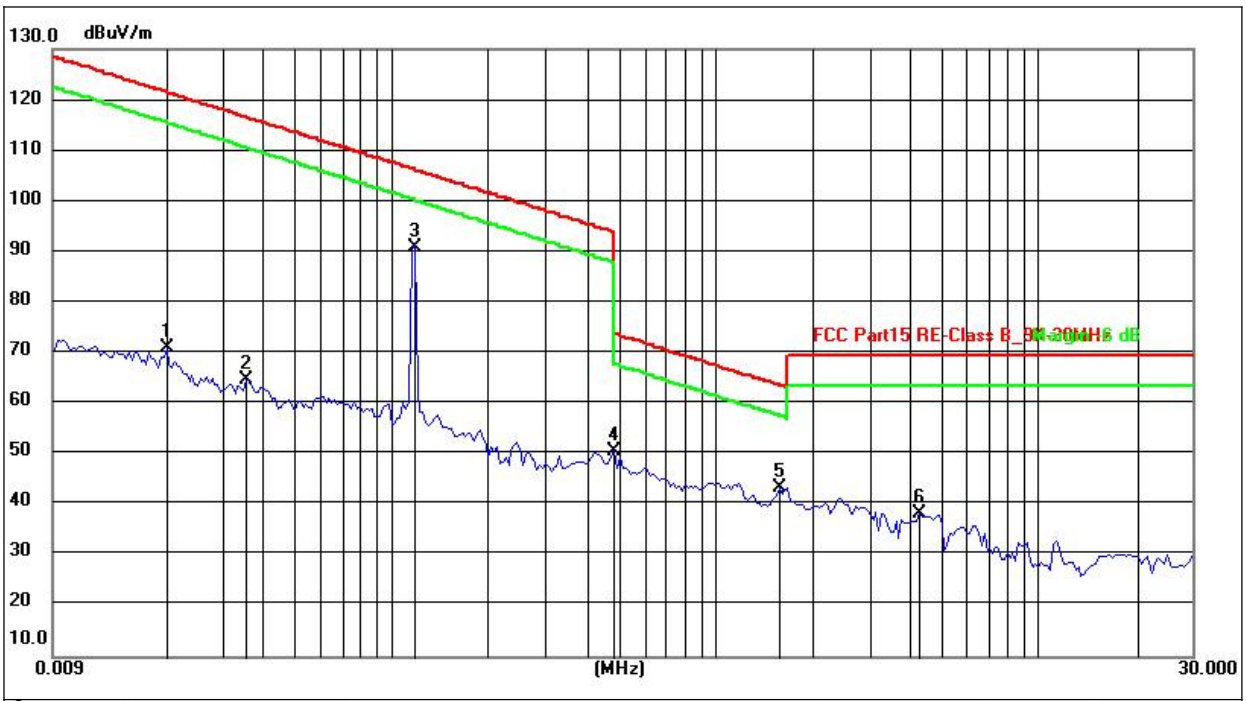
5.5 TEST RESULT

Measurement data:

Note: Limit dBuV/m @3m = Limit dBuV/m @300m+ 80
Limit dBuV/m @3m = Limit dBuV/m @30m + 40

ANT-1 - 9 kHz~30 MHz

Temperature :	26℃	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	coaxial
Test Voltage :	DC 9V	Test Mode :	Mode 1

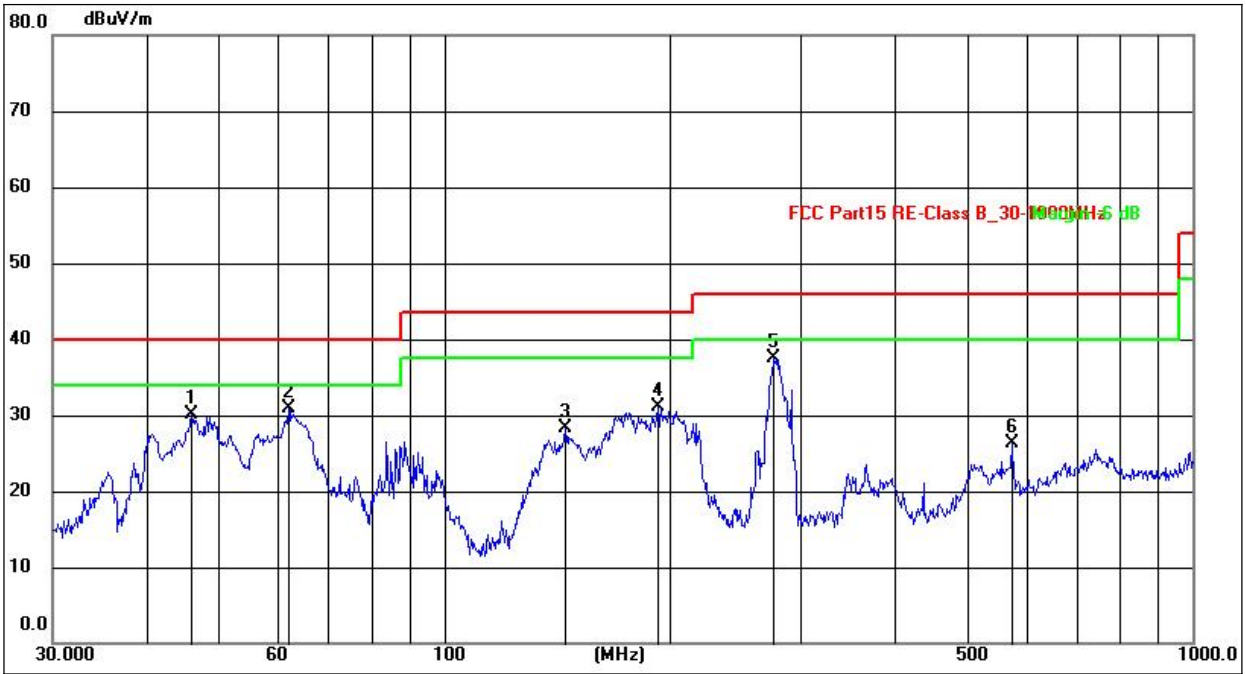


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0200	50.56	20.45	71.01	121.58	-50.57	peak
2	0.0357	44.61	20.08	64.69	116.55	-51.86	peak
3	0.1180	70.87	19.86	90.73	106.24	-15.51	peak
4	0.4889	30.35	20.20	50.55	93.82	-43.27	peak
5	1.5846	23.56	19.86	43.42	63.61	-20.19	peak
6	4.2816	18.96	19.54	38.50	69.54	-31.04	peak

Remarks:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
5.Margin= Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 1 recorded.

ANT-1 - 30MHz-1GHz

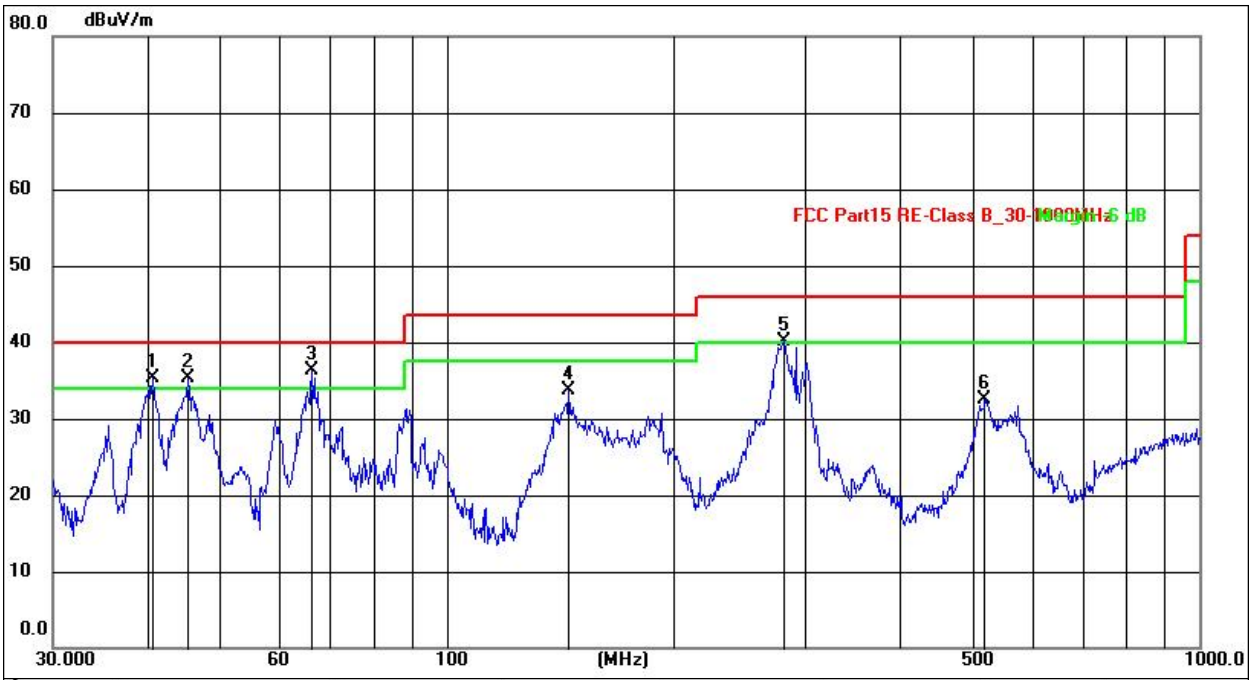
Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	DC 9V	Test Mode:	Mode 1



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	46.0162	44.14	-13.98	30.16	40.00	-9.84	QP
2	61.9949	45.49	-14.65	30.84	40.00	-9.16	QP
3	145.3505	44.87	-16.52	28.35	43.50	-15.15	QP
4	193.0944	49.24	-18.18	31.06	43.50	-12.44	QP
5	276.1234	51.69	-14.17	37.52	46.00	-8.48	QP
6	574.6258	35.27	-9.06	26.21	46.00	-19.79	QP

Remarks:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
5.Margin= Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 1 recorded.

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	DC 9V	Test Mode:	Mode 1

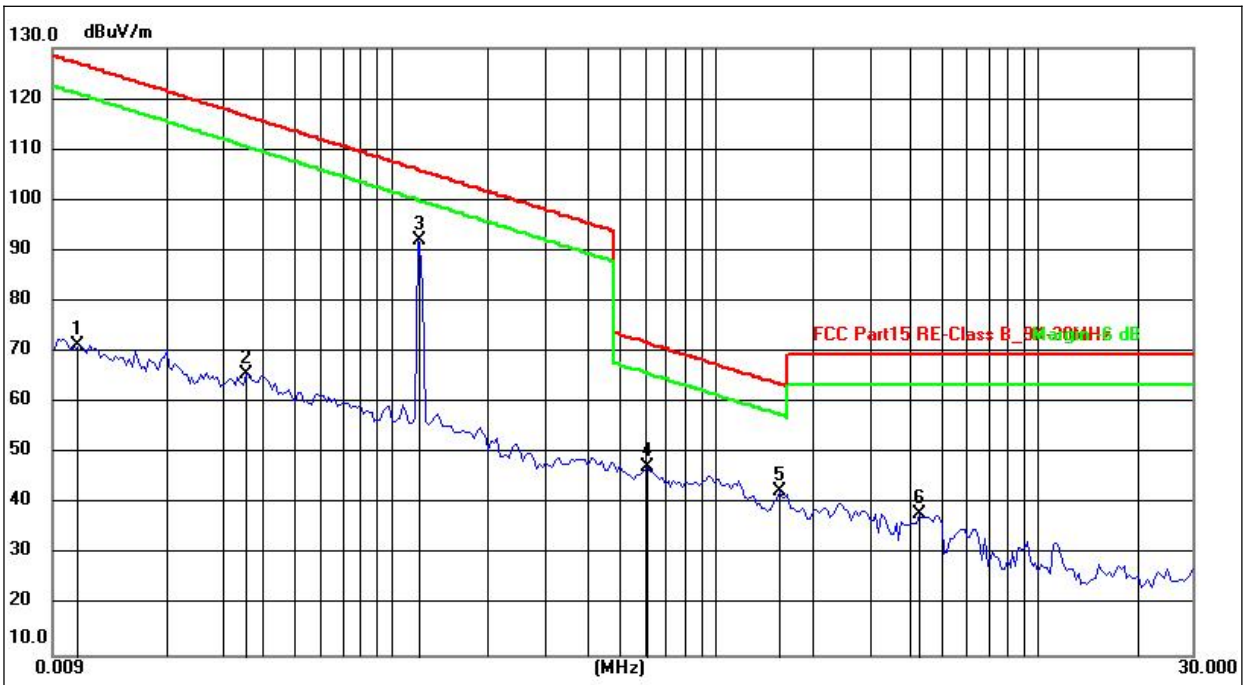


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	40.7014	52.10	-16.80	35.30	40.00	-4.70	QP
2	45.3753	52.39	-16.99	35.40	40.00	-4.60	QP
3	66.2660	55.14	-18.85	36.29	40.00	-3.71	QP
4	145.3505	54.32	-20.52	33.80	43.50	-9.70	QP
5	281.0074	58.70	-18.50	40.20	46.00	-5.80	QP
6	519.0647	42.87	-10.29	32.58	46.00	-13.42	QP

Remarks:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
5.Margin= Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 1 recorded.

ANT-2 - 9 kHz~30 MHz

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	coaxial
Test Voltage:	DC 9V	Test Mode:	Mode 13

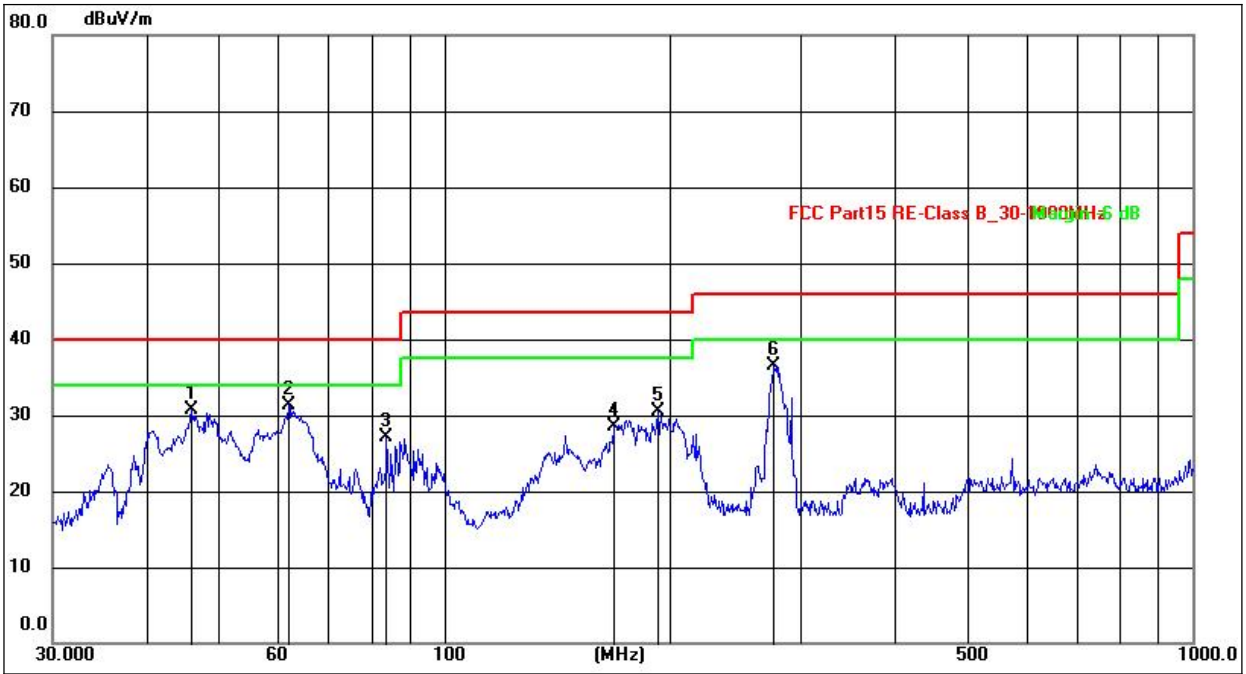


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0108	50.84	20.54	71.38	126.94	-55.56	peak
2	0.0357	45.61	20.08	65.69	116.55	-50.86	peak
3	0.1210	72.26	19.89	92.15	105.95	-13.80	peak
4	0.6236	27.03	20.31	47.34	71.71	-24.37	peak
5	1.5846	22.56	19.86	42.42	63.61	-21.19	peak
6	4.2816	18.46	19.54	38.00	69.54	-31.54	peak

Remarks:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
5.Margin= Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 13 recorded.

ANT-2 - 30MHz-1GHz

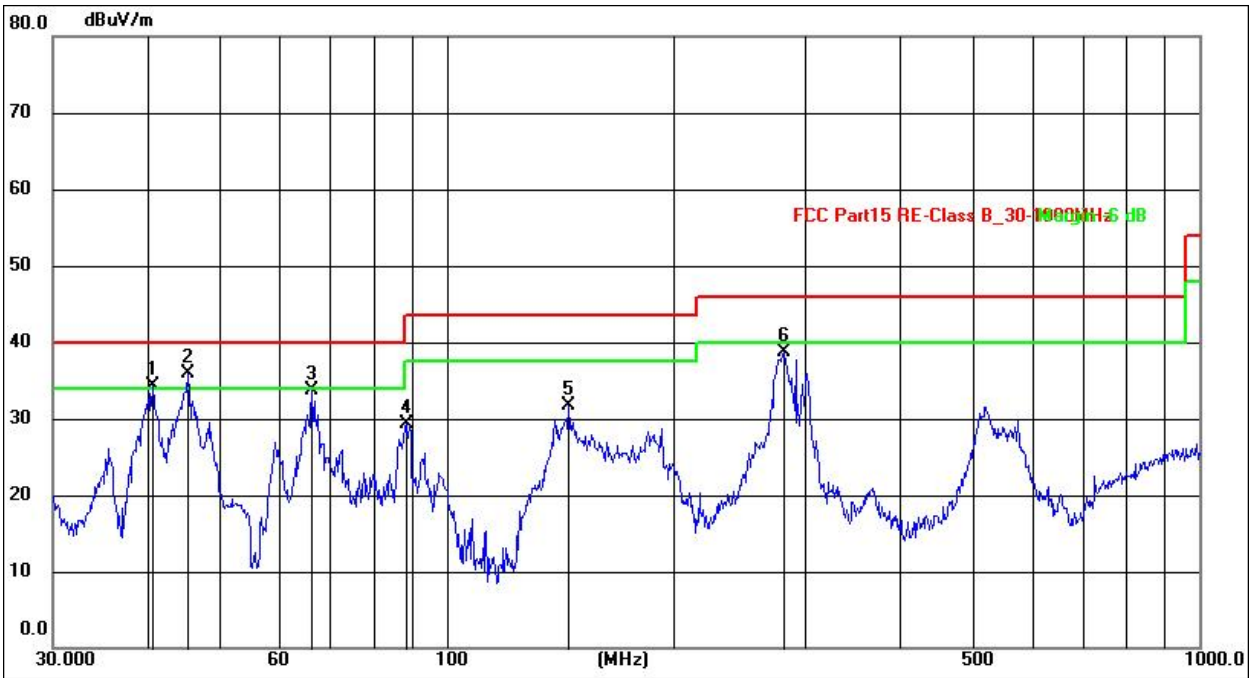
Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	DC 9V	Test Mode:	Mode 13



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	46.0162	44.64	-13.98	30.66	40.00	-9.34	QP
2	61.9949	45.99	-14.65	31.34	40.00	-8.66	QP
3	83.8155	46.69	-19.64	27.05	40.00	-12.95	QP
4	168.4137	45.07	-16.64	28.43	43.50	-15.07	QP
5	193.0944	48.74	-18.18	30.56	43.50	-12.94	QP
6	276.1234	50.69	-14.17	36.52	46.00	-9.48	QP

Remarks:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
5.Margin= Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 13 recorded.

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	DC 9V	Test Mode:	Mode 13

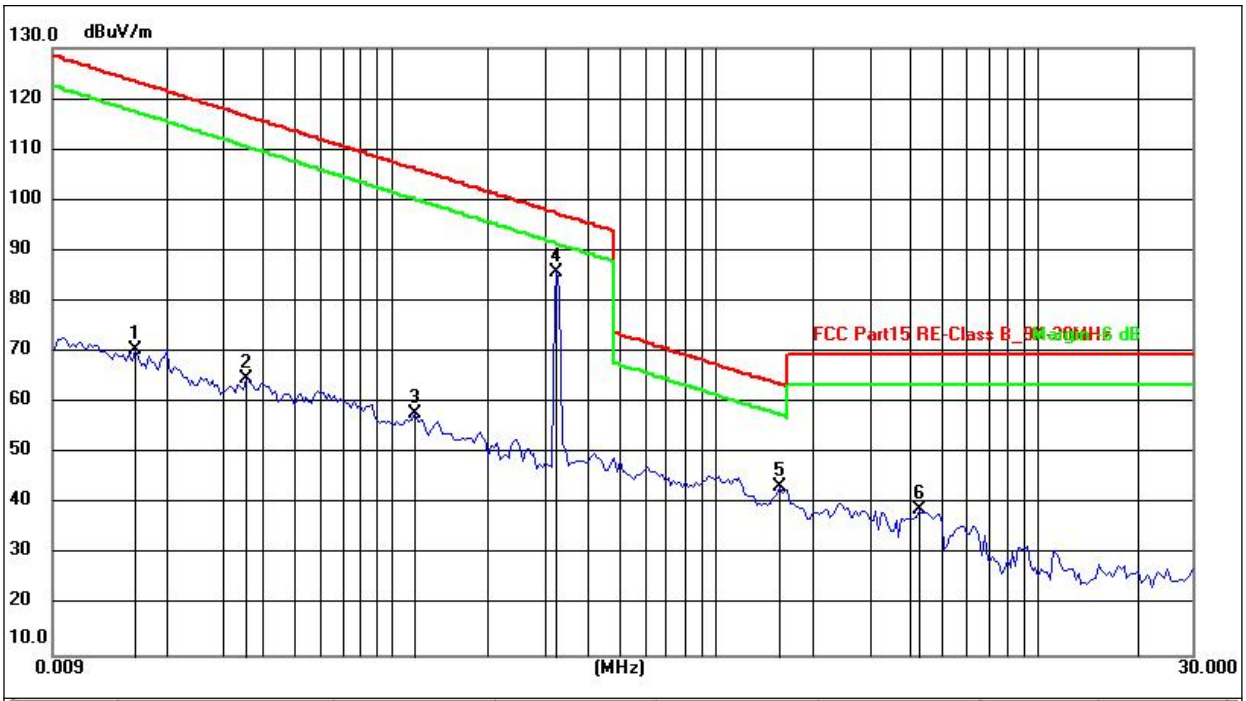


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	40.7014	51.10	-16.80	34.30	40.00	-5.70	QP
2	45.3753	52.89	-16.99	35.90	40.00	-4.10	QP
3	66.2660	52.64	-18.85	33.79	40.00	-6.21	QP
4	88.3421	50.66	-21.44	29.22	43.50	-14.28	QP
5	145.3505	52.32	-20.52	31.80	43.50	-11.70	QP
6	281.0074	57.20	-18.50	38.70	46.00	-7.30	QP

Remarks:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
5.Margin= Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 13 recorded.

ANT 3 - 9 kHz~30 MHz

Temperature :	26℃	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	coaxial
Test Voltage :	DC 9V	Test Mode :	Mode 16

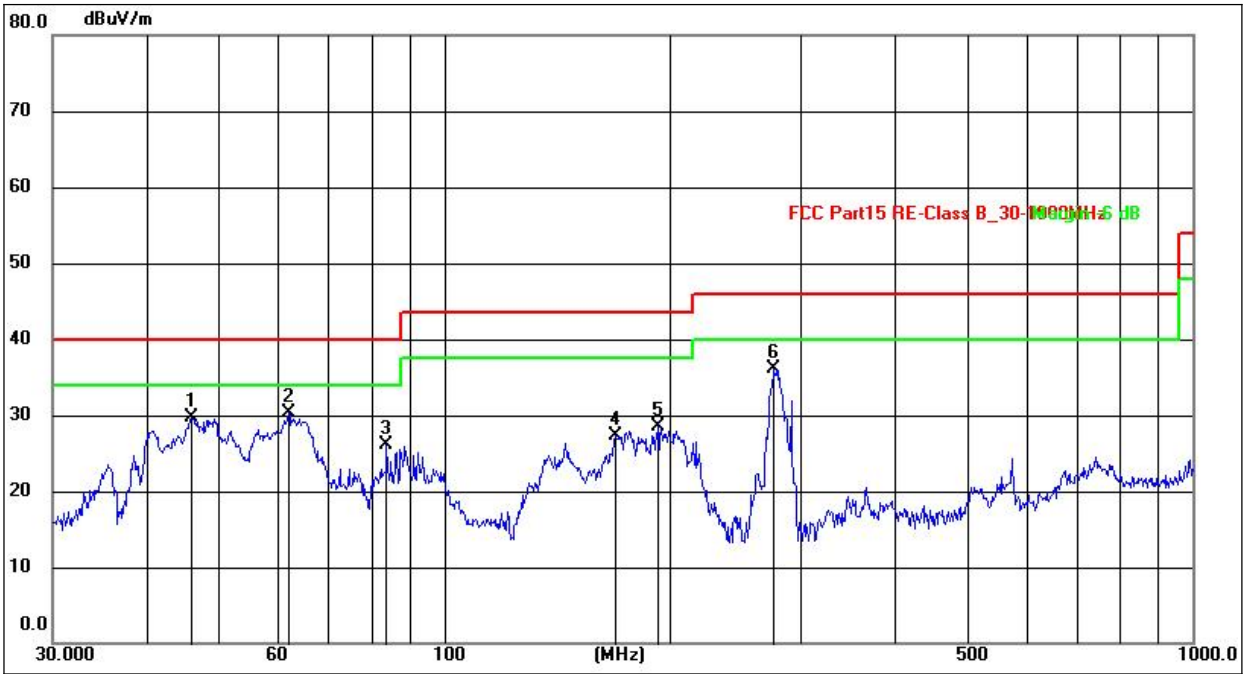


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0160	50.07	20.49	70.56	123.52	-52.96	peak
2	0.0357	44.61	20.08	64.69	116.55	-51.86	peak
3	0.1179	37.95	19.87	57.82	106.17	-48.35	peak
4	0.3240	65.50	20.13	85.63	97.39	-11.76	peak
5	1.5846	23.56	19.86	43.42	63.61	-20.19	peak
6	4.2816	19.46	19.54	39.00	69.54	-30.54	peak

Remarks:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
5.Margin= Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 16 recorded.

ANT 3 - 30MHz-1GHz

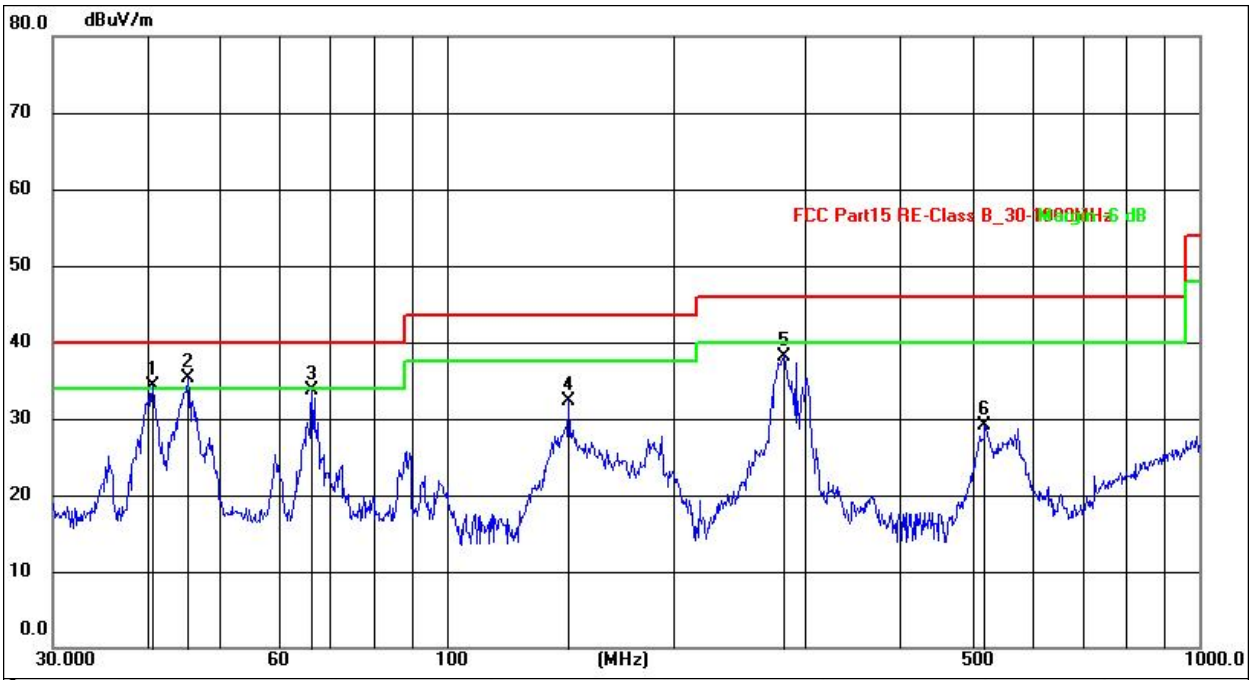
Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	DC 9V	Test Mode:	Mode 16



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	46.0162	43.64	-13.98	29.66	40.00	-10.34	QP
2	61.9949	44.99	-14.65	30.34	40.00	-9.66	QP
3	83.8155	45.69	-19.64	26.05	40.00	-13.95	QP
4	169.5988	44.03	-16.74	27.29	43.50	-16.21	QP
5	193.0944	46.74	-18.18	28.56	43.50	-14.94	QP
6	276.1234	50.19	-14.17	36.02	46.00	-9.98	QP

Remarks:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
5.Margin= Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 16 recorded.

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	DC 9V	Test Mode:	Mode 16

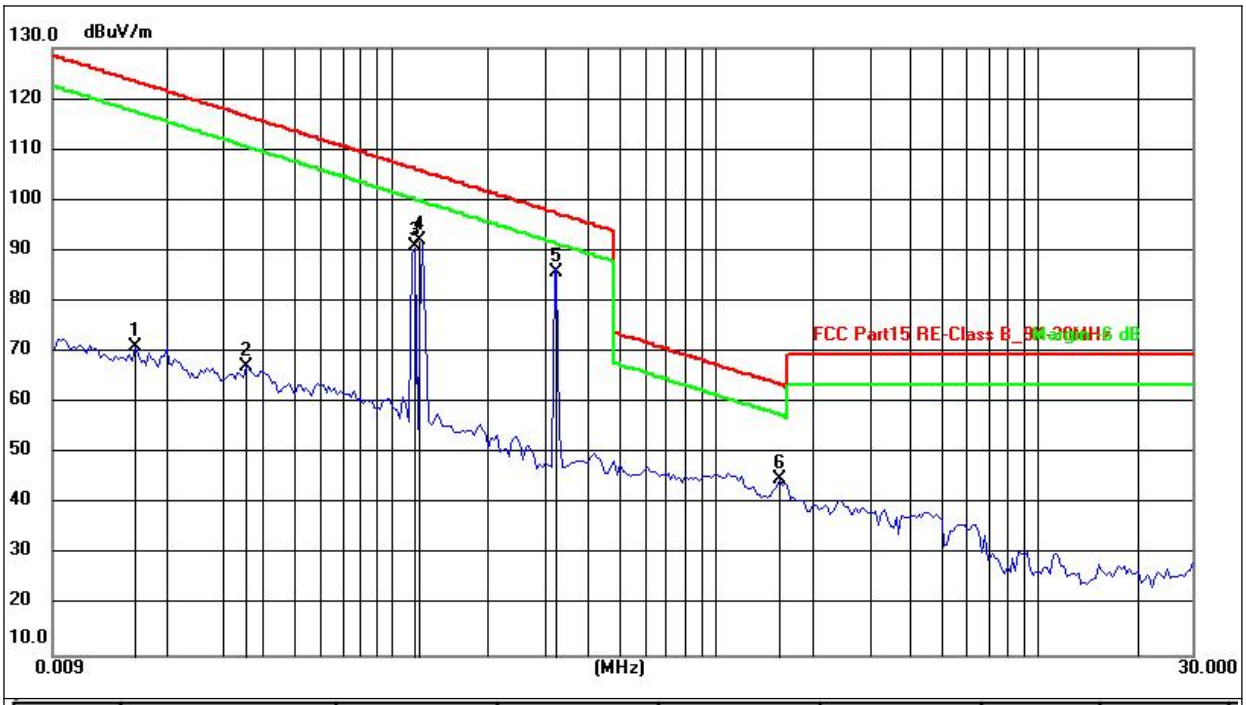


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	40.7014	51.10	-16.80	34.30	40.00	-5.70	QP
2	45.3753	52.39	-16.99	35.40	40.00	-4.60	QP
3	66.2660	52.64	-18.85	33.79	40.00	-6.21	QP
4	145.3505	52.82	-20.52	32.30	43.50	-11.20	QP
5	281.0074	56.70	-18.50	38.20	46.00	-7.80	QP
6	519.0647	39.37	-10.29	29.08	46.00	-16.92	QP

Remarks:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
5.Margin= Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 16 recorded.

ANT1+2+3 - 9 kHz~30 MHz

Temperature :	26℃	Relative Humidity :	54%
Pressure :	101 kPa	Polarization :	coaxial
Test Voltage :	DC 9V	Test Mode :	Mode 19

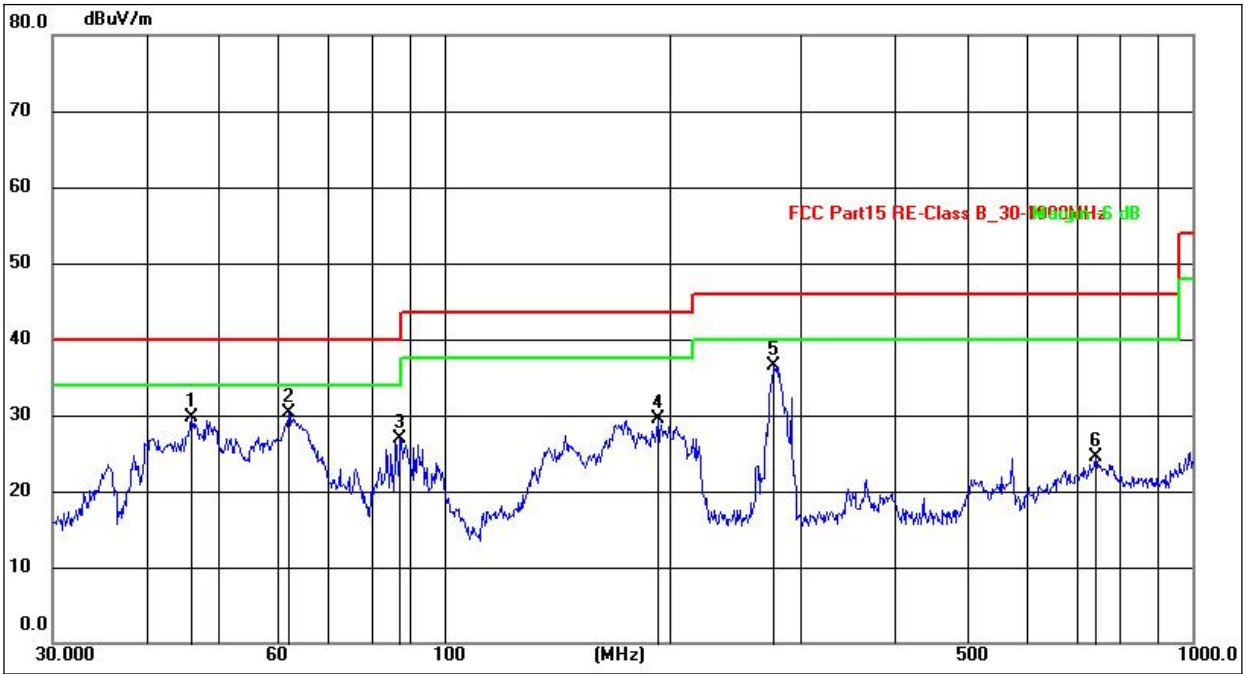


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0160	50.57	20.49	71.06	123.52	-52.46	peak
2	0.0357	47.11	20.08	67.19	116.55	-49.36	peak
3	0.1180	70.87	19.86	90.73	106.24	-15.51	peak
4	0.1210	72.26	19.89	92.15	105.95	-13.80	peak
5	0.3240	65.50	20.13	85.63	97.39	-11.76	peak
6	1.5846	25.06	19.86	44.92	63.61	-18.69	peak

Remarks:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
5.Margin= Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 19 recorded.

ANT1+2+3 - 30MHz-1GHz

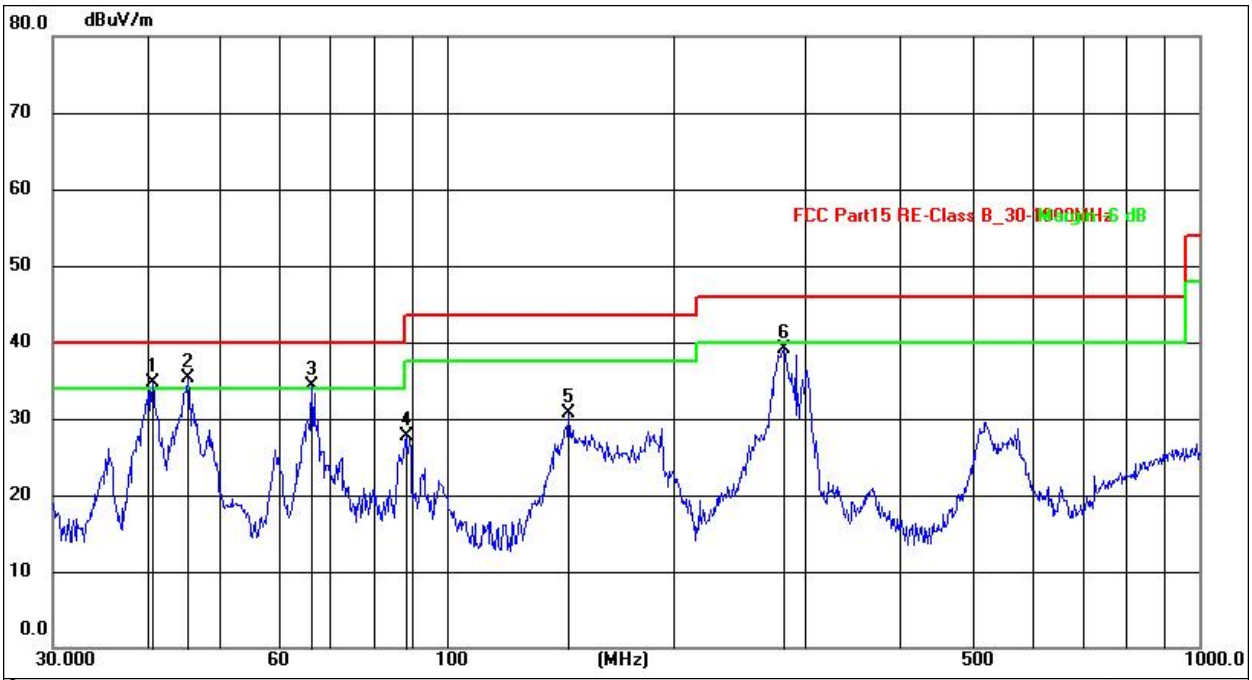
Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	DC 9V	Test Mode:	Mode 19



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	46.0162	43.64	-13.98	29.66	40.00	-10.34	QP
2	61.9949	44.99	-14.65	30.34	40.00	-9.66	QP
3	87.4175	46.78	-19.88	26.90	40.00	-13.10	QP
4	193.0944	47.74	-18.18	29.56	43.50	-13.94	QP
5	276.1234	50.69	-14.17	36.52	46.00	-9.48	QP
6	742.2586	30.94	-6.53	24.41	46.00	-21.59	QP

Remarks:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
5.Margin= Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 19 recorded.

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	DC 9V	Test Mode:	Mode 19



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	40.7014	51.60	-16.80	34.80	40.00	-5.20	QP
2	45.3753	52.39	-16.99	35.40	40.00	-4.60	QP
3	66.2660	53.14	-18.85	34.29	40.00	-5.71	QP
4	88.3421	49.16	-21.44	27.72	43.50	-15.78	QP
5	145.3505	51.32	-20.52	30.80	43.50	-12.70	QP
6	281.0074	57.70	-18.50	39.20	46.00	-6.80	QP

Remarks:
1.An initial pre-scan was performed on the peak detector.
2.Quasi-Peak measurement were performed at the frequencies with maximized peak emission.
3.Final Level = Reading level + Correct Factor.
4.Correct Factor = Antenna factor+ Cable loss factor - Amplifier factor.
5.Margin= Measurement Level-Limit.
6.All test modes were tested, with only the worst Mode 19 recorded.

6. 20DB BANDWIDTH TEST

6.1 TEST PROCEDURE

1. Se span = 1.5 ~ 5 times OBW.
2. Set RBW = 1%~5% OBW.
3. Set the video bandwidth (VBW) ≥ 3 x RBW.
4. Detector = peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. 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 relative to the maximum level measured in the fundamental emission.

6.2 LIMIT

N/A

6.3 TEST SETUP

6.4 DEVIATION FROM STANDARD

No deviation.

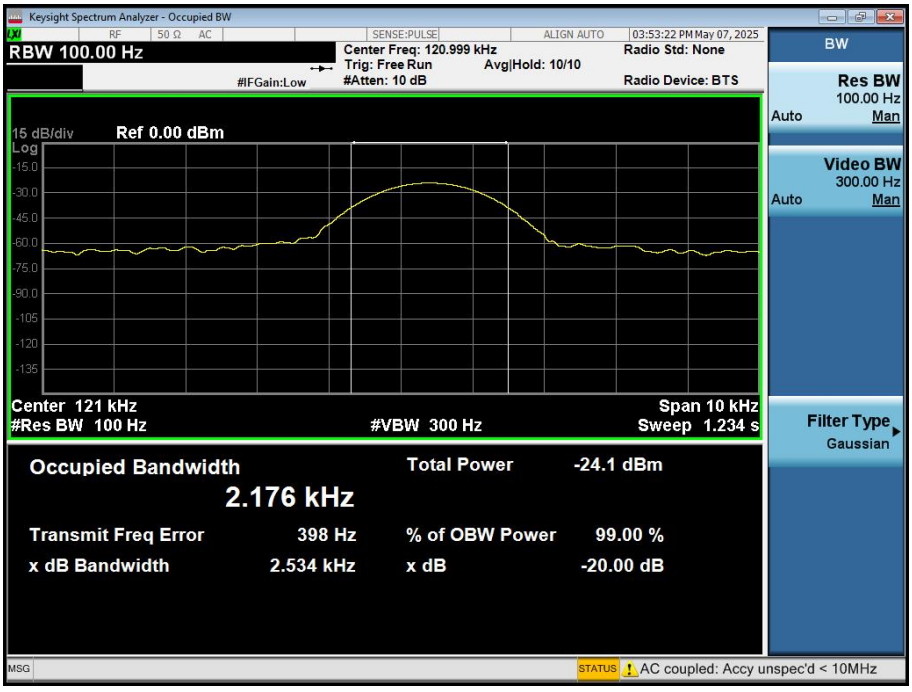
6.5 TEST RESULT

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage:	DC 9V

Test Coil	Frequency (kHz)	20dB Bandwidth (kHz)	Result
ANT 1	118.00	2.587	Pass
ANT 2	121.00	2.534	Pass
ANT 3	324.00	2.564	Pass

ANT1:

ANT2:



ANT3:

Keysight Spectrum Analyzer - Occupied BW
RF
50 Ω AC
SENSE:PULSE
ALIGN AUTO
03:14:09 PM May 07, 2025
Center Freq: 324.000 kHz
Trig: Free Run
Avg|Hold: 10/10
#Atten: 10 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
Save
State
Trace
(+ State)
Data
(Export)
Trace 1
Screen
Image
10 dB/div
Ref -30.00 dBm
Log
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
-100
-110
-120
Center 324 kHz
#Res BW 100 Hz
#VBW 300 Hz
Span 10 kHz
Sweep 1.234 s
Occupied Bandwidth
2.185 kHz
Total Power -47.0 dBm
Transmit Freq Error -324 Hz
% of OBW Power 99.00 %
x dB Bandwidth 2.564 kHz
x dB -20.00 dB
MSG
STATUS
AC coupled: Accy unspec'd < 10MHz

7. ANTENNA REQUIREMENT

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: 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, 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.	
EUT Antenna:	
The antenna is Loop Coil antenna, the best case gain of the antennas is 0dBi, reference to the appendix II for details	

8. TEST SETUP PHOTO

Reference to the appendix I for details.

9. EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

※※※※※ END OF REPORT ※※※※※