FCC RADIO TEST REPORT

FCC ID: 2BBV3-B1

Sample : JSONPHX BATTERY CAMERA

Trade Name : jsonphx

Main Model : B1

Additional Model : N/A

Report No. : 23062908ER-62

Prepared for

Shenzhen Baize Internet Innovation Technology Co., Ltd.

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Prepared by

Global United Technology Services Co. Ltd.

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TEST RESULT CERTIFICATION

Applicant:	Shenzhen Baize Internet Innovation Technology Co., Ltd.			
Address:	B308-C35, Building B, Guanghong Meiju, No.163, Pingxin North Road, Hehua,Pinghu, Shenzhen, China			
Manufacturer:	Shenzhen Baize Internet Innovation Technology Co., Ltd.			
Address:	B308-C35, Building B, Guanghong Meiju, No.163, Pingxin North Road, Hehua,Pinghu, Shenzhen, China			
Product description				
Product:	JSONPHX BATTERY CAMERA			
Trade Mark:	jsonphx			
Model Name:	B1			
Test Methods:	FCC Rules and Regulations Part 15 Subpart C Section 15.247 ANSI C63.10: 2013			

This device described above has been tested by Global United Technology Services Co. Ltd., and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report. This report shall not be reproduced except in full, without the written approval, this document may be altered or revised by Global United Technology Services Co. Ltd., personnel only, and shall be noted in the revision of the document.

Date of Test

Date (s) of performance of tests:	Oct. 14, 2023 ~ Nov. 22, 2023
Date of Issue:	Nov. 24, 2023
Test Result	Pass

Prepared By:

Josephillu

Date:

2023-11-24

Project Engineer

Check By:

Date:

2023-11-24

Reviewer

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1 TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

Item	FCC Rules	Description Of Test	Result
1	FCC Part 15.207	Conducted Emission	Pass
2	FCC Part 15.209(a)	Radiated Emission	Pass
3	FCC Part 15.247(a)(2)	6dB Bandwidth	Pass
4	FCC Part 15.247(e)	Power Spectral Density	Pass
5	FCC Part 15.247(b)	Peak Output Power	Pass
6	FCC Part 15.247(d)	Out Of Band Emissions	Pass
7	FCC Part 15.247(d)	Conducted Spurious Emission	Pass
8	FCC Part 15.203	Antenna Requirement	Pass

1.2 TEST FACILITY

Test Firm	:	Global United Technology Services Co. Ltd.
Address	:	No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong
		Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong,
		China 518102

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

• FCC—Registration No.: 381383

Designation Number: CN5029

Global United Technology Services Co., Ltd., Shenzhen 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 files.

• IC — Registration No.: 9079A

CAB identifier: CN0091

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

• NVLAP (LAB CODE:600179-0)

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

1.3 MEASUREMENT UNCERTAINTY

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

A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
UNI ANSI -		9kHz ~ 150kHz	2.96
		150kHz ~ 30MHz	2.44

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
UNI ANSI		9kHz ~ 30MHz	2.50
		30MHz ~ 1000MHz	4.80
		1000MHz ~ 18000MHz	4.13

C. RF Conducted Method:

Item	Measurement Uncertainty	
Uncertainty of total RF power, conducted	$U_c = \pm 0.8 \text{ dB}$	
Uncertainty of RF power density, conducted	$U_c = \pm 2.6 \text{ dB}$	
Uncertainty of spurious emissions, conducted	$U_c = \pm 2 \%$	
Uncertainty of Occupied Channel Bandwidth	$U_{c} = \pm 2 \%$	

1.4 ENVIRONMENTAL CONDITIONS

During the measurement the environmental conditions were within the listed ranges:

	NORMAL CONDITIONS	EXTREME CONDITIONS		
Temperature range (℃)	15 - 35	-20 - 50		
Relative humidty range	20 % - 75 %	20 % - 75 %		
Pressure range (kPa) 86 - 106 86 - 106				
Note: The Extreme Temperature and Extreme Voltages declared by the manufacturer.				

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product:	JSONPHX BATTERY CAMERA
Trade Mark:	jsonphx
Main Model:	B1
Additional Model:	N/A
Model Difference:	N/A
Operation Frequency:	802.11b/g/n20:2412~2462MHz
Number of Channels:	802.11b/g/n20: 11CH
Maximum Peak Conducted Output Power:	16.63 dBm
Modulation Type:	CCK, OFDM, DBPSK, DAPSK
Antenna Type:	FPC Antenna
Antenna Gain:	2.14dBi
Battery:	DC 7.4V, 5200mAh
Adapter:	N/A
Power Source:	DC 5.0V from adapter or DC 7.4V from Li-battery

2.2 CARRIER FREQUENCY OF CHANNELS

Channel List for 802.11b/g/n(HT20)							
ChannelFrequency (MHz)ChannelFrequency (MHz)ChannelFrequency (MHz)Frequency (MHz)Frequency (MHz)Frequency (MHz)						Frequency (MHz)	
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

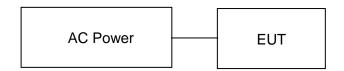
3 DESCRIPTION OF TEST MODES

The EUT was programmed to be in continuously transmitting mode.

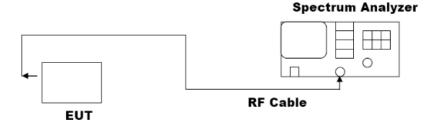
Channel List for 802.11b/g/n((HT20)				
Test Channel	Test Frequency (MHz)			
Low	CH01	2412		
Middle	CH06	2437		
High	CH11	2462		

3.1 TEST SETUP

Operation of EUT during Conducted and Radiation testing:



Operation of EUT during RF Conducted testing:



3.2 EQUIPMENT USED IN TESTED SYSTEM

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

Item	Equipment	Model No.	Cable Length(cm)	Remark
1	JSONPHX BATTERY CAMERA	B1		EUT
2	Adapter	Xiaomi		AE

Note:

- 1. The support equipment was authorized by Declaration of Confirmation.
- 2. All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

3.4 MEASUREMENT INSTRUMENTS LIST

Radia	ated Emission:					
Item	Test Equipment	Manufacturer	Model No.	Inventory	Cal.Date	Cal.Due date
				No.	(mm-dd-yy)	(mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	June 23, 2021	June 22, 2024
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	April 14, 2023	April 13, 2024
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9168	GTS640	March 19, 2023	March 18, 2025
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	April 17, 2023	April 16, 2025
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Coaxial Cable	GTS	N/A	GTS213	April 21, 2023	April 20, 2024
8	Coaxial Cable	GTS	N/A	GTS211	April 21, 2023	April 20, 2024
9	Coaxial cable	GTS	N/A	GTS210	April 21, 2023	April 20, 2024
10	Coaxial Cable	GTS	N/A	GTS212	April 21, 2023	April 20, 2024
11	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	April 14, 2023	April 13, 2024
12	Loop Antenna	ZHINAN	ZN30900A	GTS534	Nov. 29, 2022	Nov. 28, 2023
13	Broadband Preamplifier	SCHWARZBECK	BBV9718	GTS535	April 14, 2023	April 13, 2024
14	Amplifier(1GHz-26.5GHz)	HP	8449B	GTS601	April 14, 2023	April 13, 2024
15	Horn Antenna (18-26.5GHz)	/	UG-598A/U	GTS664	Oct. 30, 2022	Oct. 29, 2023
16	Horn Antenna (26.5-40GHz)	A.H Systems	SAS-573	GTS665	Oct. 30, 2022	Oct. 29, 2023
17	FSV·Signal Analyzer (10Hz-40GHz)	Keysight	FSV-40-N	GTS666	March 13, 2023	March 12, 2024
18	Amplifier	/	LNA-1000-30S	GTS650	April 14, 2023	April 13, 2024
19	CDNE M2+M3-16A	НСТ	30MHz-300MHz	GTS668	Dec. 20, 2022	Dec.19, 2023
20	Thermo meter	JINCHUANG	GSP-8A	GTS643	April 19, 2023	April 18, 2024

Cond	Conducted Emission						
ltem	Hom Tool Equipment	Manufacturer	Model No.	Inventory	Cal.Date	Cal.Due date	
nem	Test Equipment	Manufacturer		No.	(mm-dd-yy)	(mm-dd-yy)	
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	July 12, 2022	July 11, 2027	
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 14, 2023	April 13, 2024	
3	LISN	ROHDE & SCHWARZ	ENV216	GTS226	April 14, 2023	April 13, 2024	
4	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A	
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A	
6	Thermo meter	JINCHUANG	GSP-8A	GTS642	April 19, 2023	April 18, 2024	
7	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	April 14, 2023	April 13, 2024	
8	ISN	SCHWARZBECK	NTFM 8158	GTS565	April 14, 2023	April 13, 2024	
9	High voltage probe	SCHWARZBECK	TK9420	GTS537	April 14, 2023	April 13, 2024	
10	Antenna end assembly	Weinschel	1870A	GTS560	April 14, 2023	April 13, 2024	

RF C	RF Conducted Test:						
ltem	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)	
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	April 14, 2023	April 13, 2024	
2	EMI Test Receiver	R&S	ESCI 7	GTS552	April 14, 2023	April 13, 2024	
3	PSA Series Spectrum Analyzer	Agilent	E4440A	GTS536	April 14, 2023	April 13, 2024	
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	April 14, 2023	April 13, 2024	
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	April 14, 2023	April 13, 2024	
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	April 14, 2023	April 13, 2024	
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	April 14, 2023	April 13, 2024	
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	April 14, 2023	April 13, 2024	
9	Thermo meter	JINCHUANG	GSP-8A	GTS641	April 19, 2023	April 18, 2024	

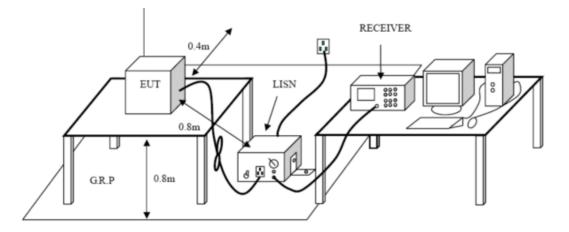
4.1 TEST LIMIT

For unintentional device, according to § 15.207(a) Line Conducted Emission Limits is as following

_	Maximum RF Line Voltage (dBμV)				
Frequency (MHz)	CLASS A Q.P. Ave.		CLASS B		
(11112)			Q.P.	Ave.	
0.15~0.50	79	66	66~56*	56~46*	
0.50~5.00	73	60	56	46	
5.00~30.0	73	60	60	50	

* Decreasing linearly with the logarithm of the frequency. For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

4.2 TEST SETUP



4.3 TEST PROCEDURE

- 1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is placed on a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10: 2013.
- 2. Support equipment, if needed, was placed as per ANSI C63.10: 2013.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10: 2013.
- 4. If a EUT received DC power from the USB Port of adapter the adapter received AC120V/60Hzpower through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5. All support equipments received AC power from a second LISN, if any.
- 6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.

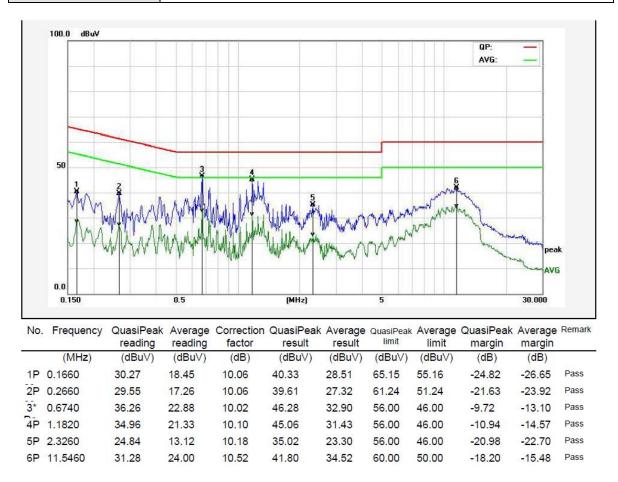
4.4 TEST RESULT

PASS

Remark:

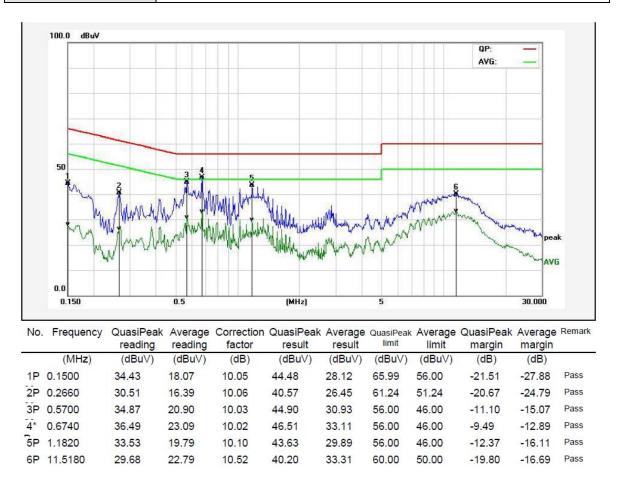
- 1. All modes were tested at AC 120V and 240V, only the worst result of AC 120V was reported. 2. All modes were test at Low, Middle, and High channel, only the worst result of 802.11b High Channel was reported.

Temperature:	24 ℃	Relative Humidity:	48%		
Test Date:	Oct. 14, 2023	Pressure:	1010hPa		
Test Voltage:	AC 120V, 60Hz Phase: Line				
Test Mode:	Transmitting mode of 802.11b 2462MHz				



Remark: Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result - Limit.

Temperature:	24 ℃	Relative Humidity:	48%	
Test Date:	Oct. 14, 2023	Pressure:	1010hPa	
Test Voltage:	AC 120V, 60Hz	Phase:	Neutral	
Test Mode:	Transmitting mode of 802.11b 2462MHz			



Remark: Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result - Limit.

5 RADIATED EMISSION

5.1 TEST LIMIT

For unintentional device, according to §15.209(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F (kHz)	-	Quasi-peak	300
0.490MHz-1.705MHz	24000/F (kHz)	-	Quasi-peak	30
1.705MHz-30MHz	30	-	Quasi-peak	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
	500	54.0	Average	3
Above 1GHz	500	74.0	Peak	3

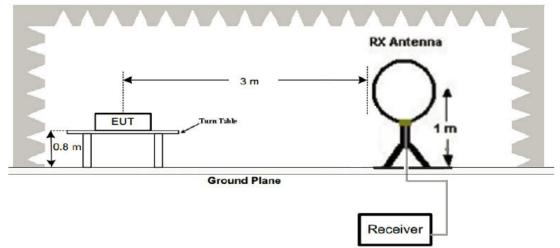
Limit calculation and transfer to 3m distance as showed in the following table:

Frequency	Limit	Distance
(MHz)	(dBuV/m)	(m)
0.009-0.490	20log(2400/F(KHz))+40log(300/3)	3
0.490-1.705	20log(24000/F(KHz))+40log(30/3)	3
1.705-30.0	69.5	3
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

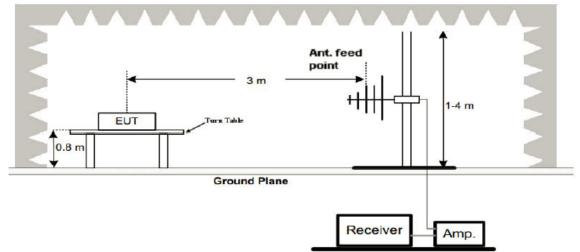
For intentional device, according to §15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

5.2 TEST SETUP

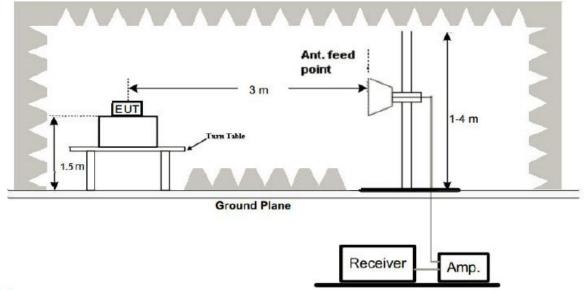
1. Radiated Emission Test-Up Frequency Below 30MHz



2. Radiated Emission Test-Up Frequency 30MHz~1GHz



3. Radiated Emission Test-Up Frequency Above 1GHz



5.3 TEST PROCEDURE

- 1. Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which 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 varied from 1m to 4m to find out the highest 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 test frequency range from 9kHz to25GHz per FCC PART 15.33(a).

Note: For battery operated equipment, the equipment tests shall be performed using a new battery.

5.4 TEST RESULT

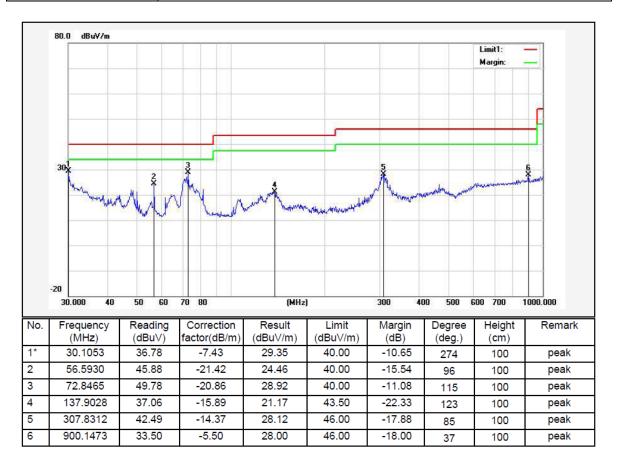
PASS

Remark:

- 1. All modes were test at Low, Middle, and High channel, only the worst result of 802.11b High Channel was reported for below 1GHz test.
- 2. By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "X axis" position was the worst, and test data recorded in this report.

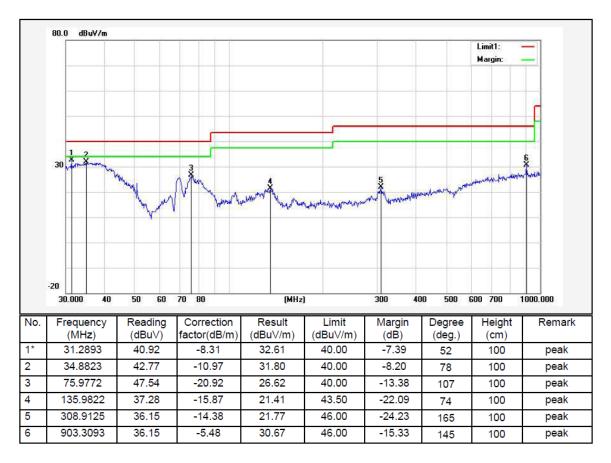
Temperature:	24 ℃	Relative Humidity:	48%	
Test Date:	Oct. 14, 2023	Pressure:	1010hPa	
Test Voltage:	AC 120V, 60Hz Phase: Horizontal			
Test Mode:	Transmitting mode of 802.11b 2462MHz			

Below 1GHz Test Results:



Remark: Result = Reading Level + Factor, Margin = Result – Limit Factor = Ant. Factor + Cable Loss – Pre-amplifier

Temperature:	24 ℃	Relative Humidity:	48%	
Test Date:	Oct. 14, 2023	Pressure:	1010hPa	
Test Voltage:	AC 120V, 60Hz Phase: Vertical			
Test Mode:	Transmitting mode of 802.11b 2462MHz			



Remark: Result = Reading Level + Factor, Margin = Result – Limit Factor = Ant. Factor + Cable Loss – Pre-amplifier

Remark:

- 1. Radiated emission test from 9KHz to 10th harmonic of fundamental was verified, emission from 9kHz to 30MHz are more than 20dB below the limit, so it was not recorded in this report.
- 2. * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- 3. The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120kHz, 1MHz for measuring above 1GHz, below 30MHz was 10kHz.

Above 1 GHz Test Results:

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CH01 of 802.11b Mode (2412MHz):
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Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4824	62.81	-3.64	59.17	74	-14.83	peak
4824	50.15	-3.64	46.51	54	-7.49	AVG
7236	58.7	-0.95	57.75	74	-16.25	peak
7236	47	-0.95	46.05	54	-7.95	AVG
Remark: Fa	ctor = Antenna Fa	ctor + Cabl	e Loss – Pre-am	plifier. Margin	= Absolute	Level – Limit

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4824	61.9	-3.64	58.26	74	-15.74	peak		
4824	49.58	-3.64	45.94	54	-8.06	AVG		
7236	59.11	-0.95	58.16	74	-15.84	peak		
7236	47.41	-0.95	46.46	54	-7.54	AVG		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss - Pre-amplifier. Margin = Absolute Level - Limit							

CH06 of 802.11b Mode (2437MHz):

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4874	62.22	-3.51	58.71	74	-15.29	PK		
4874	49.81	-3.51	46.3	54	-7.7	AV		
7311	59.07	-0.82	58.25	74	-15.75	PK		
7311	47.48	-0.82	46.66	54	-7.34	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4874	61.94	-3.51	58.43	74	-15.57	PK		
4874	49.77	-3.51	46.26	54	-7.74	AV		
7311	58.79	-0.82	57.97	74	-16.03	PK		
7311	46.91	-0.82	46.09	54	-7.91	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss - Pre-amplifier. Margin = Absolute Level - Limit							

CH11 of 802.11b Mode (2462MHz):

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4924	61.59	-3.43	58.16	74	-15.84	PK		
4924	50.21	-3.43	46.78	54	-7.22	AV		
7386	58.72	-0.75	57.97	74	-16.03	PK		
7386	47.04	-0.75	46.29	54	-7.71	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4924	62.59	-3.43	59.16	74	-14.84	PK		
4924	49.71	-3.43	46.28	54	-7.72	AV		
7386	58.63	-0.75	57.88	74	-16.12	PK		
7386	46.77	-0.75	46.02	54	-7.98	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

CH01 of 802.11g Mode (2412MHz):

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4824	61.5	-3.64	57.86	74	-16.14	PK		
4824	49.37	-3.64	45.73	54	-8.27	AV		
7236	56.99	-0.95	56.04	74	-17.96	PK		
7236	46.98	-0.95	46.03	54	-7.97	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4824	60.98	-3.64	57.34	74	-16.66	PK		
4824	49.52	-3.64	45.88	54	-8.12	AV		
7236	57.13	-0.95	56.18	74	-17.82	PK		
7236	46.82	-0.95	45.87	54	-8.13	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

CH06 of 802.11g Mode (2437MHz):

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4874	61.5	-3.51	57.99	74	-16.01	PK		
4874	49.84	-3.51	46.33	54	-7.67	AV		
7311	57.56	-0.82	56.74	74	-17.26	PK		
7311	46.57	-0.82	45.75	54	-8.25	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4874	61.41	-3.51	57.9	74	-16.1	PK		
4874	49.17	-3.51	45.66	54	-8.34	AV		
7311	57.6	-0.82	56.78	74	-17.22	PK		
7311	46.68	-0.82	45.86	54	-8.14	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

CH11 of 802.11g Mode (2462MHz):

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4924	61.52	-3.43	58.09	74	-15.91	PK		
4924	48.99	-3.43	45.56	54	-8.44	AV		
7386	57.58	-0.75	56.83	74	-17.17	PK		
7386	46.37	-0.75	45.62	54	-8.38	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4924	61.67	-3.43	58.24	74	-15.76	PK		
4924	49.21	-3.43	45.78	54	-8.22	AV		
7386	57.22	-0.75	56.47	74	-17.53	PK		
7386	46.8	-0.75	46.05	54	-7.95	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

CH01 of 802.11n/HT20 Mode (2412MHz):

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Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4824	61.86	-3.64	58.22	74	-15.78	PK
4824	49.61	-3.64	45.97	54	-8.03	AV
7236	58.05	-0.95	57.1	74	-16.9	PK
7236	46.83	-0.95	45.88	54	-8.12	AV
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit						

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	
4824	61.67	-3.64	58.03	74	-15.97	PK	
4824	49.57	-3.64	45.93	54	-8.07	AV	
7236	57.97	-0.95	57.02	74	-16.98	PK	
7236	46.73	-0.95	45.78	54	-8.22	AV	
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

CH06 of 802.11n/HT20 Mode (2437MHz):

Horizontal	:
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Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	
4874	60.86	-3.51	57.35	74	-16.65	PK	
4874	49.62	-3.51	46.11	54	-7.89	AV	
7311	57.17	-0.82	56.35	74	-17.65	PK	
7311	47.04	-0.82	46.22	54	-7.78	AV	
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4874	61.27	-3.51	57.76	74	-16.24	PK
4874	49.57	-3.51	46.06	54	-7.94	AV
7311	58.18	-0.82	57.36	74	-16.64	PK
7311	46.64	-0.82	45.82	54	-8.18	AV
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit						

CH11of 802.11n/HT20 Mode (2462MHz):

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4924	61.17	-3.43	57.74	74	-16.26	PK		
4924	49.67	-3.43	46.24	54	-7.76	AV		
7386	57.63	-0.75	56.88	74	-17.12	PK		
7386	47.04	-0.75	46.29	54	-7.71	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Horizontal:

Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	
4924	61.35	-3.43	57.92	74	-16.08	PK	
4924	49.49	-3.43	46.06	54	-7.94	AV	
7386	57.34	-0.75	56.59	74	-17.41	PK	
7386	46.76	-0.75	46.01	54	-7.99	AV	
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Remark:

- 1. Measuring frequencies from 1GHz to the 25GHz.
- 2. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- 3. * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- 4. The emissions are attenuated more than 20dB below the permissible limits are not recorded in the report.
- 5. The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120kHz, 1 MHz for measuring above 1GHz, below 30MHz was 10kHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
- 6. When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20dBuV/m(PK Value) <54dBuV/m(AV Limit), the Average Detected not need to completed.</p>
- 7. All modes of operation were investigated and the worst-case emissions are reported.

Operation Mode: CH01 of 802.11b Mode (2412MHz)

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Horizontal	

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	
2310	58.3	-5.81	52.49	74	-21.51	PK	
2310	/	-5.81	/	54	/	AV	
2390	66.51	-5.84	60.67	74	-13.33	PK	
2390	48.97	-5.84	43.13	54	-10.87	AV	
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2310	57.49	-5.81	51.68	74	-22.32	PK
2310	/	-5.81	/	54	/	AV
2390	66.18	-5.84	60.34	74	-13.66	PK
2390	49.61	-5.84	43.77	54	-10.23	AV
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit						

Operation Mode: CH11 of 802.11b Mode (2462MHz)

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Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
2483.5	57.53	-5.65	51.88	74	-22.12	PK		
2483.5	/	-5.65	/	54	/	AV		
2500	58.34	-5.72	52.62	74	-21.38	PK		
2500	/	-5.72	/	54	/	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
2483.5	57.96	-5.65	52.31	74	-21.69	PK		
2483.5	/	-5.65	/	54	/	AV		
2500	58.2	-5.72	52.48	74	-21.52	PK		
2500	/	-5.72	/	54	/	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Operation Mode: CH01 of 802.11g Mode (2412MHz)

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
2310	57.83	-5.81	52.02	74	-21.98	PK		
2310	/	-5.81	/	54	/	AV		
2390	65.81	-5.84	59.97	74	-14.03	PK		
2390	49.07	-5.84	43.23	54	-10.77	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
2310	57.72	-5.81	51.91	74	-22.09	PK		
2310	/	-5.81	/	54	/	AV		
2390	66.31	-5.84	60.47	74	-13.53	PK		
2390	48.16	-5.84	42.32	54	-11.68	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Operation Mode: CH11 of 802.11g Mode (2462MHz)

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Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
2483.5	57.25	-5.65	51.6	74	-22.4	PK		
2483.5	/	-5.65	/	54	/	AV		
2500	57.33	-5.72	51.61	74	-22.39	PK		
2500	/	-5.72	/	54	/	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
2483.5	57.36	-5.65	51.71	74	-22.29	PK		
2483.5	/	-5.65	/	54	/	AV		
2500	57.38	-5.72	51.66	74	-22.34	PK		
2500	/	-5.72	/	54	/	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Operation Mode: CH01 of 802.11n/HT20 Mode (2412MHz)

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2310	58.06	-5.81	52.25	74	-21.75	PK
2310	/	-5.81	/	54	/	AV
2390	66.51	-5.84	60.67	74	-13.33	PK
2390	49.14	-5.84	43.3	54	-10.7	AV
Remark: Fa	ctor = Antenna Fa	ctor + Cabl	e Loss – Pre-am	plifier. Margin	= Absolute	Level – Limit

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
2310	58.19	-5.81	52.38	74	-21.62	PK		
2310	/	-5.81	/	54	/	AV		
2390	66.24	-5.84	60.4	74	-13.6	PK		
2390	48.49	-5.84	42.65	54	-11.35	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Operation Mode: CH11 of 802.11n/HT20 Mode (2462MHz)

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Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
2483.5	57.58	-5.65	51.93	74	-22.07	PK		
2483.5	/	-5.65	/	54	/	AV		
2500	57.57	-5.72	51.85	74	-22.15	PK		
2500	/	-5.72	/	54	/	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
2483.5	58.18	-5.65	52.53	74	-21.47	PK		
2483.5	/	-5.65	/	54	/	AV		
2500	57.97	-5.72	52.25	74	-21.75	PK		
2500	/	-5.72	/	54	/	AV		
Remark: Fa	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier. Margin = Absolute Level – Limit							

6 6dB BANDWIDTH

6.1 TEST LIMIT

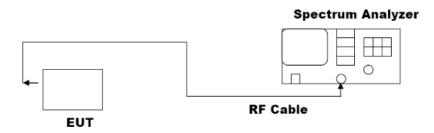
FCC Part15(15.247), Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

6.2 TEST PROCEDURE

6.2.1 -6dB BANDWIDTH MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer.
- 2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz, VBW≥3×RBW.
- 4. Set SPA Trace 1 Max hold, then View.
- 6.2.2 99% OCCUPIED BANDWIDTH
- 1. Connect EUT RF output port to the Spectrum Analyzer.
- 2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set Span = approximately 1.5 to 5 times the OBW, centered on a nominal channel The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW; Sweep = auto; Detector function = peak
- 4. Set SPA Trace 1 Max hold, then View.

6.3 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



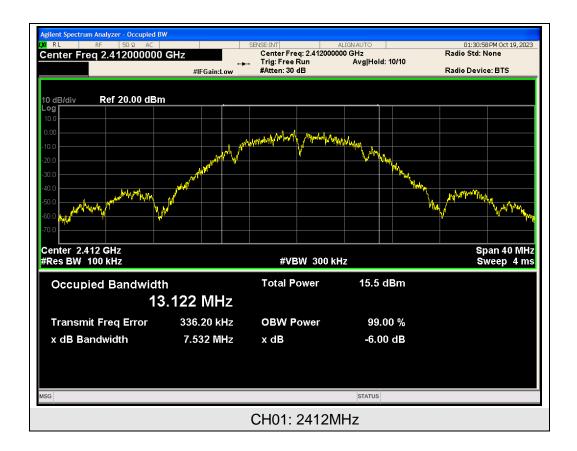
6.4 MEASUREMENT EQUIPMENT USED

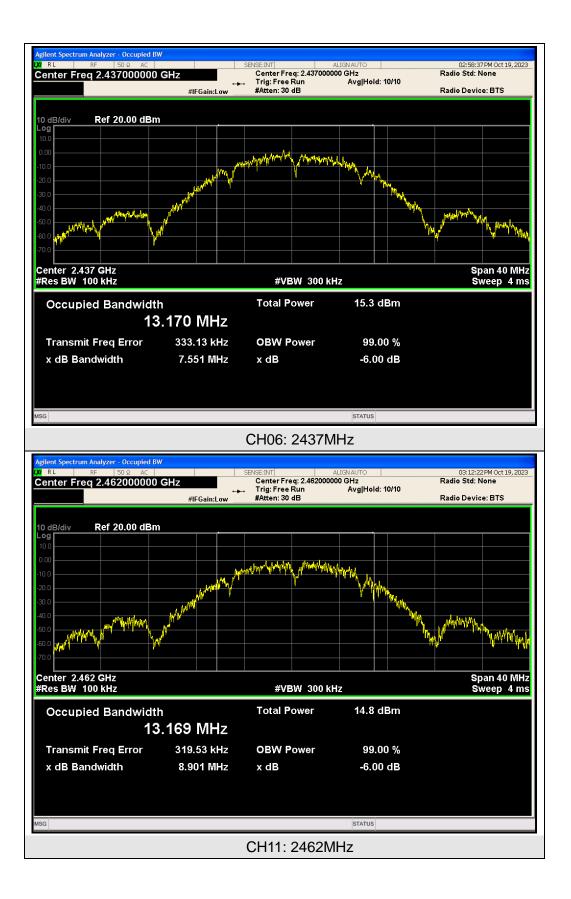
The same as described in section 3.4.

6.5 TEST RESULT

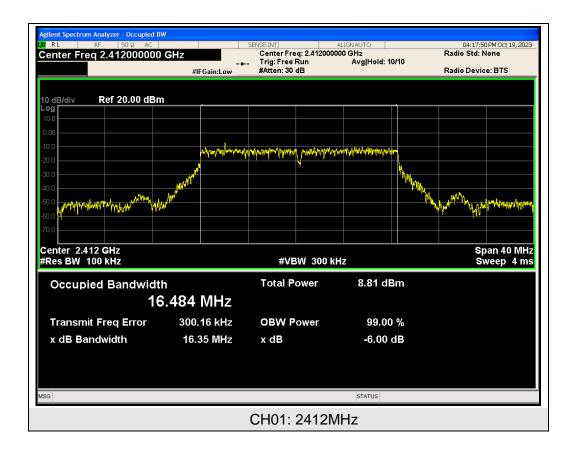
PASS

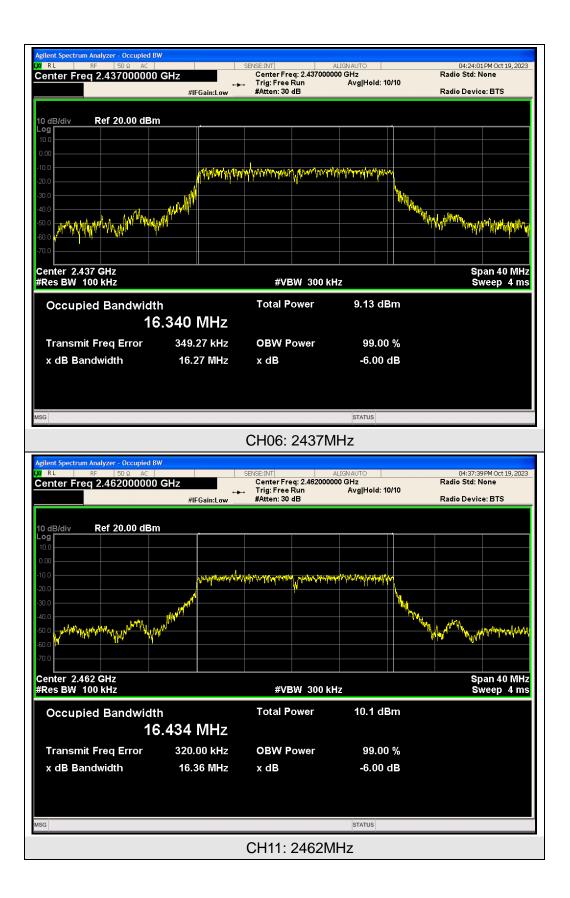
TX 802.11b Mode					
Frequency (MHz) 6dB Bandwidth Channel Separation (MHz) Result					
2412	7.53	>=500	PASS		
2437	7.55	>=500	PASS		
2462	8.90	>=500	PASS		



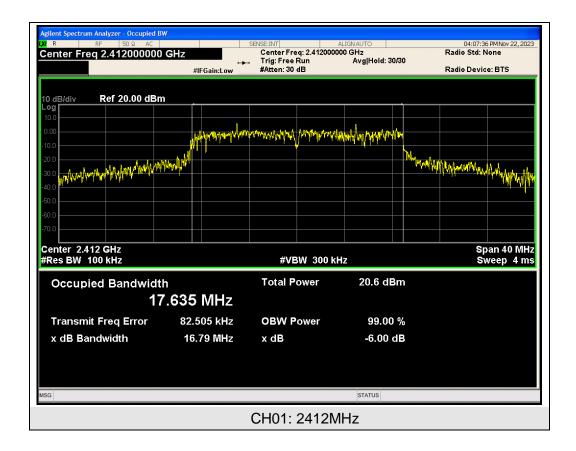


TX 802.11g Mode					
Frequency (MHz)6dB Bandwidth (MHz)Channel Separation (kHz)Result					
2412	16.35	>=500	PASS		
2437	16.27	>=500	PASS		
2462	16.36	>=500	PASS		





TX 802.11n/HT20 Mode					
Frequency (MHz)6dB Bandwidth (MHz)Channel Separation (kHz)Result					
2412	16.79	>=500	PASS		
2437	16.63	>=500	PASS		
2462	17.62	>=500	PASS		



Agilent Spectrum Analyzer - Occupied BW			
X R RF 50 Ω AC Center Freq 2.437000000 GHz Center Freq CenteFreq Center Freq Cent	Center Freq: 2.437000		04:08:13 PM Nov 22, 2023 Radio Std: None
#IFGain:Low	 Trig: Free Run #Atten: 30 dB 	Avg Hold: 30/30	Radio Device: BTS
10 dB/div Ref 20.00 dBm			
10.0			
0.00	MUNIMUMUM MANY MANY	N/W/MMWWWWWW	
10.0	and the state of t		
-20.0		- Minday	MMARAMARAMAN
-30.0 WILLAWARDAY HAMAN HITCH			L. L. LANDER MARKEN
-50.0			
-60.0			
-70.0			
Center 2.437 GHz			Span 40 MHz
#Res BW 100 kHz	#VBW 300 k	Hz	Sweep 5.333 ms
Occupied Bandwidth	Total Power	20.0 dBm	
17.715 MHz			
Transmit Freq Error -6.939 kHz	OBW Power	99.00 %	
x dB Bandwidth 16.63 MHz	x dB	-6.00 dB	
	Xub	-0.00 dB	
MSG		STATUS	
	CH06: 2437N	/Hz	
Anilant Construm Analyzer Occurried DW			
Agilent Spectrum Analyzer - Occupied BW Qui R RF 50 Ω AC		ALIGNAUTO	04:09:28 PM Nov 22, 2023
	Center Freq: 2.462000		Radio Std: None
CXU R RF 50Ω AC	Center Freq: 2.462000	000 GHz	
00 R RF 50 Ω AC Center Freq 2.462000000 GHz #IFGain:Low	Center Freq: 2.462000	000 GHz	Radio Std: None
00 R RF 50 Ω AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm Log	Center Freq: 2.462000	000 GHz	Radio Std: None
M RF 50.Ω AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm Log	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB	000 GHz Avg Hold: 30/30	Radio Std: None
00 R RF 50.Ω AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm 10.0	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB	000 GHz	Radio Std: None
M RF 50.0. AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm Log	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB	000 GHz Avg Hold: 30/30	Radio Std: None
XX RF 50.0. AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm Log	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB	000 GHz Avg Hold: 30/30	Radio Std: None
M RF 50.0. AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm Log	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB	000 GHz Avg Hold: 30/30	Radio Std: None
M RF 50.0 AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm 10 dB/div Ref 20.00 dBm 10 0	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB	000 GHz Avg Hold: 30/30	Radio Std: None
M RF 50.0. AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm Log	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB	000 GHz Avg Hold: 30/30	Radio Std: None
M RF 50.2 AC Center Freq 2.462000000 GHz #//fGain:Low 10 dB/div Ref 20.00 dBm Log	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB	000 GHz Avg Hold: 30/30	Radio Device: BTS
M RF 50.2 AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm Log	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB		Radio Std: None
M RF 50.0. AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm Log	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB	000 GH2 Avg Hold: 30/30	Radio Std: None Radio Device: BTS
M RF 50.0. AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm Log	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB		Radio Std: None Radio Device: BTS
M RF 50.2 AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm Log	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB #Atten: 30 dB #Atten: 40 dB #Atten: 30 dB #VBW 300 k Total Power	000 GHz Avg Hold: 30/30	Radio Std: None Radio Device: BTS
M RF 50.2 AC Center Freq 2.462000000 GHz #//FGain:Low 10 dB/div Ref 20.00 dBm	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB #Atten: 30 dB #VBW 300 k Total Power OBW Power	000 GHz Avg Hold: 30/30	Radio Std: None Radio Device: BTS
M RF 50.2 AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm Log	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB #Atten: 30 dB #Atten: 40 dB #Atten: 30 dB #VBW 300 k Total Power	000 GHz Avg Hold: 30/30	Radio Std: None Radio Device: BTS
M RF 50.2 AC Center Freq 2.462000000 GHz #//FGain:Low 10 dB/div Ref 20.00 dBm	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB #Atten: 30 dB #VBW 300 k Total Power OBW Power	000 GHz Avg Hold: 30/30	Radio Std: None Radio Device: BTS
Center Freq 2.462000000 GHz Center Freq 2.462000000 GHz I 0 dB/div Ref 20.00 dBm Log I 0 dB/div Ref 20.00 dBm I 0 0 I 0 0	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB #Atten: 30 dB #VBW 300 k Total Power OBW Power	000 GHz Avg Hold: 30/30	Radio Device: BTS
M RF 50.2 AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm #IFGain:Low 10 dB/div Ref 20.00 dBm	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB #Atten: 30 dB #VBW 300 k Total Power OBW Power	000 GHz Avg Hold: 30/30	Radio Std: None Radio Device: BTS
R RF 50.0 AC Center Freq 2.462000000 GHz #IFGain:Low 10 dB/div Ref 20.00 dBm	Center Freq: 2.462000 Trig: Free Run #Atten: 30 dB #Atten: 30 dB #VBW 300 k Total Power OBW Power	000 GHz Avg Hold: 30/30 Hz 20.3 dBm 99.00 % -6.00 dB	Radio Std: None Radio Device: BTS

7 POWER SPECTRAL DENSITY

7.1 TEST LIMIT

FCC Part15(15.247), Subpart C				
Section Test Item Limit Frequency Range (MHz) Result				
15.247	Power Spectral Density	8 dBm (in any 3kHz)	2400-2483.5	PASS

7.2 TEST PROCEDURE

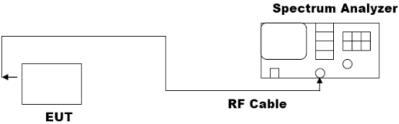
(1) Connect EUT RF output port to the Spectrum Analyzer.

(2)Set the EUT Work on the top, the middle and the bottom operation frequency individually.

(3)Set SPA Trace 1 Max hold, then View.

Note: The method of AVGPSD-1 in the ANSI C63.10 (2013) item 11.10 was used in this testing.

7.3 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



7.4 MEASUREMENT EQUIPMENT USED

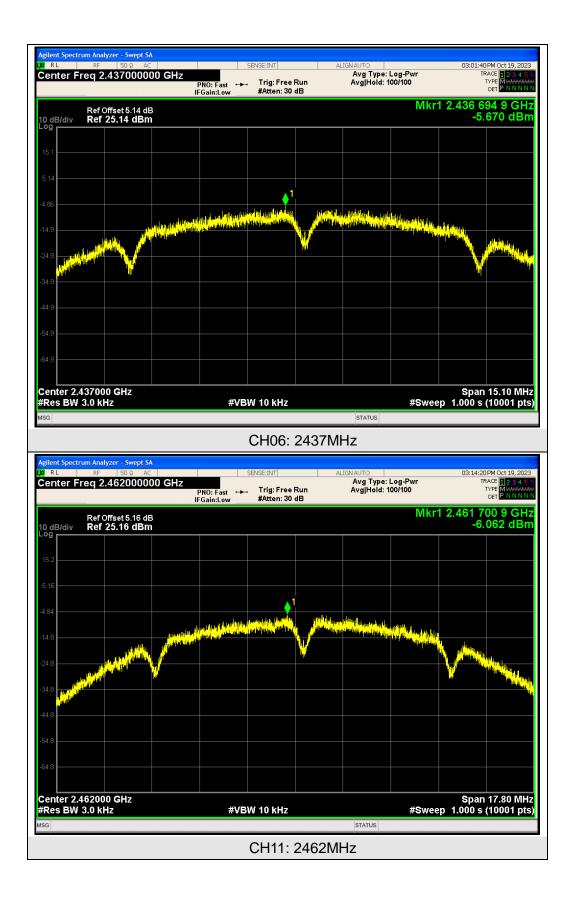
The same as described in section 3.4.

7.5 TEST RESULT

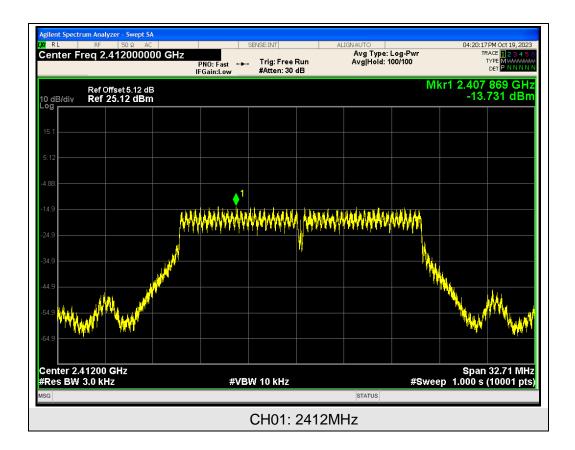
PASS

TX 802.11b Mode					
Frequency (MHz)Power Density (dBm/3kHz)Limit (dBm/3kHz)Result					
2412	8	PASS			
2437	-5.670	8	PASS		
2462	-6.062	8	PASS		



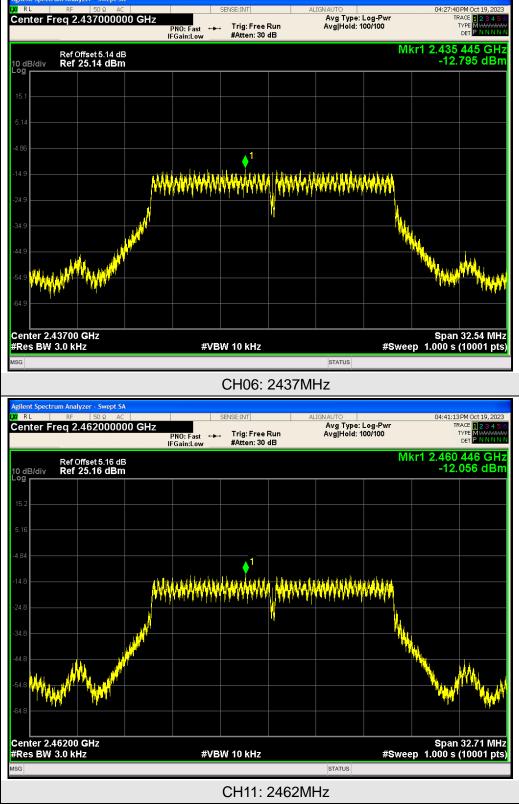


TX 802.11g Mode					
Frequency (MHz)Power Density (dBm/3kHz)Limit (dBm/3kHz)Result					
2412	PASS				
2437	-12.795	8	PASS		
2462	-12.056	8	PASS		

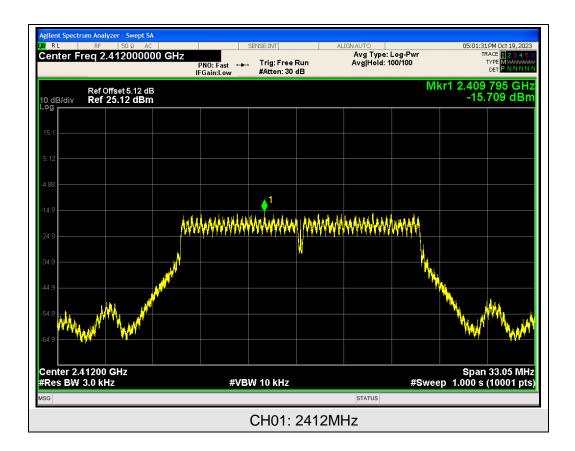


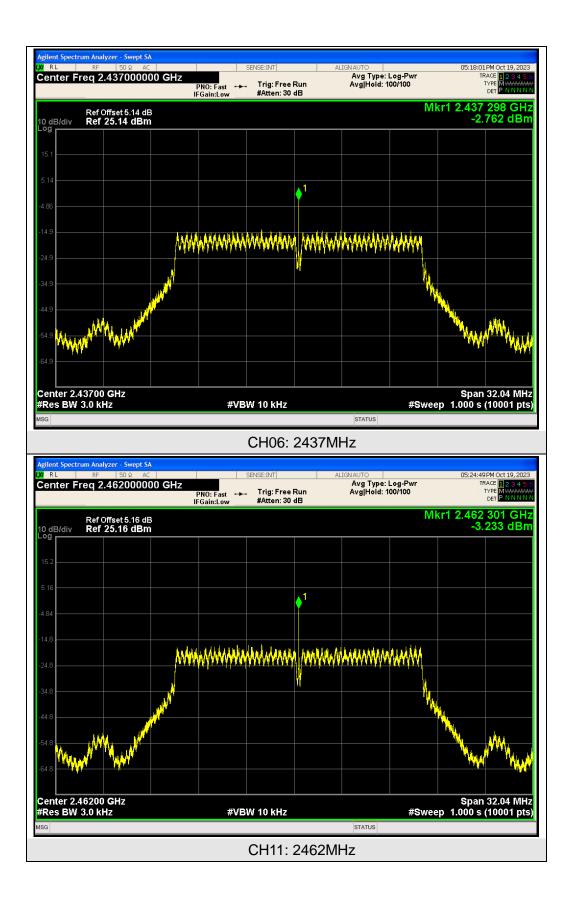
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nt Spectrum Analyzer - Swept SA



TX 802.11n/HT20 Mode					
Frequency (MHz)Power Density (dBm/3kHz)Limit (dBm/3kHz)Result					
2412	8	PASS			
2437	-2.762	8	PASS		
2462	-3.233	8	PASS		





8 PEAK OUTPUT POWER

8.1 TEST LIMIT

FCC Part15(15.247), Subpart C				
Section Test Item Limit Frequency Range Result				
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

8.2 TEST PROCEDURE

For average power test:

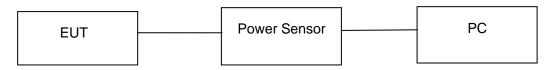
- 1. Connect EUT RF output port to power sensor through an RF attenuator.
- 2. Connect the power sensor to the PC.

3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.

4. Record the maximum power from the software.

Note: The EUT was tested according to ANSI C63.10 (2013) for compliance to FCC 47CFR 15.247 requirements.

8.3 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



8.4 MEASUREMENT EQUIPMENT USED

The same as described in section 3.4.

8.5 TEST RESULT

PASS

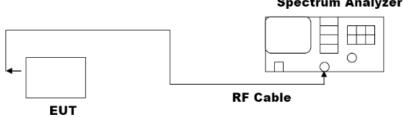
Test Mode	Frequency (MHz)	Maximum Peak Conducted Output Power(dBm)	Limit (dBm)
	2412	16.52	30
802.11b	2437	16.62	30
	2462	16.63	30
	2412	14.23	30
802.11g	2437	14.67	30
	2462	14.00	30
	2412	11.51	30
802.11n/HT20	2437	11.97	30
	2462	10.97	30

9 OUT OF BAND EMISSIONS

9.1 TEST LIMIT

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.

9.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



9.3 MEASUREMENT EQUIPMENT USED

The same as described in section 3.4.

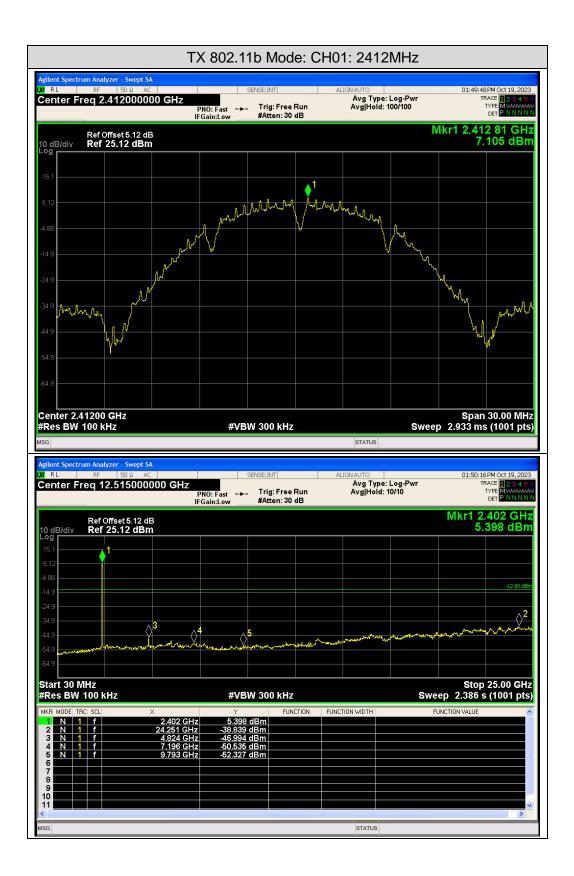
9.4 TEST PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer.
- 2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Trace 1 Max hold, then View.
- Note: The EUT was tested according to ANSI C63.10 (2013) for compliance to FCC 47CFR 15.247 requirements. Owing to satisfy the requirements of the number of measurement points, we set the RBW=1MHz, VBW > RBW, scan up through 10th harmonic, and consider the tested results as the worst case, if the tested results conform to the requirement, we can deem that the real tested results(set the RBW=100KHz, VBW > RBW) are conform to the requirement.

9.5 TEST RESULT

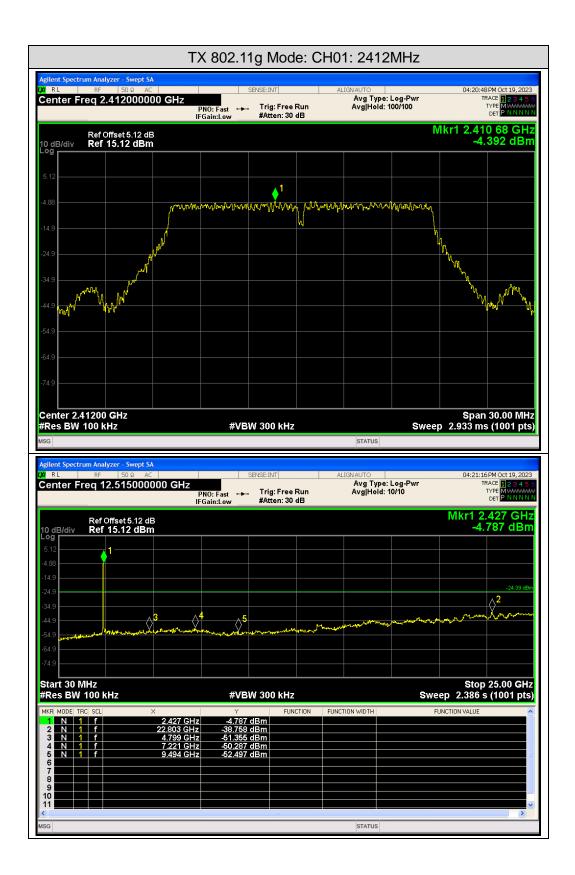
PASS

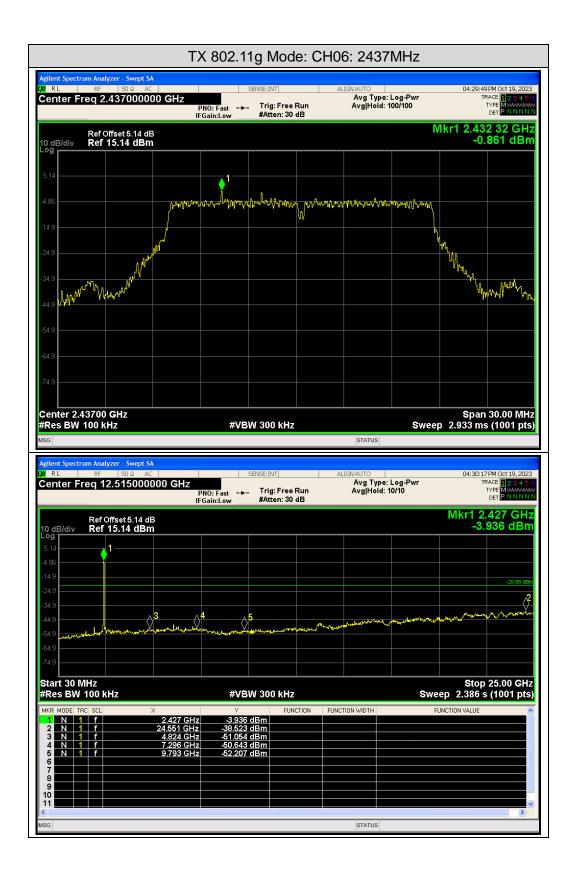
Spectrum Analyzer

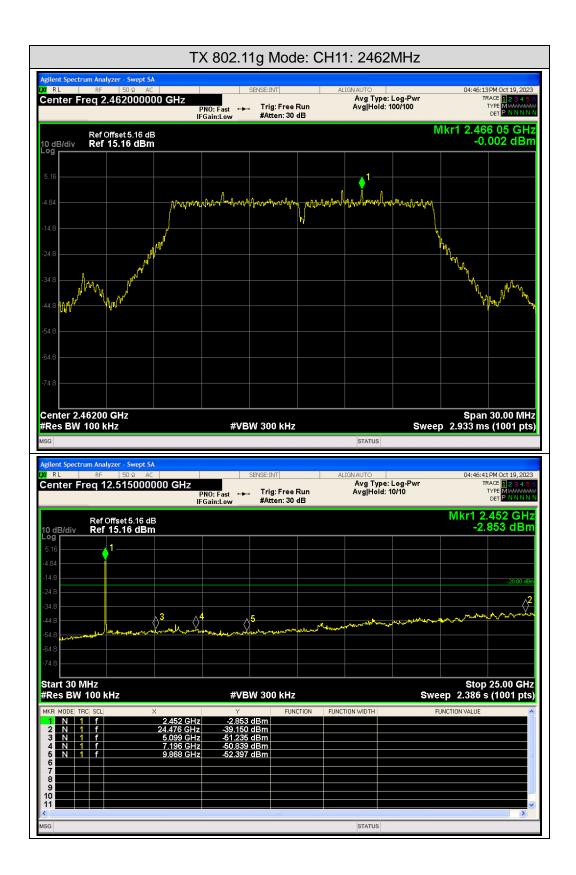


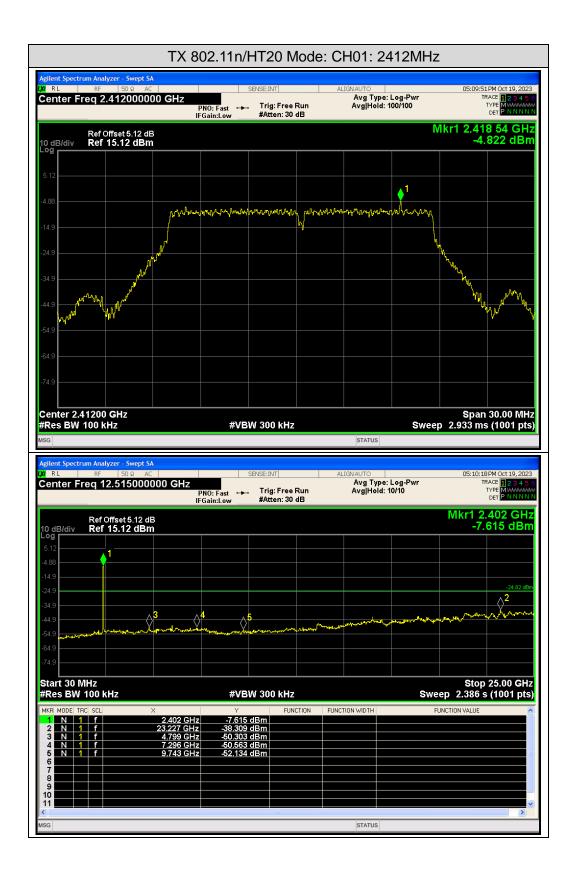


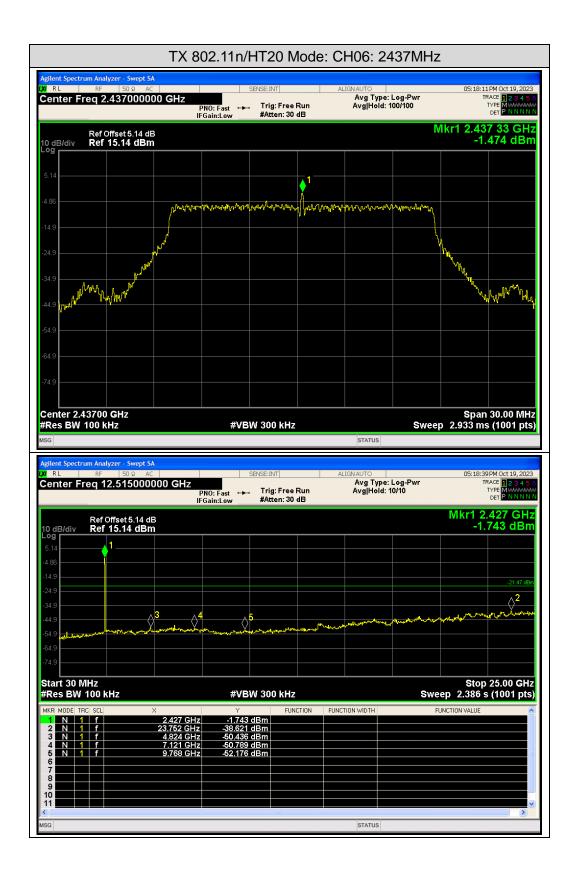


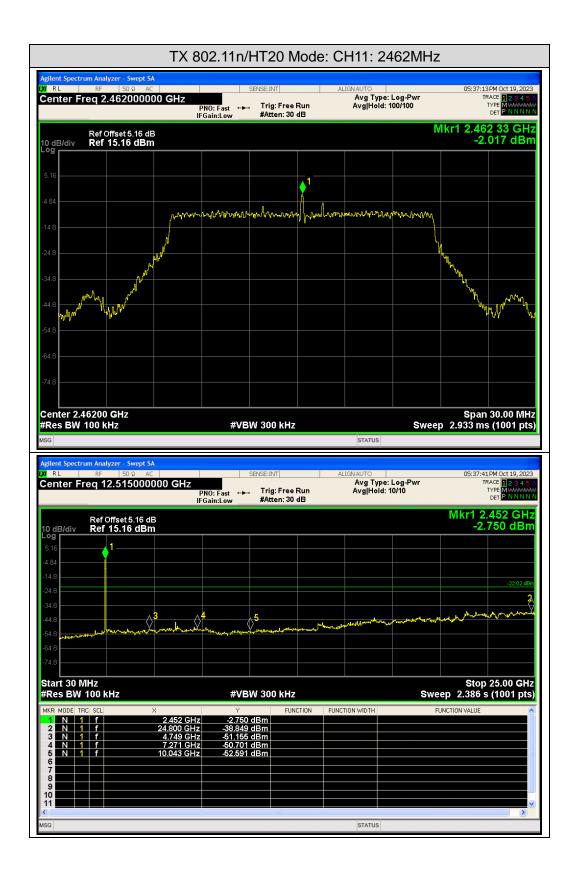












10 ANTENNA REQUIREMENT

Standard Applicable:

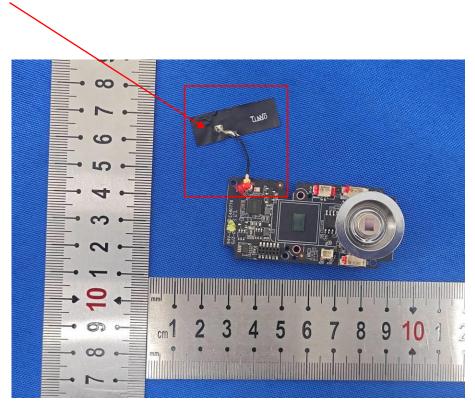
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used

with the device.

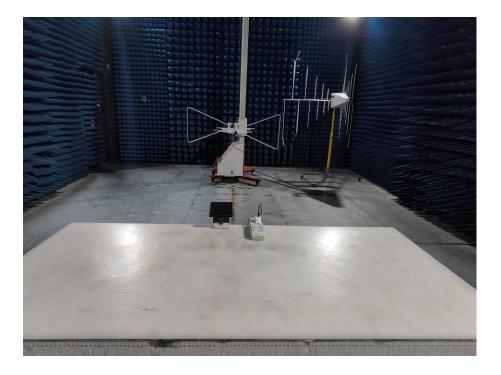
Antenna Connected Construction

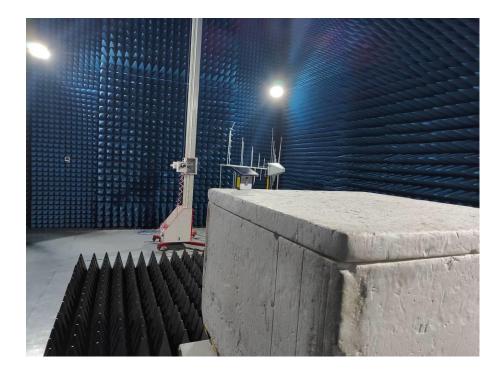
The antenna used in this product is a FPC Antenna, The directional gains of antenna used for transmitting is 2.14dBi.

ANTENNA:



11 PHOTO OF TEST Radiated Emission





Conducted Emission



RF Conducted

