



Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

TEST REPORT

FCC PART 15 SUBPART C 15.249

Report Reference No.....: CTA21120700801

FCC ID..... : 2AYZG-HP003

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Eric Wang



Date of issue.....: Dec. 21, 2021

Testing Laboratory Name: Shenzhen CTA Testing Technology Co., Ltd.

Address: Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name: ShenZhen litian technology Co.,Ltd

Address: Rm209, #2 Zonghe Bldg, Bao yun da center, Xixiang St, Bao an District, Shenzhen, China

Test specification

Standard: 47 CFR FCC Part 15 Subpart C 15.249

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Test item description: 5.8GHz Wireless Tv Headphones

Trade Mark: N/A

Manufacturer: ShenZhen litian technology Co.,Ltd

Model/Type reference.....: HP003

List Model: N/A

Ratings: 5V---500mA

Result.....: **PASS**

Shenzhen CTA Testing Technology Co., Ltd.

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TEST REPORT

Equipment under Test : 5.8GHz Wireless Tv Headphones

Model /Type : HP003

Listed Models : N/A

Applicant : **ShenZhen litian technology Co.,Ltd**

Address : Rm209, #2 Zonghe Bldg, Bao yun da center, Xixiang St, Bao an District, Shenzhen, China

Manufacturer : **ShenZhen litian technology Co.,Ltd**

Address : Rm209, #2 Zonghe Bldg, Bao yun da center, Xixiang St, Bao an District, Shenzhen, China

Test Result:	PASS
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Contents

1	<u>TEST STANDARDS</u>	4
2	<u>SUMMARY</u>	5
2.1	General Remarks	5
2.2	Product Description	5
2.3	Equipment Under Test	5
2.4	Short description of the Equipment under Test (EUT)	5
2.5	EUT operation mode	6
2.6	Block Diagram of Test Setup	6
2.7	Special Accessories	6
2.8	Related Submittal(s) / Grant (s)	6
2.9	Modifications	6
3	<u>TEST ENVIRONMENT</u>	7
3.1	Address of the test laboratory	7
3.2	Test Facility	7
3.3	Environmental conditions	7
3.4	Summary of measurement results	8
3.5	Statement of the measurement uncertainty	8
3.6	Equipments Used during the Test	8
4	<u>TEST CONDITIONS AND RESULTS</u>	10
4.1	AC Power Conducted Emission	10
4.2	Radiated Emission	13
4.3	Occupied Bandwidth Measurement	21
4.4	Antenna Requirement	23
5	<u>TEST SETUP PHOTOS OF THE EUT</u>	24
6	<u>PHOTOS OF THE EUT</u>	25

1 TEST STANDARDS

The tests were performed according to following standards:

[FCC Rules Part 15.249](#): Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, 5725 - 5875 MHz, and 24.0 - 24.25 GHz.

[ANSI C63.10-2013](#): American National Standard for Testing Unlicensed Wireless Devices

2 SUMMARY

2.1 General Remarks

Date of receipt of test sample	:	Dec. 07, 2021
Testing commenced on	:	Dec. 08, 2021
Testing concluded on	:	Dec. 20, 2021

2.2 Product Description

Product Name:	5.8GHz Wireless Tv Headphones
Model/Type reference:	HP003
Power supply:	DC 5V from adapter
Adapter information:	Model:XSD-0500500NUSD Input:100-240V~ 50/60Hz 0.5A Max. Output:5V---500mA
Hardware Version:	MZ-305_TX V1.1
Software Version:	V1.0
Testing sample ID:	CTA211207008-1# (Engineer sample) CTA211207008-2# (Normal sample)
5.8GHz wireless	
Modulation:	GFSK
Operation frequency:	5729MHz to 5849MHz
Channel number:	31
Channel separation:	4 MHz
Antenna type:	PCB antenna
Antenna gain:	0dBi

Note:Antenna gain is provide by the manufacturer.

2.3 Equipment Under Test

Power supply system utilised

Power supply voltage	:	<input type="radio"/> 230V / 50 Hz	<input type="radio"/> 120V / 60Hz
		<input type="radio"/> 12 V DC	<input type="radio"/> 24 V DC
		<input checked="" type="radio"/> Other (specified in blank below)	

DC 5V from adapter

2.4 Short description of the Equipment under Test (EUT)

This is a 5.8GHz Wireless Tv Headphones.

For more details, refer to the user's manual of the EUT.

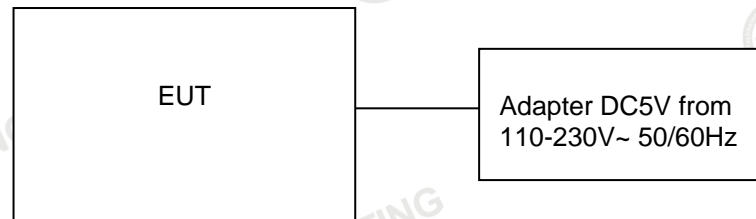
2.5 EUT operation mode

The Applicant provides communication tools software(CMD command) to control the EUT for staying in continuous transmitting (Duty Cycle more than 98%) and receiving mode for testing . There are 31 channels provided to the EUT and Channel 01/15/31 were selected to test.

Operation Frequency:

Channel	Frequency (MHz)
01	5729
02	5733
03	5737
⋮	⋮
15	5785
⋮	⋮
29	5841
30	5845
31	5849

2.6 Block Diagram of Test Setup



2.7 Special Accessories

Follow auxiliary equipment(s) test with EUT that provided by the manufacturer or laboratory is listed as follow:

Description	Manufacturer	Model	Technical Parameters	Certificate	Provided by
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/
/	/	/	/	/	/

2.8 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for the device filing to comply with Section 15.249 of the FCC Part 15, Subpart C Rules.

2.9 Modifications

No modifications were implemented to meet testing criteria.

3 TEST ENVIRONMENT

3.1 Address of the test laboratory

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 517856 Designation Number: CN1318

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6534.01

Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

3.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Radiated Emission:

Temperature:	24 ° C
Humidity:	46 %
Atmospheric pressure:	950-1050mbar

AC Power Conducted Emission:

Temperature:	25 ° C
Humidity:	47 %
Atmospheric pressure:	950-1050mbar

Conducted testing:

Temperature:	24 ° C
Humidity:	46 %
Atmospheric pressure:	950-1050mbar

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3.4 Summary of measurement results

FCC PART 15.249		
FCC Part 15.249(a)	Field Strength of Fundamental	PASS
FCC Part 15.209	Spurious Emission	PASS
FCC Part 15.215(c)	20dB bandwidth	PASS
FCC Part 15.207	Conducted Emission	PASS
FCC Part 15.203	Antenna Requirement	PASS

Remark:

1. The measurement uncertainty is not included in the test result.
2. NA = Not Applicable; NP = Not Performed

3.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd. :

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.06 dB	(1)
Radiated Emission	1~18GHz	5.14 dB	(1)
Radiated Emission	18-40GHz	5.38 dB	(1)
Conducted Disturbance	0.15~30MHz	2.14 dB	(1)

- (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.6 Equipments Used during the Test

Test Equipment	Manufacturer	Model No.	Equipment No.	Calibration Date	Calibration Due Date
LISN	R&S	ENV216	CTA-308	2021/08/06	2022/08/05
LISN	R&S	ENV216	CTA-314	2021/08/06	2022/08/05
EMI Test Receiver	R&S	ESPI	CTA-307	2021/08/06	2022/08/05
EMI Test Receiver	R&S	ESCI	CTA-306	2021/08/06	2022/08/05
Spectrum Analyzer	Agilent	N9020A	CTA-301	2021/08/06	2022/08/05
Spectrum Analyzer	R&S	FSP	CTA-337	2021/08/06	2022/08/05
Vector Signal generator	Agilent	N5182A	CTA-305	2021/08/06	2022/08/05
Analog Signal Generator	R&S	SML03	CTA-304	2021/08/06	2022/08/05
Universal Radio Communication	CMW500	R&S	CTA-302	2021/08/06	2022/08/05
Temperature and humidity meter	Chigo	ZG-7020	CTA-326	2021/08/06	2022/08/05
Ultra-Broadband Antenna	Schwarzbeck	VULB9163	CTA-310	2021/08/07	2022/08/06
Horn Antenna	Schwarzbeck	BBHA 9120D	CTA-309	2021/08/07	2022/08/06

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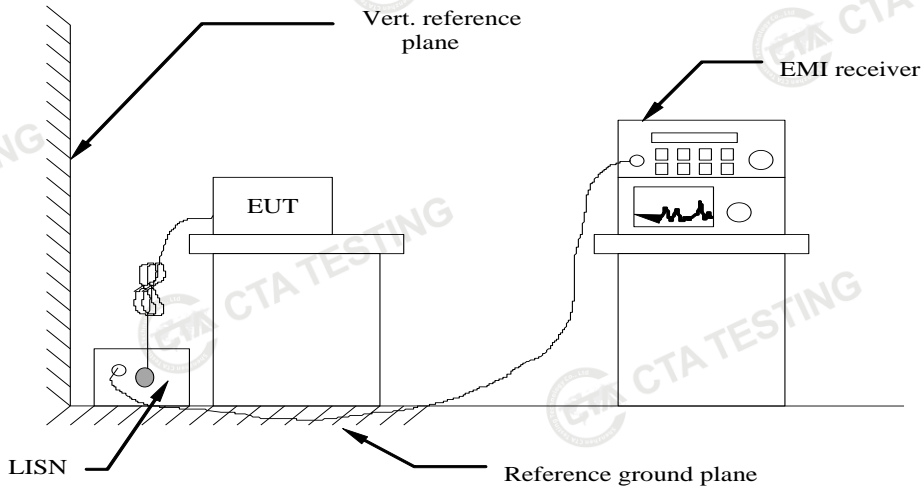
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Loop Antenna	Zhinan	ZN30900C	CTA-311	2021/08/07	2022/08/06
Horn Antenna	Beijing Hangwei Dayang	OBH100400	CTA-336	2021/08/06	2022/08/05
Amplifier	Schwarzbeck	BBV 9745	CTA-312	2021/08/06	2022/08/05
Amplifier	Taiwan chengyi	EMC051845B	CTA-313	2021/08/06	2022/08/05
Directional coupler	NARDA	4226-10	CTA-303	2021/08/06	2022/08/05
High-Pass Filter	XingBo	XBLBQ-GTA18	CTA-402	2021/08/06	2022/08/05
High-Pass Filter	XingBo	XBLBQ-GTA27	CTA-403	2021/08/06	2022/08/05
Automated filter bank	Tonscend	JS0806-F	CTA-404	2021/08/06	2022/08/05
Power Sensor	Agilent	U2021XA	CTA-405	2021/08/06	2022/08/05
Amplifier	Schwarzbeck	BBV9719	CTA-406	2021/08/06	2022/08/05

4 TEST CONDITIONS AND RESULTS

4.1 AC Power Conducted Emission

TEST CONFIGURATION



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 tablet system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2013.
- 2 Support equipment, if needed, was placed as per ANSI C63.10-2013
- 3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2013
- 4 The EUT received power from adapter, the adapter received AC120V/60Hz and AC 240V/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.
- 8 During the above scans, the emissions were maximized by cable manipulation.

AC Power Conducted Emission Limit

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following :

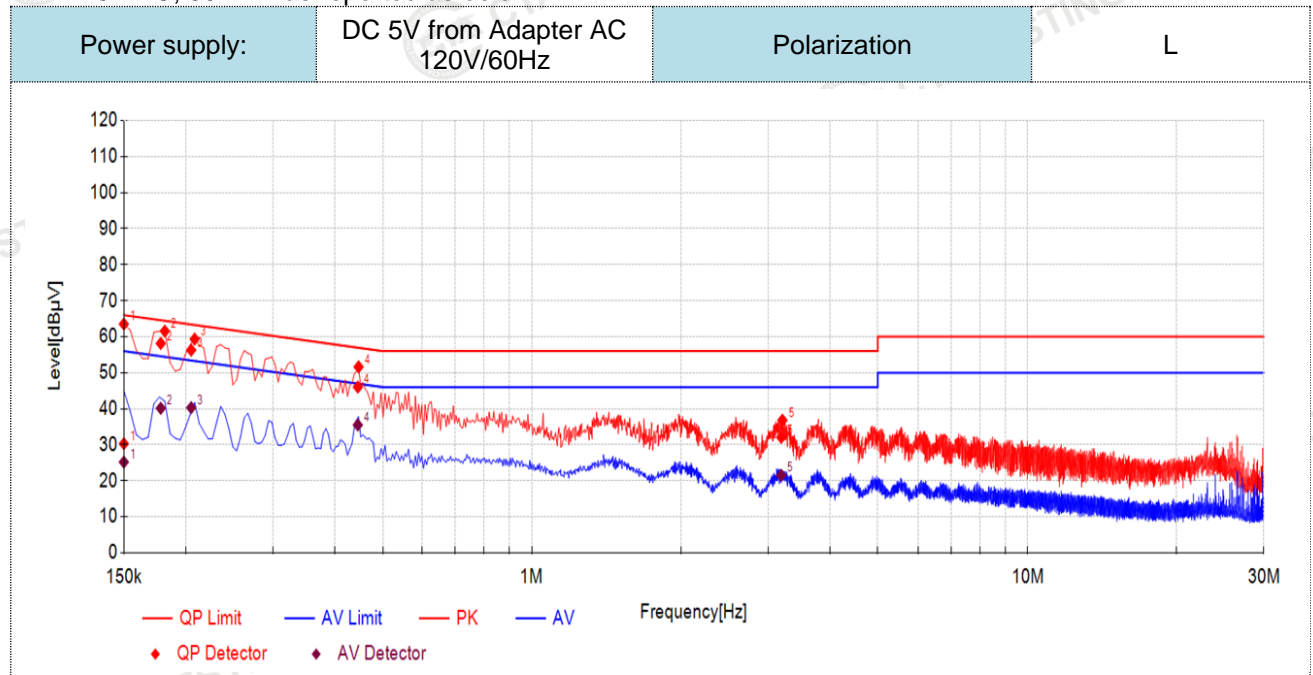
Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST RESULTS

Remark:

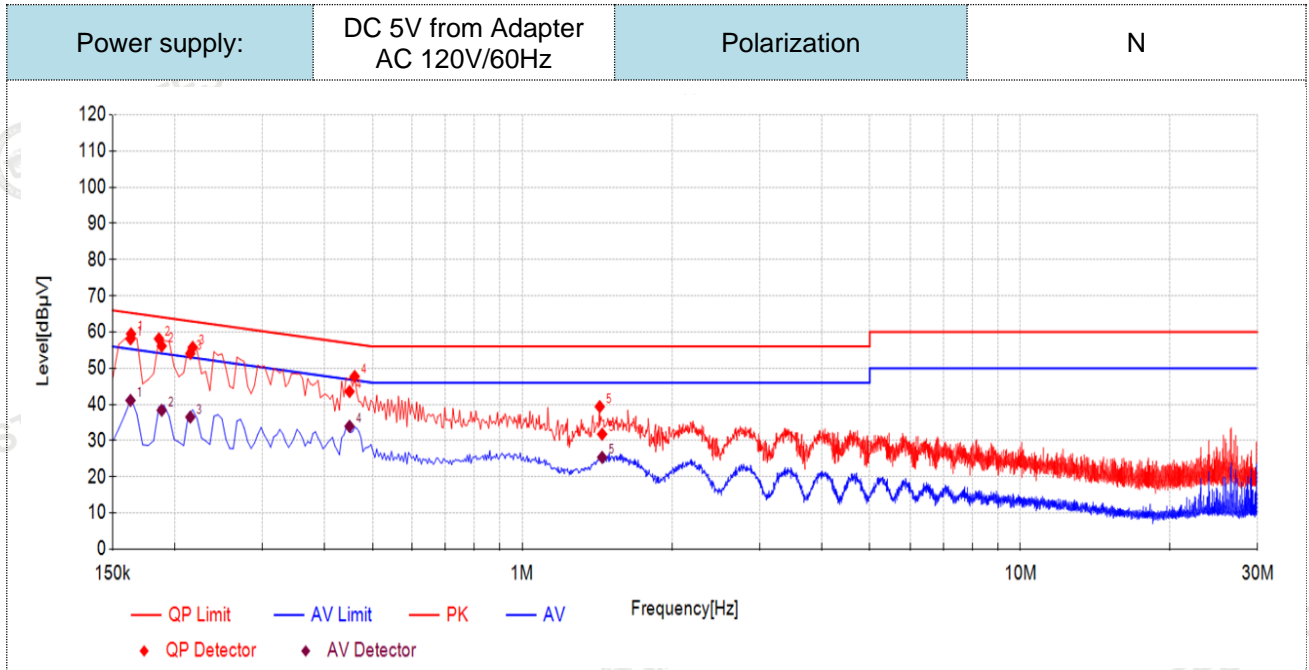
- Both RF path were tested at low/middle/high channel transmitting separately, recorded the worst result at RF Path A transmitting with low channel.
- Both 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz power supply have been tested, only the worst result of 120 VAC, 60 Hz was reported as below:



Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading[dBµV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.1500	10.50	19.79	30.29	66.00	35.71	14.70	25.20	56.00	30.80	PASS
2	0.1781	10.50	47.65	58.15	64.58	6.43	29.64	40.14	54.58	14.44	PASS
3	0.2052	10.50	45.78	56.28	63.40	7.12	29.80	40.30	53.40	13.10	PASS
4	0.4454	10.50	35.54	46.04	56.96	10.92	25.00	35.50	46.96	11.46	PASS
5	3.1917	10.50	21.57	32.07	56.00	23.93	11.04	21.54	46.00	24.46	PASS

- Note:1). QP Value (dBµV)= QP Reading (dBµV)+ Factor (dB)
 2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)
 3). QPMargin(dB) = QP Limit (dBµV) - QP Value (dBµV)
 4). AVMargin(dB) = AV Limit (dBµV) - AV Value (dBµV)



Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Reading[dB µV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.1631	10.50	47.61	58.11	65.31	7.20	30.61	41.11	55.31	14.20	PASS
2	0.1884	10.50	45.64	56.14	64.11	7.97	27.88	38.38	54.11	15.73	PASS
3	0.2151	10.50	43.59	54.09	63.01	8.92	26.01	36.51	53.01	16.50	PASS
4	0.4496	10.50	33.07	43.57	56.88	13.31	23.45	33.95	46.88	12.93	PASS
5	1.4485	10.50	21.29	31.79	56.00	24.21	14.87	25.37	46.00	20.63	PASS

- Note:1). QP Value (dBµV)= QP Reading (dBµV)+ Factor (dB)
 2). Factor (dB)=insertion loss of LISN (dB) + Cable loss (dB)
 3). QPMargin(dB) = QP Limit (dBµV) - QP Value (dBµV)
 4). AVMargin(dB) = AV Limit (dBµV) - AV Value (dBµV)

4.2 Radiated Emission

Limit

According 15.249, the field strength of emissions from intentional radiators operated within 5725-5875 MHz shall not exceed 94dB μ V/m (50mV/m):

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.

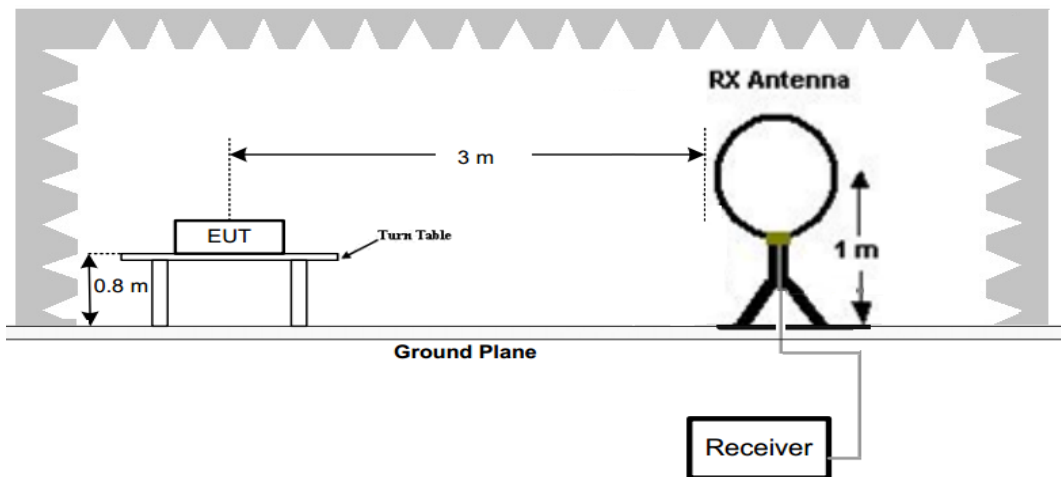
In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a)

Radiated emission limits

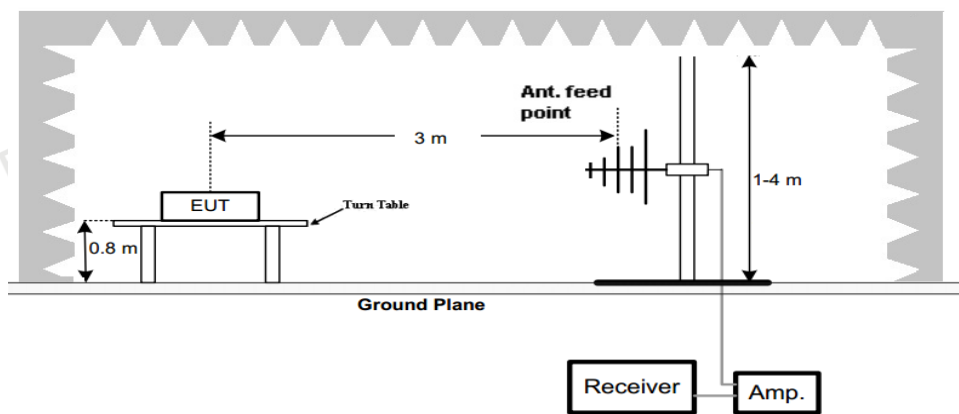
Frequency (MHz)	Distance (Meters)	Radiated (dB μ V/m)	Radiated (μ V/m)
0.009-0.49	3	$20\log(2400/F(\text{KHz}))+40\log(300/3)$	$2400/F(\text{KHz})$
0.49-1.705	3	$20\log(24000/F(\text{KHz}))+40\log(30/3)$	$24000/F(\text{KHz})$
1.705-30	3	$20\log(30)+40\log(30/3)$	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

TEST CONFIGURATION

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



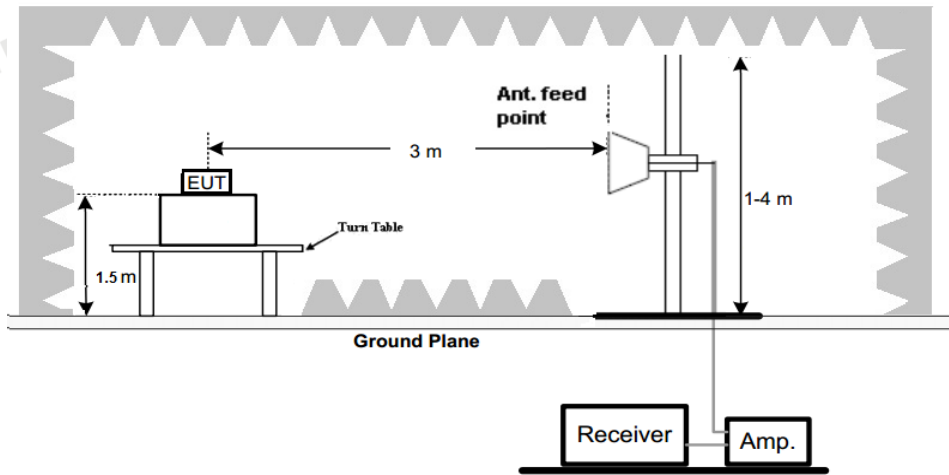
(B) Radiated Emission Test Set-Up, Frequency below 1000MHz



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(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



Test Procedure

1. Below 1GHz measurement the EUT is placed on a turntable which is 0.8m above ground plane, and above 1GHz measurement EUT was placed on a low permittivity and low loss tangent turn table which is 1.5m above ground plane.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.
5. Radiated emission test frequency band from 9KHz to 40GHz.
6. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Bilog Antenna	3
1GHz-18GHz	Horn Antenna	3
18GHz-40GHz	Horn Antenna	1

7. Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
9KHz-150KHz	RBW=200Hz/VBW=3KHz, Sweep time=Auto	QP
150KHz-30MHz	RBW=9KHz/VBW=100KHz, Sweep time=Auto	QP
30MHz-1GHz	RBW=120KHz/VBW=1000KHz, Sweep time=Auto	QP
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

TEST RESULTS**Field Strength of Fundamental:**

Remark: This test was performed with EUT in X, Y, Z position and the worst case was found when EUT in X position.

RF path	Frequency (MHz)	Emission Level (dBuV/m)	Detector	(dBuV/m)	Margin (dB)	Raw Value (dBuV)	Factor (dB/m)	Polarity
A	5729.000	96.25	PK	114.00	17.75	107.34	-11.09	Horizontal
	5729.000	78.65	AV	94.00	15.35	89.74	-11.09	Horizontal
	5729.000	96.56	PK	114.00	17.44	107.65	-11.09	Vertical
	5729.000	78.96	AV	94.00	15.04	90.05	-11.09	Vertical
	5785.000	96.75	PK	114.00	17.25	107.80	-11.05	Horizontal
	5785.000	78.84	AV	94.00	15.16	89.89	-11.05	Horizontal
	5785.000	97.54	PK	114.00	16.46	108.59	-11.05	Vertical
	5785.000	79.29	AV	94.00	14.71	90.34	-11.05	Vertical
	5849.000	98.27	PK	114.00	15.73	109.29	-11.02	Horizontal
	5849.000	79.72	AV	94.00	14.28	90.74	-11.02	Horizontal
	5849.000	99.00	PK	114.00	15.00	110.02	-11.02	Vertical
	5849.000	79.88	AV	94.00	14.12	90.90	-11.02	Vertical
B	5729.000	95.95	PK	114.00	18.05	107.04	-11.09	Horizontal
	5729.000	78.01	AV	94.00	15.99	89.10	-11.09	Horizontal
	5729.000	96.23	PK	114.00	17.77	107.32	-11.09	Vertical
	5729.000	78.70	AV	94.00	15.30	89.79	-11.09	Vertical
	5785.000	96.12	PK	114.00	17.88	107.17	-11.05	Horizontal
	5785.000	78.61	AV	94.00	15.39	89.66	-11.05	Horizontal
	5785.000	97.02	PK	114.00	16.98	108.07	-11.05	Vertical
	5785.000	78.94	AV	94.00	15.06	89.99	-11.05	Vertical
	5849.000	97.54	PK	114.00	16.46	108.56	-11.02	Horizontal
	5849.000	79.20	AV	94.00	14.80	90.22	-11.02	Horizontal
	5849.000	98.65	PK	114.00	15.35	109.67	-11.02	Vertical
	5849.000	79.41	AV	94.00	14.59	90.43	-11.02	Vertical

REMARKS:

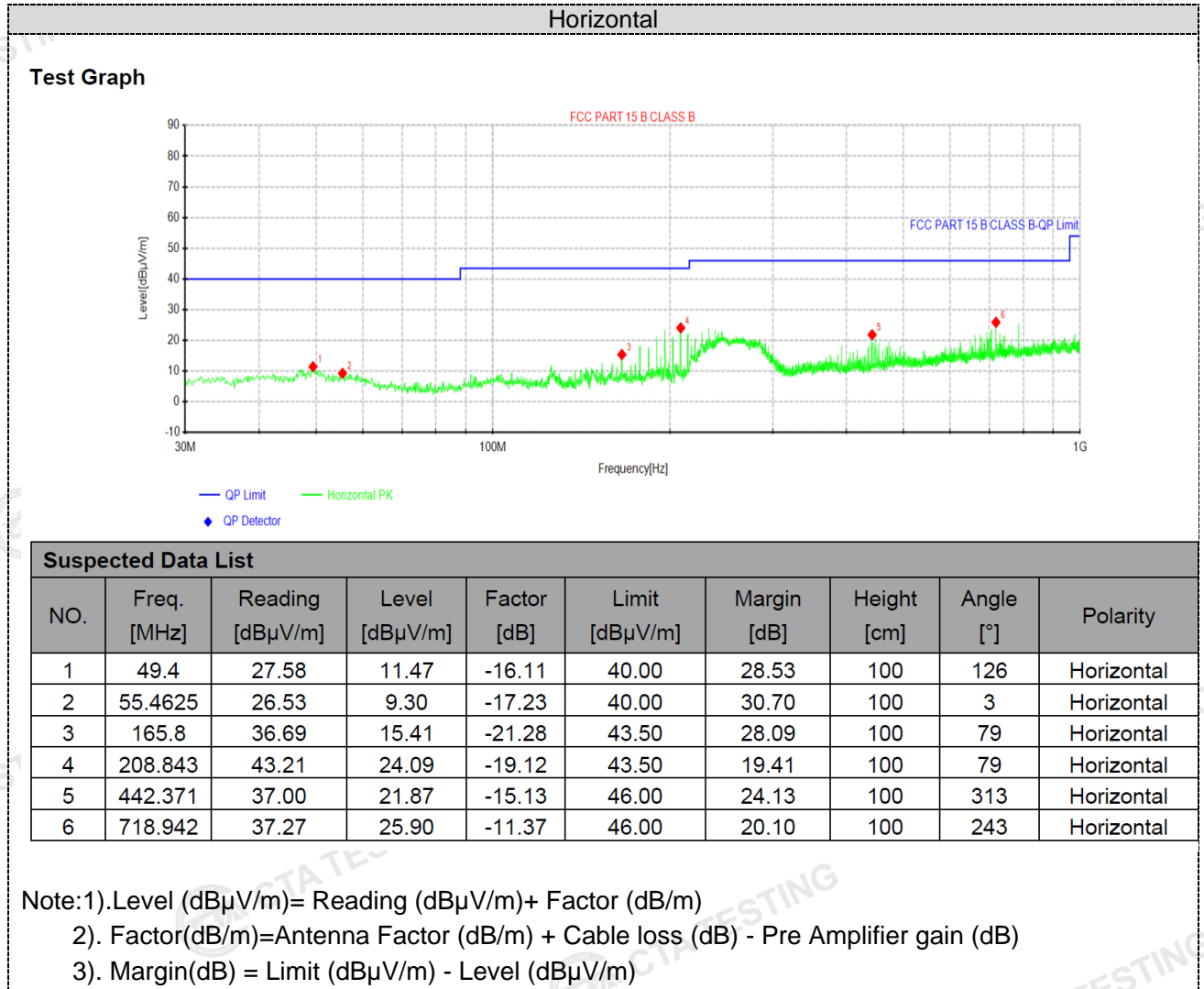
1. Emission level (dBuV/m) =Raw Value (dBuV)+ Factor (dB/m)
2. Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
3. Margin value = Limit value- Emission level.
4. RBW1MHz VBW3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV value.

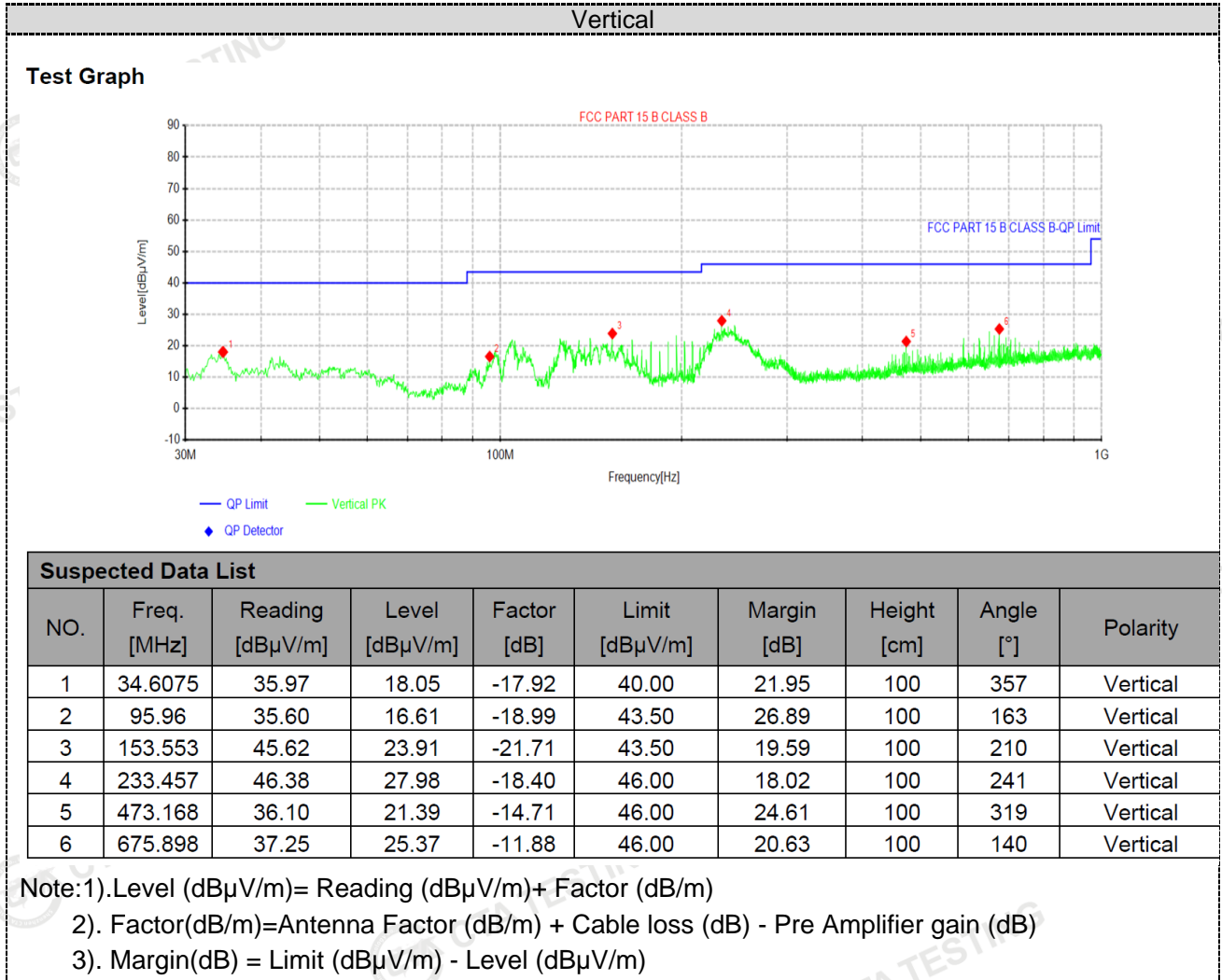
Emissions radiated outside of the specified frequency bands:

Remark:

1. This test was performed with EUT in X, Y, Z position and the worst case was found when EUT in X position.
2. Radiated Emission measured from 9 KHz to 40GHz and recorded worst case.
3. For below 1GHz, both RF path were tested at low/middle/high channel transmitting separately, recorded the worst result at RF Path A transmitting with low channel.
4. For above 1GHz, both RF path were tested at low/middle/high channel transmitting separately, recorded worst at RF Path A transmitting.
5. The emission levels from 9kHz to 30MHz are attenuated 20dB below the limit and not recorded in report.

For 30MHz-1GHz





Above 1GHz

Frequency (MHz):		5729		Polarity:		HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Detector	(dBuV/m)	Margin (dB)	Raw Value (dBuV)	Factor (dB/m)	Remark
1	1587.975	36.17	PK	74	37.83	60.28	-24.11	
2	2472.675	40.64	PK	74	33.36	61.57	-20.93	
3	5359.365	50.32	PK	74	23.68	61.66	-11.34	
4	8457.695	51.32	PK	74	22.68	56.57	-5.25	
5	11458.000	59.44	PK	74	14.56	60.22	-0.78	
6	11458.000	47.13	AV	54	6.87	47.91	-0.78	
7	17187.000	62.35	PK	74	11.65	52.17	10.18	
8	17187.000	51.22	AV	54	2.78	41.04	10.18	
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Frequency (MHz):		5729		Polarity:		Vertical		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Detector	(dBuV/m)	Margin (dB)	Raw Value (dBuV)	Factor (dB/m)	Remark
1	1591.835	36.64	PK	74	37.36	60.75	-24.11	
2	2470.722	41.13	PK	74	32.87	62.07	-20.94	
3	5361.619	50.56	PK	74	23.44	61.89	-11.33	
4	8457.886	51.96	PK	74	22.04	57.21	-5.25	
5	11458.000	59.55	PK	74	14.45	60.33	-0.78	
6	11458.000	47.65	AV	54	6.35	48.43	-0.78	
7	17187.000	62.59	PK	74	11.41	52.41	10.18	
8	17187.000	51.70	AV	54	2.30	41.52	10.18	
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Frequency (MHz):		5785		Polarity:		HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Detector	(dBuV/m)	Margin (dB)	Raw Value (dBuV)	Factor (dB/m)	Remark
1	1590.506	36.91	PK	74	37.09	61.02	-24.11	
2	2473.198	41.40	PK	74	32.60	62.33	-20.93	
3	5363.097	46.27	PK	74	27.73	57.60	-11.33	
4	8454.817	51.99	PK	74	22.01	57.25	-5.26	
5	11570.000	60.03	PK	74	13.97	60.46	-0.43	
6	11570.000	47.92	AV	54	6.08	48.35	-0.43	
7	17355.000	62.90	PK	74	11.10	52.15	10.75	
8	17355.000	51.53	AV	54	2.47	40.78	10.75	
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Frequency (MHz):		5785		Polarity:		Vertical		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Detector	(dBuV/m)	Margin (dB)	Raw Value (dBuV)	Factor (dB/m)	Remark
1	1588.699	37.04	PK	74	36.96	61.15	-24.11	
2	2470.497	41.92	PK	74	32.08	62.86	-20.94	
3	5357.721	47.06	PK	74	26.94	58.40	-11.34	
4	8456.175	52.16	PK	74	21.84	57.42	-5.26	
5	11570.000	60.64	PK	74	13.36	61.07	-0.43	
6	11570.000	48.22	AV	54	5.78	48.65	-0.43	
7	17355.000	63.19	PK	74	10.81	52.44	10.75	
8	17355.000	51.67	AV	54	2.33	40.92	10.75	
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Frequency (MHz):		5849		Polarity:		HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Detector	(dBuV/m)	Margin (dB)	Raw Value (dBuV)	Factor (dB/m)	Remark
1	1591.717	37.33	PK	74	36.67	61.44	-24.11	
2	2470.449	42.25	PK	74	31.75	63.19	-20.94	
3	5362.726	47.58	PK	74	26.42	58.91	-11.33	
4	7551.604	52.91	PK	74	21.09	59.16	-6.25	
5	11698.000	60.9	PK	74	13.10	60.93	-0.03	
6	11698.000	48.42	AV	54	5.58	48.45	-0.03	
7	17547.000	63.57	PK	74	10.43	52.16	11.41	
8	17547.000	50.65	AV	54	3.35	39.24	11.41	
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Frequency (MHz):		5849		Polarity:		HORIZONTAL		
No.	Frequency (MHz)	Emission Level (dBuV/m)	Detector	(dBuV/m)	Margin (dB)	Raw Value (dBuV)	Factor (dB/m)	Remark
1	1592.611	37.66	PK	74	36.34	61.77	-24.11	
2	2473.057	42.90	PK	74	31.10	63.83	-20.93	
3	5365.096	47.88	PK	74	26.12	59.21	-11.33	
4	7552.785	53.14	PK	74	20.86	59.39	-6.25	
5	11698.000	61.51	PK	74	12.49	61.54	-0.03	
6	11698.000	48.64	AV	54	5.36	48.67	-0.03	
7	17547.000	64.32	PK	74	9.68	52.91	11.41	
8	17547.000	51.94	AV	54	2.06	40.53	11.41	
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REMARKS:

5. Emission level (dBuV/m) = Raw Value (dBuV) + Factor (dB/m)
6. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
7. Margin value = Limit value - Emission level.

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Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China
Tel: +86-755 2322 5875 E-mail: cta@cta-test.cn Web: http://www.cta-test.cn

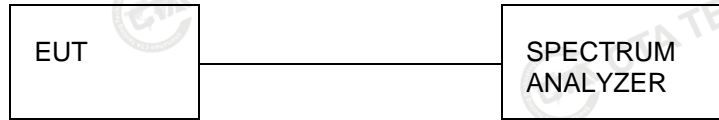
- 8. --The other emission levels are attenuated 20dB below the limit and not recorded in report.
- 9. RBW1MHz VBW3MHz Peak detector is for PK value; RBW 1MHz VBW10Hz Peak detector is for AV value.

4.3 Occupied Bandwidth Measurement

Limit

N/A

Test Configuration



Test Procedure

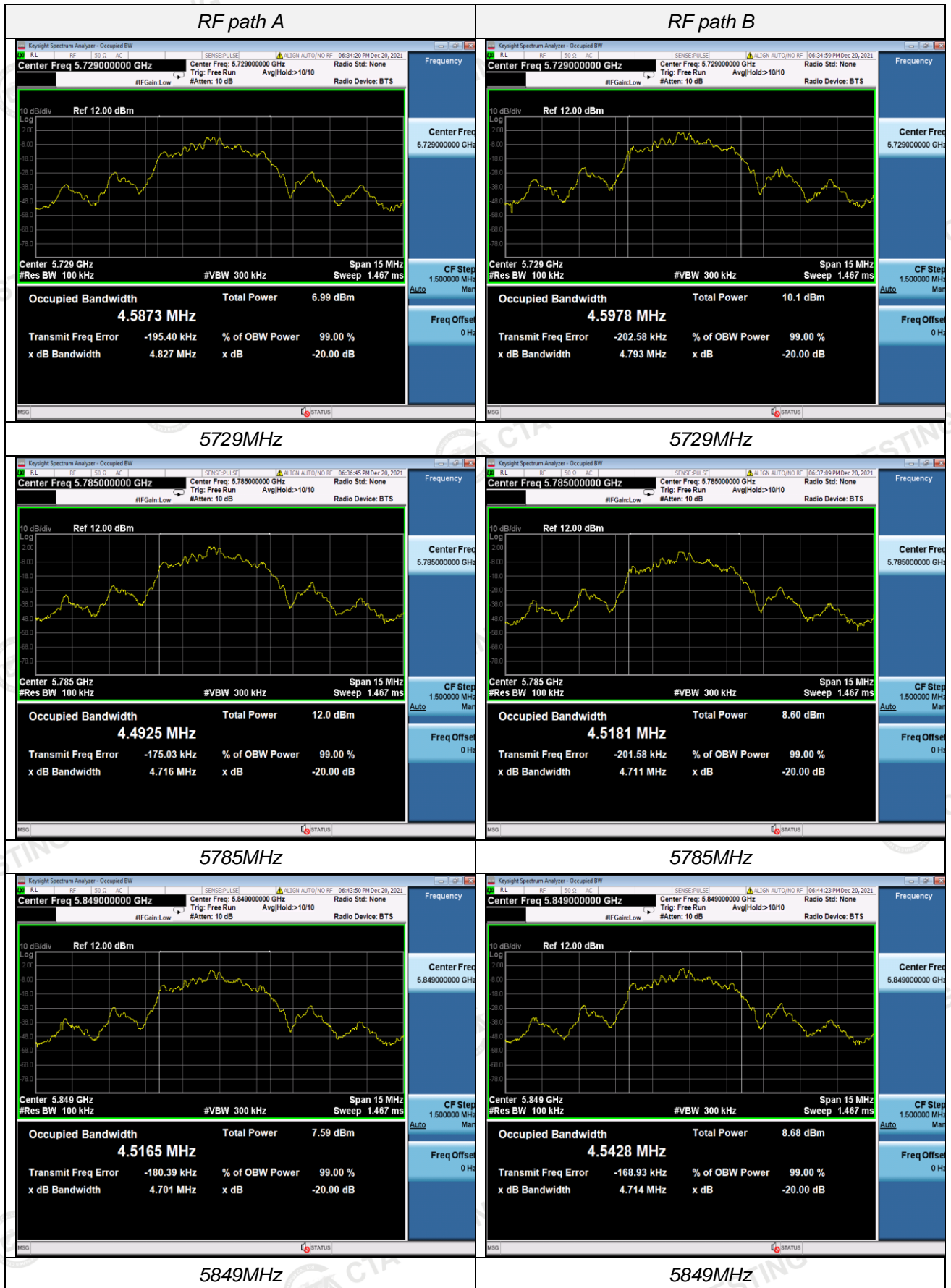
The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 430KHz RBW and 1.3MHz VBW.

The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

Test Results

Modulation	Test Frequency (MHz)	99% OBW (MHz)		20dB bandwidth (MHz)		Result
		Path A	Path B	Path A	Path B	
GFSK	5729	4.5873	4.5978	4.827	4.793	Pass
	5785	4.4925	4.5181	4.716	4.711	
	5849	4.5165	4.5428	4.701	4.714	

Test plot as follows:



4.4 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.

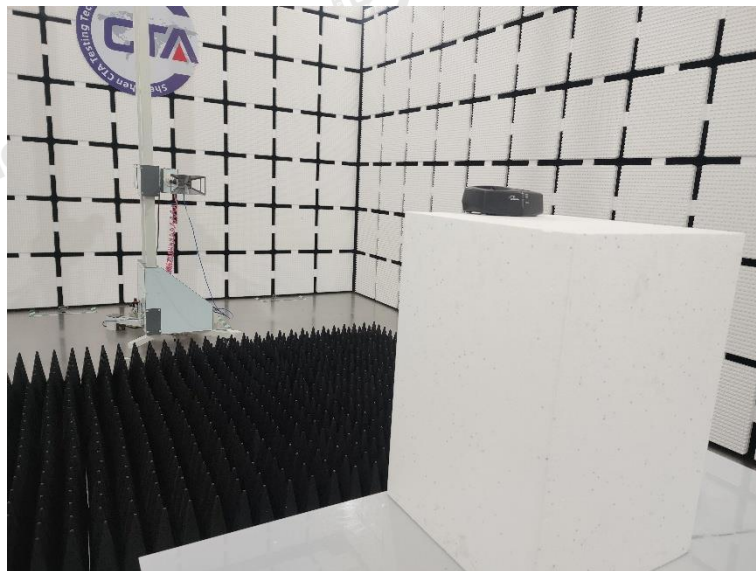
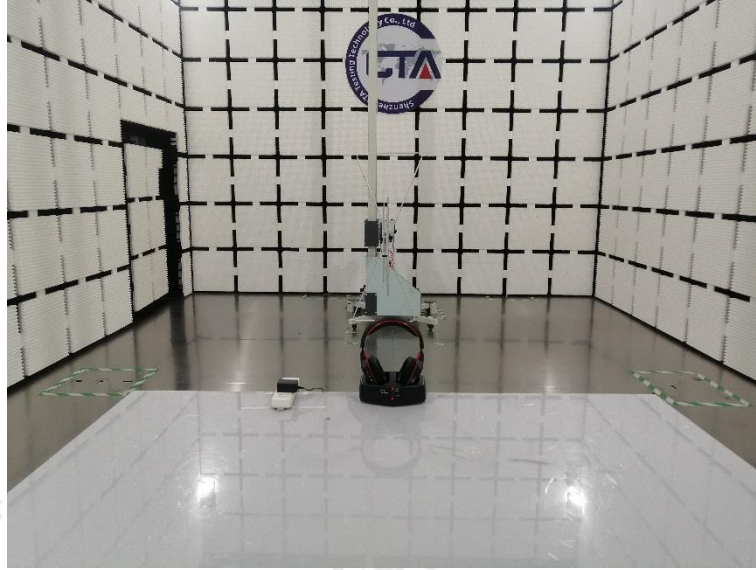
Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

The antenna used in this product is an integral Antenna, The directional gains of antenna used for transmitting is 0dBi.

5 Test Setup Photos of the EUT



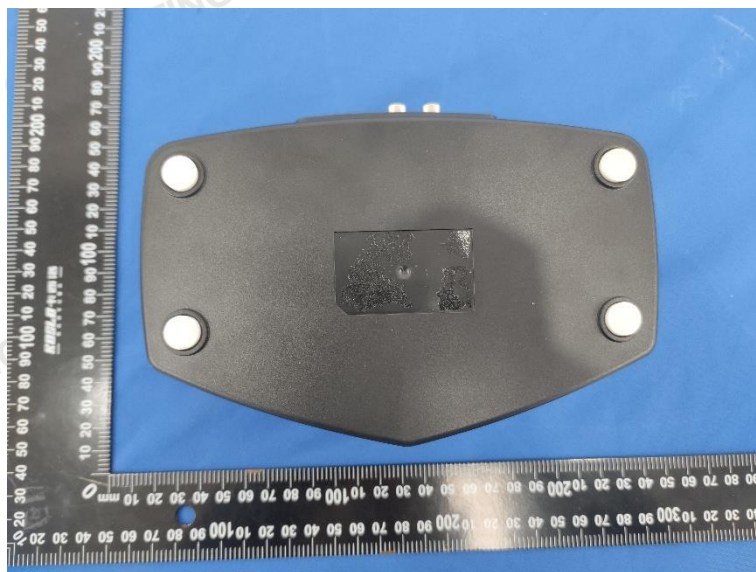
Shenzhen CTA Testing Technology Co., Ltd.

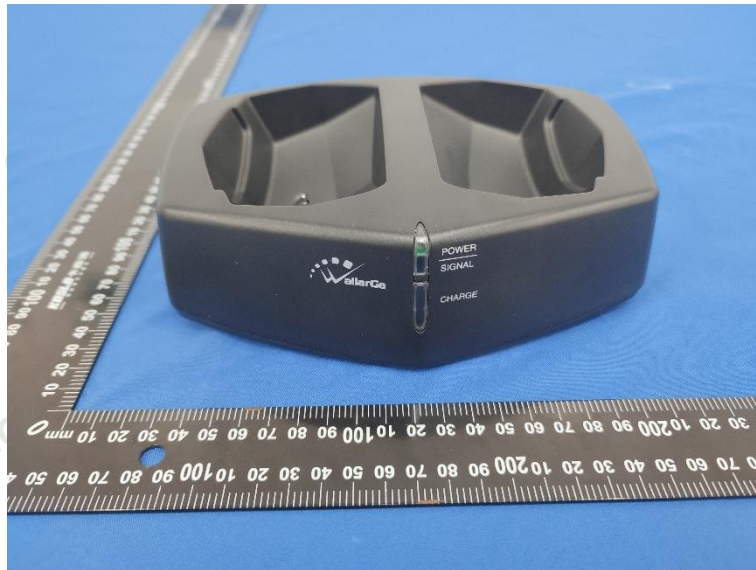
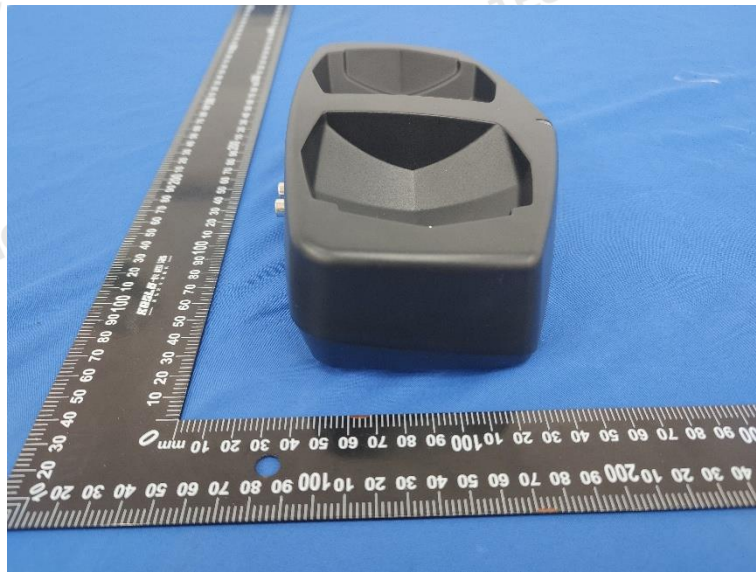
Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

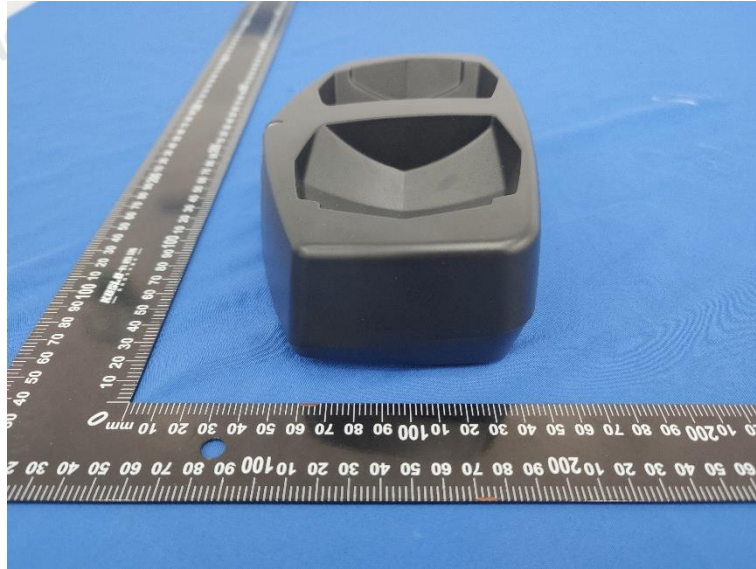
Tel:+86-755 2322 5875 E-mail:cta@cta-test.cn Web:http://www.cta-test.cn

6 Photos of the EUT

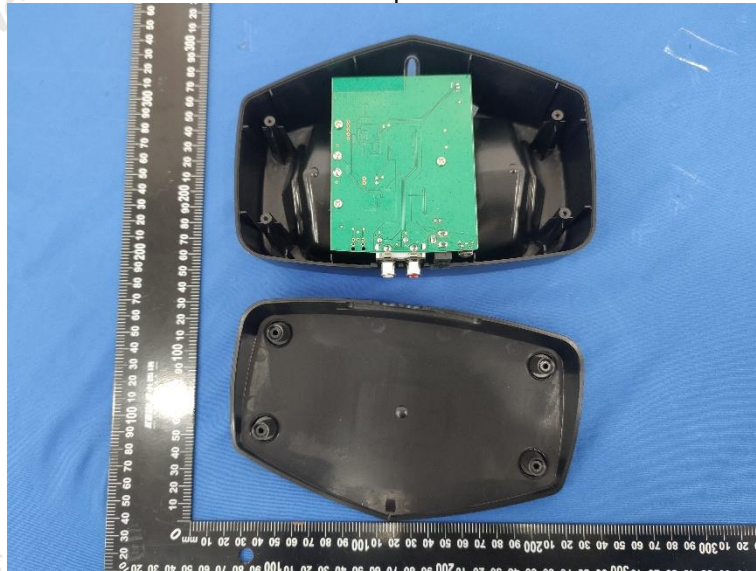
External photos





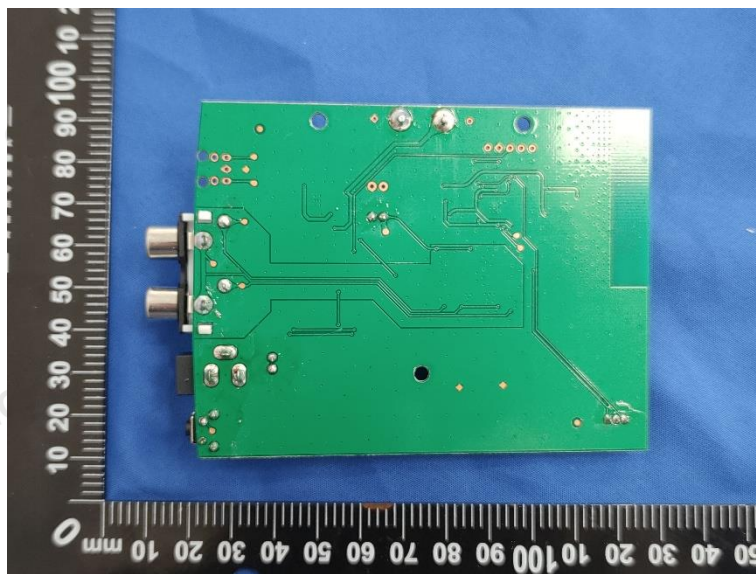
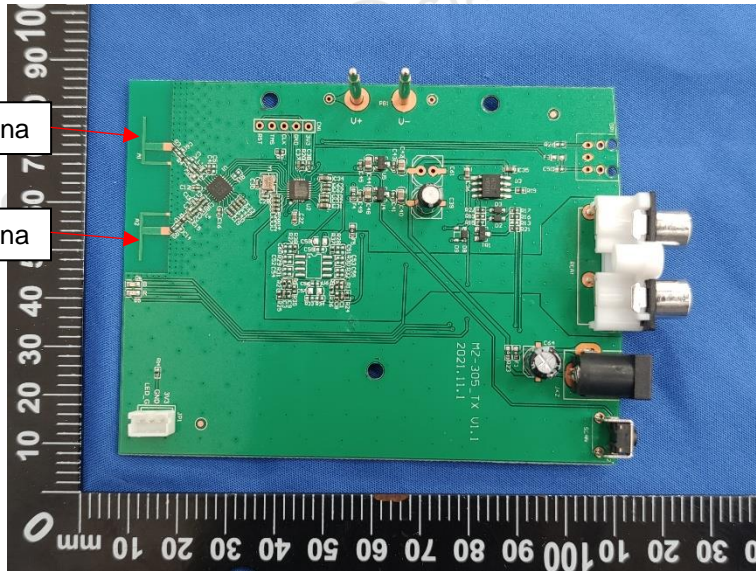


Internal photos



RF path A antenna

RF path B antenna



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