



Beamforming Mode

802.11ac (VHT20)

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL PSD with duty factor (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	2.313	4.824	7.23	15.87	PASS
44	5220	6.973	9.314	11.79	15.87	PASS
48	5240	8.642	6.319	11.12	15.87	PASS

1. Method a) of power density measurement of KDB 662911 is using for calculating total power density.
Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 7.13 dBi > 6 dBi, so the limit shall be reduced.
3. Refer to section 6.6 for duty cycle spectrum plot.

802.11ac (VHT40)

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL PSD with duty factor (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
38	5190	-3.560	-3.026	0.45	15.87	PASS
46	5230	0.819	-1.183	3.67	15.87	PASS

Note:

1. Method a) of power density measurement of KDB 662911 is using for calculating total power density.
Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 7.13 dBi > 6 dBi, so the limit shall be reduced.
3. Refer to section 6.6 for duty cycle spectrum plot.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan
Telephone : +886-2-7737-3000
Facsimile (FAX) : +886-3-583-7948



802.11ac (VHT80)

CHAN.	CHAN. FREQ. (MHz)	PSD (dBm)		TOTAL PSD with duty factor (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
42	5210	-15.126	-17.172	-10.76	15.87	PASS

Note:

1. Method a) of power density measurement of KDB 662911 is using for calculating total power density.
Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = 7.13 dBi > 6 dBi, so the limit shall be reduced.
3. Refer to section 6.6 for duty cycle spectrum plot.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

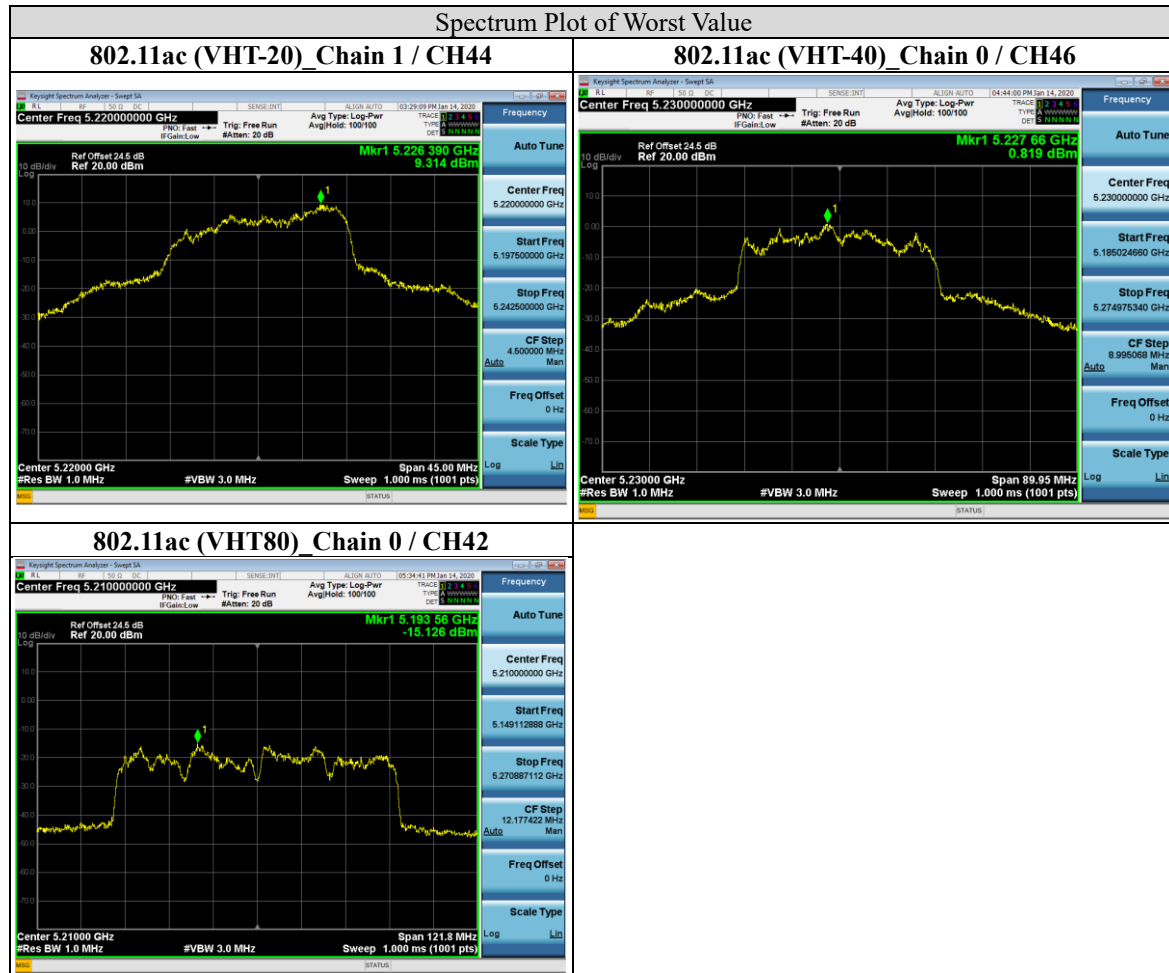
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 54 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915



Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



For U-NII-3 Band

CDD Mode

802.11a

TX Chain	Channel	Frequency (MHz)	PSD w/o BWCF (dBm/300 kHz)	PSD with BWCF (dBm/500 kHz)	10 log (N=2) dB	Total PSD with duty factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-3.963	-1.743	3.01	2.20	28.87	Pass
	157	5785	-4.734	-2.514	3.01	1.43	28.87	Pass
	165	5825	-2.782	-0.562	3.01	3.38	28.87	Pass
1	149	5745	-0.089	2.131	3.01	6.07	28.87	Pass
	157	5785	-7.856	-5.636	3.01	-1.70	28.87	Pass
	165	5825	-8.360	-6.140	3.01	-2.20	28.87	Pass

Note:

1. Directional gain = 7.13 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 6.6 for duty cycle spectrum plot.
3. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$.

802.11ac (VHT20)

TX Chain	Channel	Frequency (MHz)	PSD w/o BWCF (dBm/300 kHz)	PSD with BWCF (dBm/500 kHz)	10 log (N=2) dB	Total PSD with duty factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	-9.625	-7.405	3.01	-2.67	28.87	Pass
	157	5785	-11.168	-8.948	3.01	-4.21	28.87	Pass
	165	5825	-11.398	-9.178	3.01	-4.44	28.87	Pass
1	149	5745	-13.786	-11.566	3.01	-6.83	28.87	Pass
	157	5785	-14.838	-12.618	3.01	-7.88	28.87	Pass
	165	5825	-13.171	-10.951	3.01	-6.21	28.87	Pass

Note:

1. Directional gain = 7.13 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 6.6 for duty cycle spectrum plot.
3. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



802.11ac (VHT40)

TX Chain	Channel	Frequency (MHz)	PSD w/o BWCF (dBm/300 kHz)	PSD with BWCF (dBm/500 kHz)	10 log (N=2) dB	Total PSD with duty factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-25.222	-23.002	3.01	-17.00	28.87	Pass
	159	5795	-19.486	-17.266	3.01	-11.27	28.87	Pass
1	151	5755	-27.104	-24.884	3.01	-18.88	28.87	Pass
	159	5795	-21.777	-19.557	3.01	-13.56	28.87	Pass

Note:

1. Directional gain = 7.13 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 6.6 for duty cycle spectrum plot.
3. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$.

802.11ac (VHT80)

TX Chain	Channel	Frequency (MHz)	PSD w/o BWCF (dBm/300 kHz)	PSD with BWCF (dBm/500 kHz)	10 log (N=2) dB	Total PSD with duty factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-0.589	1.631	3.01	4.79	28.87	Pass
1	155	5775	-5.517	-3.297	3.01	-0.14	28.87	Pass

Note:

1. Directional gain = 7.13 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 6.6 for duty cycle spectrum plot.
3. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

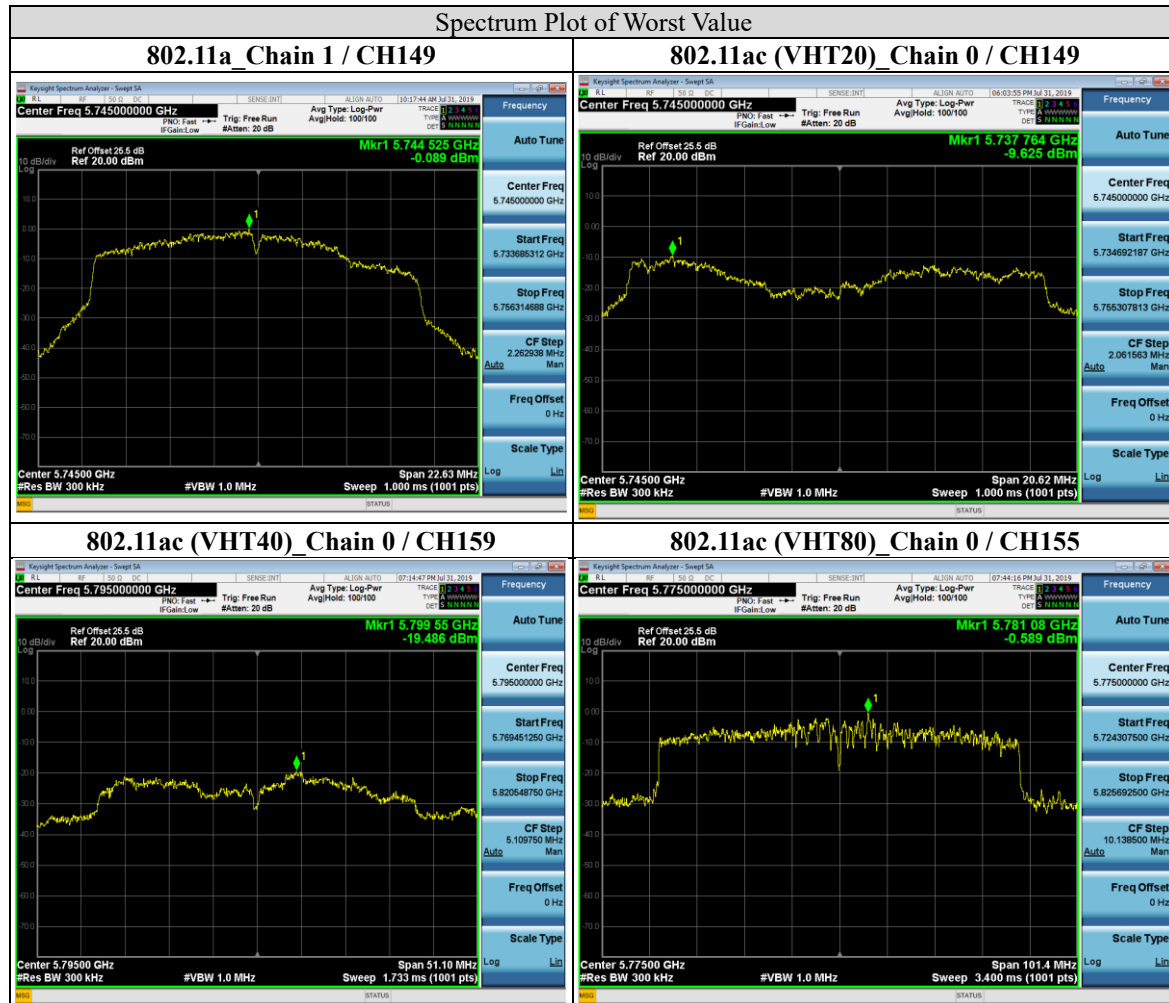
Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 57 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915



Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Beamforming Mode

802.11ac (VHT20)

TX Chain	Channel	Frequency (MHz)	PSD w/o BWCF (dBm/300 kHz)	PSD with BWCF (dBm/500 kHz)	10 log (N=2) dB	Total PSD with duty factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	149	5745	2.621	4.841	3.01	8.33	28.87	Pass
	157	5785	1.241	3.461	3.01	6.95	28.87	Pass
	165	5825	3.075	5.295	3.01	8.79	28.87	Pass
1	149	5745	2.092	4.312	3.01	7.80	28.87	Pass
	157	5785	-0.861	1.359	3.01	4.85	28.87	Pass
	165	5825	2.827	5.047	3.01	8.54	28.87	Pass

Note:

1. Directional gain = 7.13 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 6.6 for duty cycle spectrum plot.
3. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$.

802.11ac (VHT40)

TX Chain	Channel	Frequency (MHz)	PSD w/o BWCF (dBm/300 kHz)	PSD with BWCF (dBm/500 kHz)	10 log (N=2) dB	Total PSD with duty factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	151	5755	-2.644	-0.424	3.01	3.32	28.87	Pass
	159	5795	-2.992	-0.772	3.01	2.97	28.87	Pass
1	151	5755	-4.070	-1.850	3.01	1.89	28.87	Pass
	159	5795	-6.134	-3.914	3.01	-0.17	28.87	Pass

Note:

1. Directional gain = 7.13 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 6.6 for duty cycle spectrum plot.
3. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



802.11ac (VHT80)

TX Chain	Channel	Frequency (MHz)	PSD w/o BWCF (dBm/300 kHz)	PSD with BWCF (dBm/500 kHz)	10 log (N=2) dB	Total PSD with duty factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	155	5775	-15.084	-12.864	3.01	-7.59	28.87	Pass
1	155	5775	-16.835	-14.615	3.01	-9.35	28.87	Pass

Note:

1. Directional gain = 7.13 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 6.6 for duty cycle spectrum plot.
3. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

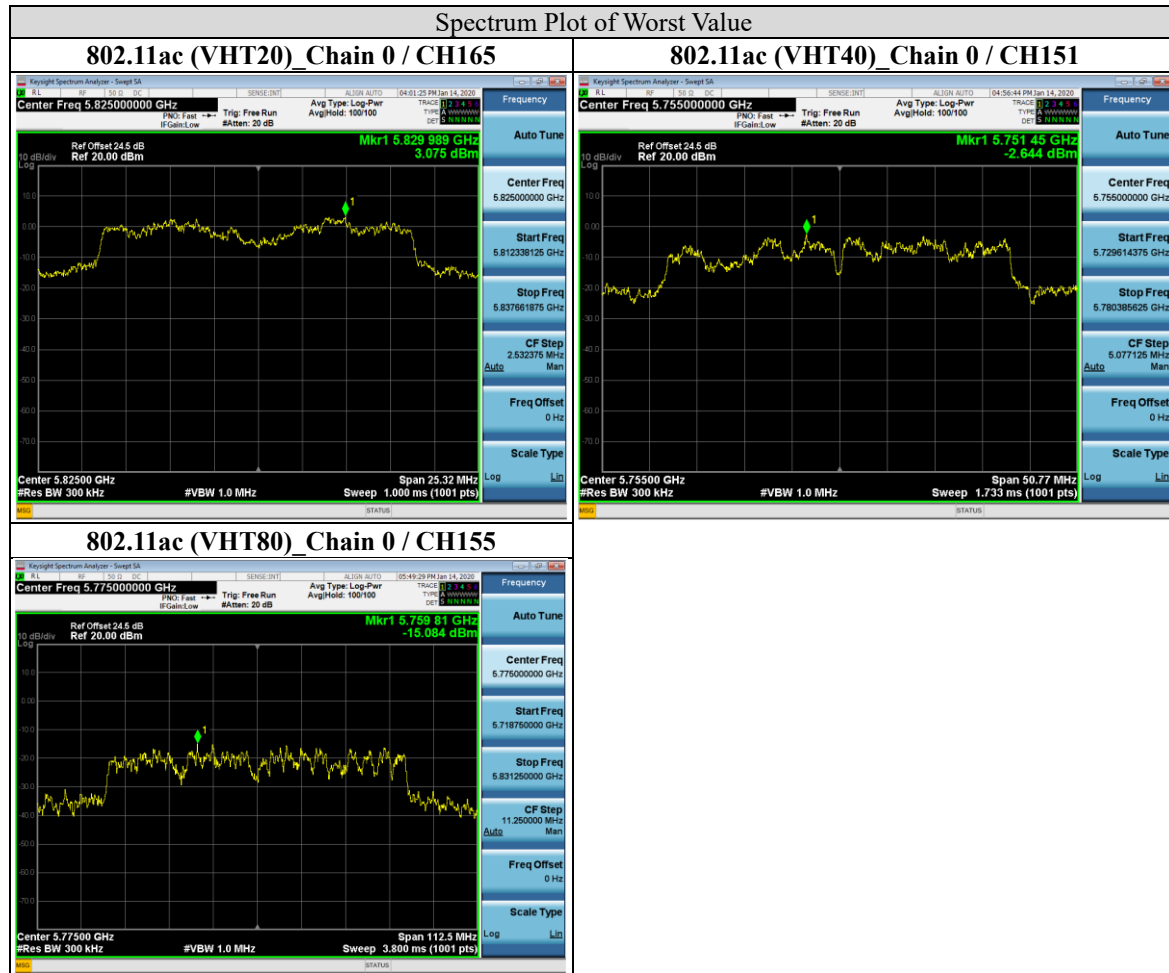
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 60 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915



Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



9.6. Frequency Stability

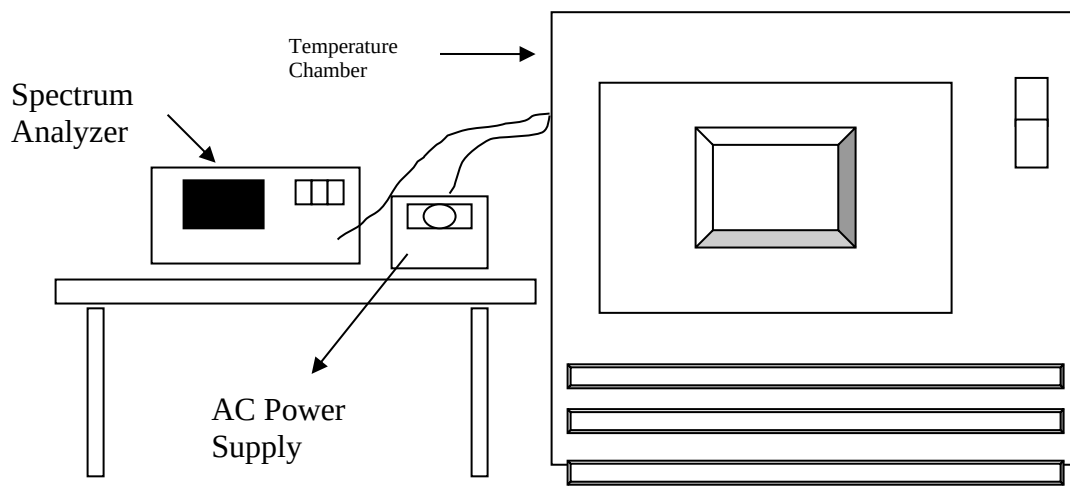
Requirements

The frequency of the carrier signal shall be maintained within band of operation.

Test procedure

- The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
- Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
- The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

Test Setup





Test Data

CDD Mode

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Freq. Drift (ppm)	Measured Frequency (MHz)	Freq. Drift (ppm)	Measured Frequency (MHz)	Freq. Drift (ppm)	Measured Frequency (MHz)	Freq. Drift (ppm)
50	120	5180.0102	1.97	5180.0083	1.60	5180.0133	2.57	5180.0093	1.80
40	120	5180.0114	2.20	5180.0099	1.91	5180.0025	0.48	5180.0222	4.29
30	120	5180.0086	1.66	5180.0104	2.01	5180.0096	1.85	5180.0156	3.01
20	120	5179.9967	-0.64	5179.9891	-2.10	5179.9910	-1.74	5179.9784	-4.17
10	120	5179.9948	-1.00	5179.9796	-3.94	5179.9839	-3.11	5179.9957	-0.83
0	120	5179.9957	-0.83	5179.9941	-1.14	5179.9921	-1.53	5179.9874	-2.43
-10	120	5179.9877	-2.37	5179.9752	-4.79	5179.9733	-5.15	5179.9767	-4.50
-20	120	5180.0113	2.18	5180.0031	0.60	5180.0103	1.99	5180.0037	0.71
-30	120	5179.9896	-2.01	5179.9907	-1.80	5179.9871	-2.49	5179.9825	-3.38
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Freq. Drift (ppm)	Measured Frequency (MHz)	Freq. Drift (ppm)	Measured Frequency (MHz)	Freq. Drift (ppm)	Measured Frequency (MHz)	Freq. Drift (ppm)
20	102	5179.9804	-3.78	5179.9895	-2.03	5179.9956	-0.85	5179.9897	-1.99
20	138	5179.9981	-0.37	5179.9880	-2.32	5179.9783	-4.19	5179.9816	-3.55

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Beamforming Mode

Frequency Stability Versus Temp.									
Operating Frequency: 5180 MHz									
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Freq. Drift (ppm)	Measured Frequency (MHz)	Freq. Drift (ppm)	Measured Frequency (MHz)	Freq. Drift (ppm)	Measured Frequency (MHz)	Freq. Drift (ppm)
50	120	5180.0111	2.14	5180.0174	3.36	5180.0565	10.91	5180.0294	5.68
40	120	5180.0721	13.92	5180.0495	9.56	5180.0379	7.32	5180.0454	8.76
30	120	5180.0496	9.58	5180.0227	4.38	5180.0254	4.90	5180.0614	11.85
20	120	5180.0203	3.92	5179.9463	-10.37	5179.9850	-2.90	5179.9437	-10.87
10	120	5180.0315	6.08	5179.9826	-3.36	5179.9250	-14.48	5179.9762	-4.59
0	120	5180.0477	9.21	5179.9907	-1.80	5179.9367	-12.22	5179.9541	-8.86
-10	120	5180.0457	8.82	5179.9844	-3.01	5179.9658	-6.60	5179.9699	-5.81
-20	120	5180.0325	6.27	5180.0473	9.13	5180.0303	5.85	5180.0245	4.73
-30	120	5179.9473	-10.17	5179.9546	-8.76	5179.9779	-4.27	5179.9819	-3.49
TEMP. (°C)	Power Supply (Vac)	0 Minute		2 Minute		5 Minute		10 Minute	
		Measured Frequency (MHz)	Freq. Drift (ppm)	Measured Frequency (MHz)	Freq. Drift (ppm)	Measured Frequency (MHz)	Freq. Drift (ppm)	Measured Frequency (MHz)	Freq. Drift (ppm)
20	102	5179.9769	-4.46	5179.9643	-6.89	5179.9652	-6.72	5179.9636	-7.03
20	138	5179.9856	-2.78	5179.9756	-4.71	5179.9692	-5.95	5179.9854	-2.82

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



9.7. Radiated Spurious Emission

Requirements

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequency(MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK:74 (dBμV/m)	AV:54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBμV/m)
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2(dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8(dBμV/m) *3 PK:122.2 (dBμV/m) *4
*1 beyond 75 MHz or more above of the band edge. *2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. *3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. *4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.			

Note:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts).}$$

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test Procedures

[For 9 kHz ~ 30 MHz]

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. For measurement below 30MHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

[For above 30 MHz]

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
- f. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Note:

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.

Configuration	CDD Mode		Beamforming Mode	
	Average		Average	
	RBW	RBW	RBW	VBW
802.11a	1MHz	1 kHz	-	-
802.11ac (VHT20)		2 kHz	1MHz	3 kHz
802.11ac (VHT40)		3 kHz		5.1 kHz
802.11ac (VHT80)		2 kHz		12 kHz

Note: Refer to section 6.6 for duty cycle.

- All modes of operation were investigated (includes all external accessories) and the worst-case emissions are reported.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

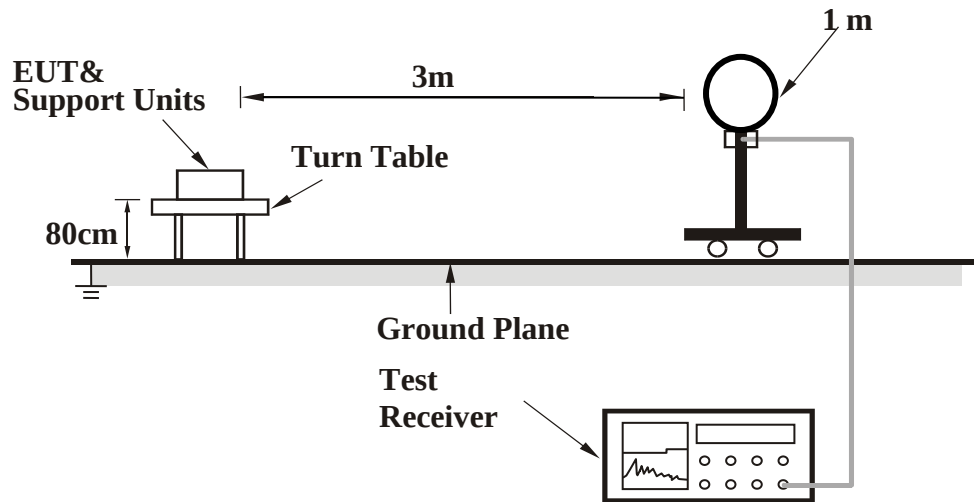
Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0

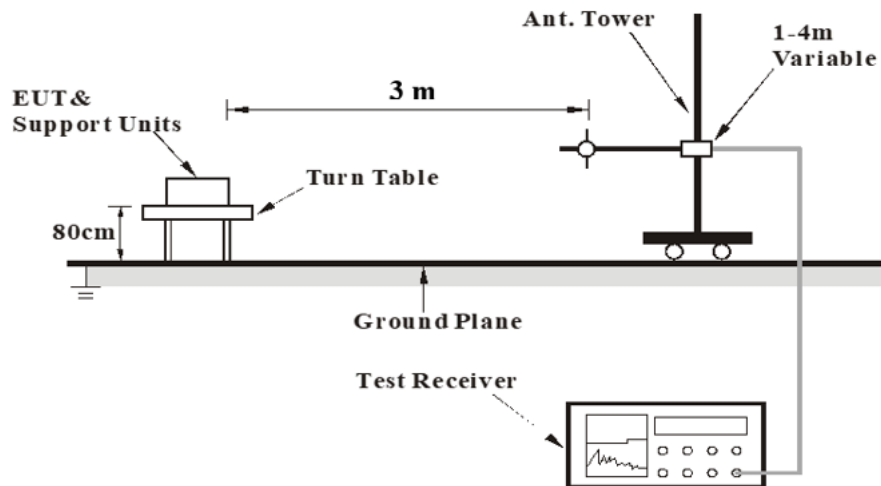


Test Setup

<Frequency Range 9 kHz ~ 30 MHz>



<Frequency Range 30 MHz ~ 1 GHz >



Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

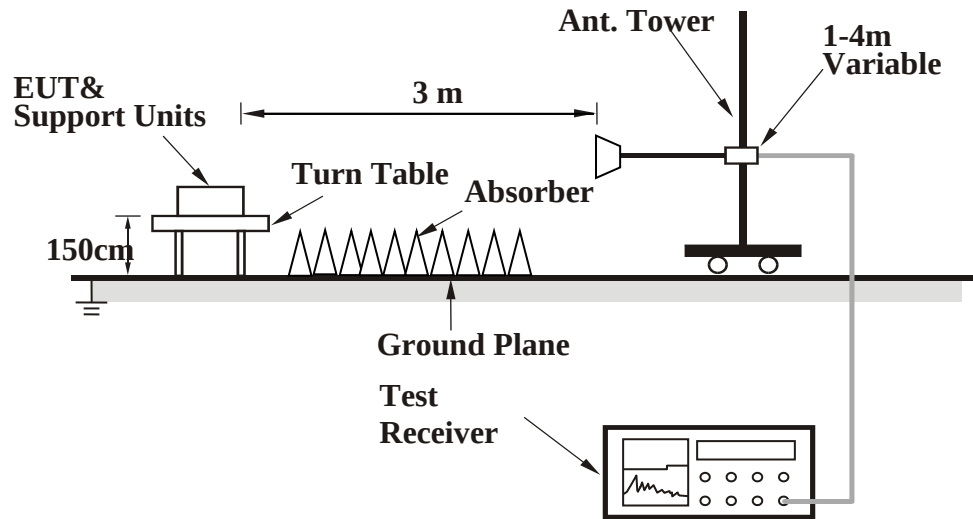
Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



<Frequency Range above 1 GHz>



For the actual test configuration, please refer to the Setup Configurations.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test Data

Model: Vigor2915ac

Above 1GHz Data

CDD Mode

802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 36	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5070.810	53.05	7.65	60.70	74.00	-13.30	peak
@	5180.000	97.50	7.77	105.27	-	-	peak
-	5118.470	39.82	7.74	47.56	54.00	-6.44	AVG
@	5180.000	88.05	7.77	95.82	-	-	AVG
*	1300.300	45.94	-10.12	35.82	74.00	-38.18	peak
*	3263.300	47.63	-6.28	41.35	74.00	-32.65	peak
#	10360.000	44.77	8.86	53.63	68.20	-14.57	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5148.310	60.92	7.76	68.68	74.00	-5.32	peak
@	5180.000	106.97	7.77	114.74	-	-	peak
-	5149.220	45.28	7.76	53.04	54.00	-0.96	AVG
@	5180.000	99.15	7.77	106.92	-	-	AVG
#	1295.100	54.65	-10.14	44.51	68.20	-23.69	peak
#	3000.700	51.67	-6.25	45.42	68.20	-22.78	peak
#	10360.000	46.01	8.88	54.89	68.20	-13.31	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 71 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 44	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5110.750	52.52	7.74	60.26	74.00	-13.74	peak
@	5220.000	100.82	7.67	108.49	-	-	peak
-	5099.230	40.76	7.73	48.49	54.00	-5.51	AVG
@	5220.000	95.00	7.67	102.67	-	-	AVG
#	1280.800	50.80	-10.18	40.62	68.20	-27.58	peak
*	3263.300	46.83	-6.28	40.55	74.00	-33.45	peak
#	10440.000	46.18	9.07	55.25	68.20	-12.95	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5147.160	55.82	7.76	63.58	74.00	-10.42	peak
@	5220.000	111.03	7.67	118.70	-	-	peak
-	5150.000	43.70	7.76	51.46	54.00	-2.54	AVG
@	5220.000	102.61	7.67	110.28	-	-	AVG
*	1309.400	51.26	-10.08	41.18	74.00	-32.82	peak
*	3263.300	49.77	-6.28	43.49	74.00	-30.51	peak
#	10440.000	52.49	9.06	61.55	68.20	-6.65	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 72 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 48	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5037.880	52.64	7.53	60.17	74.00	-13.83	peak
@	5240.000	102.20	7.56	109.76	-	-	peak
-	5120.790	39.95	7.74	47.69	54.00	-6.31	AVG
@	5240.000	93.72	7.56	101.28	-	-	AVG
*	1300.300	47.48	-10.12	37.36	74.00	-36.64	peak
*	3263.300	46.96	-6.28	40.68	74.00	-33.32	peak
#	10480.000	47.67	9.04	56.71	68.20	-11.49	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5140.790	54.84	7.75	62.59	74.00	-11.41	peak
@	5240.000	111.04	7.56	118.60	-	-	peak
-	5129.200	43.38	7.74	51.12	54.00	-2.88	AVG
@	5240.000	102.75	7.56	110.31	-	-	AVG
*	3263.300	48.89	-6.28	42.61	74.00	-31.39	peak
#	10480.000	50.69	9.03	59.72	68.20	-8.48	peak
*	15720.000	39.06	12.35	51.41	74.00	-22.59	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 73 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 149	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5613.917	51.39	7.90	59.29	68.20	-8.91	peak
-	5704.983	64.25	8.10	72.35	106.60	-34.25	peak
@	5745.000	101.94	8.38	110.32	-	-	peak
@	5745.000	91.31	8.38	99.69	-	-	AVG
-	11490.000	48.48	9.77	58.25	74.00	-15.75	peak
-	11490.000	36.72	9.77	46.49	54.00	-7.51	AVG
#	17235.000	34.04	15.86	49.90	68.20	-18.30	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5648.433	57.13	7.94	65.07	68.20	-3.13	peak
-	5681.017	62.78	8.02	70.80	91.15	-20.35	peak
@	5745.000	110.43	8.38	118.81	-	-	peak
@	5745.000	100.85	8.38	109.23	-	-	AVG
-	11490.000	54.93	9.77	64.70	74.00	-9.30	peak
-	11490.000	43.53	9.77	53.30	54.00	-0.70	AVG
#	17235.000	38.94	15.73	54.67	68.20	-13.53	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 74 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 157	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5599.233	51.26	7.90	59.16	68.20	-9.04	peak
-	5687.017	51.53	8.03	59.56	95.59	-36.03	peak
@	5785.000	100.74	8.64	109.38	-	-	peak
@	5785.000	92.52	8.64	101.16	-	-	AVG
-	5898.383	50.88	8.81	59.69	87.90	-28.21	peak
#	5955.733	50.84	8.86	59.70	68.20	-8.50	peak
-	11570.000	47.22	9.66	56.88	74.00	-17.12	peak
-	11570.000	36.80	9.66	46.46	54.00	-7.54	AVG
#	17355.000	32.52	16.83	49.35	68.20	-18.85	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5643.683	53.86	7.93	61.79	68.20	-6.41	peak
-	5710.517	58.32	8.13	66.45	108.14	-41.69	peak
@	5785.000	110.19	8.64	118.83	-	-	peak
@	5785.000	100.08	8.64	108.72	-	-	AVG
-	5870.467	53.83	8.79	62.62	106.47	-43.85	peak
#	5933.033	52.57	8.83	61.40	68.20	-6.80	peak
-	11570.000	54.89	9.66	64.55	74.00	-9.45	peak
-	11570.000	43.46	9.66	53.12	54.00	-0.88	AVG
#	17355.000	34.26	16.79	51.05	68.20	-17.15	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@" : Fundamental Frequency.
5. " # " : The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 75 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 165	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5825.000	101.65	8.76	110.41	-	-	peak
@	5825.000	91.49	8.76	100.25	-	-	AVG
-	5879.567	54.67	8.80	63.47	101.82	-38.35	peak
#	5936.217	51.19	8.83	60.02	68.20	-8.18	peak
-	11650.000	43.86	9.41	53.27	74.00	-20.73	peak
-	11650.000	35.71	9.41	45.12	54.00	-8.88	AVG
#	17475.000	33.26	17.60	50.86	68.20	-17.34	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5825.000	110.07	8.76	118.83	-	-	peak
@	5825.000	100.36	8.76	109.12	-	-	AVG
-	5886.467	58.23	8.80	67.03	96.71	-29.68	peak
#	5978.667	52.51	8.92	61.43	68.20	-6.77	peak
-	11650.000	53.10	9.41	62.51	74.00	-11.49	peak
-	11650.000	43.76	9.41	53.17	54.00	-0.83	AVG
#	17475.000	34.34	17.67	52.01	68.20	-16.19	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 76 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

802.11ac (VHT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 36	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5127.320	52.30	7.74	60.04	74.00	-13.96	peak
@	5180.000	96.62	7.77	104.39	-	-	peak
-	5096.390	39.91	7.72	47.63	54.00	-6.37	AVG
@	5180.000	85.30	7.77	93.07	-	-	AVG
#	1297.700	49.64	-10.12	39.52	68.20	-28.68	peak
*	3263.300	46.83	-6.28	40.55	74.00	-33.45	peak
#	10360.000	42.16	8.90	51.06	68.20	-17.14	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5147.950	57.78	7.76	65.54	74.00	-8.46	peak
@	5180.000	105.62	7.77	113.39	-	-	peak
-	5150.000	45.39	7.76	53.15	54.00	-0.85	AVG
@	5180.000	95.65	7.77	103.42	-	-	AVG
#	1287.300	50.20	-10.17	40.03	68.20	--28.17	peak
*	3262.000	50.41	-6.27	44.14	74.00	-29.86	peak
#	10360.000	46.07	8.86	54.93	68.20	-13.27	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 77 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 44	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5086.830	52.63	7.69	60.32	74.00	-13.68	peak
@	5220.000	101.19	7.67	108.86	-	-	peak
-	5135.140	40.57	7.75	48.32	54.00	-5.68	AVG
@	5220.000	91.23	7.67	98.90	-	-	AVG
#	1295.100	46.59	-10.14	36.45	68.20	-31.75	peak
*	3263.300	48.13	-6.28	41.85	74.00	-32.15	peak
#	10440.000	48.08	9.07	57.15	68.20	-11.05	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5148.230	56.12	7.76	63.88	74.00	-10.12	peak
@	5220.000	109.45	7.67	117.12	-	-	peak
-	5147.060	45.19	7.76	52.95	54.00	-1.05	AVG
@	5220.000	98.96	7.67	106.63	-	-	AVG
#	1295.100	52.78	-10.14	42.64	68.20	-25.56	peak
*	3263.300	49.77	-6.28	43.49	74.00	-30.51	peak
#	10440.000	52.25	9.06	61.31	68.20	-6.89	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 78 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 48	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5087.200	52.52	7.69	60.21	74.00	-13.79	peak
@	5240.000	101.14	7.56	108.70	-	-	peak
-	5111.640	40.18	7.74	47.92	54.00	-6.08	AVG
@	5240.000	91.26	7.56	98.82	-	-	AVG
*	1302.900	46.04	-10.11	35.93	74.00	-38.07	peak
*	3263.300	46.75	-6.28	40.47	74.00	-33.53	peak
#	10480.000	45.61	9.03	54.64	68.20	-13.56	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5095.970	55.29	7.72	63.01	74.00	-10.99	peak
@	5240.000	109.75	7.56	117.31	-	-	peak
-	5127.940	42.78	7.74	50.52	54.00	-3.48	AVG
@	5240.000	99.37	7.56	106.93	-	-	AVG
*	3263.300	50.13	-6.28	43.85	74.00	-30.15	peak
#	10480.000	55.01	9.04	64.05	68.20	-4.15	peak
*	15720.000	38.37	12.36	50.73	74.00	-23.27	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 79 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 149	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5639.467	50.81	7.93	58.74	68.20	-9.46	peak
-	5690.050	56.08	8.04	64.12	97.84	-33.72	peak
@	5745.000	99.54	8.38	107.92	-	-	peak
@	5745.000	90.68	8.38	99.06	-	-	AVG
-	11490.000	49.51	9.76	59.27	74.00	-14.73	peak
-	11490.000	37.66	9.76	47.42	54.00	-6.58	AVG
#	17235.000	33.72	15.98	49.70	68.20	-18.50	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5647.667	55.67	7.94	63.61	68.20	-4.59	peak
-	5694.283	66.39	8.06	74.45	100.97	-26.52	peak
@	5745.000	108.57	8.38	116.95	-	-	peak
@	5745.000	98.03	8.38	106.41	-	-	AVG
-	11490.000	57.00	9.77	66.77	74.00	-7.23	peak
-	11490.000	43.48	9.77	53.25	54.00	-0.75	AVG
#	17235.000	36.80	15.66	52.46	68.20	-15.74	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



EUT Test Condition		Measurement Detail	
Channel	Channel 157	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5635.300	51.00	7.92	58.92	68.20	-9.28	peak
-	5694.700	52.11	8.06	60.17	101.28	-41.11	peak
@	5785.000	98.70	8.64	107.34	-	-	peak
@	5785.000	88.58	8.64	97.22	-	-	AVG
-	5902.333	50.91	8.81	59.72	84.97	-25.25	peak
#	6021.517	50.48	8.99	59.47	68.20	-8.73	peak
-	11570.000	47.48	9.66	57.14	74.00	-16.86	peak
-	11570.000	38.82	9.66	48.48	54.00	-5.52	AVG
#	17355.000	33.24	16.79	50.03	68.20	-18.17	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5630.783	56.55	7.92	64.47	68.20	-3.73	peak
-	5697.517	58.21	8.07	66.28	103.36	-37.08	peak
@	5785.000	107.98	8.64	116.62	-	-	peak
@	5785.000	96.83	8.64	105.47	-	-	AVG
-	5881.950	55.63	8.80	64.43	100.06	-35.63	peak
#	5942.750	52.82	8.84	61.66	68.20	-6.54	peak
-	11570.000	53.15	9.65	62.80	74.00	-11.20	peak
-	11570.000	43.59	9.65	53.24	54.00	-0.76	AVG
#	17355.000	34.20	16.67	50.87	68.20	-17.33	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamplifier Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 81 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 165	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5825.000	99.27	8.76	108.03	-	-	peak
@	5825.000	90.45	8.76	99.21	-	-	AVG
-	5884.500	51.81	8.80	60.61	98.17	-37.56	peak
#	5973.433	51.09	8.92	60.01	68.20	-8.19	peak
-	11650.000	48.24	9.40	57.64	74.00	-16.36	peak
-	11650.000	35.61	9.40	45.01	54.00	-8.99	AVG
#	17475.000	33.61	17.75	51.36	68.20	-16.84	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5825.000	108.80	8.76	117.56	-	-	peak
@	5825.000	98.88	8.76	107.64	-	-	AVG
-	5902.150	56.14	8.81	64.95	85.11	-20.16	peak
#	5950.100	53.91	8.84	62.75	68.20	-5.45	peak
-	11650.000	52.34	9.41	61.75	74.00	-12.25	peak
-	11650.000	43.57	9.41	52.98	54.00	-1.02	AVG
#	17475.000	35.05	17.71	52.76	68.20	-15.44	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 82 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

802.11ac (VHT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 38	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5138.300	52.06	7.75	59.81	74.00	-14.19	peak
@	5190.000	88.36	7.77	96.13	-	-	peak
-	5103.200	40.53	7.73	48.26	54.00	-5.74	AVG
@	5190.000	78.80	7.77	86.57	-	-	AVG
#	1299.000	46.77	-10.12	36.65	68.20	-31.55	peak
*	3263.300	48.71	-6.28	42.43	74.00	-31.57	peak
#	10380.000	38.70	9.04	47.74	68.20	-20.46	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5146.100	56.96	7.76	64.72	74.00	-9.28	peak
@	5190.000	100.74	7.77	108.51	-	-	peak
-	5150.000	45.50	7.76	53.26	54.00	-0.74	AVG
@	5190.000	91.23	7.77	99.00	-	-	AVG
*	1300.300	53.99	-10.12	43.87	74.00	-30.13	peak
*	3263.300	51.04	-6.28	44.76	74.00	-29.24	peak
#	10380.000	39.73	9.03	48.76	68.20	-19.44	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 83 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 46	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5117.600	52.17	7.74	59.91	74.00	-14.09	peak
@	5230.000	95.98	7.62	103.60	-	-	peak
-	5136.500	41.03	7.75	48.78	54.00	-5.22	AVG
@	5230.000	86.27	7.62	93.89	-	-	AVG
#	1287.300	52.25	-10.17	42.08	68.20	-26.12	peak
*	3263.300	48.29	-6.28	42.01	74.00	-31.99	peak
#	10460.000	47.04	9.04	56.08	68.20	-12.12	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5148.800	59.85	7.76	67.61	74.00	-6.39	peak
@	5230.000	106.57	7.62	114.19	-	-	peak
-	5149.100	45.46	7.76	53.22	54.00	-0.78	AVG
@	5230.000	96.54	7.62	104.16	-	-	AVG
*	1302.900	55.41	-10.11	45.30	74.00	-28.70	peak
*	3263.300	50.86	-6.28	44.58	74.00	-29.42	peak
#	10460.000	50.00	9.04	59.04	68.20	-9.16	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 84 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 151	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5615.800	51.03	7.91	58.94	68.20	-9.26	peak
-	5685.750	51.23	8.03	59.26	94.66	-35.40	peak
@	5755.000	95.22	8.43	103.65	-	-	peak
@	5755.000	80.79	8.43	89.22	-	-	AVG
*	3915.900	47.45	-4.76	42.69	74.00	-31.31	peak
-	11510.000	43.01	9.76	52.77	74.00	-21.23	peak
-	11510.000	33.90	9.76	43.66	54.00	-10.34	AVG
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5636.217	56.70	7.93	64.63	68.20	-3.57	peak
-	5659.600	58.57	7.96	66.53	75.30	-8.77	peak
@	5755.000	104.63	8.43	113.06	-	-	peak
@	5755.000	88.94	8.43	97.37	-	-	AVG
-	11510.000	48.11	9.76	57.87	74.00	-16.13	peak
-	11510.000	37.91	9.76	47.67	54.00	-6.33	AVG
#	17265.000	35.87	15.89	51.76	68.20	-16.44	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 85 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 159	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5795.000	94.96	8.71	103.67	-	-	peak
@	5795.000	80.46	8.71	89.17	-	-	AVG
-	5879.767	55.58	8.80	64.38	101.67	-37.29	peak
#	5933.867	50.93	8.83	59.76	68.20	-8.44	peak
-	11590.000	46.35	9.62	55.97	74.00	-18.03	peak
-	11590.000	35.79	9.62	45.41	54.00	-8.59	AVG
#	16683.200	35.08	13.81	48.89	68.20	-19.31	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5795.000	104.41	8.71	113.12	-	-	peak
@	5795.000	87.99	8.71	96.70	-	-	AVG
-	5924.183	57.28	8.83	66.11	68.80	-2.69	peak
#	5938.733	54.69	8.83	63.52	68.20	-4.68	peak
-	11590.000	52.17	9.63	61.80	74.00	-12.20	peak
-	11590.000	40.60	9.63	50.23	54.00	-3.77	AVG
#	17385.000	39.45	17.00	56.45	68.20	-11.75	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 86 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

802.11ac (VHT80)

EUT Test Condition		Measurement Detail	
Channel	Channel 42	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5130.620	52.22	7.74	59.96	74.00	-14.04	peak
@	5210.000	84.63	7.72	92.35	-	-	peak
-	5088.950	39.87	7.71	47.58	54.00	-6.42	AVG
@	5210.000	76.36	7.72	84.08	-	-	AVG
#	1296.400	47.75	-10.14	37.61	68.20	-30.59	peak
*	3263.300	47.41	-6.28	41.13	74.00	-32.87	peak
#	10420.000	37.54	9.08	46.62	68.20	-21.58	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5146.750	60.56	7.76	68.32	74.00	-5.68	peak
@	5210.000	95.76	7.72	103.48	-	-	peak
-	5150.000	45.29	7.76	53.05	54.00	-0.95	AVG
@	5210.000	87.73	7.72	95.45	-	-	AVG
*	3263.300	50.09	-6.28	43.81	74.00	-30.19	peak
#	10420.000	39.28	9.08	48.36	68.20	-19.84	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 87 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 155	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5644.167	53.30	7.93	61.23	68.20	-6.97	peak
-	5696.633	66.07	8.06	74.13	102.71	-28.58	peak
@	5775.000	92.19	8.57	100.76	-	-	peak
@	5775.000	84.00	8.57	92.57	-	-	AVG
-	5878.483	53.46	8.80	62.26	102.62	-40.36	peak
#	5943.733	51.04	8.84	59.88	68.20	-8.32	peak
*	1280.800	46.68	-10.18	36.50	74.00	-37.50	peak
*	3263.300	48.03	-6.28	41.75	74.00	-32.25	peak
-	11550.000	43.14	9.69	52.83	74.00	-21.17	peak
-	11550.000	32.22	9.69	41.91	54.00	-12.09	AVG
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5639.117	57.34	7.93	65.27	68.20	-2.93	peak
-	5672.033	64.40	7.99	72.39	84.50	-12.11	peak
@	5775.000	101.28	8.57	109.85	-	-	peak
@	5775.000	93.57	8.57	102.14	-	-	AVG
-	5880.517	63.45	8.80	72.25	101.12	-28.87	peak
#	5956.100	53.02	8.86	61.88	68.20	-6.32	peak
*	3263.300	50.04	-6.28	43.76	74.00	-30.24	peak
*	3849.600	48.80	-5.00	43.80	74.00	-30.20	peak
-	11550.000	48.96	9.69	58.65	74.00	-15.35	peak
-	11550.000	40.04	9.69	49.73	54.00	-4.27	AVG

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 88 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

Beamforming Mode

802.11ac (VHT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 36	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5150.000	45.70	7.76	53.46	74.00	-20.54	peak
@	5180.000	91.70	7.77	99.47	-	-	peak
-	5150.000	32.77	7.76	40.53	54.00	-13.47	AVG
@	5180.000	78.15	7.77	85.92	-	-	AVG
#	10360.000	39.26	8.87	48.13	68.20	-20.07	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5149.110	56.14	7.76	63.90	74.00	-10.10	peak
@	5180.000	105.86	7.77	113.63	-	-	peak
-	5150.000	46.10	7.76	53.86	54.00	-0.14	AVG
@	5180.000	96.51	7.77	104.28	-	-	AVG
#	10360.000	41.42	8.87	50.29	68.20	-17.91	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 89 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 44	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5148.870	45.48	7.76	53.24	74.00	-20.76	peak
@	5220.000	98.80	7.67	106.47	-	-	peak
-	5150.000	31.38	7.76	39.14	54.00	-14.86	AVG
@	5220.000	86.95	7.65	94.60	-	-	AVG
#	10440.000	43.29	9.07	52.36	68.20	-15.84	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5149.280	55.96	7.76	63.72	74.00	-10.28	peak
@	5220.000	108.43	7.67	116.10	-	-	peak
-	5150.000	37.87	7.76	45.63	54.00	-8.37	AVG
@	5220.000	95.65	7.65	103.30	-	-	AVG
#	10440.000	48.94	9.07	58.01	68.20	-10.19	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 90 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 48	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5150.000	42.64	7.76	50.40	74.00	-23.60	peak
@	5240.000	99.08	7.56	106.64	-	-	peak
-	5150.000	31.13	7.76	38.89	54.00	-15.11	AVG
@	5240.000	86.38	7.56	93.94	-	-	AVG
#	10480.000	45.69	9.03	54.72	68.20	-13.48	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5150.000	52.10	7.76	59.86	74.00	-14.14	peak
@	5240.000	107.65	7.56	115.21	-	-	peak
-	5150.000	35.90	7.76	43.66	54.00	-10.34	AVG
@	5240.000	94.38	7.56	101.94	-	-	AVG
#	10480.000	50.45	9.03	59.48	68.20	-8.72	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 91 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 149	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5641.550	43.50	7.93	51.43	68.20	-16.77	peak
-	5698.133	58.38	8.07	66.45	103.82	-37.37	peak
@	5745.000	96.97	8.38	105.35	-	-	peak
@	5745.000	86.51	8.38	94.89	-	-	AVG
-	11490.000	47.40	9.77	57.17	74.00	-16.83	peak
-	11490.000	37.90	9.77	47.67	54.00	-6.33	AVG
#	17235.000	37.13	15.75	52.88	68.20	-15.32	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5635.767	52.82	7.92	60.74	68.20	-7.46	peak
-	5696.517	67.05	8.06	75.11	102.62	-27.51	peak
@	5745.000	105.73	8.38	114.11	-	-	peak
@	5745.000	95.99	8.38	104.37	-	-	AVG
-	11490.000	52.16	9.77	61.93	74.00	-12.07	peak
-	11490.000	41.68	9.77	51.45	54.00	-2.55	AVG
#	17235.000	43.66	15.75	59.41	68.20	-8.79	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 92 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 157	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5647.850	42.64	7.94	50.58	68.20	-17.62	peak
-	5697.150	45.04	8.06	53.10	103.09	-49.99	peak
@	5785.000	95.28	8.64	103.92	-	-	peak
@	5785.000	85.24	8.64	93.88	-	-	AVG
-	5880.900	43.62	8.80	52.42	100.83	-48.41	peak
#	5967.133	42.11	8.89	51.00	68.20	-17.20	peak
-	11570.000	45.93	9.65	55.58	74.00	-18.42	peak
-	11570.000	36.42	9.65	46.07	54.00	-7.93	AVG
#	17355.000	32.41	16.71	49.12	68.20	-19.08	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5617.567	49.33	7.91	57.24	68.20	-10.96	peak
-	5681.283	51.46	8.02	59.48	91.35	-31.87	peak
@	5785.000	105.34	8.64	113.98	-	-	peak
@	5785.000	95.58	8.64	104.22	-	-	AVG
-	5882.533	47.03	8.80	55.83	99.63	-43.80	peak
#	5962.567	44.21	8.89	53.10	68.20	-15.10	peak
-	11570.000	51.50	9.65	61.15	74.00	-12.85	peak
-	11570.000	42.12	9.65	51.77	54.00	-2.23	AVG
#	17355.000	34.68	16.71	51.39	68.20	-16.81	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 93 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 165	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5825.000	95.90	8.76	104.66	-	-	peak
@	5825.000	86.37	8.76	95.13	-	-	AVG
-	5877.217	53.57	8.80	62.37	103.56	-41.19	peak
#	5965.250	42.58	8.89	51.47	68.20	-16.73	peak
-	11650.000	45.97	9.40	55.37	74.00	-18.63	peak
-	11650.000	35.86	9.40	45.26	54.00	-8.74	AVG
#	17475.000	36.46	17.67	54.13	68.20	-14.07	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5825.000	105.43	8.76	114.19	-	-	peak
@	5825.000	94.47	8.76	103.23	-	-	AVG
-	5878.083	61.22	8.80	70.02	102.92	-32.90	peak
#	5934.333	46.95	8.83	55.78	68.20	-12.42	peak
-	11650.000	53.02	9.40	62.42	74.00	-11.58	peak
-	11650.000	43.34	9.40	52.74	54.00	-1.26	AVG
#	17475.000	41.90	17.67	59.57	68.20	-8.63	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 94 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

802.11ac (VHT40)

EUT Test Condition		Measurement Detail	
Channel	Channel 38	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5150.000	41.28	7.76	49.04	74.00	-24.96	peak
@	5190.000	84.18	7.77	91.95	-	-	peak
-	5150.000	29.70	7.76	37.46	54.00	-16.54	AVG
@	5190.000	66.42	7.77	74.19	-	-	AVG
#	10380.000	37.26	8.98	46.24	68.20	-21.96	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5146.360	64.08	7.76	71.84	74.00	-2.16	peak
@	5190.000	98.61	7.77	106.38	-	-	peak
-	5150.000	45.81	7.76	53.57	54.00	-0.43	AVG
@	5190.000	82.51	7.77	90.28	-	-	AVG
#	10380.000	38.57	8.98	47.55	68.20	-20.65	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 95 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 46	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5150.000	47.34	7.76	55.10	74.00	-18.90	peak
@	5230.000	95.35	7.62	102.97	-	-	peak
-	5150.000	31.36	7.76	39.12	54.00	-14.88	AVG
@	5230.000	82.22	7.62	89.84	-	-	AVG
#	10460.000	45.62	9.04	54.66	68.20	-13.54	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5148.740	60.80	7.76	68.56	74.00	-5.44	peak
@	5230.000	104.73	7.62	112.35	-	-	peak
-	5150.000	45.87	7.76	53.63	54.00	-0.37	AVG
@	5230.000	92.55	7.62	100.17	-	-	AVG
#	10460.000	46.65	9.04	55.69	68.20	-12.51	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 96 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 151	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5635.417	50.35	7.92	58.27	68.20	-9.93	peak
-	5694.483	61.69	8.06	69.75	101.12	-31.37	peak
@	5755.000	95.92	8.43	104.35	-	-	peak
@	5755.000	86.64	8.43	95.07	-	-	AVG
-	11510.000	46.18	9.76	55.94	74.00	-18.06	peak
-	11510.000	35.09	9.76	44.85	54.00	-9.15	AVG
#	17265.000	34.89	15.98	50.87	68.20	-17.33	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5647.933	59.26	7.94	67.20	68.20	-1.00	peak
-	5698.450	76.13	8.07	84.20	104.05	-19.85	peak
@	5755.000	103.94	8.43	112.37	-	-	peak
@	5755.000	93.83	8.43	102.26	-	-	AVG
-	11510.000	51.72	9.76	61.48	74.00	-12.52	peak
-	11510.000	40.55	9.76	50.31	54.00	-3.69	AVG
#	17265.000	40.14	15.98	56.12	68.20	-12.08	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 97 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 159	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5795.000	93.17	8.71	101.88	-	-	peak
@	5795.000	83.85	8.71	92.56	-	-	AVG
-	5879.283	57.54	8.80	66.34	102.03	-35.69	peak
#	5926.383	43.94	8.83	52.77	68.20	-15.43	peak
-	11590.000	44.87	9.61	54.48	74.00	-19.52	peak
-	11590.000	33.78	9.61	43.39	54.00	-10.61	AVG
#	17385.000	34.16	16.95	51.11	68.20	-17.09	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5795.000	102.46	8.71	111.17	-	-	peak
@	5795.000	92.73	8.71	101.44	-	-	AVG
-	5878.533	65.66	8.80	74.46	102.59	-28.13	peak
#	5930.100	54.22	8.84	63.06	68.20	-5.14	peak
-	11590.000	51.26	9.61	60.87	74.00	-13.13	peak
-	11590.000	40.12	9.61	49.73	54.00	-4.27	AVG
#	17385.000	39.32	16.95	56.27	68.20	-11.93	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 98 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

802.11ac (VHT80)

EUT Test Condition		Measurement Detail	
Channel	Channel 42	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5146.440	44.44	7.76	52.20	74.00	-21.80	peak
@	5210.000	84.16	7.72	91.88	-	-	peak
-	5150.000	31.24	7.76	39.00	54.00	-15.00	AVG
@	5210.000	69.09	7.72	76.81	-	-	AVG
#	10420.000	35.88	9.08	44.96	68.20	-23.24	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5129.050	63.39	7.74	71.13	74.00	-2.87	peak
@	5210.000	96.95	7.72	104.67	-	-	peak
-	5150.000	45.57	7.76	53.33	54.00	-0.67	AVG
@	5210.000	82.74	7.72	90.46	-	-	AVG
#	10420.000	38.09	9.08	47.17	68.20	-21.03	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 99 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

EUT Test Condition		Measurement Detail	
Channel	Channel 155	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5646.367	49.36	7.93	57.29	68.20	-10.91	peak
-	5695.067	63.72	8.06	71.78	101.55	-29.77	peak
@	5775.000	91.63	8.57	100.20	-	-	peak
@	5775.000	77.07	8.57	85.64	-	-	AVG
*	11550.000	42.12	9.68	51.80	74.00	-22.20	peak
#	17325.000	31.59	16.47	48.06	68.20	-20.14	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5646.367	59.60	7.93	67.53	68.20	-0.67	peak
-	5694.933	74.52	8.06	82.58	101.45	-18.87	peak
@	5775.000	101.10	8.57	109.67	-	-	peak
@	5775.000	85.69	8.57	94.26	-	-	AVG
-	11550.000	48.38	9.68	58.06	74.00	-15.94	peak
-	11550.000	34.97	9.68	44.65	54.00	-9.35	AVG
#	17325.000	34.84	16.47	51.31	68.20	-16.89	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 100 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

Co-Location Mode

802.11b + 802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 1+ Channel 149	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4824.000	46.63	-3.04	43.59	74.00	-30.41	peak
*	11490.000	43.53	9.77	53.30	74.00	-20.70	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	4824.000	57.97	-3.04	54.93	74.00	-19.07	peak
-	4824.000	56.13	-3.04	53.09	54.00	-0.91	AVG
-	11490.000	54.62	9.77	64.39	74.00	-9.61	peak
-	11490.000	43.13	9.77	52.90	54.00	-1.10	AVG

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. " * ": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Model: Vigor2915Fac

Above 1GHz Data

CDD Mode

802.11a

EUT Test Condition		Measurement Detail	
Channel	Channel 149	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5578.500	50.37	7.92	58.29	68.20	-9.91	peak
-	5719.000	58.05	8.19	66.24	110.52	-44.28	peak
@	5745.000	99.23	8.38	107.61	-	-	peak
@	5745.000	90.84	8.38	99.22	-	-	AVG
-	11490.000	48.11	9.77	57.88	74.00	-16.12	peak
-	11490.000	36.87	9.77	46.64	54.00	-7.36	AVG
#	17235.000	35.98	15.77	51.75	68.20	-16.45	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5625.000	56.00	7.91	63.91	68.20	-4.29	peak
-	5719.500	72.15	8.20	80.35	110.66	-30.31	peak
@	5745.000	108.51	8.38	116.89	-	-	peak
@	5745.000	99.99	8.38	108.37	-	-	AVG
-	11490.000	54.22	9.77	63.99	74.00	-10.01	peak
-	11490.000	43.08	9.77	52.85	54.00	-1.15	AVG
#	17235.000	41.20	15.78	56.98	68.20	-11.22	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0



Test report No. : 4788854906-US-R1-V0
Page : 102 of 154
Issued date : Mar. 10, 2020
FCC ID : VGY2915

Beamforming Mode

802.11ac (VHT20)

EUT Test Condition		Measurement Detail	
Channel	Channel 36	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5150.000	44.51	7.76	52.27	74.00	-21.73	peak
@	5180.000	91.44	7.77	99.21	-	-	peak
-	5150.000	32.57	7.76	40.33	54.00	-13.67	AVG
@	5180.000	77.33	7.77	85.10	-	-	AVG
#	10360.000	39.24	8.87	48.11	68.20	-20.09	peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5180.000	105.16	7.77	112.93	-	-	peak
-	5150.000	55.57	7.76	63.33	74.00	-10.67	peak
-	5150.000	45.50	7.76	53.26	54.00	-0.74	AVG
@	5180.000	96.25	7.77	104.02	-	-	AVG
#	10360.000	41.30	8.87	50.17	68.20	-18.03	peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

Underwriters Laboratories Taiwan Co., Ltd.

Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

Doc No: 17-EM-F0878 / 3.0