

FCC 47 CFR PART 15 SUBPART C
TEST REPORT
CHENGHAI XIANXIN PLASTIC TOYS FACTORY
WALKIE TALKIES
Model No.: T-5552
Additional Model No.: Please Refer to Page 6

Prepared for : CHENGHAI XIANXIN PLASTIC TOYS FACTORY
Address : PUMEI INDUSRIAL PARK,CHENGHAI
DISTRICT,SHANTOU CITY,GUANGDONG PROV
INCE,CHINA

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample : June 05, 2019
Number of tested samples : 1
Serial number : June 05, 2019~ June 27, 2019
Date of Test : June 05, 2019
Date of Report : June 28, 2019

FCC TEST REPORT
FCC 47 CFR PART 15 SUBPART C

Report Reference No. : **LCS190522001AEA**

Date Of Issue : June 28, 2019

Testing Laboratory Name : **Shenzhen LCS Compliance Testing Laboratory Ltd.**

Address : 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue,
Bao'an District, Shenzhen, Guangdong, China

..... : Full application of Harmonised standards
..... : Partial application of Harmonised standards
..... : Other standard testing method

Applicant's Name : **CHENGHAI XIANXIN PLASTIC TOYS FACTORY**

Address : PUMEI INDUSRIAL PARK,CHENGHAI DISTRICT,SHANTOU
CITY,GUANGDONG PROV INCE,CHINA

Test Specification

Standard..... : FCC 47 CFR Part 15 Subpart C

Test Report Form No...... : LCSEMC-1.0

TRF Originator..... : Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF : Dated 2011-03

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Test Item Description..... : **WALKIE TALKIES**

Trade Mark..... : N/A

Model/ Type Reference : T-5552

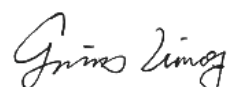
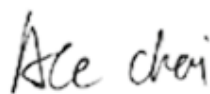
Ratings : DC 9V

Result : **Positive**

Compiled by:

Supervised by:

Approved by:



Ace Chai / Administrators

Aking Jin / Technique principal

Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No. : LCS190522001AEA	<u>June 28, 2019</u> Date of issue
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Type / Model.....	: T-5552
EUT.....	: WALKIE TALKIES
Applicant	: CHENGHAI XIANXIN PLASTIC TOYS FACTORY
Address.....	: PUMEI INDUSRIAL PARK,CHENGHAI DISTRICT,SHANTOU CITY,GUANGDONG PROV INCE,CHINA
Telephone.....	: /
Fax.....	: /
Manufacturer	: CHENGHAI XIANXIN PLASTIC TOYS FACTORY
Address.....	: PUMEI INDUSRIAL PARK,CHENGHAI DISTRICT,SHANTOU CITY,GUANGDONG PROV INCE,CHINA
Telephone.....	: /
Fax.....	: /
Factory	: /
Address.....	: /
Telephone.....	: /
Fax.....	: /

Test Result	Positive
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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.

Revision History

Revision	Issue Date	Revisions	Revised By
000	June 28, 2019	Initial Issue	Gavin Liang

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1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	WALKIE TALKIES
Test Model	T-5552
Additional Model No.	T-5024, T-5696, USA20022, 178, 178-6, 178-8, 178-9, 178-12, 178-18, 178-19, 178-20, 178-21, 178-22, 178-23, 178-24, 178-25, 178-26, 178-27, 178-28, 178-29, 178-30, 178-31, 178-32, 178-33, 178-34, 178-35, 178-36, 178-37, 178-38, 178-39, 178-40, 178-41, 178-42, 178-43, 178-44, 178-45, 178-46, 178-47, 178-48, 178-49, 178-50, 178-51, 178-52, 178-53, 178-54, 178-55, 178-56, 178-57, 178-58, 178-59, 197, 181, 1228, 1228-1, 1228-2, 1228-3, 1228-4, 1228-5, 1228-6, 1228-7, 1228-8, 1228-9, 1228-10, 1228-11, 1228-12, 1228-13, 1228-14, 1228-15, 1228-16, 1228-17, 1228-18, 1228-19, 1228-20, 1228-21, 1228-25, 1228-26, 8018, 8028, 179, 168, 178-18A, 178-18B, 178-18C, 178-18D, 258, 258-2, 199A, 198, 1378, 1378-2, 1378-3, 1278, 1278-2, 1278-6, 178-3A, T-5899, USA20095, USA20198, USA20199
Model Declaration	PCB board, structure and internal of these model(s) are the same, So no additional models were tested.
Hardware Version	S3UI-L-VE 2018/09/12
Software Version	P3266-BK3266.P32L.4M_MT-HB.S3_(T-5552)_CMX_MIC_NO EQ_MFB.XX_BUCK_V1.0_20190323_CRC_(BB49)_crc.bin
Power Supply	DC 9V

1.2. Host System Configuration List and Details

Manufacturer	Description	Model	Serial Number	Certificate
--	--	--	--	--

1.3. External I/O Cable

I/O Port Description	Quantity	Cable
--	--	--

1.4. Description of Test Facility

FCC Registration Number is 254912.
 Industry Canada Registration Number is 9642A-1.
 EMSD Registration Number is ARCB0108.
 UL Registration Number is 100571-492.
 TUV SUD Registration Number is SCN1081.
 TUV RH Registration Number is UA 50296516-001.
 NVLAP Accreditation Code is 600167-0.
 FCC Designation Number is CN5024.
 CAB identifier: CN0071.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.4:2014 and CISPR 16-1-4:2010 SVSWR requirement for radiated emission above 1GHz.

1.5. 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 CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the LCS 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.

1.6. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Radiation Uncertainty	9KHz~30MHz	±3.10dB	(1)
	30MHz~200MHz	±2.96dB	(1)
	200MHz~1000MHz	±3.10dB	(1)
	1GHz~26.5GHz	±3.80dB	(1)
	26.5GHz~40GHz	±3.90dB	(1)
Conduction Uncertainty	150kHz~30MHz	±1.63dB	(1)
Power disturbance	30MHz~300MHz	±1.60dB	(1)

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

1.7. Description of Test Modes

Test Configuration (TC) No.	Test Mode Description	Test Item Description	Worst Case Recorded in Test Report
TC01	Normal working	AC Mains Conducted Emission	<input type="checkbox"/>
TC02	Normal working	Radiated Emission	<input checked="" type="checkbox"/>

2. SUMMARY OF TEST RESULTS

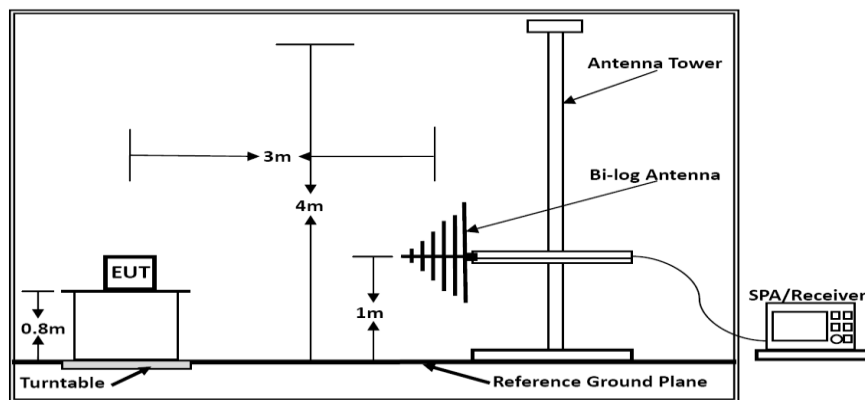
Applied Standard: FCC Part 15 Subpart C			
FCC Rules	Description of Test	Result	Remark
§15.207	AC Conducted Emissions	N/A	N/A
§15.209	Radiated Emissions	Compliant	N/A

3. Radiated emission Measurement

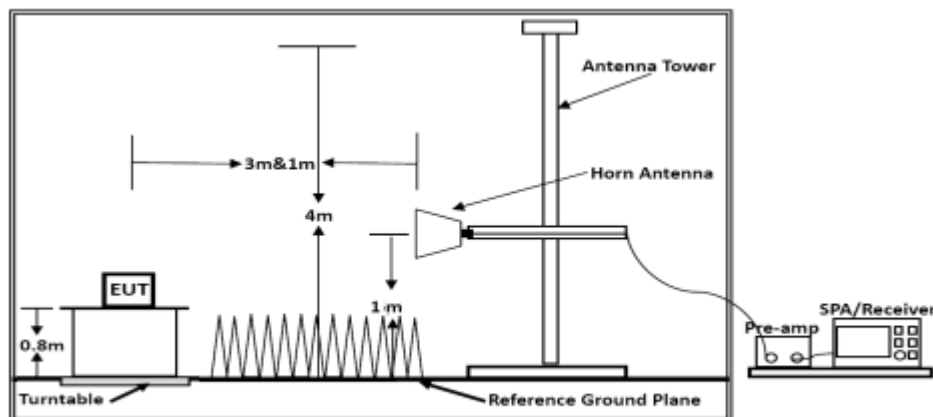
3.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Cal. Day	Cal. Due Day
1	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2019-06-16	2020-06-15
2	EMI Test Receiver	R&S	ESR 7	101181	2019-06-16	2020-06-15
3	Signal analyzer	Agilent	E4448A(External mixers to 40GHz)	US44300469	2018-07-16	2019-07-15
4	Log per Antenna	SCHWARZBECK	VULB9163	9163-470	2019-06-08	2020-06-07
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Positioning Controller	MF	MF-7082	/	N/A	N/A
7	RF Cable	Hubersuhner	Sucoflex104	FP2RX2	2019-06-16	2020-06-15
8	Horn Antenna	EMCO	3115	6741	2019-06-08	2020-06-07
9	RF Cable-HIGH	SUHNER	SUCOFLEX 106	03CH03-HY	2019-06-16	2020-06-15
10	Amplifier	SCHAFFNER	COA9231A	18667	2019-06-16	2020-06-15
11	Amplifier	Agilent	8449B	3008A02120	2019-06-16	2020-06-15
12	Amplifier	MITEQ	AMF-6F-260400	9121372	2019-06-16	2020-06-15

3.2. Block Diagram of Test Setup



Below 1GHz



Above 1GHz

3.3. Radiated Emission Limit

According to §15.209 (a): Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	Average	300
0.490MHz-1.705MHz	24000/F(kHz)	-	Quasi-peak	30
1.705MHz-30MHz	30	29.5	Quasi-peak	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

Remark:

- (1) Emission level (dB) μ V = 20 log Emission level μ V/m
- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.4. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

3.5. Operating Condition of EUT

- 3.5.1. Setup the EUT as shown in Section 3.2.
- 3.5.2. Let the EUT work in test mode (ON) and measure it.

3.6. Measuring Instruments and Setting

Please refer to equipment list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	5 th highest work frequency
RB / VB	1MHz / 1MHz for Peak, 1 MHz / 10 Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	30MHz~1000MHz / RB/VB 120kHz/1MHz for QP

3.7. Test Procedure

1) Sequence of testing 30 MHz to 1 GHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

Premeasurement:

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna is polarized vertical and horizontal.
- The antenna height changes from 1 to 3 meter.
- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement:

- The final measurement will be performed with minimum the six highest peaks.
- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position ($\pm 45^\circ$) and antenna movement between 1 and 4 meter.
- The final measurement will be done with QP detector with an EMI receiver.
- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

3) Sequence of testing 1 GHz to 18 GHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 1 m height is used.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

Premeasurement:

- The turntable rotates from 0° to 315° using 45° steps.
- The antenna is polarized vertical and horizontal.
- The antenna height scan range is 1 meter to 4 meter.
- At each turntable position and antenna polarization the analyzer sweeps with peak detection to find the maximum of all emissions.

Final measurement:

- The final measurement will be performed with minimum the six highest peaks.
- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable position ($\pm 45^\circ$) and antenna movement between 1 and 4 meter. This procedure is repeated for both antenna polarizations.
- The final measurement will be done in the position (turntable, EUT-table and antenna polarization) causing the highest emissions with Peak and Average detector.
- The final levels, frequency, measuring time, bandwidth, turntable position, EUT-table position, antenna polarization, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

3.8. Radiated Emission Noise Measurement Result

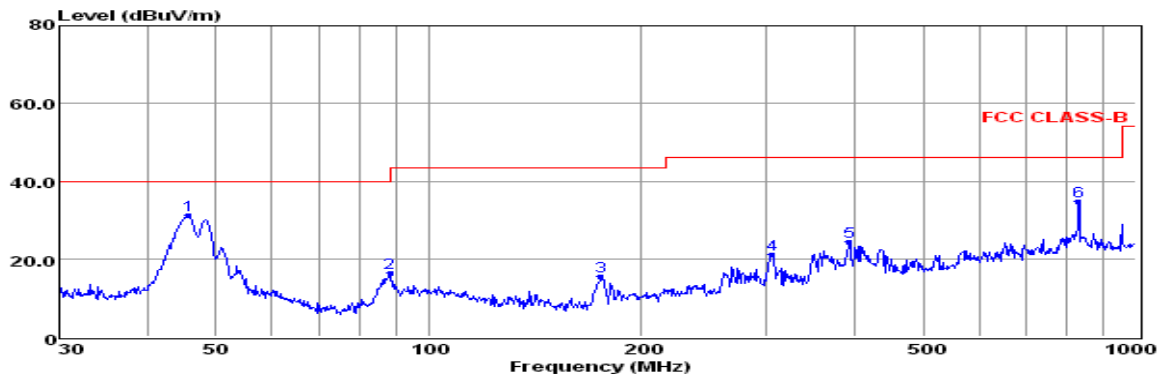
PASS.

The scanning waveforms refer to the following page.

Model No.	T-5552	Test Mode	TC02
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Environmental Conditions	23.5°C, 53.4% RH	Detector Function	Quasi-peak
Test Engineer	Wang Chuang	Distance	3m

Horizontal:

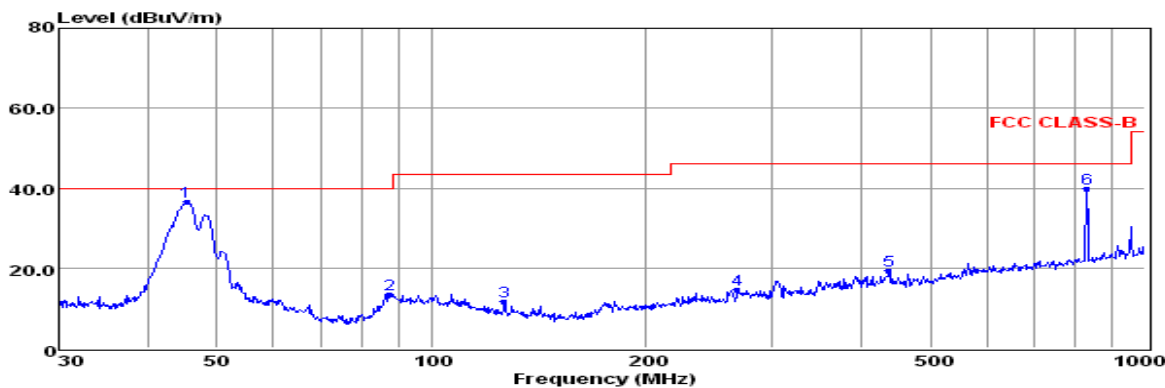


Env./Ins: 23.5°C/53.4%
 pol: HORIZONTAL

	Freq MHz	Reading dBuV	CabLos dB	Antfac dB/m	Measured dBuV/m	Limit dBuV/m	Over dB	Remark
1	45.69	17.33	0.41	13.51	31.25	40.00	-8.75	QP
2	88.03	4.55	0.68	11.27	16.50	43.50	-27.00	QP
3	175.04	5.28	0.73	9.33	15.34	43.50	-28.16	QP
4	305.68	7.01	1.05	13.14	21.20	46.00	-24.80	QP
5	393.47	8.35	1.20	14.91	24.46	46.00	-21.54	QP
6	830.40	12.66	1.67	20.37	34.70	46.00	-11.30	QP

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20db below the official limit are not reported

Vertical:



Env./Ins: 23.5°C/53.4%
 pol: VERTICAL

	Freq MHz	Reading dBuV	CabLos dB	Antfac dB/m	Measured dBuV/m	Limit dBuV/m	Over dB	Remark
1	45.38	22.69	0.41	13.53	36.63	40.00	-3.37	QP
2	87.42	1.88	0.47	11.08	13.43	40.00	-26.57	QP
3	126.33	1.53	0.71	9.50	11.74	43.50	-31.76	QP
4	268.49	1.12	1.00	12.31	14.43	46.00	-31.57	QP
5	437.12	2.22	1.41	15.55	19.18	46.00	-26.82	QP
6	830.40	17.78	1.67	20.37	39.82	46.00	-6.18	QP

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20db below the official limit are not reported

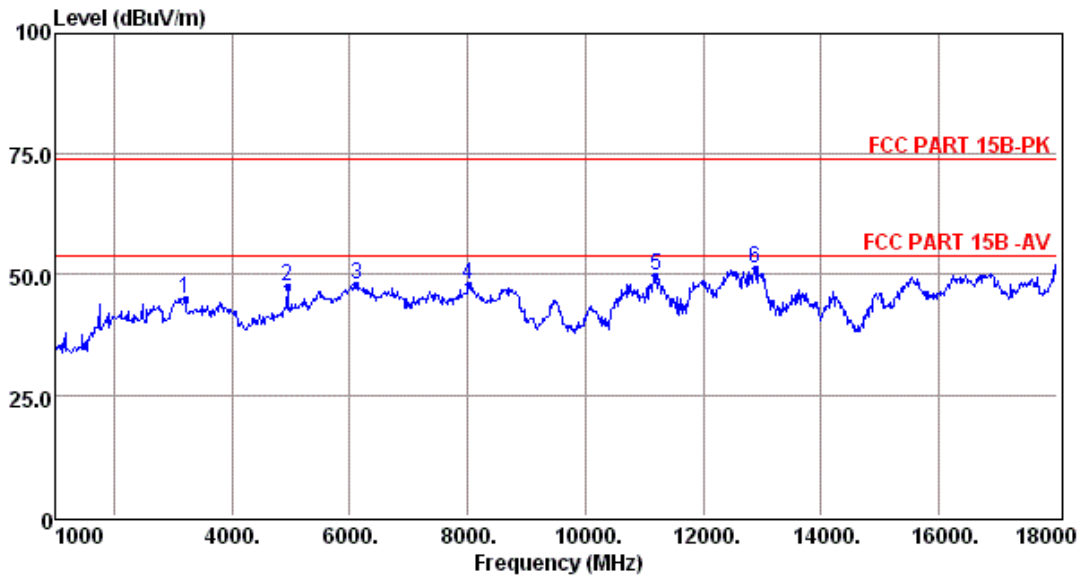
Note:

Pre-scan all modes and recorded the worst case results in this report.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level = Level.

Model No.	T-5552	Test Mode	TC02
Environmental Conditions	23.5°C, 53.4% RH	Detector Function	Peak
Pol	Vertical	Distance	3m
Test Engineer	Wang Chuang		



pol:

VERTICAL

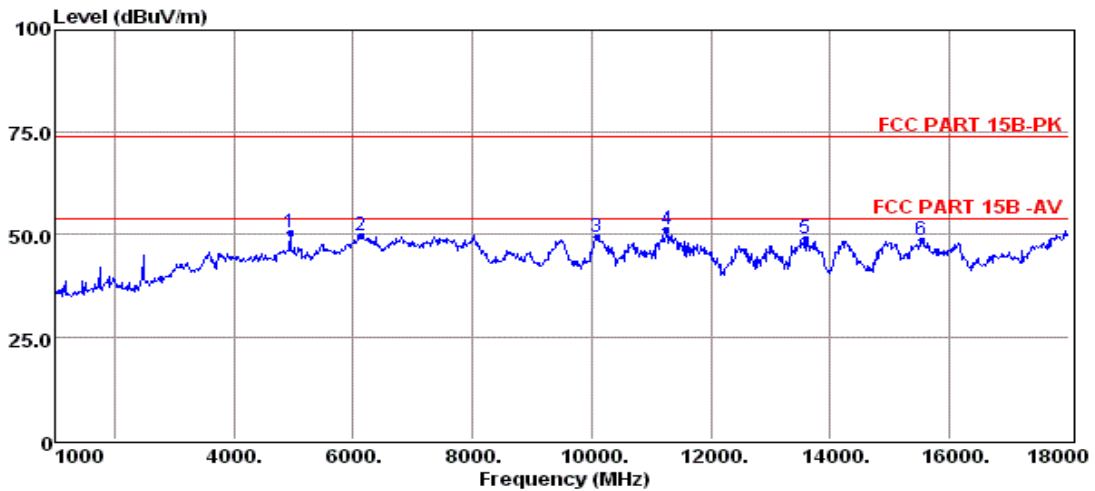
	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	3210.00	45.79	6.17	29.97	44.96	74.00	-29.04	Peak
2	4944.00	42.47	7.77	33.66	47.50	74.00	-26.50	Peak
3	6117.00	39.52	8.94	36.36	48.04	74.00	-25.96	Peak
4	8021.00	35.53	9.60	37.26	47.82	74.00	-26.18	Peak
5	11200.00	37.69	10.17	37.78	49.78	74.00	-24.22	Peak
6	12883.00	37.16	10.27	38.77	51.36	74.00	-22.64	Peak

Note: 1. All readings are Quasi-peak values.

2. Measured= Reading + Antenna Factor + Cable Loss

3. The emission that are 20db below the official limit are not reported

Model No.	T-5552	Test Mode	TC02
Environmental Conditions	23.5°C, 53.4% RH	Detector Function	Peak
Pol	Horizontal	Distance	3m
Test Engineer	Wang Chuang		



pol:

HORIZONTAL

	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	4944.00	79.13	7.77	0.00	50.50	74.00	-23.50	Peak
2	6134.00	77.79	8.95	0.00	49.96	74.00	-24.04	Peak
3	10078.00	74.55	10.10	0.00	49.33	74.00	-24.67	Peak
4	11251.00	76.75	10.18	0.00	51.14	74.00	-22.86	Peak
5	13580.00	74.19	10.31	0.00	49.12	74.00	-24.88	Peak
6	15535.00	73.76	10.56	0.00	48.57	74.00	-25.43	Peak

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20db below the official limit are not reported

Notes:

1. Radiated emissions measured in frequency range from 9 KHz~10th harmonic were made with an instrument using Peak detector mode.
2. 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.
3. Average values no need if peak values lower than average limit.

4. AC Power line conducted emissions (Not Applicable)

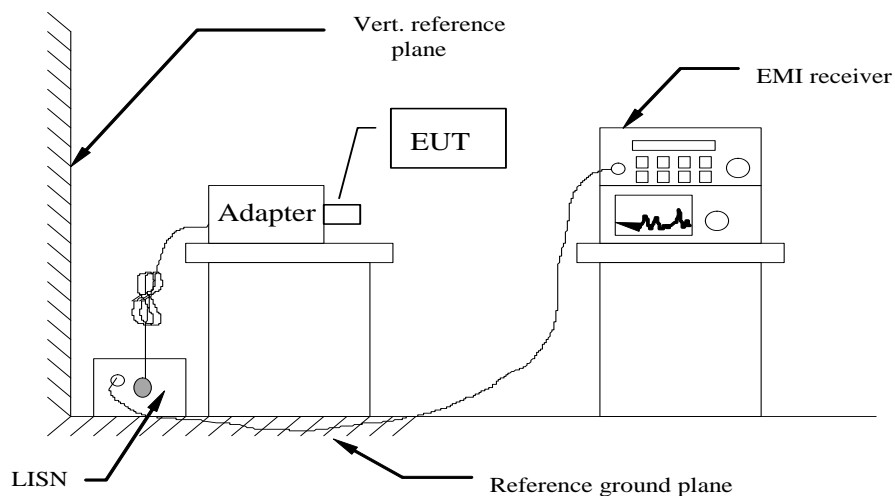
4.1 Standard Applicable

According to §15.207 (a): For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range are listed as follows:

Frequency Range (MHz)	Limits (dBµV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

* Decreasing linearly with the logarithm of the frequency

4.2 Block Diagram of Test Setup



4.2 Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Cal. Day	Cal. Due Day
1	EMI Test Receiver	R&S	ESR 7	101181	2019-06-16	2020-06-15
2	10dB Attenuator	SCHWARZBECK	MTS-IMP136	261115-001-0032	2019-06-16	2020-06-15
3	Artificial Mains	R&S	ENV216	101288	2019-06-16	2020-06-15
4	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
5	RF Cable	Harbour Industries	1452	N/A	2019-06-16	2020-06-15

4.3 Test Results

Not applicable!!!

The device was powered by DC power!!!

5. TEST SETUP PHOTOGRAPHS OF EUT

Please refer to separated files for Test Setup Photos of the EUT.

6. EXTERIOR PHOTOGRAPHS OF EUT

Please refer to separated files for External Photos of the EUT.

7. INTERIOR PHOTOGRAPHS OF EUT

Please refer to separated files for Internal Photos of the EUT.

----- THE END OF TEST REPORT -----