

TEST REPORT

Reference No...... : WTD20S04020643W001
FCC ID..... : 2AAIXVCM713OVO1
Applicant : Axia Innovations LTD.
Address : 7/F, Sui Hong Ind. Building, 547-549 Castle Peak Rd., Kwai Chung, NT, Hong Kong, China
Manufacturer : Axia Innovations LTD.
Address : 7/F, Sui Hong Ind. Building, 547-549 Castle Peak Rd., Kwai Chung, NT, Hong Kong, China
Factory : HJT Electronics Co. Ltd
Address : Floor 5, Tower AB, TianJi Building, TianAn Cyber Park, FuTian District, ShenZhen, China
Product : RF module-2.4G transceiver
Model(s) : JM7130S20PL-B
Standards : FCC CFR47 Part 15 Section 15.249:2019
Date of Receipt sample : 2020-04-20
Date of Test : 2020-05-21 to 2020-05-29
Date of Issue : 2020-05-29
Test Result : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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2 Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTD20S04020643W001	2020-04-20	2020-05-21 to 2020-05-29	2020-05-29	original	-	Valid

3 General Information

3.1 General Description of E.U.T

Product:	RF module-2.4G transceiver
Model(s):	JM7130S20PL-B
Host Name:	Wireless Backup CameraSolar Powered with Extended Battery Life
Host Model No.:	BT530033, BT530033-60
Model difference:	All modes are same in all aspect. Only the model name is different.
Host Brand:	Type S
Host Manufacturer:	ADC Solutions Auto, LLC DBA Type S
Antenna installation of Host:	Dipole antenna
Operation Frequency:	2410.001-2477.001MHz, 20 Channels in total
Antenna Type:	Dipole antenna
Antenna Gain:	0dBi
Type of Modulation:	GFSK

3.2 Details of E.U.T

Ratings:	Input: DC 3.3V
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3.3 Channel List

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2410.001	1	2413.501	2	2417.001	3	2420.501
4	2424.001	5	2427.501	6	2431.001	7	2434.501
8	2438.001	9	2441.501	10	2445.001	11	2448.501
12	2452.001	13	2455.501	14	2459.001	15	2462.501
16	2466.001	17	2469.501	18	2473.001	19	2477.001

3.4 Test Mode

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

Test mode	Low channel	Middle channel	High channel
Transmitting	2410.001MHz	2441.501MHz	2477.001MHz

Note: The EUT has been tested under its typical operating condition. Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting. Only the worst case data were reported.

4 Equipment Used during Test

4.1 Equipments List

Conducted Emissions						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	EMI Test Receiver	R&S	ESCI	100947	2019-09-17	2020-09-16
2	LISN	R&S	ENV216	100115	2019-09-17	2020-09-16
3	Cable	Top	TYPE16(3.5M)	-	2019-09-17	2020-09-16
3m Semi-anechoic Chamber for Radiation Emissions						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	Test Receiver	R&S	ESCI	101296	2020-04-20	2021-04-19
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2020-04-25	2021-04-24
3	Active Loop Antenna	Com-Power Corp.	AL-130R	10160007	2020-04-28	2021-04-27
4	Amplifier	ANRITSU	MH648A	M43381	2020-04-20	2021-04-19
5	Cable	HUBER+SUHNER	CBL2	525178	2020-04-20	2021-04-19
3m Semi-anechoic Chamber for Radiation Emissions						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	Spectrum Analyzer	R&S	FSP40	100501	2019-11-13	2020-11-12
2	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	2020-04-20	2021-04-19
3	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	2020-04-20	2021-04-19
4	Coaxial Cable (above 1GHz)	ZT26-NJ-NJ-8M/FA	1GHz-18GHz	N/A	2020-04-20	2021-04-19
5	Broad-band Horn Antenna	SCHWARZBECK	BBV 9721	100472	2019-09-17	2020-09-16
6	Coaxial Cable	ZT40-2.92J-2.92J-2.0M	10MHz-40GHz	17100919	2020-04-27	2021-04-26
RF Conducted Testing						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	2019-09-17	2020-09-16
2	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	2020-04-20	2021-04-19
3	Coaxial Cable (10Hz-30GHz)	/	/	/	2019-09-17	2020-09-16

4.2 Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-6}$
RF Power	± 1.0 dB
RF Power Density	± 2.2 dB
Radiated Spurious Emissions test	± 5.03 dB (30M~1000MHz)
	± 5.47 dB (1000M~25000MHz)
Conducted Emissions test	± 3.64 dB (AC mains 150KHz~30MHz)
Confidence interval: 95%. Confidence factor:k=2	

4.3 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab:N/A

Lab address: N/A

Test items: N/A

4.4 Test Equipment Calibration

All the test equipments used are valid and calibrated by GUANG ZHOU GRG METROLOGY & TEST CO., LTD.address is No.163, Pingyun Rd. West of Huangpu Ave,Tianhe District, Guangzhou,Guangdong, China.

4.5 Test Facility

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.
ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

5 Test Summary

Test Items	Test Requirement	Result
Conducted Emissions	15.207	Pass
Radiated Emission	15.249(a) 15.209 15.205(a)	Pass
Periodic Operation	15.35(c)	Pass
Band Edge	15.249 15.205 15.209	Pass
20dB Bandwidth	15:215(c)	Pass
Antenna Requirement	15.203	Pass
Note: Pass=Compliance; NC=Not Compliance; NT=Not Tested; N/A=Not Applicable.		

6 Conducted Emission

Test Requirement: FCC CFR 47 Part 15 Section 15.207

Test Method: ANSI C63.10:2013

Test Result: PASS

Frequency Range: 150kHz to 30MHz

Class/Severity: Class B

Limit:

Frequency (MHz)	Conducted Limit (dB μ V)	
	Qsi-peak	Average
0.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5.0	56	46
5.0 to 30	60	50

*Decreases with the logarithm of the frequency.

6.1 E.U.T. Operation

Operating Environment:

Temperature: 23.4°C

Humidity: 53.9% RH

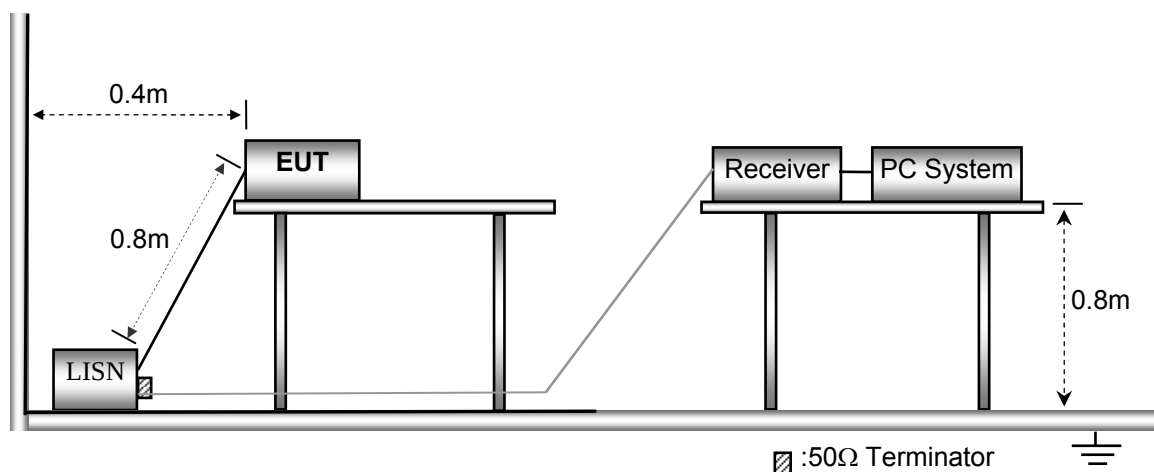
Atmospheric Pressure: 101.5kPa

Test Voltage: AC 120V, 60Hz

EUT Operation: The test was performed in Transmitting mode, the worst test data (Low channel) were shown in the report.

6.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10:2013.

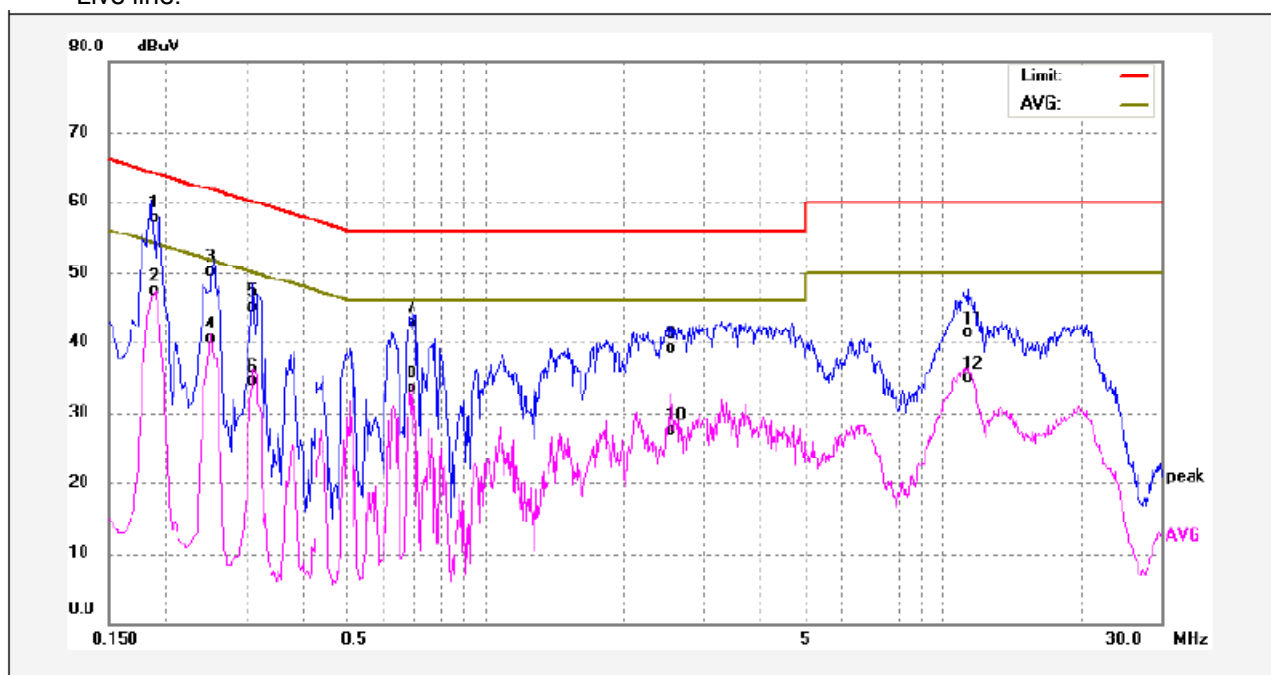


6.3 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

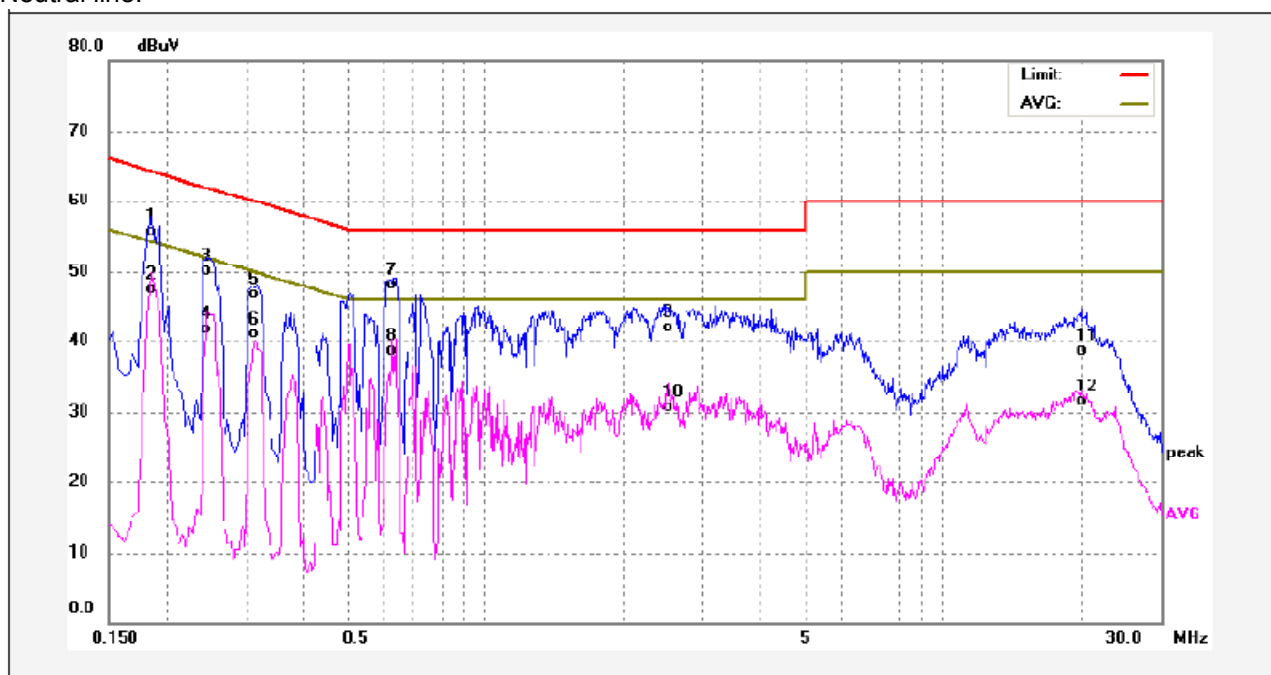
6.4 Conducted Emission Test Result

Live line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1900	47.88	9.77	57.65	64.03	-6.38	QP	
2	0.1900	37.49	9.77	47.26	54.03	-6.77	AVG	
3	0.2500	40.37	9.76	50.13	61.75	-11.62	QP	
4	0.2500	30.74	9.76	40.50	51.75	-11.25	AVG	
5	0.3100	35.24	9.82	45.06	59.97	-14.91	QP	
6	0.3100	24.75	9.82	34.57	49.97	-15.40	AVG	
7	0.6940	33.17	9.83	43.00	56.00	-13.00	QP	
8	0.6940	23.69	9.83	33.52	46.00	-12.48	AVG	
9	2.5460	29.07	9.94	39.01	56.00	-16.99	QP	
10	2.5460	17.50	9.94	27.44	46.00	-18.56	AVG	
11	11.3299	31.28	10.08	41.36	60.00	-18.64	QP	
12	11.3299	24.84	10.08	34.92	50.00	-15.08	AVG	

Neutral line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1860	45.97	9.77	55.74	64.21	-8.47	QP	
2	0.1860	37.80	9.77	47.57	54.21	-6.64	AVG	
3	0.2460	40.42	9.76	50.18	61.89	-11.71	QP	
4	0.2460	32.17	9.76	41.93	51.89	-9.96	AVG	
5	0.3140	36.98	9.81	46.79	59.86	-13.07	QP	
6	0.3140	31.21	9.81	41.02	49.86	-8.84	AVG	
7	0.6260	38.18	9.84	48.02	56.00	-7.98	QP	
8	0.6260	28.85	9.84	38.69	46.00	7.31	AVG	
9	2.5100	32.26	9.94	42.20	56.00	-13.80	QP	
10	2.5100	20.74	9.94	30.68	46.00	-15.32	AVG	
11	20.0980	28.33	10.29	38.62	60.00	-21.38	QP	
12	20.0980	21.13	10.29	31.42	50.00	-18.58	AVG	

7 Radiated Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.247

Test Method: ANSI C63.10:2013

Test Result: PASS

Measurement Distance: 3m

Limit:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))} + 80$
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))} + 40$
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

Frequency bands (MHz)	Field strength (mV/m)	
	Fundamental emissions	Harmonic emissions
902-928	50	0.5
2400-2483.5	50	0.5
5725-5875	50	0.5
24000-24250	250	2.5

7.1 EUT Operation

Operating Environment:

Temperature: 22.8°C

Humidity: 54.5% RH

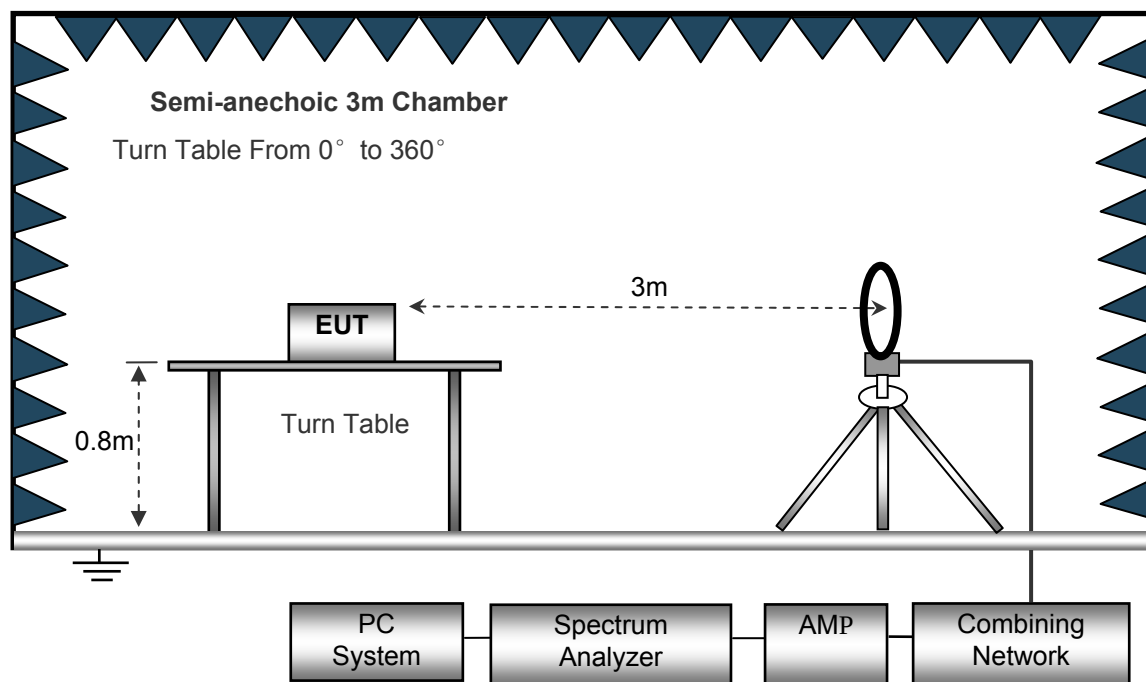
Atmospheric Pressure: 101.7kPa

EUT Operation: The test was performed in Transmitting mode, the worst test data were shown in the report.

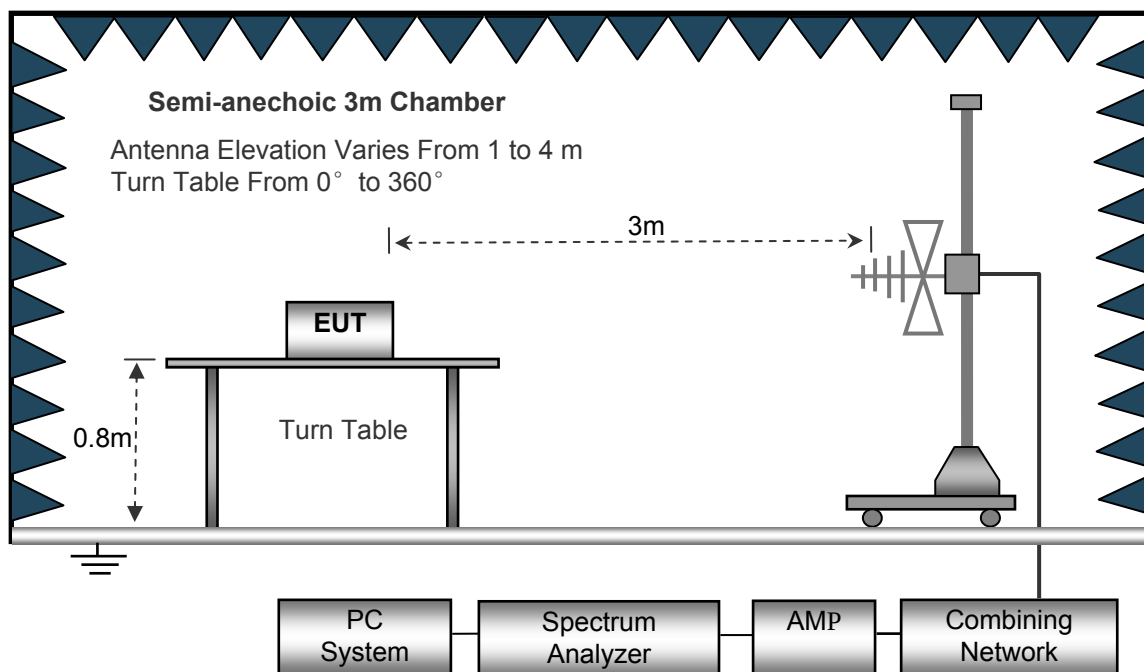
7.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10: 2013.

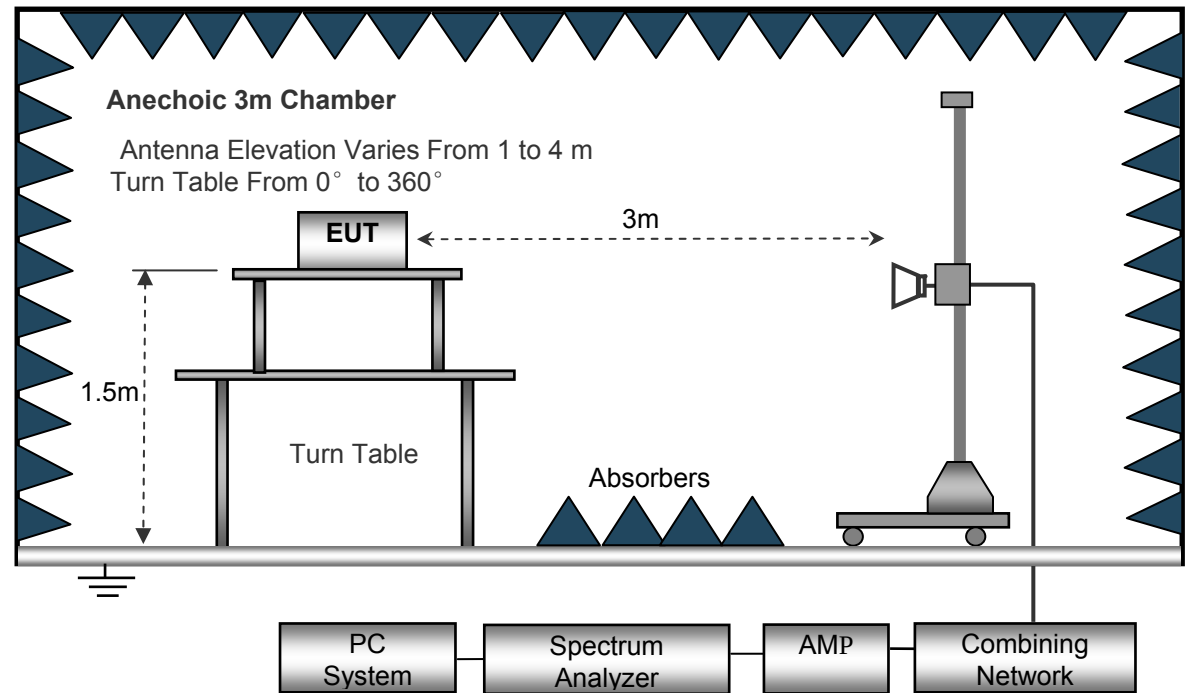
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



7.3 Spectrum Analyzer Setup

Below 30MHz

Sweep Speed Auto
IF Bandwidth.....10kHz
Video Bandwidth.....10kHz
Resolution Bandwidth10kHz

30MHz ~ 1GHz

Sweep Speed Auto
DetectorPK
Resolution Bandwidth.....100kHz
Video Bandwidth.....300kHz

Above 1GHz

Sweep Speed Auto
DetectorPK
Resolution Bandwidth.....1MHz
Video Bandwidth.....3MHz
DetectorAve.
Resolution Bandwidth.....1MHz
Video Bandwidth.....10Hz

7.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are tested under 3-axes(X, Y, Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.
8. For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

7.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The "Margin" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B.

The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Limit}$$

7.6 Summary of Test Results

Test Frequency: 9 kHz ~ 30MHz

The measurements were more than 20 dB below the limit and not reported.

Test Frequency: 30MHz ~ 25GHz

Test Mode: Low channel

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.249/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)
272.280	54.56	QP	96	1.8	H	-15.74	38.82	46.00	-7.18
2410.001	99.62	PK	354	1.6	H	-13.05	86.57	114.00	-27.43
2410.001	95.68	PK	356	1.2	V	-13.05	82.63	114.00	-31.37
4820.002	46.94	PK	156	1.9	H	-1.08	45.86	74.00	-28.14
4820.002	41.02	PK	89	1.8	V	-1.08	39.94	74.00	-34.06
7230.003	39.45	PK	234	1.4	H	1.25	40.70	74.00	-33.30
7230.003	38.11	PK	47	1.1	V	1.25	39.36	74.00	-34.64
9640.004	42.06	PK	283	1.7	H	3.31	45.37	74.00	-28.63
9640.004	36.98	PK	297	1.3	V	3.31	40.29	74.00	-33.71

$$AV = \text{Peak} + 20\log_{10}(\text{duty cycle}) = \text{Peak} + (-13.51)$$

Frequency	PK	Turn table Angle	RX Antenna		Duty cycle Factor	AV	FCC Part 15.249/209/205	
			Height	Polar			Limit	Margin
(MHz)	(dBμV/m)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
2410.001	86.57	354	1.6	H	-13.51	73.06	94.00	-20.94
2410.001	82.63	356	1.2	V	-13.51	69.12	94.00	-24.88
4820.002	45.86	156	1.9	H	-13.51	32.35	54.00	-21.65
4820.002	39.94	89	1.8	V	-13.51	26.43	54.00	-27.57
7230.003	40.70	234	1.4	H	-13.51	27.19	54.00	-26.81
7230.003	39.36	47	1.1	V	-13.51	25.85	54.00	-28.15
9640.004	45.37	283	1.7	H	-13.51	31.86	54.00	-22.14
9640.004	40.29	297	1.3	V	-13.51	26.78	54.00	-27.22

Test Mode: Middle channel

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.249/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)
272.280	54.34	QP	303	1.3	H	-15.74	38.60	46.00	-7.40
2441.501	100.07	PK	114	1.9	H	-13.03	87.04	114.00	-26.96
2441.501	96.98	PK	155	1.3	V	-13.03	83.95	114.00	-30.05
4883.002	50.12	PK	23	1.4	H	-1.02	49.10	74.00	-24.90
4883.002	46.01	PK	50	1.9	V	-1.02	44.99	74.00	-29.01
7324.503	35.87	PK	352	1.2	H	1.34	37.21	74.00	-36.79
7324.503	36.12	PK	123	1.2	V	1.34	37.46	74.00	-36.54
9766.004	41.68	PK	272	1.2	H	3.46	45.14	74.00	-28.86
9766.004	35.98	PK	80	1.5	V	3.46	39.44	74.00	-34.56

$$AV = \text{Peak} + 20\log_{10}(\text{duty cycle}) = \text{Peak} + (-13.51)$$

Frequency	PK	Turn table Angle	RX Antenna		Duty cycle Factor	AV	FCC Part 15.249/209/205	
			Height	Polar			Limit	Margin
(MHz)	(dBμV/m)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
2441.501	87.04	114	1.9	H	-13.51	73.53	94.00	-20.47
2441.501	83.95	155	1.3	V	-13.51	70.44	94.00	-23.56
4883.002	49.10	23	1.4	H	-13.51	35.59	54.00	-18.41
4883.002	44.99	50	1.9	V	-13.51	31.48	54.00	-22.52
7324.503	37.21	352	1.2	H	-13.51	23.70	54.00	-30.30
7324.503	37.46	123	1.2	V	-13.51	23.95	54.00	-30.05
9766.004	45.14	272	1.2	H	-13.51	31.63	54.00	-22.37
9766.004	39.44	80	1.5	V	-13.51	25.93	54.00	-28.07

Test Mode: High channel

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.249/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB/m)	(dBμV/m)	(dBμV/m)	(dB)
272.280	52.7	QP	193	1.1	H	-15.74	36.96	46.00	-9.04
2477.001	97.93	PK	55	1.6	H	-12.96	84.97	114.00	-29.03
2477.001	93.98	PK	232	1.4	V	-12.96	81.02	114.00	-32.98
4954.002	52.46	PK	312	1.8	H	-0.85	51.61	74.00	-22.39
4954.002	43.65	PK	69	1.9	V	-0.85	42.80	74.00	-31.20
7431.003	37.42	PK	277	1.3	H	1.59	39.01	74.00	-34.99
7431.003	36.05	PK	218	1.5	V	1.59	37.64	74.00	-36.36
9908.004	41.17	PK	132	1.8	H	5.17	46.34	74.00	-27.66
9908.004	37.02	PK	229	1.9	V	5.17	42.19	74.00	-31.81

$$AV = \text{Peak} + 20\log_{10}(\text{duty cycle}) = \text{Peak} + (-13.51)$$

Frequency	PK	Turn table Angle	RX Antenna		Duty cycle Factor	AV	FCC Part 15.249/209/205	
			Height	Polar			Limit	Margin
(MHz)	(dBμV/m)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
2477.001	84.97	55	1.6	H	-13.51	71.46	94.00	-22.54
2477.001	81.02	232	1.4	V	-13.51	67.51	94.00	-26.49
4954.002	51.61	312	1.8	H	-13.51	38.10	54.00	-15.90
4954.002	42.80	69	1.9	V	-13.51	29.29	54.00	-24.71
7431.003	39.01	277	1.3	H	-13.51	25.50	54.00	-28.50
7431.003	37.64	218	1.5	V	-13.51	24.13	54.00	-29.87
9908.004	46.34	132	1.8	H	-13.51	32.83	54.00	-21.17
9908.004	42.19	229	1.9	V	-13.51	28.68	54.00	-25.32

8 Periodic Operation

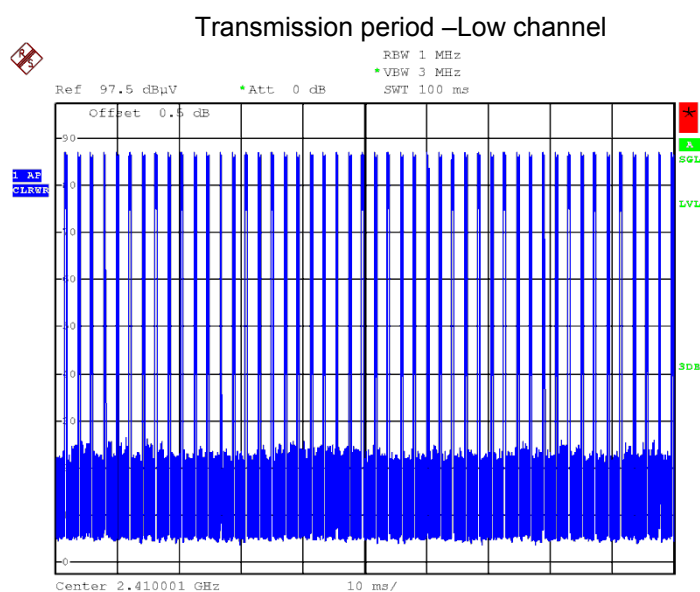
The duty cycle was determined by the following equation:

To calculate the actual field intensity, the duty cycle correction factor in decibel is needed for later use and can be obtained from following conversion

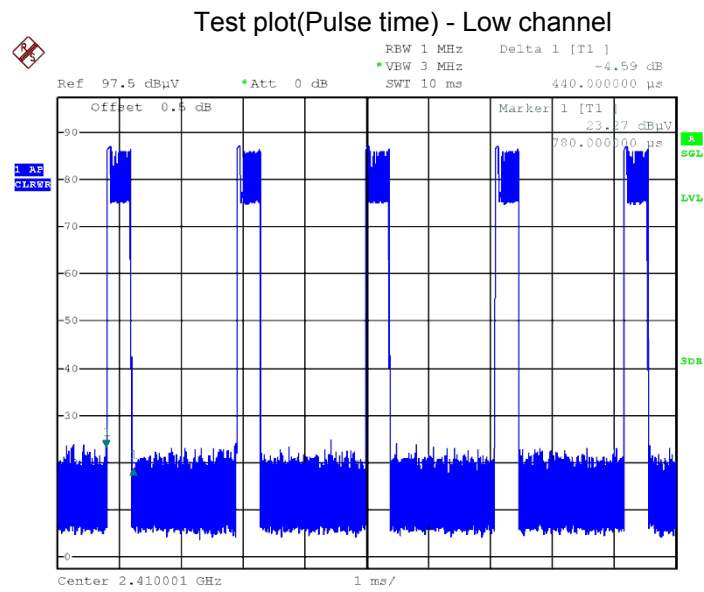
Duty Cycle(%)=Total On interval in a complete pulse train/ Length of a complete pulse train * %

Duty Cycle Correction Factor(dB)=20 * Log₁₀(Duty Cycle(%))

Test frequency(MHz)	2410.001
Total transmission time(ms)	21.12
Length of a complete transmission period(ms)	100*
Duty Cycle(%)	21.12
Duty Cycle Correction Factor(dB)	-13.51



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(* Note: the transmitter operates for longer than 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value. So the Length of a complete transmission period=100ms)

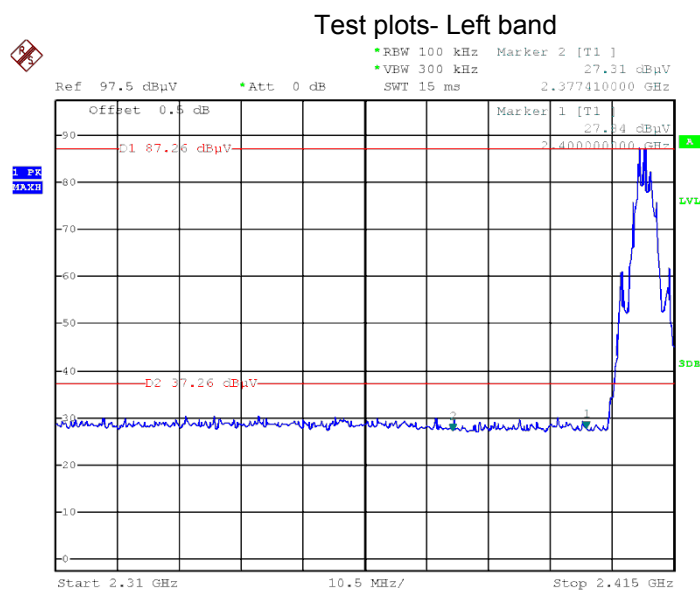
9 Band Edge

Test Requirement:	15.249(d):Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.
Test Method:	ANSI C63.10:2013
Test Mode:	Transmitting

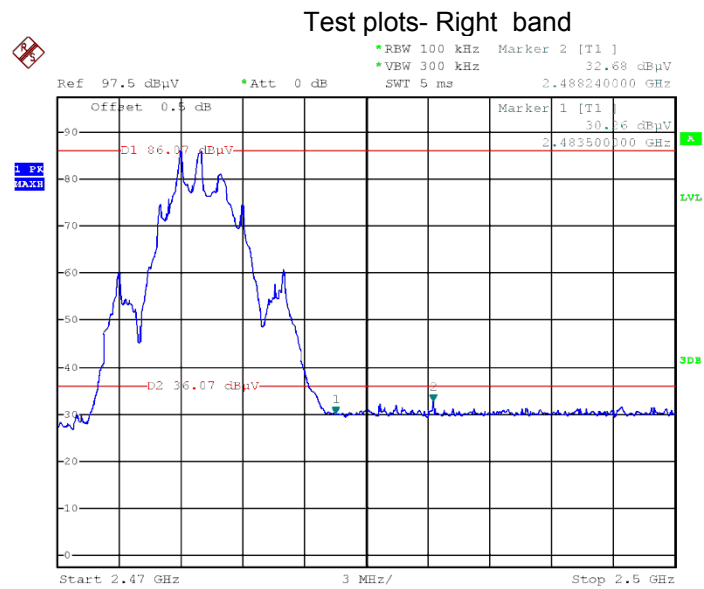
9.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz, Sweep = auto
Detector function = peak, Trace = max hold

9.2 Test Result



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10 20 dB Bandwidth Measurement

Test Requirement: FCC CFR47 Part 15 Section 15.215(c)

Test Method: ANSI C63.10:2013

Test Mode: Transmitting

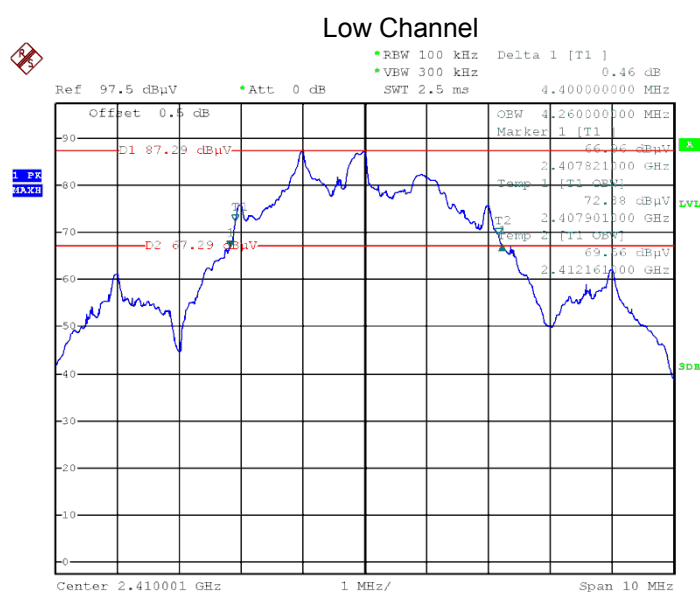
10.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyser: RBW = 100 kHz, VBW = 300 kHz

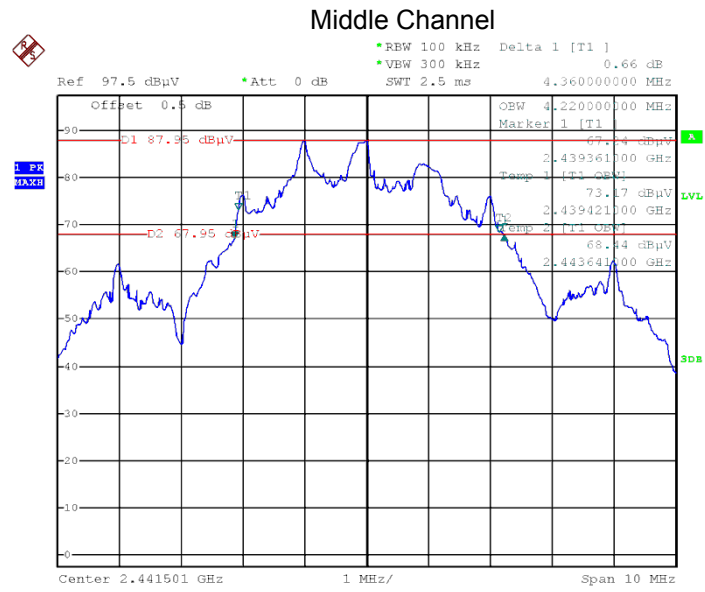
10.2 Test Result

Test Channel	20dB Bandwidth	99% Bandwidth
Low Channel	4.400MHz	4.260MHz
Middle Channel	4.360MHz	4.220MHz
High Channel	4.360MHz	4.240MHz

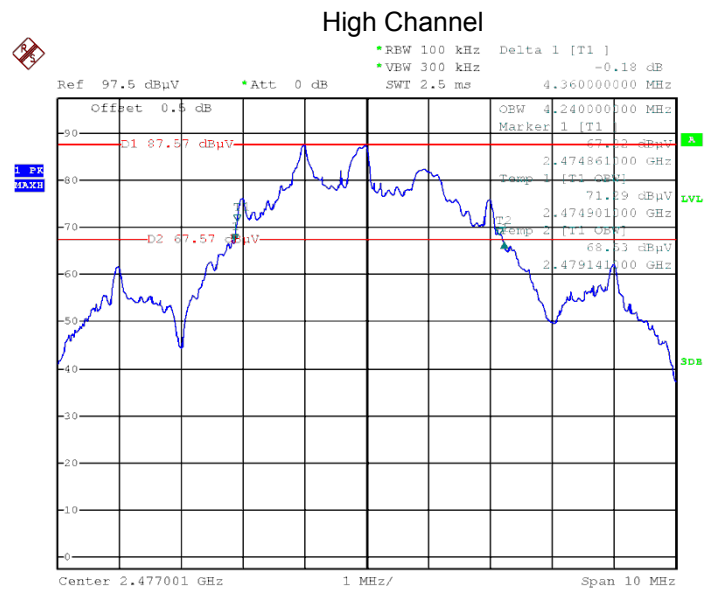
Test plots



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Date: 27.MAY.2020 01:44:02

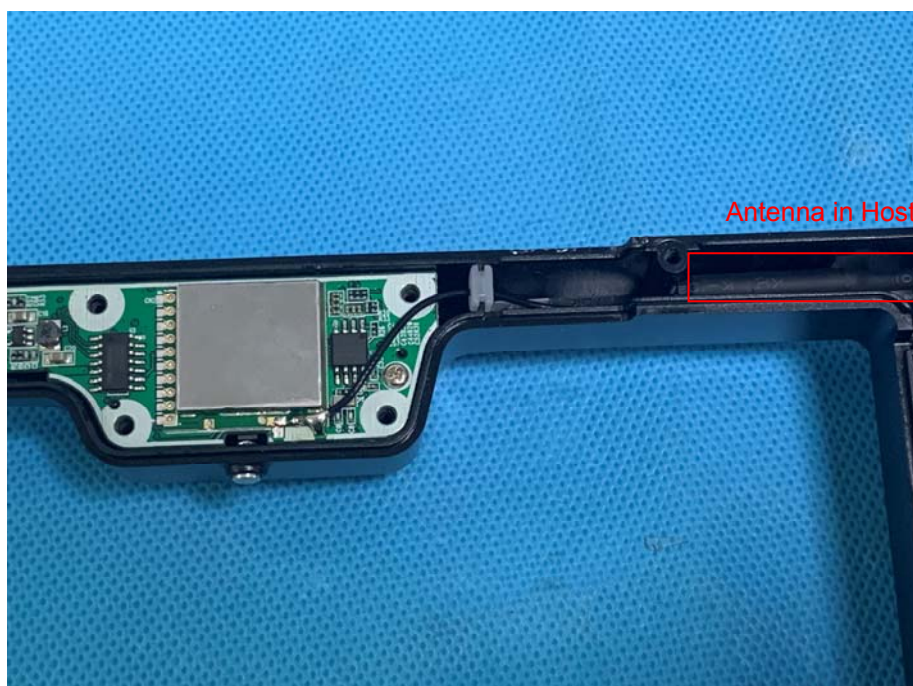
11 Antenna Requirement

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. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

For intentional device, according to FCC 47 CFR Section 15.203, 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.

Result:

The EUT has one Dipole antenna, meets the requirements of FCC 15.203.



12 Photographs–Test Setup Photos

Note: Refer to the file JM7130S20PL-B_Test Setup Photos.

13 Photographs - Constructional Details

13.1 External Photos of Module

Note: Refer to the file JM7130S20PL-B_External Photos.

13.2 Internal Photos of Module

Note: Refer to the file JM7130S20PL-B_Internal Photos.

13.3 Photos of Host

Note: Refer to the file JM7130S20PL-B_External Photos.

=====End of Report=====