Verification
On Behalf of

Azlan Logistics Limited

TECHCONNECT TC-HDMIIP
Model No.: TC-HDMIIP

Prepared for	:	Azlan Logistics Limited
Address	:	Redwood 2, Chineham Business Park, Crockford Lane, Basingstoke, Hampshire, RG24 8WQ, United Kingdom
Prepared By	:	Shenzhen Anbotek Compliance Laboratory Limited
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Report Number	:	R0317050110E
Date of Test	:	May 15~Jun. 24, 2017
Date of Report	:	Jun. 24, 2017

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TEST REPORT VERIFICATION

Applicant	:	Azlan Logistics Limited
Manufacturer	:	Azlan Logistics Limited
EUT	:	TECHCONNECT TC-HDMIIP
Model No.	:	TC-HDMIIP
Rating	:	Input: 5V⎓ 2A
Trade Mark	:	VISION

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B: 2016 / ANSI C63.4-2014

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited Is assumed full responsibility for the accuracy and completeness of these measurements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited

Date of Test : May 15~Jun. 24, 2017

Prepared by : Baron Wen
(Engineer/ Baron Wen)

Reviewer : oliay Yang
(Project Manager/ Oliay Yang)

Approve & Authorized Signer : Tom Chen
(Manager/ Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	TECHCONNECT TC-HDMIIP
Model Number	:	TC-HDMIIP
Test Power Supply	:	DC 5V via adapter AC 120V, 60Hz
Applicant	:	Azlan Logistics Limited
Address	:	Redwood 2, Chineham Business Park, Crockford Lane, Basingstoke, Hampshire, RG24 8WQ, United Kingdom
Manufacturer	:	Azlan Logistics Limited
Address	:	Redwood 2, Chineham Business Park, Crockford Lane, Basingstoke, Hampshire, RG24 8WQ, United Kingdom
Factory	:	Azlan Logistics Limited
Address	:	Redwood 2, Chineham Business Park, Crockford Lane, Basingstoke, Hampshire, RG24 8WQ, United Kingdom

1.2. Auxiliary Equipment Used during Test

TV	:	Manufacturer: SONY M/N: KDL-26EX550 S/N: 1012240 CE , FCC: DOC
DVD	:	Manufacturer: SONY M/N: BDP-S380 S/N: 4065848 CE , FCC
Adapter	:	Manufacturer: SHENZHEN FUJIA APPLIANCE CO., LTD. Model: FJ-SW1260502000DN Input: 100-240V~ 50/60Hz, 0.4A max. Output: 5Vd.c., 2000mA

1.3. Description of Test Facility

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

CNAS - LAB Code: L3503
Shenzhen Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

FCC-Registration No.: 752021
Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registed and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, July 06, 2016

IC-Registration No.: 8058A-1
Shenzhen Anbotek Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A-1, June 13, 2016

Test Location
All Emissions tests were performed
Shenzhen Anbotek Compliance Laboratory Limited. at 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

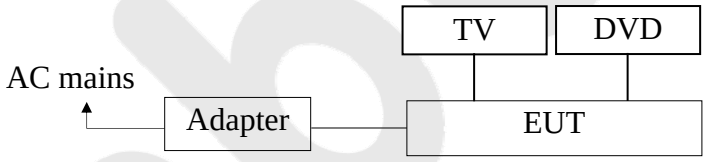
1.4. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 4.1dB (Horizontal) Ur = 4.3dB (Vertical)
Conduction Uncertainty	:	Uc =3.4 dB
Disturbance Uncertainty	:	Ud = 2.6 dB

1.5. Description of Test Mode

Pretest Mode	Description
Mode 1	On

For Mode 1 Block Diagram of Test Setup



1.6. Test Summary

Test Items	Test Mode	Status
Power Line Conducted Emission Test (150KHz To 30MHz)	Mode 1	P
Radiated Emission Test (30MHz To 1000MHz)	Mode 1	P

P）Indicates that the through the test.
N）Don't test.

2. POWER LINE CONDUCTED MEASUREMENT

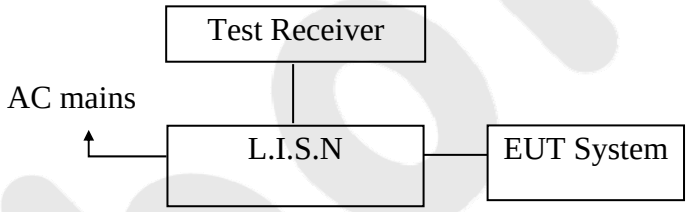
2.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Two-Line V-network	Rohde & Schwarz	ENV216	100055	Jul. 19, 2016	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Jun. 17, 2017	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Jun. 17, 2017	1 Year

2.2. Block Diagram of Test Setup

2.2.1. Block diagram of connection between the EUT and simulators



2.3. Power Line Conducted Emission Measurement Limits (FCC Part 15 Class B)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

2.4. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

2.5. Operating Condition of EUT

2.5.1. Setup the EUT and simulator as shown as Section 2.2.

2.5.2. Turn on the power of all equipment.

2.5.3. Let the EUT work in test mode and measure it.

2.6. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.4-2014 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

The test result are reported on Section 2.7.

2.7. Power Line Conducted Emission Measurement Results

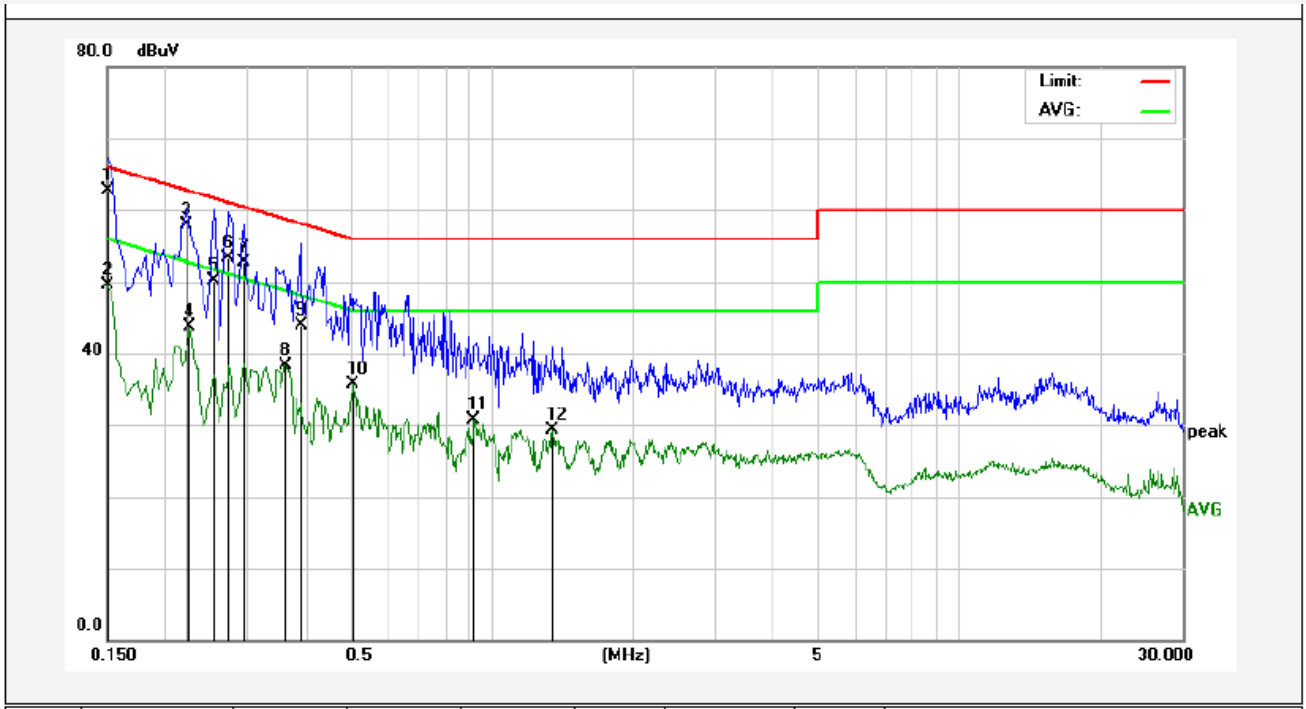
PASS

The frequency range from 150KHz to 30 MHz is investigated.

The test curves are shown in the following pages.

CONDUCTED EMISSION TEST DATA

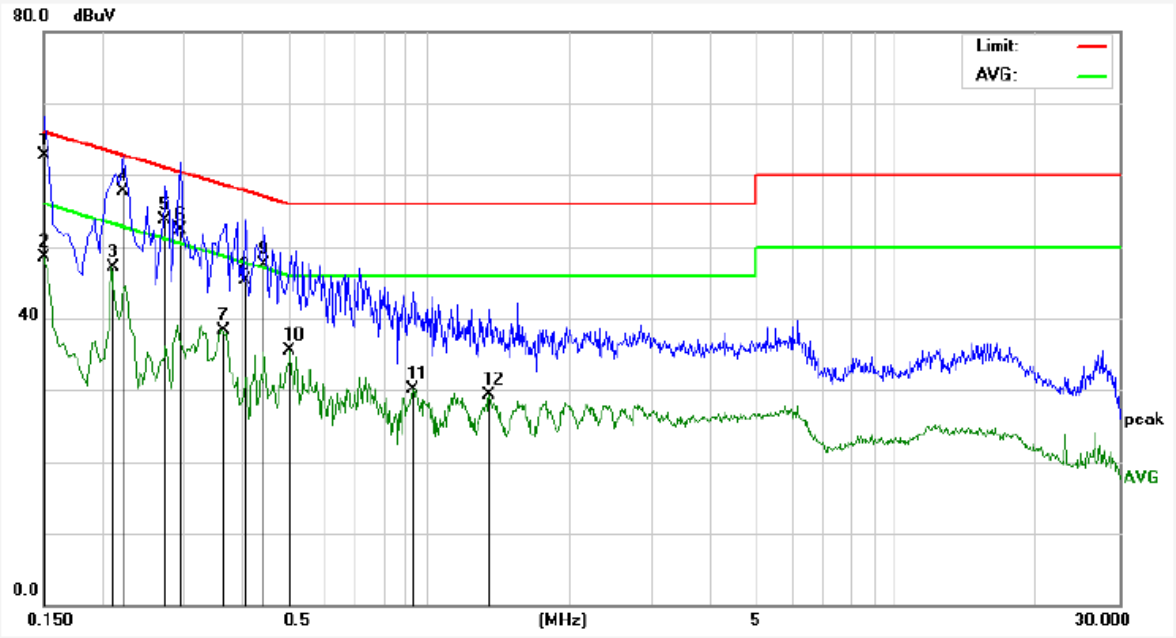
Test Site: 1# Shielded Room
Test Specification: DC 5V via adapter AC 120V, 60Hz
Comment: L
Temp.: 25℃ Hum.: 50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1500	42.90	19.90	62.80	65.99	-3.19	QP	
2	0.1500	29.53	19.90	49.43	55.99	-6.56	AVG	
3	0.2220	37.94	19.89	57.83	62.74	-4.91	QP	
4	0.2260	23.77	19.89	43.66	52.59	-8.93	AVG	
5	0.2540	30.14	19.89	50.03	61.62	-11.59	QP	
6	0.2740	33.42	19.89	53.31	60.99	-7.68	QP	
7	0.2940	32.87	19.89	52.76	60.41	-7.65	QP	
8	0.3620	18.35	19.92	38.27	48.68	-10.41	AVG	
9	0.3899	23.96	19.93	43.89	58.06	-14.17	QP	
10	0.5060	15.63	19.98	35.61	46.00	-10.39	AVG	
11	0.9180	10.59	20.10	30.69	46.00	-15.31	AVG	
12	1.3460	9.25	20.13	29.38	46.00	-16.62	AVG	

CONDUCTED EMISSION TEST DATA

Test Site:	1# Shielded Room
Test Specification:	DC 5V via adapter AC 120V, 60Hz
Comment:	N
	Temp.: 25℃ Hum.: 50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1500	42.83	19.90	62.73	65.99	-3.26	QP	
2	0.1500	28.64	19.90	48.54	55.99	-7.45	AVG	
3	0.2100	27.24	19.90	47.14	53.20	-6.06	AVG	
4	0.2220	37.72	19.89	57.61	62.74	-5.13	QP	
5	0.2740	33.76	19.89	53.65	60.99	-7.34	QP	
6	0.2940	32.45	19.89	52.34	60.41	-8.07	QP	
7	0.3620	18.43	19.92	38.35	48.68	-10.33	AVG	
8	0.4060	25.34	19.94	45.28	57.73	-12.45	QP	
9	0.4460	27.53	19.96	47.49	56.95	-9.46	QP	
10	0.5060	15.52	19.98	35.50	46.00	-10.50	AVG	
11	0.9260	10.05	20.10	30.15	46.00	-15.85	AVG	
12	1.3500	9.24	20.13	29.37	46.00	-16.63	AVG	

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

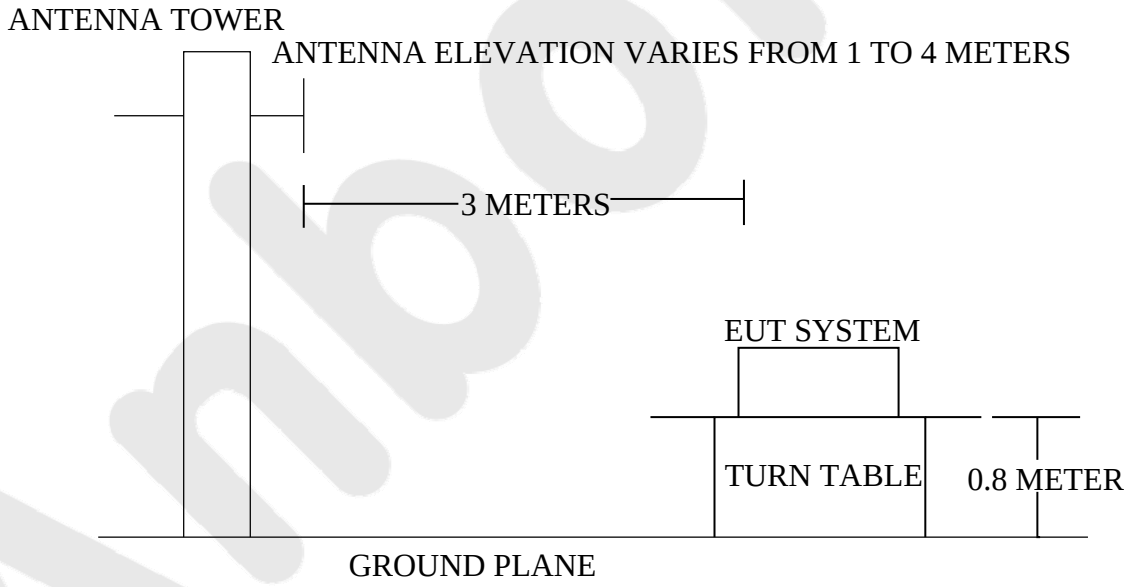
The following test equipments are used during the radiated emission measurement:

3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Jun. 17, 2017	1 Year
2.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	May 06, 2017	1 Year
3.	Pre-amplifier	SONOMA	310N	186860	Jun. 17, 2017	1 Year

3.2. Block Diagram of Test Setup

3.2.1. Anechoic Chamber Test Setup Diagram



3.3. Radiated Emission Limit (Subpart B Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0

Remark： (1) Emission level (dB)μV = 20 log Emission level μV/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 equipments 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 and measure it.

3.6. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (Trilog Broadband Antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

The bandwidth of the EMI test receiver (ESCI) is set at 120kHz.

The frequency range from 30MHz to 1000MHz is checked.

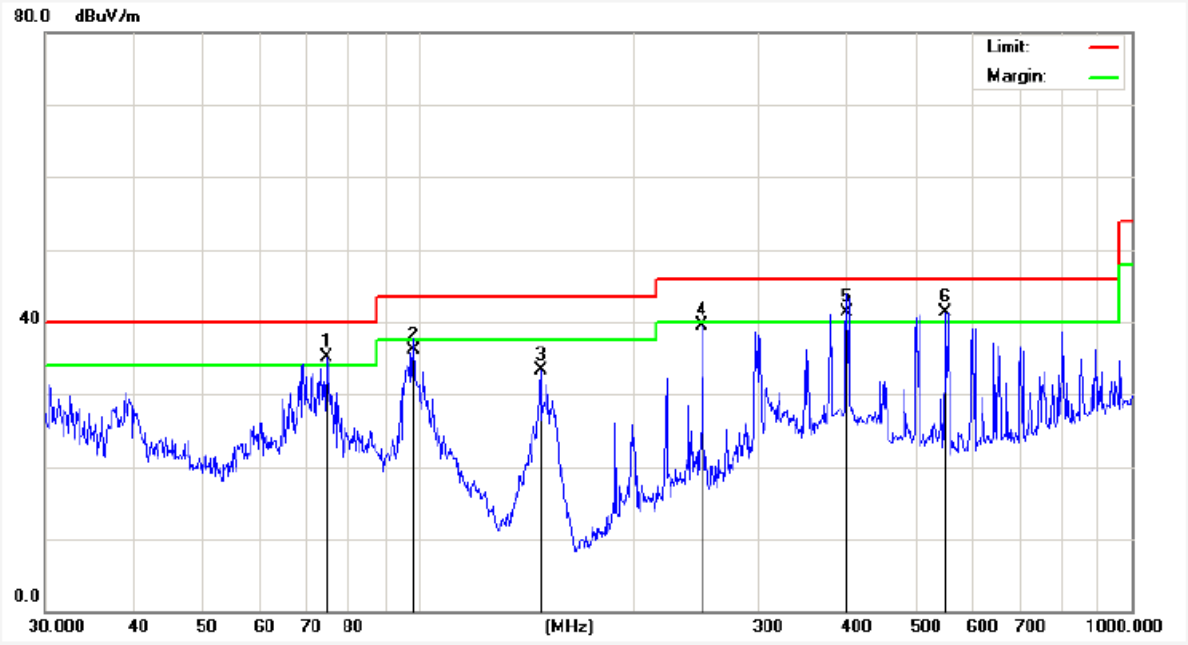
The test mode is tested in chamber and all the test results are listed in Section 3.7

3.7. Radiated Emission Measurement Results

PASS

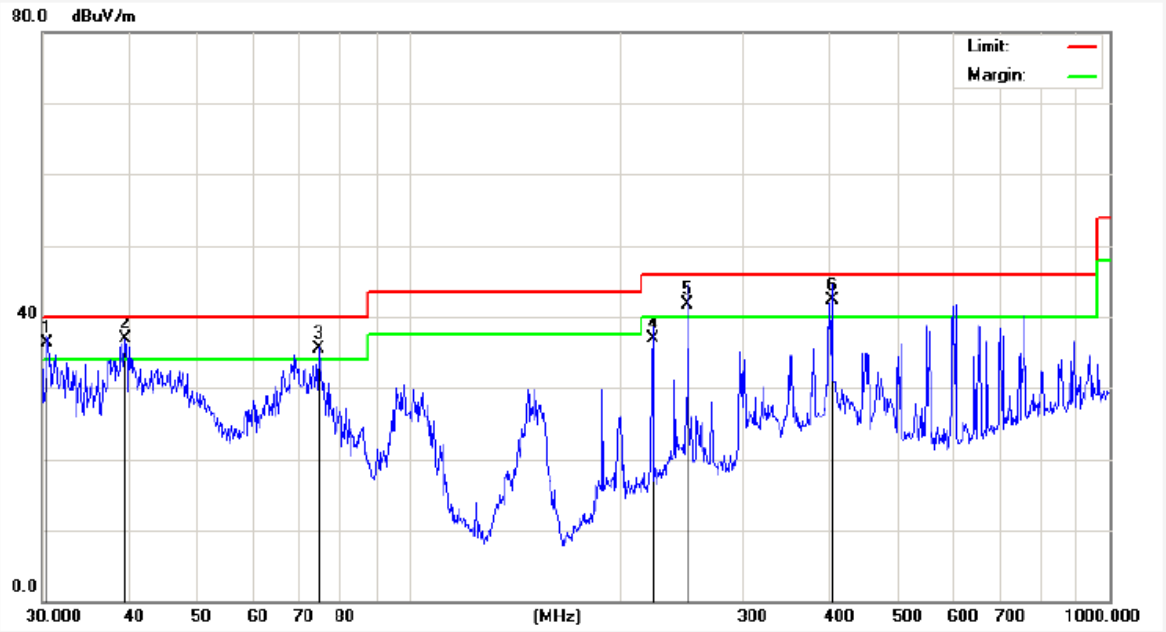
The test curves are shown in the following pages.

Test item:	**Radiation Test**	**Polarization:**	**Horizontal**
Standard:	**(RE)FCC Part 15 Subpart B**	**Power Source:**	**DC 5V via adapter AC 120V, 60Hz**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**24.3(℃)/55%RH**
Note:			



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	74.3954	55.67	-20.48	35.19	40.00	-4.81	QP	300	0	
2	98.4865	56.86	-20.85	36.01	43.50	-7.49	QP	300	360	
3	148.4410	56.72	-23.36	33.36	43.50	-10.14	peak			
4	250.3011	58.08	-18.56	39.52	46.00	-6.48	peak			
5	399.0300	54.21	-12.88	41.33	46.00	-4.67	QP	300	360	
6	549.0193	52.42	-11.08	41.34	46.00	-4.66	QP	300	0	

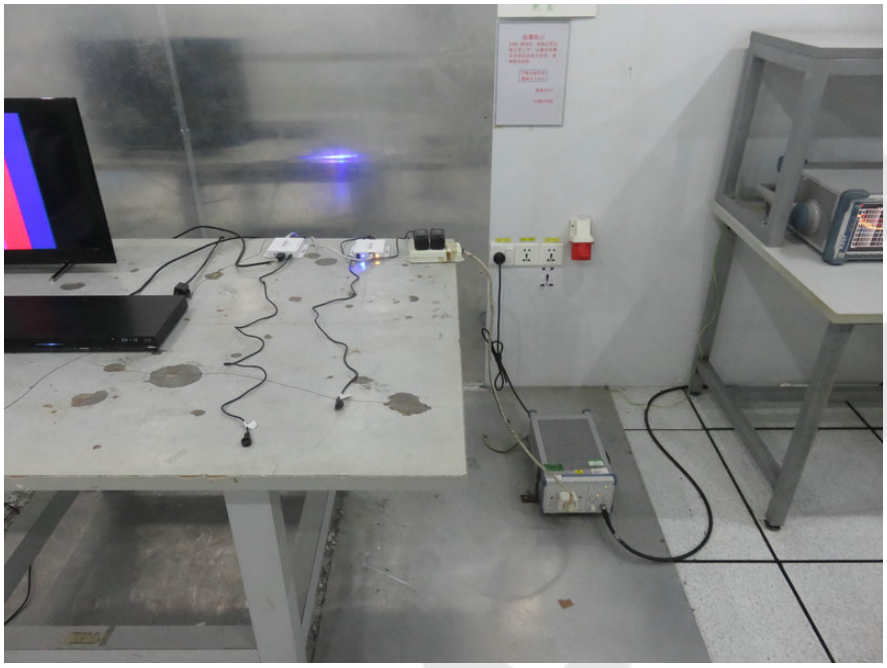
Test item:	**Radiation Test**	**Polarization:**	**Vertical**
Standard:	**(RE)FCC Part 15 Subpart B**	**Power Source:**	**DC 5V via adapter AC 120V, 60Hz**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**24.3(℃)/55%RH**
Note:			



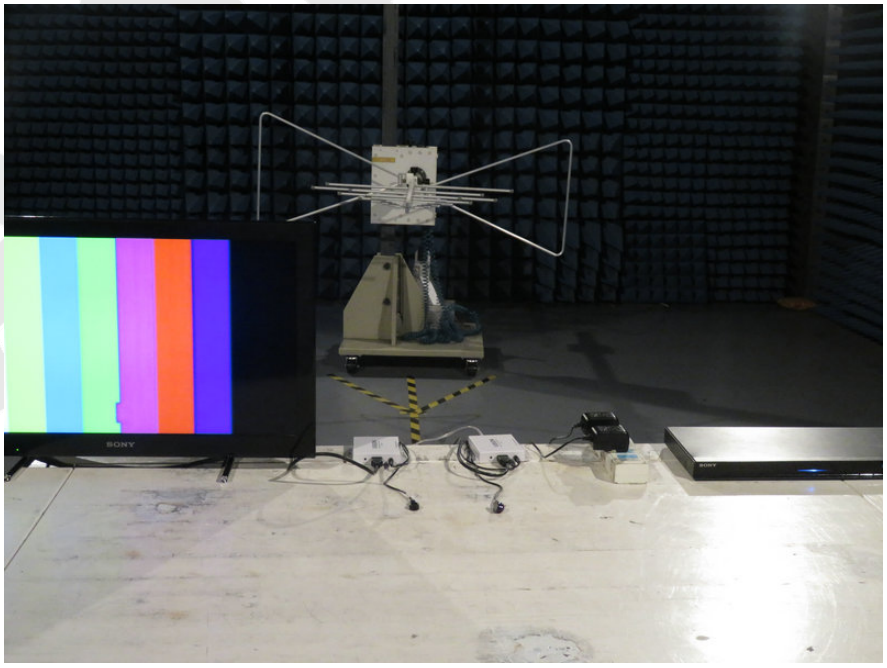
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	30.5306	52.89	-16.66	36.23	40.00	-3.77	QP	100	0	
2	39.4371	47.76	-10.80	36.96	40.00	-3.04	QP	100	360	
3	74.3955	56.08	-20.48	35.60	40.00	-4.40	QP	100	0	
4	222.9502	51.94	-14.97	36.97	46.00	-9.03	QP	100	360	
5	250.3012	55.67	-14.04	41.63	46.00	-4.37	QP	100	0	
6	401.8385	54.18	-11.81	42.37	46.00	-3.63	QP	100	0	

4. PHOTOGRAPH

4.1. Photo of Power Line Conducted Emission Test



4.2. Photo of Radiated Emission Test



APPENDIX I
(Photos of EUT)

Figure 1
The EUT- Overall View

Figure 2
The EUT- Top View

Figure 3
The EUT- Bottom View

Figure 4
The EUT- Side View

Figure 5
The EUT- Side View

Figure 6
The EUT- Side View

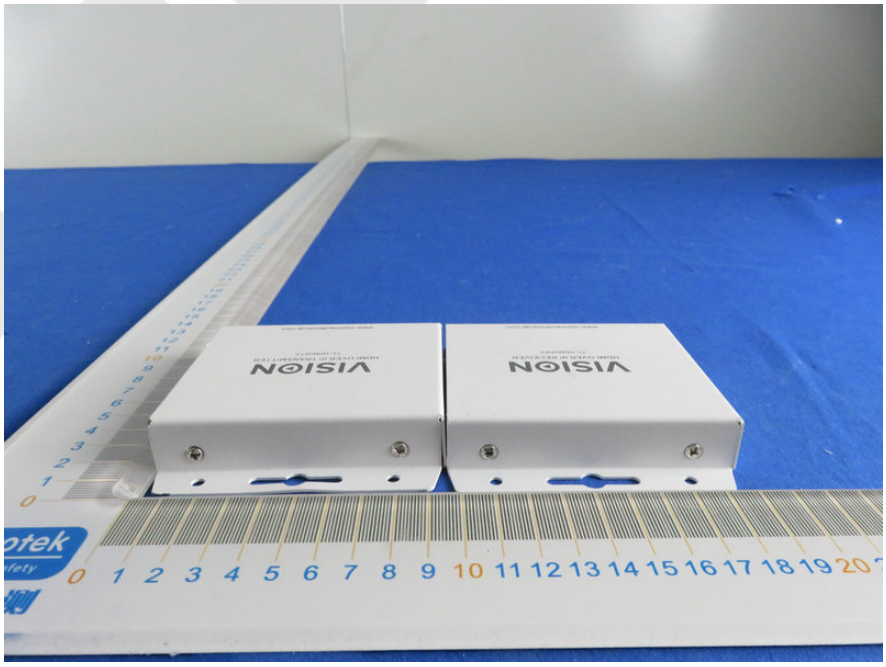


Figure 7
PCB of The EUT View

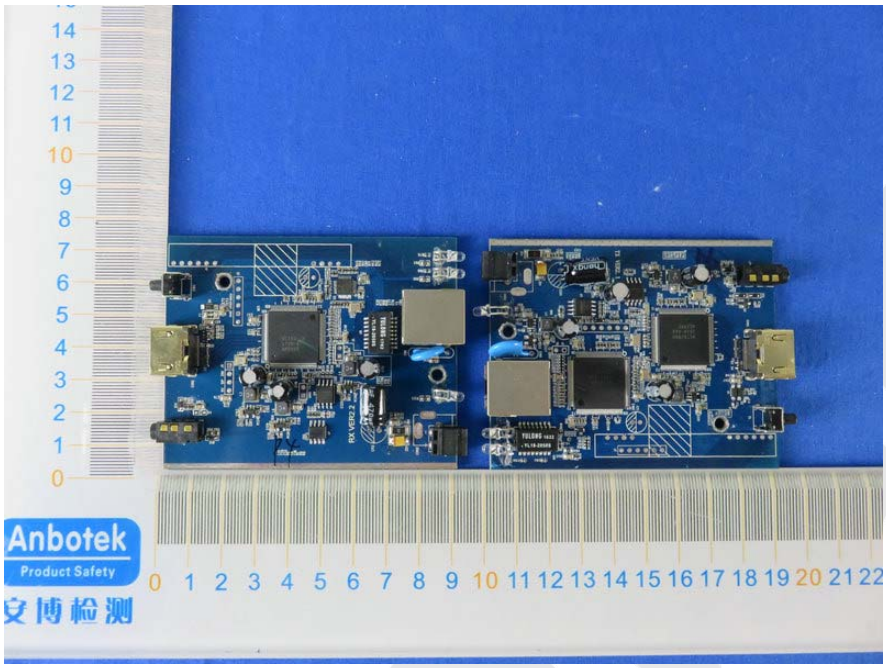


Figure 8
PCB of The EUT View