



# FCC TEST REPORT

**Test report  
On Behalf of  
Shenzhen New Discovery Pet Products Co., LTD.  
For  
Wireless fence dog training collar  
Model No.: 882**

**FCC ID: 2AT82-882**

**Prepared for:** Shenzhen New Discovery Pet Products Co., LTD.  
4th Floor, Building C11, Xinan Second Industrial Zone, Baoan, Shenzhen,  
Guangdong China

**Prepared By:** Shenzhen HUAKE Testing Technology Co., Ltd.  
1F, B2 Building, Junfeng Zhongcheng Zhizao Innovation Park, Fuhai Street,  
Bao'an District, Shenzhen City, China

**Date of Test:** Aug. 2, 2019 ~ Aug. 9, 2019

**Date of Report:** Aug. 9, 2019

**Report Number:** HK1908081954-E



## TEST RESULT CERTIFICATION

**Applicant's name** ..... : Shenzhen New Discovery Pet Products Co., LTD.  
Address ..... : 4th Floor, Building C11, Xinan Second Industrial Zone, Baoan, Shenzhen, Guangdong China

**Manufacture's Name** ..... : Shenzhen New Discovery Pet Products Co., LTD.  
Address ..... : 4th Floor, Building C11, Xinan Second Industrial Zone, Baoan, Shenzhen, Guangdong China

### Product description

Trade Mark: N/A  
Product name ..... : Wireless fence dog training collar  
Model and/or type reference : 882, 882C  
**Standards** ..... : FCC Rules and Regulations Part 15 Subpart C Section 15.249  
ANSI C63.10: 2013

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen HUAK Testing Technology Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen HUAK Testing Technology Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

### Date of Test .....

Date (s) of performance of tests ..... : Aug. 2, 2019 ~ Aug. 9, 2019  
Date of Issue ..... : Aug. 9, 2019  
Test Result ..... : **Pass**

Testing Engineer : 

(Gary Qian)

Technical Manager : 

(Eden Hu)

Authorized Signatory : 

(Jason Zhou)



Table of Contents	Page
1 . TEST SUMMARY	4
2 . GENERAL INFORMATION	5
2.1 GENERAL DESCRIPTION OF EUT	5
2.2 Carrier Frequency of Channels	6
2.3 Operation of EUT during testing	6
2.4 DESCRIPTION OF TEST SETUP	6
2.5 MEASUREMENT INSTRUMENTS LIST	7
3 . CONDUCTED EMISSIONS TEST	8
3.1 Conducted Power Line Emission Limit	8
3.2 Test Setup	8
3.3 Test Procedure	8
3.4 Test Result	8
4 RADIATED EMISSION TEST	13
4.1 Radiation Limit	13
4.2 Test Setup	13
4.3 Test Procedure	14
4.4 Test Result	14
5 BAND EDGE	21
5.1 Limits	21
5.2 Test Procedure	21
5.3 Test Result	21
6 OCCUPIED BANDWIDTH MEASUREMENT	23
6.1 Test Setup	23
6.2 Test Procedure	23
6.3 Measurement Equipment Used	23
6.4 Test Result	23
7 ANTENNA REQUIREMENT	25
8 PHOTOGRAPH OF TEST	26
Radiated Emission	26
Conducted Emission	27



## 1. TEST SUMMARY

### 1.1 TEST PROCEDURES AND RESULTS

DESCRIPTION OF TEST	RESULT
15.207      Conducted Emission	COMPLIANT
15.249&15.209      Fundamental & Radiated Spurious Emission Measuremen	COMPLIANT
15.215      Bandwidth	COMPLIANT
15.205      Band Edge Emission	COMPLIANT
15.203      Antenna Requirement	COMPLIANT

### 1.2 TEST FACILITY

Test Firm : Shenzhen HUAK Testing Technology Co., Ltd.

Address      1F, B2 Building, Junfeng Zhongcheng Zhizao Innovation Park, Fuhai Street, Bao'an District, Shenzhen City, China

### 1.3 MEASUREMENT UNCERTAINTY

#### Measurement Uncertainty

Conducted Emission Expanded Uncertainty	= 2.23dB, k=2
Radiated emission expanded uncertainty(9kHz-30MHz)	= 3.08dB, k=2
Radiated emission expanded uncertainty(30MHz-1000MHz)	= 4.42dB, k=2
Radiated emission expanded uncertainty(Above 1GHz)	= 4.06dB, k=2



## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless fence dog training collar
Model Name	882
Serial No.	882C
Trade Mark	N/A
Model Difference	All model's the function, software and electric circuit are the same, only the TX of 822c with a rechargeable battery. Test sample model: 882
FCC ID	<b>2AT82-882</b>
Antenna Type	Internal Antenna
Antenna Gain	2dBi
Operation frequency	2445.3MHz
Number of Channels	1CH
Modulation Type	GFSK
Battery	N/A
Power Source	DC 5V from adapter with AC 120/240V 60Hz
Adapter Model	Model: E480515 Input: 100-240V~, 50/60Hz, 0.3A Output: DC 5V 1A



## 2.2 Carrier Frequency of Channels

Channel List							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2445.3	/	/	/	/	/	/

## 2.3 Operation of EUT during testing

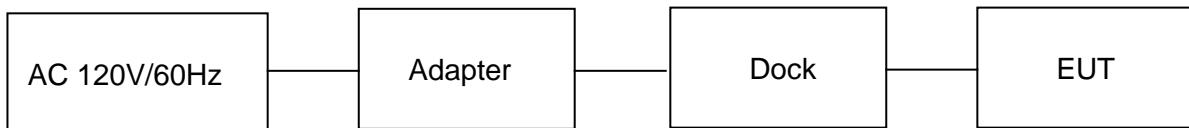
### Operating Mode

The mode is used: **Transmitting mode**

Channel: 2445.3MHz

## 2.4 DESCRIPTION OF TEST SETUP

Operation of EUT during Conducted testing:



Note: Dock is only a connector, there is no extra circuit.

Operation of EUT during Radiation and Above1GHz Radiation testing:





## 2.5 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N. Artificial Mains Network	R&S	ENV216	HKE-002	Dec. 28, 2018	1 Year
2.	Receiver	R&S	ESCI 7	HKE-010	Dec. 28, 2018	1 Year
3.	RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 28, 2018	1 Year
4.	Spectrum analyzer	R&S	FSP40	HKE-025	Dec. 28, 2018	1 Year
5.	Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 28, 2018	1 Year
6.	Preamplifier	Schwarzbeck	BBV 9743	HKE-006	Dec. 28, 2018	1 Year
7.	EMI Test Receiver	Rohde & Schwarz	ESCI 7	HKE-010	Dec. 28, 2018	1 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	HKE-012	Dec. 28, 2018	1 Year
9.	Loop Antenna	Schwarzbeck	FMZB 1519 B	HKE-014	Dec. 28, 2018	1 Year
10.	Horn Antenna	Schwarzbeck	9120D	HKE-013	Dec. 28, 2018	1 Year
11.	Pre-amplifier	EMCI	EMC051845 SE	HKE-015	Dec. 28, 2018	1 Year
12.	Pre-amplifier	Agilent	83051A	HKE-016	Dec. 28, 2018	1 Year
13.	EMI Test Software EZ-EMC	Tonscend	JZOZtheBO T120-B Version	HKE-083	N/A	N/A
14.	Power Sensor	Agilent	E9300A	HKE-086	Dec. 28, 2018	1 Year
15.	Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 28, 2018	1 Year
16.	Signal generator	Agilent	N5182A	HKE-029	Dec. 28, 2018	1 Year
17.	Signal Generator	Agilent	83630A	HKE-028	Dec. 28, 2018	1 Year
18.	Shielded room	Shiel Hong	4*3*3	HKE-039	Dec. 28, 2017	3 Year
19	Hf antenna	Schwarzbeck	LB-180400- KF	HKE-031	Dec. 28, 2018	1 Year

### 3. CONDUCTED EMISSIONS TEST

#### 3.1 Conducted Power Line Emission Limit

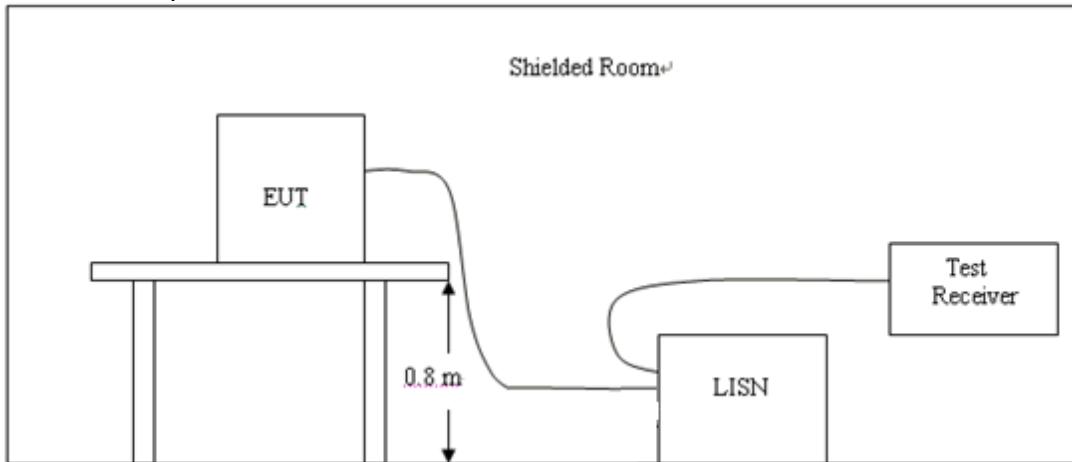
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

Frequency (MHz)	Maximum RF Line Voltage (dB $\mu$ V)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

\* Decreasing linearly with the logarithm of the frequency

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

#### 3.2 Test Setup



#### 3.3 Test Procedure

- 1, The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
- 2, Support equipment, if needed, was placed as per ANSI C63.10.
- 3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4, If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5, All support equipments received AC power from a second LISN, if any.
- 6, The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7, Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

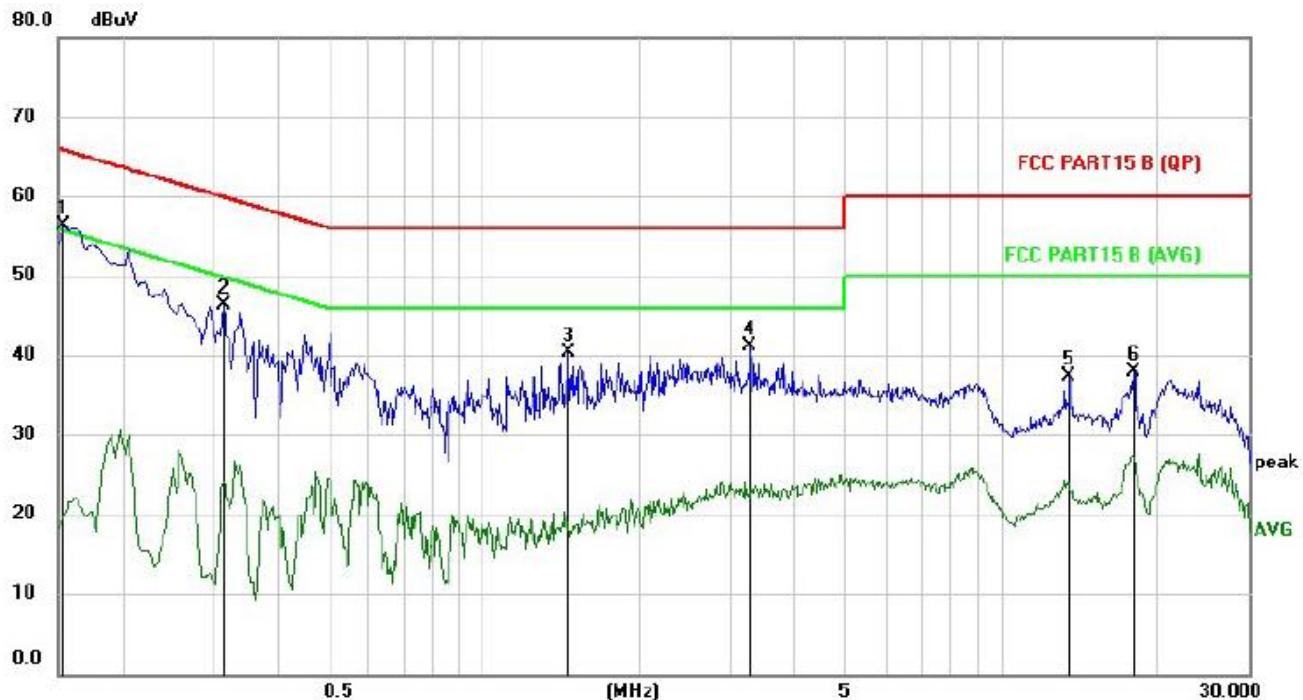
#### 3.4 Test Result

PASS

1. All modes were tested at AC 120V and 240V, only the worst result of AC 120V was reported.
2. All modes of Low, Middle, and High channel were tested, only the worst result of Low Channel was reported as below:



The main model: 882  
Test Specification: Neutral



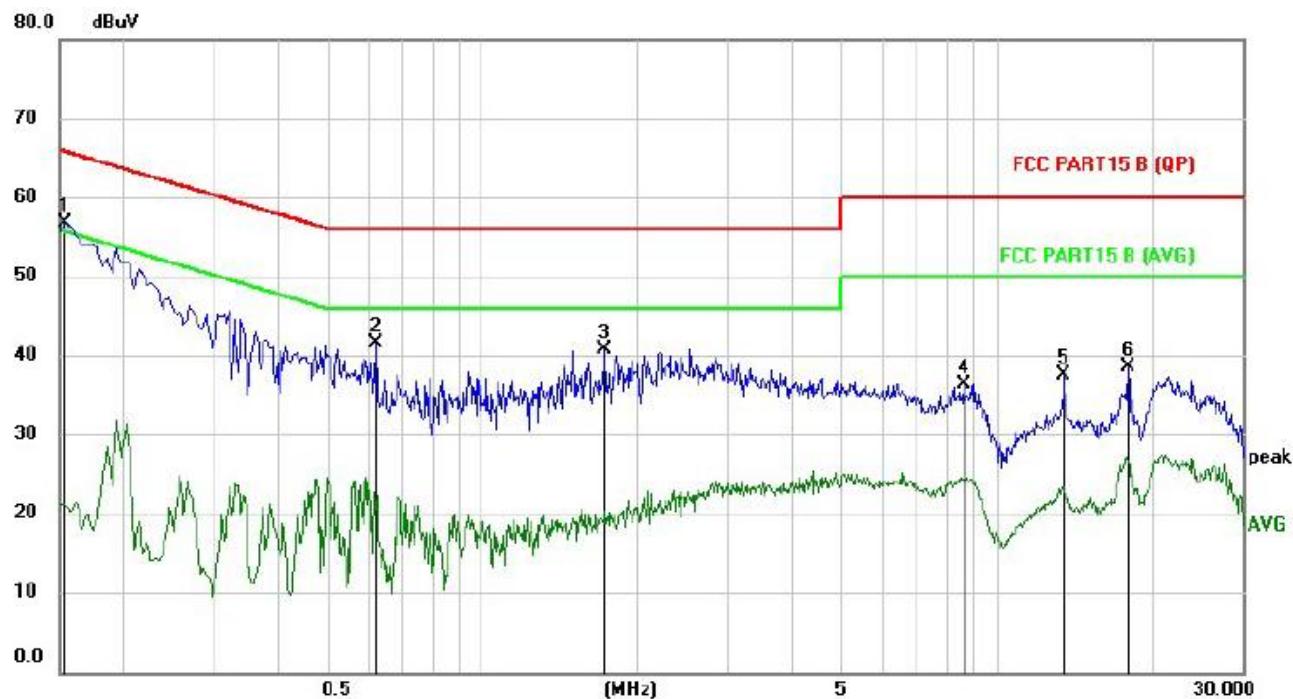
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
		MHz	dBuV	dB	dBuV	dBuV	dB		
1	*	0.1539	46.20	10.04	56.24	65.79	-9.55	peak	
2		0.3140	36.36	9.88	46.24	59.86	-13.62	peak	
3		1.4580	30.16	10.09	40.25	56.00	-15.75	peak	
4		3.2740	30.79	10.23	41.02	56.00	-14.98	peak	
5		13.5220	26.66	10.61	37.27	60.00	-22.73	peak	
6		18.0020	27.10	10.73	37.83	60.00	-22.17	peak	

Remark: Result=Reading +Factor

Over Limit=Result -Limit



## Test Specification: Line



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
		MHz	dBuV	dB	dBuV	dB			
1	*	0.1539	46.90	9.88	56.78	65.79	-9.01	peak	
2		0.6180	31.41	10.04	41.45	56.00	-14.55	peak	
3		1.7260	30.68	10.05	40.73	56.00	-15.27	peak	
4		8.6340	25.79	10.55	36.34	60.00	-23.66	peak	
5		13.5220	26.94	10.64	37.58	60.00	-22.42	peak	
6		18.0020	27.80	10.71	38.51	60.00	-21.49	peak	

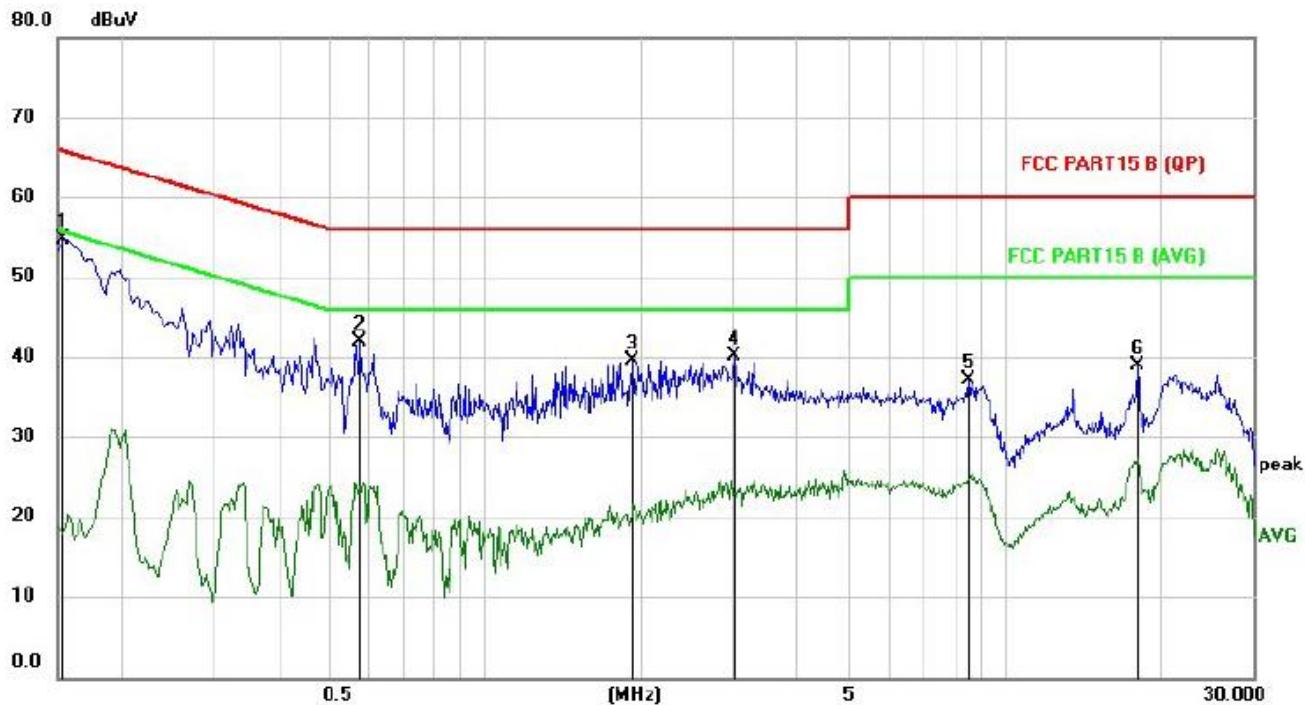
Remark: Result=Reading +Factor

Over Limit=Result -Limit



The series model: 882C

Test Specification: Neutral



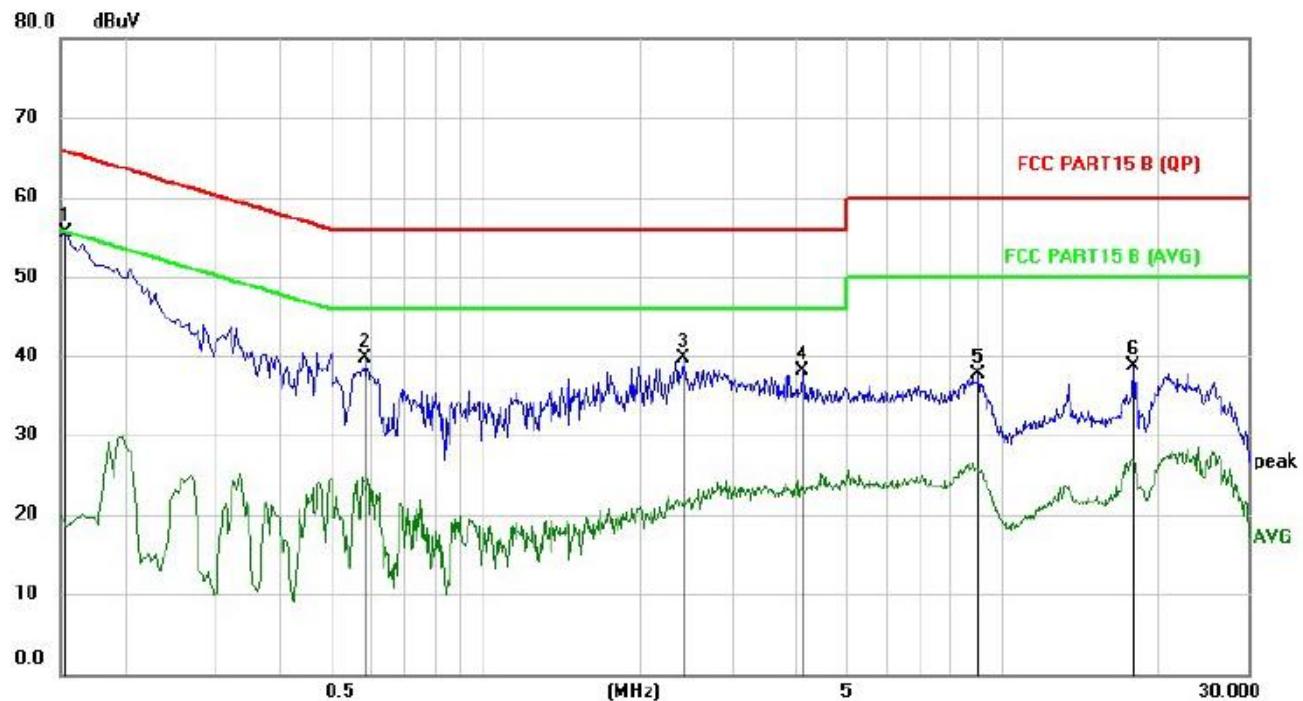
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
		MHz	dBuV	dB	dBuV	dB			
1	*	0.1539	44.83	9.88	54.71	65.79	-11.08	peak	
2		0.5740	31.81	10.02	41.83	56.00	-14.17	peak	
3		1.9220	29.56	10.03	39.59	56.00	-16.41	peak	
4		3.0220	29.93	10.22	40.15	56.00	-15.85	peak	
5		8.5140	26.57	10.55	37.12	60.00	-22.88	peak	
6		17.9700	28.20	10.71	38.91	60.00	-21.09	peak	

Remark: Result=Reading +Factor

Over Limit=Result -Limit



## Test Specification: Line



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
		MHz	dBuV	dB	dBuV	dB			
1	*	0.1539	45.55	10.04	55.59	65.79	-10.20	peak	
2		0.5860	29.78	9.84	39.62	56.00	-16.38	peak	
3		2.4100	29.55	10.13	39.68	56.00	-16.32	peak	
4		4.0980	27.83	10.32	38.15	56.00	-17.85	peak	
5		9.0500	27.28	10.47	37.75	60.00	-22.25	peak	
6		17.9700	27.91	10.73	38.64	60.00	-21.36	peak	

Remark: Result=Reading +Factor

Over Limit=Result -Limit

## 4 RADIATED EMISSION TEST

### 4.1 Radiation Limit

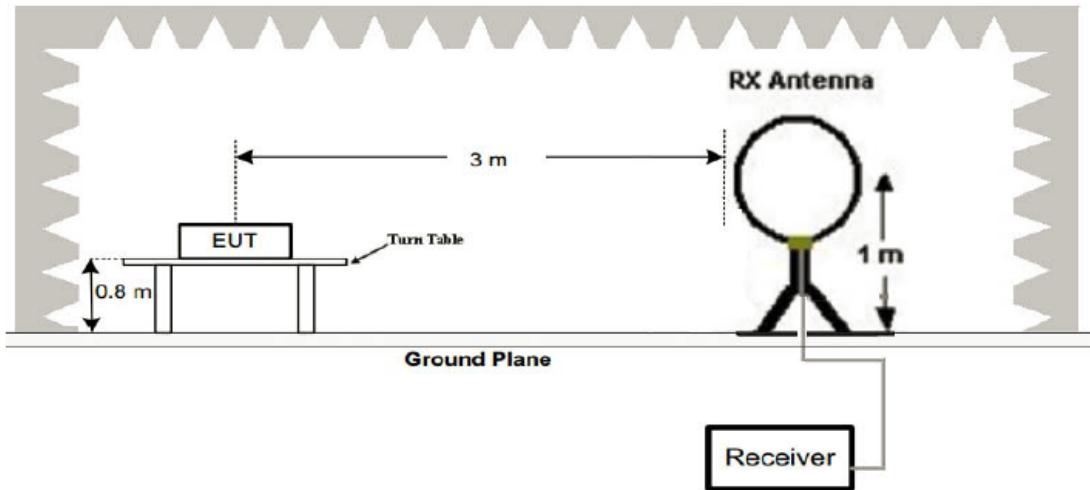
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dB $\mu$ V/m)	Radiated ( $\mu$ V/m)
30-88	3	40	100
88-216	3	43.5	150
216-960	3	46	200
Above 960	3	54	500

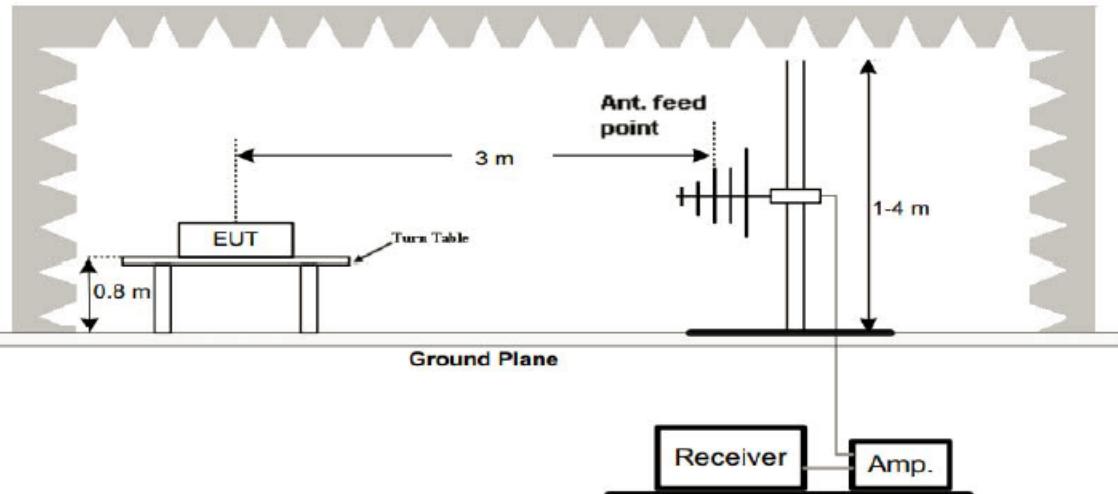
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

### 4.2 Test Setup

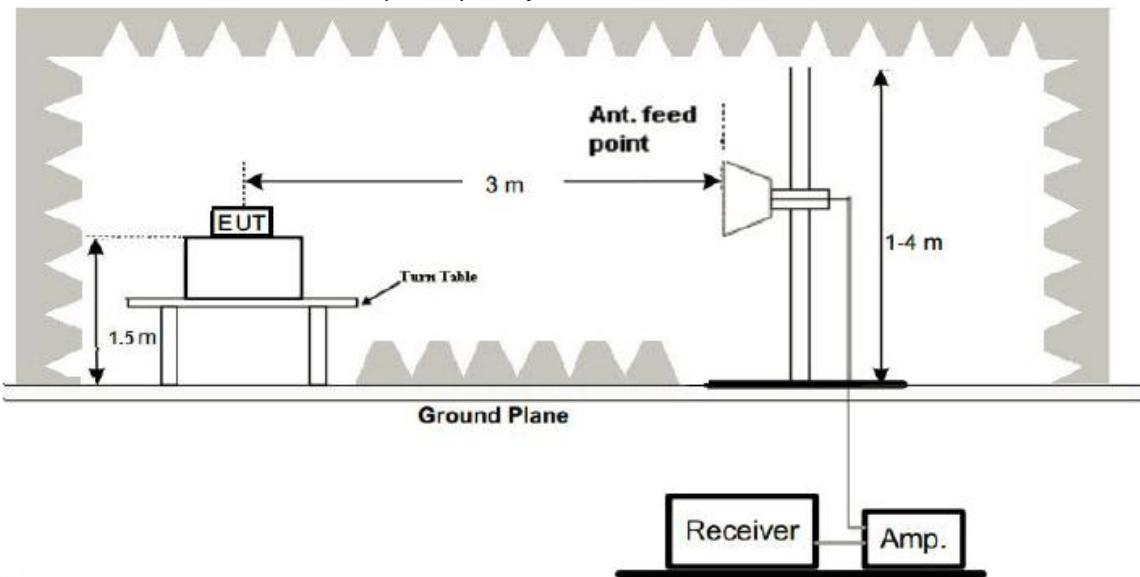
#### (1) Radiated Emission Test-Up Frequency Below 30MHz



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



## (3) Radiated Emission Test-Up Frequency Above 1GHz



## 4.3 Test Procedure

1. Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The test frequency range from 9KHz to 25GHz per FCC PART 15.33(a).

## Note:

For battery operated equipment, the equipment tests shall be performed using a new battery.

## 4.4 Test Result

PASS

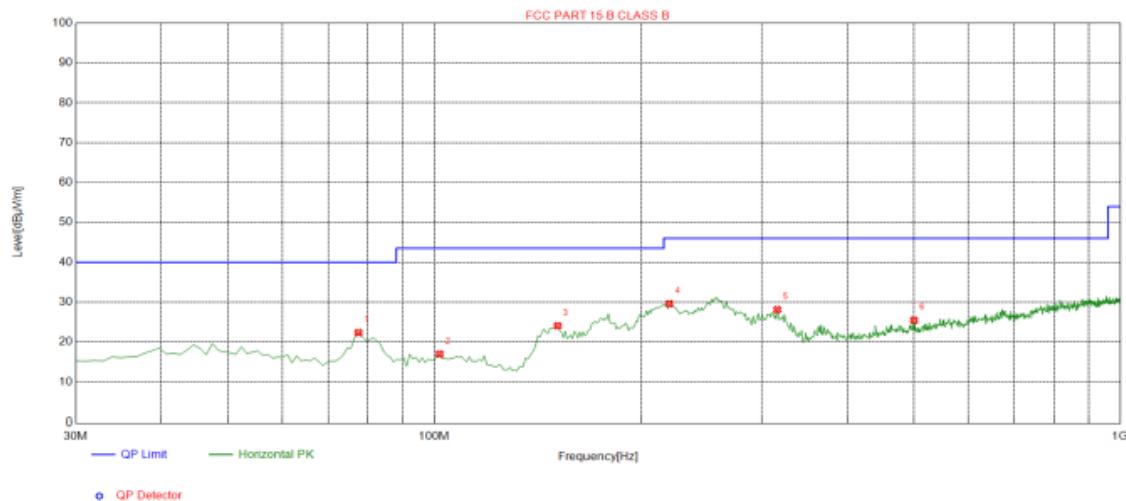
## Remark:

1. All the test modes completed for test. The worst case of Radiated Emission is Low channel, the test data of this mode was reported.
2. By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "Z axis" position was the worst, and test data recorded in this report.
3. Radiated emission test from 9KHz to 10th harmonic of fundamental was verified, and no emission found except system noise floor in 9KHz to 30MHz and not recorded in this report.



The main model: 882  
Below 1GHz Test Results:

Antenna polarity: H

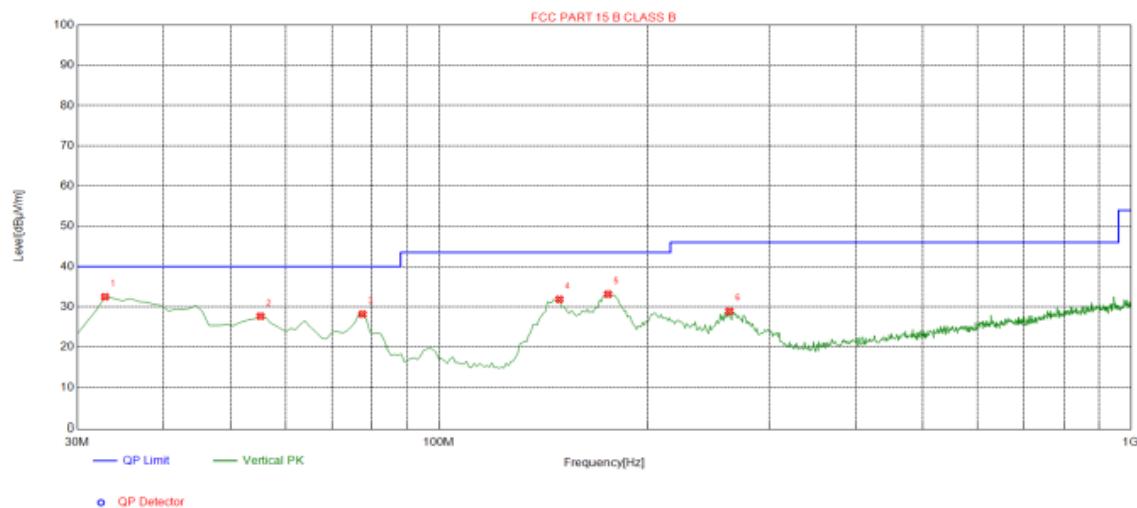


#### Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	77.5300	22.35	-19.03	40.00	17.65	100	0	Horizontal
2	101.780	16.97	-15.41	43.50	26.53	100	125	Horizontal
3	151.250	24.08	-18.85	43.50	19.42	100	272	Horizontal
4	220.120	29.60	-14.56	46.00	16.40	100	312	Horizontal
5	316.150	28.12	-12.30	46.00	17.88	100	291	Horizontal
6	500.450	25.46	-8.29	46.00	20.54	100	322	Horizontal

Remark: Transd = Cableloss + Antenna factor - Pre-amplifier; Margin = Limit – Level

Antenna polarity: V



#### Suspected List

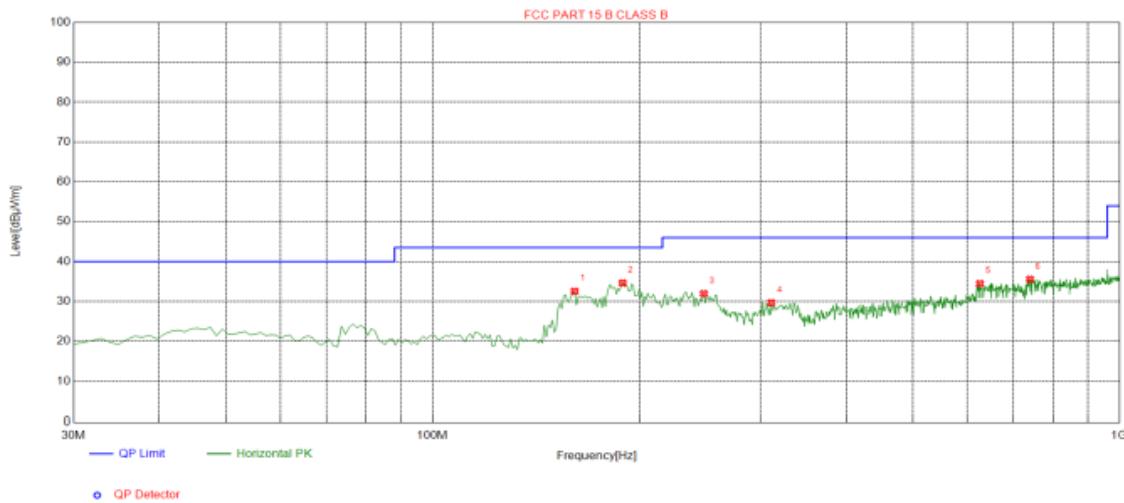
Suspected List								
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	32.9100	32.48	-16.23	40.00	7.52	100	266	Vertical
2	55.2200	27.67	-14.44	40.00	12.33	100	56	Vertical
3	77.5300	28.19	-19.03	40.00	11.81	100	138	Vertical
4	149.310	31.86	-18.96	43.50	11.64	100	229	Vertical
5	175.500	33.15	-17.06	43.50	10.35	100	237	Vertical
6	262.800	28.90	-13.56	46.00	17.10	100	219	Vertical

Remark: Transd = Cableloss + Antenna factor - Pre-amplifier; Margin = Limit – Level



The series model: 882C  
Below 1GHz Test Results:

Antenna polarity: H

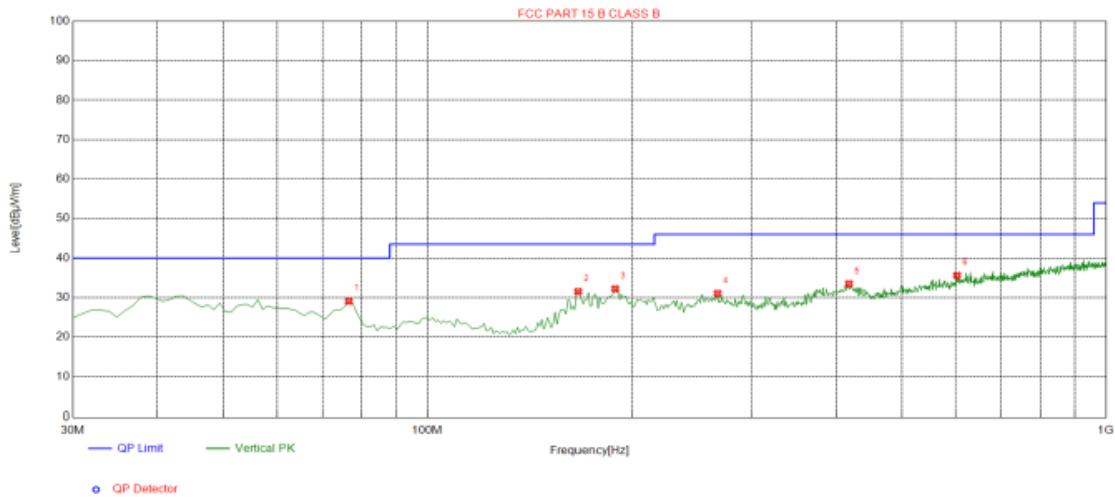


#### Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dB $\mu$ V/m]	Factor [dB]	Limit [dB $\mu$ V/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	160.850	32.55	-18.23	43.50	10.95	100	324	Horizontal
2	189.080	34.32	-16.19	43.50	9.18	100	268	Horizontal
3	238.250	31.55	-13.37	46.00	14.45	100	28	Horizontal
4	321.300	29.67	-12.64	46.00	16.33	100	218	Horizontal
5	636.550	34.32	-5.59	46.00	11.68	100	103	Horizontal
6	751.010	35.69	-4.19	46.00	10.31	100	212	Horizontal

Remark: Transd = Cableloss + Antenna factor - Pre-amplifier; Margin = Limit – Level

Antenna polarity: V



#### Suspected List

Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	75.5600	29.16	-18.05	40.00	10.84	100	123	Vertical
2	186.770	31.32	-17.10	43.50	12.18	100	259	Vertical
3	189.080	32.60	-16.19	43.50	10.90	100	117	Vertical
4	267.350	31.26	-13.53	46.00	14.74	100	180	Vertical
5	468.000	33.20	-10.17	46.00	12.80	100	358	Vertical
6	663.270	35.59	-5.83	46.00	10.41	100	181	Vertical

Remark: Transd = Cableloss + Antenna factor - Pre-amplifier; Margin = Limit – Level

Remark:

- (1) Measuring frequencies from 9 KHz to the 1 GHz, radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.
- (2) \* denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (3) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.



Above 1 GHz Test Results:  
CH (2445.3MHz)

Horizontal:

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
2445.3	108.99	-5.84	103.15	114	-10.85	peak
2445.3	95.78	-5.84	89.94	94	-4.06	AVG
4890.6	56.58	-3.64	52.94	74	-21.06	peak
4890.6	47.66	-3.64	44.02	54	-9.98	AVG
7335.9	58.72	-0.95	57.77	74	-16.23	peak
7335.9	48.25	-0.95	47.30	54	-6.70	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Meter Reading (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
2445.3	108.43	-5.84	102.59	114	-11.41	peak
2445.3	95.53	-5.84	89.69	94	-4.31	AVG
4890.6	56.42	-3.64	52.78	74	-21.22	peak
4890.6	47.09	-3.64	43.45	54	-10.55	AVG
7335.9	58.14	-0.95	57.19	74	-16.81	peak
7335.9	48.04	-0.95	47.09	54	-6.91	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

**Remark :**

- (1) Measuring frequencies from 1 GHz to the 25 GHz .
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) \* denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.
- (7) All modes of operation were investigated and the worst-case emissions are reported.



## 5 BAND EDGE

### 5.1 Limits

FCC PART 15.249(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

### 5.2 Test Procedure

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW to 100KHz and VBM to 300KHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength. The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW to 100 KHz and VBW to 300 KHz, to measure the conducted peak band edge.

### 5.3 Test Result

**PASS**

Radiated Band Edge Test:

Operation Mode: TX CH Low (2402MHz)

Horizontal (Worst case)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB $\mu$ V)	(dB)	(dB $\mu$ V/m)	(dB $\mu$ V/m)	(dB)	
2310	55.23	-5.81	49.42	74	-24.58	peak
2310	/	-5.81	/	54	/	AVG
2390	53.62	-5.84	47.78	74	-26.22	peak
2390	/	-5.84	/	54	/	AVG
2400	52.36	-5.84	46.52	74	-27.48	peak
2400	/	-5.84	/	54	/	AVG

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB $\mu$ V)	(dB)	(dB $\mu$ V/m)	(dB $\mu$ V/m)	(dB)	
2310	53.49	-5.81	47.68	74	-26.32	peak
2310	/	-5.81	/	54	/	AVG
2390	52.51	-5.84	46.67	74	-27.33	peak
2390	/	-5.84	/	54	/	AVG
2400	53.23	-5.84	47.39	74	-26.61	peak
2400	/	-5.84	/	54	/	AVG



## Operation Mode: TX CH High (2480MHz)

Horizontal (Worst case)

Frequency (MHz)	Reading Result (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
2483.50	56.62	-5.65	50.97	74	-23.03	peak
2483.50	/	-5.65	/	54	/	AVG
2500.00	53.84	-5.65	48.19	74	-25.81	peak
2500.00	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Vertical:

Frequency (MHz)	Reading Result (dB $\mu$ V)	Factor (dB)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Detector Type
2483.50	54.32	-5.65	48.67	74	-25.33	peak
2483.50	/	-5.65	/	54	/	AVG
2500.00	52.63	-5.65	46.98	74	-27.02	peak
2500.00	/	-5.65	/	54	/	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.



## 6 OCCUPIED BANDWIDTH MEASUREMENT

### 6.1 Test Setup

Same as Radiated Emission Measurement

### 6.2 Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as normal operation.
3. Based on ANSI C63.10 section 6.9.2: RBW= 100KHz, VBW= 300KHz, Span=10MHz.
4. The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector.

### 6.3 Measurement Equipment Used

Same as Radiated Emission Measurement

### 6.4 Test Result

Antenna 1

**PASS**

Frequency	20dB Bandwidth (MHz)	Result
2445.3MHz	3.420	<b>PASS</b>

CH: 2445.3MHz





Antenna 2

**PASS**

Frequency	20dB Bandwidth (MHz)	Result
2445.3MHz	5.126	<b>PASS</b>

CH: 2445.3MHz



## 7 ANTENNA REQUIREMENT

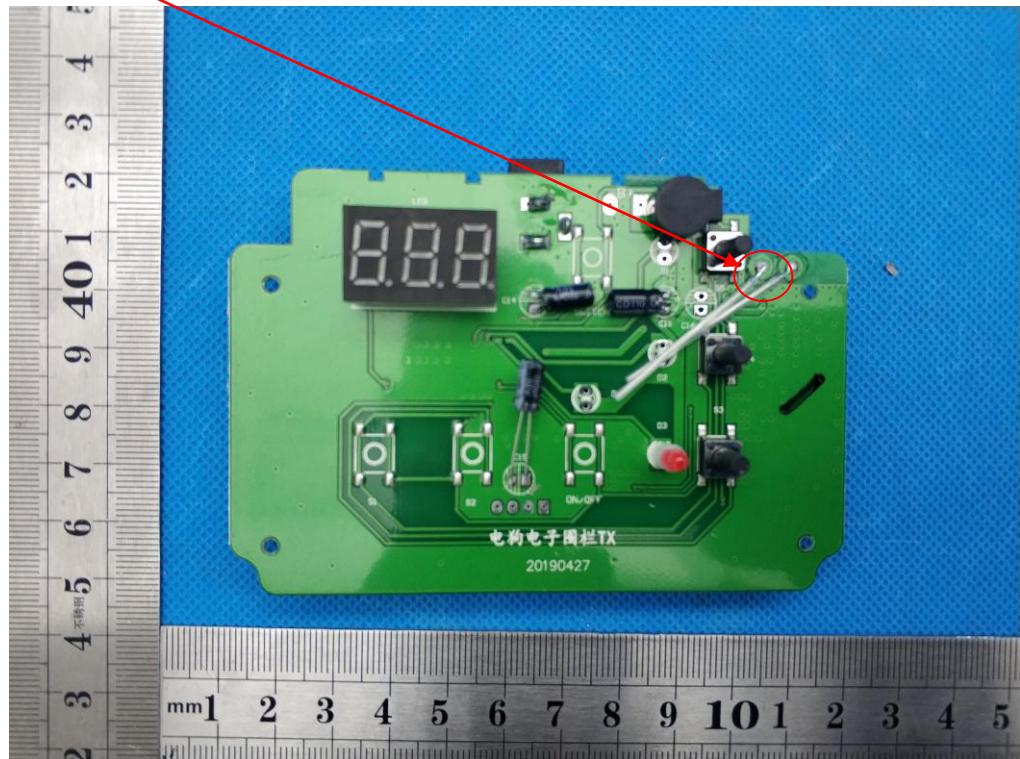
### Standard Applicable

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.249, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### Antenna Connected Construction

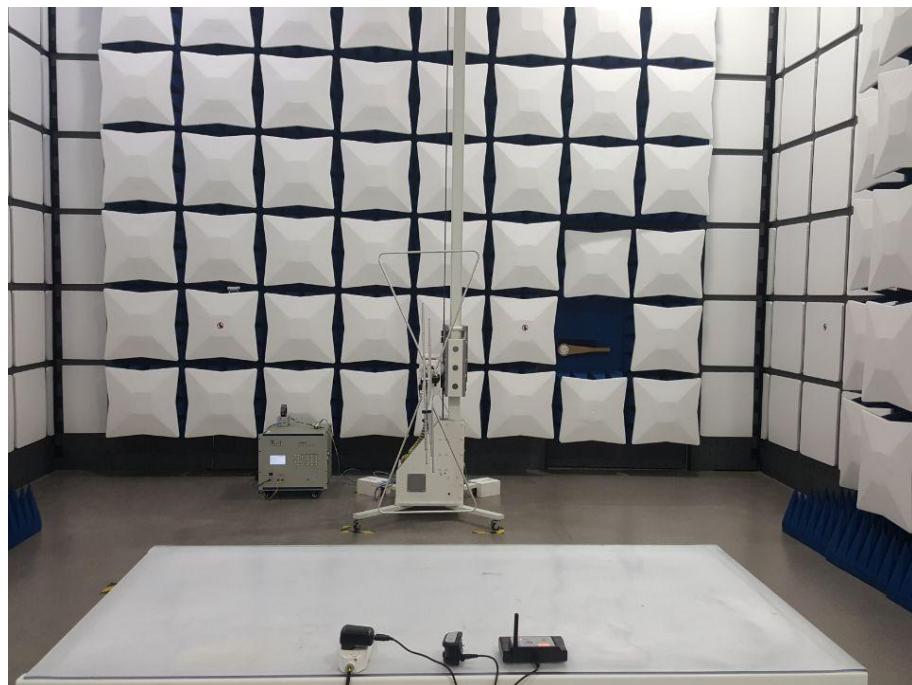
The antenna used in this product is Internal Antenna, the directional gains of antenna used for transmitting is 2dBi.

### ANTENNA



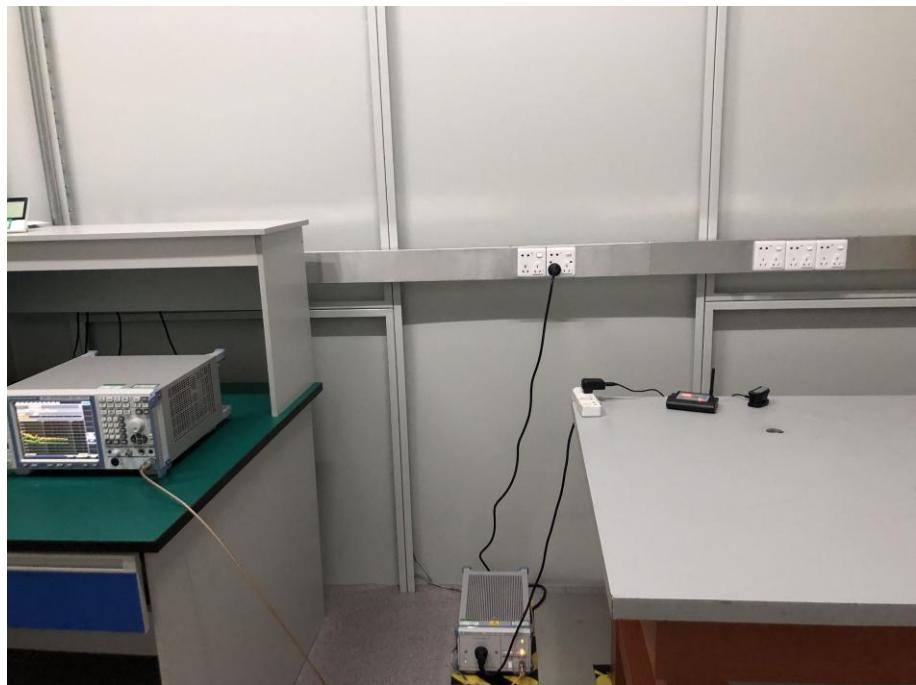
## 8 PHOTOGRAPH OF TEST

Radiated Emission





## Conducted Emission



\*\*\*End of Report\*\*\*