TEST REPORT

Reference No.	:	WTS18S05111745W
FCC ID	:	2AAIXBT8015V01
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	:	BT low energy module
Model(s)	:	MD8105-A06
Standards	:	FCC CFR47 Part 15 C Section 15.247: 2017
Date of Receipt sample	:	2018-05-16
Date of Test	:	2018-05-17 to 2018-06-08
Date of Issue	:	2018-06-11
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.

Prepared By:
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Tested by: Frank Yin

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Approved by: Philo Zhong

Philo Zhong / Manager

2. Laboratories Introduction

Waltek Services (Shenzhen) Co., Ltd is a professional third-party testing and certification laboratory with multi-year product testing and certification experience, established strictly in accordance with ISO/IEC 17025 requirements, and accredited by ILAC (International Laboratory Accreditation Cooperation) member. A2LA (American Association for Laboratory Accreditation) of USA, Meanwhile, Waltek has got recognition as registration and accreditation laboratory from EMSD (Electrical and Mechanical Services Department), and American Energy star, FCC(The Federal Communications Commission), CEC(California energy efficiency), IC(Industry Canada). It's the strategic partner and data recognition laboratory of international authoritative organizations, such as Intertek(ETL-SEMKO), TÜV Rheinland, TÜV SÜD, etc.

Waltek Services (Shenzhen) Co., Ltd is one of the largest and the most comprehensive third party testing laboratory in China. Our test capability covered four large fields: safety test. ElectroMagnetic Compatibility(EMC), and energy performance, wireless radio. As a professional, comprehensive, justice international test organization, we still keep the scientific and rigorous work attitude to help each client satisfy the international standards and assist their product enter into globe market smoothly.

2.1 Test Facility

A. Accreditations for Conformity Assessment (International)

Country/Region	Accreditation Body	Scope	Note
USA	**A2LA (Certificate No.: 4243.01)**	FCC ID \ DOC \ VOC	1
Canada		IC ID \ VOC	2
Japan		MIC-T \ MIC-R	-
Europe		EMCD \ RED	-
Taiwan		NCC	-
Hong Kong		OFCA	-
Australia		RCM	-
India	**International Services**	WPC	-
Thailand		NTC	-
Singapore		IDA	-

Note:

1. FCC Designation No.: CN1201. Test Firm Registration No.: 523476.
2. IC Canada Registration No.: 7760A

B.TCBs and Notify Bodies Recognized Testing Laboratory.

Recognized Testing Laboratory of …	Notify body number
TUV Rheinland	Optional.
Intertek	
TUV SUD	
SGS	
Phoenix Testlab GmbH	0700
Element Materials Technology Warwick Ltd	0891
Timco Engineering, Inc.	1177
Eurofins Product Service GmbH	0681

3 Contents

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3. Revision History

Test report #	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS18S05111745W	2018-05-16	2018-05-17 to2018-06-08	2018-05-28	Original	-	Valid

4 General Information

4.1 General Description of E.U.T

Product:	BT low energy module
Model(s).:	MD8105-A06
Operation Frequency:	BLE: 2402-2480MHz
RF output power	BLE: -2.13dBm
The Lowest Oscillator:	32.768KHz
Antenna installation:	Integrated Antenna
Antenna Gain:	0dBi
Type of modulation:	BLE: GFSK

4.2 Channel List

BLE:

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2402	1	2404	2	2406	3	2408
4	2410	5	2412	6	2414	7	2416
8	2418	9	2420	10	2422	11	2424
12	2426	13	2428	14	2430	15	2432
16	2434	17	2436	18	2438	19	2440
20	2442	21	2444	22	2446	23	2448
24	2450	25	2452	26	2454	27	2456
28	2458	29	2460	30	2462	31	2464
32	2466	33	2468	34	2470	35	2472
36	2474	37	2476	38	2478	39	2480

4.3 Test Mode

Table 1 Tests Carried Out Under FCC part 15.247

Test Items	Mode	Data Rate	Channel	TX/RX
Maximum Peak Output Power	BLE	1 Mbps	0/19/39	TX
Power Spectral Density	BLE	1 Mbps	0/19/39	TX
Frequency Range	BLE	1 Mbps	0/19/39	TX
Transmitter Spurious Emissions	BLE	1 Mbps	0/19/39	TX

Note :Parameters set by test software during channel & power tests, the software provided by the customer was used to set the operating channels as well as the output power level. The RF output power set is the power expected by the manufacturer and is going to be fixed on the firmware of the final product.

5 Equipment Used during Test

5.1 Equipments List

Conducted Emissions Test Site						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMI Test Receiver	R&S	ESCI	101155	2017-09-12	2018-09-11
2.	LISN	SCHWARZBECK	NSLK 8128	8128-289	2017-09-12	2018-09-11
3.	Limiter	York	MTS-IMP-136	261115-001-0024	2017-09-12	2018-09-11
4.	Cable	LARGE	RF300	-	2017-09-12	2018-09-11
3m Semi-anechoic Chamber for Radiation Emissions Test site						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Spectrum Analyzer	R&S	FSP30	100091	2018-04-29	2019-04-28
2	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	2018-04-09	2019-04-08
3	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	2018-04-13	2019-04-12
4	Coaxial Cable (above 1GHz)	Top	1GHz-18GHz	EW02014-7	2018-04-13	2019-04-12
5	Spectrum Analyzer	R&S	FSP40	100501	2017-10-20	2018-10-19
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	2017-09-14	2018-09-13
7	Microwave Broadband Preamplifier	SCHWARZBECK	BBV 9721	100472	2017-10-25	2018-10-24
8	Cable	Top	18GHz-40GHz	-	2017-10-25	2018-10-24
3m Semi-anechoic Chamber for Radiation Emissions Test site						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No**	**Last Calibration Date**	**Calibration Due Date**
1	Test Receiver	R&S	ESCI	101296	2018-04-13	2019-04-12
2	Ative Loop Antenna	Beijing Dazhi	ZN30900A	-	2017-10-17	2018-10-16
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2018-04-08	2019-04-07
4	Amplifier	ANRITSU	MH648A	M43381	2018-04-13	2019-04-12
5	Cable	HUBER+SUHNER	CBL2	525178	2018-04-13	2019-04-12
6	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	2017-09-12	2018-09-11
RF Conducted Testing						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMC Analyzer	Agilent	E7405A	MY45114943	2017-09-14	2018-09-13

	(9k~26.5GHz)					
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	2017-09-12	2018-09-11
3.	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	2017-09-12	2018-09-11
4.	Coaxial Cable (10Hz-30GHz)	/	/	/	2017-09-12	2018-09-11
5.	Antenna Connector*	/	/	/	2017-09-12	2018-09-11

"*": The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

5.2 Measurement Uncertainty

Parameter	**Uncertainty**
Radio Frequency	± 1 x 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)

5.3 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, Guang dong, China.

6 Test Summary

Test Items	Test Requirement	Result
Spurious Radiated Emissions	15.247 15.205(a) 15.209(a)	C
Conducted Emissions	15.207(a)	C
Bandwidth	15.247(a)(2)	C
Maximum Peak Output Power	15.247(b)(3),(4)	C
Power Spectral Density	15.247(e)	C
Band Edge	15.247(d)	C
Antenna Requirement	15.203	C
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	C
Note: C=Compliance; NC=Not Compliance; NT=Not Tested; N/A=Not Applicable.		

7 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:	66-56 dBμV between 0.15MHz & 0.5MHz
	56 dBμV between 0.5MHz & 5MHz
	60 dBμV between 5MHz & 30MHz
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth)

7.1 E.U.T. Operation

Operating Environment **:**

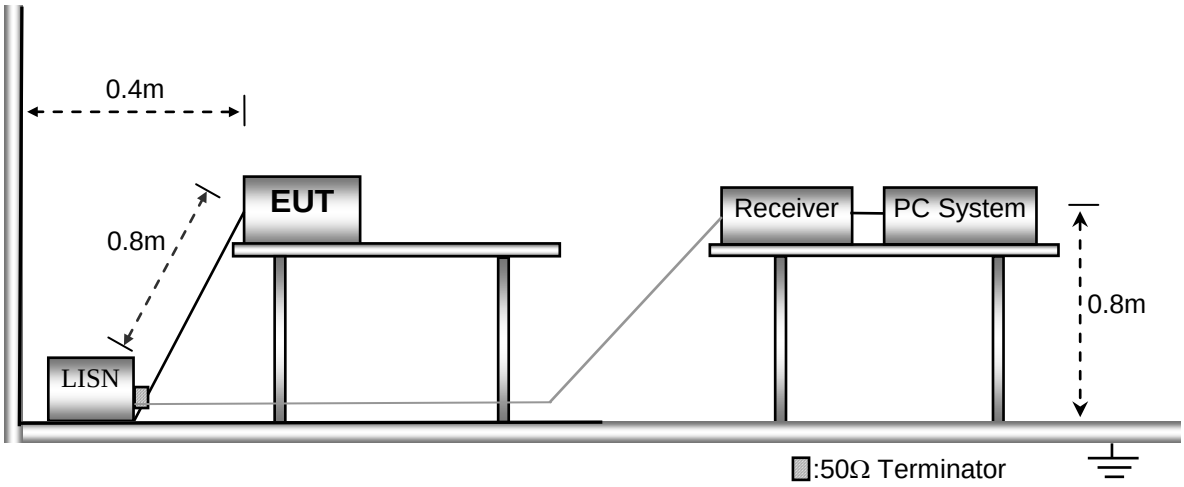
Temperature:	21.5 °C
Humidity:	51.9 % RH
Atmospheric Pressure:	101.2kPa
EUT Operation **:**	Transmitting mode

The test was performed in Transmitting mode, Only the worst case Low channel mode were record in the report.

7.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the

ANSI C63.4: 2014..



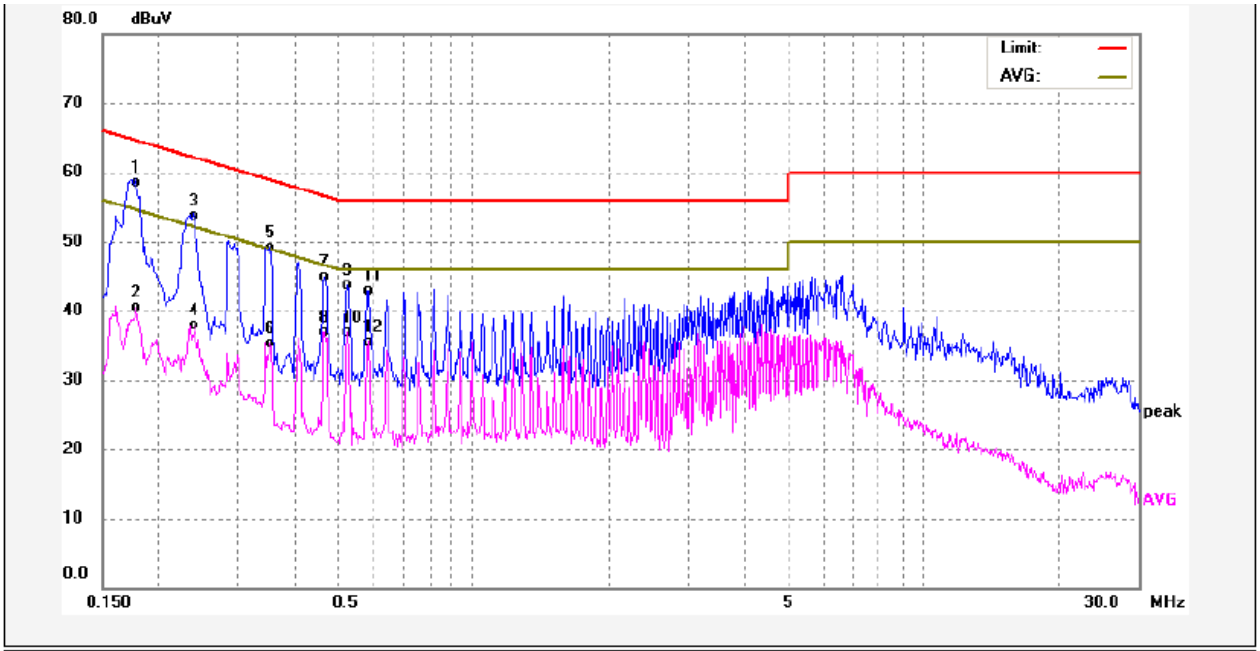
7.3 Measurement Description

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.

7.4 Conducted Emission Test Result

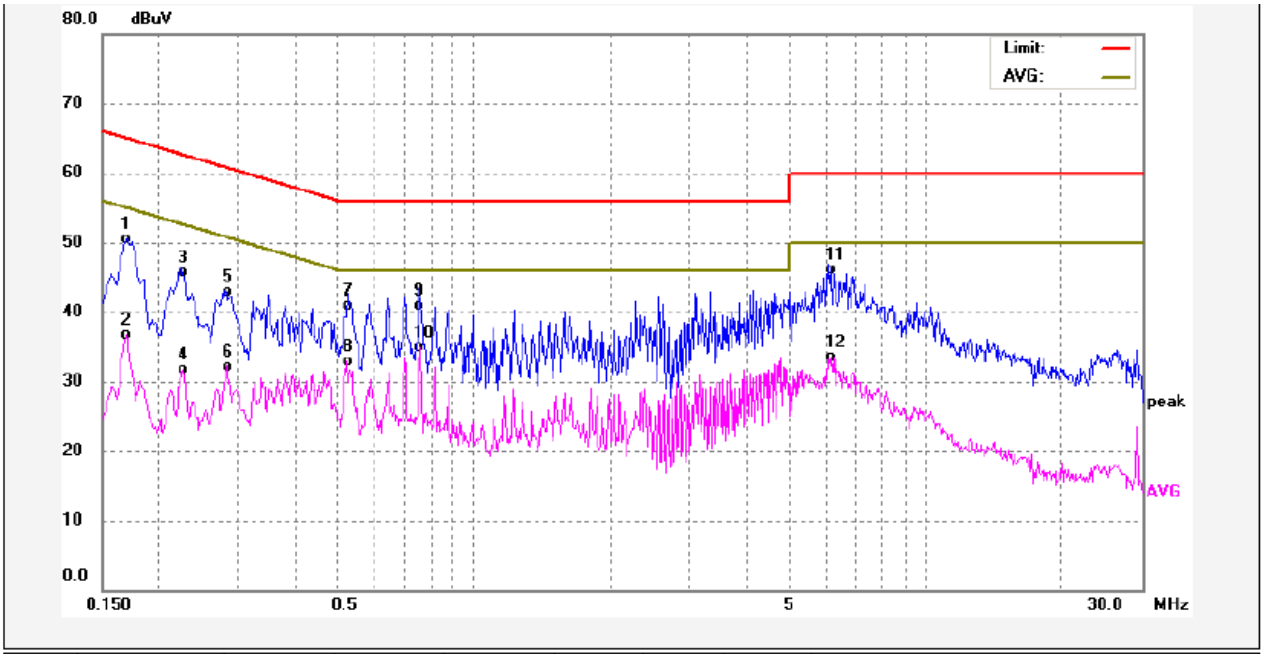
An initial pre-scan was performed on the live and neutral lines.

Live line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1785	48.62	9.88	58.50	64.55	-6.05	QP	
2	0.1785	30.57	9.88	40.45	54.55	-14.10	AVG	
3	0.2403	43.80	9.99	53.79	62.08	-8.29	QP	
4	0.2403	28.00	9.99	37.99	52.08	-14.09	AVG	
5	0.3537	39.07	10.06	49.13	58.87	-9.74	QP	
6	0.3537	25.29	10.06	35.35	48.87	-13.52	AVG	
7	0.4661	34.85	10.06	44.91	56.58	-11.67	QP	
8	0.4661	26.79	10.06	36.85	46.58	-9.73	AVG	
9	0.5260	33.56	10.07	43.63	56.00	-12.37	QP	
10	0.5260	26.90	10.07	36.97	46.00	-9.03	AVG	
11	0.5856	32.88	10.06	42.94	56.00	-13.06	QP	
12	0.5856	25.54	10.06	35.60	46.00	-10.40	AVG	

Neutral line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1700	40.58	9.86	50.44	64.96	-14.52	QP	
2	0.1700	26.82	9.86	36.68	54.96	-18.28	AVG	
3	0.2267	35.65	9.97	45.62	62.57	-16.95	QP	
4	0.2267	21.74	9.97	31.71	52.57	-20.86	AVG	
5	0.2832	32.91	9.99	42.90	60.72	-17.82	QP	
6	0.2832	22.21	9.99	32.20	50.72	-18.52	AVG	
7	0.5320	30.85	10.07	40.92	56.00	-15.08	QP	
8	0.5320	22.80	10.07	32.87	46.00	-13.13	AVG	
9	0.7620	30.74	10.12	40.86	56.00	-15.14	QP	
10	0.7620	24.82	10.12	34.94	46.00	-11.06	AVG	
11	6.1219	35.93	10.27	46.20	60.00	-13.80	QP	
12	6.1219	23.28	10.27	33.55	50.00	-16.45	AVG	

8 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	$20\log^{(500)}$

8.1 EUT Operation

Operating Environment **:**

Temperature: 23.5 °C

Humidity: 52.1 % RH

Atmospheric Pressure: 101.2kPa

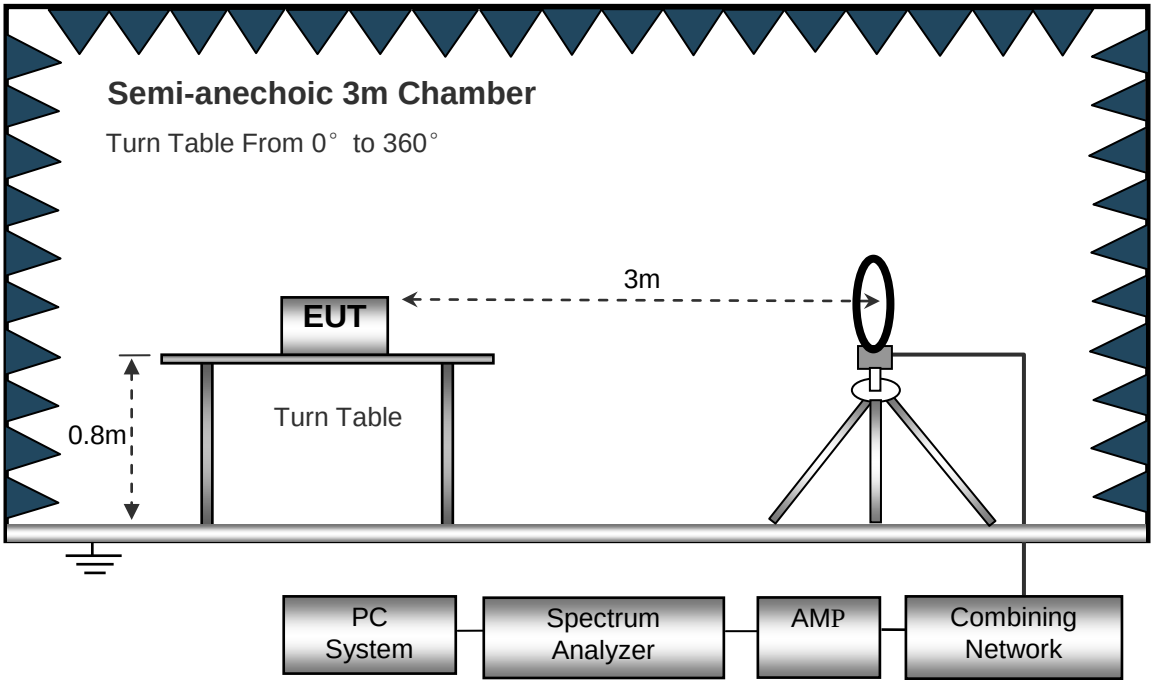
EUT Operation **:**

The test was performed in transmitting mode, the test data were shown in the report.

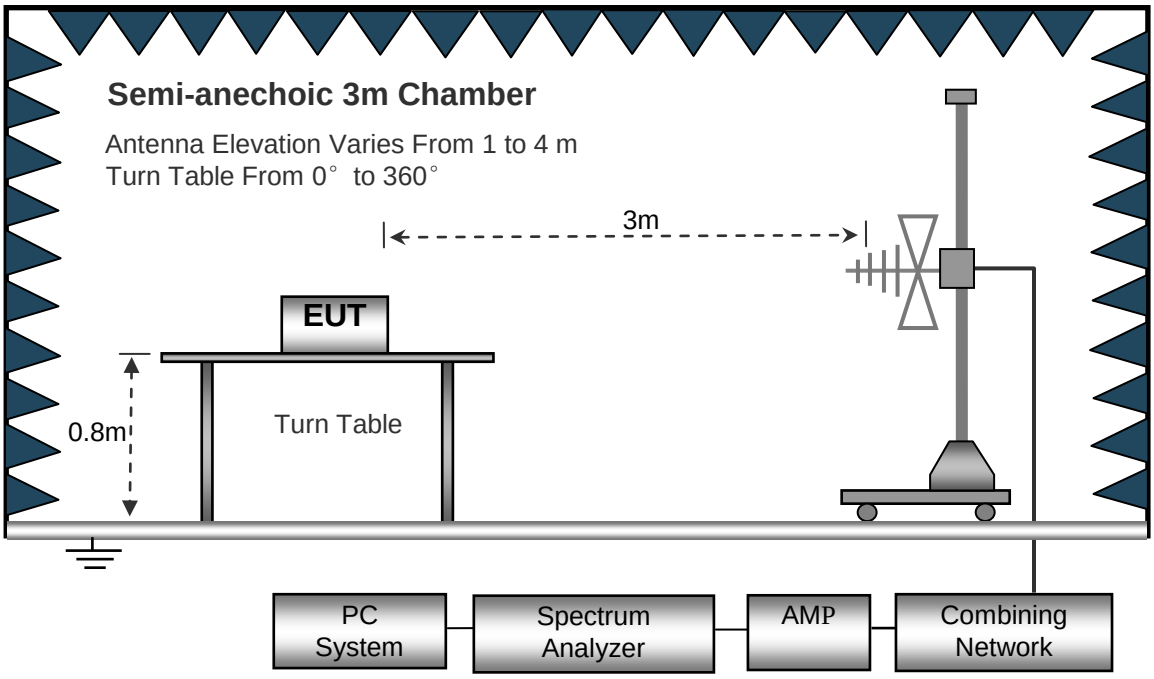
8.2 Test Setup

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

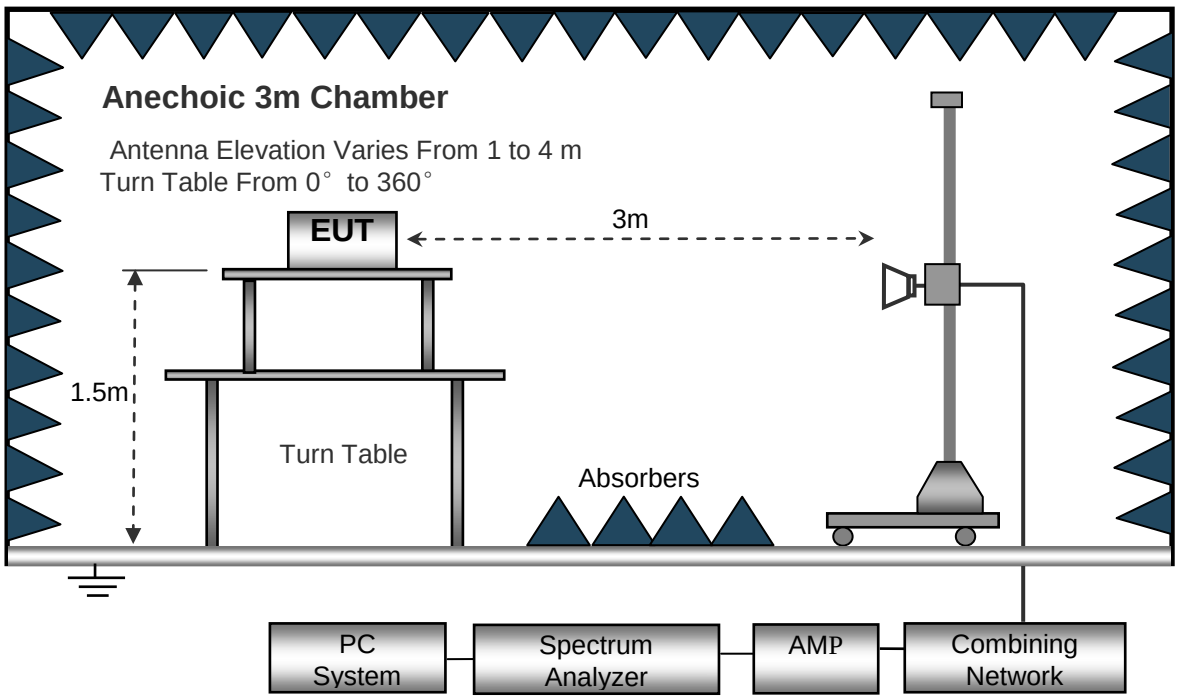
The test setup for emission measurement below 30MHz.



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



The test setup for emission measurement above 1 GHz.



8.3 Spectrum Analyzer Setup

Below 30MHz

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

30MHz ~ 1GHz

Sweep Speed ..... Auto
Detector ..... PK
Resolution Bandwidth..... 100kHz
Video Bandwidth..... 300kHz

Above 1GHz

Sweep Speed ..... Auto
Detector ..... PK
Resolution Bandwidth..... 1MHz
Video Bandwidth..... 3MHz
Detector ..... Ave.
Resolution Bandwidth..... 1MHz
Video Bandwidth..... 10Hz

8.4 Test Procedure

1. The EUT is placed on a turntable. For below 1GHz, the EUT is 0.8m above ground plane; For above1GHz, the EUT is 1.5m above ground plane.
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.
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 performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in X axis,so the worst data were shown as follow.
8. A 2.4GHz high –pass filter is used druing radiated emissions above 1GHz measurement.

8.5 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:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - 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:

Margin = Corr. Ampl. – Limit

8.6 Summary of Test Results

Test Frequency: 9 KHz~30 MHz

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

Test Frequency : 30MHz ~ 18GHz

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
GFSK Low Channel 2402MHz									
266.38	35.89	QP	326	1.5	H	-13.35	22.54	46.00	-23.46
266.38	40.62	QP	309	1.6	V	-13.35	27.27	46.00	-18.73
4804.00	45.03	PK	280	1.9	V	-1.06	43.97	74.00	-30.03
4804.00	43.61	Ave	280	1.9	V	-1.06	42.55	54.00	-11.45
7206.00	44.34	PK	125	1.7	H	1.33	45.67	74.00	-28.33
7206.00	37.53	Ave	125	1.7	H	1.33	38.86	54.00	-15.14
2329.66	46.39	PK	318	1.5	V	-13.19	33.20	74.00	-40.80
2329.66	38.58	Ave	318	1.5	V	-13.19	25.39	54.00	-28.61
2353.12	43.28	PK	276	1.5	H	-13.14	30.14	74.00	-43.86
2353.12	36.37	Ave	276	1.5	H	-13.14	23.23	54.00	-30.77
2490.81	44.86	PK	127	1.7	V	-13.08	31.78	74.00	-42.22
2490.81	38.99	Ave	127	1.7	V	-13.08	25.91	54.00	-28.09

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
GFSK Middle Channel 2440MHz									
266.38	35.30	QP	6	1.4	H	-13.35	21.95	46.00	-24.05
266.38	40.53	QP	85	1.4	V	-13.35	27.18	46.00	-18.82
4880.00	44.55	PK	111	1.7	V	-0.62	43.93	74.00	-30.07
4880.00	43.69	Ave	111	1.7	V	-0.62	43.07	54.00	-10.93
7320.00	41.85	PK	37	1.3	H	2.21	44.06	74.00	-29.94
7320.00	36.05	Ave	37	1.3	H	2.21	38.26	54.00	-15.74
2325.52	46.40	PK	73	1.7	V	-13.19	33.21	74.00	-40.79
2325.52	39.47	Ave	73	1.7	V	-13.19	26.28	54.00	-27.72
2375.11	43.89	PK	256	1.3	H	-13.14	30.75	74.00	-43.25
2375.11	36.82	Ave	256	1.3	H	-13.14	23.68	54.00	-30.32
2493.06	44.02	PK	190	1.1	V	-13.08	30.94	74.00	-43.06
2493.06	37.38	Ave	190	1.1	V	-13.08	24.30	54.00	-29.70

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	Limit	Margin
				Height	Polar				
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
GFSK High Channel 2480MHz									
266.38	35.14	QP	168	1.8	H	-13.35	21.79	46.00	-24.21
266.38	37.86	QP	341	1.9	V	-13.35	24.51	46.00	-21.49
4960.00	44.04	PK	204	1.9	V	-0.24	43.80	74.00	-30.20
4960.00	40.88	Ave	204	1.9	V	-0.24	40.64	54.00	-13.36
7440.00	43.15	PK	21	1.6	H	2.84	45.99	74.00	-28.01
7440.00	37.48	Ave	21	1.6	H	2.84	40.32	54.00	-13.68
2314.90	46.99	PK	333	1.7	V	-13.19	33.80	74.00	-40.20
2314.90	38.95	Ave	333	1.7	V	-13.19	25.76	54.00	-28.24
2362.82	44.03	PK	93	1.4	H	-13.14	30.89	74.00	-43.11
2362.82	38.92	Ave	93	1.4	H	-13.14	25.78	54.00	-28.22
2485.58	43.57	PK	168	1.7	V	-13.08	30.49	74.00	-43.51
2485.58	36.27	Ave	168	1.7	V	-13.08	23.19	54.00	-30.81

Test Frequency: 18GHz~25GHz

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

9 Band Edge Measurement

Test Requirement:	FCC CFR47 Part 15 Section 15.247
Test Method:	558074 D01 DTS Meas Guidance V04
Test Limit:	Regulation 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. 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 Mode:	Transmitting

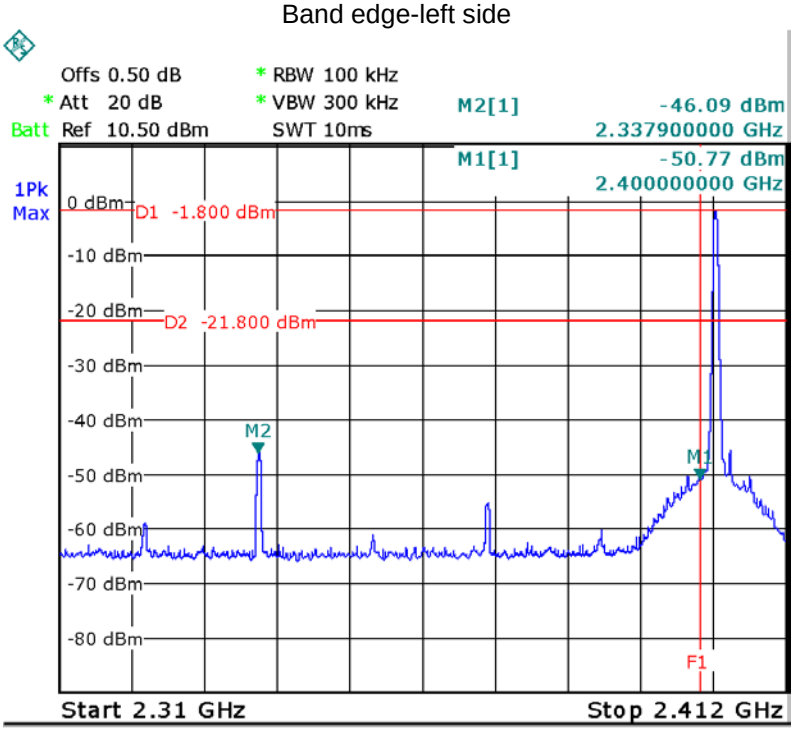
9.1 Test Produce

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

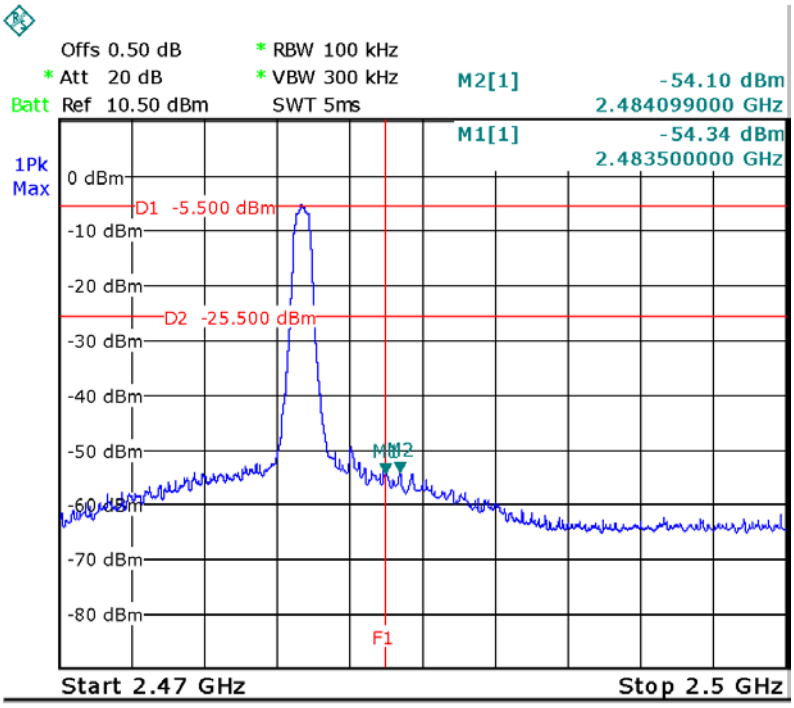
9.2 Test Result

Test result plots shown as follows:

Band edge-left side



Band edge-right side



10 Bandwidth Measurement

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: 558074 D01 DTS Meas Guidance V04

10.1 Test Procedure:

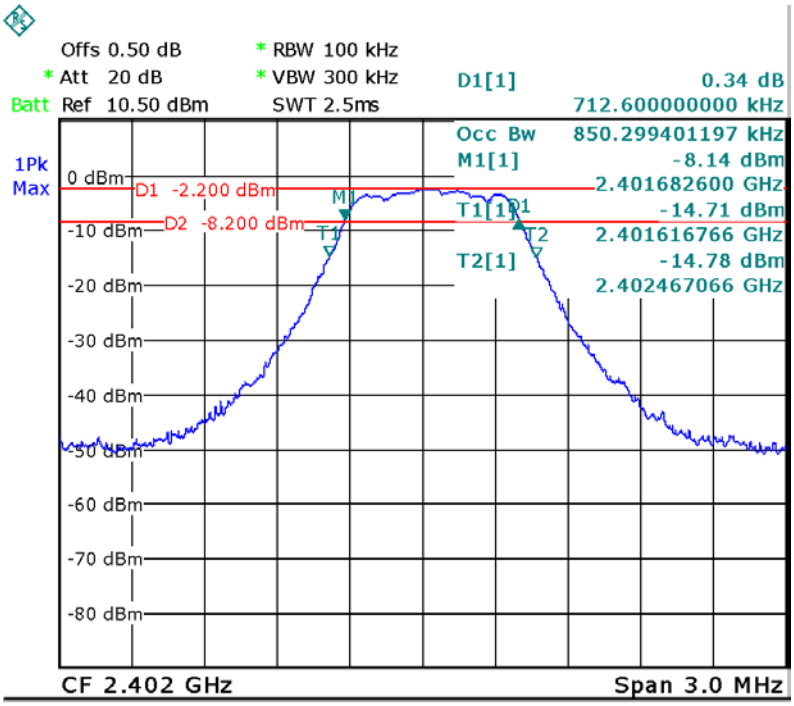
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;

2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz

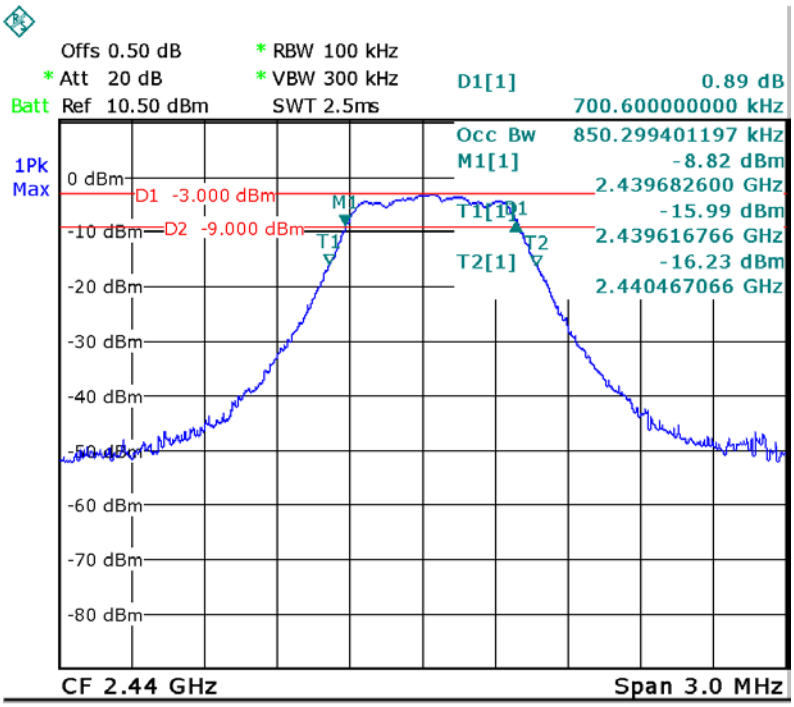
10.2 Test Result:

Operation mode	6dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low channel	0.712	0.850
Middle channel	0.700	0.850
High channel	0.713	0.856

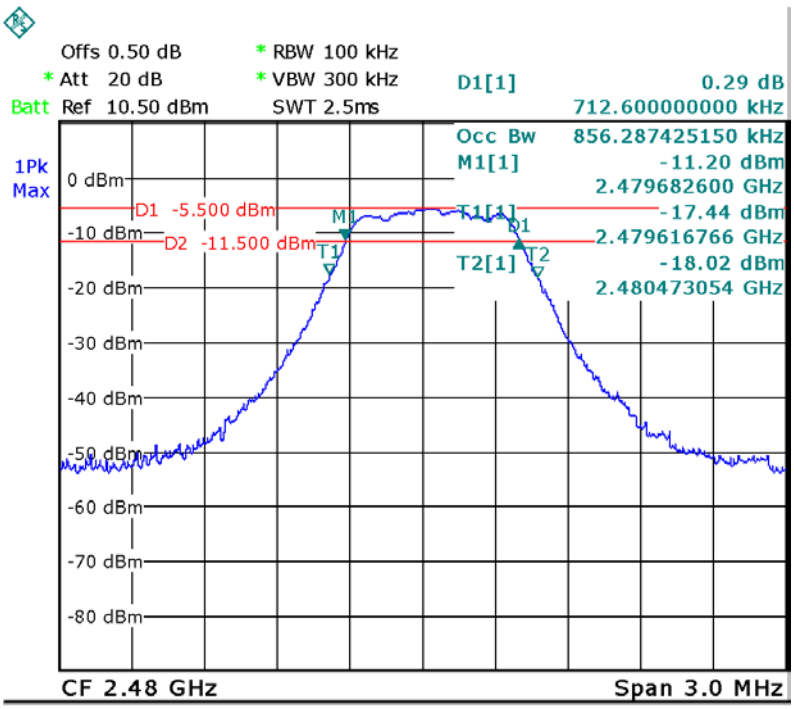
Mode: Low channel



Mode: Middle channel



Mode: High channel



11 Maximum Peak Output Power

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: 558074 D01 DTS Meas Guidance V04

11.1 Test Procedure:

558074 D01 DTS Meas Guidance V04

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 = 1 MHz. VBW = 3 MHz. Sweep = auto; Detector Function = Peak, Set the span to fully encompass the DTS bandwidth.
3. Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.

11.2 Test Result:

Maximum Peak Output Power (dBm)		
Low channel	Middle channel	High channel
-2.13	-3.28	-5.63
Limit: 1W/30dBm		

12 Power Spectral density

Test Requirement: FCC CFR47 Part 15 Section 15.247

Test Method: 558074 D01 DTS Meas Guidance V04

12.1 Test Procedure:

558074 D01 DTS Meas Guidance V04

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.

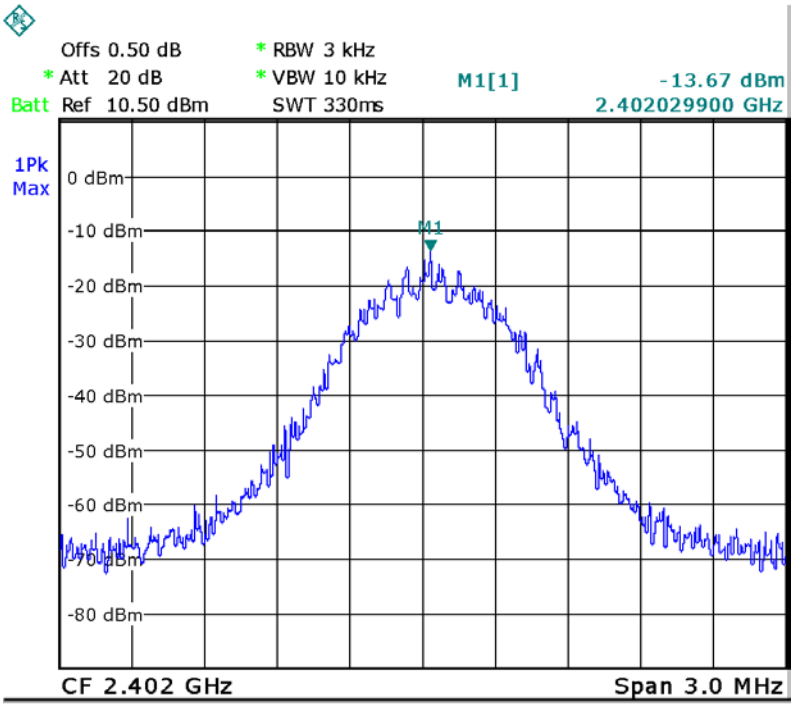
2. Set the spectrum analyzer: RBW = 3kHz. VBW = 10kHz , Span = 1.5 times the DTS channel bandwidth(6 dB bandwidth). Sweep = auto; Detector Function = Peak. Trace = Max hold.

3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

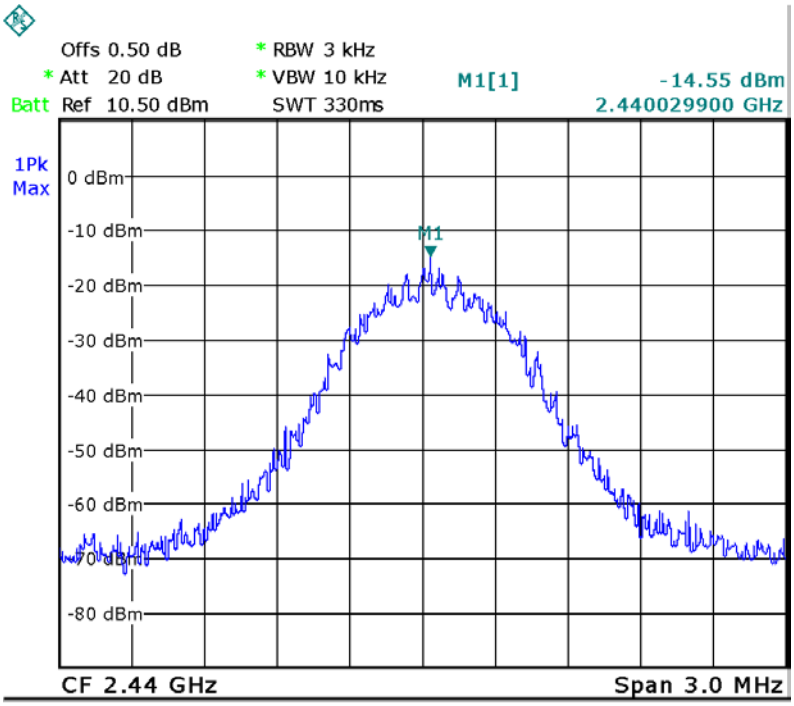
12.2 Test Result:

Power Spectral Density(dBm)		
Low channel	Middle channel	High channel
-13.67	-14.55	-17.10
Limit: 8dBm per 3kHz		

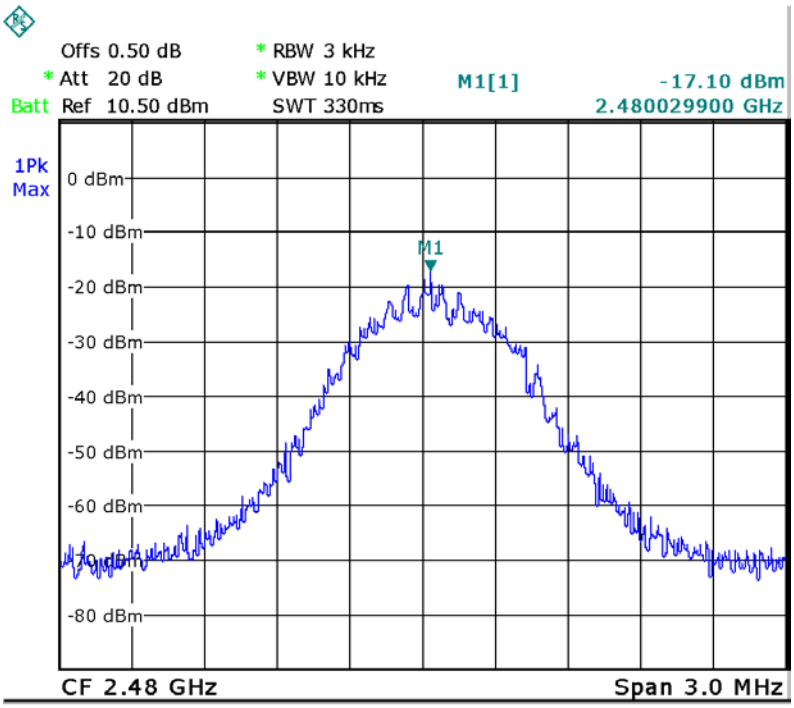
Test mode: Low channel



Test mode: Middle channel



Test mode: High channel



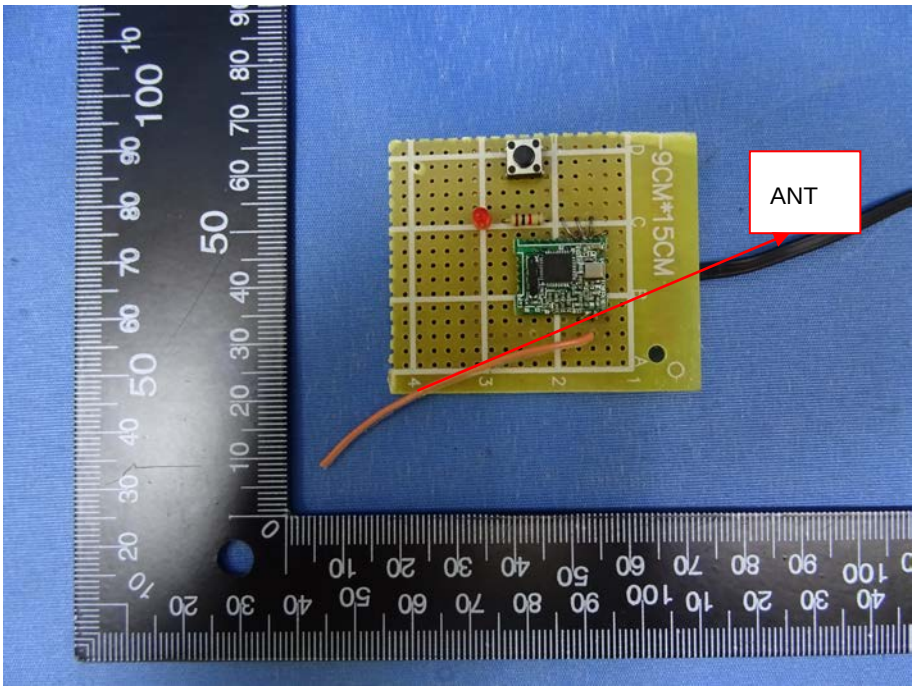
13 Antenna Requirement

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 have one Integrated Antenna, meets the requirements of FCC 15.203.



14 RF Exposure

Test Requirement: FCC Part 1.1307

Evaluation Method: FCC Part2.1093 & KDB 447498 D01 General RF Exposure Guidance v06

14.1 Requirements

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] • [√ f(GHz)] ≤3.0 for 1-g SAR and ≤7.5 for 10-g extremity SAR where

1. f(GHz) is the RF channel transmit frequency in GHz
2. Power and distance are rounded to the nearest mW and mm before calculation
3. The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

14.2 Test result

Conducted Peak power(dBm)	Conducted Peak power(mW)	Source-based time-averaged maximum conducted output power(mW)	Minimum test separation distance required for the exposure conditions (mm)	SAR Test Exclusion Thresholds Calculation Value	SAR Test Exclusion Thresholds Limit	Result
-2.13	0.61	0.61	5	0.19	3.0	Compliance
Note: No SAR measurement is required.						

15 Photographs – Test Setup Photos

Refer to the file MD8105-A06_Tsup Photos, MD8105-A06_Ext Photos and MD8105-A06_Int Photos.

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