

**Test Mode:** TX / IEEE 802.11g (CH Mid)**Tested by:** Jack Chen**Ambient temperature:** 24°C**Relative humidity:** 52% RH**Date:** July 5, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
4411.0000	42.24	3.04	45.28	74.00	-28.72	V	Peak
5194.0000	42.81	5.33	48.14	74.00	-25.86	V	Peak
6517.0000	41.65	6.92	48.57	74.00	-25.43	V	Peak
6967.0000	41.08	7.65	48.73	74.00	-25.27	V	Peak
7795.0000	40.79	9.25	50.04	74.00	-23.96	V	Peak
8371.0000	40.97	9.45	50.42	74.00	-23.58	V	Peak
4357.0000	41.80	2.85	44.65	74.00	-29.35	H	Peak
4834.0000	42.56	4.44	47.00	74.00	-27.00	H	Peak
5608.0000	41.59	5.92	47.51	74.00	-26.49	H	Peak
6994.0000	40.58	7.69	48.27	74.00	-25.73	H	Peak
7723.0000	40.94	9.11	50.05	74.00	-23.95	H	Peak
8713.0000	42.50	9.26	51.76	74.00	-22.24	H	Peak

**REMARKS:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode:** TX / IEEE 802.11g (CH High)**Tested by:** Jack Chen**Ambient temperature:** 24°C**Relative humidity:** 52% RH**Date:** July 5, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1945.0000	50.47	-5.35	45.12	74.00	-28.88	V	Peak
4267.0000	42.03	2.53	44.56	74.00	-29.44	V	Peak
4807.0000	41.40	4.35	45.75	74.00	-28.25	V	Peak
5194.0000	42.81	5.33	48.14	74.00	-25.86	V	Peak
6517.0000	41.65	6.92	48.57	74.00	-25.43	V	Peak
6967.0000	41.08	7.65	48.73	74.00	-25.27	V	Peak
1711.0000	51.09	-6.46	44.63	74.00	-29.37	H	Peak
5194.0000	41.46	5.33	46.79	74.00	-27.21	H	Peak
5419.0000	41.95	5.73	47.68	74.00	-26.32	H	Peak
6958.0000	41.01	7.63	48.64	74.00	-25.36	H	Peak
7516.0000	40.36	8.71	49.07	74.00	-24.93	H	Peak
8200.0000	40.66	9.54	50.20	74.00	-23.80	H	Peak

**REMARKS:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Combine with Antenna 0 and Antenna 1****Test Mode:** TX / IEEE 802.11n HT20 MHz (CH Low)**Tested by:** Jack Chen**Ambient temperature:** 24°C    **Relative humidity:** 52% RH**Date:** July 5, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
3214.0000	46.68	-1.00	45.68	74.00	-28.32	V	Peak
5302.0000	41.46	5.52	46.98	74.00	-27.02	V	Peak
5455.0000	41.52	5.79	47.31	74.00	-26.69	V	Peak
6706.0000	41.10	7.22	48.32	74.00	-25.68	V	Peak
7489.0000	40.89	8.65	49.54	74.00	-24.46	V	Peak
8272.0000	40.66	9.50	50.16	74.00	-23.84	V	Peak
4204.0000	42.11	2.31	44.42	74.00	-29.58	H	Peak
5149.0000	42.11	5.25	47.36	74.00	-26.64	H	Peak
6832.0000	40.63	7.43	48.06	74.00	-25.94	H	Peak
6958.0000	41.38	7.63	49.01	74.00	-24.99	H	Peak
7687.0000	41.10	9.04	50.14	74.00	-23.86	H	Peak
8344.0000	40.77	9.46	50.23	74.00	-23.77	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 HT20 MHz (CH Mid)**Tested by:** Jack Chen**Ambient temperature:** 24°C    **Relative humidity:** 52% RH**Date:** July 5, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2017.0000	51.30	-4.91	46.39	74.00	-27.61	V	Peak
3250.0000	47.18	-0.94	46.24	74.00	-27.76	V	Peak
5194.0000	44.53	5.33	49.86	74.00	-24.14	V	Peak
6733.0000	41.45	7.27	48.72	74.00	-25.28	V	Peak
7750.0000	41.71	9.16	50.87	74.00	-23.13	V	Peak
8767.0000	41.41	9.23	50.64	74.00	-23.36	V	Peak
5194.0000	47.68	5.33	53.01	74.00	-20.99	H	Peak
4420.0000	42.05	3.07	45.12	74.00	-28.88	H	Peak
7435.0000	41.58	8.55	50.13	74.00	-23.87	H	Peak
6544.0000	40.55	6.96	47.51	74.00	-26.49	H	Peak
7723.0000	41.24	9.11	50.35	74.00	-23.65	H	Peak
8416.0000	40.62	9.42	50.04	74.00	-23.96	H	Peak

**REMARKS:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode:** TX / EEE 802.11n HT20 MHz (CH High)**Tested by:** Jack Chen**Ambient temperature:** 24°C**Relative humidity:** 52% RH**Date:** July 5, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1954.0000	50.45	-5.29	45.16	74.00	-28.84	V	Peak
4636.0000	42.78	3.79	46.57	74.00	-27.43	V	Peak
5194.0000	42.78	5.33	48.11	74.00	-25.89	V	Peak
6949.0000	41.07	7.62	48.69	74.00	-25.31	V	Peak
7219.0000	40.68	8.13	48.81	74.00	-25.19	V	Peak
7732.0000	40.96	9.13	50.09	74.00	-23.91	V	Peak
3493.0000	42.81	-0.53	42.28	74.00	-31.72	H	Peak
4933.0000	41.38	4.76	46.14	74.00	-27.86	H	Peak
5572.0000	41.69	5.90	47.59	74.00	-26.41	H	Peak
6778.0000	40.87	7.34	48.21	74.00	-25.79	H	Peak
7597.0000	40.67	8.86	49.53	74.00	-24.47	H	Peak
7912.0000	40.53	9.48	50.01	74.00	-23.99	H	Peak

**REMARKS:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Combine with Antenna 0 and Antenna 1****Test Mode:** TX/ IEEE 802.11n HT40 MHz (CH Low)**Tested by:** Jack Chen**Ambient temperature:** 24°C    **Relative humidity:** 52% RH**Date:** July 5, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
4366.0000	42.64	2.88	45.52	74.00	-28.48	V	Peak
5194.0000	45.58	5.33	50.91	74.00	-23.09	V	Peak
6148.0000	41.48	6.32	47.80	74.00	-26.20	V	Peak
7219.0000	40.55	8.13	48.68	74.00	-25.32	V	Peak
7741.0000	41.94	9.14	51.08	74.00	-22.92	V	Peak
8596.0000	40.81	9.32	50.13	74.00	-23.87	V	Peak
4627.0000	41.16	3.76	44.92	74.00	-29.08	H	Peak
5194.0000	43.38	5.33	48.71	74.00	-25.29	H	Peak
5761.0000	41.61	5.98	47.59	74.00	-26.41	H	Peak
6967.0000	41.19	7.65	48.84	74.00	-25.16	H	Peak
7768.0000	41.14	9.20	50.34	74.00	-23.66	H	Peak
8398.0000	41.03	9.43	50.46	74.00	-23.54	H	Peak

**REMARKS:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode:** TX / IEEE 802.11n HT40 MHz (CH Mid)**Tested by:** Jack Chen**Ambient temperature:** 24°C**Relative humidity:** 52% RH**Date:** July 5, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1711.0000	48.49	-6.46	42.03	74.00	-31.97	V	Peak
4348.0000	41.74	2.81	44.55	74.00	-29.45	V	Peak
4564.0000	41.58	3.56	45.14	74.00	-28.86	V	Peak
5203.0000	41.60	5.34	46.94	74.00	-27.06	V	Peak
6130.0000	41.00	6.29	47.29	74.00	-26.71	V	Peak
7732.0000	41.31	9.13	50.44	74.00	-23.56	V	Peak
3439.0000	42.84	-0.62	42.22	74.00	-31.78	H	Peak
4096.0000	41.59	1.93	43.52	74.00	-30.48	H	Peak
4708.0000	42.03	4.03	46.06	74.00	-27.94	H	Peak
5365.0000	41.22	5.63	46.85	74.00	-27.15	H	Peak
7651.0000	40.20	8.97	49.17	74.00	-24.83	H	Peak
8047.0000	41.18	9.62	50.80	74.00	-23.20	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 802.11n HT40 MHz (CH High)**Tested by:** Jack Chen**Ambient temperature:** 24°C    **Relative humidity:** 52% RH**Date:** July 5, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
3268.0000	44.75	-0.91	43.84	74.00	-30.16	V	Peak
4339.0000	41.86	2.78	44.64	74.00	-29.36	V	Peak
5194.0000	41.46	5.33	46.79	74.00	-27.21	V	Peak
5743.0000	41.56	5.97	47.53	74.00	-26.47	V	Peak
6940.0000	40.87	7.60	48.47	74.00	-25.53	V	Peak
7741.0000	41.39	9.14	50.53	74.00	-23.47	V	Peak
4519.0000	42.12	3.41	45.53	74.00	-28.47	H	Peak
5608.0000	41.49	5.92	47.41	74.00	-26.59	H	Peak
6103.0000	41.39	6.25	47.64	74.00	-26.36	H	Peak
7543.0000	40.02	8.76	48.78	74.00	-25.22	H	Peak
7786.0000	41.14	9.23	50.37	74.00	-23.63	H	Peak
8236.0000	41.63	9.52	51.15	74.00	-22.85	H	Peak

**REMARKS:**

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



### 7.3. 6dB BANDWIDTH MEASUREMENT

#### 7.3.1. LIMITS

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

#### 7.3.2. TEST INSTRUMENTS

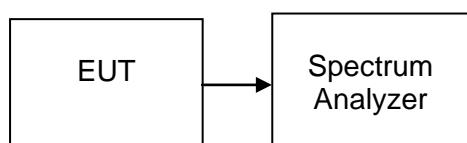
Name of Equipment	Manufacturer	Model	Serial Number	Last Calibration	Calibration Due
Spectrum Analyzer	Agilent	N9010A	MY52221469	02/21/2016	02/20/2017

#### 7.3.3. TEST PROCEDURES (please refer to measurement standard)

##### 8.1 Option 1:

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

#### 7.3.4. TEST SETUP





### 7.3.5. TEST RESULTS

No non-compliance noted

#### Test Data

##### Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Bandwidth (kHz)		Limit (kHz)	Test Result
		Antenna 0	Antenna 1		
Low	2412	15120	15080	>500	PASS
Mid	2437	15120	15080		PASS
High	2462	15130	15070		PASS

##### Test mode: IEEE 802.11g

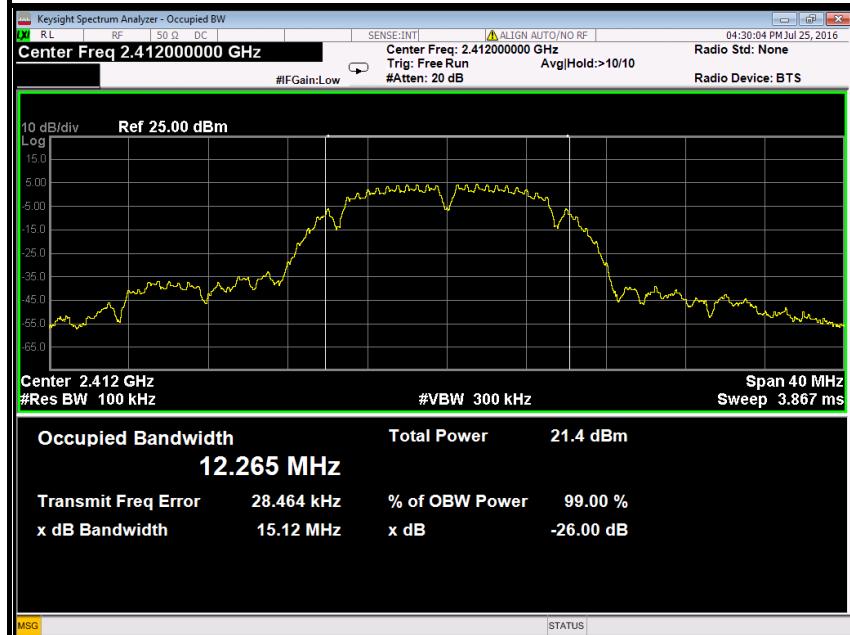
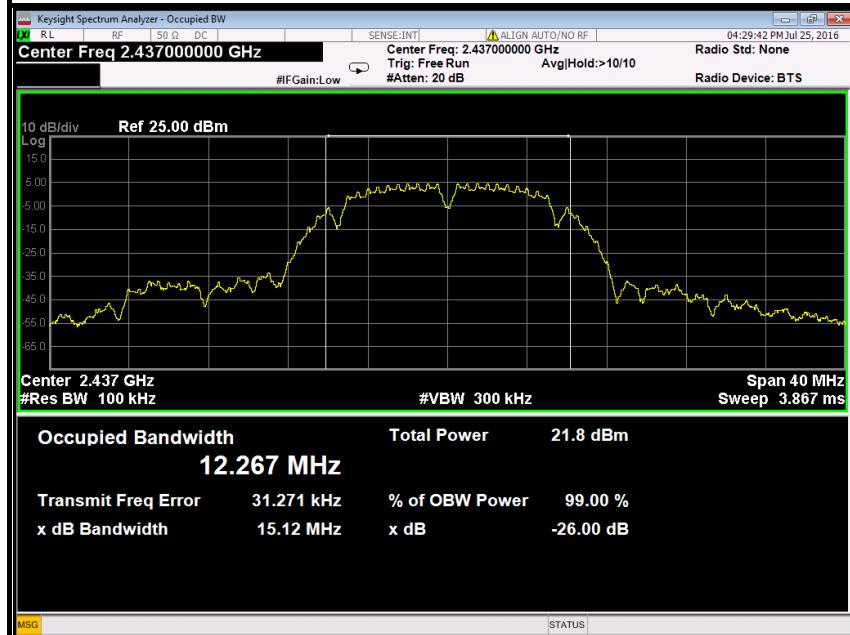
Channel	Frequency (MHz)	Bandwidth (kHz)		Limit (kHz)	Test Result
		Antenna 0	Antenna 1		
Low	2412	20940	19850	>500	PASS
Mid	2437	20960	20400		PASS
High	2462	23040	20430		PASS

##### Test mode: IEEE 802.11n HT20 MHz

Channel	Frequency (MHz)	Bandwidth (kHz)		Limit (kHz)	Test Result
		Antenna 0	Antenna 1		
Low	2412	19440	19590	>500	PASS
Mid	2437	19760	19590		PASS
High	2462	19750	19620		PASS

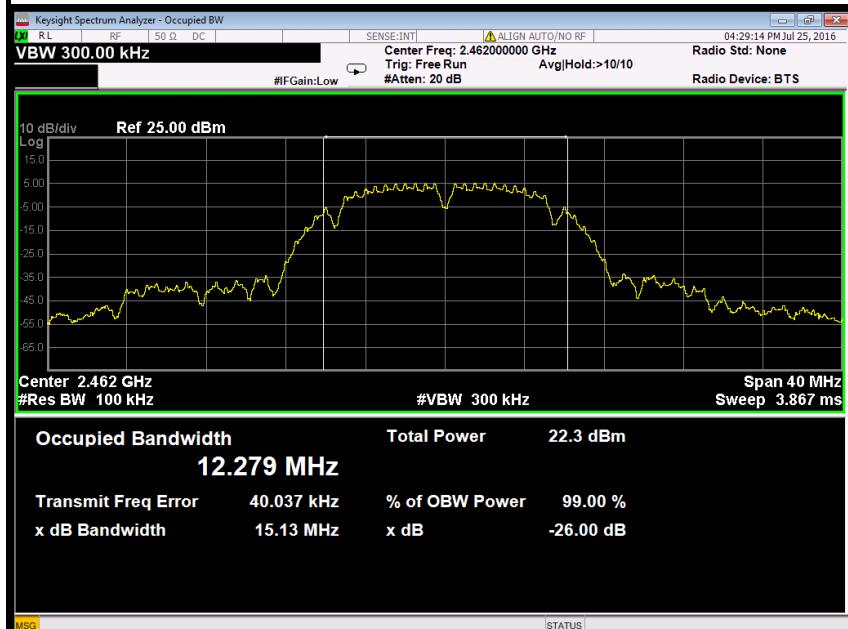
##### Test mode: IEEE 802.11n HT40 MHz

Channel	Frequency (MHz)	Bandwidth (kHz)		Limit (kHz)	Test Result
		Antenna 0	Antenna 1		
Low	2422	39380	39240	>500	PASS
Mid	2437	39150	38930		PASS
High	2452	39200	39600		PASS

**Test Plot****IEEE 802.11b mode (Antenna 0)****6dB Bandwidth (CH Low)****6dB Bandwidth (CH Mid)**

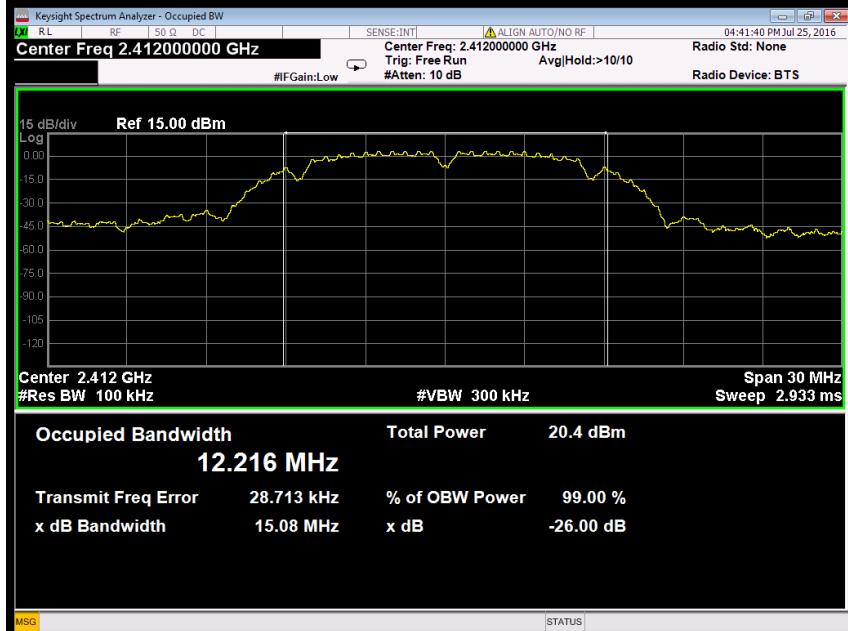


### 6dB Bandwidth (CH High)



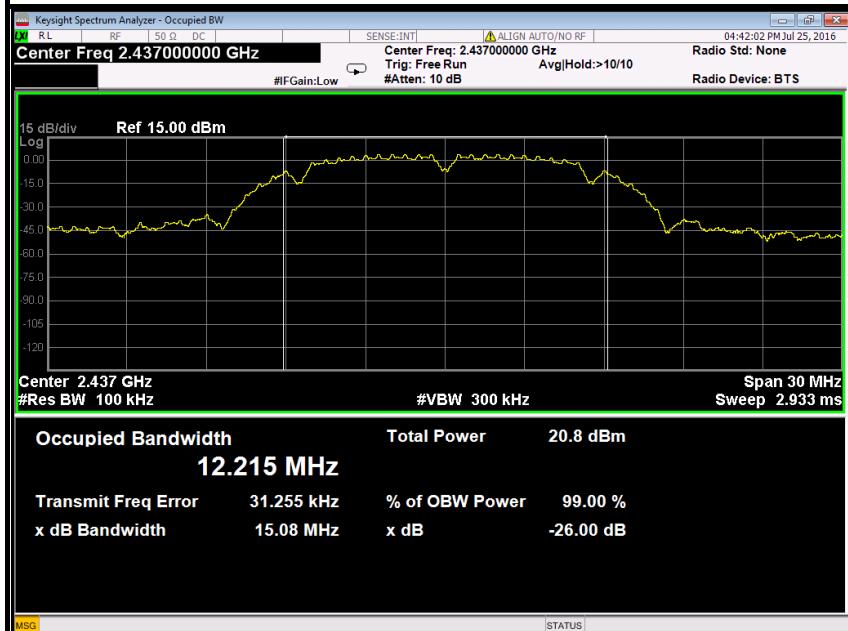
### IEEE 802.11b mode (Antenna 1)

#### 6dB Bandwidth (CH Low)

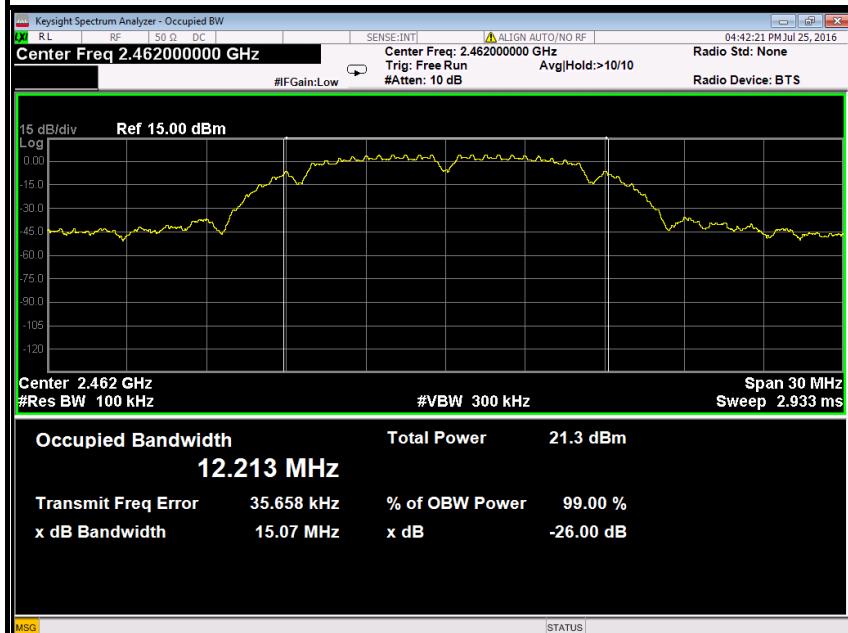


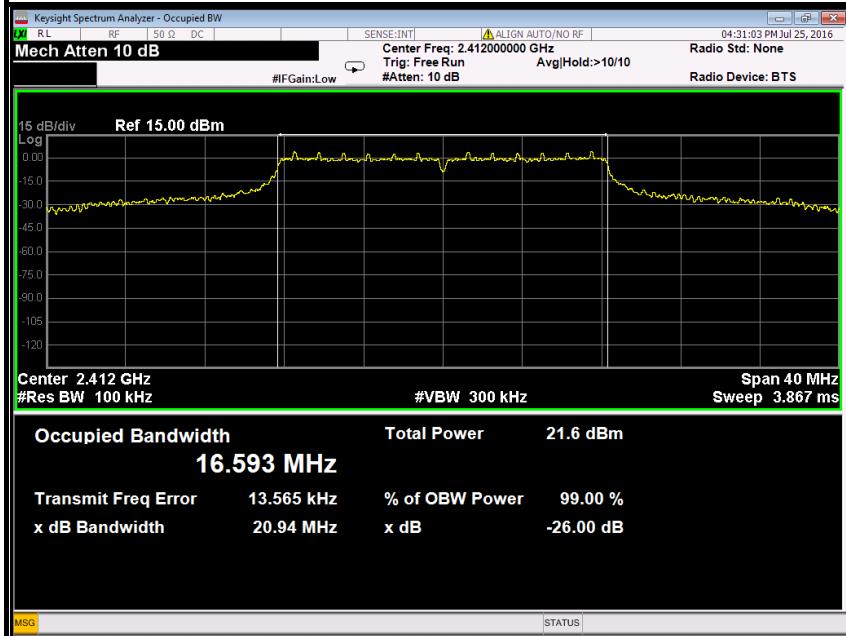
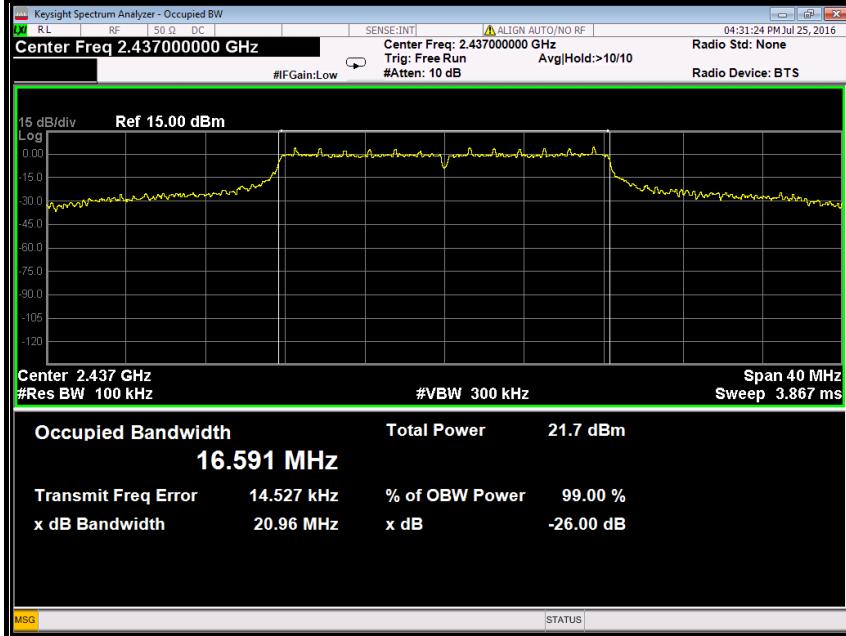


### 6dB Bandwidth (CH Mid)



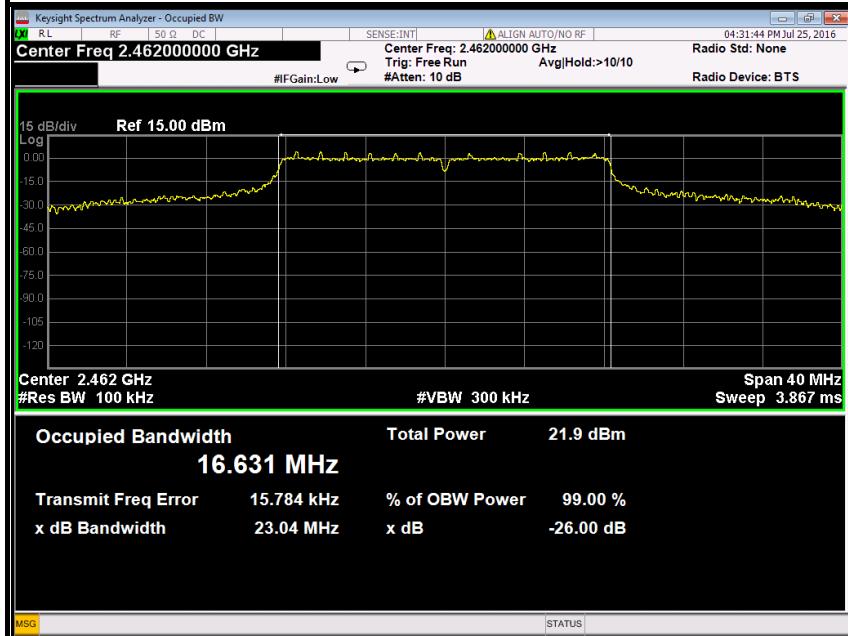
### 6dB Bandwidth (CH High)



**IEEE 802.11g mode (Antenna 0)****6dB Bandwidth (CH Low)****6dB Bandwidth (CH Mid)**

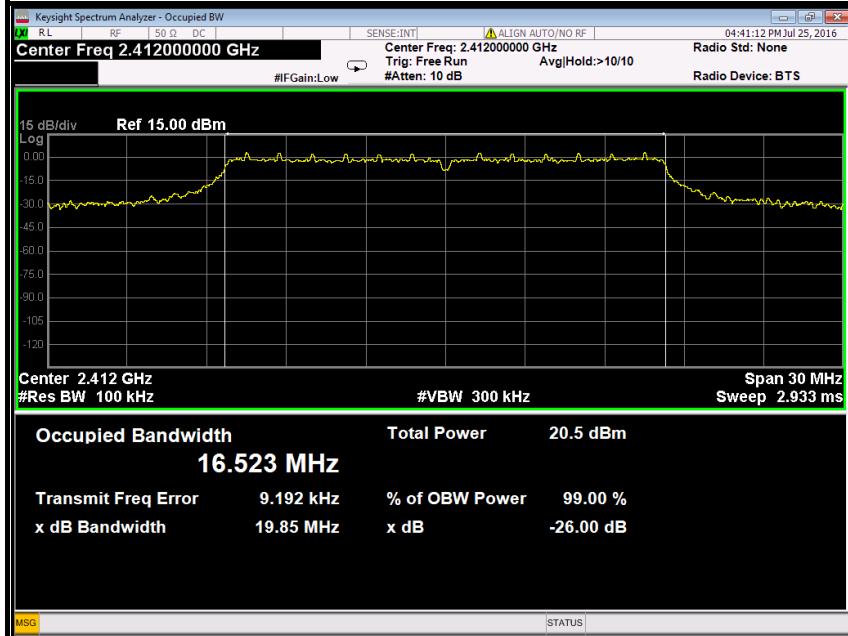


### 6dB Bandwidth (CH High)



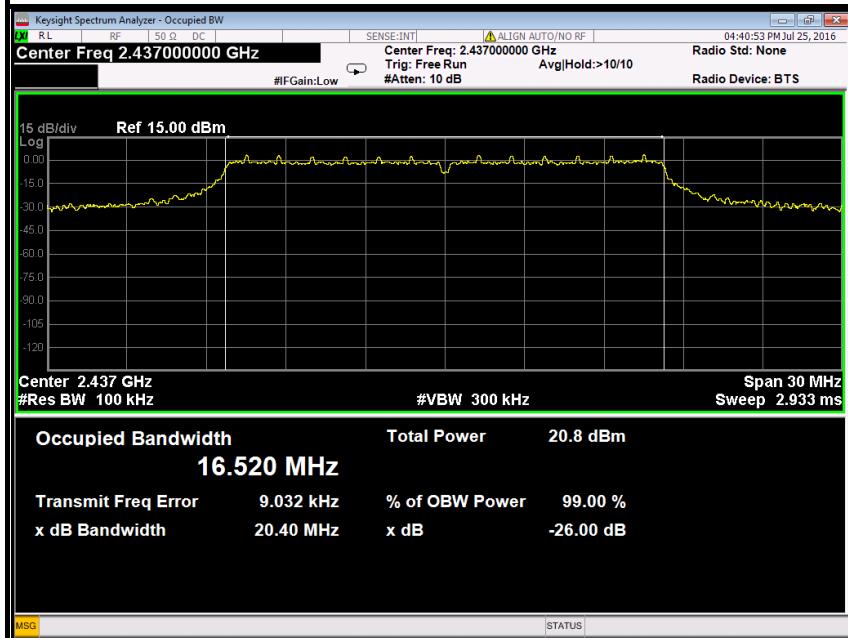
### IEEE 802.11g mode (Antenna 1)

### 6dB Bandwidth (CH Low)

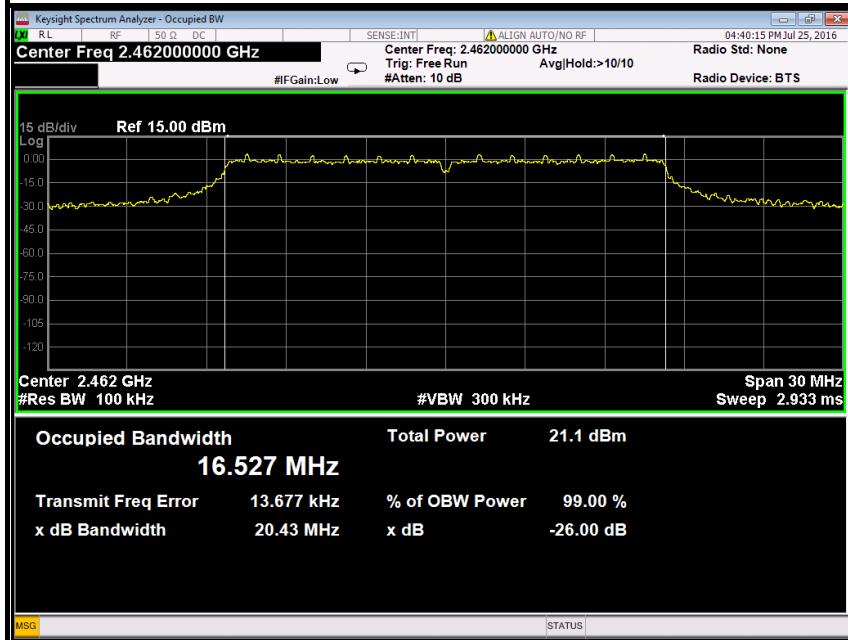


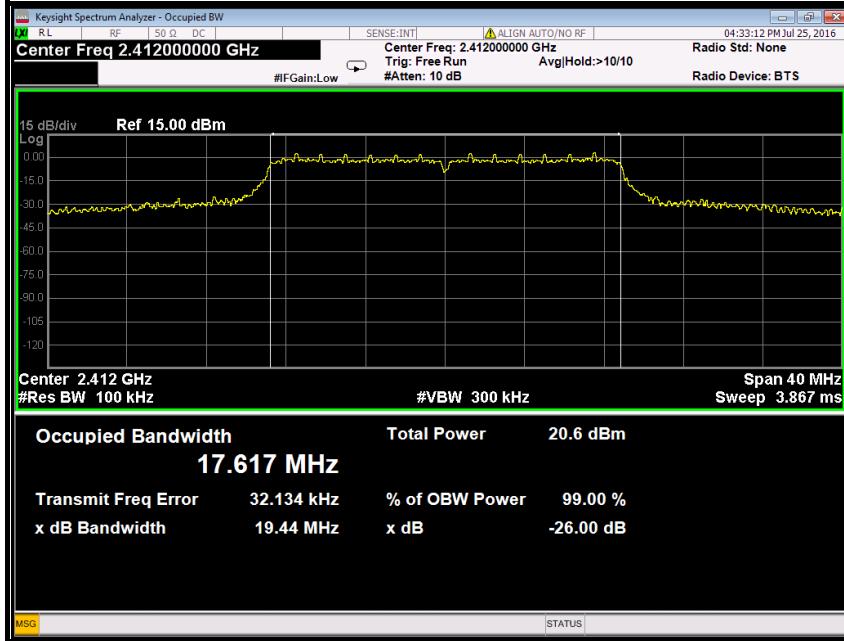
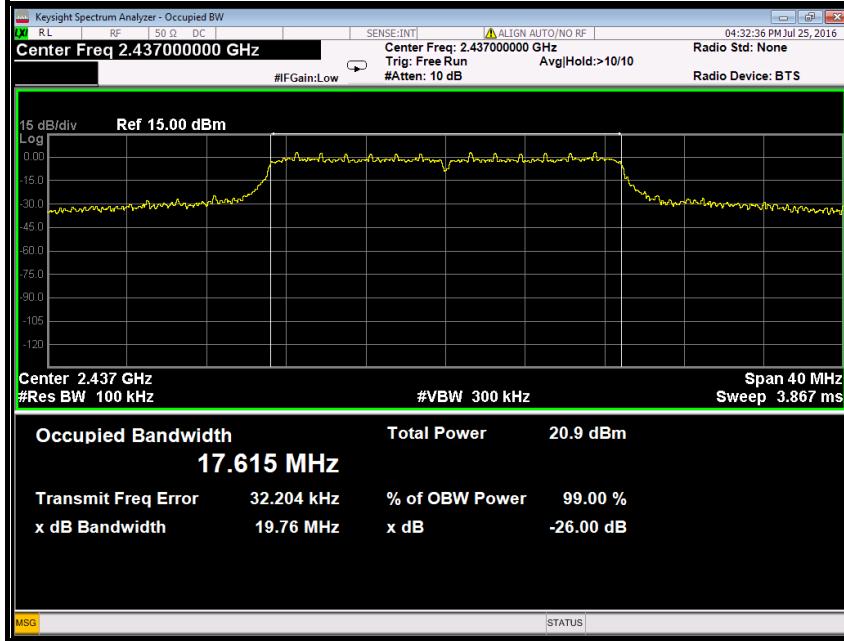


### 6dB Bandwidth (CH Mid)



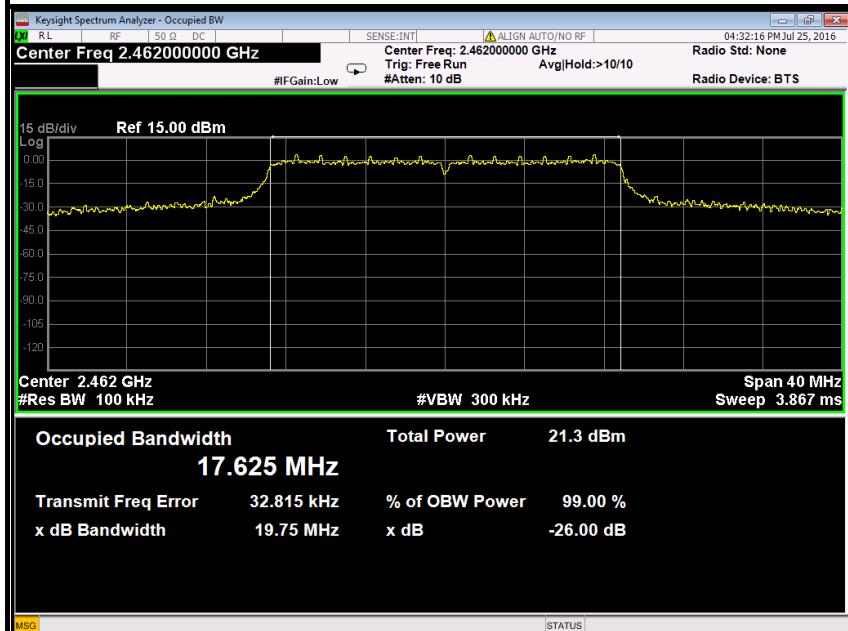
### 6dB Bandwidth (CH High)



**IEEE 802.11n HT20 MHz mode (Antenna 0)****6dB Bandwidth (CH Low)****6dB Bandwidth (CH Mid)**

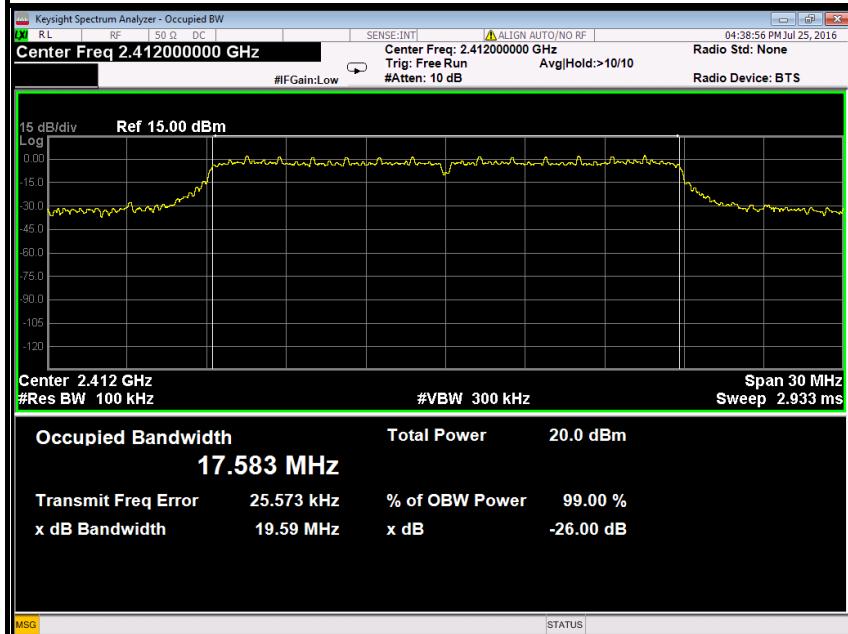


### 6dB Bandwidth (CH High)



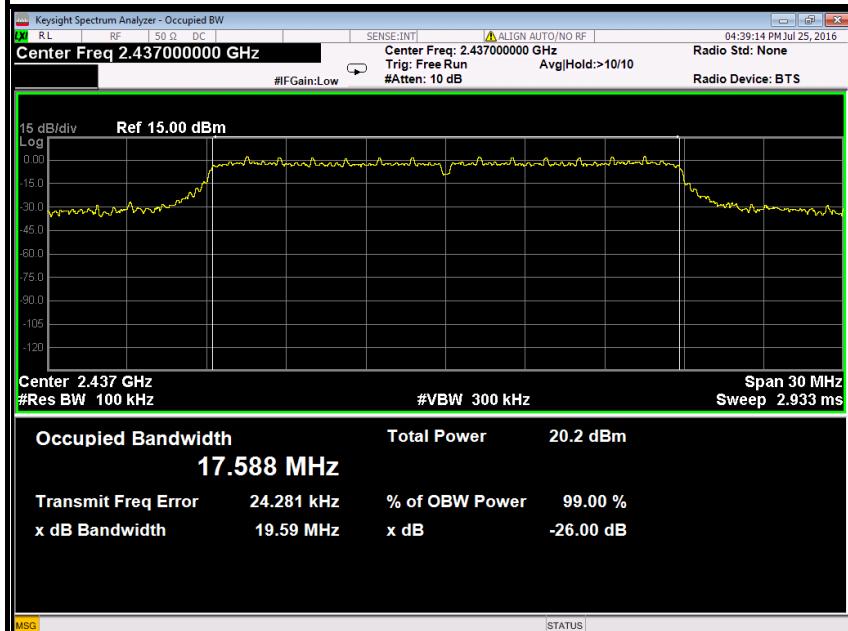
### IEEE 802.11n HT20 MHz mode (Antenna 1)

### 6dB Bandwidth (CH Low)

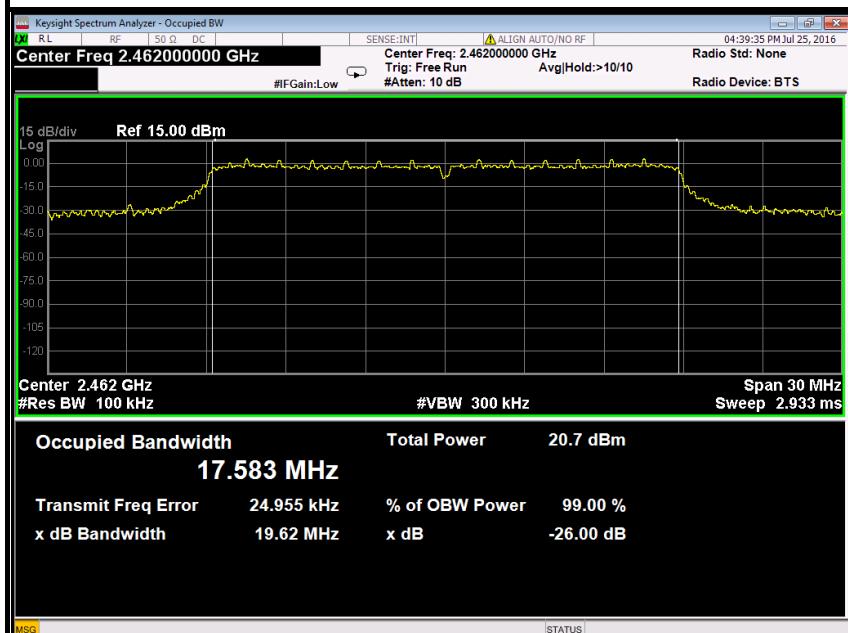




### 6dB Bandwidth (CH Mid)

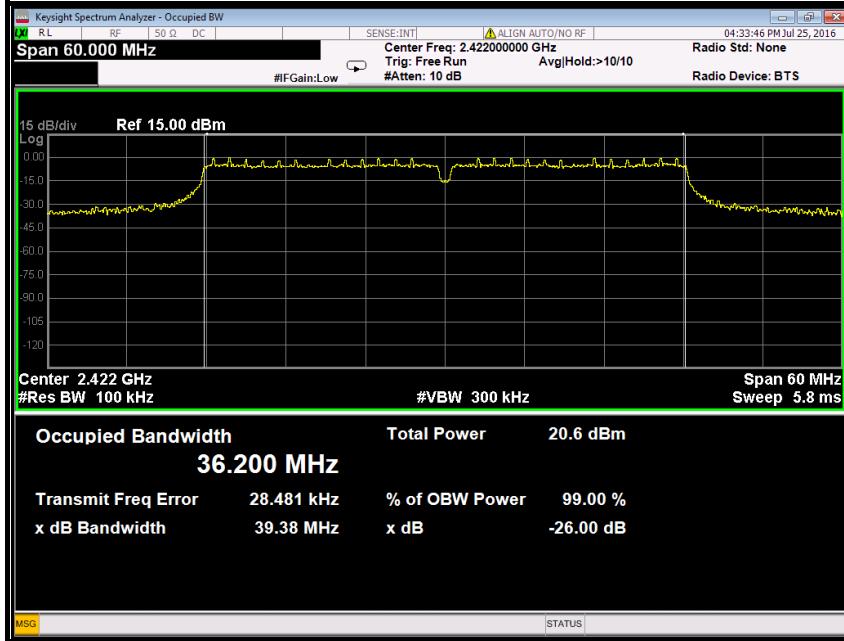


### 6dB Bandwidth (CH High)

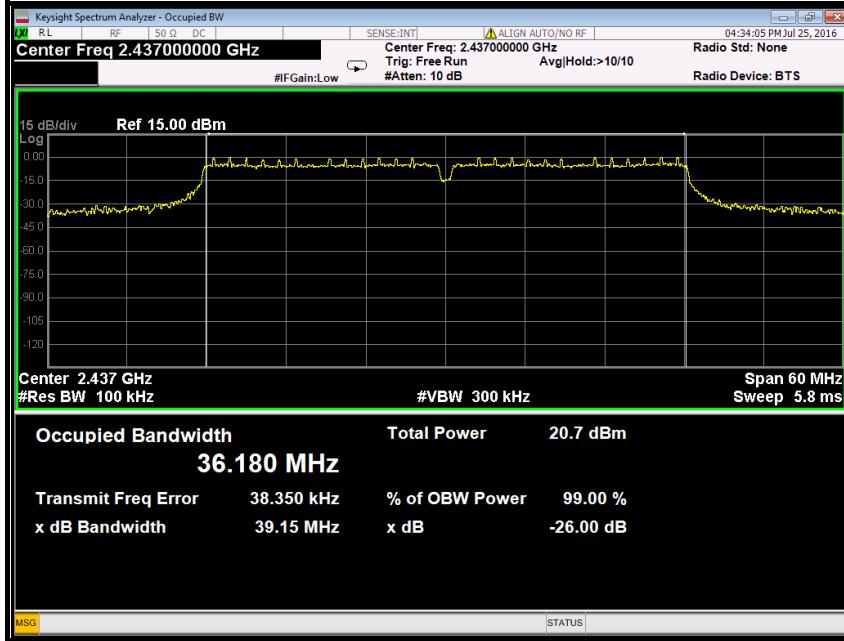


## IEEE 802.11n HT40 MHz mode (Antenna 0)

## 6dB Bandwidth (CH Low)

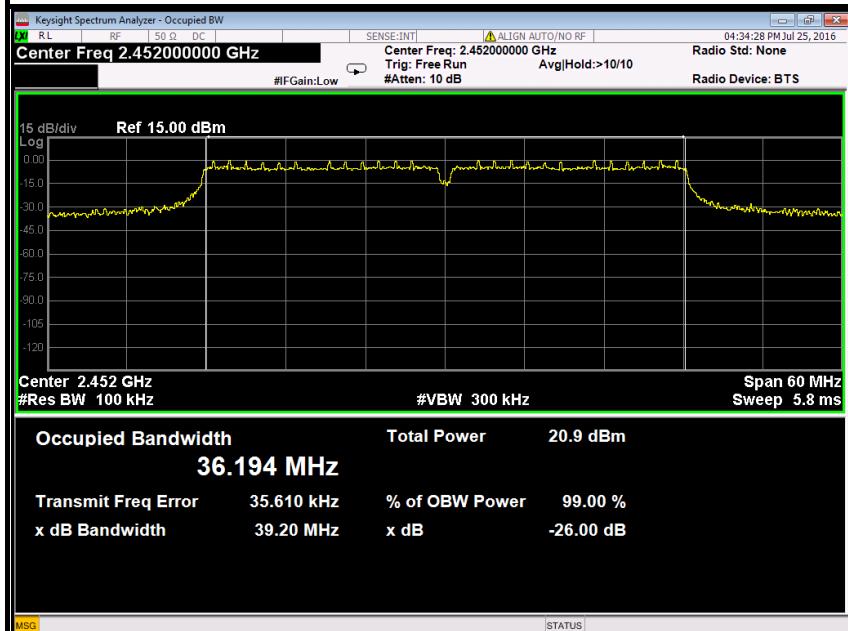


### 6dB Bandwidth (CH Mid)



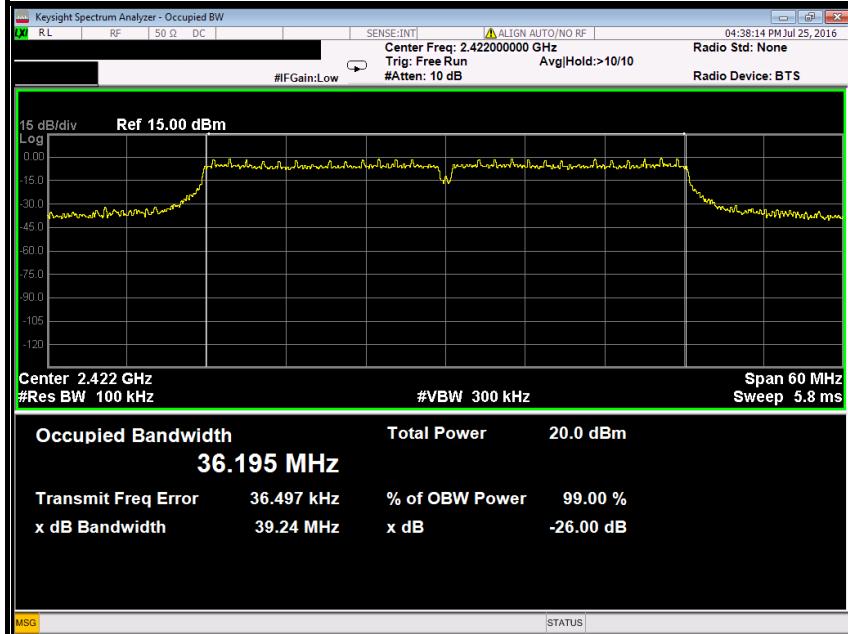


### 6dB Bandwidth (CH High)



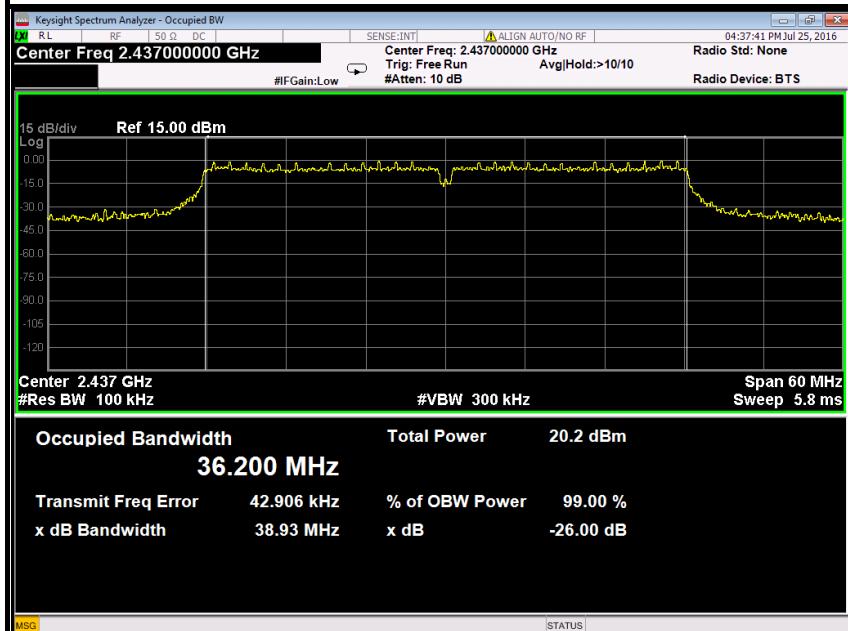
### IEEE 802.11n HT40 MHz mode (Antenna 1)

### 6dB Bandwidth (CH Low)

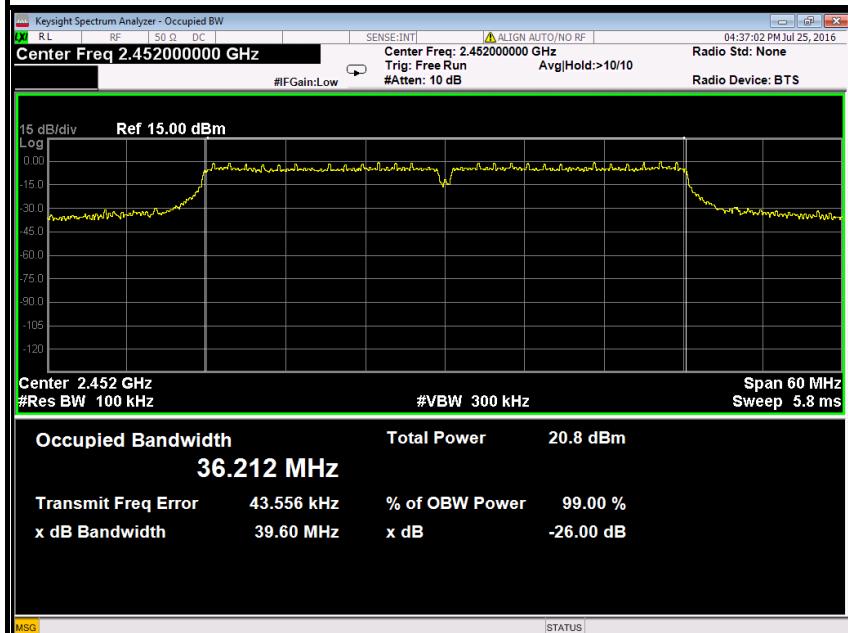




### 6dB Bandwidth (CH Mid)



### 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

Please refer to the antenna report.



## 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 $\geq$ 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  $\geq$  *DTS bandwidth*.
- b) Set VBW  $\geq$  3 RBW.
- c) Set span  $\geq$  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 Integrated band power method

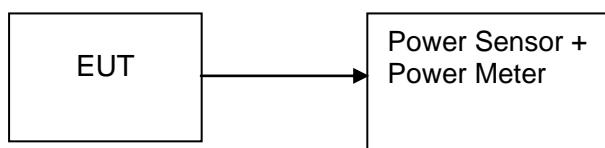
This procedure may be used when the maximum available RBW of the measurement instrument is less than the *DTS bandwidth*.

- a) Set the RBW = 1 MHz.
- b) Set the VBW  $\geq$  3 RBW
- c) Set the span  $\geq$  1.5 x DTS bandwidth.
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select peak detector). If the instrument does not have a band power function, sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS bandwidth.

### 9.1.3 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	19.02	0.07980	Peak	1	PASS
Mid	2437	19.54	0.08995			PASS
High	2462	19.91	0.09795			PASS
Low	2412	15.97	0.03954	AVG	1	PASS
Mid	2437	16.40	0.04365			PASS
High	2462	16.91	0.04909			PASS

##### Test mode: IEEE 802.11b (Antenna 1)

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	16.75	0.04732	Peak	1	PASS
Mid	2437	16.06	0.04036			PASS
High	2462	16.51	0.04477			PASS
Low	2412	13.04	0.02014	AVG	1	PASS
Mid	2437	12.80	0.01905			PASS
High	2462	13.33	0.02153			PASS

##### Test mode: IEEE 802.11g (Antenna 0)

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	22.22	0.16672	Peak	1	PASS
Mid	2437	22.40	0.17378			PASS
High	2462	22.47	0.17660			PASS
Low	2412	16.23	0.04198	AVG	1	PASS
Mid	2437	16.47	0.04436			PASS
High	2462	16.80	0.04786			PASS



## Test mode: IEEE 802.11g (Antenna 1)

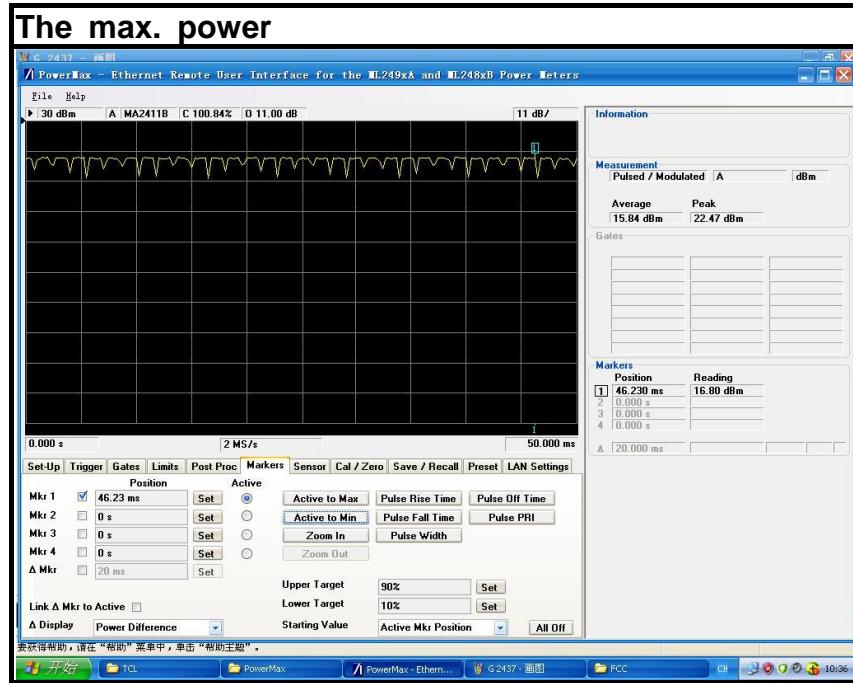
Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	20.76	0.11912	Peak	1	PASS
Mid	2437	21.20	0.13183			PASS
High	2462	21.37	0.13709			PASS
Low	2412	13.43	0.02203	AVG	1	PASS
Mid	2437	13.80	0.02399			PASS
High	2462	14.24	0.02655			PASS

## 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	20.54	20.36	23.46	0.22188	Peak	27.99	PASS
Mid	2437	21.07	20.59	23.85	0.24249			PASS
High	2462	21.06	20.69	23.89	0.24486			PASS
Low	2412	13.43	12.80	16.14	0.04108	AVG	27.99	PASS
Mid	2437	13.80	13.13	16.49	0.04455			PASS
High	2462	14.25	13.52	16.91	0.04910			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	20.94	20.33	23.66	0.23206	Peak	27.99	PASS
Mid	2437	21.04	20.42	23.75	0.23721			PASS
High	2452	20.99	20.68	23.85	0.24255			PASS
Low	2422	13.27	12.66	15.99	0.03968	AVG	27.99	PASS
Mid	2437	13.68	12.84	16.29	0.04257			PASS
High	2452	13.72	13.07	16.42	0.04383			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 is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. 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	09/25/2015	09/24/2016
Bilog Antenna	SCHAFFNER	CBL6143	5082	02/21/2016	02/20/2017
Horn Antenna	SCHWARZBECK	BBHA9120	D286	02/28/2016	02/27/2017
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170-497	02/28/2016	02/27/2017
Turn Table	N/A	N/A	N/A	N.C.R	N.C.R
Antenna Tower	SUNOL	TLT2	N/A	N.C.R	N.C.R
Controller	Sunol Sciences	SC104V	022310-1	N.C.R	N.C.R
Controller	CT	N/A	N/A	N.C.R	N.C.R
Temp. / Humidity Meter	Anymetre	JR913	N/A	02/21/2016	02/20/2017
Test S/W	FARAD		LZ-RF / CCS-SZ-3A2		

**NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.  
2. The FCC Site Registration number is 101879.  
3. N.C.R = No Calibration Required.

### 7.6.3. 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=AUTO / Sweep=AUTO / Detector=PEAK
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are

### 7.6.4. TEST SETUP

