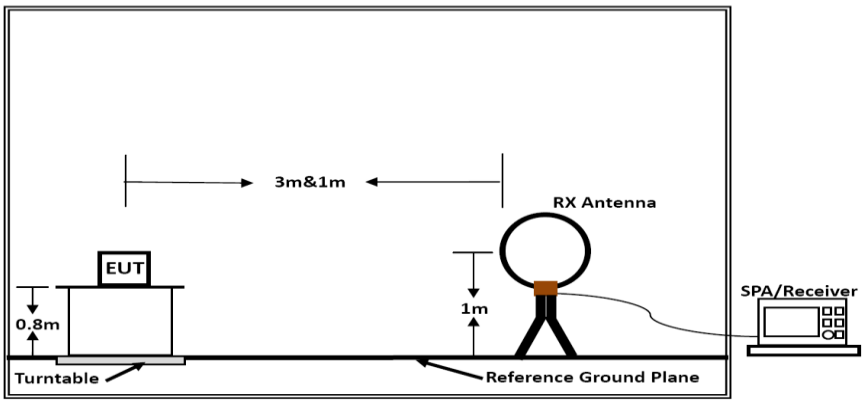
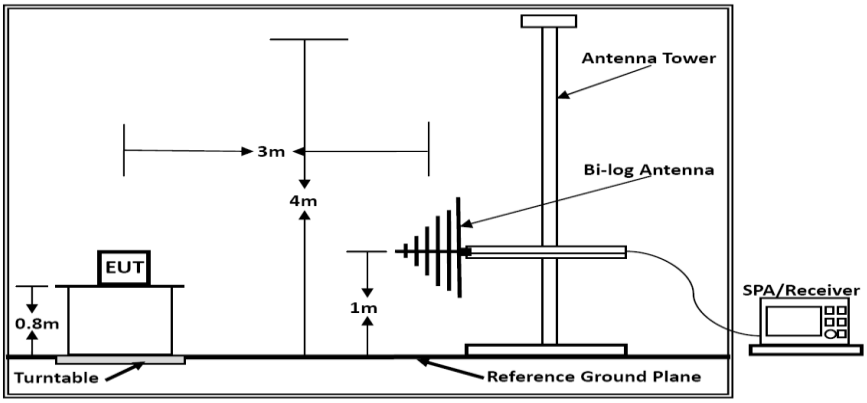
5.5.4. Test Setup Layout

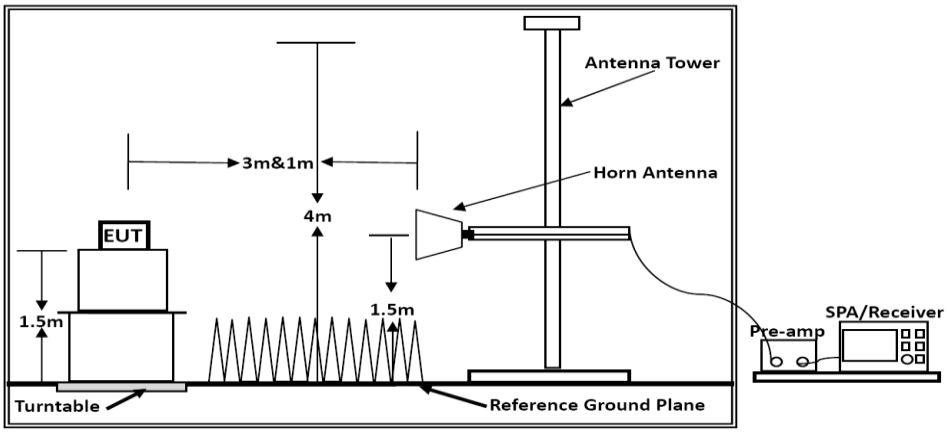
For radiated emissions below 30MHz



Below 30MHz



Below 1GHz



Above 1GHz

Above 18 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade form 3m to 1m.

Distance extrapolation factor = 20 log (specific distanc [3m] / test distance [1.5m]) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor [6 dB].

5.5.5. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.5.6. Results of Radiated Emissions (9 KHz~30MHz)

Temperature	24.5℃	Humidity	56.2%
Test Engineer	Gary Qian	Configurations	IEEE 802.11a/n/ac

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Over Limit (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

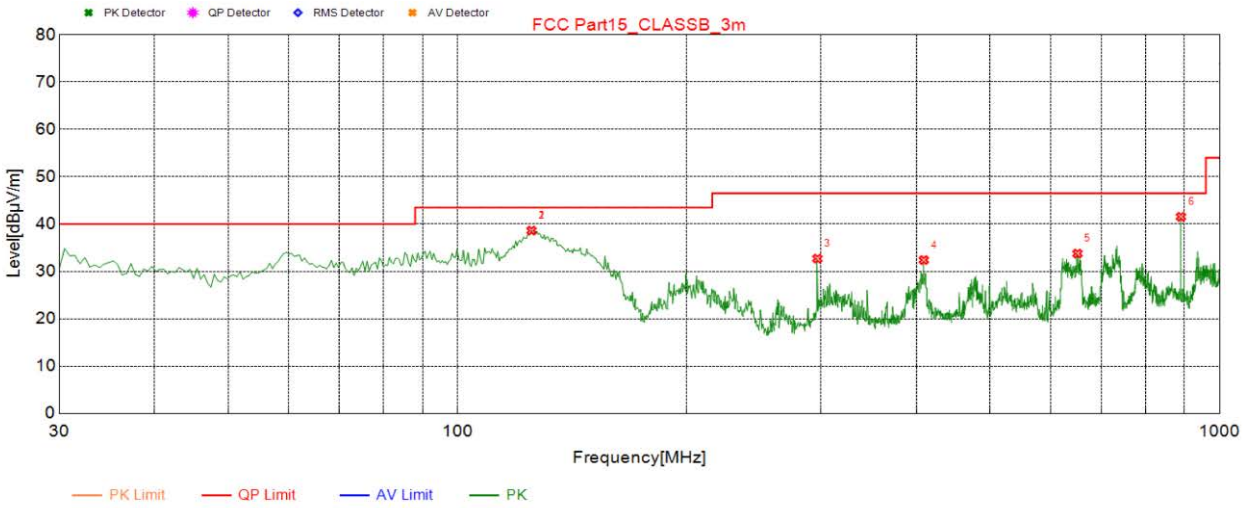
5.5.7. Results of Radiated Emissions (30MHz~1GHz)

Temperature	24.5℃	Humidity	56.2%
Test Engineer	Gary Qian	Configurations	IEEE 802.11n HT20 mode (High Channel)@Chain 0+Chain 1

Test result for IEEE 802.11n HT20 mode (High Channel)@Chain 0+Chain 1

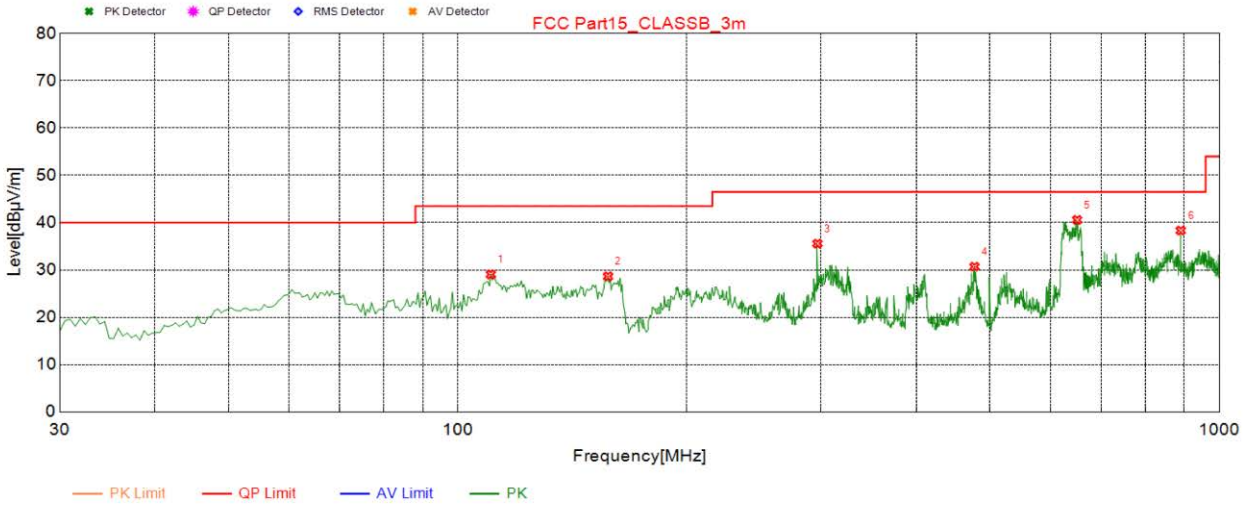
With Adapter(model: SA12V-050200U)

Vertical:



Suspected List								
NO.	Freq. [MHz]	Result Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle[°]	Polarity
1	125.060	38.64	-18.36	43.50	4.86	100	336	Vertical
2	125.060	38.64	-18.36	43.50	4.86	100	336	Vertical
3	296.750	32.7	-12.88	46.50	13.80	100	270	Vertical
4	409.270	32.4	-9.85	46.50	14.10	100	264	Vertical
5	651.285	33.77	-4.95	46.50	12.73	100	59	Vertical
6	890.390	41.53	-1.21	46.50	4.97	100	241	Vertical

Horizontal:



Suspected List								
NO.	Freq. [MHz]	Result Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle[°]	Polarity
1	110.510	29.04	-16.10	43.50	14.46	100	334	Horizontal
2	157.555	28.65	-18.78	43.50	14.85	100	317	Horizontal
3	296.750	35.56	-12.88	46.50	10.94	100	269	Horizontal
4	477.170	30.69	-8.52	46.50	15.81	100	18	Horizontal
5	650.800	40.57	-4.96	46.50	5.93	100	352	Horizontal
6	890.390	38.34	-1.21	46.50	8.16	100	217	Horizontal

Note:

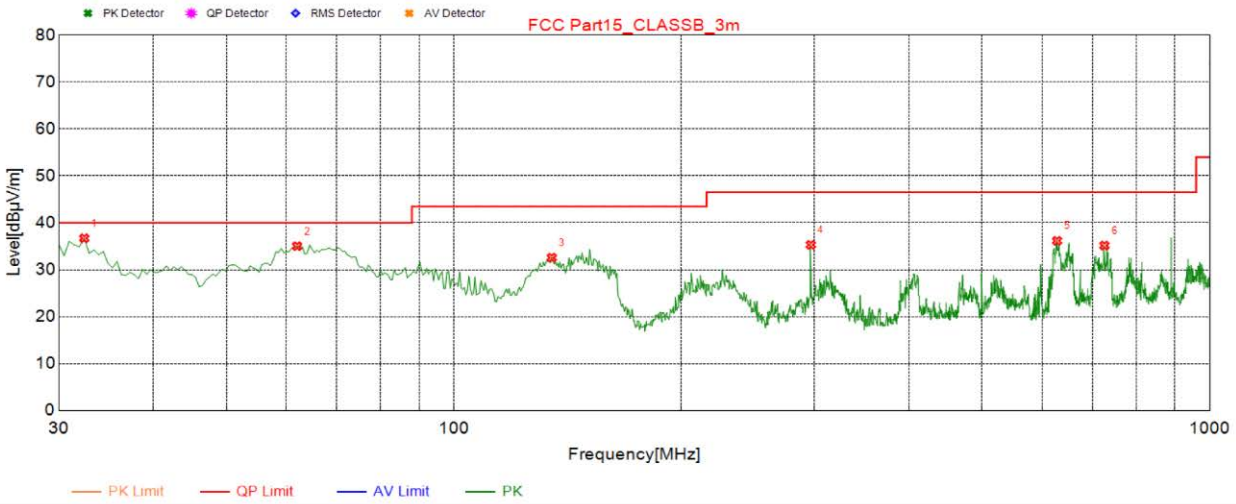
Pre-scan all modes and recorded the worst case results in this report (IEEE 802.11n HT20 mode (High Channel)@Chain 0+Chain 1).

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

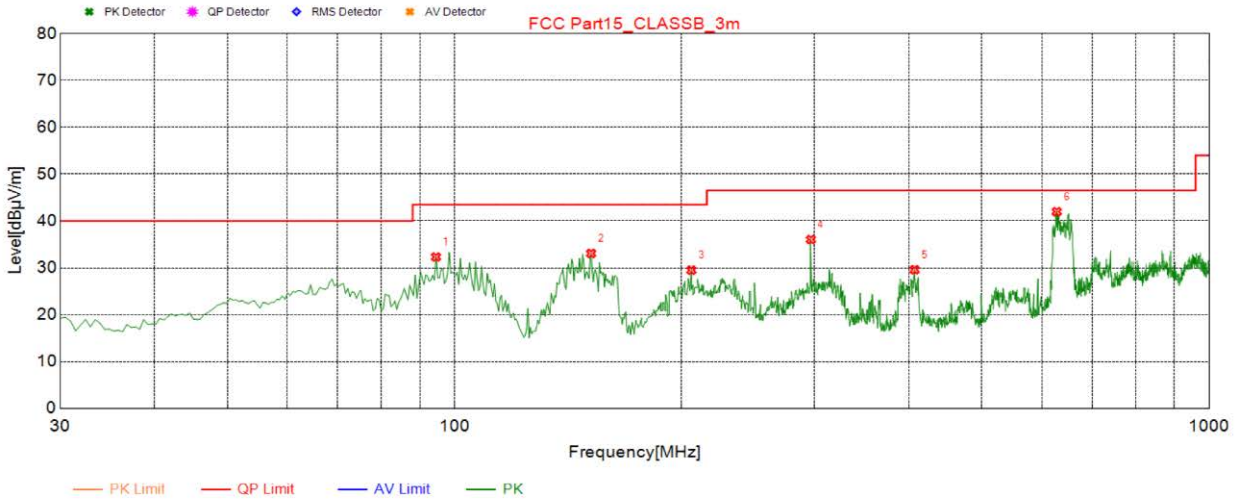
With Adapter((model: A912-050200W-US1)

Vertical:



Suspected List								
NO.	Freq. [MHz]	Result Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	32.425	36.71	-16.15	40.00	3.29	100	71	Vertical
2	62.010	35.02	-16.16	40.00	4.98	100	353	Vertical
3	134.760	32.58	-19.28	43.50	10.92	200	20	Vertical
4	296.750	35.3	-12.88	46.50	11.20	100	292	Vertical
5	628.490	36.16	-5.24	46.50	10.34	200	28	Vertical
6	725.975	35.15	-3.97	46.50	11.35	100	16	Vertical

Horizontal:



Suspected List								
NO.	Freq. [MHz]	Result Level [dBµV/m]	Factor [dB/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle[°]	Polarity
1	94.505	32.32	-16.91	43.50	11.18	300	234	Horizontal
2	151.735	33.07	-19.02	43.50	10.43	300	242	Horizontal
3	206.055	29.5	-15.25	43.50	14.00	100	40	Horizontal
4	296.750	36.04	-12.88	46.50	10.46	100	80	Horizontal
5	407.330	29.58	-9.89	46.50	16.92	100	327	Horizontal
6	628.490	41.98	-5.24	46.50	4.52	100	338	Horizontal

Note:

Pre-scan all modes and recorded the worst case results in this report (IEEE 802.11n HT20 mode (High Channel)@Chain 0+Chain 1).

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

5.5.8. Results for Radiated Emissions (Above 1GHz)

Remark: Measured all modes and recorded worst case;

IEEE 802.11a/ Antenna Chain 1

Channel 149 / 5745 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.235	52.01	33.23	35.04	3.91	54.11	68.20	-14.09	Peak	Horizontal
17.235	40.70	33.23	35.04	3.91	42.80	54.00	-11.20	Average	Horizontal
17.235	52.92	33.23	35.04	3.91	55.02	68.20	-13.18	Peak	Vertical
17.235	40.18	33.23	35.04	3.91	42.28	54.00	-11.72	Average	Vertical

Channel 157 / 5785 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.355	54.96	33.27	35.15	3.93	57.01	68.20	-11.19	Peak	Horizontal
17.355	44.85	33.27	35.15	3.93	46.90	54.00	-7.10	Average	Horizontal
17.355	55.99	33.27	35.15	3.93	58.04	68.20	-10.16	Peak	Vertical
17.355	42.45	33.27	35.15	3.93	44.50	54.00	-9.50	Average	Vertical

Channel 163 / 5825 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.475	55.64	33.32	35.14	3.97	57.79	68.20	-10.41	Peak	Horizontal
17.475	40.76	33.32	35.14	3.97	42.91	54.00	-11.09	Average	Horizontal
17.475	55.12	33.32	35.14	3.97	57.27	68.20	-10.93	Peak	Vertical
17.475	43.15	33.32	35.14	3.97	45.30	54.00	-8.70	Average	Vertical

IEEE 802.11n-HT20/Combined Antenna Chain 0 and Antenna Chain 1

Channel 149 / 5745 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.235	53.86	33.23	35.04	3.91	55.96	68.20	-12.24	Peak	Horizontal
17.235	43.13	33.23	35.04	3.91	45.23	54.00	-8.77	Average	Horizontal
17.235	53.41	33.23	35.04	3.91	55.51	68.20	-12.69	Peak	Vertical
17.235	43.17	33.23	35.04	3.91	45.27	54.00	-8.73	Average	Vertical

Channel 157 / 5785 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.355	55.49	33.27	35.15	3.93	57.54	68.20	-10.66	Peak	Horizontal
17.355	44.62	33.27	35.15	3.93	46.67	54.00	-7.33	Average	Horizontal
17.355	55.72	33.27	35.15	3.93	57.77	68.20	-10.43	Peak	Vertical
17.355	43.53	33.27	35.15	3.93	45.58	54.00	-8.42	Average	Vertical

Channel 163 / 5825 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.475	54.74	33.32	35.14	3.97	56.89	68.20	-11.31	Peak	Horizontal
17.475	41.97	33.32	35.14	3.97	44.12	54.00	-9.88	Average	Horizontal
17.475	52.91	33.32	35.14	3.97	55.06	68.20	-13.14	Peak	Vertical
17.475	43.95	33.32	35.14	3.97	46.10	54.00	-7.90	Average	Vertical

IEEE 802.11ac VHT20/ Combined Antenna Chain 1 and Antenna Chain 2

Channel 149 / 5745 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.235	53.59	33.23	35.04	3.91	55.69	68.20	-12.51	Peak	Horizontal
17.235	42.99	33.23	35.04	3.91	45.09	54.00	-8.91	Average	Horizontal
17.235	51.73	33.23	35.04	3.91	53.83	68.20	-14.37	Peak	Vertical
17.235	43.47	33.23	35.04	3.91	45.57	54.00	-8.43	Average	Vertical

Channel 157 / 5785 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.355	51.67	33.27	35.15	3.93	53.72	68.20	-14.48	Peak	Horizontal
17.355	44.55	33.27	35.15	3.93	46.60	54.00	-7.40	Average	Horizontal
17.355	54.30	33.27	35.15	3.93	56.35	68.20	-11.85	Peak	Vertical
17.355	42.48	33.27	35.15	3.93	44.53	54.00	-9.47	Average	Vertical

Channel 163 / 5825 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.475	55.43	33.32	35.14	3.97	57.58	68.20	-10.62	Peak	Horizontal
17.475	42.61	33.32	35.14	3.97	44.76	54.00	-9.24	Average	Horizontal
17.475	51.52	33.32	35.14	3.97	53.67	68.20	-14.53	Peak	Vertical
17.475	40.26	33.32	35.14	3.97	42.41	54.00	-11.59	Average	Vertical

IEEE 802.11n HT40 / Antenna Chain 1 and Antenna Chain 2

Channel 151 / 5755 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.265	53.37	33.23	35.04	3.91	55.47	68.20	-12.73	Peak	Horizontal
17.265	41.82	33.23	35.04	3.91	43.92	54.00	-10.08	Average	Horizontal
17.265	52.37	33.23	35.04	3.91	54.47	68.20	-13.73	Peak	Vertical
17.265	41.32	33.23	35.04	3.91	43.42	54.00	-10.58	Average	Vertical

Channel 159 / 5795 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.385	53.04	33.27	35.15	3.93	55.09	68.20	-13.11	Peak	Horizontal
17.385	44.27	33.27	35.15	3.93	46.32	54.00	-7.68	Average	Horizontal
17.385	53.23	33.27	35.15	3.93	55.28	68.20	-12.92	Peak	Vertical
17.385	42.06	33.27	35.15	3.93	44.11	54.00	-9.89	Average	Vertical

IEEE 802.11ac VHT40 / Antenna Chain 1 and Antenna Chain 2

Channel 151 / 5755 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.265	51.90	33.23	35.04	3.91	54.00	68.20	-14.20	Peak	Horizontal
17.265	42.12	33.23	35.04	3.91	44.22	54.00	-9.78	Average	Horizontal
17.265	52.66	33.23	35.04	3.91	54.76	68.20	-13.44	Peak	Vertical
17.265	44.88	33.23	35.04	3.91	46.98	54.00	-7.02	Average	Vertical

Channel 159 / 5795 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.385	52.69	33.27	35.15	3.93	54.74	68.20	-13.46	Peak	Horizontal
17.385	42.24	33.27	35.15	3.93	44.29	54.00	-9.71	Average	Horizontal
17.385	53.17	33.27	35.15	3.93	55.22	68.20	-12.98	Peak	Vertical
17.385	42.04	33.27	35.15	3.93	44.09	54.00	-9.91	Average	Vertical

IEEE 802.11ac VHT80 / Antenna Chain 1 and Antenna Chain 2

Channel 155 / 5775 MHz

Freq GHz	Read Level dBuV	Ant. Fac dB/m	Pre. Fac dB	Cab.Los dB	Measured Level dBuV	Limit Line dBuV/m	Over limit dB	Remark	Pol/Phase
17.325	52.79	33.27	35.15	3.93	54.84	68.20	-13.36	Peak	Horizontal
17.325	40.43	33.27	35.15	3.93	42.48	54.00	-11.52	Average	Horizontal
17.325	51.96	33.27	35.15	3.93	54.01	68.20	-14.19	Peak	Vertical
17.325	44.07	33.27	35.15	3.93	46.12	54.00	-7.88	Average	Vertical

Notes:

1. *Measuring frequencies from 9 KHz ~40 GHz, No emission found between lowest internal used/generated frequencies to 30MHz.*
2. *Radiated emissions measured in frequency range from 9 KHz ~40GHz were made with an instrument using Peak detector mode.*
3. *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.*
4. *Worst case data at 6Mbps at IEEE 802.11a; MCS0 at IEEE 802.11n HT20, IEEE 802.11n HT40, IEEE 802.11a VHT20, IEEE 802.11ac VHT40 and IEEE 802.11ac VHT80;*

5.6. Power line conducted emissions

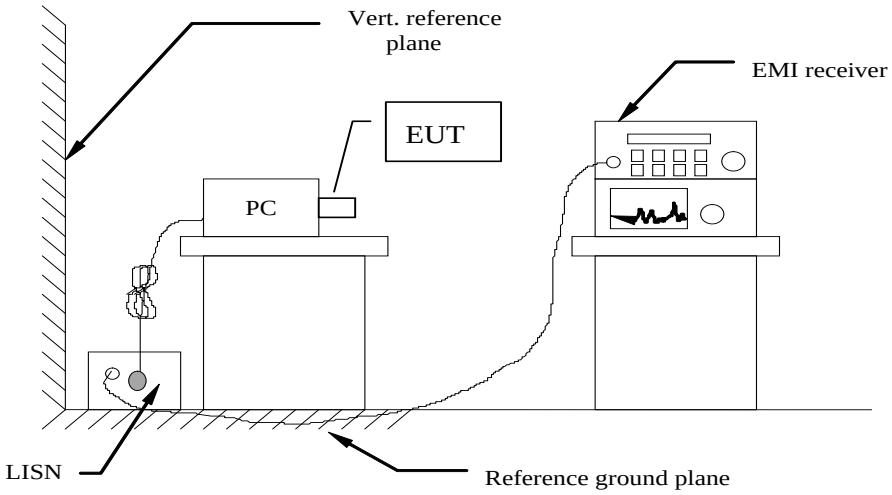
5.6.1 Standard Applicable

According to §15.207 (a): For an intentional radiator which 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 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range are listed as follows:

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

* Decreasing linearly with the logarithm of the frequency

5.6.2 Block Diagram of Test Setup

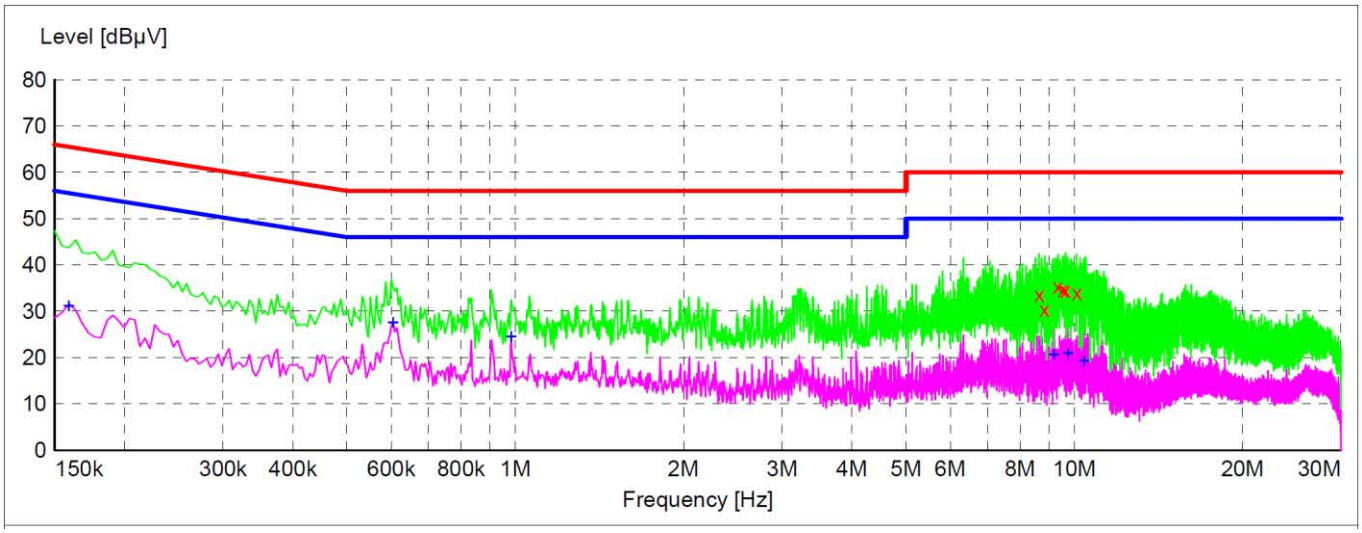


5.6.3 Test Results

PASS.

The test data please refer to following page.

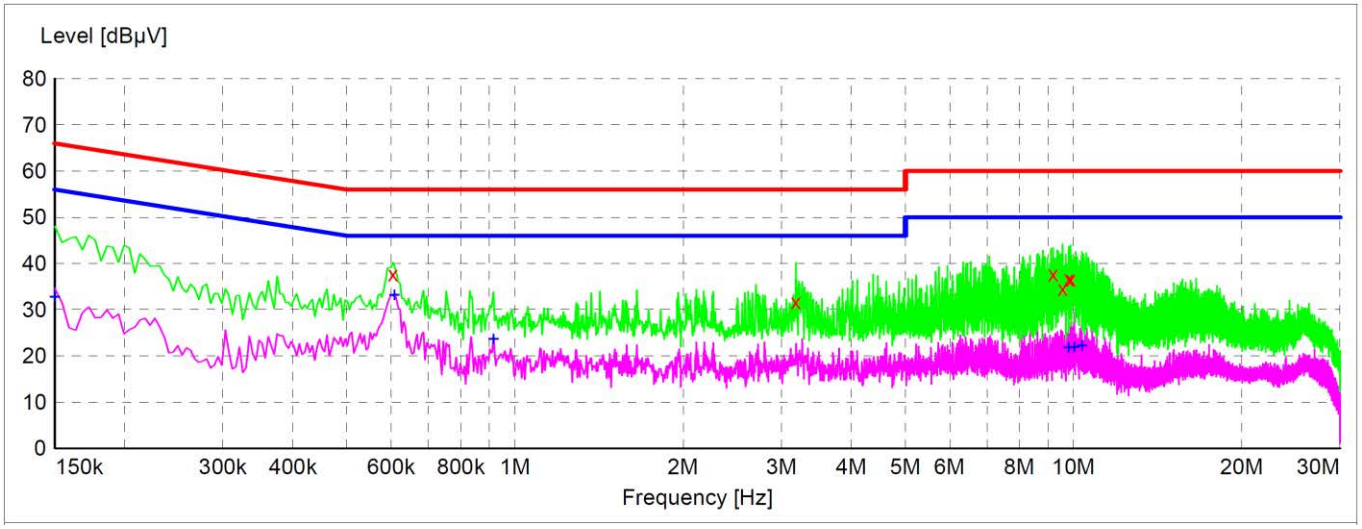
The worst result for IEEE 802.11n HT20 mode (Low Channel)@Chain 0+Chain 1
With Adapter(model: SA12V-050200U)
Neutral



Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
8.650500	33.50	9.8	60	26.5	QP	N	GND
8.857500	30.40	9.8	60	29.6	QP	N	GND
9.357000	35.40	9.8	60	24.6	QP	N	GND
9.546000	34.70	9.8	60	25.3	QP	N	GND
9.645000	34.60	9.8	60	25.4	QP	N	GND
10.099500	34.00	9.8	60	26.0	QP	N	GND

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.159000	31.10	10.0	56	24.4	AV	N	GND
0.604500	27.50	9.9	46	18.5	AV	N	GND
0.982500	24.40	9.8	46	21.6	AV	N	GND
9.204000	20.60	9.8	50	29.4	AV	N	GND
9.739500	20.80	9.8	50	29.2	AV	N	GND
10.401000	19.20	9.8	50	30.8	AV	N	GND

Line

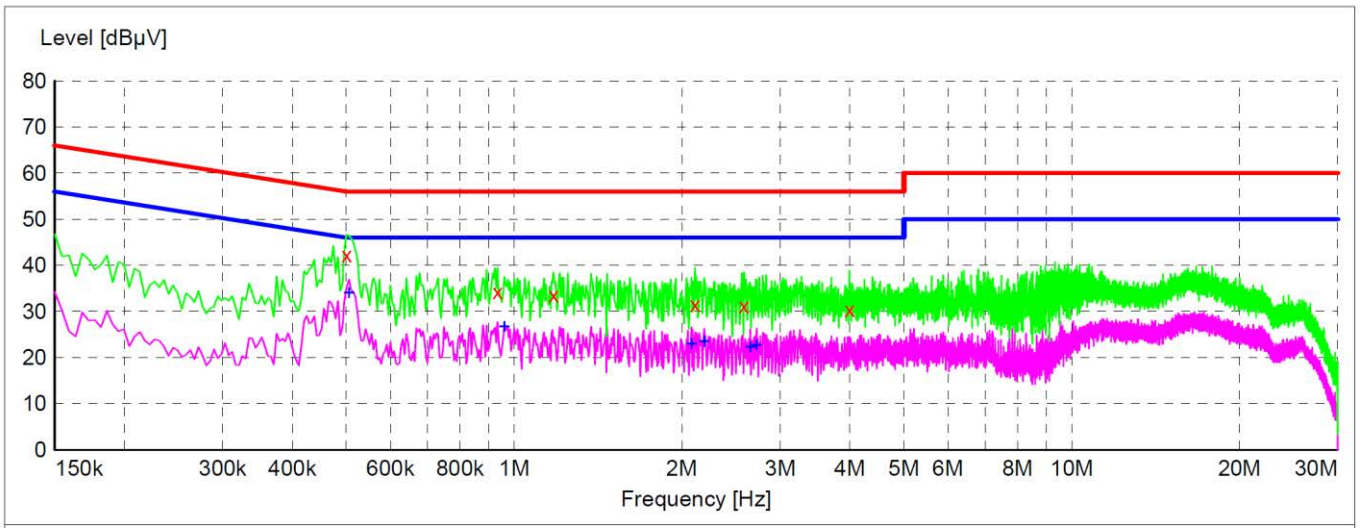


Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.604500	37.70	9.9	56	18.3	QP	L1	GND
3.183000	31.70	9.7	56	24.3	QP	L1	GND
9.190500	37.70	9.8	60	22.3	QP	L1	GND
9.559500	34.60	9.8	60	25.4	QP	L1	GND
9.807000	36.70	9.8	60	23.3	QP	L1	GND
9.879000	36.60	9.8	60	23.4	QP	L1	GND

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	32.80	9.8	56	23.2	AV	L1	GND
0.609000	33.20	9.9	46	12.8	AV	L1	GND
0.915000	23.60	9.8	46	22.4	AV	L1	GND
9.811500	21.80	9.8	50	28.2	AV	L1	GND
10.027500	21.90	9.8	50	28.1	AV	L1	GND
10.342500	22.20	9.8	50	27.8	AV	L1	GND

****Note: Pre-scan all modes and recorded the worst case results in this report IEEE 802.11n HT20 mode (Low Channel)@Chain 0+Chain 1 for 120V/60Hz.*

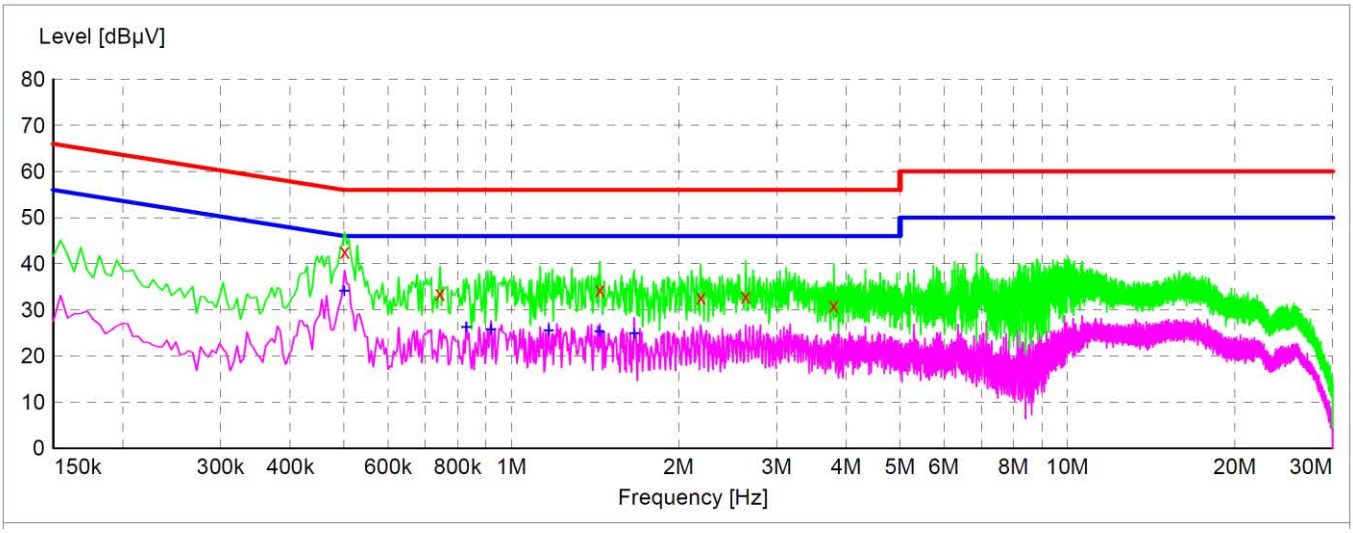
With Adapter(model: A912-050200W-US1)
Neutral



Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.501000	42.30	9.9	56	13.7	QP	N	GND
0.933000	34.30	9.8	56	21.7	QP	N	GND
1.176000	33.50	9.8	56	22.5	QP	N	GND
2.112000	31.50	9.7	56	24.5	QP	N	GND
2.584500	31.20	9.7	56	24.8	QP	N	GND
3.993000	30.40	9.7	56	25.6	QP	N	GND

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.505500	33.90	9.9	46	12.1	AV	N	GND
0.960000	26.60	9.8	46	19.4	AV	N	GND
2.080500	22.90	9.7	46	23.1	AV	N	GND
2.193000	23.50	9.7	46	22.5	AV	N	GND
2.652000	22.20	9.7	46	23.8	AV	N	GND
2.724000	22.60	9.7	46	23.4	AV	N	GND

Line



Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.501000	42.70	9.9	56	13.3	QP	L1	GND
0.744000	33.60	9.9	56	22.4	QP	L1	GND
1.441500	34.40	9.7	56	21.6	QP	L1	GND
2.188500	32.80	9.7	56	23.2	QP	L1	GND
2.638500	33.00	9.7	56	23.0	QP	L1	GND
3.799500	31.00	9.7	56	25.0	QP	L1	GND

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.501000	34.10	9.9	46	11.9	AV	L1	GND
0.829500	26.30	9.8	46	19.7	AV	L1	GND
0.919500	25.70	9.8	46	20.3	AV	L1	GND
1.167000	25.50	9.8	46	20.5	AV	L1	GND
1.441500	25.30	9.7	46	20.7	AV	L1	GND
1.662000	24.90	9.7	46	21.1	AV	L1	GND

****Note: Pre-scan all modes and recorded the worst case results in this report IEEE 802.11n HT20 mode (Low Channel)@Chain 0+Chain 1 for 120V/60Hz.*

5.7 Undesirable Emissions Measurement

5.7.1 LIMIT

According to ξ15.407 (b) Undesirable emission limits. Except as shown in paragraph (b) (7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(a) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(b) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(c) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(d) For transmitters operating in the 5.725-5.85 GHz band:

(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

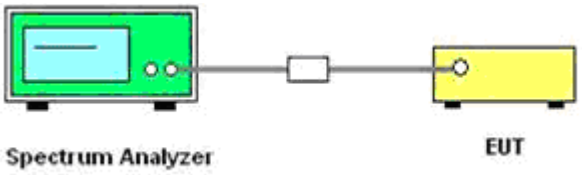
(e) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(f) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(g) The provisions of §15.205 apply to intentional radiators operating under this section.

(h) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

5.7.2 TEST CONFIGURATION



5.7.3 TEST PROCEDURE

1. The power was monitored at the coupler port with a Spectrum Analyzer. The power level was set to the maximum level.

2. Set the RBW = 1MHz.

3. Set the VBW ≥ 3MHz

4. Number of points in sweep ≥ 2 × span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)

5. Manually set sweep time ≥ 10 × (number of points in sweep) × (total on/off period of the transmitted signal).

6. Set detector = power averaging (rms).

7. Sweep time = auto couple.

8. Trace mode = max hold.

9. Allow trace to fully stabilize.

5. 7.4 Test Results

For Antenna Chain 1

IEEE 802.11a							
Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
5650.00	-52.62	3.27	-49.35	Peak	-27.00	-22.35	PASS
5700.00	-45.43	3.27	-42.16	Peak	10.00	-52.16	PASS
5720.00	-39.55	3.27	-36.28	Peak	15.60	-51.88	PASS
5725.00	-35.16	3.27	-31.89	Peak	27.00	-58.89	PASS
5850.00	-31.16	3.27	-27.89	Peak	27.00	-54.89	PASS
5855.00	-35.86	3.27	-32.59	Peak	15.60	-48.19	PASS
5875.00	-40.95	3.27	-37.68	Peak	10.00	-47.68	PASS
5925.00	-51.32	3.27	-48.05	Peak	-27.00	-21.05	PASS

IEEE 802.11n HT20							
Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
5650.00	-53.03	3.27	-49.76	Peak	-27.00	-22.76	PASS
5700.00	-36.85	3.27	-33.58	Peak	10.00	-43.58	PASS
5720.00	-32.57	3.27	-29.30	Peak	15.60	-44.90	PASS
5725.00	-35.22	3.27	-31.95	Peak	27.00	-58.95	PASS
5850.00	-34.40	3.27	-31.13	Peak	27.00	-58.13	PASS
5855.00	-33.76	3.27	-30.49	Peak	15.60	-46.09	PASS
5875.00	-41.72	3.27	-38.45	Peak	10.00	-48.45	PASS
5925.00	-49.17	3.27	-45.90	Peak	-27.00	-18.90	PASS

IEEE 802.11ac VHT20							
Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
5650.00	-52.80	3.27	-49.53	Peak	-27.00	-22.53	PASS
5700.00	-45.03	3.27	-41.76	Peak	10.00	-51.76	PASS
5720.00	-37.16	3.27	-33.89	Peak	15.60	-49.49	PASS
5725.00	-29.38	3.27	-26.11	Peak	27.00	-53.11	PASS
5850.00	-41.24	3.27	-37.97	Peak	27.00	-64.97	PASS
5855.00	-40.67	3.27	-37.40	Peak	15.60	-53.00	PASS
5875.00	-44.82	3.27	-41.55	Peak	10.00	-51.55	PASS
5925.00	-50.23	3.27	-46.96	Peak	-27.00	-19.96	PASS

IEEE 802.11n HT40							
Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
5650.00	-49.54	3.27	-46.27	Peak	-27.00	-19.27	PASS
5700.00	-41.04	3.27	-37.77	Peak	10.00	-47.77	PASS
5720.00	-34.73	3.27	-31.46	Peak	15.60	-47.06	PASS
5725.00	-33.78	3.27	-30.51	Peak	27.00	-57.51	PASS
5850.00	-42.68	3.27	-39.41	Peak	27.00	-66.41	PASS
5855.00	-43.61	3.27	-40.34	Peak	15.60	-55.94	PASS
5875.00	-46.49	3.27	-43.22	Peak	10.00	-53.22	PASS
5925.00	-50.77	3.27	-47.50	Peak	-27.00	-20.50	PASS

IEEE 802.11ac VHT40							
Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
5650.00	-49.54	3.27	-46.27	Peak	-27.00	-19.27	PASS
5700.00	-41.04	3.27	-37.77	Peak	10.00	-47.77	PASS
5720.00	-34.73	3.27	-31.46	Peak	15.60	-47.06	PASS
5725.00	-33.78	3.27	-30.51	Peak	27.00	-57.51	PASS
5850.00	-42.68	3.27	-39.41	Peak	27.00	-66.41	PASS
5855.00	-43.61	3.27	-40.34	Peak	15.60	-55.94	PASS
5875.00	-46.49	3.27	-43.22	Peak	10.00	-53.22	PASS
5925.00	-50.77	3.27	-47.50	Peak	-27.00	-20.50	PASS

IEEE 802.11ac VHT80							
Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
5650.00	-50.08	3.27	-46.81	Peak	-27.00	-19.81	PASS
5700.00	-51.60	3.27	-48.33	Peak	10.00	-58.33	PASS
5720.00	-45.43	3.27	-42.16	Peak	15.60	-57.76	PASS
5725.00	-44.97	3.27	-41.70	Peak	27.00	-68.70	PASS
5850.00	-51.06	3.27	-47.79	Peak	27.00	-74.79	PASS
5855.00	-48.76	3.27	-45.49	Peak	15.60	-61.09	PASS
5875.00	-49.32	3.27	-46.05	Peak	10.00	-56.05	PASS
5925.00	-50.33	3.27	-47.06	Peak	-27.00	-20.06	PASS

For Antenna Chain 2

IEEE 802.11a							
Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
5650.00	-50.66	5.93	-44.73	Peak	-27.00	-17.73	PASS
5700.00	-45.45	5.93	-39.52	Peak	10.00	-49.52	PASS
5720.00	-35.85	5.93	-29.92	Peak	15.60	-45.52	PASS
5725.00	-35.40	5.93	-29.47	Peak	27.00	-56.47	PASS
5850.00	-36.51	5.93	-30.58	Peak	27.00	-57.58	PASS
5855.00	-38.11	5.93	-32.18	Peak	15.60	-47.78	PASS
5875.00	-44.30	5.93	-38.37	Peak	10.00	-48.37	PASS
5925.00	-50.10	5.93	-44.17	Peak	-27.00	-17.17	PASS

IEEE 802.11n HT20							
Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
5650.00	-50.48	5.93	-44.55	Peak	-27.00	-17.55	PASS
5700.00	-43.87	5.93	-37.94	Peak	10.00	-47.94	PASS
5720.00	-33.42	5.93	-27.49	Peak	15.60	-43.09	PASS
5725.00	-26.91	5.93	-20.98	Peak	27.00	-47.98	PASS
5850.00	-39.31	5.93	-33.38	Peak	27.00	-60.38	PASS
5855.00	-36.99	5.93	-31.06	Peak	15.60	-46.66	PASS
5875.00	-42.50	5.93	-36.57	Peak	10.00	-46.57	PASS
5925.00	-51.62	5.93	-45.69	Peak	-27.00	-18.69	PASS

IEEE 802.11ac VHT20							
Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
5650.00	-51.10	5.93	-45.17	Peak	-27.00	-18.17	PASS
5700.00	-44.25	5.93	-38.32	Peak	10.00	-48.32	PASS
5720.00	-38.34	5.93	-32.41	Peak	15.60	-48.01	PASS
5725.00	-28.20	5.93	-22.27	Peak	27.00	-49.27	PASS
5850.00	-38.32	5.93	-32.39	Peak	27.00	-59.39	PASS
5855.00	-43.36	5.93	-37.43	Peak	15.60	-53.03	PASS
5875.00	-46.35	5.93	-40.42	Peak	10.00	-50.42	PASS
5925.00	-51.46	5.93	-45.53	Peak	-27.00	-18.53	PASS

IEEE 802.11n HT40							
Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
5650.00	-49.27	5.93	-43.34	Peak	-27.00	-16.34	PASS
5700.00	-42.66	5.93	-36.73	Peak	10.00	-46.73	PASS
5720.00	-41.64	5.93	-35.71	Peak	15.60	-51.31	PASS
5725.00	-39.37	5.93	-33.44	Peak	27.00	-60.44	PASS
5850.00	-45.84	5.93	-39.91	Peak	27.00	-66.91	PASS
5855.00	-46.24	5.93	-40.31	Peak	15.60	-55.91	PASS
5875.00	-48.76	5.93	-42.83	Peak	10.00	-52.83	PASS
5925.00	-50.94	5.93	-45.01	Peak	-27.00	-18.01	PASS

IEEE 802.11ac VHT40							
Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
5650.00	-50.39	5.93	-44.46	Peak	-27.00	-17.46	PASS
5700.00	-41.88	5.93	-35.95	Peak	10.00	-45.95	PASS
5720.00	-33.63	5.93	-27.70	Peak	15.60	-43.30	PASS
5725.00	-30.71	5.93	-24.78	Peak	27.00	-51.78	PASS
5850.00	-44.80	5.93	-38.87	Peak	27.00	-65.87	PASS
5855.00	-45.59	5.93	-39.66	Peak	15.60	-55.26	PASS
5875.00	-47.11	5.93	-41.18	Peak	10.00	-51.18	PASS
5925.00	-52.38	5.93	-46.45	Peak	-27.00	-19.45	PASS

IEEE 802.11ac VHT80							
Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
5650.00	-50.77	5.93	-44.84	Peak	-27.00	-17.84	PASS
5700.00	-51.60	5.93	-45.67	Peak	10.00	-55.67	PASS
5720.00	-46.28	5.93	-40.35	Peak	15.60	-55.95	PASS
5725.00	-47.99	5.93	-42.06	Peak	27.00	-69.06	PASS
5850.00	-43.74	5.93	-37.81	Peak	27.00	-64.81	PASS
5855.00	-47.93	5.93	-42.00	Peak	15.60	-57.60	PASS
5875.00	-50.46	5.93	-44.53	Peak	10.00	-54.53	PASS
5925.00	-52.16	5.93	-46.23	Peak	-27.00	-19.23	PASS

For Combined Antenna Chain 1 and Antenna Chain 2

IEEE 802.11n HT20									
Frequency (MHz)	Conducted Power (dBm)			Directional Gain (dB)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
	Antenna 1	Antenna 2	Sum						
5650.00	-53.03	-50.48	-48.56	7.81	-40.75	Peak	-27.00	-13.75	PASS
5700.00	-36.85	-43.87	-36.06	7.81	-28.25	Peak	10.00	-38.25	PASS
5720.00	-32.57	-33.42	-29.96	7.81	-22.15	Peak	15.60	-37.75	PASS
5725.00	-35.22	-26.91	-26.31	7.81	-18.50	Peak	27.00	-45.50	PASS
5850.00	-34.4	-39.31	-33.18	7.81	-25.37	Peak	27.00	-52.37	PASS
5855.00	-33.76	-36.99	-32.07	7.81	-24.26	Peak	15.60	-39.86	PASS
5875.00	-41.72	-42.5	-39.08	7.81	-31.27	Peak	10.00	-41.27	PASS
5925.00	-49.17	-51.62	-47.21	7.81	-39.40	Peak	-27.00	-12.40	PASS

IEEE 802.11ac VHT20									
Frequency (MHz)	Conducted Power (dBm)			Directional Gain (dB)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
	Antenna 1	Antenna 2	Sum						
5650.00	-52.8	-51.1	-48.86	7.81	-41.05	Peak	-27.00	-14.05	PASS
5700.00	-45.03	-44.25	-41.61	7.81	-33.80	Peak	10.00	-43.80	PASS
5720.00	-37.16	-38.34	-34.70	7.81	-26.89	Peak	15.60	-42.49	PASS
5725.00	-29.38	-28.2	-25.74	7.81	-17.93	Peak	27.00	-44.93	PASS
5850.00	-41.24	-38.32	-36.53	7.81	-28.72	Peak	27.00	-55.72	PASS
5855.00	-40.67	-43.36	-38.80	7.81	-30.99	Peak	15.60	-46.59	PASS
5875.00	-44.82	-46.35	-42.51	7.81	-34.70	Peak	10.00	-44.70	PASS
5925.00	-50.23	-51.46	-47.79	7.81	-39.98	Peak	-27.00	-12.98	PASS

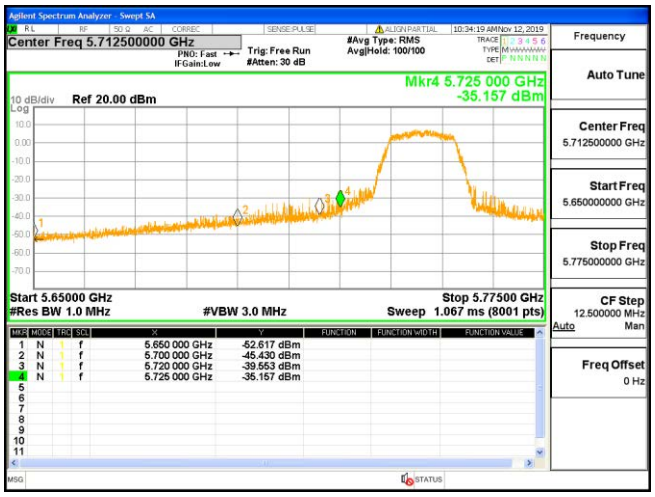
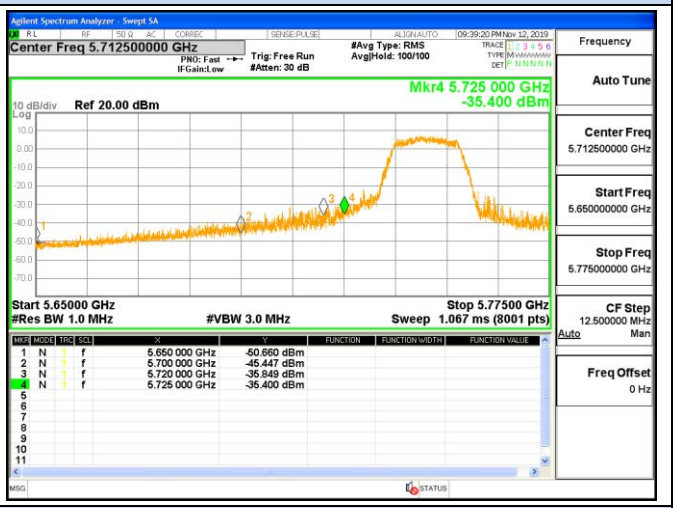
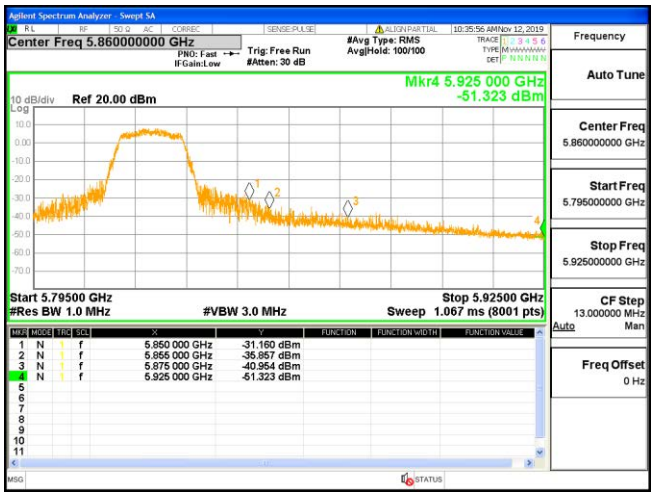
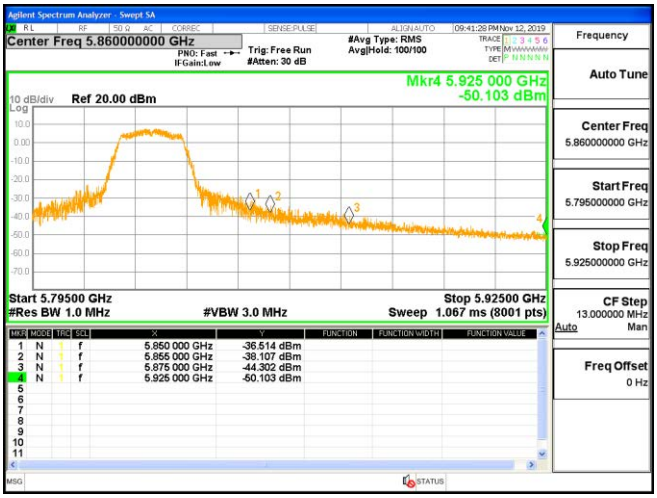
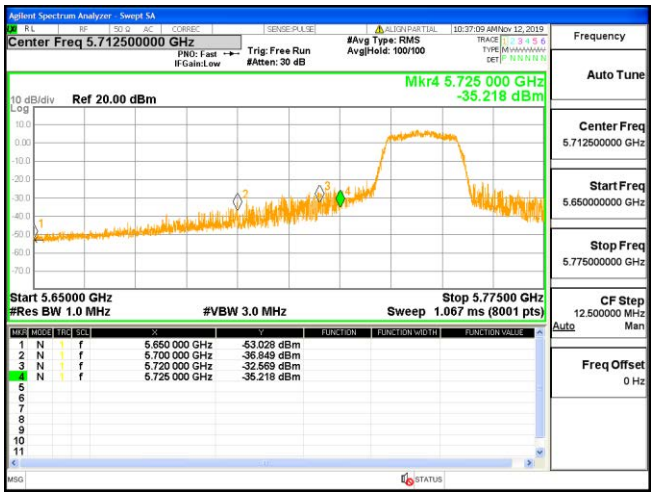
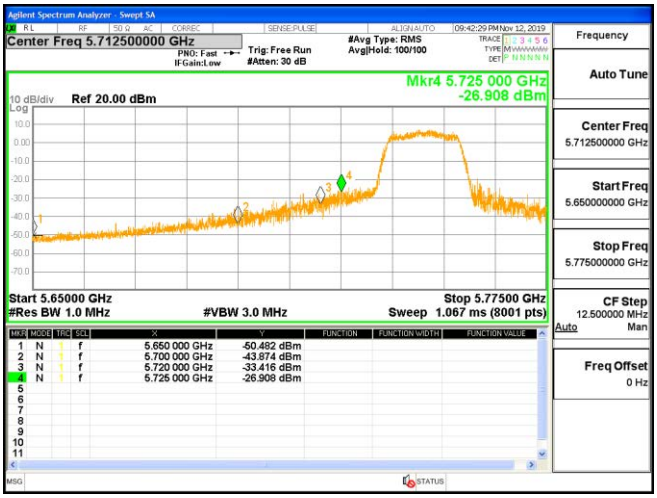
IEEE 802.11n HT40									
Frequency (MHz)	Conducted Power (dBm)			Directional Gain (dB)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
	Antenna 1	Antenna 2	Sum						
5650.00	-49.54	-49.27	-46.39	7.81	-38.58	Peak	-27.00	-11.58	PASS
5700.00	-41.04	-42.66	-38.76	7.81	-30.95	Peak	10.00	-40.95	PASS
5720.00	-34.73	-41.64	-33.92	7.81	-26.11	Peak	15.60	-41.71	PASS
5725.00	-33.78	-39.37	-32.72	7.81	-24.91	Peak	27.00	-51.91	PASS
5850.00	-42.68	-45.84	-40.97	7.81	-33.16	Peak	27.00	-60.16	PASS
5855.00	-43.61	-46.24	-41.72	7.81	-33.91	Peak	15.60	-49.51	PASS
5875.00	-46.49	-48.76	-44.47	7.81	-36.66	Peak	10.00	-46.66	PASS
5925.00	-50.77	-50.94	-47.84	7.81	-40.03	Peak	-27.00	-13.03	PASS

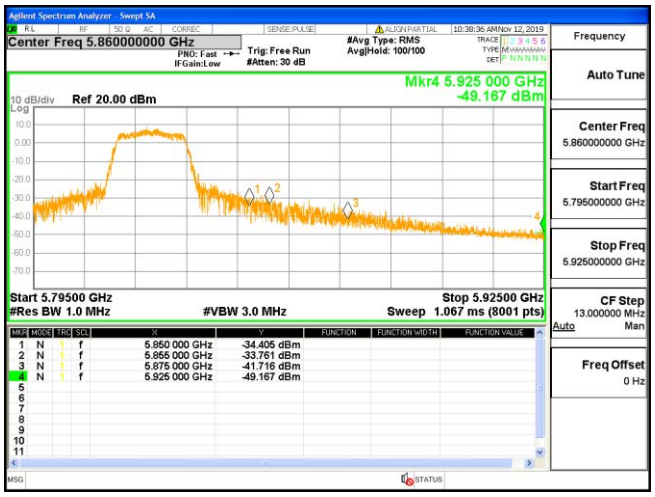
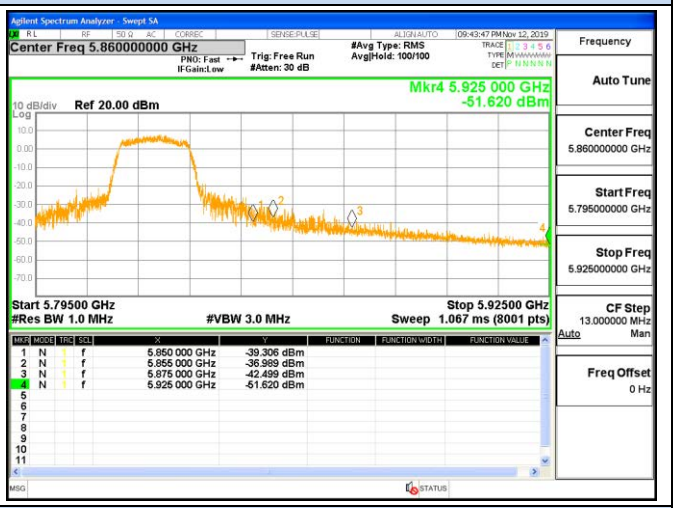
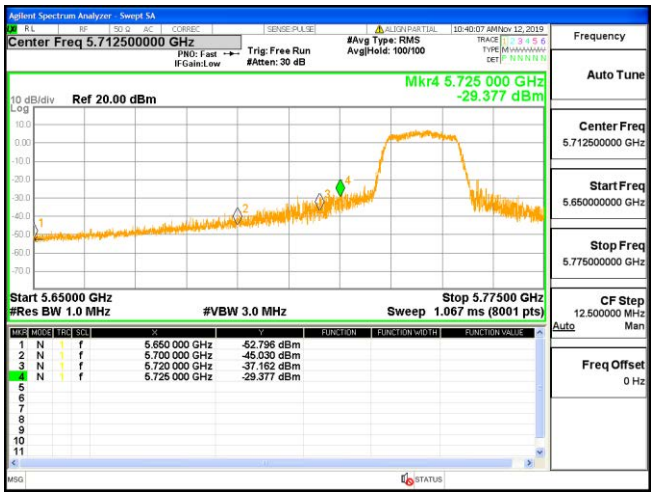
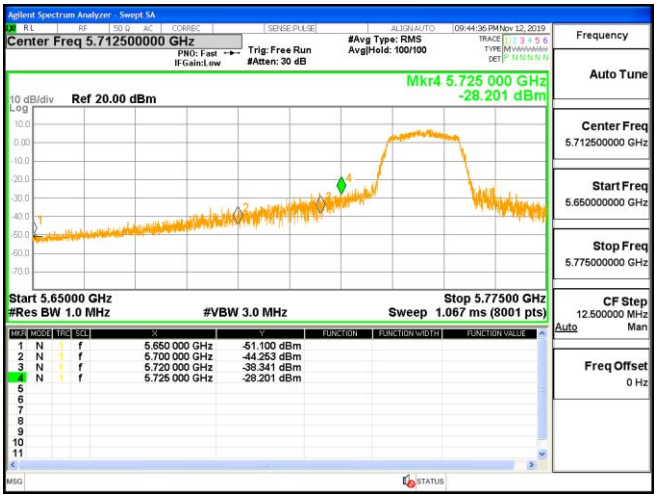
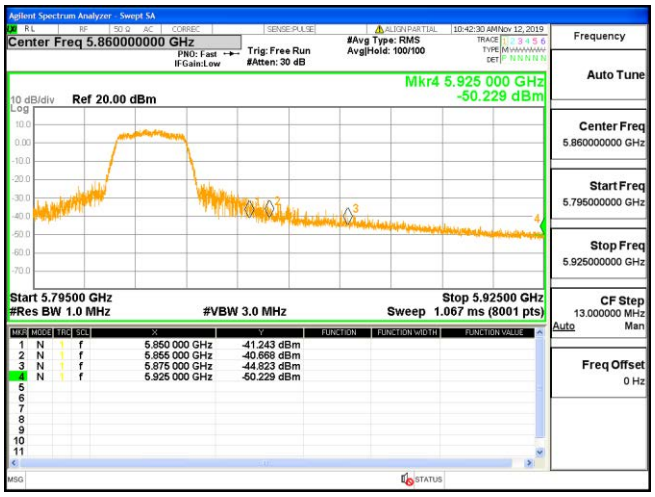
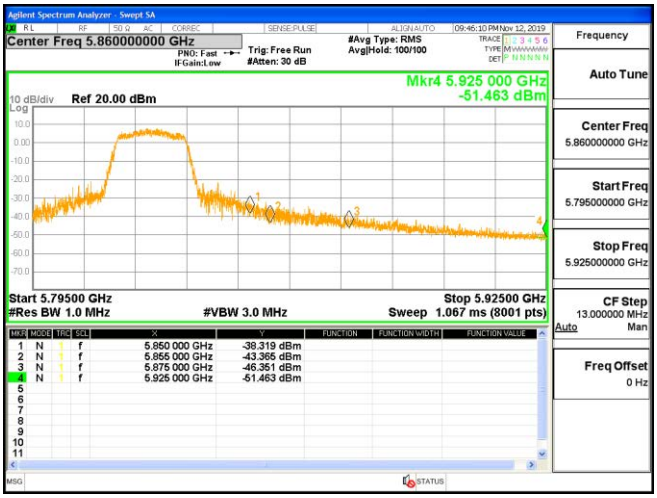
IEEE 802.11ac VHT40									
Frequency (MHz)	Conducted Power (dBm)			Directional Gain (dB)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
	Antenna 1	Antenna 2	Sum						
5650.00	-48.26	-50.39	-46.19	7.81	-38.38	Peak	-27.00	-11.38	PASS
5700.00	-41.96	-41.88	-38.91	7.81	-31.10	Peak	10.00	-41.10	PASS
5720.00	-38.19	-33.63	-32.33	7.81	-24.52	Peak	15.60	-40.12	PASS
5725.00	-37.2	-30.71	-29.83	7.81	-22.02	Peak	27.00	-49.02	PASS
5850.00	-41.84	-44.8	-40.06	7.81	-32.25	Peak	27.00	-59.25	PASS
5855.00	-43.4	-45.59	-41.35	7.81	-33.54	Peak	15.60	-49.14	PASS
5875.00	-44.93	-47.11	-42.87	7.81	-35.06	Peak	10.00	-45.06	PASS
5925.00	-50.45	-52.38	-48.30	7.81	-40.49	Peak	-27.00	-13.49	PASS

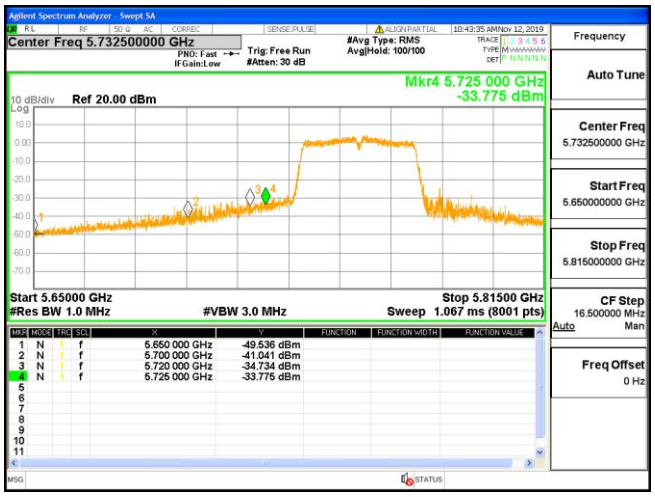
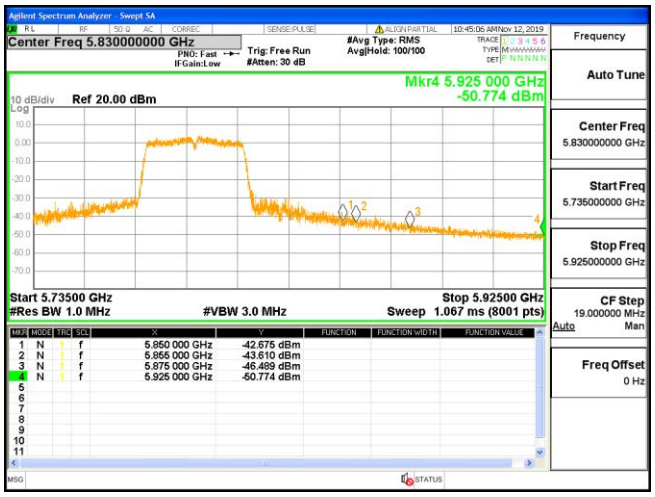
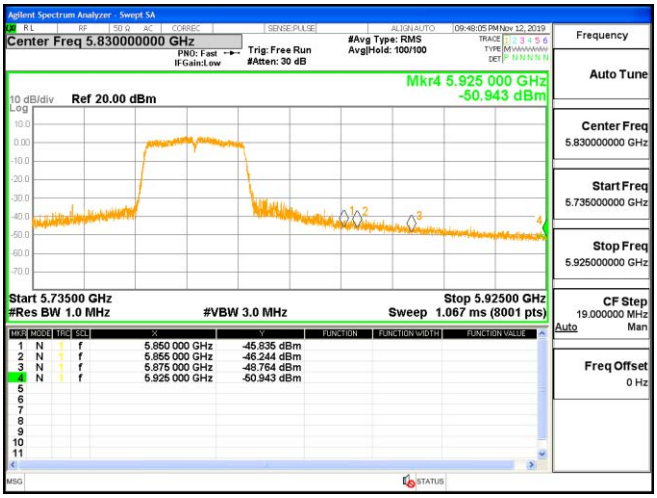
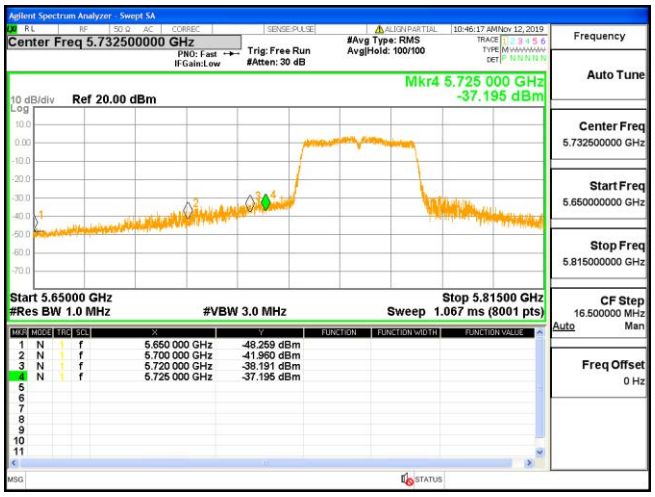
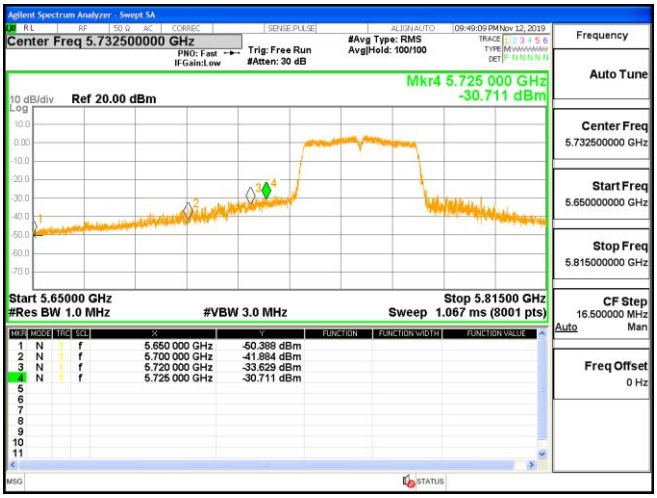
IEEE 802.11ac VHT80									
Frequency (MHz)	Conducted Power (dBm)			Directional Gain (dB)	EIRP (dBm/1MHz)	Detector	Limit (dBm/1MHz)	Over limit dB	Verdict
	Antenna 1	Antenna 2	Sum						
5650.00	-50.08	-50.77	-47.40	7.81	-39.59	Peak	-27.00	-12.59	Pass
5700.00	-51.60	-51.6	-48.59	7.81	-40.78	Peak	10.00	-50.78	Pass
5720.00	-45.43	-46.28	-42.82	7.81	-35.01	Peak	15.60	-50.61	Pass
5725.00	-44.97	-47.99	-43.21	7.81	-35.40	Peak	27.00	-62.40	Pass
5850.00	-51.06	-43.74	-43.00	7.81	-35.19	Peak	27.00	-62.19	Pass
5855.00	-48.76	-47.93	-45.31	7.81	-37.50	Peak	15.60	-53.10	Pass
5875.00	-49.32	-50.46	-46.84	7.81	-39.03	Peak	10.00	-49.03	Pass
5925.00	-50.33	-52.16	-48.14	7.81	-40.33	Peak	-27.00	-13.33	Pass

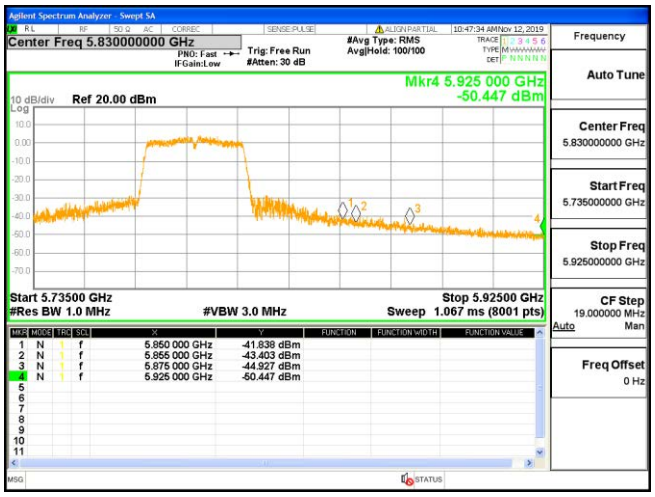
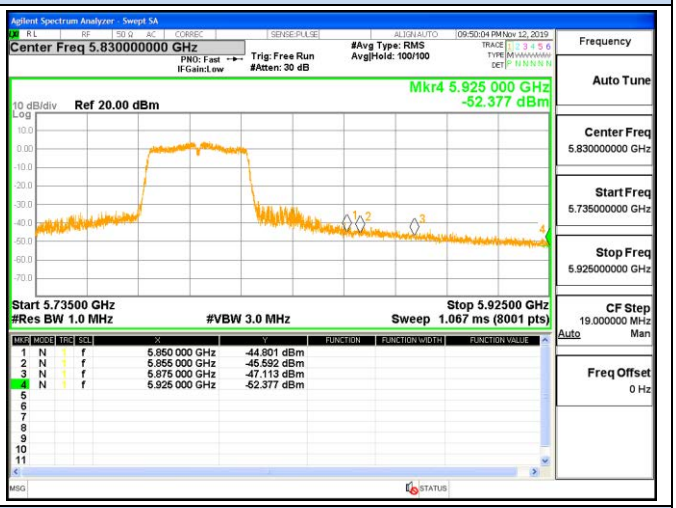
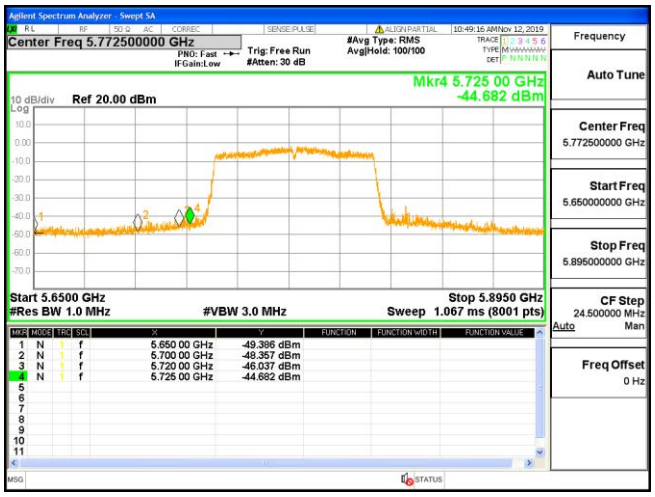
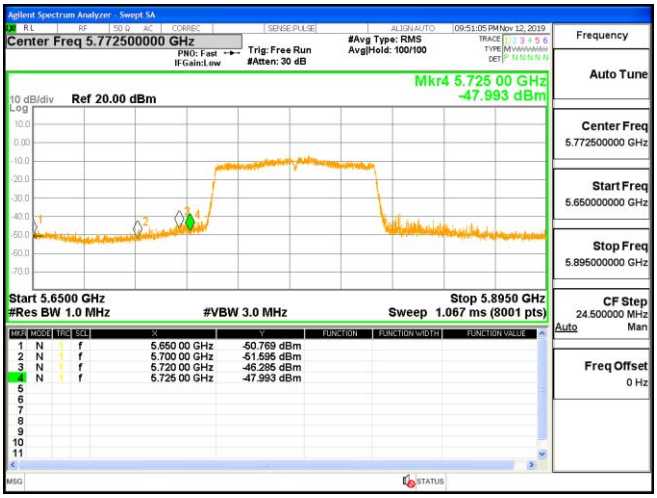
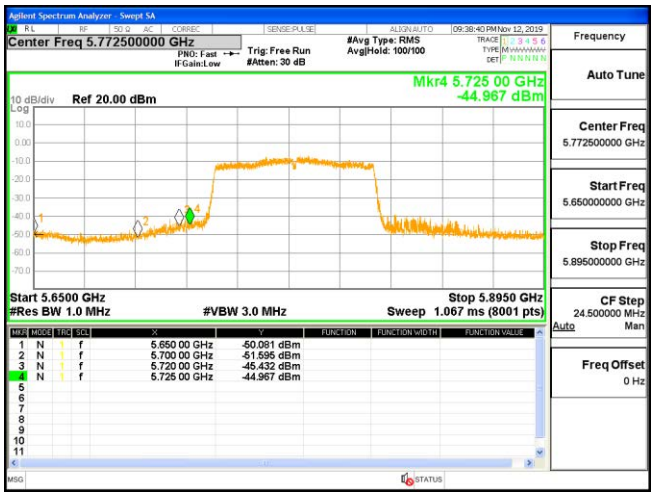
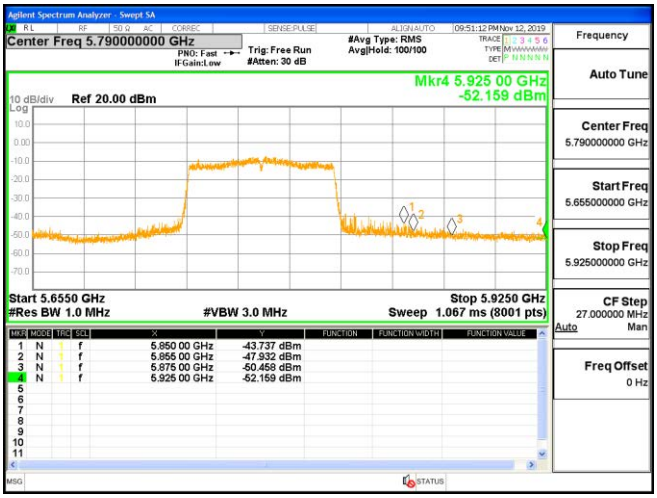
Remark:

1. *Measured unwanted emission at difference data rate for each mode and recorded worst case for each mode.*
2. *Test results including cable loss;*
3. *Worst case data at 6Mbps at IEEE 802.11a; MCS0 at IEEE 802.11n HT20, IEEE 802.11n HT40, IEEE 802.11a VHT20, IEEE 802.11ac VHT40 and IEEE 802.11ac VHT80;*
4. *For MIMO with CCD technology device:*
   Directional gain = 10 log[(10G1 /10 + 10G2 /10 + … + 10GN /10)/NANT] dBi,where antenna gains given by G1, G2, …, GN dBi, NANT is the antennas total Number
5. *E.I.R.P = Conducted power + Directional Gain*
6. *Please refer to following test plots;*

Unwanted emission	
IEEE 802.11a	
Antenna Chain 1	*Antenna Chain 2*
	
Channel 149 / 5745 MHz – Peak	*Channel 149 / 5745 MHz – Peak*
	
Channel 165 / 5825 MHz – Peak	*Channel 165 / 5825 MHz – Peak*
IEEE 802.11n HT20	
	
Channel 149 / 5745 MHz – Peak	*Channel 149 / 5745 MHz – Peak*

Unwanted emission	
IEEE 802.11n HT20	
Antenna Chain 1	*Antenna Chain 2*
	
Channel 165 / 5825 MHz – Peak	*Channel 165 / 5825 MHz – Peak*
IEEE 802.11ac VHT20	
	
Channel 149 / 5745 MHz – Peak	*Channel 149 / 5745 MHz – Peak*
	
Channel 165 / 5825 MHz – Peak	*Channel 165 / 5825 MHz – Peak*

Unwanted emission	
IEEE 802.11n HT40	
Antenna Chain 1	Antenna Chain 2
	
Channel 151 / 5755 MHz – Peak	Channel 151 / 5755 MHz – Peak
	
Channel 159 / 5795 MHz – Peak	Channel 159 / 5795 MHz – Peak
IEEE 802.11ac VHT40	
	
Channel 151 / 5755 MHz – Peak	Channel 151 / 5755 MHz – Peak

Unwanted emission	
IEEE 802.11ac VHT40	
Antenna Chain 1	*Antenna Chain 2*
	
Channel 159 / 5795 MHz – Peak	*Channel 159 / 5795 MHz – Peak*
IEEE 802.11ac VHT80	
	
Channel 155 / 5775 MHz – Peak	*Channel 155 / 5775 MHz – Peak*
	
Channel 155 / 5775 MHz – Peak	*Channel 155 / 5775 MHz – Peak*

5.8. Antenna Requirements

5.8.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited
And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

5.8.2. Antenna Connector Construction

The directional gains of antenna used for transmitting refer to section 1.1 of this report , and the antenna is an internal antenna connect to PCB board and no consideration of replacement. Please see EUT photo for details.

5.8.3. Results: Compliance.

5.9. Frequency Stability

5.9.1 Standard Applicable

According to FCC §15.407(g) “Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user manual.”

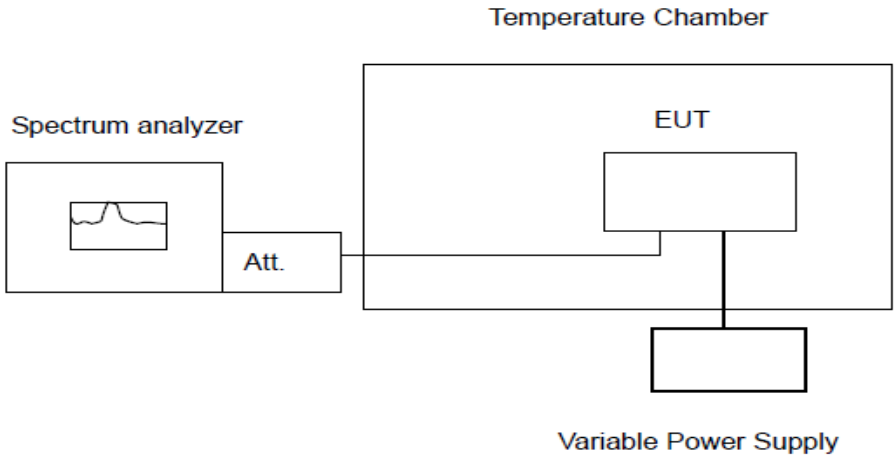
According to FCC §2.1055(a) “The frequency stability shall be measured with variation of ambient temperature as follows:”

(1) From −30° to + 50° centigrade for all equipment except that specified in paragraphs (a) (2) and (3) of this section.

(2) From −20° to + 50° centigrade for equipment to be licensed for use in the Maritime Services under part 80 of this chapter, except for Class A, B, and S Emergency Position Indicating Radiobeacons (EPIRBS), and equipment to be licensed for use above 952 MHz at operational fixed stations in all services, stations in the Local Television Transmission Service and Point-to-Point Microwave Radio Service under part 21 of this chapter, equipment licensed for use aboard aircraft in the Aviation Services under part 87 of this chapter, and equipment authorized for use in the Family Radio Service under part 95 of this chapter.

(3) From 0° to + 50° centigrade for equipment to be licensed for use in the Radio Broadcast Services under part 73 of this chapter.

5.9.2 Test Configuration



5.9.3 Test Procedure

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum anzlyer via feed through attenators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low engouh to obtain the desired frequency resoluation and measure EUT 20 degree operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30 degree. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure wuth 10 degree increased per stage until the highest temperature of +50 degree reached.

5.9.4 Test Results

PASS

Remark:

1. *Measured all conditions and recorded worst case.*

IEEE 802.11a Mode / 5745 – 5825 MHz / 5745 MHz

Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
20	132	5745.018136	5725 – 5850	PASS
20	108	5745.014462	5725 – 5850	PASS
50	120	5744.923416	5725 – 5850	PASS
40	120	5745.070886	5725 – 5850	PASS
30	120	5744.947663	5725 – 5850	PASS
20	120	5744.903772	5725 – 5850	PASS
10	120	5745.035585	5725 – 5850	PASS
0	120	5745.057696	5725 – 5850	PASS
-10	120	5745.090606	5725 – 5850	PASS
-20	120	5744.937809	5725 – 5850	PASS
-30	120	5744.976730	5725 – 5850	PASS

IEEE 802.11a Mode / 5745 – 5825 MHz / 5825 MHz

Enviroment Temperature (Dregree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
20	132	5825.034369	5725 – 5850	PASS
20	108	5824.923516	5725 – 5850	PASS
50	120	5825.062486	5725 – 5850	PASS
40	120	5824.952281	5725 – 5850	PASS
30	120	5825.076843	5725 – 5850	PASS
20	120	5825.061795	5725 – 5850	PASS
10	120	5824.932185	5725 – 5850	PASS
0	120	5825.073018	5725 – 5850	PASS
-10	120	5824.999642	5725 – 5850	PASS
-20	120	5825.020480	5725 – 5850	PASS
-30	120	5825.062938	5725 – 5850	PASS

6. LIST OF MEASURING EQUIPMENTS

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N. Artificial Mains Network	R&S	ENV216	HKE-002	Dec. 27, 2018	1 Year
2.	Receiver	R&S	ESCI 7	HKE-010	Dec. 27, 2018	1 Year
3.	RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 27, 2018	1 Year
4.	Spectrum analyzer	R&S	FSP40	HKE-025	Dec. 27, 2018	1 Year
5.	Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 27, 2018	1 Year
6.	Preamplifier	Schwarzbeck	BBV 9743	HKE-006	Dec. 27, 2018	1 Year
7.	EMI Test Receiver	Rohde & Schwarz	ESCI 7	HKE-010	Dec. 27, 2018	1 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	HKE-012	Dec. 27, 2018	1 Year
9.	Loop Antenna	Schwarzbeck	FMZB 1519 B	HKE-014	Dec. 27, 2018	1 Year
10.	Horn Antenna	Schewarzbeck	9120D	HKE-013	Dec. 27, 2018	1 Year
11.	Broadband Horn Antenna	Schewarzbeck	BBHA 9170	HKE-017	Dec. 27, 2018	1 Year
12.	Pre-amplifier	EMCI	EMC051845 SE	HKE-015	Dec. 27, 2018	1 Year
13.	Pre-amplifier	Agilent	83051A	HKE-016	Dec. 27, 2018	1 Year
14.	EMI Test Software EZ-EMC	Tonscend	JS1120-B	HKE-083	Dec. 27, 2018	N/A
15.	Power Sensor	Agilent	E9300A	HKE-086	Dec. 27, 2018	1 Year
16.	Signal generator	Agilent	N5182A	HKE-029	Dec. 27, 2018	1 Year
17.	Signal Generator	Agilent	83630A	HKE-028	Dec. 27, 2018	1 Year
18.	Shielded room	Shiel Hong	4*3*3	HKE-039	Dec. 27, 2018	3 Year
19.	Horn Antenna	ETS	3117	HKE-040	Dec. 27, 2018	1 Year
20.	RF Cable(below 1GHz)	HUBER+SUHNER	RG214	HKE-055	Dec. 27, 2018	1 Year
21.	RF Cable(above 1GHz)	HUBER+SUHNER	RG214	HKE-056	Dec. 27, 2018	1 Year

----------THE END OF REPORT----------