

Test Report

Applicant: Shenzhen Hanrongda Electronics Co.,Ltd

Product Name: FM. AM Digital Demodulation Radio

Brand Name: HanRongDa

Model No.: HRD-903

FCC ID: 2APU9-HRD-903

Date of Receipt : Nov.04,2025

Date of Test: Nov.05,2025

Date of Report: Nov.06,2025

Prepared by: Shenzhen Most Technology Service Co., Ltd.

The testing has been performed on the submitted samples and found in compliance with the council FCC Rules and Regulations Part 15 Subpart B.

Shenzhen Most Technology Service Co., Ltd.
East A, 1/F., New Aolin Factory Buiding, Langshan Erlu, North Area,
Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

Phone: 86-755-8602 6850

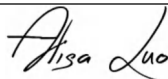
Fax: 86-755-2601 3350

http:// www.szmost.com

TABLE OF CONTENTS

Description	Page
Test Report Declaration.....	4
1. GENERAL INFORMATION	4
1.1. Description of Device (EUT)	4
1.2. Operational Mode(s) of EUT	4
1.3. Test Voltage(s) of EUT	4
2. LABORATORY INFORMATION	5
2.1. Laboratory Name	5
2.2. Location	5
2.3. Test facility	5
2.4. Measurement Uncertainty	5
3. SUMMARY OF TEST RESULTS	6
4. BLOCK DIAGRAM OF TEST SETUP	7
4.1. Block Diagram of connection between EUT and simulation-EMI	7
5. TEST INSTRUMENT USED	8
5.1. For Conducted Disturbance at Mains Terminals Emission Test	8
5.2. For Radiation Test (In Anechoic Chamber)(Below 1000MHz)	8
5.3. For Radiation Test (In Anechoic Chamber)(Above 1000MHz)	8
6. CONDUCTED DISTURBANCE AT MAINS TERMINALS TEST	9
6.1. Configuration of Test System	9
6.2. Test Standard	9
6.3. Power Line Conducted Disturbance at Mains Terminals Limit	9
6.4. Test Procedure	9
6.5. Conducted Disturbance at Mains Terminals Test Results	10
7. RADIATED DISTURBANCE TEST	11
7.1. Configuration of Test System	11
7.2. Test Standard	11
7.3. Radiated Disturbance Limit	11
7.4. Test Procedure	11
7.5. Radiated Disturbance Test Results	12
 APPENDIX I	 (4 Pages)
APPENDIX II	(4 Pages)
APPENDIX III (Test Photos)	(1 Page)
APPENDIX IV (Photos of the EUT)	(5 Pages)

TEST REPORT VERIFICATION

Report Number	MTEB25110049		
Applicant	Shenzhen Hanrongda Electronics Co.,Ltd		
	No.21,LiYuan Xia,XinLi Road,PingHu Town,LongGang District Shenzhen		
Manufacturer	Shenzhen Hanrongda Electronics Co.,Ltd		
	No.21,LiYuan Xia,XinLi Road,PingHu Town,LongGang District Shenzhen		
Product	Product Name	FM. AM Digital Demodulation Radio	
	Model No.	HRD-903	
	Power Supply	DC 5V by USB Port DC 4.5V by Batteries	
Test Result	The EUT was found compliant with the requirement(s) of the standards.		
Standard	FCC Rules and Regulations Part 15 Subpart B Class B.		
*Note The above device has been tested by Shenzhen Most Technology Service 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 test record, data evaluation & Equipment Under Test (EUT) configurations represented are contained in this test report and Shenzhen Most Technology Service Co., Ltd. Is assumed full responsibility for the accuracy and completeness of test. Also, this report shows that the EUT is technically compliant with the requirement of the above standards. This report applies to above tested sample only. This report shall not be reproduced except in full, without written approval of Shenzhen Most Technology Service Co., Ltd., this document may be altered or revised by Shenzhen Most Technology Service Co., Ltd., personal only, and shall be noted in the revision of the document.			
Prepared by			
	Alisa Luo(Engineer)		
Reviewed by			
	Sunny Deng(Engineer)		
Approved by			
	Yvette Zhou(Manager)		

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	FM. AM Digital Demodulation Radio
Model Number	:	HRD-903
Remark	:	N/A

1.2. Operational Mode(s) of EUT

Order Number	:	Test Mode(s)
1	:	AM mode
2	:	FM mode

1.3. Test Voltage(s) of EUT

Order Number	:	Test Voltage(s)
1	:	DC 4.5V by Batteries
2	:	DC 5V by USB Port

2. LABORATORY INFORMATION

2.1.Laboratory Name

Shenzhen Most Technology Service Co., Ltd.

2.2.Location

East A, 1/F., New Aolin Factory Buiding, Langshan Erlu, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

2.3.Test facility

3m Anechoic Chamber	: Nov. 28, 2012 File on Federal Communication Commission Registration Number:490827
Shielding Room	: Nov. 28, 2012 File on Federal Communication Commission Registration Number:490827
EMC Lab.	: Accredited by TUV Rheinland Shenzhen Audit Report: UA 50149851 Mar. 12, 2009 Accredited by Industry Canada Registration Number: 7103A-1 Oct. 22, 2012 Accredited by TIMCO Registration Number: Q1460 March 28, 2010

2.4.Measurement Uncertainty

No.	Item	Uncertainty
1.	Uncertainty for Conducted Disturbance Test	1.25dB
2.	Uncertainty for Radiated Disturbance Test	3.15dB

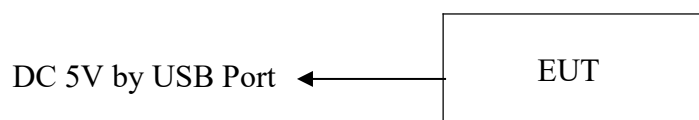
3. SUMMARY OF TEST RESULTS

EMISSION			
Test Item	Standard	Limits	Results
Conducted disturbance at mains terminals	FCC Part 15	Class B	PASS
Radiated disturbance	FCC Part 15	Class B	PASS
N/A is an abbreviation for Not Applicable.			

4. BLOCK DIAGRAM OF TEST SETUP

The equipments are installed test to meet ANSI C63.4:2014 requirement and operating in a manner which tends to maximize its emission characteristics in a normal application. EUT was tested in normal configuration (Please See following Block diagrams)

4.1. Block Diagram of connection between EUT and simulation-EMI



(EUT: FM. AM Digital Demodulation Radio)

5. TEST INSTRUMENT USED

5.1. For Conducted Disturbance at Mains Terminals Emission Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESPI	101202	Mar. 04, 25	1 Year
2.	L.I.S.N.	Rohde & Schwarz	ENV216	100093	Mar. 04, 25	1 Year
3.	Coaxial Switch	Anritsu Corp	MP59B	6200283933	Mar. 04, 25	1 Year
4.	Terminator	Hubersuhner	50Ω	No.1	Mar. 04, 25	1 Year
5.	RF Cable	SchwarzBeck	N/A	No.1	Mar. 04, 25	1 Year
6.	Testing software	Fala	EZ-EMC(CE)	Ver.con-03A1	/	/

5.2. For Radiation Test (In Anechoic Chamber)(Below 1000MHz)

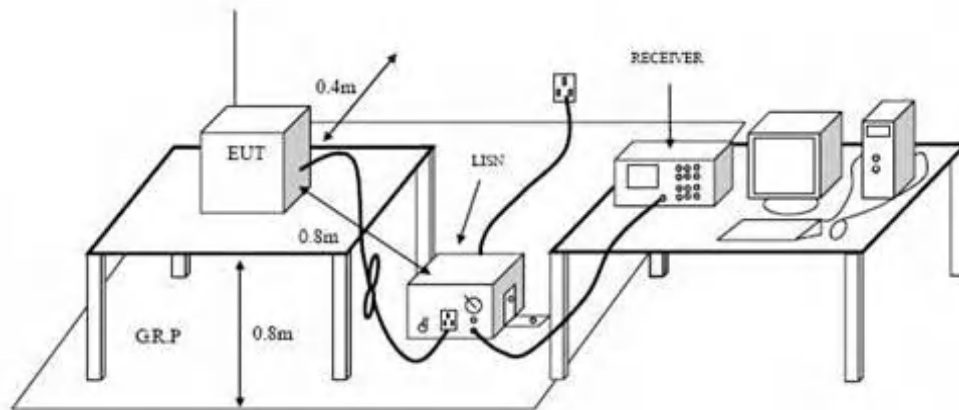
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI	100492	Mar. 04, 25	1 Year
2.	Bilog Antenna	Sunol	JB3	A121206	Aug. 13, 25	1 Year
3.	Cable	Times	N/A	NO.1	Mar. 04, 25	1 Year
4.	Cable	Times	N/A	NO.2	Mar. 04, 25	1 Year
5.	Cable	Times	N/A	NO.3	Mar. 04, 25	1 Year
6.	DC Power Filter	DuoJi	DL2&30B	N/A	N/A	N/A
7.	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	N/A	N/A
8.	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	N/A	N/A
9.	Testing software	Fala	EZ-EMC(RE)	Ver.FA-03A1	/	/

5.3. For Radiation Test (In Anechoic Chamber)(Above 1000MHz)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	N9020A	/	Mar. 04, 25	1 Year
2	Pre- Amplifier	MW	KA-LNA18-40-01	24001	Mar. 04, 25	1 Year
3	Horn Antenna	Schwarzback	BBHA9120 D	D69250	Mar. 16, 25	1 Year
4	RF Cable(below1GHz)	Times	9kHz-1GHz	RF Cable No.1	Mar. 04, 25	1 Year
5	RF Cable(above1GHz)	Times	1-18G	RF Cable No.2	Mar. 04, 25	1 Year
6	DC Power Filter	DuoJi	DL2×30B	N/A	N/A	N/A
7	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	N/A	N/A
8	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	N/A	N/A
9.	Testing software	Fala	EZ-EMC(R E)	Ver.FA-03A1	/	/

6. CONDUCTED DISTURBANCE AT MAINS TERMINALS TEST

6.1. Configuration of Test System



6.2. Test Standard

FCC Subpart 15 B Section 15.107

6.3. Power Line Conducted Disturbance at Mains Terminals Limit

Frequency (MHz)	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μ V)	Average Level dB(μ V)
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.

6.4. Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. #1). This provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#2). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4:2014 on conducted Disturbance test.

The bandwidth of test receiver is set at 9 kHz.

The frequency range from 150kHz to 30MHz is checked. The test result are reported on Section 6.5.

6.5. Conducted Disturbance at Mains Terminals Test Results

Test Results: PASS

If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

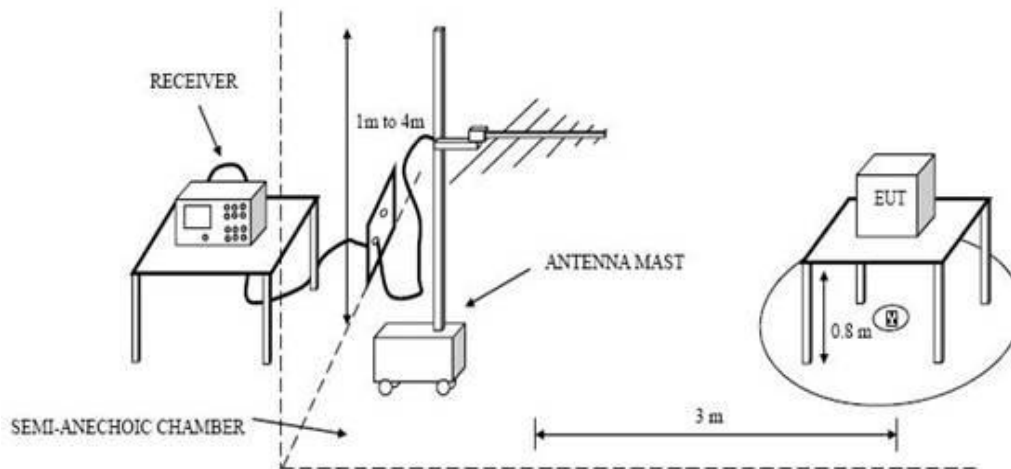
Emission Level= Correct Factor + Reading Level.

The test data and the scanning waveform are attached within Appendix I.

Note : All test modes are performed, only the worst case is recorded in this report.

7. RADIATED DISTURBANCE TEST

7.1. Configuration of Test System



7.2. Test Standard

FCC Subpart 15 B Section 15.109

7.3. Radiated Disturbance Limit

Frequency (MHz)	Distance (Meters)	Field Strengths Limits (dB μ V/m)	
30 ~ 88	3	40.0	
88~216	3	43.5	
216~960	3	46.0	
960 ~ 1000	3	54.0	
1000-18000	3	74(Peak)	54(AV)

Note: 1. Emission level (dB) μ V = 20 log Emission level μ V/m

2. The lower limit shall apply at the transition frequencies.

3. Distance refers to the distance in meters between the test antenna and the closed point of any part of the EUT.

7.4. Test Procedure

The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. An antenna was located 3m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4:2014 on Radiated Disturbance test.

The bandwidth setting on the test receiver is 120 kHz.

The frequency range from 30MHz to 1000MHz is checked. The test result are reported on Section 7.5

7.5. Radiated Disturbance Test Results

Test Results: PASS

Emission Level= Correct Factor + Reading Level.

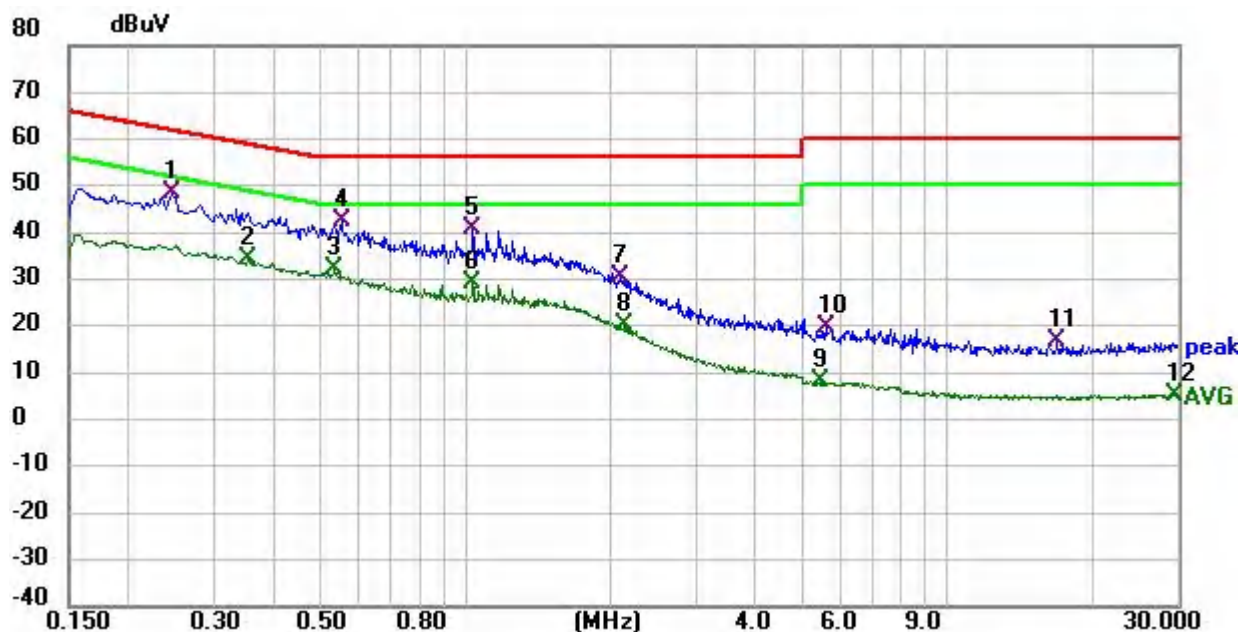
All reading are Quasi-Peak values.

The test data and the scanning waveform are attached within Appendix II.

Note : All test modes are performed, only the worst case is recorded in this report.

APPENDIX I

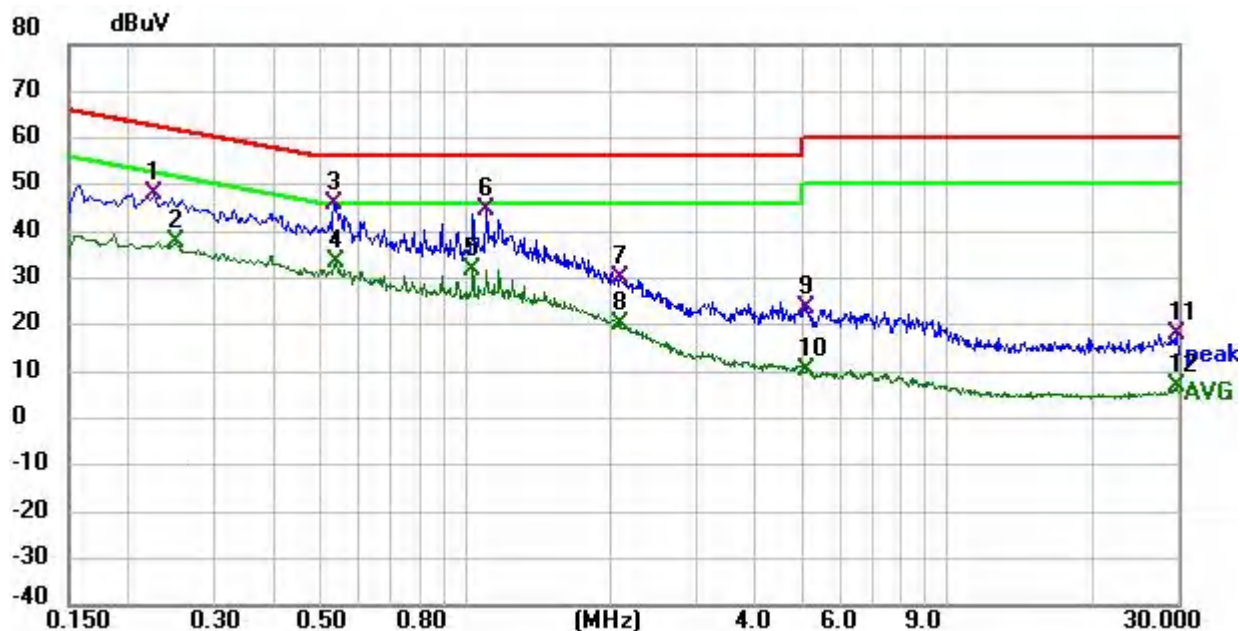
EUT:	FM. AM Digital Demodulation Radio	M/N:	HRD-903
Mode:	FM mode	Phase:	L1
Tested by:	Cole	Power:	DC 5V by USB Port
Temperature: / Humidity	25.8°C/ 54.0%	Test date:	2025-11-05



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1 *	0.2460	38.77	9.60	48.37	61.89	-13.52	QP	P	
2	0.3540	24.86	9.59	34.45	48.87	-14.42	AVG	P	
3	0.5340	22.57	9.59	32.16	46.00	-13.84	AVG	P	
4	0.5540	32.76	9.59	42.35	56.00	-13.65	QP	P	
5	1.0339	31.02	9.60	40.62	56.00	-15.38	QP	P	
6	1.0339	19.60	9.60	29.20	46.00	-16.80	AVG	P	
7	2.1060	20.92	9.60	30.52	56.00	-25.48	QP	P	
8	2.1420	10.52	9.60	20.12	46.00	-25.88	AVG	P	
9	5.4300	-1.37	9.63	8.26	50.00	-41.74	AVG	P	
10	5.6180	10.31	9.64	19.95	60.00	-40.05	QP	P	
11	16.8779	7.12	9.71	16.83	60.00	-43.17	QP	P	
12	29.7100	-4.38	9.77	5.39	50.00	-44.61	AVG	P	

*:Maximum data x:Over limit !:over margin

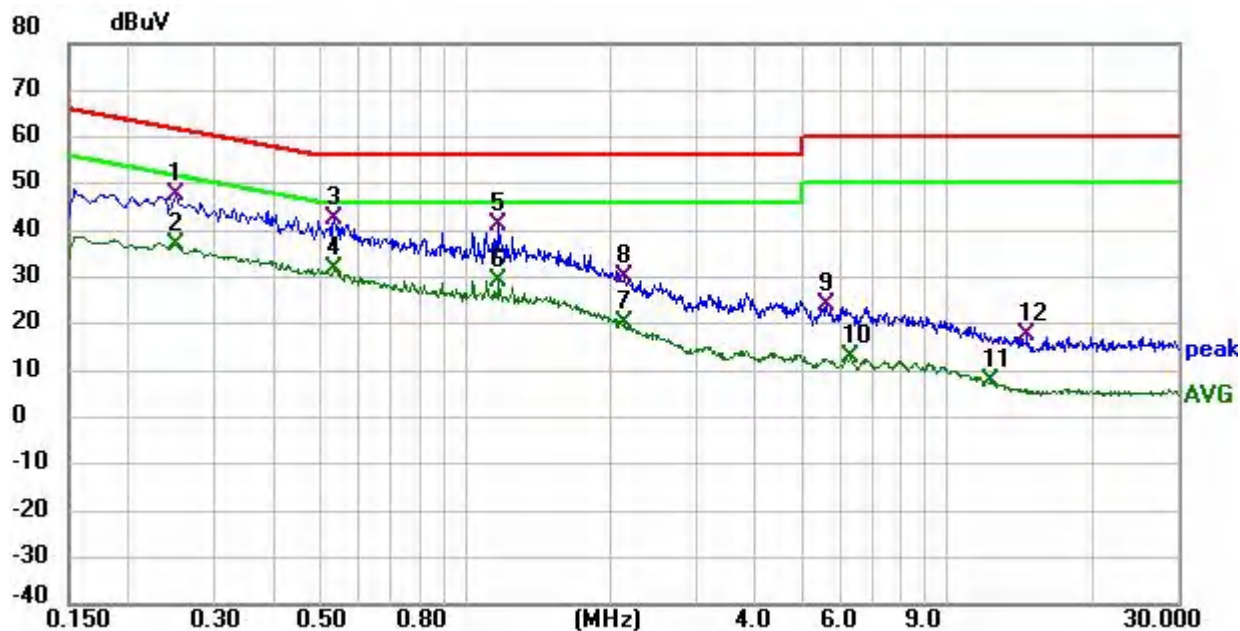
EUT:	FM. AM Digital Demodulation Radio	M/N:	HRD-903
Mode:	FM mode	Phase:	N
Tested by:	Cole	Power:	DC 5V by USB Port
Temperature / Humidity	25.8°C / 54.0%	Test date:	2025-11-05



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2260	38.55	9.60	48.15	62.60	-14.45	QP	P	
2	0.2500	28.00	9.60	37.60	51.76	-14.16	AVG	P	
3 *	0.5340	36.24	9.59	45.83	56.00	-10.17	QP	P	
4	0.5380	23.79	9.59	33.38	46.00	-12.62	AVG	P	
5	1.0339	22.06	9.60	31.66	46.00	-14.34	AVG	P	
6	1.1060	35.04	9.60	44.64	56.00	-11.36	QP	P	
7	2.1060	20.53	9.60	30.13	56.00	-25.87	QP	P	
8	2.1060	10.53	9.60	20.13	46.00	-25.87	AVG	P	
9	5.1020	14.05	9.63	23.68	60.00	-36.32	QP	P	
10	5.1020	0.64	9.63	10.27	50.00	-39.73	AVG	P	
11	29.9780	8.38	9.77	18.15	60.00	-41.85	QP	P	
12	29.9780	-2.68	9.77	7.09	50.00	-42.91	AVG	P	

*:Maximum data x:Over limit !:over margin

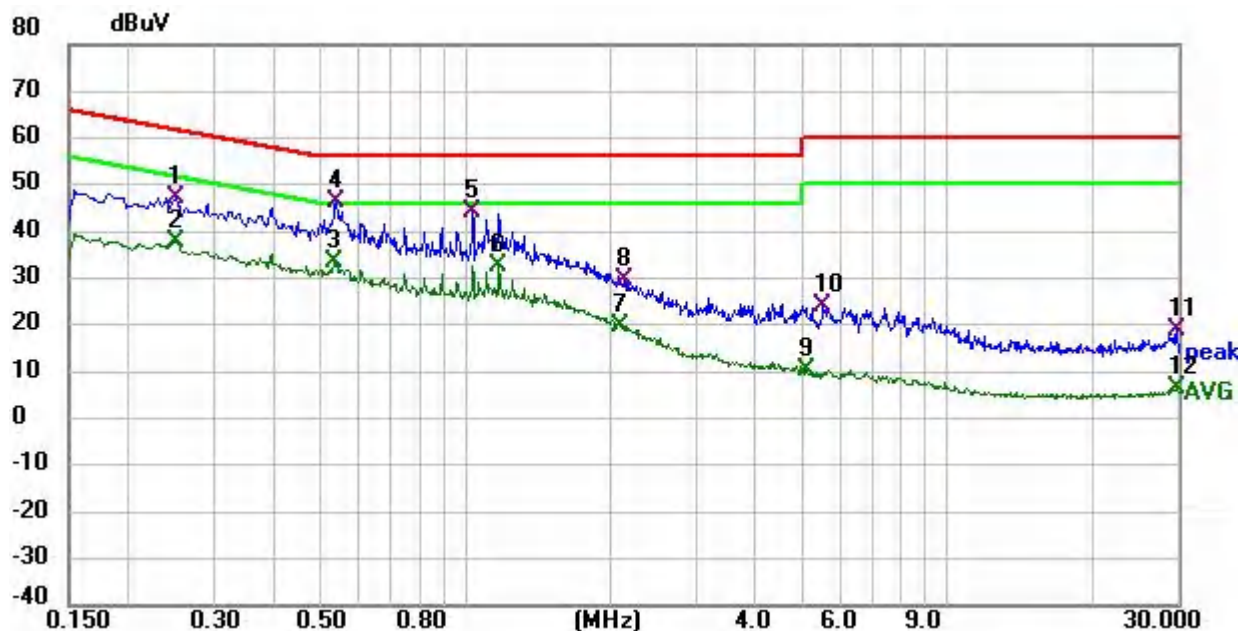
EUT:	FM. AM Digital Demodulation Radio	M/N:	HRD-903
Mode:	AM mode	Phase:	L1
Tested by:	Cole	Power:	DC 5V by USB Port
Temperature: / Humidity	25.8°C / 54.0%	Test date:	2025-11-05



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2500	37.88	9.60	47.48	61.76	-14.28	QP	P	
2	0.2500	27.40	9.60	37.00	51.76	-14.76	AVG	P	
3 *	0.5340	32.91	9.59	42.50	56.00	-13.50	QP	P	
4	0.5340	22.31	9.59	31.90	46.00	-14.10	AVG	P	
5	1.1780	31.62	9.60	41.22	56.00	-14.78	QP	P	
6	1.1780	19.62	9.60	29.22	46.00	-16.78	AVG	P	
7	2.1260	10.72	9.60	20.32	46.00	-25.68	AVG	P	
8	2.1420	20.56	9.60	30.16	56.00	-25.84	QP	P	
9	5.6060	14.48	9.64	24.12	60.00	-35.88	QP	P	
10	6.3180	3.19	9.64	12.83	50.00	-37.17	AVG	P	
11	12.3340	-1.97	9.69	7.72	50.00	-42.28	AVG	P	
12	14.6060	7.79	9.70	17.49	60.00	-42.51	QP	P	

*:Maximum data x:Over limit !:over margin

EUT:	FM. AM Digital Demodulation Radio	M/N:	HRD-903
Mode:	AM mode	Phase:	N
Tested by:	Cole	Power:	DC 5V by USB Port
Temperature: / Humidity	25.8°C / 54.0%	Test date:	2025-11-05

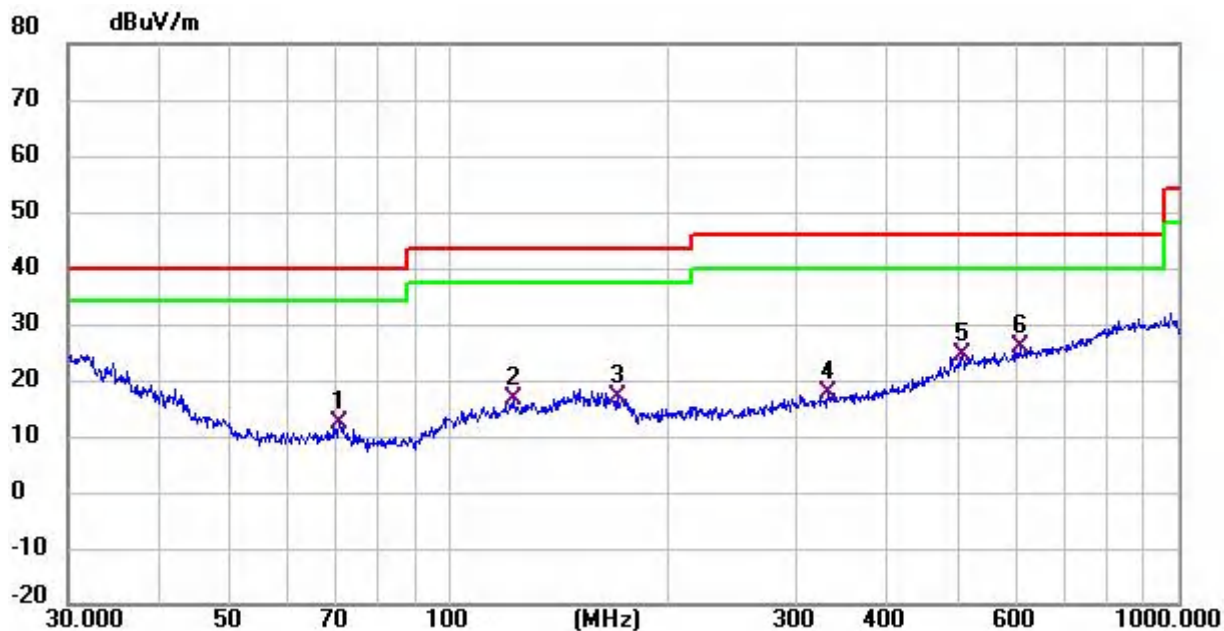


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2500	37.60	9.60	47.20	61.76	-14.56	QP	P	
2	0.2500	28.23	9.60	37.83	51.76	-13.93	AVG	P	
3	0.5340	24.06	9.59	33.65	46.00	-12.35	AVG	P	
4 *	0.5380	36.56	9.59	46.15	56.00	-9.85	QP	P	
5	1.0339	34.48	9.60	44.08	56.00	-11.92	QP	P	
6	1.1780	23.00	9.60	32.60	46.00	-13.40	AVG	P	
7	2.1020	10.27	9.60	19.87	46.00	-26.13	AVG	P	
8	2.1300	19.84	9.60	29.44	56.00	-26.56	QP	P	
9	5.1020	0.77	9.63	10.40	50.00	-39.60	AVG	P	
10	5.5340	14.35	9.64	23.99	60.00	-36.01	QP	P	
11	29.9300	8.95	9.77	18.72	60.00	-41.28	QP	P	
12	29.9300	-3.10	9.77	6.67	50.00	-43.33	AVG	P	

*:Maximum data x:Over limit !:over margin

APPENDIX II

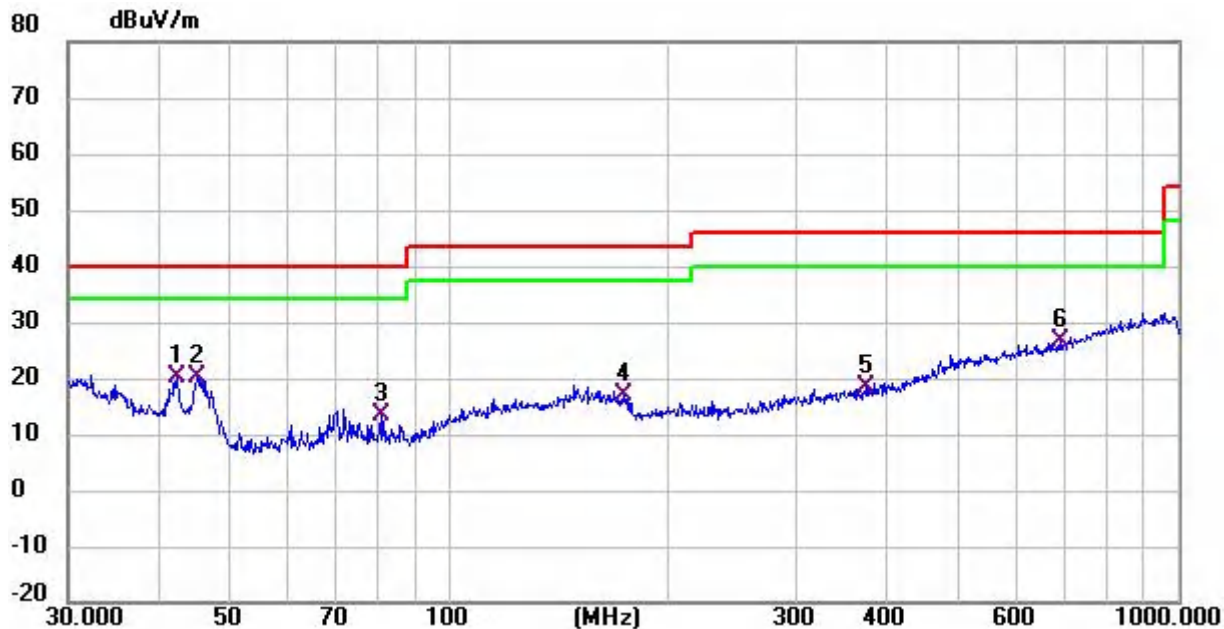
EUT:	FM. AM Digital Demodulation Radio	M/N:	HRD-903
Mode:	FM mode	Polarization:	Horizontal
Tested by:	Cole	Power:	DC 5V by USB Port
Temperature: / Humidity	25.4°C/ 55.0%	Test date:	2025-11-05



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	71.0400	1.88	10.45	12.33	40.00	-27.67	QP			P	
2	122.6400	0.69	15.91	16.60	43.50	-26.90	QP			P	
3	170.5600	0.06	16.95	17.01	43.50	-26.49	QP			P	
4	331.7200	0.57	17.10	17.67	46.00	-28.33	QP			P	
5	506.6800	1.71	22.77	24.48	46.00	-21.52	QP			P	
6 *	609.5600	2.03	23.92	25.95	46.00	-20.05	QP			P	

*:Maximum data x:Over limit !:over margin

EUT:	FM. AM Digital Demodulation Radio	M/N:	HRD-903
Mode:	FM mode	Polarization:	Vertical
Tested by:	Cole	Power:	DC 5V by USB Port
Temperature: / Humidity	25.4°C/ 55.0%	Test date:	2025-11-05



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	42.3600	7.78	12.24	20.02	40.00	-19.98	QP			P	
2	45.3200	9.66	10.35	20.01	40.00	-19.99	QP			P	
3	81.1600	3.24	10.08	13.32	40.00	-26.68	QP			P	
4	173.6000	-0.01	16.85	16.84	43.50	-26.66	QP			P	
5	374.9600	0.51	17.92	18.43	46.00	-27.57	QP			P	
6 *	693.0000	1.49	25.01	26.50	46.00	-19.50	QP			P	

*:Maximum data x:Over limit !:over margin

EUT:	FM. AM Digital Demodulation Radio	M/N:	HRD-903
Mode:	AM mode	Polarization:	Horizontal
Tested by:	Cole	Power:	DC 5V by USB Port
Temperature: / Humidity	25.4°C/ 55.0%	Test date:	2025-11-05



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	72.3200	2.62	10.38	13.00	40.00	-27.00	QP			P	
2	153.4400	0.74	17.56	18.30	43.50	-25.20	QP			P	
3	213.7200	0.24	15.09	15.33	43.50	-28.17	QP			P	
4	408.7600	0.37	18.78	19.15	46.00	-26.85	QP			P	
5	668.0000	1.05	24.68	25.73	46.00	-20.27	QP			P	
6 *	875.9600	1.62	28.74	30.36	46.00	-15.64	QP			P	

*:Maximum data x:Over limit !:over margin

EUT:	FM. AM Digital Demodulation Radio	M/N:	HRD-903
Mode:	AM mode	Polarization:	Vertical
Tested by:	Cole	Power:	DC 5V by USB Port
Temperature: / Humidity	25.4°C/ 55.0%	Test date:	2025-11-05



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	41.7599	6.35	12.64	18.99	40.00	-21.01	QP			P	
2 *	45.5600	10.45	10.23	20.68	40.00	-19.32	QP			P	
3	72.8000	6.06	9.52	15.58	40.00	-24.42	QP			P	
4	122.6000	0.95	15.90	16.85	43.50	-26.65	QP			P	
5	151.0000	0.67	17.66	18.33	43.50	-25.17	QP			P	
6	294.8400	0.74	16.32	17.06	46.00	-28.94	QP			P	

*:Maximum data x:Over limit !:over margin

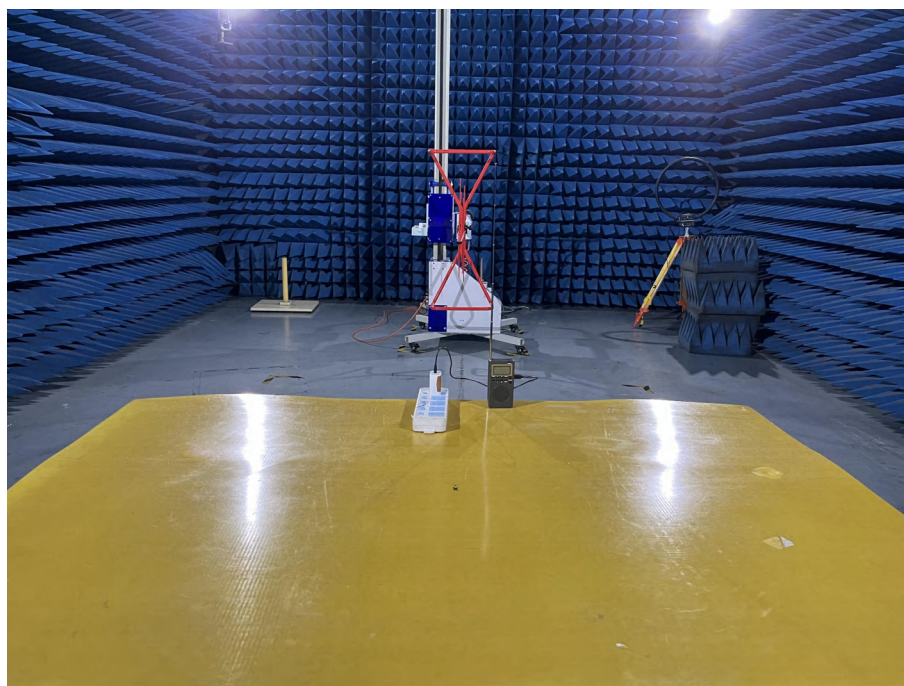
APPENDIX III

(Test Photos)

Conducted Test Setup Photograph



RADIATED Test Setup Photograph



APPENDIX IV

(Photos of the EUT)

PHOTO OF THE ENTIRE SAMPLE



FRONT VIEW OF SAMPLE



BACK VIEW OF SAMPLE



LEFT VIEW OF SAMPLE



RIGHT VIEW OF SAMPLE



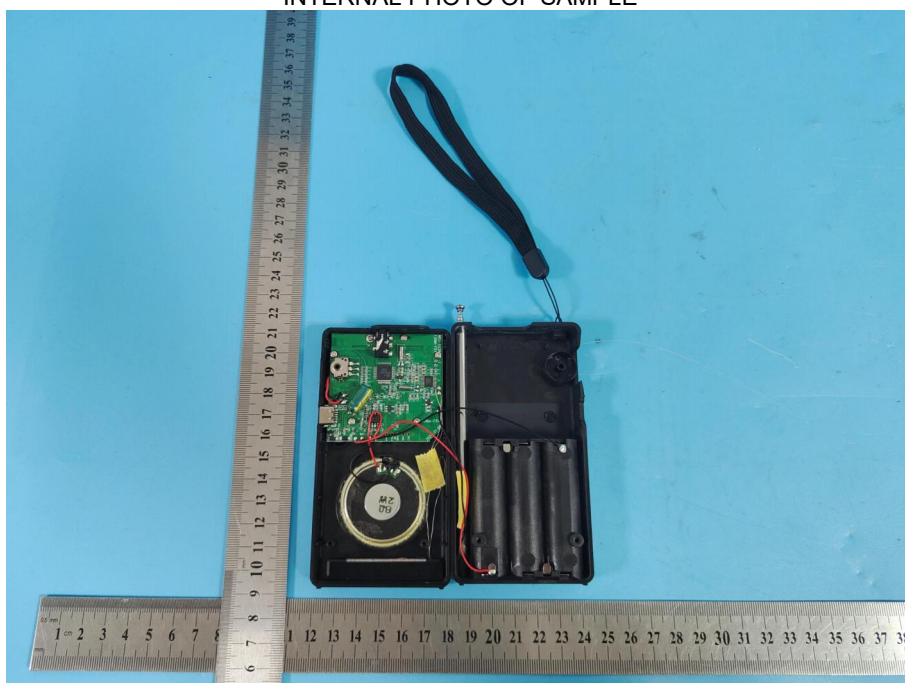
TOP VIEW OF SAMPLE



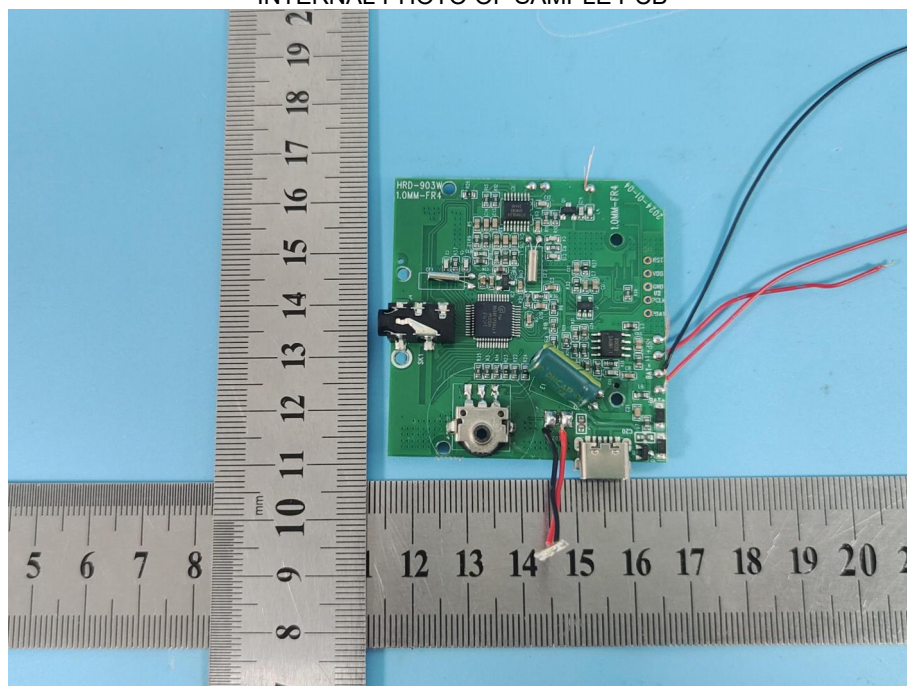
BOTTOM VIEW OF SAMPLE



INTERNAL PHOTO OF SAMPLE



INTERNAL PHOTO OF SAMPLE PCB



INTERNAL PHOTO OF SAMPLE PCB

