FCC 47 CFR PART 15 SUBPART C

for

802.11ac DOCSIS 3.0 Gateway

Model: SR808ac

Brand: SmartRG

Test Report Number:
C170707Z01-RP1-1
Issued Date: August 30, 2017

Issued for

SmartRG Inc.

501 SE Columbia Shores Boulevard, Suite 500 Vancouver, Washington 98661

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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Certificate Number: 2861.01

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	August 30, 2017	Initial Issue	ALL	Sabrina Wang

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1 TEST CERTIFICATION

Product	802.11ac DOCSIS 3.0 Gateway
Model	SR808ac
Brand	SmartRG
Tested	July 7~August 30, 2017
Applicant	**SmartRG Inc.** 501 SE Columbia Shores Boulevard, Suite 500 Vancouver, Washington 98661
Manufacturer	**SmartRG Inc.** 501 SE Columbia Shores Boulevard, Suite 500 Vancouver, Washington 98661

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

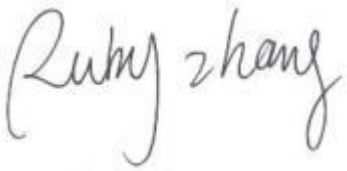
We hereby certify that:

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.

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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.

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3 EUT DESCRIPTION

Product	802.11ac DOCSIS 3.0 Gateway
Model Number	SR808ac
Brand	SmartRG
Model Discrepancy	N/A
Identify Number	C170707Z01-RC1-1
Received Date	July 7, 2017
Power Supply	DC12V supplied by the adapter
Adapter Manufacturer /Model No.	SOY-1200300US I/P: AC100-240V, 50/60Hz, 1.2A O/P: DC12V, 3.0A DC Output Cable: Unshielded, 1.50m
Transmit Power	IEEE 802.11b mode: 23.94dBm (Antenna 0) IEEE 802.11b mode: 21.14dBm (Antenna 1) IEEE 802.11b mode: 23.75dBm (Antenna 2) IEEE 802.11g mode: 25.74dBm (Antenna 0) IEEE 802.11g mode: 23.77dBm (Antenna 1) IEEE 802.11g mode: 25.97dBm (Antenna 2) IEEE 802.11n HT20 MHz mode: 25.70dBm(Combine with Antenna 0 and Antenna 1 and Antenna 2) IEEE 802.11n HT40 MHz mode: 26.00dBm(Combine with Antenna 0 and Antenna 1 and Antenna 2)
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	Embedded Antenna with 3dBi gain (Max)
Directional Gain	Directional Gain= G_{ant} + 10log (N_{ant}) dBi=7.77dBi
Channels Spacing	IEEE 802.11b/g ,802.11n HT20/HT40 : 5MHz
Temperature Range	0°C ~ +40°C
Hardware Version	V1.0
Software Version	1.0.0.4

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: **VW7SR808A** filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.*

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4 TEST METHODOLOGY

4.1. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

Use wl-i wl1 MAC to control the EUT for staying in continuous transmitting and receiving mode.

Test Item	Test mode	Worse mode
Conducted Emission	**Mode 1:** 1000Mbps 20%(AC120V/60Hz)	☒
	Mode 2: 1000Mbps 20%(AC240V/50Hz)	☒
Radiated Emission	**Mode 1:** Continuously Transmitting	☒

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.

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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 1	E335	R9-WNIEF	DoC	Thinkpad	Unshielded 3.00m	Shielded 1.60m (AC Cable) Shielded 1.80m (DC Cable)
2	Notebook 2	MS2392	V3-371 series	DoC	Acer	Unshielded 3.00m	Shielded 0.90m (AC Cable) Shielded 1.40m (DC Cable)
3	HDD	WDBACY3201ABK-PESN	WX61ABOU8031	DoC	WD	Unshielded 0.50m	N/A

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.

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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.

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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	02/21/2017	02/20/2018
LISN(EUT)	ROHDE&SCHWARZ	ENV216	101543-WX	02/21/2017	02/20/2018
LISN	EMCO	3825/2	8901-1459	02/21/2017	02/20/2018
Temp. / Humidity Meter	VICTOR	HTC-1	N/A	02/21/2017	02/20/2018
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.

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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.

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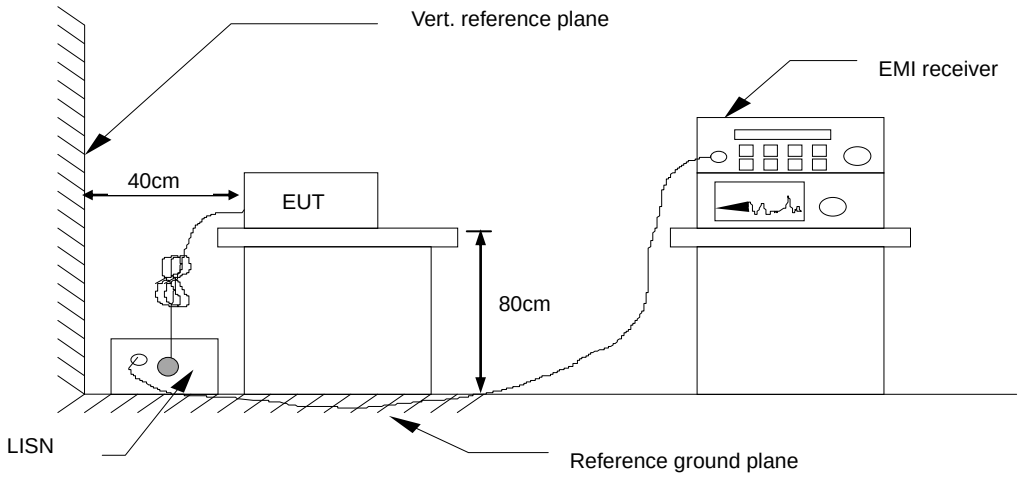
7.1.4. TEST SETUP



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)
XXX.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)

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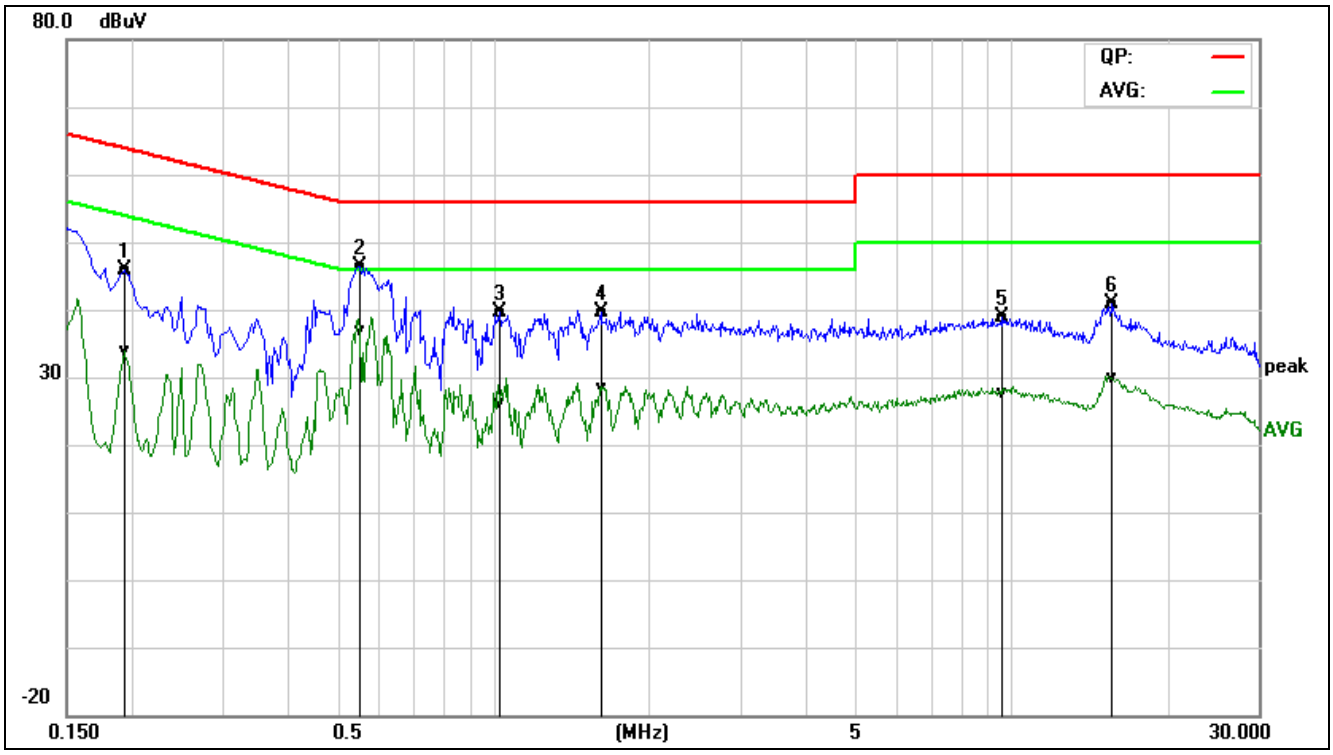
7.1.6. TEST RESULTS

Model No.	SR808ac	**RBW,VBW**	9 kHz
Environmental Conditions	22°C, 45% RH	**Test Mode**	Mode 1
Tested by	Sam Zeng	**Line**	L1
Test Date	July 19, 2017	**Test Voltage**	AC120V/60Hz



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)	**Line (L1/L2)**
0.1940	26.19	14.15	19.64	45.83	33.79	63.86	53.86	-18.03	-20.07	Pass	L1
0.5540	26.85	17.21	19.55	46.40	36.76	56.00	46.00	-9.60	-9.24	Pass	L1
1.0300	20.14	6.53	19.55	39.69	26.08	56.00	46.00	-16.31	-19.92	Pass	L1
1.6180	20.01	8.85	19.65	39.66	28.50	56.00	46.00	-16.34	-17.50	Pass	L1
9.6140	18.86	7.50	20.11	38.97	27.61	60.00	50.00	-21.03	-22.39	Pass	L1
15.7020	20.70	9.74	20.06	40.76	29.80	60.00	50.00	-19.24	-20.20	Pass	L1

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

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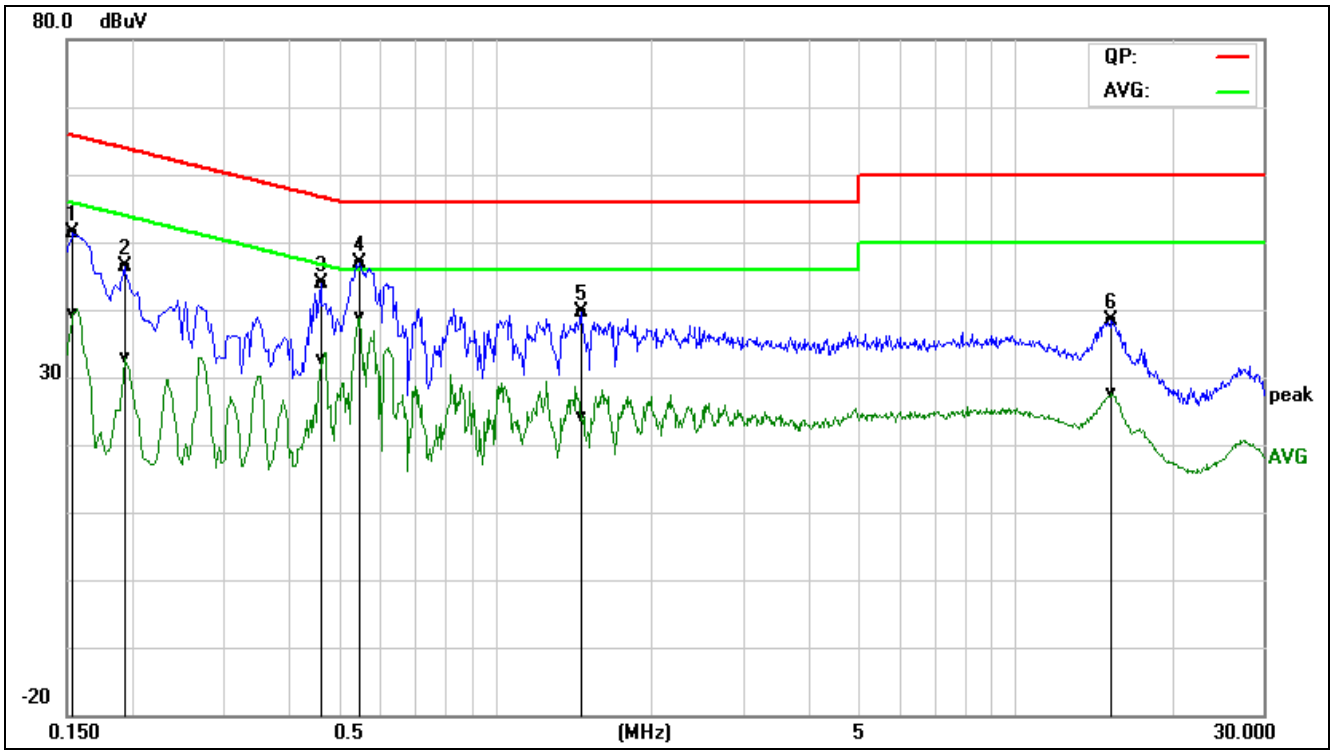
Model No.	SR808ac	**RBW,VBW**	9 kHz
Environmental Conditions	22°C, 45% RH	**Test Mode**	Mode 1
Tested by	Sam Zeng	**Line**	L2
Test Date	July 19, 2017	**Test Voltage**	AC120V/60Hz



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)	**Line (L1/L2)**
0.1539	31.79	19.97	19.52	51.31	39.49	65.78	55.79	-14.47	-16.30	Pass	L2
0.1940	26.75	13.27	19.54	46.29	32.81	63.86	53.86	-17.57	-21.05	Pass	L2
0.4620	24.46	13.16	19.53	43.99	32.69	56.66	46.66	-12.67	-13.97	Pass	L2
0.5500	27.29	19.32	19.55	46.84	38.87	56.00	46.00	-9.16	-7.13	Pass	L2
1.4660	19.91	4.39	19.63	39.54	24.02	56.00	46.00	-16.46	-21.98	Pass	L2
15.3300	18.26	7.48	20.03	38.29	27.51	60.00	50.00	-21.71	-22.49	Pass	L2

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

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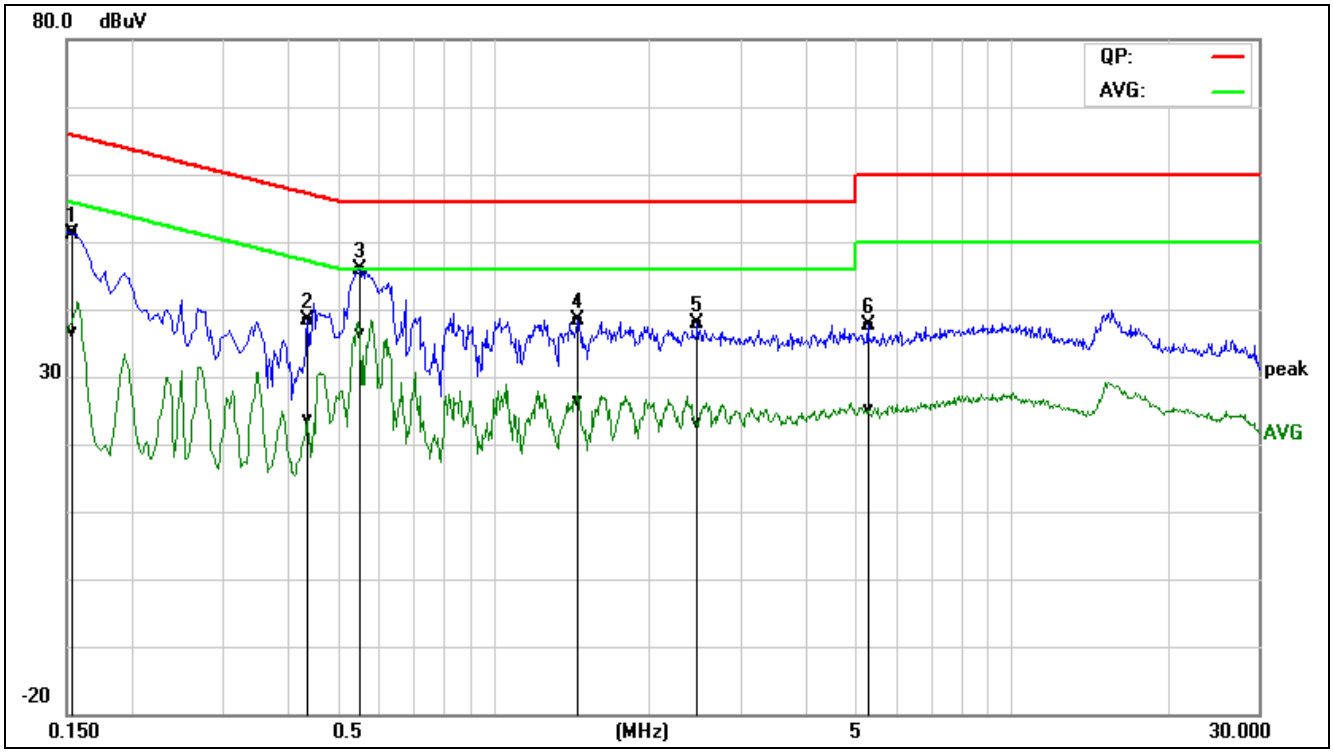
Model No.	SR808ac	**RBW,VBW**	9 kHz
Environmental Conditions	22°C, 45% RH	**Test Mode**	Mode 1
Tested by	Sam Zeng	**Line**	L1
Test Date	July 19, 2017	**Test Voltage**	AC240V/50Hz



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)	**Line (L1/L2)**
0.1556	31.97	17.06	19.62	51.59	36.68	65.69	55.70	-14.10	-19.02	Pass	L1
0.4380	18.85	4.01	19.55	38.40	23.56	57.10	47.10	-18.70	-23.54	Pass	L1
0.5540	26.35	16.71	19.55	45.90	36.26	56.00	46.00	-10.10	-9.74	Pass	L1
1.4620	18.72	6.70	19.63	38.35	26.33	56.00	46.00	-17.65	-19.67	Pass	L1
2.4860	18.08	3.39	19.72	37.80	23.11	56.00	46.00	-18.20	-22.89	Pass	L1
5.2860	17.88	5.30	19.74	37.62	25.04	60.00	50.00	-22.38	-24.96	Pass	L1

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

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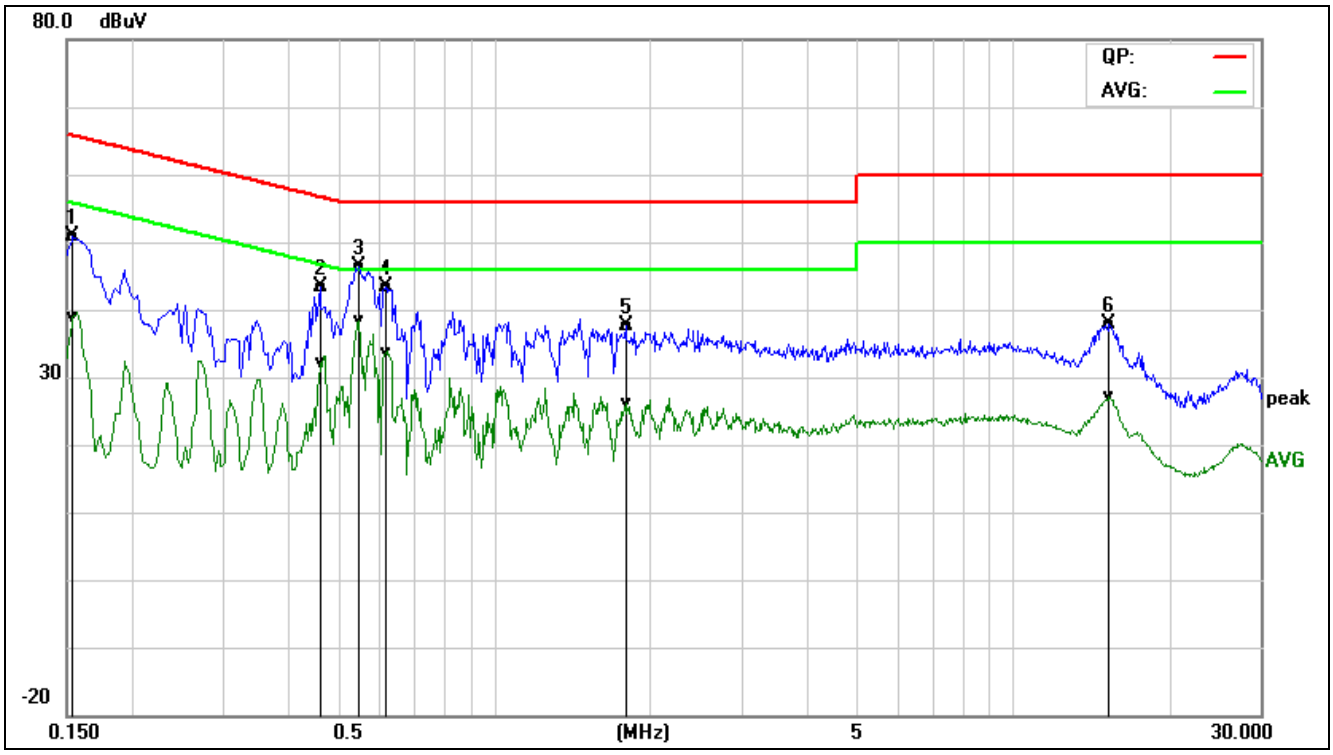
Model No.	SR808ac	**RBW,VBW**	9 kHz
Environmental Conditions	22°C, 45% RH	**Test Mode**	Mode 1
Tested by	Sam Zeng	**Line**	L2
Test Date	July 19, 2017	**Test Voltage**	AC240V/50Hz



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)	**Line (L1/L2)**
0.1539	31.29	19.47	19.52	50.81	38.99	65.78	55.79	-14.97	-16.80	Pass	L2
0.4620	23.96	12.66	19.53	43.49	32.19	56.66	46.66	-13.17	-14.47	Pass	L2
0.5500	26.79	18.82	19.55	46.34	38.37	56.00	46.00	-9.66	-7.63	Pass	L2
0.6180	23.86	14.05	19.58	43.44	33.63	56.00	46.00	-12.56	-12.37	Pass	L2
1.7940	17.96	6.40	19.69	37.65	26.09	56.00	46.00	-18.35	-19.91	Pass	L2
15.3300	17.76	6.98	20.03	37.79	27.01	60.00	50.00	-22.21	-22.99	Pass	L2

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

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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 peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to 15.247(b)(3)requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.
If the average output power procedure is used to measure the fundamental emission power to 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 measured in-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	02/21/2017	02/20/2018

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 9 kHz 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.

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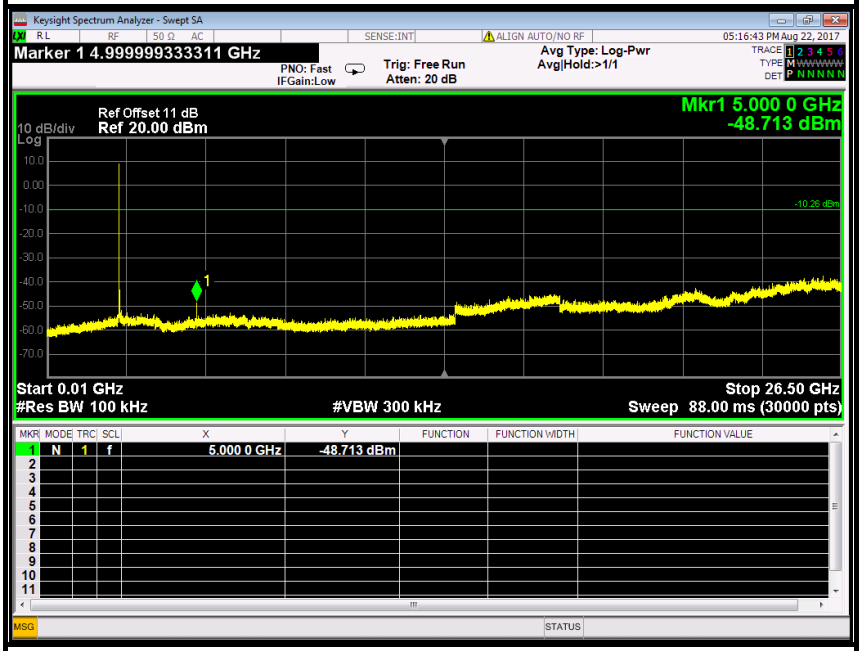
7.2.1.4. TEST RESULTS

Test Plot

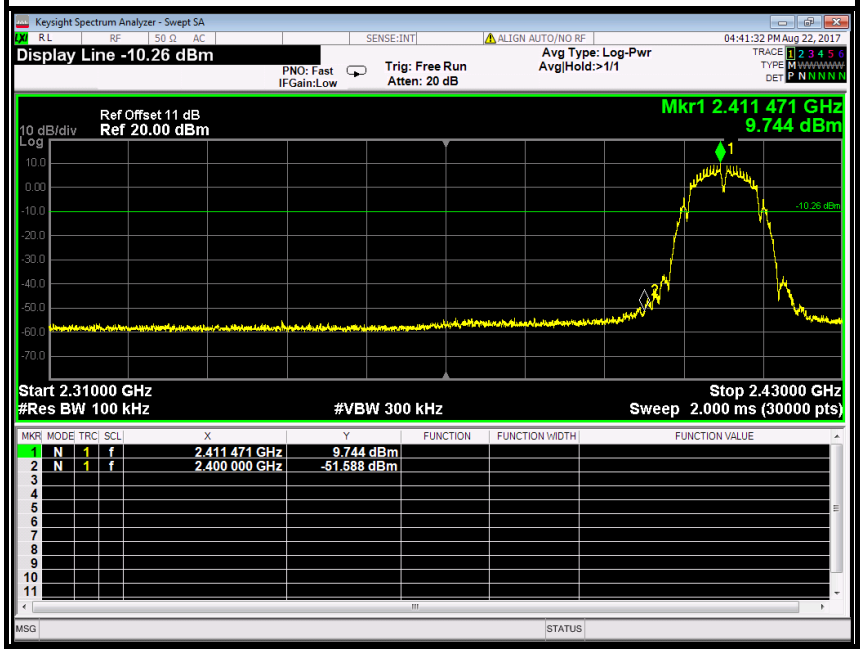
Antenna 0

IEEE 802.11b mode

CH Low (10MHz ~26.5GHz)



CH Low (2.31GHz ~2.43GHz)



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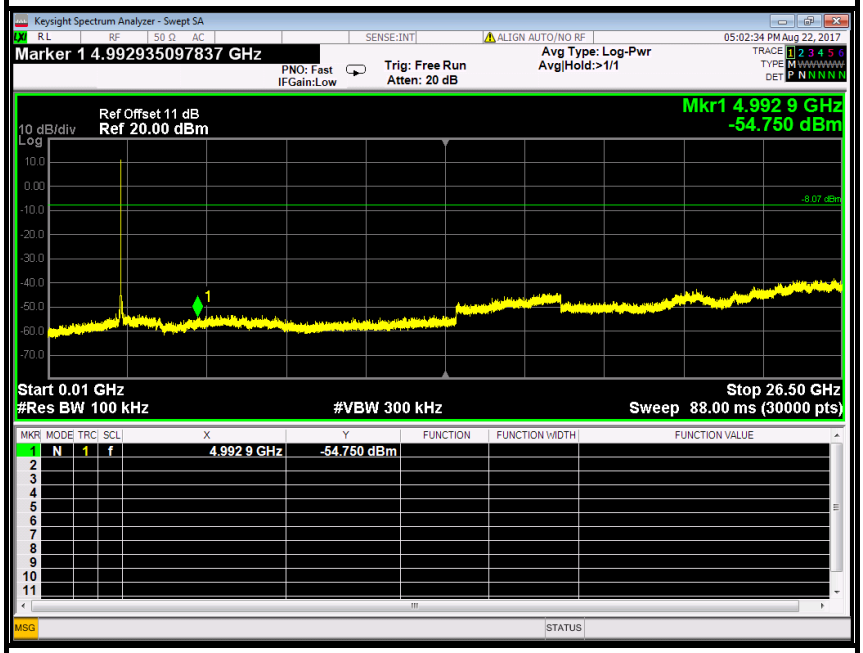
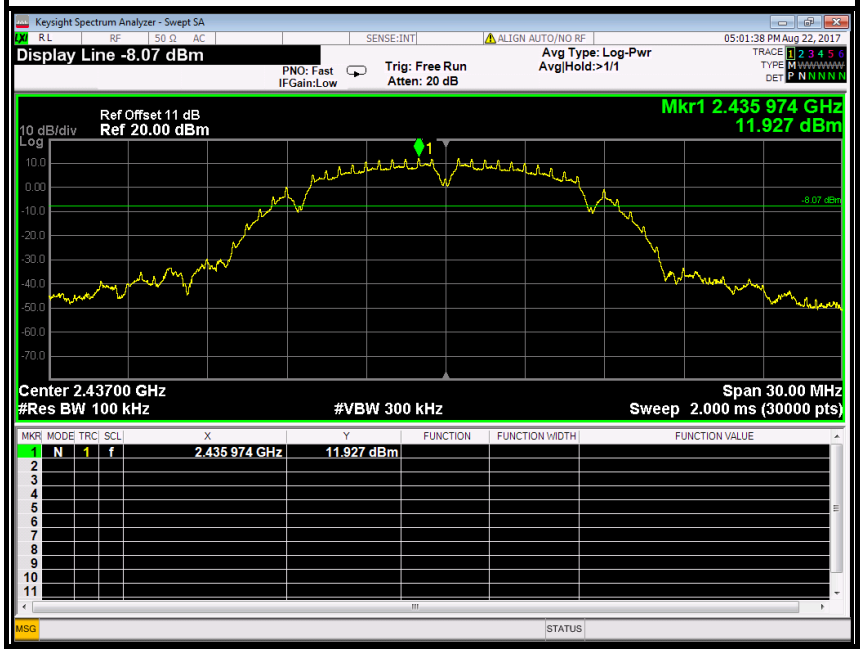
CH Mid (10MHz ~26.5GHz)



CH Mid



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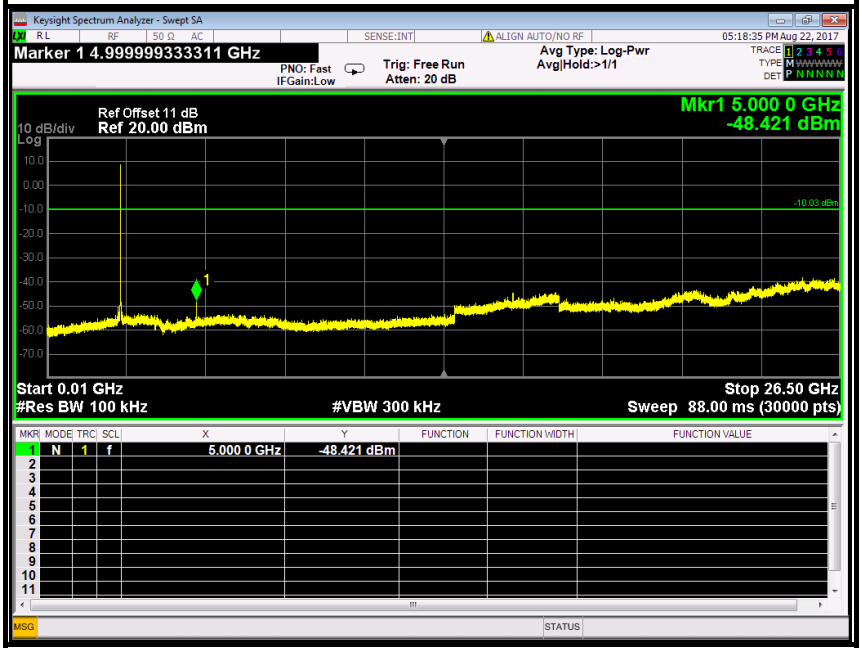
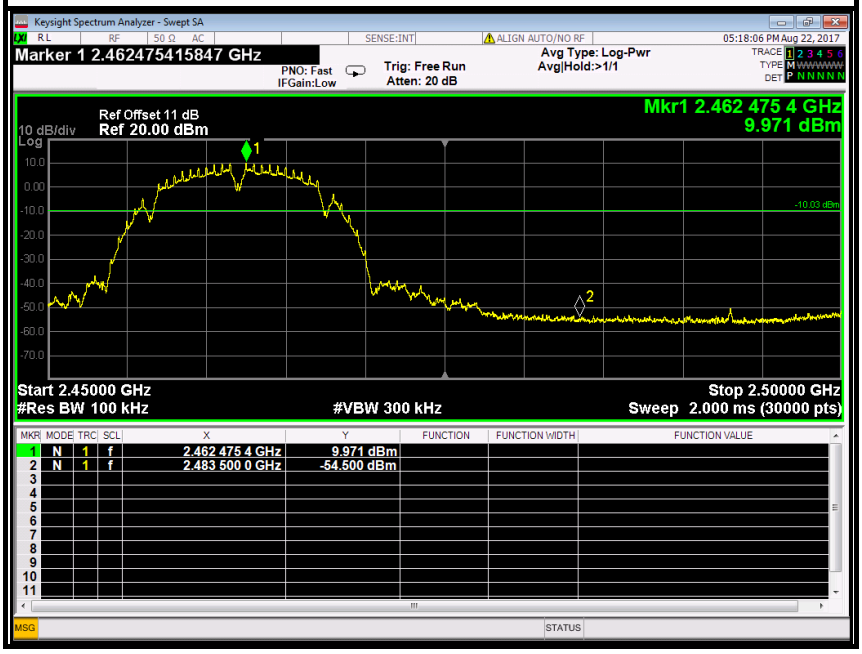
CH High (10MHz ~26.5GHz)



CH High (2.45GHz ~2.5GHz)



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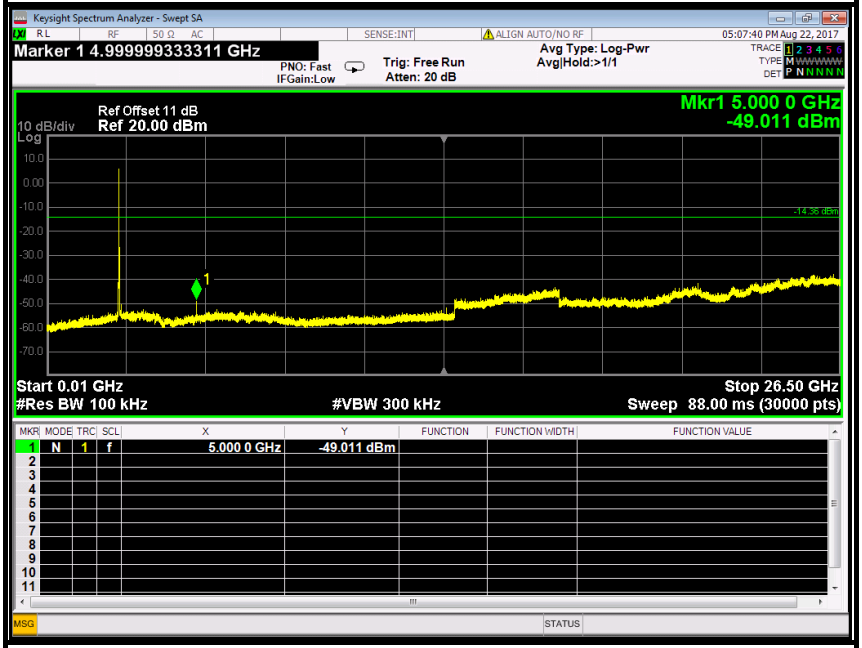
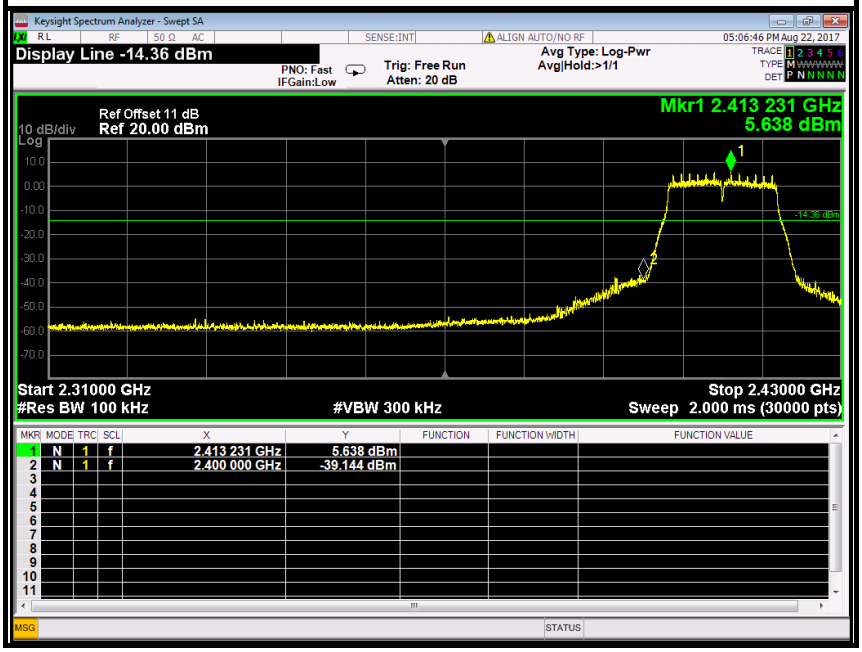
IEEE 802.11g mode

CH Low (10MHz ~26.5GHz)



CH Low (2.31GHz ~2.43GHz)



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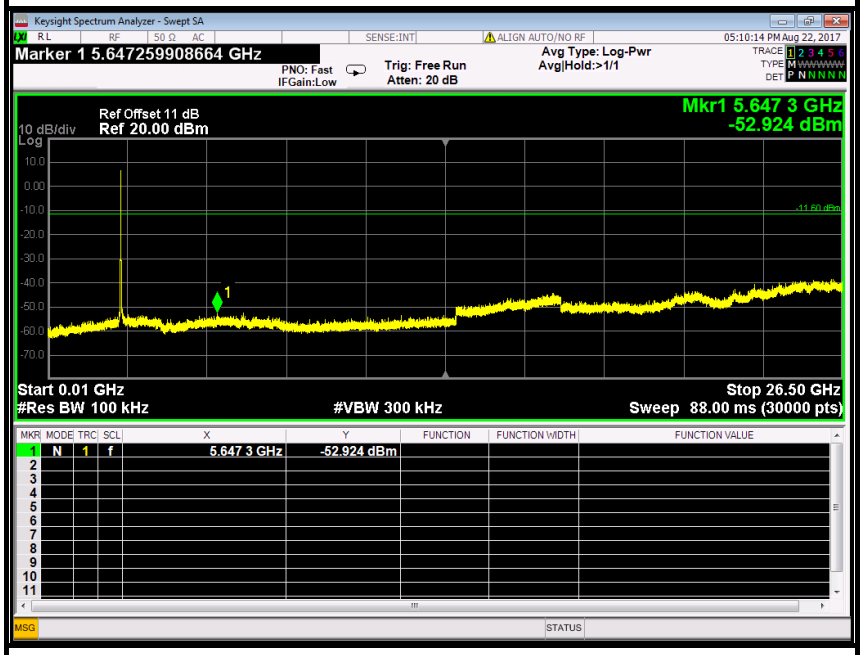
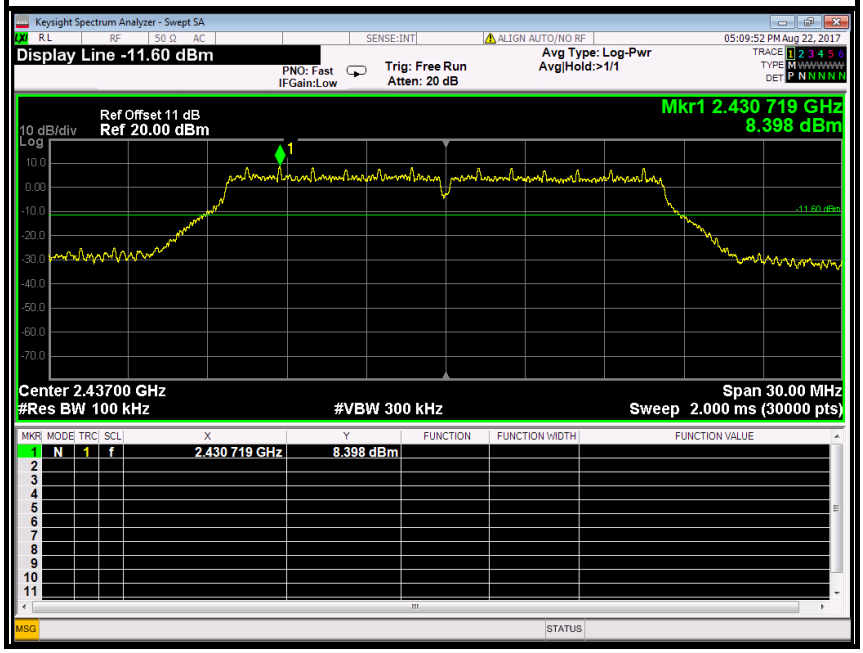
CH Mid (10MHz ~26.5GHz)



CH Mid



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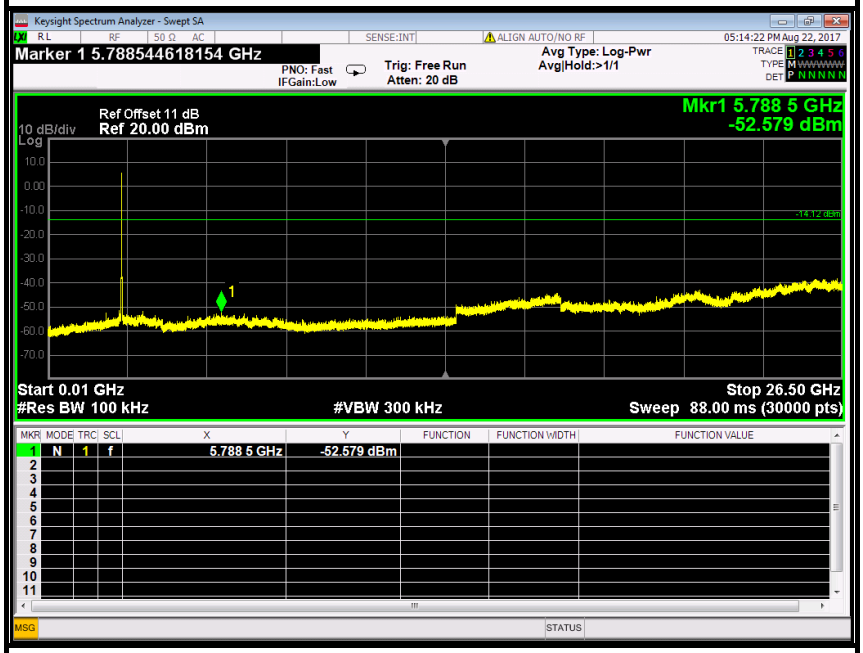
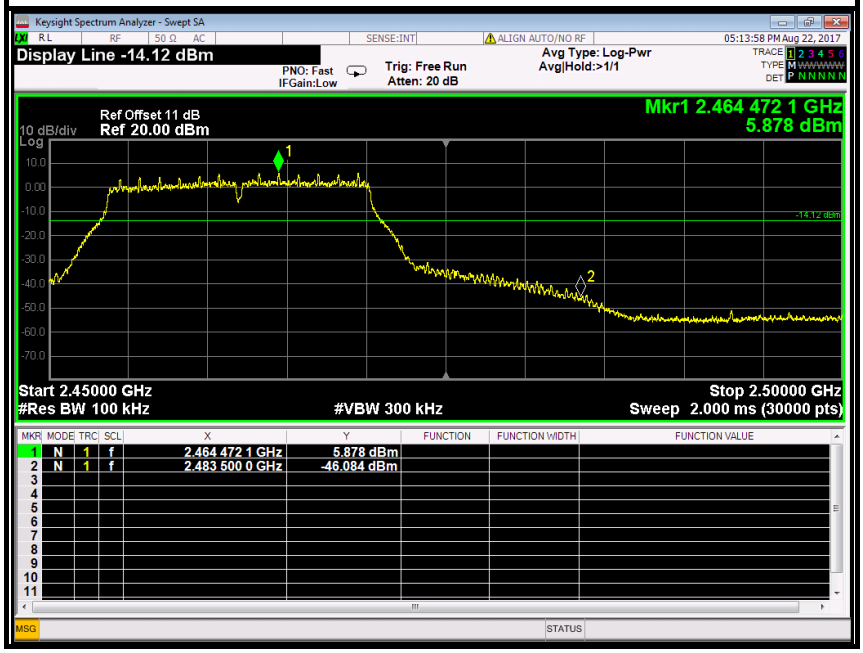
CH High (10MHz ~26.5GHz)



CH High (2.45GHz ~2.5GHz)



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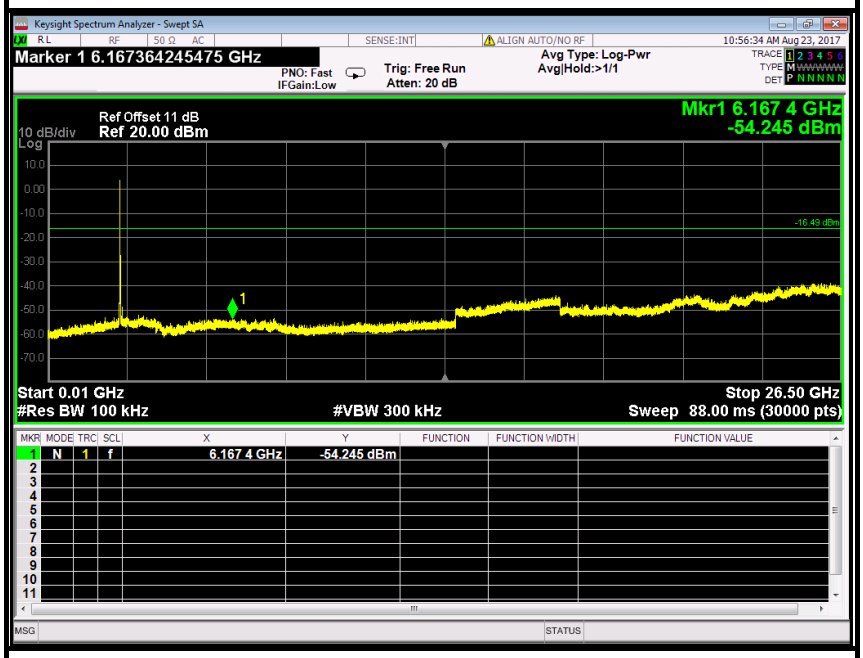
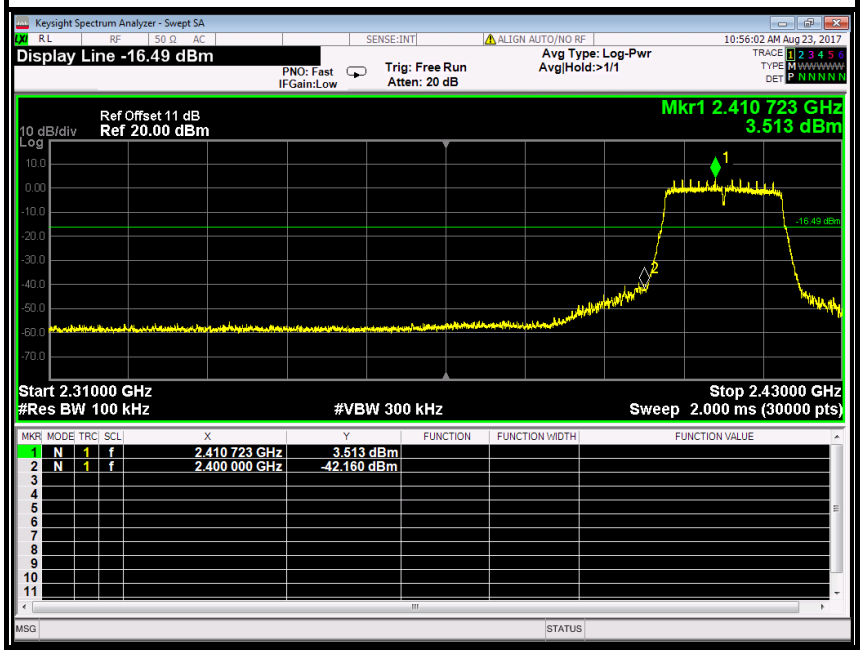
IEEE 802.11n HT20 MHz mode

CH Low (10MHz ~26.5GHz)



CH Low (2.31GHz ~2.43GHz)



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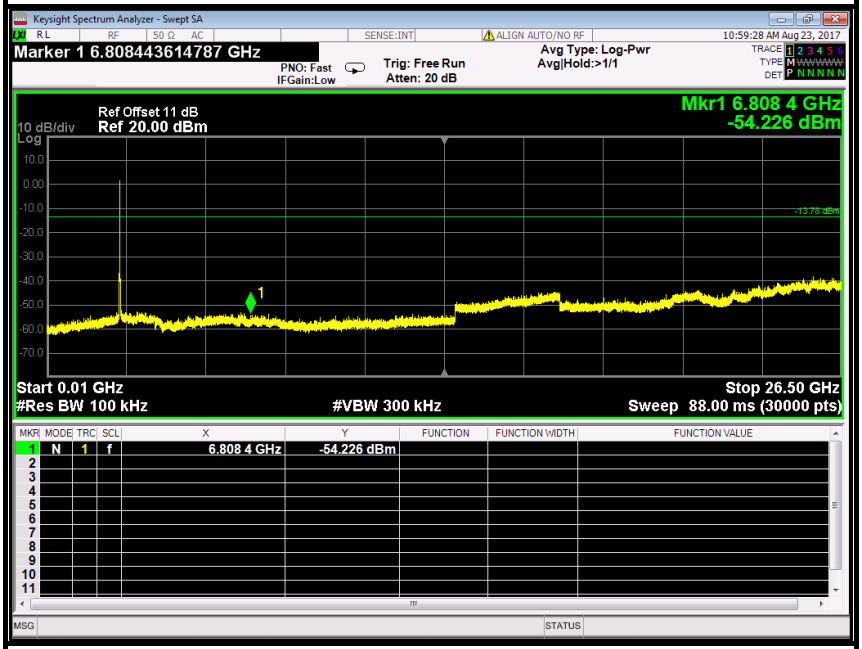
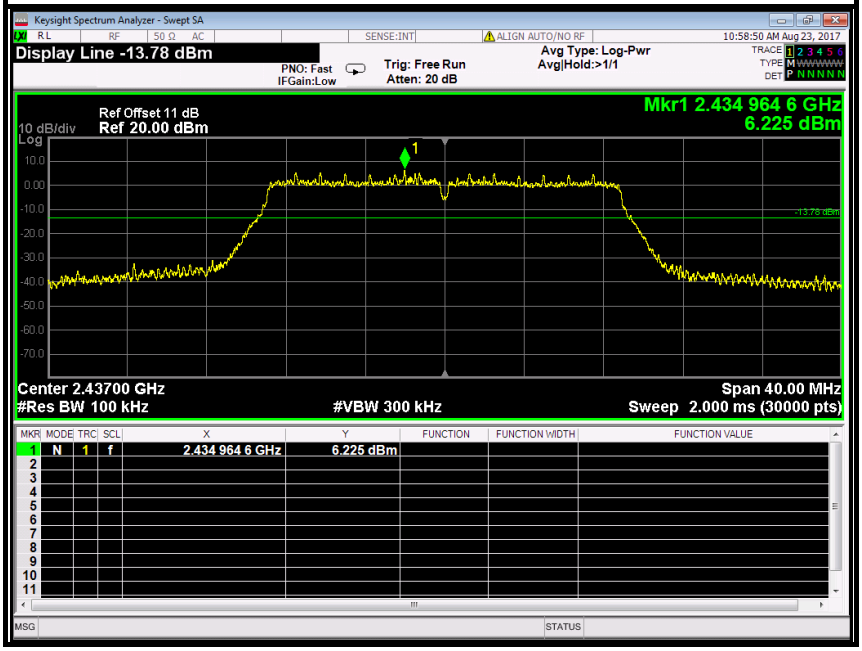
CH Mid (10MHz ~26.5GHz)



CH Mid



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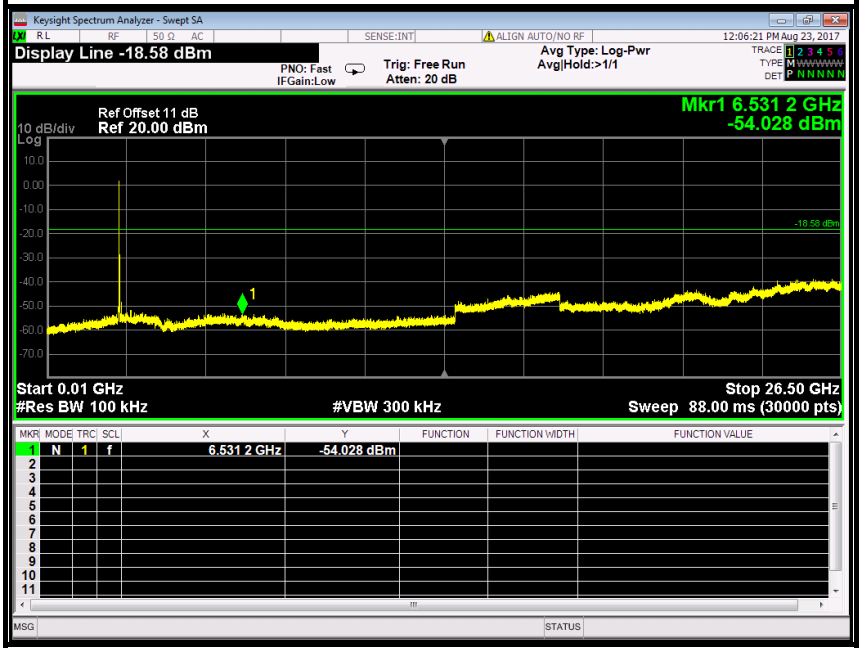
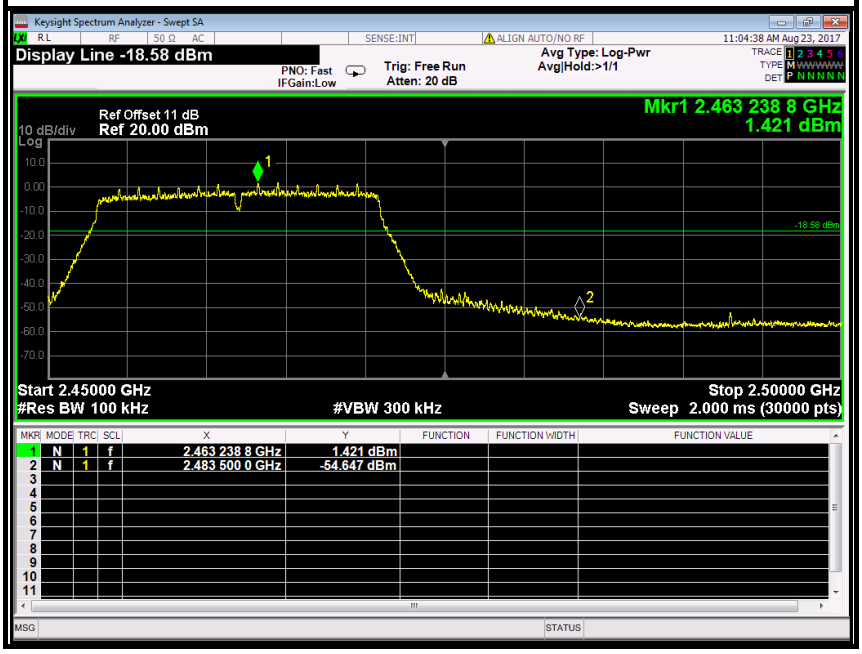
CH High (10MHz ~26.5GHz)



CH High (2.45GHz ~2.5GHz)



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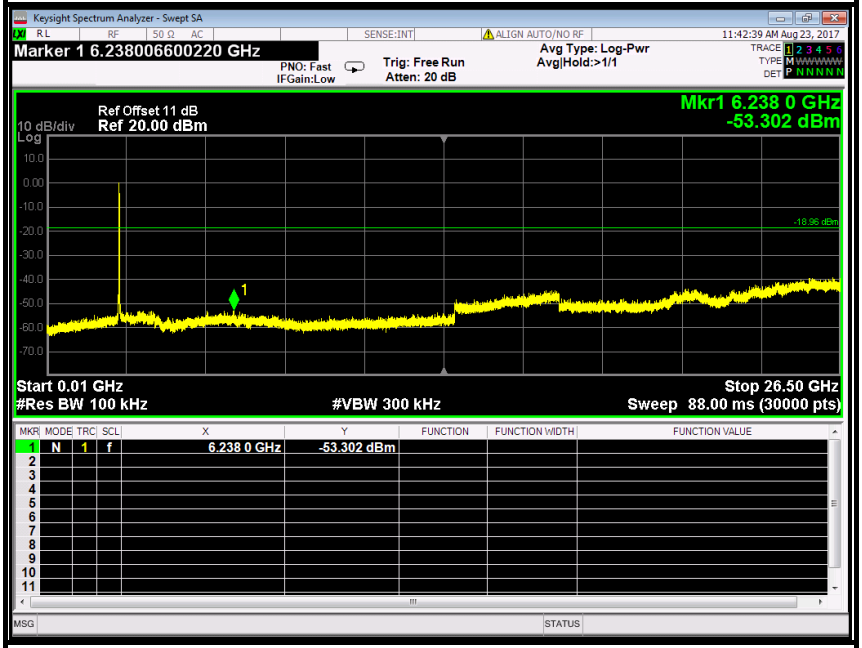
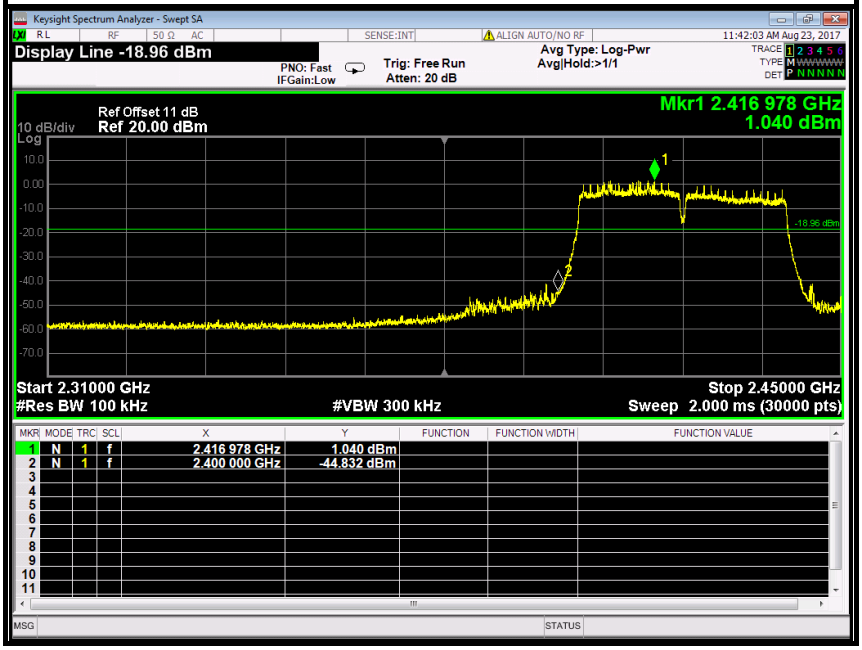
IEEE 802.11n HT40 MHz mode

CH Low (10MHz ~26.5GHz)



CH Low (2.31GHz ~2.45GHz)



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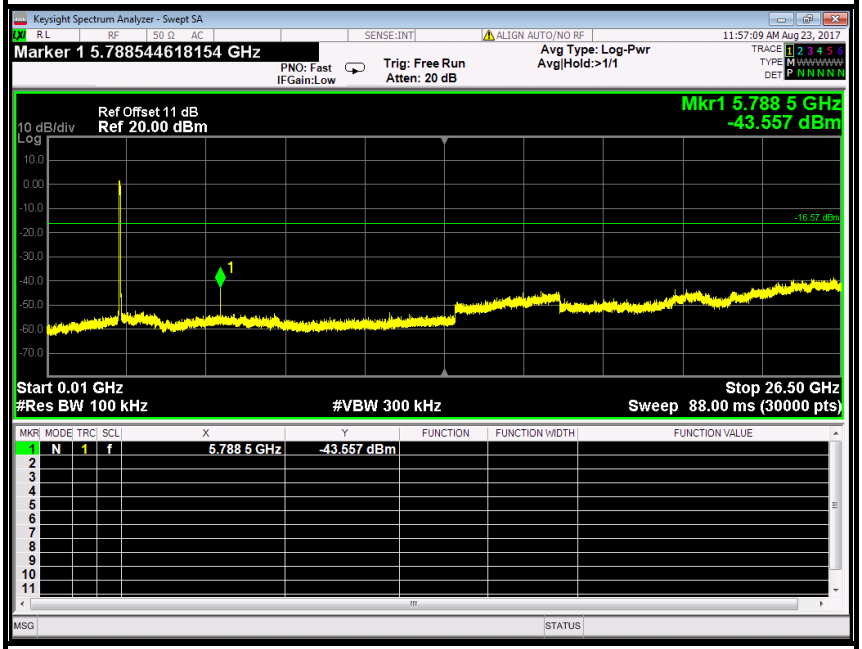
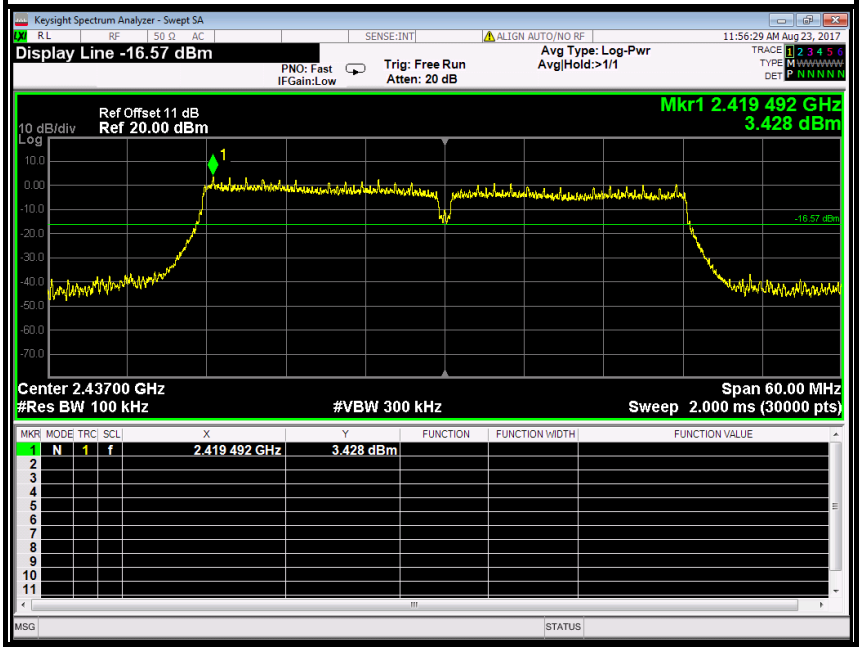
CH Mid (10MHz ~26.5GHz)



CH Mid



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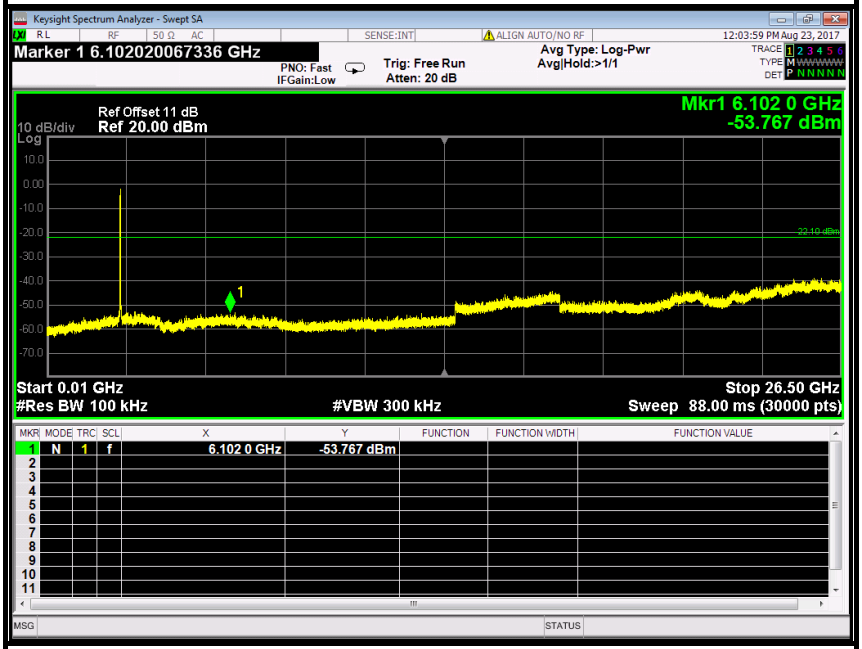
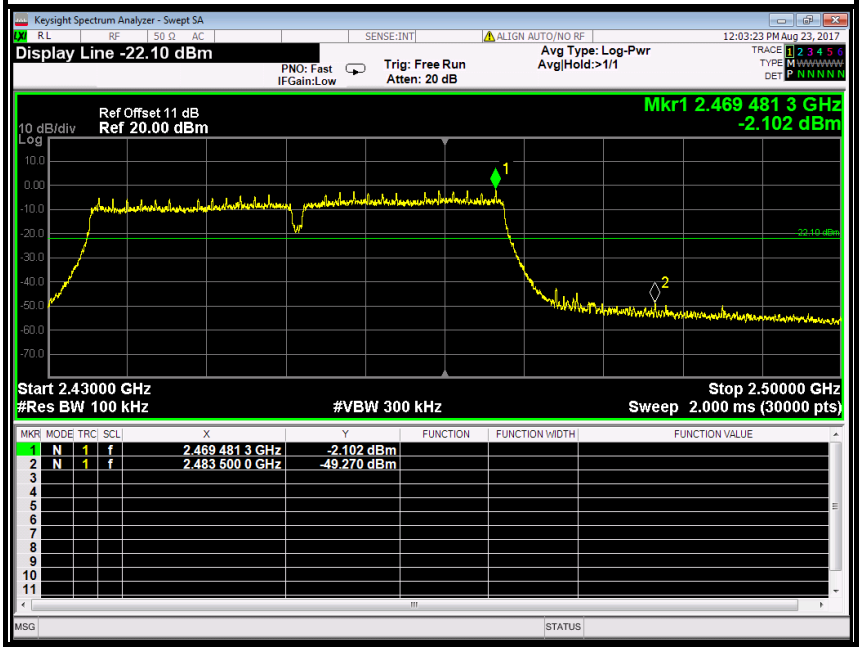
CH High (10MHz ~26.5GHz)



CH High (2.43GHz ~2.5GHz)



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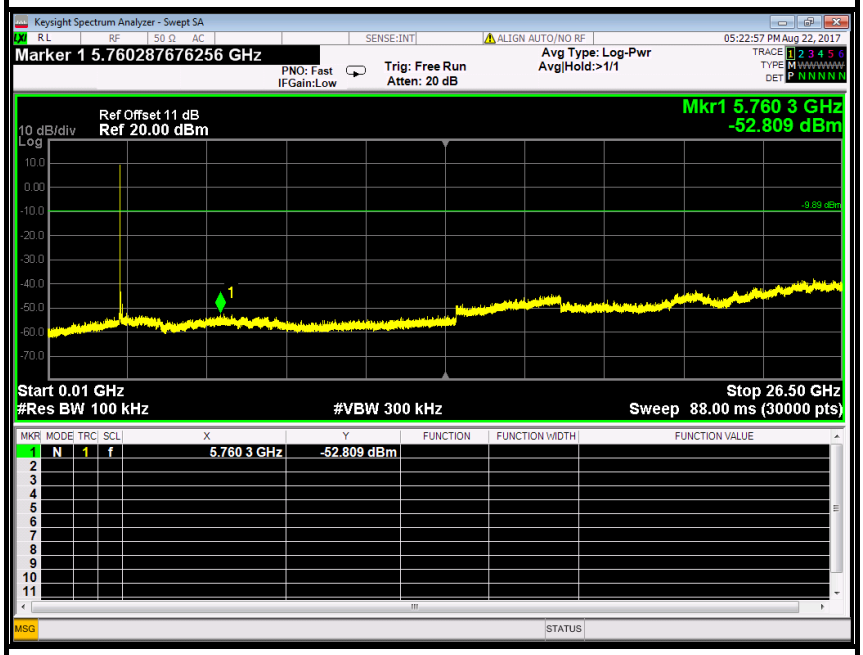
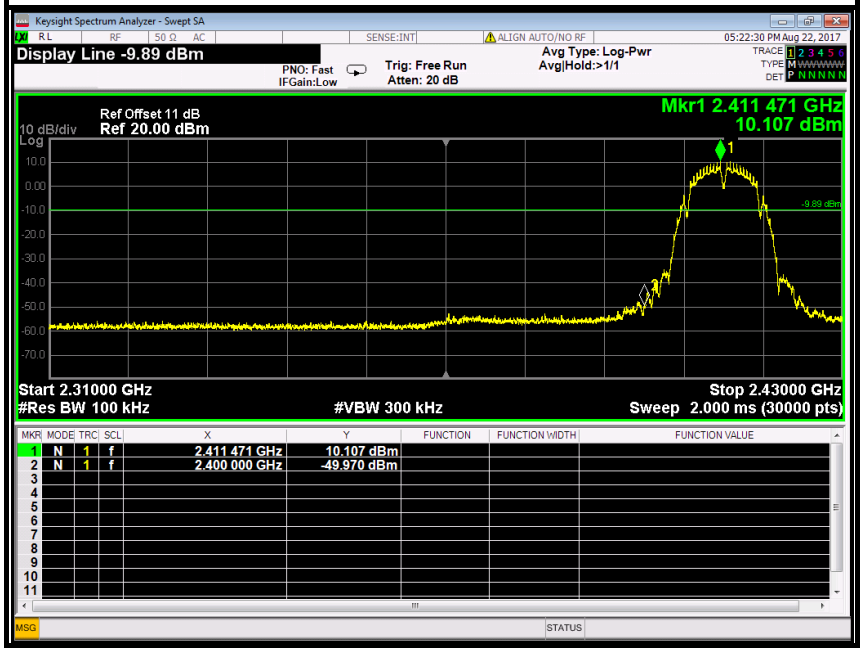
Antenna 1

IEEE 802.11b mode

CH Low (10MHz ~26.5GHz)



CH Low (2.31GHz ~2.43GHz)



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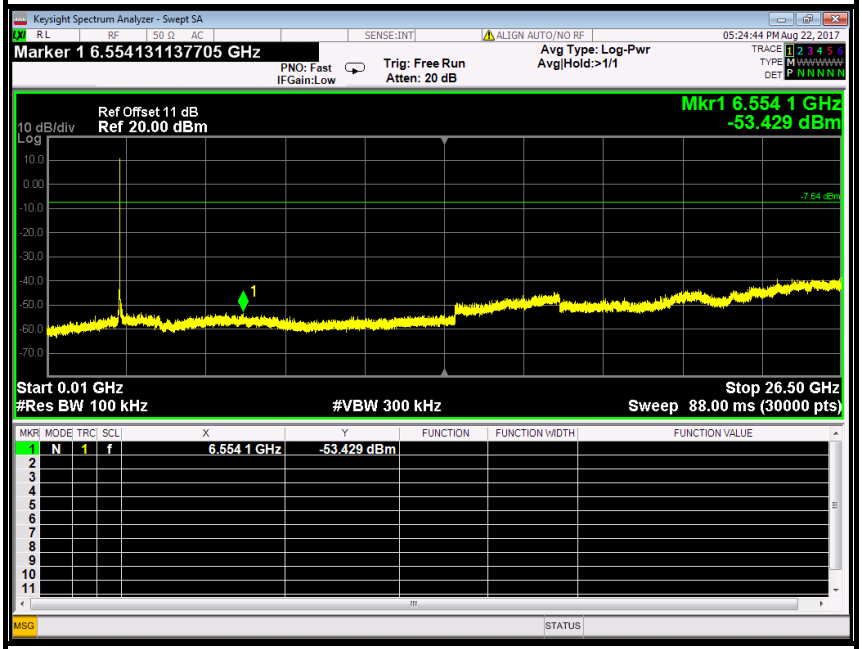
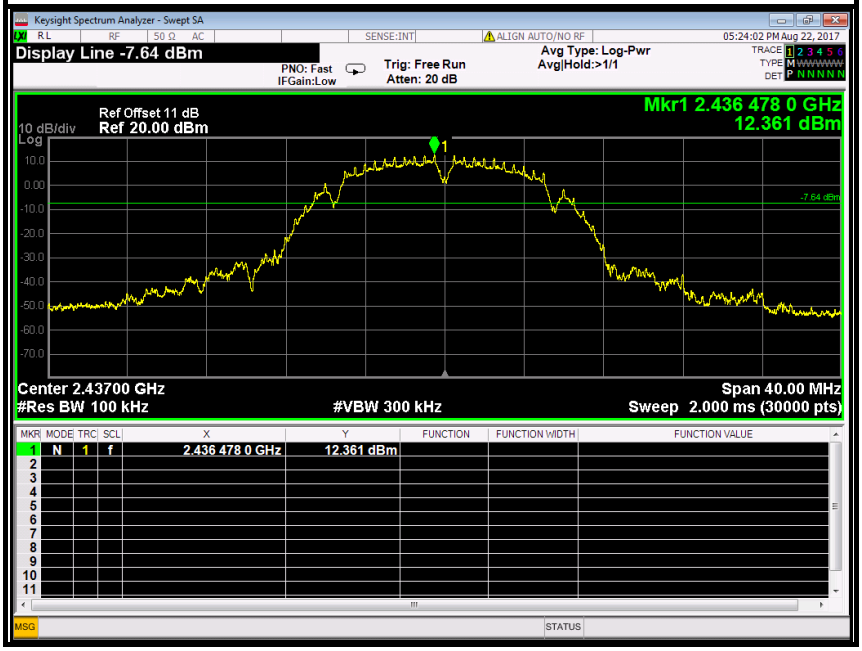
CH Mid (10MHz ~26.5GHz)



CH Mid



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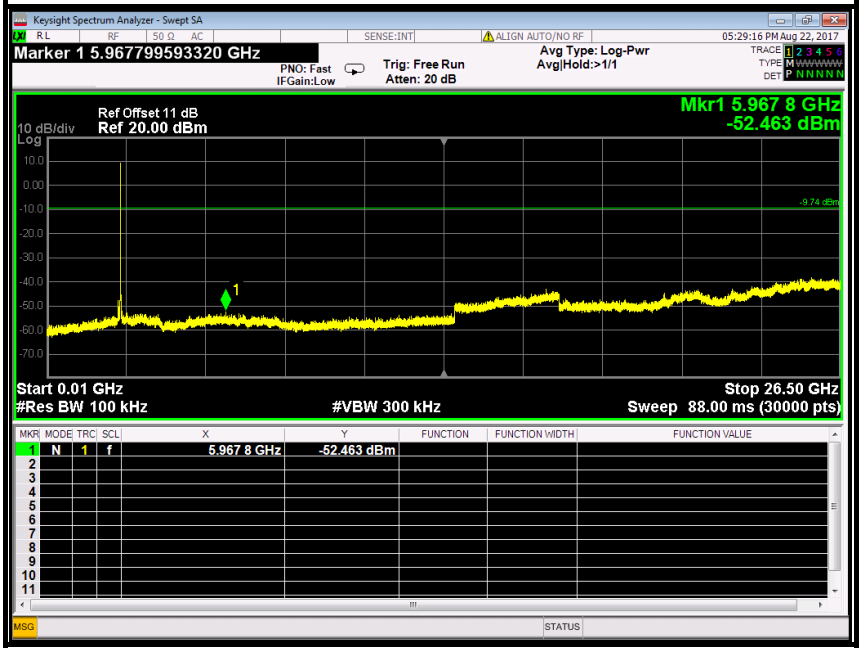
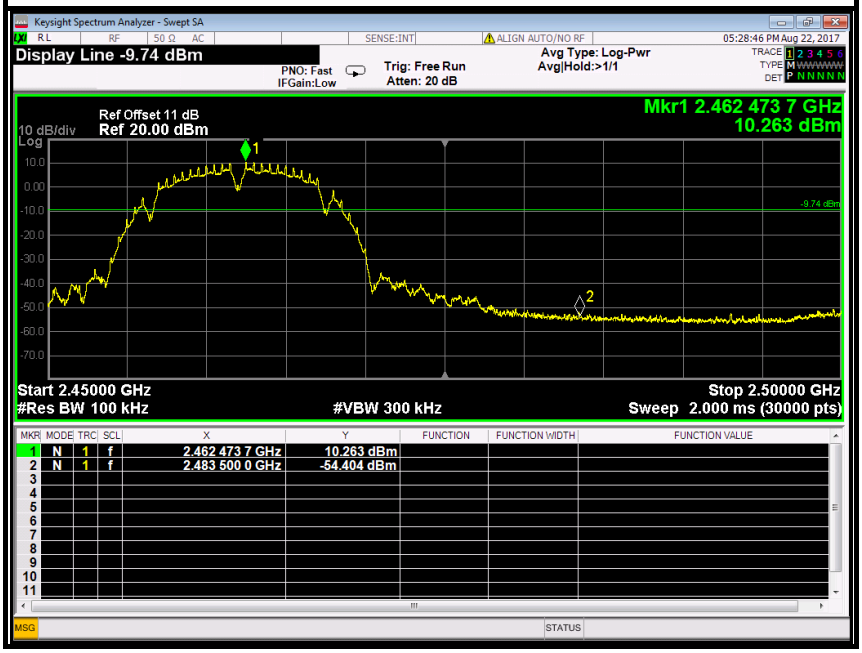
CH High (10MHz ~26.5GHz)



CH High (2.45GHz ~2.5GHz)



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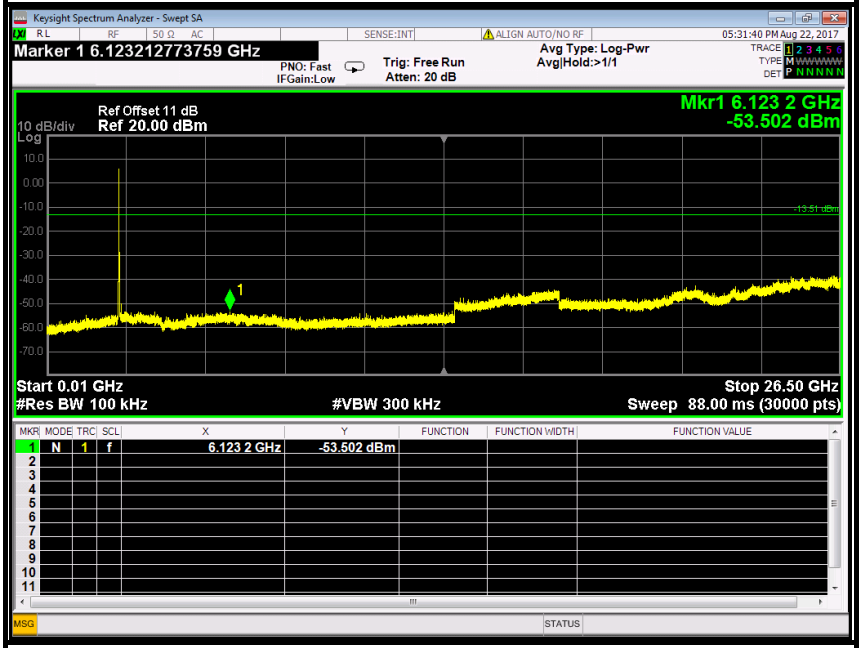
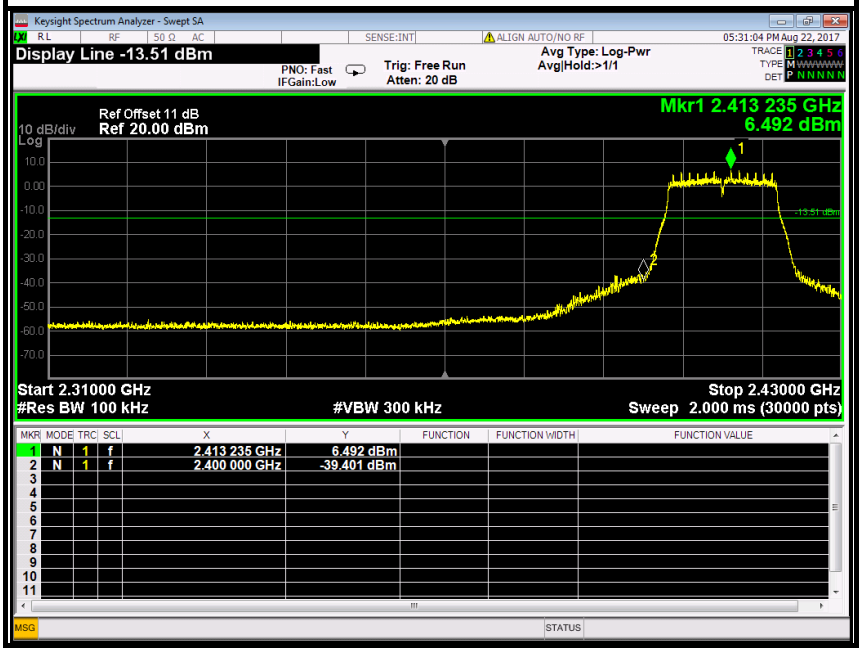
IEEE 802.11g mode

CH Low (10MHz ~26.5GHz)



CH Low (2.31GHz ~2.43GHz)



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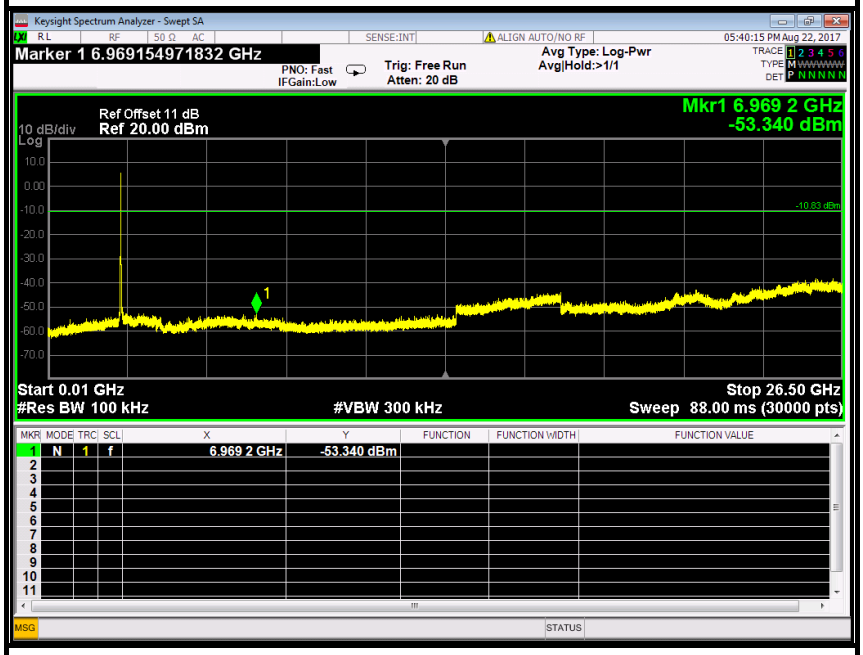
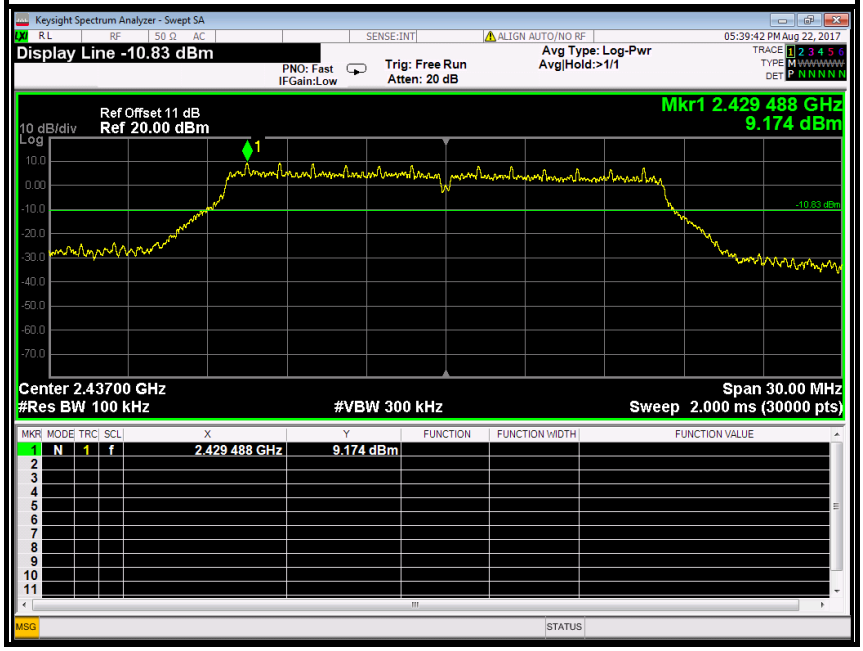
CH Mid (10MHz ~26.5GHz)



CH Mid



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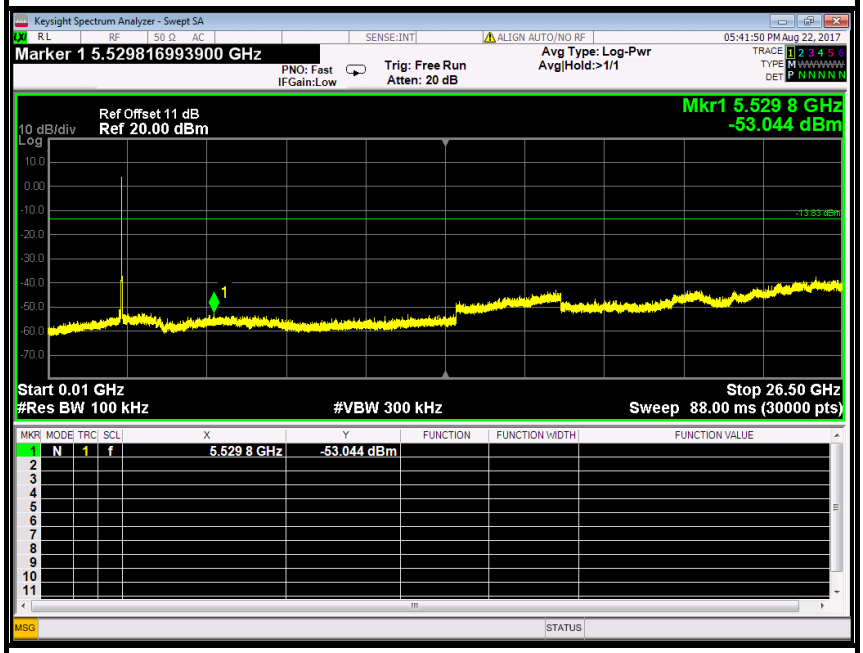
CH High (10MHz ~26.5GHz)



CH High (2.45GHz ~2.5GHz)

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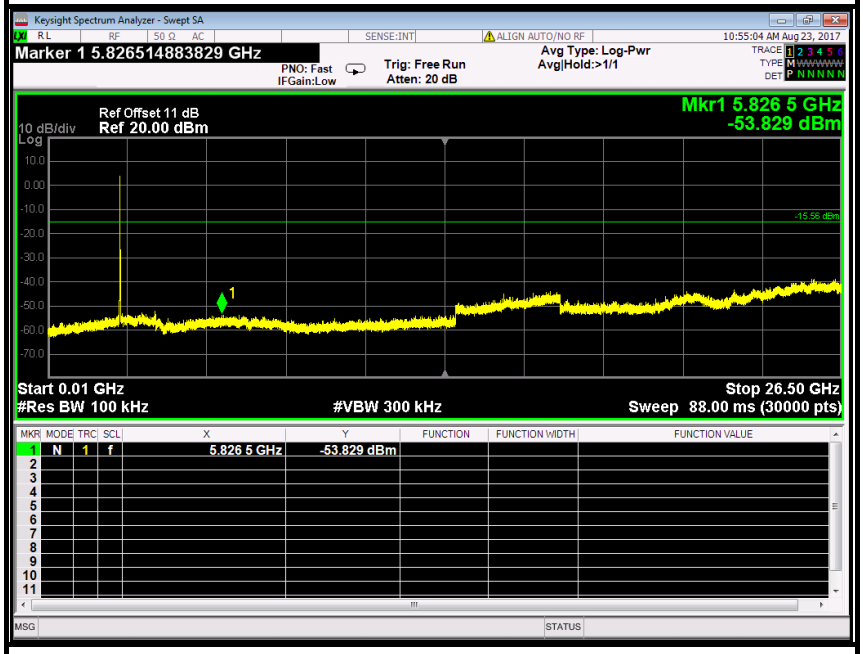
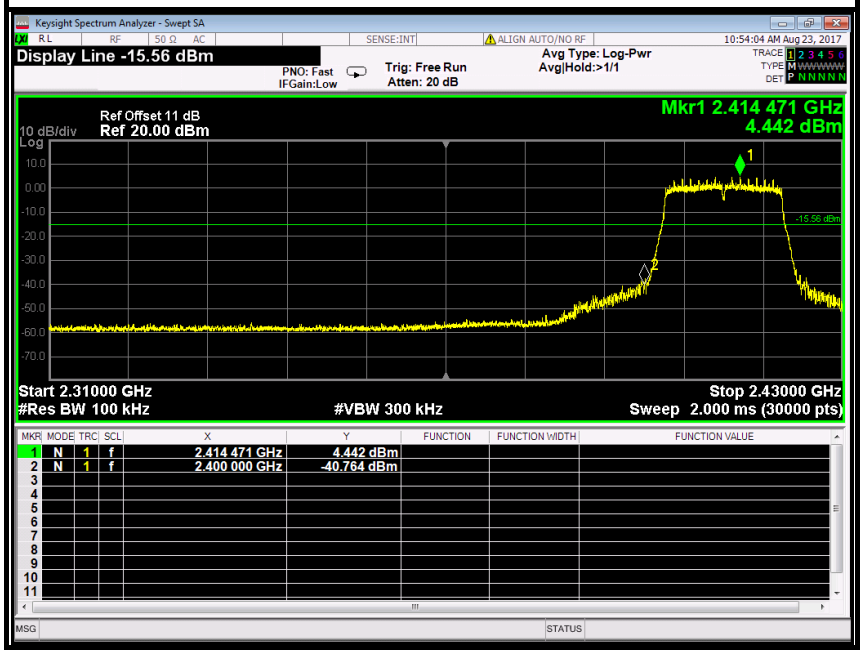
IEEE 802.11n HT20 MHz mode

CH Low (10MHz ~26.5GHz)



CH Low (2.31GHz ~2.43GHz)



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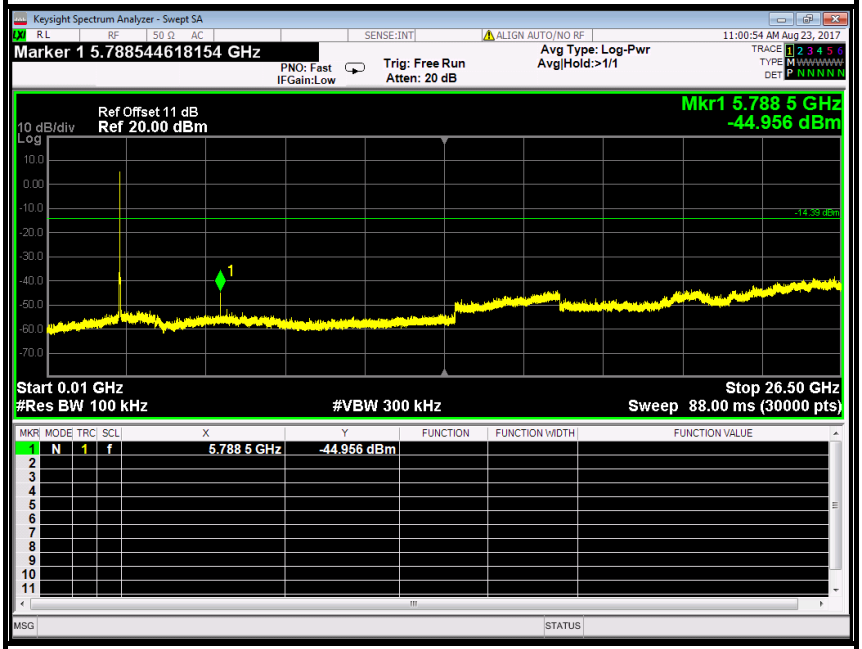
CH Mid (10MHz ~26.5GHz)



CH Mid

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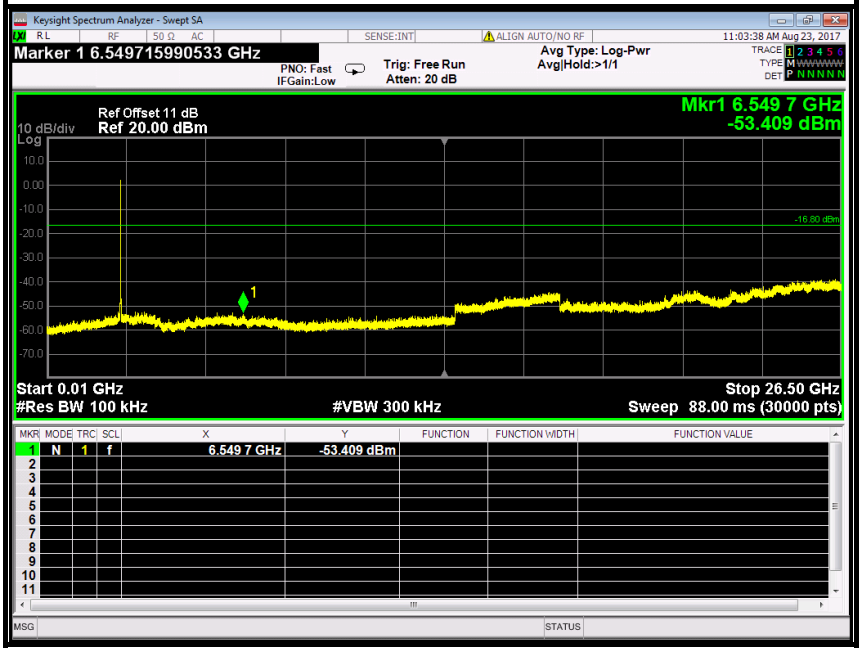
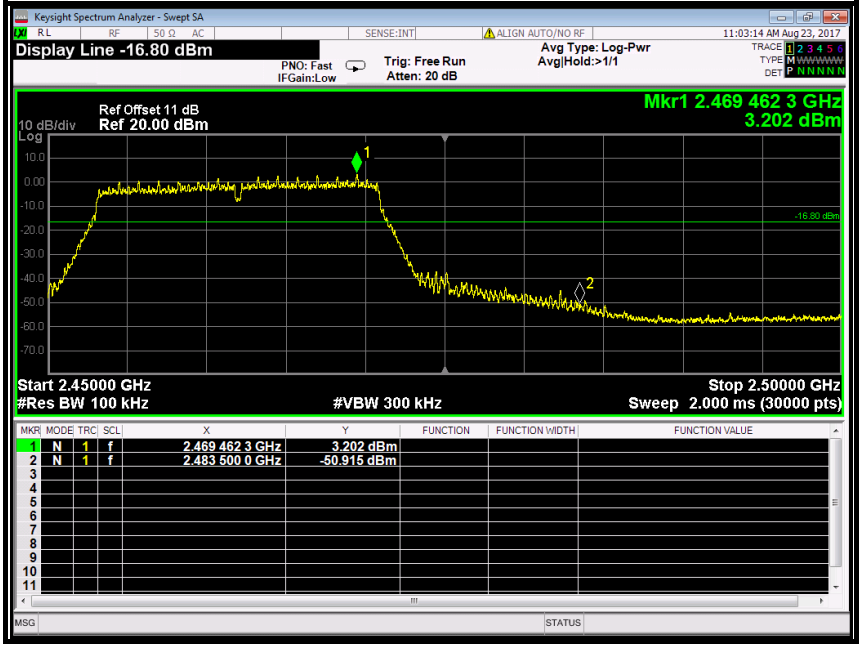
CH High (10MHz ~26.5GHz)



CH High (2.45GHz ~2.5GHz)



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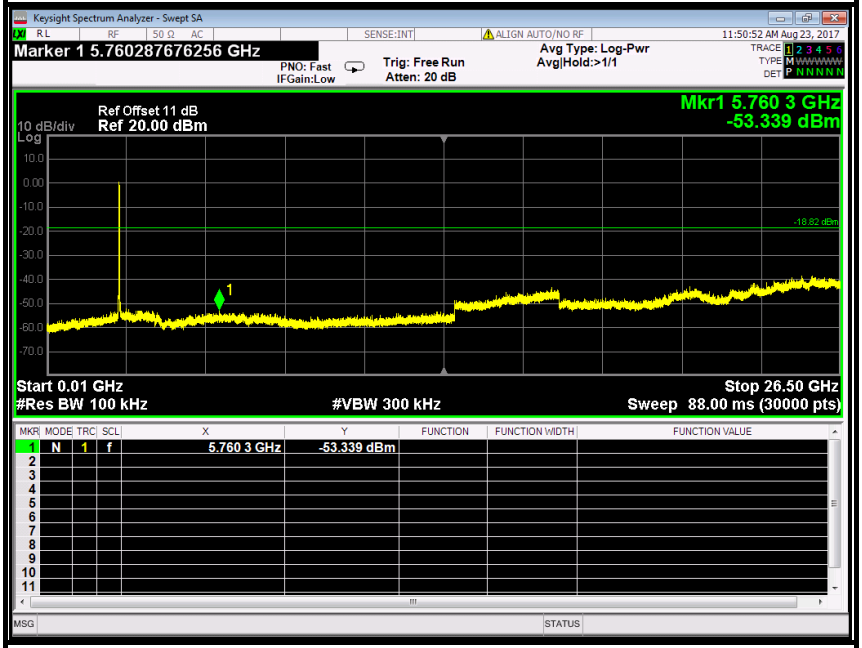
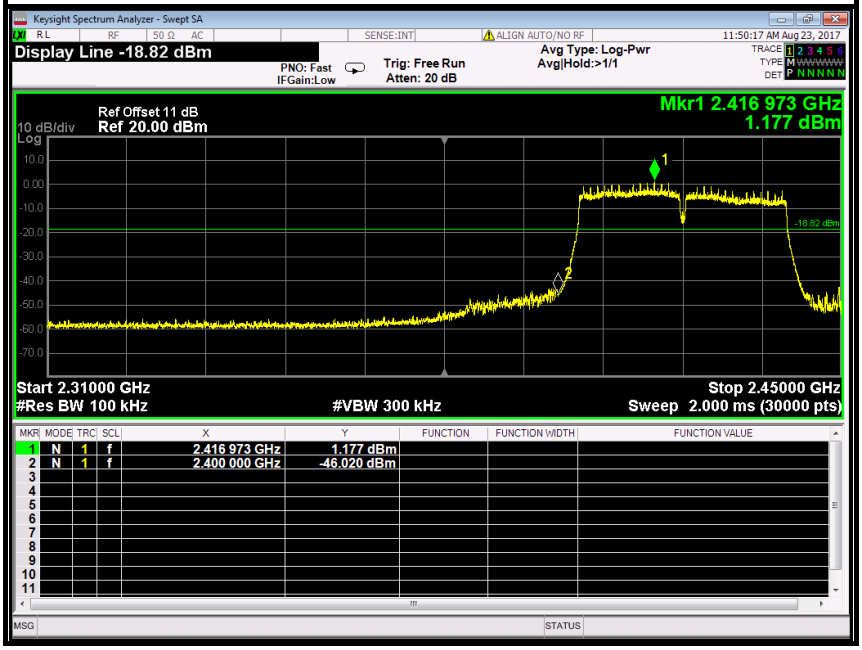
IEEE 802.11n HT40 MHz mode

CH Low (10MHz ~26.5GHz)



CH Low (2.31GHz ~2.45GHz)



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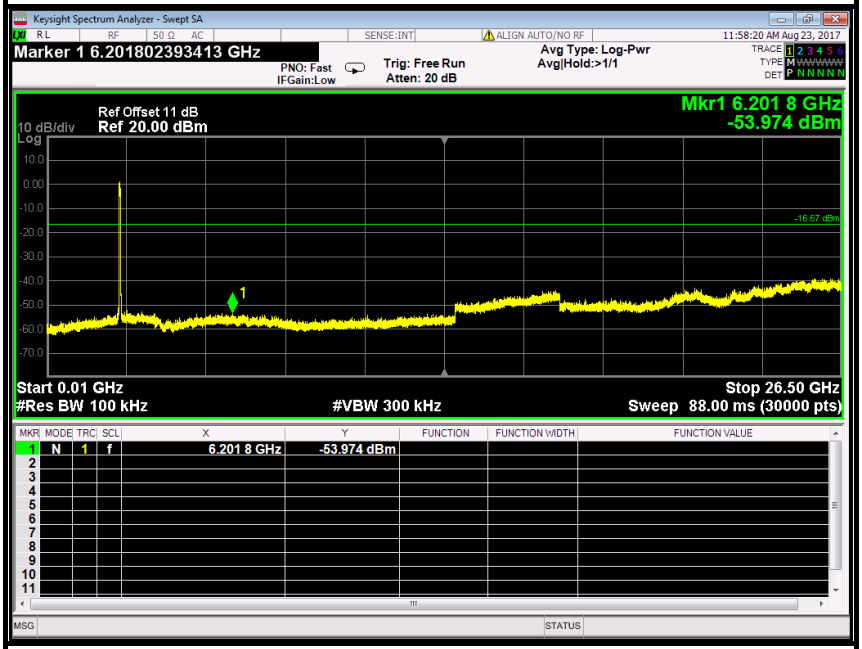
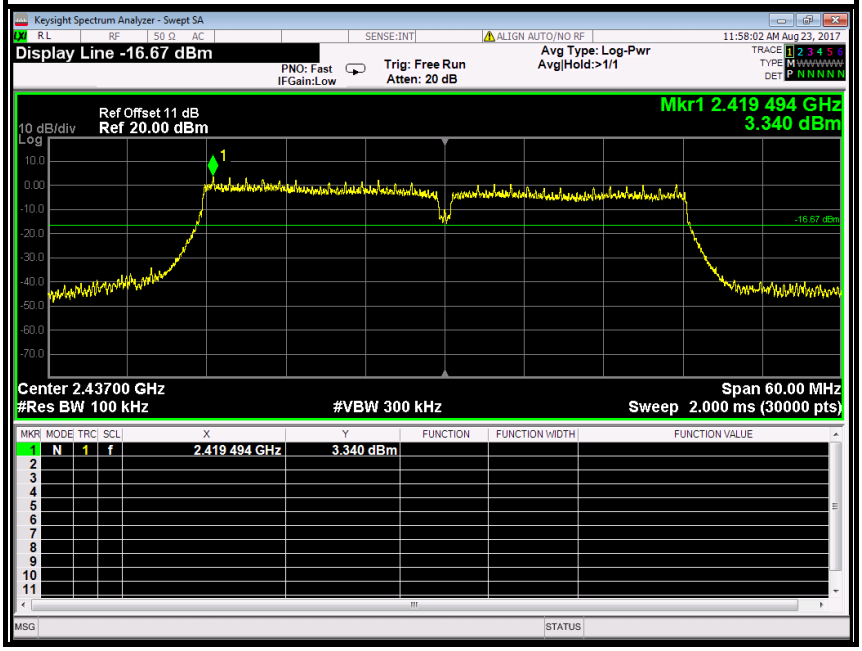
CH Mid (10MHz ~26.5GHz)



CH Mid



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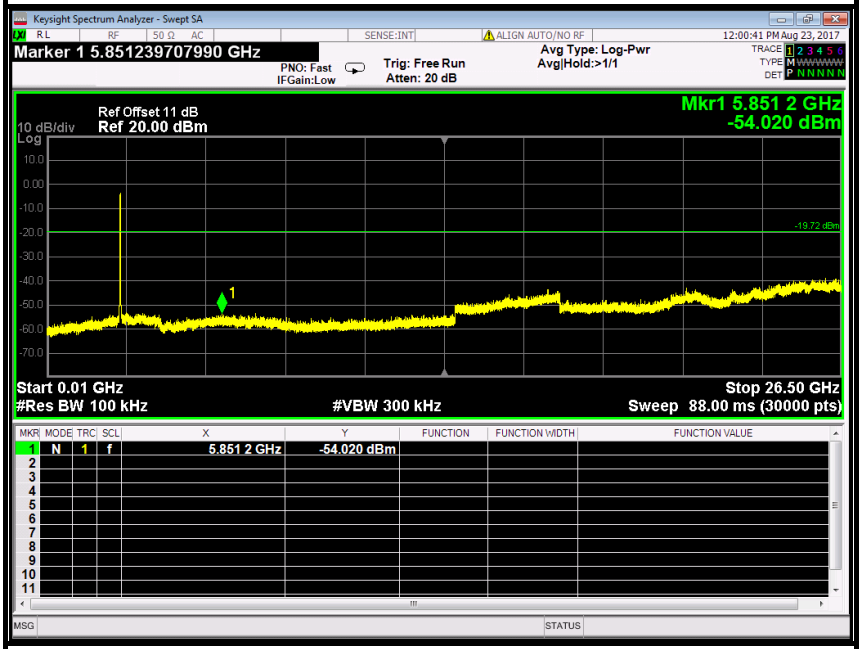
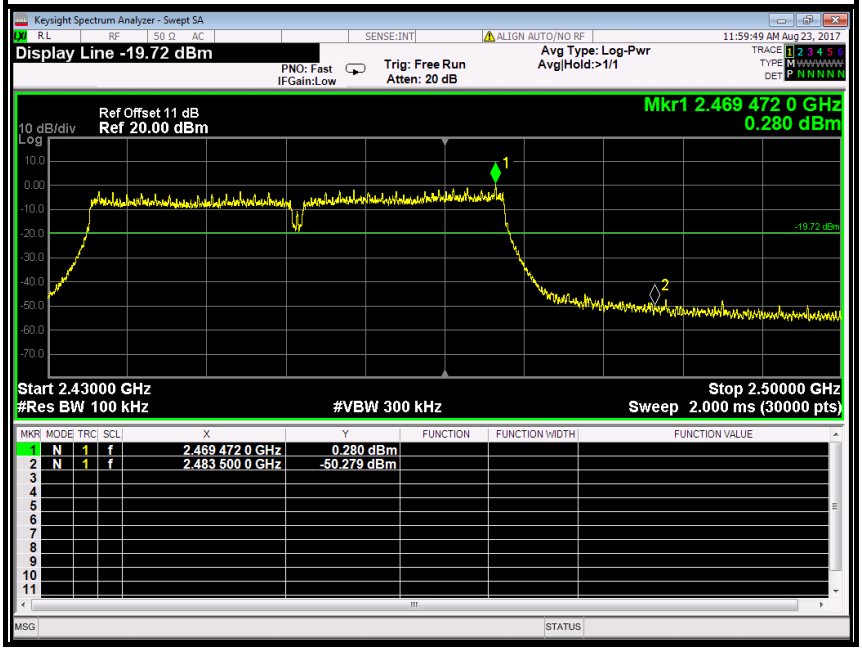
CH High (10MHz ~26.5GHz)



CH High (2.43GHz ~2.5GHz)



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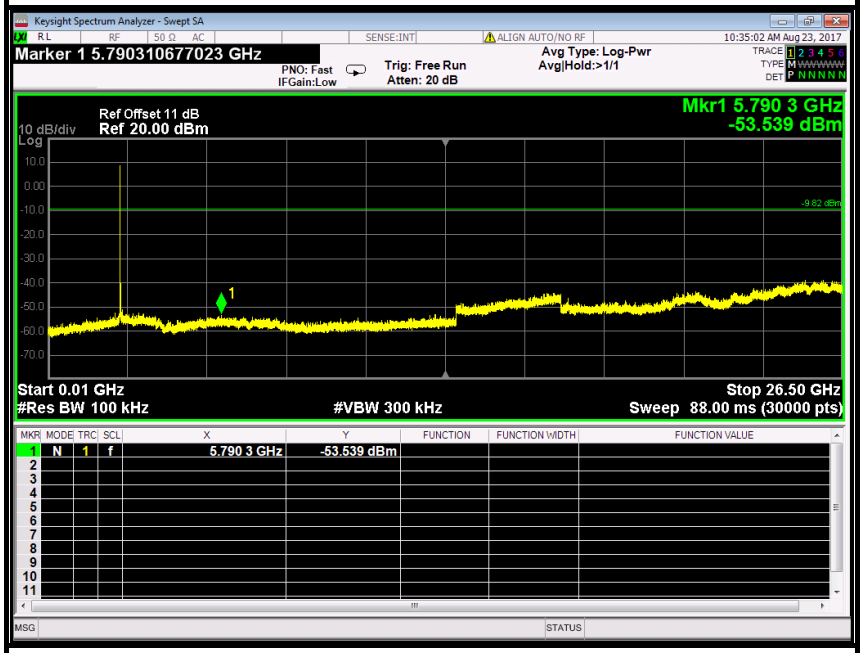
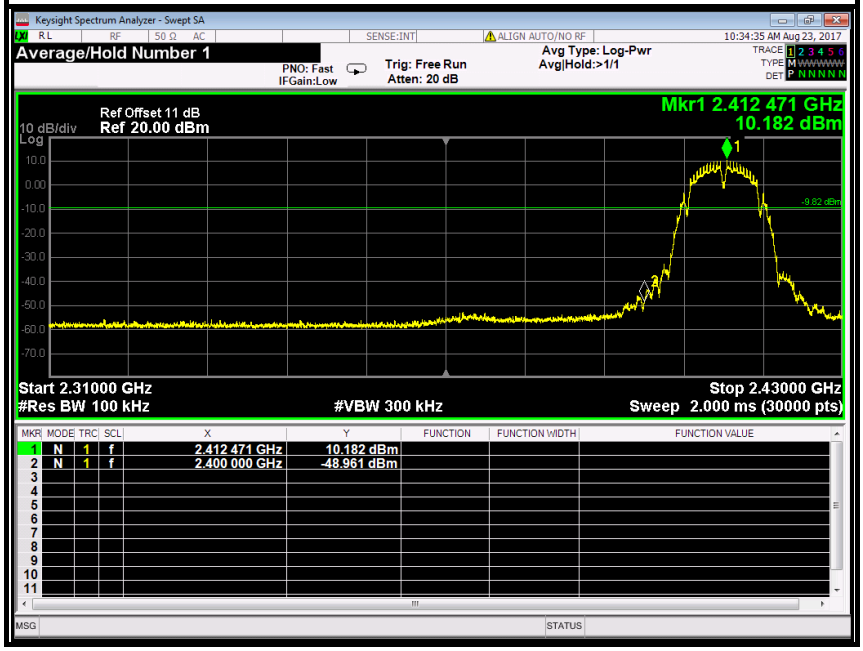
Antenna 2

IEEE 802.11b mode

CH Low (10MHz ~26.5GHz)



CH Low (2.31GHz ~2.43GHz)



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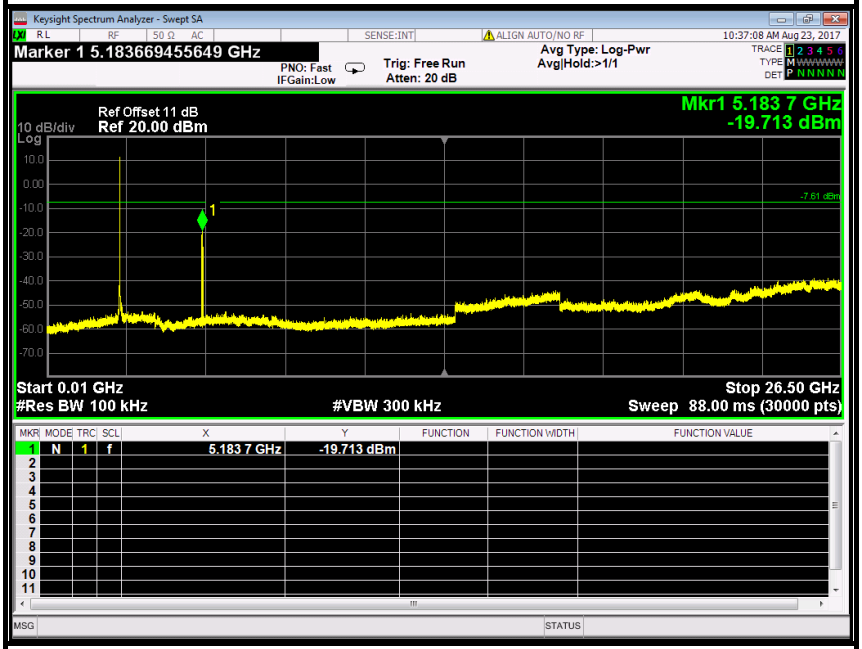
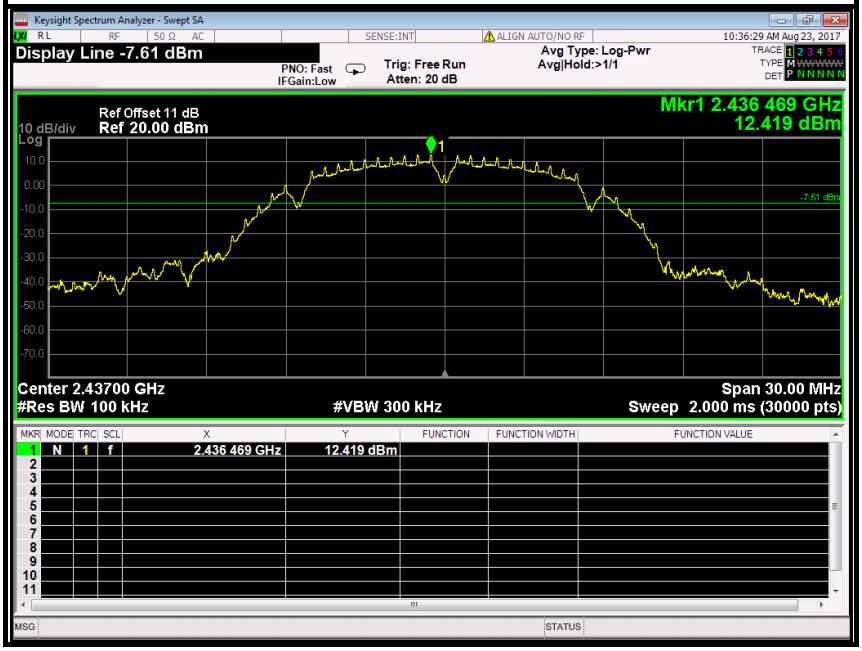
CH Mid (10MHz ~26.5GHz)



CH Mid



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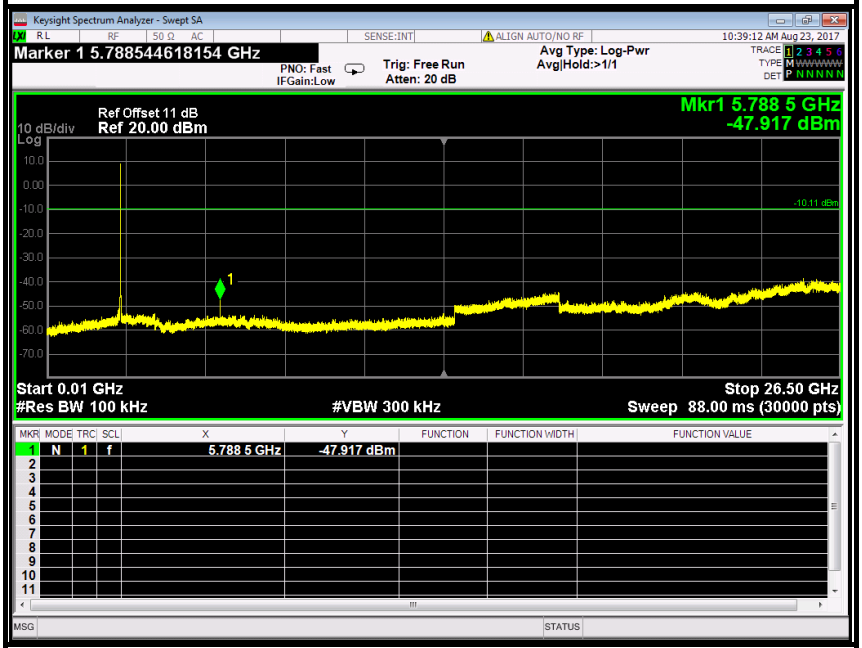
CH High (10MHz ~26.5GHz)



CH High (2.45GHz ~2.5GHz)

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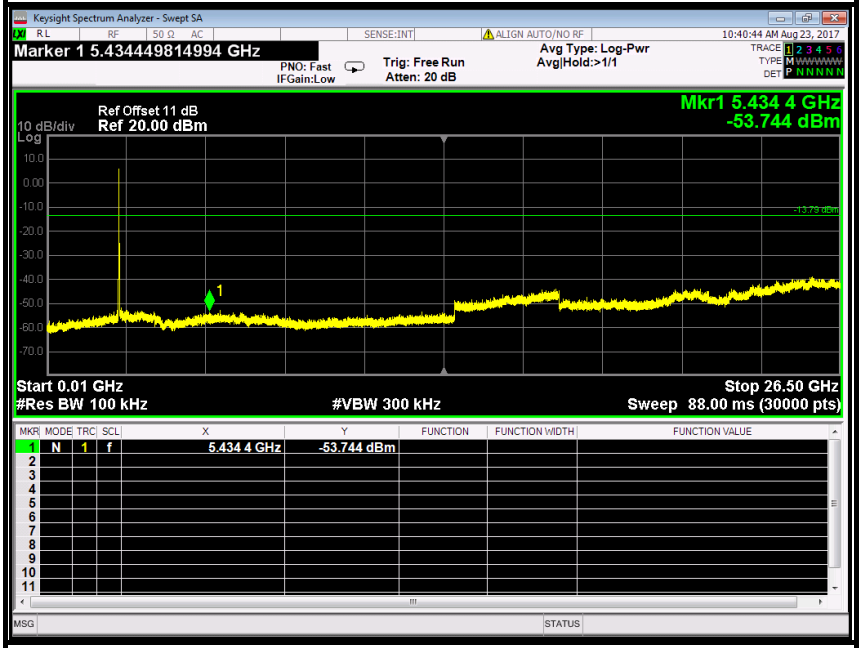
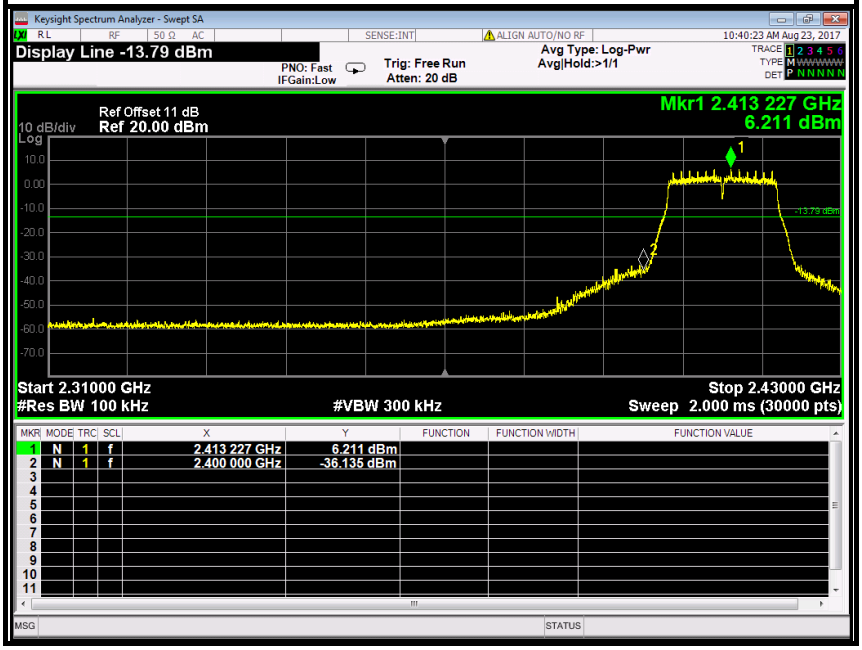
IEEE 802.11g mode

CH Low (10MHz ~26.5GHz)



CH Low (2.31GHz ~2.43GHz)



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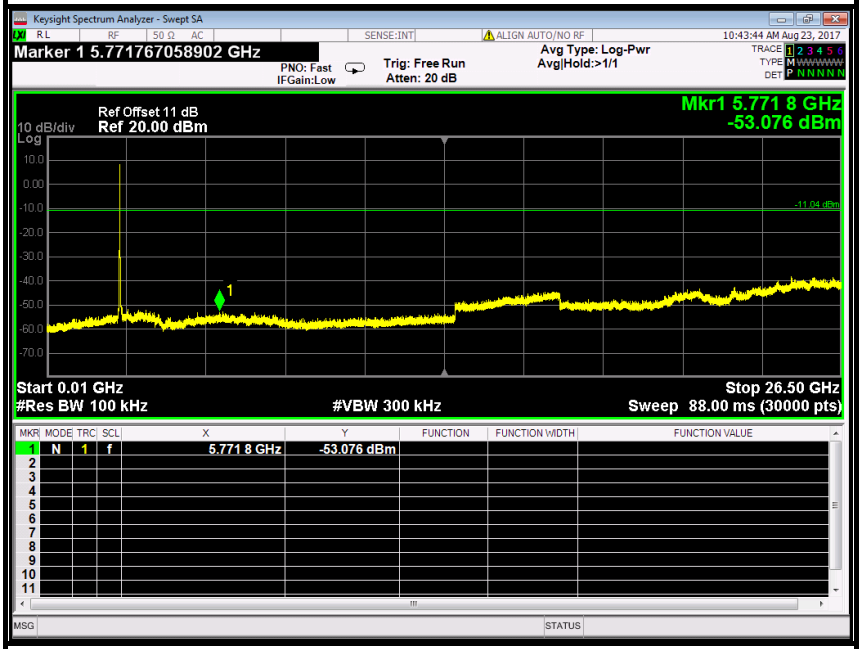
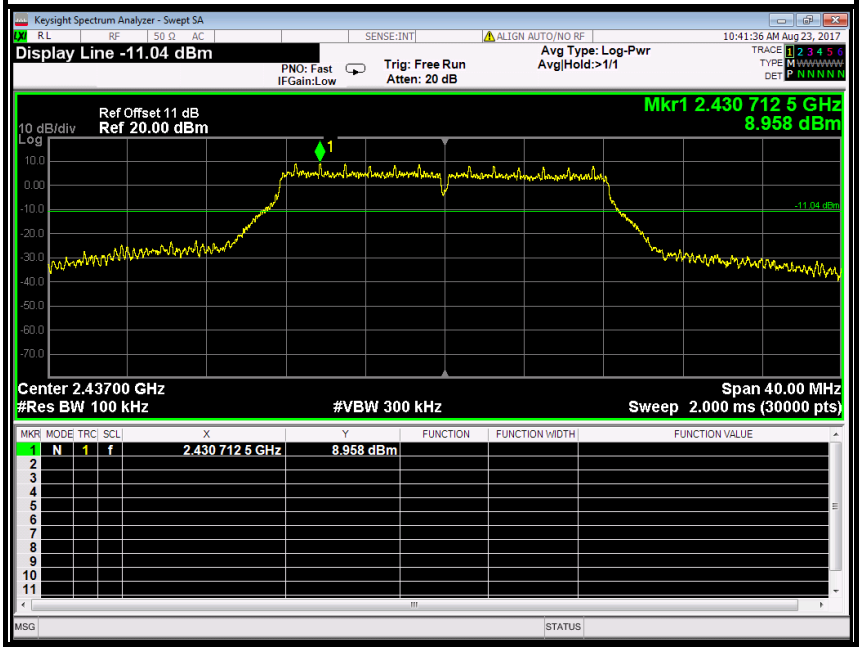
CH Mid (10MHz ~26.5GHz)



CH Mid



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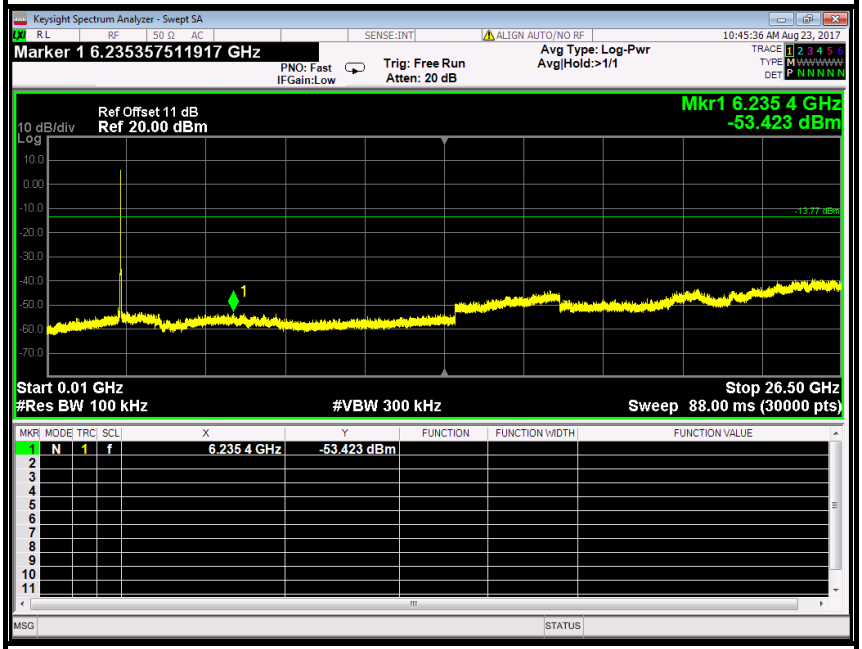
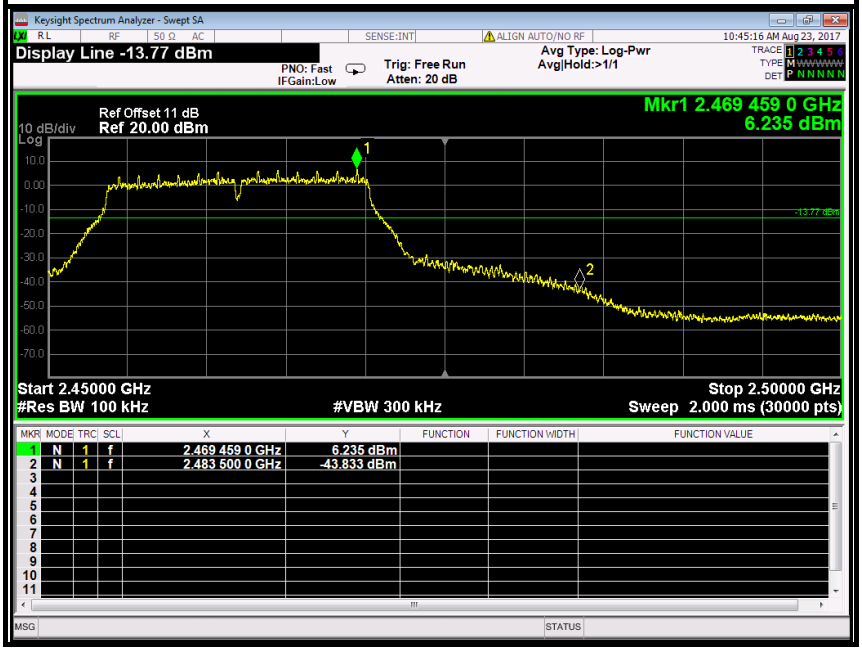
CH High (10MHz ~26.5GHz)



CH High (2.45GHz ~2.5GHz)



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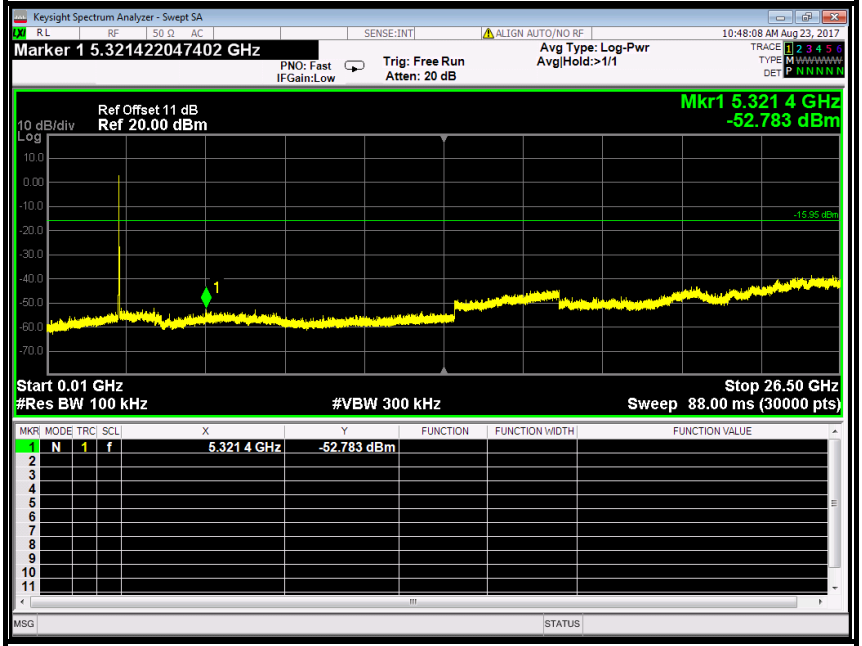
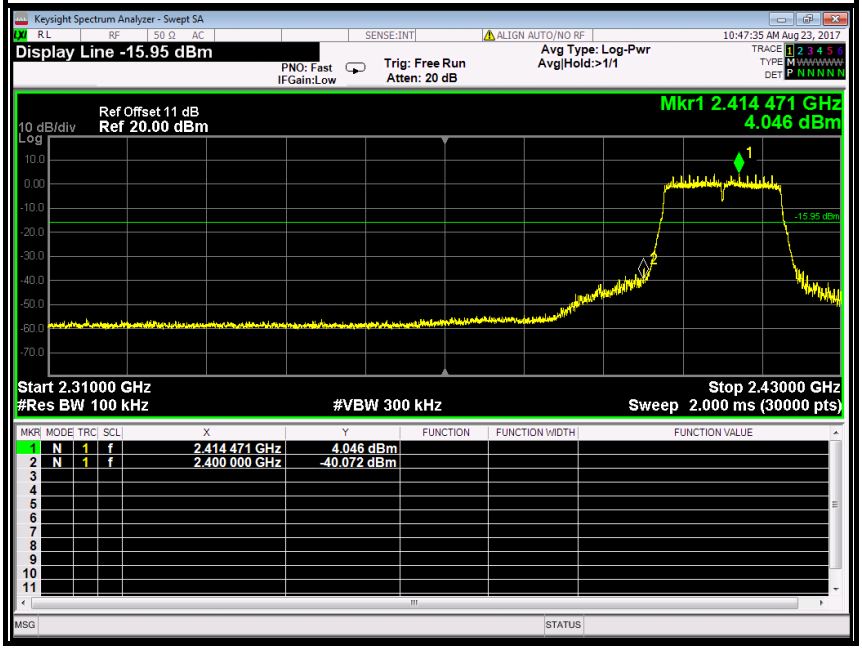
IEEE 802.11n HT20 MHz mode

CH Low (10MHz ~26.5GHz)



CH Low (2.31GHz ~2.43GHz)



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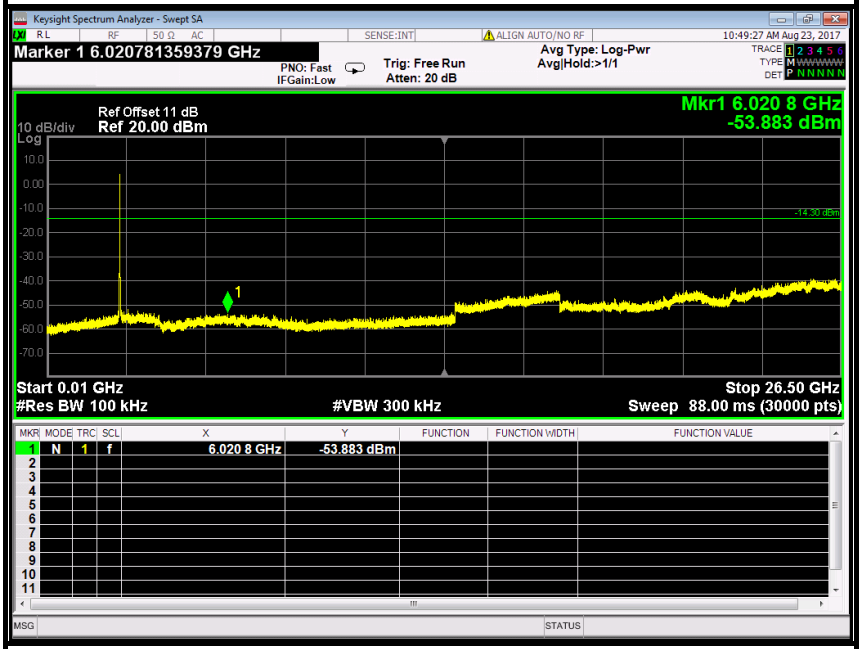
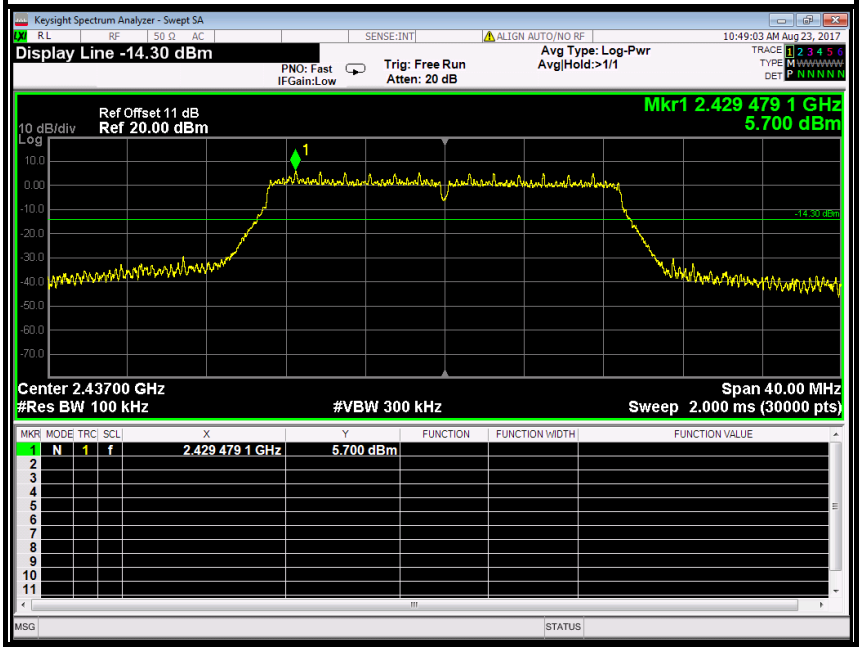
CH Mid (10MHz ~26.5GHz)



CH Mid



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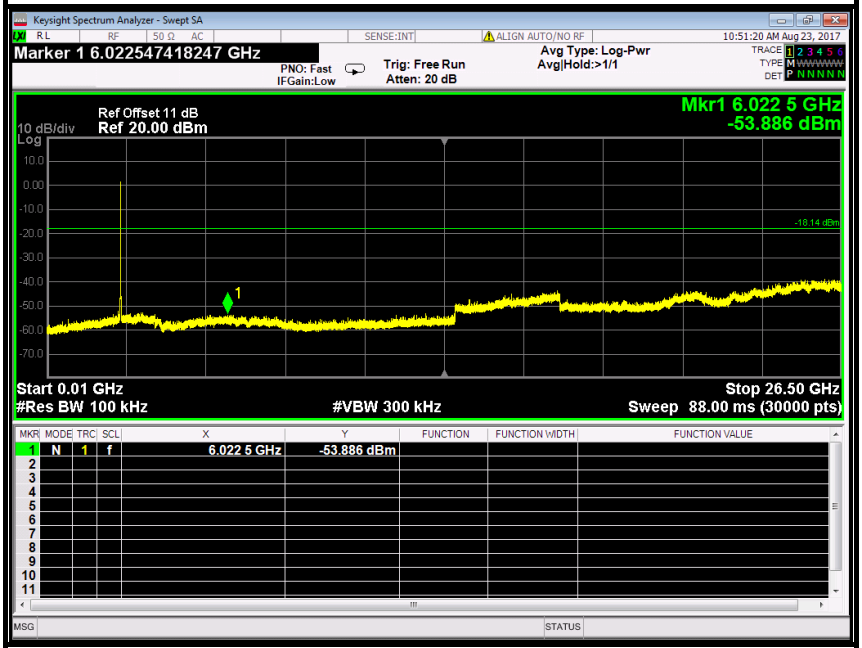
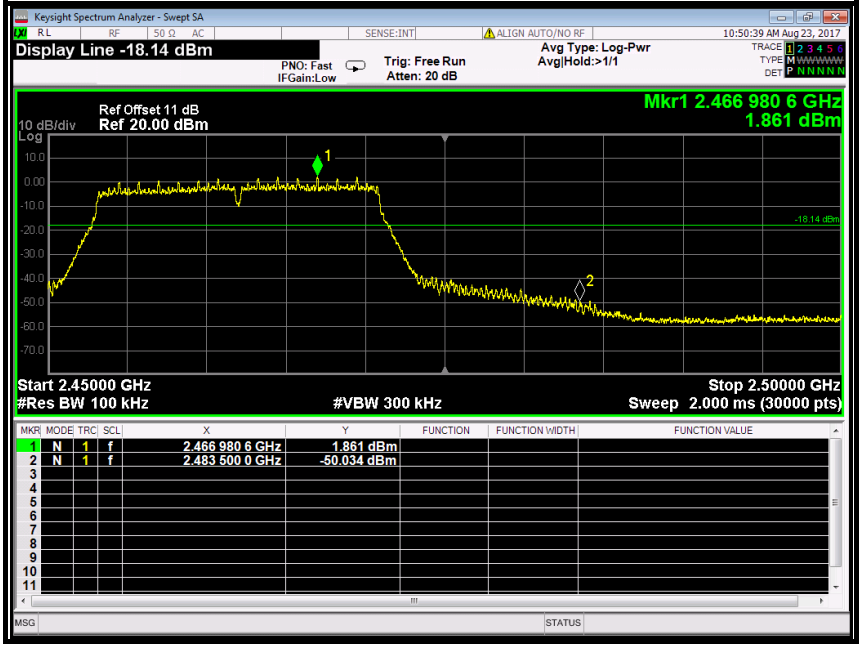
CH High (10MHz ~26.5GHz)



CH High (2.45GHz ~2.5GHz)



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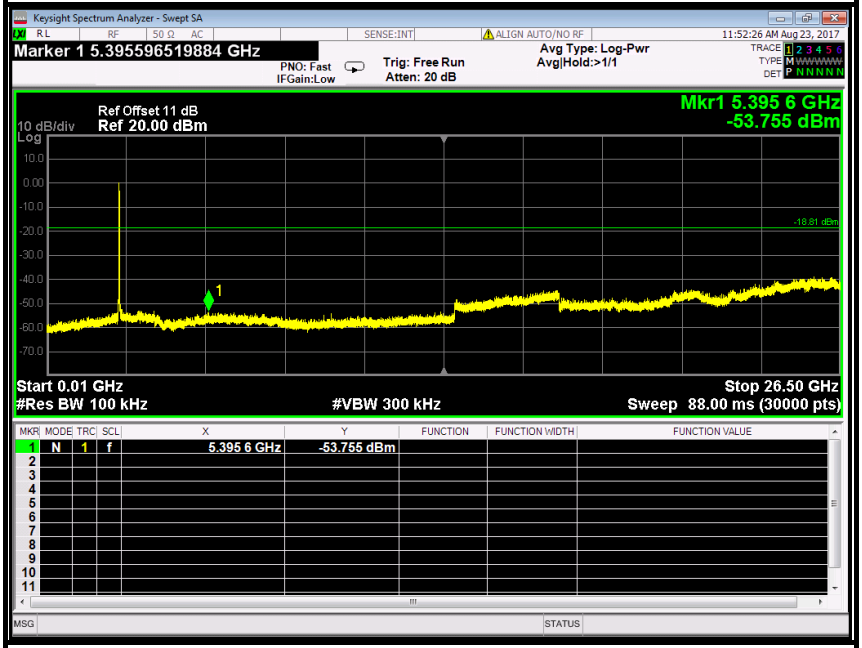
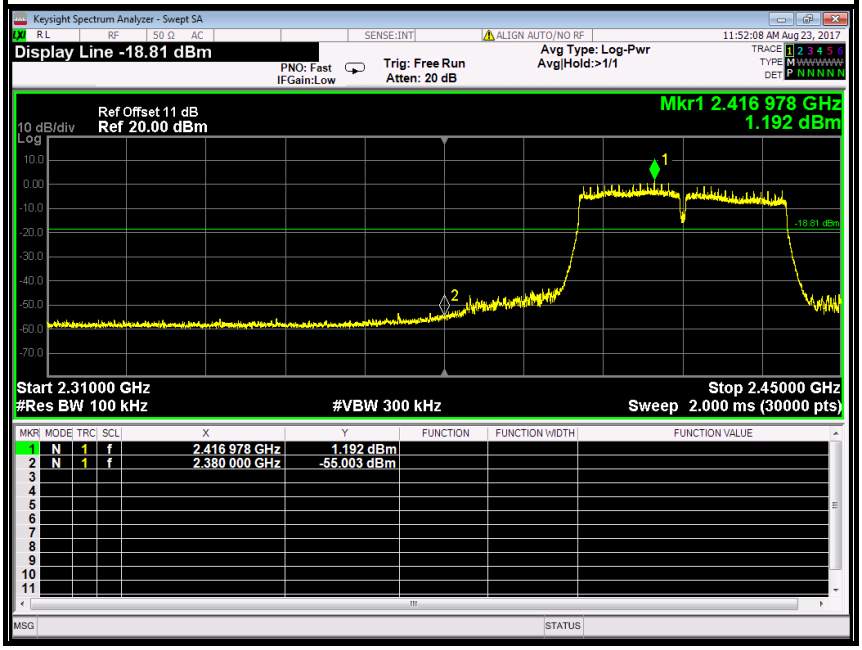
IEEE 802.11n HT40 MHz mode

CH Low (10MHz ~26.5GHz)



CH Low (2.31GHz ~2.45GHz)



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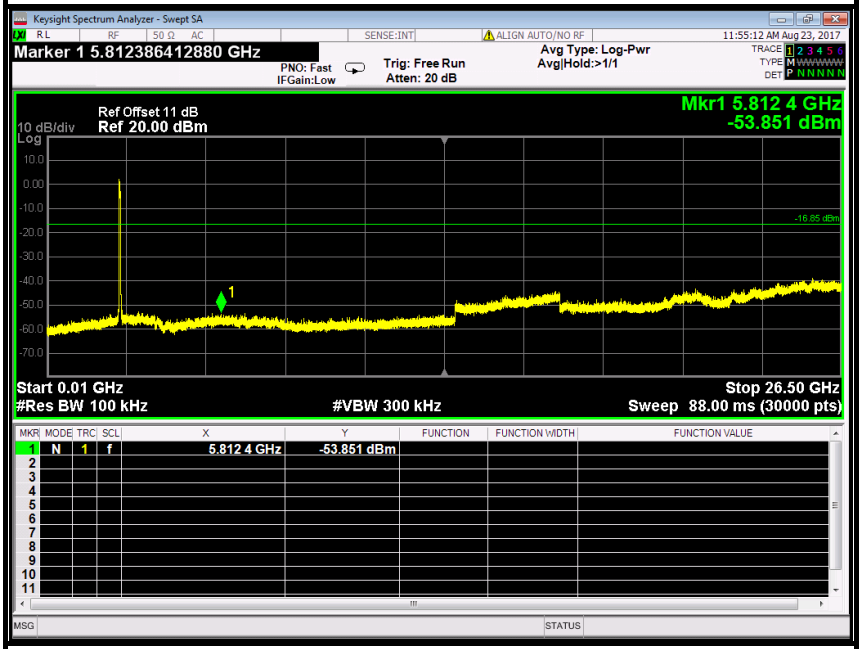
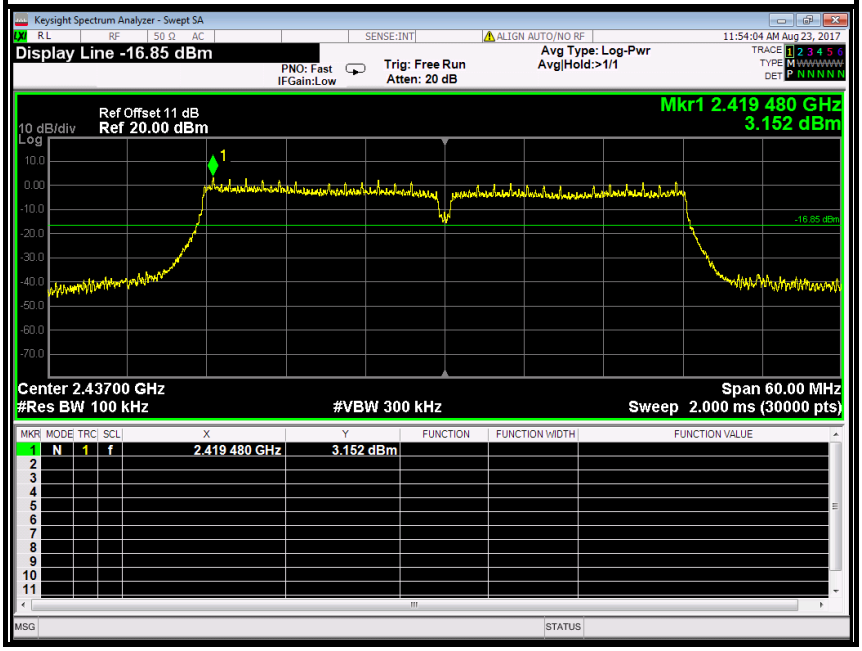
CH Mid (10MHz ~26.5GHz)



CH Mid



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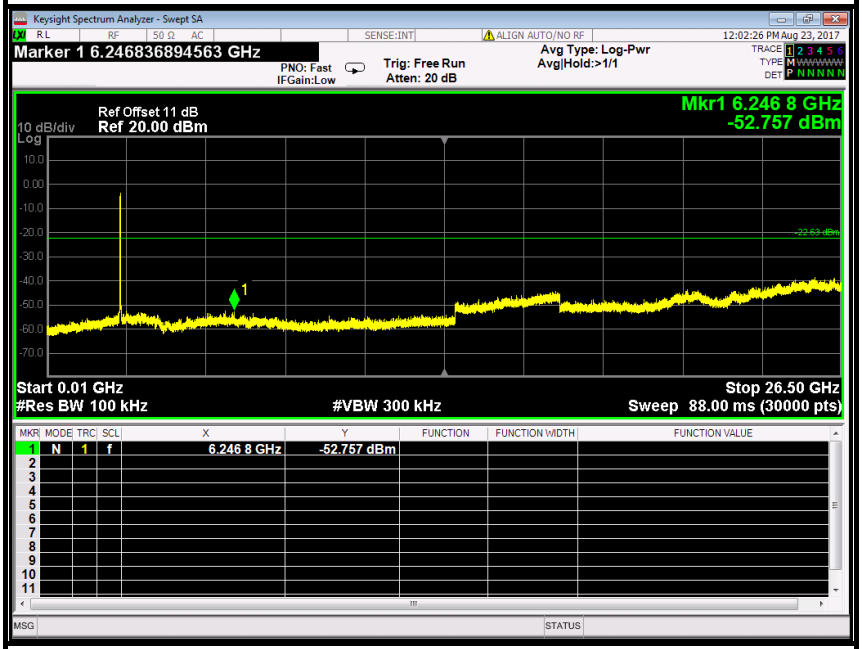
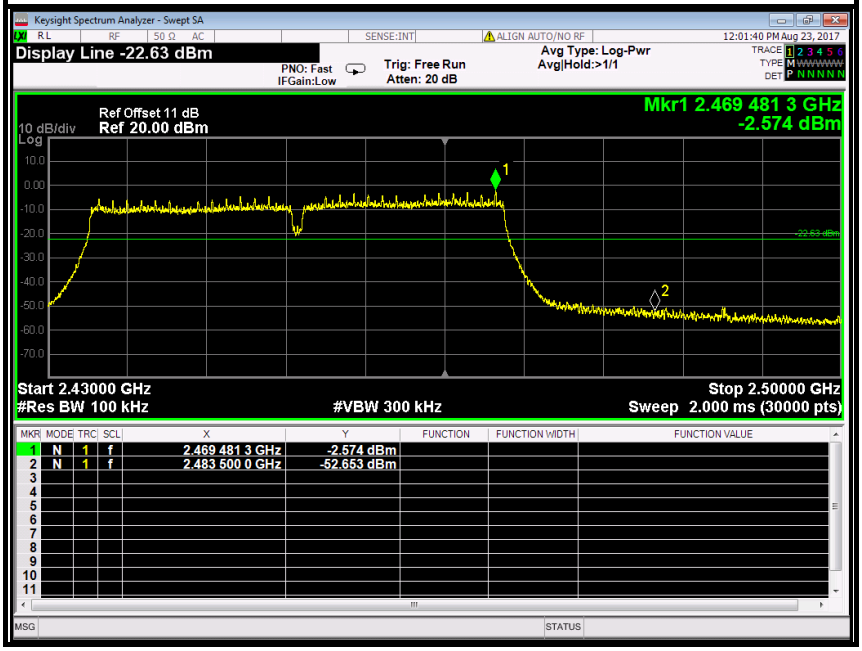
CH High (10MHz ~26.5GHz)



CH High (2.43GHz ~2.5GHz)



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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).

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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	N9010A	MY52221469	02/21/2017	02/20/2018
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI	100783	02/21/2017	02/20/2018
Amplifier	EMEC	EM330	060661	03/18/2017	03/17/2018
High Noise Amplifier	Agilent	8449B	3008A01838	02/21/2017	02/20/2018
Loop Antenna	COM-POWER	AL-130	121044	09/25/2016	09/24/2017
Bilog Antenna	SCHAFFNER	CBL6143	5082	02/21/2017	02/20/2018
Horn Antenna	SCHWARZBECK	BBHA9120	D286	02/27/2018	02/27/2018
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170-497	02/27/2018	02/27/2018
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	02/21/2017	02/20/2018
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.

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