



FCC Test Report

Report No.: AGC01040140403FE01

FCC ID : 2ACD8PAW-882
APPLICATION PURPOSE : ORIGINAL EQUIPMENT
PRODUCT DESIGNATION : ANTENNA DIVERSITY RECEIVER
BRAND NAME : PASGAO, IDOLPRO
MODEL NAME : PAW-882, UHF-528
CLIENT : ENPING PASGAO ELECTRONICS CO., LTD.
DATE OF ISSUE : May 08, 2014
STANDARD(S) : FCC PART 15 RULES
REPORT VERSION : V1.0

Attestation of *Global Compliance (Shenzhen) Co., Ltd.*

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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	May 08, 2014	Valid	Original Report

TABLE OF CONTENTS

1. GENERAL INFORMATION	4
2. PRODUCT INFORMATION	5
3. TEST FACILITY	6
5. SUPPORT EQUIPMENT LIST	8
6. SYSTEM DESCRIPTION	8
7 FCC LINE CONDUCTED EMISSION TEST	9
7.1 LIMITS OF LINE CONDUCTED EMISSION TEST	9
7.2 BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST	9
7.3 PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST	10
7.4 FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST	10
7.5 TEST RESULT OF LINE CONDUCTED EMISSION TEST	11
8. FCC RADIATED EMISSION TEST	13
8.1. LIMITS OF RADIATED EMISSION TEST	13
8.2 BLOCK DIAGRAM OF RADIATED EMISSION TEST	13
8.3 PROCEDURE OF RADIATED EMISSION TEST	15
8.4 TEST RESULT OF RADIATED EMISSION TEST	16
APPENDIX 1	20
PHOTOGRAPHS OF TEST SETUP	20
APPENDIX 2	21
PHOTOGRAPHS OF EUT	21

1. GENERAL INFORMATION

Applicant:	ENPING PASGAO ELECTRONICS CO., LTD.
	V1 2nd District Industrial Transfer Park, Enping, Jiangmen, Guangdong, China
Manufacturer:	ENPING PASGAO ELECTRONICS CO., LTD.
	V1 2nd District Industrial Transfer Park, Enping, Jiangmen, Guangdong, China
Product Description:	ANTENNA DIVERSITY RECEIVER
Brand Name:	PASGAO, IDOLPRO
Model Name:	PAW-882
Series Model:	UHF-528
Model Difference:	All the same except for model name and brand name.
Frequency Range:	650MHz-689.5MHz
Type of Test:	FCC Class B
Measurement Procedure:	ANSI C63.4: 2003
Date of test:	Apr.27,2014 to May 08,2014
Deviation:	None
Condition of Test Sample:	Normal

The above equipment was tested by Attestation Of Global Compliance (Shenzhen) Co., Ltd. For compliance with the requirements set forth in the FCC Rules and Regulations Part 15, the measurement procedure according to ANSI C63.4:2003 This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.

Tested By :



Bart Xie

May 08, 2014

Reviewed By :



Kidd Yang

May 08, 2014

Approved By:



Solger Zhang

May 08, 2014

2. PRODUCT INFORMATION

Housing Type: Plastic and Metal

Adapter Input Voltage: AC120V, 60Hz,18W

Adapter Output Voltage: DC 13.5V 500mA

I/O Port Information (☒Applicable ☐Not Applicable)

I/O Port of EUT			
I/O Port Type	Q'TY	Cable	Tested with
2IN1 MIX output port	1	0	1
Unbalanced output	2	0	2
DC input port	1	0	1
Antenna Port	2	0	2

3. TEST FACILITY

Site:	Attestation of Global Compliance (Shenzhen) Co., Ltd.
Location:	1F, No.2 Building, Huafeng No.1 Technical Industrial Park, Sanwei, Xixiang, Baoan District, Shenzhen, China
Description:	There is one 3m semi-anechoic chamber for final test, the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4 and CISPR 22/EN 55022 requirements.
Site Filing:	Accredited by FCC, June 28, 2010 The Certificate Registration Number is 259865
Instrument Tolerance:	All measuring equipment is in accord with ANSI C63.4 requirements that meet industry regulatory agency and accreditation agency requirement.
Ground Plane:	Two conductive reference ground planes were used during the Line Conducted Emission, one in vertical and the other in horizontal. The dimensions of these ground planes are as below. The vertical ground plane was placed distancing 40 cm to the rear of the wooden test table on where the EUT and the support equipment were placed during test. The horizontal ground plane projected 50 cm beyond the footprint of the EUT system and distanced 80 cm to the wooden test table. For radiated emission test, one horizontal conductive ground plane extended at least 1m beyond the periphery of the EUT and the largest measuring antenna, and covered the entire area between the EUT and the antenna. It has no holes or gaps having longitudinal dimensions larger than one-tenth of a wavelength at the highest frequency of measurement up to 1GHz.

4. TEST EQUIPMENT LIST

Equipment used during the tests:

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	Agilent	E4440A	US41421290	July 17, 2013	July 16, 2014
EMI Test Receiver	R&S	ESCI	100694	July 17, 2013	July 16, 2014
ANTENNA	A.H.	SAS-521-4	26	July 17, 2013	July 16, 2014
Power Splitter 11636A	Agilent	N/A	N/A	July 17, 2013	July 16, 2014
LISN	R&S	ESH3-Z5	N/A	July 17, 2013	July 16, 2014
Amplifier	EM	EM30180	607030	Feb.28,2014	Feb.27,2015
Horn Antenna	A.H. Systems Inc.	SAS-574	128	June 7,2013	June 6, 2014

The calibrations of the measuring instruments, including any accessories that may affect such calibration, are checked frequently to assure their accuracy. Adjustments are made and correction factors applied in accordance with instructions contained in the manual for the measuring instrument.

5. SUPPORT EQUIPMENT LIST

Device Type	Manufacturer	Model Name	Serial No.	Data Cable	Power Cable
Speaker	WEL-DON	T-805	N/A	--	--

****Note:** All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

Grounding: Grounding was in accordance with the manufacturer's requirements and conditions for the intended use.

6. SYSTEM DESCRIPTION

EUT test procedure:

1. Connect EUT and peripheral devices.
2. Power on the EUT, the EUT begins to work.
3. Make sure the EUT operates normally during the test.

Test mode:

- Mode 1: standby
Mode 2: receiving

7 FCC LINE CONDUCTED EMISSION TEST

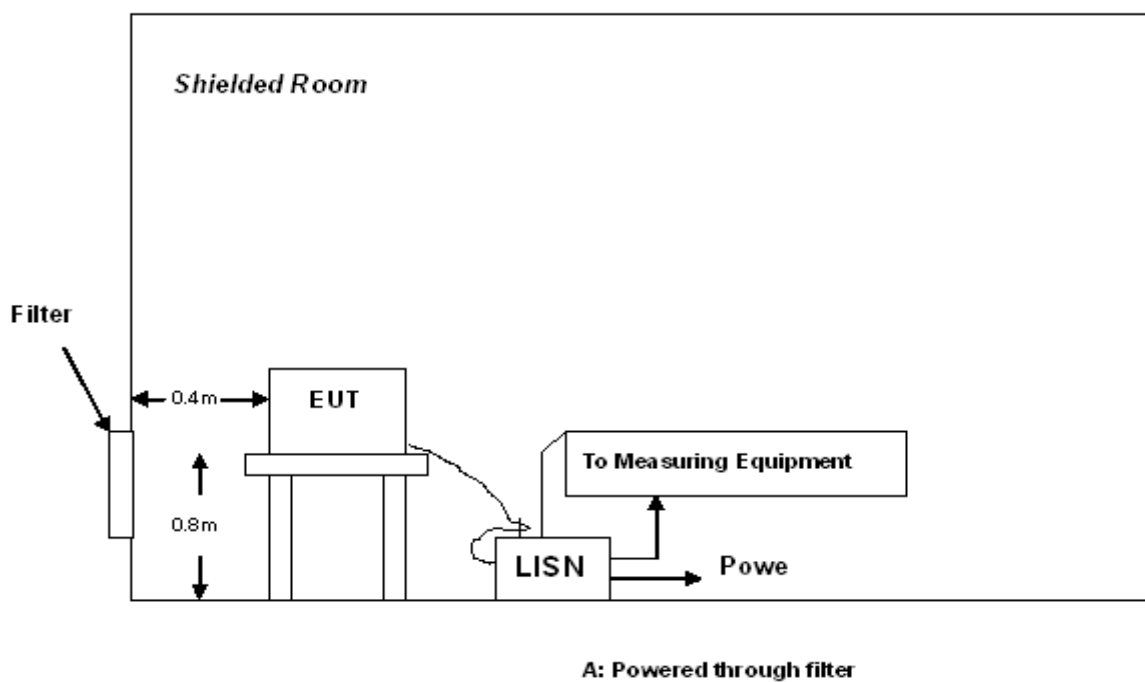
7.1 LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

**Note: 1. The lower limit shall apply at the transition frequency.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

7.2 BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



7.3 PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

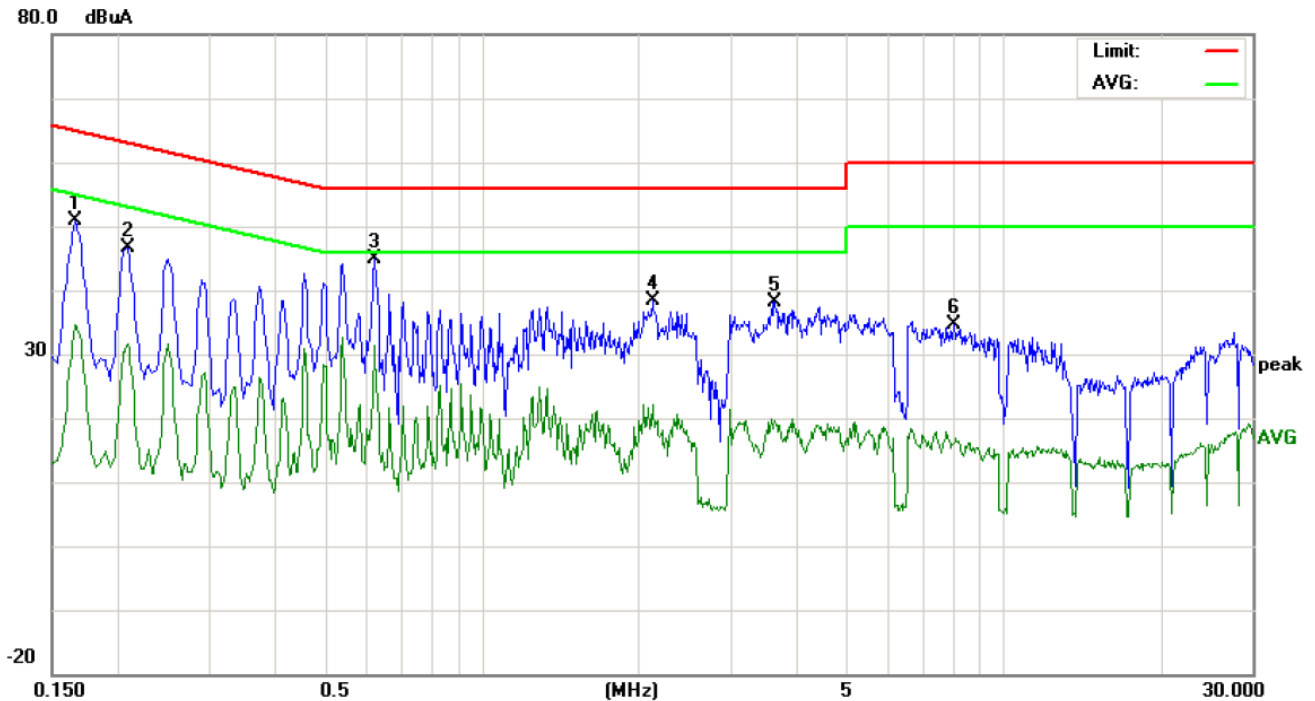
- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per ANSI C63.4.
- 3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4) The EUT received AC120V/60Hz by power supply . All support equipments received AC120V/60Hz power from a LISN, if any.
- 5) The 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.
- 6) Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 7) During the above scans, the emissions were maximized by cable manipulation.
- 8) The following test mode(s) were scanned during the preliminary test:

7.4 FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1) EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 2) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.

7.5 TEST RESULT OF LINE CONDUCTED EMISSION TEST

TEST RESULT OF LINE CONDUCTED EMISSION TEST –LINE LINE



Site: Conduction

Phase: **L1**

Temperature: 26

Limit: FCC Class B Conduction(QP)

Power: AC 120V/60Hz

Humidity: 60 %

EUT: ANTENNA DIVERSITY RECEIVER

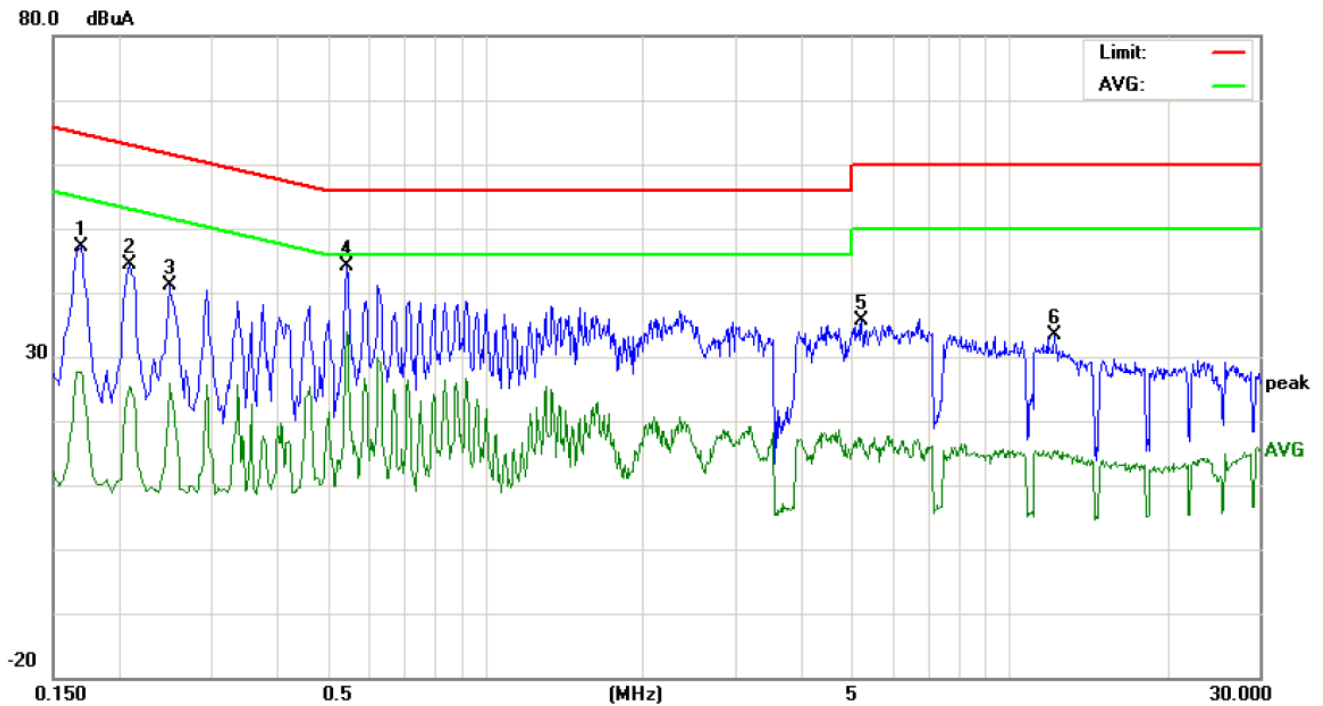
M/N: UHF-528

Mode: Receiving

Note:

No.	Freq. (MHz)	Reading_Level (dBuA)			Correct Factor	Measurement (dBuA)			Limit (dBuA)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1660	40.62		24.43	10.18	50.80		34.61	65.15	55.15	-14.35	-20.54	P	
2	0.2099	36.51		21.43	10.23	46.74		31.66	63.21	53.21	-16.47	-21.55	P	
3	0.6219	34.51		20.56	10.32	44.83		30.88	56.00	46.00	-11.17	-15.12	P	
4	2.1299	28.12		11.82	10.27	38.39		22.09	56.00	46.00	-17.61	-23.91	P	
5	3.6459	19.04		2.49	10.49	29.53		12.98	56.00	46.00	-26.47	-33.02	P	
6	8.0539	24.28		5.71	10.35	34.63		16.06	60.00	50.00	-25.37	-33.94	P	

TEST RESULT OF LINE CONDUCTED EMISSION TEST-NEUTRAL LINE



Site: Conduction Phase: **N** Temperature: 26
Limit: FCC Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 60 %
EUT: ANTENNA DIVERSITY RECEIVER
M/N: UHF-528
Mode: Receiving
Note:

No.	Freq. (MHz)	Reading_Level (dBuA)			Correct Factor dB	Measurement (dBuA)			Limit (dBuA)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1700	36.96		17.49	10.18	47.14		27.67	64.96	54.96	-17.82	-27.29	P	
2	0.2099	34.08		15.13	10.23	44.31		25.36	63.21	53.21	-18.90	-27.85	P	
3	0.2500	30.75		15.71	10.27	41.02		25.98	61.75	51.75	-20.73	-25.77	P	
4	0.5460	33.76		23.52	10.36	44.12		33.88	56.00	46.00	-11.88	-12.12	P	
5	5.2259	25.51		6.95	10.24	35.75		17.19	60.00	50.00	-24.25	-32.81	P	
6	12.2058	23.12		5.13	10.14	33.26		15.27	60.00	50.00	-26.74	-34.73	P	

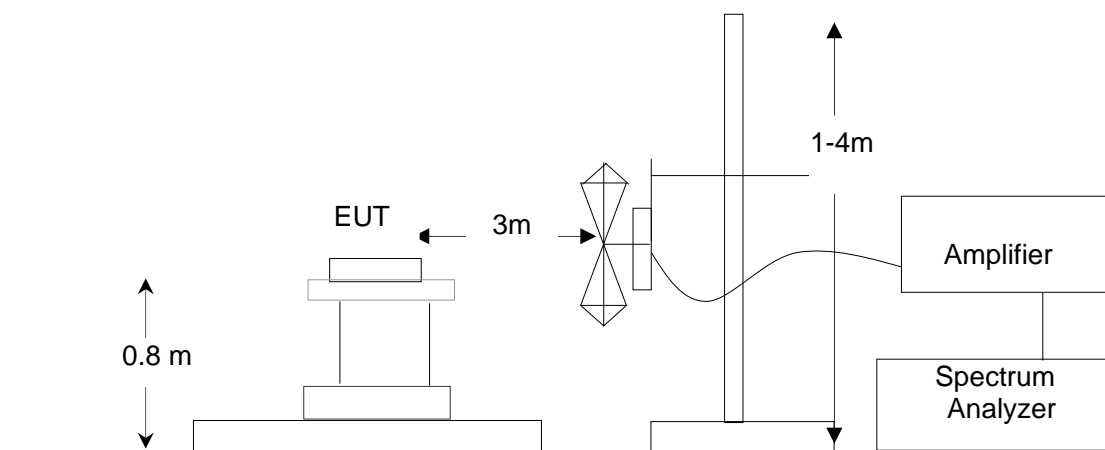
8. FCC RADIATED EMISSION TEST

8.1. LIMITS OF RADIATED EMISSION TEST

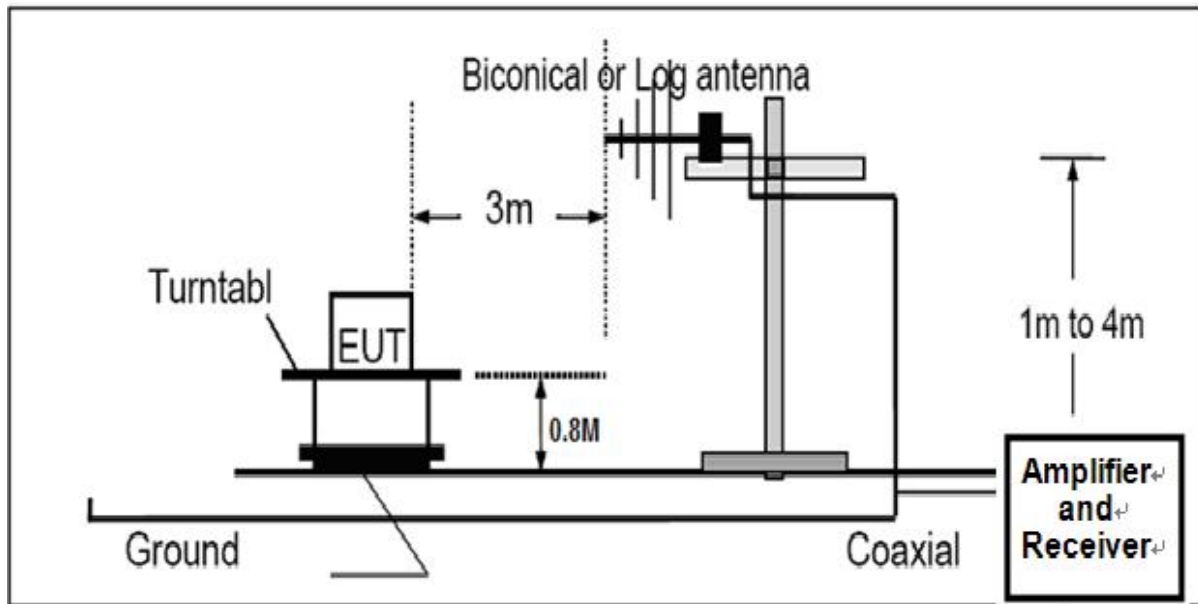
Frequency (MHz)	Distance (m)	Maximum Field Strength Limit (dBuV/m/ Q.P.)
30~88	3	40.0
88~216	3	43.5
216~960	3	46.0
Above 960	3	54.0

**Note: The lower limit shall apply at the transition frequency.

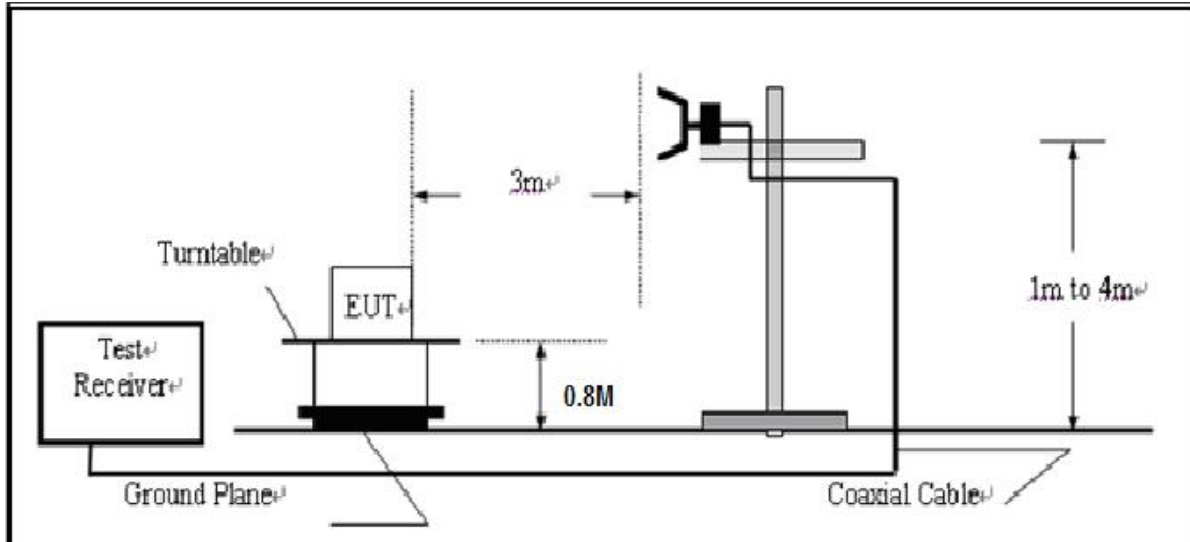
8.2 BLOCK DIAGRAM OF RADIATED EMISSION TEST



BELLOW 1GHz



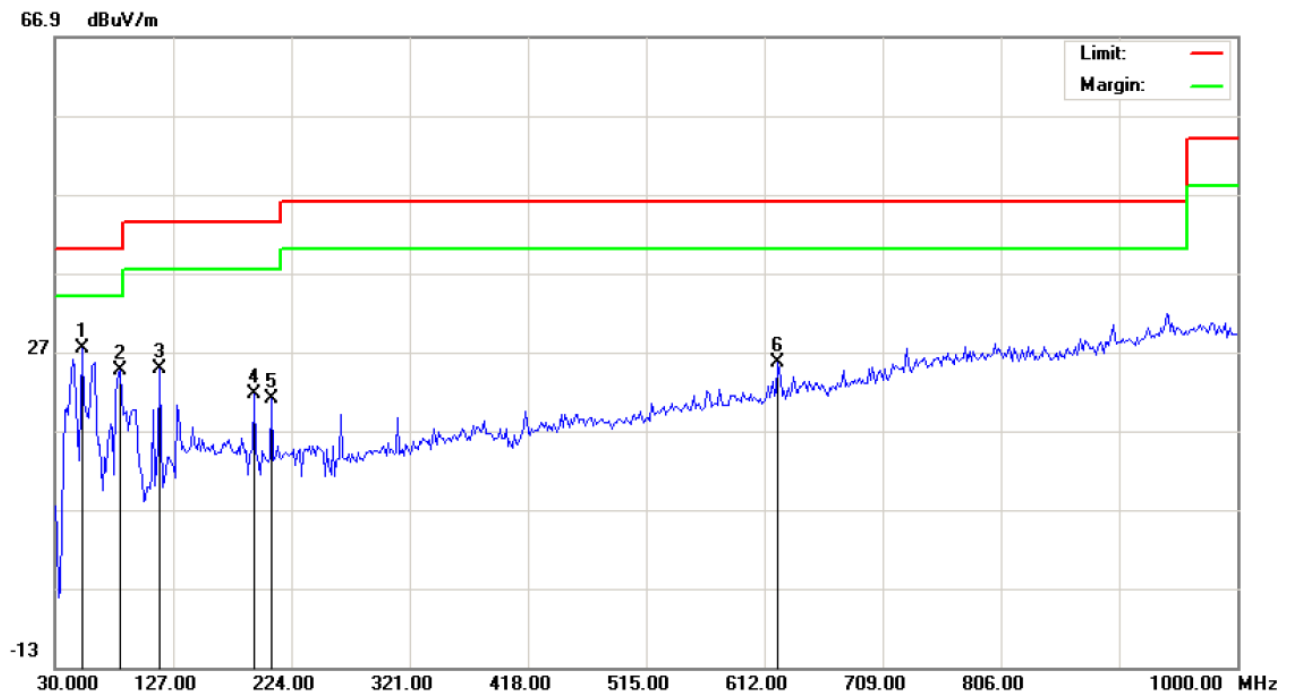
ABOVE 1GHz



8.3 PROCEDURE OF RADIATED EMISSION TEST

- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per ANSI C63.4.
- 3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4) The EUT received AC120V/60Hz power supply. All support equipments received AC 120V/60Hz power from socket under the turntable, if any.
- 5) The antenna was placed at 3 meter away from the EUT as stated in FCC Part 15. The antenna connected to the Analyzer via a cable and at times a pre-amplifier would be used.
- 6) The Analyzer / Receiver quickly scanned from 30MHz to 5GHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- 7) The test mode(s) were scanned during the test:
- 8) Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and Q.P./Peak reading is presented.
- 9) The test data of the worst case condition(s) was reported on the Summary Data page.

8.4 TEST RESULT OF RADIATED EMISSION TEST BELOW 1GHZ HORIZONTAL



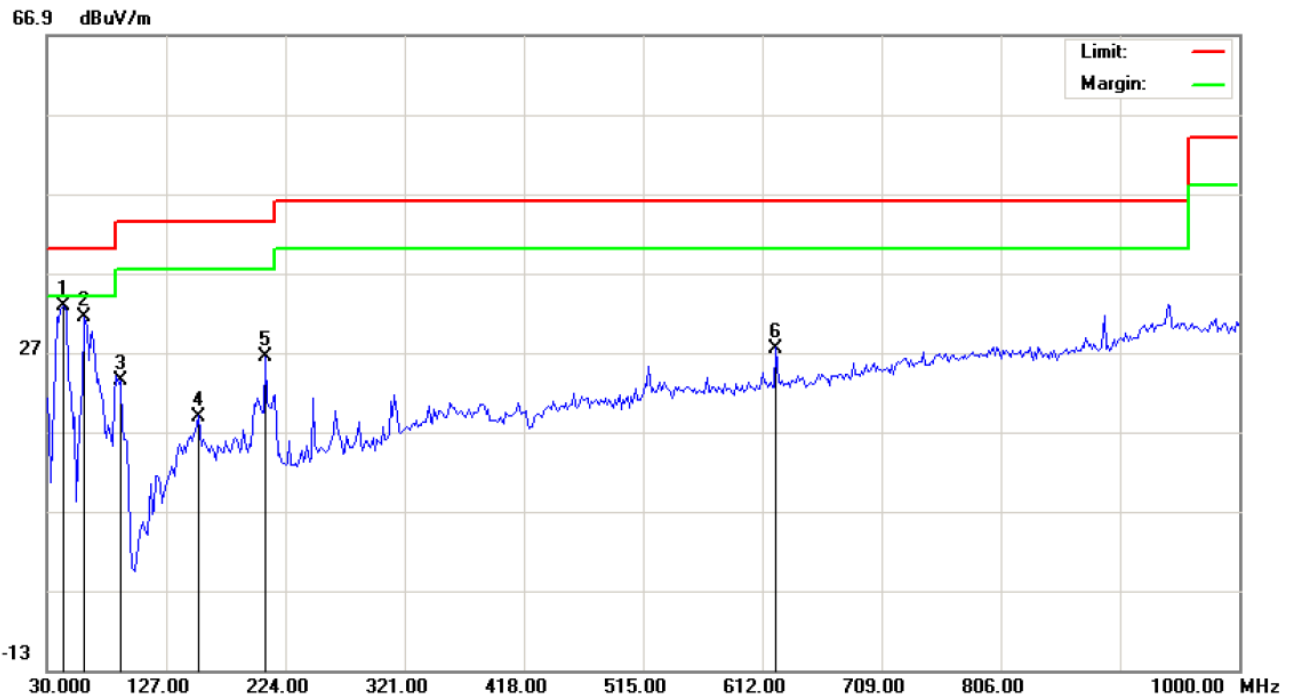
Site: site #1
Limit: FCC Class B 3M Radiation
EUT: ANTENNA DIVERSITY RECEIVER
M/N: UHF-528
Mode: Receiving
Note:

Polarization: **Horizontal**
Power: AC 120V/60Hz
Distance:

Temperature: 26
Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	52.6332	16.14	11.22	27.36	40.00	-12.64	peak			
2		83.3499	14.98	9.66	24.64	40.00	-15.36	peak			
3		115.6833	13.23	11.56	24.79	43.50	-18.71	peak			
4		193.2830	9.99	11.69	21.68	43.50	-21.82	peak			
5		207.8333	8.70	12.30	21.00	43.50	-22.50	peak			
6		623.3165	1.81	23.79	25.60	46.00	-20.40	peak			

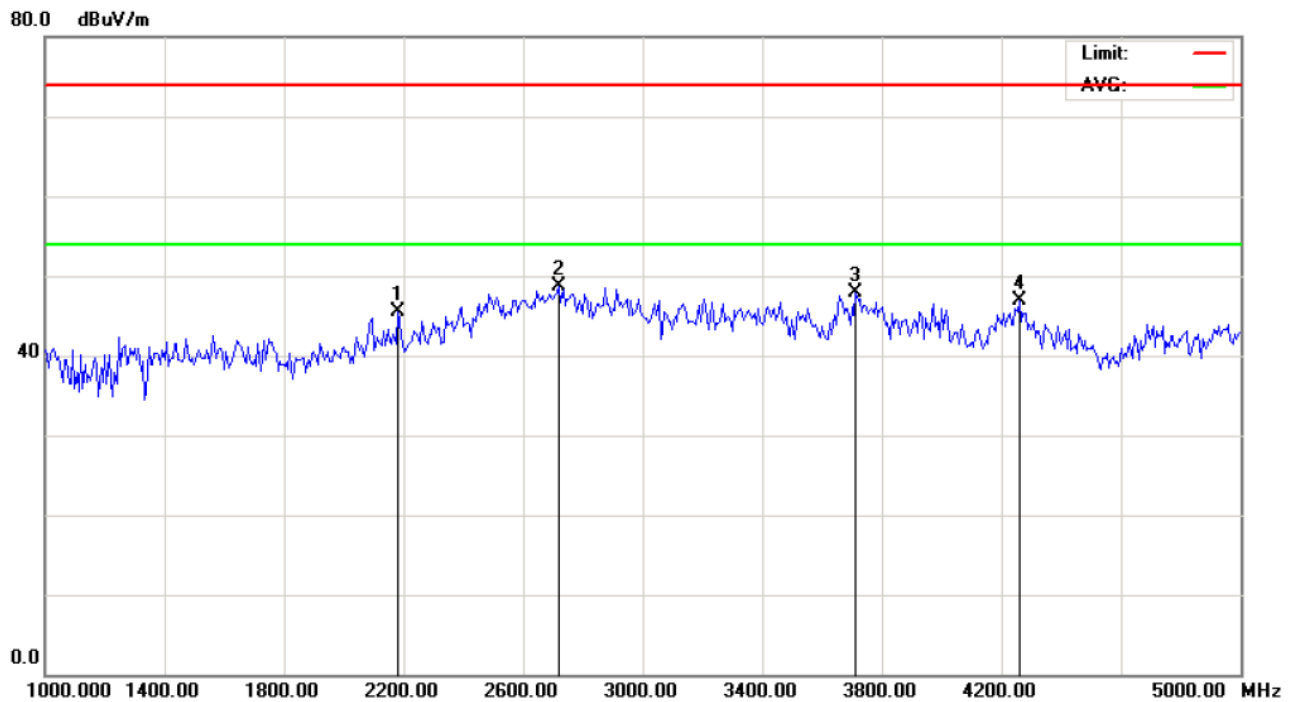
VERTICAL



Site: site #1	Polarization: Vertical	Temperature: 26
Limit: FCC Class B 3M Radiation	Power: AC 120V/60Hz	Humidity: 60 %
EUT: ANTENNA DIVERSITY RECEIVER	Distance:	
M/N: UHF-528		
Mode: Receiving		
Note:		

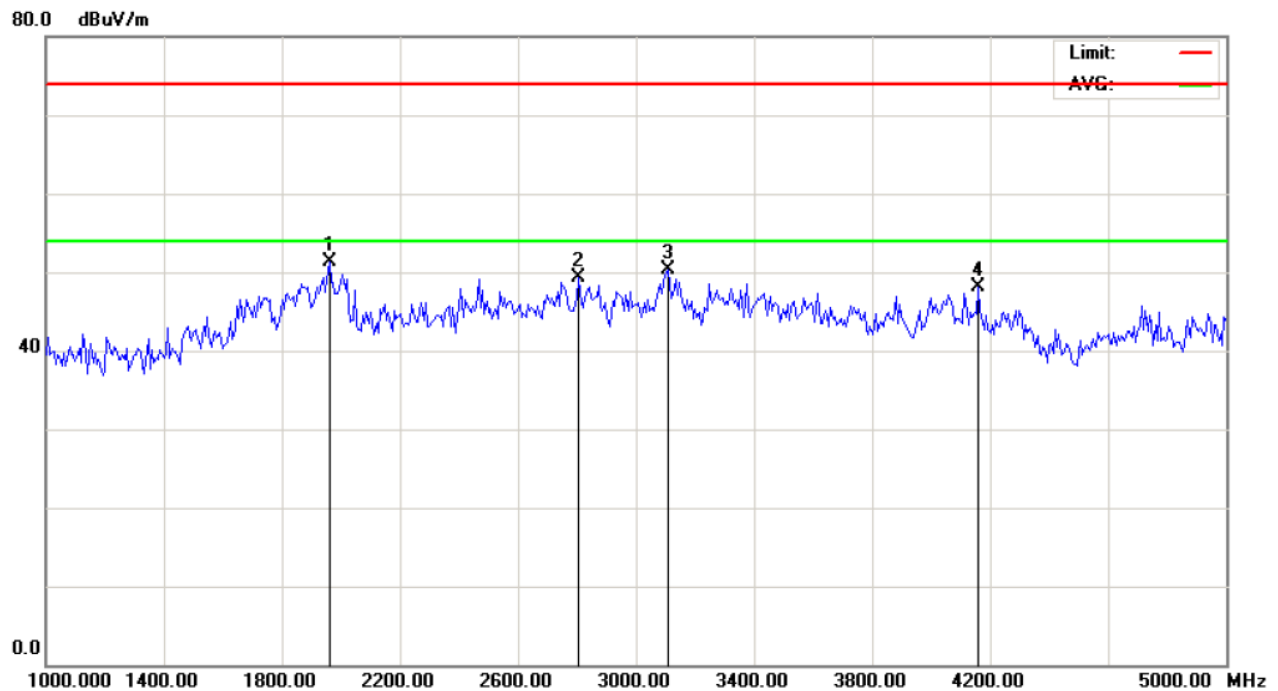
No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	42.9333	24.09	8.71	32.80	40.00	-7.20	peak			
2		60.7167	23.56	7.87	31.43	40.00	-8.57	peak			
3		89.8164	18.10	5.31	23.41	43.50	-20.09	peak			
4		152.8667	3.62	15.28	18.90	43.50	-24.60	peak			
5		207.8333	16.69	9.77	26.46	43.50	-17.04	peak			
6		623.3165	4.25	23.25	27.50	46.00	-18.50	peak			

ABOVE 1GHz



Site: site #1 Polarization: **Horizontal** Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %
EUT: ANTENNA DIVERSITY RECEIVER Distance: 3m
MN: UHF-528
Mode: Receiving
Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		2180.000	35.44	10.08	45.52	74.00	-28.48	peak			
2	*	2720.000	37.75	10.96	48.71	74.00	-25.29	peak			
3		3713.333	34.52	13.42	47.94	74.00	-26.06	peak			
4		4260.000	36.00	10.87	46.87	74.00	-27.13	peak			



Site: site #1

Polarization: *Vertical*

Temperature: 26

Limit: FCC Class B 3M Radiation above 1GHZ(PK)

Power:

Humidity: 60 %

EUT: ANTENNA DIVERSITY RECEIVER

Distance: 3m

M/N: UHF-528

Mode: Receiving

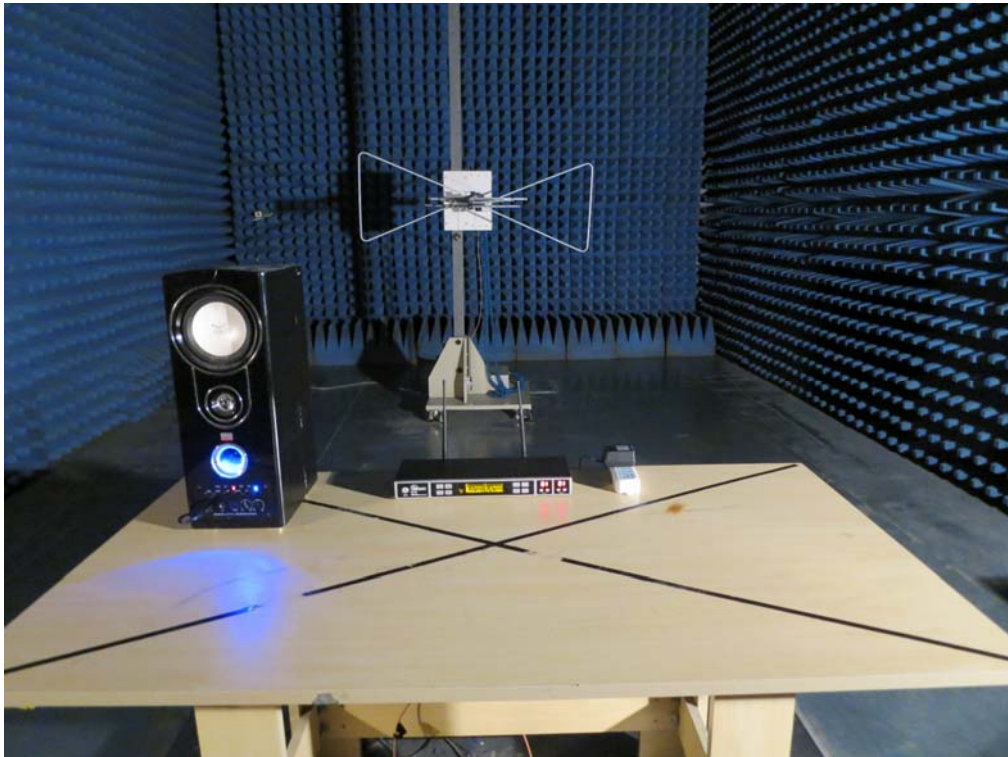
Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	1960.000	41.84	9.46	51.30	74.00	-22.70	peak			
2		2806.667	38.10	11.17	49.27	74.00	-24.73	peak			
3		3106.667	38.65	11.74	50.39	74.00	-23.61	peak			
4		4160.000	35.53	12.53	48.06	74.00	-25.94	peak			

APPENDIX 1
PHOTOGRAPHS OF TEST SETUP
CONDUCTED EMISSION TEST SETUP



RADIATED EMISSION TEST SETUP



APPENDIX 2 PHOTOGRAPHS OF EUT

TOTAL VIEW OF EUT



TOP VIEW OF EUT



BOTTOM VIEW OF EUT



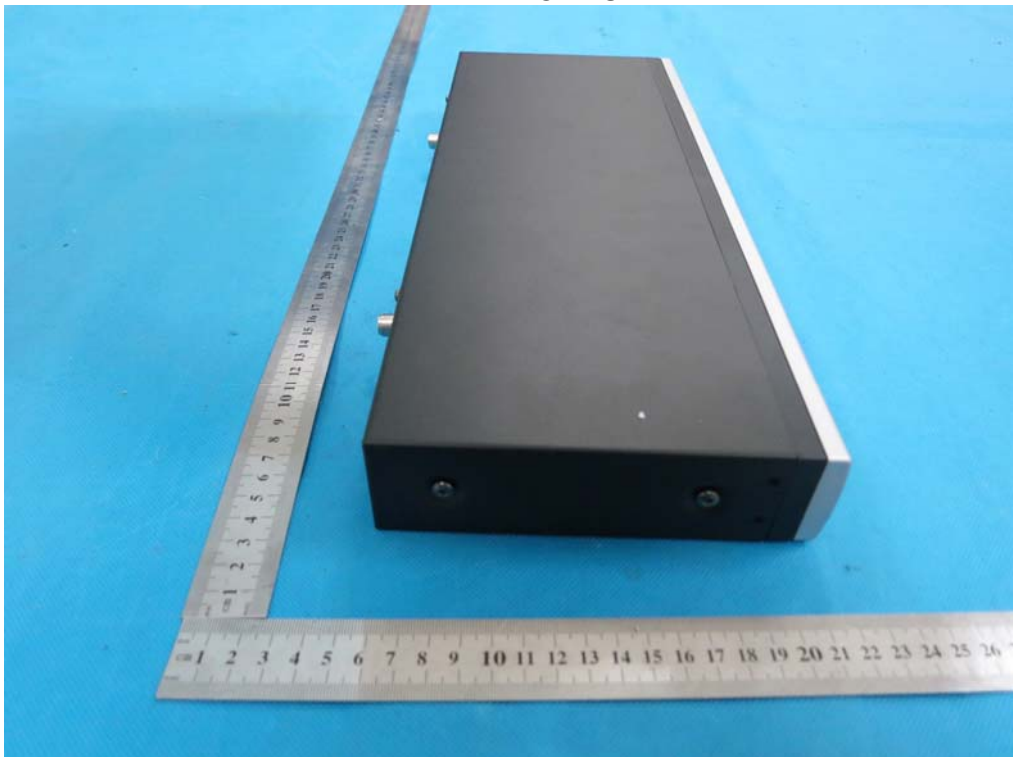
FRONT VIEW OF EUT



BACK VIEW OF EUT



LEFT VIEW OF EUT



RIGHT VIEW OF EUT



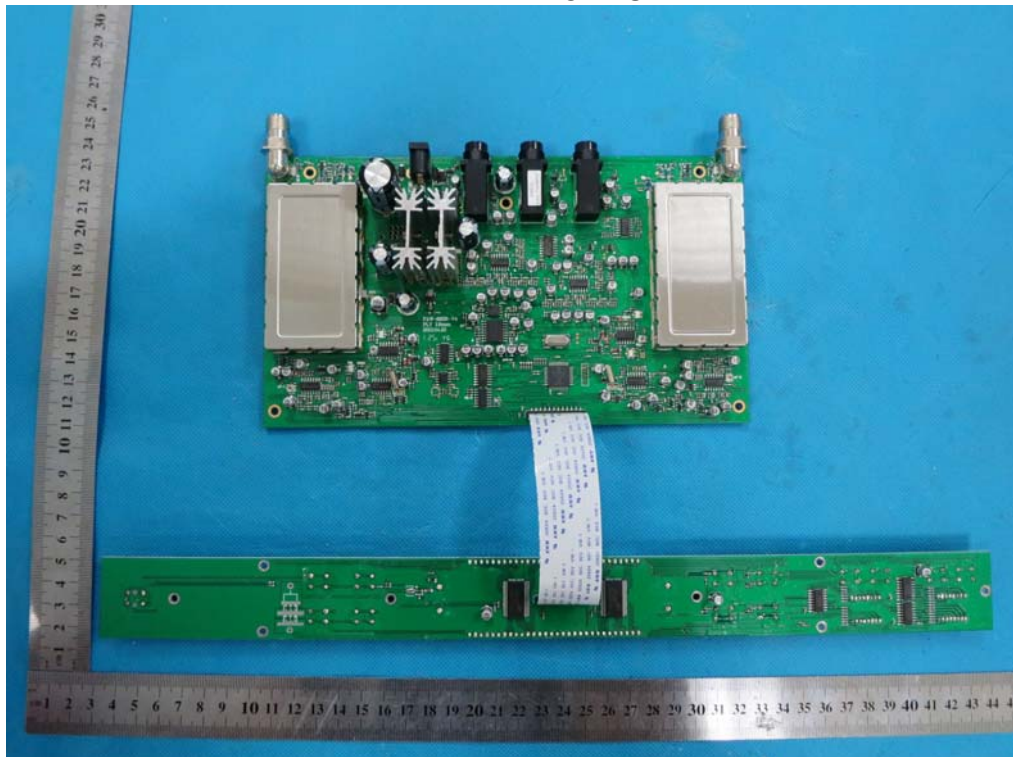
OPEN VIEW OF EUT-1



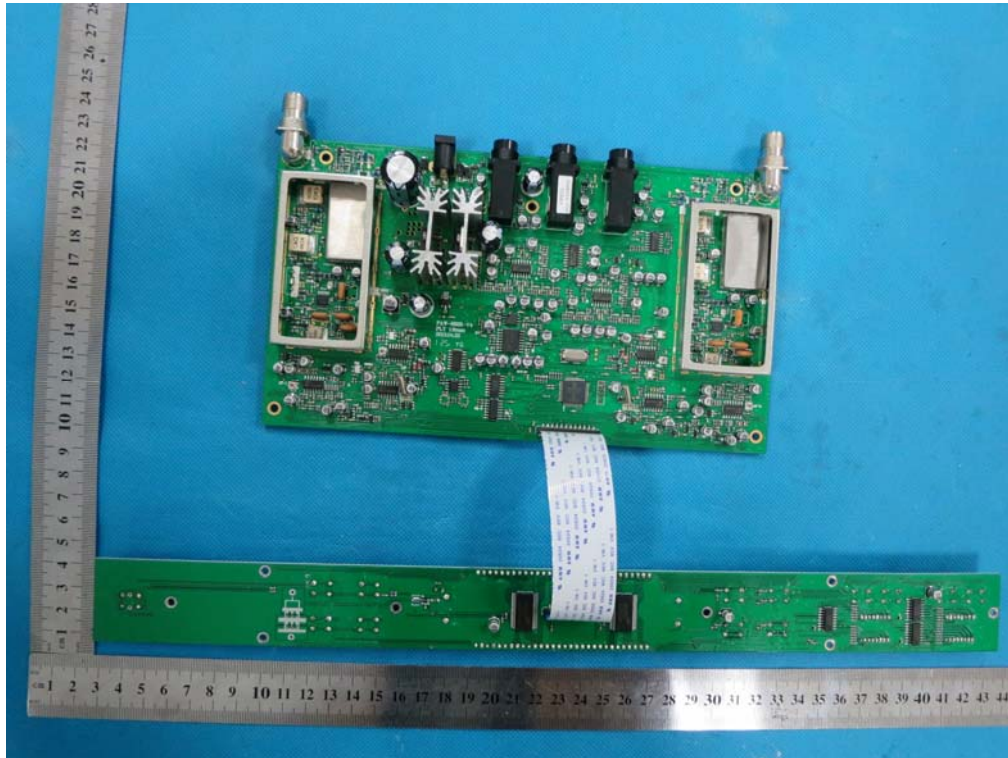
OPEN VIEW OF EUT-2



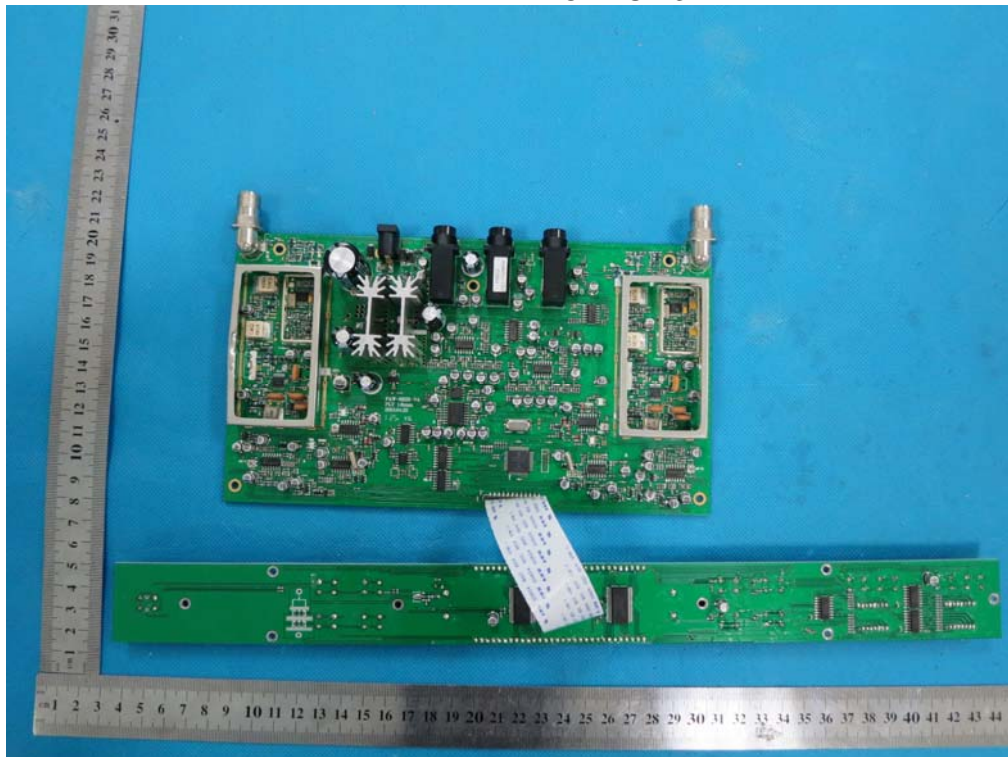
INTERNAL VIEW OF EUT-1



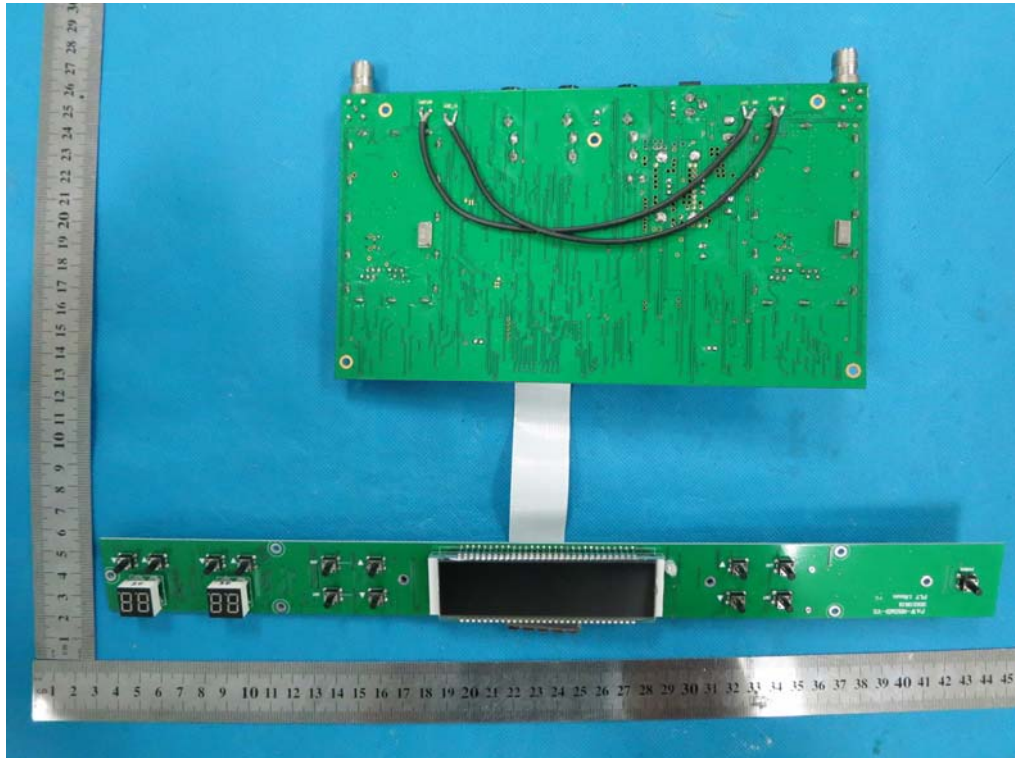
INTERNAL VIEW OF EUT-2



INTERNAL VIEW OF EUT-3



INTERNAL VIEW OF EUT-4



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