FCC 47 CFR PART 15 SUBPART C

for

Wi-Fi & BT combo Module

Model: TWM-M7662, TWM-M7632, TWM-M7662T, TWM-M7632T

Brand: TONLY

Test Report Number:

C160606Z02-RP1-3

Issued Date: July 13, 2016

Issued for

TCL Technoly Electronics (Huizhou) CO., Ltd

Section 37, Zhongkai High-tech Development Zone, Huizhou City, Guangdong Province, China 516006

Issued by:

Compliance Certification Services (Shenzhen) Inc.

No.10-1 Mingkeda Logistics park, No.18, Huanguan South Rd.,

Guan Lan Town, Baoan District, Shenzhen, China

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TESTING CERT #2861.01

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	July 13, 2016	Initial Issue	ALL	Nancy Fu

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1 TEST CERTIFICATION

Product	Wi-Fi & BT combo Module
Model	TWM-M7662, TWM-M7632, TWM-M7662T, TWM-M7632T
Brand	TONLY
Tested	June 6~ July 13, 2016
Applicant	**TCL Technoly Electronics (Huizhou) CO., Ltd** Section 37, Zhongkai High-tech Development Zone, Huizhou City, Guangdong Province, China 516006
Manufacturer	**TCL Technoly Electronics (Huizhou) CO., Ltd** Section 37, Zhongkai High-tech Development Zone, Huizhou City, Guangdong Province, China 516006

APPLICABLE STANDARDS			
Standard	**Test Type**	**Standard**	**Test Type**
15.207(a)	Power Line Conducted Emissions	15.247(d) 15.209(a)	● Spurious Emissions ● Conducted Measurement ● Radiated Emissions
15.247(a)(2)	6dB Bandwidth Measurement	15.247(b)(3) 15.247(b)(4)	Peak Power Measurement
15.247(d)	Band Edges Measurement	15.247(e)	Peak Power Spectral Density

We hereby certify that:

The above equipment was tested by Compliance Certification Services (Shenzhen) Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in **ANSI C63.10: 2013** and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.
The test results of this report relate only to the tested sample EUT identified in this report.

Approved by:

Sunday Hu
Supervisor of EMC Dept.
Compliance Certification Services (Shenzhen) Inc.

Reviewed by:

Ruby Zhang
Supervisor of Report Dept.
Compliance Certification Services (Shenzhen) Inc.

2 TEST RESULT SUMMARY

APPLICABLE STANDARDS			
Standard	**Test Type**	**Result**	**Remark**
15.247(a)(2)	6dB Bandwidth Measurement	Pass	Meet the requirement of limit.
15.247(b)(3) 15.247(b)(4)	Peak Power Measurement	Pass	Meet the requirement of limit.
15.247(d)	Band Edges Measurement	Pass	Meet the requirement of limit.
15.247(e)	Peak Power Spectral Density	Pass	Meet the requirement of limit.
15.247(d) 15.209(a)	● Spurious Emissions ● Conducted Measurement ● Radiated Emissions	Pass	Meet the requirement of limit.
15.207(a)	Power line Conducted Emissions	Pass	Meet the requirement of limit.

Note: 1. The statements of test result on the above are decided by the request of test standard only; the measurement uncertainties are not factored into this compliance determination.
2. The information of measurement uncertainty is available upon the customer's request.

3 EUT DESCRIPTION

Product	Wi-Fi & BT combo Module
Model Number	TWM-M7662, TWM-M7632, TWM-M7662T, TWM-M7632T
Brand	TONLY
Model Discrepancy	1. The model “TWM-M7662” and “TWM-M7632” are identical to each other except that the model “TWM-M7632” is turned off the ac function by software. 2. The model suffixed with “T” is increased the BT RAM size, and the BT function is enhanced, but the PCB layout is the same as other models.
Identify Number	C160606Z02-RP1-3
Received Date	June 6, 2016
Power Supply	DC 5V supplied by adapter
Transmit Power	IEEE 802.11b mode: 21.64dBm (Antenna 0) IEEE 802.11b mode: 21.56dBm (Antenna 1) IEEE 802.11g mode: 24.78dBm (Antenna 0) IEEE 802.11g mode: 24.26dBm (Antenna 1) IEEE 802.11n HT20 MHz mode: 26.94dBm(Combine with Antenna 0 and Antenna 1) IEEE 802.11n HT40 MHz mode: 27.37dBm(Combine with Antenna 0 and Antenna 1)
Modulation Technique	IEEE 802.11b mode: DSSS(CCK,QPSK, BPSK) IEEE 802.11g mode: OFDM (BPSK/QPSK/16QAM/64QAM) IEEE 802.11n HT20 MHz mode: OFDM (BPSK/QPSK/16QAM/64QAM) IEEE 802.11n HT40 MHz mode: OFDM (BPSK/QPSK/16QAM/64QAM)
Transmit Data Rate	IEEE 802.11b: 11Mbps(CCK) with fall back rates of 5.5/2/1Mbps IEEE 802.11g: 54Mbps with fall back rates of 48/36/24/18/12/9 /6Mbps IEEE 802.11n HT20: 130Mbps with fall back rates of 130/117/104/ 78/52/39/26/13Mbps IEEE 802.11n HT40: 270Mbps with fall back rates of 270/243/216/ 162/108/81/54/27Mbps
Number of Channels	IEEE 802.11b mode: 11 Channels IEEE 802.11g mode: 11 Channels IEEE 802.11n HT20 MHz mode: 11 Channels IEEE 802.11n HT40 MHz mode: 7 Channels
Antenna Specification	External Antenna with 3dBi gain (Max)
Channels Spacing	IEEE 802.11b/g ,802.11n HT20/HT40 : 5MHz
Temperature Range	0°C ~ +40°C
Hardware Version	40GM7662A-HFB4H
Software Version	N/A

Note: *1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.*

*2. This submittal(s) (test report) is intended for FCC ID: **ZVA09** filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.*

4 TEST METHODOLOGY

4.1. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

Software used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Test Item	Test mode	Worse mode
Conducted Emission	**Mode 1:** Normal	**Mode 1**
Radiated Emission	**Mode 1:** TX	**Mode 1**

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz, which worst case was in normal link mode only, and power line conducted emission below 30MHz, which worst case was in normal link mode.

IEEE802.11b mode: Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 1Mbps data rate were chosen for full testing.

IEEE802.11g mode: Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11n HT20 MHz mode: Channel Low (2412MHz), Channel Mid(2437MHz) and Channel High (2462MHz) with 13Mbps data rate were chosen for full testing.

IEEE 802.11n HT40 MHz mode: Channel Low (2422MHz), Channel Mid (2437MHz) and Channel High (2452MHz) with 27Mbps data rate were chosen for full testing.

5 SETUP OF EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF SUPPORT UNITS

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.

No.	Equipment	Model No.	Serial No.	FCC ID	Brand	Data Cable	Power Cord
1	Notebook	B475	WE04591721	DoC	LENOVO	N/A	Unshielded 1.50m
2	Adapter	HNBL050100WU	N/A	N/A	N/A	N/A	Unshielded 0.80m

Note:

Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

5.2. CONFIGURATION OF SYSTEM UNDER TEST

See test photographs attached in Appendix II for the actual connections between EUT and support equipment.

6 FACILITIES AND ACCREDITATIONS

6.1. FACILITIES

All measurement facilities used to collect the measurement data are located at **No.10-1 Mingkeda Logistics park, No.18, Huanguan South Rd., Guan Lan Town, Baoan District, Shenzhen, China**

The sites are constructed in conformance with the requirements of ANSI C63.10, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

6.2. ACCREDITATIONS

Our laboratories are accredited and approved by the following accreditation body according to ISO/IEC 17025.

USA	**A2LA**
China	**CNAS**

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

USA	**FCC**
Japan	**VCCI (C-4815,R-4320,T-2317, G-10624)**
Canada	**INDUSTRY CANADA**

Copies of granted accreditation certificates are available for downloading from our web site, http://www.ccssz.com

6.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Parameter	Uncertainty
Radiated Emission, 30 to 200 MHz Test Site : 966(2)	+/-3.6880dB
Radiated Emission, 200 to 1000 MHz Test Site : 966(2)	+/-3.6695dB
Radiated Emission, 1 to 8 GHz	+/-5.1782dB
Radiated Emission, 8 to 18 GHz	+/-5.2173dB
Conducted Emissions	+/-3.6836dB
Band Width	178kHz
Peak Output Power MU	+/-1.906dB
Band Edge MU	+/-0.182dB
Channel Separation MU	416.178Hz
Duty Cycle MU	0.054ms
Frequency Stability MU	226Hz

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

The measured result is above (below) the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to state compliance based on the 95% level of confidence. However, the result indicates that compliance (non-compliance) is more probable than non-compliance) with the specification limit.

7 FCC PART 15.247 REQUIREMENTS

7.1. POWER LINE CONDUCTED EMISSIONS MEASUREMENT

7.1.1. LIMITS OF CONDUCTED EMISSIONS MEASUREMENT

According to §15.207(a), except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

NOTE:
(1) The lower limit shall apply at the transition frequencies.
(2) The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
(3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

7.1.2. TEST INSTRUMENTS

Conducted Emission Test Site					
Name of Equipment	Manufacturer	Model Number	Serial Number	Last Calibration	Due Calibration
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI	100783	02/21/2016	02/20/2017
LISN(EUT)	ROHDE&SCHWARZ	ENV216	101543-WX	02/21/2016	02/20/2017
LISN	EMCO	3825/2	8901-1459	02/21/2016	02/20/2017
Temp. / Humidity Meter	VICTOR	HTC-1	N/A	02/21/2016	02/20/2017
Test S/W	FARAD	EZ-EMC/ CCS-3A1-CE			

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. N.C.R = No Calibration Request.

7.1.3. TEST PROCEDURES (please refer to measurement standard)

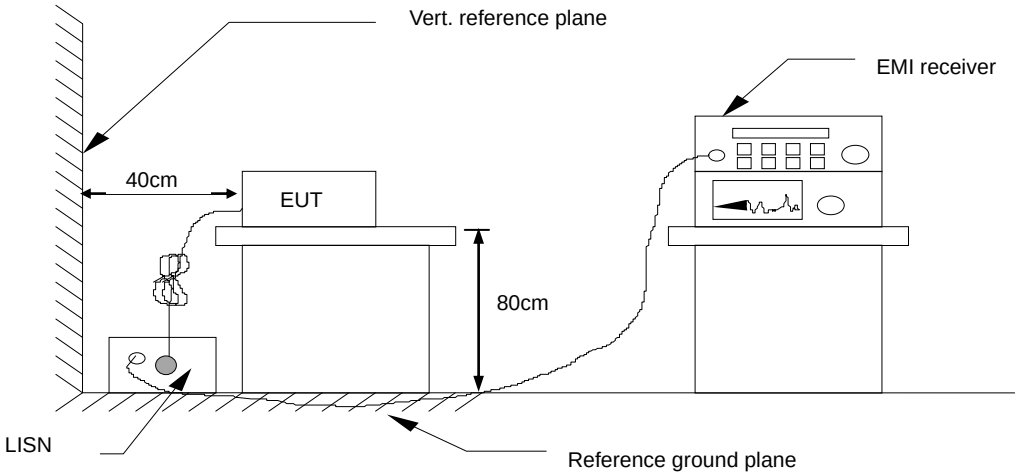
- The EUT and Support equipment, if needed, was placed on a non-conducted table, which is 0.8m above the ground plane and 0.4m away from the conducted wall.

- The test equipment EUT installed received AC main power, through a Line Impedance Stabilization Network (LISN), which supplied power source and was grounded to the ground plane. All support equipment power received from a second LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

- The EUT test program was started. Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

- The frequency range from 150 kHz to 30 MHz was searched. The test data of the worst-case condition(s) was recorded. Emission levels under limit 20dB were not recorded.

7.1.4. TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

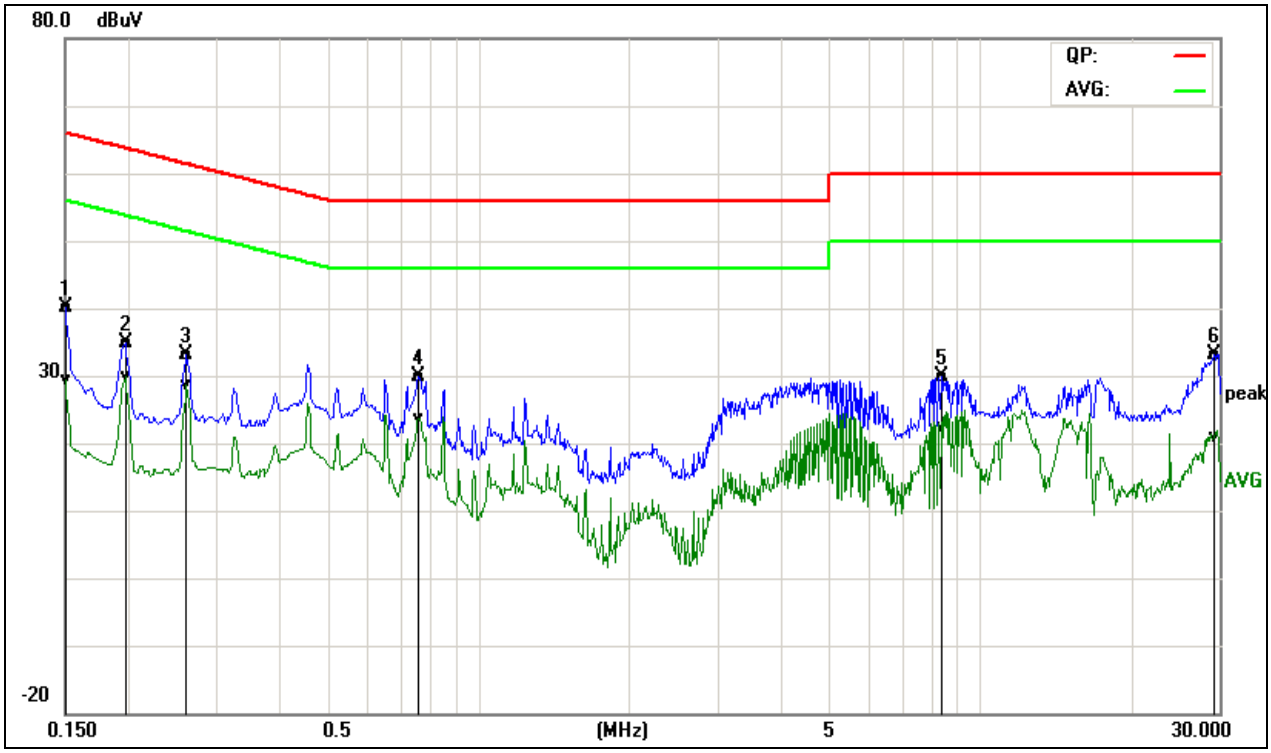
7.1.5. DATA SAMPLE

Frequency (MHz)	QuasiPeak Reading (dBuV)	Average Reading (dBuV)	Correction Factor (dB)	QuasiPeak Result (dBuV)	Average Result (dBuV)	QuasiPeak Limit (dBuV)	Average Limit (dBuV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XXXX	32.69	25.65	11.52	44.21	37.17	65.78	55.79	-21.57	-18.62	Pass

Factor = Insertion loss of LISN + Cable Loss
Result = Quasi-peak Reading/ Average Reading + Factor
Limit = Limit stated in standard
Margin = Result (dBuV) – Limit (dBuV)

7.1.6. TEST RESULTS

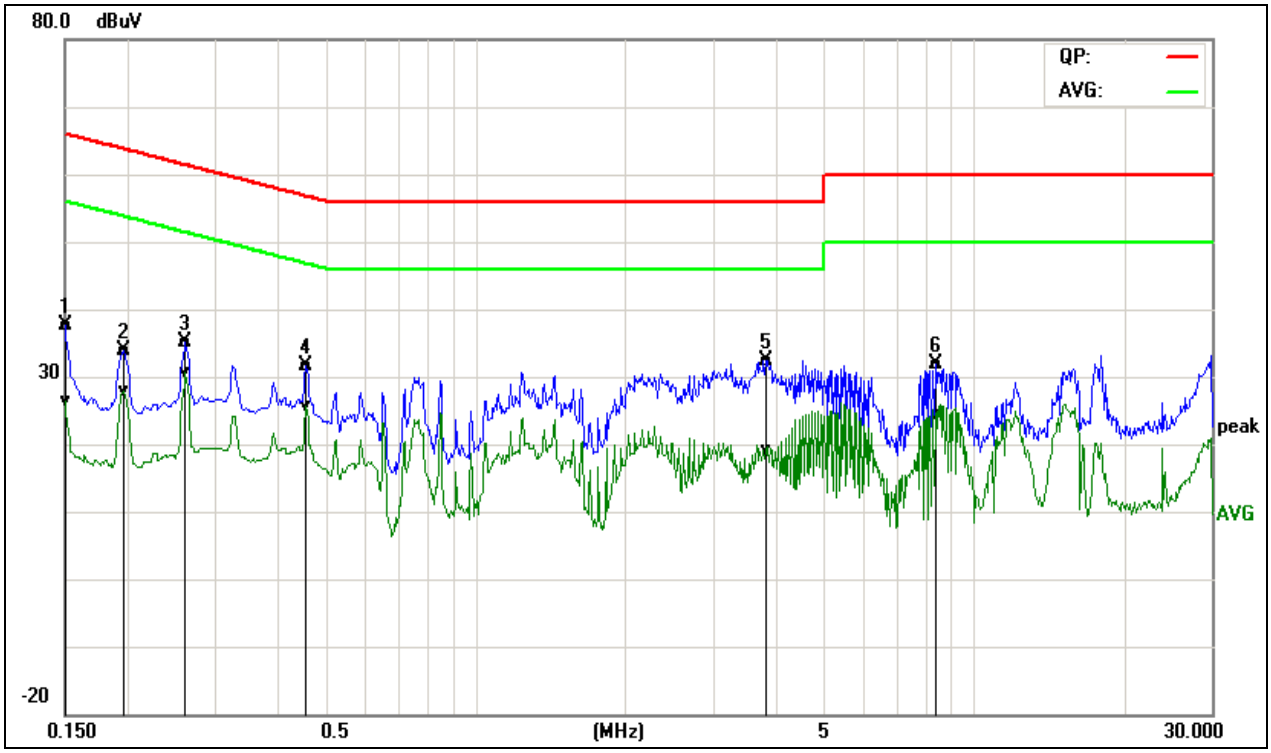
Model No.	TWM-M7662	RBW,VBW	9 kHz
Environmental Conditions	22°C, 45% RH	Test Mode	Mode 1
Tested by	Jack Chen	Line	L1
Test Date	July 13, 2016		



Frequency (MHz)	QuasiPeak Reading (dBuV)	Average Reading (dBuV)	Correction Factor (dB)	QuasiPeak Result (dBuV)	Average Result (dBuV)	QuasiPeak Limit (dBuV)	Average Limit (dBuV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
0.1500	30.67	19.92	9.58	40.25	29.50	65.99	56.00	-25.74	-26.50	Pass
0.1980	25.08	20.08	9.69	34.77	29.77	63.69	53.69	-28.92	-23.92	Pass
0.2620	23.48	18.94	9.69	33.17	28.63	61.36	51.37	-28.19	-22.74	Pass
0.7620	20.07	13.78	9.77	29.84	23.55	56.00	46.00	-26.16	-22.45	Pass
8.3860	20.12	12.54	9.83	29.95	22.37	60.00	50.00	-30.05	-27.63	Pass
29.2580	23.23	10.82	9.98	33.21	20.80	60.00	50.00	-26.79	-29.20	Pass

REMARKS: *L1 = Line One (Live Line)*

Model No.	TWM-M7662	**RBW,VBW**	9 kHz
Environmental Conditions	22°C, 45% RH	**Test Mode**	Mode 1
Tested by	Jack Chen	**Line**	L2
Test Date	July 13, 2016		



Frequency (MHz)	QuasiPeak Reading (dBuV)	Average Reading (dBuV)	Correction Factor (dB)	QuasiPeak Result (dBuV)	Average Result (dBuV)	QuasiPeak Limit (dBuV)	Average Limit (dBuV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
0.1500	27.90	16.49	9.78	37.68	26.27	65.99	56.00	-28.31	-29.73	Pass
0.1965	23.97	18.11	9.79	33.76	27.90	63.75	53.76	-29.99	-25.86	Pass
0.2620	25.28	20.83	9.77	35.05	30.60	61.36	51.37	-26.31	-20.77	Pass
0.4580	21.95	15.99	9.69	31.64	25.68	56.73	46.73	-25.09	-21.05	Pass
3.8340	22.66	9.47	9.76	32.42	19.23	56.00	46.00	-23.58	-26.77	Pass
8.3860	22.15	14.64	9.83	31.98	24.47	60.00	50.00	-28.02	-25.53	Pass

REMARKS: *L2 = Line Two (Neutral Line)*

7.2. SPURIOUS EMISSIONS MEASUREMENT

7.2.1. CONDUCTED EMISSIONS MEASUREMENT

7.2.1.1. LIMITS OF CONDUCTED EMISSIONS MEASUREMENT

§15.247(d)specifies that in any 100 kHz bandwidth outside of the authorized frequency band, the power shall be attenuated according to the following conditions:
If the peakoutput power procedure is used to measure the fundamental emission powerto demonstrate compliance to 15.247(b)(3)requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency bandshall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.
If the averageoutput power procedure is used to measure the fundamental emission powerto demonstrate compliance to 15.247(b)(3)requirements,then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measuredin-band average PSD level.
In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a) (see Section 15.205(c)).

7.2.1.2. TEST INSTRUMENTS

Name of Equipment	Manufacturer	Model	Serial Number	Last Calibration	Due Calibration
Spectrum Analyzer	Agilent	N9010A	MY55370330	02/21/2016	02/20/2017

7.2.1.3. TEST PROCEDURE (please refer to measurement standard)

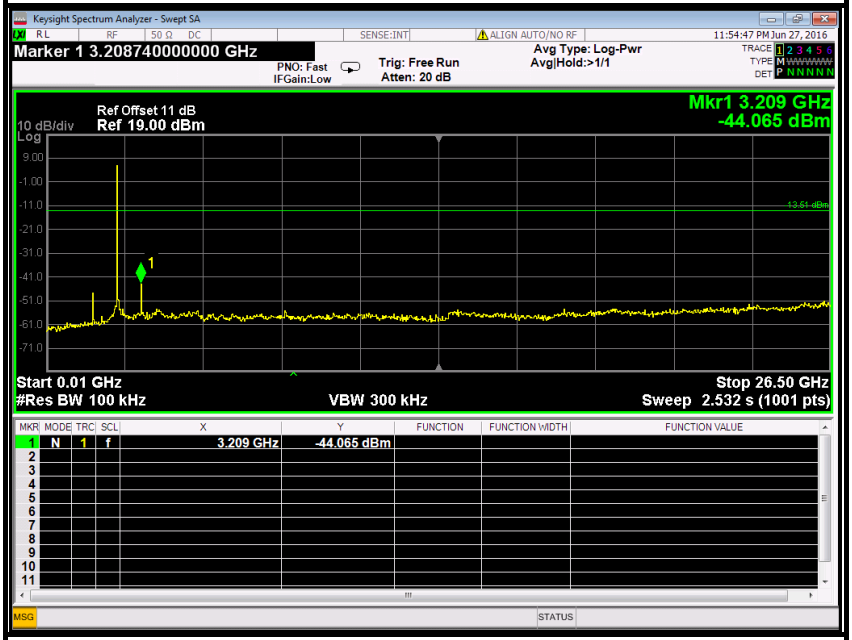
Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site.
The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.
Measurements are made over the 10MHz to 26GHz range with the transmitter set to the lowest, middle, and highest channels. No emission found between lowest internal used/generated frequency to 10MHz， it is only recorded 10MHz to 26GHz.

7.2.1.4. TEST RESULTS

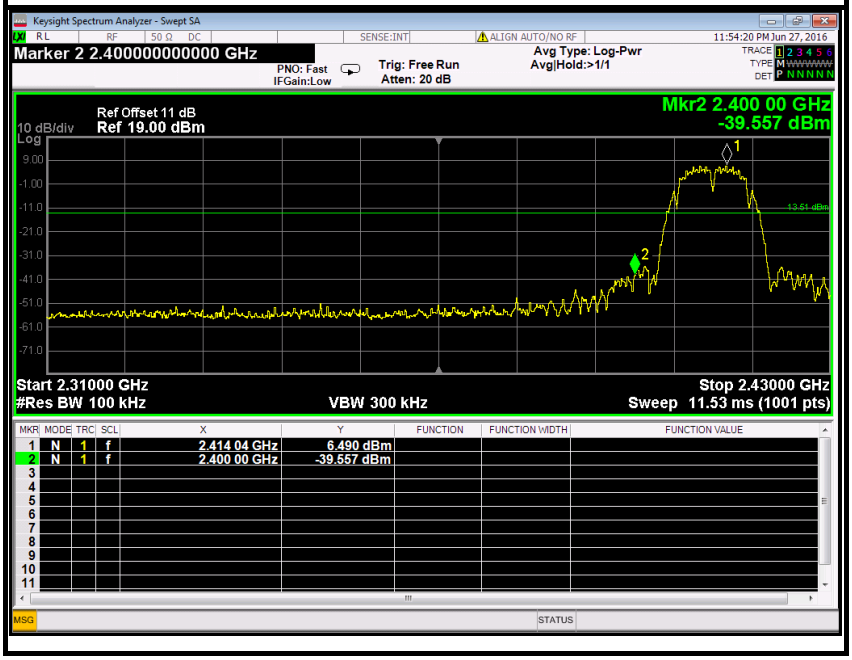
Test Plot

IEEE 802.11b mode (Antenna 0)

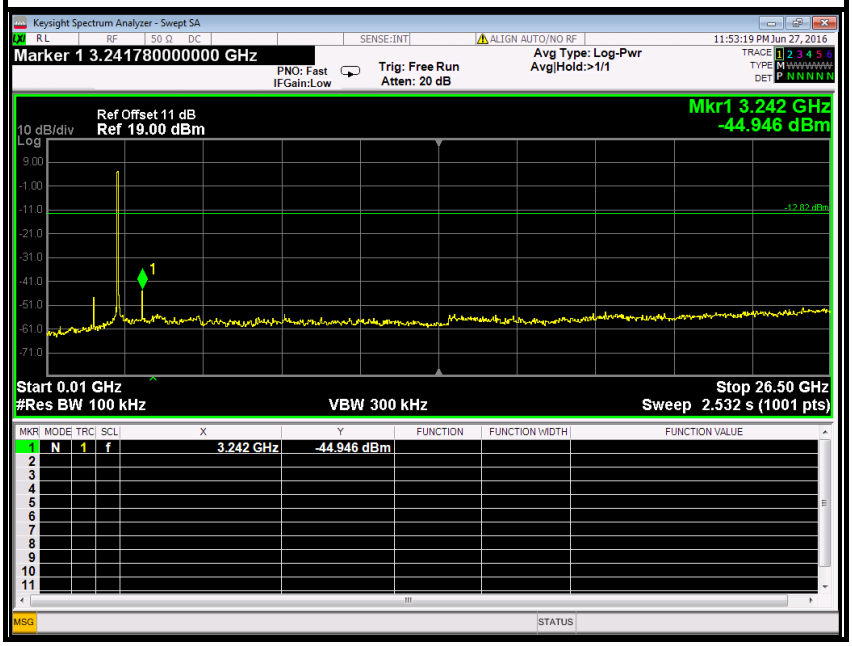
CH Low (10MHz ~26.5GHz)



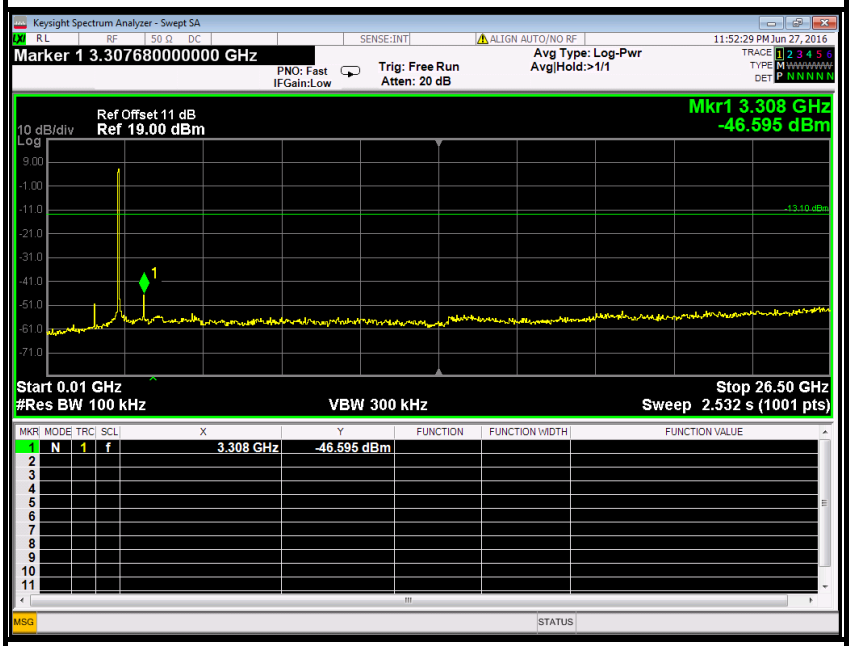
CH Low (2.31GHz ~2.43GHz)



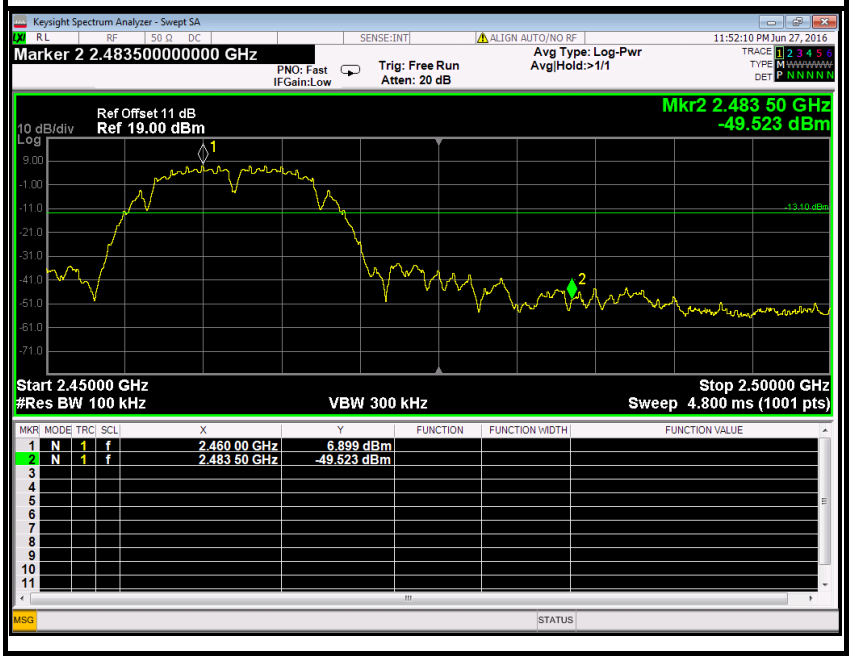
CH Mid (10MHz ~26.5GHz)



CH High (10MHz ~26.5GHz)

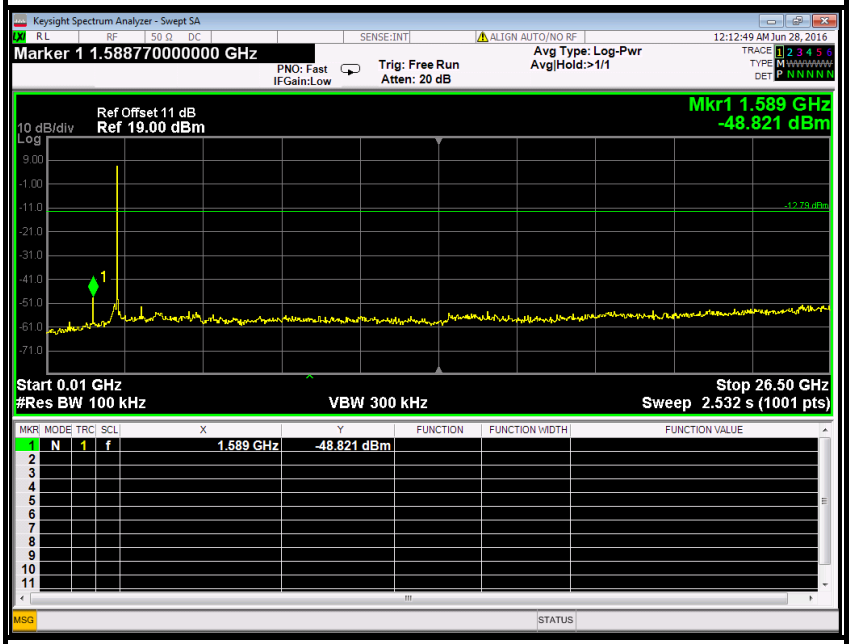


CH High (2.45GHz ~2.5GHz)

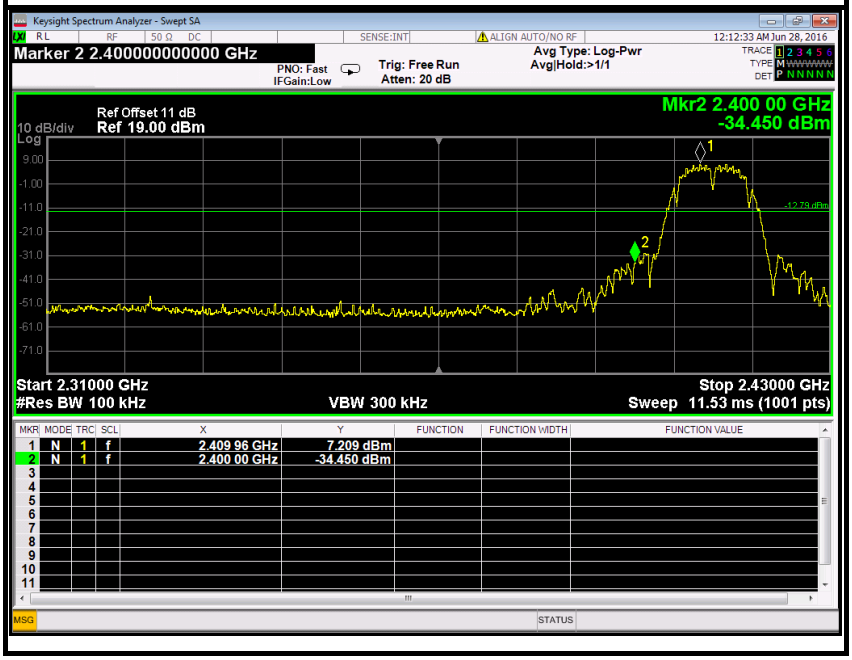


IEEE 802.11b mode (Antenna 1)

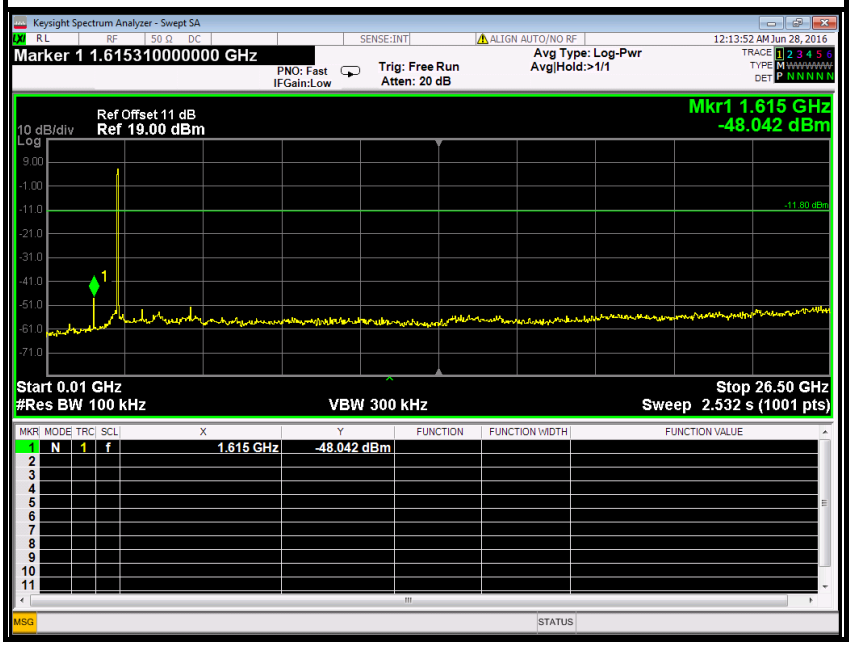
CH Low (10MHz ~26.5GHz)



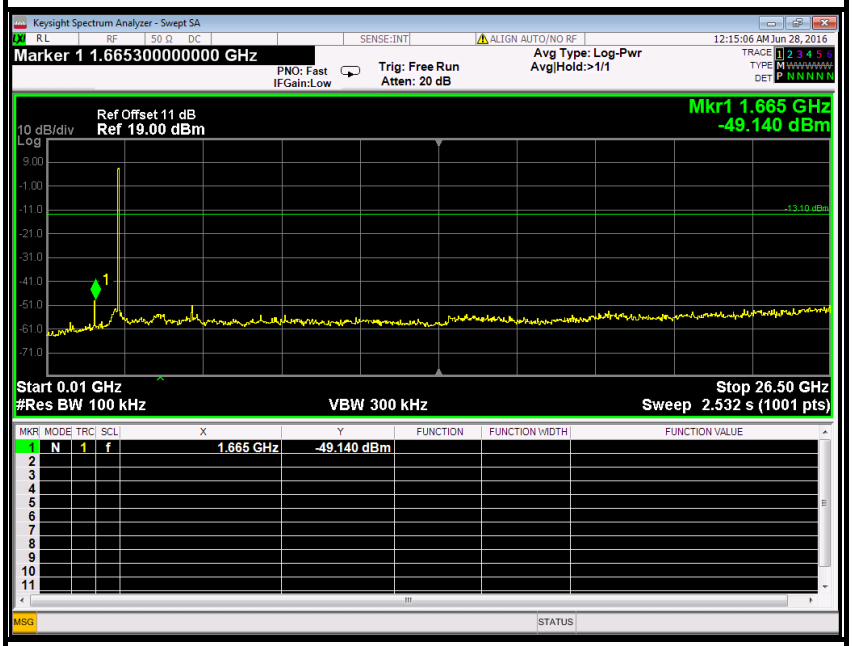
CH Low (2.31GHz ~2.43GHz)



CH Mid (10MHz ~26.5GHz)



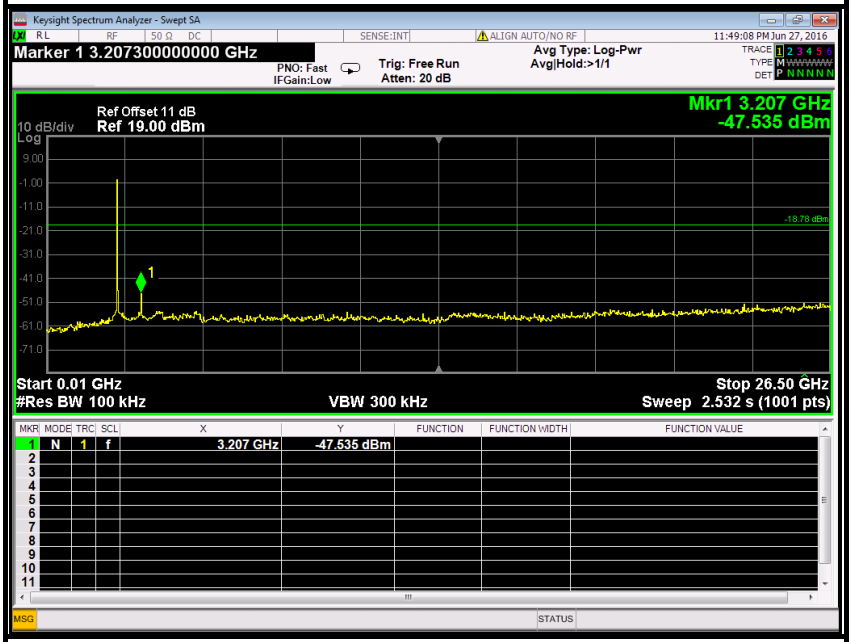
CH High (10MHz ~26.5GHz)



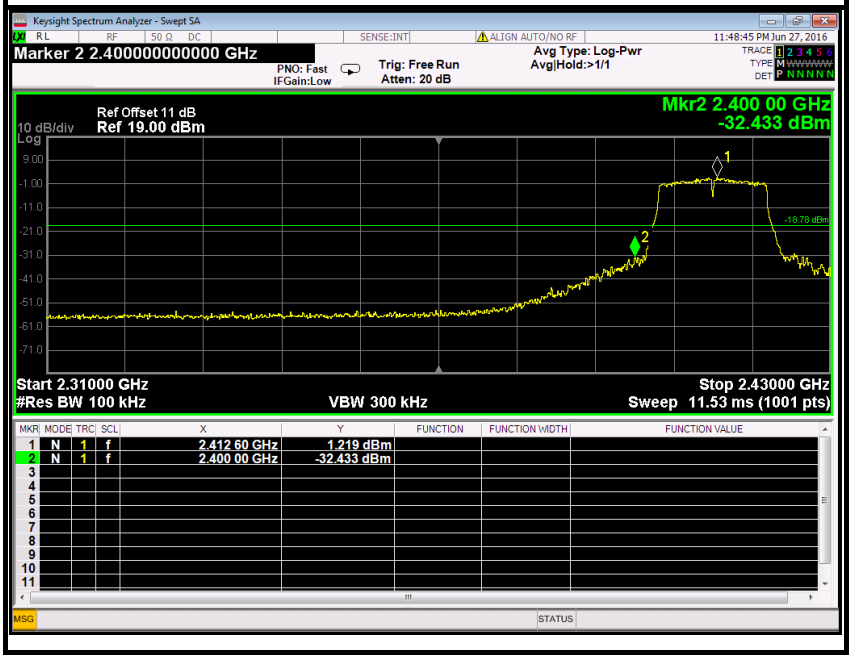
CH High (2.45GHz ~2.5GHz)

IEEE 802.11g mode (Antenna 0)

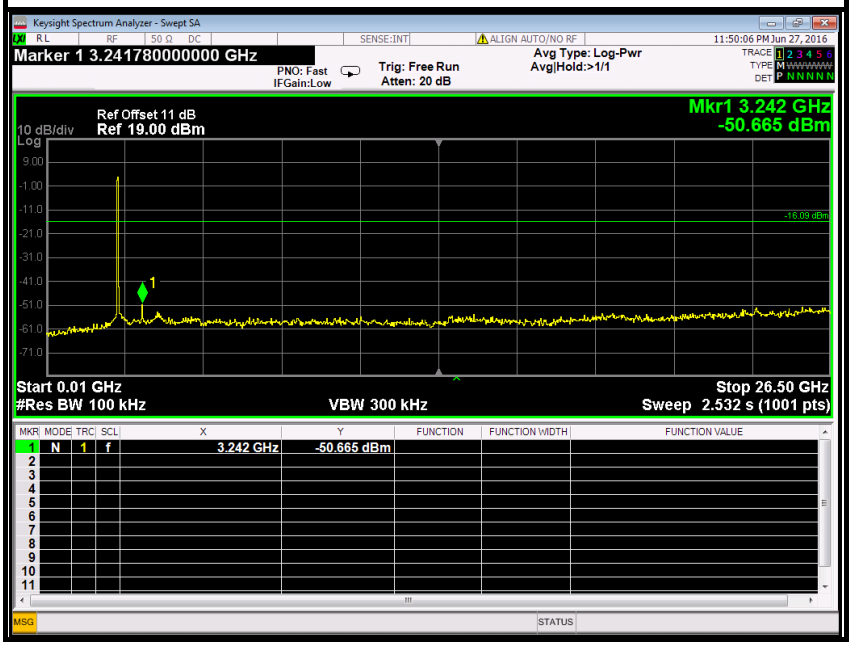
CH Low (10MHz ~26.5GHz)



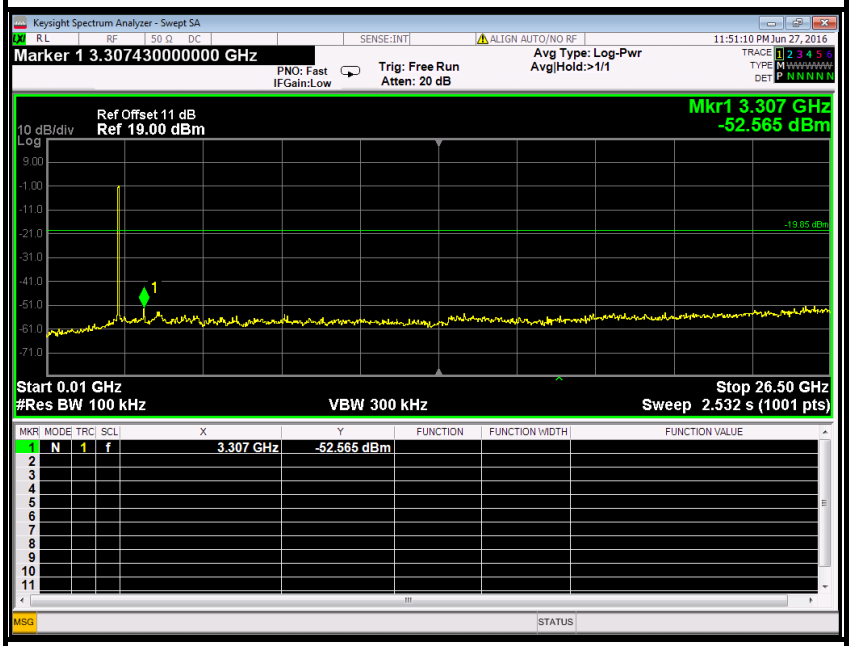
CH Low (2.31GHz ~2.43GHz)



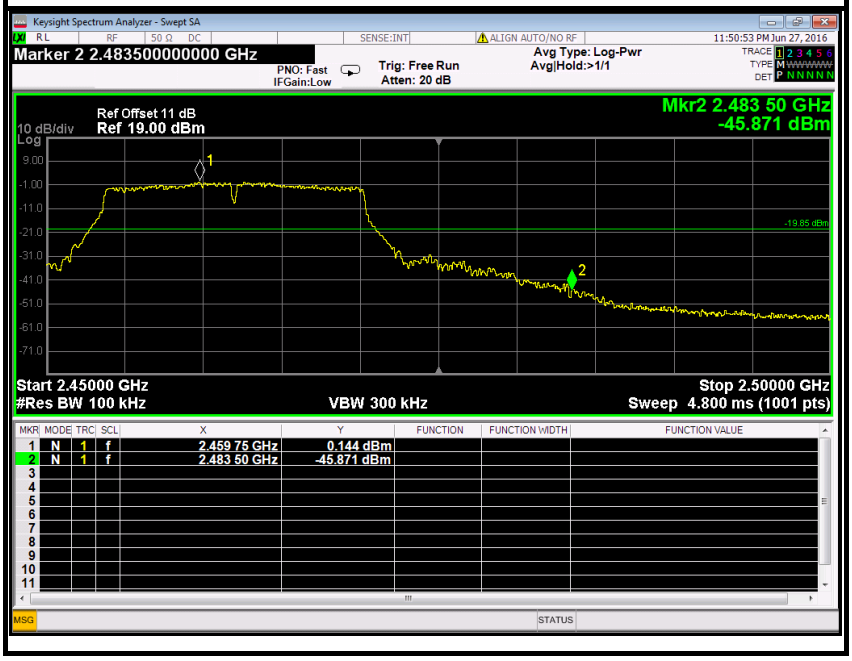
CH Mid (10MHz ~26.5GHz)



CH High (10MHz ~26.5GHz)

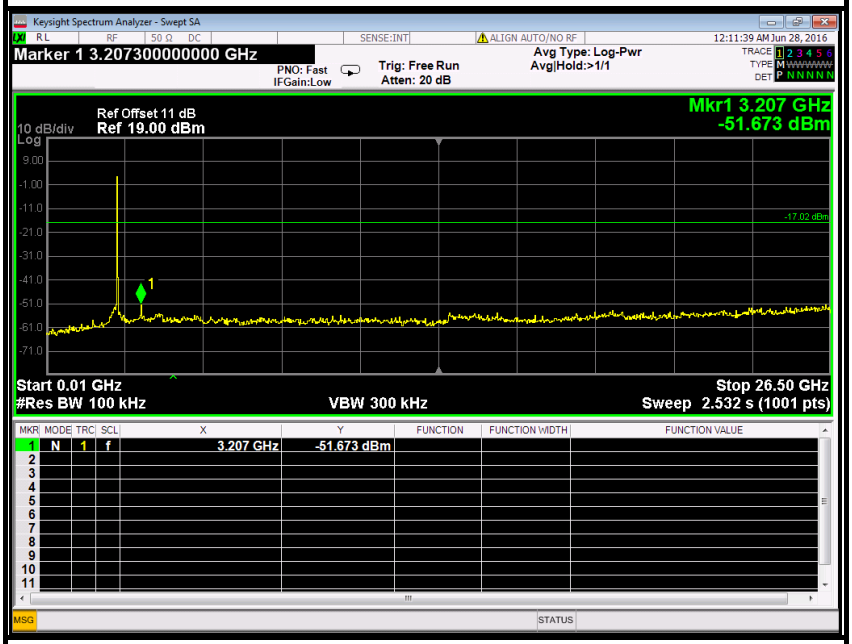


CH High (2.45GHz ~2.5GHz)

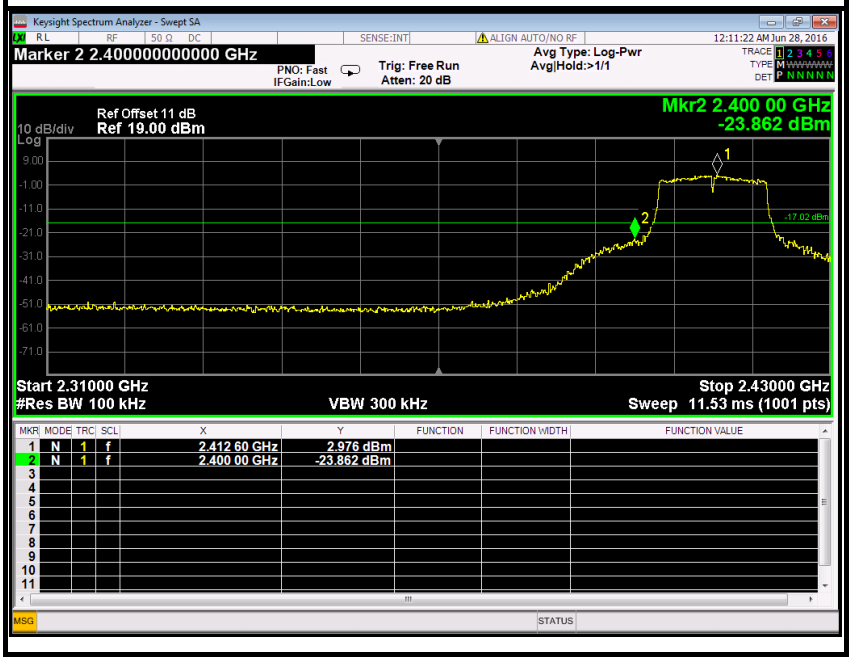


IEEE 802.11g mode (Antenna 1)

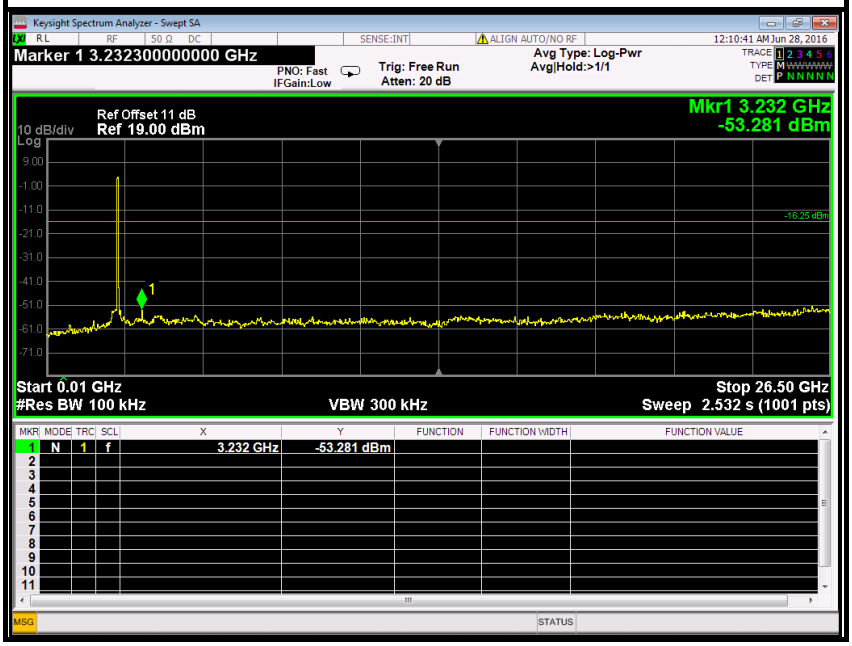
CH Low (10MHz ~26.5GHz)



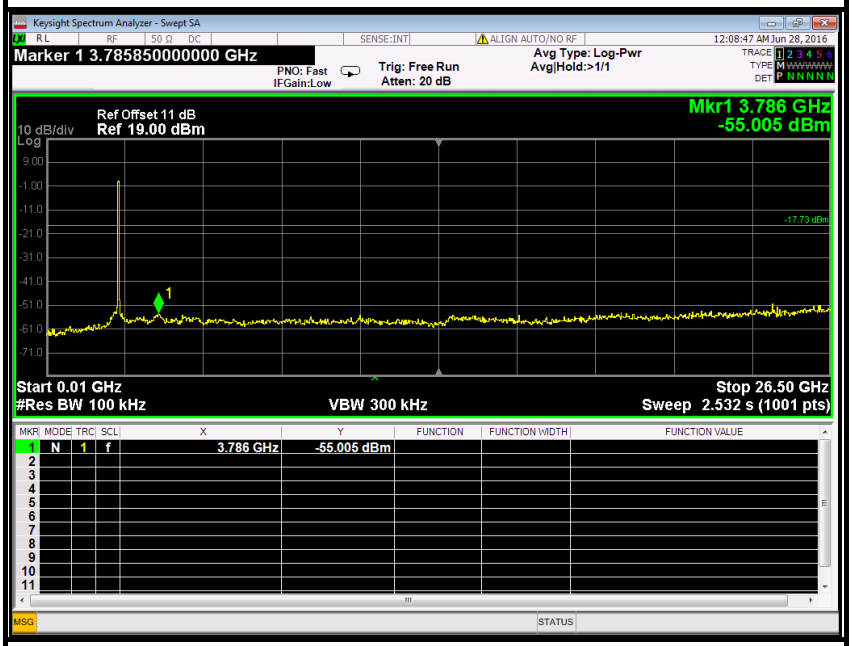
CH Low (2.31GHz ~2.43GHz)



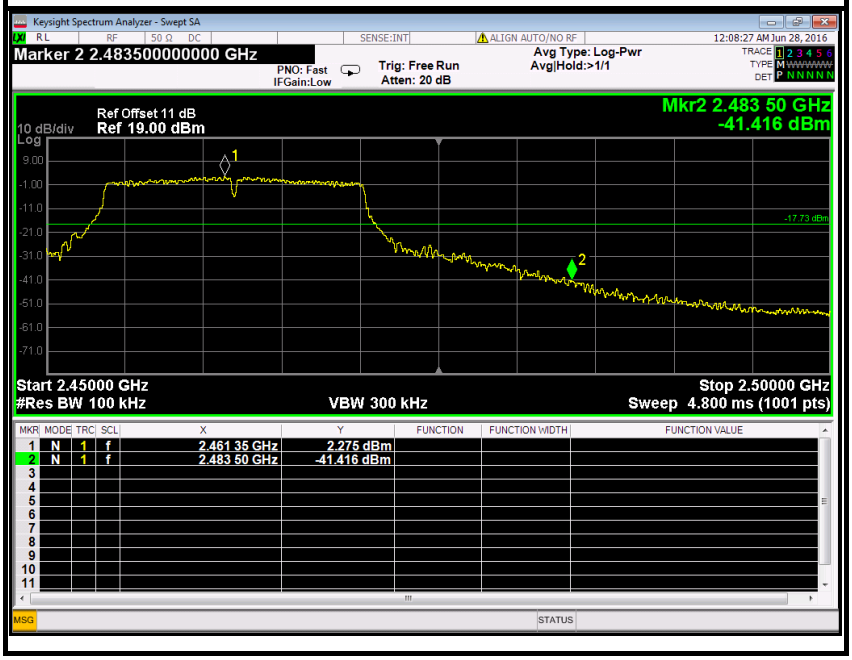
CH Mid (10MHz ~26.5GHz)



CH High (10MHz ~26.5GHz)

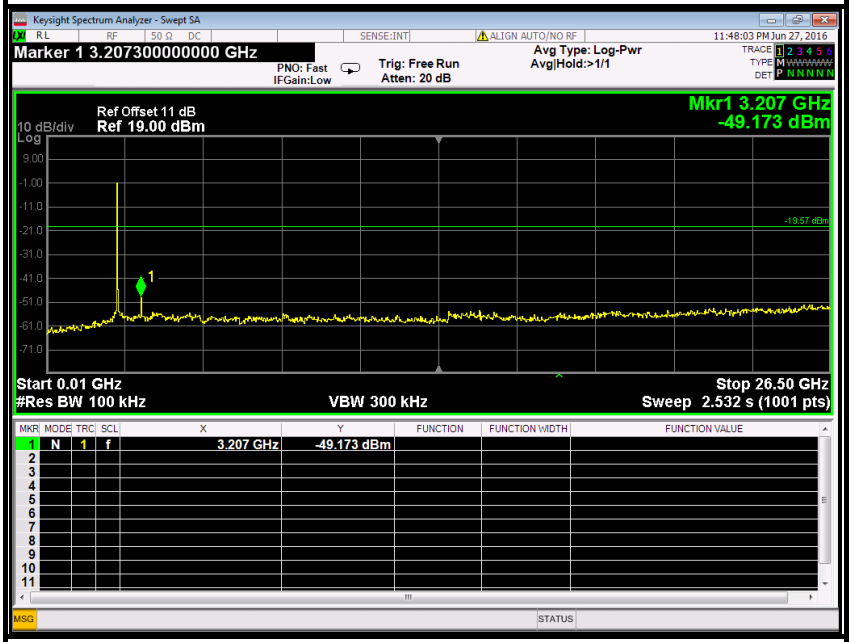


CH High (2.45GHz ~2.5GHz)

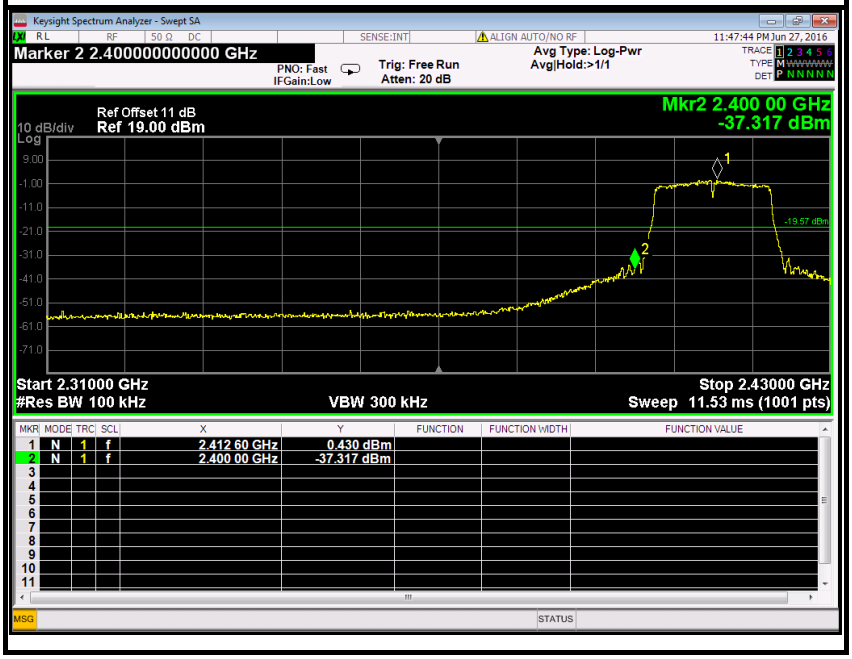


IEEE 802.11n HT20 MHz mode (Antenna 0)

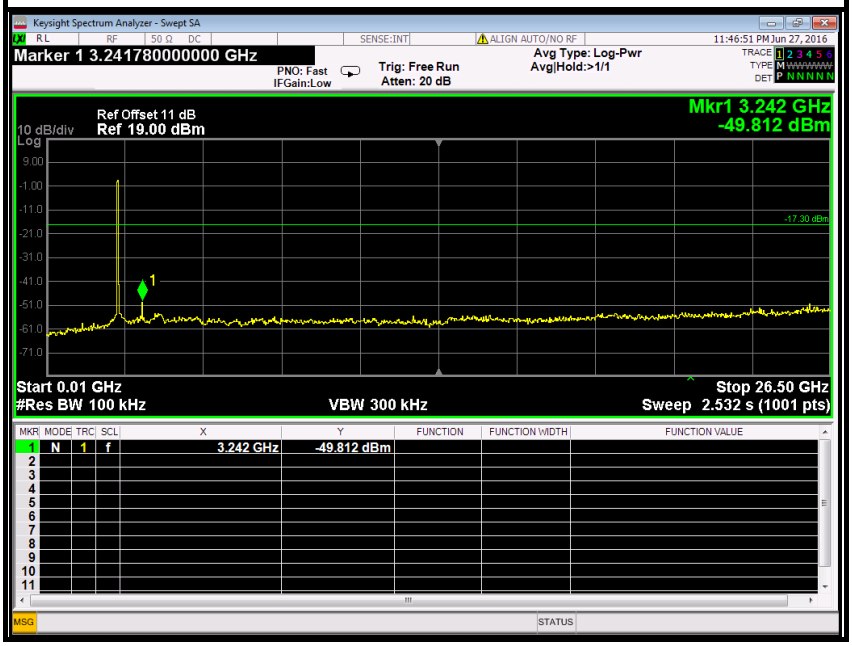
CH Low (10MHz ~26.5GHz)



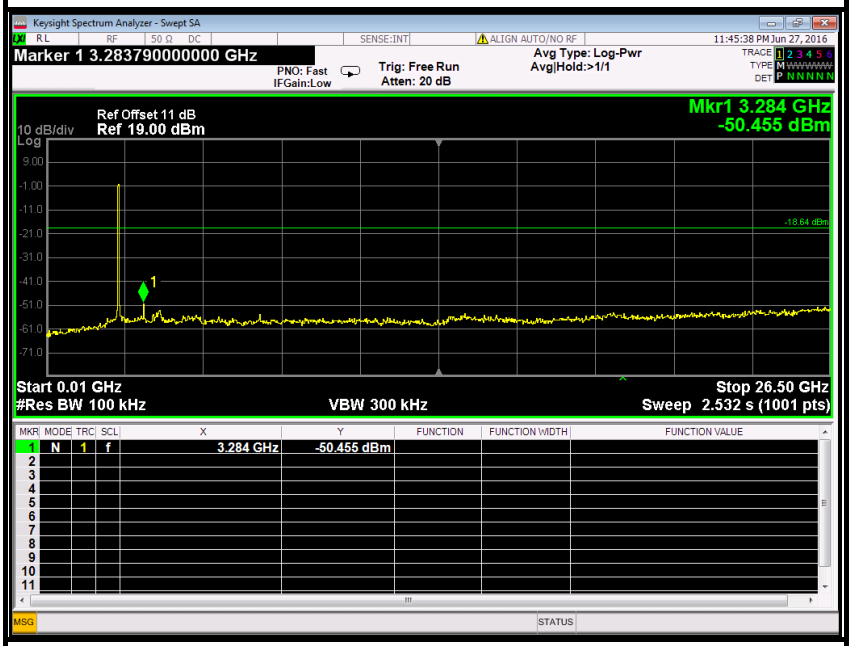
CH Low (2.31GHz ~2.43GHz)



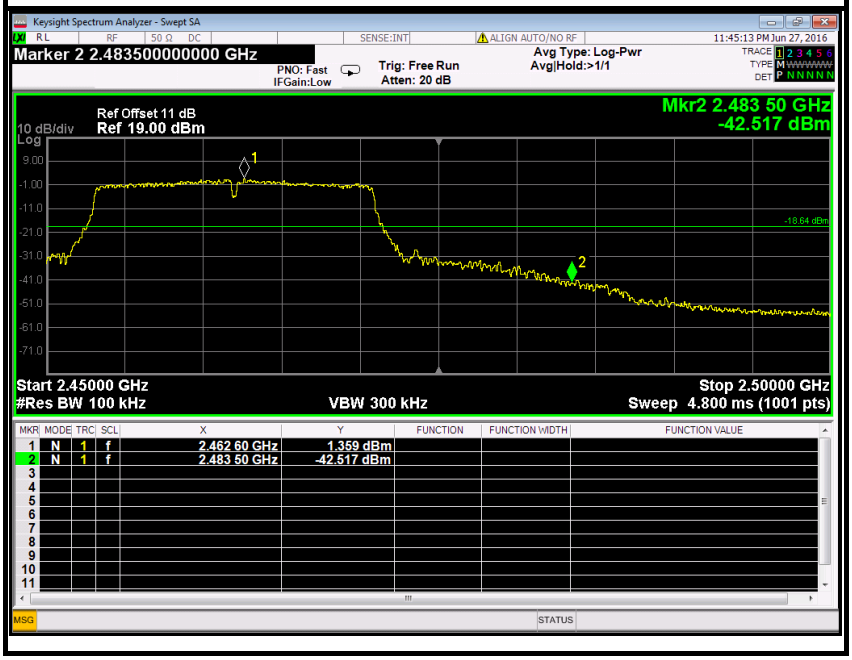
CH Mid (10MHz ~26.5GHz)



CH High (10MHz ~26.5GHz)

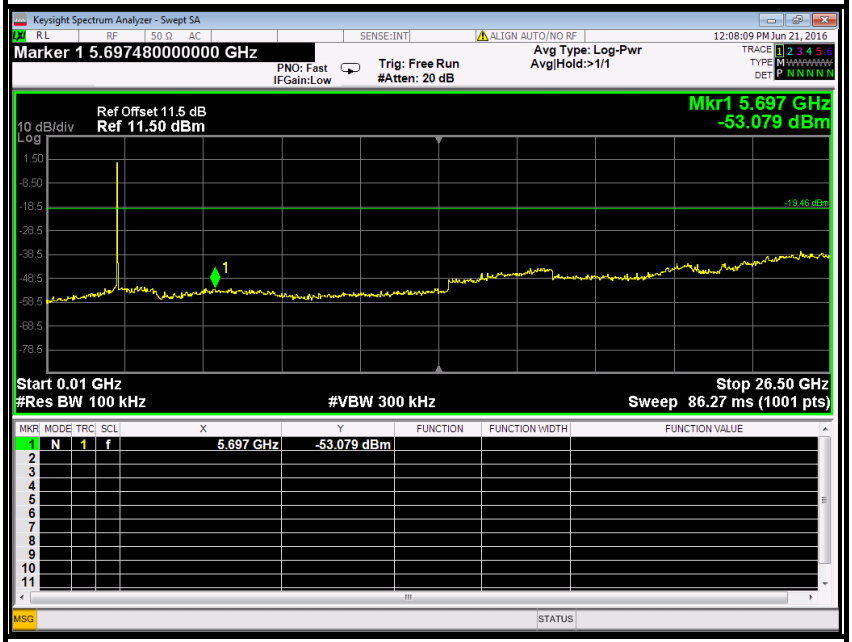


CH High (2.45GHz ~2.5GHz)

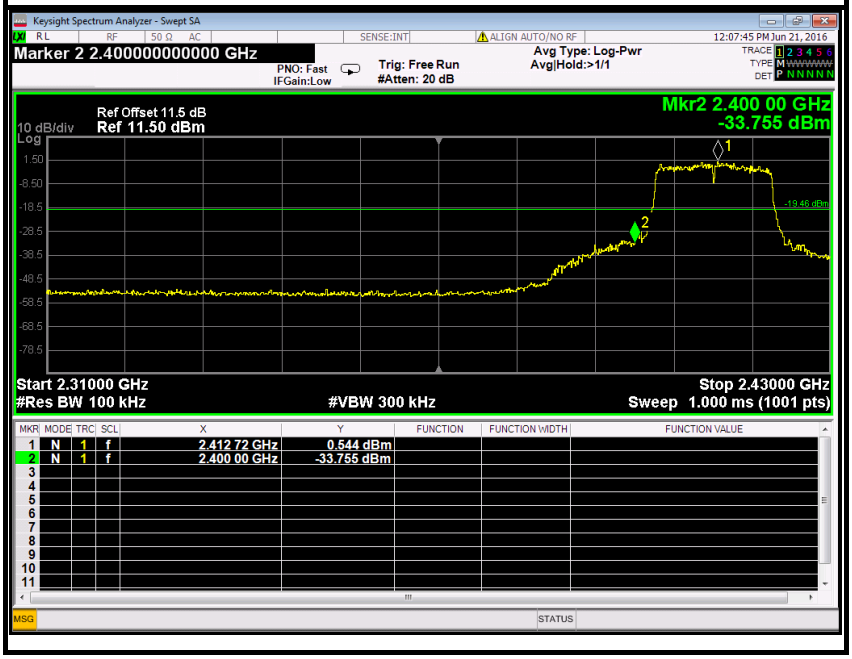


IEEE 802.11n HT20 MHz mode (Antenna 1)

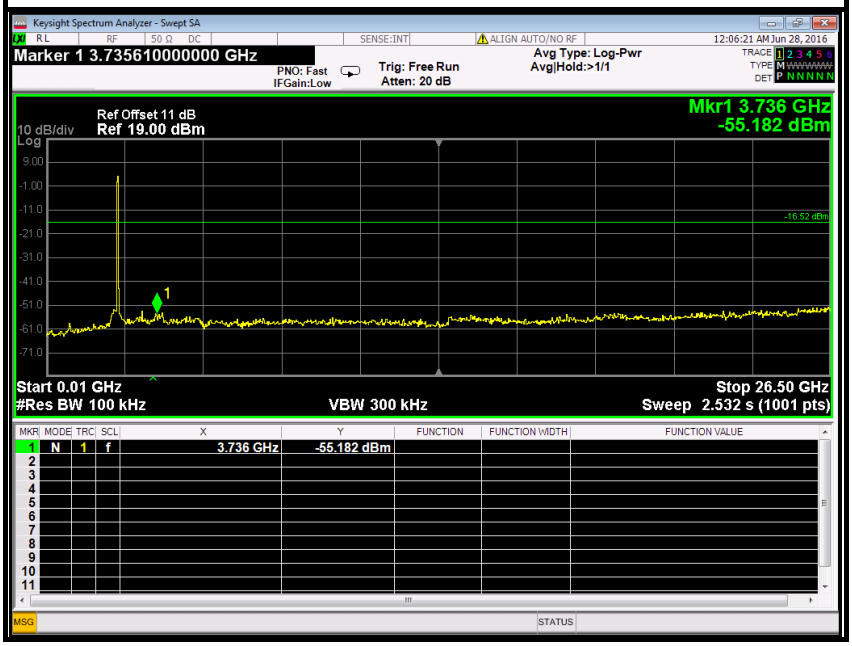
CH Low (10MHz ~26.5GHz)



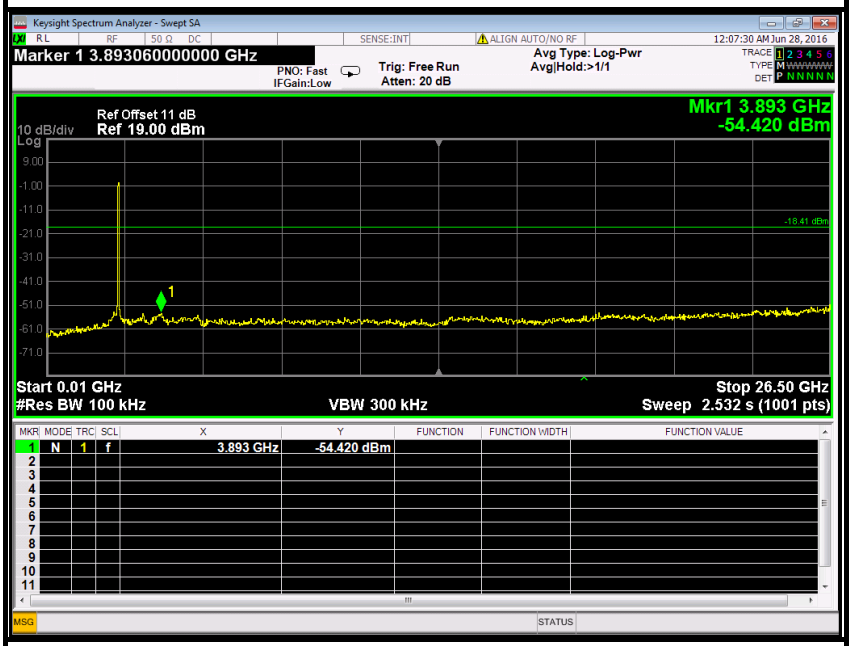
CH Low (2.31GHz ~2.43GHz)



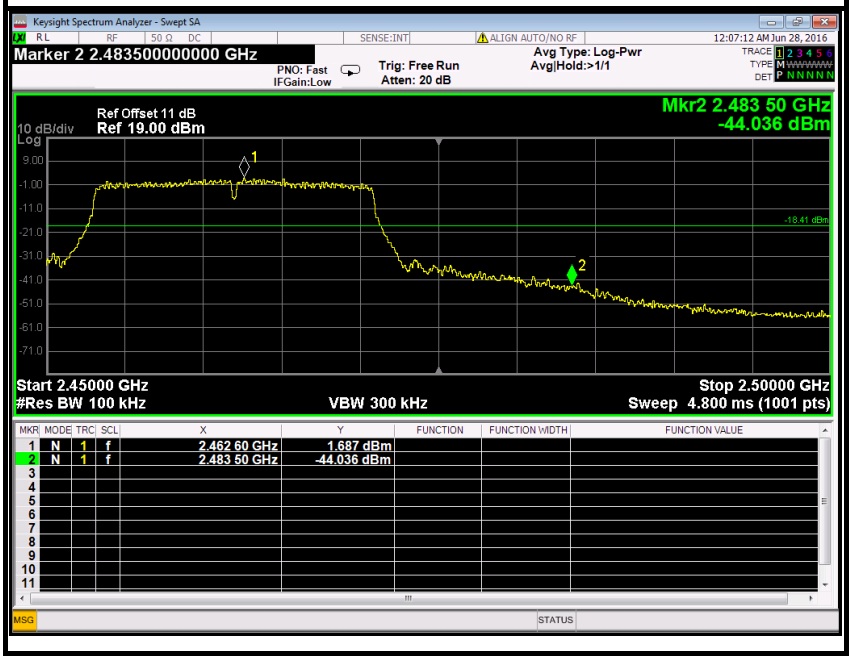
CH Mid (10MHz ~26.5GHz)



CH High (10MHz ~26.5GHz)

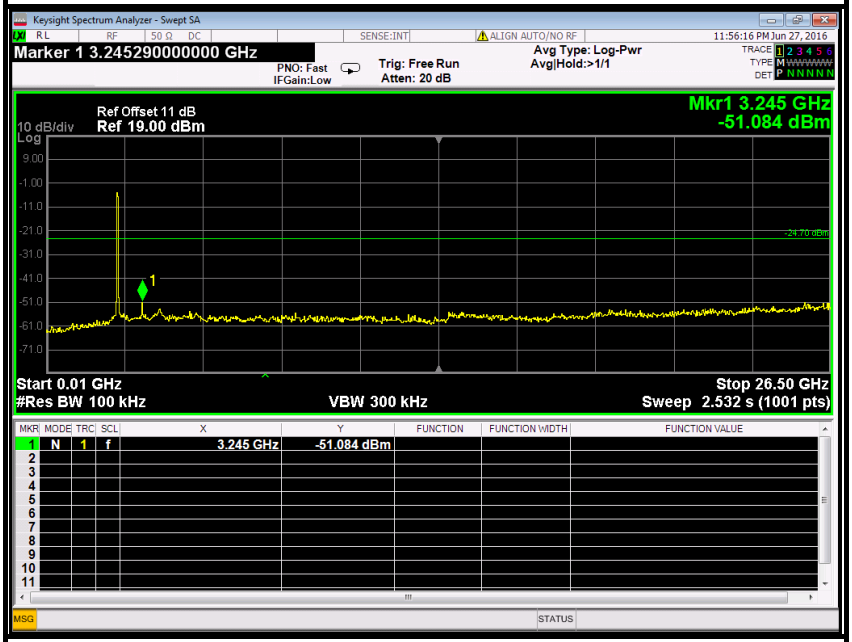


CH High (2.45GHz ~2.5GHz)

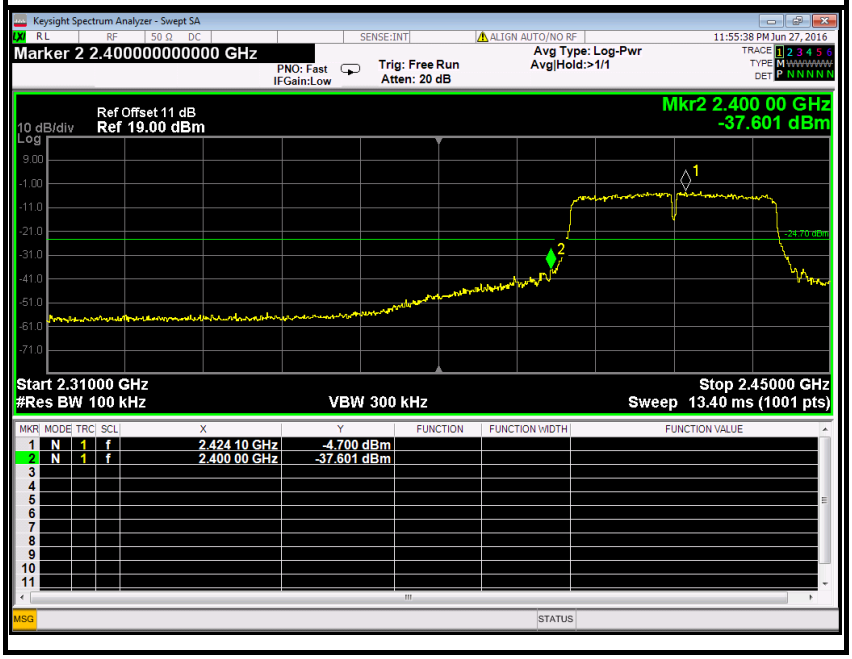


IEEE 802.11n HT40 MHz mode (Antenna 0)

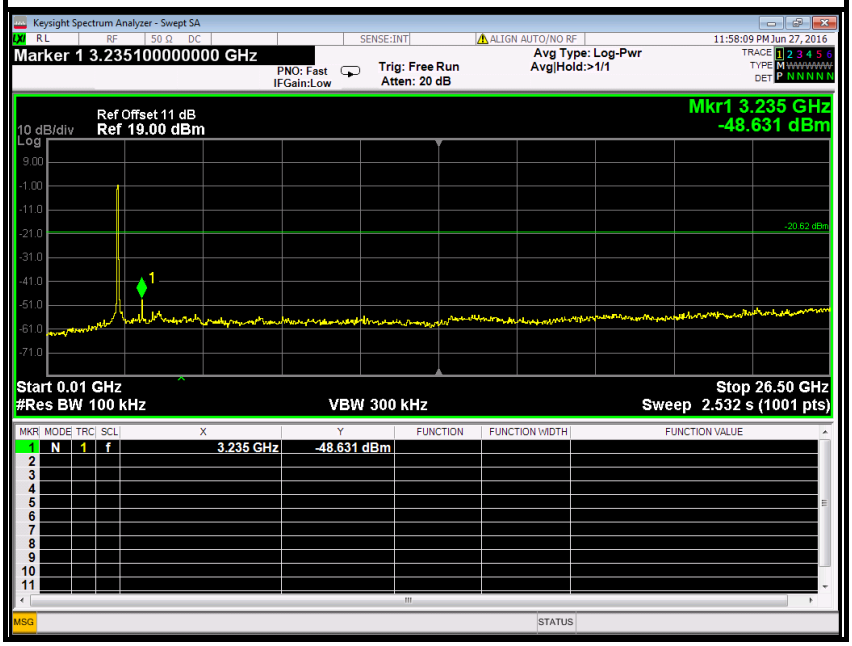
CH Low (10MHz ~26.5GHz)



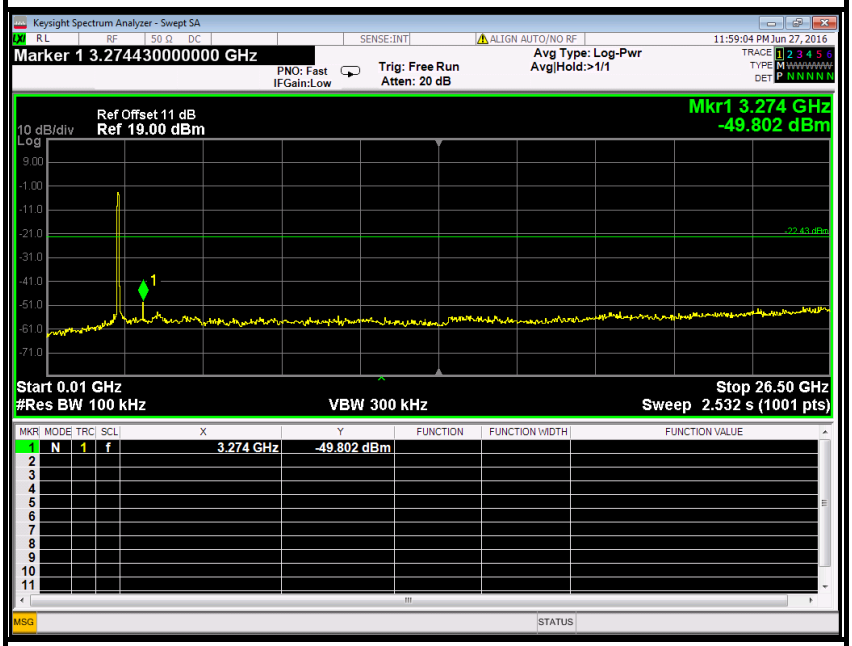
CH Low (2.31GHz ~2.45GHz)



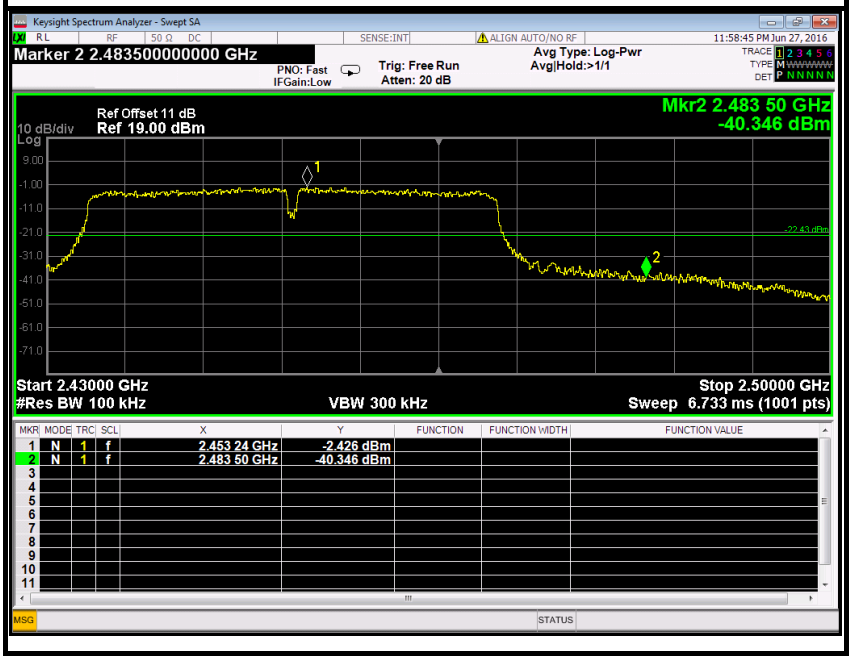
CH Mid (10MHz ~26.5GHz)



CH High (10MHz ~26.5GHz)

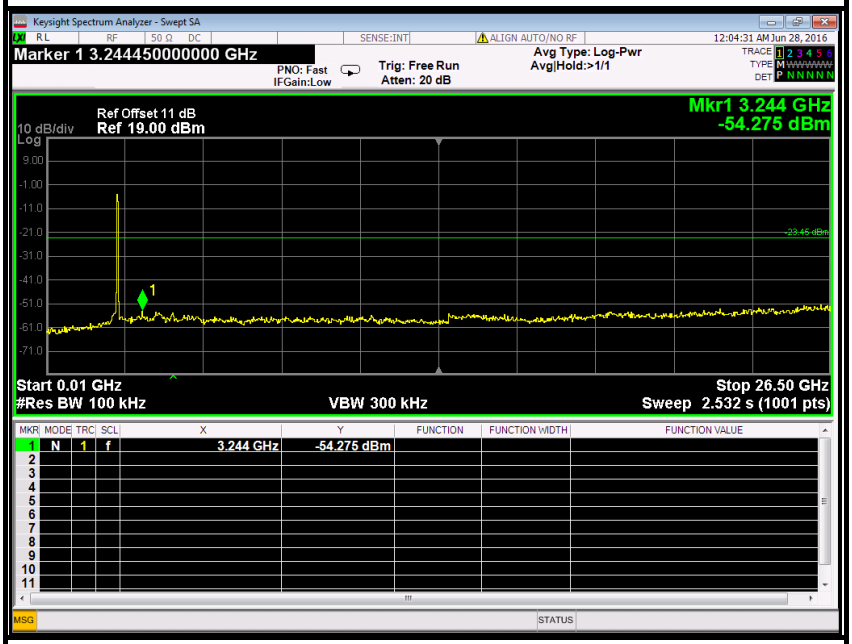


CH High (2.43GHz ~2.5GHz)

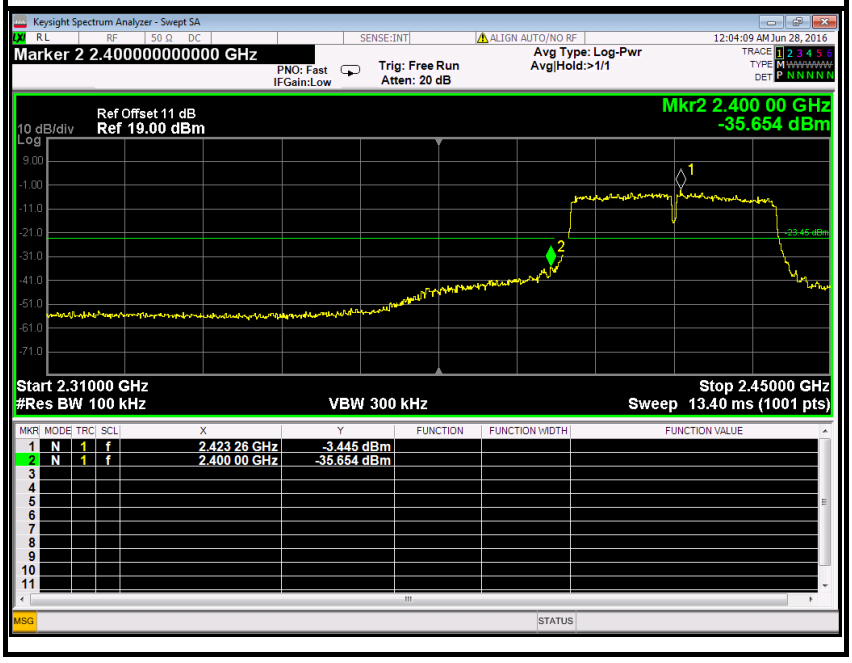


IEEE 802.11n HT40 MHz mode (Antenna 1)

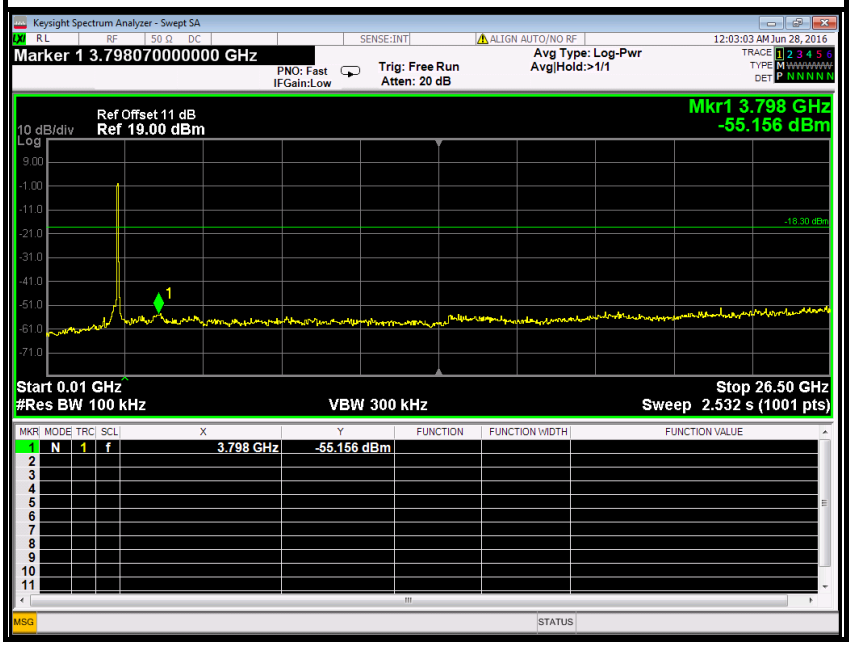
CH Low (10MHz ~26.5GHz)



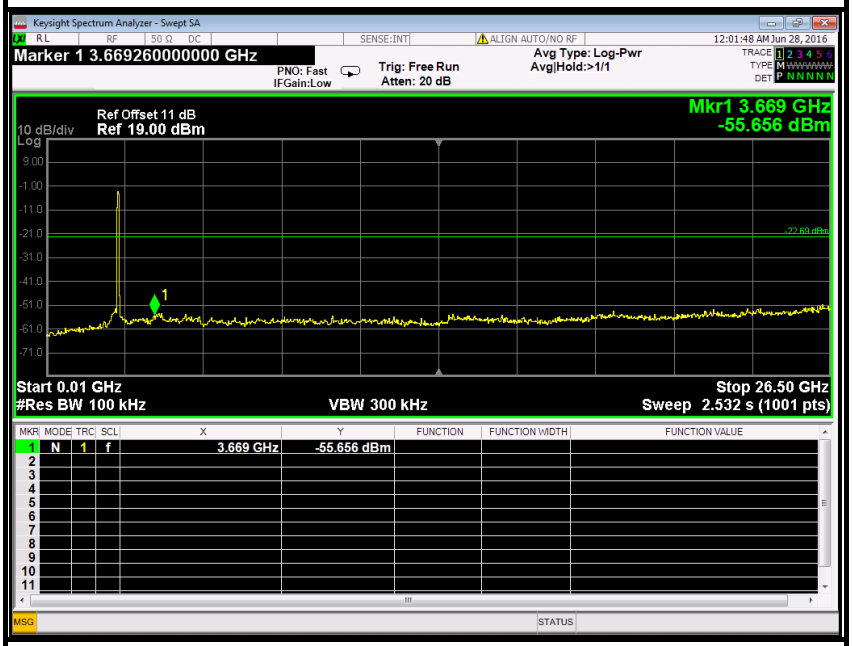
CH Low (2.31GHz ~2.45GHz)



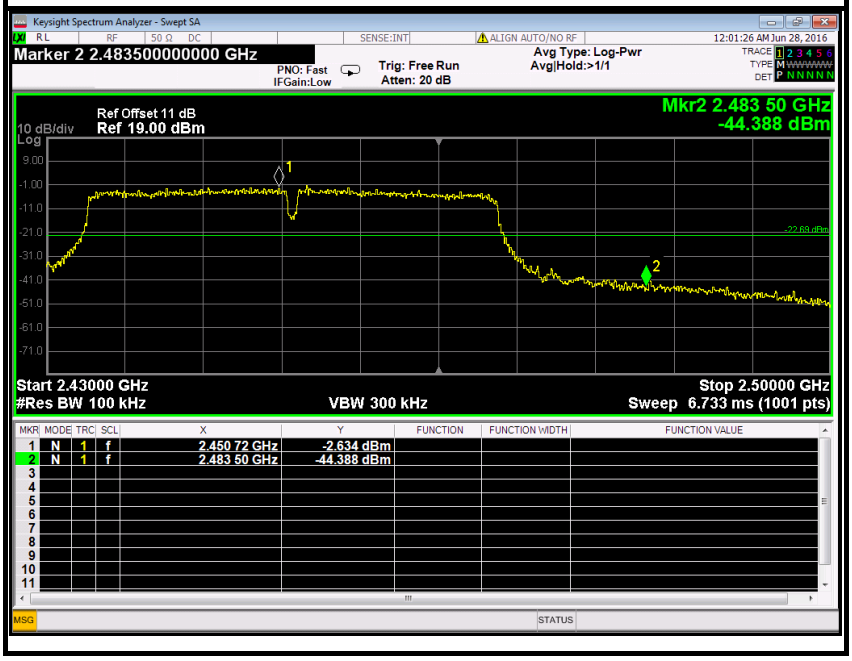
CH Mid (10MHz ~26.5GHz)



CH High (10MHz ~26.5GHz)



CH High (2.43GHz ~2.5GHz)



7.2.2. RADIATED EMISSIONS MEASUREMENT

7.2.2.1. LIMITS OF RADIATED EMISSIONS MEASUREMENT

According to §15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (mV/m)	Measurement Distance (m)
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

Remark: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

1. In the emission table above, the tighter limit applies at the band edges.

Frequency (MHz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

NOTE:(1) The lower limit shall apply at the transition frequencies.
(2) Emission level (dBuV/m) = 20 log Emission level (uV/m).

7.2.2.2. TEST INSTRUMENTS

Radiated Emission Test Site 966(2)					
Name of Equipment	**Manufacturer**	**Model Number**	**Serial Number**	**Last Calibration**	**Due Calibration**
PSA Series Spectrum Analyzer	Agilent	E4446A	US44300399	02/21/2016	02/20/2017
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI	100783	02/21/2016	02/20/2017
Amplifier	EMEC	EM330	060661	03/18/2016	03/17/2017
High Noise Amplifier	Agilent	8449B	3008A01838	02/21/2016	02/20/2017
Loop Antenna	COM-POWER	AL-130	121044	09/25/2015	09/24/2016
Bilog Antenna	SCHAFFNER	CBL6143	5082	02/21/2016	02/20/2017
Horn Antenna	SCHWARZBECK	BBHA9120	D286	02/28/2016	02/27/2017
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170-497	02/28/2016	02/27/2017
Turn Table	N/A	N/A	N/A	N.C.R	N.C.R
Antenna Tower	SUNOL	TLT2	N/A	N.C.R	N.C.R
Controller	Sunol Sciences	SC104V	022310-1	N.C.R	N.C.R
Controller	CT	N/A	N/A	N.C.R	N.C.R
Temp. / Humidity Meter	Anymetre	JR913	N/A	02/21/2016	02/20/2017
Test S/W	FARAD	LZ-RF / CCS-SZ-3A2			

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The FCC Site Registration number is 101879.

3. N.C.R = No Calibration Required.

7.2.2.3. TEST PROCEDURE (please refer to measurement standard)

1. The EUT is placed on a turntable, which is 0.8m or 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. Set the spectrum analyzer in the following setting as:

   Below 1GHz:

   RBW=100kHz / VBW=300kHz / Sweep=AUTO

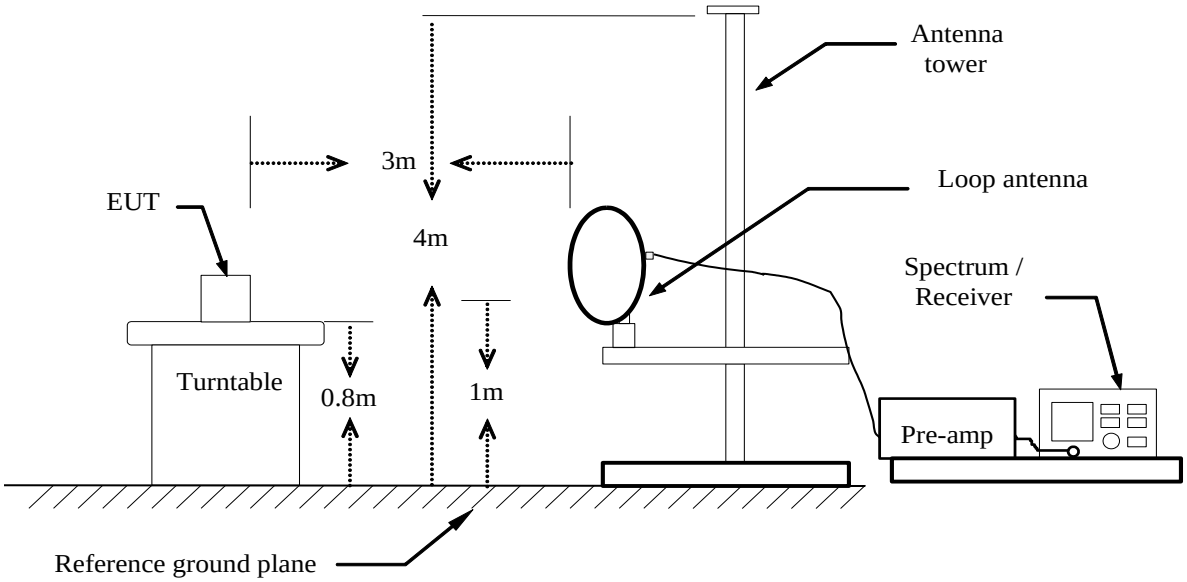
   Above 1GHz:

   (a) PEAK: RBW=1MHz,VBW=3MHz / Sweep=AUTO

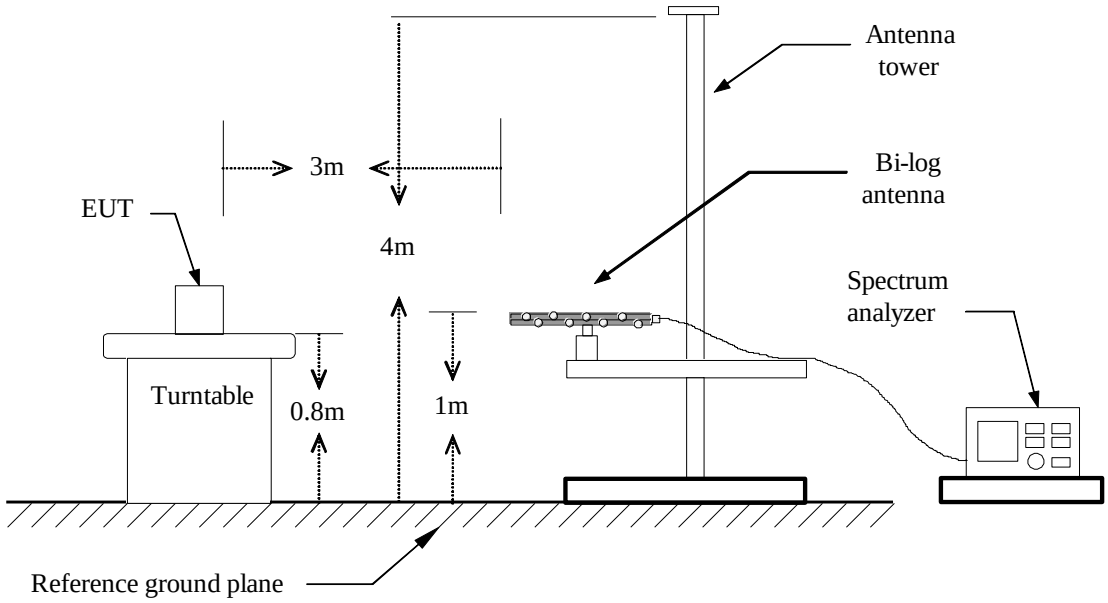
   (b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO / Detector=PEAK
7. Repeat above procedures until the measurements for all frequencies are complete.

7.2.2.4. TEST SETUP

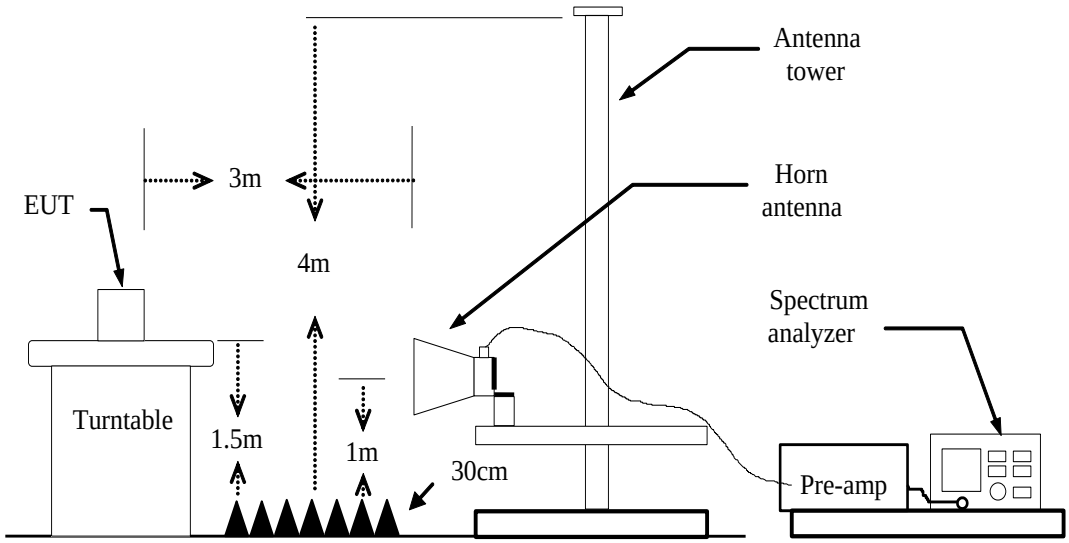
Below 30MHz



Below 1 GHz



Above 1 GHz



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

7.2.2.5. DATA SAPLE

Below 1GHz

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
XXX.XXXX	36.37	-12.20	24.17	40.00	-15.83	V	QP

Frequency (MHz) = Emission frequency in MHz
Reading (dBuV) = Uncorrected Analyzer / Receiver reading
Correct Factor (dB/m) = Antenna factor + Cable loss – Amplifier gain
Result (dBuV/m) = Reading (dBuV) + Corr. Factor (dB/m)
Limit (dBuV/m) = Limit stated in standard
Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)
Q.P. = Quasi-peak Reading

Above 1GHz

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
XXXX.XXXX	62.09	-11.42	50.67	74.00	-23.33	V	Peak
XXXX.XXXX	49.78	-11.42	38.36	54.00	-15.64	V	AVG

Frequency (MHz) = Emission frequency in MHz
Reading (dBuV) = Uncorrected Analyzer / Receiver reading
Correction Factor (dB/m) = Antenna factor + Cable loss – Amplifier gain
Result (dBuV/m) = Reading (dBuV) + Corr. Factor (dB/m)
Limit (dBuV/m) = Limit stated in standard
Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)
Peak = Peak Reading
AVG = Average Reading

Calculation Formula

Margin (dB) = Result (dBuV/m) – Limits (dBuV/m)
Result (dBuV/m) = Reading (dBuV) + Correction Factor

7.2.2.6. TEST RESULTS

Below 1 GHz

Test Mode: TX **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 13, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
40.6700	46.88	-14.64	32.24	40.00	-7.76	V	QP
167.7400	42.73	-18.69	24.04	43.50	-19.46	V	QP
269.5900	38.74	-18.45	20.29	46.00	-25.71	V	QP
431.5800	32.66	-14.77	17.89	46.00	-28.11	V	QP
539.2500	40.38	-14.14	26.24	46.00	-19.76	V	QP
863.2300	37.39	-9.39	28.00	46.00	-18.00	V	QP
35.8200	39.22	-13.37	25.85	40.00	-14.15	H	QP
197.8100	42.19	-18.61	23.58	43.50	-19.92	H	QP
323.9100	43.30	-17.52	25.78	46.00	-20.22	H	QP
539.2500	39.67	-14.14	25.53	46.00	-20.47	H	QP
707.0600	37.17	-10.92	26.25	46.00	-19.75	H	QP
932.1000	35.88	-8.51	27.37	46.00	-18.63	H	QP

***Remark:** No emission found between lowest internal used/generated frequency to 30MHz.*

Notes:

1. *Radiated emissions measured in frequency range from 9kHz to 1GHz were made with an instrument using Quasi-peak detector mode.*
2. *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.*
3. *The IF bandwidth of Receiver between 30MHz to 1GHz was 120kHz.*
4. *Frequency (MHz). = Emission frequency in MHz*
   Reading (dBμV/m) = Receiver reading
   Correction Factor (dB) = Antenna factor + Cable loss – Amplifier gain
   Limit (dBμV/m) = Limit stated in standard
   Margin (dB) = Measured (dBμV/m) – Limits (dBμV/m)
   Antenna Pol e(H/V) = Current carrying line of reading

Above 1 GHz
Antenna 0
Test Mode: TX / IEEE 802.11b(CH Low) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 13, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1999.000	52.08	-5.01	47.07	74.00	-26.93	V	peak
4825.000	44.12	4.41	48.53	74.00	-25.47	V	peak
6148.000	41.23	6.32	47.55	74.00	-26.45	V	peak
6841.000	41.57	7.44	49.01	74.00	-24.99	V	peak
7714.000	41.67	9.09	50.76	74.00	-23.24	V	peak
8362.000	41.48	9.45	50.93	74.00	-23.07	V	peak
1612.000	52.41	-6.67	45.74	74.00	-28.26	H	Peak
3214.000	52.58	-1.00	51.58	74.00	-22.42	H	Peak
4825.000	46.61	4.41	51.02	74.00	-22.98	H	Peak
6967.000	40.89	7.65	48.54	74.00	-25.46	H	peak
7759.000	40.75	9.18	49.93	74.00	-24.07	H	peak
7975.000	40.95	9.60	50.55	74.00	-23.45	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Test Mode: TX / IEEE 802.11b (CH Mid) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 13, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1054.000	54.66	-8.35	46.31	74.00	-27.69	V	Peak
1999.000	51.61	-5.01	46.60	74.00	-27.40	V	Peak
4870.000	43.37	4.56	47.93	74.00	-26.07	V	Peak
6508.000	41.79	6.90	48.69	74.00	-25.31	V	Peak
6868.000	41.37	7.49	48.86	74.00	-25.14	V	Peak
8362.000	41.25	9.45	50.70	74.00	-23.30	V	Peak
1621.000	51.93	-6.65	45.28	74.00	-28.72	H	Peak
3250.000	51.81	-0.94	50.87	74.00	-23.13	H	Peak
4870.000	48.40	4.56	52.96	74.00	-21.04	H	Peak
4870.000	46.81	4.56	51.37	54.00	-2.63	H	AVG
6121.000	41.78	6.28	48.06	74.00	-25.94	H	Peak
6958.000	41.79	7.63	49.42	74.00	-24.58	H	Peak
7678.000	41.46	9.02	50.48	74.00	-23.52	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Test Mode: TX / IEEE 802.11b (CH High) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1747.000	56.71	-6.38	50.33	74.00	-23.67	V	Peak
2512.000	45.81	-2.24	43.57	74.00	-30.43	V	Peak
3205.000	44.43	-1.02	43.41	74.00	-30.59	V	Peak
4258.000	42.63	2.50	45.13	74.00	-28.87	V	Peak
4924.000	44.08	4.73	48.81	74.00	-25.19	V	Peak
6976.000	41.52	7.66	49.18	74.00	-24.82	V	Peak
1747.000	54.02	-6.38	47.64	74.00	-26.36	H	Peak
3286.000	49.30	-0.88	48.42	74.00	-25.58	H	Peak
4924.000	47.19	4.73	51.92	74.00	-22.08	H	Peak
5356.000	41.34	5.61	46.95	74.00	-27.05	H	Peak
6769.000	41.46	7.33	48.79	74.00	-25.21	H	Peak
7840.000	41.20	9.34	50.54	74.00	-23.46	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Antenna 1

Test Mode: TX / IEEE 802.11b(CH Low) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1747.000	52.02	-6.38	45.64	74.00	-28.36	V	peak
4816.000	41.70	4.38	46.08	74.00	-27.92	V	peak
5446.000	40.96	5.77	46.73	74.00	-27.27	V	peak
6967.000	41.85	7.65	49.50	74.00	-24.50	V	peak
7930.000	40.83	9.51	50.34	74.00	-23.66	V	peak
8704.000	41.24	9.26	50.50	74.00	-23.50	V	peak
1612.000	51.55	-6.67	44.88	74.00	-29.12	H	Peak
3214.000	49.38	-1.00	48.38	74.00	-25.62	H	Peak
4825.000	44.69	4.41	49.10	74.00	-24.90	H	Peak
6850.000	41.66	7.46	49.12	74.00	-24.88	H	peak
7651.000	40.83	8.97	49.80	74.00	-24.20	H	peak
8065.000	42.28	9.61	51.89	74.00	-22.11	H	peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Test Mode: TX / IEEE 802.11b (CH Mid) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1495.000	50.13	-6.89	43.24	74.00	-30.76	V	Peak
4015.000	41.47	1.64	43.11	74.00	-30.89	V	Peak
4429.000	41.23	3.10	44.33	74.00	-29.67	V	Peak
6103.000	41.57	6.25	47.82	74.00	-26.18	V	Peak
7228.000	40.56	8.14	48.70	74.00	-25.30	V	Peak
7723.000	41.69	9.11	50.80	74.00	-23.20	V	Peak
3250.000	48.10	-0.94	47.16	74.00	-26.84	H	Peak
5122.000	41.07	5.20	46.27	74.00	-27.73	H	Peak
6571.000	41.06	7.01	48.07	74.00	-25.93	H	Peak
7507.000	40.88	8.69	49.57	74.00	-24.43	H	Peak
7750.000	41.46	9.16	50.62	74.00	-23.38	H	Peak
8308.000	41.78	9.48	51.26	74.00	-22.74	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Test Mode: TX / IEEE 802.11b (CH High) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1504.000	49.72	-6.87	42.85	74.00	-31.15	V	Peak
3925.000	42.46	1.27	43.73	74.00	-30.27	V	Peak
4582.000	41.20	3.62	44.82	74.00	-29.18	V	Peak
6004.000	40.86	6.09	46.95	74.00	-27.05	V	Peak
6976.000	41.66	7.66	49.32	74.00	-24.68	V	Peak
8218.000	40.82	9.53	50.35	74.00	-23.65	V	Peak
3286.000	46.61	-0.88	45.73	74.00	-28.27	H	Peak
4924.000	43.36	4.73	48.09	74.00	-25.91	H	Peak
6238.000	41.43	6.47	47.90	74.00	-26.10	H	Peak
7525.000	39.96	8.72	48.68	74.00	-25.32	H	Peak
7714.000	41.67	9.09	50.76	74.00	-23.24	H	Peak
8380.000	40.88	9.44	50.32	74.00	-23.68	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Antenna 0

Test Mode: TX / IEEE 802.11g(CH Low) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1720.000	57.13	-6.44	50.69	74.00	-23.31	V	Peak
4825.000	43.19	4.41	47.60	74.00	-26.40	V	Peak
5464.000	41.70	5.81	47.51	74.00	-26.49	V	Peak
6949.000	41.20	7.62	48.82	74.00	-25.18	V	Peak
7858.000	40.86	9.37	50.23	74.00	-23.77	V	Peak
8353.000	41.14	9.46	50.60	74.00	-23.40	V	Peak
1747.000	53.92	-6.38	47.54	74.00	-26.46	H	Peak
3214.000	52.75	-1.00	51.75	74.00	-22.25	H	Peak
4825.000	47.79	4.41	52.20	74.00	-21.80	H	Peak
4825.000	46.02	4.41	50.43	54.00	-3.57	H	AVG
7894.000	41.37	9.44	50.81	74.00	-23.19	H	Peak
8731.000	41.21	9.25	50.46	74.00	-23.54	H	Peak
9469.000	40.76	10.45	51.21	74.00	-22.79	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*

6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Test Mode: TX / IEEE 802.11g (CH Mid) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
4159.000	42.74	2.15	44.89	74.00	-29.11	V	Peak
4870.000	43.45	4.56	48.01	74.00	-25.99	V	Peak
6085.000	40.98	6.22	47.20	74.00	-26.80	V	Peak
6958.000	41.28	7.63	48.91	74.00	-25.09	V	Peak
7435.000	41.66	8.55	50.21	74.00	-23.79	V	Peak
8344.000	41.95	9.46	51.41	74.00	-22.59	V	Peak
3250.000	50.87	-0.94	49.93	74.00	-24.07	H	Peak
4870.000	48.32	4.56	52.88	74.00	-21.12	H	Peak
4870.000	46.77	4.56	51.33	54.00	-2.67	H	AVG
5275.000	41.16	5.47	46.63	74.00	-27.37	H	Peak
6049.000	40.95	6.16	47.11	74.00	-26.89	H	Peak
6841.000	41.75	7.44	49.19	74.00	-24.81	H	Peak
7831.000	41.20	9.32	50.52	74.00	-23.48	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Test Mode: TX / IEEE 802.11g (CH High) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1738.000	53.38	-6.40	46.98	74.00	-27.02	V	Peak
3880.000	43.09	1.08	44.17	74.00	-29.83	V	Peak
4924.000	43.40	4.73	48.13	74.00	-25.87	V	Peak
5545.000	41.75	5.89	47.64	74.00	-26.36	V	Peak
6589.000	40.52	7.03	47.55	74.00	-26.45	V	Peak
7165.000	41.24	8.02	49.26	74.00	-24.74	V	Peak
1747.000	51.82	-6.38	45.44	74.00	-28.56	H	Peak
3286.000	49.44	-0.88	48.56	74.00	-25.44	H	Peak
4924.000	47.56	4.73	52.29	74.00	-21.71	H	Peak
4924.000	45.66	4.73	50.39	54.00	-3.61	H	AVG
6220.000	41.92	6.44	48.36	74.00	-25.64	H	Peak
7750.000	42.02	9.16	51.18	74.00	-22.82	H	Peak
8551.000	41.07	9.35	50.42	74.00	-23.58	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Antenna 1

Test Mode: TX / IEEE 802.11g(CH Low) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
4915.000	42.01	4.70	46.71	74.00	-27.29	V	Peak
5347.000	41.63	5.60	47.23	74.00	-26.77	V	Peak
6292.000	41.39	6.55	47.94	74.00	-26.06	V	Peak
6769.000	41.44	7.33	48.77	74.00	-25.23	V	Peak
6958.000	42.41	7.63	50.04	74.00	-23.96	V	Peak
8020.000	40.51	9.64	50.15	74.00	-23.85	V	Peak
3214.000	48.26	-1.00	47.26	74.00	-26.74	H	Peak
4825.000	43.51	4.41	47.92	74.00	-26.08	H	Peak
6121.000	41.89	6.28	48.17	74.00	-25.83	H	Peak
7129.000	40.63	7.95	48.58	74.00	-25.42	H	Peak
7768.000	41.58	9.20	50.78	74.00	-23.22	H	Peak
8371.000	41.50	9.45	50.95	74.00	-23.05	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Test Mode: TX / IEEE 802.11g (CH Mid) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1495.000	49.59	-6.89	42.70	74.00	-31.30	V	Peak
3322.000	44.84	-0.82	44.02	74.00	-29.98	V	Peak
4348.000	41.79	2.81	44.60	74.00	-29.40	V	Peak
5518.000	41.49	5.88	47.37	74.00	-26.63	V	Peak
6148.000	42.06	6.32	48.38	74.00	-25.62	V	Peak
7678.000	41.11	9.02	50.13	74.00	-23.87	V	Peak
1621.000	48.07	-6.65	41.42	74.00	-32.58	H	Peak
3250.000	47.54	-0.94	46.60	74.00	-27.40	H	Peak
4879.000	42.13	4.59	46.72	74.00	-27.28	H	Peak
5635.000	41.69	5.93	47.62	74.00	-26.38	H	Peak
6247.000	41.43	6.48	47.91	74.00	-26.09	H	Peak
7219.000	40.68	8.13	48.81	74.00	-25.19	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Test Mode: TX / IEEE 802.11g (CH High) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
3808.000	43.12	0.78	43.90	74.00	-30.10	V	Peak
5131.000	41.67	5.21	46.88	74.00	-27.12	V	Peak
6346.000	41.41	6.64	48.05	74.00	-25.95	V	Peak
6958.000	41.31	7.63	48.94	74.00	-25.06	V	Peak
7750.000	40.76	9.16	49.92	74.00	-24.08	V	Peak
8416.000	41.09	9.42	50.51	74.00	-23.49	V	Peak
3286.000	45.66	-0.88	44.78	74.00	-29.22	H	Peak
5041.000	41.98	5.05	47.03	74.00	-26.97	H	Peak
5734.000	41.35	5.97	47.32	74.00	-26.68	H	Peak
7219.000	40.88	8.13	49.01	74.00	-24.99	H	Peak
7939.000	41.01	9.53	50.54	74.00	-23.46	H	Peak
8353.000	40.68	9.46	50.14	74.00	-23.86	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Combine with Antenna 0 and Antenna 1

Test Mode: TX / IEEE 802.11n HT20 MHz (CH Low) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1657.000	57.06	-6.58	50.48	74.00	-23.52	V	Peak
4510.000	43.24	3.38	46.62	74.00	-27.38	V	Peak
5518.000	41.14	5.88	47.02	74.00	-26.98	V	Peak
6850.000	41.24	7.46	48.70	74.00	-25.30	V	Peak
7930.000	40.71	9.51	50.22	74.00	-23.78	V	Peak
8281.000	40.88	9.50	50.38	74.00	-23.62	V	Peak
1612.000	52.72	-6.67	46.05	74.00	-27.95	H	Peak
3214.000	51.94	-1.00	50.94	74.00	-23.06	H	Peak
4825.000	47.74	4.41	52.15	74.00	-21.85	H	Peak
4825.000	45.96	4.41	50.37	54.00	-3.63	H	AVG
5743.000	42.43	5.97	48.40	74.00	-25.60	H	Peak
7003.000	42.03	7.71	49.74	74.00	-24.26	H	Peak
8929.000	41.94	9.14	51.08	74.00	-22.92	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Test Mode: TX / IEEE 802.11n HT20 MHz (CH Mid) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1495.000	53.69	-6.89	46.80	74.00	-27.20	V	Peak
3853.000	43.41	0.97	44.38	74.00	-29.62	V	Peak
4879.000	41.29	4.59	45.88	74.00	-28.12	V	Peak
5563.000	40.86	5.90	46.76	74.00	-27.24	V	Peak
7741.000	40.74	9.14	49.88	74.00	-24.12	V	Peak
8047.000	40.87	9.62	50.49	74.00	-23.51	V	Peak
3250.000	47.15	-0.94	46.21	74.00	-27.79	H	Peak
4870.000	44.67	4.56	49.23	74.00	-24.77	H	Peak
6220.000	40.73	6.44	47.17	74.00	-26.83	H	Peak
7183.000	41.09	8.06	49.15	74.00	-24.85	H	Peak
7759.000	41.16	9.18	50.34	74.00	-23.66	H	Peak
8326.000	40.87	9.47	50.34	74.00	-23.66	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Test Mode: TX / EEE 802.11n HT20 MHz (CH High) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1747.000	54.23	-6.38	47.85	74.00	-26.15	V	Peak
4492.000	41.88	3.32	45.20	74.00	-28.80	V	Peak
5284.000	41.81	5.49	47.30	74.00	-26.70	V	Peak
6922.000	41.15	7.57	48.72	74.00	-25.28	V	Peak
7525.000	41.24	8.72	49.96	74.00	-24.04	V	Peak
7777.000	40.76	9.22	49.98	74.00	-24.02	V	Peak
3286.000	45.73	-0.88	44.85	74.00	-29.15	H	Peak
4924.000	42.51	4.73	47.24	74.00	-26.76	H	Peak
6121.000	42.07	6.28	48.35	74.00	-25.65	H	Peak
6922.000	41.18	7.57	48.75	74.00	-25.25	H	Peak
7759.000	40.61	9.18	49.79	74.00	-24.21	H	Peak
8335.000	40.40	9.47	49.87	74.00	-24.13	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Combine with Antenna 0 and Antenna 1

Test Mode: TX/ IEEE 802.11n HT40 MHz (CH Low) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1990.000	50.25	-5.06	45.19	74.00	-28.81	V	Peak
4987.000	41.83	4.94	46.77	74.00	-27.23	V	Peak
6157.000	42.31	6.33	48.64	74.00	-25.36	V	Peak
6994.000	41.73	7.69	49.42	74.00	-24.58	V	Peak
7750.000	41.08	9.16	50.24	74.00	-23.76	V	Peak
9127.000	41.71	9.47	51.18	74.00	-22.82	V	Peak
1927.000	55.18	-5.46	49.72	74.00	-24.28	H	Peak
2881.000	51.21	-1.57	49.64	74.00	-24.36	H	Peak
3232.000	50.76	-0.97	49.79	74.00	-24.21	H	Peak
4825.000	45.66	4.41	50.07	74.00	-23.93	H	Peak
7066.000	40.93	7.83	48.76	74.00	-25.24	H	Peak
7903.000	40.66	9.46	50.12	74.00	-23.88	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Test Mode: TX / IEEE 802.11n HT40 MHz (CH Mid) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1990.000	51.23	-5.06	46.17	74.00	-27.83	V	Peak
5473.000	41.24	5.82	47.06	74.00	-26.94	V	Peak
6247.000	40.86	6.48	47.34	74.00	-26.66	V	Peak
6913.000	41.78	7.56	49.34	74.00	-24.66	V	Peak
7732.000	40.97	9.13	50.10	74.00	-23.90	V	Peak
8353.000	40.91	9.46	50.37	74.00	-23.63	V	Peak
2899.000	47.22	-1.54	45.68	74.00	-28.32	H	Peak
3250.000	47.97	-0.94	47.03	74.00	-26.97	H	Peak
4852.000	43.44	4.50	47.94	74.00	-26.06	H	Peak
6346.000	41.31	6.64	47.95	74.00	-26.05	H	Peak
6949.000	40.99	7.62	48.61	74.00	-25.39	H	Peak
8497.000	41.49	9.38	50.87	74.00	-23.13	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Test Mode: TX/ IEEE 802.11n HT40 MHz (CH High) **Tested by:** Jack Chen

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** June 27, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1162.000	51.37	-7.94	43.43	74.00	-30.57	V	Peak
1999.000	50.52	-5.01	45.51	74.00	-28.49	V	Peak
5311.000	42.30	5.53	47.83	74.00	-26.17	V	Peak
6832.000	41.63	7.43	49.06	74.00	-24.94	V	Peak
7759.000	40.94	9.18	50.12	74.00	-23.88	V	Peak
8254.000	41.02	9.51	50.53	74.00	-23.47	V	Peak
1495.000	49.79	-6.89	42.90	74.00	-31.10	H	Peak
2917.000	50.60	-1.51	49.09	74.00	-24.91	H	Peak
3268.000	48.29	-0.91	47.38	74.00	-26.62	H	Peak
4888.000	43.74	4.61	48.35	74.00	-25.65	H	Peak
6796.000	40.97	7.37	48.34	74.00	-25.66	H	Peak
7669.000	41.28	9.00	50.28	74.00	-23.72	H	Peak

REMARKS:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
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. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

7.3. 6dB BANDWIDTH MEASUREMENT

7.3.1. LIMITS

According to §15.247(a)(2), systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz.

7.3.2. TEST INSTRUMENTS

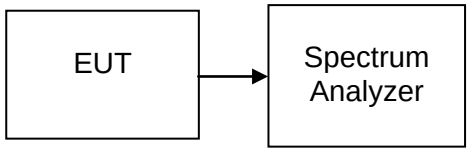
Name of Equipment	Manufacturer	Model	Serial Number	Last Calibration	Calibration Due
Spectrum Analyzer	Agilent	N9010A	MY52221469	02/21/2016	02/20/2017

7.3.3. TEST PROCEDURES (please refer to measurement standard)

8.1 Option 1:

a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 x RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) 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.

7.3.4. TEST SETUP



7.3.5. TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Bandwidth (kHz)		Limit (kHz)	Test Result
		Antenna 0	Antenna 1		
Low	2412	10070	10070	>500	PASS
Mid	2437	10070	10070		PASS
High	2462	10070	10070		PASS

Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Bandwidth (kHz)		Limit (kHz)	Test Result
		Antenna 0	Antenna 1		
Low	2412	16500	16500	>500	PASS
Mid	2437	16490	16480		PASS
High	2462	16500	16510		PASS

Test mode: IEEE 802.11n HT20 MHz

Channel	Frequency (MHz)	Bandwidth (kHz)		Limit (kHz)	Test Result
		Antenna 0	Antenna 1		
Low	2412	17610	17600	>500	PASS
Mid	2437	17620	17600		PASS
High	2462	17620	17600		PASS

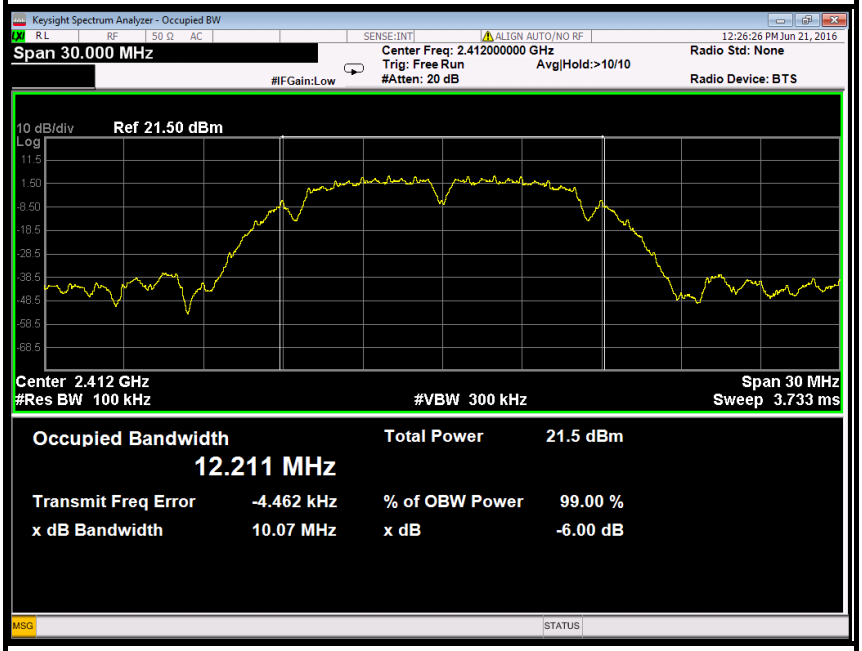
Test mode: IEEE 802.11n HT40 MHz

Channel	Frequency (MHz)	Bandwidth (kHz)		Limit (kHz)	Test Result
		Antenna 0	Antenna 1		
Low	2422	36370	35780	>500	PASS
Mid	2437	36380	36330		PASS
High	2452	36360	36020		PASS

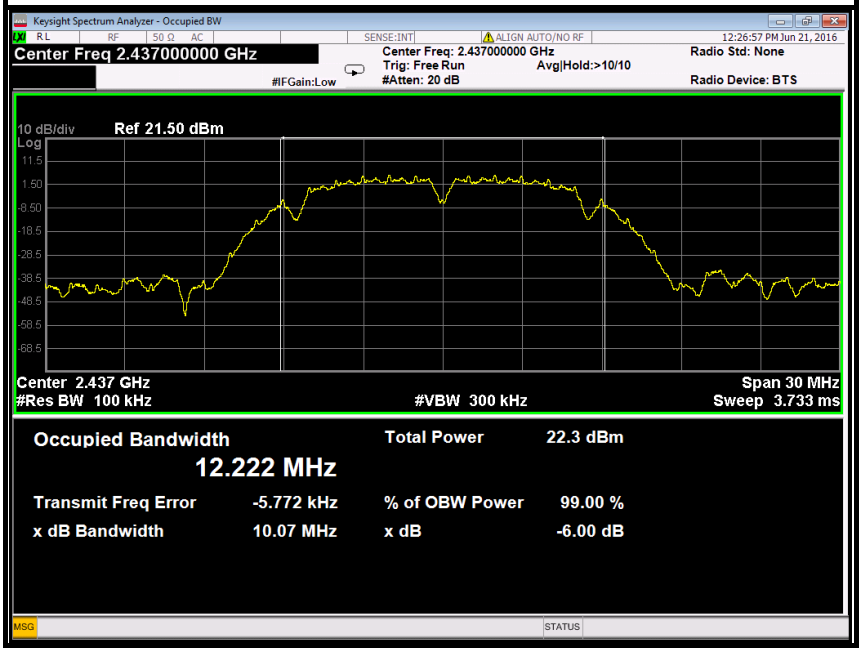
Test Plot

IEEE 802.11b mode (Antenna 0)

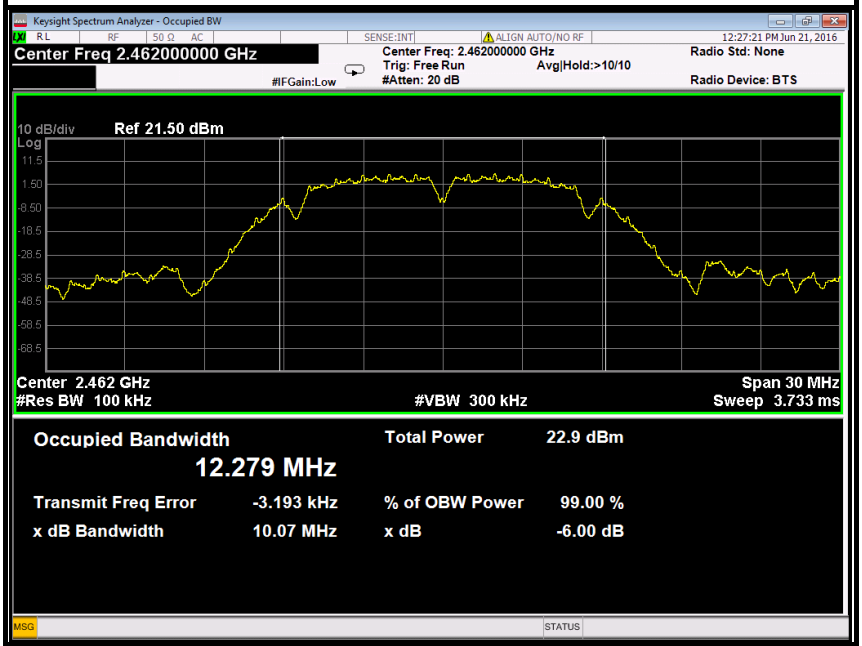
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

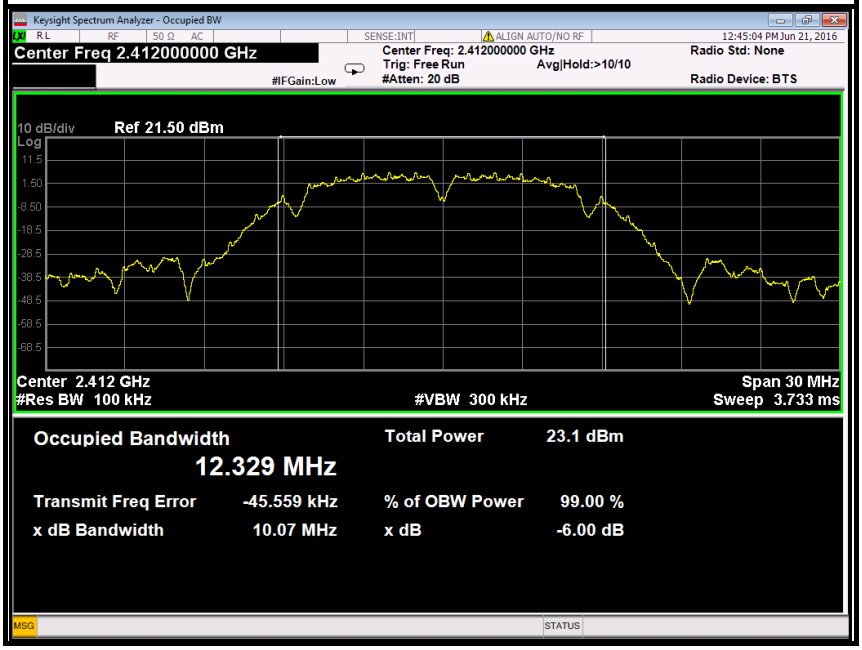


6dB Bandwidth (CH High)

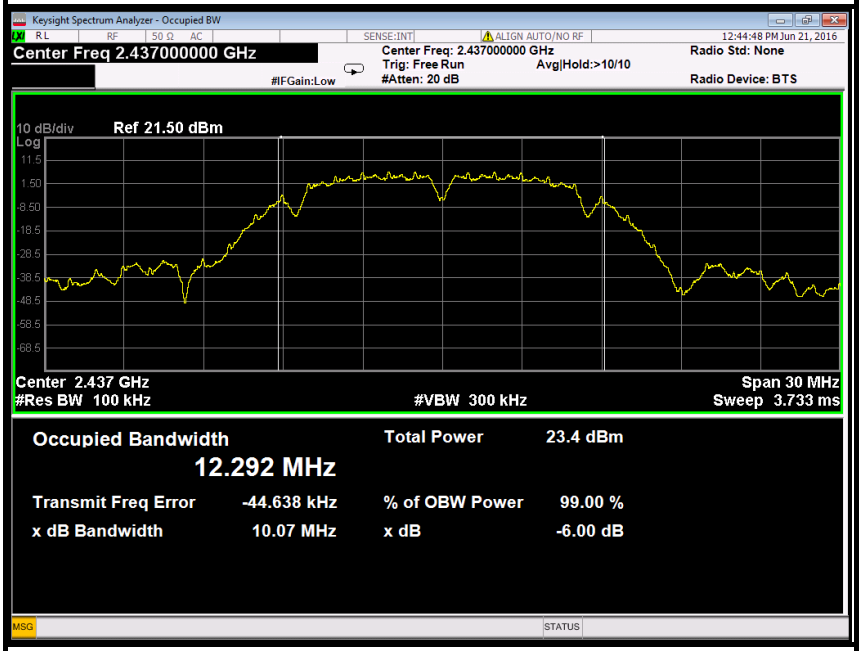


IEEE 802.11b mode (Antenna 1)

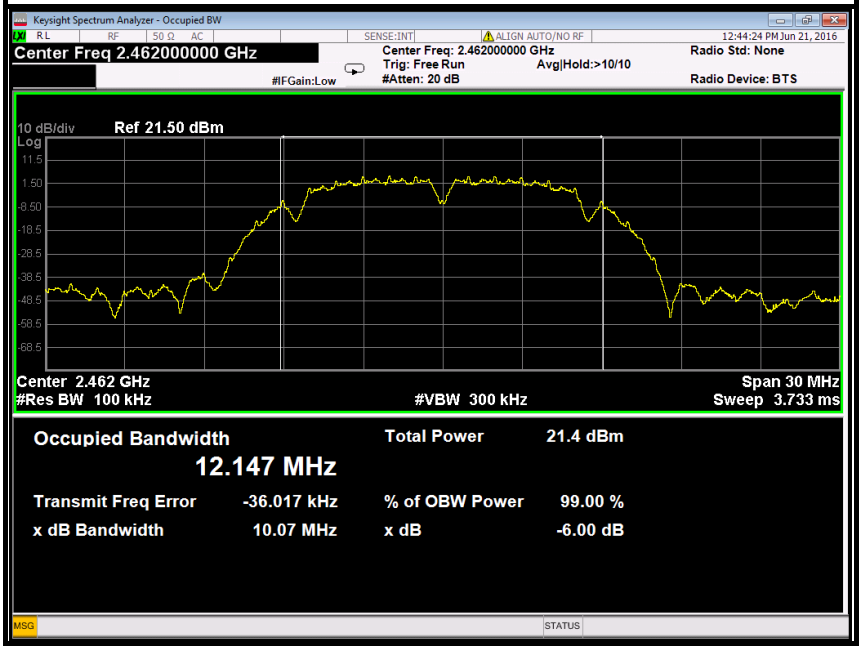
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

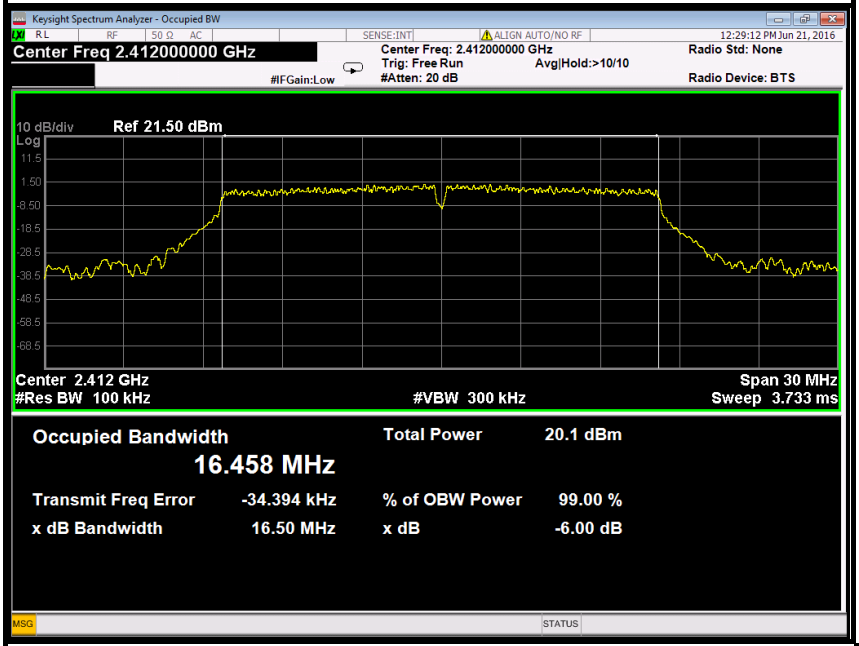


6dB Bandwidth (CH High)

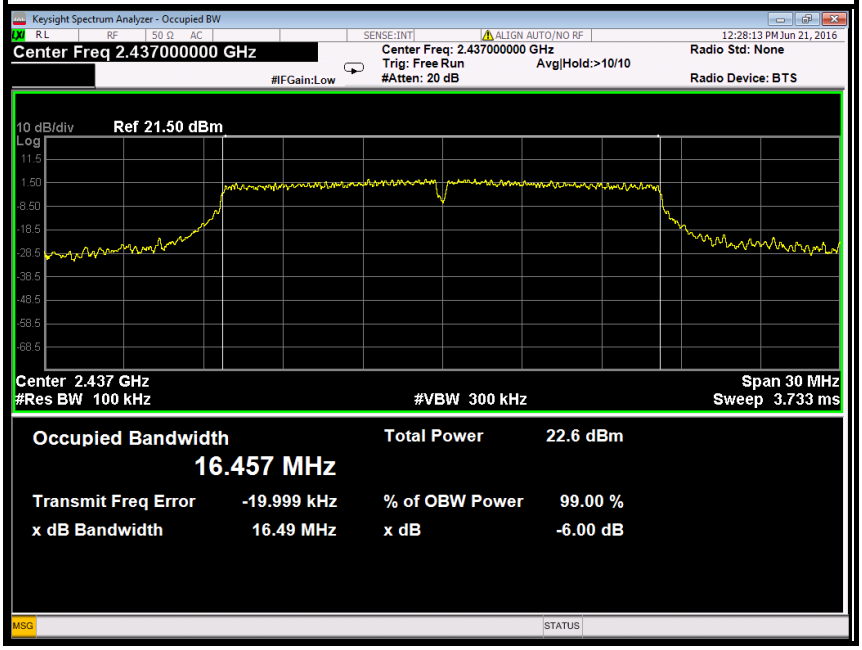


IEEE 802.11g mode (Antenna 0)

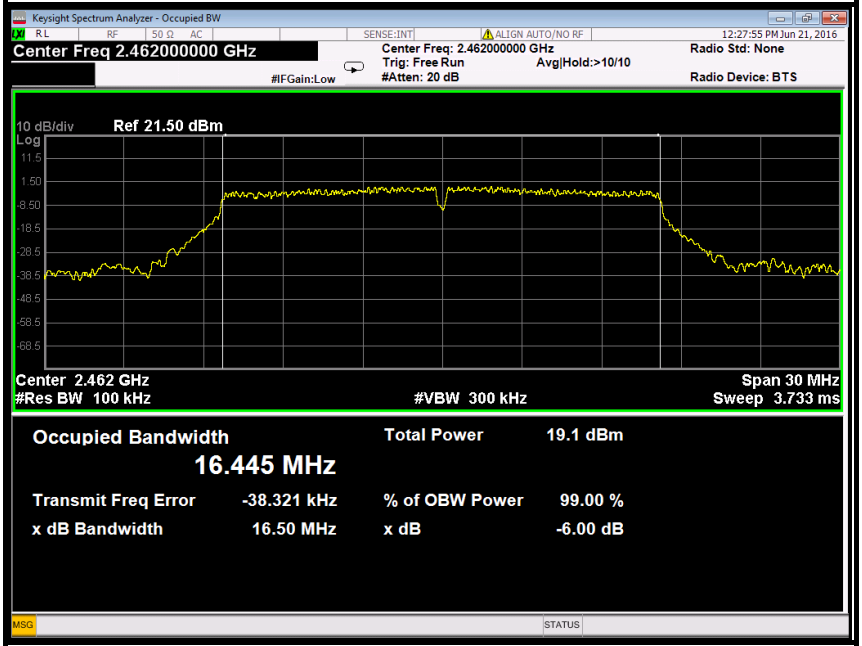
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

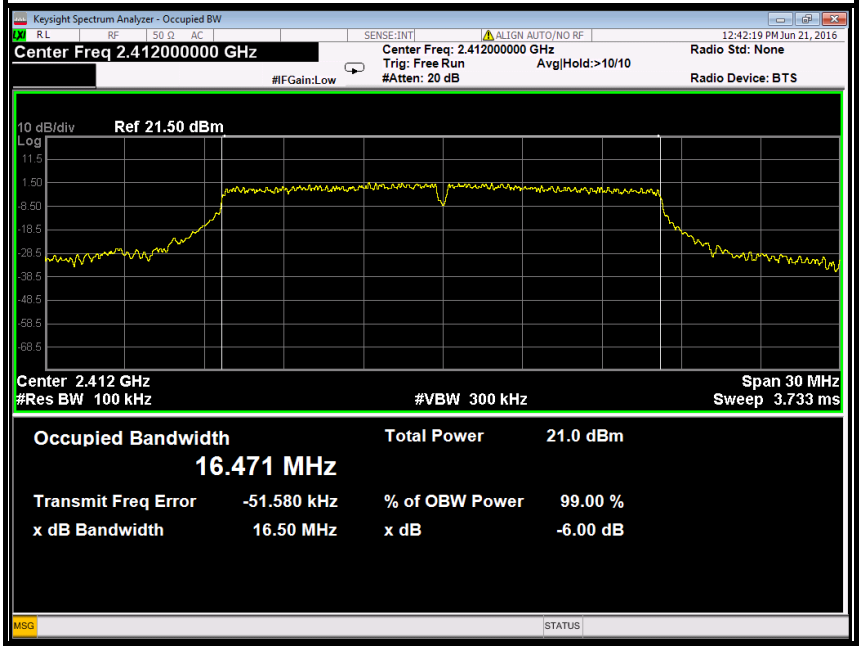


6dB Bandwidth (CH High)

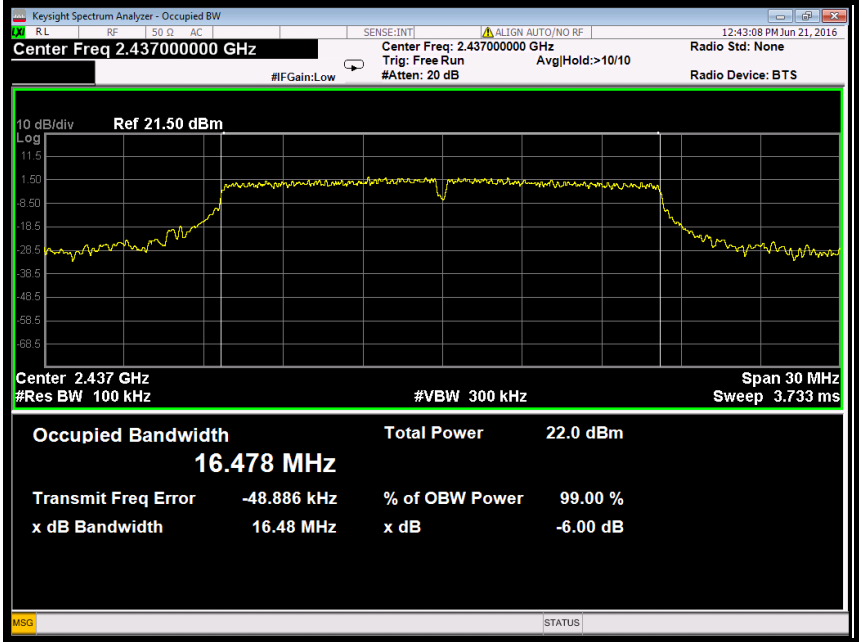


IEEE 802.11g mode (Antenna 1)

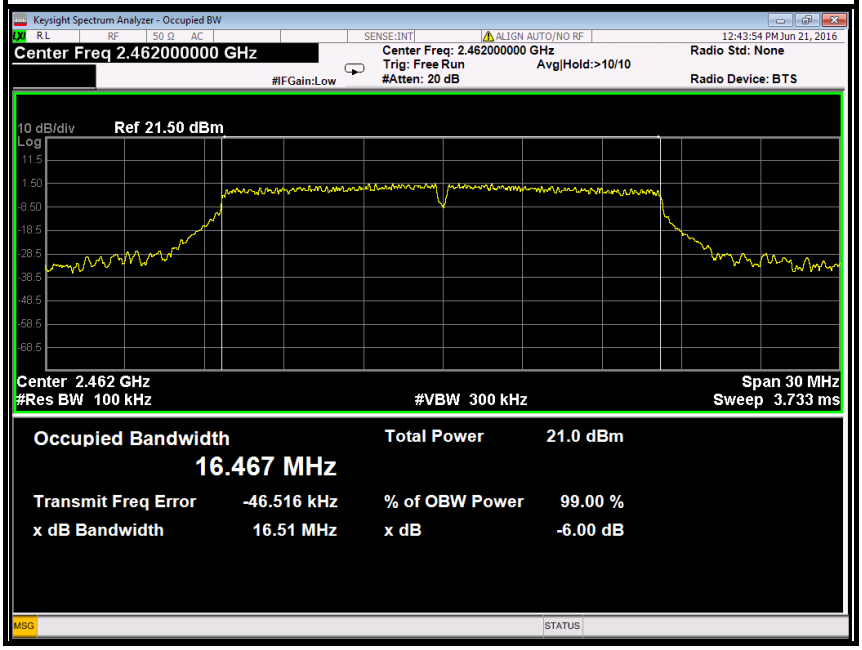
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

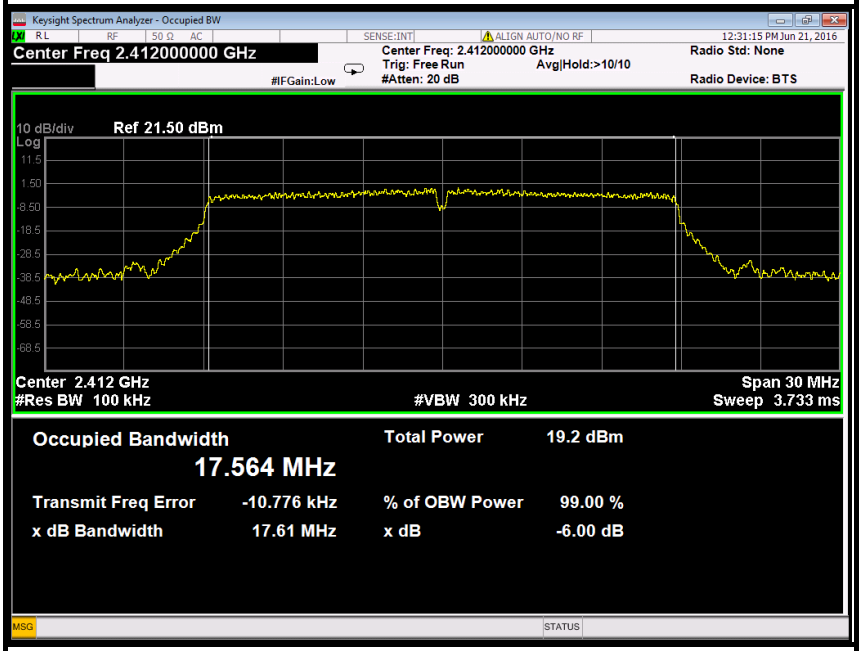


6dB Bandwidth (CH High)

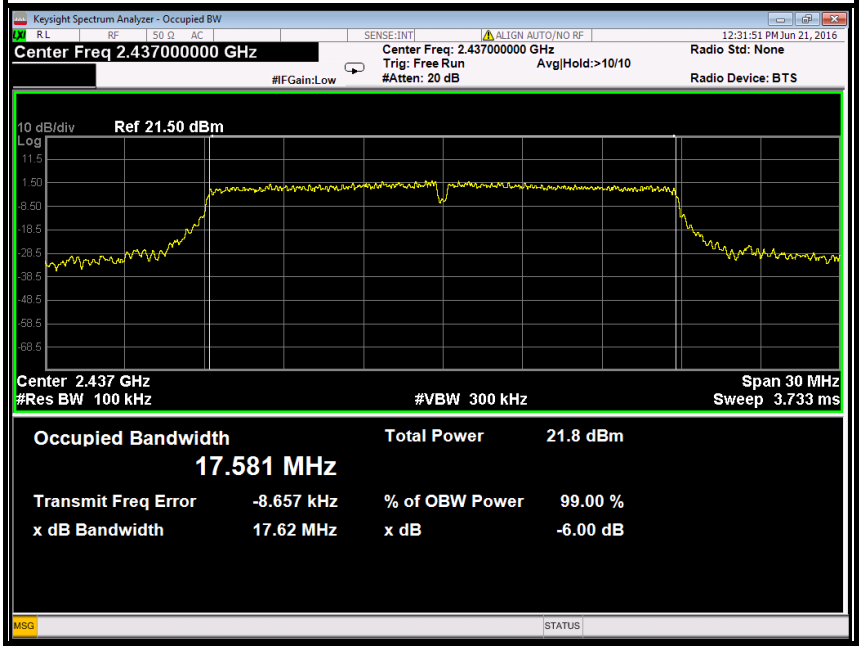


IEEE 802.11n HT20 MHz mode (Antenna 0)

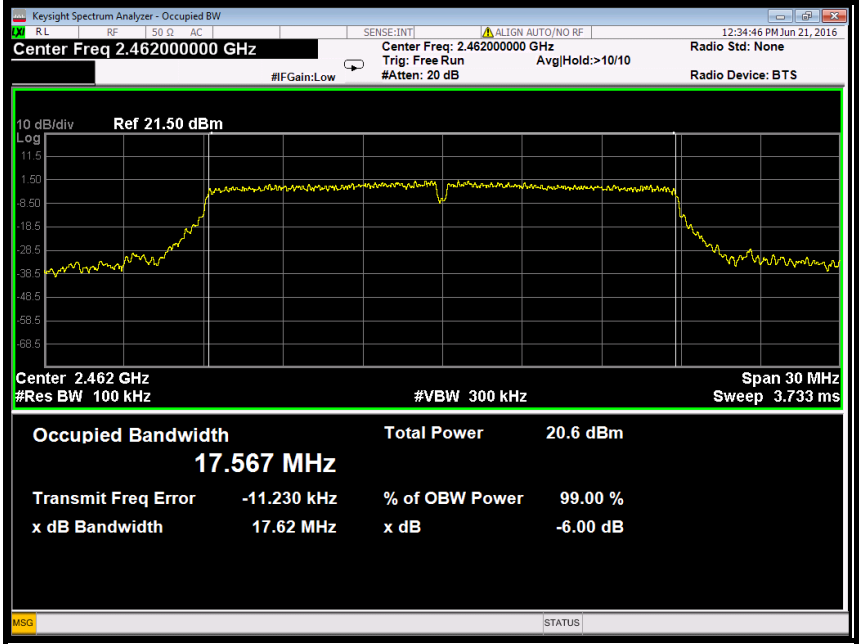
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

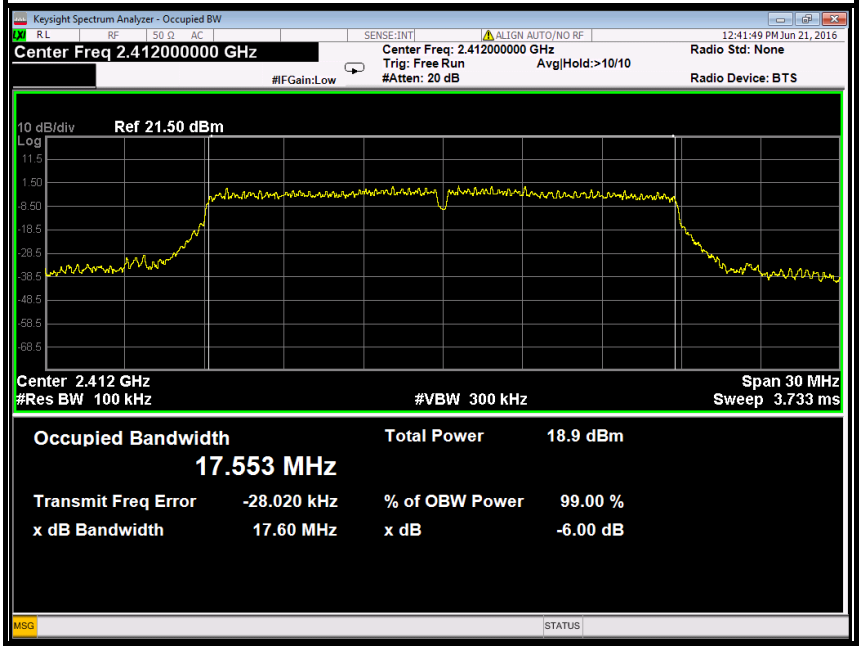


6dB Bandwidth (CH High)

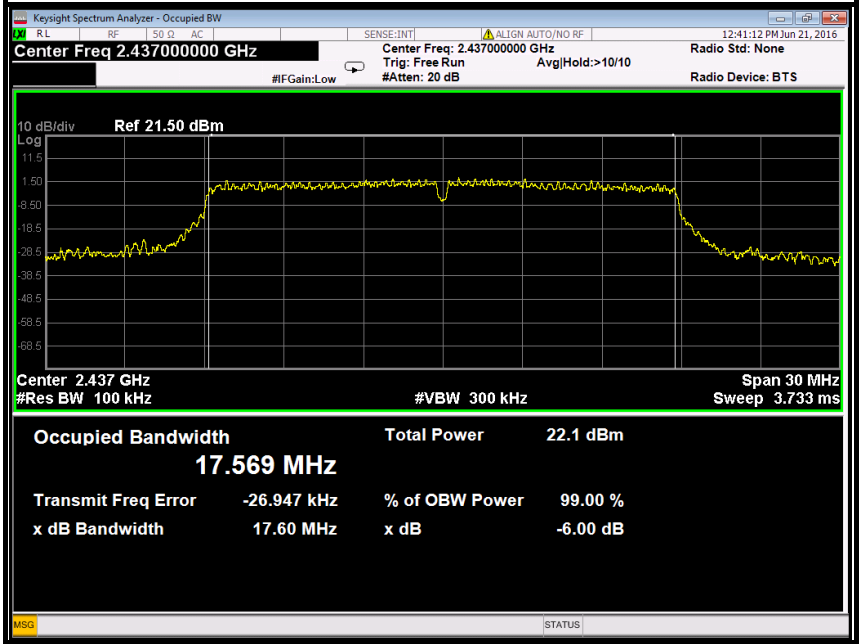


IEEE 802.11n HT20 MHz mode (Antenna 1)

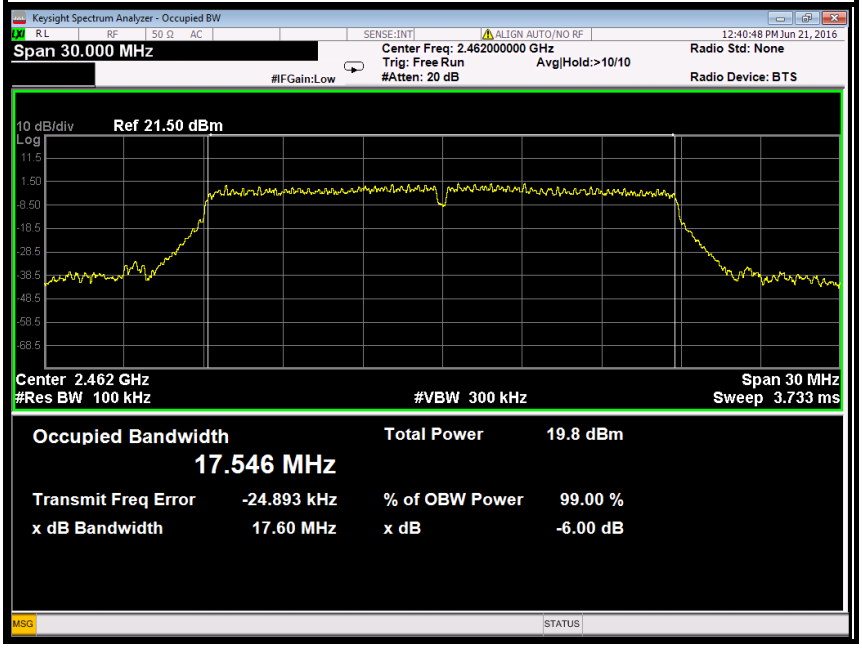
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

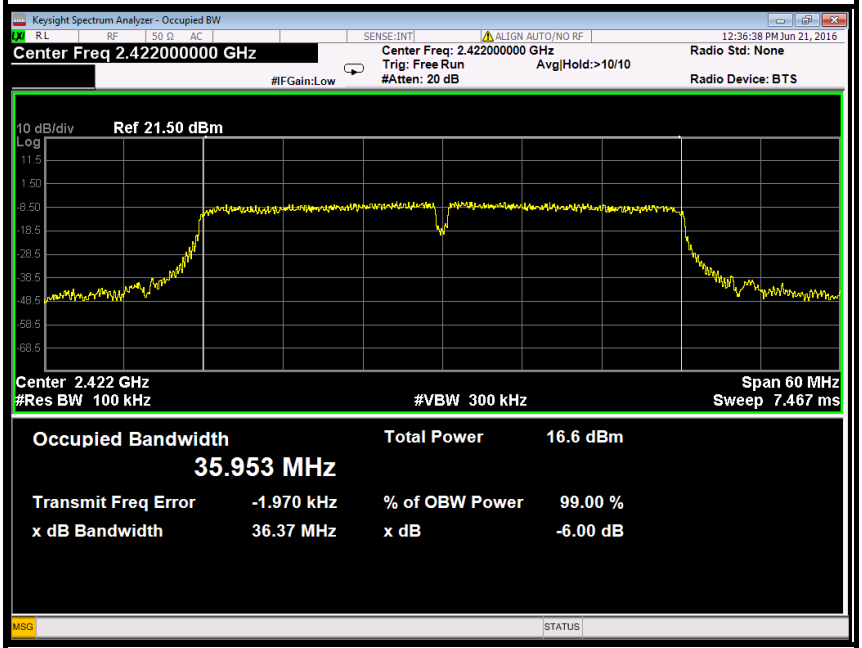


6dB Bandwidth (CH High)

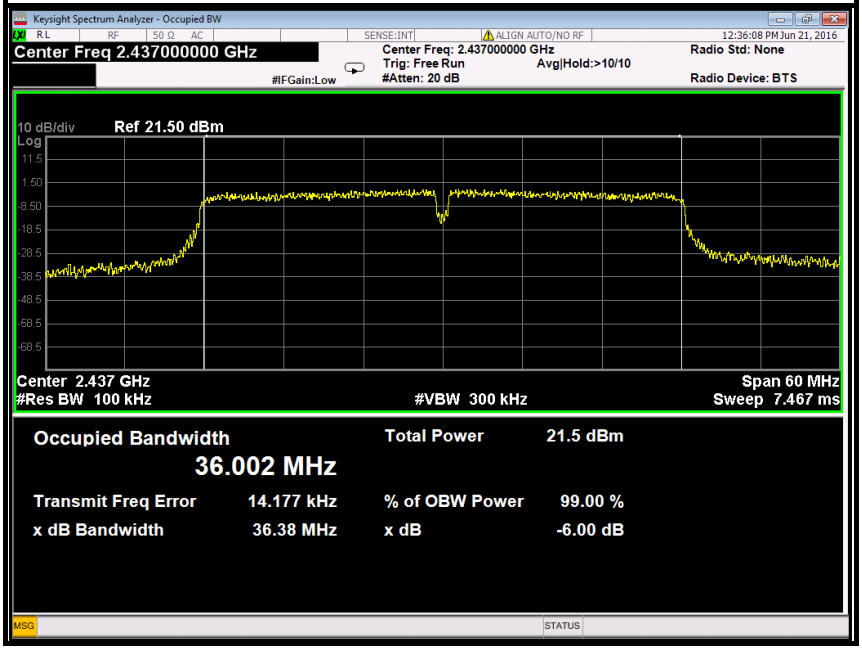


IEEE 802.11n HT40 MHz mode (Antenna 0)

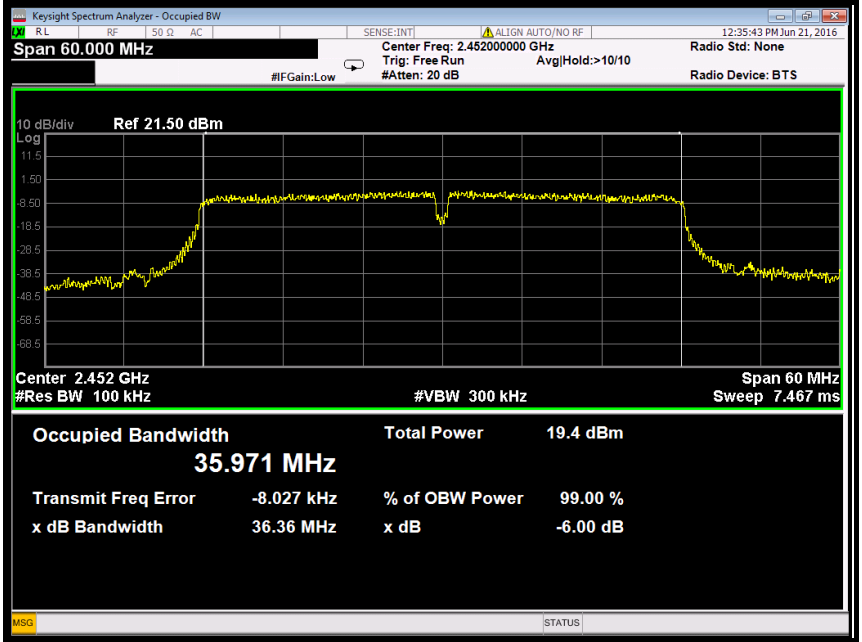
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

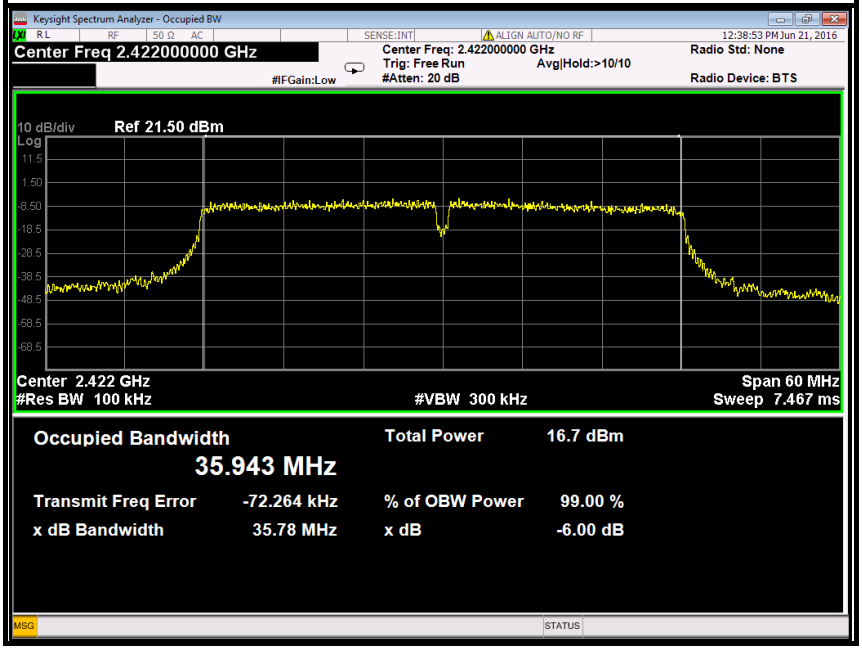


6dB Bandwidth (CH High)

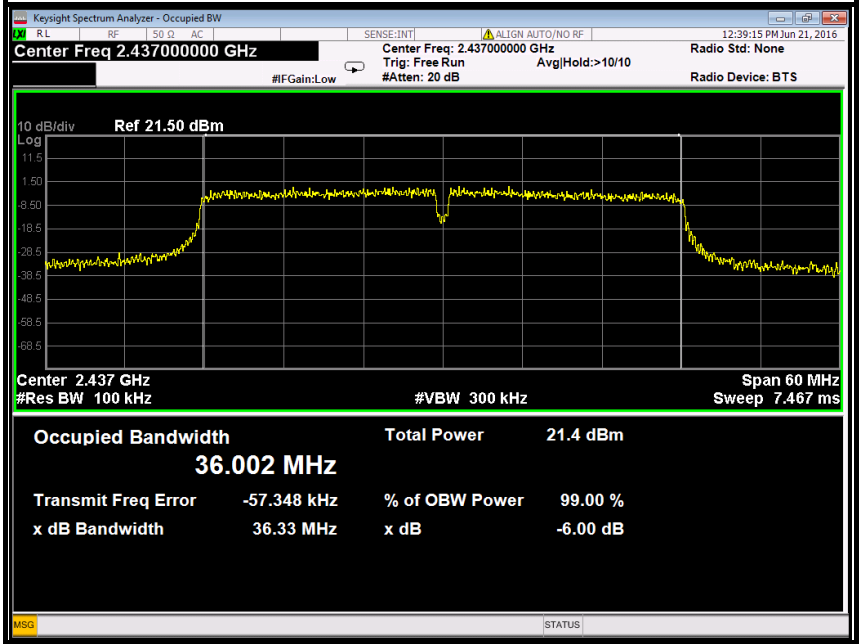


IEEE 802.11n HT40 MHz mode (Antenna 1)

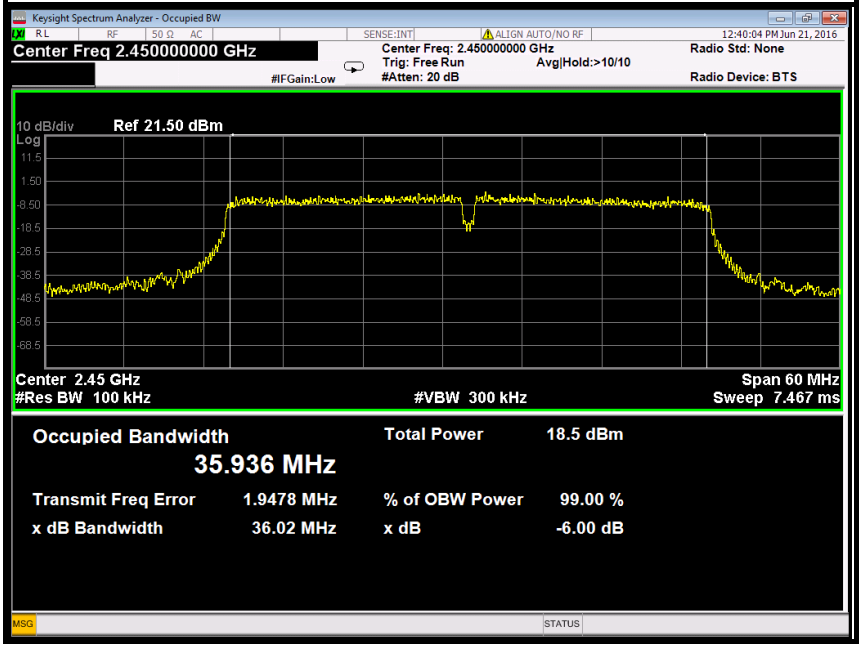
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)



6dB Bandwidth (CH High)



7.4. ANTENNA GAIN

MEASUREMENT

The antenna gain of the complete system is calculated by the difference of radiated power in EIRP and the conducted power of the module. For normal WLAN devices, the DSSS mode is used.

MEASUREMENT PARAMETERS

Measurement parameter	
Detector	Peak
Sweep time	Auto
Resolution bandwidth	3 MHz
Video bandwidth	3 MHz
Trace-Mode	Max hold

LIMITS

FCC	IC
Antenna Gain	
6 dBi	

TEST RESULTS

IEEE 802.11b mode (Antenna 0)

T_{nom}	V_{nom}	Lowest channel 2412MHz	Middle channel 2437MHz	Highest channel 2462MHz
Conducted power [dBm/MHz] Measured with DSSS modulation		9.60	10.07	10.75
Radiated power [dBm/MHz] Measured with DSSS modulation		9.67	11.18	12.53
Gain [dBi] Calculated		0.07	1.11	1.78
Measurement uncertainty		± 1.5 dB (cond.) / ± 3 dB (rad.)		

IEEE 802.11b mode (Antenna 1)

T_{nom}	V_{nom}	Lowest channel 2412MHz	Middle channel 2437MHz	Highest channel 2462MHz
Conducted power [dBm/MHz] Measured with DSSS modulation		10.65	10.32	10.02
Radiated power [dBm/MHz] Measured with DSSS modulation		8.70	10.45	11.13
Gain [dBi] Calculated		-1.95	0.13	1.11
Measurement uncertainty		± 1.5 dB (cond.) / ± 3 dB (rad.)		