FCC TEST REPORT

Test report
On Behalf of
Onion Corporation
For
Omega 2S
Model No.: OM-2S,OM-2SP,OM-2ST

FCC ID: 2AJVP-OMEGA2S

Prepared for :	**Onion Corporation** **187 Denison Street, Markham, ON, Canada L3R 1B5**
Prepared By :	**Laboratory of Shenzhen United Testing Technology Co., Ltd** **Room 316-319, Block B, Honghualing Industrial Park of the Fifth Zone, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China**
Date of Test:	**Feb. 14, 2017 ~ Feb. 20, 2017**
Date of Report:	**Feb. 20, 2017**
Report Number:	**UNI170214032-E**

TEST RESULT CERTIFICATION

Applicant's name ..... : Onion Corporation

Address ..... : 187 Denison Street, Markham, ON, Canada L3R 1B5

Manufacture's Name ..... : Onion Corporation

Address ..... : 187 Denison Street, Markham, ON, Canada L3R 1B5

Product description

Trade Mark: N/A

Product name ..... : Omega 2S

Model and/or type reference : OM-2S,OM-2SP,OM-2ST

Standards ..... : FCC Rules and Regulations Part 15 Subpart C Section 15.247
ANSI C63.10: 2013

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Date of Test ..... :

Date (s) of performance of tests ..... : **Feb. 14, 2017 ~ Feb. 20, 2017**

Date of Issue ..... : **Feb. 20, 2017**

Test Result ..... : **Pass**

Testing Engineer : Eric Xie

(Eric Xie)

Technical Manager : Dora Qin

(Dora Qin)

Authorized Signatory : Kait

(Kait Chen)

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OCCUPIED BANDWIDTH MEASUREMENT	COMPLIANT
POWER SPECTRAL DENSITY	COMPLIANT
PEAK OUTPUT POWEReak	COMPLIANT
CONDUCTED EMISSION TEST	COMPLIANT
ANTENNA REQUIREMENT	COMPLIANT

1.2 TEST FACILITY

Test Firm : Dongguan Dongdian Testing Service Co., Ltd
Certificated by FCC, Registration No.: 270092

Address No.17 Zongbu road 2, Songshan Lake Sci&Tech Park, DongGuan City, Guangdong province,523808 China

1.3 MEASUREMENT UNCERTAINTY

Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty(9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty(30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty(Above 1GHz)	=	4.06dB, k=2

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Omega 2S
Model Name	OM-2S
Serial No	OM-2SP,OM-2ST
Model Difference	All model's the function, software and electric circuit are the same, only with a product model named different. Test sample model: OM-2S.
FCC ID	**2AJVP-OMEGA2S**
Antenna Type	External Antenna
Antenna Gain	2 dBi
BT Operation frequency	802.11b/g/n 20:2412~2462 MHz 802.11n 40: 2422~2452MHz
Number of Channels	802.11b/g/n20: 11CH 802.11n 40: 7CH
Modulation Type	CCK/OFDM/DBPSK/DAPSK
Power Source	N/A
Power Rating	DC 3.3V with Installation for Notebook with AC 120V/60Hz

2.1.1 Carrier Frequency of Channels

Channel List for 802.11b/g/n(20MHz)							
Channel	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

Channel List for 802.11n(40MHz)							
Channel	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**	**Channel**	**Frequency (MHz)**
03	2422	06	2437	09	2452		
04	2427	07	2442				
05	2432	08	2447				

Operation of EUT during testing

Operating Mode
The mode is used: **Transmitting mode for 802.11b/g/n(20MHz)**
Low Channel: 2412MHz
Middle Channel: 2437MHz
High Channel: 2462MHz

Transmitting mode for 802.11n(40MHz)
Low Channel: 2422MHz
Middle Channel: 2437MHz
High Channel: 2452MHz

2.2 DESCRIPTION OF TEST SETUP

Operation of EUT during conducted and Radiation testing:

2.3 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 19, 2016	1 Year
2.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 19, 2016	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 19, 2016	1 Year
4.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
5.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Feb. 19, 2016	1 Year
6.	Trilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Feb. 19, 2016	1 Year
7.	Pre-amplifier	Compliance Direction	PAP-0203	22008	Feb. 19, 2016	1 Year
8.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
9.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 19, 2016	1 Year
10.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 19, 2016	1 Year
11.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 19, 2016	1 Year
12.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
13.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 19, 2016	1 Year
14.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 19, 2016	1 Year
15.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 19, 2016	1 Year
16.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 19, 2016	1 Year
17.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
18.	Power Meter	R&S	NRVD	SEL0069	Feb. 19, 2016	1 Year
19.	Power Sensor	R&S	URV5-Z2	SEL0071	Feb. 19, 2016	1 Year
20.	Power Sensor	R&S	URV5-Z2	SEL0072	Feb. 19, 2016	1 Year
21.	Software EMC32	R&S	EMC32-S	SEL0082	N/A	N/A
22.	Log-periodic Antenna	Amplifier Reasearch	AOM-2S80	SEL0073	N/A	N/A
23.	Antenna Tripod	Amplifier Reasearch	TP1000A	SEL0074	N/A	N/A
24.	High Gain Horn Antenna(0.8-5GHz)	Amplifier Reasearch	AT4002A	SEL0075	N/A	N/A
25.	Spectrum analyzer	Agilent	N9020A	MY49911048	Feb. 19, 2016	1 Year
26.	Spectrum analyzer	Agilent	E4407B	MY46184326	Feb. 19, 2016	1 Year

3. CONDUCTED EMISSIONS TEST

3.1 Conducted Power Line Emission Limit

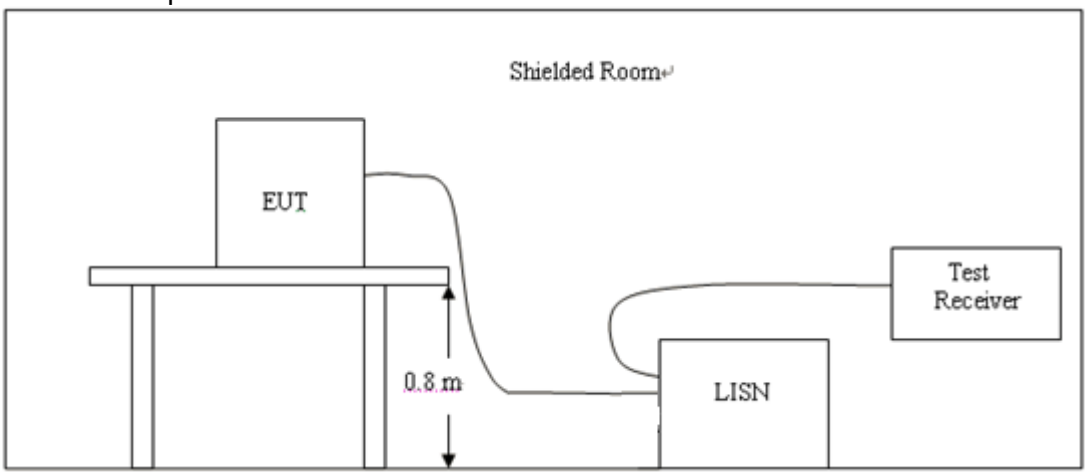
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

Frequency (MHz)	Maximum RF Line Voltage (dBμV)			
	CLASS A		CLASS B	
	Q.P.	Ave.	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.

3.2 Test Setup



3.3 Test Procedure

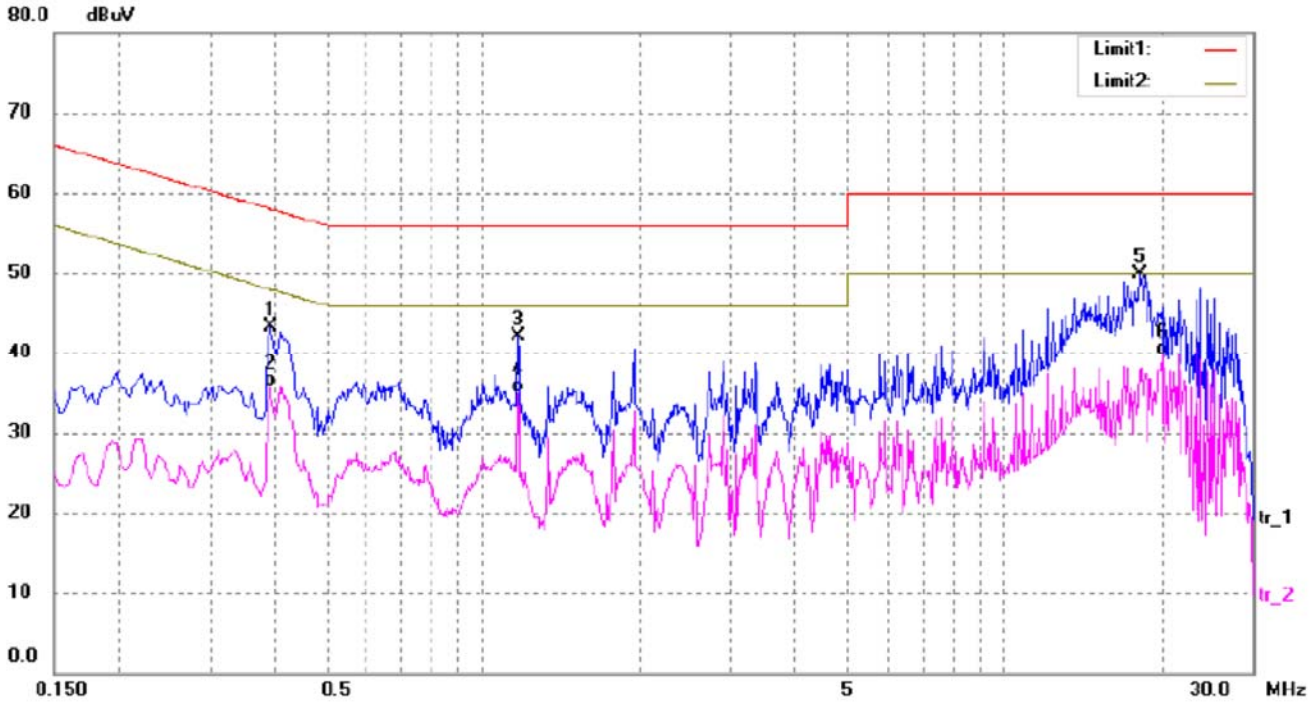
1, The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
2, Support equipment, if needed, was placed as per ANSI C63.10.
3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4, If a EUT received DC power from the USB Port of Notebook PC, the PC's 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.

3.4 Test Result

PASS

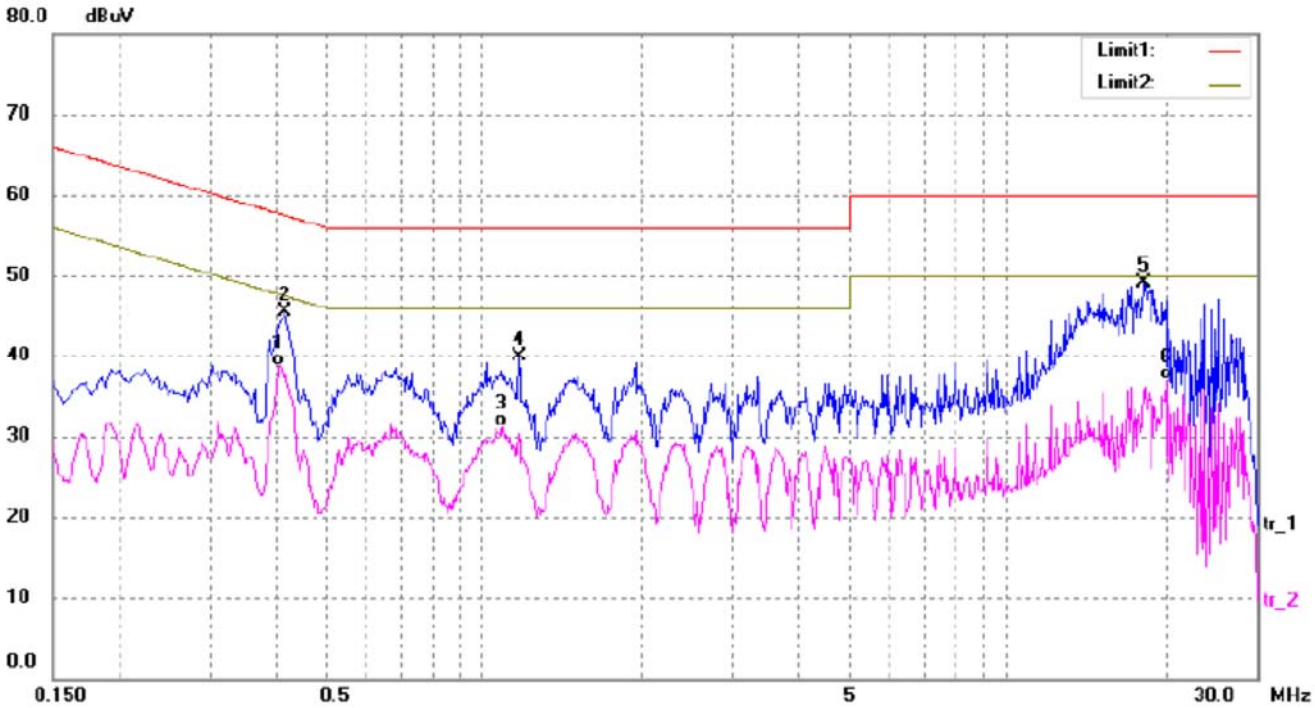
All the test modes completed for test.

Test Specification: Line



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.3900	33.44	9.80	43.24	58.06	-14.82	peak
2	0.3900	25.90	9.80	35.70	48.06	-12.36	AVG
3	1.1700	32.44	9.76	42.20	56.00	-13.80	peak
4	1.1700	25.09	9.76	34.85	46.00	-11.15	AVG
5*	18.2740	40.23	9.66	49.89	60.00	-10.11	peak
6	20.1140	29.95	9.68	39.63	50.00	-10.37	AVG

Test Specification: Neutral



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.4060	28.84	9.80	38.64	47.73	-9.09	AVG
2	0.4180	35.62	9.80	45.42	57.49	-12.07	peak
3	1.0900	21.25	9.76	31.01	46.00	-14.99	AVG
4	1.1700	30.17	9.76	39.93	56.00	-16.07	peak
5	18.2740	39.45	9.66	49.11	60.00	-10.89	peak
6	20.1140	27.26	9.68	36.94	50.00	-13.06	AVG

4 RADIATED EMISSION TEST

4.1 Radiation Limit

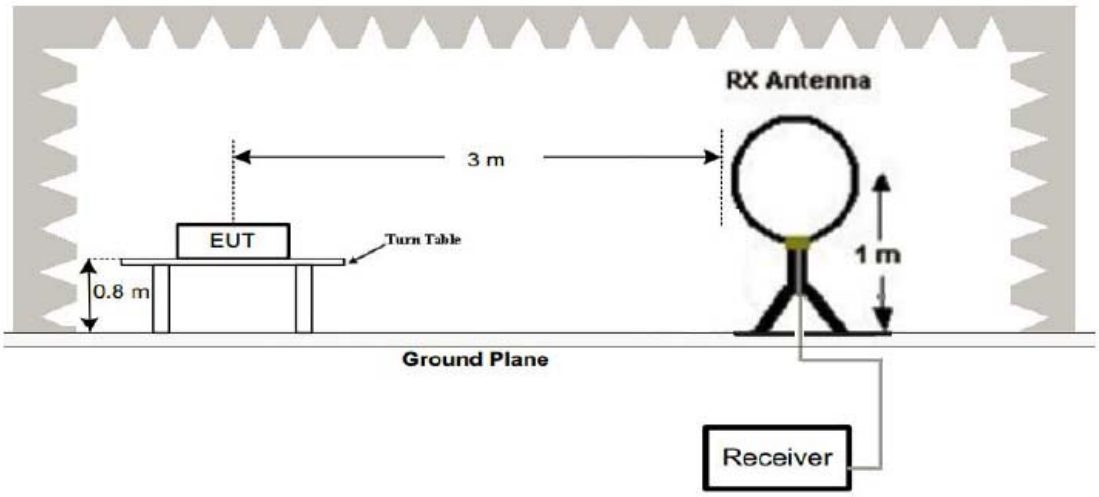
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values：

Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
30-88	3	40	100
88-216	3	43.5	150
216-960	3	46	200
Above 960	3	54	500

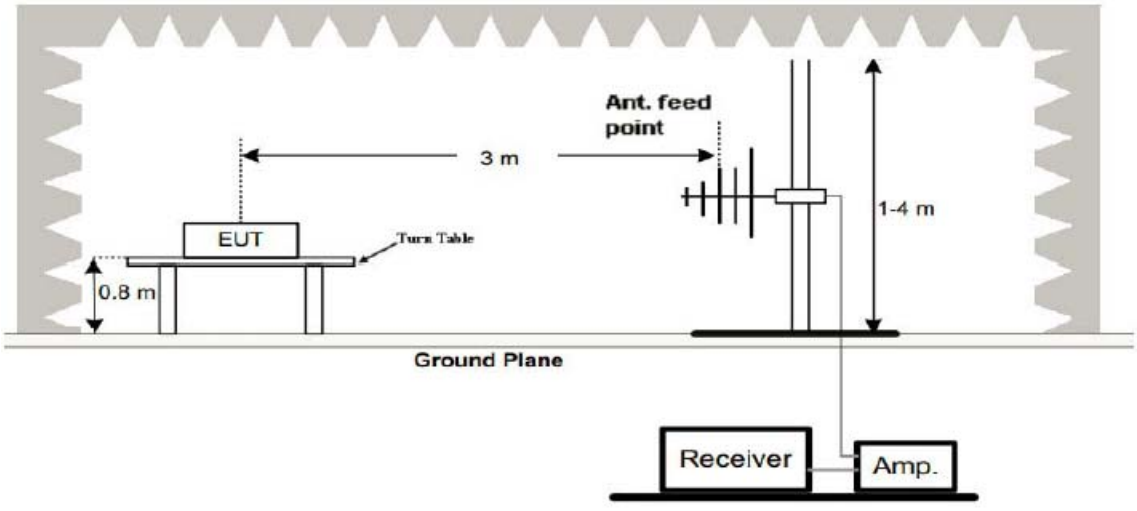
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

4.2 Test Setup

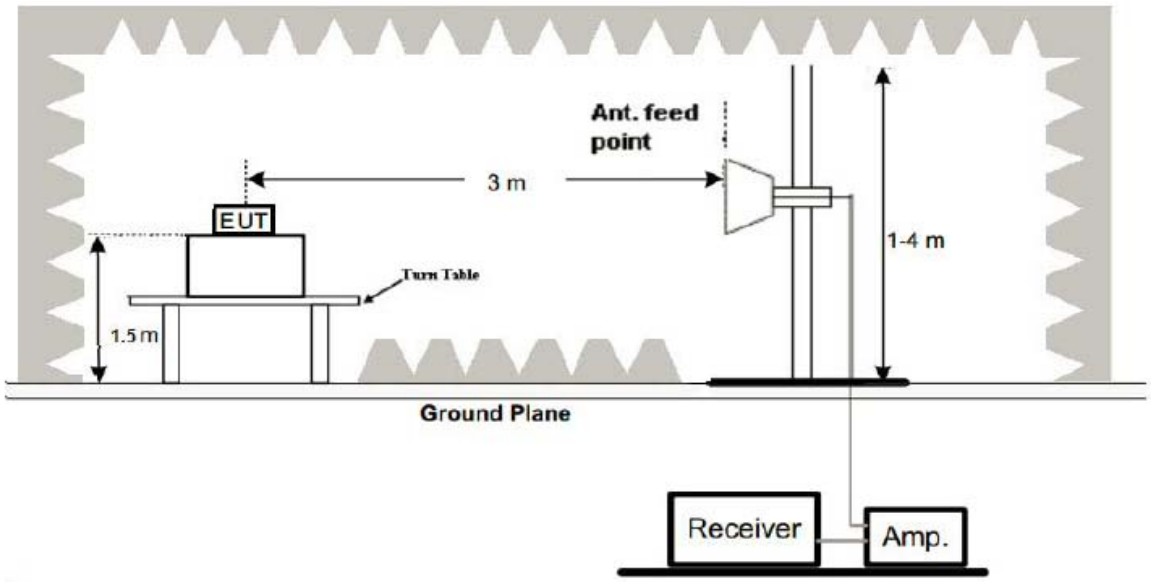
（1）Radiated Emission Test-Up Frequency Below 30MHz



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



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



4.3 Test Procedure

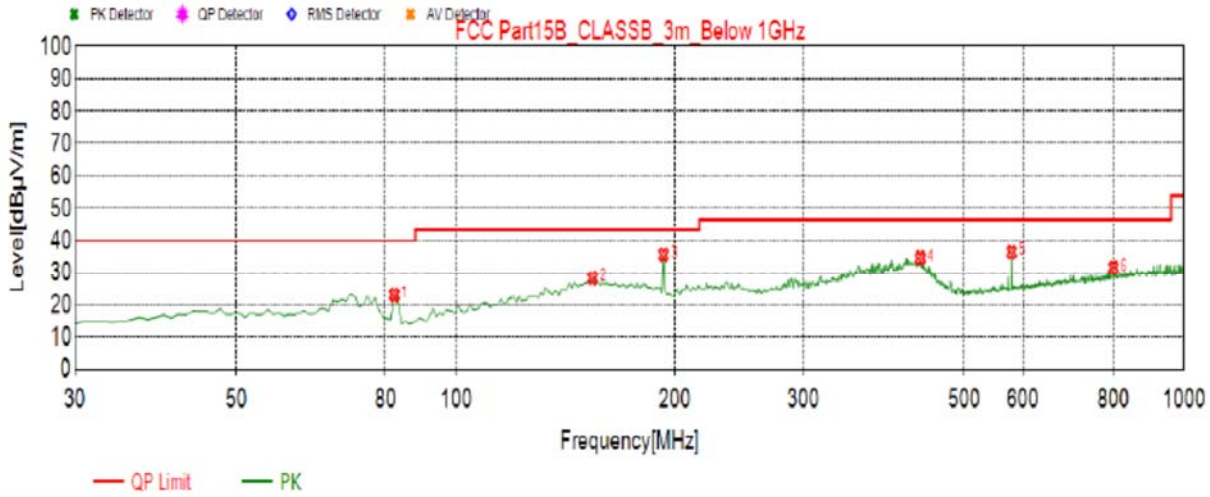
1. Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum 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 to 25GHz per FCC PART 15.33(a).

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

4.4 Test Result

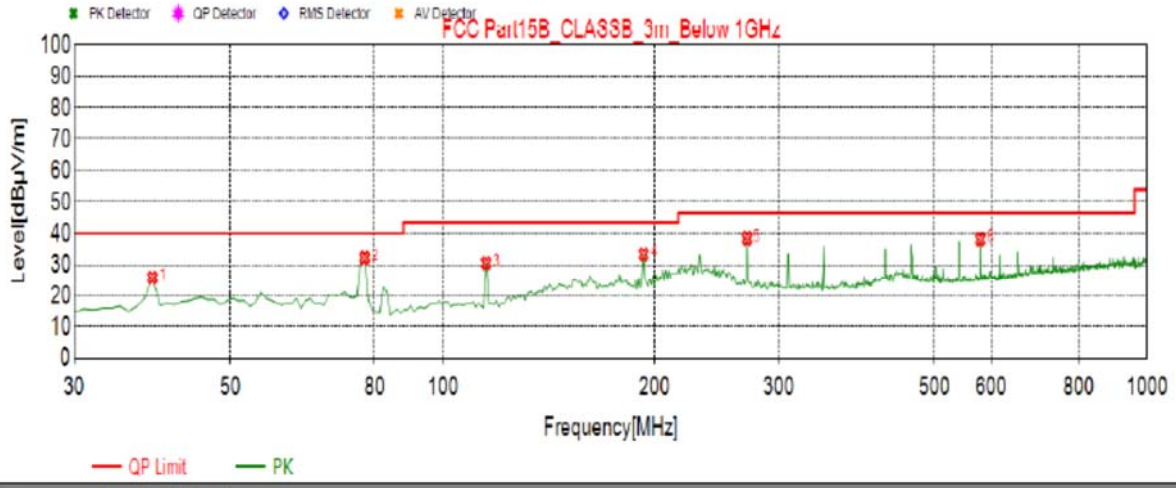
PASS
All the test modes completed for test. The worst case of Radiated Emission; the test data of this mode was reported.

Below 1GHz Test Results:
Antenna polarity: H



Suspected List								
NO.	Freq. [MHz]	Result Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	82.380	23.02	-19.51	40.00	16.98	300	352	Horizontal
2	154.16	28.3	-18.92	43.50	15.20	100	59	Horizontal
3	192.96	35.68	-16.15	43.50	7.82	100	344	Horizontal
4	434.49	34.64	-9.36	46.50	11.86	100	87	Horizontal
5	579.99	36.49	-6.09	46.50	10.01	100	249	Horizontal
6	800.18	31.6	-2.90	46.50	14.90	100	136	Horizontal

Antenna polarity: V



Suspected List								
NO.	Freq. [MHz]	Result Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	38.730	25.84	-15.02	40.00	14.16	100	114	Vertical
2	77.530	32.35	-19.62	40.00	7.65	100	58	Vertical
3	115.36	30.62	-16.88	43.50	12.88	100	91	Vertical
4	192.96	33.43	-16.15	43.50	10.07	100	217	Vertical
5	270.56	38.47	-13.43	46.50	8.03	100	147	Vertical
6	579.99	38.18	-6.09	46.50	8.32	100	137	Vertical

Remark：
(1) Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.
(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, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

Above 1 GHz Test Results:

LOW CH1 (802.11b Mode)/2412
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	60.19	-3.64	56.55	74	-17.45	peak
4824	44.92	-3.64	41.28	54	-12.72	AVG
7236	57.34	-0.95	56.39	74	-17.61	peak
7236	43.67	-0.95	42.72	54	-11.28	AVG
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---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	61.01	-3.64	57.37	74	-16.63	peak
4824	43.56	-3.64	39.92	54	-14.08	AVG
7236	57.17	-0.95	56.22	74	-17.78	peak
7236	42.28	-0.95	41.33	54	-12.67	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

MID CH6 (802.11b Mode)/2437
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	61.88	-3.51	58.37	74	-15.63	peak
4874	47.56	-3.51	44.05	54	-9.95	AVG
7311	58.85	-0.82	58.03	74	-15.97	peak
7311	43.61	-0.82	42.79	54	-11.21	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	60.99	-3.51	57.48	74	-16.52	peak
4874	45.72	-3.51	42.21	54	-11.79	AVG
7311	58.35	-0.82	57.53	74	-16.47	peak
7311	44.63	-0.82	43.81	54	-10.19	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

HIGH CH11 (802.11b Mode)/2462
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	61.38	-3.43	57.95	74	-16.05	peak
4924	45.95	-3.43	42.52	54	-11.48	AVG
7386	59.58	-0.75	58.83	74	-15.17	peak
7386	43.16	-0.75	42.41	54	-11.59	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	60.76	-3.43	57.33	74	-16.67	peak
4924	46.03	-3.43	42.6	54	-11.4	AVG
7386	57.31	-0.75	56.56	74	-17.44	peak
7386	42.73	-0.75	41.98	54	-12.02	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Remark：
(1) Measuring frequencies from 1 GHz to the 25 GHz。
(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) Data of measurement within this frequency range shown “--- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(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 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

LOW CH1 (802.11g Mode)/2412
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	61.33	-3.64	57.69	74	-16.31	peak
4824	45.14	-3.64	41.5	54	-12.5	AVG
7236	56.95	-0.95	56	74	-18	peak
7236	42.08	-0.95	41.13	54	-12.87	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	61.26	-3.64	57.62	74	-16.38	peak
4824	45.11	-3.64	41.47	54	-12.53	AVG
7236	57.95	-0.95	57	74	-17	peak
7236	43.82	-0.95	42.87	54	-11.13	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

MID CH6 (802.11g Mode)/2437
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	60.73	-3.51	57.22	74	-16.78	peak
4874	46.01	-3.51	42.5	54	-11.5	AVG
7311	57.67	-0.82	56.85	74	-17.15	peak
7311	42.15	-0.82	41.33	54	-12.67	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	59.89	-3.51	56.38	74	-17.62	peak
4874	45.71	-3.51	42.2	54	-11.8	AVG
7311	57.77	-0.82	56.95	74	-17.05	peak
7311	41.34	-0.82	40.52	54	-13.48	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

HIGH CH11 (802.11g Mode)/2462
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	60.24	-3.43	56.81	74	-17.19	peak
4924	47.61	-3.43	44.18	54	-9.82	AVG
7386	57.63	-0.75	56.88	74	-17.12	peak
7386	41.43	-0.75	40.68	54	-13.32	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	61.04	-3.43	57.61	74	-16.39	peak
4924	46.31	-3.43	42.88	54	-11.12	AVG
7386	56.86	-0.75	56.11	74	-17.89	peak
7386	42.52	-0.75	41.77	54	-12.23	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Remark：
(1) Measuring frequencies from 1 GHz to the 25 GHz。
(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) Data of measurement within this frequency range shown “--- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(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 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

LOW CH1 (802.11n/H20 Mode)/2412
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	61.83	-3.64	58.19	74	-15.81	peak
4824	46.35	-3.64	42.71	54	-11.29	AVG
7236	57.12	-0.95	56.17	74	-17.83	peak
7236	42.51	-0.95	41.56	54	-12.44	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	60.36	-3.64	56.72	74	-17.28	peak
4824	46.52	-3.64	42.88	54	-11.12	AVG
7236	56.87	-0.95	55.92	74	-18.08	peak
7236	41.26	-0.95	40.31	54	-13.69	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

MID CH6 (802.11n/H20 Mode)/2437
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	61.06	-3.51	57.55	74	-16.45	peak
4874	44.81	-3.51	41.3	54	-12.7	AVG
7311	56.23	-0.82	55.41	74	-18.59	peak
7311	42.64	-0.82	41.82	54	-12.18	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	59.37	-3.51	55.86	74	-18.14	peak
4874	45.26	-3.51	41.75	54	-12.25	AVG
7311	54.86	-0.82	54.04	74	-19.96	peak
7311	41.41	-0.82	40.59	54	-13.41	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

HIGH CH11 (802.11n/H20 Mode)/2462
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	61.29	-3.43	57.86	74	-16.14	peak
4924	44.63	-3.43	41.2	54	-12.8	AVG
7386	56.17	-0.75	55.42	74	-18.58	peak
7386	42.42	-0.75	41.67	54	-12.33	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	60.05	-3.43	56.62	74	-17.38	peak
4924	43.31	-3.43	39.88	54	-14.12	AVG
7386	56.82	-0.75	56.07	74	-17.93	peak
7386	41.67	-0.75	40.92	54	-13.08	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

LOW CH3 (802.11n/H40 Mode)/2422
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	62.93	-3.63	59.3	74	-14.7	peak
4924	46.16	-3.63	42.53	54	-11.47	AVG
7386	54.25	-0.94	53.31	74	-20.69	peak
7386	41.18	-0.94	40.24	54	-13.76	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	60.73	-3.63	57.1	74	-16.9	peak
4924	43.77	-3.63	40.14	54	-13.86	AVG
7386	56.29	-0.94	55.35	74	-18.65	peak
7386	40.88	-0.94	39.94	54	-14.06	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

MID CH6 (802.11n/H40 Mode)/2437
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	61.16	-3.51	57.65	74	-16.35	peak
4874	45.33	-3.51	41.82	54	-12.18	AVG
7311	54.76	-0.82	53.94	74	-20.06	peak
7311	40.85	-0.82	40.03	54	-13.97	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	60.19	-3.51	56.68	74	-17.32	peak
4874	44.76	-3.51	41.25	54	-12.75	AVG
7311	54.04	-0.82	53.22	74	-20.78	peak
7311	41.37	-0.82	40.55	54	-13.45	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

HIGH CH9 (802.11n/H40 Mode)/2452
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4904	60.25	-3.43	56.82	74	-17.18	peak
4904	44.62	-3.43	41.19	54	-12.81	AVG
7356	54.97	-0.75	54.22	74	-19.78	peak
7356	41.53	-0.75	40.78	54	-13.22	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4904	60.94	-3.43	57.51	74	-16.49	peak
4904	44.76	-3.43	41.33	54	-12.67	AVG
7356	54.21	-0.75	53.46	74	-20.54	peak
7356	40.85	-0.75	40.1	54	-13.9	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Remark：
(1) Measuring frequencies from 1 GHz to the 25 GHz。
(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) Data of measurement within this frequency range shown “--- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(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 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

5 BAND EDGE

5.1 Limits

FCC PART 15.247 Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

5.2 Test Procedure

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW to 100KHz and VBM to 300KHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength. The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW to 100 KHz and VBW to 300 KHz, to measure the conducted peak band edge.

5.3 Test Result

PASS

Radiated Band Edge Test:
Operation Mode: 802.11b Mode TX CH Low (2412MHz)
Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	55.62	-5.81	49.81	74	-24.19	peak
2390	/	-5.81	/	54	/	AVG
2399	60.91	-5.84	55.07	74	-18.93	peak
2399	45.35	-5.84	39.51	54	-14.49	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	53.17	-5.81	47.36	74	-26.64	peak
2390	/	-5.81	/	54	/	AVG
2399	60.43	-5.84	54.59	74	-19.41	peak
2399	45.21	-5.84	39.37	54	-14.63	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Operation Mode: TX CH High (2462MHz)
Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	55.94	-5.65	50.29	74	-23.71	peak
2483.5	/	-5.65	/	54	/	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	53.63	-5.65	47.98	74	-26.02	peak
2483.5	/	-5.65	/	54	/	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						
Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.						

Operation Mode: 802.11g Mode TX CH Low (2412MHz)
Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	54.37	-5.81	48.56	74	-25.44	peak
2390	/	-5.81	/	54	/	AVG
2399	60.22	-5.84	54.38	74	-19.62	peak
2399	45.15	-5.84	39.31	54	-14.69	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	58.19	-5.81	52.38	74	-21.62	peak
2390	/	-5.81	/	54	/	AVG
2399	60.87	-5.84	55.03	74	-18.97	peak
2399	45.39	-5.84	39.55	54	-14.45	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Operation Mode: TX CH High (2462MHz)
Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	54.63	-5.65	48.98	74	-25.02	peak
2483.5	/	-5.65	/	54	/	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	53.61	-5.65	47.96	74	-26.04	peak
2483.5	/	-5.65	/	54	/	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						
Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.						

Operation Mode: 802.11n/H20 Mode TX CH Low (2412MHz)
Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	54.68	-5.81	48.87	74	-25.13	peak
2390	/	-5.81	/	54	/	AVG
2399	60.04	-5.84	54.2	74	-19.8	peak
2399	45.89	-5.84	40.05	54	-13.95	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	53.13	-5.81	47.32	74	-26.68	peak
2390	/	-5.81	/	54	/	AVG
2399	59.82	-5.84	53.98	74	-20.02	peak
2399	44.26	-5.84	38.42	54	-15.58	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Operation Mode: TX CH High (2462MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	54.37	-5.65	48.72	74	-25.28	peak
2483.5	/	-5.65	/	54	/	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	53.16	-5.65	47.51	74	-26.49	peak
2483.5	/	-5.65	/	54	/	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						
Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.						

Operation Mode: 802.11n/H40 Mode TX CH Low (2422MHz)
Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	53.01	-5.81	47.2	74	-26.8	peak
2390	/	-5.81	/	54	/	AVG
2399	60.24	-5.84	54.4	74	-19.6	peak
2399	44.67	-5.84	38.83	54	-15.17	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2390	53.18	-5.81	47.37	74	-26.63	peak
2390	/	-5.81	/	54	/	AVG
2399	60.42	-5.84	54.58	74	-19.42	peak
2399	42.94	-5.84	37.1	54	-16.9	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Operation Mode: TX CH High (2452MHz)

Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	53.49	-5.65	47.84	74	-26.16	peak
2483.5	/	-5.65	/	54	/	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2483.5	52.47	-5.65	46.82	74	-27.18	peak
2483.5	/	-5.65	/	54	/	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						
Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.						

6 OCCUPIED BANDWIDTH MEASUREMENT

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

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as normal operation.
3. Based on FCC Part15 C Section 15.247: RBW= 100KHz. VBW= 300 KHz.
4. The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector.

6.3 Measurement Equipment Used

Same as Radiated Emission Measurement

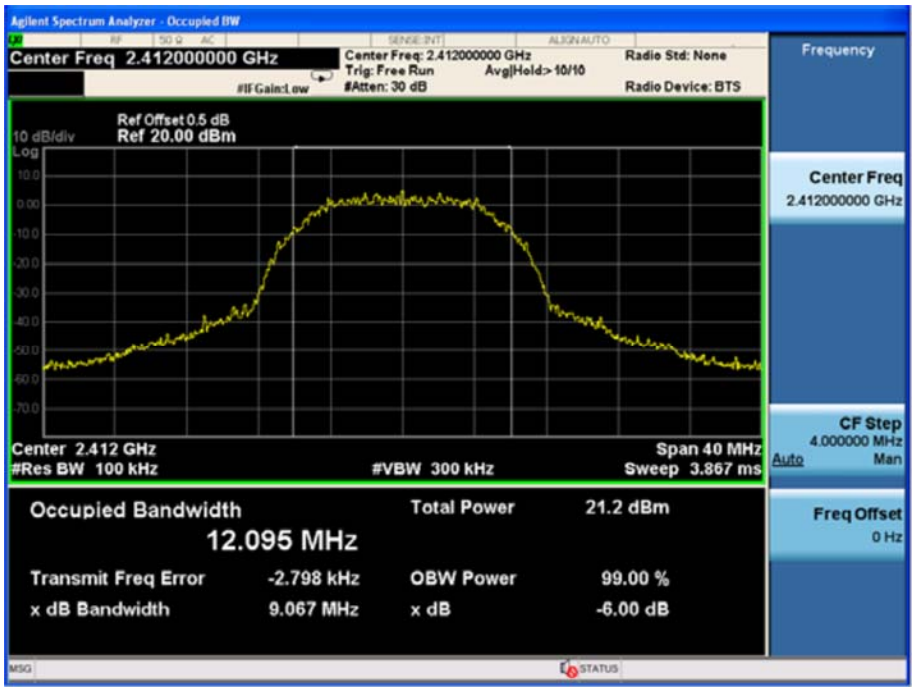
6.4 Test Result

PASS

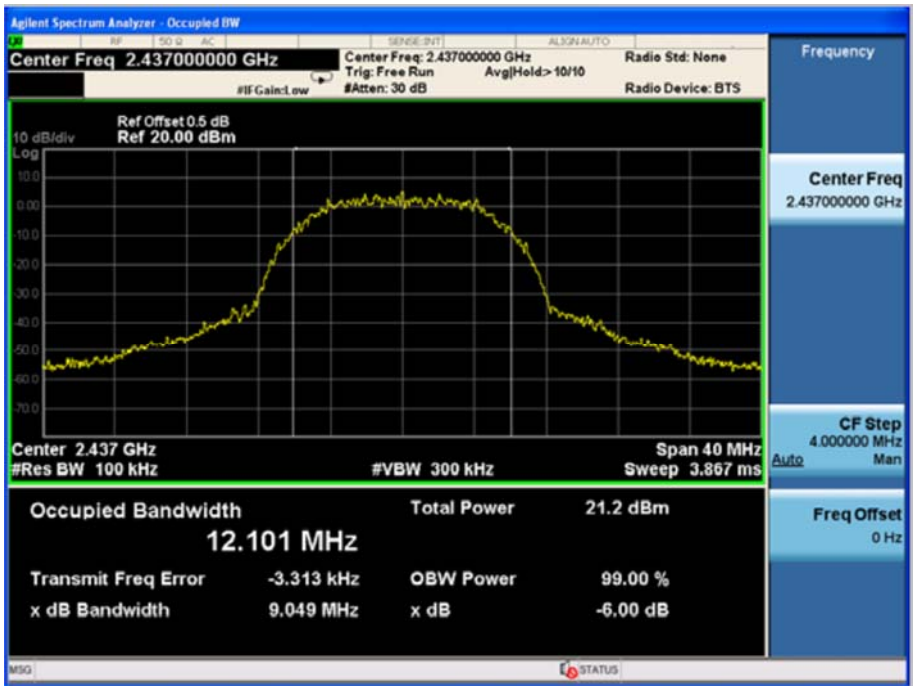
All the test modes completed for test.

TX 802.11b Mode			
Frequency	**6dB Bandwidth (MHz)**	**Channel Separation (MHz)**	**Result**
2412 MHz	9.067	>=500KHz	**PASS**
2437 MHz	9.049	>=500KHz	**PASS**
2462 MHz	9.074	>=500KHz	**PASS**

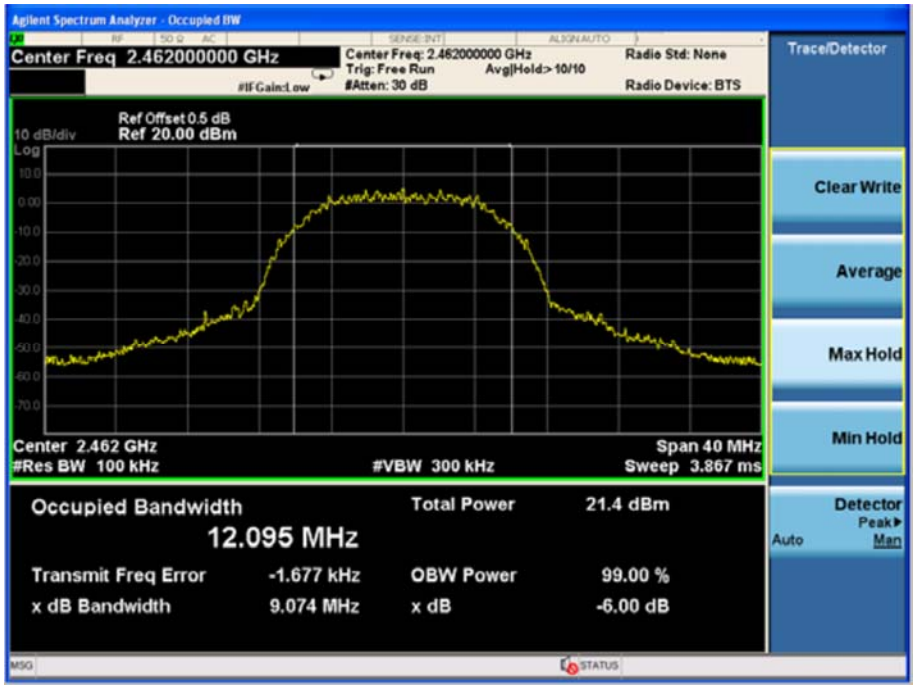
CH: 2412MHz



CH: 2437MHz

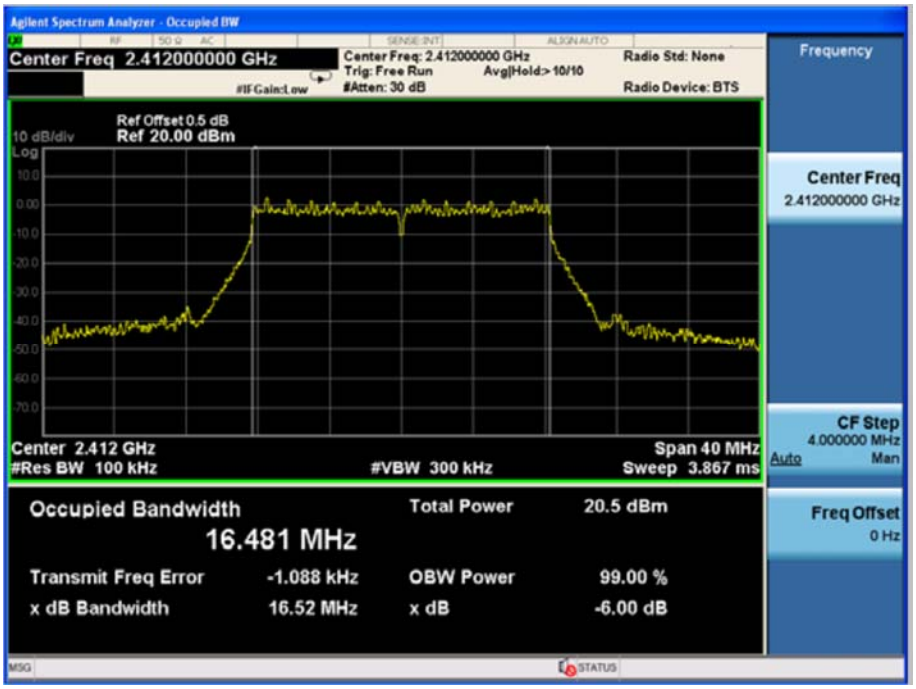


CH: 2462MHz

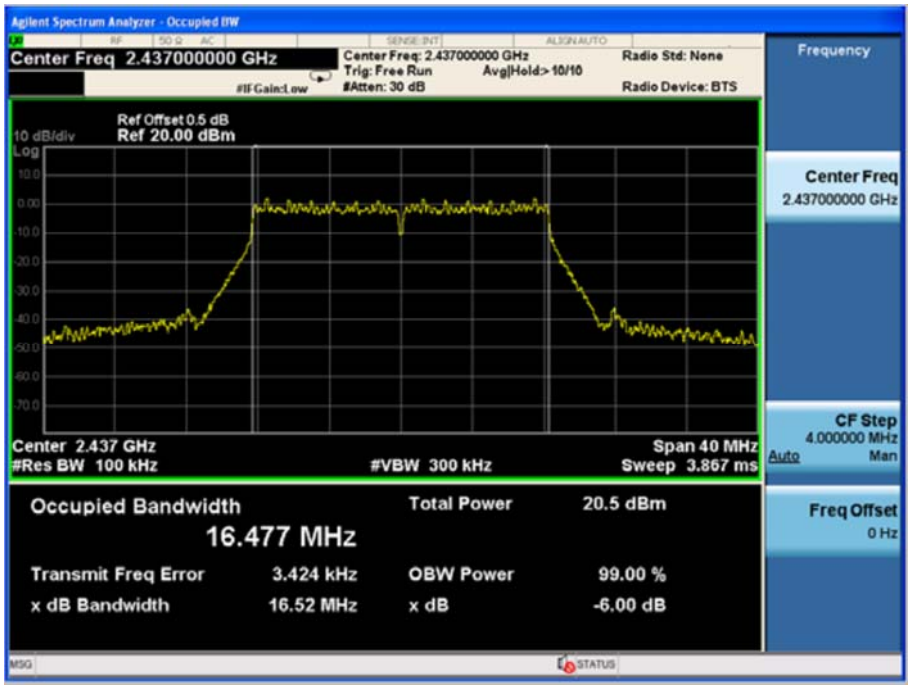


TX 802.11g Mode			
Frequency	**6dB Bandwidth (MHz)**	**Channel Separation (MHz)**	**Result**
2412 MHz	16.52	>=500KHz	**PASS**
2437 MHz	16.52	>=500KHz	**PASS**
2462 MHz	16.52	>=500KHz	**PASS**

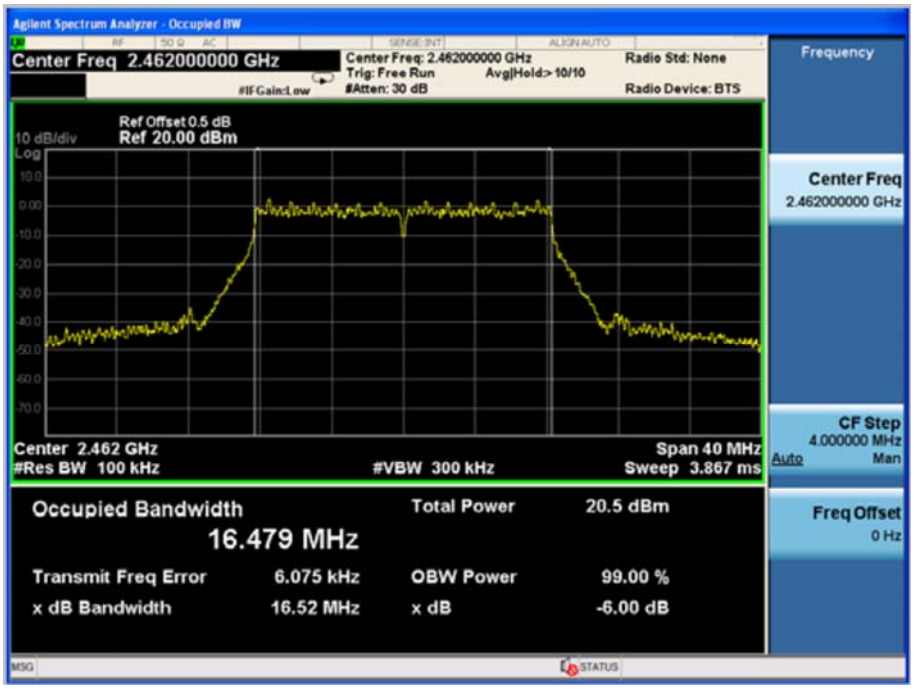
CH: 2412MHz



CH: 2437MHz

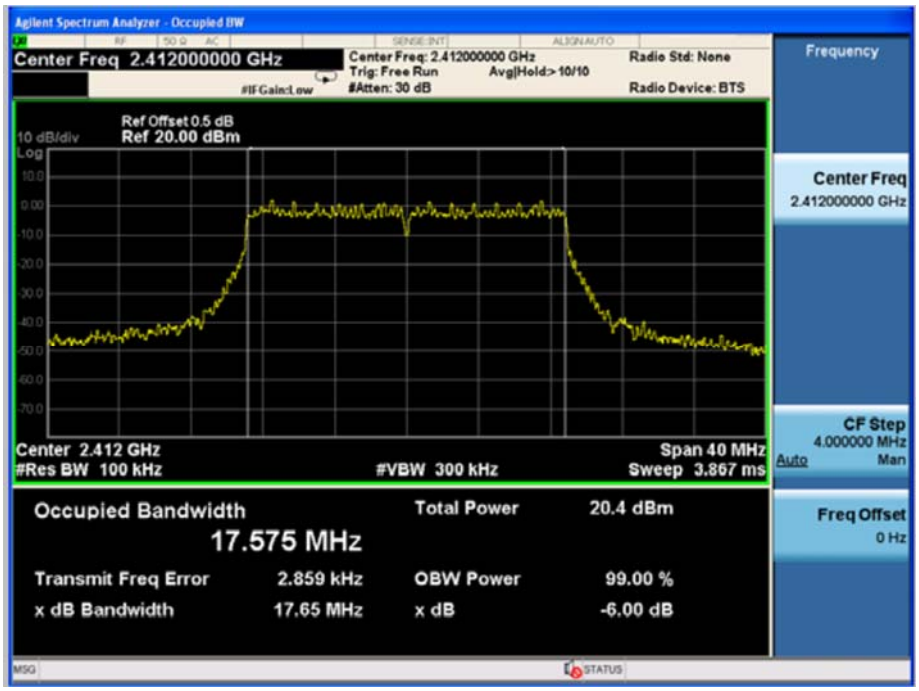


CH: 2462MHz

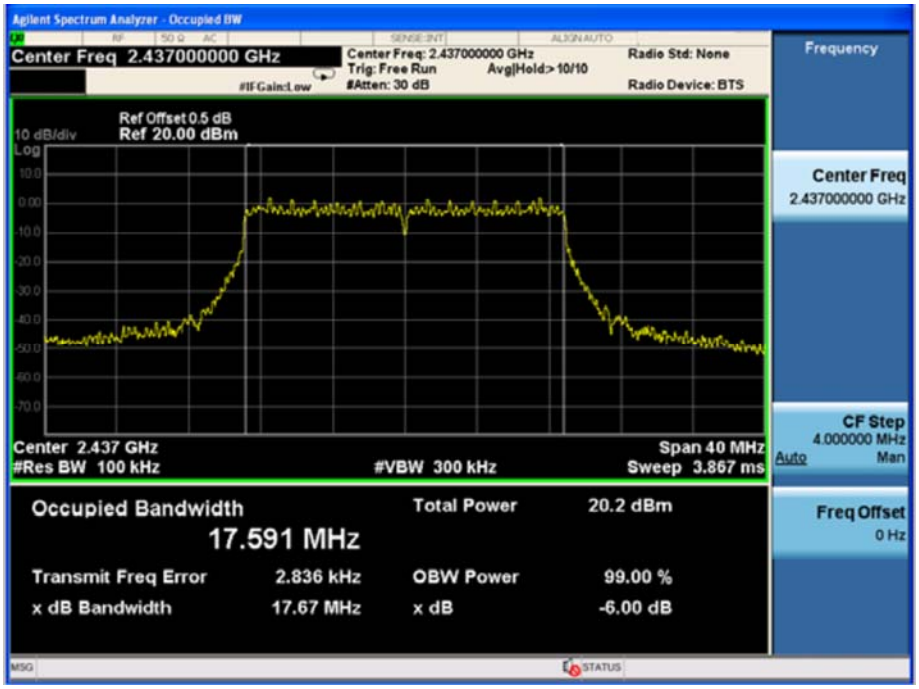


TX 802.11n/HT20 Mode			
Frequency	**6dB Bandwidth (MHz)**	**Channel Separation (MHz)**	**Result**
2412 MHz	17.65	>=500KHz	**PASS**
2437 MHz	17.67	>=500KHz	**PASS**
2462 MHz	17.66	>=500KHz	**PASS**

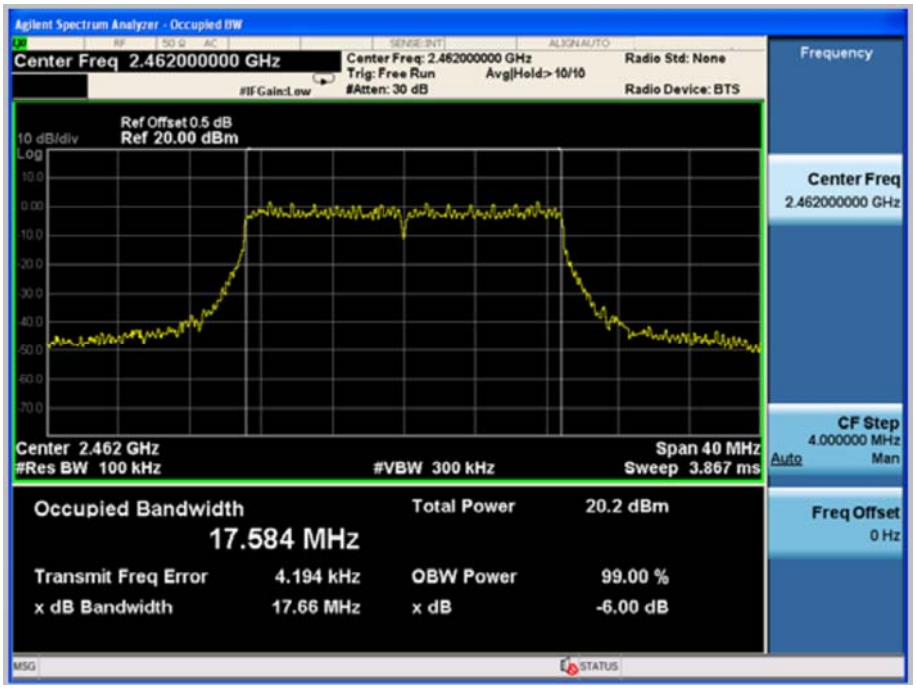
CH: 2412MHz



CH: 2437MHz

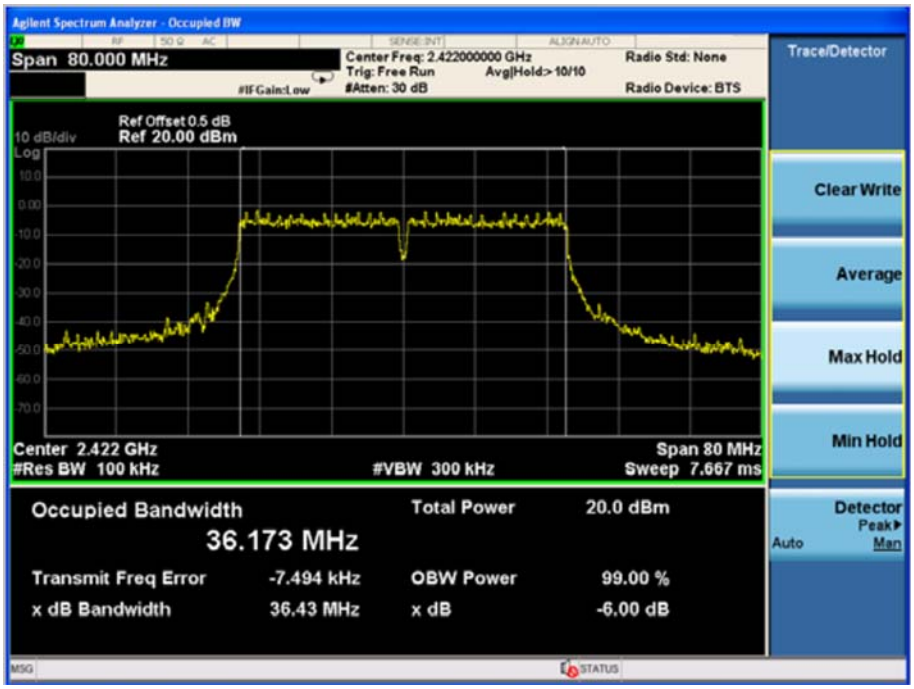


CH: 2462MHz

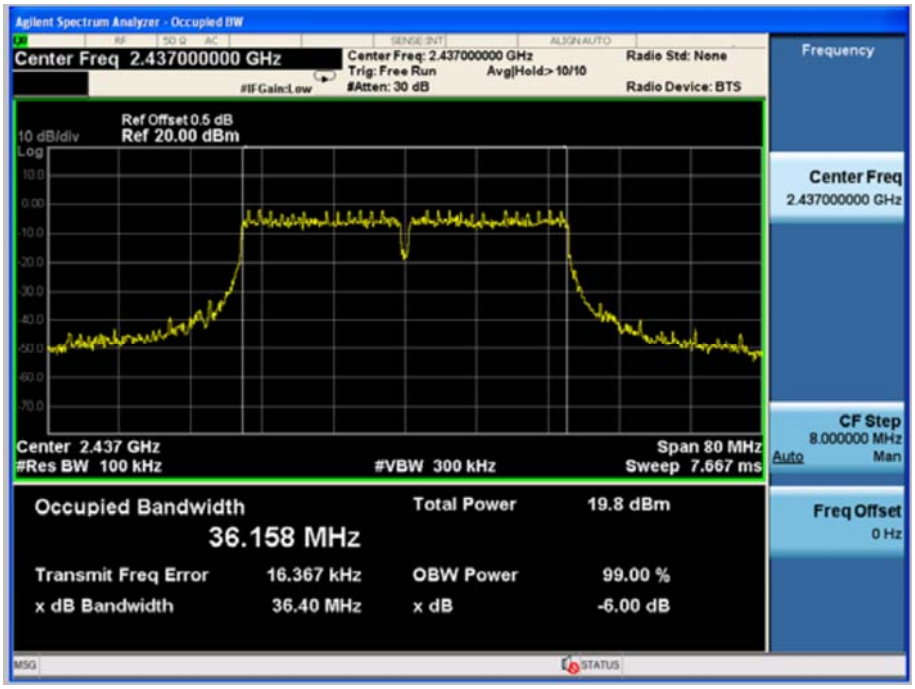


TX 802.11n/HT40 Mode			
Frequency	**6dB Bandwidth (MHz)**	**Channel Separation (MHz)**	**Result**
2422 MHz	36.43	>=500KHz	**PASS**
2437 MHz	36.40	>=500KHz	**PASS**
2452 MHz	36.47	>=500KHz	**PASS**

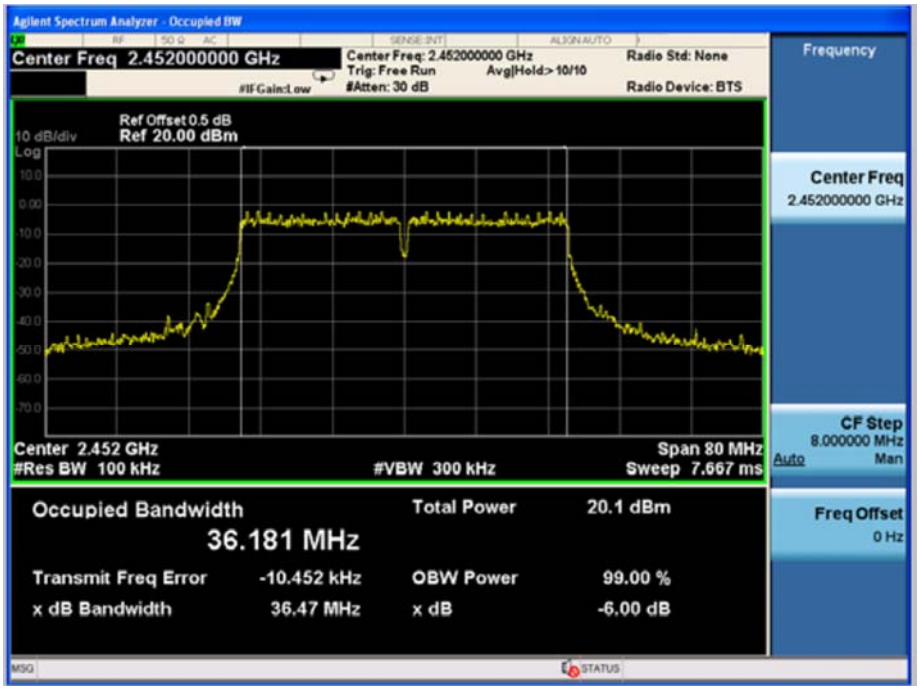
CH: 2422MHz



CH: 2437MHz



CH: 2452MHz



7 POWER SPECTRAL DENSITY TEST

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. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as normal operation.
3. Based on FCC Part15 C Section 15.247: RBW= 3KHz. VBW= 10 KHz, Span=3MHz.
4. The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector.

7.3 Measurement Equipment Used

Same as Radiated Emission Measurement

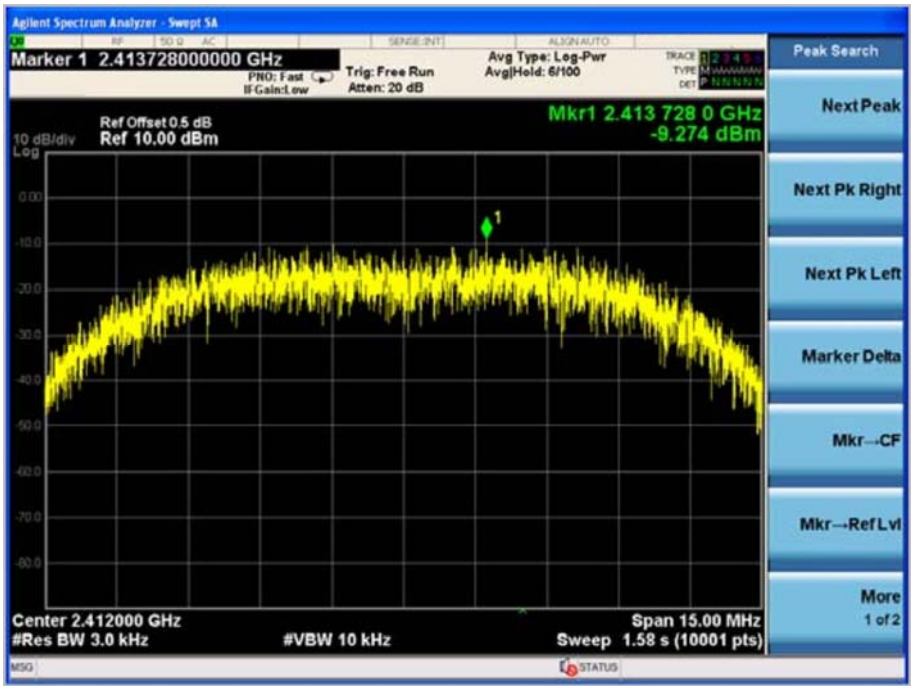
7.4 Test Result

PASS

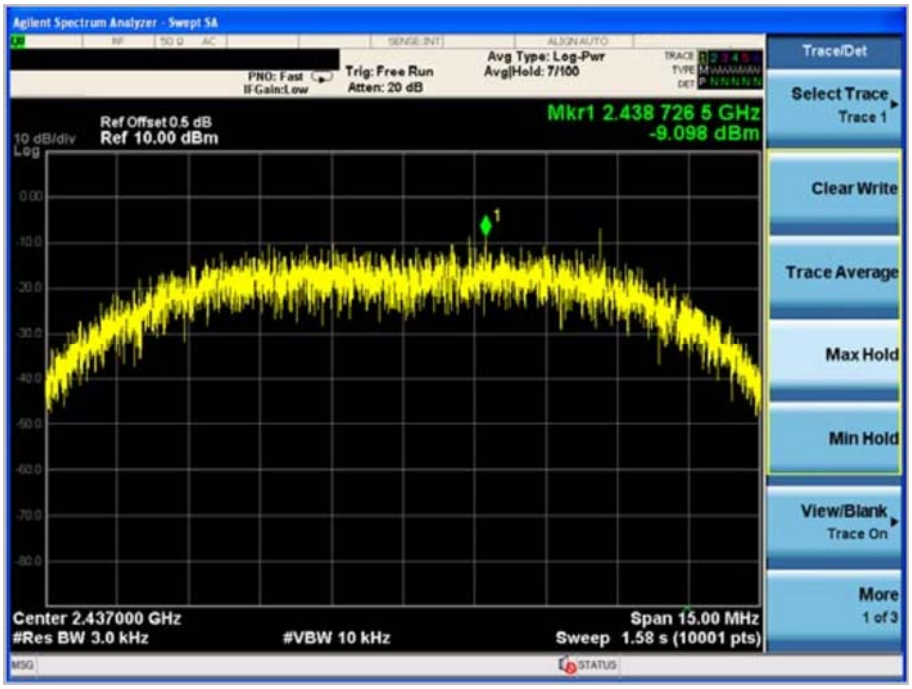
All the test modes completed for test.

TX 802.11b Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2412 MHz	-9.274	8	**PASS**
2437 MHz	-9.098	8	**PASS**
2462 MHz	-9.063	8	**PASS**

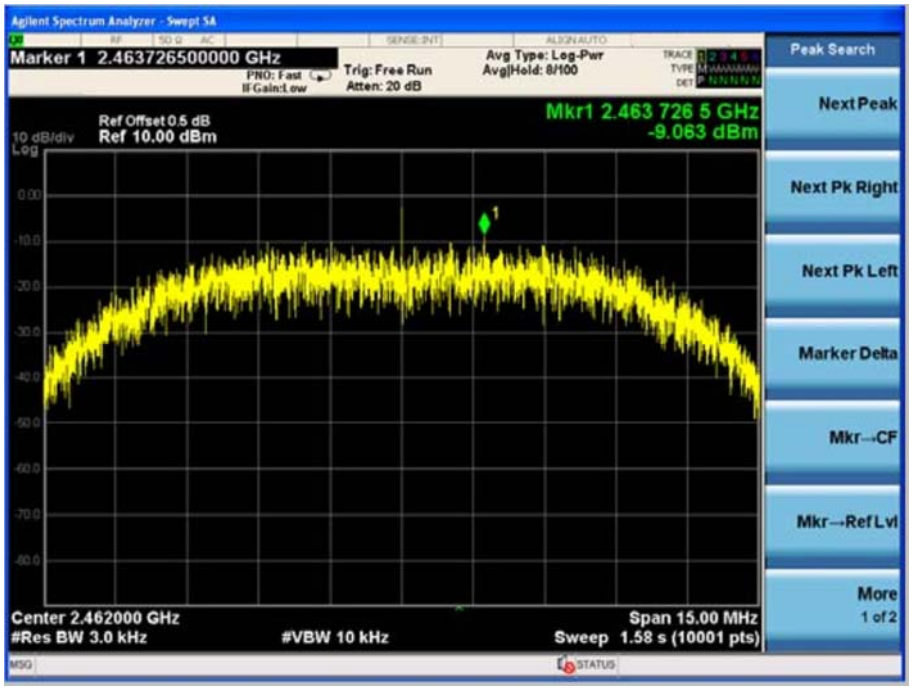
CH: 2412MHz



CH: 2437MHz

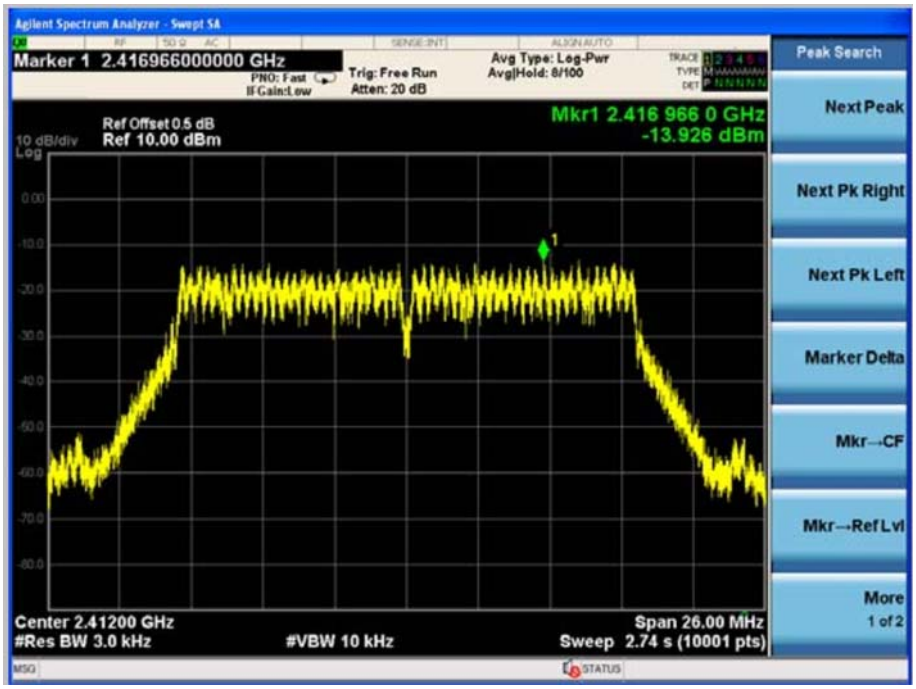


CH: 2462MHz

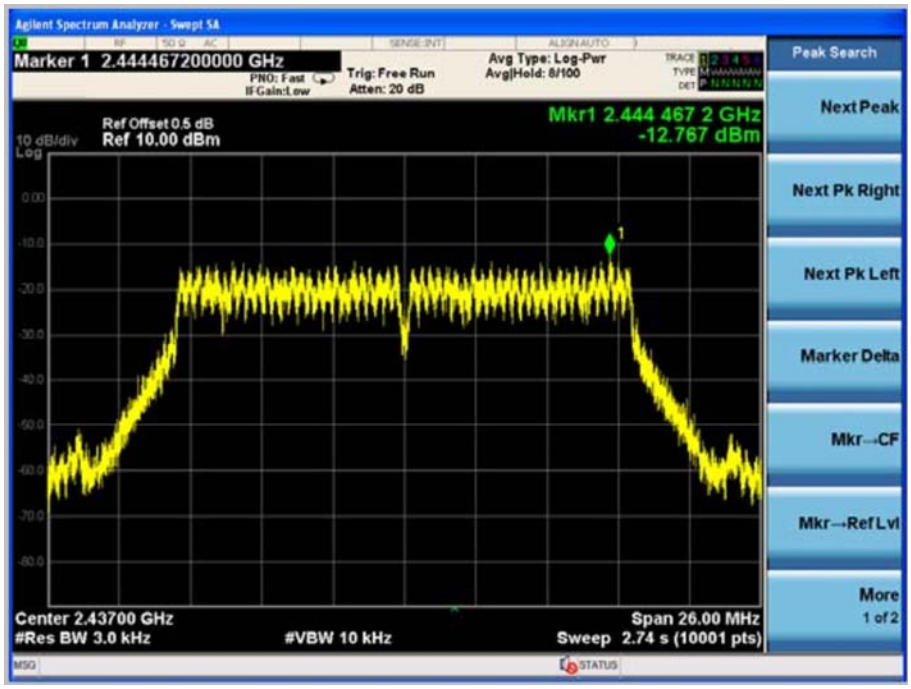


TX 802.11g Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2412 MHz	-13.926	8	**PASS**
2437 MHz	-12.767	8	**PASS**
2462 MHz	-13.339	8	**PASS**

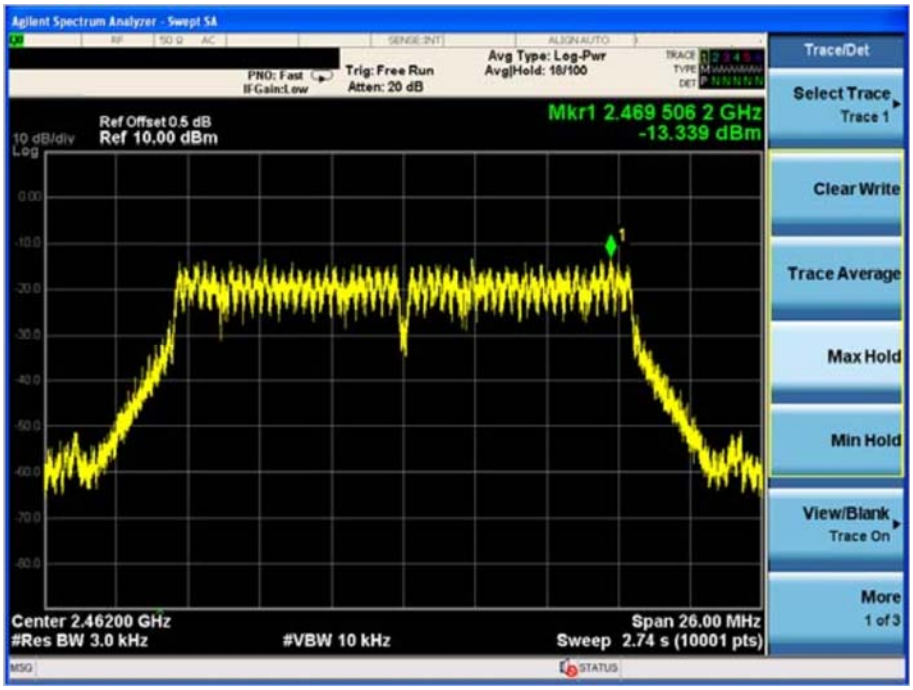
CH: 2412MHz



CH: 2437MHz

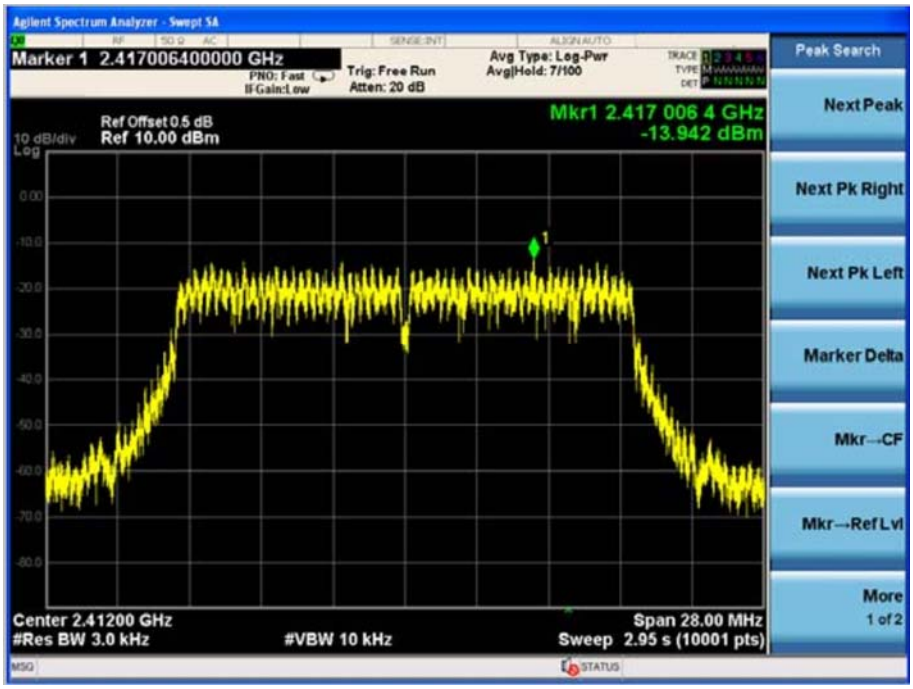


CH: 2462MHz

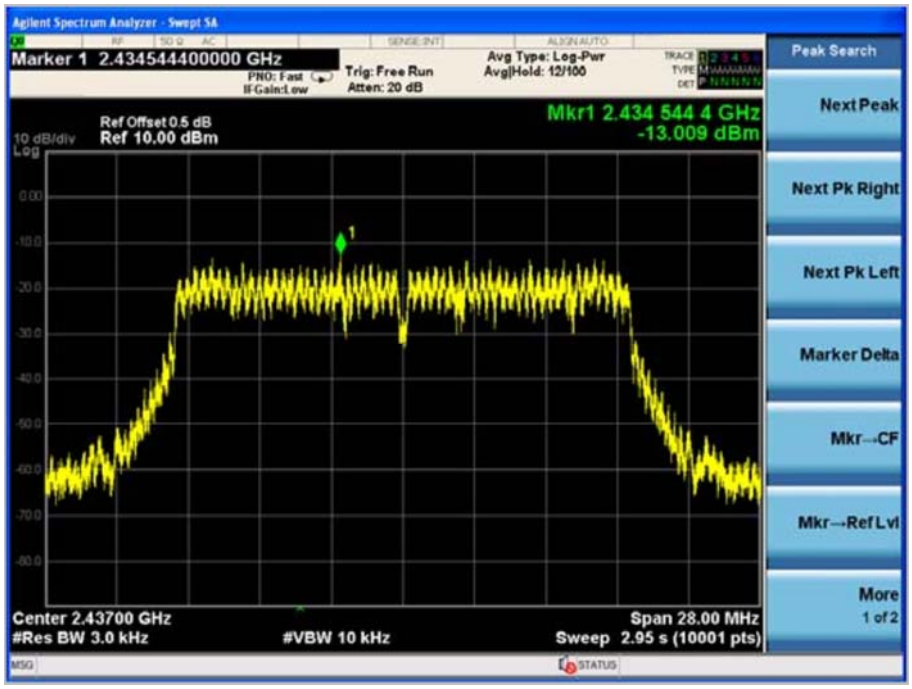


TX 802.11n/HT20 Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2412 MHz	-13.942	8	**PASS**
2437 MHz	-13.009	8	**PASS**
2462 MHz	-13.481	8	**PASS**

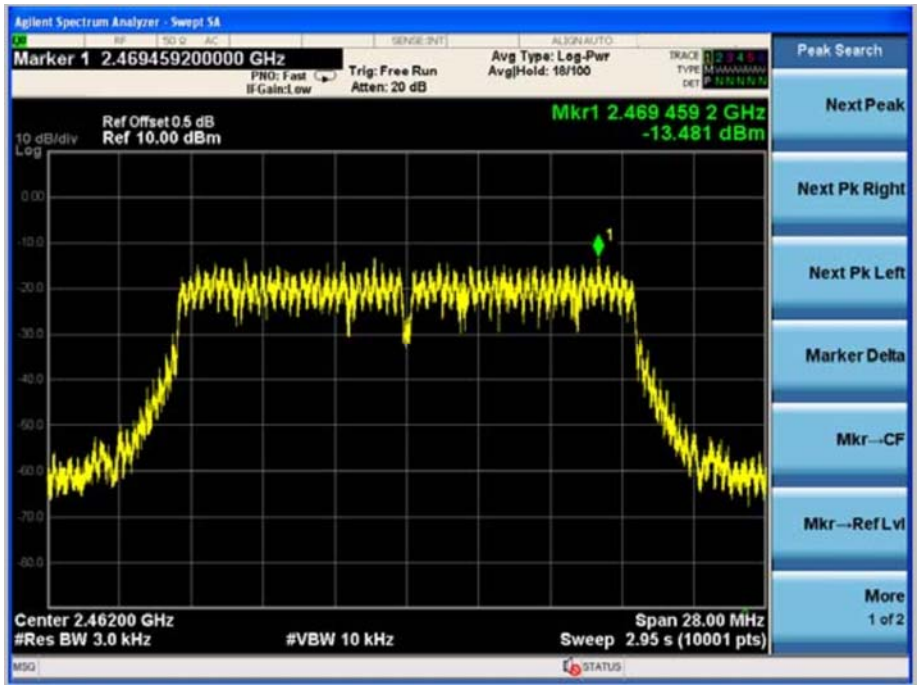
CH: 2412MHz



CH: 2437MHz

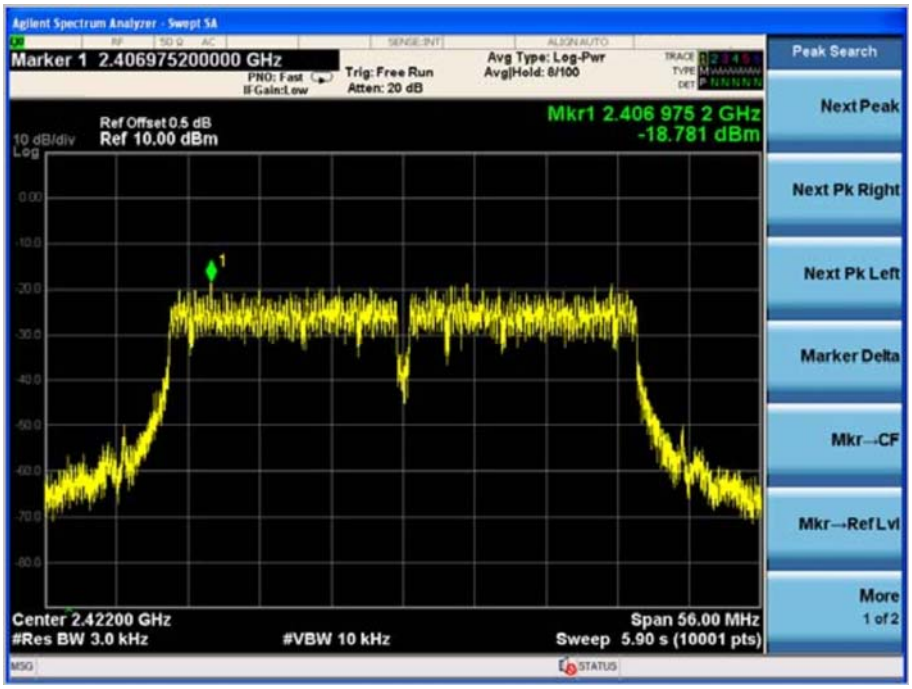


CH: 2462MHz

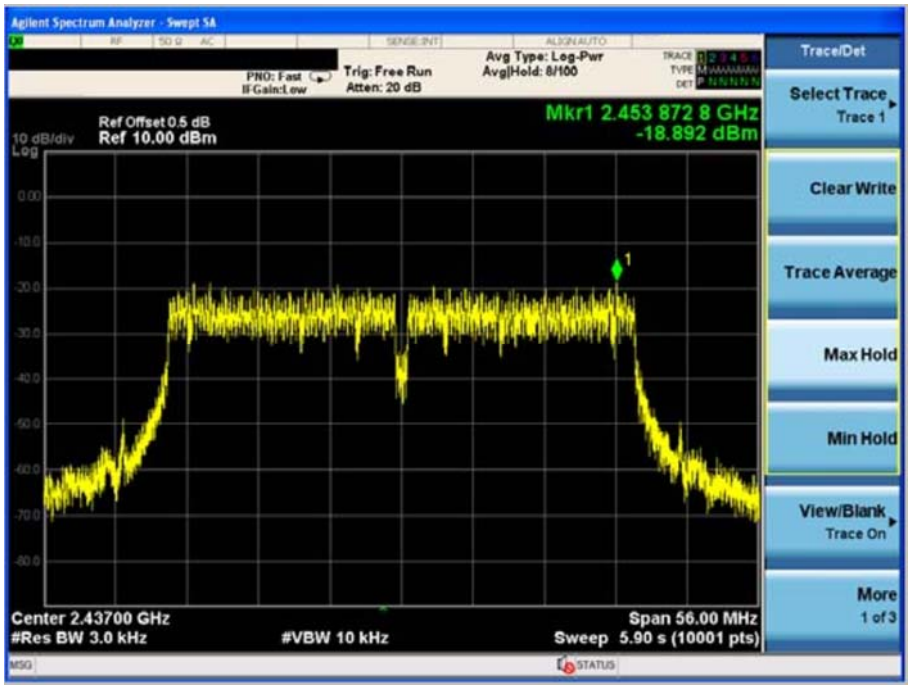


TX 802.11n/HT40 Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2422 MHz	-18.781	8	**PASS**
2437 MHz	-18.892	8	**PASS**
2452 MHz	-18.779	8	**PASS**

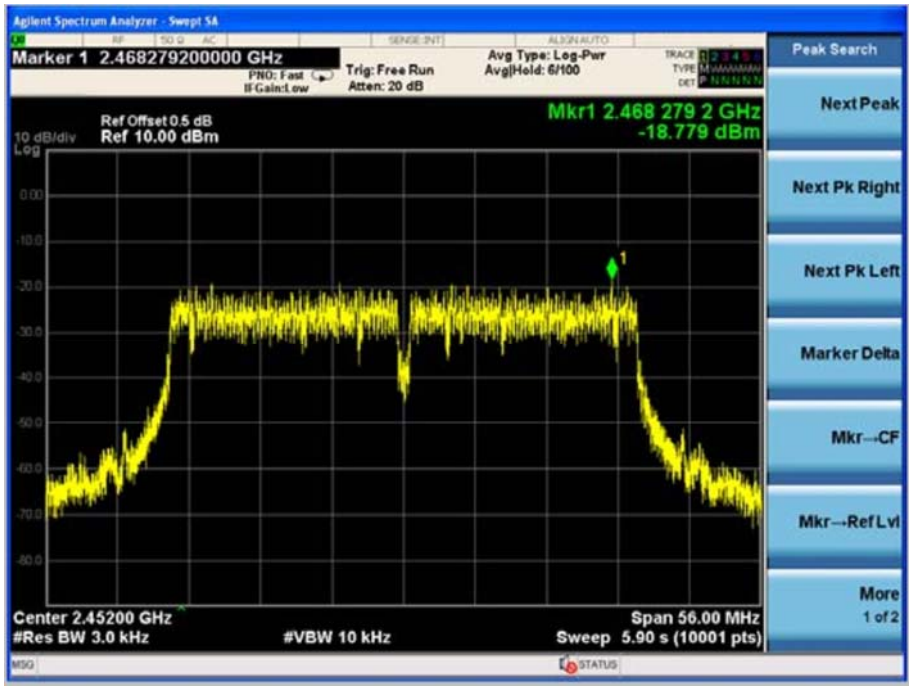
CH: 2422MHz



CH: 2437MHz



CH: 2452MHz



8 PEAK OUTPUT POWER TEST

8.1 Test 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

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. The EUT was directly connected to the Power meter.

8.3 Measurement Equipment Used

Same as Radiated Emission Measurement

8.4 Test Result

PASS

All the test modes completed for test.

TX 802.11b Mode			
Test Channe	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)	LIMIT dBm
CH01	2412	16.78	30
CH06	2437	16.86	30
CH11	2462	16.72	30
TX 802.11g Mode			
CH01	2412	16.17	30
CH06	2437	16.09	30
CH11	2462	16.12	30
TX 802.11n20 Mode			
CH01	2412	15.42	30
CH06	2437	15.35	30
CH11	2462	15.26	30
TX 802.11n40 Mode			
CH03	2422	13.65	30
CH06	2437	13.42	30
CH09	2452	13.08	30

9 CONDUCTED EMISSION TEST

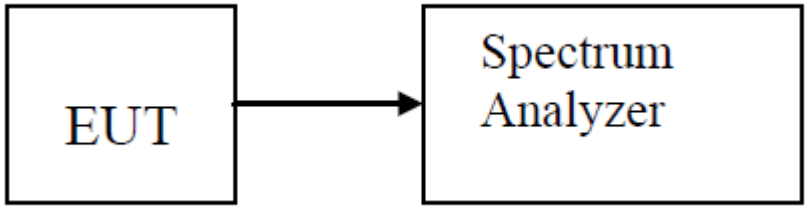
9.1 Test Limit

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 Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as TX operation and connect directly to the spectrum analyzer.
3. Set spectrum analyzer RBW= 100KHz. VBW= 300 KHz
4. Set detected by the spectrum analyser with peak detector.

9.3 Test Setup

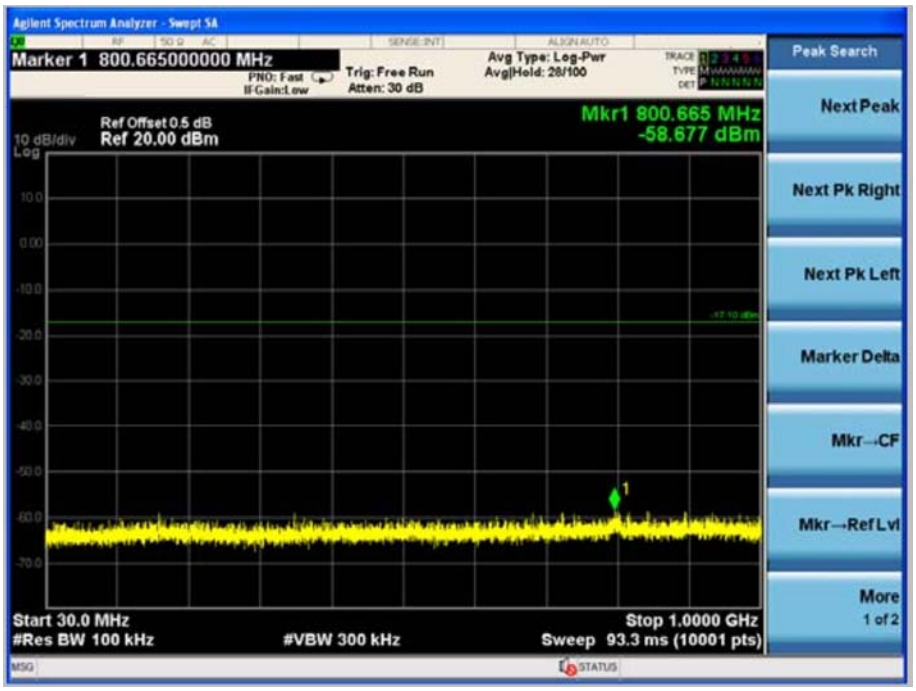


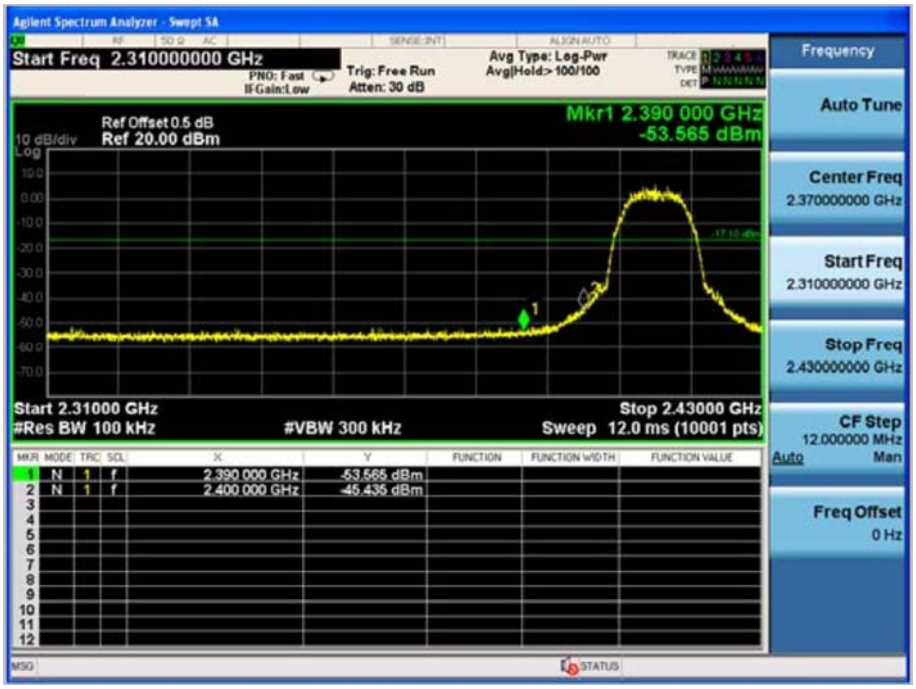
9.4 Test Result

PASS

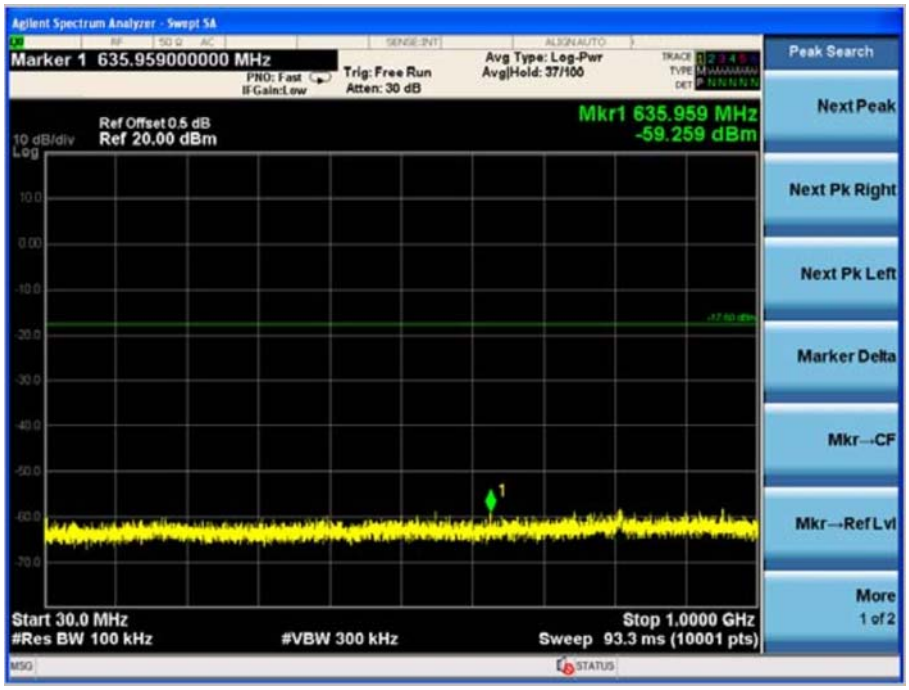
All the test modes completed for test.

TX 802.11b Mode CH1

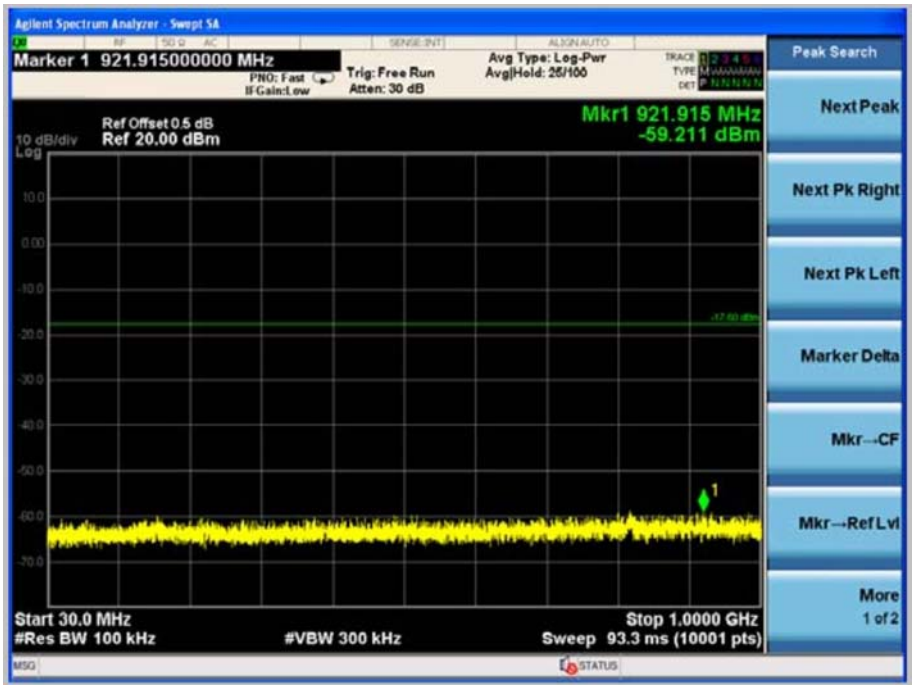




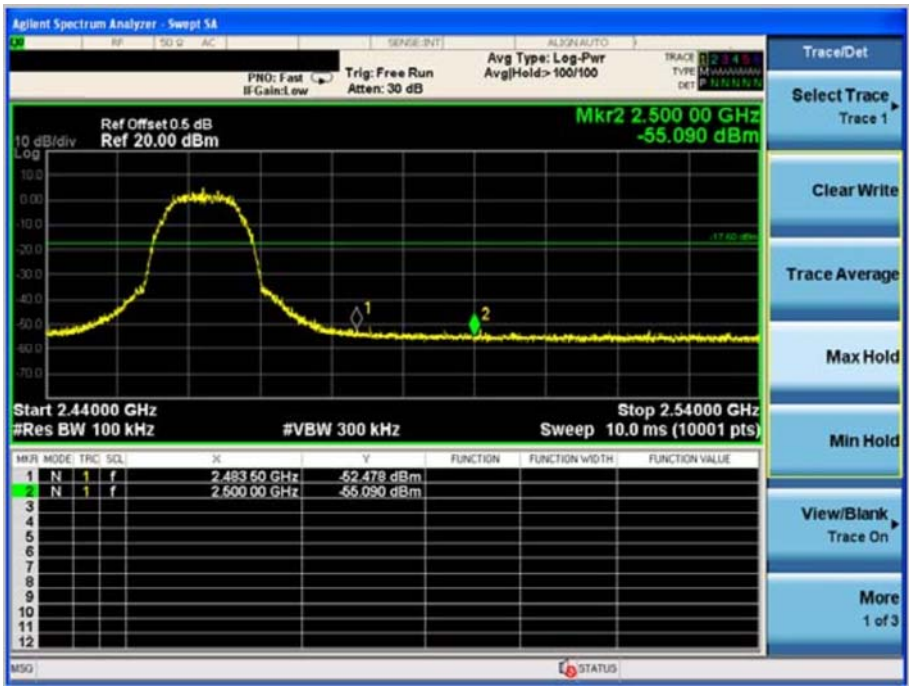
TX 802.11b Mode CH6



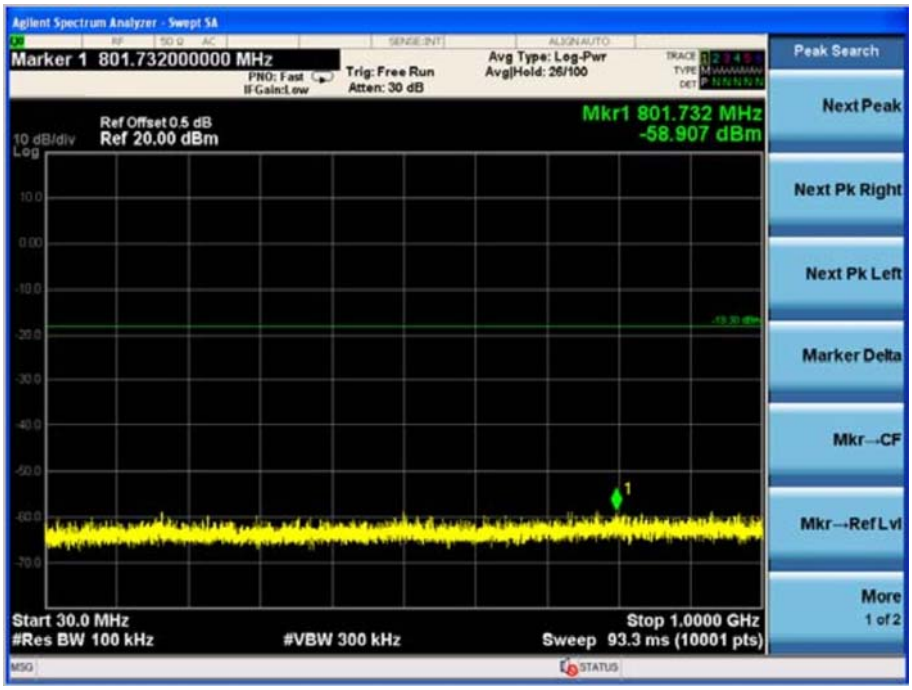
TX 802.11b Mode CH11

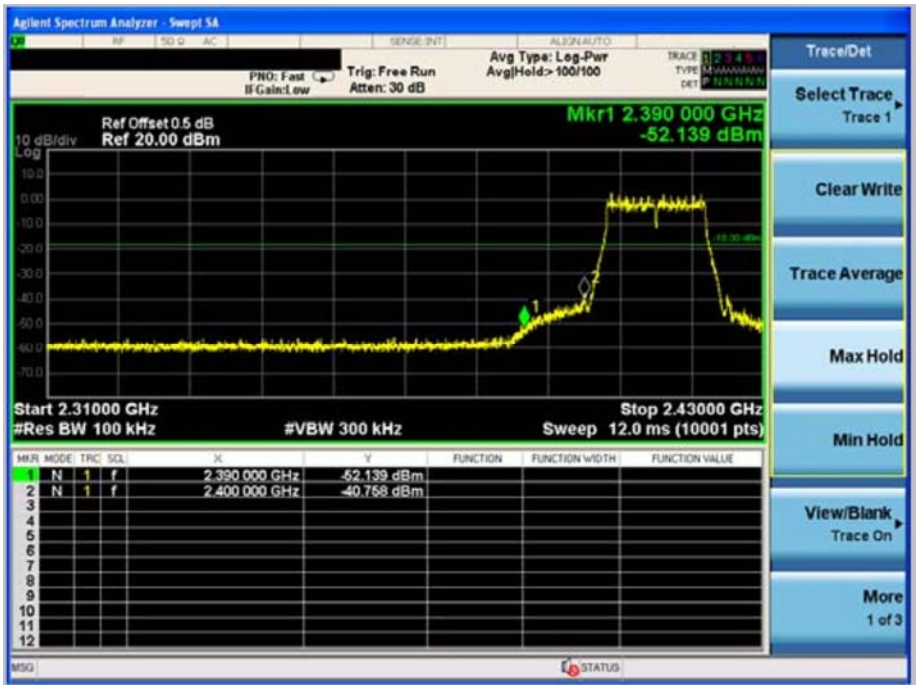



Agilent Spectrum Analyzer - Swept SA
Start Freq 1.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 11/100
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Mkr1 2.464 0 GHz
2.347 dBm
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.29 s (10001 pts)
Frequency
Auto Tune
Center Freq
13.000000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
2.400000000 GHz
Auto
Man
Freq Offset
0 Hz

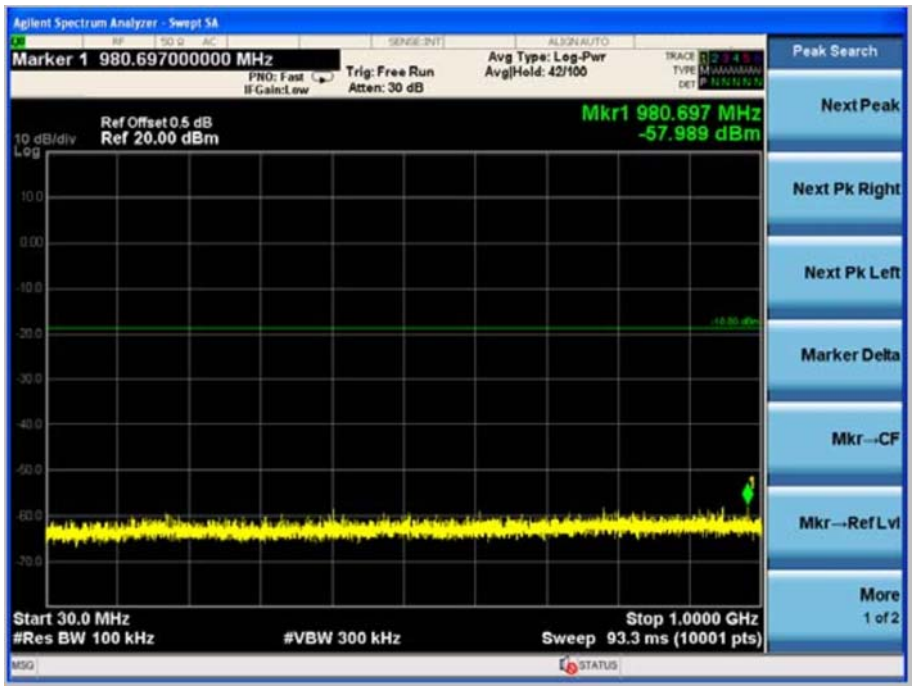

Agilent Spectrum Analyzer - Swept SA
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Mkr2 2.500 00 GHz
-55.090 dBm
Start 2.44000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.54000 GHz
Sweep 10.0 ms (10001 pts)
1 N 1 f 2.483 50 GHz -52.478 dBm
2 N 1 f 2.500 00 GHz -55.090 dBm
Trace/Det
Select Trace
Trace 1
Clear Write
Trace Average
Max Hold
Min Hold
View/Blank
Trace On
More
1 of 3

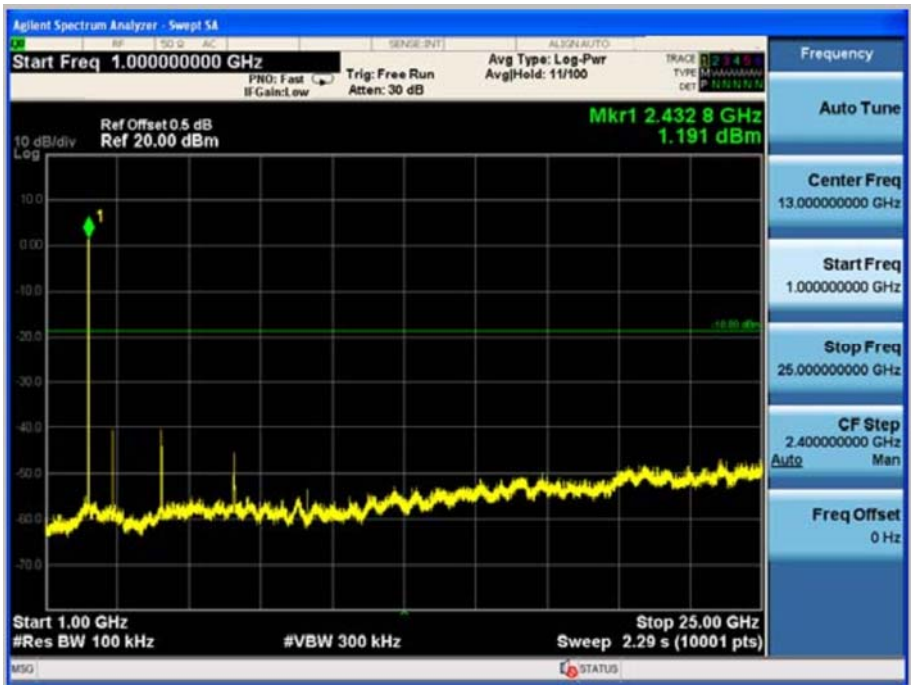
TX 802.11g Mode CH01



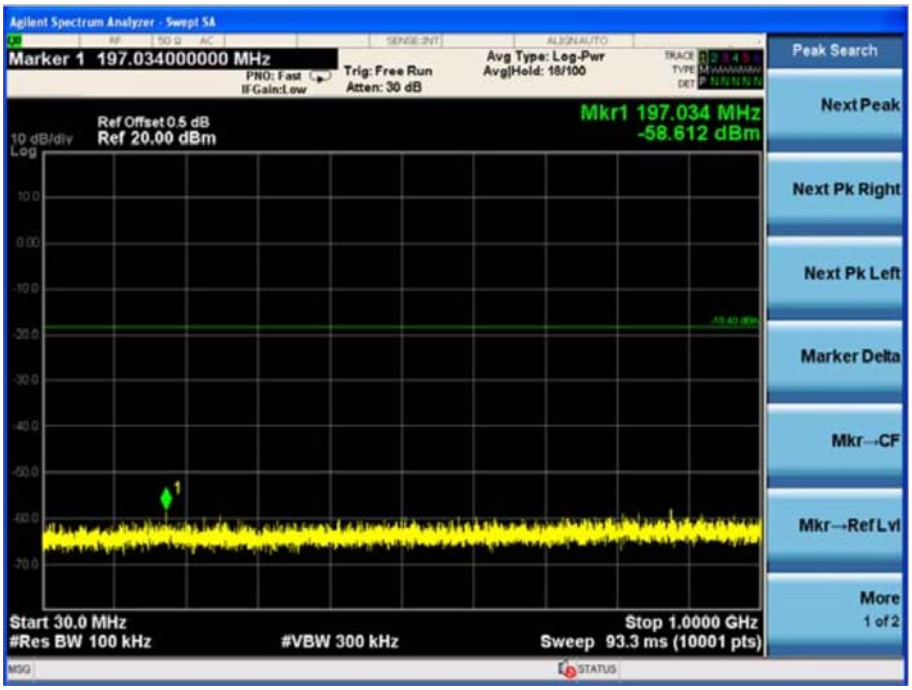


TX 802.11g Mode CH06

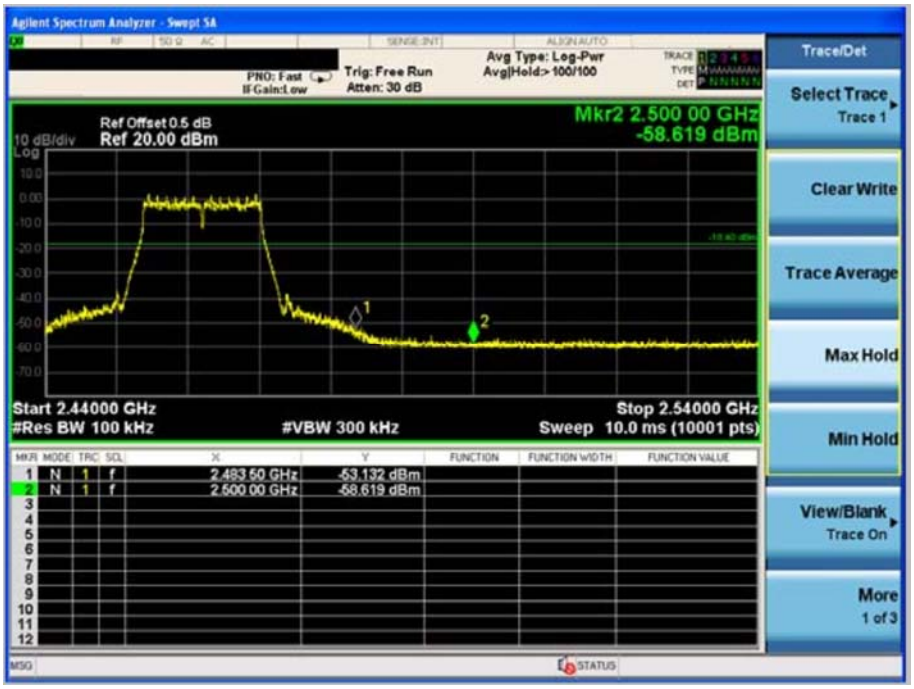




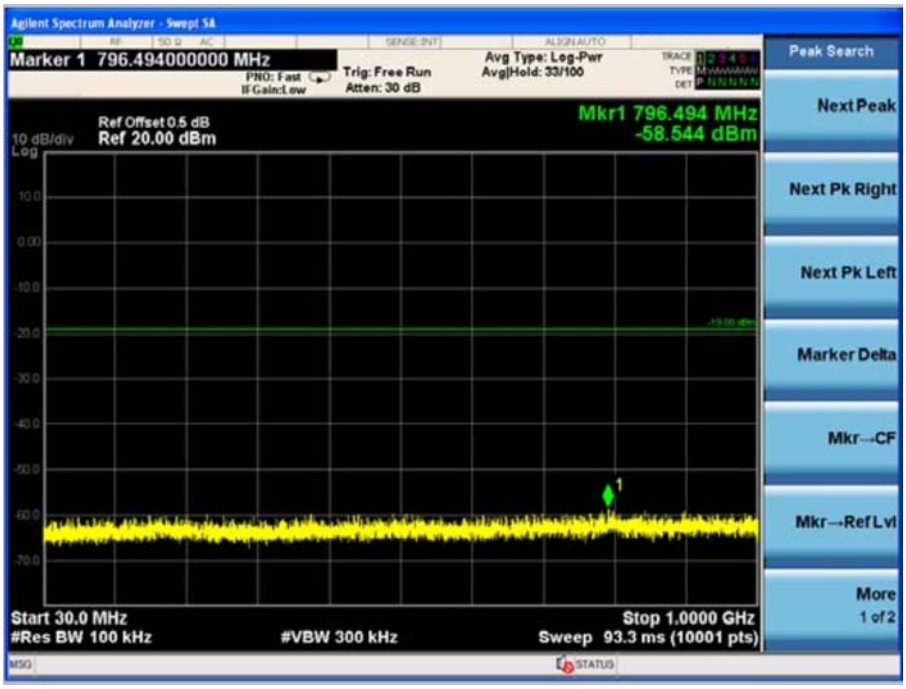
TX 802.11g Mode CH11

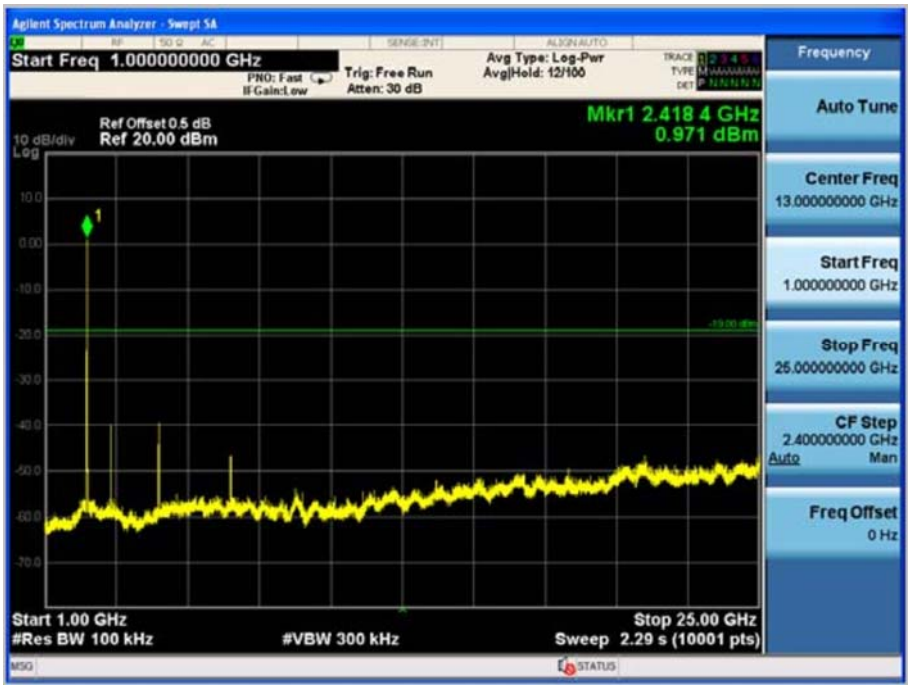


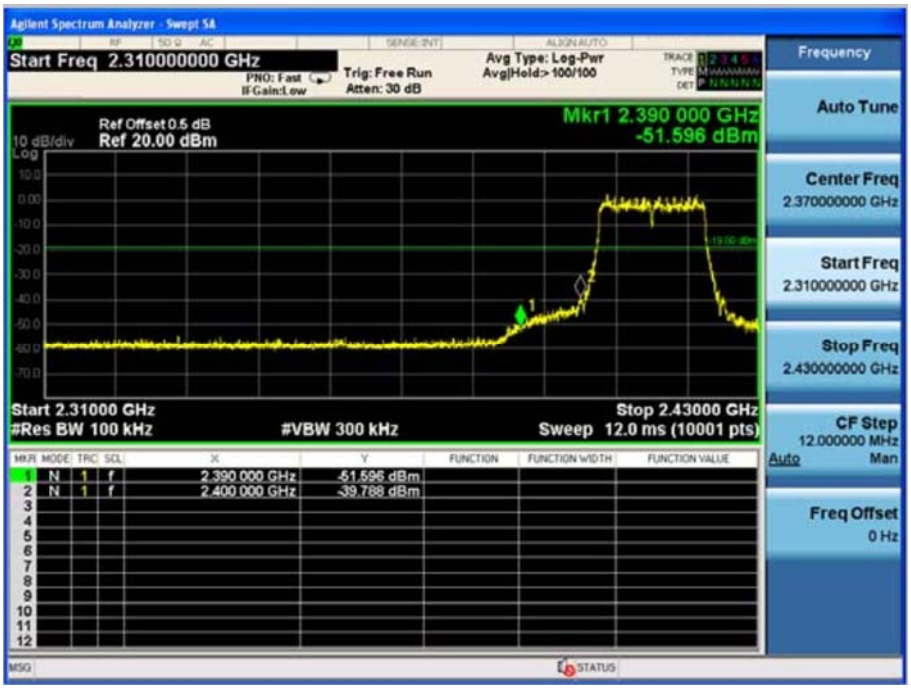

Agilent Spectrum Analyzer - Swept SA
Start Freq 1.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 27/100
Mkr1 2.468 8 GHz
1.584 dBm
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.29 s (10001 pts)
Frequency
Auto Tune
Center Freq
13.000000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
2.400000000 GHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Mkr2 2.500 00 GHz
-58.619 dBm
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 2.44000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.54000 GHz
Sweep 10.0 ms (10001 pts)
1 N 1 f 2.483 50 GHz -53.132 dBm
2 N 1 f 2.500 00 GHz -58.619 dBm
Trace/Det
Select Trace
Trace 1
Clear Write
Trace Average
Max Hold
Min Hold
View/Blank
Trace On
More
1 of 3
MSG
STATUS

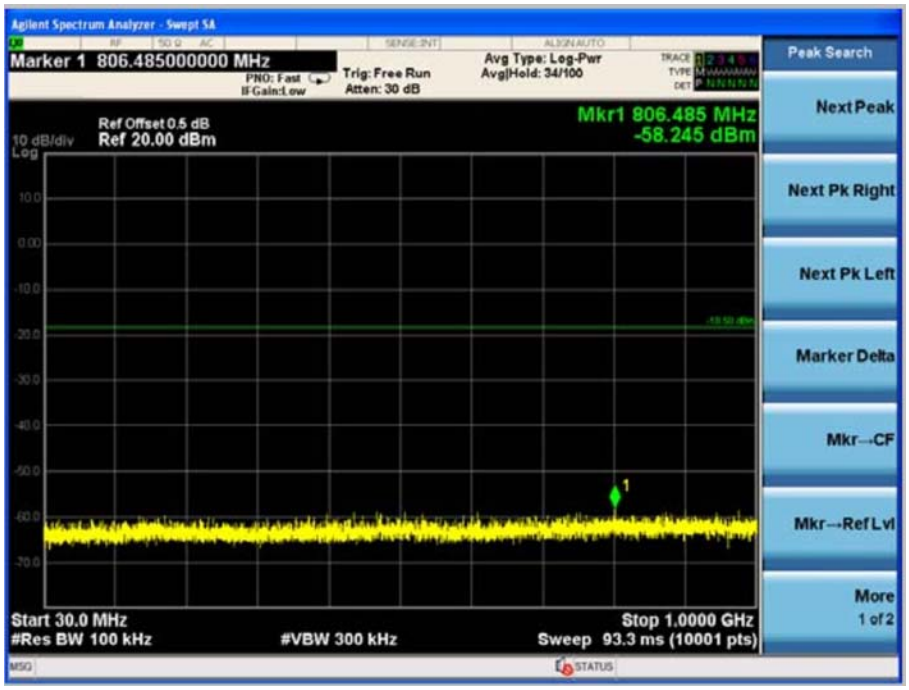
TX 802.11n Mode CH01



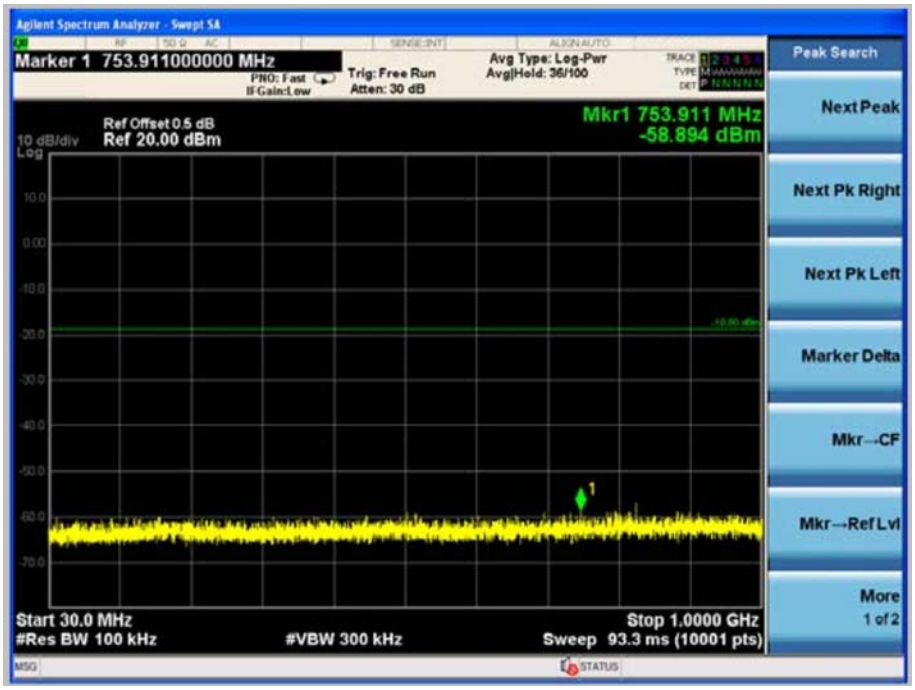




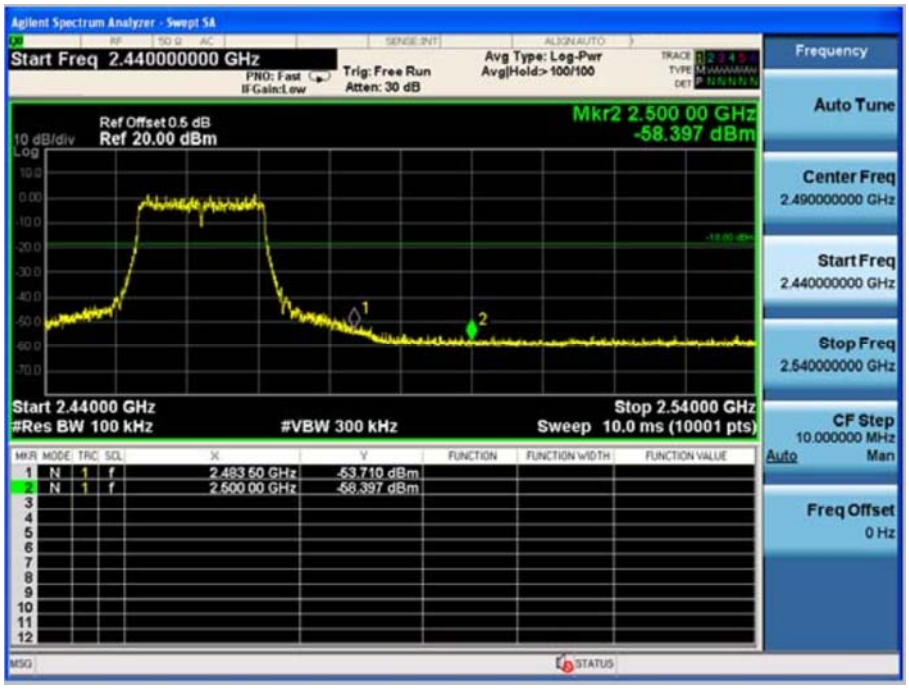
TX 802.11n Mode CH06



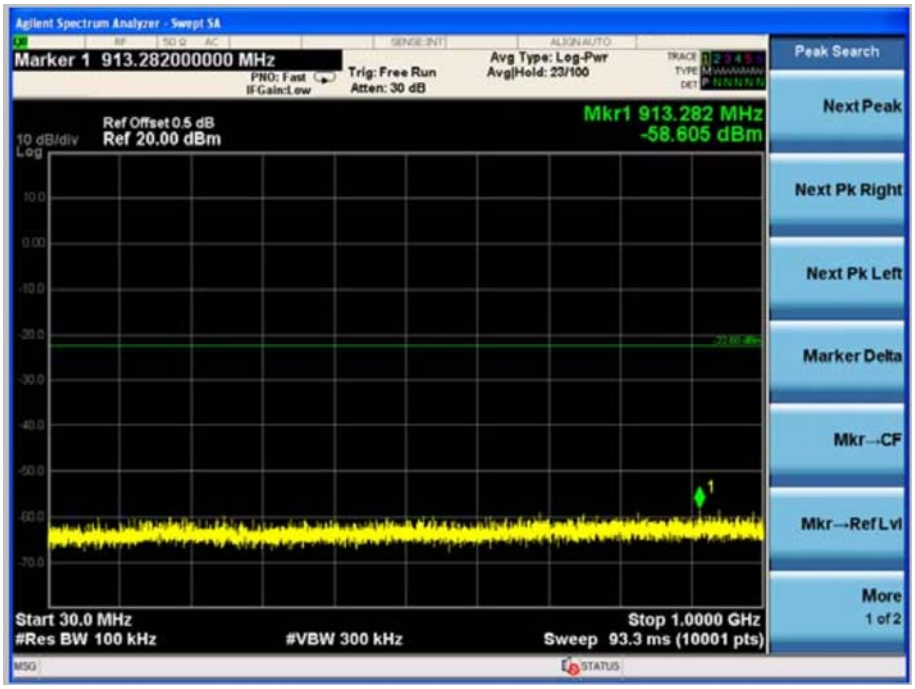
TX 802.11n Mode CH11



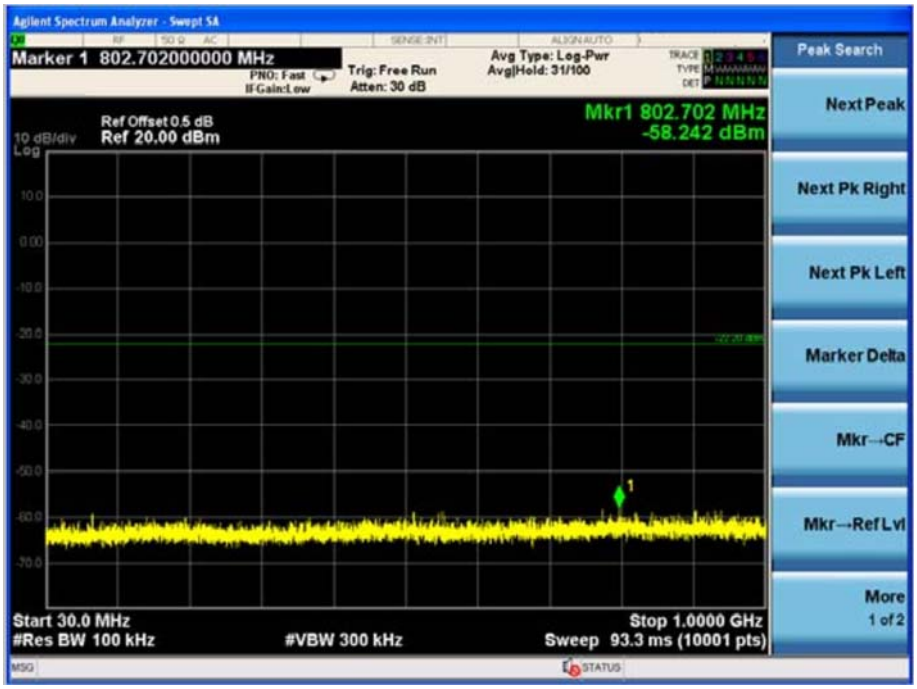

Agilent Spectrum Analyzer - Swept SA
Start Freq 1.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 24/100
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Mkr1 2.468 8 GHz
1.236 dBm
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.29 s (10001 pts)
Frequency
Auto Tune
Center Freq
13.000000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
2.400000000 GHz
Auto
Man
Freq Offset
0 Hz

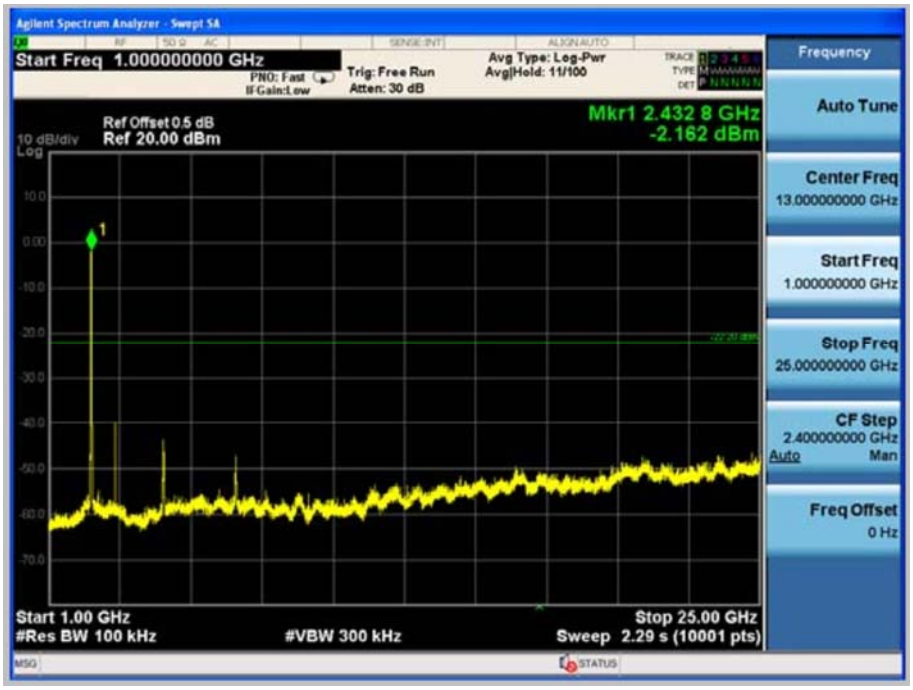

Agilent Spectrum Analyzer - Swept SA
Start Freq 2.440000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ref Offset 0.5 dB
10 dB/div
Ref 20.00 dBm
Mkr2 2.500 00 GHz
-58.397 dBm
Start 2.44000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.54000 GHz
Sweep 10.0 ms (10001 pts)
1 N 1 f 2.483 50 GHz -53.710 dBm
2 N 1 f 2.500 00 GHz -58.397 dBm
Frequency
Auto Tune
Center Freq
2.490000000 GHz
Start Freq
2.440000000 GHz
Stop Freq
2.540000000 GHz
CF Step
10.000000 MHz
Auto
Man
Freq Offset
0 Hz

TX 802.11n (H40) Mode CH03

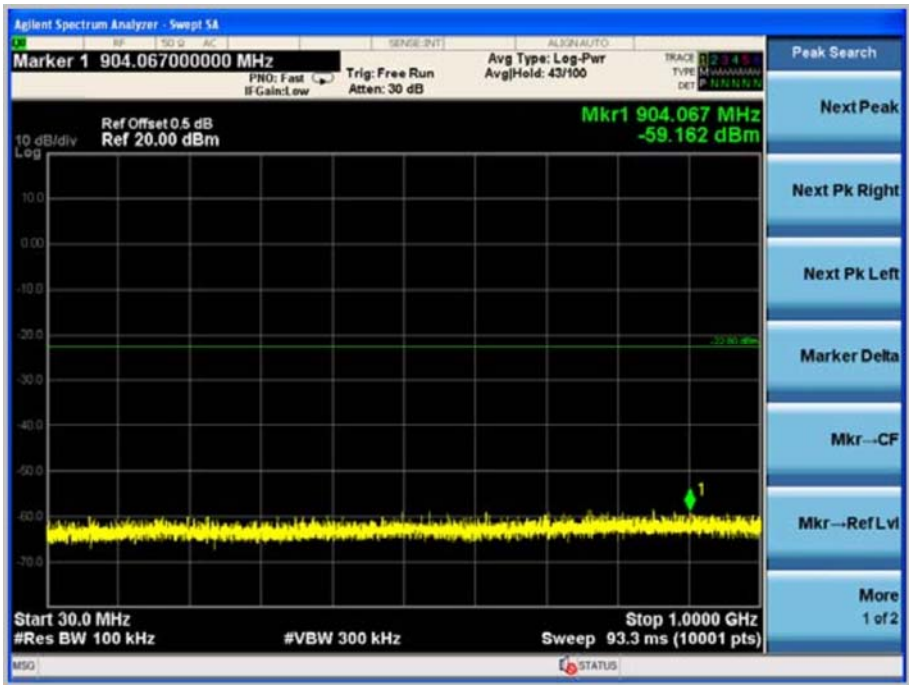


TX 802.11n (H40) Mode CH06





TX 802.11n (H40) Mode CH09




Agilent Spectrum Analyzer - Swept SA
Start Freq 1.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 12/100
Ref Offset 0.5 dB
10 dB/div Ref 20.00 dBm
Mkr1 2.464 0 GHz
-2.827 dBm
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.00 GHz
Sweep 2.29 s (10001 pts)
Frequency
Auto Tune
Center Freq
13.000000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
25.000000000 GHz
CF Step
2.400000000 GHz
Auto
Man
Freq Offset
0 Hz


Agilent Spectrum Analyzer - Swept SA
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
Ref Offset 0.5 dB
10 dB/div Ref 20.00 dBm
Mkr1 2.483 50 GHz
-49.791 dBm
Start 2.43000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.53000 GHz
Sweep 10.0 ms (10001 pts)
1 N 1 f 2.483 50 GHz -49.791 dBm
2 N 1 f 2.500 00 GHz -55.864 dBm
Trace/Det
Select Trace
Trace 1
Clear Write
Trace Average
Max Hold
Min Hold
View/Blank
Trace On
More
1 of 3

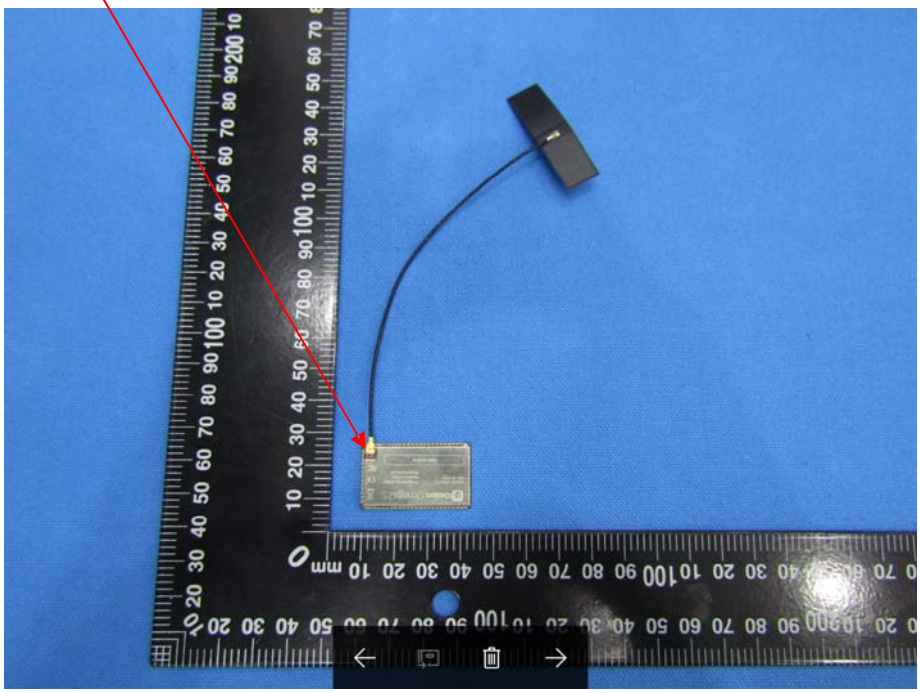
10 ANTENNA REQUIREMENT

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. And according to FCC 47 CFR Section 15.249, 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.

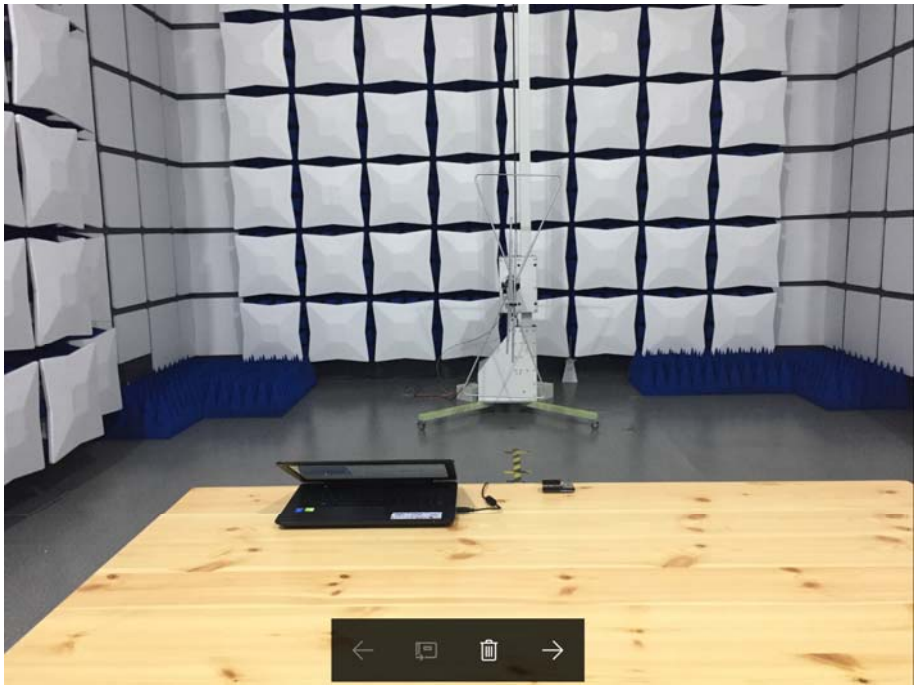
Antenna Connected Construction
The antenna used in this product is a External Antenna, The directional gains of antenna used for transmitting is 2dBi.

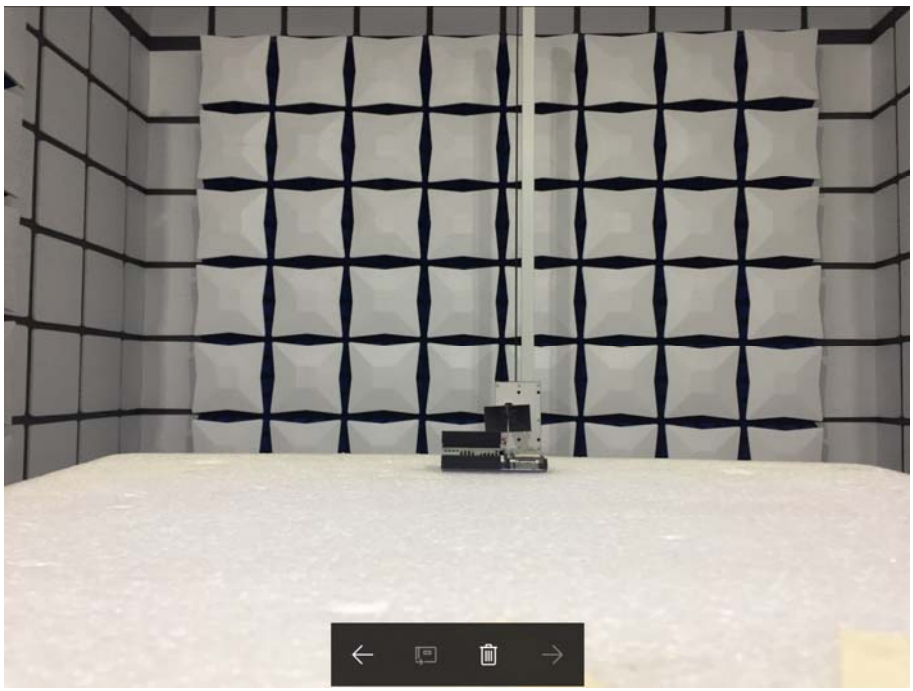
ANTENNA



11 PHOTOGRAPH OF TEST

11.1 Radiated Emission





11.2 Conducted Emission