

FCC TEST REPORT

FCC ID: 2A3NOTR621

Report Number. : ZKT-220728L5278
Date of Test : Jul. 04, 2022 -- Jul. 29, 2022
Date of issue : Jul. 29, 2022
Total number of pages..... : 18
Test Result : PASS

Testing Laboratory..... : Shenzhen ZKT Technology Co., Ltd.
Address : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name : ZHENGZHOU YSAIR TECHNOLOGY CO.,LTD
Address : ROOM 709,SANJIANG BUILDING,NO.170 NANYANG ROAD,HUIJI DISTRICT,ZHENGZHOU, HENAN PROVINCE, CHINA

Manufacturer's name : ZHENGZHOU YSAIR TECHNOLOGY CO.,LTD
Address : ROOM 709,SANJIANG BUILDING,NO.170 NANYANG ROAD,HUIJI DISTRICT,ZHENGZHOU, HENAN PROVINCE, CHINA

Test specification:
Standard : FCC CFR Title 47 Part 15 Subpart B
ANSI C63.4:2014
Test procedure..... : /
Non-standard test method : N/A

Test Report Form No. : TRF-EL-112_V0
Test Report Form(s) Originator : ZKT Testing
Master TRF : Dated: 2020-01-06

This device described above has been tested by ZKT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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Product name..... : Radio CD Multifunction Player/CD BOOMBOX with AM/FM
Radio/Portable CD Player
Trademark : RETEKESS
Model/Type reference : TR621, TR630
Ratings..... : AC 120V /60Hz 0.11A

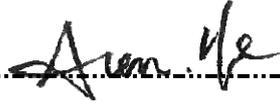
Testing procedure and testing location:

Testing Laboratory: **Shenzhen ZKT Technology Co., Ltd.**

Address

1/F, No. 101, Building B, No. 6, Tangwei Community
Industrial Avenue, Fuhai Street, Bao'an District,
Shenzhen, China

Tested by (name + signature).....: Alen He



Reviewer (name + signature).....: Joe Liu



Approved (name + signature): Lake Xie



Table of Contents

	Page
1. VERSION	4
2. TEST SUMMARY	5
2.1 TEST FACILITY	5
2.2 MEASUREMENT UNCERTAINTY	5
3. GENERAL INFORMATION	6
3.1 GENERAL DESCRIPTION OF EUT	6
3.2 Test Setup Configuration	6
3.3 Support Equipment	6
3.4 EQUIPMENTS LIST FOR ALL TEST ITEMS	7
4. EMC EMISSION TEST	8
4.1 Conducted emissions	8
4.1.1 POWER LINE CONDUCTED EMISSION Limits	8
4.1.2 TEST PROCEDURE	8
4.1.3 DEVIATION FROM TEST STANDARD	8
4.1.4 TEST SETUP	9
4.1.5 EUT OPERATING CONDITIONS	9
4.2 Radiated emissions	12
4.2.1 Radiated Emission Limits	12
4.2.2 TEST PROCEDURE	12
4.2.3 DEVIATION FROM TEST STANDARD	13
4.2.4 TEST SETUP	13
4.2.5 EUT OPERATING CONDITIONS	14
4.2.6 TEST RESULTS	15
5. TEST SETUP PHOTO	17
6. EUT CONSTRUCTIONAL DETAILS	18

1. VERSION

Report No.	Version	Description	Approved
ZKT-220728L5278	Rev.01	Initial issue of report	Jul. 29, 2022

2. TEST SUMMARY

Test procedures according to the technical standards:

FCC Part15 Subpart B			
Standard Section	Test Item	Result	Remark
15.107	AC Power Line Conducted Emission	PASS	
15.109	Radiated Emission	PASS	

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report

2.1 TEST FACILITY

Shenzhen ZKT Technology Co., Ltd.
Add. : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street,
Bao'an District, Shenzhen, China

FCC Test Firm Registration Number: 692225
Designation Number: CN1299
IC Registered No.: 27033

2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power conducted	$\pm 0.16\text{dB}$
3	Spurious emissions conducted	$\pm 0.21\text{dB}$
4	All emissions radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^\circ\text{C}$
7	Humidity	$\pm 2\%$

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Product Name:	Radio CD Multifunction Player/CD BOOMBOX with AM/FM Radio/Portable CD Player
Trademark:	RETEKESS
Model No.:	TR621
Model Different.:	Their electrical circuit design, layout, components used and internal wiring are identical, Only the name will be different .
Serial No.:	TR630
Hardware Version:	V1.0
Software Version:	V1.0
Power supply:	AC 120V /60Hz 0.11A

3.2 Test Setup Configuration

Conducted Emission

AC POWER	EUT
----------	-----

Radiated Emission

AC POWER	EUT
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3.3 Support Equipment

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
1					

Item	Shielded Type	Ferrite Core	Length	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

3.4 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	9020A	MY45109572	Sep. 21, 2021	Sep. 22, 2022
2	Spectrum Analyzer (1GHz-40GHz)	Agilent	E4446A	100363	Sep. 21, 2021	Sep. 22, 2022
3	Test Receiver (9kHz-7GHz)	R&S	ESC17	101169	Sep. 21, 2021	Sep. 22, 2022
4	Bilog Antenna (30MHz-1400MHz)	Schwarzbeck	VULB9168	00877	Sep. 21, 2021	Sep. 22, 2022
5	Horn Antenna (1GHz-18GHz)	SCHWARZBECK	BBHA9120D	1541	Sep. 21, 2021	Sep. 22, 2022
6	Horn Antenna (18GHz-40GHz)	A.H. System	SAS-574	588	Sep. 21, 2021	Sep. 22, 2022
7	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	N/A	Sep. 21, 2021	Sep. 22, 2022
8	Amplifier (1GHz-40GHz)	QUANJUDA	DLE-161	097	Sep. 21, 2021	Sep. 22, 2022
9	Loop Antenna (9kHz-30MHz)	SCHWARZBECK	FMZB1519B	014	Sep. 21, 2021	Sep. 22, 2022
10	RF cables1 (9kHz-30MHz)	N/A	9kHz-30MHz	N/A	Sep. 21, 2021	Sep. 22, 2022
11	RF cables2 (30MHz-1GHz)	N/A	30MHz-1GHz	N/A	Sep. 21, 2021	Sep. 22, 2022
12	RF cables3 (1GHz-40GHz)	N/A	1GHz-40GHz	N/A	Sep. 21, 2021	Sep. 22, 2022
13	CMW500 Test	R&S	CMW500	106504	Sep. 21, 2021	Sep. 22, 2022
14	ESG Signal Generator	Agilent	E4421B	GB40051203	Sep. 21, 2021	Sep. 22, 2022
15	Signal Generator	Agilent	N5182A	MY47420215	Sep. 21, 2021	Sep. 22, 2022
16	D.C. Power Supply	LongWei	TPR-6405D	\	\	\
17	Software	Frad	EZ-EMC	FA-03A2 RE	\	\

Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	Sep. 21, 2021	Sep. 22, 2022
2	LISN	CYBERTEK	EM5040A	E1850400149	Sep. 21, 2021	Sep. 22, 2022
3	Test Cable	N/A	C01	N/A	Sep. 21, 2021	Sep. 22, 2022
4	Test Cable	N/A	C02	N/A	Sep. 21, 2021	Sep. 22, 2022
5	EMI Test Receiver	R&S	ESRP3	101946	Sep. 21, 2021	Sep. 22, 2022
6	Absorbing Clamp	DZ	ZN23201	N/A	Sep. 21, 2021	Sep. 22, 2022

4. EMC EMISSION TEST

4.1 Conducted emissions

Test Requirement:	FCC Part15 B Section 15.107
Test Method:	ANSI C63.4:2014
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

4.1.1 POWER LINE CONDUCTED EMISSION Limits

FREQUENCY (MHz)	Limit (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:

(1) *Decreases with the logarithm of the frequency.

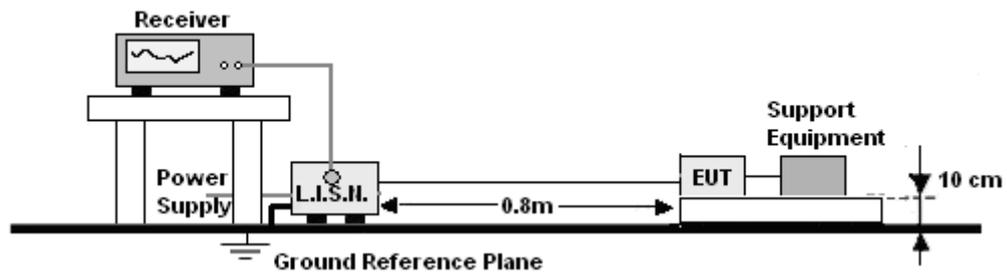
4.1.2 TEST PROCEDURE

- a. The EUT was placed 0.1 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP

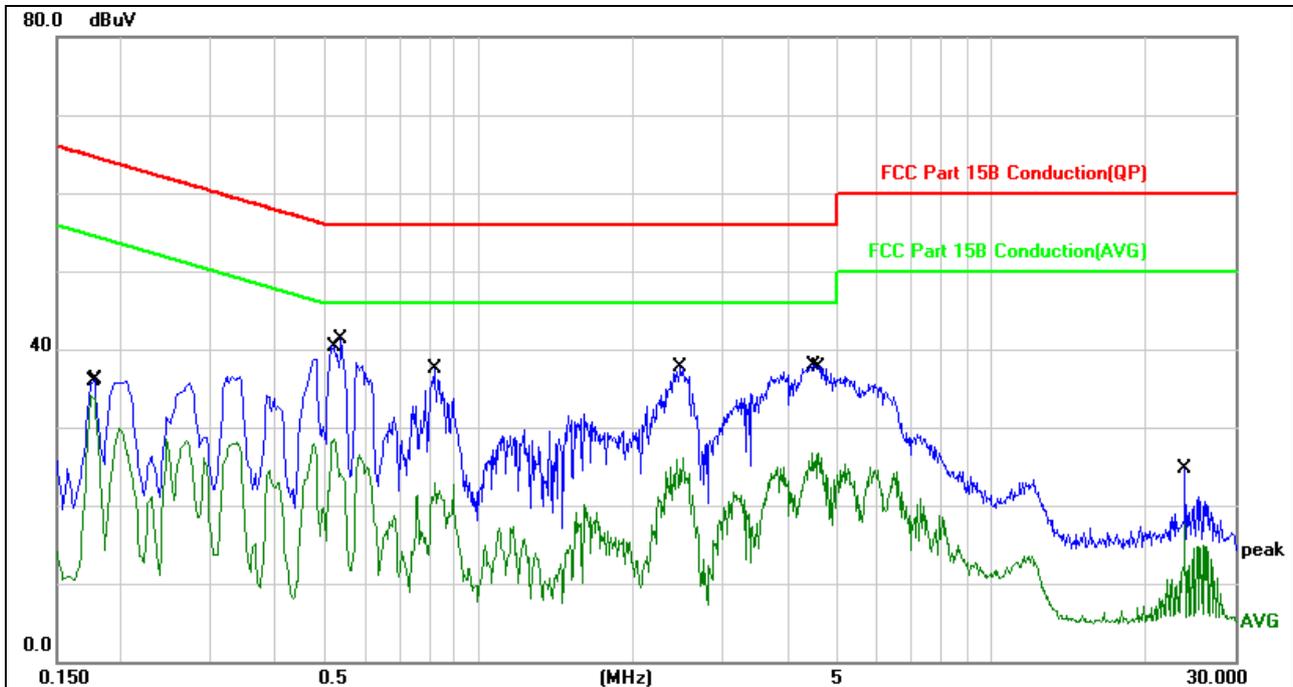


4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

4.1.6 Test Result

Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Phase :	L
Test Voltage :	AC 120V/60Hz		

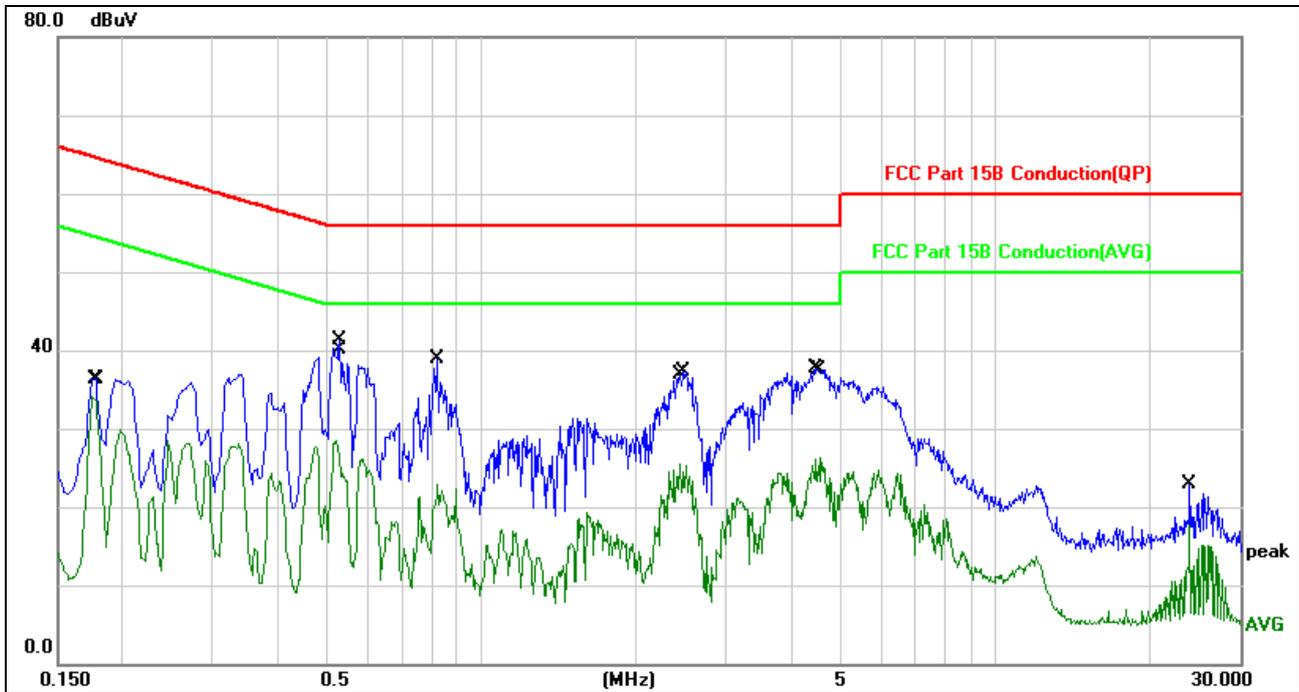


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1740	24.28	9.75	34.03	54.76	-20.73	AVG	
2	0.1780	26.31	9.75	36.06	64.57	-28.51	QP	
3	0.5220	18.67	9.85	28.52	46.00	-17.48	AVG	
4 *	0.5380	31.47	9.85	41.32	56.00	-14.68	QP	
5	0.8180	27.75	9.80	37.55	56.00	-18.45	QP	
6	0.8220	13.11	9.80	22.91	46.00	-23.09	AVG	
7	2.4739	28.08	9.69	37.77	56.00	-18.23	QP	
8	2.5059	16.40	9.72	26.12	46.00	-19.88	AVG	
9	4.5140	28.32	9.67	37.99	56.00	-18.01	QP	
10	4.6180	17.01	9.67	26.68	46.00	-19.32	AVG	
11	24.0060	15.28	9.47	24.75	60.00	-35.25	QP	
12	24.0060	8.19	9.47	17.66	50.00	-32.34	AVG	

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor

Temperature :	26°C	Relative Humidity :	54%
Pressure :	101kPa	Phase :	N
Test Voltage :	AC 120V/60Hz		



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1740	24.33	9.75	34.08	54.76	-20.68	AVG	
2	0.1780	26.57	9.75	36.32	64.57	-28.25	QP	
3	0.5220	18.61	9.85	28.46	46.00	-17.54	AVG	
4 *	0.5299	31.46	9.85	41.31	56.00	-14.69	QP	
5	0.8180	29.07	9.80	38.87	56.00	-17.13	QP	
6	0.8220	13.01	9.80	22.81	46.00	-23.19	AVG	
7	2.4420	15.87	9.67	25.54	46.00	-20.46	AVG	
8	2.4739	27.68	9.69	37.37	56.00	-18.63	QP	
9	4.4980	27.96	9.67	37.63	56.00	-18.37	QP	
10	4.5620	16.69	9.67	26.36	46.00	-19.64	AVG	
11	24.0060	13.43	9.47	22.90	60.00	-37.10	QP	
12	24.0060	8.21	9.47	17.68	50.00	-32.32	AVG	

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Measurement Level = Reading level + Correct Factor
4. when charging, BT can not transmit

4.2 Radiated emissions

Test Requirement:	FCC Part15 B Section 15.109				
Test Method:	ANSI C63.4:2014				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average

4.2.1 Radiated Emission Limits

Frequencies (MHz)	Field Strength (micovolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

4.2.2 TEST PROCEDURE

Below 1GHz test procedure as below:

- a. The EUT was placed on the top of a rotating table 0.1 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

- g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre).
- h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel

Note:

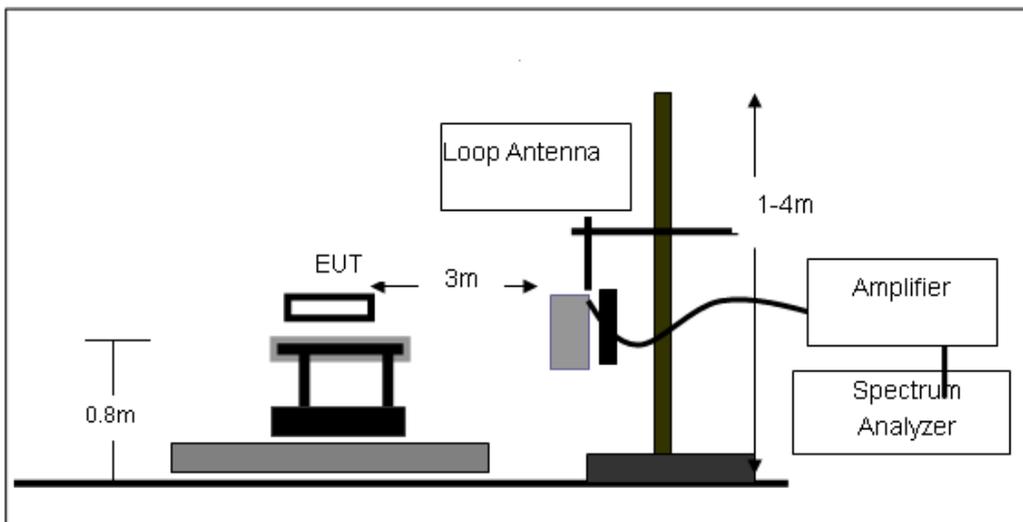
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

4.2.3 DEVIATION FROM TEST STANDARD

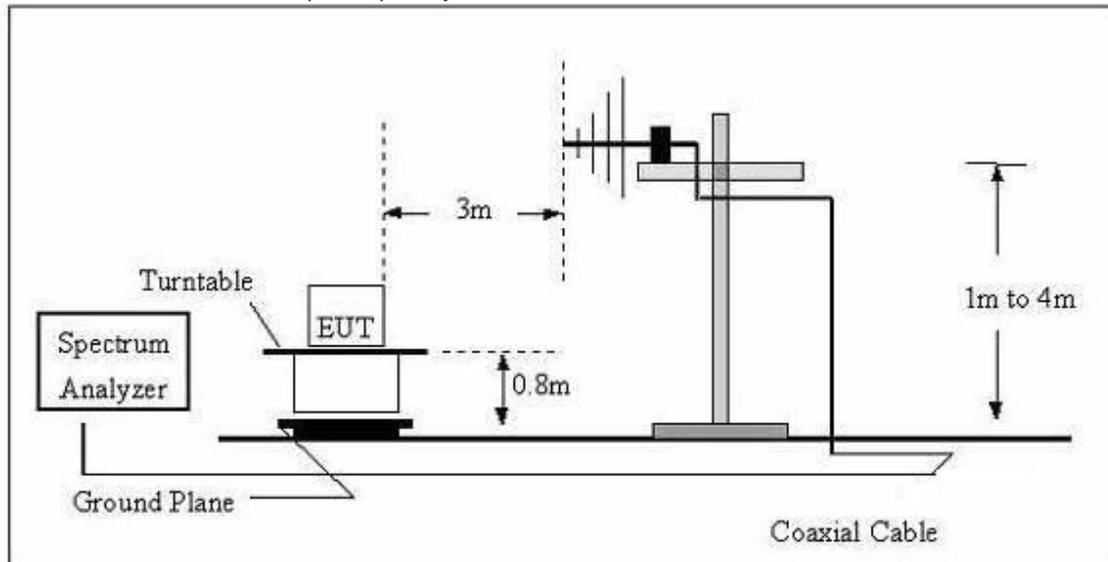
No deviation

4.2.4 TEST SETUP

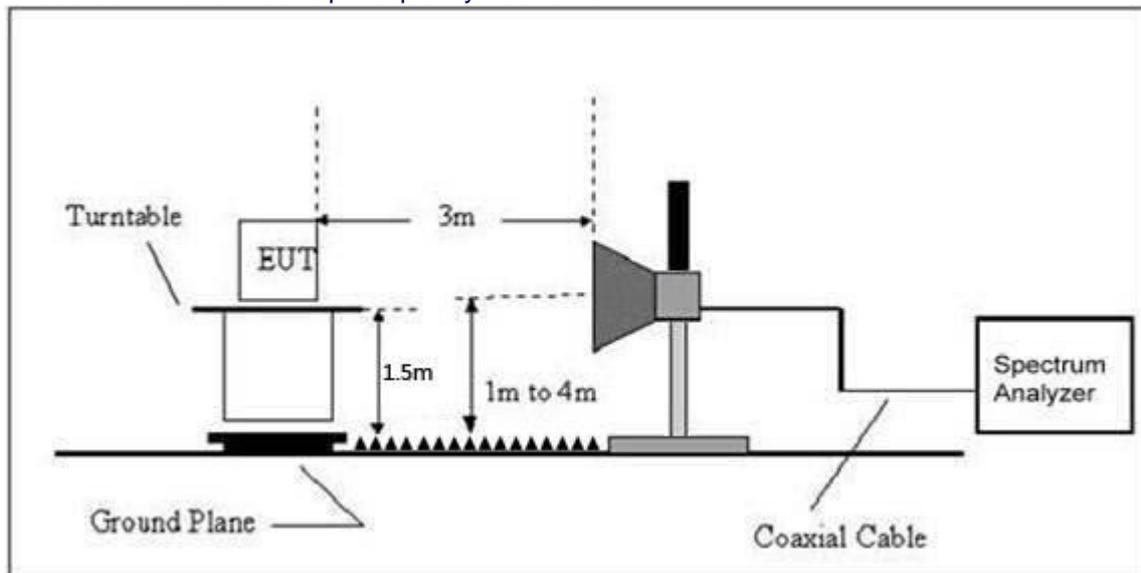
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



4.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

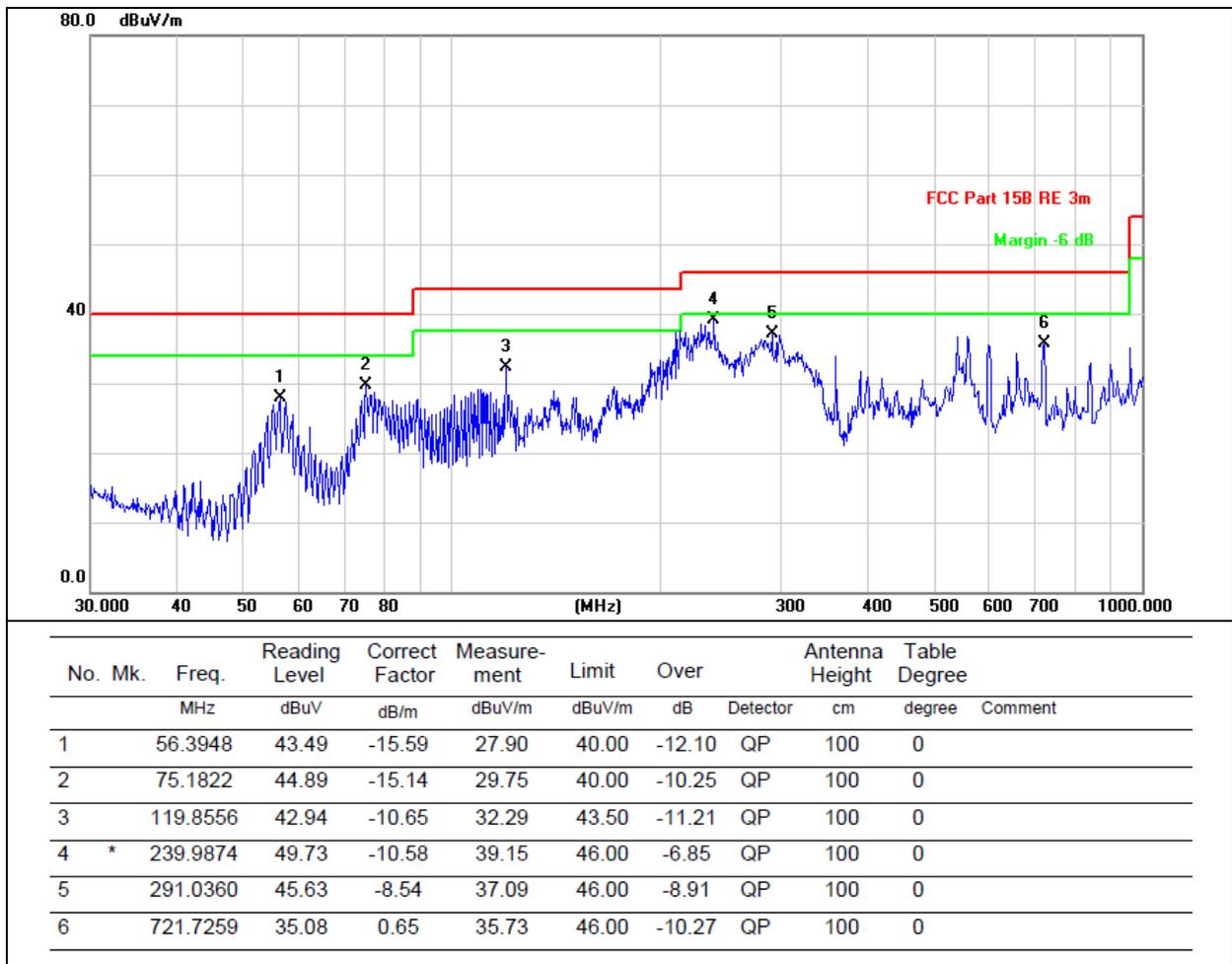
4.2.6 TEST RESULTS

Between 9KHz – 30MHz

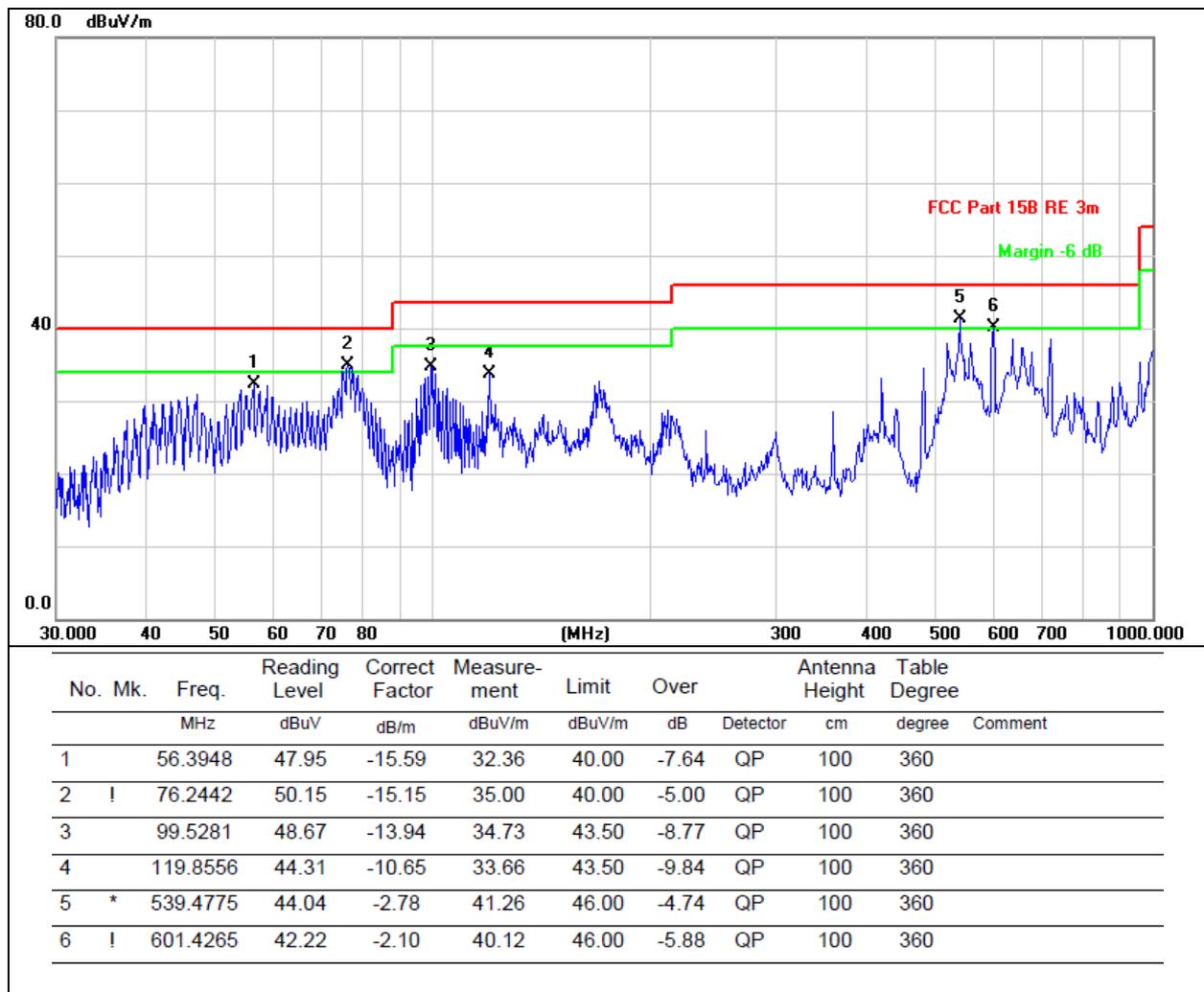
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Between 30MHz – 1GHz

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Horizontal
Test Voltage:	AC120V	Test mode:	CD player



Temperature:	26°C	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	AC120V		



Remarks:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. The test data shows only the worst case GFSK mode

5. Test Setup Photo



6. EUT Constructional Details

Please refer to External photos file and internal photos file

***** END OF REPORT *****