Test Mode: TX / IEEE 802.11g (CH Mid) **Tested by:** Darry Wu

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** November 28, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1018.000	49.60	-8.49	41.11	74.00	-32.89	V	Peak
2098.000	46.34	-4.46	41.88	74.00	-32.12	V	Peak
2539.000	45.65	-2.19	43.46	74.00	-30.54	V	Peak
3898.000	42.77	1.16	43.93	74.00	-30.07	V	Peak
4348.000	42.83	2.81	45.64	74.00	-28.36	V	Peak
4870.000	46.81	4.56	51.37	74.00	-22.63	V	Peak
1198.000	48.63	-7.80	40.83	74.00	-33.17	H	Peak
2242.000	46.33	-3.67	42.66	74.00	-31.34	H	Peak
2521.000	45.80	-2.22	43.58	74.00	-30.42	H	Peak
4141.000	42.17	2.09	44.26	74.00	-29.74	H	Peak
4879.000	42.99	4.59	47.58	74.00	-26.42	H	Peak
5671.000	41.86	5.94	47.80	74.00	-26.20	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:** Darry Wu

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** November 28, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1027.000	49.03	-8.45	40.58	74.00	-33.42	V	Peak
2494.000	46.17	-2.29	43.88	74.00	-30.12	V	Peak
3214.000	44.19	-1.00	43.19	74.00	-30.81	V	Peak
3970.000	42.27	1.46	43.73	74.00	-30.27	V	Peak
4924.000	44.30	4.73	49.03	74.00	-24.97	V	Peak
5644.000	41.39	5.93	47.32	74.00	-26.68	V	Peak
1198.000	47.81	-7.80	40.01	74.00	-33.99	H	Peak
2251.000	45.70	-3.62	42.08	74.00	-31.92	H	Peak
2548.000	46.11	-2.17	43.94	74.00	-30.06	H	Peak
3979.000	42.51	1.50	44.01	74.00	-29.99	H	Peak
4663.000	42.56	3.88	46.44	74.00	-27.56	H	Peak
5491.000	41.97	5.85	47.82	74.00	-26.18	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:** Darry Wu

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** November 28, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1603.000	48.32	-6.69	41.63	74.00	-32.37	V	Peak
2503.000	45.82	-2.25	43.57	74.00	-30.43	V	Peak
3088.000	44.68	-1.21	43.47	74.00	-30.53	V	Peak
4348.000	42.77	2.81	45.58	74.00	-28.42	V	Peak
4825.000	51.98	4.41	56.39	74.00	-17.61	V	Peak
4825.000	39.27	4.41	43.68	54.00	-10.32	V	AVG
5761.000	41.12	5.98	47.10	74.00	-26.90	V	Peak
1198.000	48.22	-7.80	40.42	74.00	-33.58	H	Peak
2530.000	45.27	-2.21	43.06	74.00	-30.94	H	Peak
3196.000	44.15	-1.03	43.12	74.00	-30.88	H	Peak
4384.000	42.32	2.94	45.26	74.00	-28.74	H	Peak
4825.000	44.74	4.41	49.15	74.00	-24.85	H	Peak
5419.000	41.48	5.73	47.21	74.00	-26.79	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 802.11n HT20 MHz (CH Mid) **Tested by:** Darry Wu

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** November 28, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1621.000	48.67	-6.65	42.02	74.00	-31.98	V	Peak
2188.000	46.59	-3.97	42.62	74.00	-31.38	V	Peak
2521.000	46.59	-2.22	44.37	74.00	-29.63	V	Peak
3727.000	42.96	0.44	43.40	74.00	-30.60	V	Peak
4879.000	56.83	4.59	61.42	74.00	-12.58	V	Peak
4879.000	42.97	4.59	47.56	54.00	-6.44	V	AVG
7309.000	50.83	8.30	59.13	74.00	-14.87	V	Peak
7309.000	38.57	8.30	46.87	54.00	-7.13	V	AVG
1342.000	48.51	-7.27	41.24	74.00	-32.76	H	Peak
1711.000	51.31	-6.46	44.85	74.00	-29.15	H	Peak
2512.000	46.25	-2.24	44.01	74.00	-29.99	H	Peak
4060.000	42.61	1.80	44.41	74.00	-29.59	H	Peak
4879.000	49.00	4.59	53.59	74.00	-20.41	H	Peak
4879.000	40.62	4.59	45.21	54.00	-8.79	H	AVG
7300.000	51.97	8.29	60.26	74.00	-13.74	H	Peak
7300.000	35.56	8.29	43.85	54.00	-10.15	H	AVG

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:** Darry Wu

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** November 28, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1639.000	47.77	-6.62	41.15	74.00	-32.85	V	Peak
2467.000	46.31	-2.44	43.87	74.00	-30.13	V	Peak
3727.000	43.72	0.44	44.16	74.00	-29.84	V	Peak
4582.000	41.75	3.62	45.37	74.00	-28.63	V	Peak
4924.000	49.33	4.73	54.06	74.00	-19.94	V	Peak
4924.000	41.98	4.73	46.71	54.00	-7.29	V	AVG
5923.000	41.21	6.05	47.26	74.00	-26.74	V	Peak
2116.000	45.86	-4.36	41.50	74.00	-32.50	H	Peak
2467.000	46.52	-2.44	44.08	74.00	-29.92	H	Peak
4276.000	42.82	2.56	45.38	74.00	-28.62	H	Peak
4924.000	45.48	4.73	50.21	74.00	-23.79	H	Peak
7390.000	43.70	8.46	52.16	74.00	-21.84	H	Peak
7390.000	35.86	8.46	44.32	54.00	-9.68	H	AVG
8173.000	42.46	9.55	52.01	74.00	-21.99	H	Peak
8173.000	34.10	9.55	43.65	54.00	-10.35	H	AVG

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:** Darry Wu

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** November 28, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1018.000	50.75	-8.49	42.26	74.00	-31.74	V	Peak
2503.000	45.50	-2.25	43.25	74.00	-30.75	V	Peak
2800.000	45.24	-1.72	43.52	74.00	-30.48	V	Peak
4249.000	41.74	2.47	44.21	74.00	-29.79	V	Peak
4843.000	51.20	4.47	55.67	74.00	-18.33	V	Peak
4843.000	41.17	4.47	45.64	54.00	-8.36	V	AVG
6625.000	41.34	7.09	48.43	74.00	-25.57	V	Peak
2233.000	45.92	-3.72	42.20	74.00	-31.80	H	Peak
2539.000	45.70	-2.19	43.51	74.00	-30.49	H	Peak
3916.000	42.69	1.24	43.93	74.00	-30.07	H	Peak
4456.000	42.21	3.20	45.41	74.00	-28.59	H	Peak
4843.000	46.19	4.47	50.66	74.00	-23.34	H	Peak
6346.000	40.59	6.64	47.23	74.00	-26.77	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:** Darry Wu

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** November 28, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1504.000	46.42	-6.87	39.55	74.00	-34.45	V	Peak
2494.000	46.21	-2.29	43.92	74.00	-30.08	V	Peak
2800.000	44.62	-1.72	42.90	74.00	-31.10	V	Peak
3637.000	42.02	0.06	42.08	74.00	-31.92	V	Peak
4870.000	49.11	4.56	53.67	74.00	-20.33	V	Peak
4870.000	40.01	4.56	44.57	54.00	-9.43	V	AVG
5572.000	41.08	5.90	46.98	74.00	-27.02	V	Peak
1198.000	48.27	-7.80	40.47	74.00	-33.53	H	Peak
2107.000	46.53	-4.41	42.12	74.00	-31.88	H	Peak
2557.000	45.96	-2.16	43.80	74.00	-30.20	H	Peak
3961.000	42.25	1.43	43.68	74.00	-30.32	H	Peak
4870.000	46.18	4.56	50.74	74.00	-23.26	H	Peak
6733.000	42.08	7.27	49.35	74.00	-24.65	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:** Darry Wu

Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** November 28, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1198.000	48.29	-7.80	40.49	74.00	-33.51	V	Peak
2494.000	45.48	-2.29	43.19	74.00	-30.81	V	Peak
3628.000	42.70	0.02	42.72	74.00	-31.28	V	Peak
4906.000	48.62	4.67	53.29	74.00	-20.71	V	Peak
4906.000	40.01	4.67	44.68	54.00	-9.32	V	AVG
5482.000	42.59	5.84	48.43	74.00	-25.57	V	Peak
6364.000	42.22	6.67	48.89	74.00	-25.11	V	Peak
1432.000	47.58	-7.00	40.58	74.00	-33.42	H	Peak
2512.000	45.44	-2.24	43.20	74.00	-30.80	H	Peak
3358.000	43.15	-0.76	42.39	74.00	-31.61	H	Peak
3898.000	43.22	1.16	44.38	74.00	-29.62	H	Peak
4906.000	43.15	4.67	47.82	74.00	-26.18	H	Peak
5527.000	41.14	5.88	47.02	74.00	-26.98	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

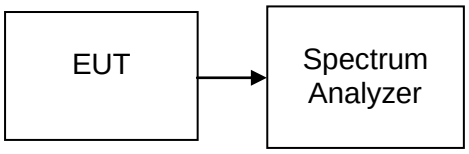
Name of Equipment	Manufacturer	Model	Serial Number	Last Calibration	Calibration Due
Spectrum Analyzer	Agilent	N9010A	MY52221469	02/21/2016	02/20/2017

7.3.3. TEST PROCEDURES (please refer to measurement standard)

8.1 Option 2:

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW ≥ 3 RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.

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	10080	10070		PASS
High	2462	10080	10070		PASS

Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Bandwidth (kHz)		Limit (kHz)	Test Result
		Antenna 0	Antenna 1		
Low	2412	15130	15130	>500	PASS
Mid	2437	15130	15100		PASS
High	2462	15120	15120		PASS

Test mode: IEEE 802.11n HT20 MHz

Channel	Frequency (MHz)	Bandwidth (kHz)		Limit (kHz)	Test Result
		Antenna 0	Antenna 1		
Low	2412	15120	15140	>500	PASS
Mid	2437	15130	15130		PASS
High	2462	15140	15130		PASS

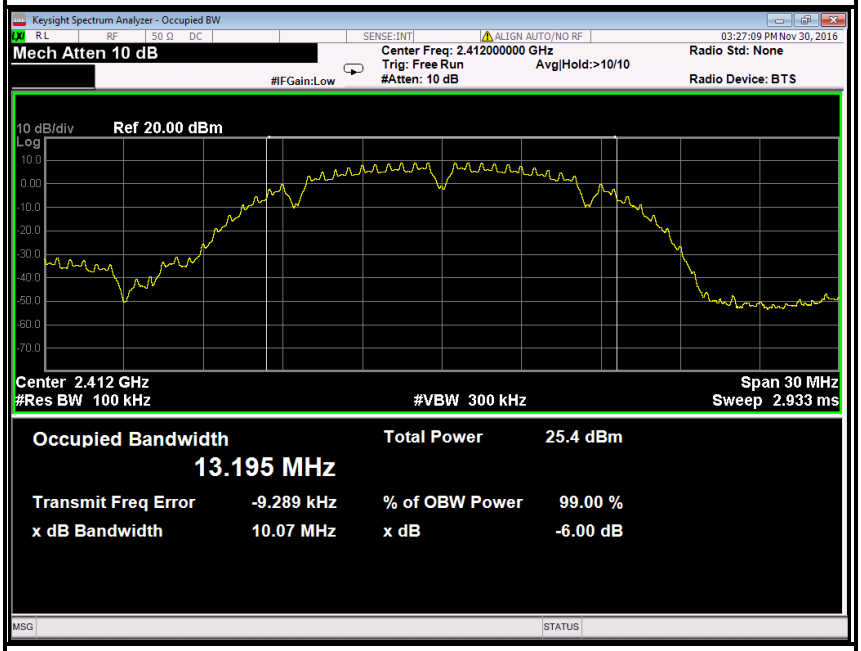
Test mode: IEEE 802.11n HT40 MHz

Channel	Frequency (MHz)	Bandwidth (kHz)		Limit (kHz)	Test Result
		Antenna 0	Antenna 1		
Low	2422	35100	35030	>500	PASS
Mid	2437	35100	35060		PASS
High	2452	35100	33880		PASS

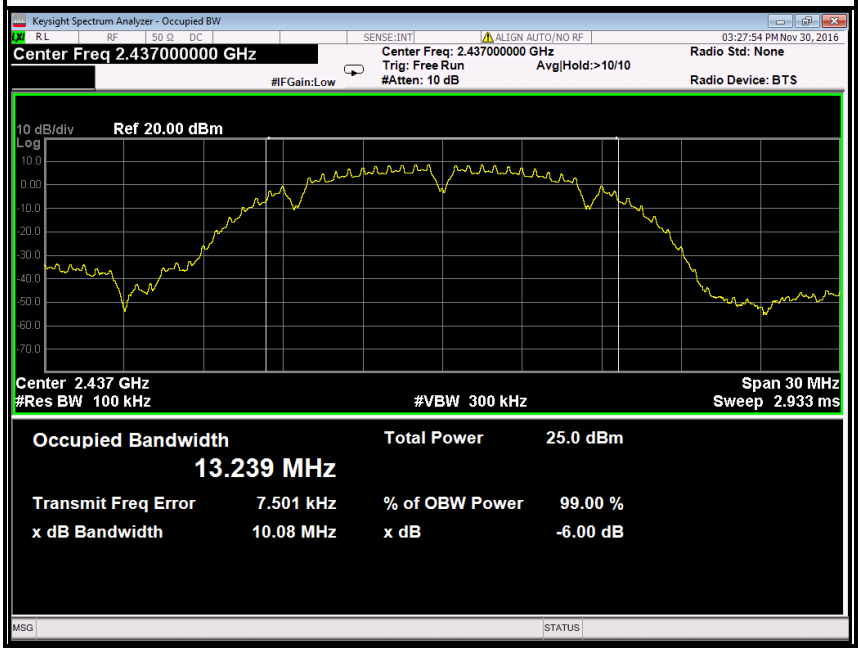
Test Plot

IEEE 802.11b mode (Antenna 0)

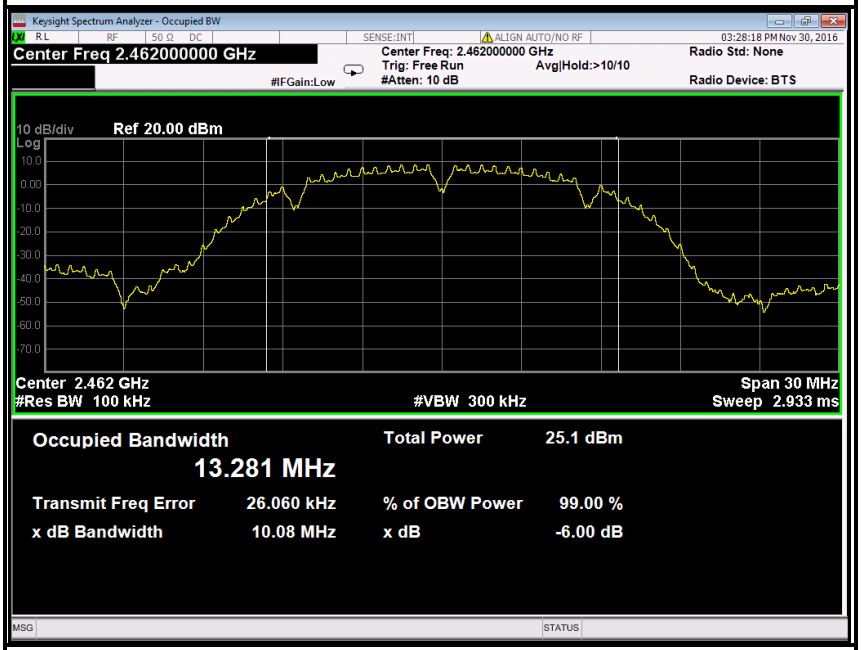
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

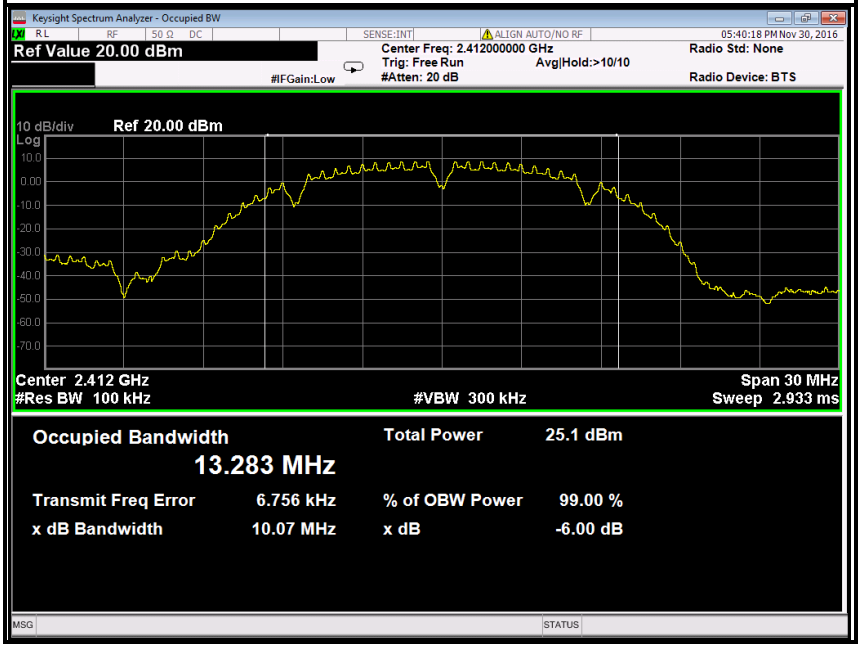


6dB Bandwidth (CH High)

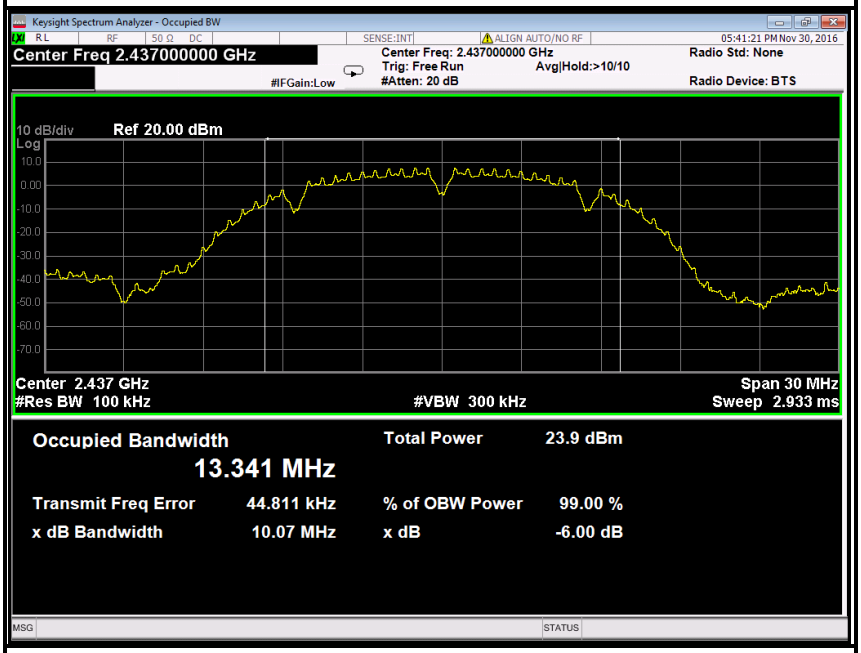


IEEE 802.11b mode (Antenna 1)

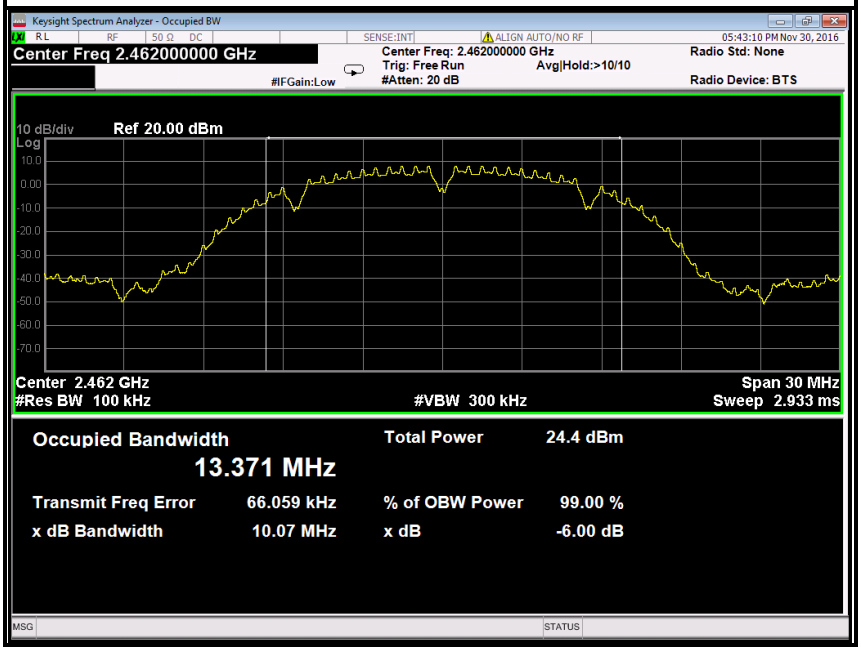
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

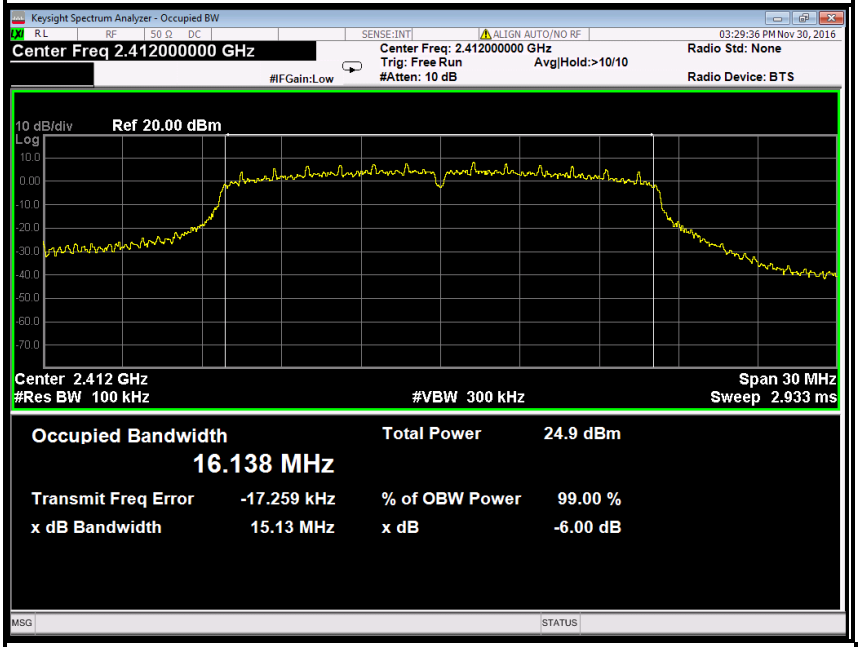


6dB Bandwidth (CH High)

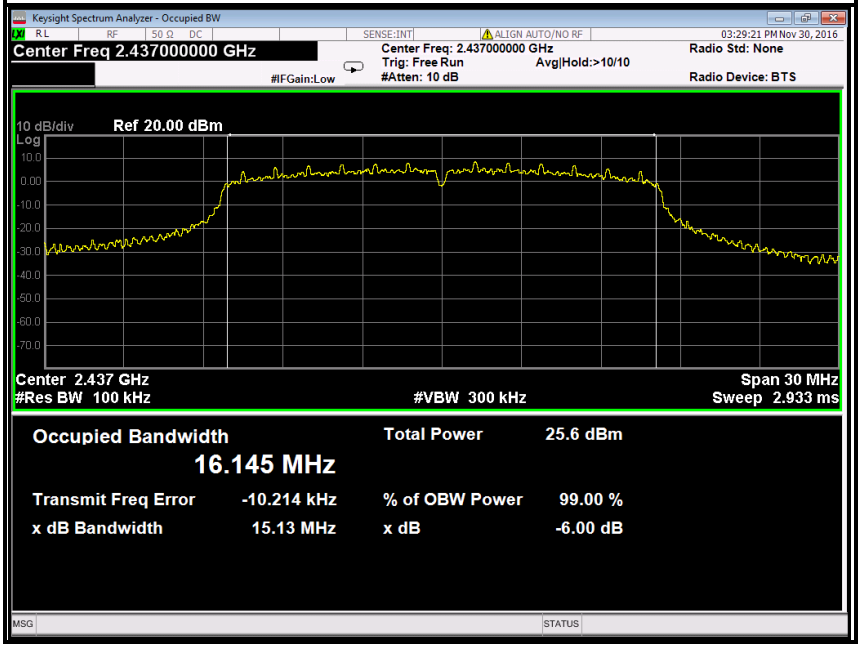


IEEE 802.11g mode (Antenna 0)

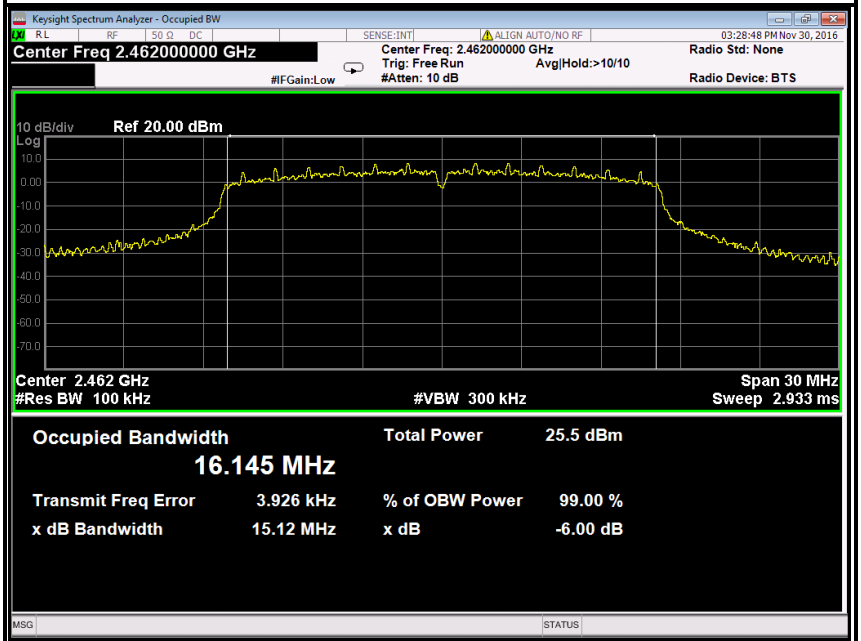
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

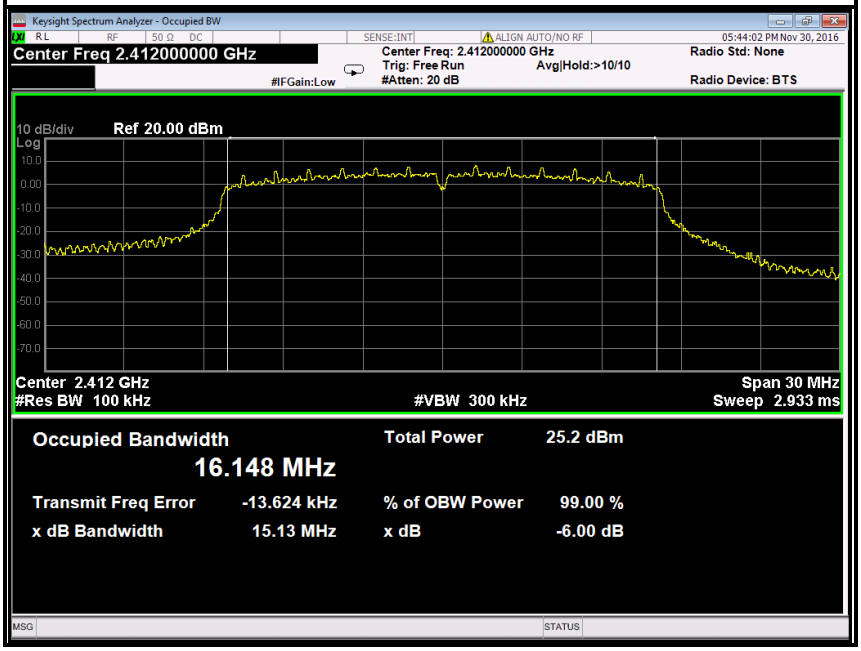


6dB Bandwidth (CH High)

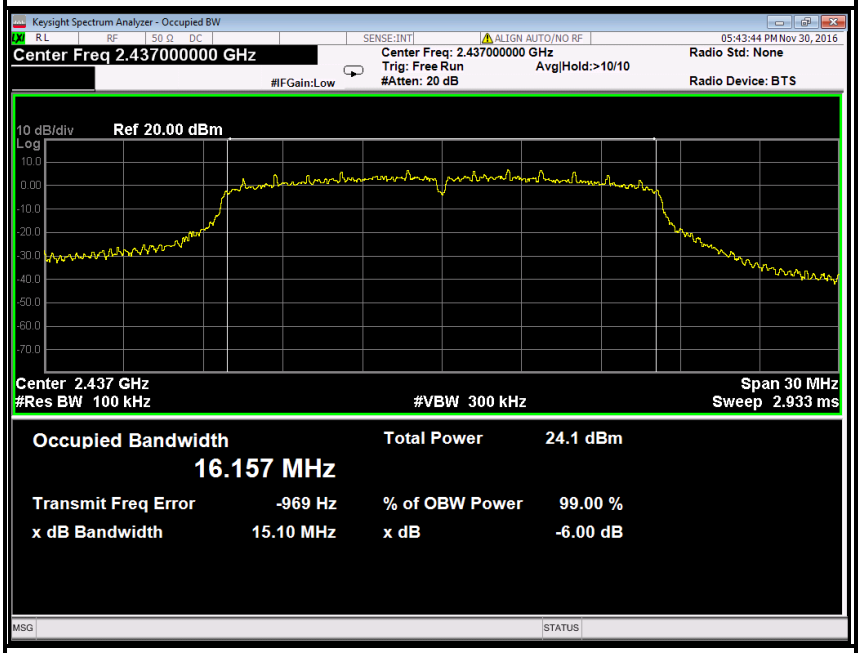


IEEE 802.11g mode (Antenna 1)

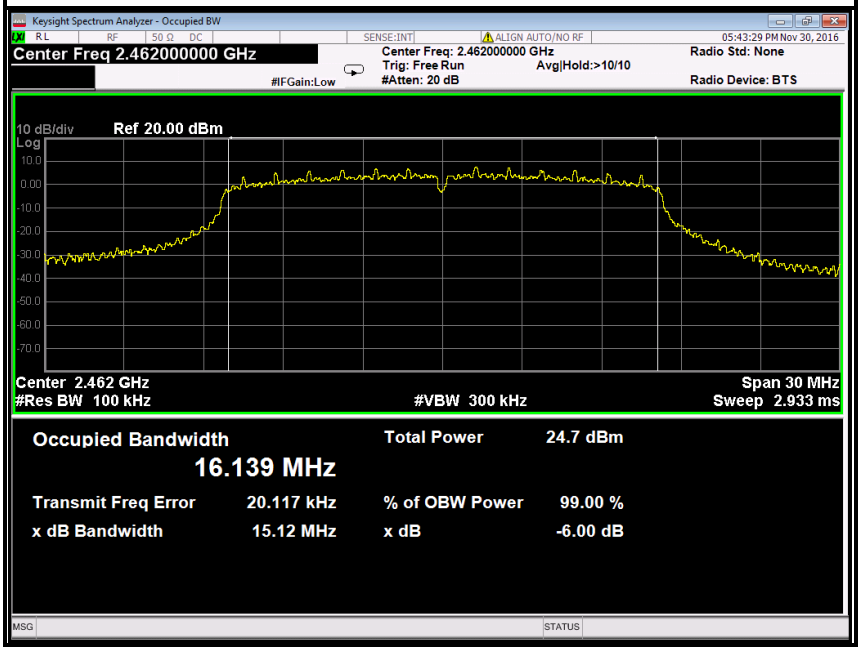
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

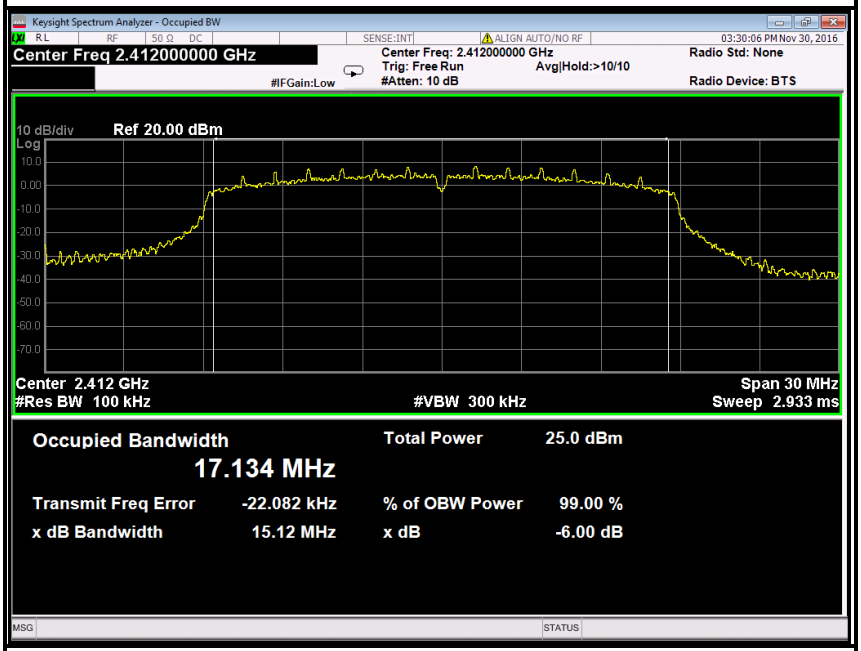


6dB Bandwidth (CH High)

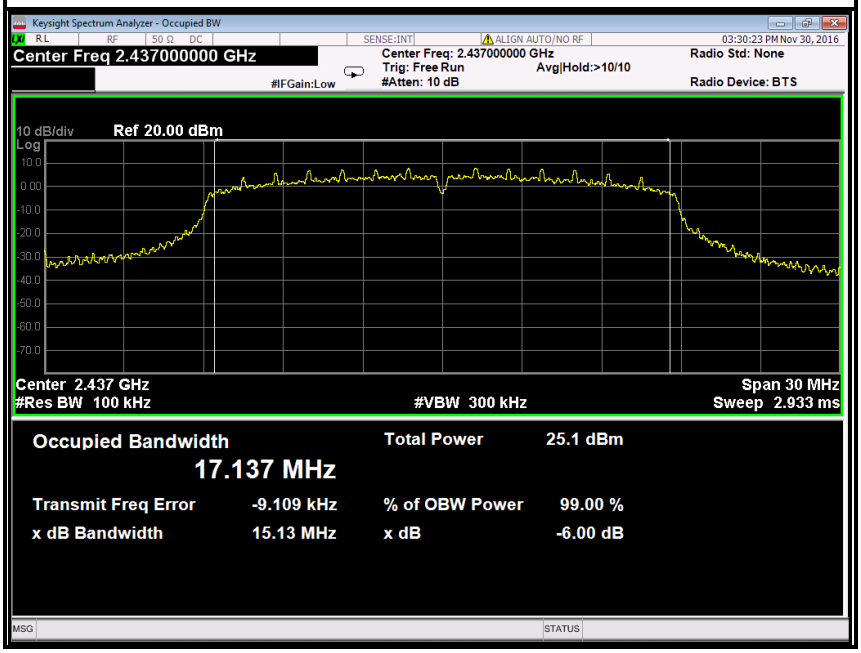


IEEE 802.11n HT20 MHz mode (Antenna 0)

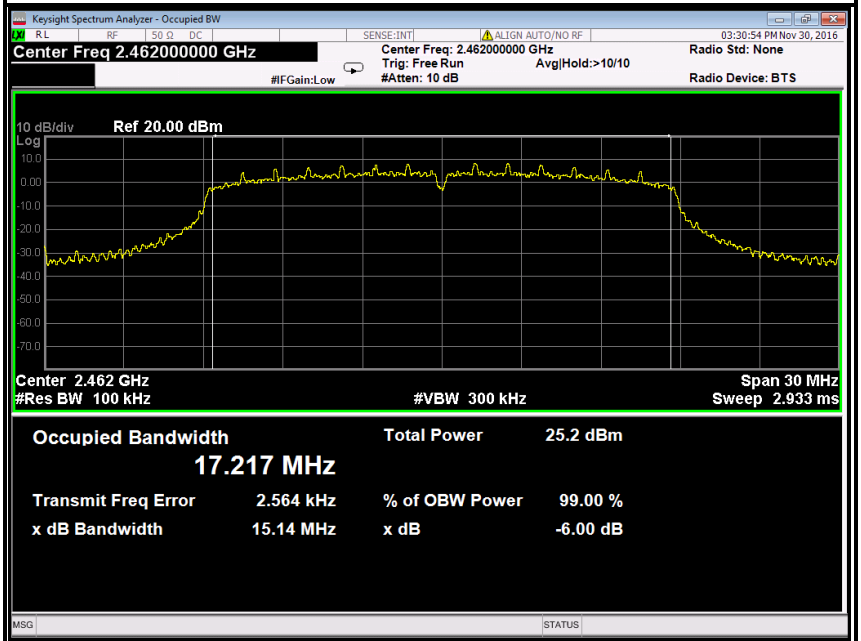
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

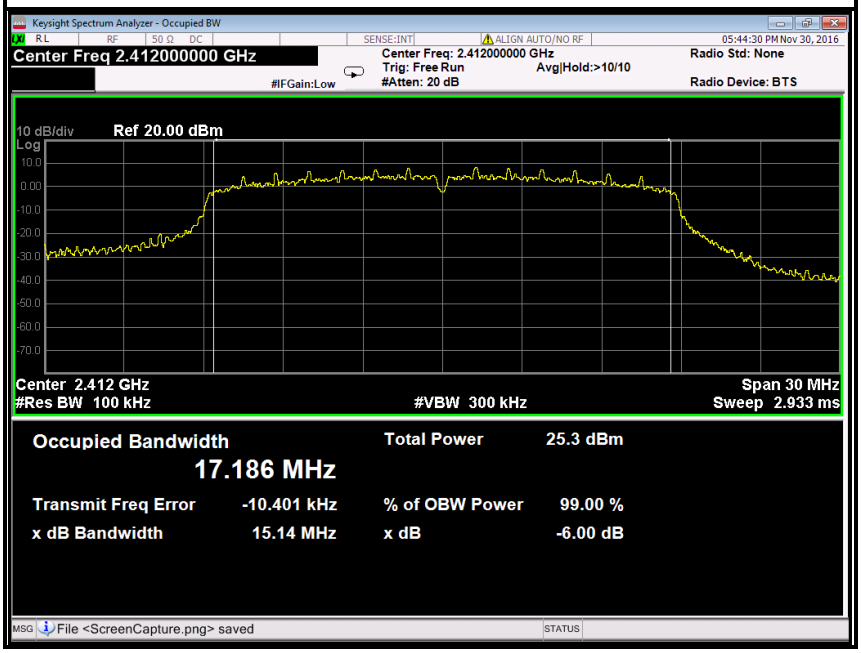


6dB Bandwidth (CH High)

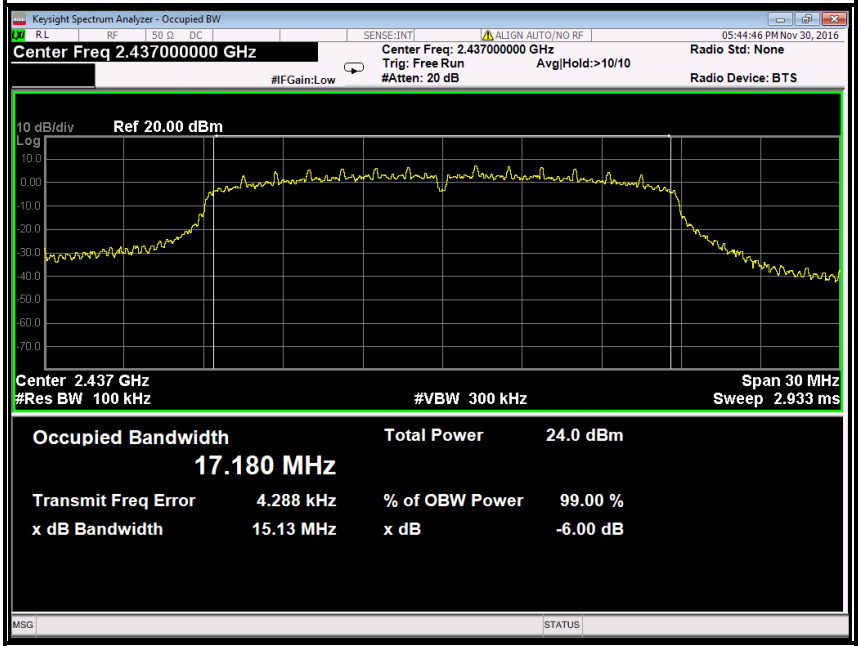


IEEE 802.11n HT20 MHz mode (Antenna 1)

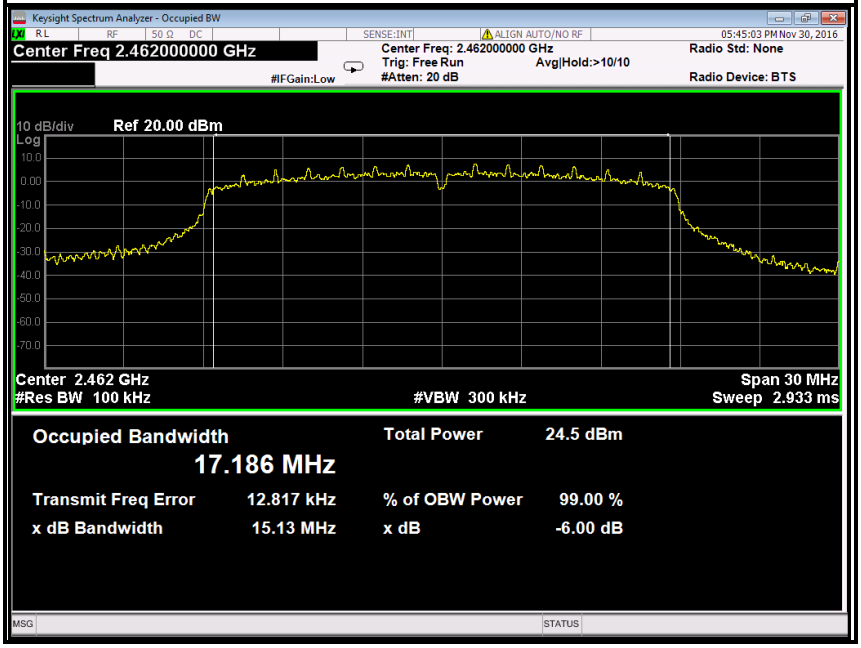
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

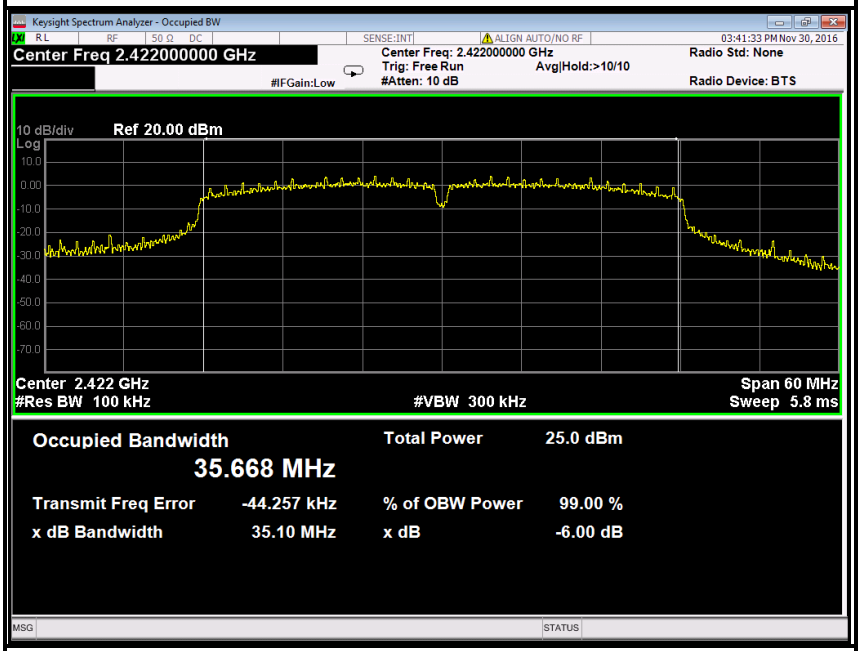


6dB Bandwidth (CH High)

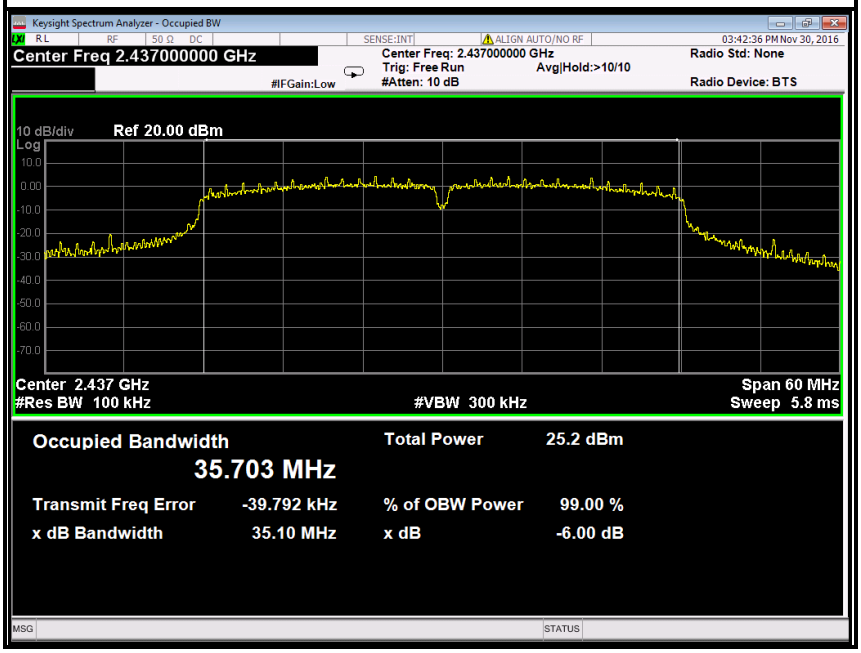


IEEE 802.11n HT40 MHz mode (Antenna 0)

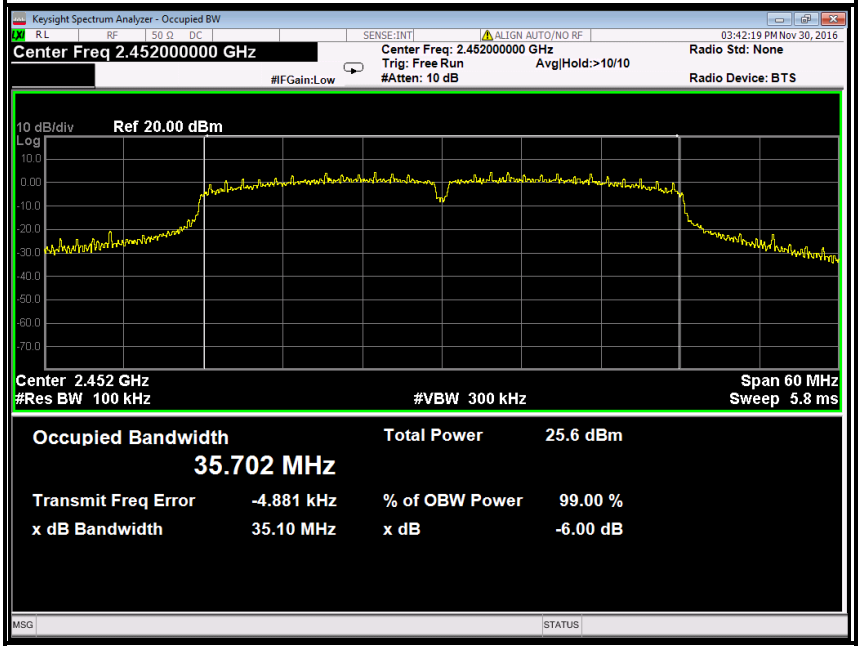
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

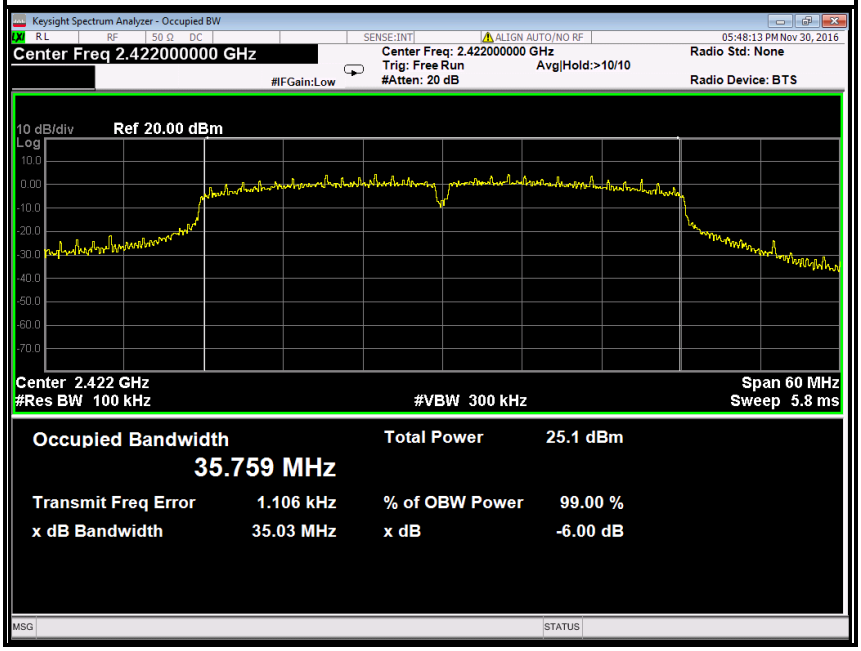


6dB Bandwidth (CH High)

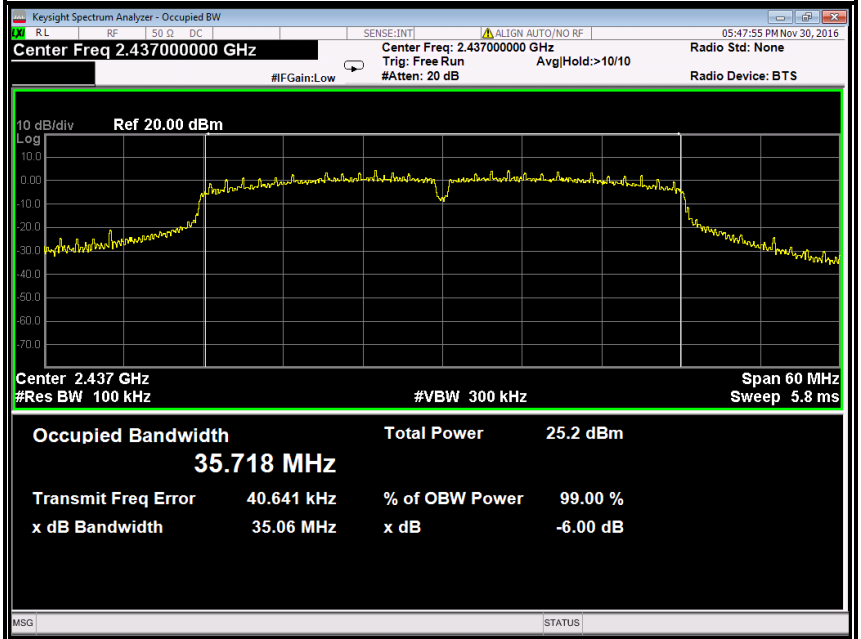


IEEE 802.11n HT40 MHz mode (Antenna 1)

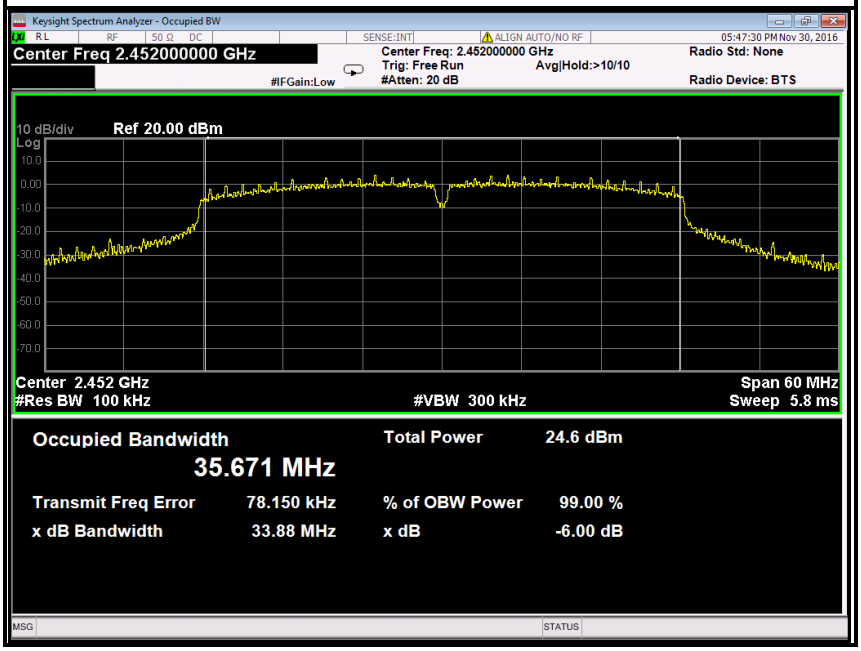
6dB Bandwidth (CH Low)



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		5.68	5.43	6.40
Radiated power [dBm/MHz] Measured with DSSS modulation		6.80	7.20	8.10
Gain [dBi] Calculated		1.12	1.77	1.70
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		8.72	7.71	7.56
Radiated power [dBm/MHz] Measured with DSSS modulation		9.80	9.20	9.10
Gain [dBi] Calculated		1.08	1.49	1.54
Measurement uncertainty		± 1.5 dB (cond.) / ± 3 dB (rad.)		

7.5. PEAK OUTPUT POWER

7.5.1. LIMITS

The maximum peak output power of the intentional radiator shall not exceed the following:

1. According to §15.247(b)(3), for systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 Watt.

2. According to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.5.2. TEST INSTRUMENTS

Name of Equipment	Manufacturer	Model	Serial Number	Last Calibration	Calibration Due
Power Meter	Anritsu	ML2495A	1204003	02/21/2016	02/20/2017
Power Sensor	Anritsu	MA2411B	1126150	02/21/2016	02/20/2017

7.5.3. TEST PROCEDURES (please refer to measurement standard)

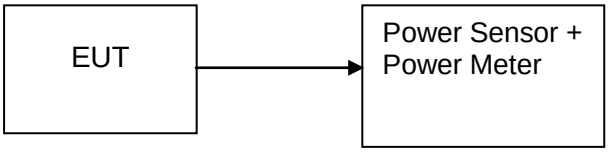
9.1.1 RBW ≥ *DTS bandwidth*

This procedure shall be used when the measurement instrument has available a resolution bandwidth that is greater than the *DTS bandwidth*.
a) Set the RBW ≥ *DTS bandwidth*.
b) Set VBW ≥ 3 RBW.
c) Set span ≥ 3 x RBW
d) Sweep time = auto couple.
e) Detector = peak.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use peak marker function to determine the peak amplitude level.

9.1.2 PKPM1 Peak power meter method

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

7.5.4. TEST SETUP



7.5.5. TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11b (Antenna 0)

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	16.82	0.04808	Peak	1	PASS
Mid	2437	16.57	0.04539			PASS
High	2462	17.54	0.05675			PASS
Low	2412	15.00	0.03162	AVG	1	PASS
Mid	2437	14.72	0.02965			PASS
High	2462	15.67	0.03690			PASS

Test mode: IEEE 802.11b (Antenna 1)

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	19.86	0.09683	Peak	1	PASS
Mid	2437	18.85	0.07674			PASS
High	2462	18.70	0.07413			PASS
Low	2412	18.00	0.06310	AVG	1	PASS
Mid	2437	17.39	0.05483			PASS
High	2462	17.12	0.05152			PASS

Test mode: IEEE 802.11g (Antenna 0)

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	22.90	0.19498	Peak	1	PASS
Mid	2437	23.39	0.21827			PASS
High	2462	23.75	0.23714			PASS
Low	2412	17.21	0.05260	AVG	1	PASS
Mid	2437	18.26	0.06699			PASS
High	2462	18.38	0.06887			PASS

Test mode: IEEE 802.11g (Antenna 1)

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	23.53	0.22542	Peak	1	PASS
Mid	2437	22.74	0.18793			PASS
High	2462	22.58	0.18113			PASS
Low	2412	18.24	0.06668	AVG	1	PASS
Mid	2437	17.54	0.05675			PASS
High	2462	17.34	0.05420			PASS

Test mode: IEEE 802.11n HT20 MHz(Combine with Antenna 0 and Antenna 1)

Channel	Frequency (MHz)	Output Power (dBm)			Output Power (W)	Peak / AVG	Limit (W)	Result
		Antenna 0	Antenna 1	Total				
Low	2412	23.56	23.53	26.56	0.45241	Peak	1	PASS
Mid	2437	23.51	23.52	26.53	0.44929			PASS
High	2462	23.17	22.45	25.84	0.38328			PASS
Low	2412	18.05	18.20	21.14	0.12990	AVG	1	PASS
Mid	2437	17.90	17.73	20.83	0.12095			PASS
High	2462	17.22	16.99	20.12	0.10273			PASS

Test mode: IEEE 802.11n HT40 MHz(Combine with Antenna 0 and Antenna 1)

Channel	Frequency (MHz)	Output Power (dBm)			Output Power (W)	Peak / AVG	Limit (W)	Result
		Antenna 0	Antenna 1	Total				
Low	2422	17.35	17.33	20.35	0.10840	Peak	1	PASS
Mid	2437	19.11	18.68	21.91	0.15526			PASS
High	2452	19.22	18.26	21.78	0.15055			PASS
Low	2422	12.94	13.06	16.01	0.03991	AVG	1	PASS
Mid	2437	14.75	14.68	17.73	0.05923			PASS
High	2452	14.95	13.97	17.50	0.05621			PASS

7.6. BAND EDGES MEASUREMENT

7.6.1. LIMITS

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. 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)).

7.6.2. 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	09/25/2016	09/24/2017
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.

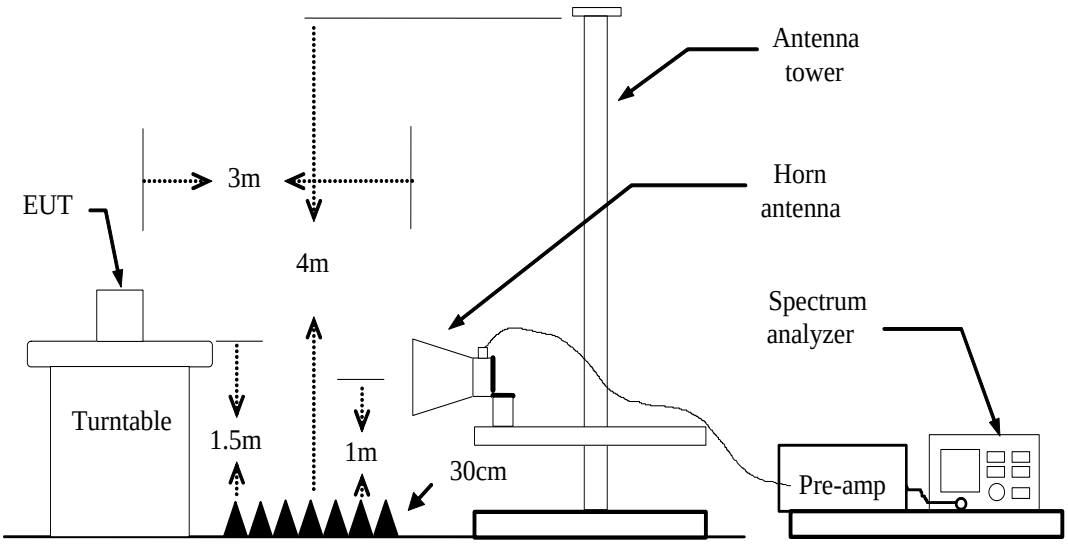
7.6.3. TEST PROCEDURES (please refer to measurement standard)

1. The EUT is placed on a turntable, which is 1.5m above the 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 emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
   (a) PEAK: RBW=1MHz / VBW=3MHz / Sweep=AUTO

   (b) AVERAGE: RBW=1MHz / VBW=10Hz、1.1kHz / Sweep=AUTO /

   Detector=PEAK
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are

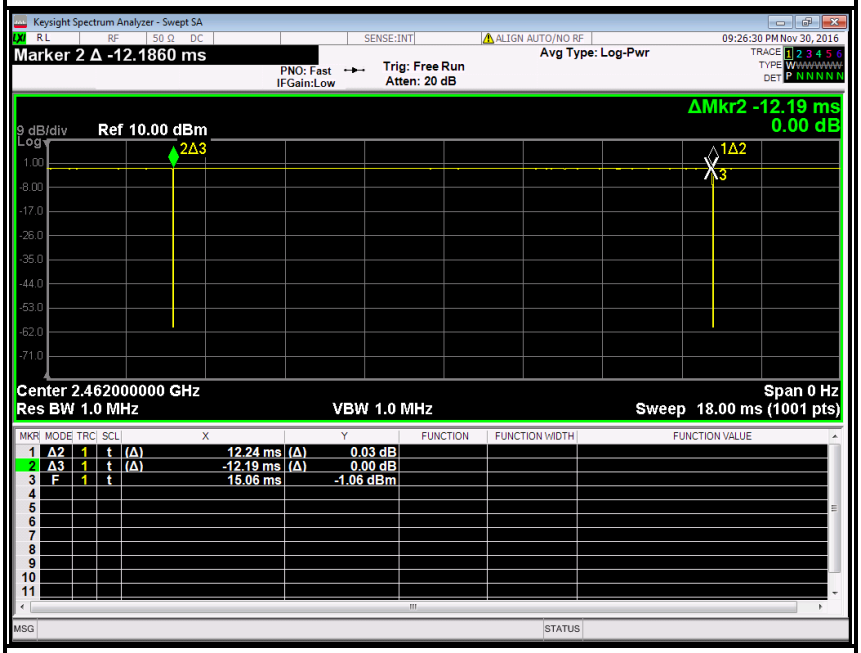
7.6.4. TEST SETUP



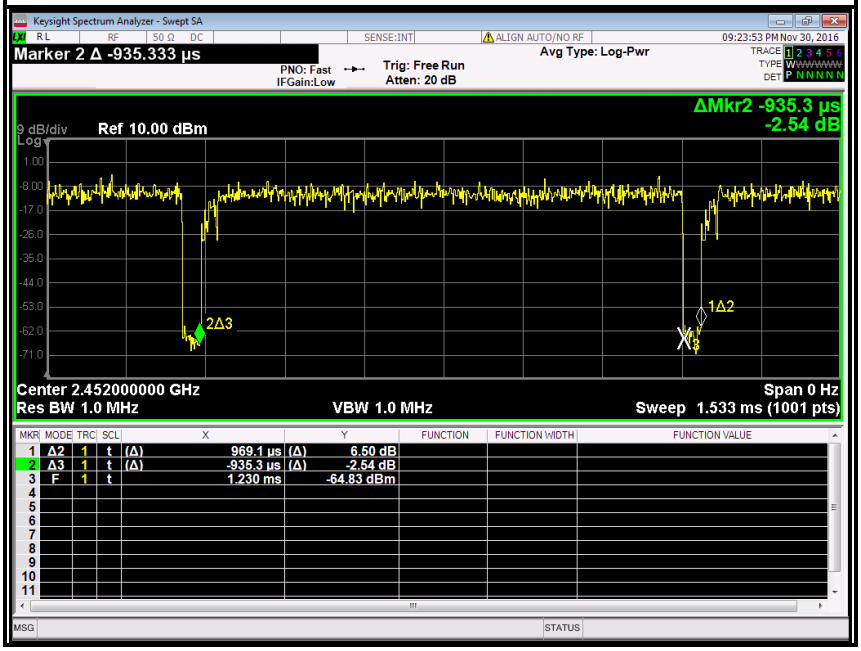
7.6.5. TEST RESULTS

Duty Cycle Test Plot

IEEE 802.11b/g/n HT20 MHz



IEEE 802.11n HT40 MHz

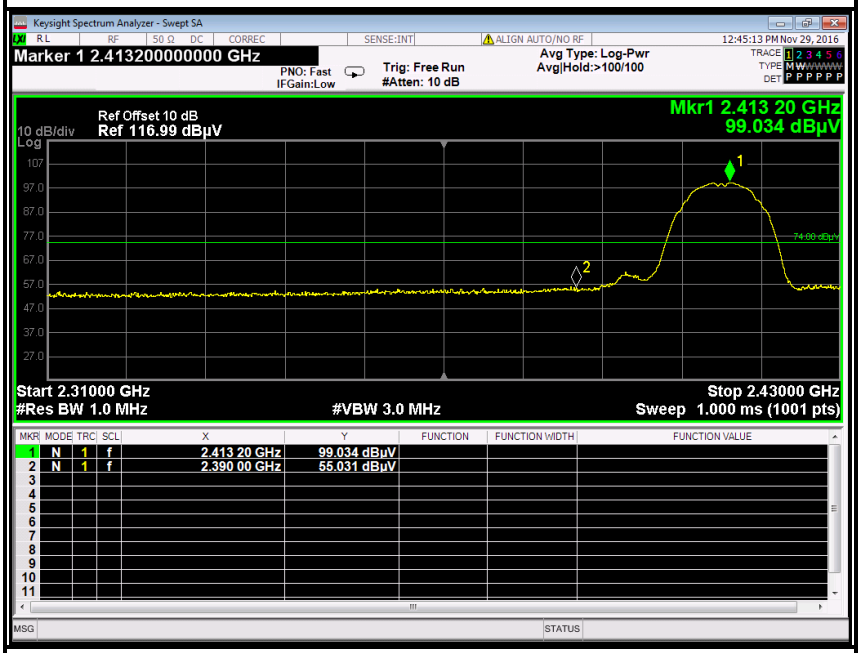


Test Plot

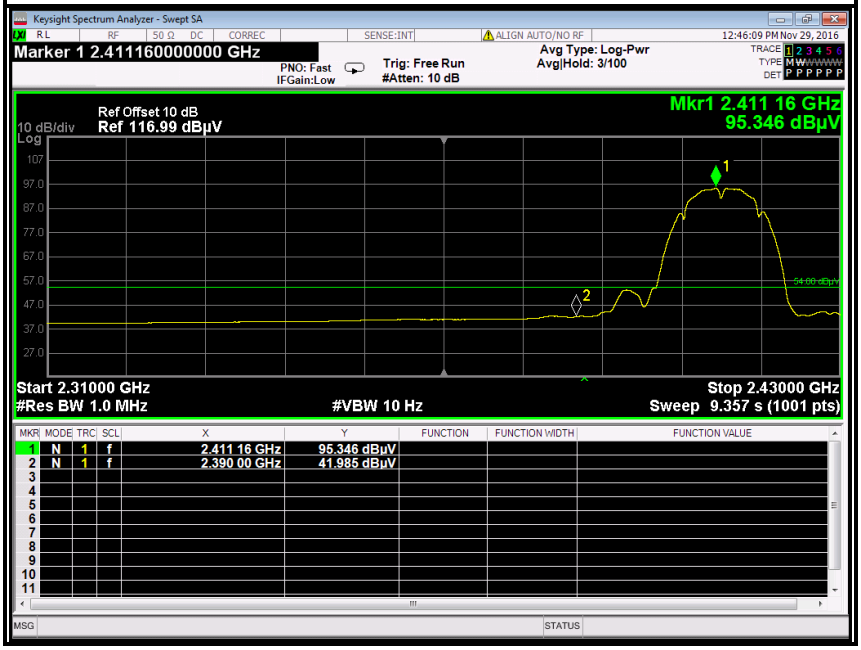
IEEE 802.11b mode (Antenna 0)

Band Edges (CH Low)

Detector mode: Peak **Polarity: Vertical**

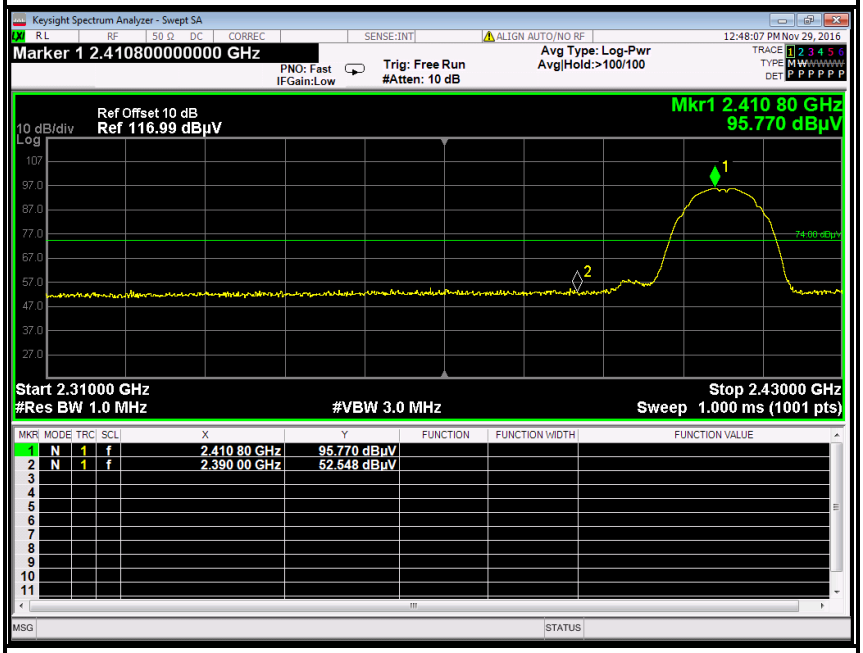


Detector mode: Average **Polarity: Vertical**

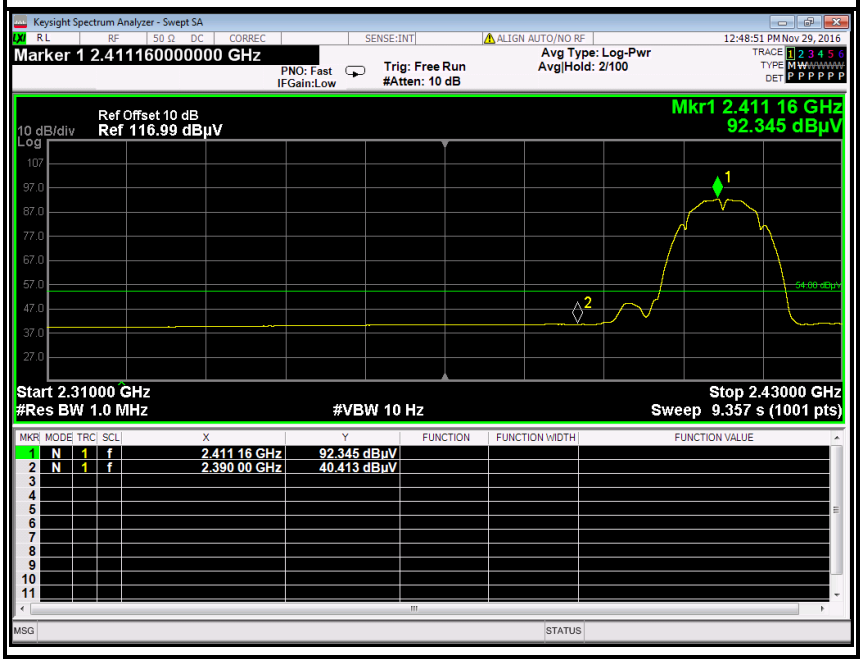


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2390.0000	48.43	-6.60	55.03	74.00	-18.97	Peak	Vertical
2	2390.0000	35.39	-6.60	41.99	54.00	-12.02	Average	Vertical

Detector mode: Peak **Polarity: Horizontal**



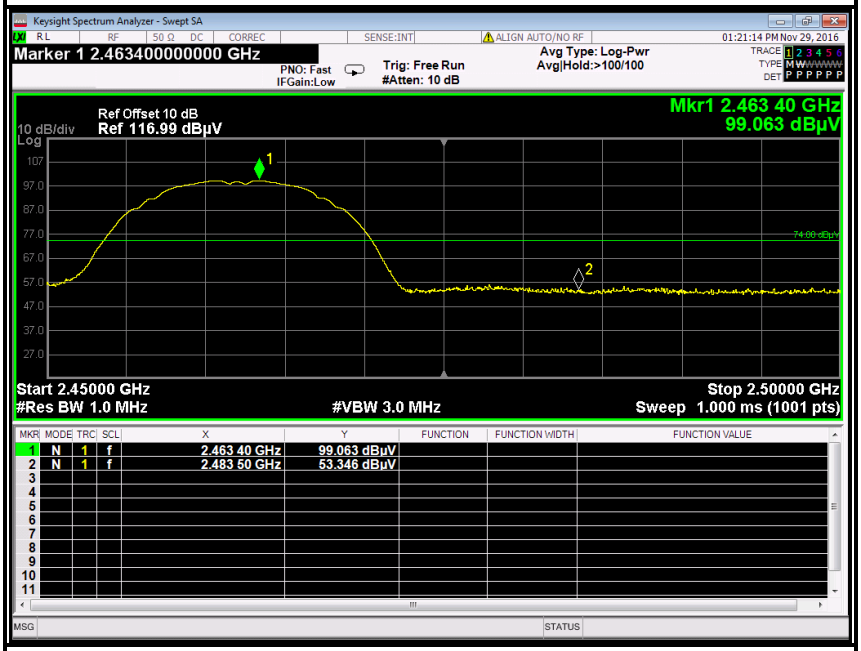
Detector mode: Average **Polarity: Horizontal**



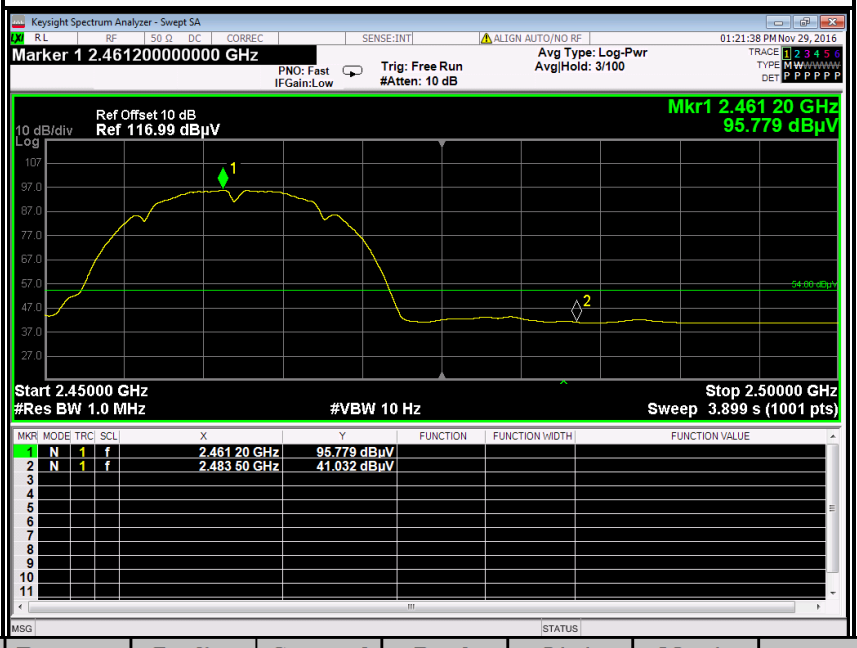
No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2390.0000	45.95	-6.60	52.55	74.00	-21.45	Peak	Horizontal
2	2390.0000	33.81	-6.60	40.41	54.00	-13.59	Average	Horizontal

Band Edges (CH High)

Detector mode: Peak **Polarity: Vertical**

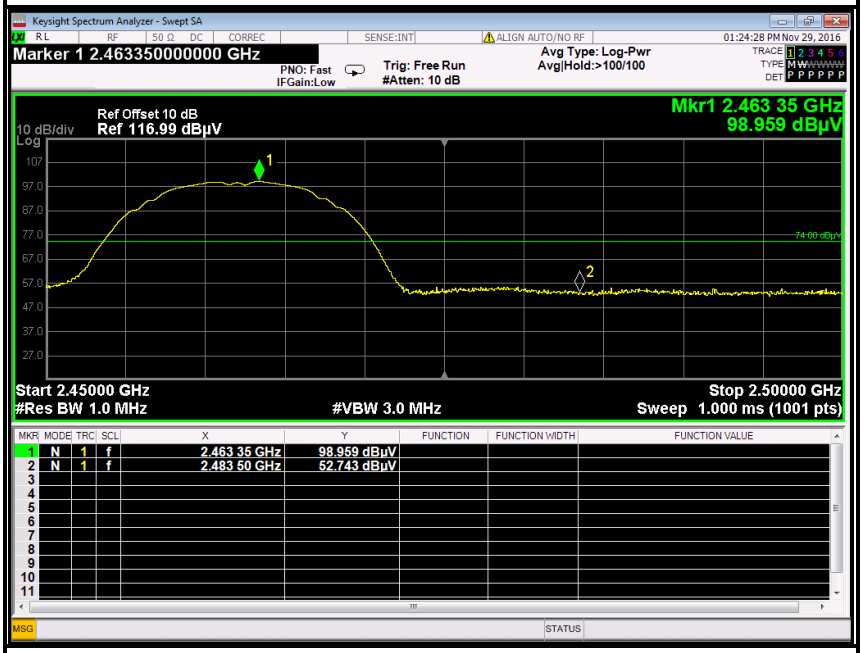


Detector mode: Average **Polarity: Vertical**

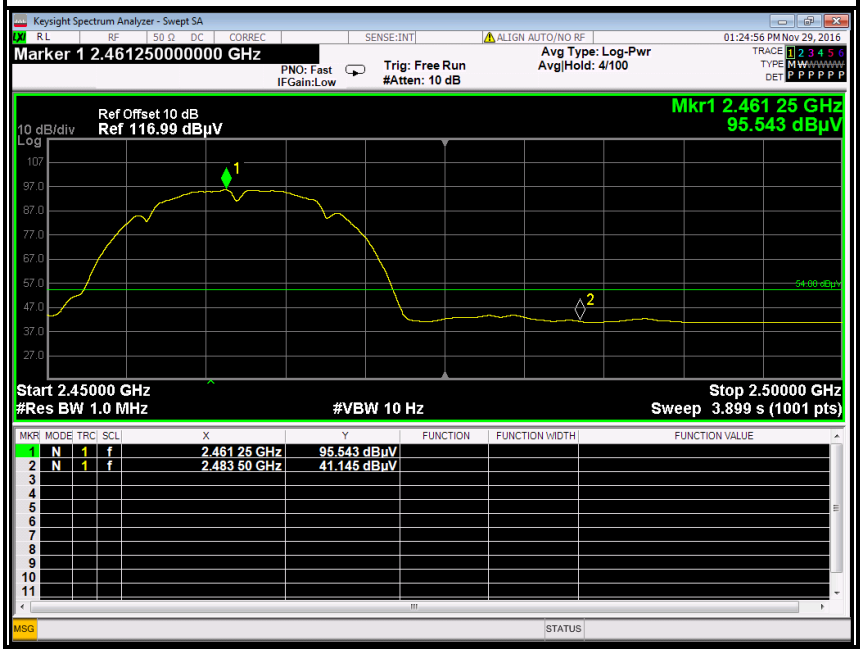


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2483.5000	47.11	-6.24	53.35	74.00	-20.65	Peak	Vertical
2	2483.5000	34.79	-6.24	41.03	54.00	-12.97	Average	Vertical

Detector mode: Peak **Polarity: Horizontal**



Detector mode: Average **Polarity: Horizontal**

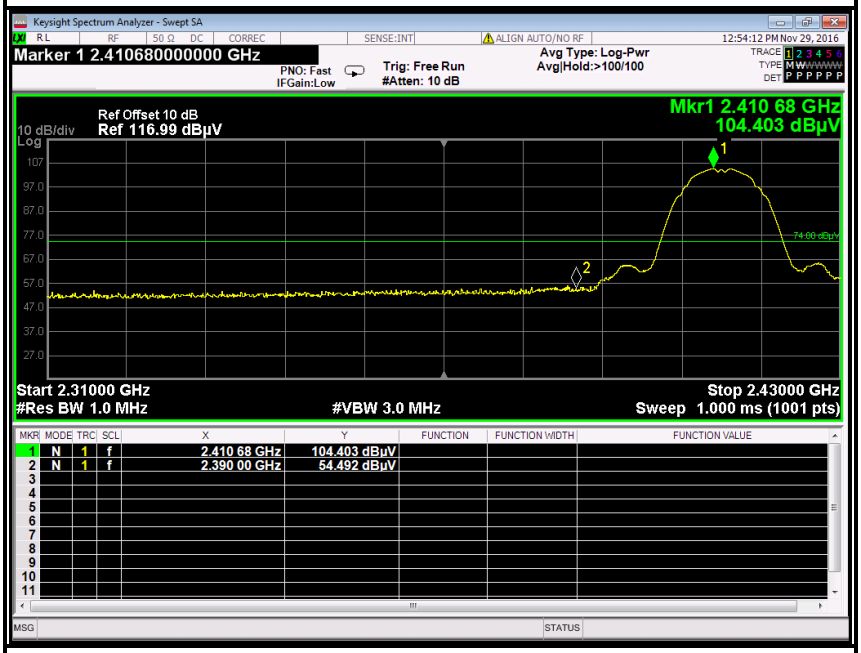


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2483.5000	46.50	-6.24	52.74	74.00	-21.26	Peak	Horizontal
2	2483.5000	34.91	-6.24	41.15	54.00	-12.86	Average	Horizontal

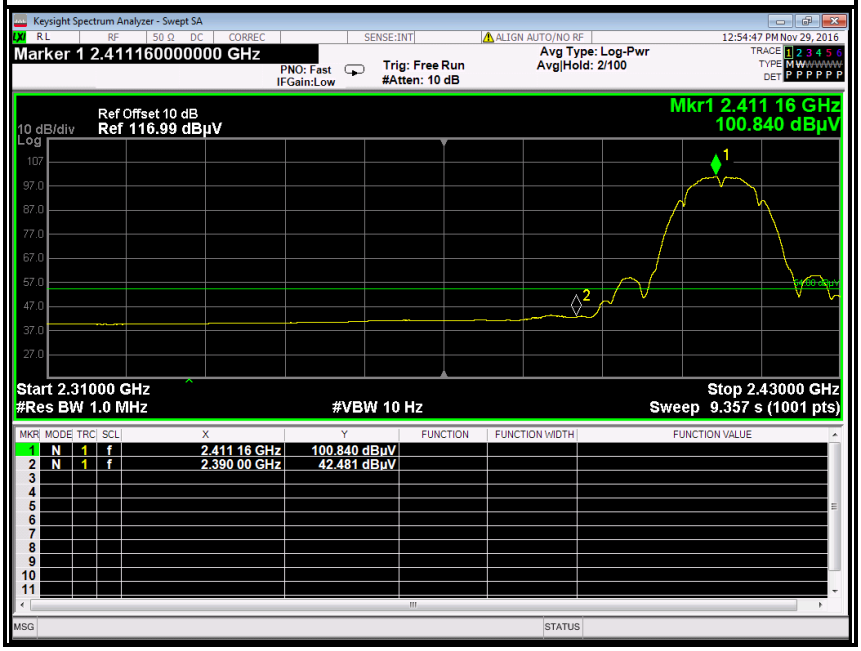
IEEE 802.11b mode (Antenna 1)

Band Edges (CH Low)

Detector mode: Peak **Polarity: Vertical**

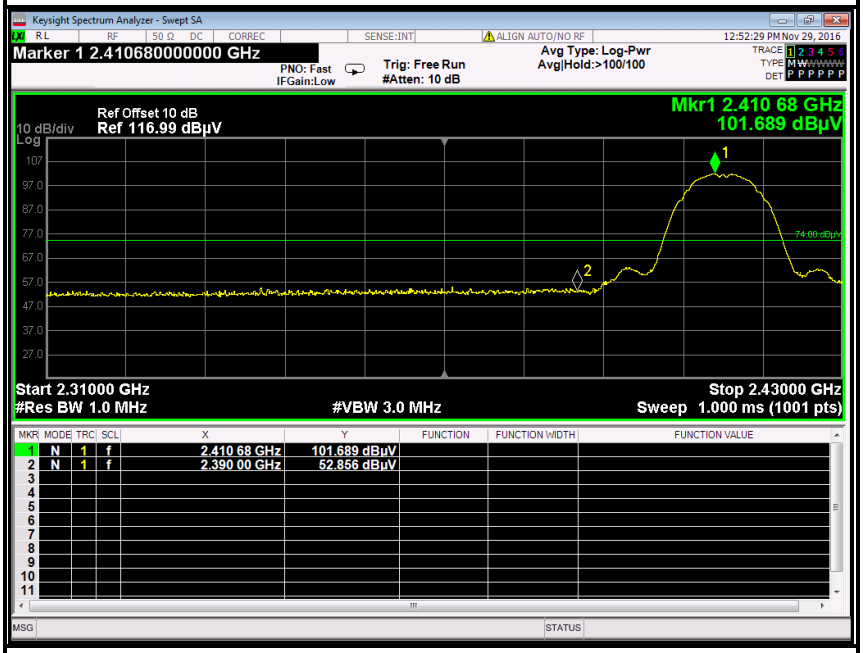


Detector mode: Average **Polarity: Vertical**

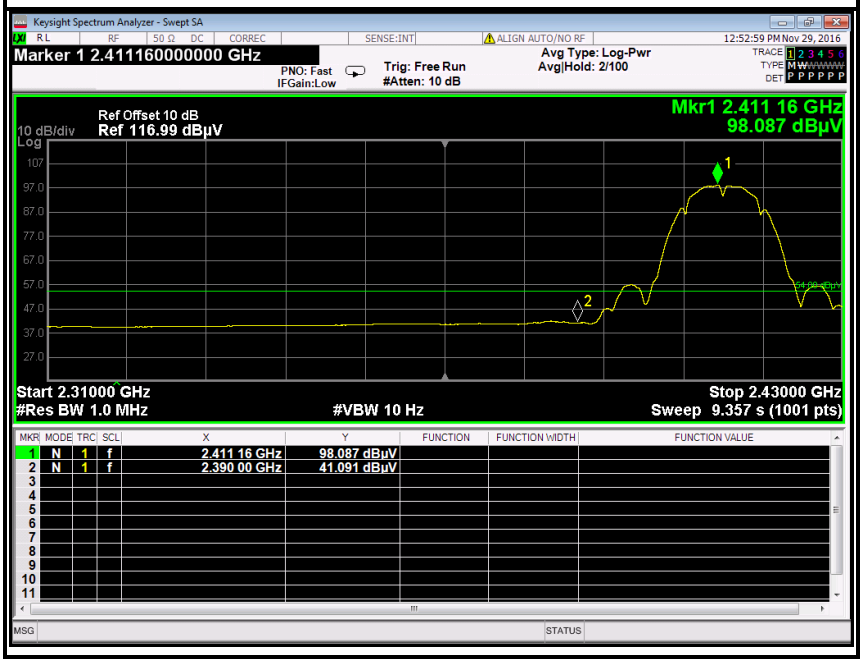


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2390.0000	47.89	-6.60	54.49	74.00	-19.51	Peak	Vertical
2	2390.0000	35.88	-6.60	42.48	54.00	-11.52	Average	Vertical

Detector mode: Peak **Polarity: Horizontal**



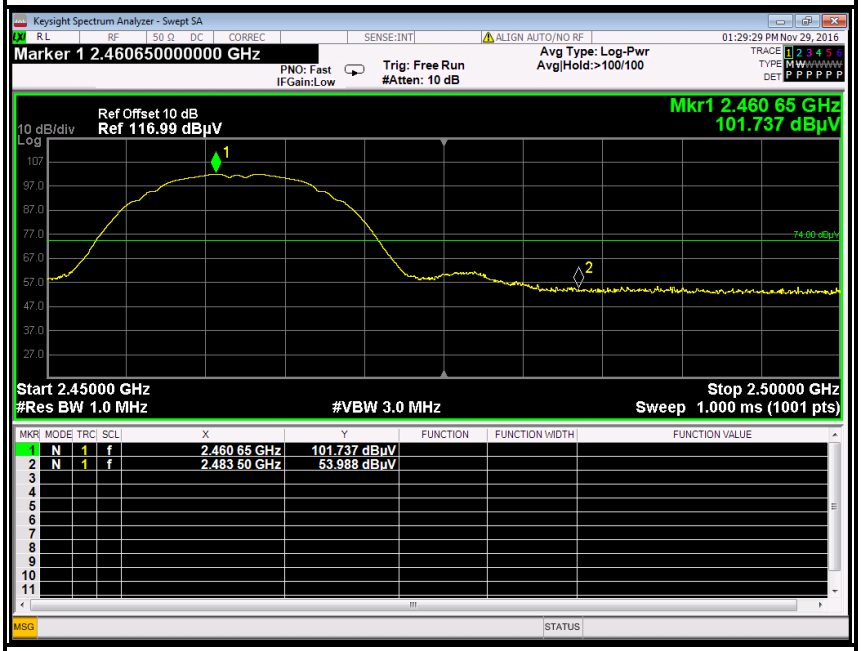
Detector mode: Average **Polarity: Horizontal**



No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2390.0000	46.26	-6.60	52.86	74.00	-21.14	Peak	Horizontal
2	2390.0000	34.49	-6.60	41.09	54.00	-12.91	Average	Horizontal

Band Edges (CH High)

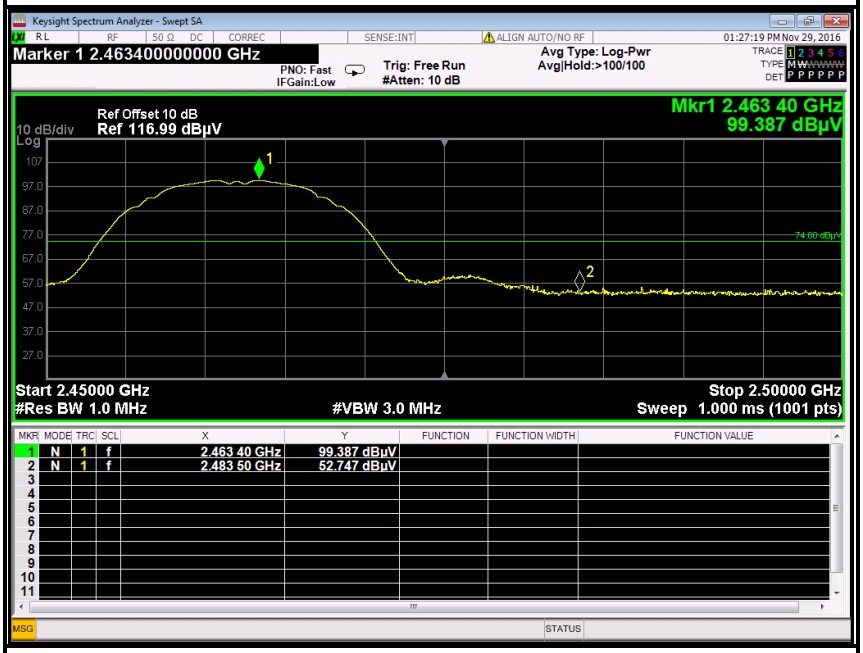
Detector mode: Peak **Polarity: Vertical**



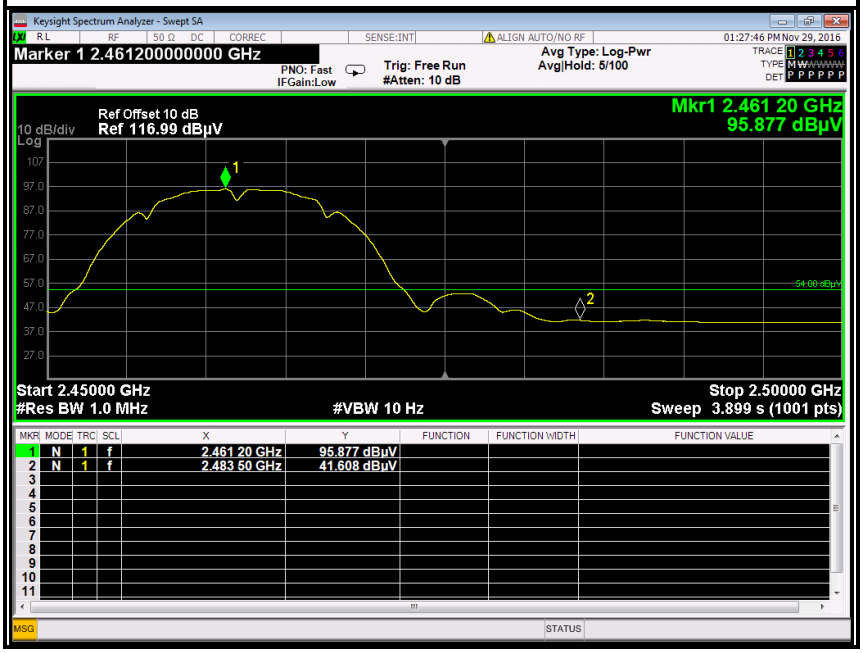
Detector mode: Average **Polarity: Vertical**

No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2483.5000	47.75	-6.24	53.99	74.00	-20.01	Peak	Vertical
2	2483.5000	35.90	-6.24	42.14	54.00	-11.87	Average	Vertical

Detector mode: Peak **Polarity: Horizontal**



Detector mode: Average **Polarity: Horizontal**

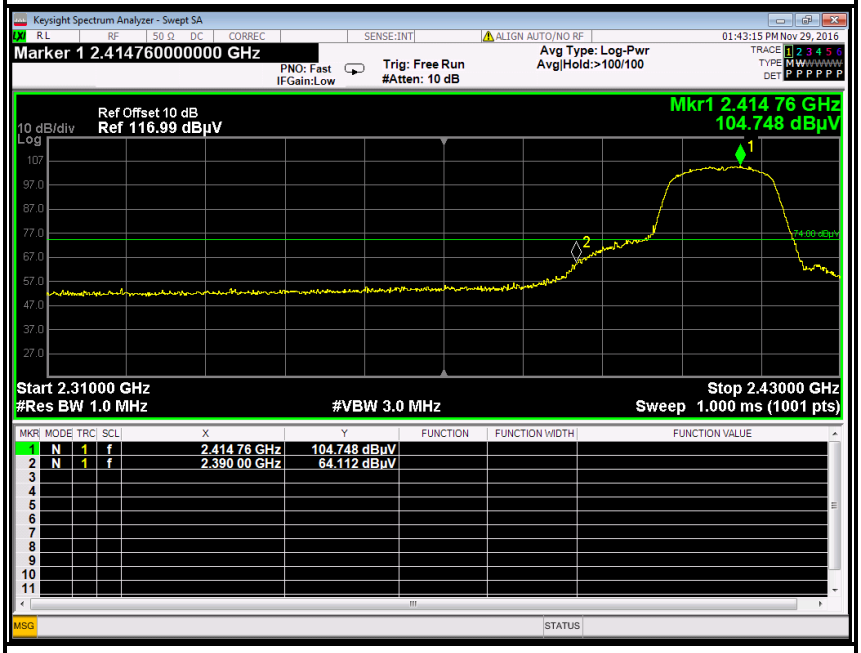


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2483.5000	46.51	-6.24	52.75	74.00	-21.25	Peak	Horizontal
2	2483.5000	35.37	-6.24	41.61	54.00	-12.39	Average	Horizontal

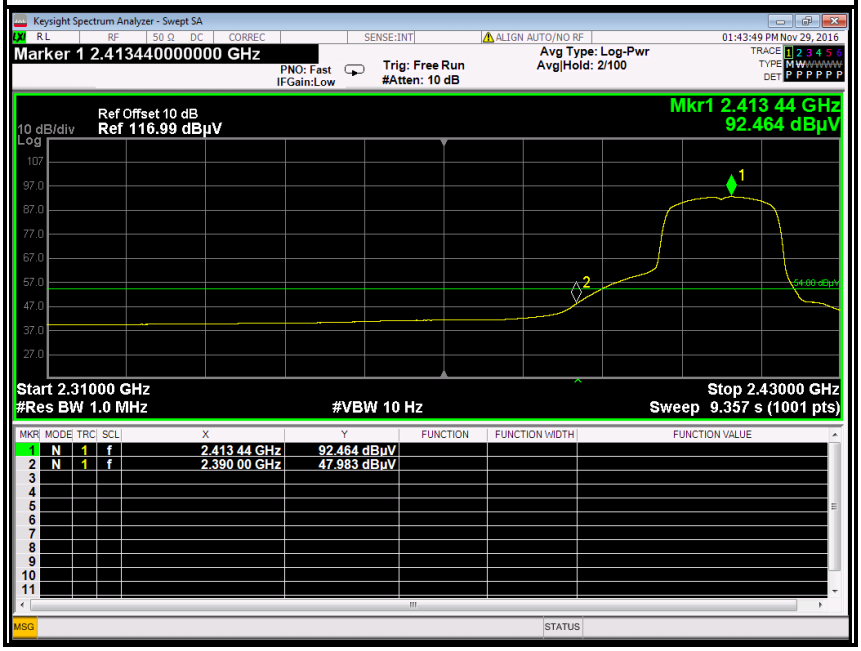
IEEE 802.11g mode (Antenna 0)

Band Edges (CH Low)

Detector mode: Peak **Polarity: Vertical**

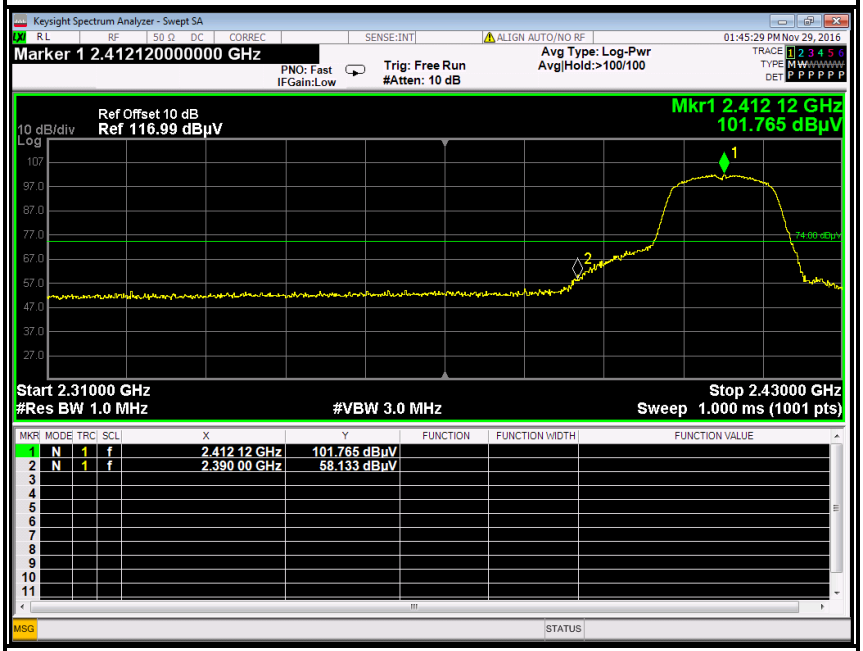


Detector mode: Average **Polarity: Vertical**

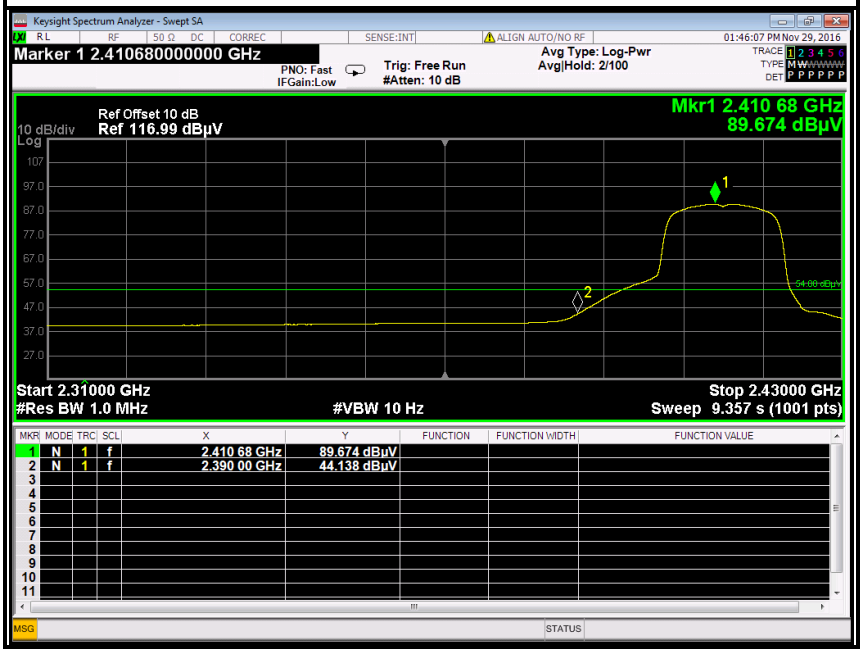


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2390.0000	57.51	-6.60	64.11	74.00	-9.89	Peak	Vertical
2	2390.0000	41.38	-6.60	47.98	54.00	-6.02	Average	Vertical

Detector mode: Peak **Polarity: Horizontal**



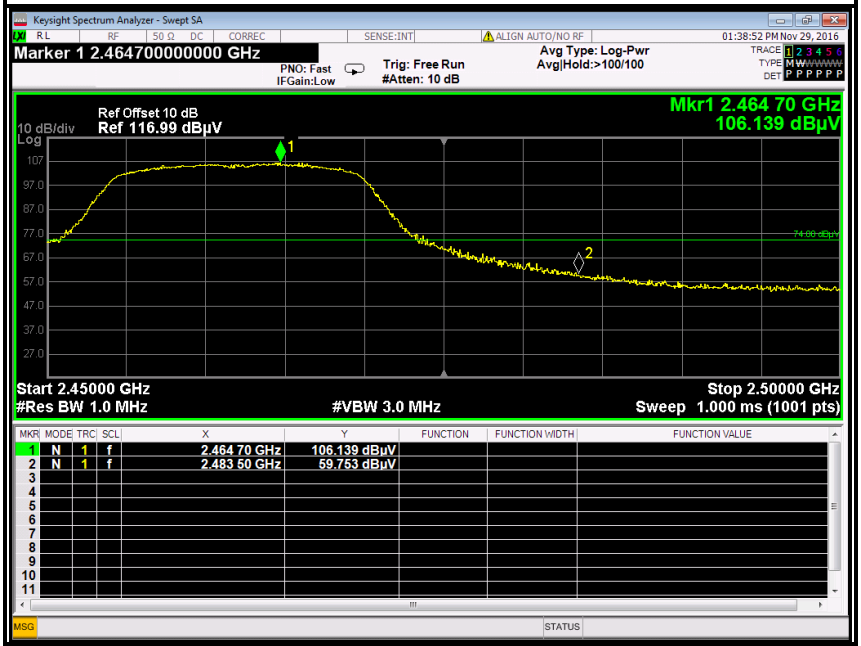
Detector mode: Average **Polarity: Horizontal**



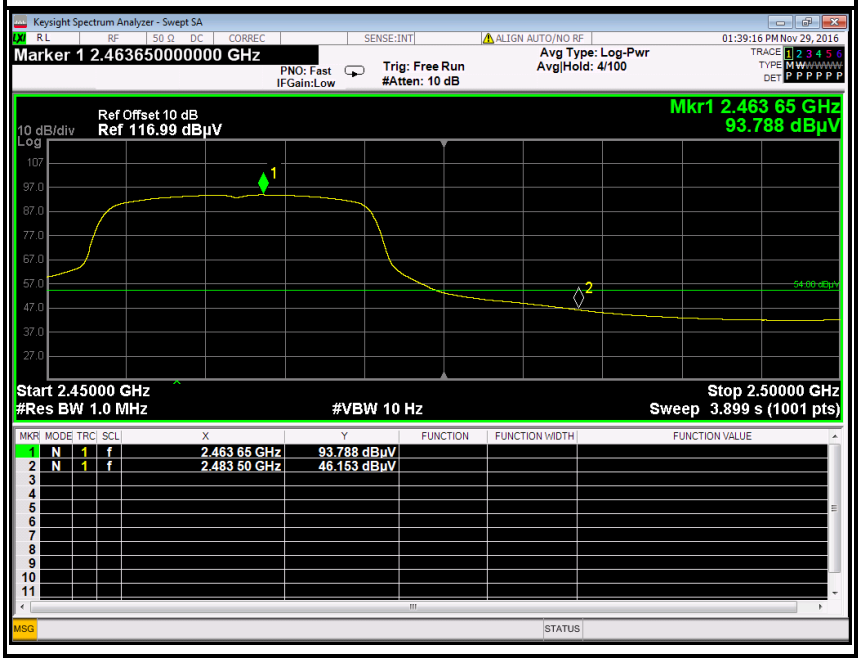
No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2390.0000	51.53	-6.60	58.13	74.00	-15.87	Peak	Horizontal
2	2390.0000	37.54	-6.60	44.14	54.00	-9.86	Average	Horizontal

Band Edges (CH High)

Detector mode: Peak **Polarity: Vertical**

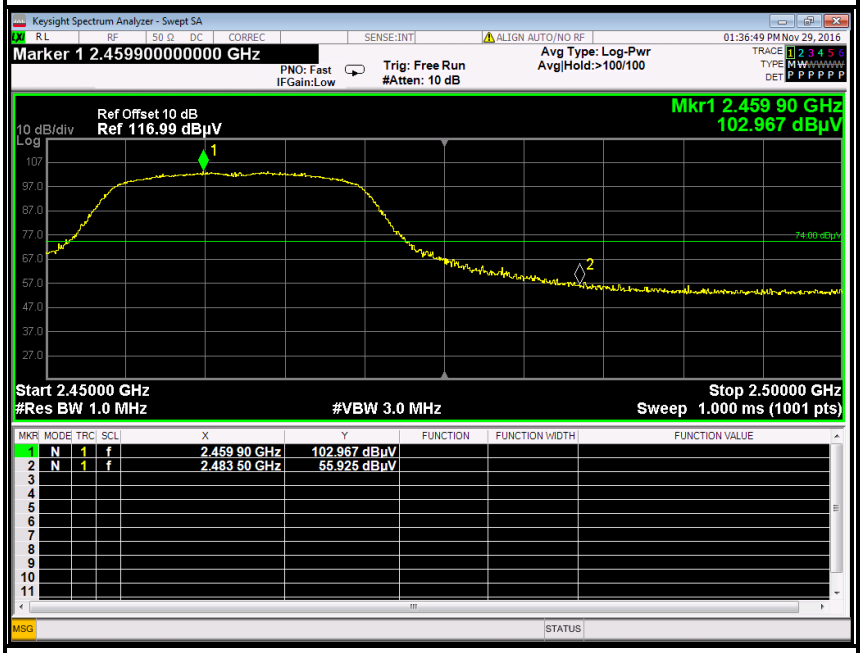


Detector mode: Average **Polarity: Vertical**

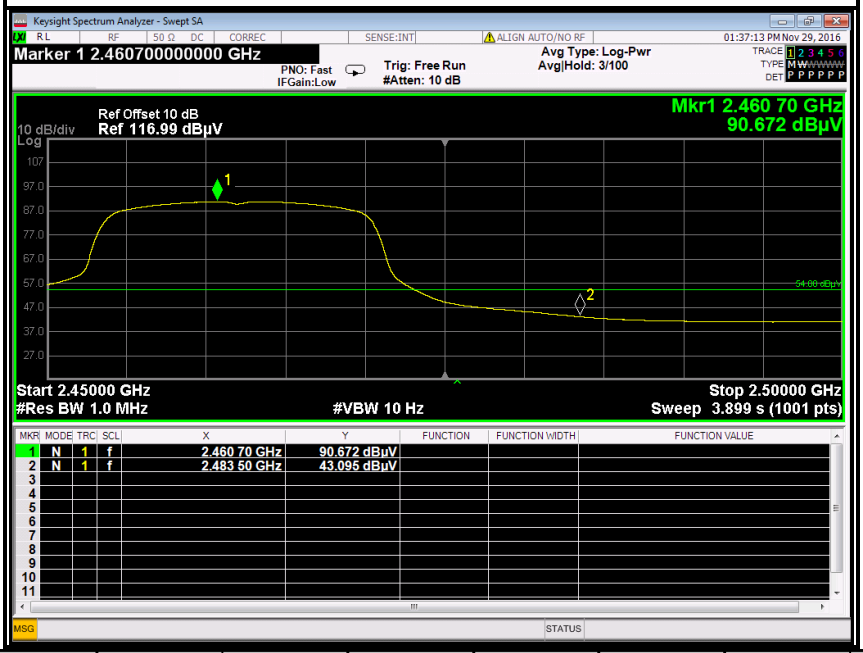


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2483.5000	53.51	-6.24	59.75	74.00	-14.25	Peak	Vertical
2	2483.5000	39.91	-6.24	46.15	54.00	-7.85	Average	Vertical

Detector mode: Peak **Polarity: Horizontal**



Detector mode: Average **Polarity: Horizontal**

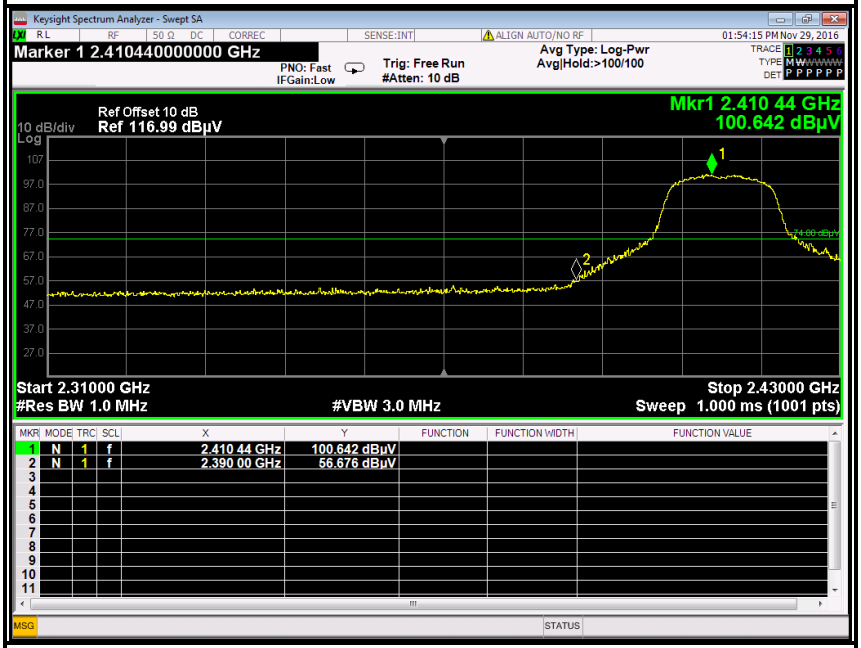


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2483.5000	49.69	-6.24	55.93	74.00	-18.08	Peak	Horizontal
2	2483.5000	36.86	-6.24	43.10	54.00	-10.91	Average	Horizontal

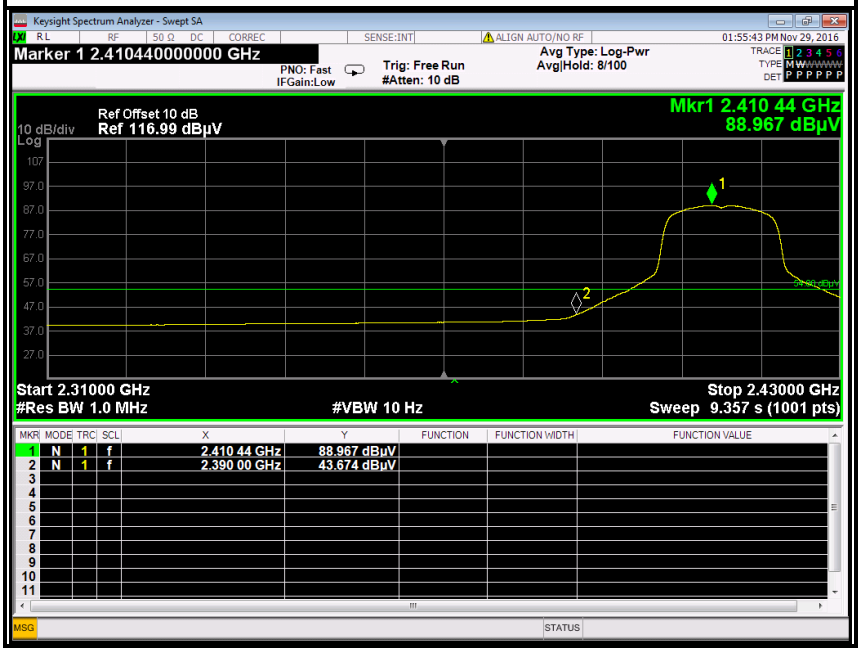
IEEE 802.11g mode (Antenna 1)

Band Edges (CH Low)

Detector mode: Peak **Polarity: Vertical**

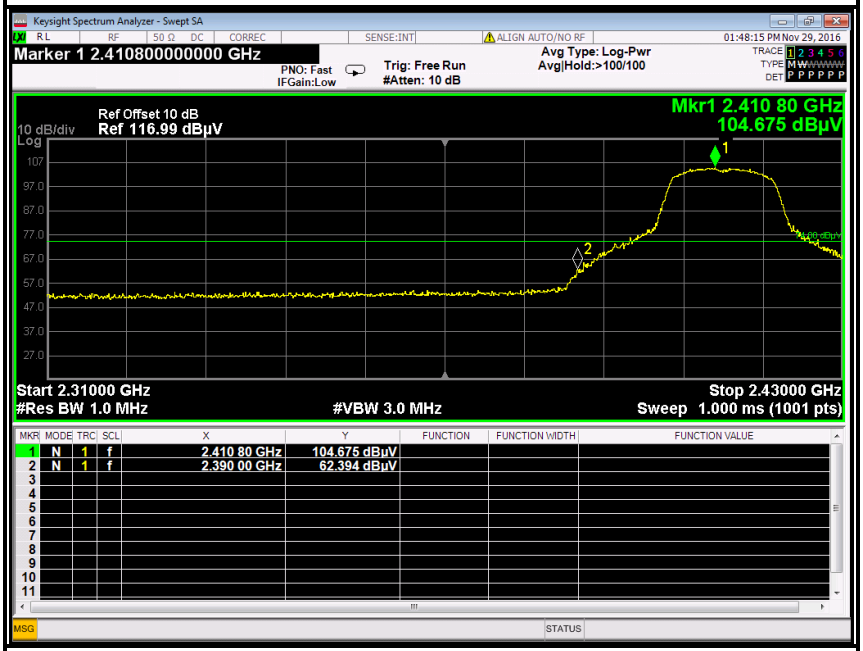


Detector mode: Average **Polarity: Vertical**

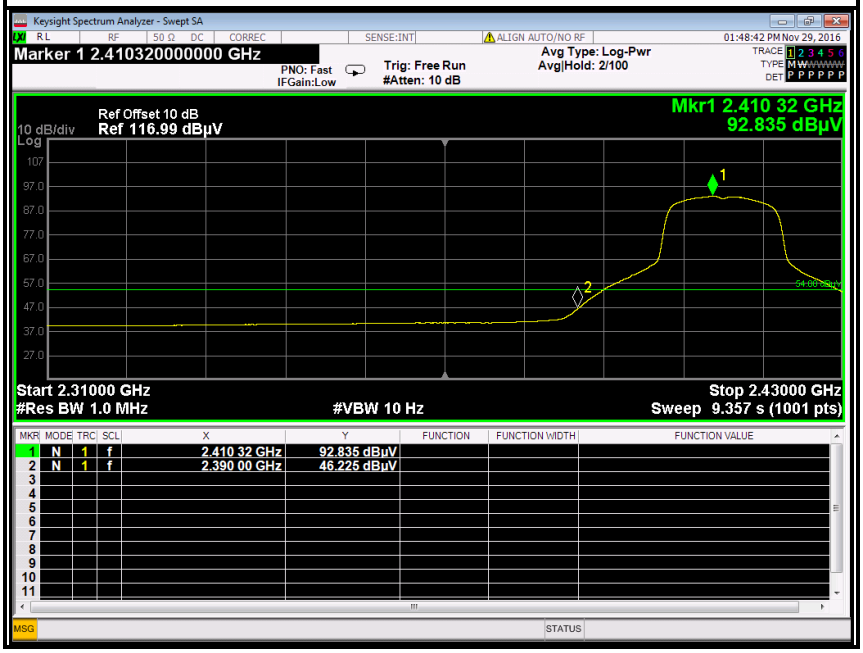


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2390.0000	50.08	-6.60	56.68	74.00	-17.32	Peak	Vertical
2	2390.0000	37.07	-6.60	43.67	54.00	-10.33	Average	Vertical

Detector mode: Peak **Polarity: Horizontal**



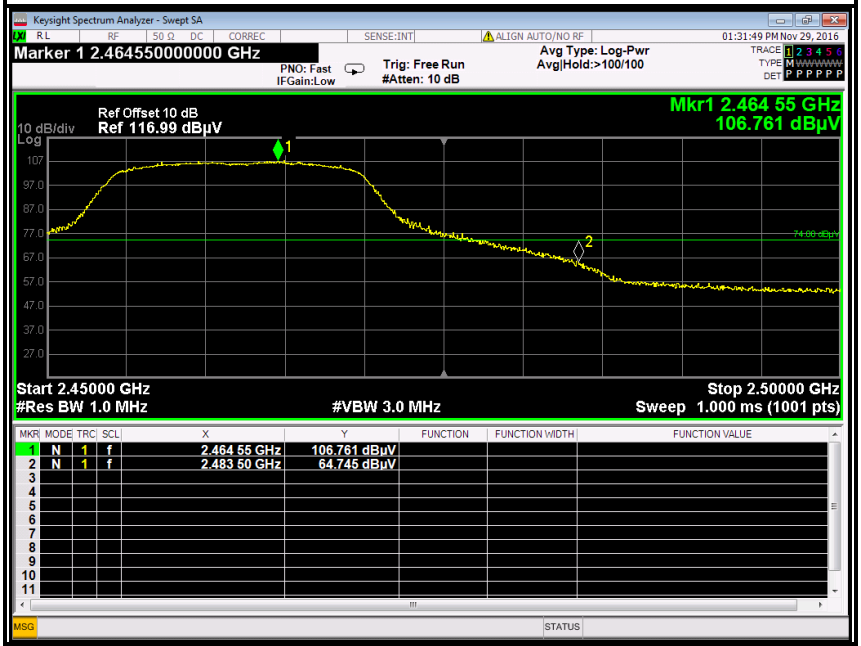
Detector mode: Average **Polarity: Horizontal**



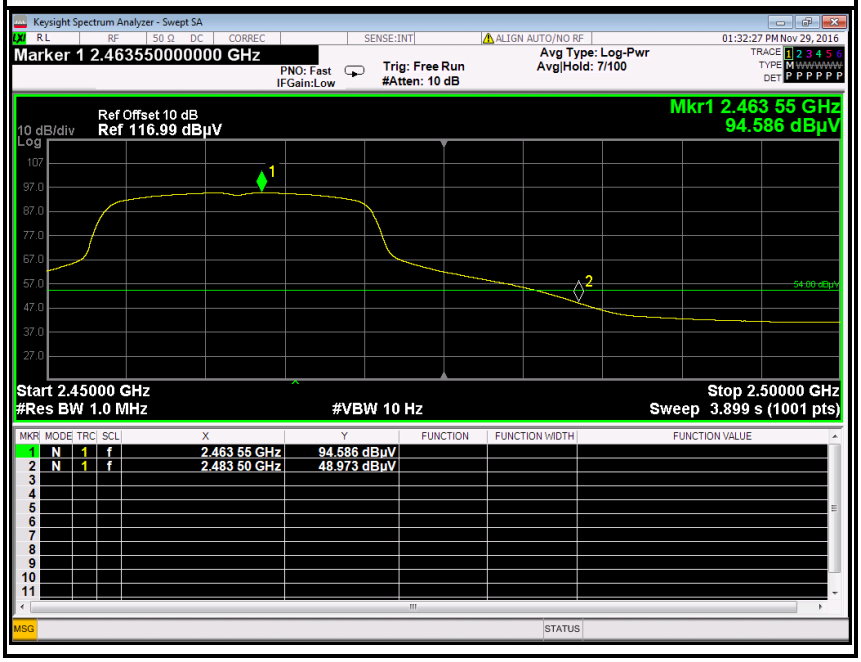
No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2390.0000	55.79	-6.60	62.39	74.00	-11.61	Peak	Horizontal
2	2390.0000	39.63	-6.60	46.23	54.00	-7.78	Average	Horizontal

Band Edges (CH High)

Detector mode: Peak **Polarity: Vertical**

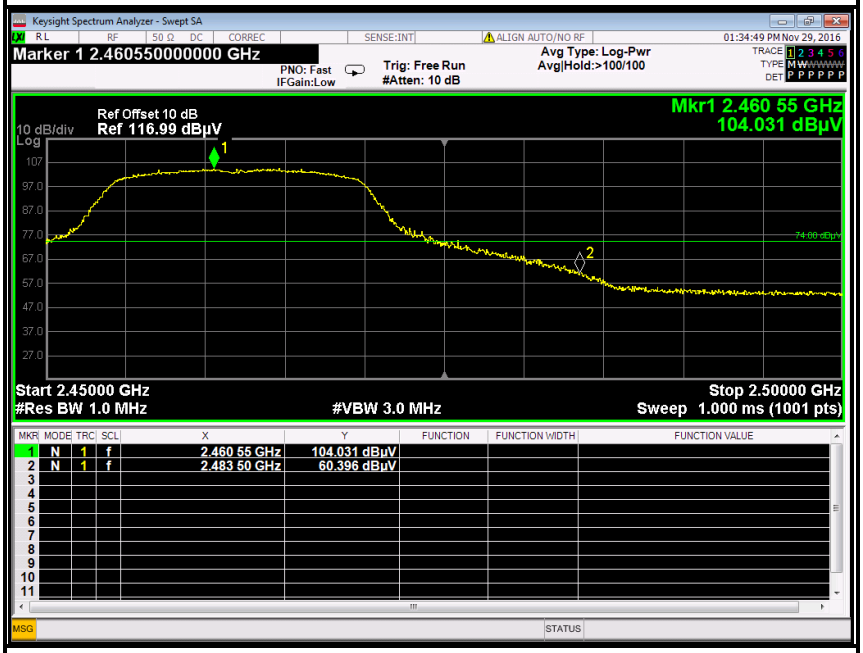


Detector mode: Average **Polarity: Vertical**

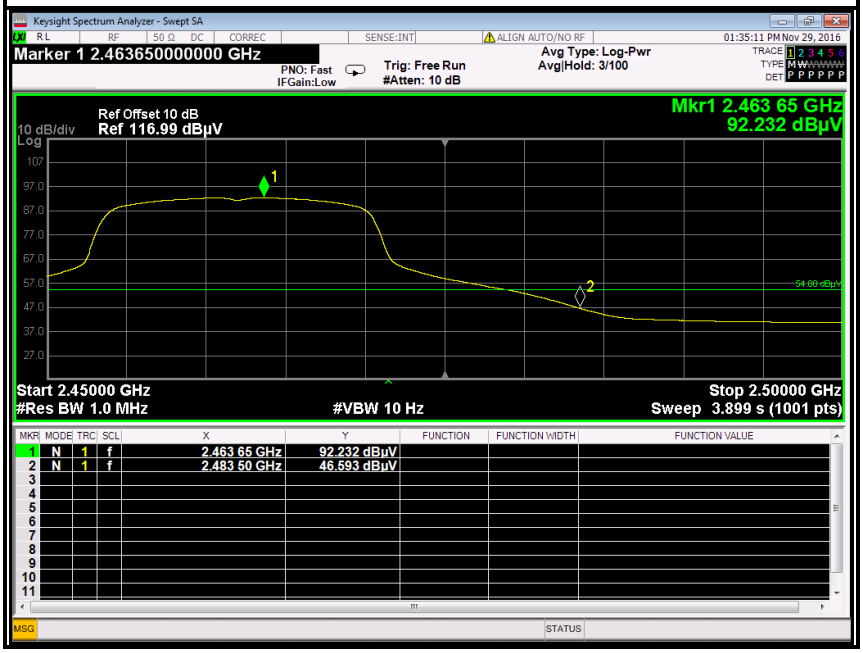


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2483.5000	58.51	-6.24	64.75	74.00	-9.26	Peak	Vertical
2	2483.5000	42.73	-6.24	48.97	54.00	-5.03	Average	Vertical

Detector mode: Peak **Polarity: Horizontal**



Detector mode: Average **Polarity: Horizontal**

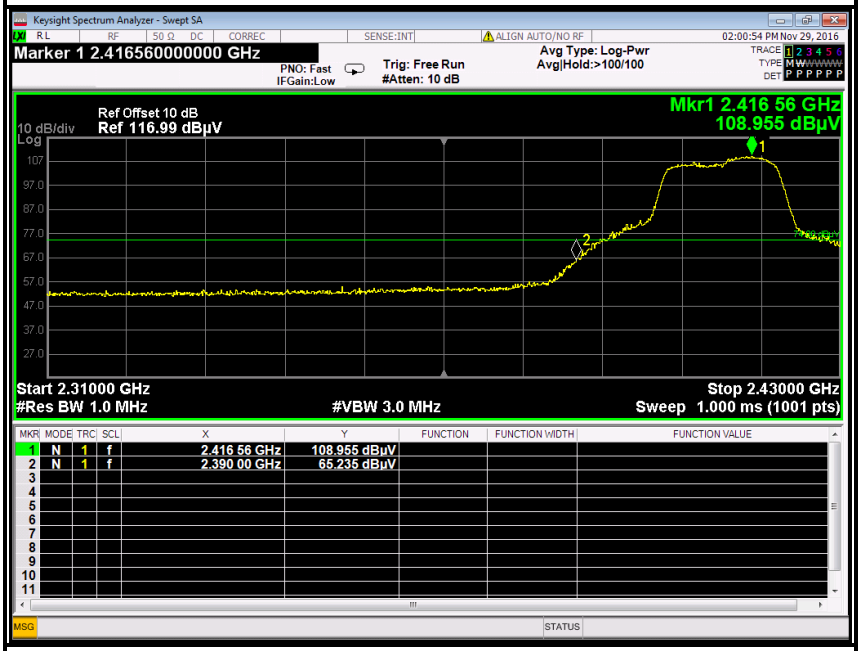


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2483.5000	54.16	-6.24	60.40	74.00	-13.60	Peak	Horizontal
2	2483.5000	40.35	-6.24	46.59	54.00	-7.41	Average	Horizontal

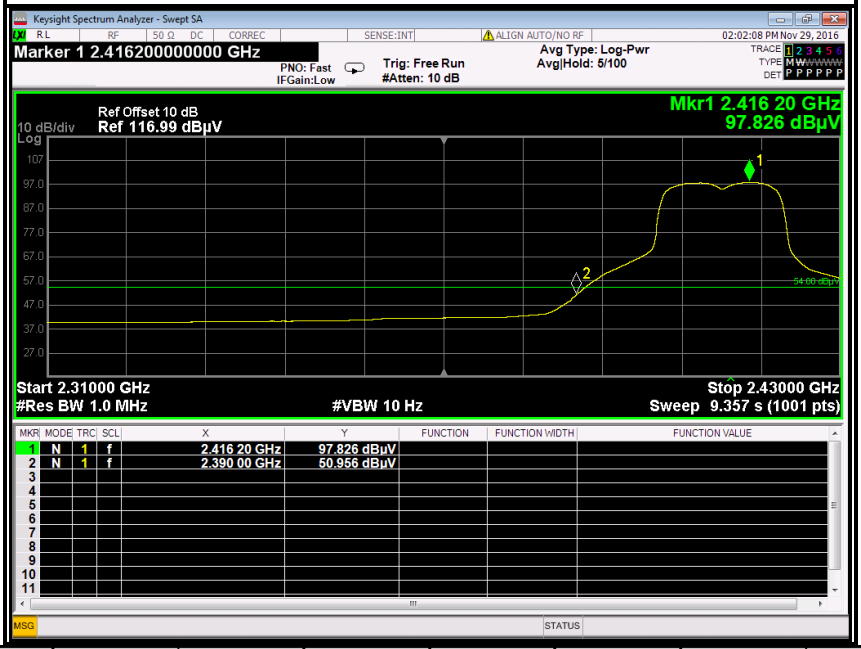
IEEE 802.11n HT20 MHz mode (Combine with Antenna 0 and Antenna 1)

Band Edges (CH Low)

Detector mode: Peak **Polarity: Vertical**

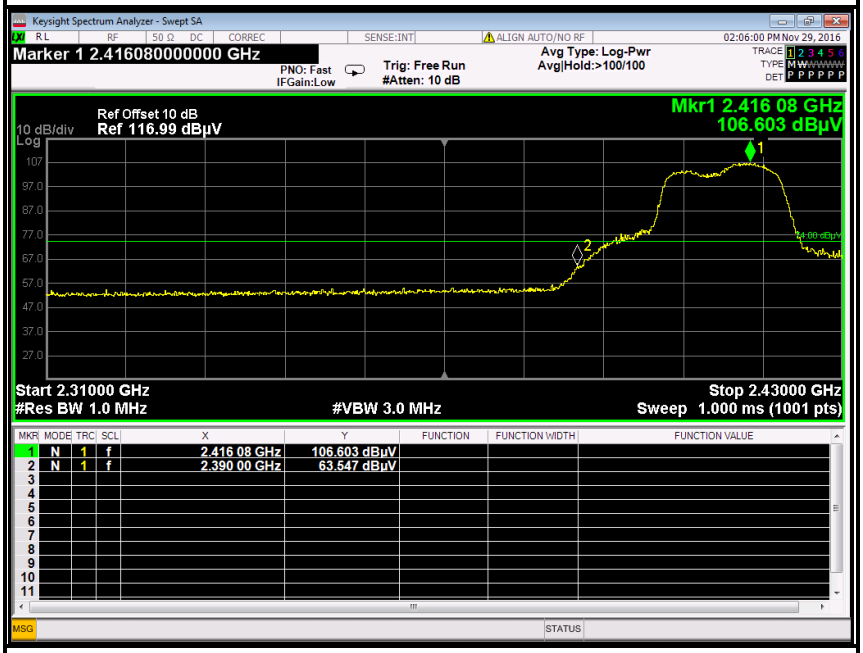


Detector mode: Average **Polarity: Vertical**

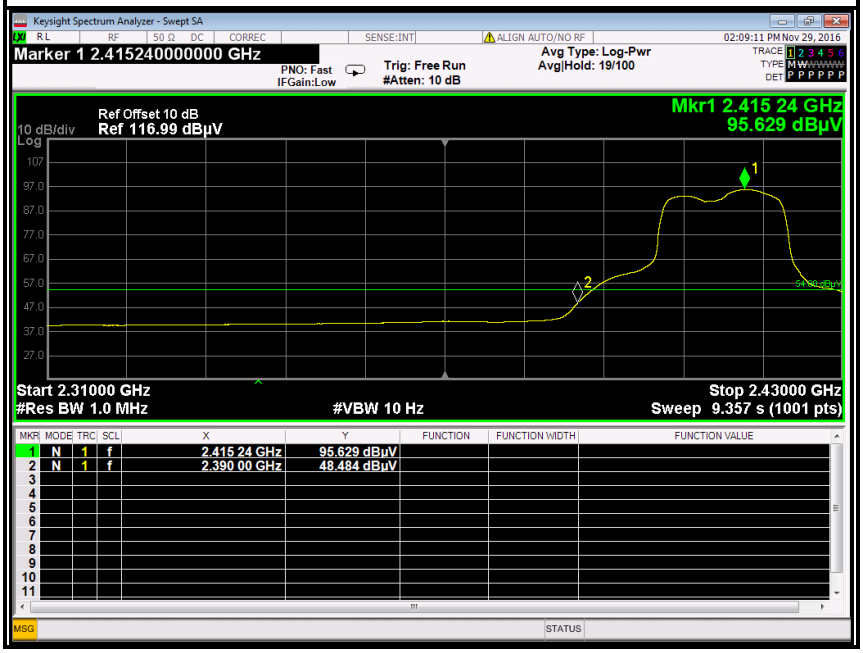


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2390.0000	58.64	-6.60	65.24	74.00	-8.77	Peak	Vertical
2	2390.0000	44.36	-6.60	50.96	54.00	-3.04	Average	Vertical

Detector mode: Peak **Polarity: Horizontal**



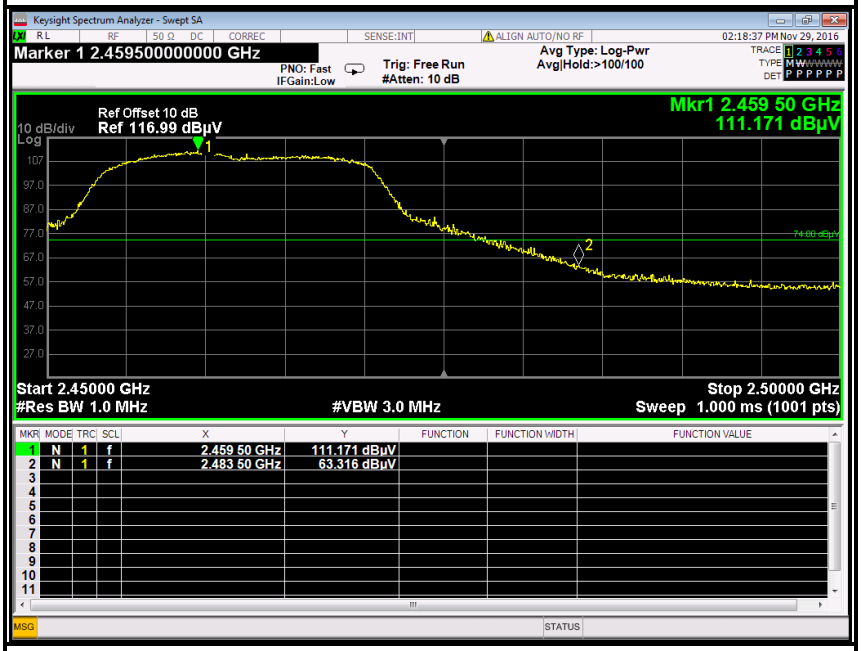
Detector mode: Average **Polarity: Horizontal**



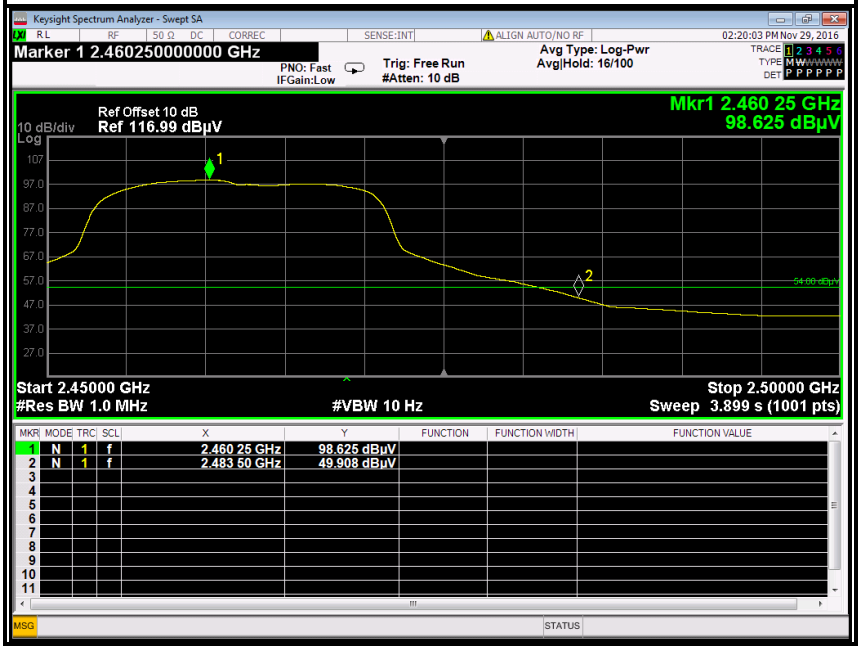
No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2390.0000	56.95	-6.60	63.55	74.00	-10.45	Peak	Horizontal
2	2390.0000	41.88	-6.60	48.48	54.00	-5.52	Average	Horizontal

Band Edges (CH High)

Detector mode: Peak **Polarity: Vertical**

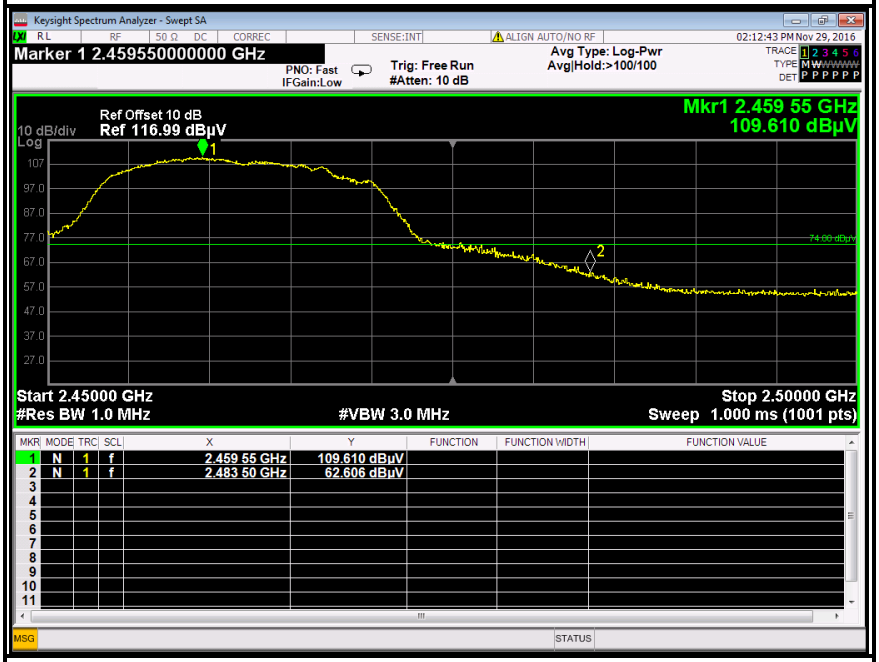


Detector mode: Average **Polarity: Vertical**

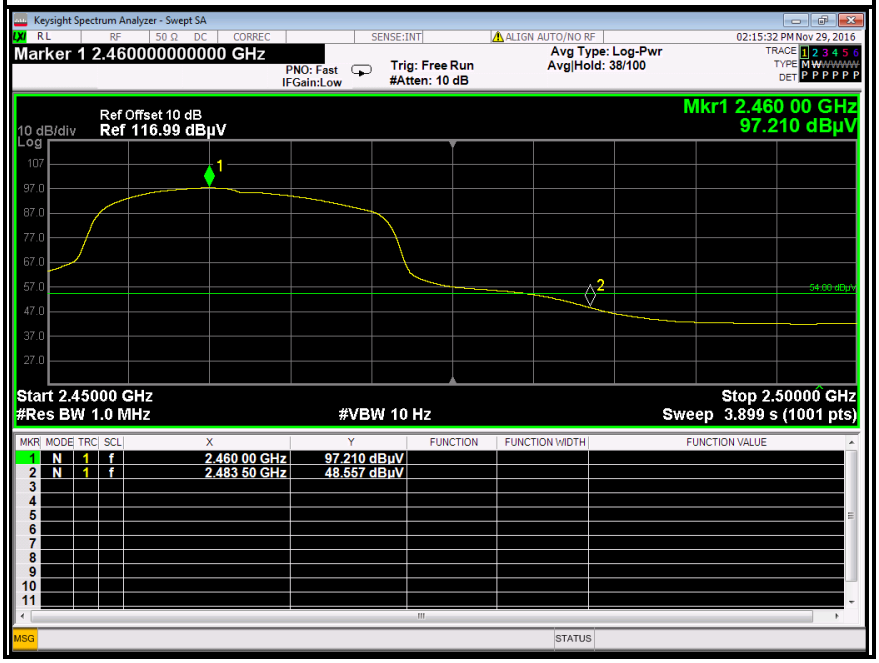


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2483.5000	57.08	-6.24	63.32	74.00	-10.68	Peak	Vertical
2	2483.5000	43.67	-6.24	49.91	54.00	-4.09	Average	Vertical

Detector mode: Peak **Polarity: Horizontal**



Detector mode: Average **Polarity: Horizontal**

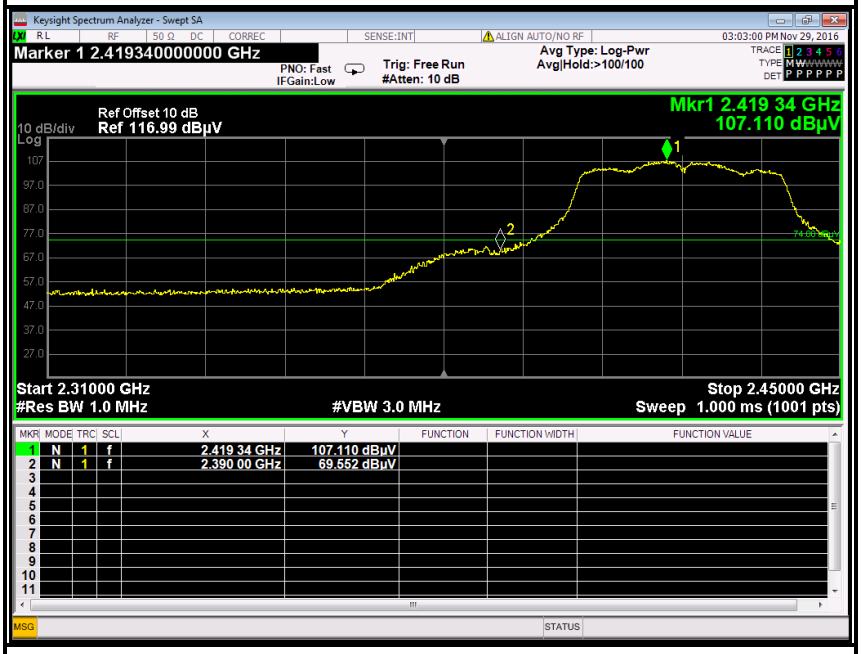


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2483.5000	56.37	-6.24	62.61	74.00	-11.39	Peak	Horizontal
2	2483.5000	42.32	-6.24	48.56	54.00	-5.44	Average	Horizontal

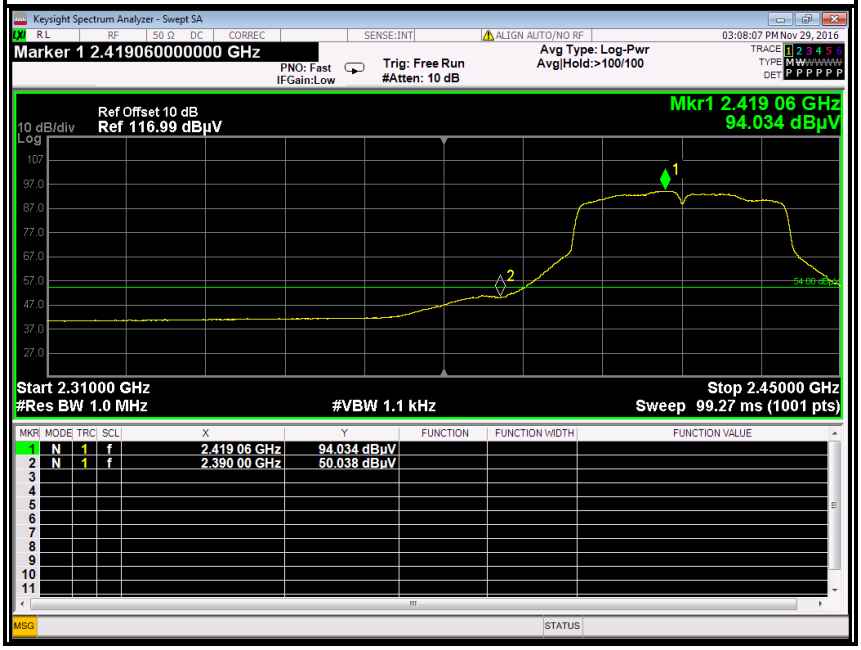
IEEE 802.11n HT40 MHz mode (Combine with Antenna 0 and Antenna 1)

Band Edges (CH Low)

Detector mode: Peak **Polarity: Vertical**

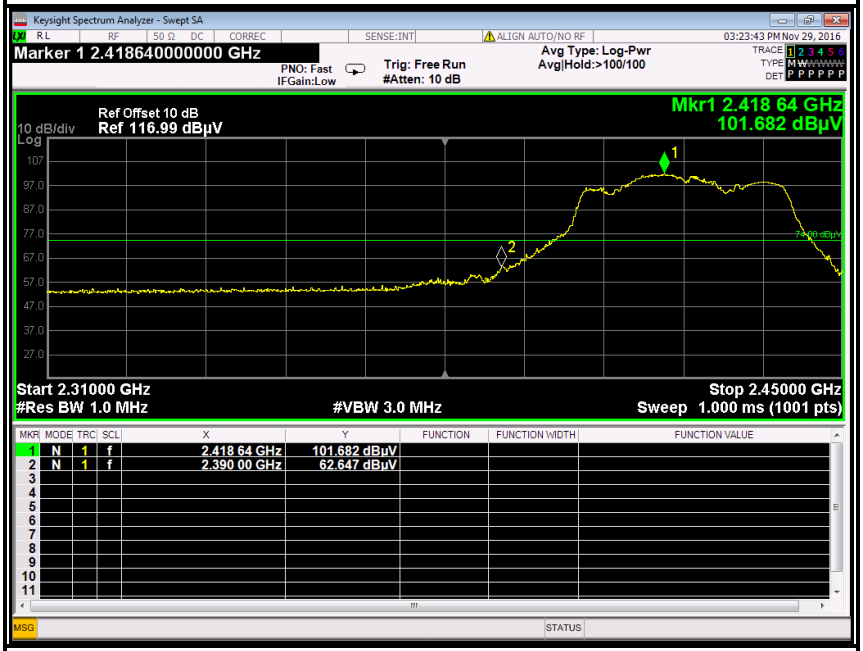


Detector mode: Average **Polarity: Vertical**

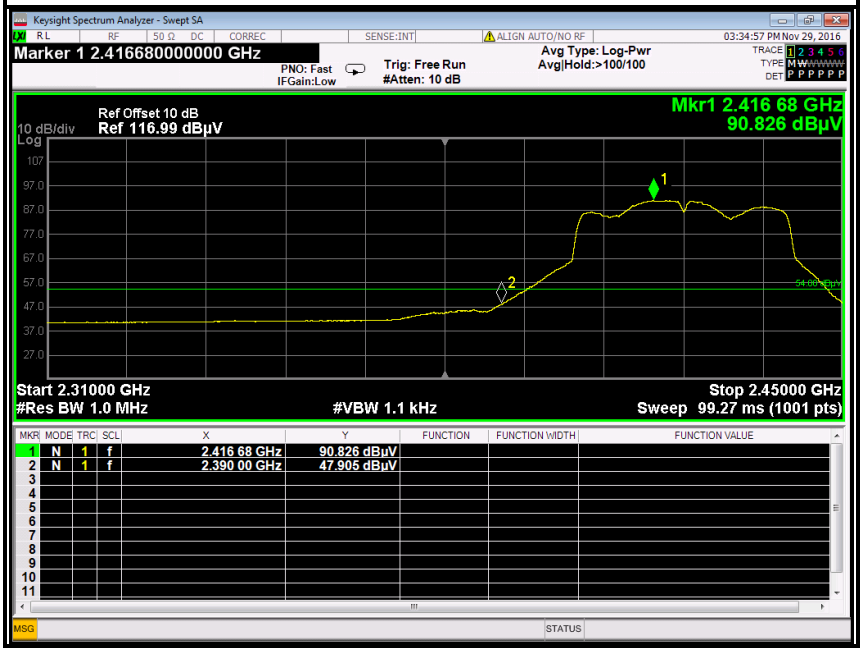


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2390.0000	62.95	-6.60	69.55	74.00	-4.45	Peak	Vertical
2	2390.0000	43.44	-6.60	50.04	54.00	-3.96	Average	Vertical

Detector mode: Peak **Polarity: Horizontal**



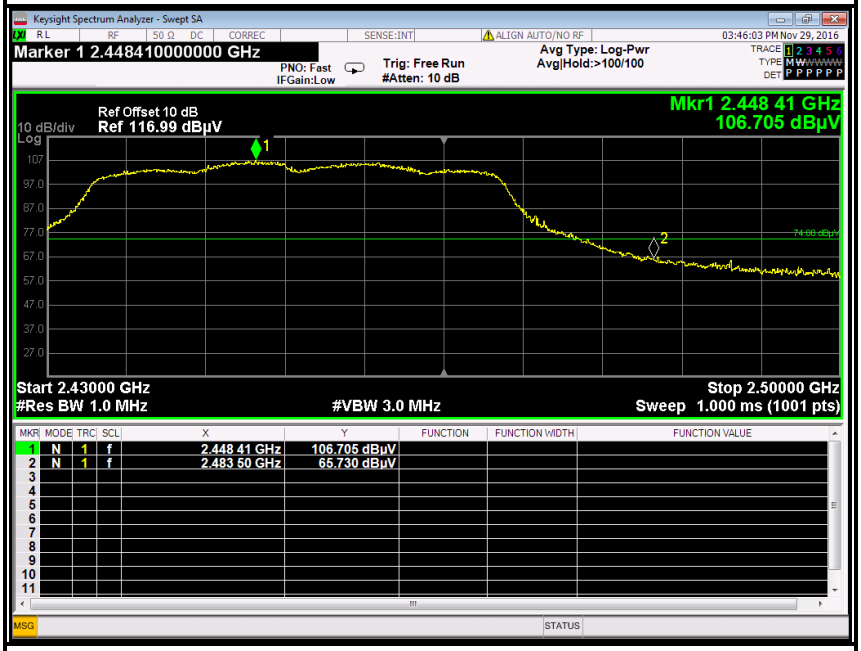
Detector mode: Average **Polarity: Horizontal**



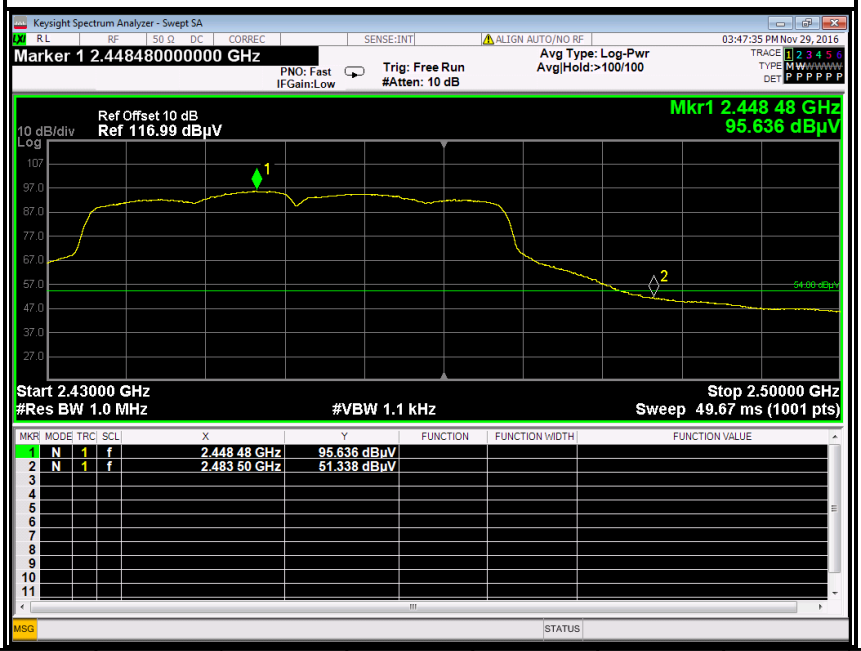
No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2390.0000	56.05	-6.60	62.65	74.00	-11.35	Peak	Horizontal
2	2390.0000	41.31	-6.60	47.91	54.00	-6.09	Average	Horizontal

Band Edges (CH High)

Detector mode: Peak **Polarity: Vertical**

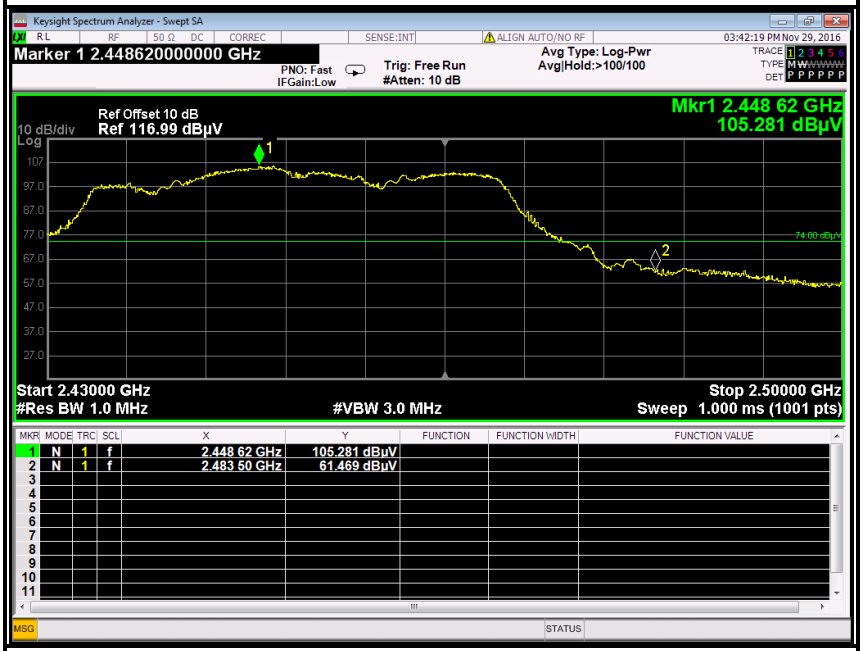


Detector mode: Average **Polarity: Vertical**

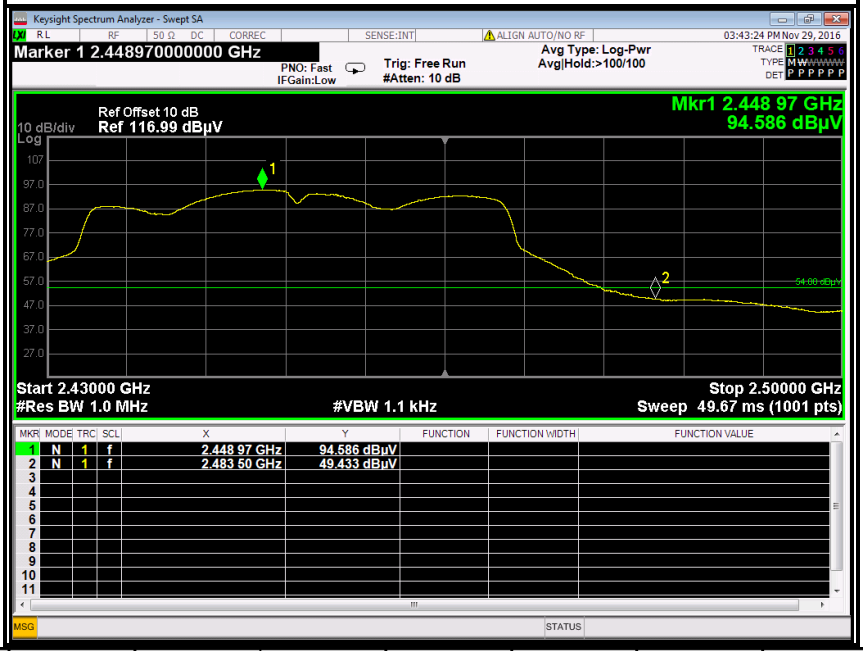


No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2483.5000	60.49	-6.24	66.73	74.00	-7.27	Peak	Vertical
2	2483.5000	45.10	-6.24	51.34	54.00	-2.66	Average	Vertical

Detector mode: Peak **Polarity: Horizontal**



Detector mode: Average **Polarity: Horizontal**



No.	Frequency (MHz)	Reading (dBuV)	Corrected (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Antenna Pole
1	2483.5000	55.23	-6.24	61.47	74.00	-12.53	Peak	Horizontal
2	2483.5000	43.19	-6.24	49.43	54.00	-4.57	Average	Horizontal