FCC Test Report

Test Report
On Behalf of
Meteca SA
For
MBC-LR
Model No.: MBC-LR01, MBC-LR01-0001

FCC ID: 2ATX7-MBC-LR01

Prepared For:	**Meteca SA** **Via alla Torre 2, 6850 Mendrisio Switzerland**
Prepared By:	**Shenzhen HUAK Testing Technology Co., Ltd.** **1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China**
Date of Test:	**Nov. 03, 2023 ~ Nov. 23, 2023**
Date of Report:	**Nov. 23, 2023**
Report Number:	**HK2311035215-E**

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Test Result Certification

Applicant's Name..... : Meteca SA

Address ..... : Via alla Torre 2, 6850 Mendrisio Switzerland

Manufacture's Name..... : Meteca SA

Address ..... : Via alla Torre 2, 6850 Mendrisio Switzerland

Product Description

Trade Mark..... : MBC-LR01

Product Name..... : MBC-LR

Model and/or Type Reference: MBC-LR01, MBC-LR01-0001

Standards ..... : FCC Rules and Regulations Part 15 Subpart C Section 15.249
ANSI C63.10: 2013

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Date of Test.....:

Date (s) of performance of tests .....: **Nov. 03, 2023 ~ Nov. 23, 2023**

Date of Issue.....: **Nov. 23, 2023**

Test Result .....: **Pass**

Testing Engineer : Gary Qian

(Gary Qian)

Technical Manager : Eden Hu

(Eden Hu)

Authorized Signatory : Jason Zhou

(Jason Zhou)

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Table of Contents Page

1 . Test Summary 6
- 1.1 . Test Procedures and Results 6
- 1.2 . Information of the Test Laboratory 6
- 1.3 . Measurement Uncertainty 6

2 . General Information 7
- 2.1 . General Description of EUT 7
- 2.2. Carrier Frequency of Channels 8
- 2.3. Operation of EUT during Testing 8
- 2.4. Description of Test Setup 9
- 2.5. Description of Support Units 10
- 2.6. Measurement Instruments List 11

3 . Conducted Emissions Test 12
- 3.1. Conducted Power Line Emission Limit 12
- 3.2. Test Setup 12
- 3.3. Test Procedure 12
- 3.4. Test Result 13

4. Field Strength of Fundamental 15
- 4.1. Limit 15
- 4.2. Test Procedure 15
- 4.3. Test Result 16

5. Radiated Emission Test 17
- 5.1. Radiation Limit 17
- 5.2. Test Setup 17
- 5.3. Test Procedure 18
- 5.4. Test Result 18

6. Band Edge 24
- 6.1. Limits 24
- 6.2. Test Procedure 24
- 6.3. Test Result 25

7. Occupied Bandwidth Measurement 27
- 7.1. Test Setup 27
- 7.2. Test Procedure 27
- 7.3. Measurement Equipment Used 27
- 7.4. Test Result 27

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Table of Contents **Page**

8. Antenna Requirement 29
9. Photographs of Test 30
10. Photos of the EUT 32

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** Modified History **

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	Nov. 23, 2023	Jason Zhou

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Add: 1-2F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

1. Test Summary

1.1. Test Procedures and Results

DESCRIPTION OF TEST	SECTION NUMBER	RESULT
CONDUCTED EMISSIONS TEST	15.207	COMPLIANT
RADIATED EMISSION TEST	15.249(a)/15.209	COMPLIANT
BAND EDGE	15.249(d)/15.205	COMPLIANT
OCCUPIED BANDWIDTH MEASUREMENT	15.215(c)	COMPLIANT
ANTENNA REQUIREMENT	15.203	COMPLIANT
FIELD STRENGTH OF FUNDAMENTAL	15.249(a)	COMPLIANT

1.2. Information of the Test Laboratory

Shenzhen HUAK Testing Technology Co., Ltd.
Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Testing Laboratory Authorization：

A2LA Accreditation Code is 4781.01.
FCC Designation Number is CN1229.
Canada IC CAB identifier is CN0045.
CNAS Registration Number is L9589.

1.3. Measurement Uncertainty

Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.71dB, k=2
Radiated emission expanded uncertainty(9kHz-30MHz)	=	3.90dB, k=2
Radiated emission expanded uncertainty(30MHz-1000MHz)	=	3.90dB, k=2
Radiated emission expanded uncertainty(Above 1GHz)	=	4.28dB, k=2

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2. General Information

2.1. General Description of EUT

Equipment:	MBC-LR
Model Name:	MBC-LR01
Series Model:	MBC-LR01-0001
Model Difference:	All model's the function, software and electric circuit are the same, only with product model named different. Test sample model: MBC-LR01.
Trade Mark:	MBC-LR01
FCC ID:	2ATX7-MBC-LR01
Antenna Type:	ISM Antenna
Antenna Gain:	-0.3dBi
Operation frequency:	903-927MHz
Number of Channels:	3CH
Modulation Type:	OOK
Power Source:	DC3.3V
Power Rating:	DC3.3V

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2.2. Carrier Frequency of Channels

Description of Channel:					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	903	02	915	03	927

2.3. Operation of EUT during Testing

Operating Mode
The mode is used: **Transmitting mode**
Low Channel: 903MHz
Middle Channel: 915MHz
High Channel: 927MHz

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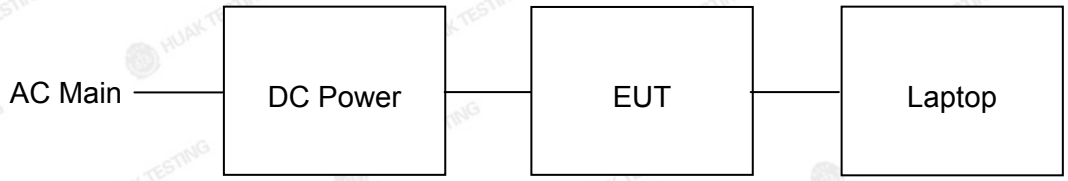
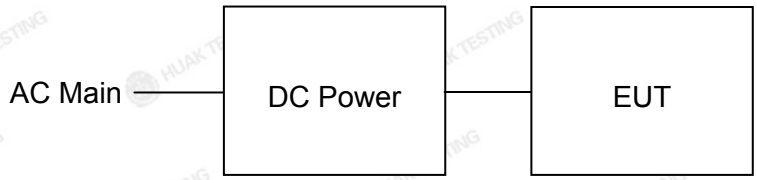
2.4. Description of Test Setup

Operation of EUT during Conducted and Radiation below 1GHz testing:



Operation of EUT during Above1GHz Radiation testing:



The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. The worst case is X position.

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2.5. Description of Support Units

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	Trade Mark	Model/Type No.	Specification	Remark
1	MBC-LR	MBC-LR01	MBC-LR01	N/A	EUT
2	Laptop	Lenovo	TP00096A	Input: DC 20V, 2.25~3.25A Output: 5VDC, 0.5A	Peripheral

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

3. For conducted measurements (Occupied Bandwidth), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

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2.6. 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	Feb. 17, 2023	1 Year
2.	Receiver	R&S	ESR-7	HKE-010	Feb. 17, 2023	1 Year
3.	RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 17, 2023	1 Year
4.	Spectrum analyzer	R&S	FSP40	HKE-025	Feb. 17, 2023	1 Year
5.	Spectrum analyzer	Agilent	N9020A	HKE-048	Feb. 17, 2023	1 Year
6.	Preamplifier	Schwarzbeck	BBV 9743	HKE-006	Feb. 17, 2023	1 Year
7.	EMI Test Receiver	Rohde & Schwarz	ESR-7	HKE-010	Feb. 17, 2023	1 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	HKE-012	Feb. 17, 2023	1 Year
9.	Loop Antenna	Schwarzbeck	FMZB 1519 B	HKE-014	Feb. 17, 2023	1 Year
10.	Horn Antenna	Schewarzbeck	9120D	HKE-013	Feb. 17, 2023	1 Year
11.	Pre-amplifier	EMCI	EMC051845SE	HKE-015	Feb. 17, 2023	1 Year
12.	Pre-amplifier	Agilent	83051A	HKE-016	Feb. 17, 2023	1 Year
13.	EMI Test Software EZ-EMC	Tonscend	JY3120-B Version	HKE-083	N/A	N/A
14.	Power Sensor	Agilent	E9300A	HKE-086	Feb. 17, 2023	1 Year
15.	Spectrum analyzer	Agilent	N9020A	HKE-048	Feb. 17, 2023	1 Year
16.	Signal generator	Agilent	N5182A	HKE-029	Feb. 17, 2023	1 Year
17.	Signal Generator	Agilent	83630A	HKE-028	Feb. 17, 2023	1 Year
18.	Shielded room	Shiel Hong	4*3*3	HKE-039	Dec. 09, 2021	3 Year
19.	Hight gain antenna	Schwarzbeck	LB-180400KF	HKE-054	Feb. 17, 2023	1 Year
20.	10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	Feb. 17, 2023	1 Year

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3. Conducted Emissions Test

3.1. Conducted Power Line Emission Limit

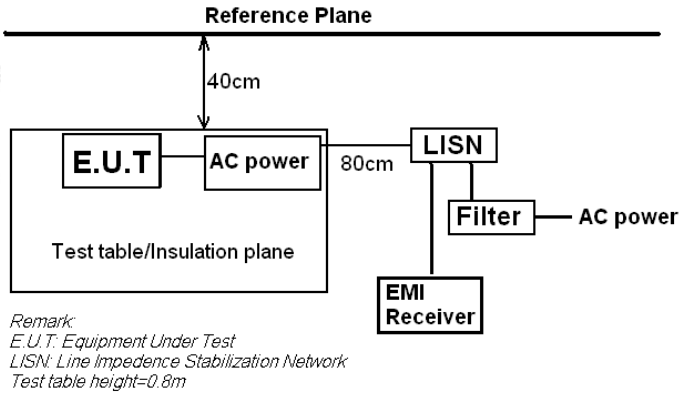
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following.

Frequency (MHz)	Maximum RF Line Voltage (dBμV)			
	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.

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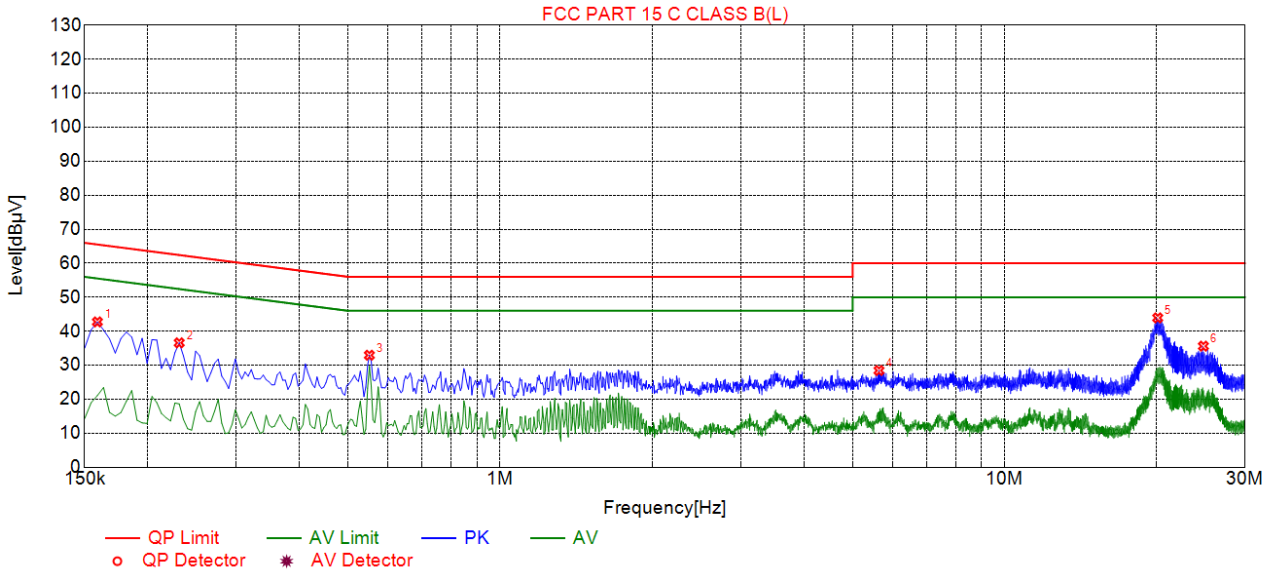
3.4. Test Result

PASS

All the test modes completed for test. Only the worst result of Low channel was reported as below:

Test Specification: Line



Suspected List								
NO.	Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµV]	Detector	Type
1	0.1590	42.74	20.01	65.52	22.78	22.73	PK	L
2	0.2310	36.59	20.03	62.41	25.82	16.56	PK	L
3	0.5505	32.95	20.06	56.00	23.05	12.89	PK	L
4	5.6400	28.44	20.25	60.00	31.56	8.19	PK	L
5	20.1345	43.93	20.11	60.00	16.07	23.82	PK	L
6	24.8055	35.61	20.24	60.00	24.39	15.37	PK	L

Remark: Margin = Limit – Level

Correction factor = Cable lose + LISN insertion loss

Level=Test receiver reading + correction factor

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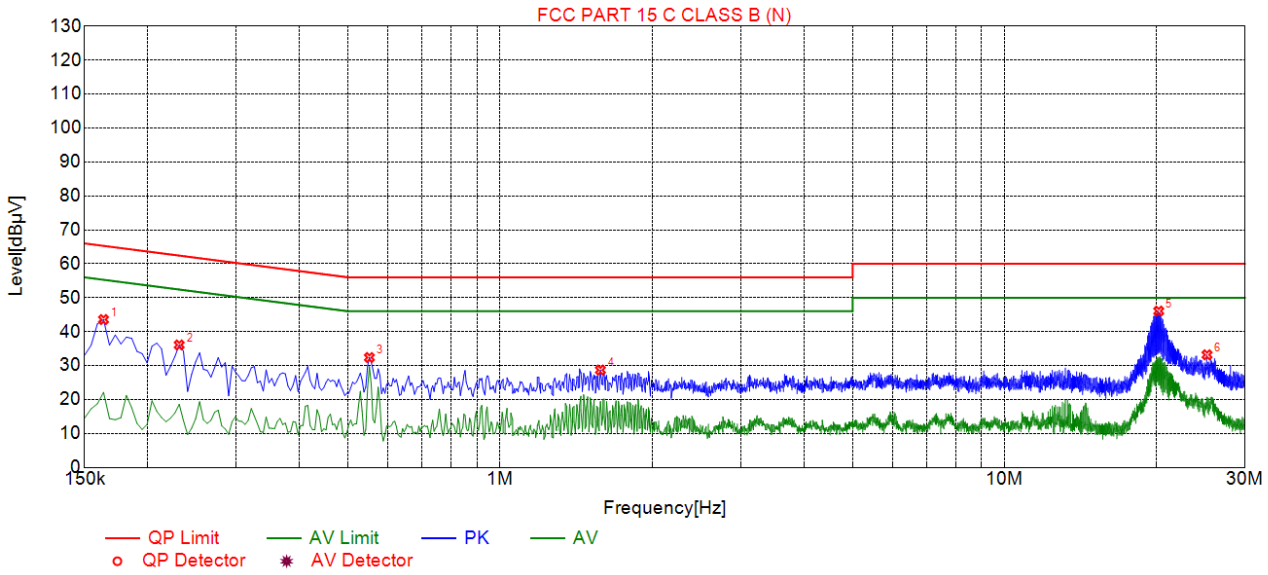
Test Specification: Neutral



Suspected List								
NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.1635	43.57	19.98	65.28	21.71	23.59	PK	N
2	0.2310	36.09	20.03	62.41	26.32	16.06	PK	N
3	0.5505	32.39	20.06	56.00	23.61	12.33	PK	N
4	1.5810	28.69	20.11	56.00	27.31	8.58	PK	N
5	20.2290	46.07	20.11	60.00	13.93	25.96	PK	N
6	25.2240	33.18	20.25	60.00	26.82	12.93	PK	N

Remark: Margin = Limit – Level

Correction factor = Cable lose + LISN insertion loss

Level=Test receiver reading + correction factor

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4. Field Strength of Fundamental

4.1. Limit

FCC§15.249(a);
The field strength of fundamental and harmonic emissions, measured at 3 m, shall not exceed 50 mV/m and 0.5 mV/m respectively.

The field strength limits shall be measured using an average detector, except for the fundamental emission in the frequency band 902-928 MHz, which is based on measurements using an International Special Committee on Radio Interference (CISPR) quasi-peak detector

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

4.2. 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.

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4.3. Test Result

Horizontal:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
903.00	94.19	-4.64	89.55	114	-24.45	peak
903.00	82.28	-4.64	77.64	94	-16.36	AVG
915.00	92.74	-4.43	88.31	114	-25.69	peak
915.00	83.96	-4.43	79.53	94	-14.47	AVG
927.00	90.17	-4.25	85.92	114	-28.08	peak
927.00	81.22	-4.25	76.97	94	-17.03	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
903.00	92.09	-4.64	87.45	114	-26.55	peak
903.00	82.83	-4.64	78.19	94	-15.81	AVG
915.00	91.15	-4.43	86.72	114	-27.28	peak
915.00	80.28	-4.43	75.85	94	-18.15	AVG
927.00	91.56	-4.25	87.31	114	-26.69	peak
927.00	80.77	-4.25	76.52	94	-17.48	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier; Level = Reading + Factor; Margin = Level-Limit.						

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5. Radiated Emission Test

5.1. Radiation Limit

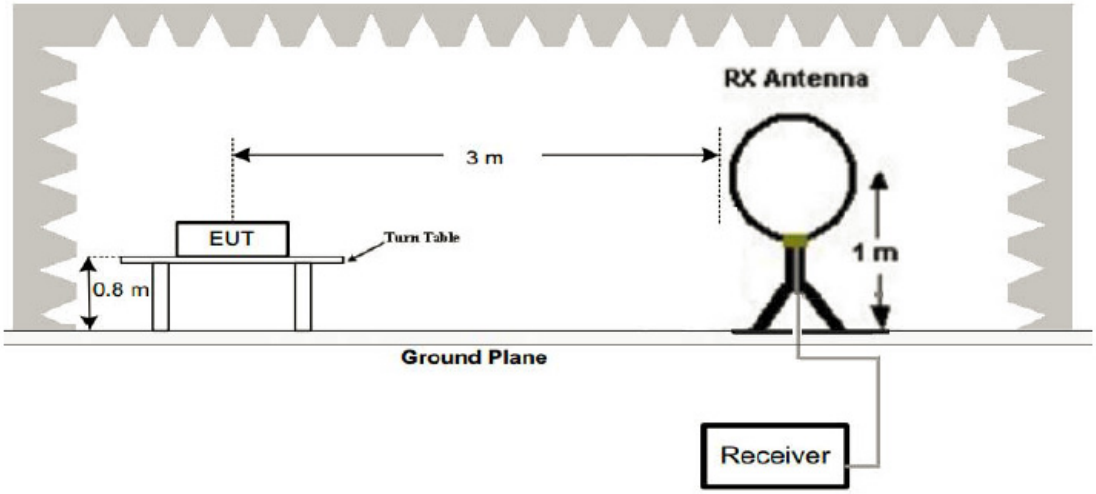
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
0.009-0.490	300	20log 2400/F (kHz)	2400/F (kHz)
0.490-1.705	30	20log 24000/F (kHz)	24000/F (kHz)
1.705-30	30	20log 30	30
30-88	3	40	100
88-216	3	43.5	150
216-960	3	46	200
Above 960	3	54	500

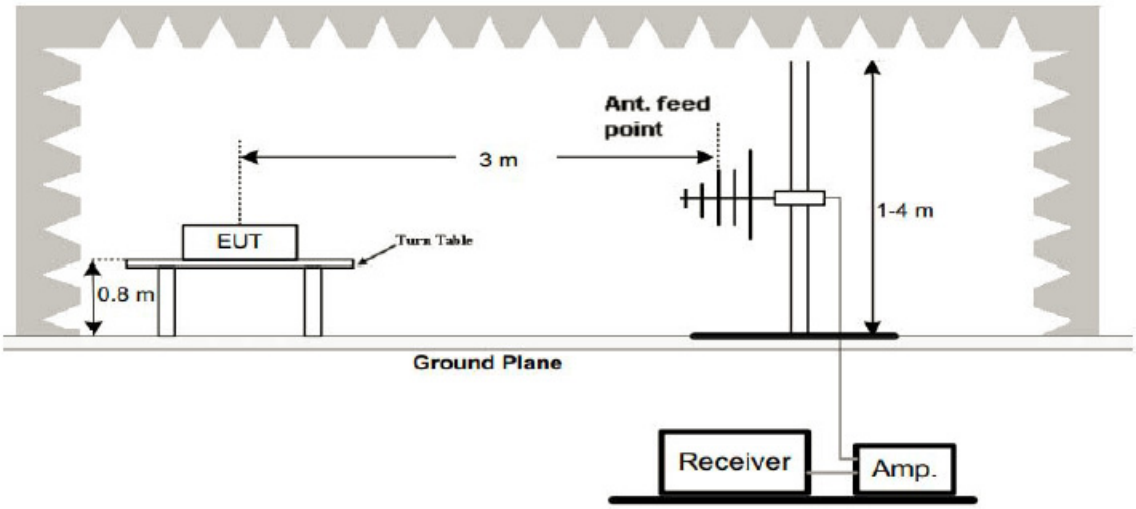
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

5.2. Test Setup

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



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



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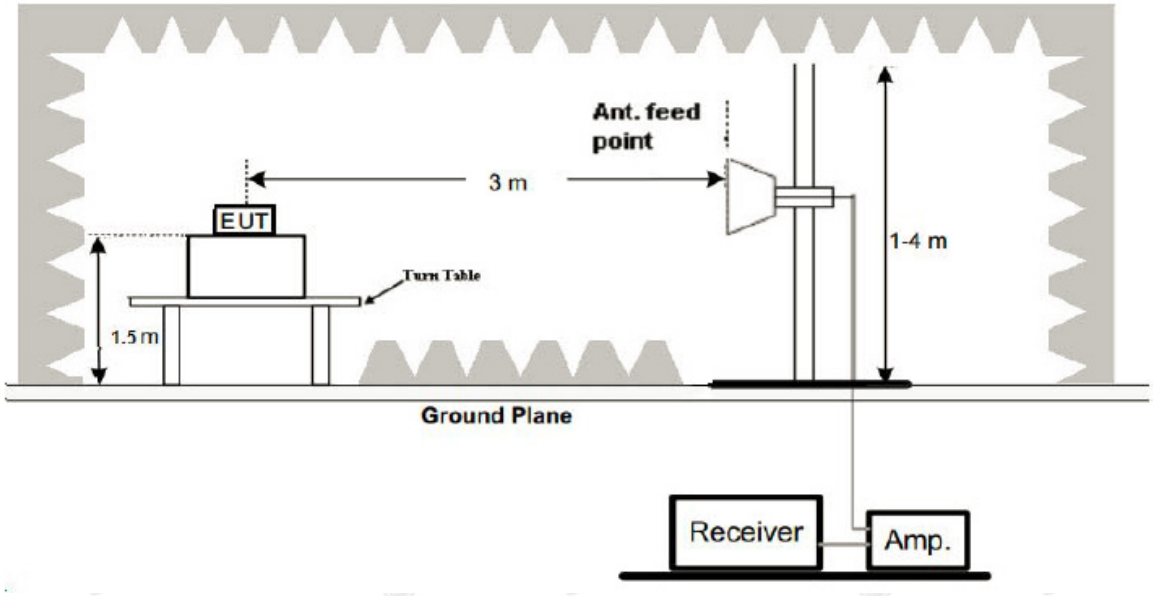
（3）Radiated Emission Test-Up Frequency Above 1GHz



5.3. 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.

5.4. Test Result

PASS
All the test modes completed for test. The worst case of Radiated Emission is Low channel; the test data of this mode was reported.

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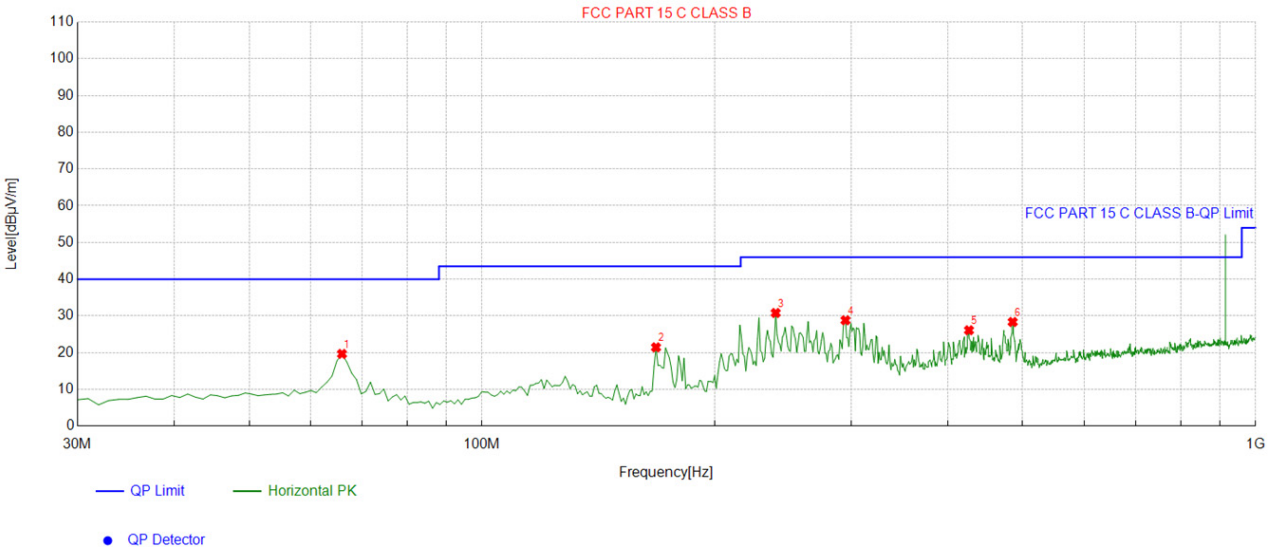
Below 1GHz Test Results:

Antenna polarity: H



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	65.925926	-15.15	34.81	19.66	40.00	20.34	100	22	Horizontal
2	167.87787	-16.99	38.44	21.45	43.50	22.05	100	20	Horizontal
3	239.72973	-13.31	44.11	30.80	46.00	15.20	100	194	Horizontal
4	295.07507	-12.12	40.93	28.81	46.00	17.19	100	166	Horizontal
5	426.15615	-8.51	34.61	26.10	46.00	19.90	100	39	Horizontal
6	485.38538	-7.63	35.98	28.35	46.00	17.65	100	33	Horizontal

Remark: Factor = Cable loss + Antenna factor – Preamplifier; Level = Reading + Factor; Margin = Limit – Level;

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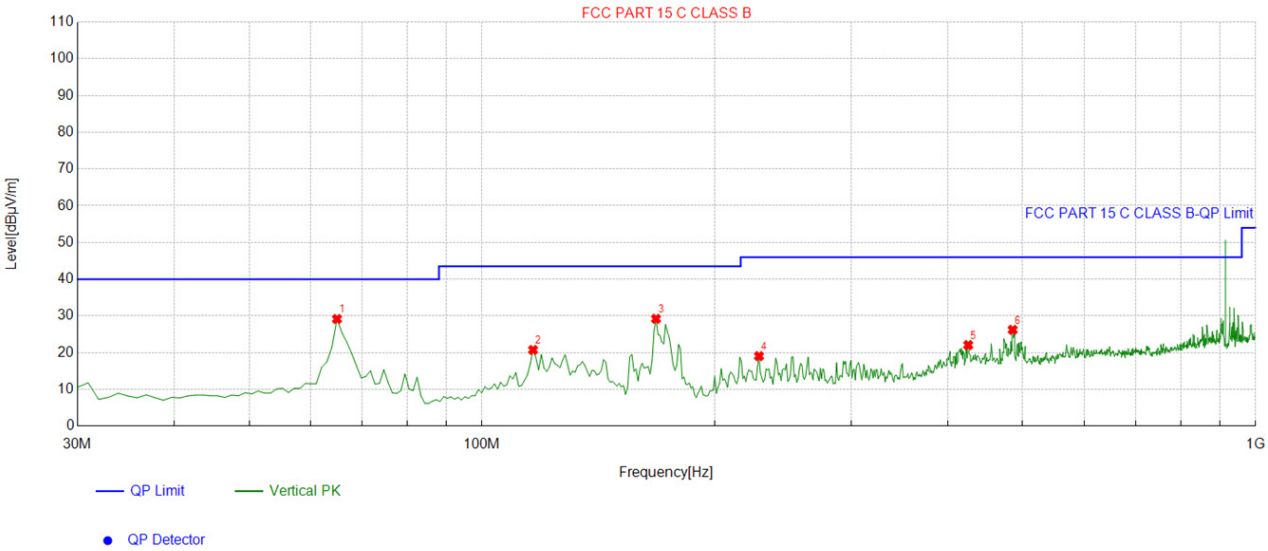
Antenna polarity: V



Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	64.954955	-14.58	43.74	29.16	40.00	10.84	100	162	Vertical
2	116.41641	-15.11	35.86	20.75	43.50	22.75	100	140	Vertical
3	167.87787	-16.99	46.21	29.22	43.50	14.28	100	0	Vertical
4	228.07807	-13.96	33.03	19.07	46.00	26.93	100	148	Vertical
5	425.18518	-8.54	30.61	22.07	46.00	23.93	100	107	Vertical
6	485.38538	-7.63	33.85	26.22	46.00	19.78	100	63	Vertical

Remark: Factor = Cable loss + Antenna factor – Preamplifier; Level = Reading + Factor; Margin = Limit – Level;

Harmonics and Spurious Emissions

Frequency Range (9 kHz-30MHz)

Frequency (MHz)	Level@3m (dBμV/m)	Limit@3m (dBμV/m)
--	--	--
--	--	--
--	--	--
--	--	--

Note: *1. Emission Level=Reading+ Cable loss+ Antenna factor-Amp factor.*

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

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Above 1 GHz Test Results:

CH Low (903MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1806.00	52.15	-3.64	48.51	74	-25.49	peak
1806.00	41.29	-3.64	37.65	54	-16.35	AVG
2709.00	50.34	-0.95	49.39	74	-24.61	peak
2709.00	40.11	-0.95	39.16	54	-14.84	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1806.00	54.26	-3.64	50.62	74	-23.38	peak
1806.00	40.79	-3.64	37.15	54	-16.85	AVG
2709.00	52.39	-0.95	51.44	74	-22.56	peak
2709.00	40.28	-0.95	39.33	54	-14.67	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier; Level = Reading + Factor; Margin = Level-Limit.						

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CH Middle (915MHz)

Horizontal:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
1830.00	52.12	-3.51	48.61	74	-25.39	peak
1830.00	39.34	-3.51	35.83	54	-18.17	AVG
2745.00	50.09	-0.82	49.27	74	-24.73	peak
2745.00	37.58	-0.82	36.76	54	-17.24	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
1830.00	53.16	-3.51	49.65	74	-24.35	peak
1830.00	40.34	-3.51	36.83	54	-17.17	AVG
2745.00	51.58	-0.82	50.76	74	-23.24	peak
2745.00	39.27	-0.82	38.45	54	-15.55	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier; Level = Reading + Factor; Margin = Level-Limit.						

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CH High (927MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1854.00	52.15	-3.43	48.72	74	-25.28	peak
1854.00	42.24	-3.43	38.81	54	-15.19	AVG
2781.00	50.09	-0.75	49.34	74	-24.66	peak
2781.00	40.71	-0.75	39.96	54	-14.04	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
1854.00	54.05	-3.43	50.62	74	-23.38	peak
1854.00	42.24	-3.43	38.81	54	-15.19	AVG
2781.00	53.98	-0.75	53.23	74	-20.77	peak
2781.00	40.11	-0.75	39.36	54	-14.64	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier; Level = Reading + Factor; Margin = Level-Limit.						

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)The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
(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.

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6. Band Edge

6.1. 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.

6.2. 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 100KHz to measure the peak field strength.

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6.3. Test Result

PASS

Radiated Band Edge Test:

Operation Mode: TX CH Low (903MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
902	40.16	-5.81	34.35	46	-11.65	QP
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
902	41.34	-5.81	35.53	46	-10.47	QP
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier; Level = Reading + Factor; Margin = Level-Limit.						

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Operation Mode: TX CH High (927MHz)

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
928	41.29	-5.65	35.64	46	-10.36	QP
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier; Level = Reading + Factor; Margin = Level-Limit.						

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
928	40.82	-5.65	35.17	46	-10.83	QP
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier; Level = Reading + Factor; Margin = Level-Limit.						
Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.						

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7. Occupied Bandwidth Measurement

7.1. Test Setup

Same as Radiated Emission Measurement

7.2. 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=1% to 5% of the OBW, VBW ≥ 3 x RBW.
4. The useful radiated emission from the EUT was detected by the spectrum analyzer with peak detector.

7.3. Measurement Equipment Used

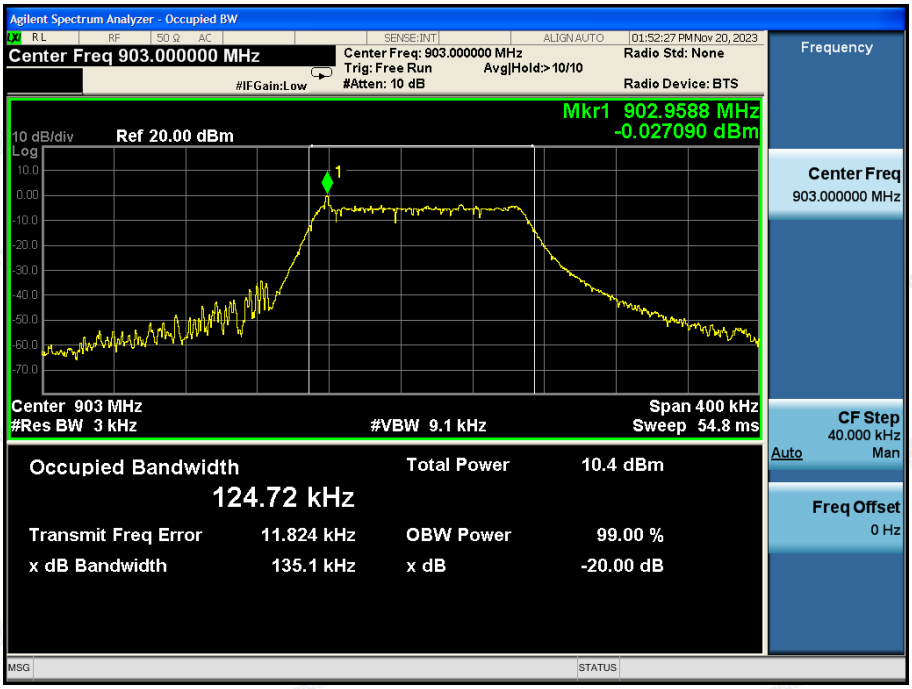
Same as Radiated Emission Measurement

7.4. Test Result

PASS

Frequency	20dB Bandwidth (MHz)	Result
903 MHz	0.1351	**PASS**
915 MHz	0.1402	**PASS**
927 MHz	0.1446	**PASS**

CH Low: 903MHz



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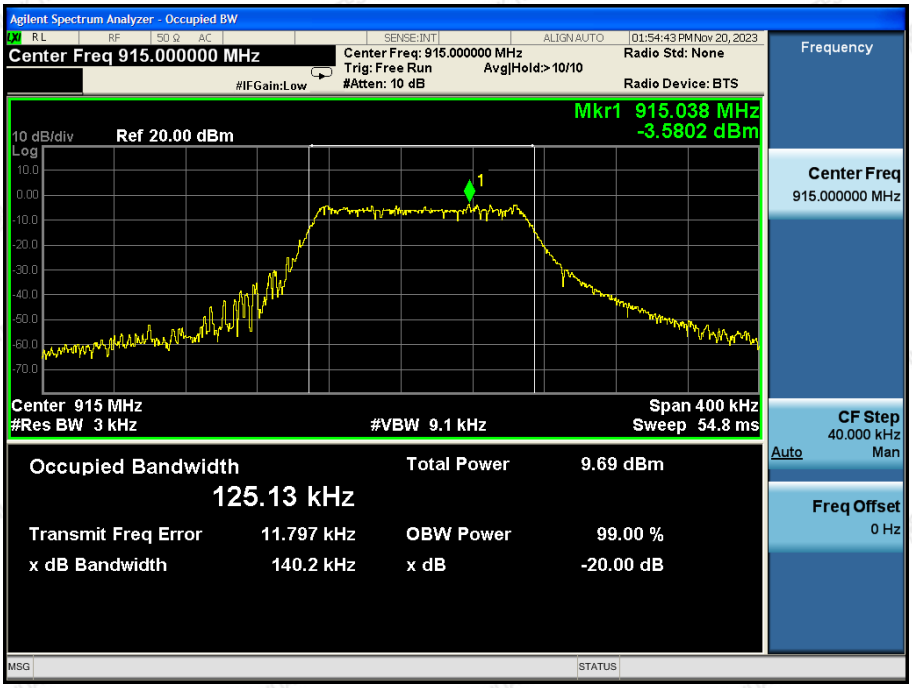
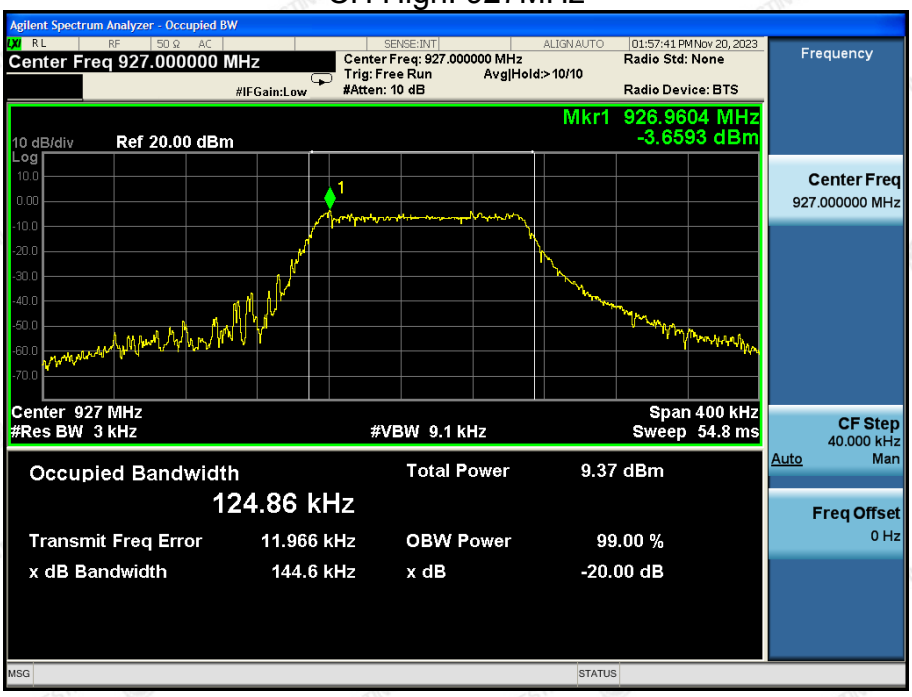
CH Middle: 915MHz



CH High: 927MHz



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8. Antenna Requirement

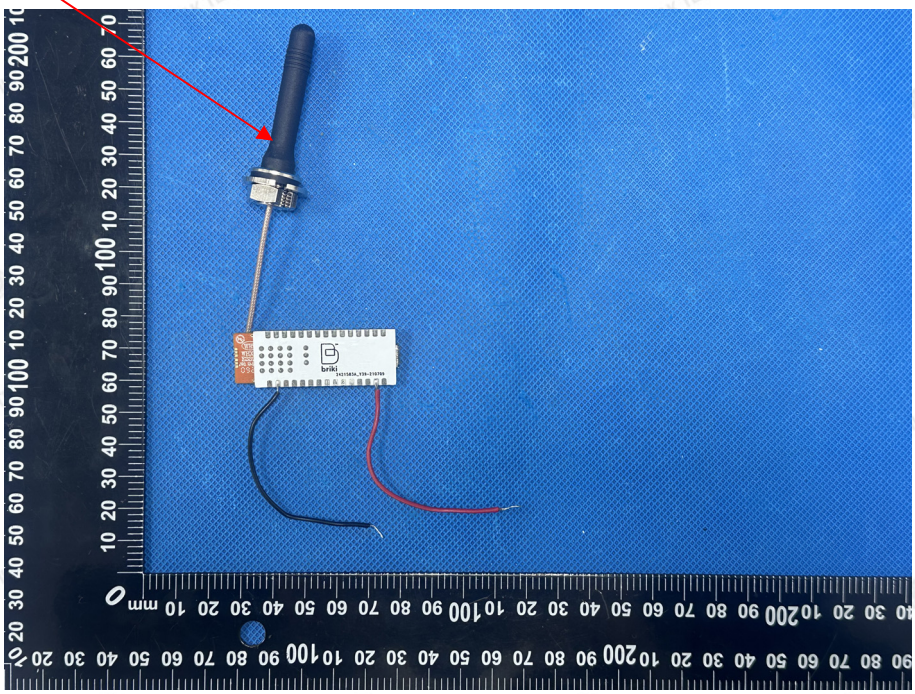
Standard Applicable

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.

Antenna Connected Construction

The antenna used in this product is an ISM Antenna. The directional gains of antenna used for transmitting is -0.3dBi.

ANTENNA



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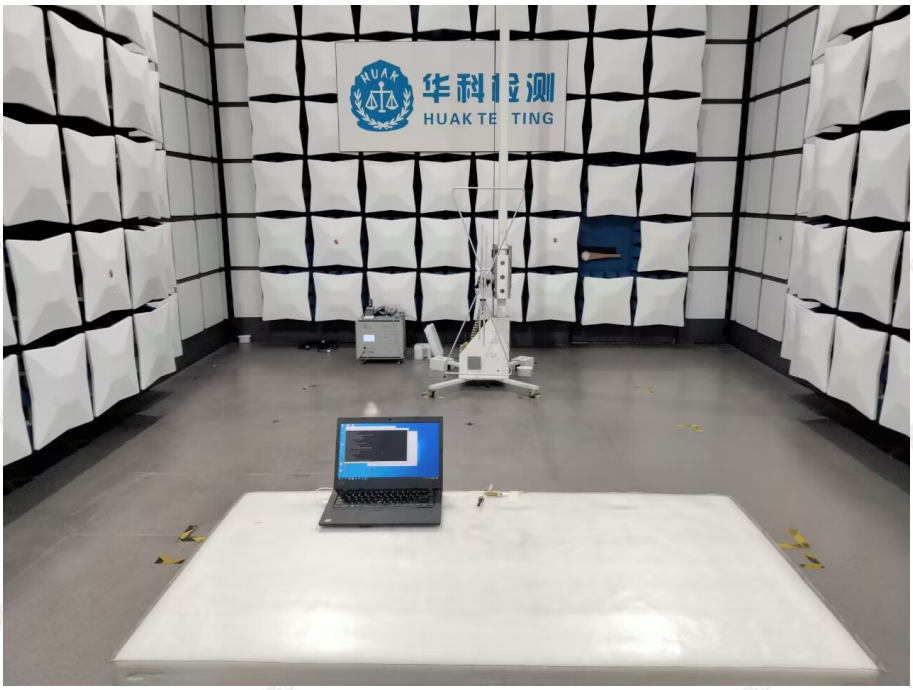
9. Photographs of Test

Radiated Emission



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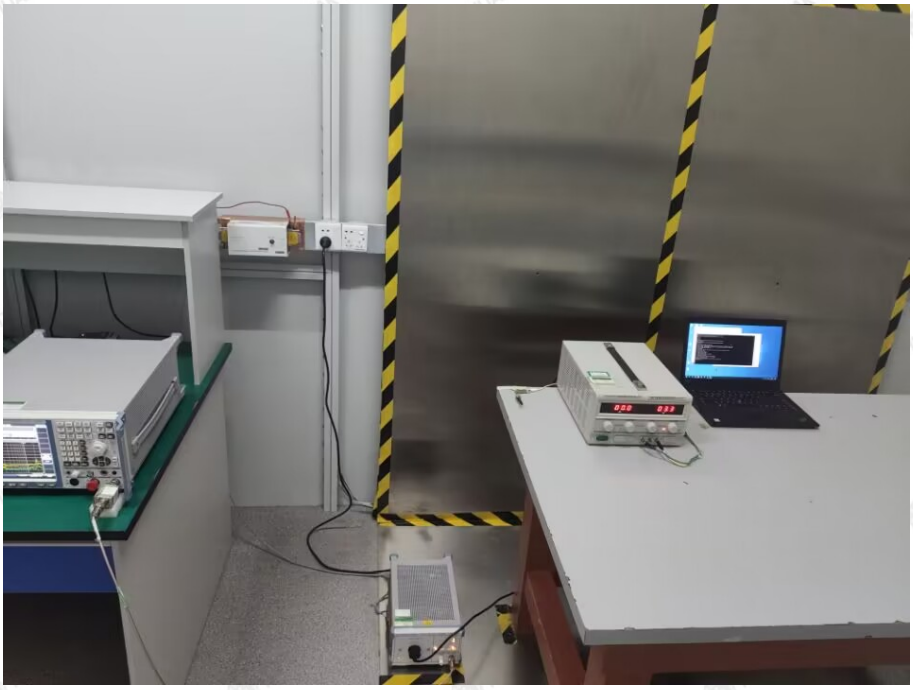
Conducted Emission



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10. Photos of the EUT

Reference to the report: ANNEX A of External Photos and ANNEX B of Internal Photos.

---------End of test report---------

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