

FCC Test Report

Applicant : SHENZHEN MANRIDY TECHNOLOGY CO.,LTD.
Address : 401, No. 9, Xiahenglang New Industrial Zone,
Tongsheng Community, Dalang Street, Longhua
District, Shenzhen City, 518100, China
Product Name : Smart watch
Report Date : Aug. 18, 2023

Shenzhen Anbotech Compliance Laboratory Limited



Shenzhen Anbotech Compliance Laboratory Limited

Address: 1/F., Building D, Sogood Science and Technology Park, Sanwei Community,
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Report No.: 18220WC30165601

FCC ID: 2A6B6-MS3

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TEST REPORT

Applicant : SHENZHEN MANRIDY TECHNOLOGY CO.,LTD.
Manufacturer : SHENZHEN MANRIDY TECHNOLOGY CO.,LTD.
Product Name : Smart watch
Test Model No. : MS3
Reference Model No. : H5, MH7, MH7 Plus, MS8, S7
Trade Mark : N/A
Rating(s) : Input: 5V $\overline{=}$ 220mA(with DC 3.7V, 180mAh battery inside)

Test Standard(s) : 47 CFR Part 15.247 2022

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 of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with above listed standard(s) 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 Receipt:

Aug. 04, 2023

Date of Test:

Aug. 04 ~ 17, 2023

Prepared By:

Nian xiu Chen

(Nianxiu Chen)

Approved & Authorized Signer:

Edward Pan

(Edward Pan)

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Revision History

Report Version	Description	Issued Date
R00	Original Issue.	Aug. 18, 2023

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1. General Information

1.1. Client Information

Applicant	:	SHENZHEN MANRIDY TECHNOLOGY CO.,LTD.
Address	:	401, No. 9, Xiahenglang New Industrial Zone, Tongsheng Community, Dalang Street, Longhua District, Shenzhen City, 518100, China
Manufacturer	:	SHENZHEN MANRIDY TECHNOLOGY CO.,LTD.
Address	:	401, No. 9, Xiahenglang New Industrial Zone, Tongsheng Community, Dalang Street, Longhua District, Shenzhen City, 518100, China
Factory	:	SHENZHEN MANRIDY TECHNOLOGY CO.,LTD.
Address	:	401, No. 9, Xiahenglang New Industrial Zone, Tongsheng Community, Dalang Street, Longhua District, Shenzhen City, 518100, China

1.2. Description of Device (EUT)

Product Name	:	Smart watch
Test Model No.	:	MS3
Reference Model No.	:	H5, MH7, MH7 Plus, MS8, S7 (Note: All samples are the same except the model number, so we prepare "MS3" for test only.)
Trade Mark	:	N/A
Test Power Supply	:	AC 120V, 60Hz for Adapter/ DC 3.7V Battery inside
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	N/A

RF Specification

Operation Frequency	:	2402MHz to 2480MHz
Number of Channel	:	40 Channels
Modulation Type	:	GFSK
Antenna Type	:	Monopole Antenna
Antenna Gain(Peak)	:	-6.15 dBi (Provided by customer)

Remark: (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

1.3. Auxiliary Equipment Used During Test

Title	Manufacturer	Model No.	Serial No.
Xiaomi 33W adapter	Xiaomi	MDY-11-EX	SA62212LA04358J



1.4. Description of Test Modes

Pretest Modes	Descriptions
TM1	Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

1.5. Description of Test Configuration

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
00	2402	09	2420	18	2438	27	2456	36	2474
01	2404	10	2422	19	2440	28	2458	37	2476
02	2406	11	2424	20	2442	29	2460	38	2478
03	2408	12	2426	21	2444	30	2462	39	2480
04	2410	13	2428	22	2446	31	2464		
05	2412	14	2430	23	2448	32	2466		
06	2414	15	2432	24	2450	33	2468		
07	2416	16	2434	25	2452	34	2470		
08	2418	17	2436	26	2454	35	2472		

Note:

1. The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.
2. EUT was tested with channel 0, 19 and 39.

1.6. Measurement Uncertainty

Parameter	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	3.8dB
Occupied Bandwidth	925Hz
Conducted Output Power	0.76dB
Conducted Spurious Emission	1.24dB
Radiated spurious emissions (above 1GHz)	1G-6GHz: 4.78dB; 6G-18GHz: 4.88dB 18G-40GHz: 5.68dB
Radiated emissions (Below 30MHz)	3.53dB
Radiated spurious emissions (30MHz~1GHz)	Horizontal: 3.92dB; Vertical: 4.52dB
This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	



1.7. Test Summary

Standard Section	Test Items	Test Modes	Status
15.203/15.247(c)	Antenna requirement	/	P
15.207	Conducted Emission at AC power line	Mode1	P
15.247(a)(2)	Occupied Bandwidth	Mode1	P
15.247(b)(3)	Maximum Conducted Output Power	Mode1	P
15.247(e)	Power Spectral Density	Mode1	P
15.247(d)	Emissions in non-restricted frequency bands	Mode1	P
15.247(d)	Band edge emissions (Radiated)	Mode1	P
15.205/15.209	Emissions in restricted frequency bands (below 1GHz)	Mode1	P
15.205/15.209	Emissions in restricted frequency bands (above 1GHz)	Mode1	P
Note: P: Pass N: N/A, not applicable			

1.8. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.:184111

Shenzhen Anbotech 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 No. 184111.

ISED-Registration No.: 8058A

Shenzhen Anbotech Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location

Shenzhen Anbotech Compliance Laboratory Limited.

1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518128



1.9. Test Equipment List**Conducted Emission at AC power line**

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	2022-10-23	2023-10-22
2	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040D T001	2023-07-05	2024-07-04
3	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	2022-10-13	2023-10-12
4	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/

**Power Spectral Density
Emissions in non-restricted frequency bands
Occupied Bandwidth
Maximum Conducted Output Power**

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	MXG RF Vector Signal Generator	Agilent	N5182A	MY481806 56	2022-10-13	2023-10-12
2	Power Meter	Agilent	N1914A	MY500011 02	2022-10-26	2023-10-25
3	DC Power Supply	IVYTECH	IV3605	1804D360 510	2022-10-22	2023-10-21
4	MXA Spectrum Analysis	KEYSIGHT	N9020A	MY505318 23	2023-02-23	2024-02-22
5	Oscilloscope	Tektronix	MDO3012	C020298	2022-10-19	2023-10-18

**Band edge emissions (Radiated)
Emissions in restricted frequency bands (above 1GHz)**

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	2022-10-23	2023-10-22
2	EMI Preamplifier	SKET Electronic	LNPA-0118G-45	SKET-PA-002	2022-10-13	2023-10-12
3	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	2022-10-16	2025-10-15
4	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	/	/
5	Horn Antenna	A-INFO	LB-180400-KF	J21106062 8	2022-10-23	2023-10-22
6	Spectrum Analyzer	Rohde & Schwarz	FSV40-N	101792	2023-05-26	2024-05-25
7	Amplifier	Talent Microwave	TLLA18G40 G-50-30	23022802	2023-05-25	2024-05-24



Emissions in restricted frequency bands (below 1GHz)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	2022-10-23	2023-10-22
2	Pre-amplifier	SONOMA	310N	186860	2022-10-23	2023-10-22
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	2025-10-22
4	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	/	/

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2. Antenna requirement

Test Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

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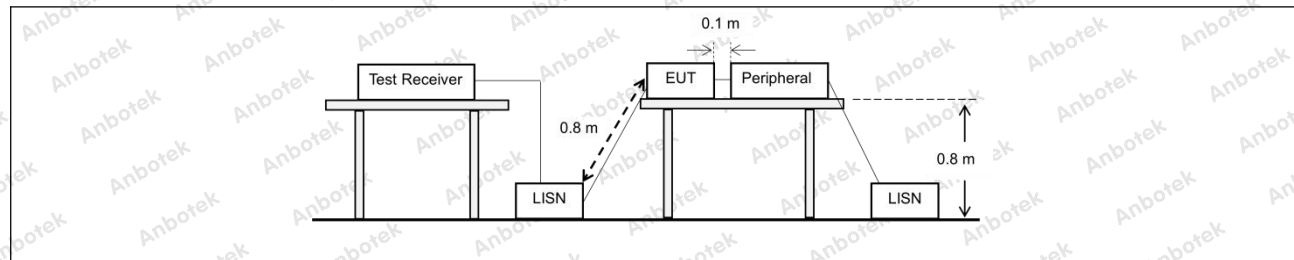
3. Conducted Emission at AC power line

Test Requirement:	Refer to 47 CFR 15.207(a), Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).		
Test Limit:	Frequency of emission (MHz)	Conducted limit (dB μ V)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	*Decreases with the logarithm of the frequency.		
Test Method:	ANSI C63.10-2020 section 6.2		
Procedure:	Refer to ANSI C63.10-2020 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices		

3.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

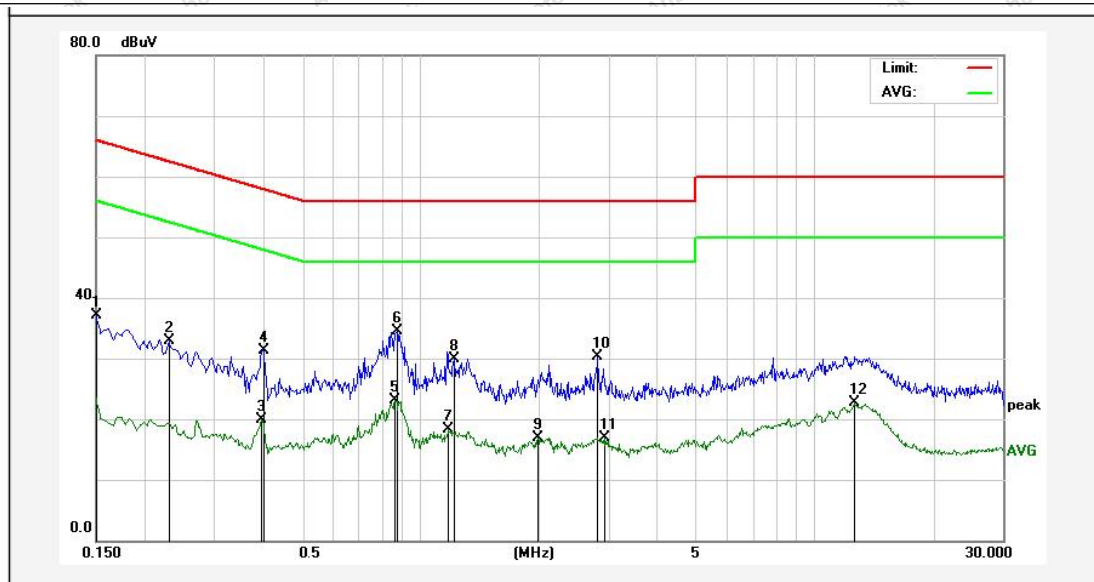
3.2. Test Setup



3.3. Test Data

Temperature:	24.1 °C	Humidity:	51 %	Atmospheric Pressure:	99 kPa
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TM1 / Line: Line / Band: 2.4G / BW: 1 / CH: H



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1500	20.53	16.65	37.18	65.99	-28.81	QP	
2	0.2300	16.07	16.80	32.87	62.45	-29.58	QP	
3	0.3940	2.75	17.17	19.92	47.98	-28.06	AVG	
4	0.3980	14.18	17.17	31.35	57.89	-26.54	QP	
5	0.8620	5.61	17.52	23.13	46.00	-22.87	AVG	
6	0.8740	16.93	17.52	34.45	56.00	-21.55	QP	
7	1.1820	0.65	17.56	18.21	46.00	-27.79	AVG	
8	1.2220	12.34	17.56	29.90	56.00	-26.10	QP	
9	1.9820	-0.69	17.55	16.86	46.00	-29.14	AVG	
10	2.8179	12.68	17.62	30.30	56.00	-25.70	QP	
11	2.9340	-0.66	17.62	16.96	46.00	-29.04	AVG	
12	12.6260	4.97	17.68	22.65	50.00	-27.35	AVG	



Report No.: 18220WC30165601

FCC ID: 2A6B6-MS3

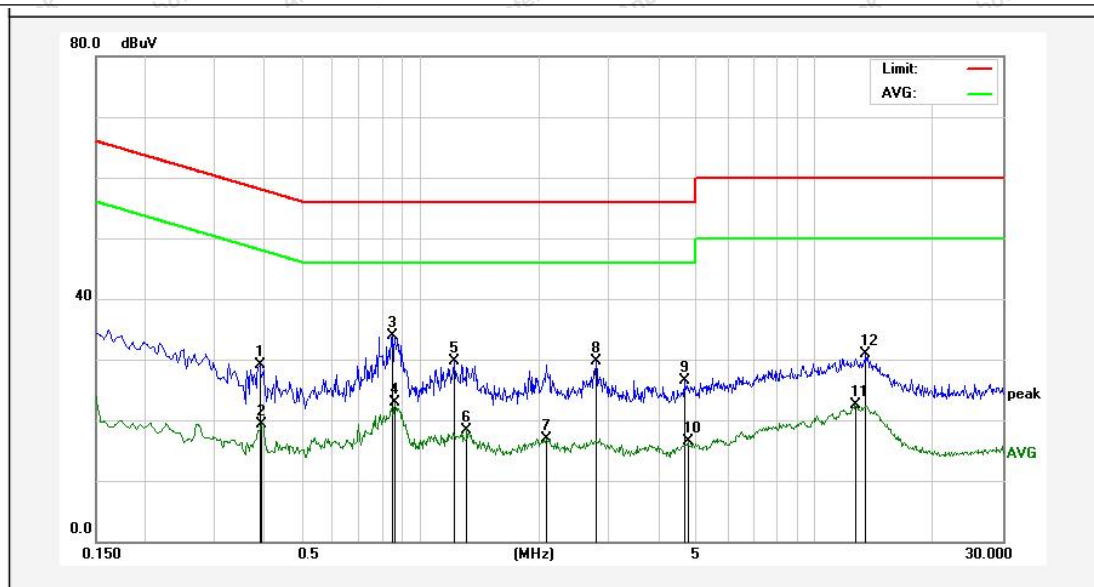
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Temperature: 24.1 °C

Humidity: 51 %

Atmospheric Pressure: 99 kPa

TM1 / Line: Neutral / Band: 2.4G / BW: 1 / CH: H



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.3899	11.87	17.16	29.03	58.06	-29.03	QP	
2	0.3940	2.07	17.17	19.24	47.98	-28.74	AVG	
3	0.8500	16.32	17.51	33.83	56.00	-22.17	QP	
4	0.8660	5.47	17.52	22.99	46.00	-23.01	AVG	
5	1.2220	12.14	17.56	29.70	56.00	-26.30	QP	
6	1.3140	0.83	17.57	18.40	46.00	-27.60	AVG	
7	2.0980	-0.65	17.56	16.91	46.00	-29.09	AVG	
8	2.7940	12.09	17.61	29.70	56.00	-26.30	QP	
9	4.6660	9.02	17.44	26.46	56.00	-29.54	QP	
10	4.7500	-1.02	17.43	16.41	46.00	-29.59	AVG	
11	12.6940	4.74	17.69	22.43	50.00	-27.57	AVG	
12	13.5460	13.16	17.72	30.88	60.00	-29.12	QP	

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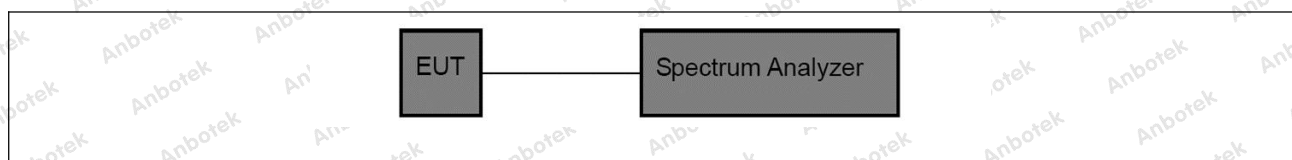
4. Occupied Bandwidth

Test Requirement:	47 CFR 15.247(a)(2)
Test Limit:	Refer to 47 CFR 15.247(a)(2), Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
Test Method:	ANSI C63.10-2020, section 11.8
Procedure:	11.8.1 Option 1 The steps for the first option are as follows: a) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz. b) Set the VBW $\geq [3 \times \text{RBW}]$. c) Detector = peak. d) Trace mode = max-hold. e) Sweep = No faster than coupled (auto) time. f) Allow the trace to stabilize. g) Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-6 dB down amplitude”. If a marker is below this “-6 dB down amplitude” value, then it shall be as close as possible to this value. 11.8.2 Option 2 The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described in 11.8.1 (i.e., RBW = 100 kHz, VBW $\geq 3 \times \text{RBW}$, and peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.

4.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

4.2. Test Setup



4.3. Test Data

Temperature:	23.1 °C	Humidity:	48.8 %	Atmospheric Pressure:	101 kPa
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Please Refer to Appendix for Details.



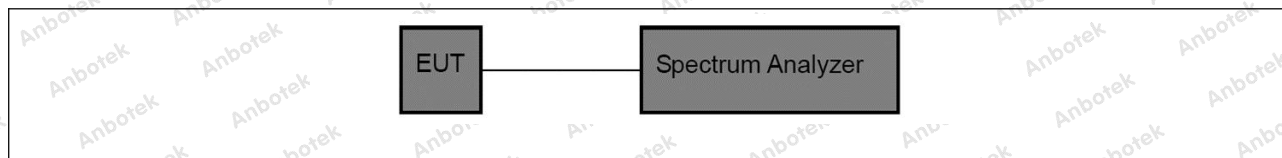
5. Maximum Conducted Output Power

Test Requirement:	47 CFR 15.247(b)(3)
Test Limit:	Refer to 47 CFR 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
Test Method:	ANSI C63.10-2020 section 11.9.1
Procedure:	ANSI C63.10-2020, section 11.9.1 Maximum peak conducted output power

5.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

5.2. Test Setup



5.3. Test Data

Temperature:	23.1 °C	Humidity:	48.8 %	Atmospheric Pressure:	101 kPa
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Please Refer to Appendix for Details.



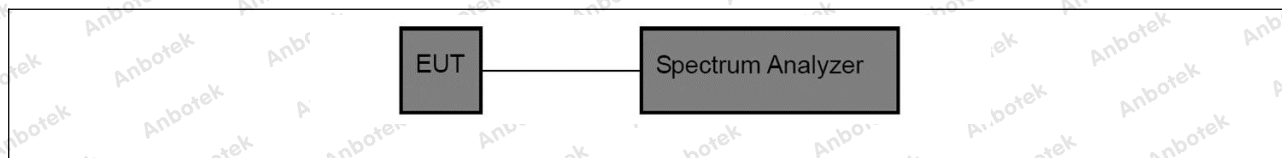
6. Power Spectral Density

Test Requirement:	47 CFR 15.247(e)
Test Limit:	Refer to 47 CFR 15.247(e), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.
Test Method:	ANSI C63.10-2020, section 11.10
Procedure:	ANSI C63.10-2020, section 11.10, Maximum power spectral density level in the fundamental emission

6.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

6.2. Test Setup



6.3. Test Data

Temperature:	23.1 °C	Humidity:	48.8 %	Atmospheric Pressure:	101 kPa
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Please Refer to Appendix for Details.



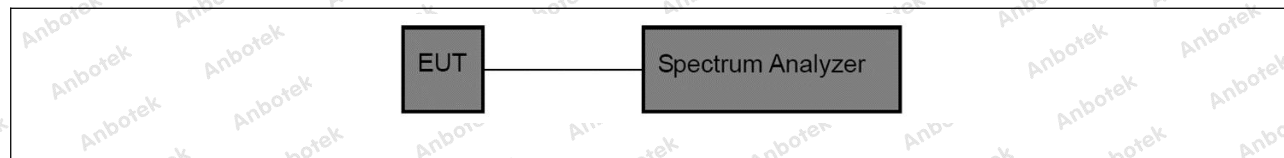
7. Emissions in non-restricted frequency bands

Test Requirement:	47 CFR 15.247(d)
Test Limit:	Refer to 47 CFR 15.247(d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required.
Test Method:	ANSI C63.10-2020 section 11.11
Procedure:	ANSI C63.10-2020 Section 11.11.1, Section 11.11.2, Section 11.11.3

7.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

7.2. Test Setup



7.3. Test Data

Temperature:	23.1 °C	Humidity:	48.8 %	Atmospheric Pressure:	101 kPa
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Please Refer to Appendix for Details.



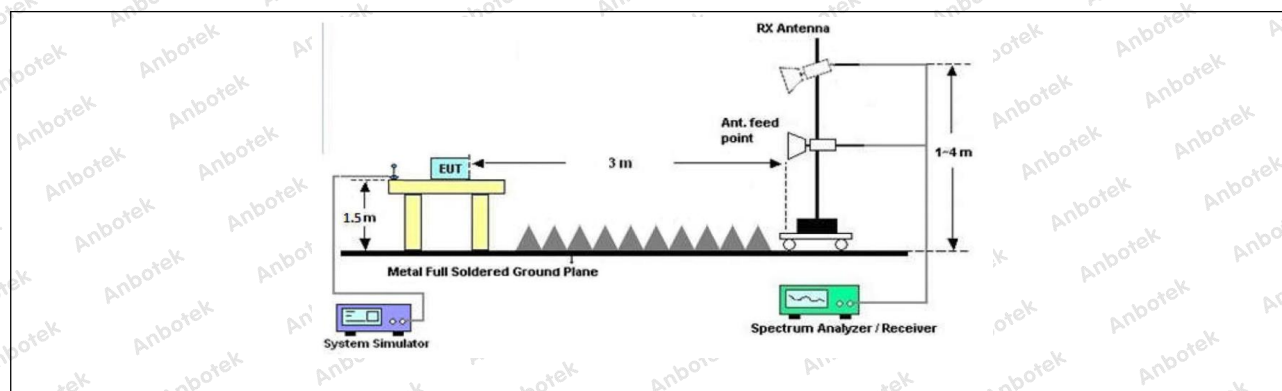
8. Band edge emissions (Radiated)

Test Requirement:	Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).		
Test Limit:	Frequency (MHz)	Field strength (microvolts/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
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
Test Method:	ANSI C63.10-2020 section 6.10		
Procedure:	ANSI C63.10-2020 section 6.10.5.2		

8.1. EUT Operation

Operating Environment:			
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.		

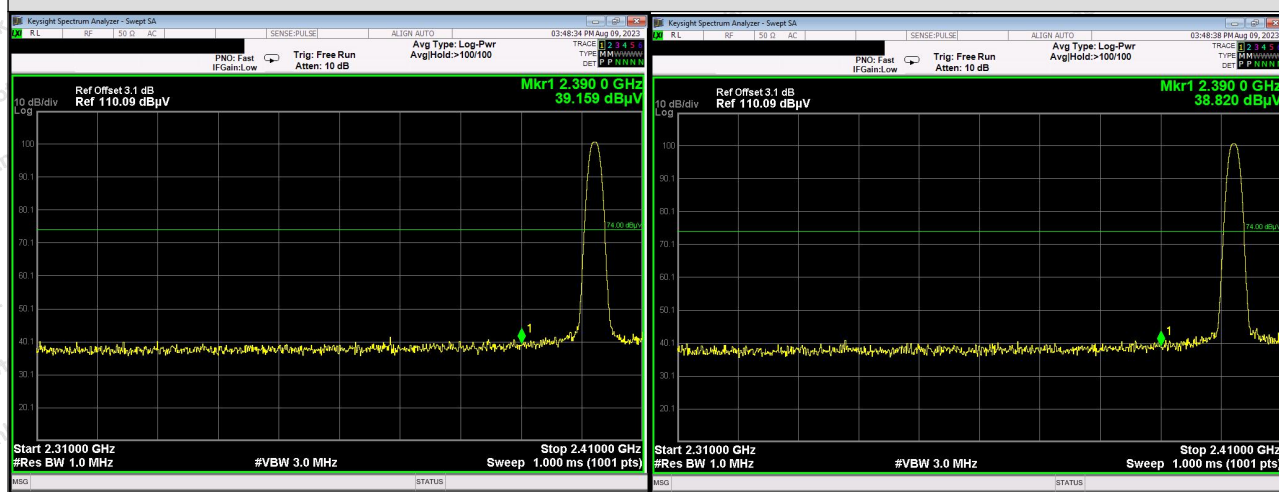
8.2. Test Setup



8.3. Test Data

Temperature:	23.1 °C	Humidity:	48.8 %	Atmospheric Pressure:	101 kPa
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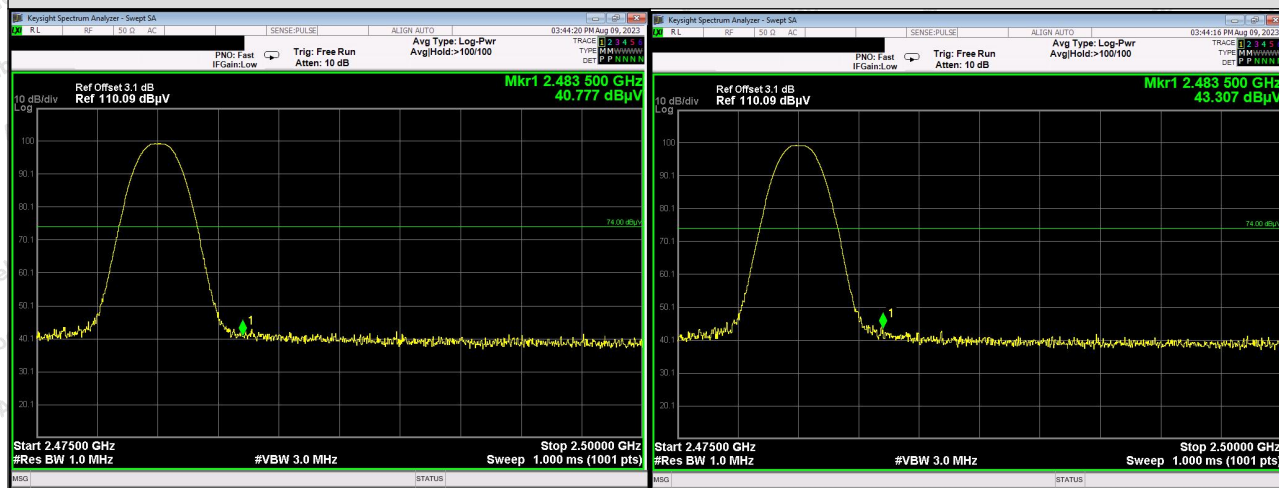
Test Mode: Lowest (CH00)



Peak Value(Vertical)

Peak Value(Horizontal)

Test Mode: Highest (CH39)



Peak Value(Vertical)

Peak Value(Horizontal)



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Average:

Test Channel	Peak Value (dBuV/m)	Correction factor	Average Value (dBuV/m)	Limit (dBuV/m)	Polarization	Verdict
CH00	39.159	-3.73	35.429	54.00	Vertical	Pass
	38.820	-3.73	35.090	54.00	Horizontal	Pass
CH39	40.777	-3.73	37.047	54.00	Vertical	Pass
	43.307	-3.73	39.577	54.00	Horizontal	Pass

Remark:

1. Correction factor=20log(Duty Cycle)
2. Average Value=Peak Value+Correction factor



9. Emissions in restricted frequency bands (below 1GHz)

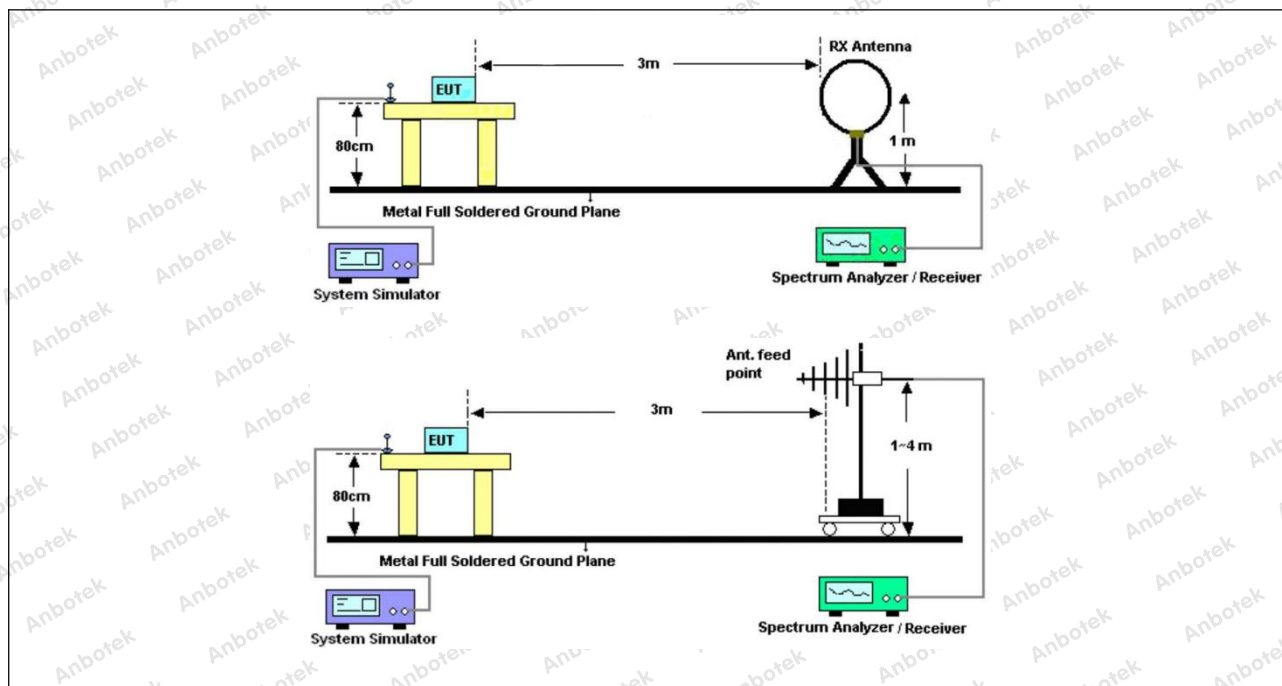
Test Requirement:	Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).`		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement 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
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
Test Method:	ANSI C63.10-2020 section 6.6.4		
Procedure:	ANSI C63.10-2020 section 6.6.4		

9.1. EUT Operation

Operating Environment:			
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.		



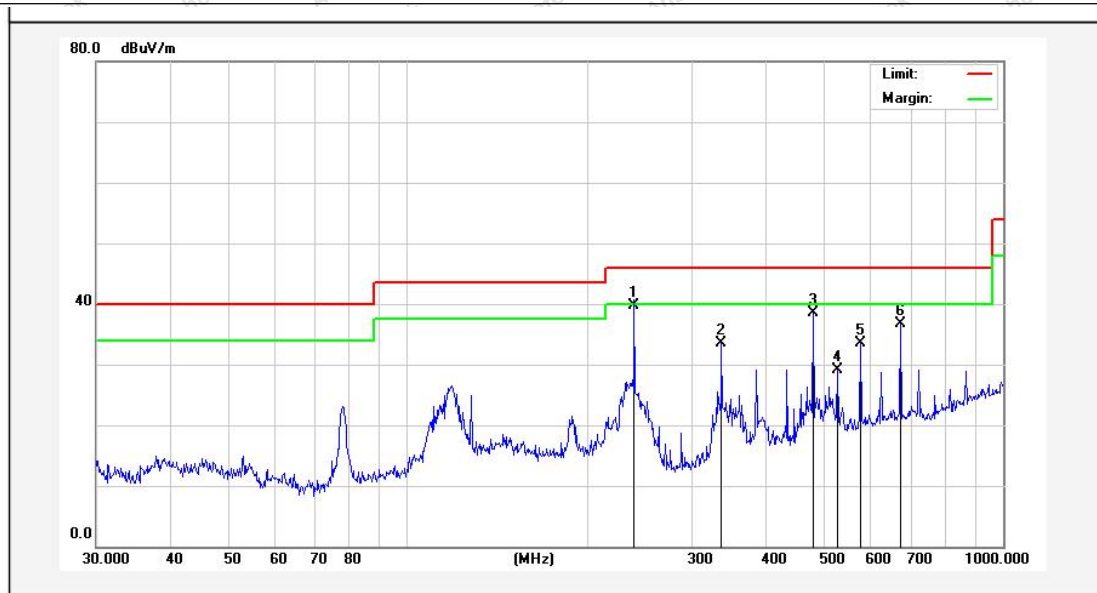
9.2. Test Setup



9.3. Test Data

Temperature:	22.9 °C	Humidity:	56.7 %	Atmospheric Pressure:	101.1 kPa
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TM1 / Polarization: Horizontal / Band: 2.4G / BW: 1 / CH: H



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	239.9874	61.37	-21.66	39.71	46.00	-6.29	QP			
2	336.0352	49.88	-16.32	33.56	46.00	-12.44	QP			
3	480.5276	52.96	-14.43	38.53	46.00	-7.47	QP			
4	528.2458	41.79	-12.64	29.15	46.00	-16.85	QP			
5	576.6443	44.55	-11.10	33.45	46.00	-12.55	QP			
6	672.8444	47.04	-10.32	36.72	46.00	-9.28	QP			



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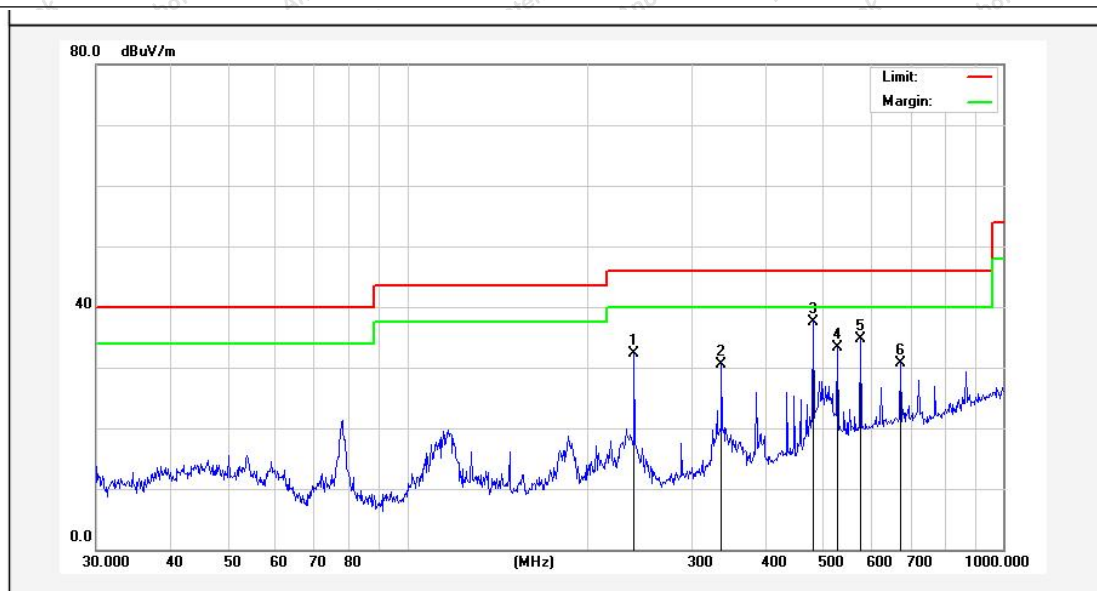
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Temperature: 22.9 °C

Humidity: 56.7 %

Atmospheric Pressure: 101.1 kPa

TM1 / Polarization: Vertical / Band: 2.4G / BW: 1 / CH: H



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	239.9874	50.57	-18.28	32.29	46.00	-13.71	QP			
2	336.0352	45.80	-15.35	30.45	46.00	-15.55	QP			
3	480.5276	50.39	-12.79	37.60	46.00	-8.40	QP			
4	528.2458	45.37	-11.97	33.40	46.00	-12.60	QP			
5	576.6443	45.73	-11.10	34.63	46.00	-11.37	QP			
6	672.8444	41.04	-10.32	30.72	46.00	-15.28	QP			



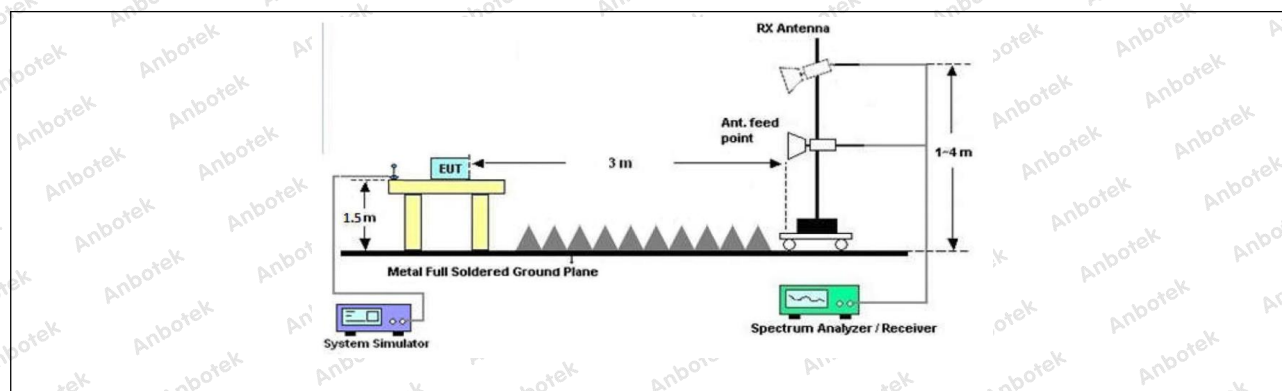
10. Emissions in restricted frequency bands (above 1GHz)

Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).		
Test Limit:	Frequency (MHz)	Field strength (microvolts/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
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
Test Method:	ANSI C63.10-2020 section 6.6.4		
Procedure:	ANSI C63.10-2020 section 6.6.4		

10.1. EUT Operation

Operating Environment:			
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.		

10.2. Test Setup



10.3. Test Data

Temperature:	22.6 °C	Humidity:	56.7 %	Atmospheric Pressure:	102 kPa
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TM1 / CH: L						
Peak value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4804.00	27.79	15.27	43.06	74.00	-30.94	Vertical
7206.00	27.97	18.09	46.06	74.00	-27.94	Vertical
9608.00	28.59	23.76	52.35	74.00	-21.65	Vertical
12010.00	*			74.00		Vertical
14412.00	*			74.00		Vertical
4804.00	27.51	15.27	42.78	74.00	-31.22	Horizontal
7206.00	28.24	18.09	46.33	74.00	-27.67	Horizontal
9608.00	27.83	23.76	51.59	74.00	-22.41	Horizontal
12010.00	*			74.00		Horizontal
14412.00	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4804.00	16.06	15.27	31.33	54.00	-22.67	Vertical
7206.00	17.02	18.09	35.11	54.00	-18.89	Vertical
9608.00	18.06	23.76	41.82	54.00	-12.18	Vertical
12010.00	*			54.00		Vertical
14412.00	*			54.00		Vertical
4804.00	15.84	15.27	31.11	54.00	-22.89	Horizontal
7206.00	17.27	18.09	35.36	54.00	-18.64	Horizontal
9608.00	17.34	23.76	41.10	54.00	-12.90	Horizontal
12010.00	*			54.00		Horizontal
14412.00	*			54.00		Horizontal

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Hotline

400-003-0500

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TM1 / CH: M

Peak value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4880.00	27.34	15.42	42.76	74.00	-31.24	Vertical
7320.00	27.94	18.02	45.96	74.00	-28.04	Vertical
9760.00	28.09	23.80	51.89	74.00	-22.11	Vertical
12200.00	*			74.00		Vertical
14640.00	*			74.00		Vertical
4880.00	27.32	15.42	42.74	74.00	-31.26	Horizontal
7320.00	28.11	18.02	46.13	74.00	-27.87	Horizontal
9760.00	27.55	23.80	51.35	74.00	-22.65	Horizontal
12200.00	*			74.00		Horizontal
14640.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4880.00	16.15	15.42	31.57	54.00	-22.43	Vertical
7320.00	16.88	18.02	34.90	54.00	-19.10	Vertical
9760.00	17.91	23.80	41.71	54.00	-12.29	Vertical
12200.00	*			54.00		Vertical
14640.00	*			54.00		Vertical
4880.00	15.95	15.42	31.37	54.00	-22.63	Horizontal
7320.00	17.62	18.02	35.64	54.00	-18.36	Horizontal
9760.00	17.64	23.80	41.44	54.00	-12.56	Horizontal
12200.00	*			54.00		Horizontal
14640.00	*			54.00		Horizontal



TM1 / CH: H						
Peak value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4960.00	27.47	15.58	43.05	74.00	-30.95	Vertical
7440.00	28.10	17.93	46.03	74.00	-27.97	Vertical
9920.00	28.79	23.83	52.62	74.00	-21.38	Vertical
12400.00	*			74.00		Vertical
14880.00	*			74.00		Vertical
4960.00	27.46	15.58	43.04	74.00	-30.96	Horizontal
7440.00	28.32	17.93	46.25	74.00	-27.75	Horizontal
9920.00	27.93	23.83	51.76	74.00	-22.24	Horizontal
12400.00	*			74.00		Horizontal
14880.00	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4960.00	17.27	15.58	32.85	54.00	-21.15	Vertical
7440.00	18.15	17.93	36.08	54.00	-17.92	Vertical
9920.00	18.56	23.83	42.39	54.00	-11.61	Vertical
12400.00	*			54.00		Vertical
14880.00	*			54.00		Vertical
4960.00	17.13	15.58	32.71	54.00	-21.29	Horizontal
7440.00	18.42	17.93	36.35	54.00	-17.65	Horizontal
9920.00	17.79	23.83	41.62	54.00	-12.38	Horizontal
12400.00	*			54.00		Horizontal
14880.00	*			54.00		Horizontal

Remark:

1. Result = Reading + Factor
2. "*" means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.



APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_RF

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

----- End of Report -----

