FCC TEST REPORT

for

ShenZhen Egreat Technology Co.,Ltd.

HD Network Set-Top Box

Model Number: X3,X1,X2,X5,X6,X7,X8,X9, X10,X20,X30,X60,X70

FCC ID: 2AAWZX3

Prepared for	:	ShenZhen Egreat Technology Co.,Ltd.
Address	:	4/F, 1Building, ShaSan Chuang Ye Industrial Park, Sha Jing, Bao An,ShenZhen ,China
Prepared by	:	Keyway Testing Technology Co., Ltd.
Address	:	Baishun Industrial Zone, Zhangmutou Town, Dongguan, Guangdong, China
		Tel: 86-769-8718 2258
		Fax: 86-769-8718 1058

Report No.	:	13KWE08824F
Date of Test	:	Aug. 18~25, 2013
Date of Report	:	Aug. 26, 2013

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Test Report Declaration

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Keyway Testing Technology Co., Ltd.

Applicant: **Address:**	ShenZhen Egreat Technology Co.,Ltd. 4/F, 1Building, ShaSan Chuang Ye Industrial Park, Sha Jing, Bao An, ShenZhen ,China		
Manufacturer: **Address:**	ShenZhen Egreat Technology Co.,Ltd. 4/F, 1Building, ShaSan Chuang Ye Industrial Park, Sha Jing, Bao An, ShenZhen ,China		
E.U.T:	HD Network Set-Top Box		
Model Number:	X3,X1,X2,X5,X6,X7,X8,X9,X10,X20,X30,X60,X70		
Trade Name:	------	**Serial No.:**	------
Date of Receipt:	Aug. 16, 2013	**Date of Test:**	Aug. 18~25, 2013
Test Specification:	FCC Part 15, Subpart B: Oct. 1, 2012 ANSI C63.4:2009		
Test Result:	The equipment under test was found to be compliance with the requirements of the standards applied. **Issue Date: Aug. 26, 2013**		

Tested by:	Reviewed by:	Approved by:
Andy Gao / Engineer	Jade Yang/ Supervisor	Chris Du / Manager

Other Aspects:

None.

Abbreviations: OK/P=passed fail/F=failed n.a/N=not applicable E.U.T=equipment under test

1. GENERAL PRODUCT INFORMATION

1.1. Product Function

Refer to Technical Construction Form and User Manual.

1.2. Description of Device (EUT)

Product Name:	HD Network Set-Top Box
Model No.:	X3,X1,X2,X5,X6,X7,X8,X9,X10,X20,X30,X60,X70
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(H20)) 2422MHz~2452MHz (802.11n(H40))
Channel numbers:	11 for 802.11b/802.11g/802.11n(H20) ,7 for 802.11n(H40)
Channel separation:	5MHz
Modulation technology: (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Modulation technology: (IEEE 802.11g/802.11n)	Orthogonal Frequency Division Multiplexing(OFDM)
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps,54Mbps
Data speed (IEEE 802.11n):	Up to 150Mbps
Antenna Type:	External
Antenna gain:	1dBi (declare by Applicant)
Power supply:	DC 5V from adapter
Work Frequency:	2.4G

1.3. Independent Operation Modes

The basic operation modes are:

1.3.1. USB playing

1.3.2. Data transmitting(network)

1.4. Test Supporting System

TV	Manufacturer: SONY
	M/N: KDL-26EX546
USB	Manufacturer: Kingston
	M/N: SSK-09D11
Adapter:	Manufacturer: Egreat
	M/N: ZFXPA02000050
	Input: AC 100~240V 50/60Hz Output: DC 5V/2A

2. TEST SITES

2.1. Test Facilities

Lab Qualifications : Certificated by Industry Canada
Registration No.: 9868A
Date of registration: December 8, 2011

Certificated by FCC, USA
Registration No.: 370994
Date of registration: February 21, 2012

2.2. List of Test and Measurement Instruments

2.2.1. For conducted emission at the mains terminals test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCI	101156	May 9,13	May 9,14
Artificial Mains Network	Rohde&Schwarz	ENV216	101315	May 9,13	May 9,14
Artificial Mains Network (AUX)	Rohde&Schwarz	ENV216	101314	May 9,13	May 9,14
RF Cable	FUJIKURA	3D-2W	944 Cable	May 9,13	May 9,14

2.2.2. For radiated emission test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCI	101156	May 9,13	May 9,14
Bilog Antenna	ETS-LINDGREN	3142D	00135452	May 20,13	May 20,14
Spectrum Analyzer	Agilent	8593E	3911A04271	May 9,13	May 9,14
3m Semi-anechoic Chamber	ETS-LINDGREN	966	KW01	May 9,13	May 9,14
Signal Amplifier	SONOMA	310	187303	May 9,13	May 9,14
RF Cable	IMRO	IMRO-400	966 Cable 1#	May 9,13	May 9,14
Signal Amplifier	DAZE	ZN3380C	11001	May 9,13	May 9,14
Horn Antenna	DAZE	ZN30701	11003	May 11,13	May 11,14
MULTI-DEVICE Controller	ETS-LINDGREN	2090	126913	N/A	N/A
Antenna Holder	ETS-LINDGREN	2070B	00109601	N/A	N/A

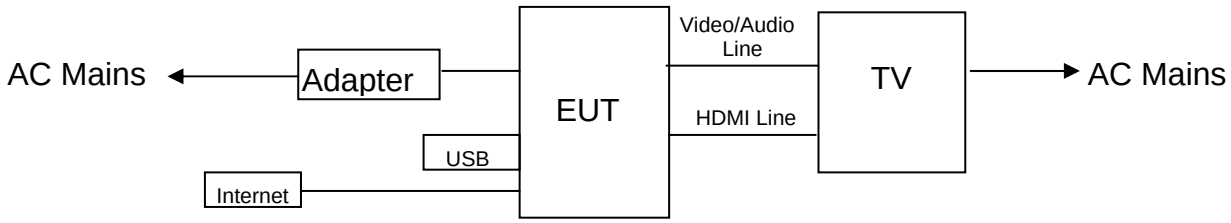
3. TEST SET-UP AND OPERATION MODES

3.1. Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the Operating Instructions.

3.2. Block Diagram of Test Set-up

System Diagram of Connections between EUT and Simulators



(EUT: HD Network Set-Top Box)

3.3. Test Operation Mode and Test Software

Refer to Test Setup in clause 4.

3.4. Special Accessories and Auxiliary Equipment

None.

3.5. Countermeasures to Achieve EMC Compliance

None.

4. EMISSION TEST RESULTS

4.1. Conducted Emission at the Mains Terminals Test

Result	**:**	**Pass**
Test Procedure	:	ANSI C63.4:2009
Frequency Range	:	0.15 to 30 MHz
Test Site	:	Shielded Room 944
Limits	:	FCC Part 15, Subpart B: Oct. 1, 2012

Test Setup

Date of Test	:	Aug. 19, 2013
M/N	:	X3
Input Voltage	:	DC 5V from adapter input AC 120V/60Hz
Operation Mode	:	USB playing Data transmitting(network)

The EUT was put on a wooden table which was 0.8 m high above the ground and connected to the AC mains through the Artificial Mains Network (AMN). Where the mains cable supplied by the manufacture was longer than 0.8 m, the excess was folded back and forth parallel to the cable at the centre so as to form a bundle no longer than 0.4 m.

The EUT was kept 0.4 m from any other earthed conducting surface. Both sides of AC line were checked to find out the maximum conducted emission levels according to the test procedure during the conducted emission test.

The frequency range from 150 kHz to 30 MHz was investigated.

The bandwidth of the test receiver was set at 9 kHz.

The test data of the worst case condition(s) was reported on the following page. All the scanning waveforms were attached within Appendix I.

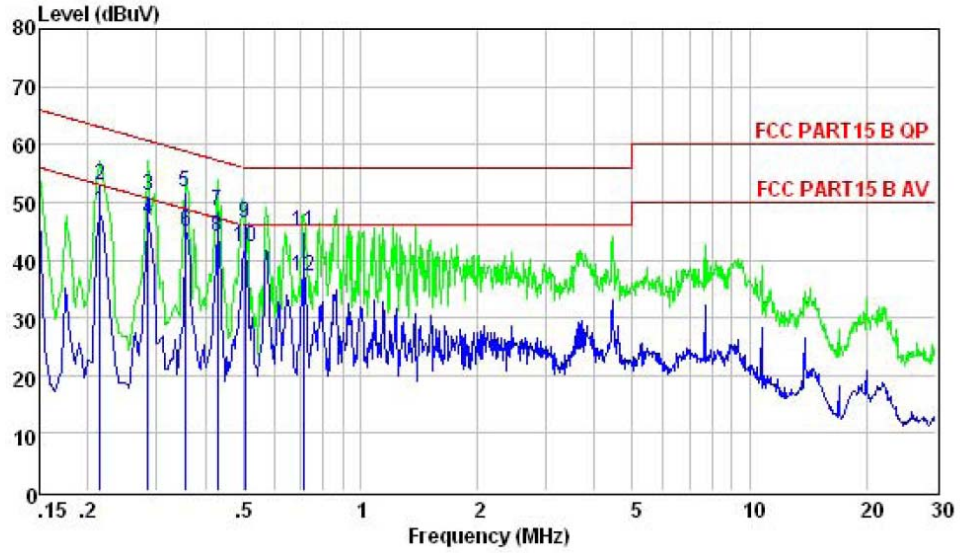
Note: Measurement Uncertainty: ±2.6 dB at a level of confidence of 95%.

Test Data

Test mode: USB playing

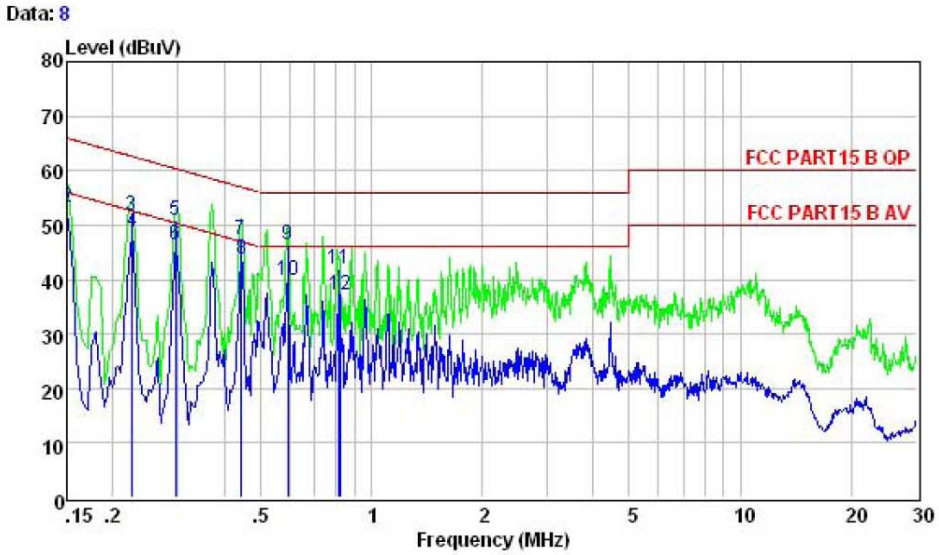
Test Line: LINE

Data: 6



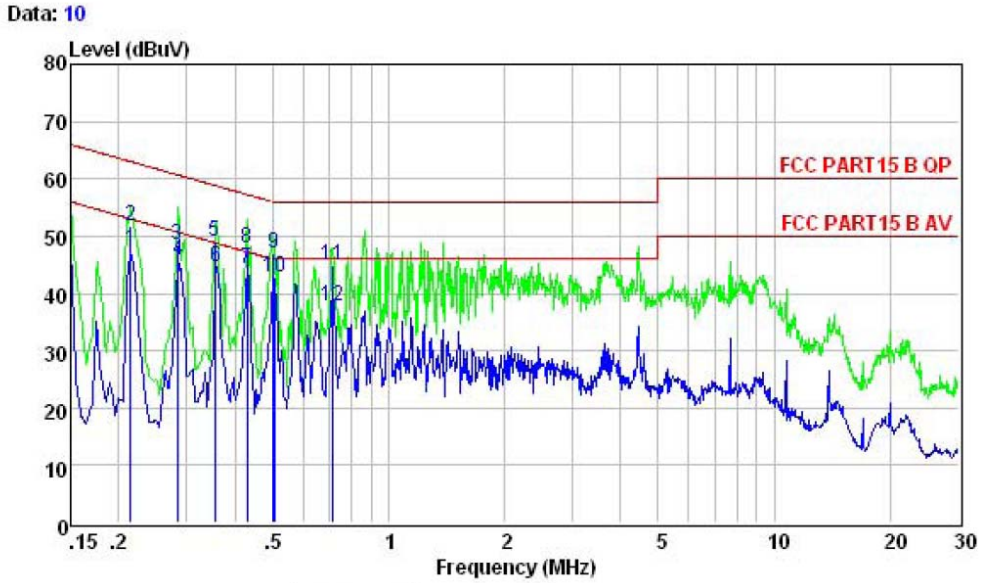
	Freq	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	
1	0.215	48.40	53.01	-4.61	Average
2	0.215	52.80	63.01	-10.21	QP
3	0.285	51.30	60.68	-9.38	QP
4	0.285	46.97	50.68	-3.71	Average
5	0.355	51.70	58.84	-7.14	QP
6	0.356	45.04	48.83	-3.79	Average
7	0.430	48.50	57.25	-8.75	QP
8	0.431	44.13	47.24	-3.11	Average
9	0.505	46.30	56.00	-9.70	QP
10	0.505	42.20	46.00	-3.80	Average
11	0.716	44.80	56.00	-11.20	QP
12	0.716	37.31	46.00	-8.69	Average

Test mode: USB playing
Test Line: NEUTRAL



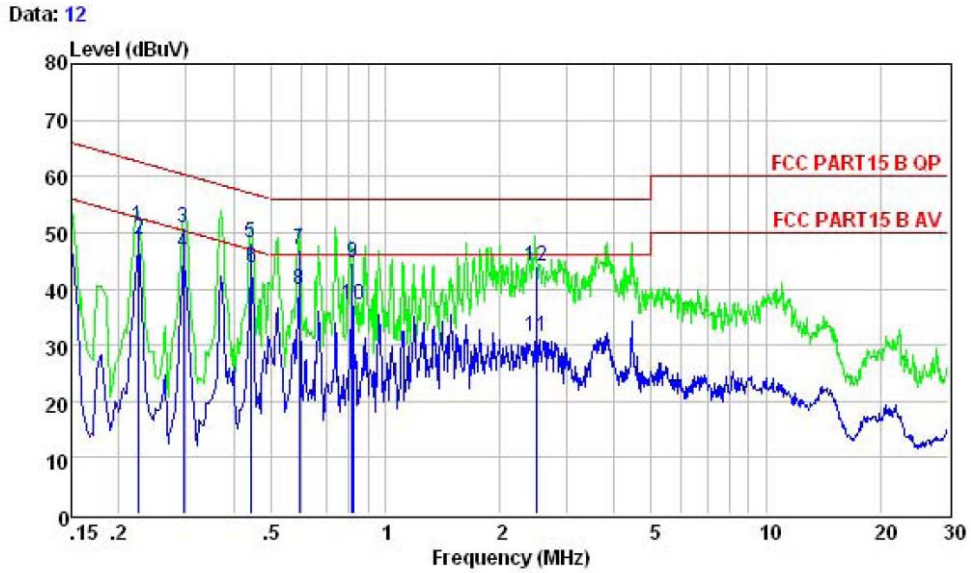
	Freq	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	
1	0.150	51.89	56.00	-4.11	Average
2	0.150	53.10	66.00	-12.90	QP
3	0.225	51.60	62.63	-11.03	QP
4	0.226	48.92	52.61	-3.69	Average
5	0.295	50.80	60.38	-9.58	QP
6	0.296	46.34	50.37	-4.03	Average
7	0.444	47.30	56.99	-9.69	QP
8	0.444	43.64	46.98	-3.34	Average
9	0.594	46.30	56.00	-9.70	QP
10	0.595	39.87	46.00	-6.13	Average
11	0.821	41.90	56.00	-14.10	QP
12	0.822	37.27	46.00	-8.73	Average

Test mode: Data transmitting(network)
Test Line: LINE



	Freq	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	
1	0.215	47.60	53.01	-5.41	Average
2	0.215	51.70	63.01	-11.31	QP
3	0.284	48.40	60.70	-12.30	QP
4	0.285	45.80	50.68	-4.88	Average
5	0.355	49.10	58.84	-9.74	QP
6	0.356	44.70	48.83	-4.13	Average
7	0.431	44.30	47.24	-2.94	Average
8	0.431	47.80	57.24	-9.44	QP
9	0.504	46.90	56.00	-9.10	QP
10	0.505	42.90	46.00	-3.10	Average
11	0.715	44.80	56.00	-11.20	QP
12	0.716	37.90	46.00	-8.10	Average

Test mode: Data transmitting(network)
Test Line: NEUTRAL



	Freq	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	
1	0.225	51.10	62.63	-11.53	QP
2	0.226	48.92	52.61	-3.69	Average
3	0.295	50.90	60.38	-9.48	QP
4	0.296	46.34	50.37	-4.03	Average
5	0.444	48.20	56.99	-8.79	QP
6	0.444	43.64	46.98	-3.34	Average
7	0.594	47.10	56.00	-8.90	QP
8	0.595	39.87	46.00	-6.13	Average
9	0.821	44.70	56.00	-11.30	QP
10	0.822	37.27	46.00	-8.73	Average
11	2.500	31.51	46.00	-14.49	Average
12	2.500	43.90	56.00	-12.10	QP

4.2. Radiated Emission Test

Result	**:**	**Pass**
Test Procedure	:	ANSI C63.4:2009
Frequency Range	:	30 to 12000 MHz
Test Site	:	966 Chamber
Limits	:	FCC Part 15, Subpart B: Oct. 1, 2012

Test Setup

Date of Test	:	Aug. 20~22, 2013
M/N	:	X3
Input Voltage	:	DC 5V from adapter input AC 120V/60Hz
Operation Mode	:	USB playing Data transmitting（network)

The EUT was placed on a turn table which was 0.8 m above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 m away from the receiving antenna which was mounted on an antenna tower. The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 m to 4 m for both horizontal and vertical polarizations.

The EUT was tested in the Chamber Site. It was pre-scanned with a Peak detector from the spectrum, and all the final readings from the test receiver were measured with the Quasi-Peak detector.

The bandwidth of the EMI test receiver is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The work frequency of EUT is 2.4GHz, the test data up to 13GHz. the data above 13GHz is background, so no data about it.

The bandwidth of the Spectrum's VBW is set at 3MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz.

The test data of the worst case condition(s) was reported on the following pages.

Notes: 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading-Preamp Factor.

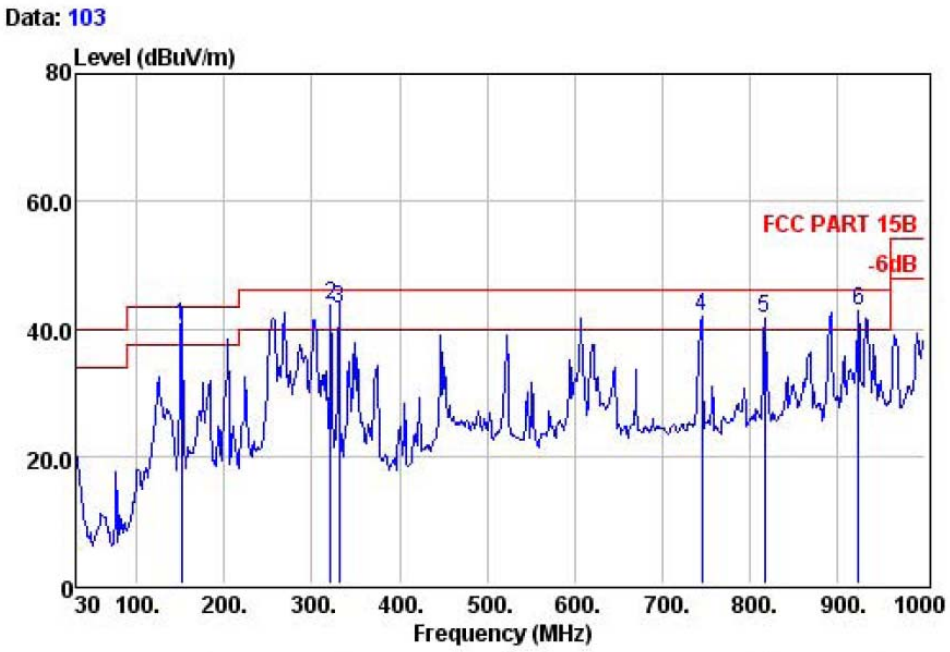
2. Measurement Uncertainty: ±3.2 dB at a level of confidence of 95%.

3. For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.

Test Data

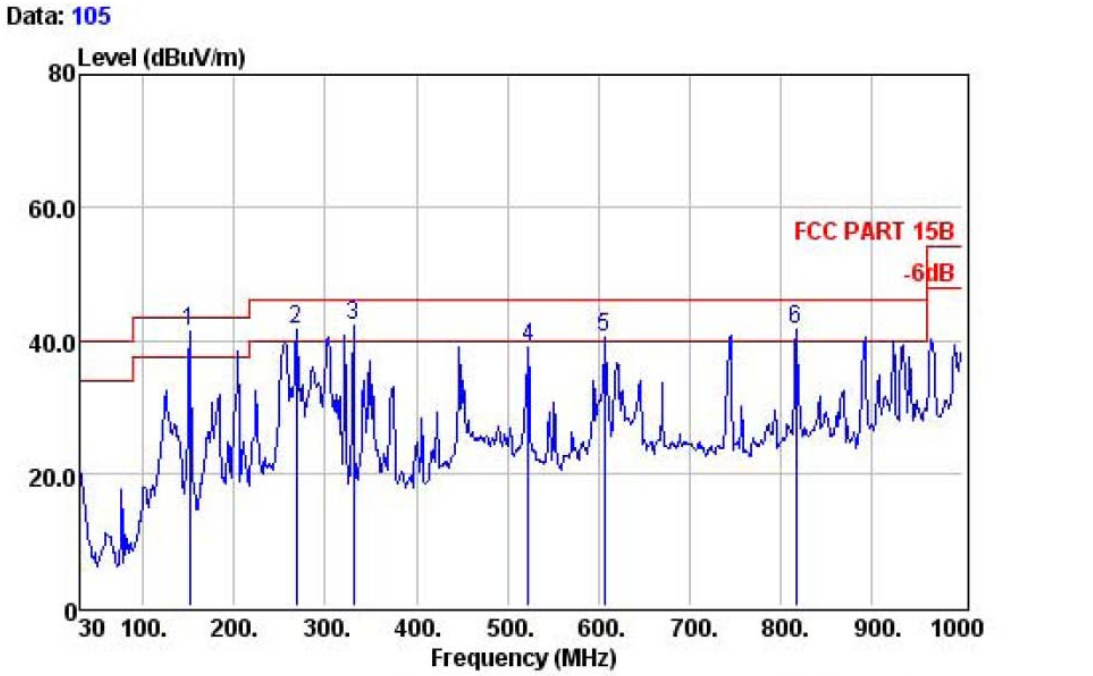
Test mode: USB playing

Polarization: HORIZONTAL



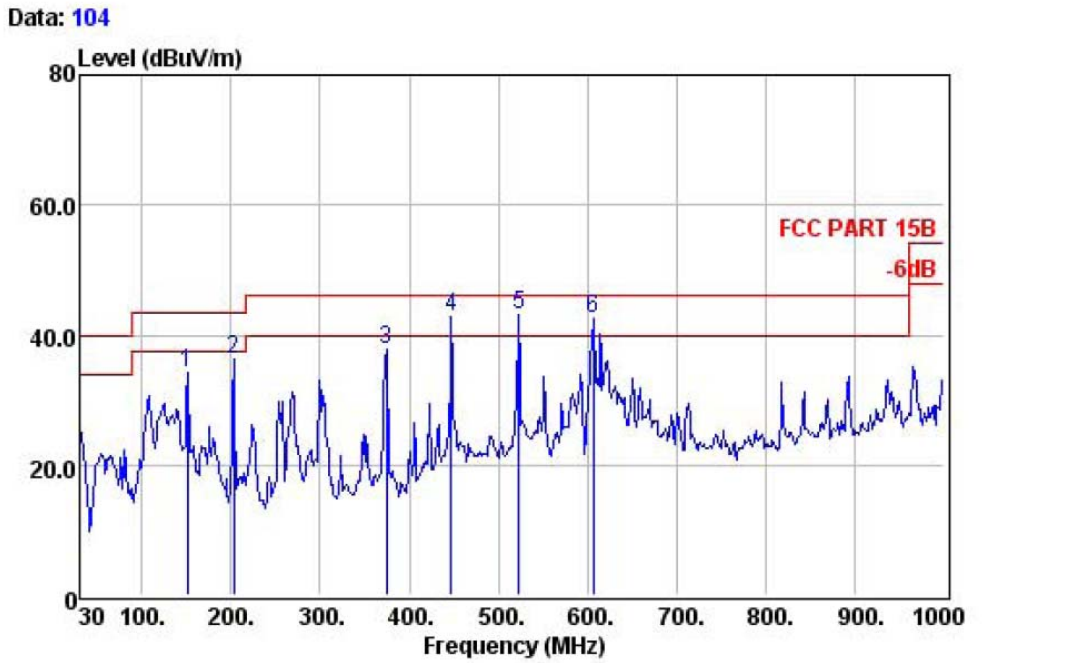
		Freq	Preamp Factor	Read Level	Cable Loss	Antenna Factor	Level	Limit Line	Over Limit	Remark
		MHz	dB	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	!	151.25	31.25	61.43	1.22	9.02	40.42	43.50	-3.08	QP
2	!	321.00	30.84	58.11	2.02	14.39	43.68	46.00	-2.32	QP
3	!	330.70	30.78	57.21	2.02	14.73	43.18	46.00	-2.82	QP
4	!	745.86	30.67	45.66	4.04	22.77	41.80	46.00	-4.20	QP
5	!	817.64	30.50	44.77	4.39	23.07	41.73	46.00	-4.27	QP
6	!	924.34	29.85	43.15	4.87	24.68	42.85	46.00	-3.15	QP

Test mode: USB playing
Polarization: VERTICAL



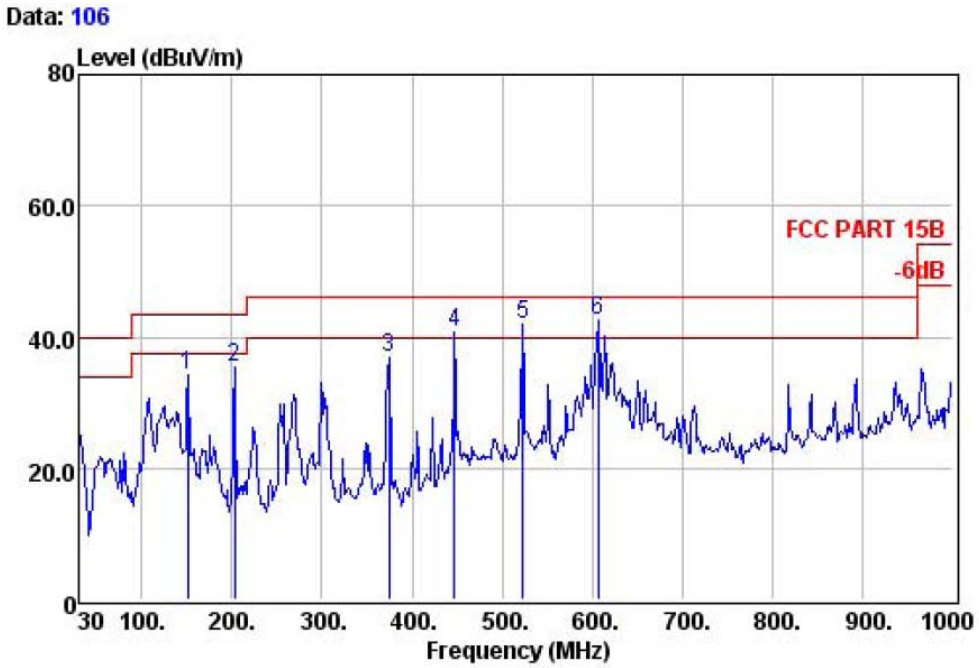
		Freq	Preamp Factor	Read Level	Cable Loss	Antenna Factor	Level	Limit Line	Over Limit	Remark
		MHz	dB	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	!	151.25	31.25	62.43	1.22	9.02	41.42	43.50	-2.08	QP
2	!	267.65	30.95	57.85	1.78	12.97	41.65	46.00	-4.35	QP
3	!	330.70	30.78	56.21	2.02	14.73	42.18	46.00	-3.82	QP
4		522.76	30.69	47.55	2.94	19.16	38.96	46.00	-7.04	QP
5	!	607.15	30.59	46.96	3.38	20.80	40.55	46.00	-5.45	QP
6	!	817.64	30.50	44.77	4.39	23.07	41.73	46.00	-4.27	QP

Test mode: Data transmitting(network)
Polarization: HORIZONTAL



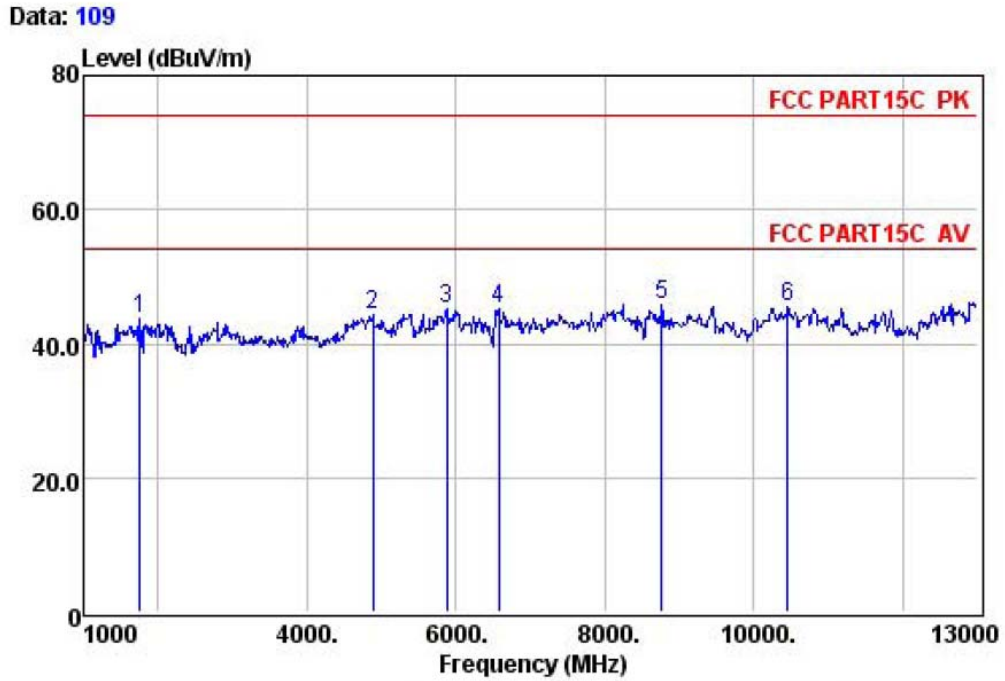
		Freq	Preamp Factor	Read Level	Cable Loss	Antenna Factor	Level	Limit Line	Over Limit	Remark
		MHz	dB	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1		151.25	31.25	55.26	1.22	9.02	34.25	43.50	-9.25	QP
2		202.66	31.09	54.92	1.46	11.13	36.42	43.50	-7.08	QP
3		374.35	30.62	50.04	2.27	16.18	37.87	46.00	-8.13	QP
4	!	447.10	30.61	53.16	2.62	17.54	42.71	46.00	-3.29	QP
5	!	522.76	30.69	51.58	2.94	19.16	42.99	46.00	-3.01	QP
6	!	607.15	30.59	48.91	3.38	20.80	42.50	46.00	-3.50	QP

Test mode: Data transmitting(network)
Polarization: VERTICAL



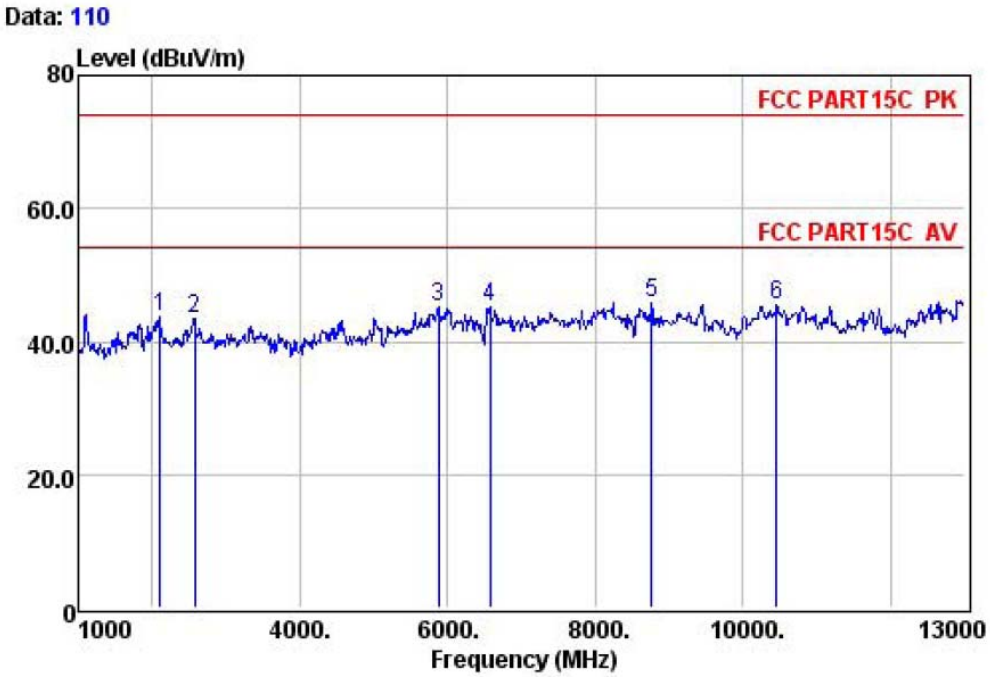
		Freq	Preamp Factor	Read Level	Cable Loss	Antenna Factor	Level	Limit Line	Over Limit	Remark
		MHz	dB	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1		151.25	31.25	55.26	1.22	9.02	34.25	43.50	-9.25	QP
2		202.66	31.09	53.92	1.46	11.13	35.42	43.50	-8.08	QP
3		374.35	30.62	49.04	2.27	16.18	36.87	46.00	-9.13	QP
4	!	447.10	30.61	51.16	2.62	17.54	40.71	46.00	-5.29	QP
5	!	522.76	30.69	50.58	2.94	19.16	41.99	46.00	-4.01	QP
6	!	607.15	30.59	48.91	3.38	20.80	42.50	46.00	-3.50	QP

Test mode: USB playing
Polarization: HORIZONTAL



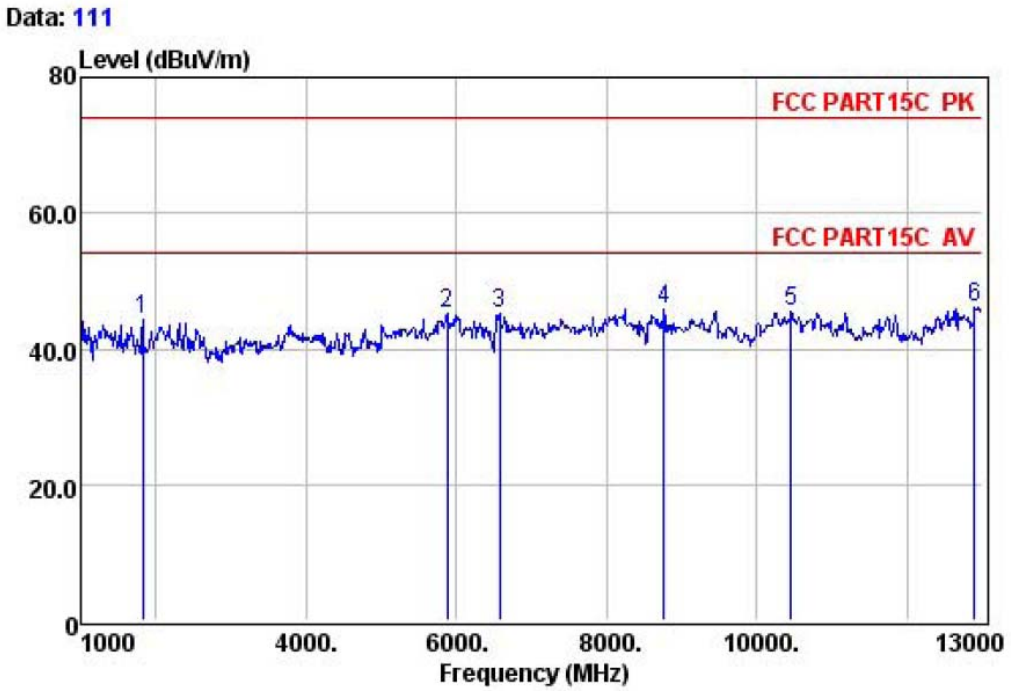
	Freq	Preamp Factor	Read Level	Cable Loss	Antenna Factor	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	1756.00	26.15	37.06	5.93	26.85	43.69	74.00	-30.31	Peak
2	4888.00	27.54	26.41	12.19	33.15	44.21	74.00	-29.79	Peak
3	5884.00	27.69	21.90	15.93	34.93	45.07	74.00	-28.93	Peak
4	6580.00	27.82	20.27	16.60	36.08	45.13	74.00	-28.87	Peak
5	8764.00	28.33	20.26	16.83	37.12	45.88	74.00	-28.12	Peak
6	10456.00	28.85	18.22	17.06	39.12	45.55	74.00	-28.45	Peak

Test mode: USB playing
Polarization: VERTICAL



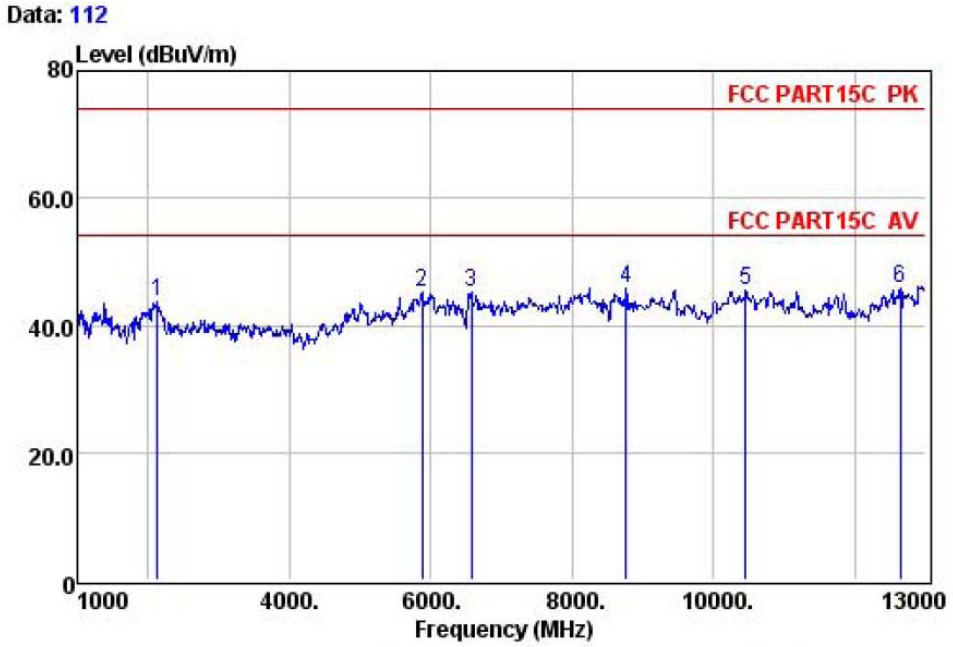
	Freq	Preamp Factor	Read Level	Cable Loss	Antenna Factor	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	2104.00	26.23	34.88	6.63	28.48	43.76	74.00	-30.24	Peak
2	2572.00	26.37	32.93	7.84	28.96	43.36	74.00	-30.64	Peak
3	5884.00	27.69	21.90	15.93	34.93	45.07	74.00	-28.93	Peak
4	6580.00	27.82	20.27	16.60	36.08	45.13	74.00	-28.87	Peak
5	8764.00	28.33	20.26	16.83	37.12	45.88	74.00	-28.12	Peak
6	10456.00	28.85	18.22	17.06	39.12	45.55	74.00	-28.45	Peak

Test mode: Data transmitting(network)
Polarization: HORIZONTAL



	Freq	Preamp Factor	Read Level	Cable Loss	Antenna Factor	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	1828.00	26.17	37.00	6.08	27.37	44.28	74.00	-29.72	Peak
2	5884.00	27.69	21.90	15.93	34.93	45.07	74.00	-28.93	Peak
3	6580.00	27.82	20.27	16.60	36.08	45.13	74.00	-28.87	Peak
4	8764.00	28.33	20.26	16.83	37.12	45.88	74.00	-28.12	Peak
5	10456.00	28.85	18.22	17.06	39.12	45.55	74.00	-28.45	Peak
6	12904.00	29.18	16.62	18.14	40.46	46.04	74.00	-27.96	Peak

Test mode: Data transmitting(network)
Polarization: VERTICAL



	Freq	Preamp Factor	Read Level	Cable Loss	Antenna Factor	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	2128.00	26.24	34.84	6.66	28.50	43.76	74.00	-30.24	Peak
2	5884.00	27.69	21.90	15.93	34.93	45.07	74.00	-28.93	Peak
3	6580.00	27.82	20.27	16.60	36.08	45.13	74.00	-28.87	Peak
4	8764.00	28.33	20.26	16.83	37.12	45.88	74.00	-28.12	Peak
5	10456.00	28.85	18.22	17.06	39.12	45.55	74.00	-28.45	Peak
6	12640.00	29.13	17.07	17.91	39.86	45.71	74.00	-28.29	Peak

5. PHOTOGRAPHS OF TEST SET-UP

Please see annex.

6. PHOTOGRAPHS OF THE EUT

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