EMC TEST REPORT
for
Azlan Logistics Limited

TECHCONNECT TC-HDMIIP
Model No. : TC-HDMIIP

Applicant	:	Azlan Logistics Limited
Address	:	Redwood 2, Chineham Business Park, Crockford Lane, Basingstoke, Hampshire, RG24 8WQ, United Kingdom
Prepared By	:	Shenzhen Anbotek Compliance Laboratory Limited
Address	:	1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China Tel: (86) 755-26066544 Fax: (86) 755-26014772

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:
AS/NZS CISPR 32: 2015

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. 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. Also, this report shows that the EUT to be technically compliant with the AS/NZS CISPR 32 requirements.

This report applies to above tested sample only and 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)

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

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	TECHCONNECT TC-HDMIIP
Model Number	:	TC-HDMIIP
Test Power Supply	:	DC 5V via adapter AC 100V, 50Hz/ DC 5V via adapter AC 240V, 50Hz
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 registered 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

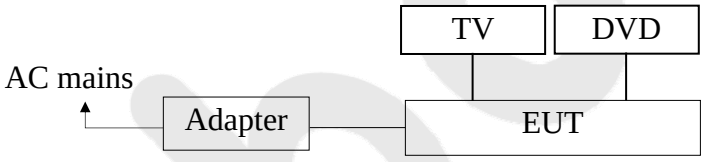
1.4. Measurement Uncertainty

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

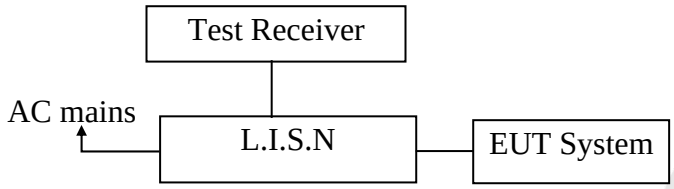
Test Items	Test Mode	Status
Power Line Conducted Emission Test (150kHz To 30MHz)	Mode 1	P
Radiated Emission Test (30MHz To 1000MHz)	Mode 1	P

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

2. CONDUCTED EMISSION TEST

2.1. Block Diagram of Test Setup

2.1.1. Block diagram of connection between the EUT and simulators



2.2. Measuring Standard

AS/NZS CISPR 32

2.3. Limits

2.3.1 Limit of Disturbance Voltage at The mains Terminals

Frequency (MHz)	Limit (dBμV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66.0 ~ 56.0 *	56.0 ~ 46.0 *
0.50 ~ 5.00	56.0	46.0
5.00 ~ 30.00	60.0	50.0
NOTE1-The lower limit shall apply at the transition frequencies. NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.		

2.4. EUT Configuration on Measurement

The following equipments are installed on Conducted Emission Measurement to meet AS/NZS CISPR 32 requirements and operating 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 as shown on Section 2.1.

2.5.2. Turn on the power of all equipments.

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

2.6. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and connected to the AC mains through Line Impedance Stability Network (L.I.S.N). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are investigated to find out the maximum conducted emission according to the AS/NZS CISPR 32 regulations during conducted emission measurement.

The bandwidth of the field strength meter (R&S Test Receiver ESCI) is set at 9kHz in 150kHz~30MHz.

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

The test results are listed in Section 2.8.

2.7. 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

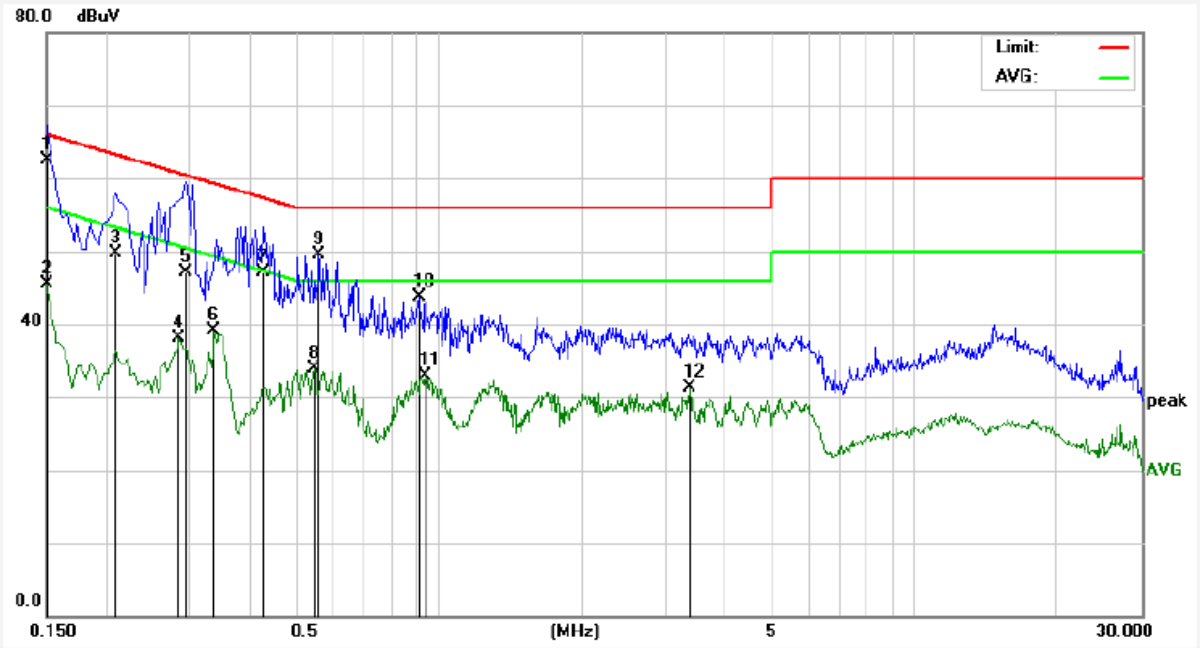
2.8. Measuring Results

PASS

The frequency range 150KHz to 30MHz is investigated

CISPR 32 CONDUCTED EMISSION TEST DATA

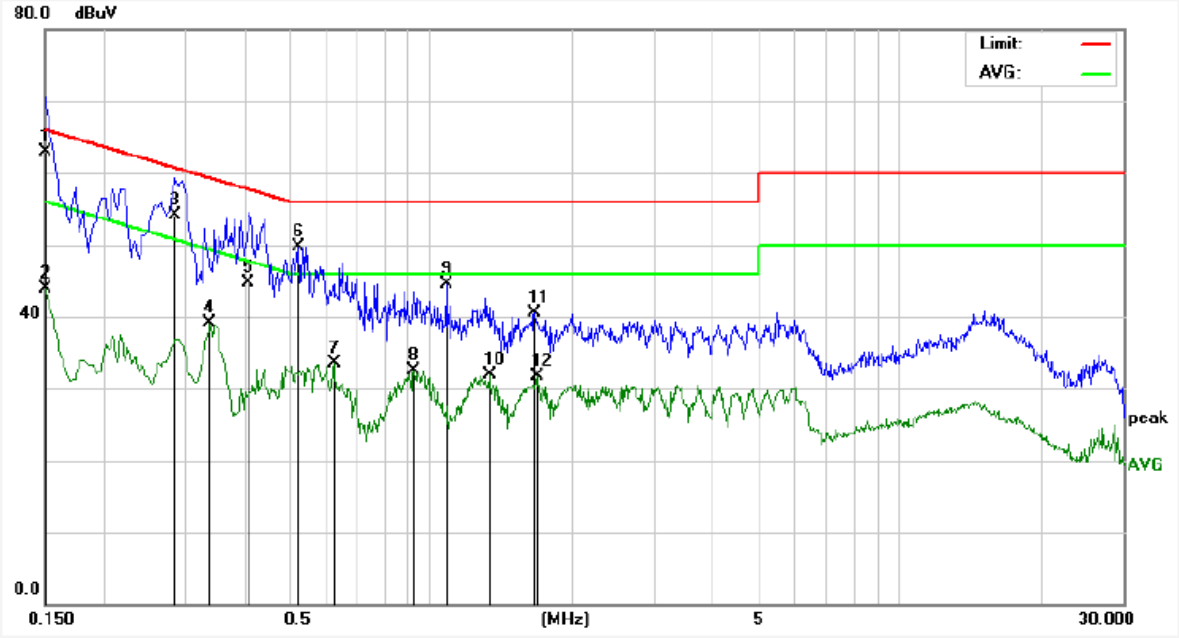
Test Site: 1# Shielded Room
Test Specification: DC 5V via adapter AC 240V, 50Hz
Comment: L
Temp.: 22.2℃ Hum.: 60%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1500	42.64	19.90	62.54	65.99	-3.45	QP	
2	0.1500	25.68	19.90	45.58	55.99	-10.41	AVG	
3	0.2100	29.83	19.90	49.73	63.20	-13.47	QP	
4	0.2860	18.18	19.89	38.07	50.64	-12.57	AVG	
5	0.2940	27.16	19.89	47.05	60.41	-13.36	QP	
6	0.3379	19.13	19.91	39.04	49.25	-10.21	AVG	
7	0.4300	27.10	19.95	47.05	57.25	-10.20	QP	
8	0.5500	13.82	19.99	33.81	46.00	-12.19	AVG	
9	0.5620	29.48	20.00	49.48	56.00	-6.52	QP	
10	0.9100	23.67	20.10	43.77	56.00	-12.23	QP	
11	0.9420	12.90	20.10	33.00	46.00	-13.00	AVG	
12	3.3740	11.04	20.17	31.21	46.00	-14.79	AVG	

CISPR 32 CONDUCTED EMISSION TEST DATA

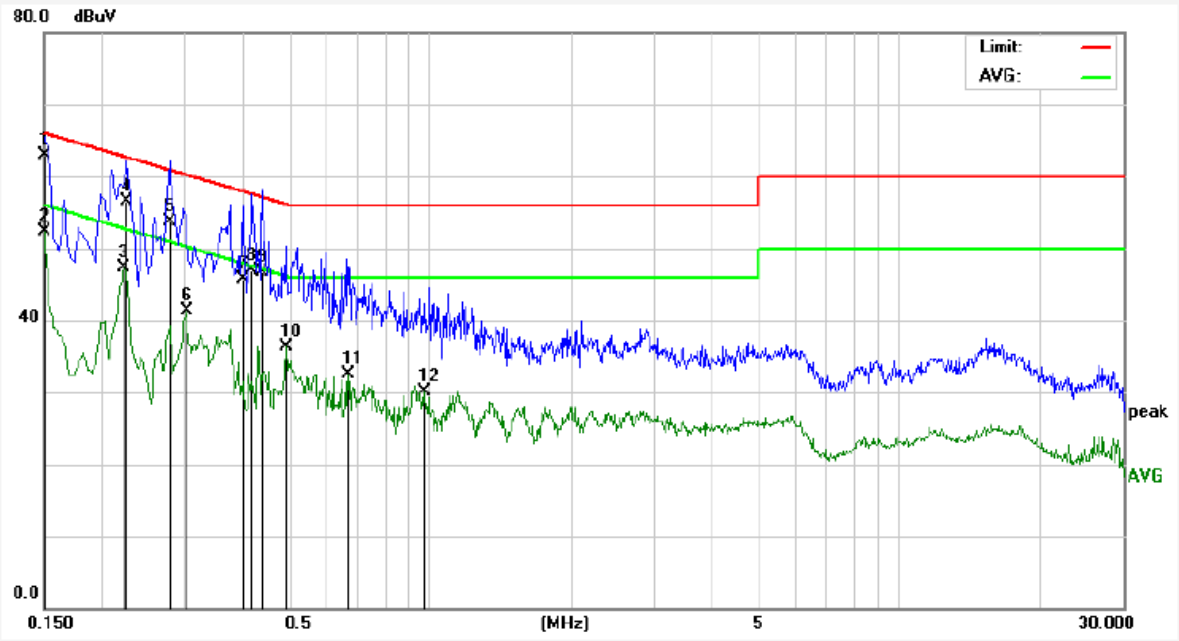
Test Site: 1# Shielded Room
Test Specification: DC 5V via adapter AC 240V, 50Hz
Comment: N
Temp.: 22.2℃ Hum.: 60%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1500	42.97	19.90	62.87	65.99	-3.12	QP	
2	0.1500	23.94	19.90	43.84	55.99	-12.15	AVG	
3	0.2860	34.18	19.89	54.07	60.64	-6.57	QP	
4	0.3379	19.25	19.91	39.16	49.25	-10.09	AVG	
5	0.4100	24.78	19.94	44.72	57.65	-12.93	QP	
6	0.5220	29.78	19.99	49.77	56.00	-6.23	QP	
7	0.6220	13.54	20.02	33.56	46.00	-12.44	AVG	
8	0.9220	12.42	20.10	32.52	46.00	-13.48	AVG	
9	1.0820	24.31	20.12	44.43	56.00	-11.57	QP	
10	1.3340	11.79	20.13	31.92	46.00	-14.08	AVG	
11	1.6700	20.34	20.13	40.47	56.00	-15.53	QP	
12	1.6820	11.61	20.13	31.74	46.00	-14.26	AVG	

CISPR 32 CONDUCTED EMISSION TEST DATA

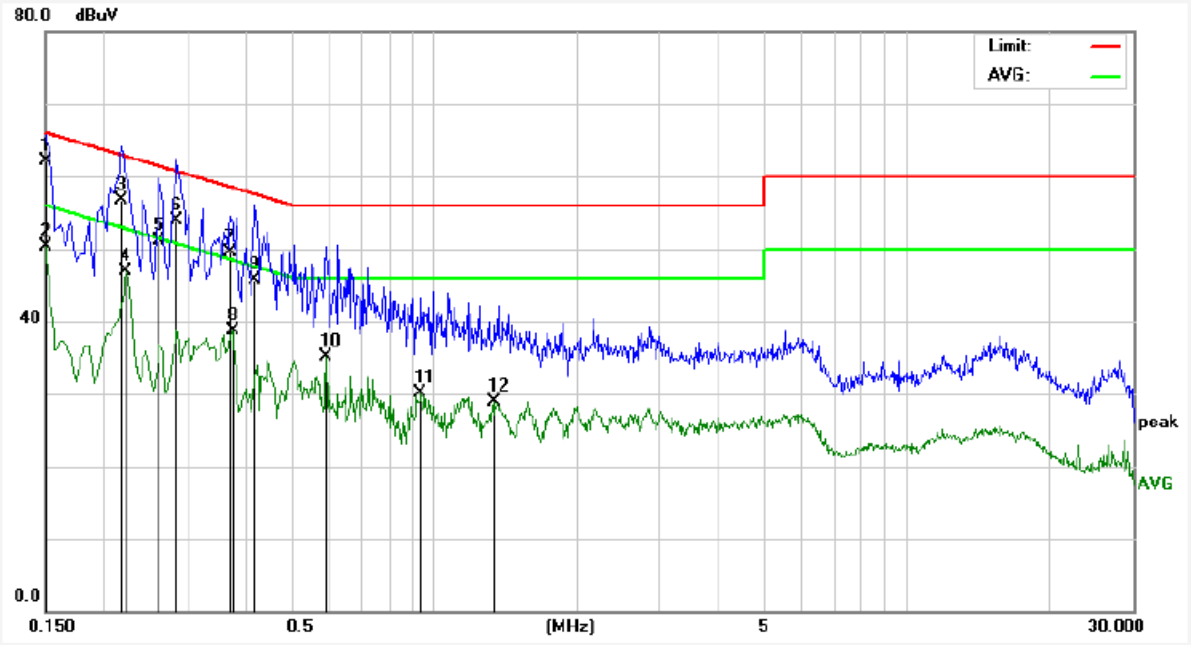
Test Site: 1# Shielded Room
Test Specification: DC 5V via adapter AC 100V, 50Hz
Comment: L
Temp.: 22.2℃ Hum.: 60%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1500	42.96	19.90	62.86	65.99	-3.13	QP	
2	0.1500	32.46	19.90	52.36	55.99	-3.63	AVG	
3	0.2220	27.45	19.89	47.34	52.74	-5.40	AVG	
4	0.2260	36.60	19.89	56.49	62.59	-6.10	QP	
5	0.2779	33.82	19.89	53.71	60.88	-7.17	QP	
6	0.3020	21.32	19.89	41.21	50.19	-8.98	AVG	
7	0.3980	25.75	19.93	45.68	57.89	-12.21	QP	
8	0.4180	26.89	19.94	46.83	57.49	-10.66	QP	
9	0.4380	26.84	19.95	46.79	57.10	-10.31	QP	
10	0.4940	16.39	19.98	36.37	46.10	-9.73	AVG	
11	0.6700	12.38	20.03	32.41	46.00	-13.59	AVG	
12	0.9700	10.03	20.11	30.14	46.00	-15.86	AVG	

CISPR 32 CONDUCTED EMISSION TEST DATA

Test Site: 1# Shielded Room
Test Specification: DC 5V via adapter AC 100V, 50Hz
Comment: N
Temp.: 22.2℃ Hum.: 60%

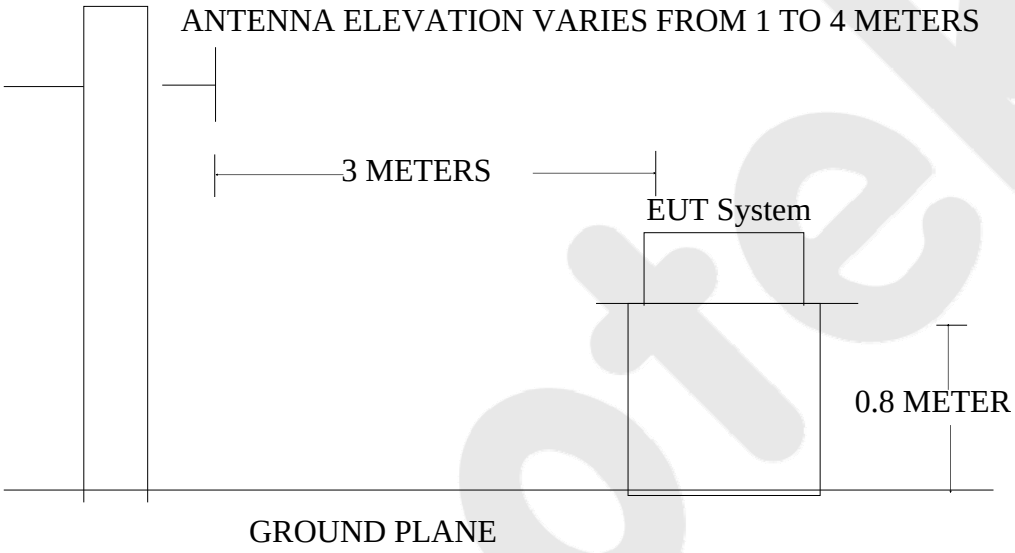


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1500	42.19	19.90	62.09	65.99	-3.90	QP	
2	0.1500	30.47	19.90	50.37	55.99	-5.62	AVG	
3	0.2180	36.76	19.90	56.66	62.89	-6.23	QP	
4	0.2220	26.96	19.89	46.85	52.74	-5.89	AVG	
5	0.2620	31.15	19.89	51.04	61.36	-10.32	QP	
6	0.2860	34.02	19.89	53.91	60.64	-6.73	QP	
7	0.3700	29.63	19.92	49.55	58.50	-8.95	QP	
8	0.3740	18.79	19.92	38.71	48.41	-9.70	AVG	
9	0.4180	25.69	19.94	45.63	57.49	-11.86	QP	
10	0.5899	15.07	20.01	35.08	46.00	-10.92	AVG	
11	0.9340	10.09	20.10	30.19	46.00	-15.81	AVG	
12	1.3420	8.81	20.13	28.94	46.00	-17.06	AVG	

3. RADIATED EMISSION TEST

3.1. Block Diagram of Test

3.1.1. Block diagram of test setup (In chamber)



3.2. Measuring Standard

AS/NZS CISPR 32

3.3. Radiated Emission Limits

All emanations from an Class B device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT (dBμV/m)
30 ~ 230	3	40
230 ~ 1000	3	47

Note: (1) The smaller limit shall apply at the combination point between two frequency bands.
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

3.4. EUT Configuration on Test

The AS/NZS CISPR 32 regulations test method must be used to find the maximum

emission during radiated emission measurement.

3.5. Operating Condition of EUT

3.5.1. Turn on the power.

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

3.6. Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Bilog antenna (calibrated by Dipole Antenna) is used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the Receiver (ESCI) is set at 120kHz.

The EUT is tested in 9*6*6 Chamber.

The test results are listed in Section 3.8.

3.7. Test Equipment

The following test equipments are used during radiated emission measurement:

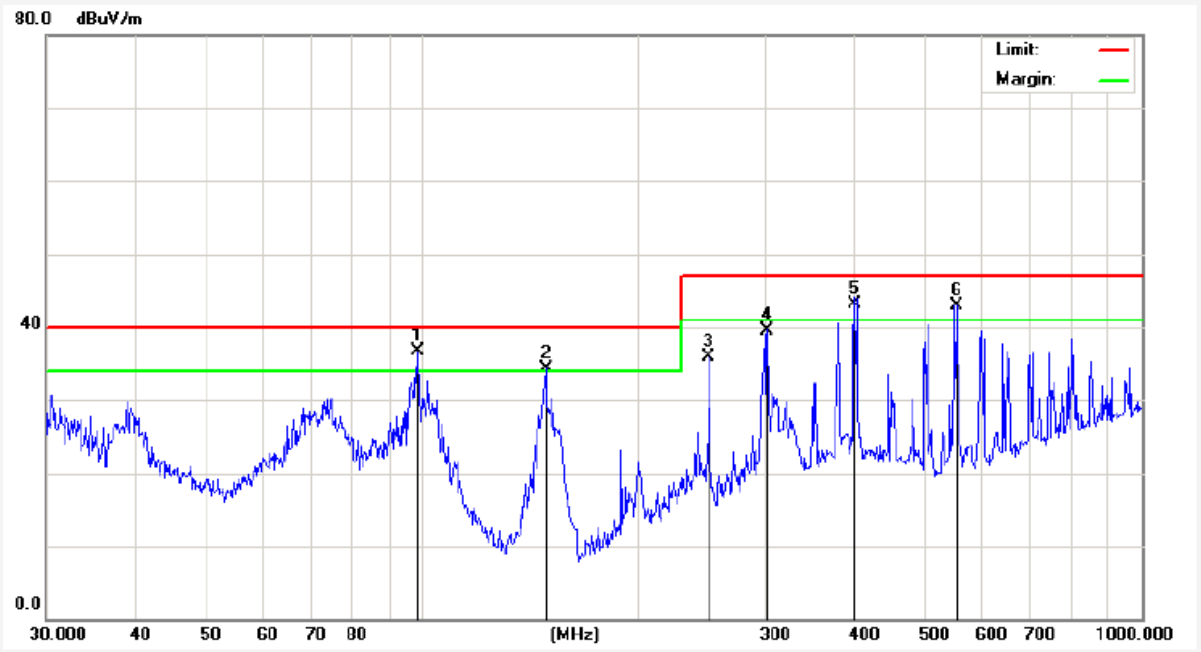
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Jun. 17, 2017	1 Year
2.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	May 06, 2017	1 Year
3.	Pre-amplifier	SONOMA	310N	186860	Jun. 17, 2017	1 Year

3.8. Measuring Results

PASS

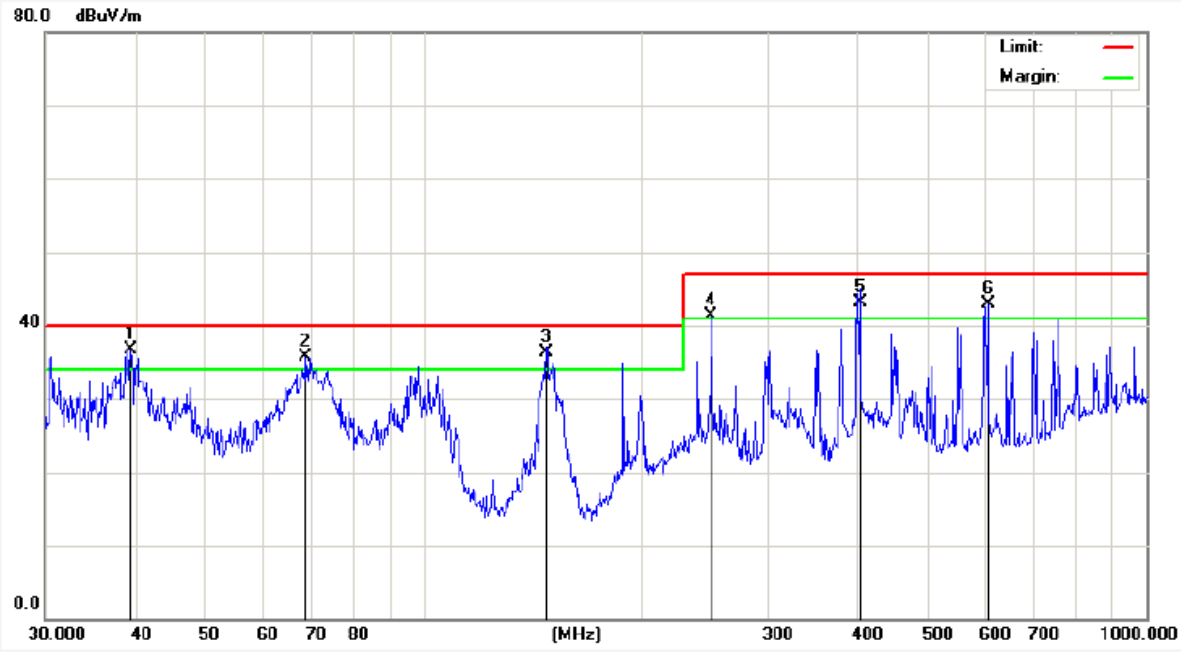
The frequency range from 30MHz to 1000MHz is investigated.

Test item:	**Radiation Test**	**Polarization:**	**Horizontal**
Standard:	**(RE)AS/NZS CISPR 32**	**Power Source:**	**DC 5V via adapter AC 240V, 50Hz**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**24.3(℃)/55%RH**
Note:			



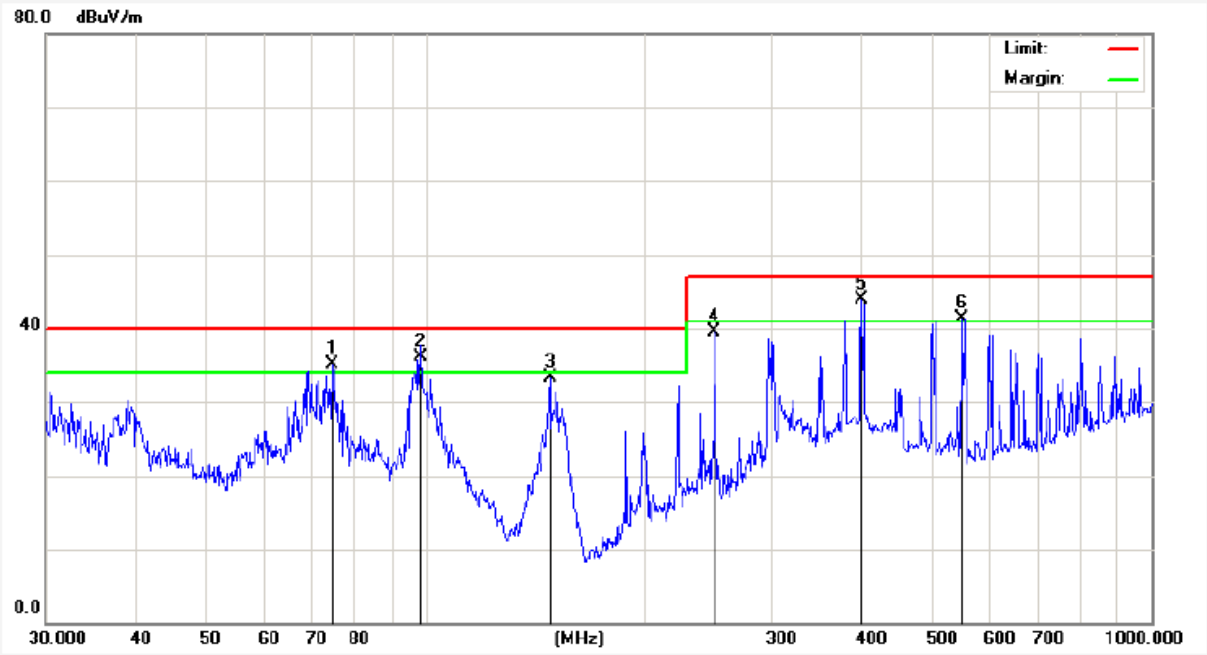
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	98.4865	57.59	-20.85	36.74	40.00	-3.26	QP	100	360	
2	148.4410	57.63	-23.36	34.27	40.00	-5.73	QP	100	0	
3	250.3010	54.54	-18.56	35.98	47.00	-11.02	peak			
4	301.4223	57.11	-17.51	39.60	47.00	-7.40	peak			
5	399.0300	55.95	-12.88	43.07	47.00	-3.93	QP	100	0	
6	552.8831	54.08	-11.10	42.98	47.00	-4.02	QP	100	360	

Test item:	**Radiation Test**	**Polarization:**	**Vertical**
Standard:	**(RE)AS/NZS CISPR 32**	**Power Source:**	**DC 5V via adapter AC 240V, 50Hz**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**24.3(℃)/55%RH**
Note:			



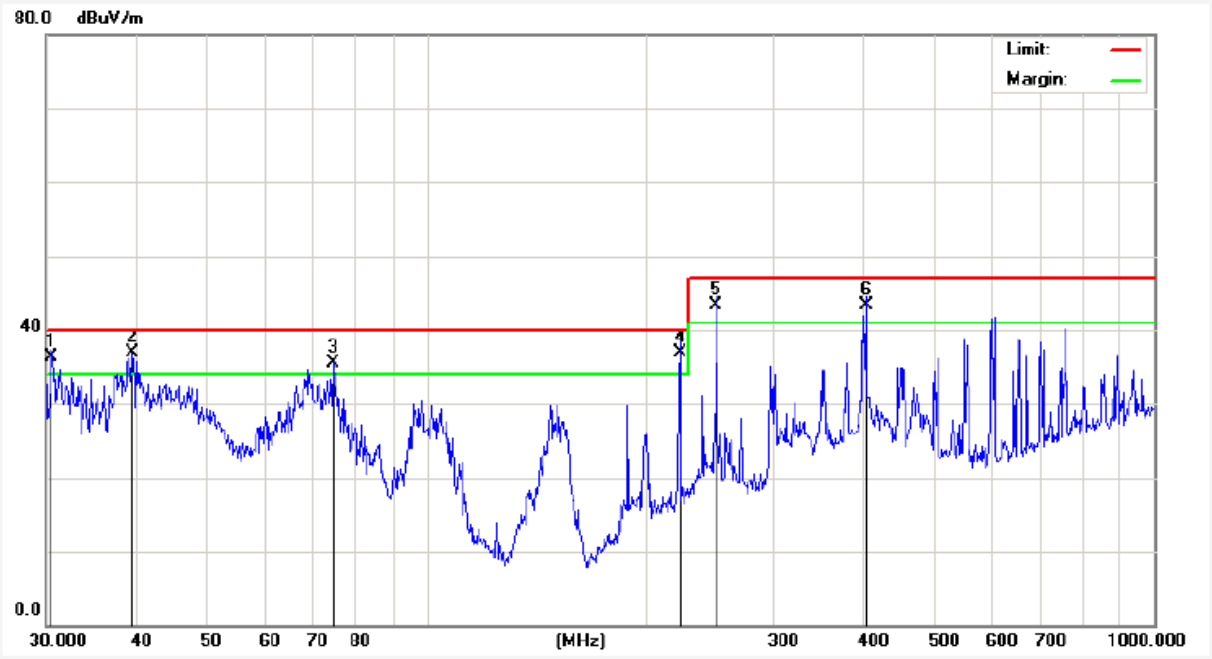
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	39.4371	47.41	-10.80	36.61	40.00	-3.39	QP	100	0	
2	68.8721	54.76	-19.14	35.62	40.00	-4.38	QP	100	360	
3	147.9214	54.73	-18.37	36.36	40.00	-3.64	QP	100	0	
4	250.3011	55.29	-14.04	41.25	47.00	-5.75	QP	100	0	
5	401.8385	54.87	-11.81	43.06	47.00	-3.94	QP	100	0	
6	603.5392	52.03	-9.21	42.82	47.00	-4.18	QP	100	360	

Test item:	**Radiation Test**	**Polarization:**	**Horizontal**
Standard:	**(RE)AS/NZS CISPR 32**	**Power Source:**	**DC 5V via adapter AC 100V, 50Hz**
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	40.00	-3.99	QP	300	360	
3	148.4410	56.72	-23.36	33.36	40.00	-6.64	peak			
4	250.3011	58.08	-18.56	39.52	47.00	-7.48	peak			
5	399.0300	56.76	-12.88	43.88	47.00	-3.12	QP	300	360	
6	549.0193	52.42	-11.08	41.34	47.00	-5.66	QP	300	0	

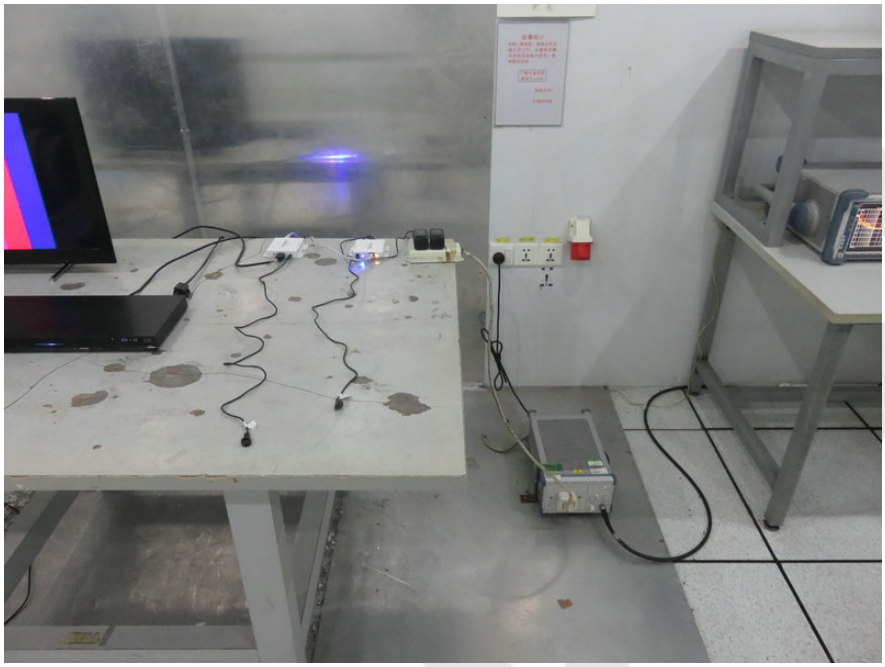
Test item:	**Radiation Test**	**Polarization:**	**Vertical**
Standard:	**(RE)AS/NZS CISPR 32**	**Power Source:**	**DC 5V via adapter AC 100V, 50Hz**
Distance:	**3m**	**Temp.(℃)/Hum.(%RH):**	**24.3(℃)/55%RH**
Note:			



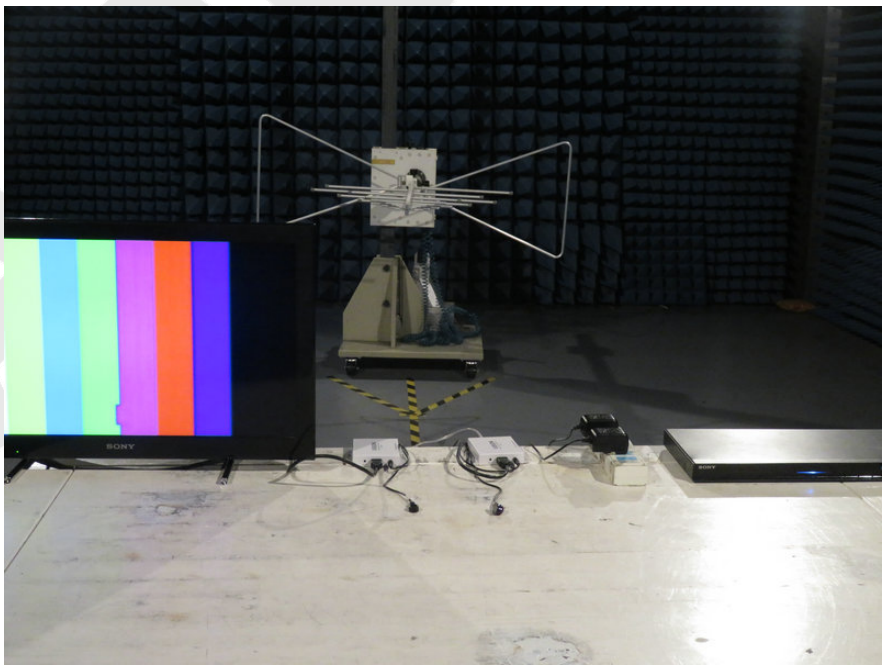
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	30.5306	52.89	-16.66	36.23	40.00	-3.77	QP	100	0	
2	39.4371	47.76	-10.80	36.96	40.00	-3.04	QP	100	360	
3	74.3955	56.08	-20.48	35.60	40.00	-4.40	QP	100	0	
4	222.9502	51.94	-14.97	36.97	40.00	-3.03	QP	100	360	
5	250.3012	57.33	-14.04	43.29	47.00	-3.71	QP	100	0	
6	401.8385	55.17	-11.81	43.36	47.00	-3.64	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)

Anbotek

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

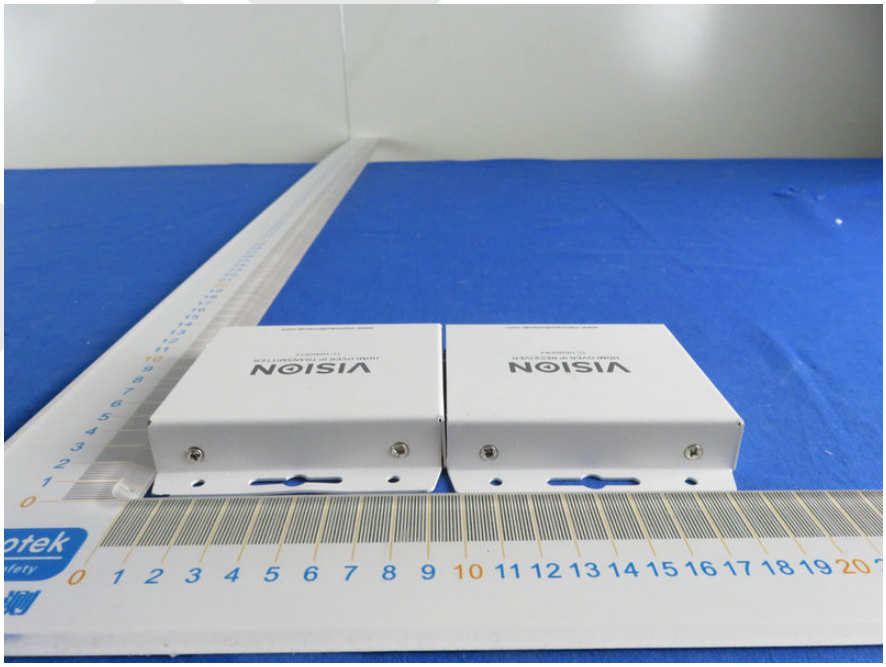


Figure 7
PCB of The EUT View

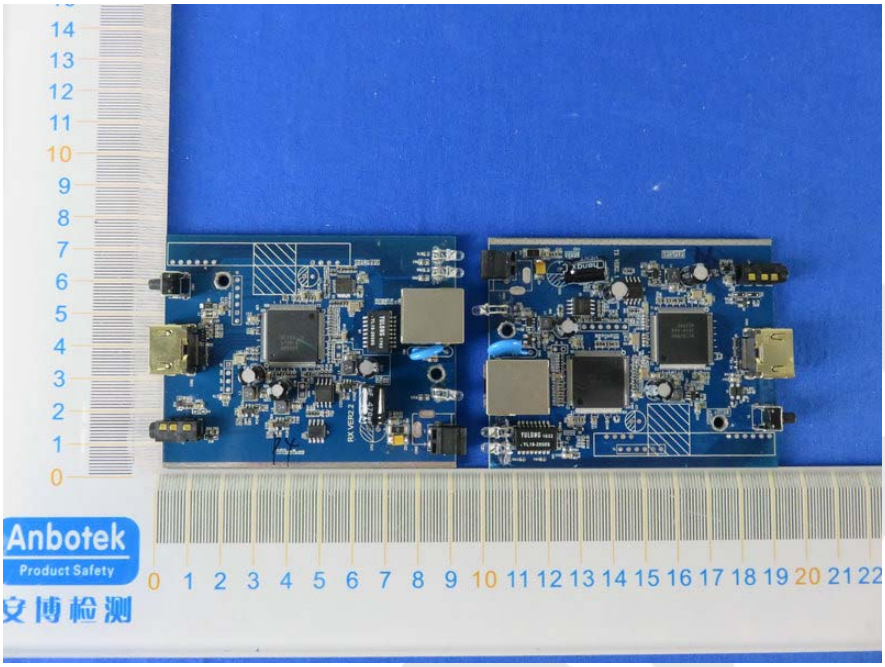


Figure 8
PCB of The EUT View