TEST REPORT

Product Name	**:**	**FM/MW/SW/LW 4 BAND RADIO WITH BLUETOOTH**
Model Number	**:**	**TR626**
FCC ID	**:**	**2AAR8TR626**

Prepared for	:	HENAN ESHOW ELECTRONIC COMMERCE CO., LTD.
Address	:	Room 722, Sanjiang Building, No.170 Nanyang Road, Huiji District, Zhengzhou, Henan Province, China
Prepared by	:	EMTEK (SHENZHEN) CO., LTD.
Address	:	Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China Tel: (0755) 26954280 Fax: (0755) 26954282

Report Number	:	ENS2107300193W00501R
Date(s) of Tests	:	July 30, 2021 to November 9, 2021
Date of issue	:	November 9, 2021

TABLE OF CONTENT

TEST REPORT DESCRIPTION

Applicant	:	HENAN ESHOW ELECTRONIC COMMERCE CO., LTD.
Manufacturer	:	HENAN ESHOW ELECTRONIC COMMERCE CO., LTD.
Trade Mark	:	RETEKESS
EUT	:	FM/MW/SW/LW 4 BAND RADIO WITH BLUETOOTH
Model No.	:	TR626

Measurement Procedure Used:

FCC CFR Title 47, Part 15, Subpart B
ANSI C63.4-2014

The device described above is tested by EMTEK (SHENZHEN) CO., LTD. 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 EMTEK (SHENZHEN) CO., LTD. is assumed full of responsibility for the accuracy and completeness of these measurements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of EMTEK (SHENZHEN) CO., LTD.

Date of Test : July 30, 2021 to November 9, 2021

Prepared by : Yu Xiaolan /Editor

Reviewer : Joe Xia /Supervisor

Approve & Authorized Signer : Lisa Wang/Manager

Modified Information

Version	Report No.	Revision Data	Summary
Ver.1.0	ENS2107300193W00501R	/	Original Version

1. SUMMARY OF TEST RESULTS

EMISSION		
Description of Test Item	Standard & Limits	Results
Conducted Emission	FCC CFR Title 47, Part 15, Subpart B - Section 15. 107, Class B ANSI C63.4-2014	Pass
Radiated Emission	FCC CFR Title 47, Part 15, Subpart B - Section 15. 109, Class B ANSI C63.4-2014	Pass

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT	:	FM/MW/SW/LW 4 BAND RADIO WITH BLUETOOTH
Model Number	:	TR626
Sample number	:	1#
Power supply	:	AC 120V, 60Hz DC 6V
Applicant	:	HENAN ESHOW ELECTRONIC COMMERCE CO., LTD.
Address	:	Room 722, Sanjiang Building, No.170 Nanyang Road, Huiji District, Zhengzhou, Henan Province, China
Manufacturer	:	HENAN ESHOW ELECTRONIC COMMERCE CO., LTD.
Address	:	Room 722, Sanjiang Building, No.170 Nanyang Road, Huiji District, Zhengzhou, Henan Province, China
Date of Received	:	July 30, 2021
Date of Test	:	July 30, 2021 to November 9, 2021

2.2. Independent Operation Modes

A: ON
1. BT mode
2. FM mode
3. MW mode
4. LW mode
5. SW mode

2.3. Test Manner

Test Items	Test Voltage	Operation Modes	Worst case
Conducted Emission	AC120V	Mode A	Mode A
Radiated emissions(Up to 1 GHz)	AC120V, DC6V	Mode A	Mode A
Radiated Emission Measurement (Above 1GHz)	AC120V, DC6V	Mode A	Mode A

2.4. Description of Test Facility

Site Description

EMC Lab. : **Accredited by CNAS**
The Certificate Registration Number is L2291.
The Laboratory has been assessed and proved to be in compliance with CNAS-CL01 (identical to ISO/IEC 17025:2017)

Accredited by FCC
Designation Number: CN1204
Test Firm Registration Number: 882943

Accredited by A2LA
The Certificate Number is 4321.01.

Accredited by Industry Canada
The Conformity Assessment Body Identifier is CN0008

Name of Firm : EMTEK (SHENZHEN) CO., LTD.

Site Location : Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China

2.5. Test Software

Item		Software
Conducted Emission	:	EMTEK(Ver.CON-03A1)-Shenzhen
Radiated Emission	:	EMTEK(Ver.RA-03A1)-Shenzhen

2.6. Description of Support Device

/ : /

2.7. Measurement Uncertainty

Test Item	Uncertainty
Conducted Emission Uncertainty	: 2.08dB(9k~150kHz Conduction 1#) 2.40dB(150k-30MHz Conduction 1#)
Radiated Emission Uncertainty (3m 3# Chamber)	: 4.40dB (30M~1GHz Polarize: H) 5.04dB (30M~1GHz Polarize: V) 4.94dB (1~6GHz)
Uncertainty for test site temperature and humidity	: 0.6℃ 4%

3. MEASURING DEVICE AND TEST EQUIPMENT

3.1. For Power Line Conducted Emission Measurement

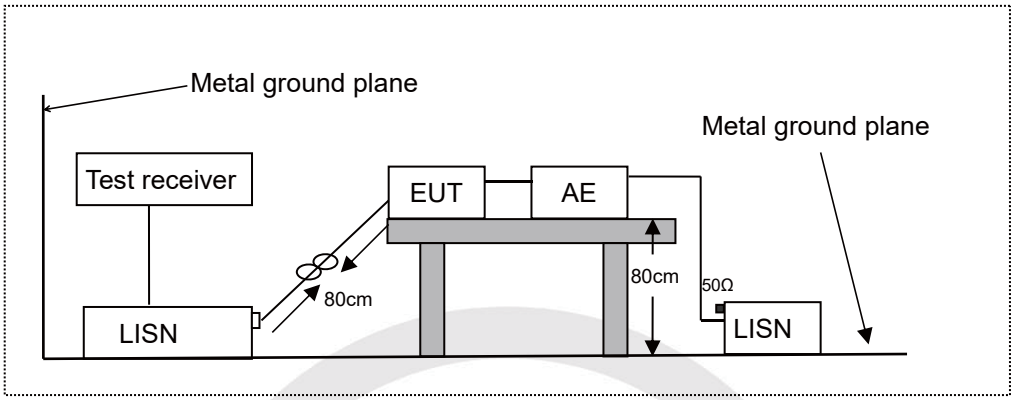
Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☑	EMI Test Receiver	Rohde & Schwarz	ESCI	101384	May 15, 2021	1Year
☑	AMN	Rohde & Schwarz	ENV216	101161	May 15, 2021	1Year
☑	AMN	Kyoritsu	KNW-407	8-1492-9	May 16, 2021	1Year

3.2. For Radiated Emission Measurement

Used	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☑	EMI Test Receiver	Rohde & Schwarz	ESU 26	100154	May 15, 2021	1Year
☑	Pre-Amplifie	Lunar EM	LNA10M1G-40	J1011130912001	May 15, 2021	1Year
☑	Bilog Antenna	Schwarzbeck	VULB9163	659	Sep 22, 2019	2 Year
☑	Horn antenna	Schwarzbeck	BBHA9120D	9120D-1178	July 4, 2020	2 Year
☑	Pre-Amplifie	SKET	LNPA_0118G-45	SK2019051801	May 15, 2021	1Year

4. POWER LINE CONDUCTED EMISSION MEASUREMENT

4.1. Block Diagram of Test Setup



LISN: Line Impedance Stabilization Network
AE: Associated equipment
EUT: Equipment under test

4.2. Limits

FCC Part 15, Subpart B- Section 15. 107, Class B

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.

4.3. Test Procedure

EUT was placed on a plank 0.8 m height from the metal ground plane and 0.4 m from the conducting wall of the shielding room and it was kept at least 0.8 m from any other grounded conducting surface.

All units of equipment forming the system under test (includes the EUT as well as connected peripherals and associated equipment or devices) shall be arranged such that a nominal 0.1 m separation is achieved between the neighboring units.

Connect EUT to the power mains through a artificial mains network (AMN). Where the mains cable supplied by the manufacturer is longer than 1 m, the excess should be folded at the centre into a bundle no longer than 0.4 m, so that its length is shortened to 1 m.

All the support units are connecting to the other LISN.

The LISN provides 50 ohm coupling impedance for the measuring instrument.

Both sides of AC line were checked for maximum conducted interference.

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

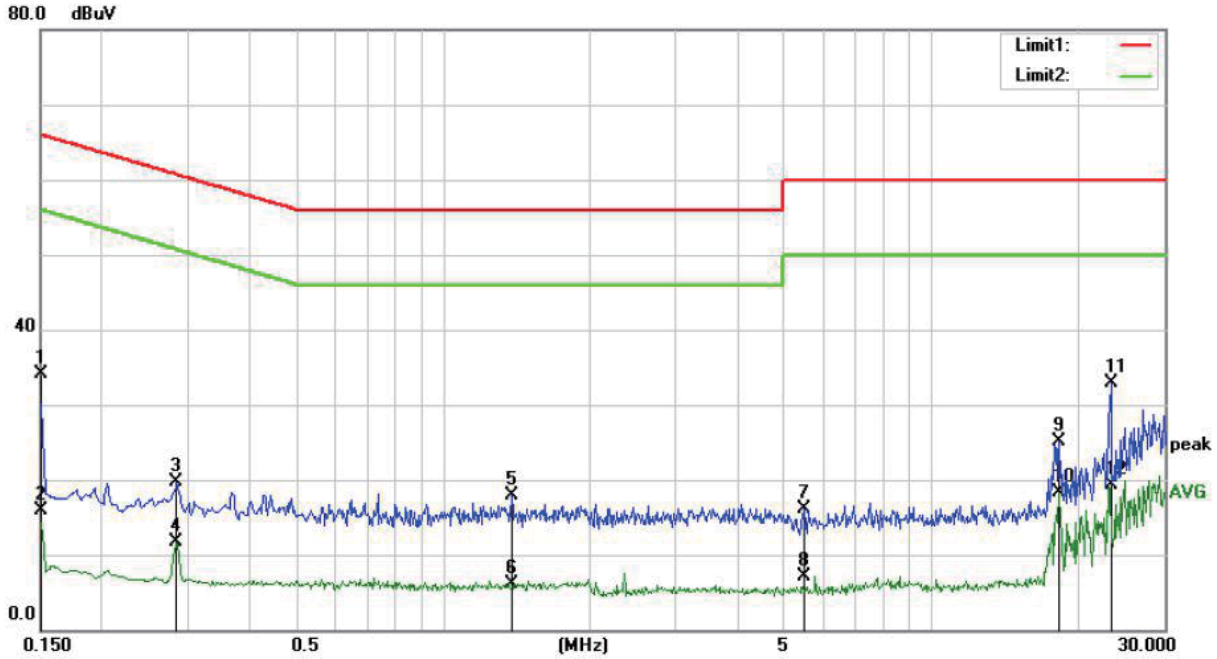
Set the test-receiver system to quasi peak detect function and average detect function, and to measure the conducted emissions values.

Test results were obtained from the following equation:
Emission Level (dBμV) = LISN Factor (dB) + Cable Loss (dB) + Reading (dBμV)
Margin (dB) = Emission Level (dBμV) - Limit (dBμV)

4.4. Measuring Results

PASS.

All the modes were tested and the data of the worst modes are attached the following pages.



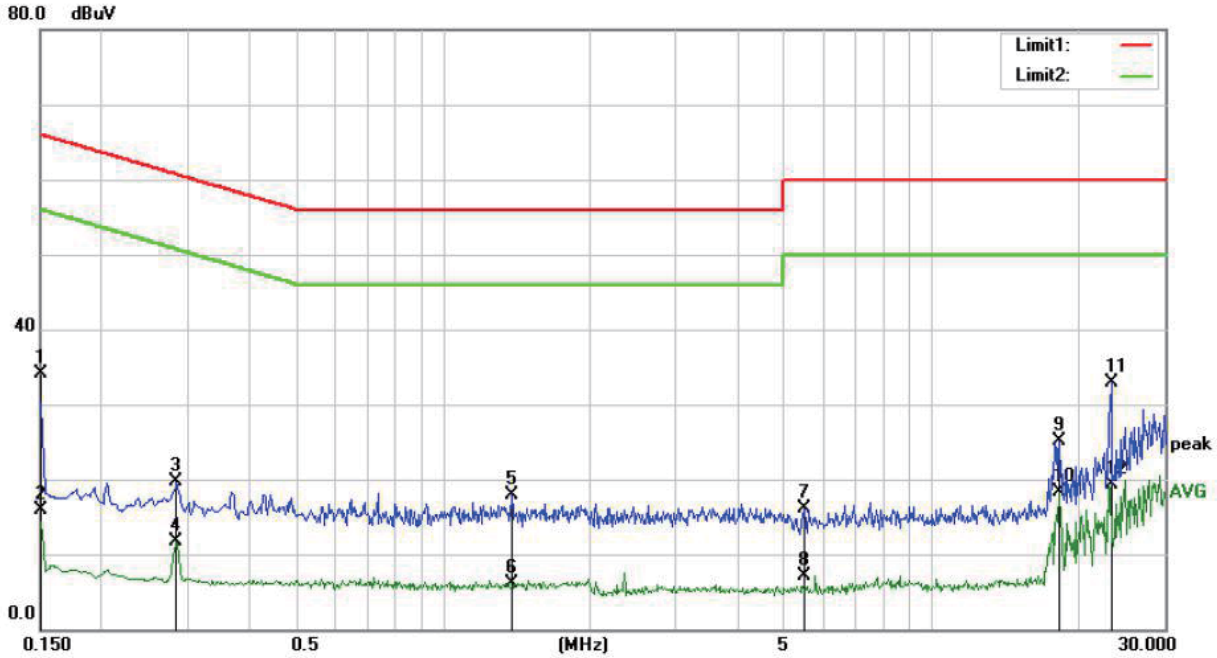
Site Conduction #2 Phase: N Temperature: 26.6

Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 47 %

Mode: BT mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	23.85	10.28	34.13	66.00	-31.87	QP	
2		0.1500	5.61	10.28	15.89	56.00	-40.11	AVG	
3		0.2860	9.34	10.38	19.72	60.64	-40.92	QP	
4		0.2860	1.32	10.38	11.70	50.64	-38.94	AVG	
5		1.3820	7.89	10.02	17.91	56.00	-38.09	QP	
6		1.3820	-3.83	10.02	6.19	46.00	-39.81	AVG	
7		5.4820	5.92	10.13	16.05	60.00	-43.95	QP	
8		5.4820	-3.09	10.13	7.04	50.00	-42.96	AVG	
9		18.2340	14.77	10.39	25.16	60.00	-34.84	QP	
10		18.2340	7.86	10.39	18.25	50.00	-31.75	AVG	
11	*	23.3740	22.42	10.50	32.92	60.00	-27.08	QP	
12		23.3740	8.72	10.50	19.22	50.00	-30.78	AVG	



Site Conduction #2 Phase: L1 Temperature: 26.6

Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 47 %

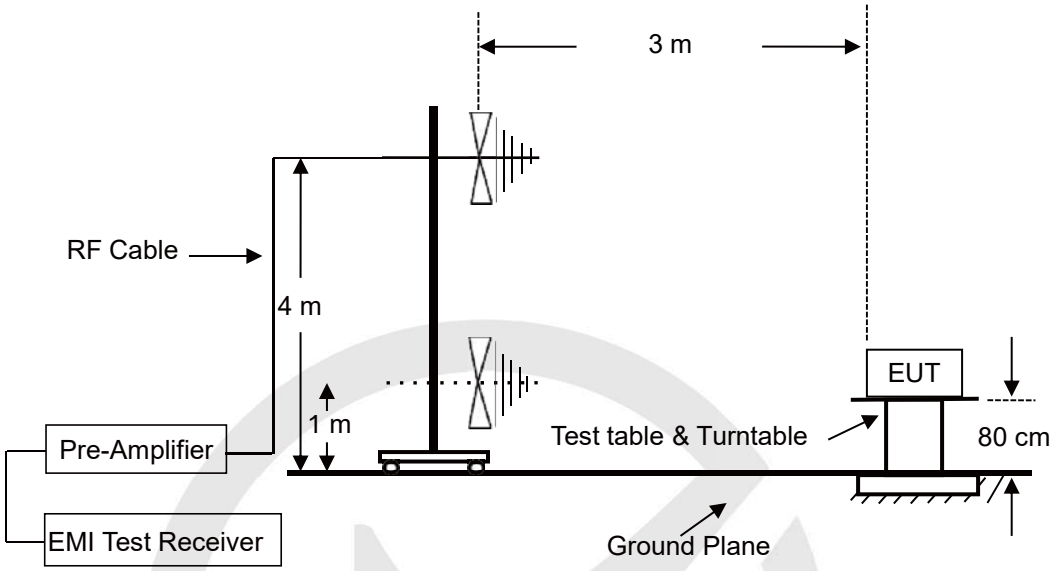
Mode: BT mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	23.85	10.28	34.13	66.00	-31.87	QP	
2		0.1500	5.61	10.28	15.89	56.00	-40.11	AVG	
3		0.2860	9.34	10.38	19.72	60.64	-40.92	QP	
4		0.2860	1.32	10.38	11.70	50.64	-38.94	AVG	
5		1.3820	7.89	10.02	17.91	56.00	-38.09	QP	
6		1.3820	-3.83	10.02	6.19	46.00	-39.81	AVG	
7		5.4820	5.92	10.13	16.05	60.00	-43.95	QP	
8		5.4820	-3.09	10.13	7.04	50.00	-42.96	AVG	
9		18.2340	14.77	10.39	25.16	60.00	-34.84	QP	
10		18.2340	7.86	10.39	18.25	50.00	-31.75	AVG	
11	*	23.3740	22.42	10.50	32.92	60.00	-27.08	QP	
12		23.3740	8.72	10.50	19.22	50.00	-30.78	AVG	

5. RADIATED EMISSION MEASUREMENT (UP TO 1GHz)

5.1. Block Diagram of Test Setup



5.2. Radiated Limit

FCC Part 15, Subpart B - Section 15. 109, 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

5.3. Test Procedure

The EUT was placed on a non-conductive plank whose total height equaled 80cm. All units of equipment forming the system under test (includes the EUT as well as connected peripherals and associated equipment or devices) shall be arranged such that a nominal 0.1 m separation is achieved between the neighboring units.

The EUT was set 3 meters (or 10 meters) away from the receiving antenna that was mounted on a non-conductive mast. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level.

The turntable can rotate 360 degree to determine the position of the maximum emission level.

The initial testing identified the frequency that has the highest disturbance relative to the limit while operating the EUT in typical modes of operation and cable positions in a test setup representative of typical system configuration.

The identification of the frequency of highest emission with respect to the limit was found by

investigating emissions at a number of significant frequencies. The probable frequency of maximum emission had been found and that the associated cable and EUT configuration and mode of operation had been identified.

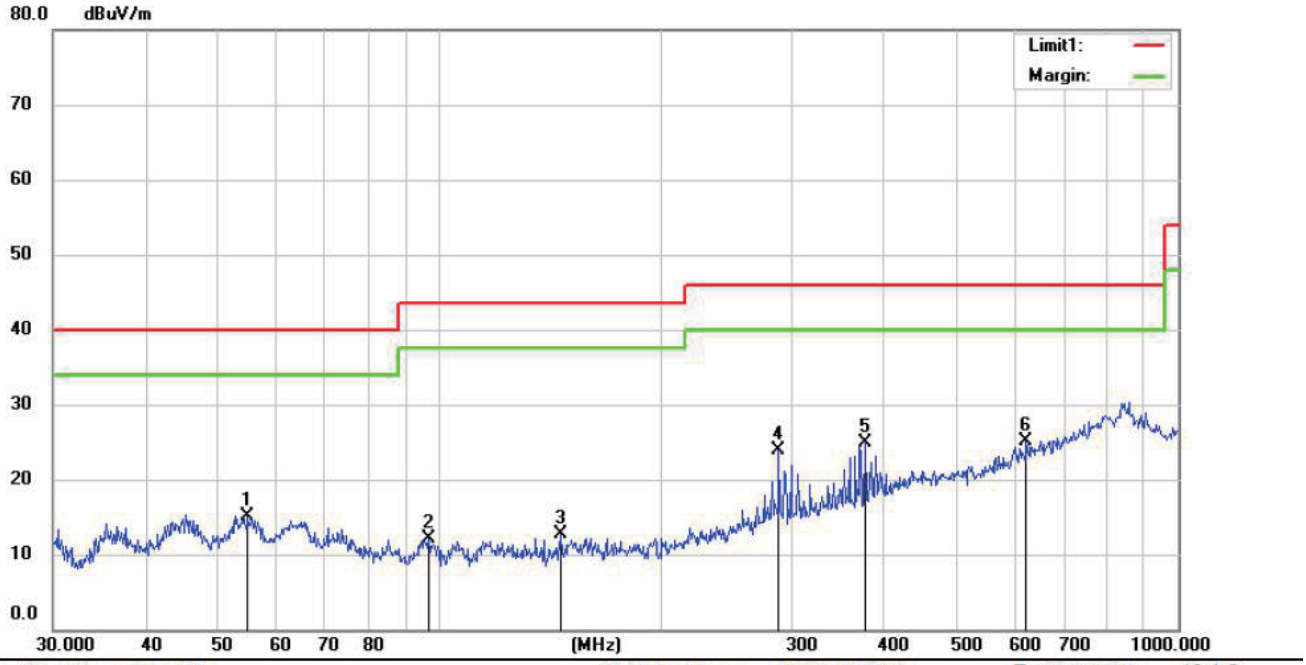
The bandwidth of the Receiver is set at 120 kHz.

Test results were obtained from the following equation:
Emission level (dBμV/m) = Antenna Factor -Amp Factor +Cable Loss + Reading
Margin (dB) = Emission Level (dBμV/m) - Limit (dBμV/m)

5.4. Measuring Results

PASS.

All the modes were tested and the data of the worst modes are attached the following pages.



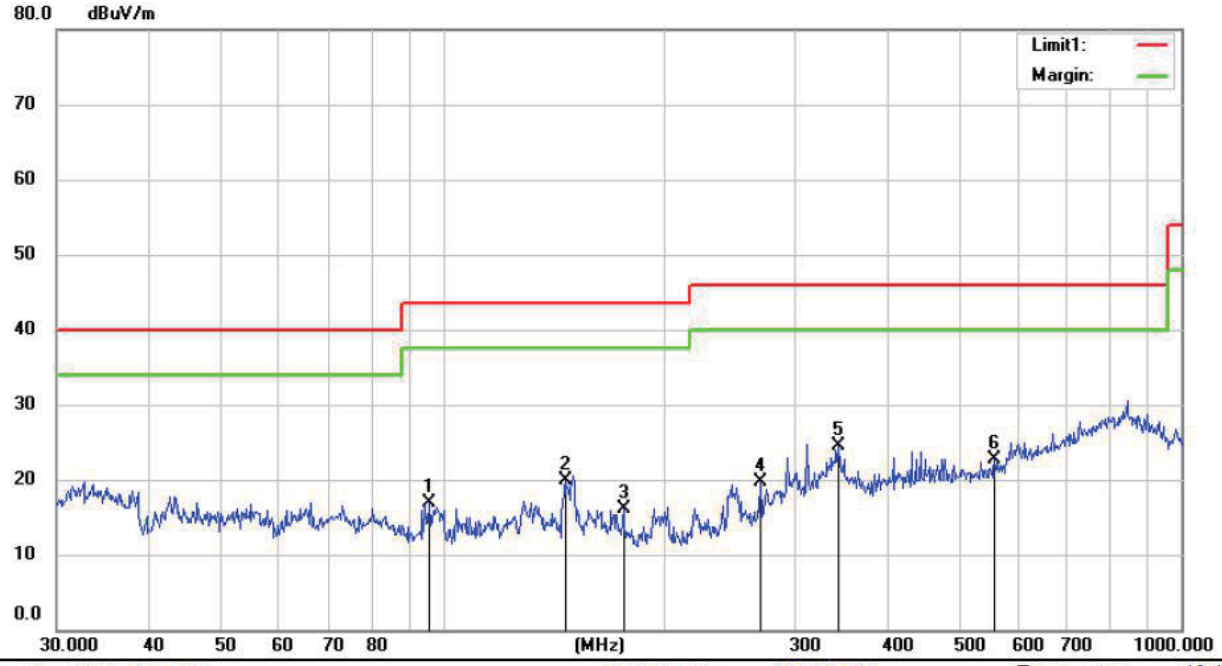
Site 3m Chamber #3 Polarization: *Horizontal* Temperature: 18.4 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 24 %

Mode:BT

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		55.0274	29.88	-14.75	15.13	40.00	-24.87	QP			
2		96.7750	29.71	-17.57	12.14	43.50	-31.36	QP			
3		145.8610	30.18	-17.42	12.76	43.50	-30.74	QP			
4		287.9904	37.33	-13.40	23.93	46.00	-22.07	QP			
5		377.2590	35.15	-10.25	24.90	46.00	-21.10	QP			
6	*	622.8900	29.69	-4.60	25.09	46.00	-20.91	QP			



Site 3m Chamber #3 Polarization: *Vertical* Temperature: 18.4 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 24 %

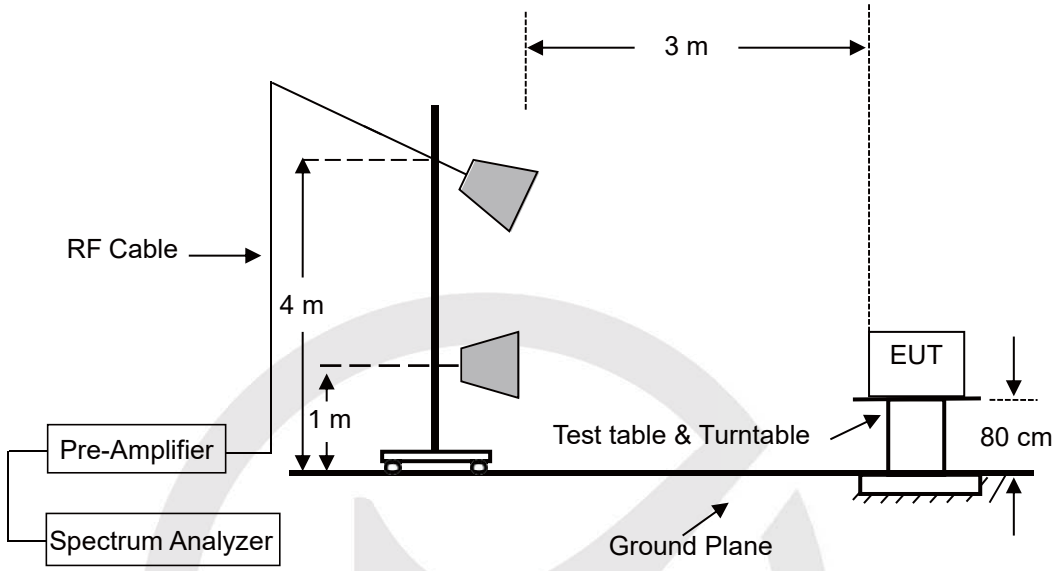
Mode:BT

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		95.7622	34.38	-17.54	16.84	43.50	-26.66	QP			
2		146.3734	37.37	-17.39	19.98	43.50	-23.52	QP			
3		175.6516	33.25	-17.24	16.01	43.50	-27.49	QP			
4		269.4282	33.69	-14.07	19.62	46.00	-26.38	QP			
5	*	343.1800	35.86	-11.31	24.55	46.00	-21.45	QP			
6		558.7301	28.99	-6.25	22.74	46.00	-23.26	QP			

6. RADIATED EMISSION MEASUREMENT (ABOVE 1GHz)

6.1. Block Diagram of Test Setup



6.2. Radiated Limit

FCC Part 15, Subpart B - Section 15. 109, Class B

Frequency range GHz	Average limit dB(μV/m)	Peak limit dB(μV/m)
Above 1000	54	74
Note: The highest internal source of an EUT is defined as the highest frequency generated or used in the device or on which the EUT operates or tunes. If the highest frequency of the internal sources of the EUT is less than 1.705 MHz, the measurement shall only be made up to 30 MHz. If the highest frequency of the internal sources of the EUT is between 1.705 MHz and 108 MHz, the measurement shall only be made up to 1 GHz. If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz the measurement shall only be made up to 2 GHz. If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz. If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 40 GHz, whichever is less.		

6.3. Test Procedure

The EUT was placed on a non-conductive table whose total height equaled 80cm. All units of equipment forming the system under test (includes the EUT as well as connected peripherals and associated equipment or devices) shall be arranged such that a nominal 0.1 m separation is achieved between the neighboring units. Where the mains cable supplied by the manufacturer is longer than 1 m, the excess should be folded at the centre into a bundle no longer than 0.4 m, so that its length is shortened to 1 m.

The EUT was set 3 meters away from the receiving antenna that was mounted on a non-conductive mast. The antenna can move up and down between 1 to 4 meters to find out the maximum emission level.

The turntable can rotate 360 degree to determine the position of the maximum emission level.

The initial testing identified the frequency that has the highest disturbance relative to the limit while operating the EUT in typical modes of operation and cable positions in a test setup representative of typical system configuration.

The identification of the frequency of highest emission with respect to the limit was found by investigating emissions at a number of significant frequencies. The probable frequency of maximum emission had been found and that the associated cable and EUT configuration and mode of operation had been identified.

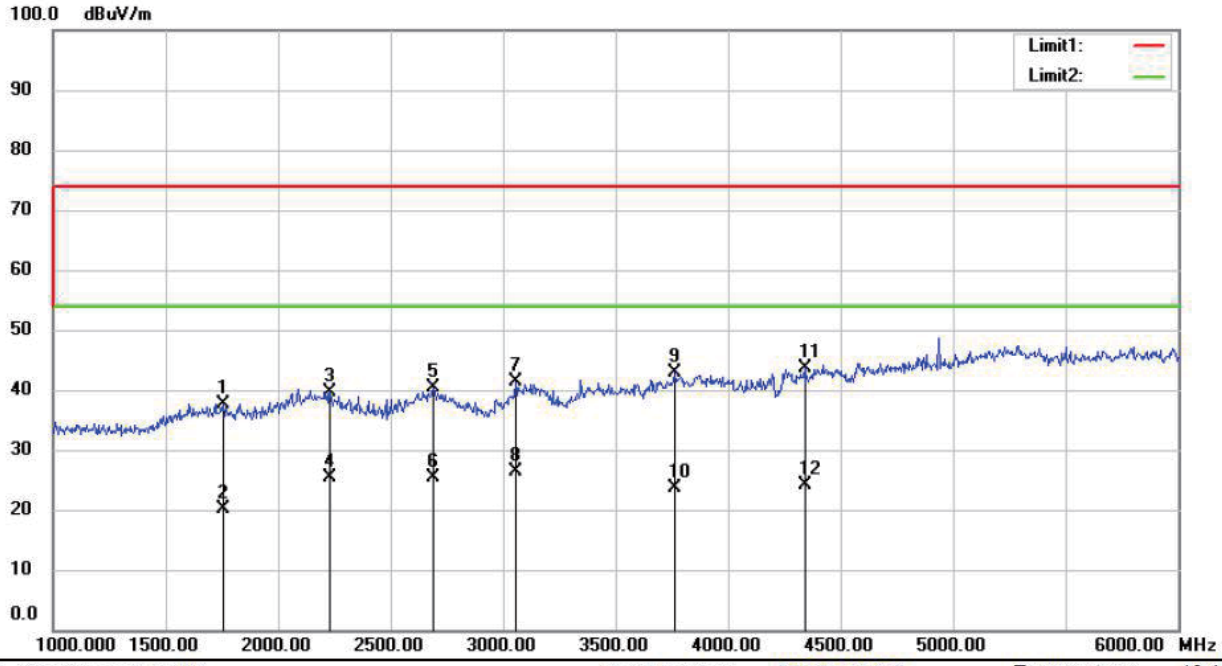
The frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with peak detector for peak values, and use RBW=1 MHz and VBW=10 Hz with peak detector for Average Values.

Test results were obtained from the following equation:
Emission level (dBμV/m) = Antenna Factor - Amp Factor +Cable Loss + Reading
Margin (dB) = Emission Level (dBμV/m) - Limit (dBμV/m)

6.4. Measuring Results

PASS.

All the modes were tested and the data of the worst modes are attached the following pages.



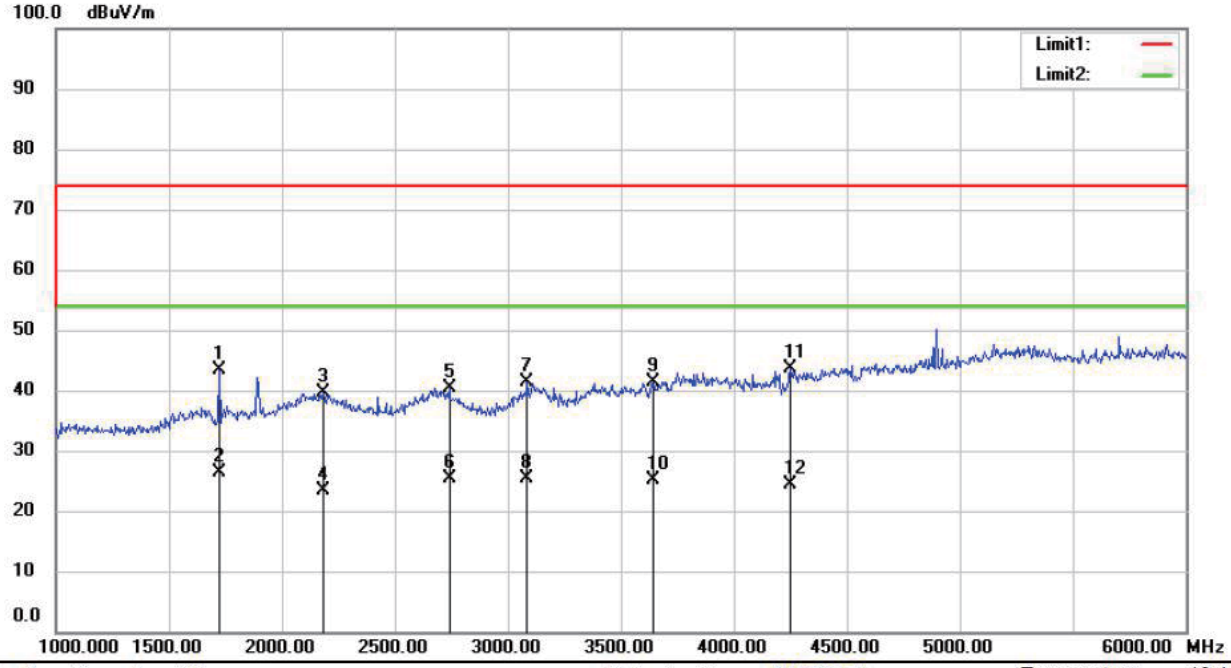
Site 3m Chamber #3 Polarization: *Horizontal* Temperature: 18.4 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 24 %

Mode:BT

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		1755.000	52.14	-14.48	37.66	74.00	-36.34	peak			
2		1755.000	34.58	-14.48	20.10	54.00	-33.90	AVG			
3		2230.000	52.50	-12.95	39.55	74.00	-34.45	peak			
4		2230.000	38.25	-12.95	25.30	54.00	-28.70	AVG			
5		2690.000	52.97	-12.70	40.27	74.00	-33.73	peak			
6		2690.000	38.10	-12.70	25.40	54.00	-28.60	AVG			
7		3055.000	53.56	-12.30	41.26	74.00	-32.74	peak			
8	*	3055.000	38.70	-12.30	26.40	54.00	-27.60	AVG			
9		3760.000	53.80	-10.81	42.99	74.00	-31.01	peak			
10		3760.000	34.41	-10.81	23.60	54.00	-30.40	AVG			
11		4340.000	52.60	-8.94	43.66	74.00	-30.34	peak			
12		4340.000	33.14	-8.94	24.20	54.00	-29.80	AVG			



Site 3m Chamber #3 Polarization: *Vertical* Temperature: 18.4 C

Limit: (RE)FCC PART 15 CLASS B Power: AC 120V/60Hz Humidity: 24 %

Mode:BT

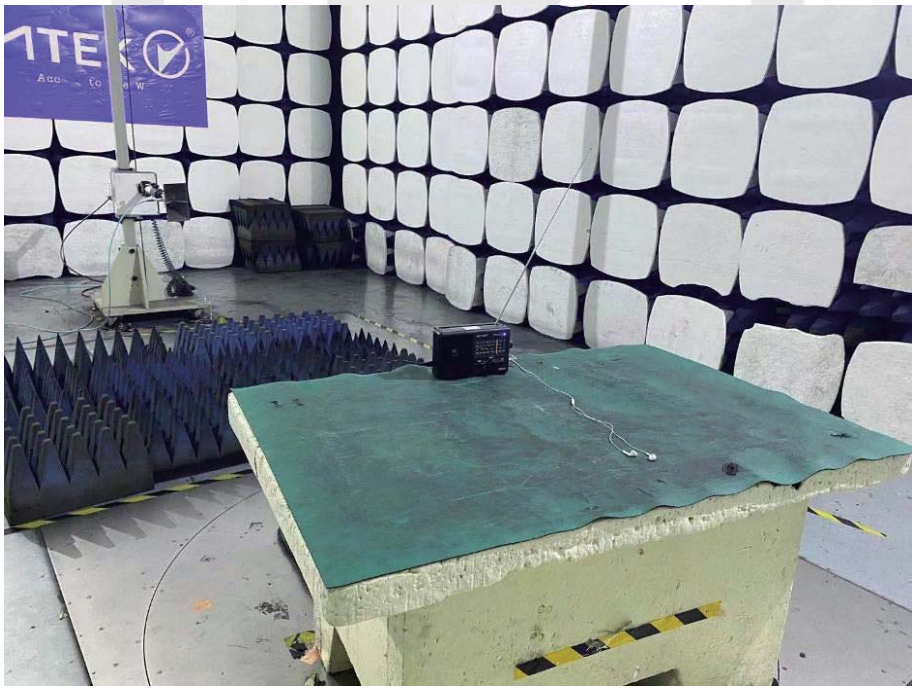
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		1720.000	57.91	-14.65	43.26	74.00	-30.74	peak			
2	*	1720.000	41.05	-14.65	26.40	54.00	-27.60	AVG			
3		2185.000	52.67	-12.95	39.72	74.00	-34.28	peak			
4		2185.000	36.35	-12.95	23.40	54.00	-30.60	AVG			
5		2740.000	53.04	-12.64	40.40	74.00	-33.60	peak			
6		2740.000	38.04	-12.64	25.40	54.00	-28.60	AVG			
7		3085.000	53.76	-12.28	41.48	74.00	-32.52	peak			
8		3085.000	37.78	-12.28	25.50	54.00	-28.50	AVG			
9		3645.000	52.85	-11.39	41.46	74.00	-32.54	peak			
10		3645.000	36.59	-11.39	25.20	54.00	-28.80	AVG			
11		4250.000	52.70	-9.11	43.59	74.00	-30.41	peak			
12		4250.000	33.41	-9.11	24.30	54.00	-29.70	AVG			

7. PHOTOGRAPHS

7.1.Photos of Power Line Conducted Emission Measurement

7.2. Photos of Radiation Emission Measurement

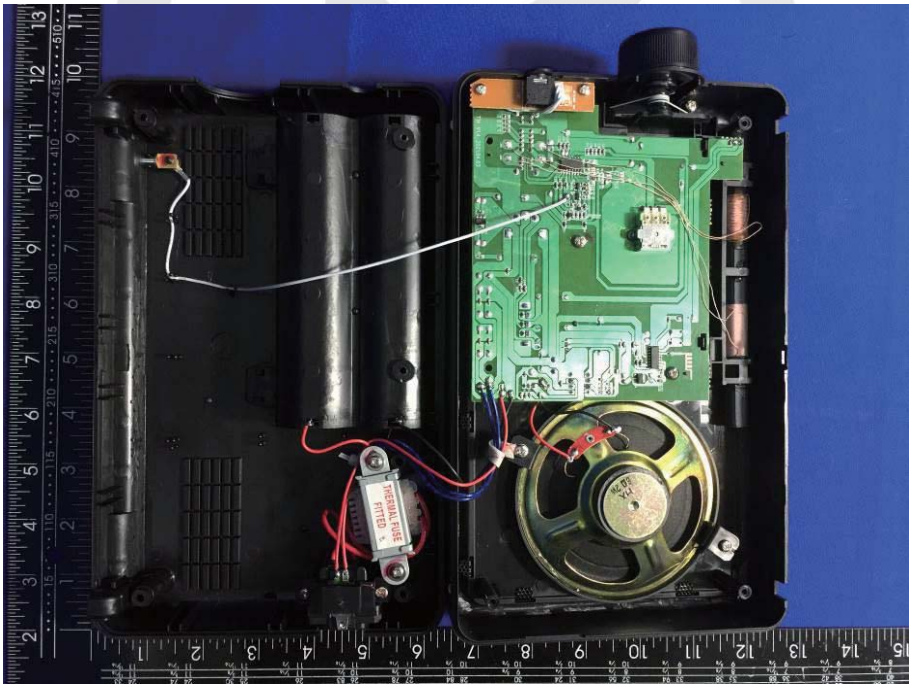


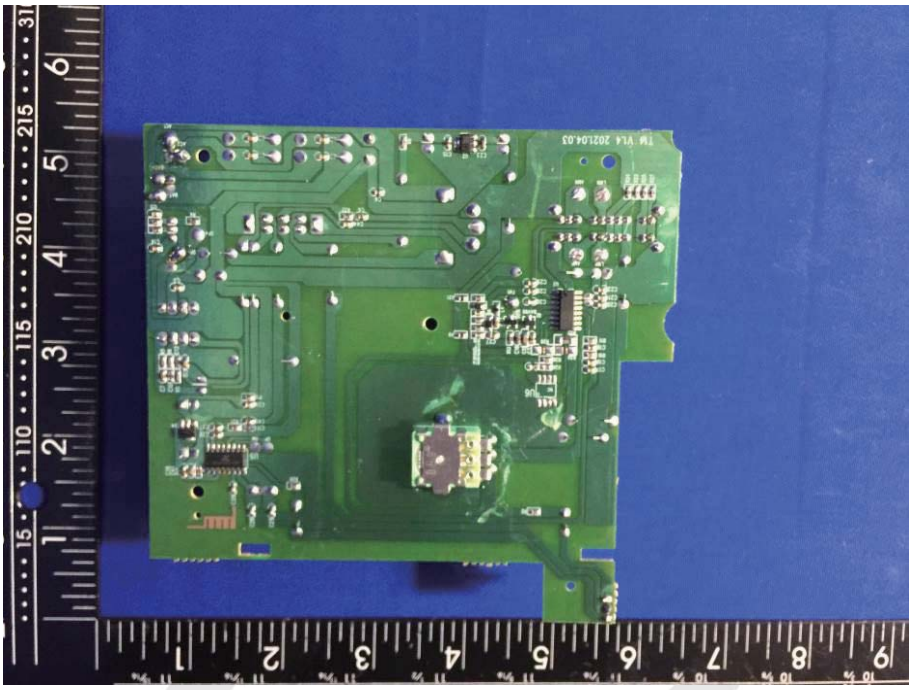
APPENDIX: Photos of EUT

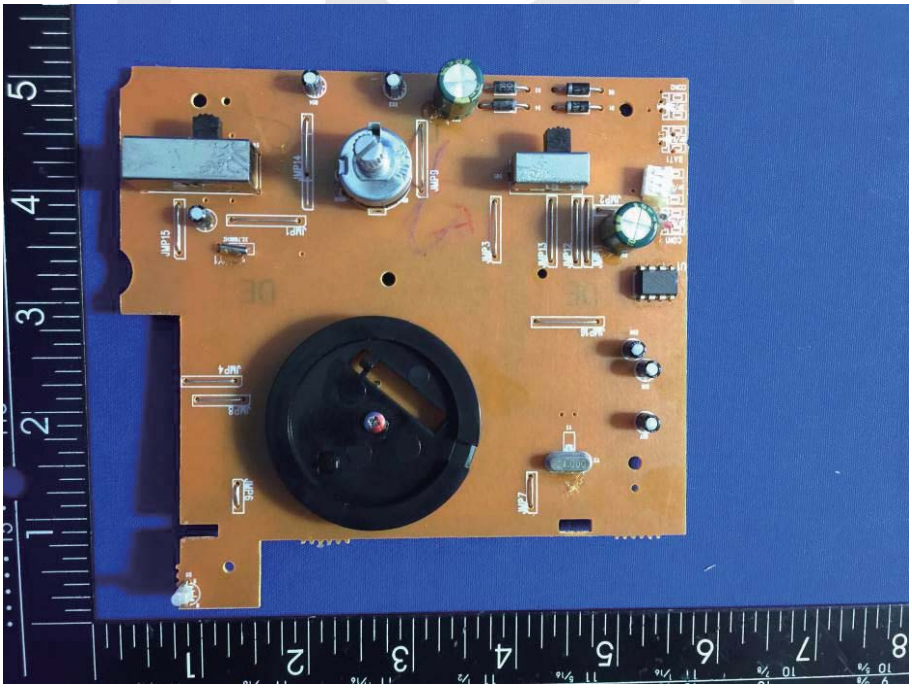

RETEKESS
FM 76 81 86 91 96 102 108
MW 520 1000 1200 1450 1710
LW 160 220 250 280
SW 8.0 12.0 14.0 16.0 18.0
Bluetooth

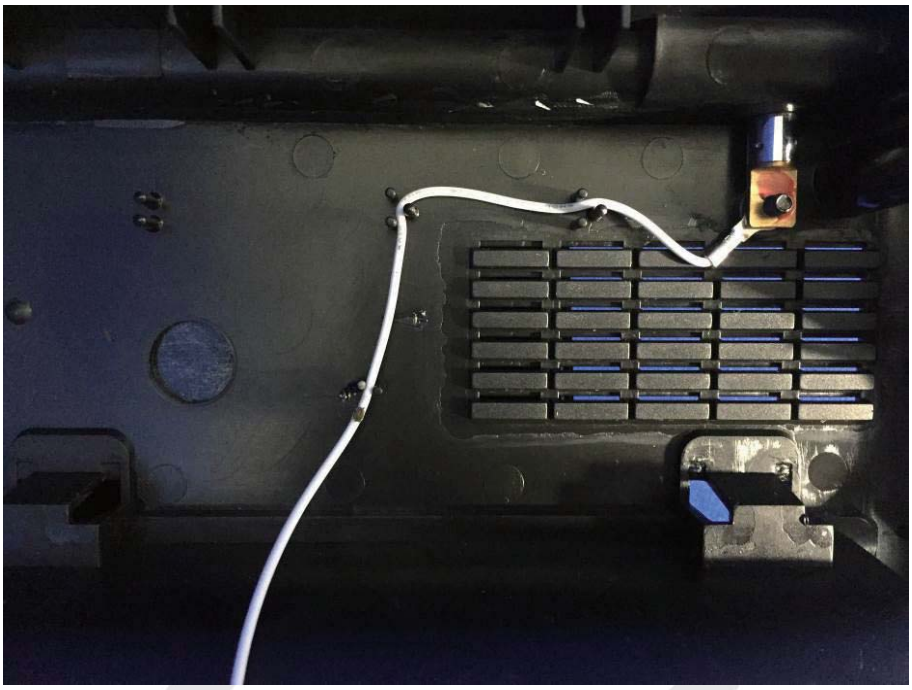

RETEKESS
FM Radio
CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN


RETEKESS
FM Radio
CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN


THERMAL FUSE
FITTED







*** End of Report ***