FCC TEST REPORT
FCC ID: 2ATGV-UM-T5RF3

Report Number ..... :	ZKT-220628L4384-01
Date of Test ..... :	Jun. 17, 2022 -- Jun. 29, 2022
Date of issue ..... :	Jun. 29, 2022
Total number of pages ..... :	87
Test Result ..... :	PASS
Testing Laboratory ..... :	**Shenzhen ZKT Technology Co., Ltd.**
Address ..... :	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China
Applicant's name ..... :	UNIONMAN TECHNOLOGY CO., LTD
Address ..... :	No.5 Huitai Road, Huinan High-Tech Industrial Park, Huizhou City, Guangdong, China.
Manufacturer's name ..... :	UNIONMAN TECHNOLOGY CO., LTD
Address ..... :	No.5 Huitai Road, Huinan High-Tech Industrial Park, Huizhou City, Guangdong, China.
Test specification:	
Standard ..... :	FCC CFR Title 47 Part 15 Subpart C Section 15.247 ANSI C63.10:2013 KDB558074 D0115.247 Meas Guidance v 05r02
Test procedure ..... :	/
Non-standard test method ..... :	N/A
Test Report Form No. ..... :	TRF-EL-110_V0
Test Report Form(s) Originator .... :	ZKT Testing
Master TRF ..... :	Dated: 2020-01-06

This device described above has been tested by ZKT, 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.
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Product name ..... :	AX3000 Dual Band Wi-Fi6 Router
Trademark ..... :	/
Model/Type reference ..... :	UM-T5RF3, UM-T5RF5, UNR035Z, UNR035Z1, UNR035Z2, UNR035Z3, UNR035Z4, UNR035Z5
Ratings ..... :	DC 12V/1.5A from adapter

Testing procedure and testing location:

Testing Laboratory.....:	**Shenzhen ZKT Technology Co., Ltd.**
Address.....:	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China
Tested by (name + signature).....:	Alen He
Reviewer (name + signature).....:	Joe Liu
Approved (name + signature).....:	Lake Xie

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1. VERSION

Report No.	Version	Description	Approved
ZKT-220628L4384-01	Rev.01	Initial issue of report	Jun. 29, 2022

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Result	Remark
FCC part 15.203/15.247 (c)	Antenna requirement	PASS	
FCC part 15.207	AC Power Line Conducted Emission	PASS	
FCC part 15.247 (b)(3)	Conducted Peak Output Power	PASS	
FCC part 15.247 (a)(2)	Channel Bandwidth& 99% OCB	PASS	
FCC part 15.247 (e)	Power Spectral Density	PASS	
FCC part 15.247(d)	Band Edge	PASS	
FCC part 15.205/15.209	Spurious Emission	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

2.1 TEST FACILITY

Shenzhen ZKT Technology Co., Ltd.
Add. : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

FCC Test Firm Registration Number: 692225
Designation Number: CN1299
IC Registered No.: 27033

2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ± 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 % 。

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	RF power conducted	±0.16dB
3	Spurious emissions conducted	±0.21dB
4	All emissions radiated(<1G)	±4.68dB
5	All emissions radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Product Name:	AX3000 Dual Band Wi-Fi6 Router
Model No.:	UM-T5RF3
Serial No.:	UM-T5RF5, UNR035Z, UNR035Z1, UNR035Z2, UNR035Z3, UNR035Z4, UNR035Z5
Model difference:	All models have the same functionality, software and electronics, only the model names may differ. Test sample model: UM-T5RF3
Hardware Version:	RTZX29V0.C3
Software Version:	QATool_UIv2.73_DLLv6.79
Sample(s) Status:	Engineer sample
Channel numbers:	802.11b/802.11g /802.11n(HT20):11 /802.11n(HT40):7
Channel separation:	5MHz
Modulation technology:	802.11b: Direct Sequence Spread Spectrum(DSSS) 802.11g/802.11n(H20)/802.11n(HT40): Orthogonal Frequency Division Multiplexing(OFDM)
Antenna Type:	Internal antenna
Antenna gain:	WIFI ANT1: 4.5dBi; WIFI ANT2: 4.5dBi ; MIMO:7.51dBi
Power supply:	AC 120V 50/60Hz
POWER ADAPTER:	Model: EUSF+24120-1500 Input : 100-240V ~50/60Hz 0.6A Output: 12V 1.5A

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		

Note:
In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test channel	**Frequency (MHz)**
	802.11b/802.11g /802.11n(HT20)

Lowest channel	2412MHz
Middle channel	2437MHz
Highest channel	2462MHz

Test channel	**Frequency (MHz)**
	802.11n(HT40)
Lowest channel	2422MHz
Middle channel	2437MHz
Highest channel	2452MHz

Worst Case Configuration

Description	MIMO (802.11N-HT20 low channel)
Antenna	MIMO
Channel	1
Operating Frequency (MHz)	2462
Data Rate (Mbps)	6.5Mbps

3.2 DESCRIPTION OF TEST MODES

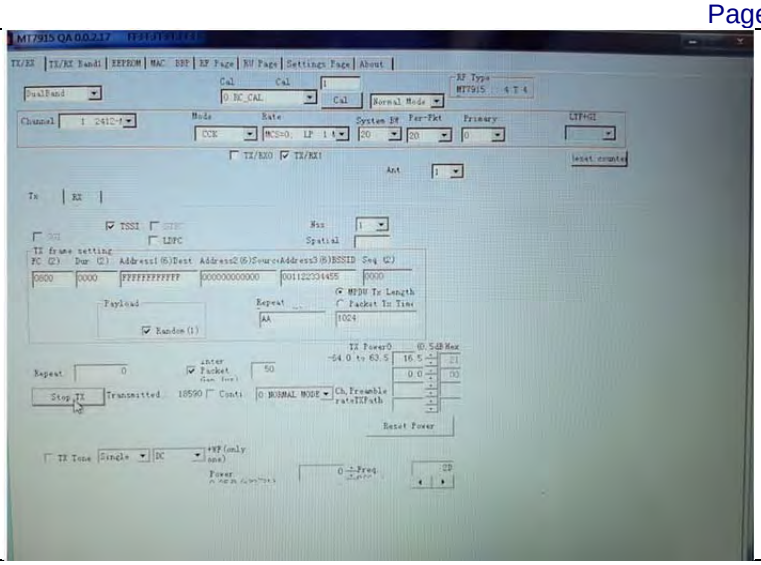
Transmitting mode	Keep the EUT in continuously transmitting mode
Remark: During the test, the duty cycle >98%, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.	

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Pre-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	802.11b	802.11g	802.11n (HT20)	802.11n (HT40)
Data rate	1Mbps	6Mbps	MCS0	MCS0

Test Software	QATool_Dbg

	
Power level setup	<30dBm

3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted Emission

AC Line — Adapter — EUT

Radiated Emission

AC Line — Adapter — EUT

Conducted Spurious

AC Line — Adapter — EUT

3.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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	Mfr/Brand	Model/Type No.	Series No.	Note
1	PC	HP	HP40		Provide by lab
2	adapter	AMC	EUSF+24120-1500		Provide by client

Item	Shielded Type	Ferrite Core	Length	Note

Note:

(1) The support equipment was authorized by Declaration of Confirmation.

(2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

3.5EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	9020A	MY45109572	Sep. 21, 2021	Sep. 20, 2022
2	Spectrum Analyzer (1GHz-40GHz)	Agilent	E4446A	100363	Sep. 21, 2021	Sep. 20, 2022
3	Test Receiver (9kHz-7GHz)	R&S	ESCI7	101169	Sep. 21, 2021	Sep. 20, 2022
4	Bilog Antenna (30MHz-1400MHz)	Schwarzbeck	VULB9168	00877	Sep. 21, 2021	Sep. 20, 2022
5	Horn Antenna (1GHz-18GHz)	SCHWARZBECK	BBHA9120D	1541	Sep. 21, 2021	Sep. 20, 2022
6	Horn Antenna (18GHz-40GHz)	A.H. System	SAS-574	588	Sep. 21, 2021	Sep. 20, 2022
7	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	N/A	Sep. 21, 2021	Sep. 20, 2022
8	Amplifier (1GHz-40GHz)	QUANJUDA	DLE-161	097	Sep. 21, 2021	Sep. 20, 2022
9	Loop Antenna (9KHz-30MHz)	SCHWARZBECK	FMZB1519B	014	Sep. 21, 2021	Sep. 20, 2022
10	RF cables1 (9kHz-30MHz)	N/A	9kHz-30MHz	N/A	Sep. 21, 2021	Sep. 20, 2022
11	RF cables2 (30MHz-1GHz)	N/A	30MHz-1GHz	N/A	Sep. 21, 2021	Sep. 20, 2022
12	RF cables3 (1GHz-40GHz)	N/A	1GHz-40GHz	N/A	Sep. 21, 2021	Sep. 20, 2022
13	CMW500 Test	R&S	CMW500	106504	Sep. 21, 2021	Sep. 20, 2022
14	ESG Signal Generator	Agilent	E4421B	GB40051203	Sep. 21, 2021	Sep. 20, 2022
15	Signal Generator	Agilent	N5182A	MY47420215	Sep. 21, 2021	Sep. 20, 2022
16	D.C. Power Supply	LongWei	TPR-6405D	\	\	\
17	Software	Frad	EZ-EMC	FA-03A2 RE	\	\

Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	Sep. 21, 2021	Sep. 20, 2022
2	LISN	CYBERTEK	EM5040A	E1850400149	Sep. 21, 2021	Sep. 20, 2022
3	Test Cable	N/A	C01	N/A	Sep. 21, 2021	Sep. 20, 2022
4	Test Cable	N/A	C02	N/A	Sep. 21, 2021	Sep. 20, 2022
5	EMI Test Receiver	R&S	ESRP3	101946	Sep. 21, 2021	Sep. 20, 2022
6	Absorbing Clamp	DZ	ZN23201	N/A	Sep. 21, 2021	Sep. 20, 2022

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

4.1.1 POWER LINE CONDUCTED EMISSION LIMITS

FREQUENCY (MHz)	Limit (dBuV)		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	FCC

Note:
(1) *Decreases with the logarithm of the frequency.

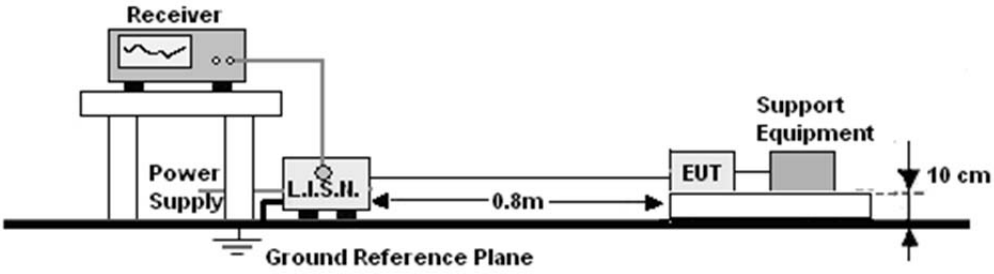
4.1.2 TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; 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. The adapter received AC120V/60Hz power 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 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected 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.e.
8 For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



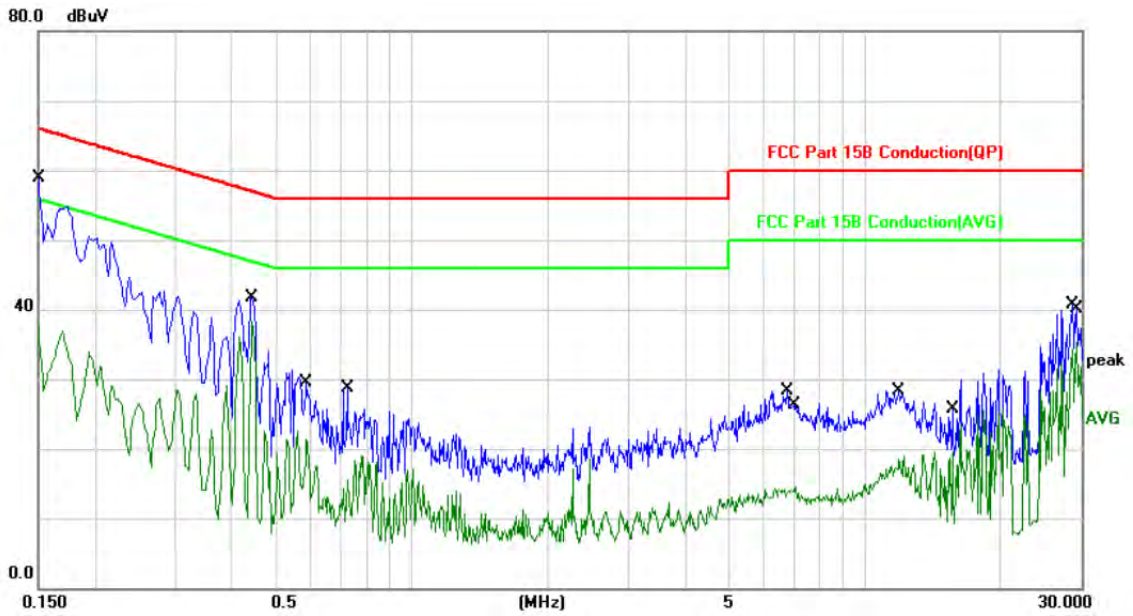
4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

We pretest AC 120V and AC 240V, the worst voltage was AC 120V and the data recording in the report.

4.1.6 TEST RESULT

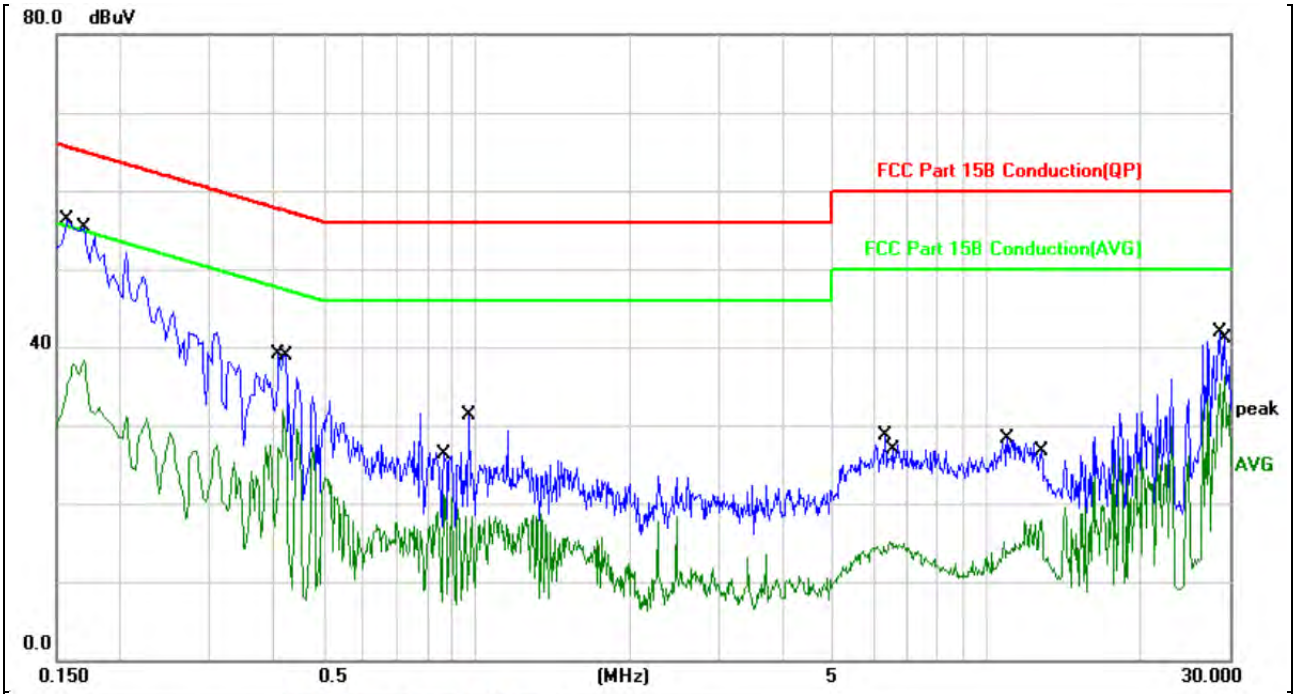
Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Phase	L
Test Voltage ：	AC 120V/60Hz		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1500	49.24	9.75	58.99	65.99	-7.00	QP	
2		0.1500	27.94	9.75	37.69	55.99	-18.30	AVG	
3		0.4460	31.93	9.86	41.79	56.95	-15.16	QP	
4		0.4460	28.36	9.86	38.22	46.95	-8.73	AVG	
5		0.5899	11.17	9.84	21.01	46.00	-24.99	AVG	
6		0.7220	18.80	9.82	28.62	56.00	-27.38	QP	
7		6.7580	18.72	9.62	28.34	60.00	-31.66	QP	
8		7.0420	4.89	9.61	14.50	50.00	-35.50	AVG	
9		11.8900	18.59	9.77	28.36	60.00	-31.64	QP	
10		15.6180	9.82	9.64	19.46	50.00	-30.54	AVG	
11		28.6860	31.12	9.51	40.63	60.00	-19.37	QP	
12		29.2340	25.79	9.50	35.29	50.00	-14.71	AVG	

Notes:
1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3.Mesurement Level = Reading level + Correct Factor

Temperature :	26℃	Relative Humidity:	54%
Pressure :	101kPa	Phase :	N
Test Voltage :	AC 120V/60Hz		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1580	46.58	9.75	56.33	65.56	-9.23	QP	
2		0.1700	28.64	9.75	38.39	54.96	-16.57	AVG	
3		0.4100	29.16	9.87	39.03	57.65	-18.62	QP	
4		0.4180	22.03	9.87	31.90	47.49	-15.59	AVG	
5		0.8660	11.25	9.79	21.04	46.00	-24.96	AVG	
6		0.9660	21.53	9.77	31.30	56.00	-24.70	QP	
7		6.3500	19.00	9.63	28.63	60.00	-31.37	QP	
8		6.4780	5.45	9.63	15.08	50.00	-34.92	AVG	
9		10.9740	18.44	9.77	28.21	60.00	-31.79	QP	
10		12.8100	8.20	9.76	17.96	50.00	-32.04	AVG	
11		28.6860	32.42	9.51	41.93	60.00	-18.07	QP	
12		29.2340	26.72	9.50	36.22	50.00	-13.78	AVG	

Notes:
1.An initial pre-scan was performed on the line and neutral lines with peak detector.
2.Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3.Mesurement Level = Reading level + Correct Factor

4.2 RADIATED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.209
Test Method:	ANSI C63.10:2013
Test Frequency Range:	9kHz to 25GHz
Test site:	Measurement Distance: 3m
Receiver setup:	

Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

4.2.1 RADIATED EMISSION LIMITS

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

4.2.2 TEST PROCEDURE

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.1 meters above the ground at a 3 meter semi-anechoiccamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of avariable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum valueof the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned toheights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could bestopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dBmargin would be re-tested one by one using peak, quasi-peak or average method as specified and then reportedin a data sheet.

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber andchange form table 0.8 metre to 1.5 metre(Above 18GHz the distance is 1 meter and table is 1.5 metre).
h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel

Note:

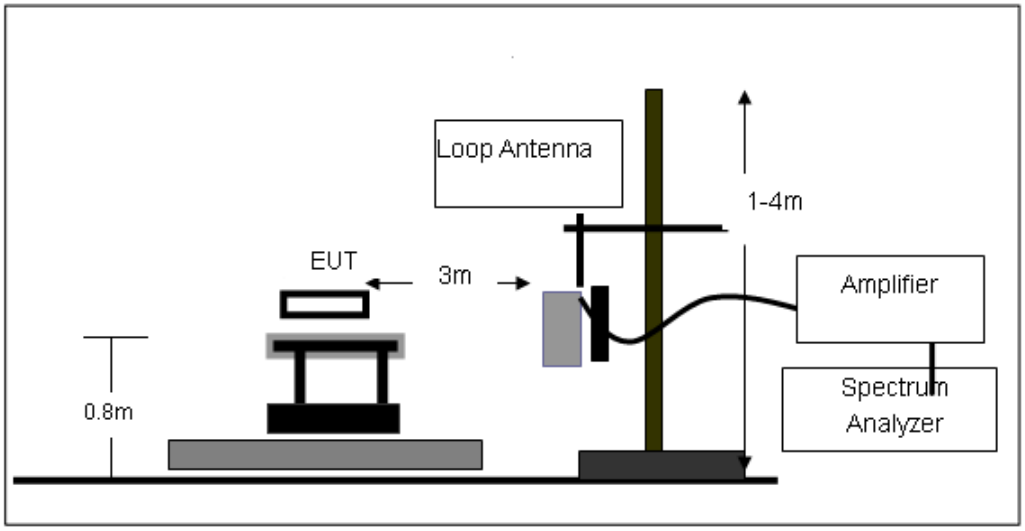
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

4.2.3 DEVIATION FROM TEST STANDARD

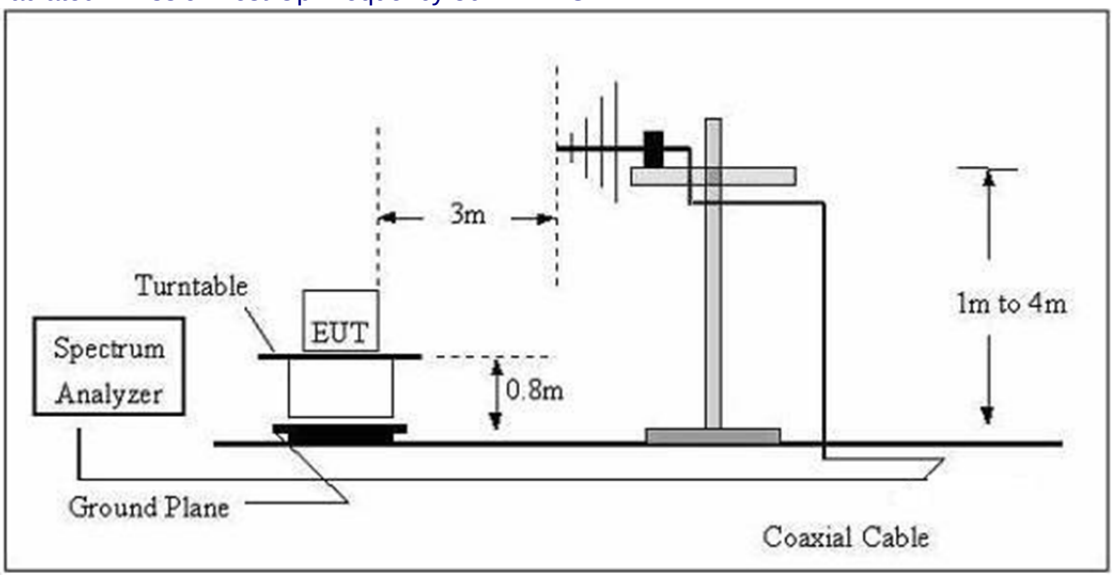
No deviation

4.2.4 TEST SETUP

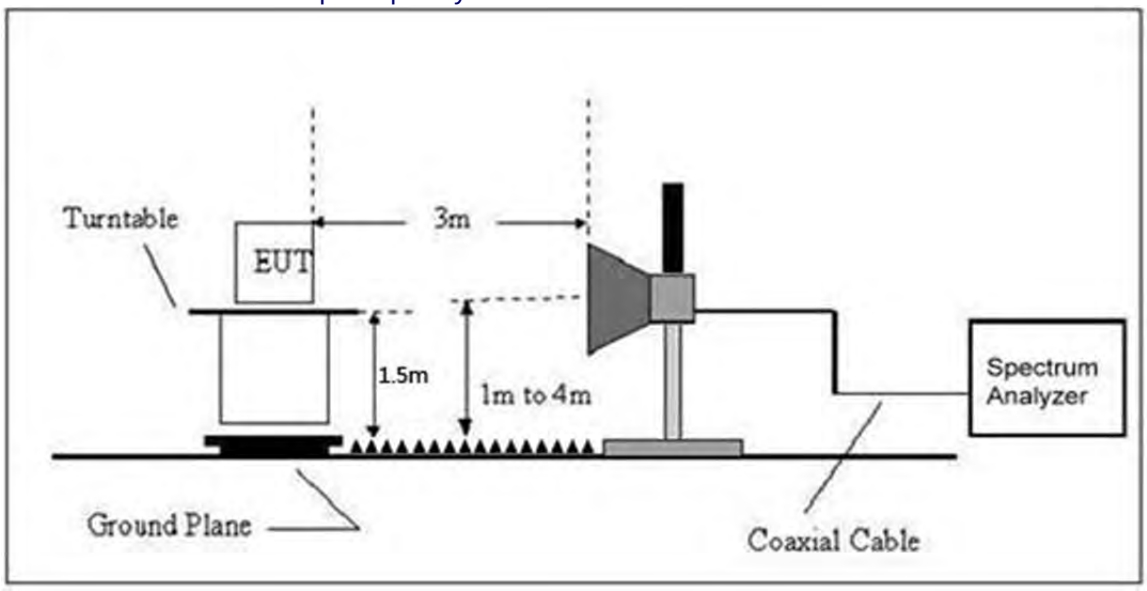
（A）Radiated Emission Test-Up Frequency Below 30MHz



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz



（C）Radiated Emission Test-Up Frequency Above 1GHz



4.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

4.2.6 TEST RESULTS

Between 9KHz – 30MHz

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Between 30MHz – 1GHz

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	AC 120V/60Hz		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		30.0000	21.23	1.62	22.85	40.00	-17.15	QP	100	360	
2		64.6594	43.02	-14.68	28.34	40.00	-11.66	QP	100	360	
3		138.3873	42.60	-5.65	36.95	43.50	-6.55	QP	100	360	
4		225.3077	45.06	-6.72	38.34	46.00	-7.66	QP	100	360	
5	*	400.4318	43.06	-2.50	40.56	46.00	-5.44	QP	100	360	
6	!	801.7862	35.64	4.75	40.39	46.00	-5.61	QP	100	360	

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	AC 120V/60Hz		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	36.1272	43.82	-7.84	35.98	40.00	-4.02	QP	100	0	
2	!	139.3611	44.56	-5.74	38.82	43.50	-4.68	QP	100	0	
3		175.0367	44.06	-6.98	37.08	43.50	-6.42	QP	100	0	
4		400.4318	40.00	-2.50	37.50	46.00	-8.50	QP	100	0	
5		576.6443	34.51	1.39	35.90	46.00	-10.10	QP	100	0	
6		962.1622	33.64	6.74	40.38	54.00	-13.62	QP	100	0	

Remarks:
1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2.The emission levels of other frequencies are very lower than the limit and not show in test report.
3.The test data shows only the worst case- MIMO (802.11N-HT20 middle channel)

1GHz~25GHz

802.11b-ANT1

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:2412MHz									
V	4824	46.87	30.55	5.77	24.66	46.75	74.00	-27.25	PK
V	4824	35.71	30.55	5.77	24.66	35.59	54.00	-18.41	AV
V	7236	45.81	30.33	6.32	24.55	46.35	74.00	-27.65	PK
V	7236	33.65	30.33	6.32	24.55	34.19	54.00	-19.81	AV
V	9648	41.47	30.85	7.45	24.69	42.76	74.00	-31.24	PK
V	9648	33.24	30.85	7.45	24.69	34.53	54.00	-19.47	AV
H	4824	47.74	30.55	5.77	24.66	47.62	74.00	-26.38	PK
H	4824	37.40	30.55	5.77	24.66	37.28	54.00	-16.72	AV
H	7236	47.67	30.33	6.32	24.55	48.21	74.00	-25.79	PK
H	7236	34.60	30.33	6.32	24.55	35.14	54.00	-18.86	AV
H	9648	42.16	30.85	7.45	24.69	43.45	74.00	-30.55	PK
H	9648	32.86	30.85	7.45	24.69	34.15	54.00	-19.85	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Middle Channel:2437MHz									
V	4874	47.20	30.55	5.77	24.66	47.08	74.00	-26.92	PK
V	4874	36.34	30.55	5.77	24.66	36.22	54.00	-17.78	AV
V	7311	45.83	30.33	6.32	24.55	46.37	74.00	-27.63	PK
V	7311	35.01	30.33	6.32	24.55	35.55	54.00	-18.45	AV
V	9748	41.48	30.85	7.45	24.69	42.77	74.00	-31.23	PK
V	9748	33.15	30.85	7.45	24.69	34.44	54.00	-19.56	AV
H	4874	47.07	30.55	5.77	24.66	46.95	74.00	-27.05	PK
H	4874	35.27	30.55	5.77	24.66	35.15	54.00	-18.85	AV
H	7311	46.35	30.33	6.32	24.55	46.89	74.00	-27.11	PK
H	7311	33.60	30.33	6.32	24.55	34.14	54.00	-19.86	AV
H	9748	41.97	30.85	7.45	24.69	43.26	74.00	-30.74	PK
H	9748	32.96	30.85	7.45	24.69	34.25	54.00	-19.75	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
High Channel:2462MHz									
V	4924	47.98	30.55	5.77	24.66	47.86	74.00	-26.14	PK
V	4924	37.96	30.55	5.77	24.66	37.84	54.00	-16.16	AV
V	7386	47.69	30.33	6.32	24.55	48.23	74.00	-25.77	PK
V	7386	35.44	30.33	6.32	24.55	35.98	54.00	-18.02	AV
V	9848	40.97	30.85	7.45	24.69	42.26	74.00	-31.74	PK
V	9848	34.55	30.85	7.45	24.69	35.84	54.00	-18.16	AV
H	4924	46.06	30.55	5.77	24.66	45.94	74.00	-28.06	PK
H	4924	38.16	30.55	5.77	24.66	38.04	54.00	-15.96	AV
H	7386	47.16	30.33	6.32	24.55	47.70	74.00	-26.30	PK
H	7386	33.79	30.33	6.32	24.55	34.33	54.00	-19.67	AV
H	9848	43.46	30.85	7.45	24.69	44.75	74.00	-29.25	PK
H	9848	34.23	30.85	7.45	24.69	35.52	54.00	-18.48	AV

802.11g-ANT1

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:2412MHz									
V	4824	46.45	30.55	5.77	24.66	46.33	74.00	-27.67	PK
V	4824	35.76	30.55	5.77	24.66	35.64	54.00	-18.36	AV
V	7236	46.06	30.33	6.32	24.55	46.60	74.00	-27.40	PK
V	7236	34.76	30.33	6.32	24.55	35.30	54.00	-18.70	AV
V	9648	42.59	30.85	7.45	24.69	43.88	74.00	-30.12	PK
V	9648	33.63	30.85	7.45	24.69	34.92	54.00	-19.08	AV
H	4824	47.51	30.55	5.77	24.66	47.39	74.00	-26.61	PK
H	4824	37.49	30.55	5.77	24.66	37.37	54.00	-16.63	AV
H	7236	46.58	30.33	6.32	24.55	47.12	74.00	-26.88	PK
H	7236	33.38	30.33	6.32	24.55	33.92	54.00	-20.08	AV
H	9648	41.25	30.85	7.45	24.69	42.54	74.00	-31.46	PK
H	9648	34.50	30.85	7.45	24.69	35.79	54.00	-18.21	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Middle Channel:2437MHz									
V	4874	48.51	30.55	5.77	24.66	48.39	74.00	-25.61	PK
V	4874	36.46	30.55	5.77	24.66	36.34	54.00	-17.66	AV
V	7311	46.03	30.33	6.32	24.55	46.57	74.00	-27.43	PK
V	7311	35.30	30.33	6.32	24.55	35.84	54.00	-18.16	AV
V	9748	41.89	30.85	7.45	24.69	43.18	74.00	-30.82	PK
V	9748	35.13	30.85	7.45	24.69	36.42	54.00	-17.58	AV
H	4874	48.03	30.55	5.77	24.66	47.91	74.00	-26.09	PK
H	4874	37.35	30.55	5.77	24.66	37.23	54.00	-16.77	AV
H	7311	46.55	30.33	6.32	24.55	47.09	74.00	-26.91	PK
H	7311	35.37	30.33	6.32	24.55	35.91	54.00	-18.09	AV
H	9748	43.27	30.85	7.45	24.69	44.56	74.00	-29.44	PK
H	9748	33.36	30.85	7.45	24.69	34.65	54.00	-19.35	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
High Channel:2462MHz									
V	4924	47.37	30.55	5.77	24.66	47.25	74.00	-26.75	PK
V	4924	36.22	30.55	5.77	24.66	36.10	54.00	-17.90	AV
V	7386	47.43	30.33	6.32	24.55	47.97	74.00	-26.03	PK
V	7386	33.78	30.33	6.32	24.55	34.32	54.00	-19.68	AV
V	9848	41.61	30.85	7.45	24.69	42.90	74.00	-31.10	PK
V	9848	33.59	30.85	7.45	24.69	34.88	54.00	-19.12	AV
H	4924	46.96	30.55	5.77	24.66	46.84	74.00	-27.16	PK
H	4924	37.16	30.55	5.77	24.66	37.04	54.00	-16.96	AV
H	7386	47.62	30.33	6.32	24.55	48.16	74.00	-25.84	PK
H	7386	32.92	30.33	6.32	24.55	33.46	54.00	-20.54	AV
H	9848	43.24	30.85	7.45	24.69	44.53	74.00	-29.47	PK
H	9848	34.59	30.85	7.45	24.69	35.88	54.00	-18.12	AV

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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:2412MHz									
V	4824	46.34	30.55	5.77	24.66	46.22	74.00	-27.78	PK
V	4824	35.54	30.55	5.77	24.66	35.42	54.00	-18.58	AV
V	7236	47.53	30.33	6.32	24.55	48.07	74.00	-25.93	PK
V	7236	33.73	30.33	6.32	24.55	34.27	54.00	-19.73	AV
V	9648	40.86	30.85	7.45	24.69	42.15	74.00	-31.85	PK
V	9648	32.47	30.85	7.45	24.69	33.76	54.00	-20.24	AV
H	4824	48.35	30.55	5.77	24.66	48.23	74.00	-25.77	PK
H	4824	35.83	30.55	5.77	24.66	35.71	54.00	-18.29	AV
H	7236	45.89	30.33	6.32	24.55	46.43	74.00	-27.57	PK
H	7236	33.56	30.33	6.32	24.55	34.10	54.00	-19.90	AV
H	9648	41.05	30.85	7.45	24.69	42.34	74.00	-31.66	PK
H	9648	34.56	30.85	7.45	24.69	35.85	54.00	-18.15	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Middle Channel:2437MHz									
V	4874	48.67	30.55	5.77	24.66	48.55	74.00	-25.45	PK
V	4874	35.57	30.55	5.77	24.66	35.45	54.00	-18.55	AV
V	7311	46.15	30.33	6.32	24.55	46.69	74.00	-27.31	PK
V	7311	34.72	30.33	6.32	24.55	35.26	54.00	-18.74	AV
V	9748	40.99	30.85	7.45	24.69	42.28	74.00	-31.72	PK
V	9748	34.47	30.85	7.45	24.69	35.76	54.00	-18.24	AV
H	4874	47.50	30.55	5.77	24.66	47.38	74.00	-26.62	PK
H	4874	37.11	30.55	5.77	24.66	36.99	54.00	-17.01	AV
H	7311	47.08	30.33	6.32	24.55	47.62	74.00	-26.38	PK
H	7311	32.91	30.33	6.32	24.55	33.45	54.00	-20.55	AV
H	9748	41.48	30.85	7.45	24.69	42.77	74.00	-31.23	PK
H	9748	34.94	30.85	7.45	24.69	36.23	54.00	-17.77	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
High Channel:2462MHz									
V	4924	48.62	30.55	5.77	24.66	48.50	74.00	-25.50	PK
V	4924	36.66	30.55	5.77	24.66	36.54	54.00	-17.46	AV
V	7386	46.82	30.33	6.32	24.55	47.36	74.00	-26.64	PK
V	7386	33.29	30.33	6.32	24.55	33.83	54.00	-20.17	AV
V	9848	42.37	30.85	7.45	24.69	43.66	74.00	-30.34	PK
V	9848	34.30	30.85	7.45	24.69	35.59	54.00	-18.41	AV
H	4924	46.40	30.55	5.77	24.66	46.28	74.00	-27.72	PK
H	4924	35.65	30.55	5.77	24.66	35.53	54.00	-18.47	AV
H	7386	46.13	30.33	6.32	24.55	46.67	74.00	-27.33	PK
H	7386	32.94	30.33	6.32	24.55	33.48	54.00	-20.52	AV
H	9848	41.77	30.85	7.45	24.69	43.06	74.00	-30.94	PK
H	9848	35.22	30.85	7.45	24.69	36.51	54.00	-17.49	AV

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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:2422MHz									
V	4844	46.32	30.55	5.77	24.66	46.20	74.00	-27.80	PK
V	4844	37.02	30.55	5.77	24.66	36.90	54.00	-17.10	AV
V	7266	46.32	30.33	6.32	24.55	46.86	74.00	-27.14	PK
V	7266	34.89	30.33	6.32	24.55	35.43	54.00	-18.57	AV
V	9688	43.71	30.85	7.45	24.69	45.00	74.00	-29.00	PK
V	9688	33.37	30.85	7.45	24.69	34.66	54.00	-19.34	AV
H	4844	48.55	30.55	5.77	24.66	48.43	74.00	-25.57	PK
H	4844	36.65	30.55	5.77	24.66	36.53	54.00	-17.47	AV
H	7266	46.69	30.33	6.32	24.55	47.23	74.00	-26.77	PK
H	7266	35.27	30.33	6.32	24.55	35.81	54.00	-18.19	AV
H	9688	40.77	30.85	7.45	24.69	42.06	74.00	-31.94	PK
H	9688	32.49	30.85	7.45	24.69	33.78	54.00	-20.22	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Middle Channel:2437MHz									
V	4874	47.48	30.55	5.77	24.66	47.36	74.00	-26.64	PK
V	4874	37.51	30.55	5.77	24.66	37.39	54.00	-16.61	AV
V	7311	47.49	30.33	6.32	24.55	48.03	74.00	-25.97	PK
V	7311	34.23	30.33	6.32	24.55	34.77	54.00	-19.23	AV
V	9748	43.46	30.85	7.45	24.69	44.75	74.00	-29.25	PK
V	9748	33.57	30.85	7.45	24.69	34.86	54.00	-19.14	AV
H	4874	46.19	30.55	5.77	24.66	46.07	74.00	-27.93	PK
H	4874	37.48	30.55	5.77	24.66	37.36	54.00	-16.64	AV
H	7311	47.03	30.33	6.32	24.55	47.57	74.00	-26.43	PK
H	7311	33.22	30.33	6.32	24.55	33.76	54.00	-20.24	AV
H	9748	42.51	30.85	7.45	24.69	43.80	74.00	-30.20	PK
H	9748	32.78	30.85	7.45	24.69	34.07	54.00	-19.93	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
High Channel:2452MHz									
V	4904	48.12	30.55	5.77	24.66	48.00	74.00	-26.00	PK
V	4904	36.01	30.55	5.77	24.66	35.89	54.00	-18.11	AV
V	7356	46.40	30.33	6.32	24.55	46.94	74.00	-27.06	PK
V	7356	35.52	30.33	6.32	24.55	36.06	54.00	-17.94	AV
V	9808	43.15	30.85	7.45	24.69	44.44	74.00	-29.56	PK
V	9808	33.61	30.85	7.45	24.69	34.90	54.00	-19.10	AV
H	4904	47.48	30.55	5.77	24.66	47.36	74.00	-26.64	PK
H	4904	36.42	30.55	5.77	24.66	36.30	54.00	-17.70	AV
H	7356	47.56	30.33	6.32	24.55	48.10	74.00	-25.90	PK
H	7356	34.48	30.33	6.32	24.55	35.02	54.00	-18.98	AV
H	9808	41.65	30.85	7.45	24.69	42.94	74.00	-31.06	PK
H	9808	33.52	30.85	7.45	24.69	34.81	54.00	-19.19	AV

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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:2412MHz									
V	4824	45.97	30.55	5.77	24.66	45.85	74.00	-28.15	PK
V	4824	37.78	30.55	5.77	24.66	37.66	54.00	-16.34	AV
V	7236	47.63	30.33	6.32	24.55	48.17	74.00	-25.83	PK
V	7236	34.37	30.33	6.32	24.55	34.91	54.00	-19.09	AV
V	9648	43.35	30.85	7.45	24.69	44.64	74.00	-29.36	PK
V	9648	33.51	30.85	7.45	24.69	34.80	54.00	-19.20	AV
H	4824	46.66	30.55	5.77	24.66	46.54	74.00	-27.46	PK
H	4824	35.86	30.55	5.77	24.66	35.74	54.00	-18.26	AV
H	7236	47.36	30.33	6.32	24.55	47.90	74.00	-26.10	PK
H	7236	34.81	30.33	6.32	24.55	35.35	54.00	-18.65	AV
H	9648	42.18	30.85	7.45	24.69	43.47	74.00	-30.53	PK
H	9648	32.99	30.85	7.45	24.69	34.28	54.00	-19.72	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Middle Channel:2437MHz									
V	4874	48.41	30.55	5.77	24.66	48.29	74.00	-25.71	PK
V	4874	37.72	30.55	5.77	24.66	37.60	54.00	-16.40	AV
V	7311	47.23	30.33	6.32	24.55	47.77	74.00	-26.23	PK
V	7311	34.40	30.33	6.32	24.55	34.94	54.00	-19.06	AV
V	9748	43.52	30.85	7.45	24.69	44.81	74.00	-29.19	PK
V	9748	34.55	30.85	7.45	24.69	35.84	54.00	-18.16	AV
H	4874	47.91	30.55	5.77	24.66	47.79	74.00	-26.21	PK
H	4874	36.81	30.55	5.77	24.66	36.69	54.00	-17.31	AV
H	7311	47.44	30.33	6.32	24.55	47.98	74.00	-26.02	PK
H	7311	34.52	30.33	6.32	24.55	35.06	54.00	-18.94	AV
H	9748	42.13	30.85	7.45	24.69	43.42	74.00	-30.58	PK
H	9748	32.47	30.85	7.45	24.69	33.76	54.00	-20.24	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
High Channel:2462MHz									
V	4924	47.27	30.55	5.77	24.66	47.15	74.00	-26.85	PK
V	4924	35.64	30.55	5.77	24.66	35.52	54.00	-18.48	AV
V	7386	46.07	30.33	6.32	24.55	46.61	74.00	-27.39	PK
V	7386	35.40	30.33	6.32	24.55	35.94	54.00	-18.06	AV
V	9848	42.45	30.85	7.45	24.69	43.74	74.00	-30.26	PK
V	9848	33.95	30.85	7.45	24.69	35.24	54.00	-18.76	AV
H	4924	47.13	30.55	5.77	24.66	47.01	74.00	-26.99	PK
H	4924	35.90	30.55	5.77	24.66	35.78	54.00	-18.22	AV
H	7386	46.39	30.33	6.32	24.55	46.93	74.00	-27.07	PK
H	7386	33.48	30.33	6.32	24.55	34.02	54.00	-19.98	AV
H	9848	43.50	30.85	7.45	24.69	44.79	74.00	-29.21	PK
H	9848	33.44	30.85	7.45	24.69	34.73	54.00	-19.27	AV

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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:2412MHz									
V	4824	47.97	30.55	5.77	24.66	47.85	74.00	-26.15	PK
V	4824	36.31	30.55	5.77	24.66	36.19	54.00	-17.81	AV
V	7236	46.66	30.33	6.32	24.55	47.20	74.00	-26.80	PK
V	7236	35.06	30.33	6.32	24.55	35.60	54.00	-18.40	AV
V	9648	40.80	30.85	7.45	24.69	42.09	74.00	-31.91	PK
V	9648	32.79	30.85	7.45	24.69	34.08	54.00	-19.92	AV
H	4824	46.73	30.55	5.77	24.66	46.61	74.00	-27.39	PK
H	4824	37.00	30.55	5.77	24.66	36.88	54.00	-17.12	AV
H	7236	47.27	30.33	6.32	24.55	47.81	74.00	-26.19	PK
H	7236	34.72	30.33	6.32	24.55	35.26	54.00	-18.74	AV
H	9648	41.94	30.85	7.45	24.69	43.23	74.00	-30.77	PK
H	9648	33.82	30.85	7.45	24.69	35.11	54.00	-18.89	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Middle Channel:2437MHz									
V	4874	46.61	30.55	5.77	24.66	46.49	74.00	-27.51	PK
V	4874	35.45	30.55	5.77	24.66	35.33	54.00	-18.67	AV
V	7311	46.13	30.33	6.32	24.55	46.67	74.00	-27.33	PK
V	7311	34.84	30.33	6.32	24.55	35.38	54.00	-18.62	AV
V	9748	40.93	30.85	7.45	24.69	42.22	74.00	-31.78	PK
V	9748	33.98	30.85	7.45	24.69	35.27	54.00	-18.73	AV
H	4874	47.89	30.55	5.77	24.66	47.77	74.00	-26.23	PK
H	4874	37.95	30.55	5.77	24.66	37.83	54.00	-16.17	AV
H	7311	47.01	30.33	6.32	24.55	47.55	74.00	-26.45	PK
H	7311	35.05	30.33	6.32	24.55	35.59	54.00	-18.41	AV
H	9748	41.35	30.85	7.45	24.69	42.64	74.00	-31.36	PK
H	9748	34.69	30.85	7.45	24.69	35.98	54.00	-18.02	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
High Channel:2462MHz									
V	4924	45.98	30.55	5.77	24.66	45.86	74.00	-28.14	PK
V	4924	37.32	30.55	5.77	24.66	37.20	54.00	-16.80	AV
V	7386	46.79	30.33	6.32	24.55	47.33	74.00	-26.67	PK
V	7386	33.99	30.33	6.32	24.55	34.53	54.00	-19.47	AV
V	9848	41.01	30.85	7.45	24.69	42.30	74.00	-31.70	PK
V	9848	34.65	30.85	7.45	24.69	35.94	54.00	-18.06	AV
H	4924	48.37	30.55	5.77	24.66	48.25	74.00	-25.75	PK
H	4924	37.57	30.55	5.77	24.66	37.45	54.00	-16.55	AV
H	7386	47.37	30.33	6.32	24.55	47.91	74.00	-26.09	PK
H	7386	33.13	30.33	6.32	24.55	33.67	54.00	-20.33	AV
H	9848	41.71	30.85	7.45	24.69	43.00	74.00	-31.00	PK
H	9848	33.58	30.85	7.45	24.69	34.87	54.00	-19.13	AV

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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:2412MHz									
V	4824	46.95	30.55	5.77	24.66	46.83	74.00	-27.17	PK
V	4824	37.44	30.55	5.77	24.66	37.32	54.00	-16.68	AV
V	7236	45.98	30.33	6.32	24.55	46.52	74.00	-27.48	PK
V	7236	34.88	30.33	6.32	24.55	35.42	54.00	-18.58	AV
V	9648	40.86	30.85	7.45	24.69	42.15	74.00	-31.85	PK
V	9648	35.19	30.85	7.45	24.69	36.48	54.00	-17.52	AV
H	4824	48.09	30.55	5.77	24.66	47.97	74.00	-26.03	PK
H	4824	35.37	30.55	5.77	24.66	35.25	54.00	-18.75	AV
H	7236	47.61	30.33	6.32	24.55	48.15	74.00	-25.85	PK
H	7236	33.87	30.33	6.32	24.55	34.41	54.00	-19.59	AV
H	9648	43.39	30.85	7.45	24.69	44.68	74.00	-29.32	PK
H	9648	35.02	30.85	7.45	24.69	36.31	54.00	-17.69	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Middle Channel:2437MHz									
V	4874	47.76	30.55	5.77	24.66	47.64	74.00	-26.36	PK
V	4874	37.33	30.55	5.77	24.66	37.21	54.00	-16.79	AV
V	7311	46.38	30.33	6.32	24.55	46.92	74.00	-27.08	PK
V	7311	35.66	30.33	6.32	24.55	36.20	54.00	-17.80	AV
V	9748	43.37	30.85	7.45	24.69	44.66	74.00	-29.34	PK
V	9748	35.18	30.85	7.45	24.69	36.47	54.00	-17.53	AV
H	4874	48.27	30.55	5.77	24.66	48.15	74.00	-25.85	PK
H	4874	36.22	30.55	5.77	24.66	36.10	54.00	-17.90	AV
H	7311	47.08	30.33	6.32	24.55	47.62	74.00	-26.38	PK
H	7311	35.66	30.33	6.32	24.55	36.20	54.00	-17.80	AV
H	9748	41.85	30.85	7.45	24.69	43.14	74.00	-30.86	PK
H	9748	32.57	30.85	7.45	24.69	33.86	54.00	-20.14	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
High Channel:2462MHz									
V	4924	46.59	30.55	5.77	24.66	46.47	74.00	-27.53	PK
V	4924	36.49	30.55	5.77	24.66	36.37	54.00	-17.63	AV
V	7386	47.15	30.33	6.32	24.55	47.69	74.00	-26.31	PK
V	7386	34.13	30.33	6.32	24.55	34.67	54.00	-19.33	AV
V	9848	42.83	30.85	7.45	24.69	44.12	74.00	-29.88	PK
V	9848	34.49	30.85	7.45	24.69	35.78	54.00	-18.22	AV
H	4924	46.03	30.55	5.77	24.66	45.91	74.00	-28.09	PK
H	4924	35.73	30.55	5.77	24.66	35.61	54.00	-18.39	AV
H	7386	46.04	30.33	6.32	24.55	46.58	74.00	-27.42	PK
H	7386	33.24	30.33	6.32	24.55	33.78	54.00	-20.22	AV
H	9848	42.23	30.85	7.45	24.69	43.52	74.00	-30.48	PK
H	9848	32.63	30.85	7.45	24.69	33.92	54.00	-20.08	AV

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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:2422MHz									
V	4844	48.64	30.55	5.77	24.66	48.52	74.00	-25.48	PK
V	4844	37.78	30.55	5.77	24.66	37.66	54.00	-16.34	AV
V	7266	46.12	30.33	6.32	24.55	46.66	74.00	-27.34	PK
V	7266	34.79	30.33	6.32	24.55	35.33	54.00	-18.67	AV
V	9688	41.34	30.85	7.45	24.69	42.63	74.00	-31.37	PK
V	9688	34.96	30.85	7.45	24.69	36.25	54.00	-17.75	AV
H	4844	46.02	30.55	5.77	24.66	45.90	74.00	-28.10	PK
H	4844	36.74	30.55	5.77	24.66	36.62	54.00	-17.38	AV
H	7266	46.51	30.33	6.32	24.55	47.05	74.00	-26.95	PK
H	7266	35.16	30.33	6.32	24.55	35.70	54.00	-18.30	AV
H	9688	42.03	30.85	7.45	24.69	43.32	74.00	-30.68	PK
H	9688	33.18	30.85	7.45	24.69	34.47	54.00	-19.53	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Middle Channel:2437MHz									
V	4874	46.82	30.55	5.77	24.66	46.70	74.00	-27.30	PK
V	4874	37.33	30.55	5.77	24.66	37.21	54.00	-16.79	AV
V	7311	46.24	30.33	6.32	24.55	46.78	74.00	-27.22	PK
V	7311	33.77	30.33	6.32	24.55	34.31	54.00	-19.69	AV
V	9748	40.92	30.85	7.45	24.69	42.21	74.00	-31.79	PK
V	9748	34.10	30.85	7.45	24.69	35.39	54.00	-18.61	AV
H	4874	47.55	30.55	5.77	24.66	47.43	74.00	-26.57	PK
H	4874	37.57	30.55	5.77	24.66	37.45	54.00	-16.55	AV
H	7311	46.66	30.33	6.32	24.55	47.20	74.00	-26.80	PK
H	7311	34.02	30.33	6.32	24.55	34.56	54.00	-19.44	AV
H	9748	42.40	30.85	7.45	24.69	43.69	74.00	-30.31	PK
H	9748	33.15	30.85	7.45	24.69	34.44	54.00	-19.56	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
High Channel:2452MHz									
V	4904	46.24	30.55	5.77	24.66	46.12	74.00	-27.88	PK
V	4904	36.99	30.55	5.77	24.66	36.87	54.00	-17.13	AV
V	7356	46.90	30.33	6.32	24.55	47.44	74.00	-26.56	PK
V	7356	35.13	30.33	6.32	24.55	35.67	54.00	-18.33	AV
V	9808	43.52	30.85	7.45	24.69	44.81	74.00	-29.19	PK
V	9808	33.03	30.85	7.45	24.69	34.32	54.00	-19.68	AV
H	4904	45.86	30.55	5.77	24.66	45.74	74.00	-28.26	PK
H	4904	36.11	30.55	5.77	24.66	35.99	54.00	-18.01	AV
H	7356	47.00	30.33	6.32	24.55	47.54	74.00	-26.46	PK
H	7356	34.01	30.33	6.32	24.55	34.55	54.00	-19.45	AV
H	9808	41.45	30.85	7.45	24.69	42.74	74.00	-31.26	PK
H	9808	34.31	30.85	7.45	24.69	35.60	54.00	-18.40	AV

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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:2412MHz									
V	4824	46.45	30.55	5.77	24.66	46.33	74.00	-27.67	PK
V	4824	36.59	30.55	5.77	24.66	36.47	54.00	-17.53	AV
V	7236	47.21	30.33	6.32	24.55	47.75	74.00	-26.25	PK
V	7236	35.75	30.33	6.32	24.55	36.29	54.00	-17.71	AV
V	9648	43.19	30.85	7.45	24.69	44.48	74.00	-29.52	PK
V	9648	32.78	30.85	7.45	24.69	34.07	54.00	-19.93	AV
H	4824	47.48	30.55	5.77	24.66	47.36	74.00	-26.64	PK
H	4824	35.45	30.55	5.77	24.66	35.33	54.00	-18.67	AV
H	7236	46.16	30.33	6.32	24.55	46.70	74.00	-27.30	PK
H	7236	35.64	30.33	6.32	24.55	36.18	54.00	-17.82	AV
H	9648	42.19	30.85	7.45	24.69	43.48	74.00	-30.52	PK
H	9648	33.07	30.85	7.45	24.69	34.36	54.00	-19.64	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Middle Channel:2437MHz									
V	4874	47.93	30.55	5.77	24.66	47.81	74.00	-26.19	PK
V	4874	35.99	30.55	5.77	24.66	35.87	54.00	-18.13	AV
V	7311	47.38	30.33	6.32	24.55	47.92	74.00	-26.08	PK
V	7311	32.85	30.33	6.32	24.55	33.39	54.00	-20.61	AV
V	9748	41.14	30.85	7.45	24.69	42.43	74.00	-31.57	PK
V	9748	33.27	30.85	7.45	24.69	34.56	54.00	-19.44	AV
H	4874	47.85	30.55	5.77	24.66	47.73	74.00	-26.27	PK
H	4874	37.56	30.55	5.77	24.66	37.44	54.00	-16.56	AV
H	7311	46.98	30.33	6.32	24.55	47.52	74.00	-26.48	PK
H	7311	34.16	30.33	6.32	24.55	34.70	54.00	-19.30	AV
H	9748	42.37	30.85	7.45	24.69	43.66	74.00	-30.34	PK
H	9748	34.20	30.85	7.45	24.69	35.49	54.00	-18.51	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
High Channel:2462MHz									
V	4924	47.04	30.55	5.77	24.66	46.92	74.00	-27.08	PK
V	4924	36.05	30.55	5.77	24.66	35.93	54.00	-18.07	AV
V	7386	47.18	30.33	6.32	24.55	47.72	74.00	-26.28	PK
V	7386	34.00	30.33	6.32	24.55	34.54	54.00	-19.46	AV
V	9848	42.86	30.85	7.45	24.69	44.15	74.00	-29.85	PK
V	9848	32.64	30.85	7.45	24.69	33.93	54.00	-20.07	AV
H	4924	47.12	30.55	5.77	24.66	47.00	74.00	-27.00	PK
H	4924	36.01	30.55	5.77	24.66	35.89	54.00	-18.11	AV
H	7386	46.27	30.33	6.32	24.55	46.81	74.00	-27.19	PK
H	7386	33.87	30.33	6.32	24.55	34.41	54.00	-19.59	AV
H	9848	42.04	30.85	7.45	24.69	43.33	74.00	-30.67	PK
H	9848	32.61	30.85	7.45	24.69	33.90	54.00	-20.10	AV

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Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel:2422MHz									
V	4844	47.10	30.55	5.77	24.66	46.98	74.00	-27.02	PK
V	4844	35.35	30.55	5.77	24.66	35.23	54.00	-18.77	AV
V	7266	46.61	30.33	6.32	24.55	47.15	74.00	-26.85	PK
V	7266	35.45	30.33	6.32	24.55	35.99	54.00	-18.01	AV
V	9688	41.01	30.85	7.45	24.69	42.30	74.00	-31.70	PK
V	9688	33.33	30.85	7.45	24.69	34.62	54.00	-19.38	AV
H	4844	47.84	30.55	5.77	24.66	47.72	74.00	-26.28	PK
H	4844	37.71	30.55	5.77	24.66	37.59	54.00	-16.41	AV
H	7266	46.27	30.33	6.32	24.55	46.81	74.00	-27.19	PK
H	7266	35.65	30.33	6.32	24.55	36.19	54.00	-17.81	AV
H	9688	43.50	30.85	7.45	24.69	44.79	74.00	-29.21	PK
H	9688	33.34	30.85	7.45	24.69	34.63	54.00	-19.37	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Middle Channel:2437MHz									
V	4874	47.22	30.55	5.77	24.66	47.10	74.00	-26.90	PK
V	4874	37.60	30.55	5.77	24.66	37.48	54.00	-16.52	AV
V	7311	46.40	30.33	6.32	24.55	46.94	74.00	-27.06	PK
V	7311	32.94	30.33	6.32	24.55	33.48	54.00	-20.52	AV
V	9748	41.90	30.85	7.45	24.69	43.19	74.00	-30.81	PK
V	9748	32.31	30.85	7.45	24.69	33.60	54.00	-20.40	AV
H	4874	48.26	30.55	5.77	24.66	48.14	74.00	-25.86	PK
H	4874	38.17	30.55	5.77	24.66	38.05	54.00	-15.95	AV
H	7311	46.05	30.33	6.32	24.55	46.59	74.00	-27.41	PK
H	7311	34.34	30.33	6.32	24.55	34.88	54.00	-19.12	AV
H	9748	43.23	30.85	7.45	24.69	44.52	74.00	-29.48	PK
H	9748	32.80	30.85	7.45	24.69	34.09	54.00	-19.91	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
High Channel:2452MHz									
V	4904	47.29	30.55	5.77	24.66	47.17	74.00	-26.83	PK
V	4904	36.84	30.55	5.77	24.66	36.72	54.00	-17.28	AV
V	7356	46.68	30.33	6.32	24.55	47.22	74.00	-26.78	PK
V	7356	33.83	30.33	6.32	24.55	34.37	54.00	-19.63	AV
V	9808	41.15	30.85	7.45	24.69	42.44	74.00	-31.56	PK
V	9808	33.58	30.85	7.45	24.69	34.87	54.00	-19.13	AV
H	4904	48.49	30.55	5.77	24.66	48.37	74.00	-25.63	PK
H	4904	35.46	30.55	5.77	24.66	35.34	54.00	-18.66	AV
H	7356	46.12	30.33	6.32	24.55	46.66	74.00	-27.34	PK
H	7356	34.30	30.33	6.32	24.55	34.84	54.00	-19.16	AV
H	9808	43.22	30.85	7.45	24.69	44.51	74.00	-29.49	PK
H	9808	33.60	30.85	7.45	24.69	34.89	54.00	-19.11	AV

5.RADIATED BAND EMISSIONMEASUREMENT

5.1 TEST REQUIREMENT:

<table>
<tr><td>Test Requirement:</td><td colspan="5">FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td colspan="5">ANSI C63.10: 2013</td></tr>
<tr><td>Test Frequency Range:</td><td colspan="5">All of the restrict bands were tested, only the worst band's (2310MHz to 2500MHz) data was showed.</td></tr>
<tr><td>Test site:</td><td colspan="5">Measurement Distance: 3m</td></tr>
<tr><td rowspan="3">Receiver setup:</td><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak</td></tr>
<tr><td>Average</td><td>1MHz</td><td>3MHz</td><td>Average</td></tr>
</table>

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

5.2 TEST PROCEDURE

Above 1GHz test procedure as below:

a. 1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could bestopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dBmargin would be re-tested one by one using peak, quasi-peak or average method as specified and then reportedin a data sheet.

g. Test the EUT in the lowest channel,the Highest channel

Note:

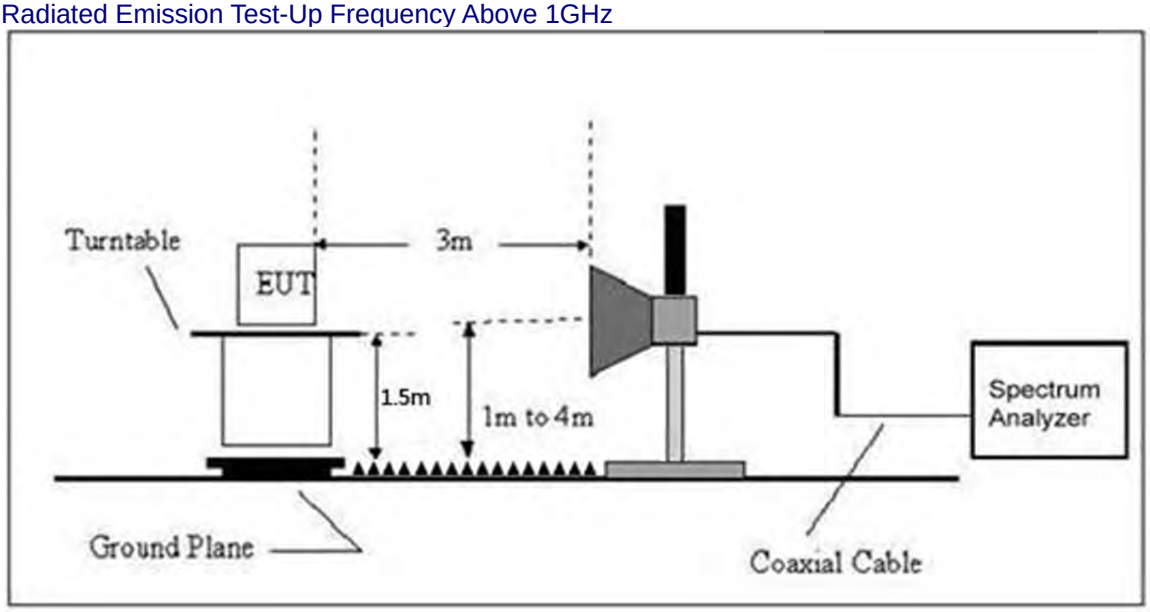
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

5.3 DEVIATION FROM TEST STANDARD

No deviation

5.4 TEST SETUP

Radiated Emission Test-Up Frequency Above 1GHz



5.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

5.6 TEST RESULT

ANT1

	Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Detector Type	Result
802.11b	Low Channel 2412MHz									
	H	2390.00	52.77	30.22	4.85	23.98	51.38	74	PK	PASS
	H	2390.00	38.02	30.22	4.85	23.98	36.63	54	AV	PASS
	H	2400.00	52.33	30.22	4.85	23.98	50.94	74	PK	PASS
	H	2400.00	39.20	30.22	4.85	23.98	37.81	54	AV	PASS
	V	2390.00	52.64	30.22	4.85	23.98	51.25	74	PK	PASS
	V	2390.00	41.83	30.22	4.85	23.98	40.44	54	AV	PASS
	V	2400.00	53.14	30.22	4.85	23.98	51.75	74	PK	PASS
	V	2400.00	37.02	30.22	4.85	23.98	35.63	54	AV	PASS
	High Channel 2462MHz									
	H	2483.50	48.84	30.22	4.85	23.98	47.45	74	PK	PASS
	H	2485.50	35.62	30.22	4.85	23.98	34.23	54	AV	PASS
	H	2483.50	48.02	30.22	4.85	23.98	46.63	74	PK	PASS
	H	2485.50	38.21	30.22	4.85	23.98	36.82	54	AV	PASS
	V	2483.50	57.41	30.22	4.85	23.98	56.02	74	PK	PASS
	V	2485.50	38.79	30.22	4.85	23.98	37.40	54	AV	PASS
	V	2483.50	57.65	30.22	4.85	23.98	56.26	74	PK	PASS
	V	2485.50	38.86	30.22	4.85	23.98	37.47	54	AV	PASS

802.11g	Low Channel 2412MHz									
	H	2390.00	53.55	30.22	4.85	23.98	52.16	74	PK	PASS
	H	2390.00	36.59	30.22	4.85	23.98	35.20	54	AV	PASS
	H	2400.00	54.29	30.22	4.85	23.98	52.90	74	PK	PASS
	H	2400.00	40.33	30.22	4.85	23.98	38.94	54	AV	PASS
	V	2390.00	52.77	30.22	4.85	23.98	51.38	74	PK	PASS
	V	2390.00	42.69	30.22	4.85	23.98	41.30	54	AV	PASS
	V	2400.00	53.52	30.22	4.85	23.98	52.13	74	PK	PASS
	V	2400.00	37.29	30.22	4.85	23.98	35.90	54	AV	PASS
	High Channel 2462MHz									
	H	2483.50	49.29	30.22	4.85	23.98	47.90	74	PK	PASS
	H	2485.50	40.01	30.22	4.85	23.98	38.62	54	AV	PASS
	H	2483.50	48.66	30.22	4.85	23.98	47.27	74	PK	PASS
	H	2485.50	35.74	30.22	4.85	23.98	34.35	54	AV	PASS
	V	2483.50	59.53	30.22	4.85	23.98	58.14	74	PK	PASS
	V	2485.50	41.20	30.22	4.85	23.98	39.81	54	AV	PASS
	V	2483.50	54.73	30.22	4.85	23.98	53.34	74	PK	PASS
	V	2485.50	43.15	30.22	4.85	23.98	41.76	54	AV	PASS

802.11n20	Low Channel 2412MHz									
	H	2390.00	55.42	30.22	4.85	23.98	54.03	74	PK	PASS
	H	2390.00	35.77	30.22	4.85	23.98	34.38	54	AV	PASS
	H	2400.00	53.23	30.22	4.85	23.98	51.84	74	PK	PASS
	H	2400.00	40.08	30.22	4.85	23.98	38.69	54	AV	PASS
	V	2390.00	53.48	30.22	4.85	23.98	52.09	74	PK	PASS
	V	2390.00	40.66	30.22	4.85	23.98	39.27	54	AV	PASS
	V	2400.00	51.16	30.22	4.85	23.98	49.77	74	PK	PASS
	V	2400.00	37.98	30.22	4.85	23.98	36.59	54	AV	PASS
	High Channel 2462MHz									
	H	2483.50	48.14	30.22	4.85	23.98	46.75	74	PK	PASS
	H	2485.50	40.66	30.22	4.85	23.98	39.27	54	AV	PASS
	H	2483.50	51.99	30.22	4.85	23.98	50.60	74	PK	PASS
	H	2485.50	36.54	30.22	4.85	23.98	35.15	54	AV	PASS

	V	2483.50	58.94	30.22	4.85	23.98	57.55	74	PK	PASS
	V	2485.50	42.83	30.22	4.85	23.98	41.44	54	AV	PASS
	V	2483.50	59.43	30.22	4.85	23.98	58.04	74	PK	PASS
	V	2485.50	37.00	30.22	4.85	23.98	35.61	54	AV	PASS

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit

802.11n40	Low Channel 2422MHz									
	H	2390.00	53.15	30.22	4.85	23.98	51.76	74	PK	PASS
	H	2390.00	36.01	30.22	4.85	23.98	34.62	54	AV	PASS
	H	2400.00	53.18	30.22	4.85	23.98	51.79	74	PK	PASS
	H	2400.00	40.57	30.22	4.85	23.98	39.18	54	AV	PASS
	V	2390.00	52.74	30.22	4.85	23.98	51.35	74	PK	PASS
	V	2390.00	41.29	30.22	4.85	23.98	39.90	54	AV	PASS
	V	2400.00	52.79	30.22	4.85	23.98	51.40	74	PK	PASS
	V	2400.00	38.17	30.22	4.85	23.98	36.78	54	AV	PASS
	High Channel 2452MHz									
	H	2483.50	49.30	30.22	4.85	23.98	47.91	74	PK	PASS
	H	2485.50	38.65	30.22	4.85	23.98	37.26	54	AV	PASS
	H	2483.50	53.58	30.22	4.85	23.98	52.19	74	PK	PASS
	H	2485.50	38.01	30.22	4.85	23.98	36.62	54	AV	PASS
	V	2483.50	52.72	30.22	4.85	23.98	51.33	74	PK	PASS
	V	2485.50	42.52	30.22	4.85	23.98	41.13	54	AV	PASS
	V	2483.50	54.03	30.22	4.85	23.98	52.64	74	PK	PASS
	V	2485.50	39.24	30.22	4.85	23.98	37.85	54	AV	PASS

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit

ANT2

	Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV/m)	Detector Type	Result
802.11b	Low Channel 2412MHz									
	H	2390.00	55.35	30.22	4.85	23.98	53.96	74	PK	PASS
	H	2390.00	38.50	30.22	4.85	23.98	37.11	54	AV	PASS
	H	2400.00	52.47	30.22	4.85	23.98	51.08	74	PK	PASS
	H	2400.00	39.42	30.22	4.85	23.98	38.03	54	AV	PASS
	V	2390.00	51.20	30.22	4.85	23.98	49.81	74	PK	PASS
	V	2390.00	41.52	30.22	4.85	23.98	40.13	54	AV	PASS
	V	2400.00	50.78	30.22	4.85	23.98	49.39	74	PK	PASS
	V	2400.00	36.98	30.22	4.85	23.98	35.59	54	AV	PASS
	High Channel 2462MHz									
	H	2483.50	50.18	30.22	4.85	23.98	48.79	74	PK	PASS
	H	2485.50	35.30	30.22	4.85	23.98	33.91	54	AV	PASS
	H	2483.50	48.02	30.22	4.85	23.98	46.63	74	PK	PASS
	H	2485.50	36.31	30.22	4.85	23.98	34.92	54	AV	PASS
	V	2483.50	56.50	30.22	4.85	23.98	55.11	74	PK	PASS
	V	2485.50	43.18	30.22	4.85	23.98	41.79	54	AV	PASS
	V	2483.50	58.84	30.22	4.85	23.98	57.45	74	PK	PASS
	V	2485.50	40.81	30.22	4.85	23.98	39.42	54	AV	PASS

802.11g	Low Channel 2412MHz									
	H	2390.00	56.56	30.22	4.85	23.98	55.17	74	PK	PASS
	H	2390.00	36.72	30.22	4.85	23.98	35.33	54	AV	PASS
	H	2400.00	51.78	30.22	4.85	23.98	50.39	74	PK	PASS
	H	2400.00	39.72	30.22	4.85	23.98	38.33	54	AV	PASS
	V	2390.00	52.93	30.22	4.85	23.98	51.54	74	PK	PASS
	V	2390.00	40.49	30.22	4.85	23.98	39.10	54	AV	PASS
	V	2400.00	52.77	30.22	4.85	23.98	51.38	74	PK	PASS
	V	2400.00	37.33	30.22	4.85	23.98	35.94	54	AV	PASS
	High Channel 2462MHz									
	H	2483.50	50.26	30.22	4.85	23.98	48.87	74	PK	PASS
	H	2485.50	38.78	30.22	4.85	23.98	37.39	54	AV	PASS
	H	2483.50	54.65	30.22	4.85	23.98	53.26	74	PK	PASS
	H	2485.50	38.71	30.22	4.85	23.98	37.32	54	AV	PASS
	V	2483.50	59.36	30.22	4.85	23.98	57.97	74	PK	PASS
	V	2485.50	39.31	30.22	4.85	23.98	37.92	54	AV	PASS
	V	2483.50	54.78	30.22	4.85	23.98	53.39	74	PK	PASS
	V	2485.50	39.41	30.22	4.85	23.98	38.02	54	AV	PASS

802.11n20	Low Channel 2412MHz									
	H	2390.00	54.27	30.22	4.85	23.98	52.88	74	PK	PASS
	H	2390.00	36.16	30.22	4.85	23.98	34.77	54	AV	PASS
	H	2400.00	52.89	30.22	4.85	23.98	51.50	74	PK	PASS
	H	2400.00	39.17	30.22	4.85	23.98	37.78	54	AV	PASS
	V	2390.00	51.94	30.22	4.85	23.98	50.55	74	PK	PASS
	V	2390.00	41.10	30.22	4.85	23.98	39.71	54	AV	PASS
	V	2400.00	52.46	30.22	4.85	23.98	51.07	74	PK	PASS
	V	2400.00	38.85	30.22	4.85	23.98	37.46	54	AV	PASS
	High Channel 2462MHz									
	H	2483.50	47.08	30.22	4.85	23.98	45.69	74	PK	PASS
	H	2485.50	34.52	30.22	4.85	23.98	33.13	54	AV	PASS
	H	2483.50	55.16	30.22	4.85	23.98	53.77	74	PK	PASS
	H	2485.50	35.53	30.22	4.85	23.98	34.14	54	AV	PASS
	V	2483.50	57.68	30.22	4.85	23.98	56.29	74	PK	PASS
	V	2485.50	41.09	30.22	4.85	23.98	39.70	54	AV	PASS
	V	2483.50	56.19	30.22	4.85	23.98	54.80	74	PK	PASS
	V	2485.50	41.23	30.22	4.85	23.98	39.84	54	AV	PASS

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit

802.11n40	Low Channel 2422MHz									
	H	2390.00	56.37	30.22	4.85	23.98	54.98	74	PK	PASS
	H	2390.00	38.06	30.22	4.85	23.98	36.67	54	AV	PASS
	H	2400.00	51.99	30.22	4.85	23.98	50.60	74	PK	PASS
	H	2400.00	38.58	30.22	4.85	23.98	37.19	54	AV	PASS
	V	2390.00	53.28	30.22	4.85	23.98	51.89	74	PK	PASS
	V	2390.00	39.77	30.22	4.85	23.98	38.38	54	AV	PASS
	V	2400.00	52.54	30.22	4.85	23.98	51.15	74	PK	PASS
	V	2400.00	39.47	30.22	4.85	23.98	38.08	54	AV	PASS
	High Channel 2452MHz									
	H	2483.50	48.22	30.22	4.85	23.98	46.83	74	PK	PASS
	H	2485.50	37.41	30.22	4.85	23.98	36.02	54	AV	PASS
	H	2483.50	55.41	30.22	4.85	23.98	54.02	74	PK	PASS
	H	2485.50	40.28	30.22	4.85	23.98	38.89	54	AV	PASS
	V	2483.50	53.50	30.22	4.85	23.98	52.11	74	PK	PASS
	V	2485.50	38.51	30.22	4.85	23.98	37.12	54	AV	PASS

	V	2483.50	57.80	30.22	4.85	23.98	56.41	74	PK	PASS
	V	2485.50	39.42	30.22	4.85	23.98	38.03	54	AV	PASS

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit

MIMO

802.11n20	Low Channel 2412MHz									
	H	2390.00	54.19	30.22	4.85	23.98	52.80	74	PK	PASS
	H	2390.00	37.88	30.22	4.85	23.98	36.49	54	AV	PASS
	H	2400.00	53.85	30.22	4.85	23.98	52.46	74	PK	PASS
	H	2400.00	38.31	30.22	4.85	23.98	36.92	54	AV	PASS
	V	2390.00	51.06	30.22	4.85	23.98	49.67	74	PK	PASS
	V	2390.00	40.94	30.22	4.85	23.98	39.55	54	AV	PASS
	V	2400.00	50.97	30.22	4.85	23.98	49.58	74	PK	PASS
	V	2400.00	36.99	30.22	4.85	23.98	35.60	54	AV	PASS
	High Channel 2462MHz									
	H	2483.50	47.71	30.22	4.85	23.98	46.32	74	PK	PASS
	H	2485.50	38.15	30.22	4.85	23.98	36.76	54	AV	PASS
	H	2483.50	51.99	30.22	4.85	23.98	50.60	74	PK	PASS
	H	2485.50	40.36	30.22	4.85	23.98	38.97	54	AV	PASS
	V	2483.50	57.15	30.22	4.85	23.98	55.76	74	PK	PASS
	V	2485.50	44.58	30.22	4.85	23.98	43.19	54	AV	PASS
	V	2483.50	60.39	30.22	4.85	23.98	59.00	74	PK	PASS
	V	2485.50	38.93	30.22	4.85	23.98	37.54	54	AV	PASS

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit

802.11n40	Low Channel 2422MHz									
	H	2390.00	54.08	30.22	4.85	23.98	52.69	74	PK	PASS
	H	2390.00	38.70	30.22	4.85	23.98	37.31	54	AV	PASS
	H	2400.00	52.24	30.22	4.85	23.98	50.85	74	PK	PASS
	H	2400.00	39.69	30.22	4.85	23.98	38.30	54	AV	PASS
	V	2390.00	52.80	30.22	4.85	23.98	51.41	74	PK	PASS
	V	2390.00	41.75	30.22	4.85	23.98	40.36	54	AV	PASS
	V	2400.00	53.12	30.22	4.85	23.98	51.73	74	PK	PASS
	V	2400.00	39.61	30.22	4.85	23.98	38.22	54	AV	PASS
	High Channel 2452MHz									
	H	2483.50	49.22	30.22	4.85	23.98	47.83	74	PK	PASS
	H	2485.50	39.15	30.22	4.85	23.98	37.76	54	AV	PASS
	H	2483.50	52.16	30.22	4.85	23.98	50.77	74	PK	PASS
	H	2485.50	35.56	30.22	4.85	23.98	34.17	54	AV	PASS
	V	2483.50	57.59	30.22	4.85	23.98	56.20	74	PK	PASS
	V	2485.50	41.60	30.22	4.85	23.98	40.21	54	AV	PASS
	V	2483.50	53.81	30.22	4.85	23.98	52.42	74	PK	PASS
	V	2485.50	37.59	30.22	4.85	23.98	36.20	54	AV	PASS

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit

6.POWER SPECTRAL DENSITY TEST

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	KDB558074 D0115.247 Meas Guidance v 05r02

6.1 APPLIED PROCEDURES / LIMIT

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

6.2 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
4. Set the VBW ≥ 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP

6.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

6.6 TEST RESULT

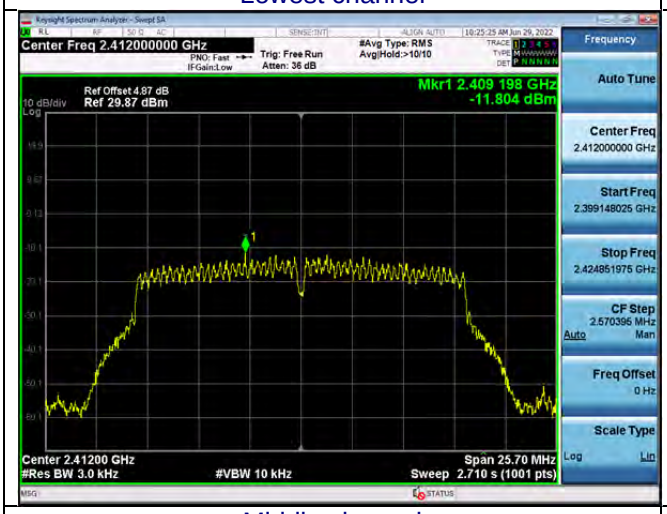
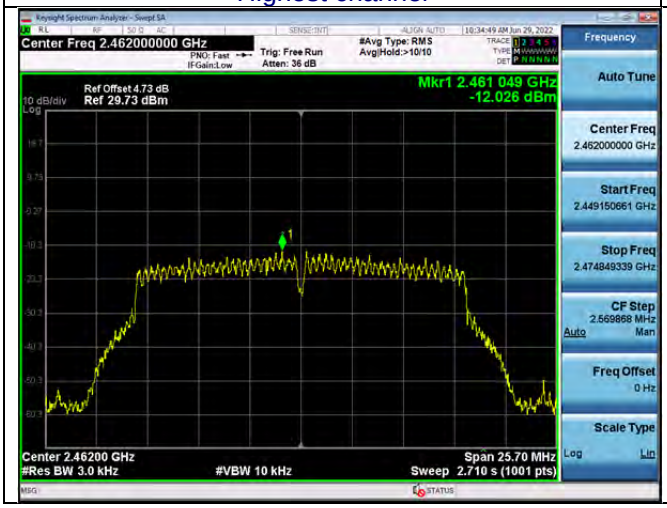
Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC120V

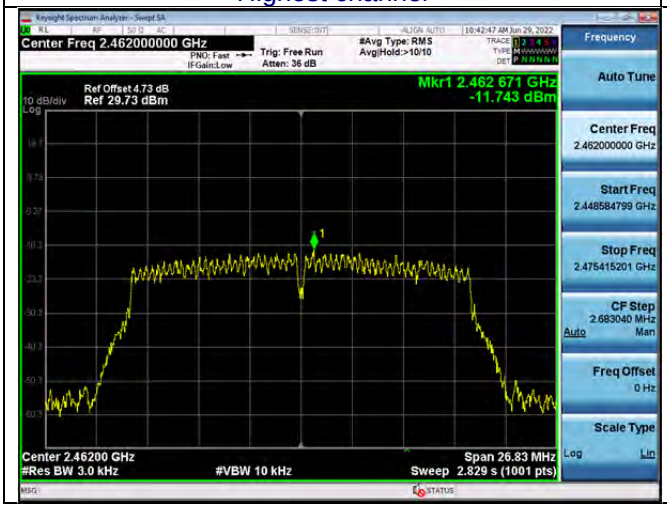
Test mode	Test channel	Power Spectral Density (dBm/3kHz)		Limit:	Result
		ANT1	ANT2		
802.11b	Lowest	-3.454	-4.04	8dBm/3kHz	PASS
	Middle	-6.139	-5.15		
	Highest	-6.739	-5.07		
802.11g	Lowest	-11.804	-10.46	8dBm/3kHz	PASS
	Middle	-11.835	-10.11		
	Highest	-12.026	-9.32		
802.11n(HT20)	Lowest	-11.933	-9.57	8dBm/3kHz	PASS
	Middle	-12.320	-9.89		
	Highest	-11.743	-10.20		
802.11n(HT40)	Lowest	-14.491	-15.00	8dBm/3kHz	PASS
	Middle	-15.471	-13.62		
	Highest	-14.445	-13.29		

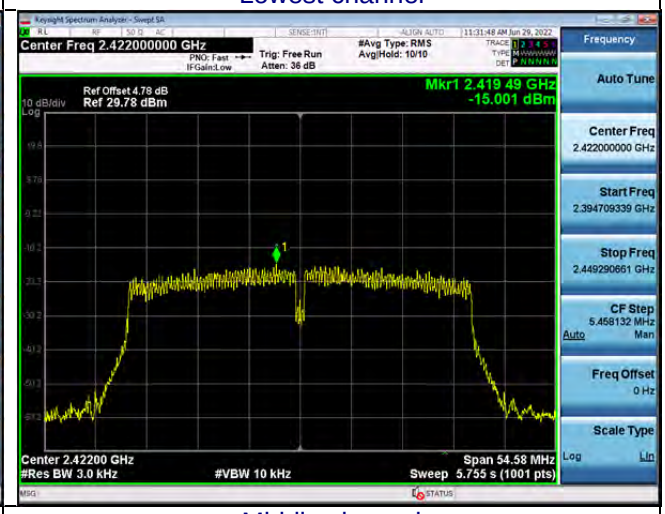
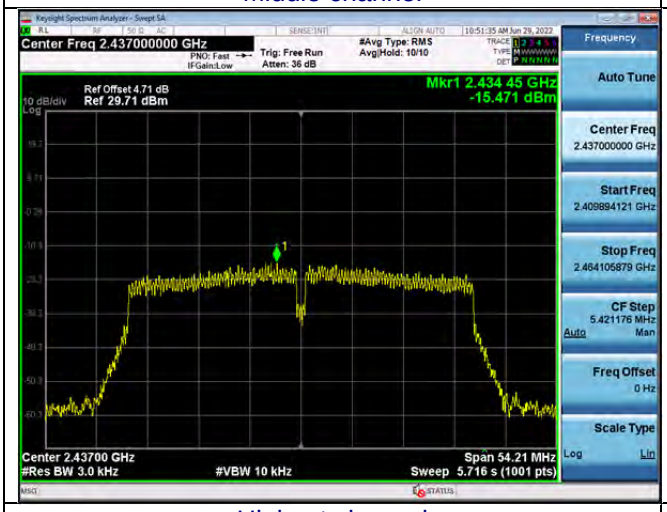
Test mode	Test channel	Power Spectral Density (dBm/3kHz)	Limit:	Result
		MIMO		
802.11n(HT20)	Lowest	-7.58	6.49dBm/3kHz	PASS
	Middle	-7.93		
	Highest	-7.89		
802.11n(HT40)	Lowest	-11.73	6.49dBm/3kHz	PASS
	Middle	-11.44		
	Highest	-10.82		

Remark:
1. Measured peak power spectrum density at difference data rate for each mode and recorded worst case for each mode.
2. Test results including cable loss;
3. Please refer to following plots;
4. The PSD limits of IEEE 802.11n HT20 and IEEE 802.11 n HT40 for MIMO with CDD technology should be reduce 10*log(2) =3.010dBi according to KDB662911D01;
5. For MIMO with CCD technology device, The Directional Gain= Gain of individual transmit antennas (dBi) + Array gain;
Array gain = 10 log (Nant), where N_{ant} is the number of transmit antennas.
So Power Spectral Density(MIMO)=8-(7.51-6)=8-1.51=6.49dBm/3kHz

ANT1	ANT2
802.11b	802.11b
Lowest channel	Lowest channel
Middle channel	Middle channel
Highest channel	Highest channel

ANT1	ANT2
802.11g	802.11g
Lowest channel	Lowest channel
	
Middle channel	Middle channel
Highest channel	Highest channel
	

ANT1	ANT2
802.11n(HT20)	802.11n(HT20)
Lowest channel	Lowest channel
Middle channel	Middle channel
Highest channel	Highest channel
	

ANT1	ANT2
802.11n(HT40)	802.11n(HT40)
Lowest channel	Lowest channel
	
Middle channel	Middle channel
	
Highest channel	Highest channel

7. CHANNEL BANDWIDTH

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	KDB558074 D0115.247 Meas Guidance v05r02

7.1 APPLIED PROCEDURES / 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

7.2 TEST PROCEDURE

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 xRBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP

7.5 EUT OPERATION CONDITIONS

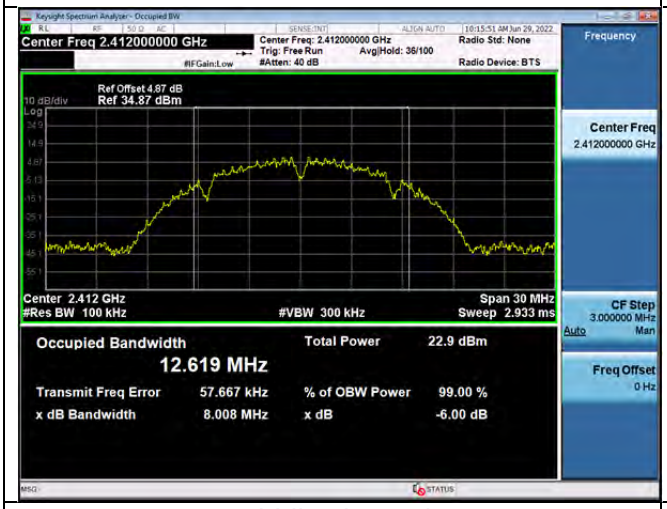
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

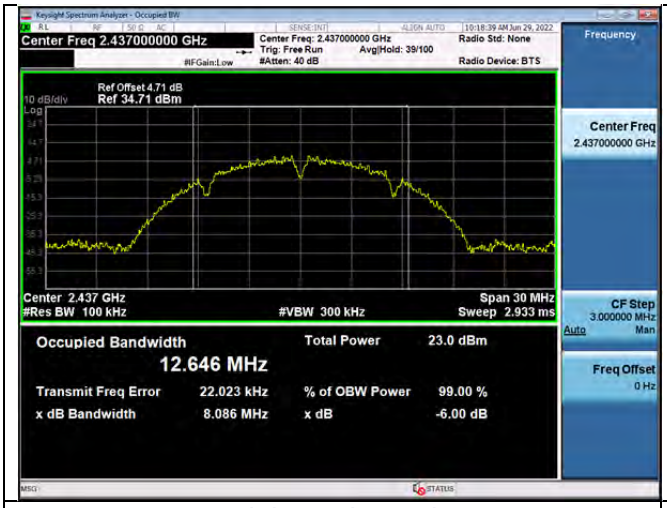
7.6 TEST RESULT

Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC120V
Test Mode ：	TX Mode		

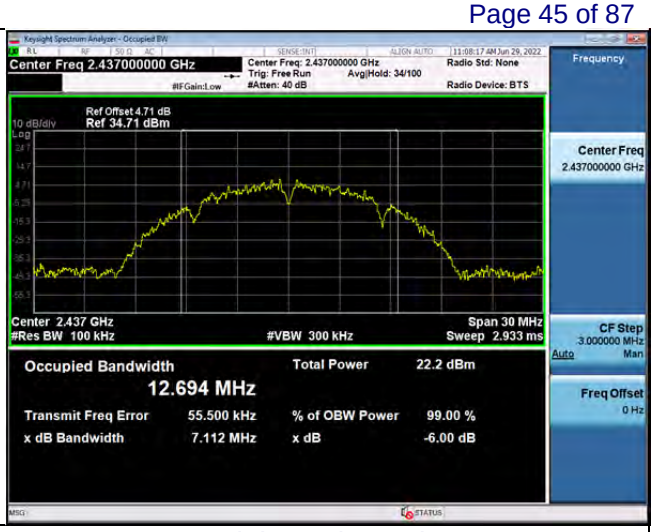
Test mode	Test channel	6dB Emission Bandwidth (MHz)		Limit:	Test Result:
		ANT1	ANT2		
802.11b	Lowest	8.008	7.541	>500kHz	PASS
	Middle	8.086	7.112		
	Highest	7.994	7.617		
802.11g	Lowest	12.57	15.46	>500kHz	PASS
	Middle	15.44	16.37		
	Highest	16.36	14.91		
802.11n(HT20)	Lowest	17.59	13.63	>500kHz	PASS
	Middle	15.05	16.69		
	Highest	17.58	15.05		
802.11n(HT40)	Lowest	27.66	31.38	>500kHz	PASS
	Middle	30.05	31.31		
	Highest	34.52	30.12		

Test plot as follows:

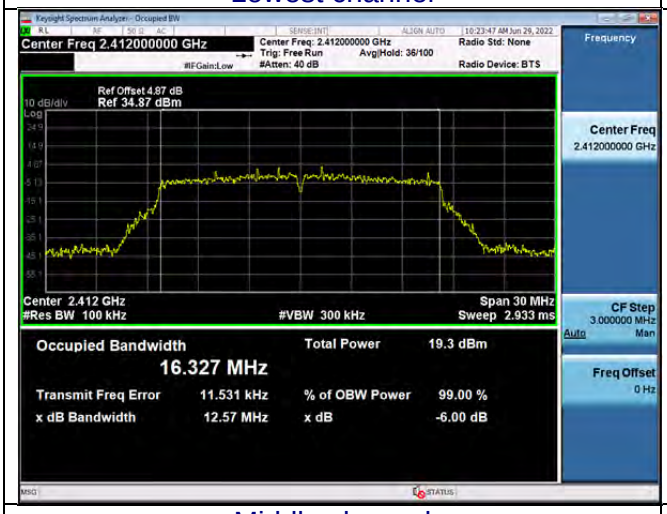
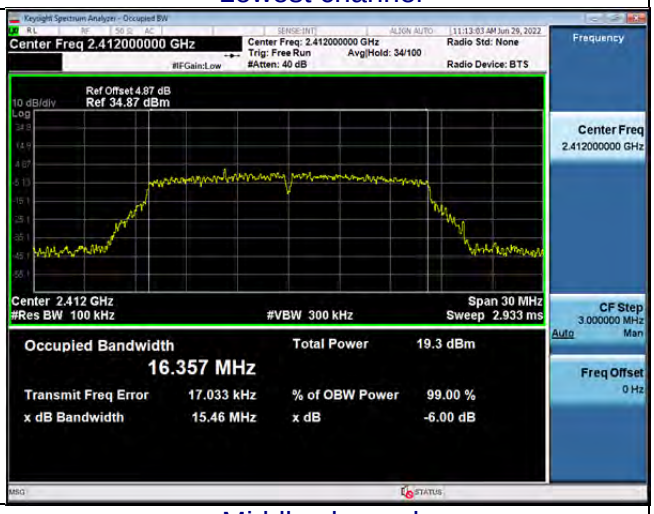
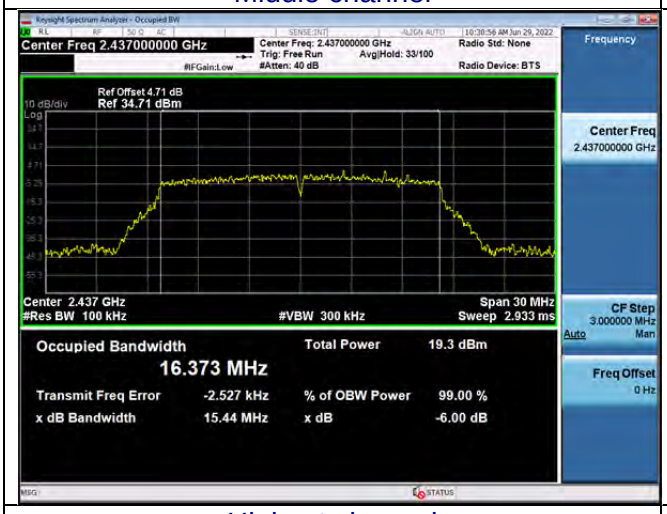
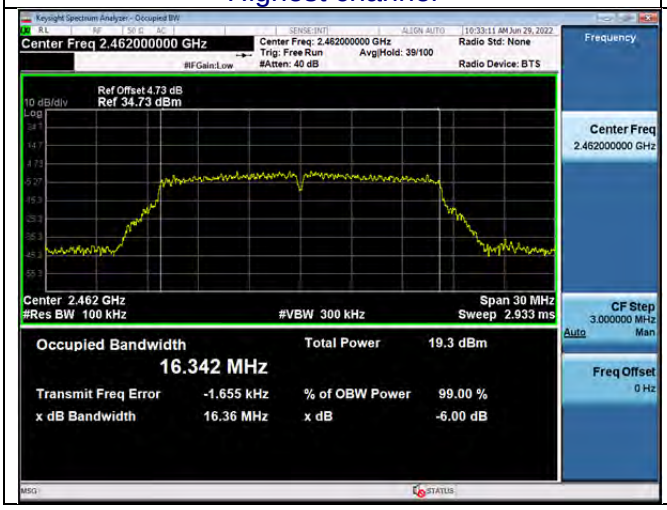
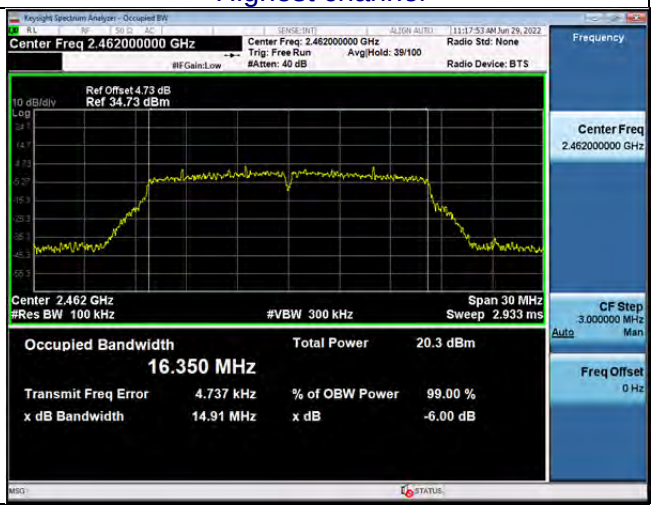
ANT1	ANT2
802.11b	802.11b
Lowest channel	Lowest channel
	
Middle channel	Middle channel

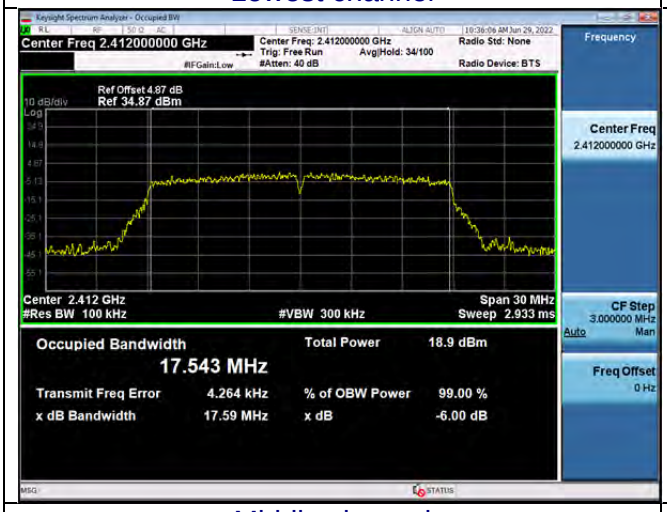
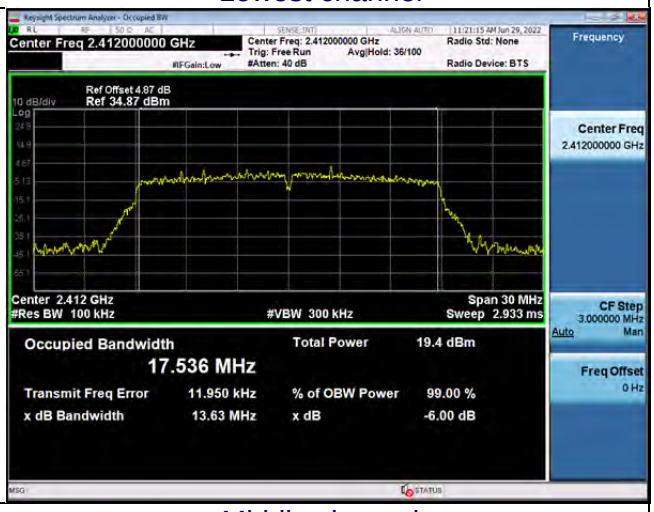
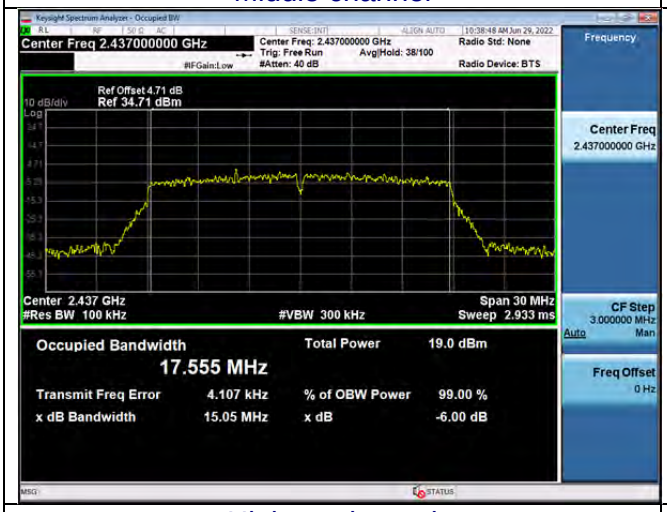
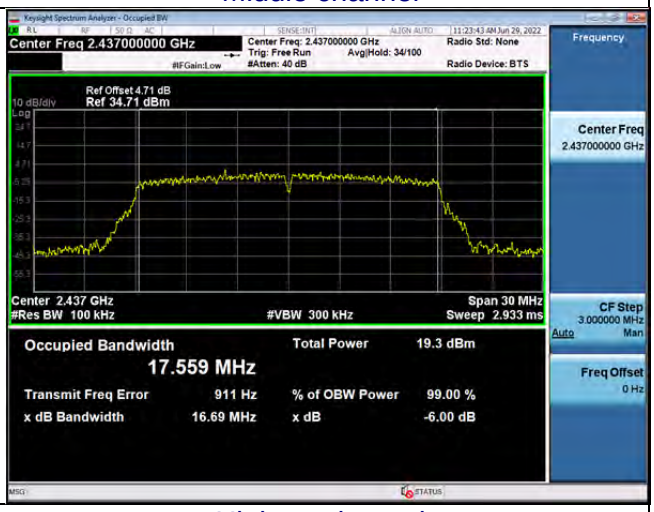
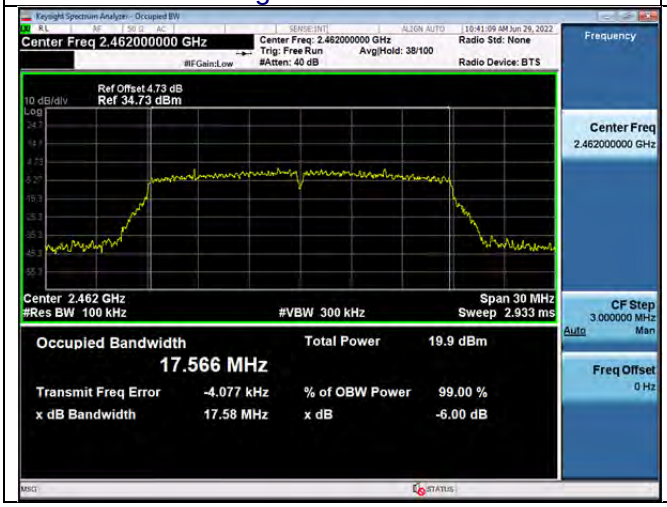
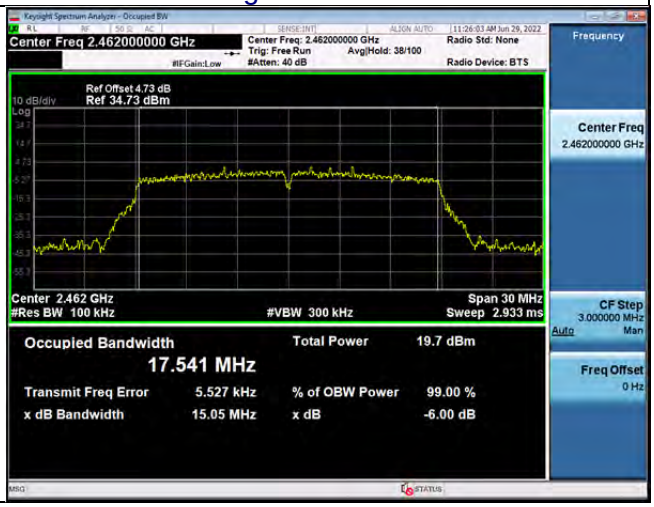


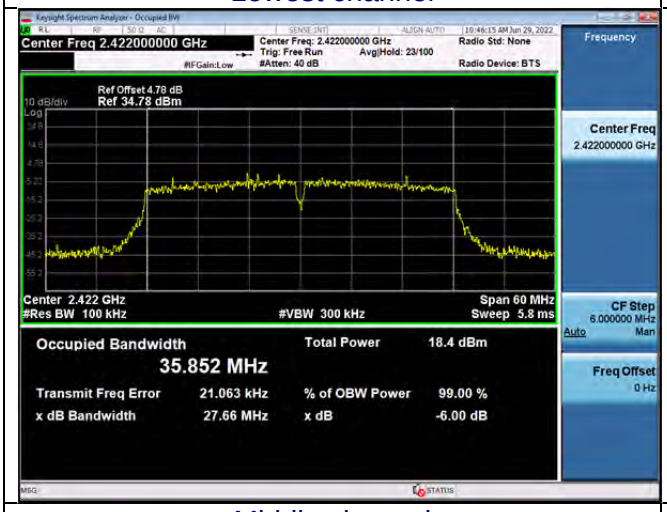
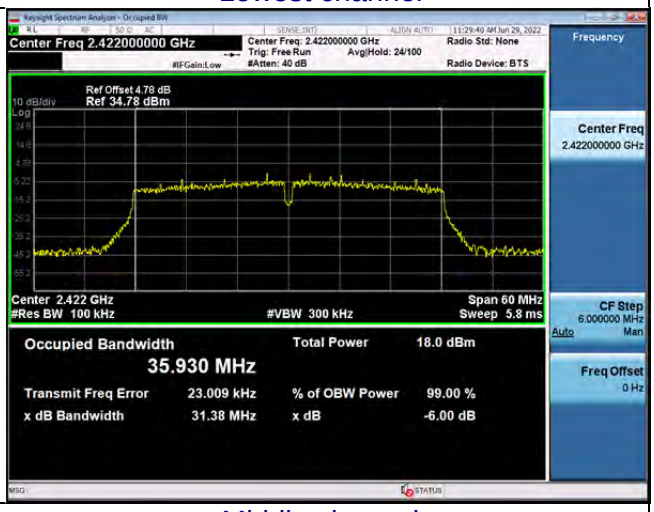
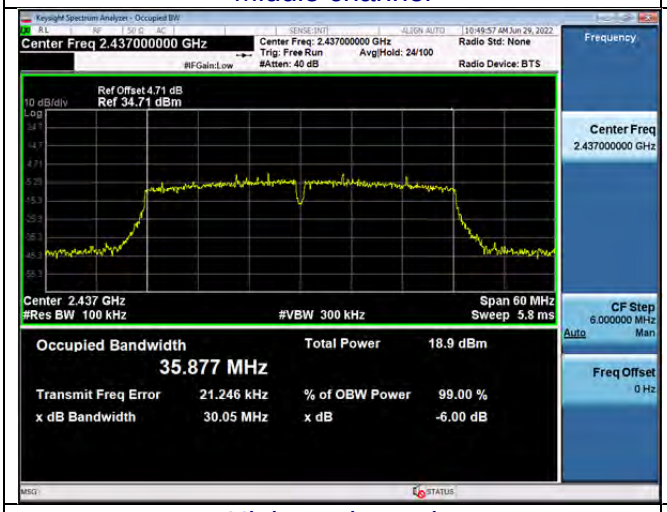
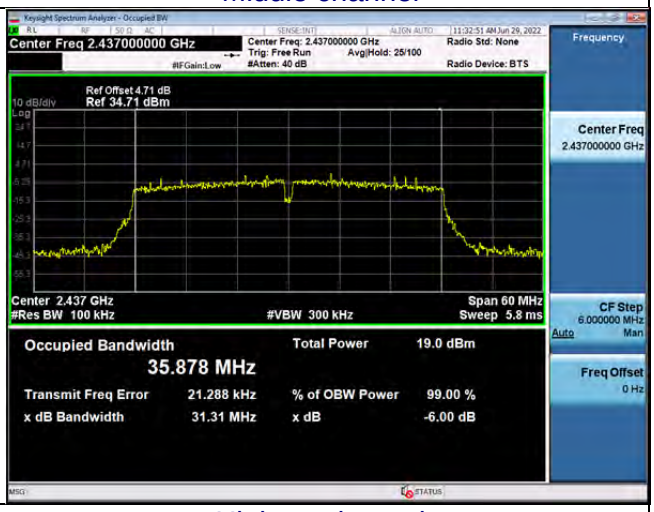
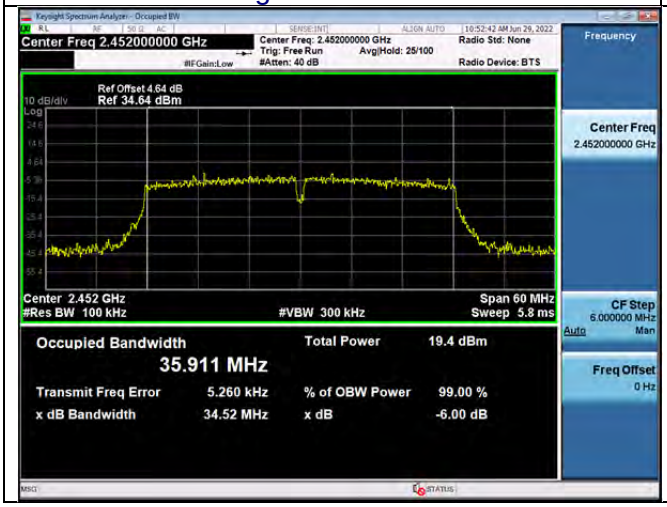
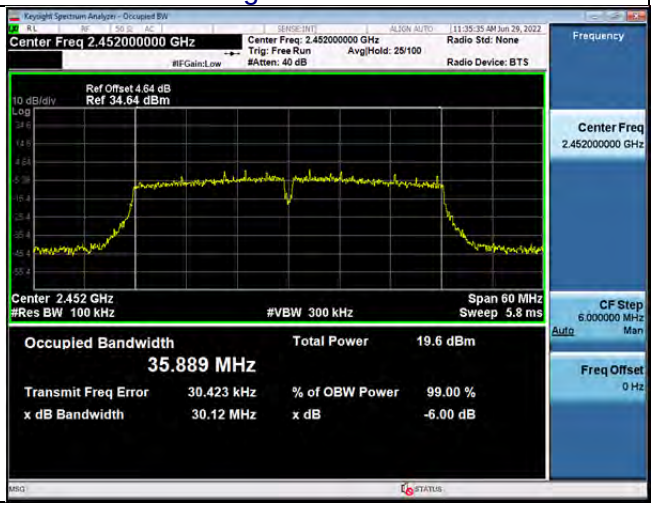
Highest channel



Highest channel

ANT1	ANT2
802.11g	802.11g
Lowest channel	Lowest channel
	
Middle channel	Middle channel
	
Highest channel	Highest channel
	

ANT1	ANT2
802.11n(HT20)	802.11n(HT20)
Lowest channel	Lowest channel
	
Middle channel	Middle channel
	
Highest channel	Highest channel
	

ANT1	ANT2
802.11n(HT40)	802.11n(HT40)
Lowest channel	Lowest channel
	
Middle channel	Middle channel
	
Highest channel	Highest channel
	

8. OUTPUT POWER TEST

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	KDB558074 D0115.247 Meas Guidance v05r02

8.1 APPLIED PROCEDURES/LIMIT

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

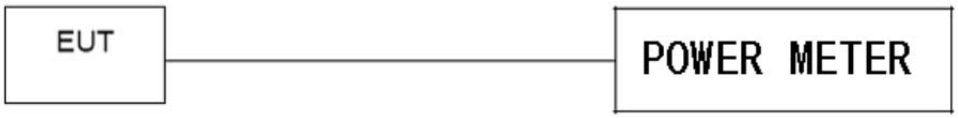
8.2 TEST PROCEDURE

a. The EUT was directly connected to the Power meter

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

8.6 TEST RESULT

Temperature：	26℃	Relative Humidity：	54%
Pressure：	101kPa	Test Voltage ：	AC120V

Condition NVNT	Modulation	Frequency (MHz)	Conducted Power(dBm)		limit(dBm)	Result
			ANT1	ANT2		
NVNT	802.11b	2412.00	18.18	18.85	30	Pass
NVNT	802.11b	2437.00	18.04	18.26	30	Pass
NVNT	802.11b	2462.00	17.55	18.41	30	Pass
NVNT	802.11g	2412.00	17.36	17.66	30	Pass
NVNT	802.11g	2437.00	17.41	17.54	30	Pass
NVNT	802.11g	2462.00	17.44	17.22	30	Pass
NVNT	802.11n(HT20)	2412.00	16.42	16.51	30	Pass
NVNT	802.11n(HT20)	2437.00	16.30	16.42	30	Pass
NVNT	802.11n(HT20)	2462.00	16.85	16.61	30	Pass
NVNT	802.11n(HT40)	2422.00	15.59	15.83	30	Pass
NVNT	802.11n(HT40)	2437.00	15.64	15.89	30	Pass
NVNT	802.11n(HT40)	2452.00	15.69	15.46	30	Pass

Condition NVNT	Modulation	Frequency (MHz)	Conducted Power(dBm)	limit(dBm)	Result
			MIMO		
NVNT	802.11n(HT20)	2412.00	19.48	28.49	Pass
NVNT	802.11n(HT20)	2437.00	19.37	28.49	Pass
NVNT	802.11n(HT20)	2462.00	19.74	28.49	Pass
NVNT	802.11n(HT40)	2422.00	18.72	28.49	Pass
NVNT	802.11n(HT40)	2437.00	18.78	28.49	Pass
NVNT	802.11n(HT40)	2452.00	18.59	28.49	Pass

Note:
1. For MIMO with CCD technology device, The Directional Gain= Gain of individual transmit antennas (dBi) + Array gain;
Array gain = 10 log (Nant), where N_{ant} is the number of transmit antennas.
So Powery(MIMO) limit =30-(7.51-6)=30-1.51=28.49dBm
2.802.11b/802.11g-MIMO mode is not supported

9. CONDUCTED BAND EDGE AND SPURIOUS EMISSION

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	KDB558074 D0115.247 Meas Guidance v05r02

9.1 APPLICABLE STANDARD

in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, 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 in15.209(a).

9.2 TEST PROCEDURE

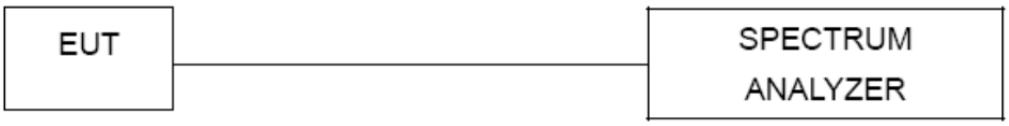
Using the following spectrum analyzer setting:

A) Set the RBW = 100KHz.
B) Set the VBW = 300KHz.
C) Sweep time = auto couple.
D) Detector function = peak.
E) Trace mode = max hold.
F) Allow trace to fully stabilize.

9.3 DEVIATION FROM STANDARD

No deviation.

9.4 TEST SETUP



9.5 EUT OPERATION CONDITIONS

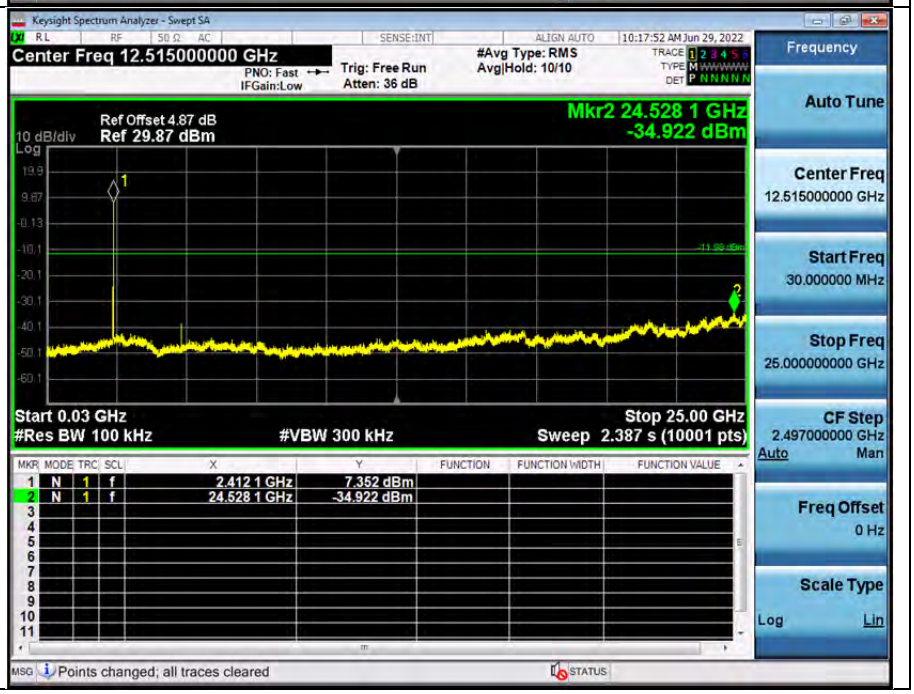
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

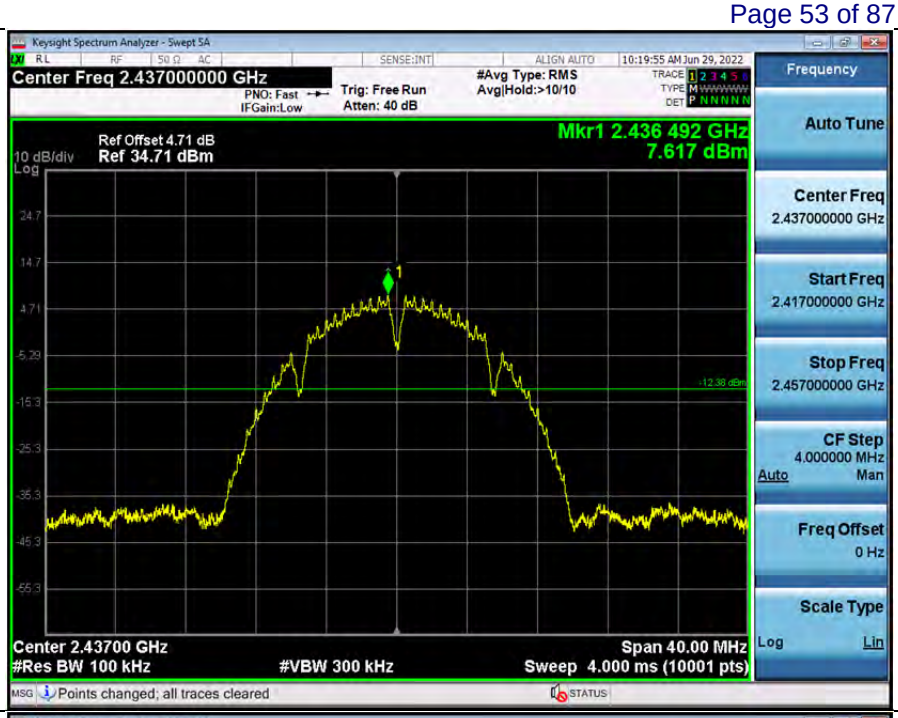
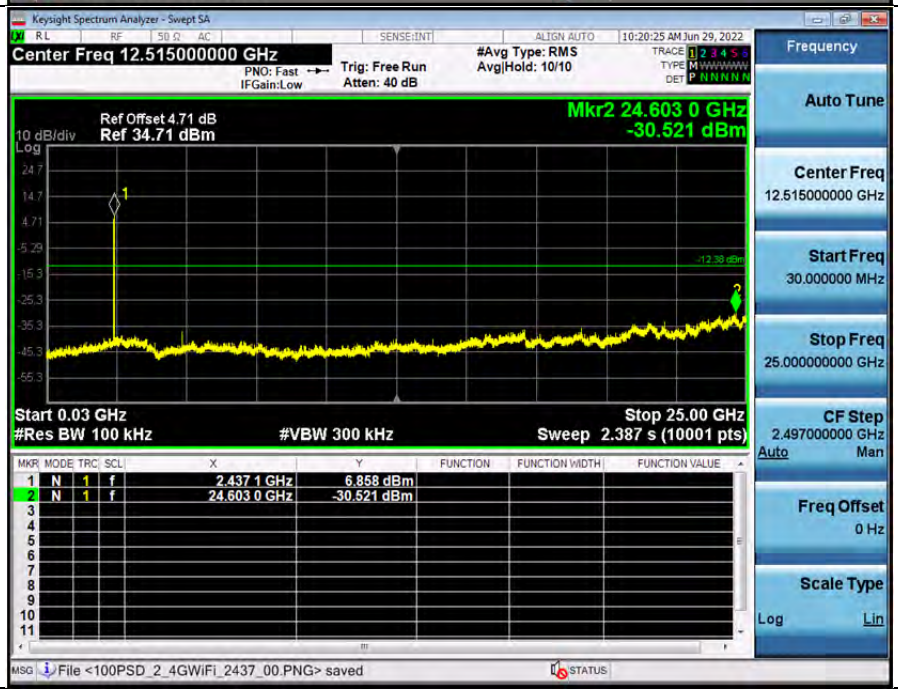
9.6 TEST RESULTS

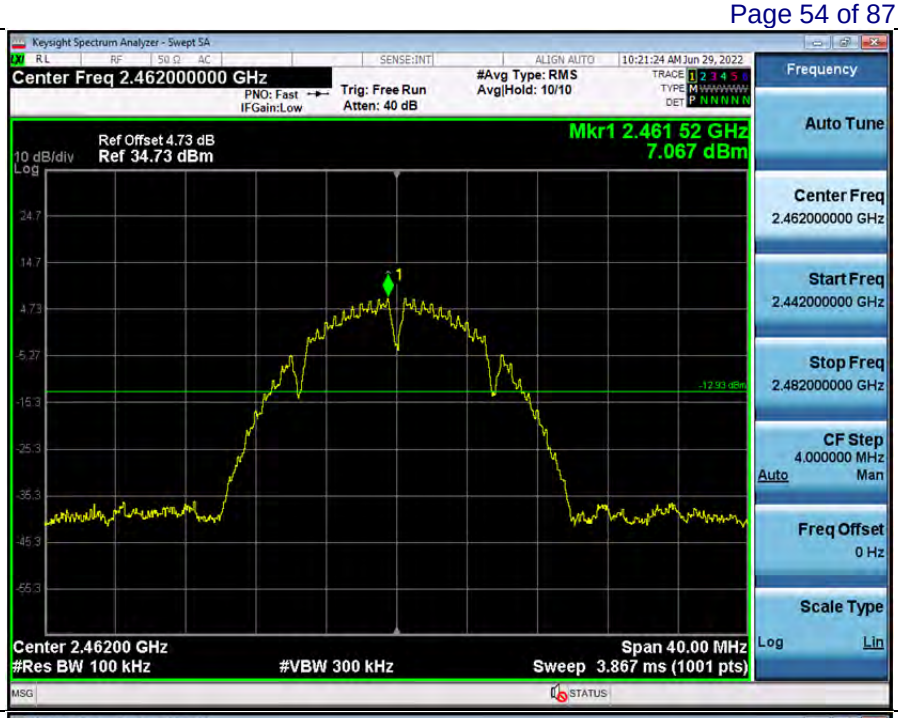
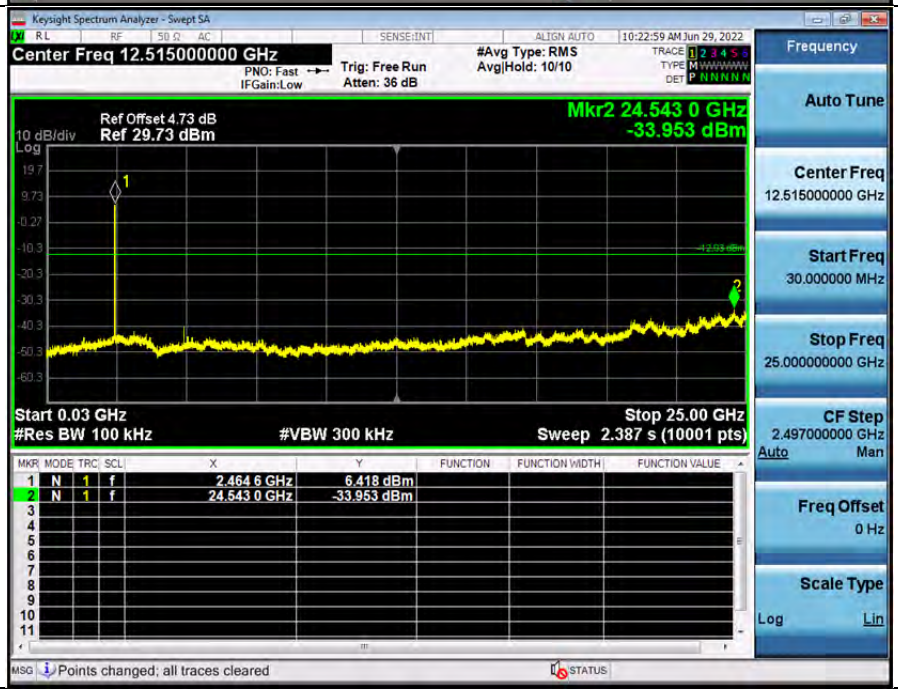
Test plot as follows:

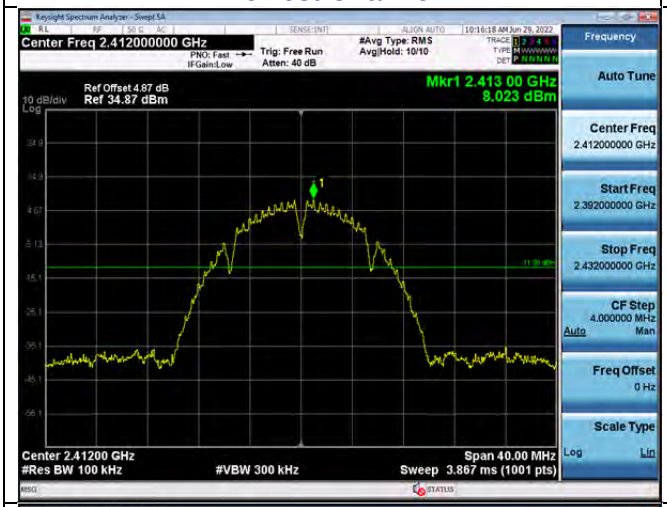
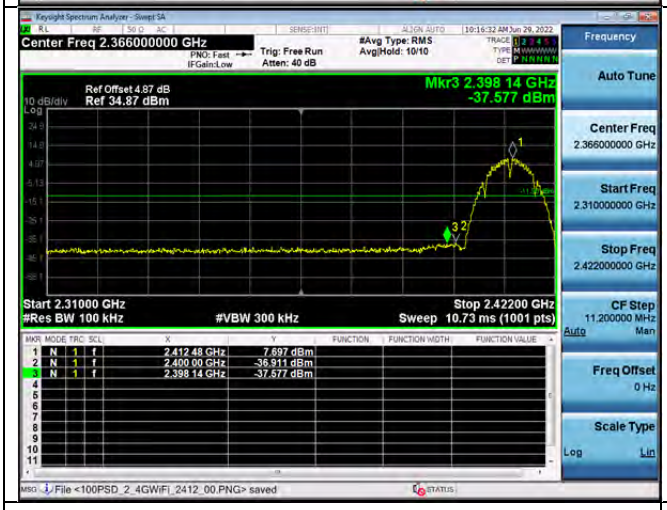
ANT1

802.11b Modulation

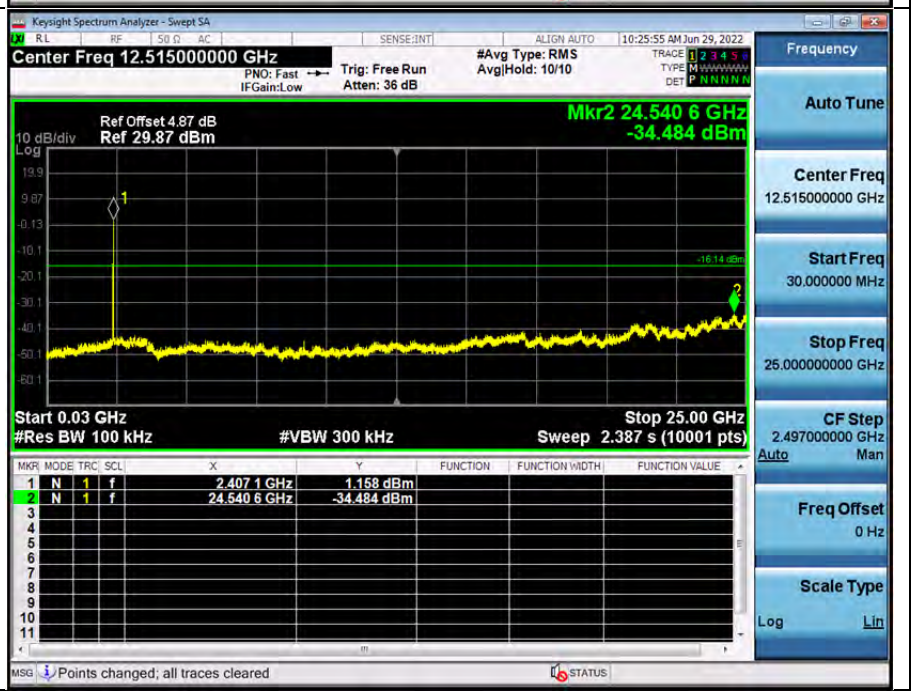
Spurious emission	
Low Channel	
	

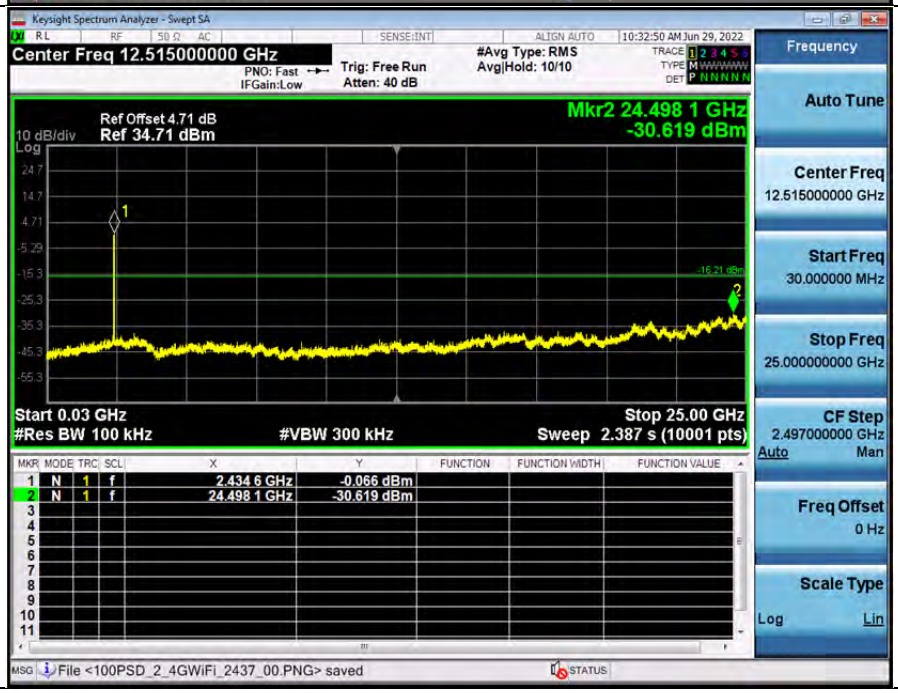
Middle Channel	 

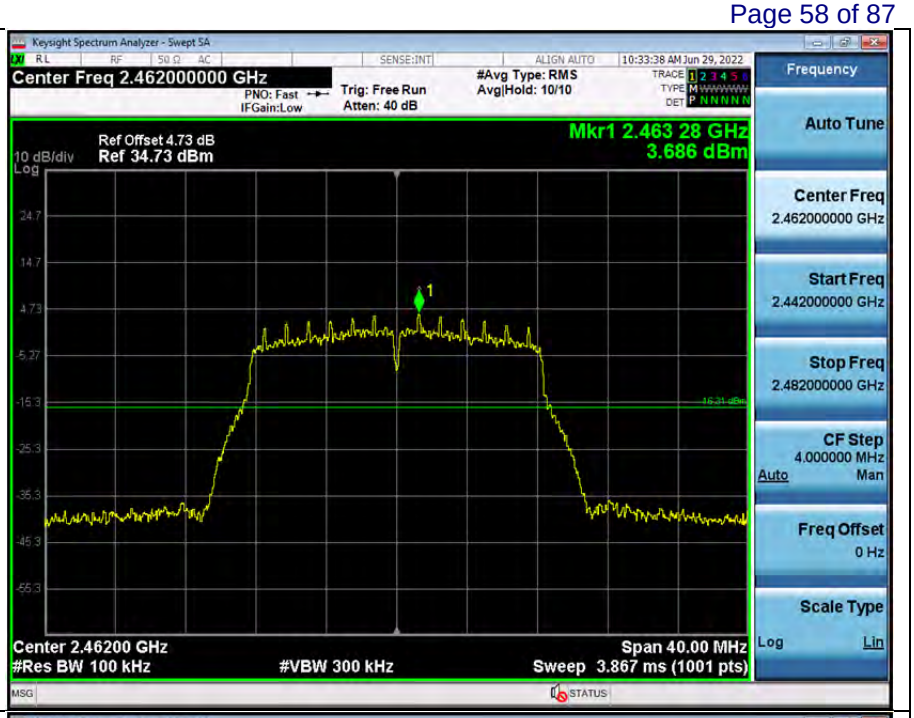
High Channel	 

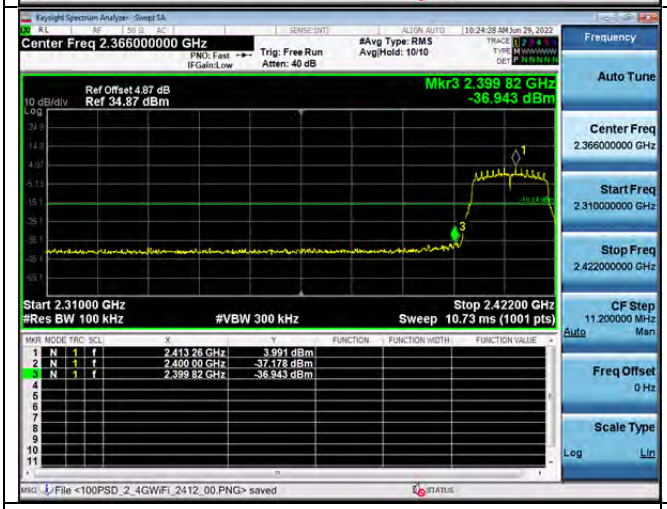
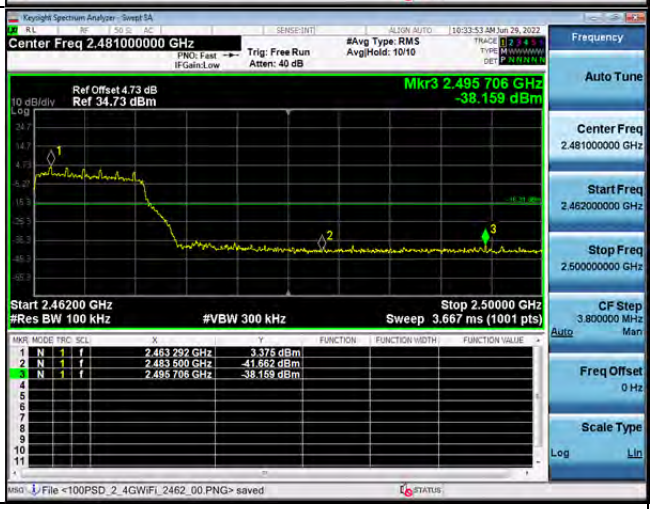
Lowest Channel	Highest Channel
	
	
Left Band Edge	Right Band Edge

802.11g Modulation

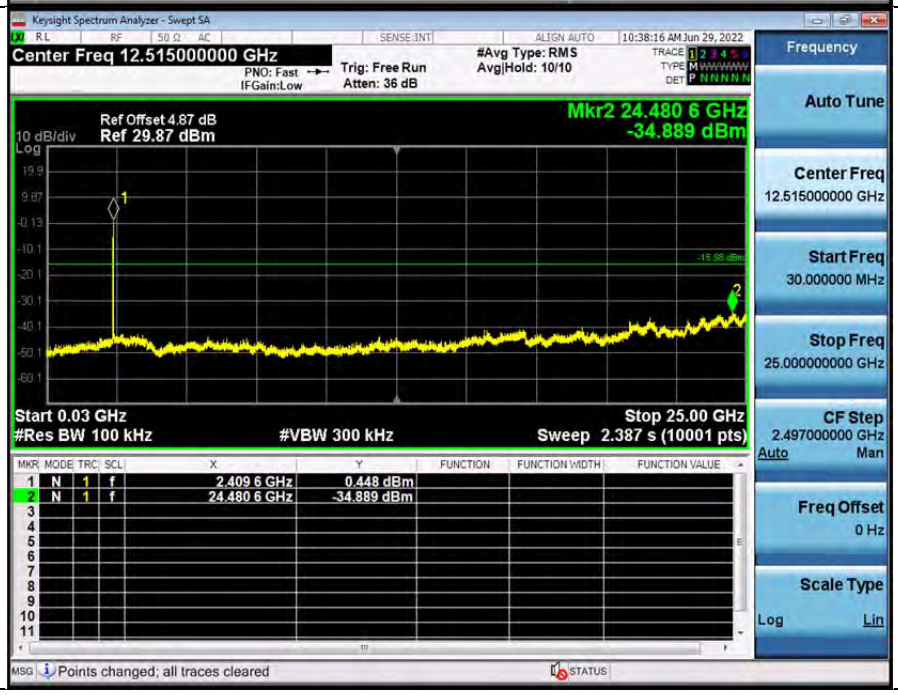
Spurious emission	
Low Channel	

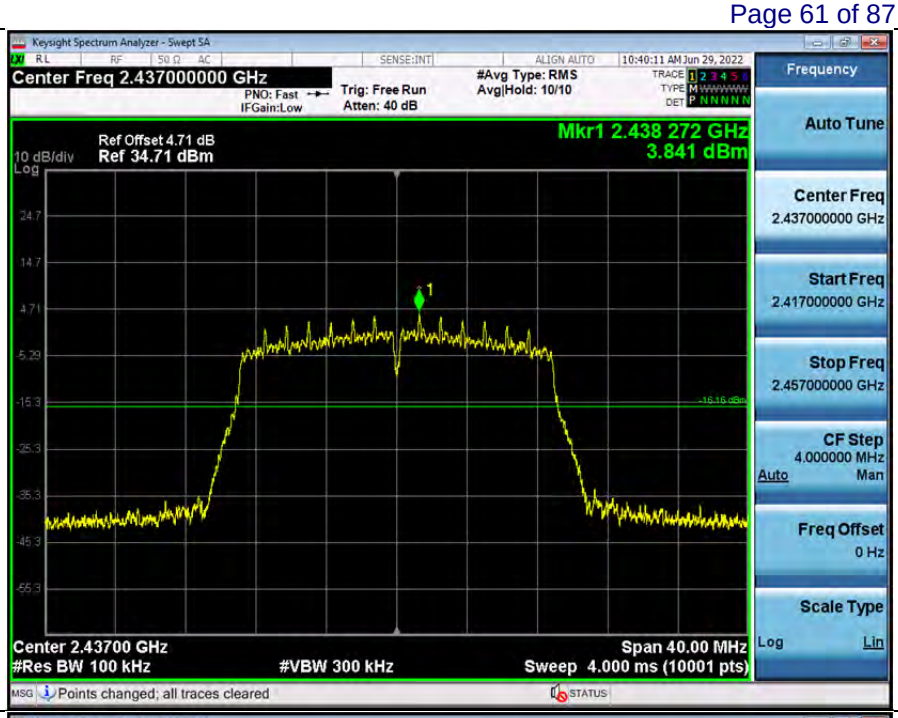
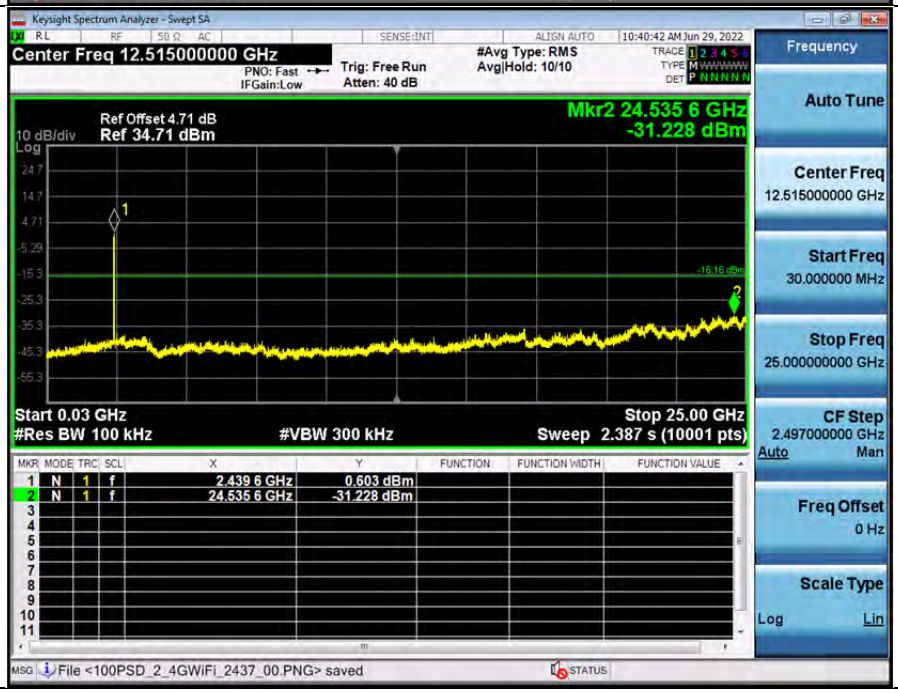
Middle Channel	 

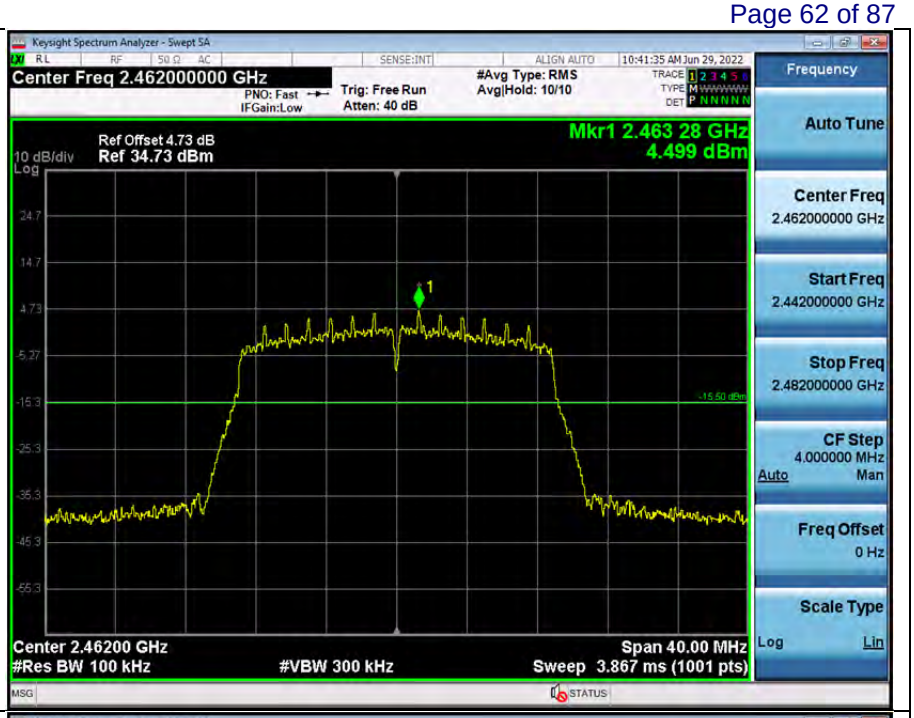
High Channel	

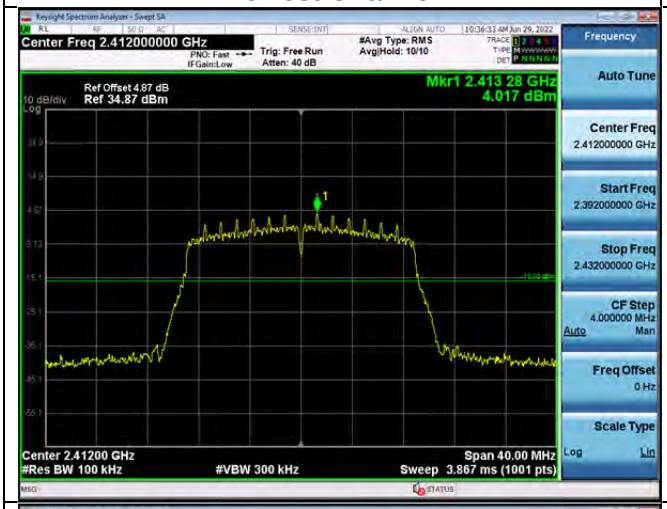
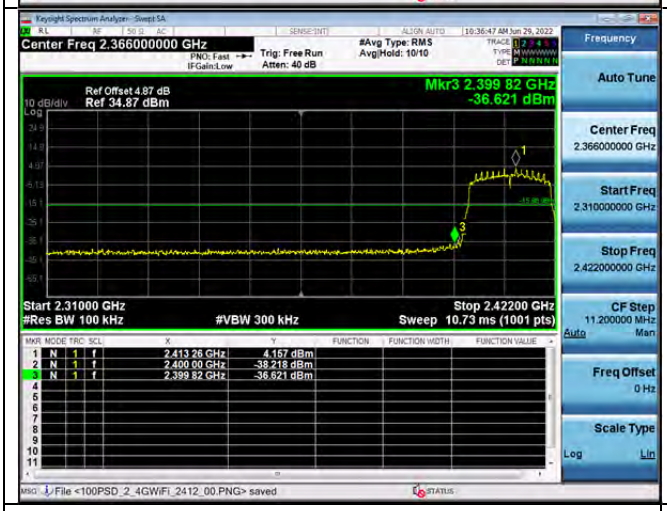
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11n20 Modulation

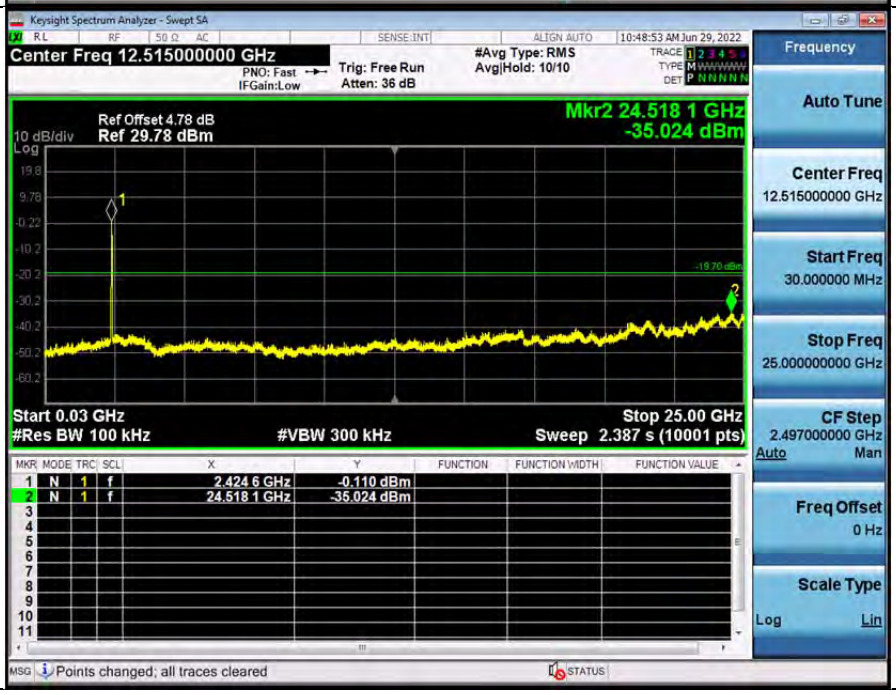
Spurious emission	
Low Channel	
	

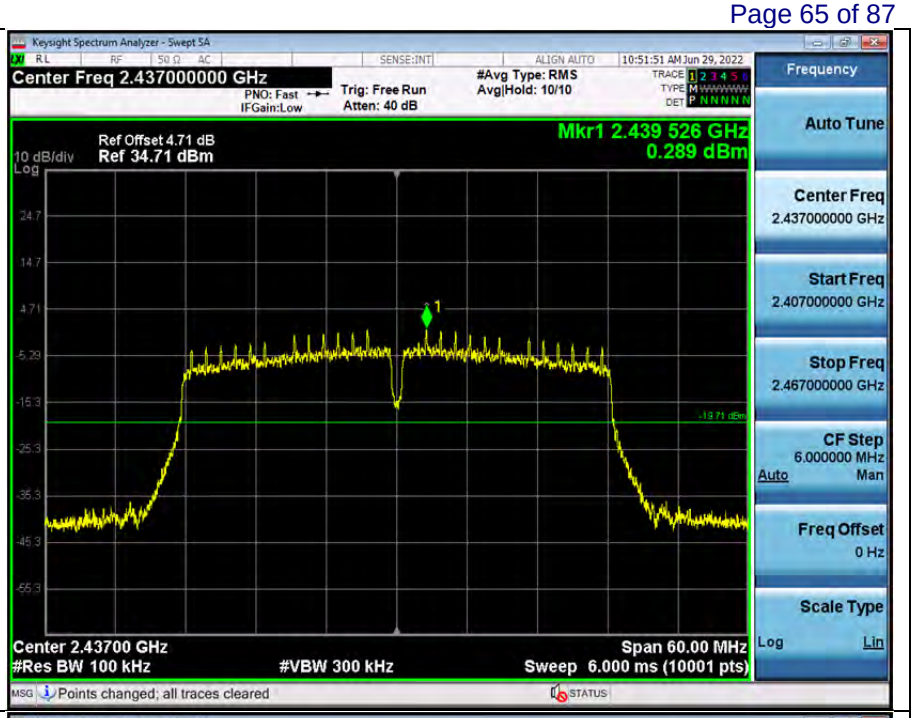
Middle Channel	 

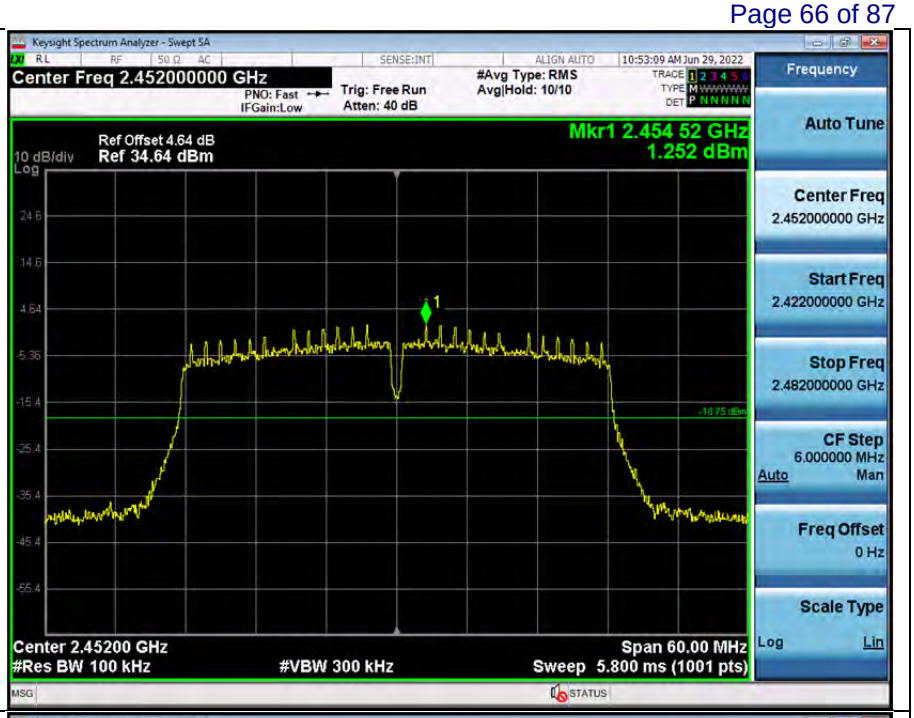
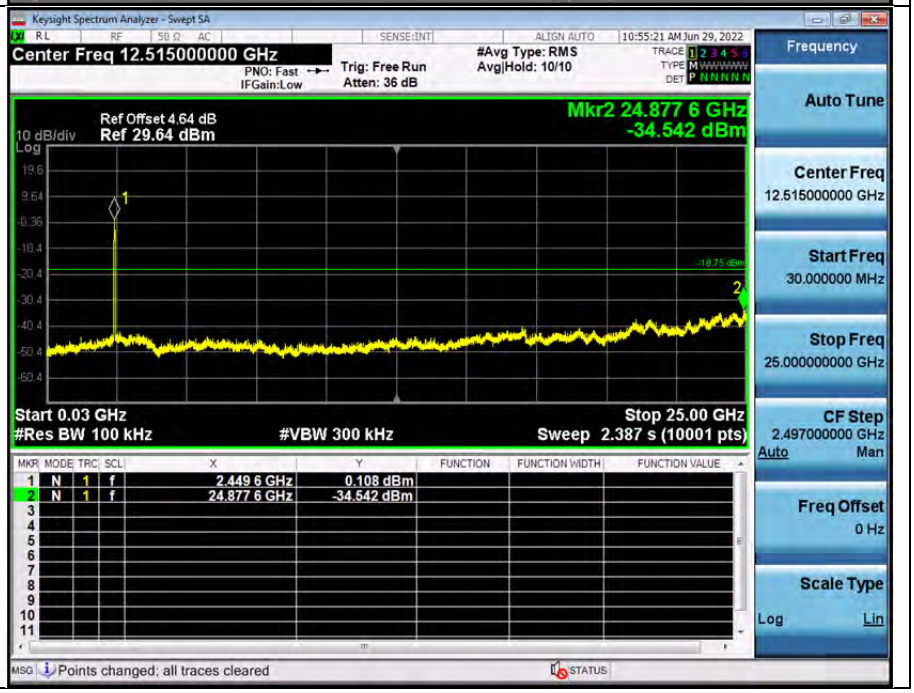
High Channel	

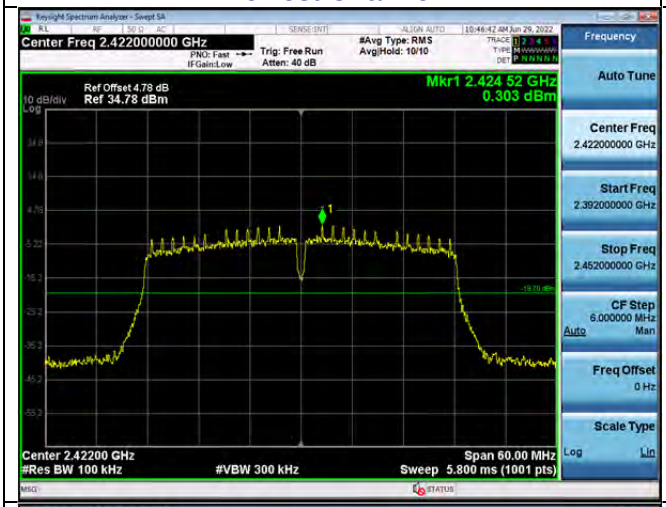
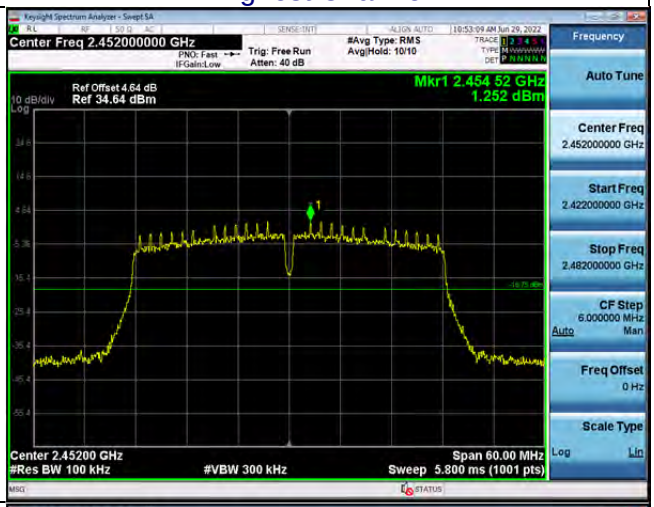
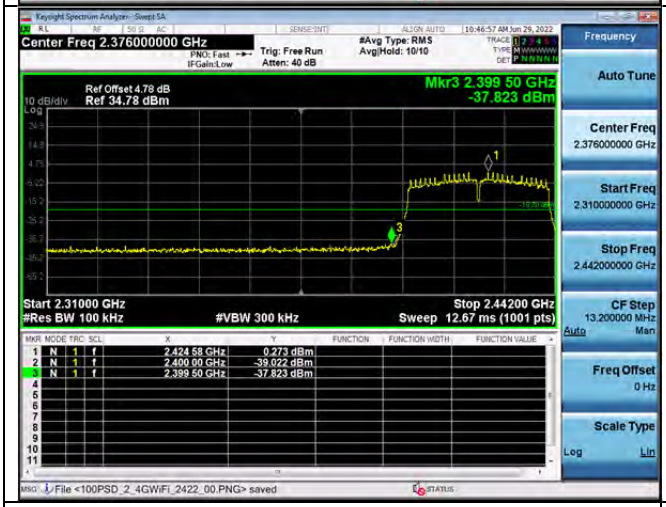
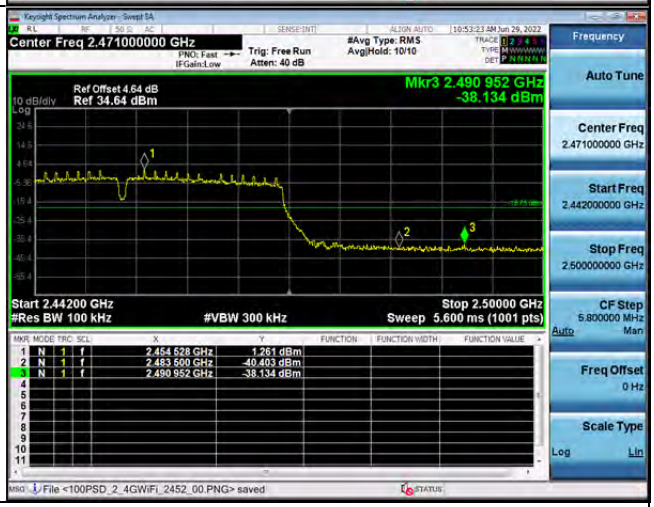
Lowest Channel	Highest Channel
	
	
Left Band Edge	Right Band Edge

802.11n40 Modulation

Spurious emission	
Low Channel	
	

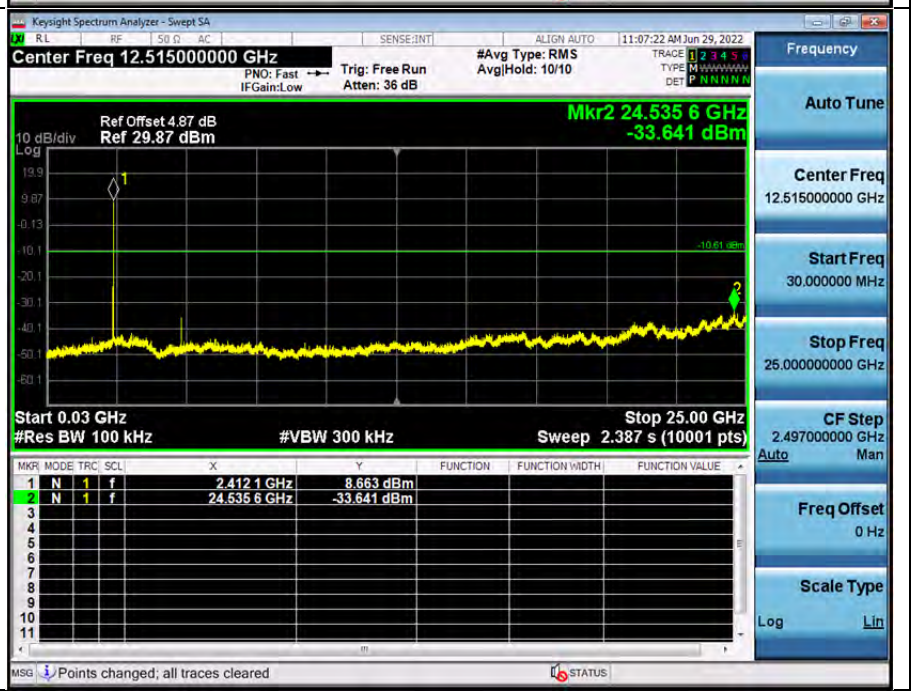
Middle Channel	 Keysight Spectrum Analyzer - Swept SA Center Freq 2.437000000 GHz PNO: Fast IFGain:Low Trig: Free Run Atten: 40 dB #Avg Type: RMS Avg|Hold: 10/10 10:51:51 AM Jun 29, 2022 Ref Offset 4.71 dB 10 dB/div Ref 34.71 dBm Mkr1 2.439 526 GHz 0.289 dBm Center 2.43700 GHz #Res BW 100 kHz #VBW 300 kHz Span 60.00 MHz Sweep 6.000 ms (10001 pts) Points changed; all traces cleared Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.407000000 GHz Stop Freq 2.467000000 GHz CF Step 6.000000 MHz Auto Man Freq Offset 0 Hz Scale Type Log Lin

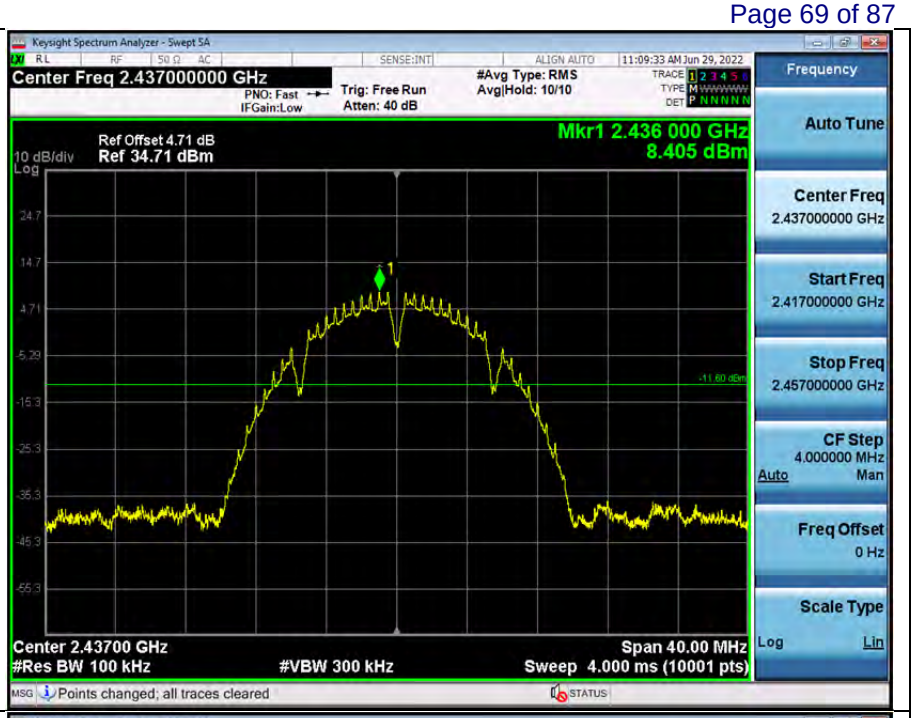
High Channel	 

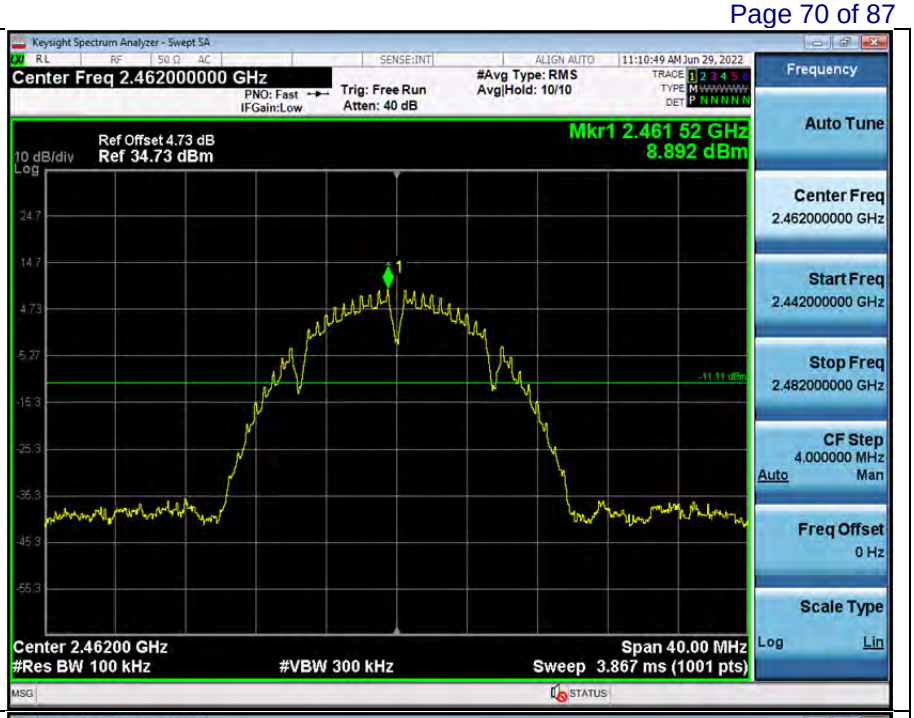
Lowest Channel	Highest Channel
	
	
Left Band Edge	Right Band Edge

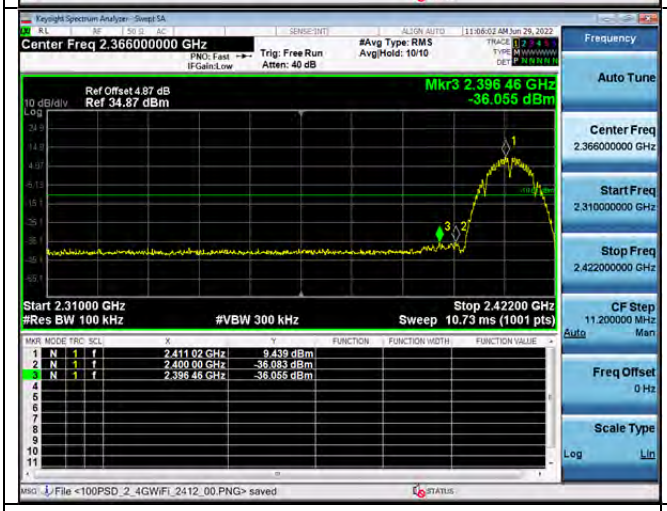
ANT2

802.11b Modulation

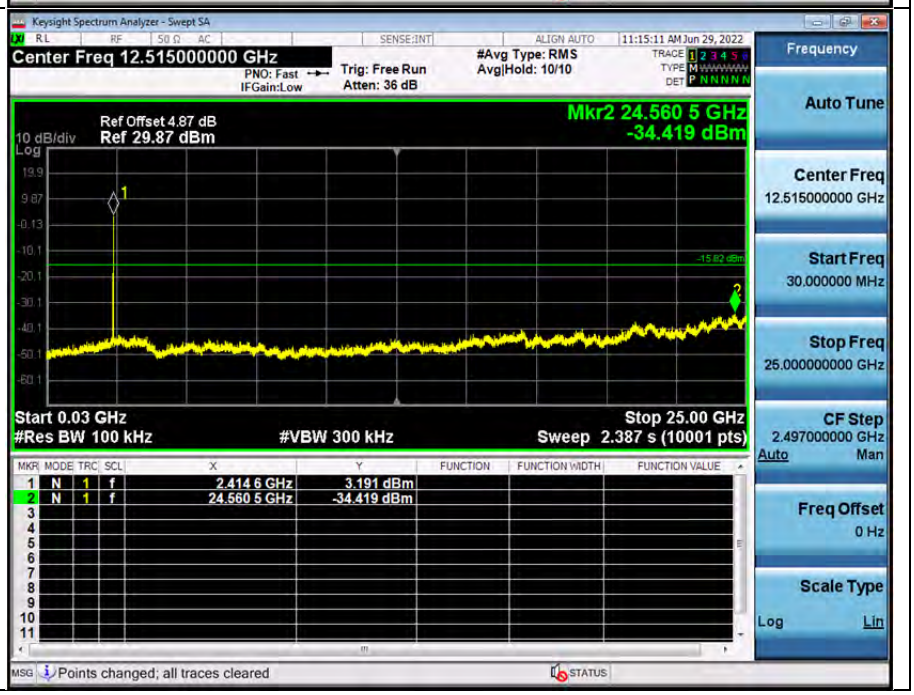
Spurious emission	
Low Channel	

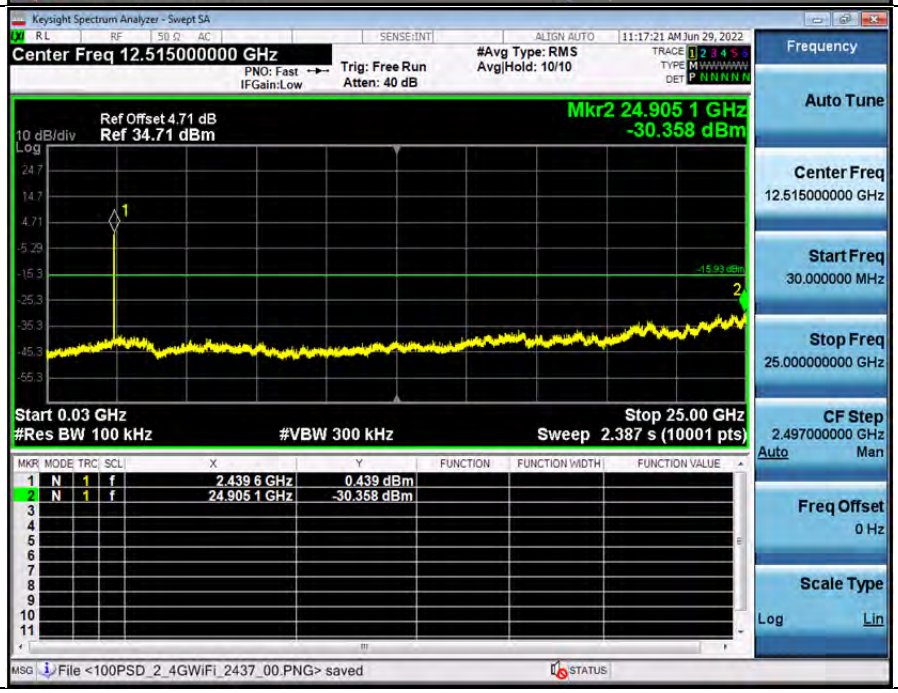
Middle Channel	

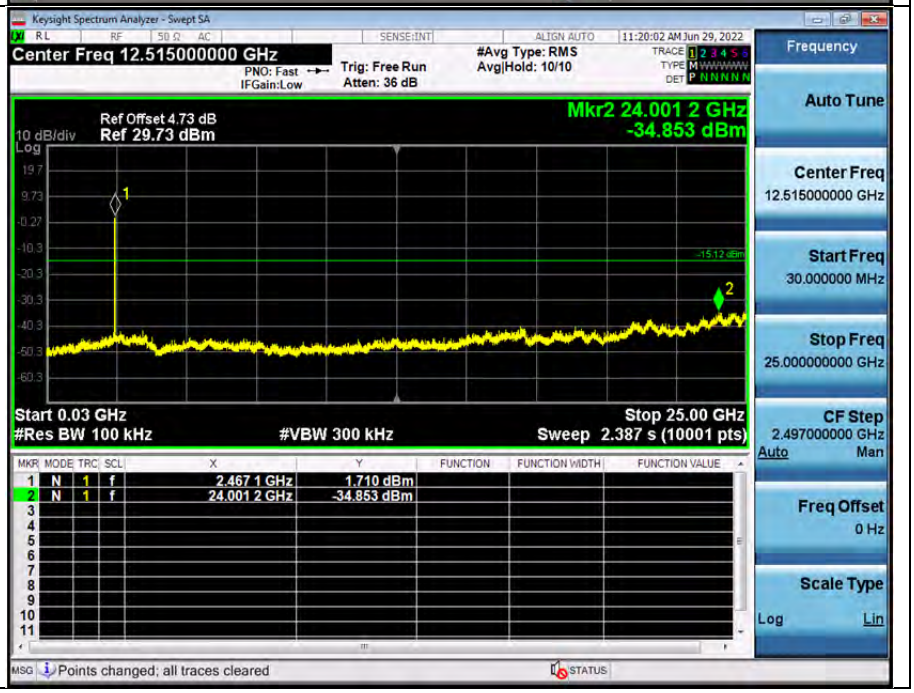
High Channel	

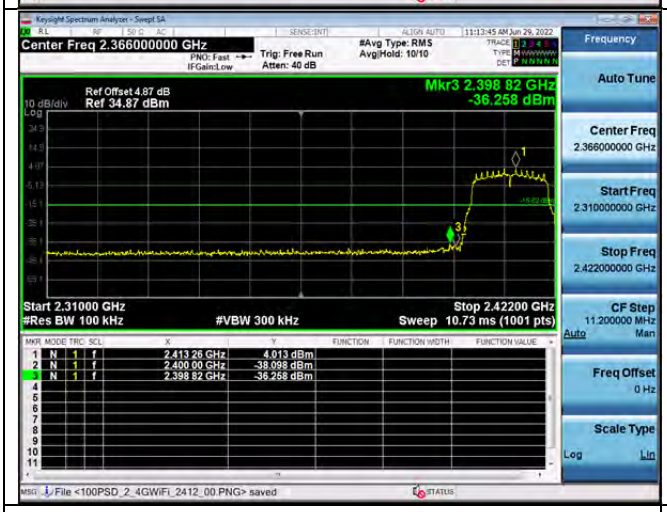
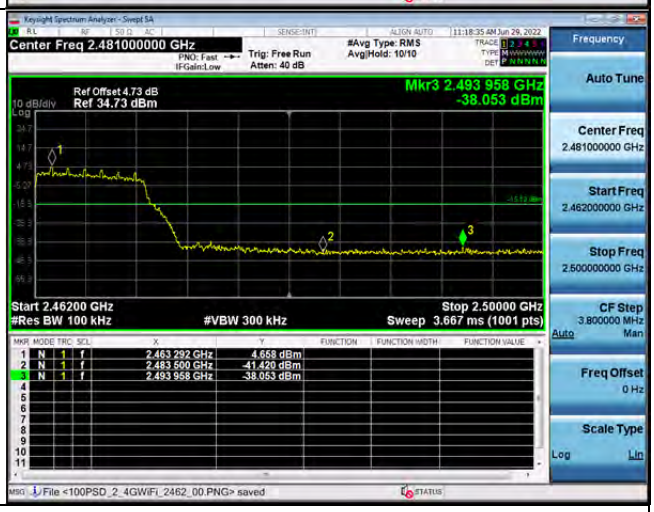
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11g Modulation

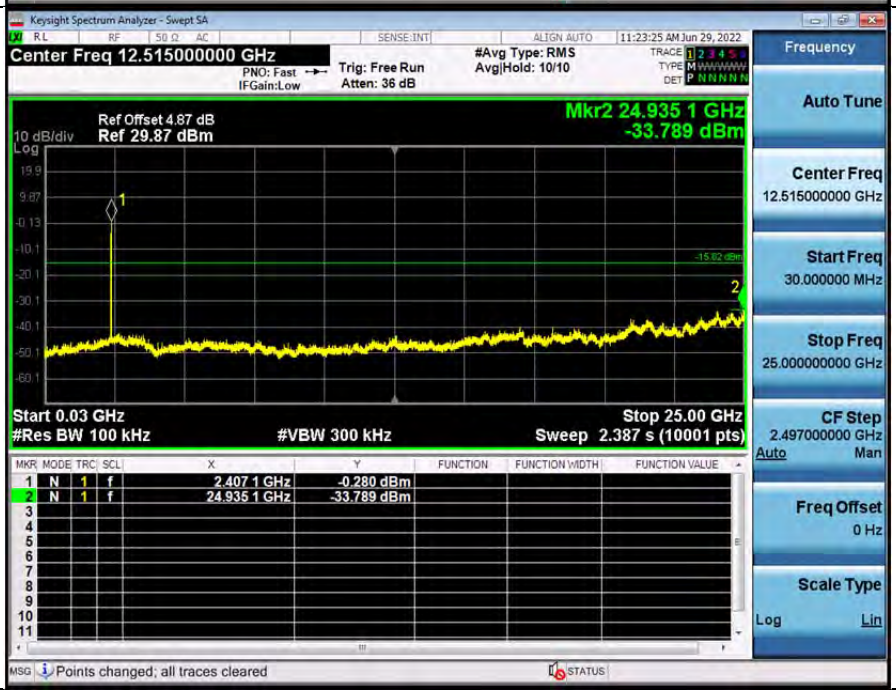
Spurious emission	
Low Channel	

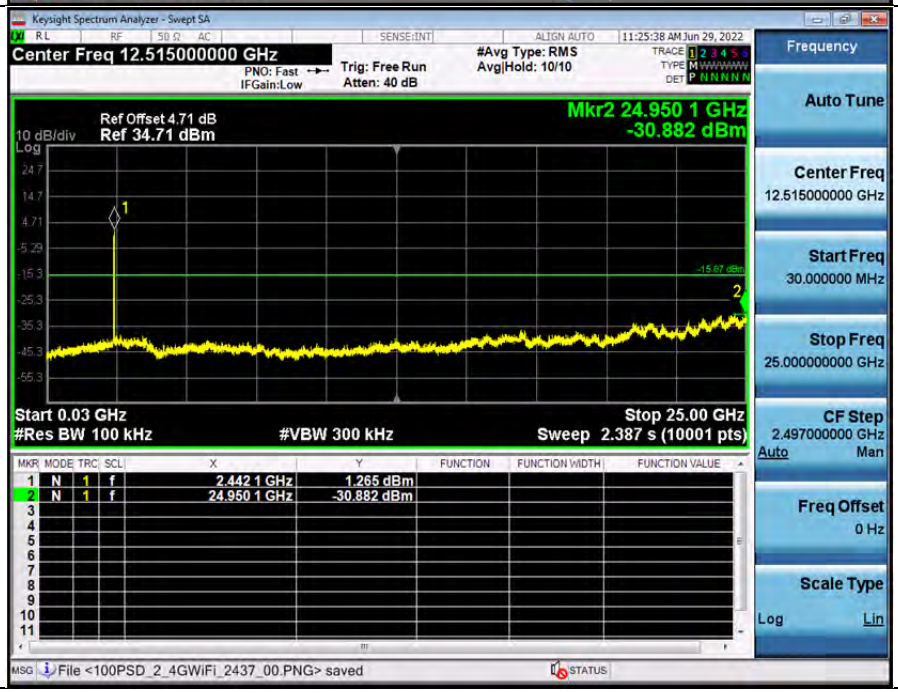
Middle Channel	 

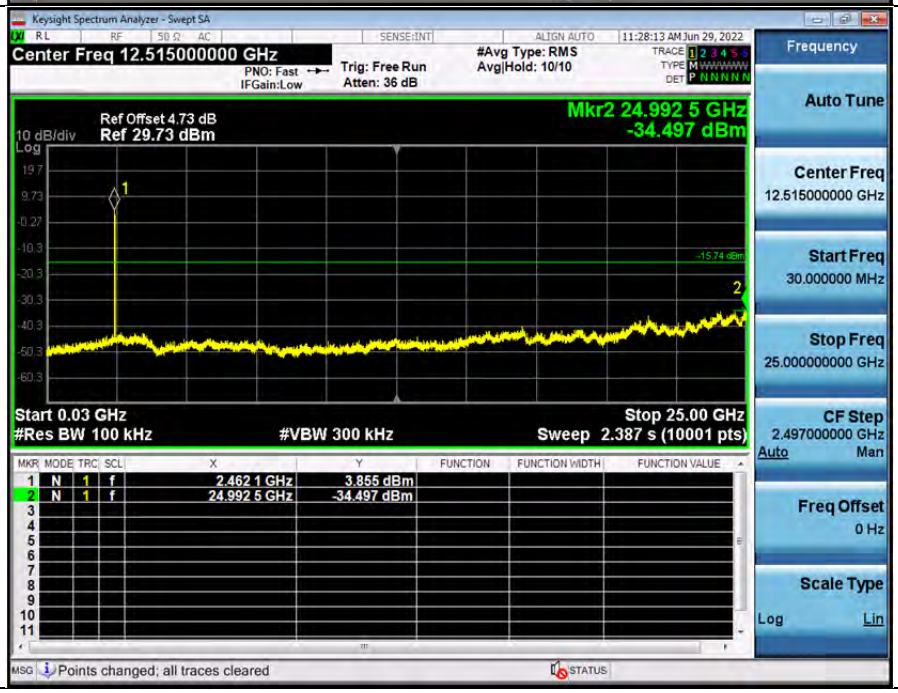
High Channel	 

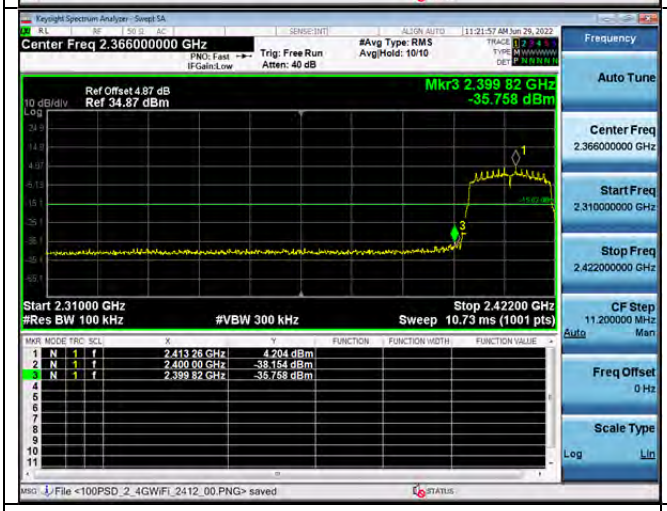
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11n20 Modulation

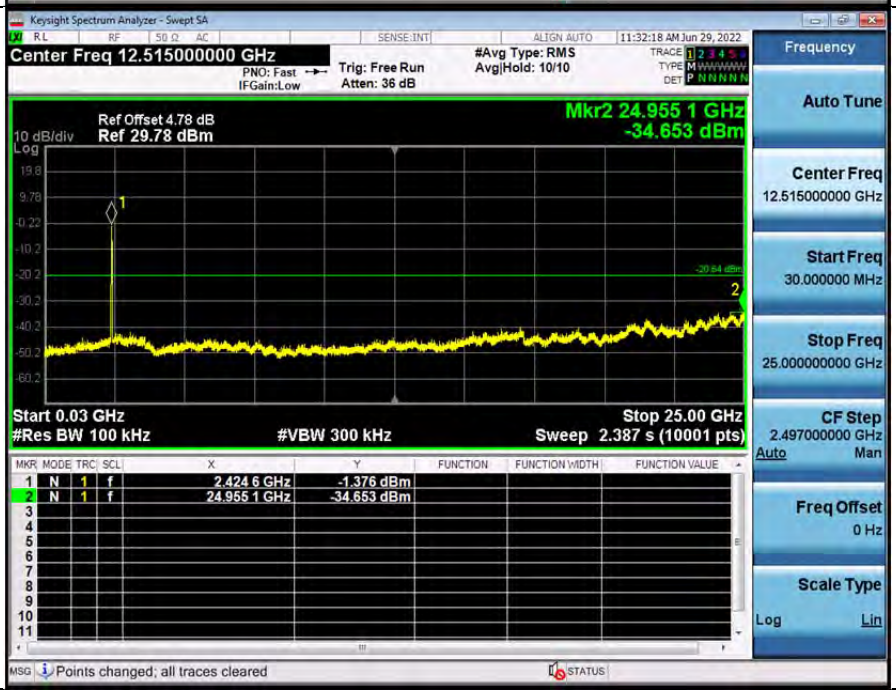
Spurious emission	
Low Channel	
	

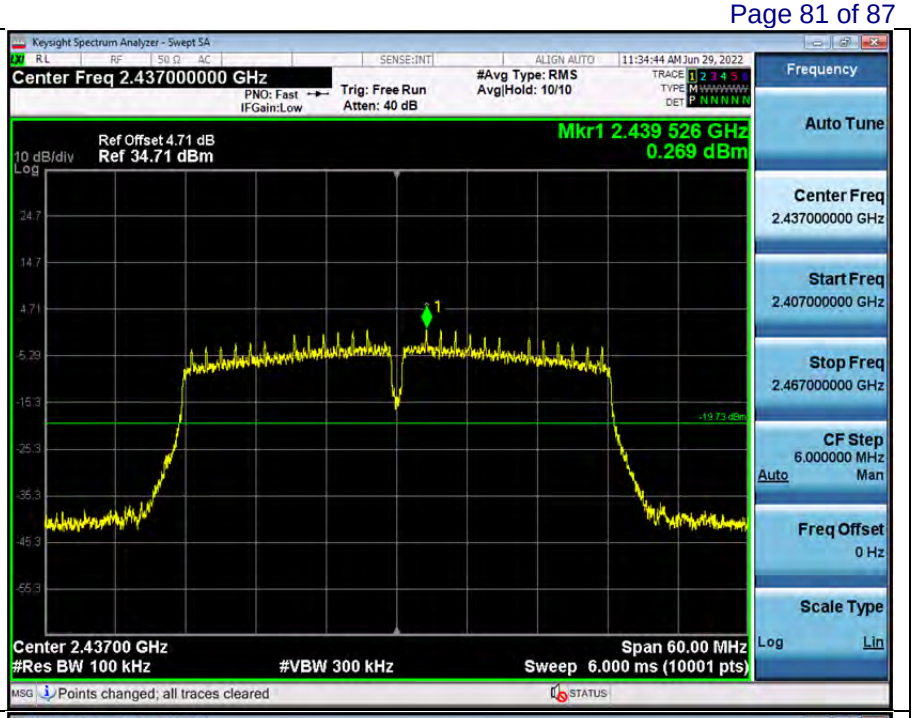
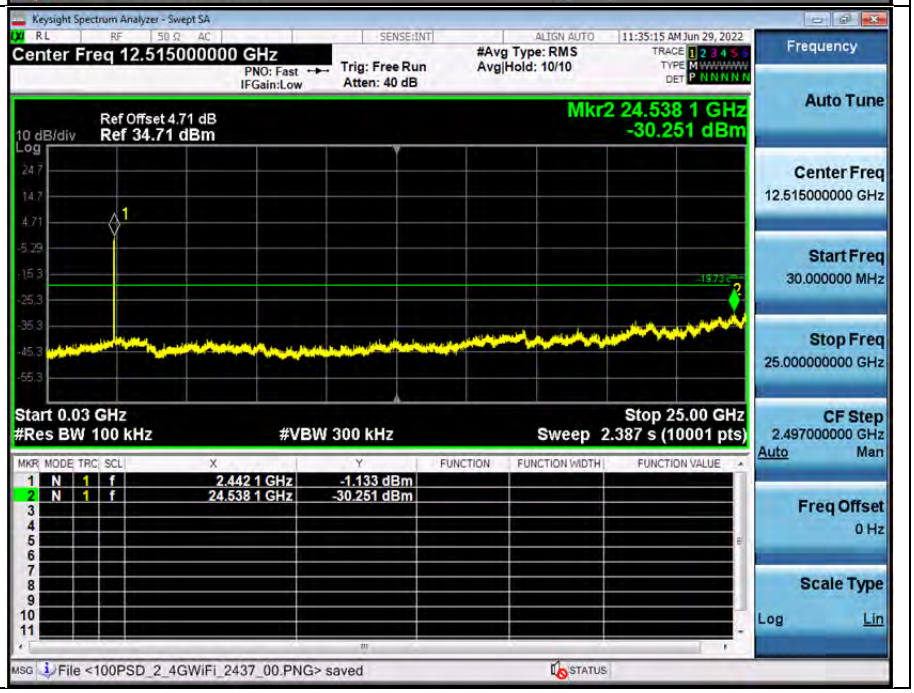
Middle Channel	Keysight Spectrum Analyzer - Swept SA Center Freq 2.437000000 GHz PNO: Fast IFGain:Low Trig: Free Run Atten: 40 dB #Avg Type: RMS Avg|Hold: 10/10 11:25:07 AM Jun 29, 2022 Ref Offset 4.71 dB 10 dB/div Ref 34.71 dBm Mkr1 2.438 268 GHz 4.132 dBm Center 2.43700 GHz #Res BW 100 kHz #VBW 300 kHz Span 40.00 MHz Sweep 4.000 ms (10001 pts) Points changed; all traces cleared Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.417000000 GHz Stop Freq 2.457000000 GHz CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz Scale Type Log Lin 

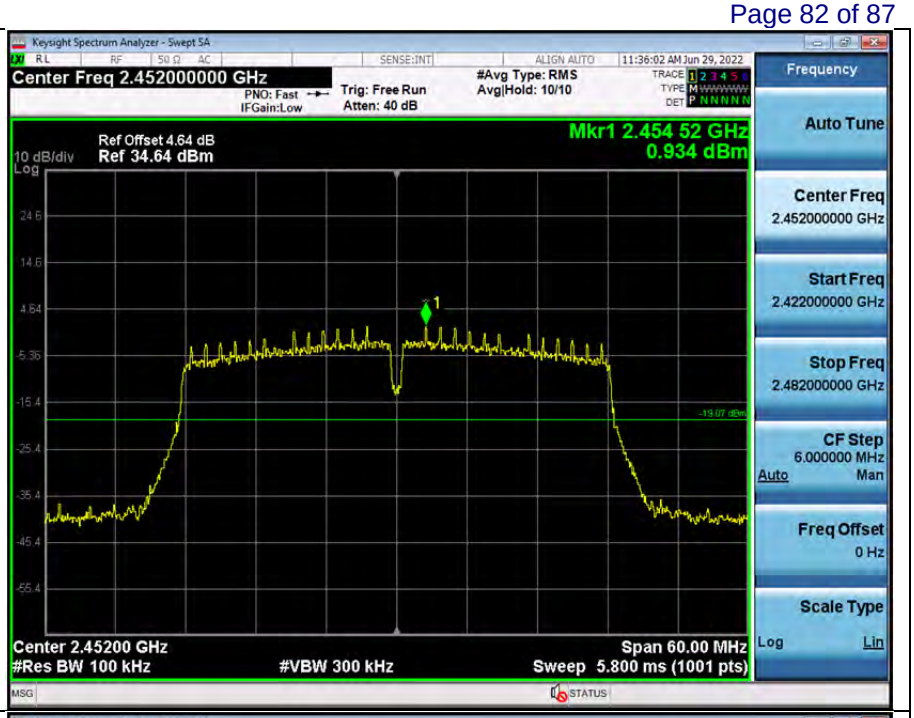
High Channel	 

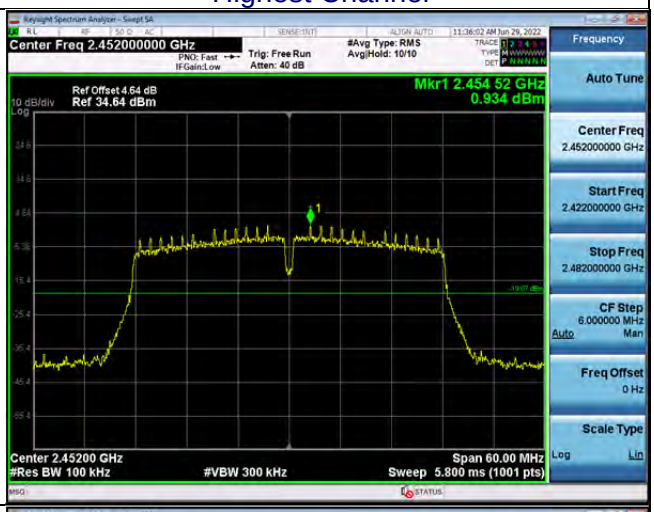
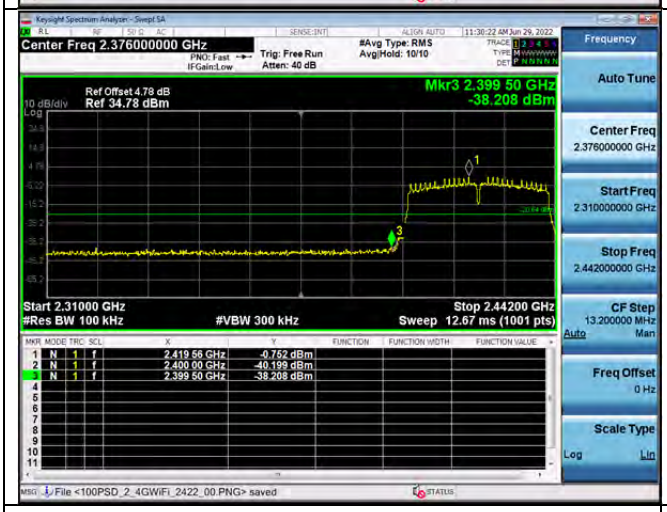
Lowest Channel	Highest Channel
	
Left Band Edge	Right Band Edge

802.11n40 Modulation

Spurious emission	
Low Channel	
	

Middle Channel	 

High Channel	

Lowest Channel	Highest Channel
	
	
Left Band Edge	Right Band Edge

10. ANTENNA REQUIREMENT

Standard requirement:	FCC Part15 C Section 15.203 /247(c)

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. And according to FCC 47 CFR Section 15.247, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

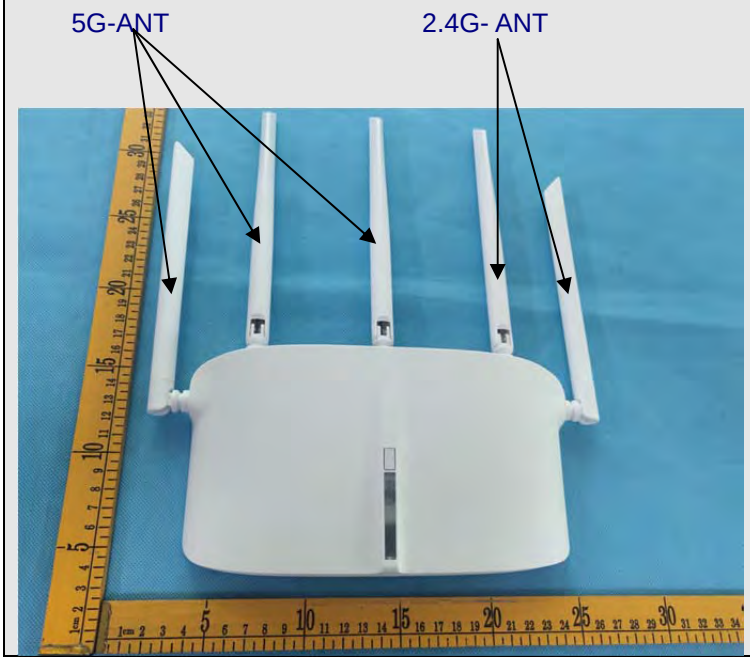
Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

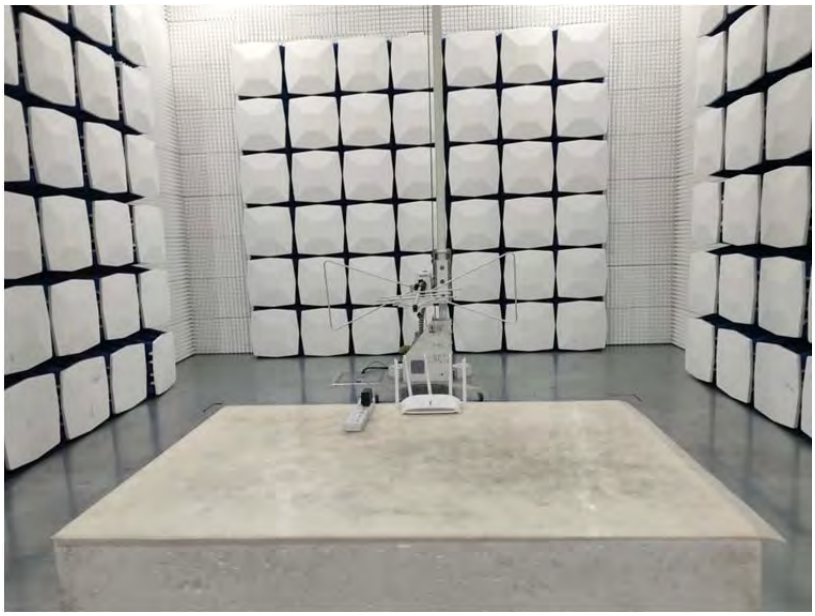
Antenna Connected Construction

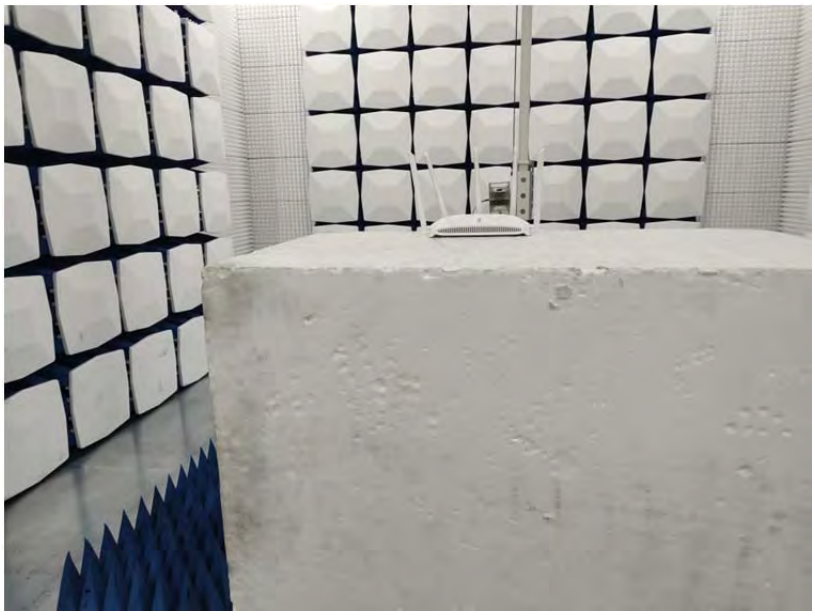
The antenna used in this product are Internal antennas, and the best case gain of the antenna is antenna port 1: 4.5dBi and Antenna port 2:4.5dBi.

EUT Antenna:



11. TEST SETUP PHOTO





12. EUT CONSTRUCTIONAL DETAILS

Reference to the external photos file and internal photos file for details.

※※※※※ END OF REPORT ※※※※※