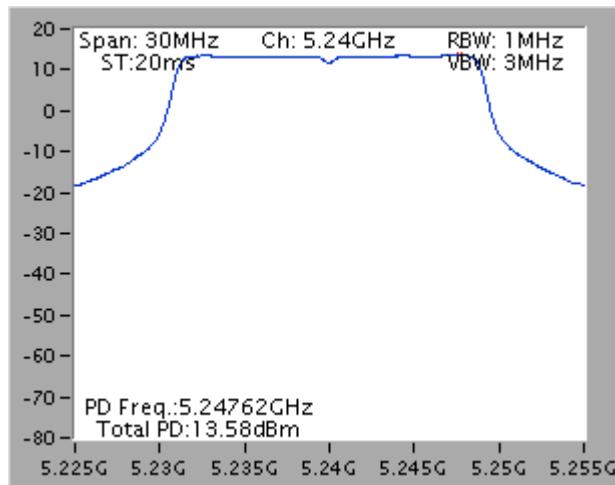
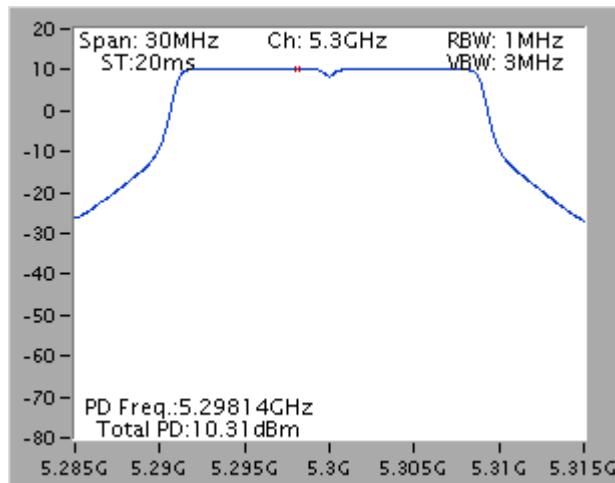


For Beamforming Mode

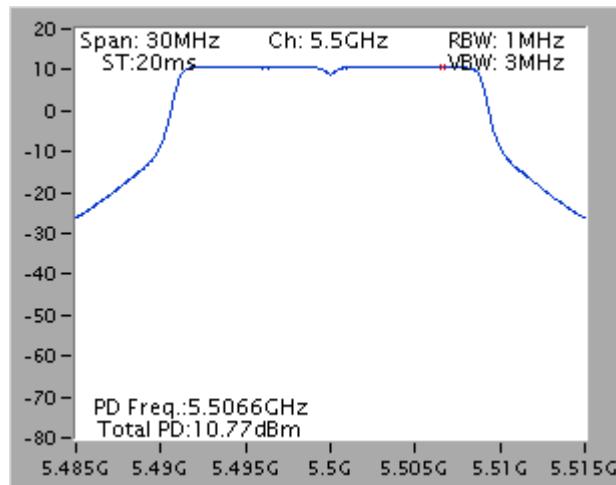
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5240 MHz



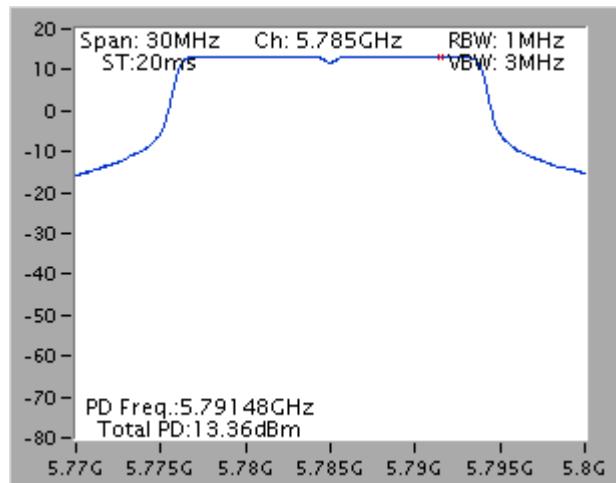
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5300 MHz



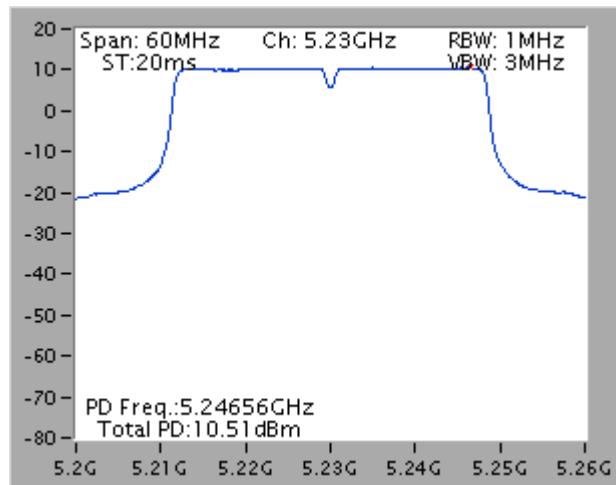
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5550 MHz



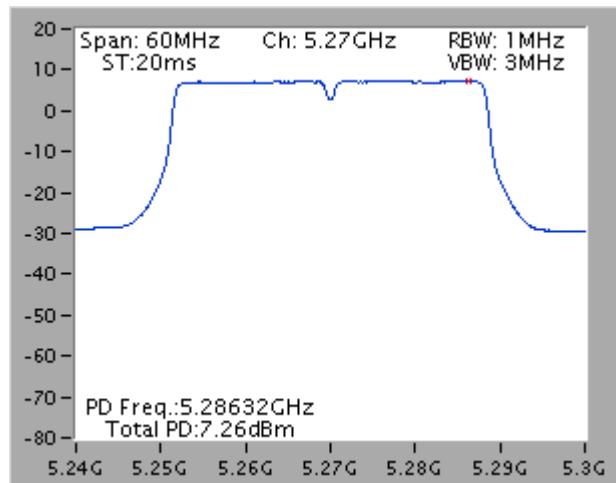
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5785 MHz



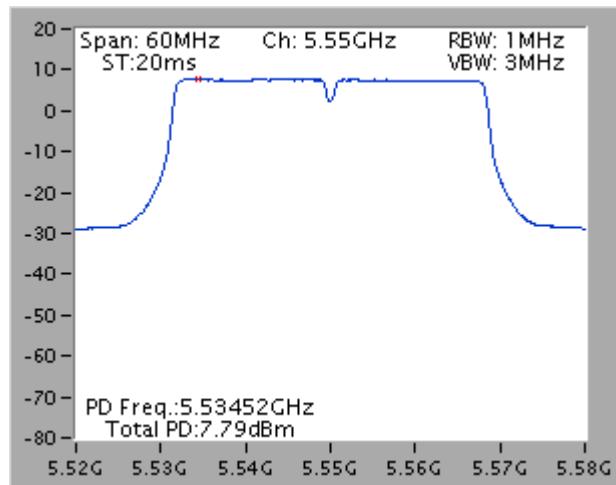
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5230 MHz



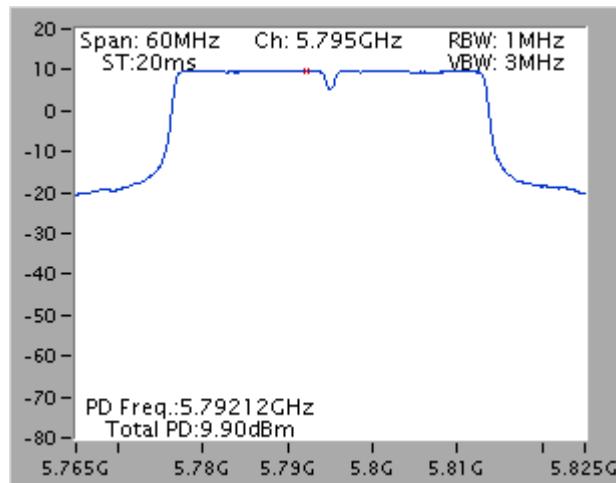
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5270 MHz



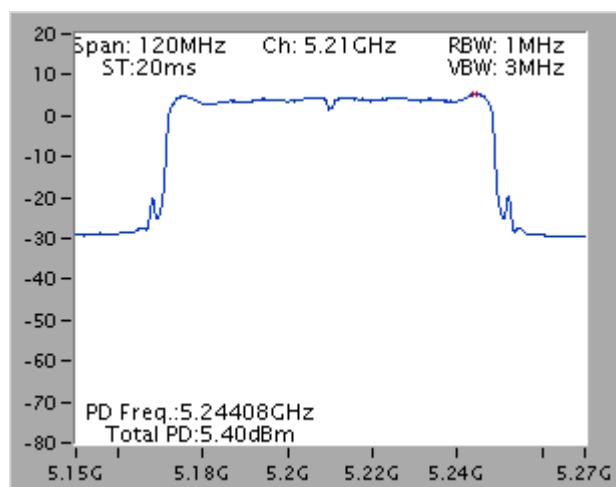
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5550 MHz



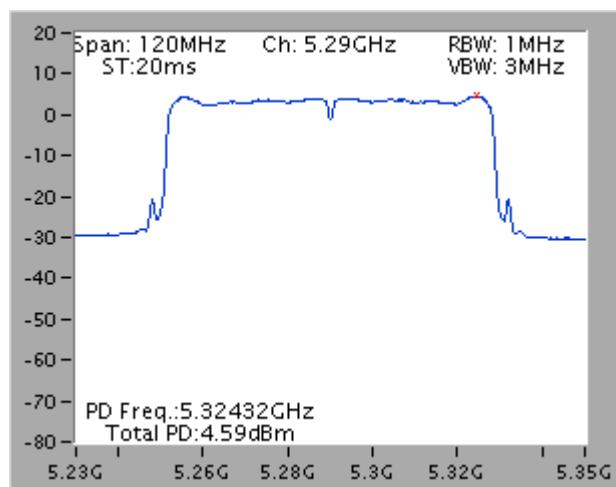
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5795 MHz



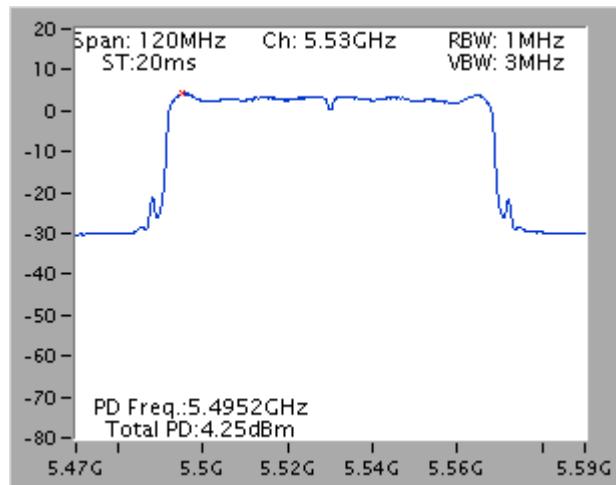
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5210 MHz



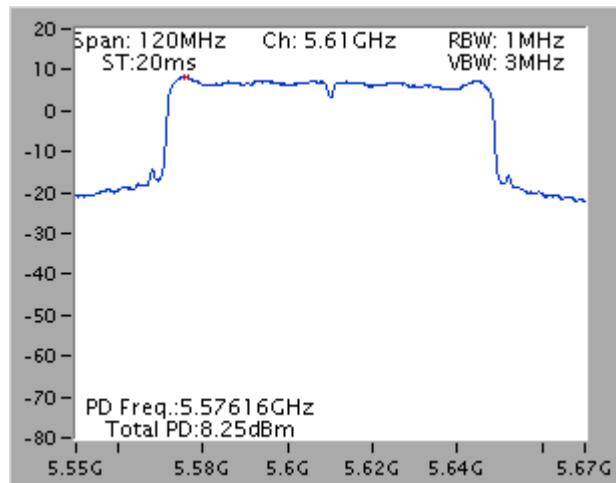
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5290 MHz



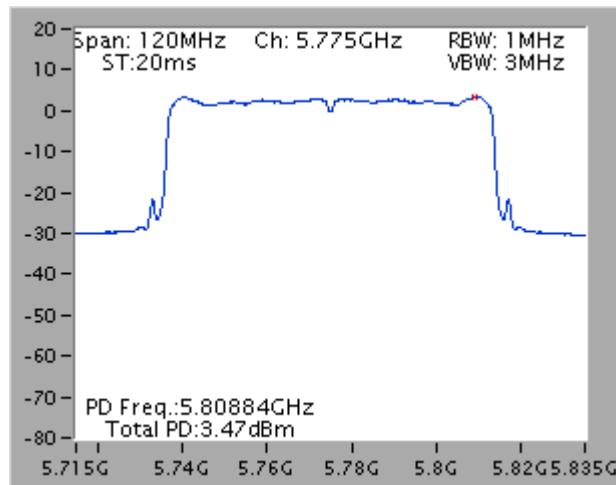
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5530 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5610 MHz

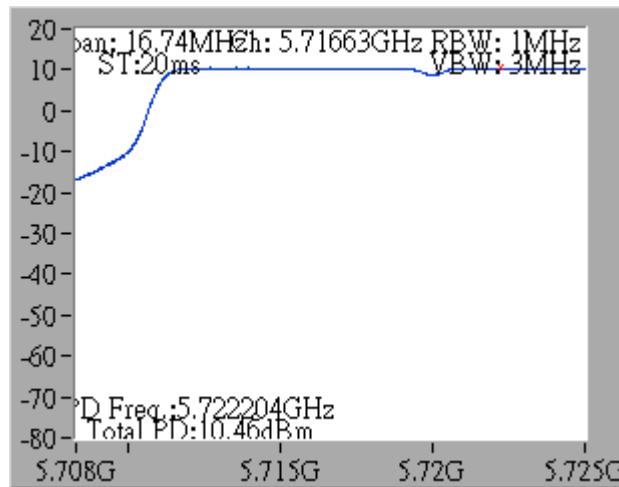


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5775 MHz

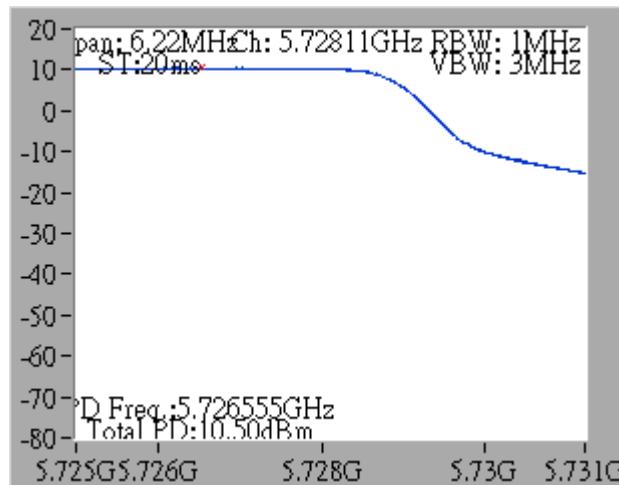


Straddle Channel

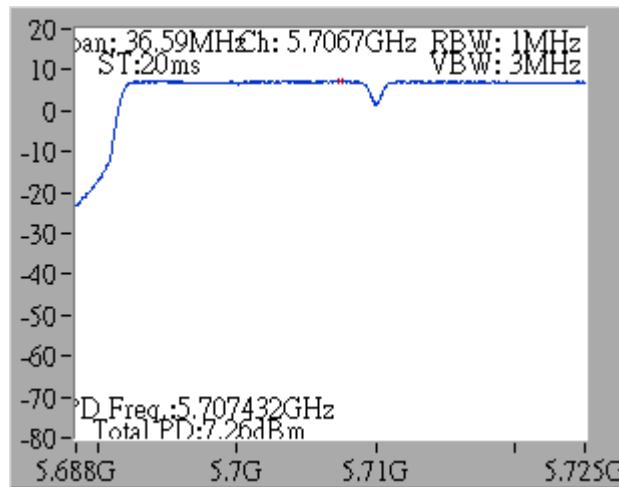
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5720 MHz (UNII 2C)



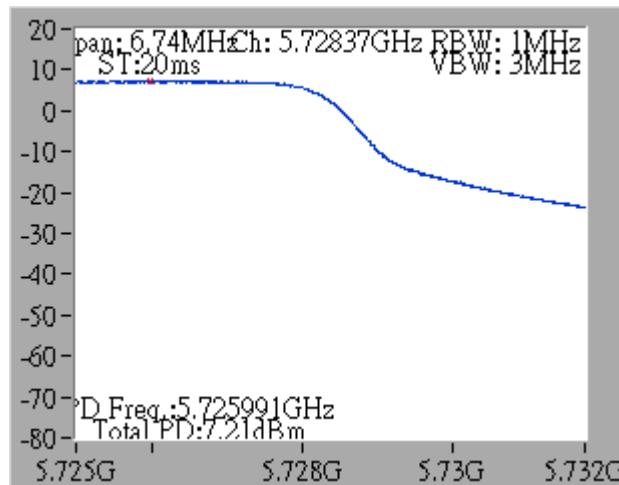
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5720 MHz (UNII 3)



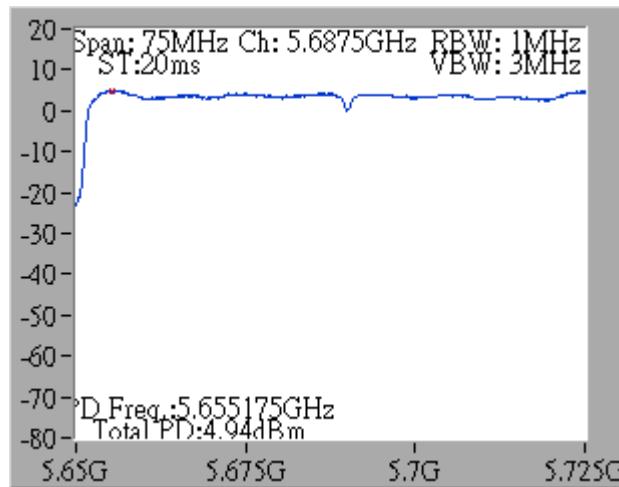
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5710 MHz (UNII 2C)



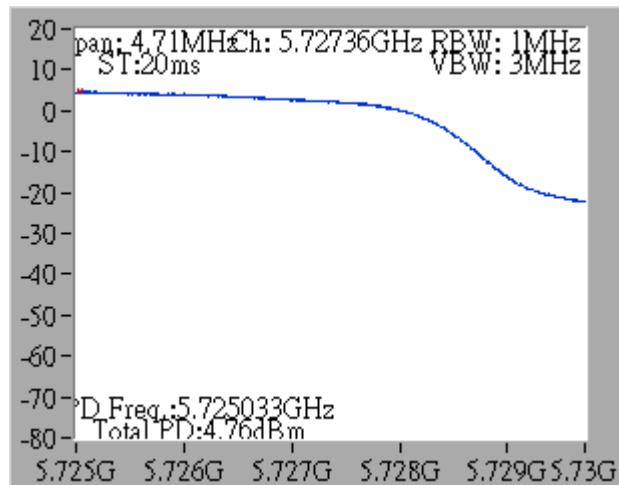
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5710 MHz (UNII 3)



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5690 MHz (UNII 2C)



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4 / 5690 MHz (UNII 3)



4.6. Radiated Emissions Measurement

4.6.1. Limit

For transmitters operating in the 5.15-5.35 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.

For transmitters operating in the 5.470-5.725 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.

For transmitters operating in the 5.725-5.85 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of –17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of –27 dBm/MHz.

In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/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

4.6.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40 GHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for peak

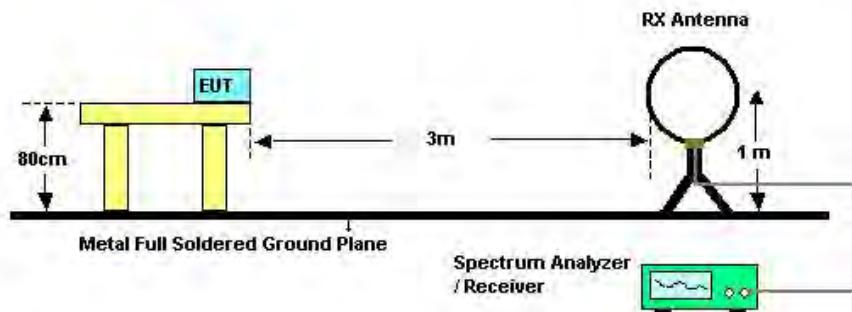
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

4.6.3. Test Procedures

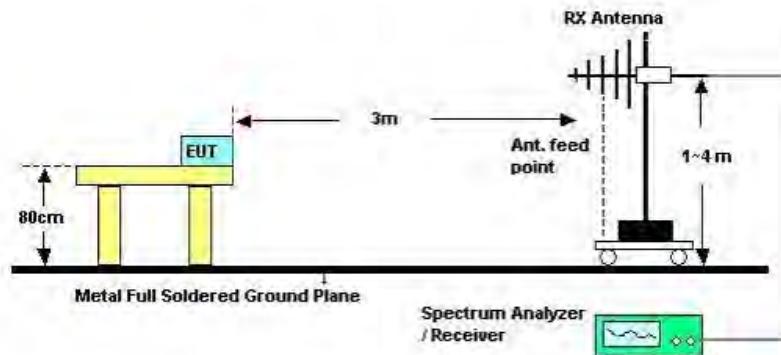
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 1m & 3m far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 1/T VBW for average reading in spectrum analyzer.
7. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
8. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
9. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.6.4. Test Setup Layout

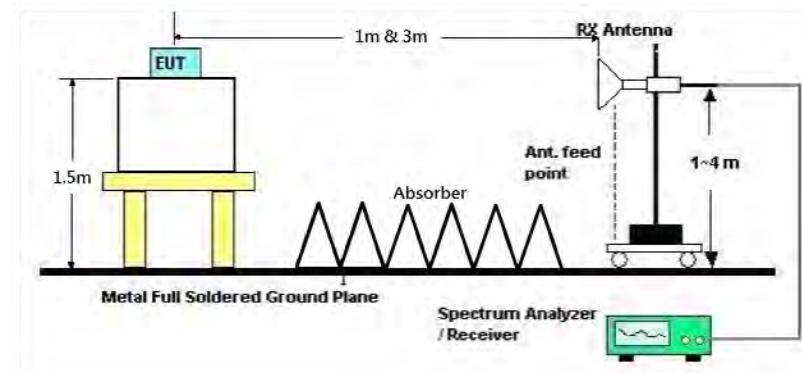
For Radiated Emissions: 9kHz ~ 30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

For Non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For Beamforming mode:

The EUT was programmed to be in beamforming transmitting mode.



4.6.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	22.4°C	Humidity	61%
Test Engineer	Eric Fu	Configurations	Normal Link / Mode 1
Test Date	Jun. 02, 2015		

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

Note:

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

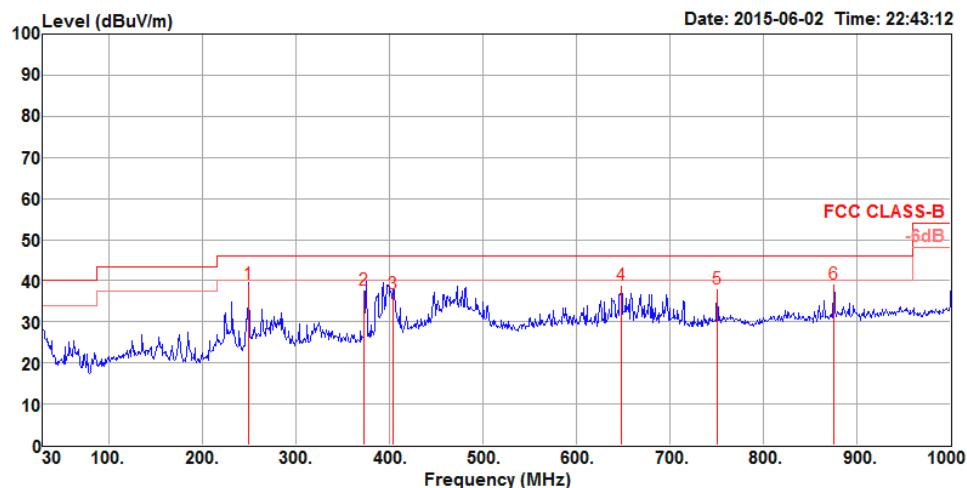
Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB);

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

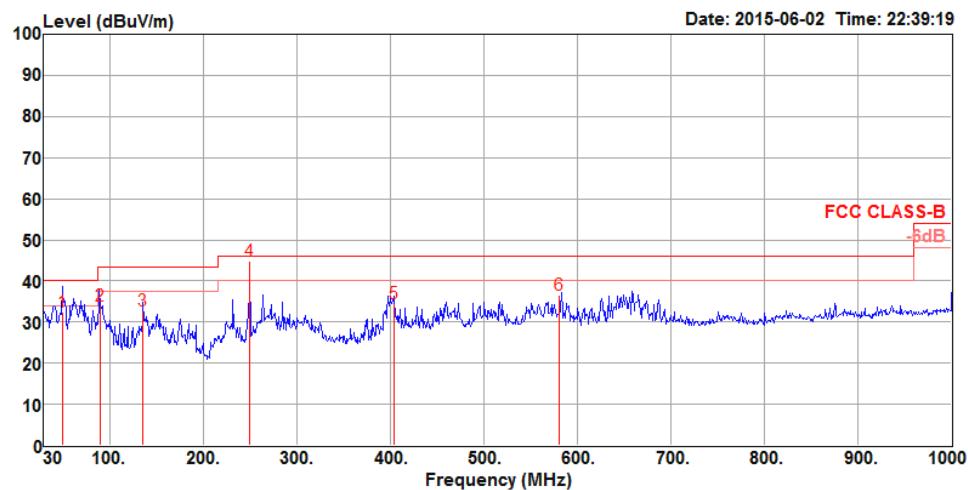
4.6.8. Results of Radiated Emissions (30MHz~1GHz)

Temperature	22.4°C	Humidity	61%
Test Engineer	Eric Fu	Configurations	Normal Link / Mode 1

Horizontal



Freq	Limit		Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	Level	Line									
1	250.17	39.10	46.00	-6.90	56.93	1.38	12.90	32.11	106	284 QP	HORIZONTAL
2	372.37	37.78	46.00	-8.22	52.39	1.67	15.84	32.12	126	281 QP	HORIZONTAL
3	403.39	36.83	46.00	-9.17	50.61	1.74	16.55	32.07	143	231 QP	HORIZONTAL
4	648.22	38.83	46.00	-7.17	49.22	2.10	19.58	32.07	115	104 QP	HORIZONTAL
5	750.71	38.16	46.00	-7.84	47.60	2.22	20.41	32.07	124	87 QP	HORIZONTAL
6	875.26	39.15	46.00	-6.85	46.93	2.40	21.50	31.68	143	95 QP	HORIZONTAL

Vertical


Freq	Level	Limit		Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	49.80	32.33	40.00	-7.67	54.85	0.72	9.09	32.33	105	358	QP	VERTICAL
2	89.37	33.97	43.50	-9.53	56.18	0.92	9.10	32.23	142	9	QP	VERTICAL
3	136.01	32.80	43.50	-10.70	51.60	1.06	12.33	32.19	104	267	QP	VERTICAL
4	250.00	44.96	46.00	-1.04	62.79	1.38	12.90	32.11	102	281	QP	VERTICAL
5	403.44	34.47	46.00	-11.53	48.26	1.74	16.54	32.07	150	217	QP	VERTICAL
6	580.50	36.53	46.00	-9.47	47.70	2.03	18.95	32.15	102	95	QP	VERTICAL

Note:

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

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

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

4.6.9. Results for Radiated Emissions (1GHz~40GHz)

For Non-Beamforming Mode

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 36 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 13, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			dB	dBuV	dB	dB/m	dB	deg	
1	15540.07	57.03	63.54	-6.51	45.52	7.56	38.67	34.72	149	172	Average	HORIZONTAL
2	15540.51	70.82	83.54	-12.72	59.31	7.56	38.67	34.72	149	172	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			dB	dBuV	dB	dB/m	dB	deg	
1	15541.74	68.11	83.54	-15.43	56.60	7.56	38.67	34.72	86	184	Peak	VERTICAL
2	15541.81	53.32	63.54	-10.22	41.81	7.56	38.67	34.72	86	184	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 40 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 13, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
1	15602.53	54.45	63.54	-9.09	43.04	7.58	38.62	34.79	76	175	Average	HORIZONTAL
2	15604.12	67.03	83.54	-16.51	55.62	7.58	38.62	34.79	76	175	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
1	15605.72	55.65	63.54	-7.89	44.24	7.58	38.62	34.79	79	160	Average	VERTICAL
2	15606.22	69.44	83.54	-14.10	58.03	7.58	38.62	34.79	79	160	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 48 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 13, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	15716.67	70.69	83.54	-12.85	59.43	7.62	38.52	34.88	109	166	Peak	HORIZONTAL
2	15717.25	57.07	63.54	-6.47	45.81	7.62	38.52	34.88	109	166	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	15726.37	67.66	83.54	-15.88	56.42	7.62	38.52	34.90	75	161	Peak	VERTICAL
2	15727.24	53.27	63.54	-10.27	42.03	7.62	38.52	34.90	75	161	Average	VERTICAL

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 52 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 13, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
1	15777.68	57.04	63.54	-6.50	45.86	7.64	38.48	34.94	108	165	Average	HORIZONTAL
2	15778.48	70.29	83.54	-13.25	59.11	7.64	38.48	34.94	108	165	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
1	15786.22	68.24	83.54	-15.30	57.07	7.64	38.47	34.94	118	166	Peak	VERTICAL
2	15786.51	53.47	63.54	-10.07	42.30	7.64	38.47	34.94	118	166	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 60 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 13, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB									
1 10600.00	56.20	63.54	-7.34	46.61	6.21	38.38	35.00	125	162	Average	HORIZONTAL	
2 10601.59	69.09	83.54	-14.45	59.49	6.21	38.38	34.99	125	162	Peak	HORIZONTAL	
3 15899.86	56.79	63.54	-6.75	45.76	7.68	38.38	35.03	102	172	Average	HORIZONTAL	
4 15900.36	70.91	83.54	-12.63	59.88	7.68	38.38	35.03	102	172	Peak	HORIZONTAL	

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB									
1 10598.41	69.55	83.54	-13.99	59.96	6.21	38.38	35.00	98	158	Peak	VERTICAL	
2 10598.48	56.61	63.54	-6.93	47.02	6.21	38.38	35.00	98	158	Average	VERTICAL	
3 15906.37	69.43	83.54	-14.11	58.42	7.69	38.37	35.05	116	176	Peak	VERTICAL	
4 15906.51	54.90	63.54	-8.64	43.89	7.69	38.37	35.05	116	176	Average	VERTICAL	



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 64 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 13, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	dB dB									
1 10639.93	66.11	83.54	-17.43	56.48	6.23	38.37	34.97	47	152	Peak	HORIZONTAL	
2 10640.00	53.40	63.54	-10.14	43.77	6.23	38.37	34.97	47	152	Average	HORIZONTAL	
3 15959.57	50.32	63.54	-13.22	39.39	7.70	38.33	35.10	103	172	Average	HORIZONTAL	
4 15960.58	65.06	83.54	-18.48	54.13	7.70	38.33	35.10	103	172	Peak	HORIZONTAL	

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	dB dB									
1 10640.00	64.03	83.54	-19.51	54.40	6.23	38.37	34.97	138	178	Peak	VERTICAL	
2 10640.00	52.54	63.54	-11.00	42.91	6.23	38.37	34.97	138	178	Average	VERTICAL	
3 15965.86	64.61	83.54	-18.93	53.68	7.70	38.33	35.10	116	175	Peak	VERTICAL	
4 15966.58	49.11	63.54	-14.43	38.18	7.70	38.33	35.10	116	175	Average	VERTICAL	



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 100 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1 11000.00	54.18	63.54	-9.36	44.19	6.40	38.30	34.71	40	150	Average	HORIZONTAL	
2 11001.74	66.02	83.54	-17.52	56.03	6.40	38.30	34.71	40	150	Peak	HORIZONTAL	

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1 10999.78	63.78	83.54	-19.76	53.79	6.40	38.30	34.71	134	177	Peak	VERTICAL	
2 11000.00	52.68	63.54	-10.86	42.69	6.40	38.30	34.71	134	177	Average	VERTICAL	



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 116 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
1	11160.00	55.05	63.54	-8.49	45.00	6.44	38.30	34.69	35	152	Average	HORIZONTAL
2	11161.74	66.86	83.54	-16.68	56.81	6.44	38.30	34.69	35	152	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
1	11159.93	52.88	63.54	-10.66	42.83	6.44	38.30	34.69	133	155	Average	VERTICAL
2	11161.52	65.22	83.54	-18.32	55.17	6.44	38.30	34.69	133	155	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 140 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	dB dB									
1	11397.60	68.45	83.54	-15.09	58.31	6.51	38.30	34.67	33	156	Peak	HORIZONTAL
2	11399.94	56.02	63.54	-7.52	45.88	6.51	38.30	34.67	33	156	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	dB dB									
1	11401.50	52.26	63.54	-11.28	42.12	6.51	38.30	34.67	131	156	Average	VERTICAL
2	11401.79	65.45	83.54	-18.09	55.31	6.51	38.30	34.67	131	156	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 149 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11486.93	64.95	83.54	-18.59	54.78	6.53	38.30	34.66	35	148	Peak	HORIZONTAL
2	11487.89	52.36	63.54	-11.18	42.19	6.53	38.30	34.66	35	148	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11491.79	61.69	83.54	-21.85	51.52	6.53	38.30	34.66	131	157	Peak	VERTICAL
2	11491.85	47.62	63.54	-15.92	37.45	6.53	38.30	34.66	131	157	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 157 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11568.70	68.84	83.54	-14.70	58.64	6.55	38.33	34.68	30	151	Peak	HORIZONTAL
2	11569.88	57.17	63.54	-6.37	46.98	6.55	38.33	34.69	30	151	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11571.82	66.94	83.54	-16.60	56.75	6.55	38.33	34.69	134	190	Peak	VERTICAL
2	11571.94	53.04	63.54	-10.50	42.85	6.55	38.33	34.69	134	190	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 165 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Level dBuV/m	Line Limit dB									
1	11649.77	69.92	83.54	-13.62	59.72	6.56	38.36	34.72	34	157	Peak	HORIZONTAL
2	11649.94	58.96	63.54	-4.58	48.76	6.56	38.36	34.72	34	157	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Level dBuV/m	Line Limit dB									
1	11651.91	67.18	83.54	-16.36	56.98	6.56	38.36	34.72	132	212	Peak	VERTICAL
2	11652.05	53.31	63.54	-10.23	43.11	6.56	38.36	34.72	132	212	Average	VERTICAL

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m										
1	15540.00	47.70	63.54	-15.84	36.19	7.56	38.67	34.72	110	180	Average	HORIZONTAL
2	15542.90	60.75	83.54	-22.79	49.24	7.56	38.67	34.72	110	180	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m										
1	15542.70	60.74	83.54	-22.80	49.23	7.56	38.67	34.72	55	187	Peak	VERTICAL
2	15542.90	47.59	63.54	-15.95	36.08	7.56	38.67	34.72	55	187	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB									
1	15598.26	52.30	63.54	-11.24	40.87	7.58	38.62	34.77	120	162	Average	HORIZONTAL
2	15599.57	65.21	83.54	-18.33	53.80	7.58	38.62	34.79	120	162	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB									
1	15598.52	52.10	63.54	-11.44	40.67	7.58	38.62	34.77	90	164	Average	VERTICAL
2	15599.59	65.14	83.54	-18.40	53.73	7.58	38.62	34.79	90	164	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB									
1	15718.38	52.36	63.54	-11.18	41.10	7.62	38.52	34.88	125	163	Average	HORIZONTAL
2	15728.68	65.76	83.54	-17.78	54.52	7.62	38.52	34.90	125	163	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB									
1	15718.35	51.31	63.54	-12.23	40.05	7.62	38.52	34.88	69	166	Average	VERTICAL
2	15728.89	65.94	83.54	-17.60	54.70	7.62	38.52	34.90	69	166	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB									
1	15776.53	48.70	63.54	-14.84	37.50	7.64	38.48	34.92	9	150	Average	HORIZONTAL
2	15776.99	60.89	83.54	-22.65	49.69	7.64	38.48	34.92	9	150	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB									
1	15782.20	47.99	63.54	-15.55	36.82	7.64	38.47	34.94	48	161	Average	VERTICAL
2	15786.14	60.93	83.54	-22.61	49.76	7.64	38.47	34.94	48	161	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	10600.55	50.97	63.54	-12.57	41.38	6.21	38.38	35.00	254	165	Average	HORIZONTAL
2	10600.98	58.19	83.54	-25.35	48.59	6.21	38.38	34.99	254	165	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	15894.30	56.64	83.54	-26.90	45.61	7.68	38.38	35.03	226	167	Peak	VERTICAL
2	15900.38	44.15	63.54	-19.39	33.12	7.68	38.38	35.03	226	167	Average	VERTICAL

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m										
1	10640.90	64.30	83.54	-19.24	54.67	6.23	38.37	34.97	17	145	Peak	HORIZONTAL
2	10640.90	51.32	63.54	-12.22	41.69	6.23	38.37	34.97	17	145	Average	HORIZONTAL
3	15960.20	43.73	63.54	-19.81	32.80	7.70	38.33	35.10	83	170	Average	HORIZONTAL
4	15961.30	57.19	83.54	-26.35	46.26	7.70	38.33	35.10	78	170	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m										
1	10640.30	52.59	63.54	-10.95	42.96	6.23	38.37	34.97	360	152	Average	VERTICAL
2	10640.80	66.50	83.54	-17.04	56.87	6.23	38.37	34.97	360	152	Peak	VERTICAL
3	15960.10	43.13	63.54	-20.41	32.20	7.70	38.33	35.10	84	174	Average	VERTICAL
4	15961.60	57.32	83.54	-26.22	46.39	7.70	38.33	35.10	84	174	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	11000.30	51.22	63.54	-12.32	41.23	6.40	38.30	34.71	72	171	Average	HORIZONTAL
2	11000.80	65.43	83.54	-18.11	55.44	6.40	38.30	34.71	72	171	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	11000.30	51.89	63.54	-11.65	41.90	6.40	38.30	34.71	126	129	Average	VERTICAL
2	11000.70	64.25	83.54	-19.29	54.26	6.40	38.30	34.71	126	129	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	11160.20	50.63	63.54	-12.91	40.58	6.44	38.30	34.69	68	155	Average	HORIZONTAL
2	11160.72	62.87	83.54	-20.67	52.82	6.44	38.30	34.69	68	155	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	11160.29	47.31	63.54	-16.23	37.26	6.44	38.30	34.69	117	168	Average	VERTICAL
2	11160.84	59.63	83.54	-23.91	49.58	6.44	38.30	34.69	117	168	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss		Antenna Factor		Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB			dB	dB/m	dB	dB					
1	11400.20	50.07	63.54	-13.47	39.93	6.51	38.30	34.67	136	159	Average	HORIZONTAL		
2	11401.10	63.28	83.54	-20.26	53.14	6.51	38.30	34.67	136	159	Peak	HORIZONTAL		

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss		Antenna Factor		Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB			dB	dB/m	dB	dB					
1	11400.40	47.57	63.54	-15.97	37.43	6.51	38.30	34.67	130	155	Average	VERTICAL		
2	11400.70	62.58	83.54	-20.96	52.44	6.51	38.30	34.67	130	155	Peak	VERTICAL		



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	11490.17	48.61	63.54	-14.93	38.44	6.53	38.30	34.66	80	164	Average	HORIZONTAL
2	11494.02	60.86	83.54	-22.68	50.69	6.53	38.30	34.66	80	164	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	11489.97	56.80	83.54	-26.74	46.63	6.53	38.30	34.66	115	154	Peak	VERTICAL
2	11490.12	45.08	63.54	-18.46	34.91	6.53	38.30	34.66	115	154	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	11570.14	50.11	63.54	-13.43	39.92	6.55	38.33	34.69	233	168	Average	HORIZONTAL
2	11571.79	57.53	83.54	-26.01	47.34	6.55	38.33	34.69	234	168	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	11561.46	54.70	83.54	-28.84	44.51	6.55	38.32	34.68	202	168	Peak	VERTICAL
2	11569.86	42.17	63.54	-21.37	31.98	6.55	38.33	34.69	202	168	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		Loss	Factor						
1 11648.20	70.39	83.54	-13.15	60.19	6.56	38.36	34.72	23	154	Peak	HORIZONTAL	
2 11650.30	57.57	63.54	-5.97	47.37	6.56	38.36	34.72	24	154	Average	HORIZONTAL	

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		Loss	Factor						
1 11650.30	51.64	63.54	-11.90	41.44	6.56	38.36	34.72	52	189	Average	VERTICAL	
2 11650.90	64.59	83.54	-18.95	54.39	6.56	38.36	34.72	52	189	Peak	VERTICAL	



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss		Antenna Factor		Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB			dB	dB/m	deg	deg					
1	15572.32	40.24	63.54	-23.30	28.77	7.57	38.64	34.74	260	190	Average	HORIZONTAL		
2	15574.88	52.95	83.54	-30.59	41.51	7.57	38.64	34.77	354	190	Peak	HORIZONTAL		

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss		Antenna Factor		Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB			dB	dB/m	deg	deg					
1	15569.54	40.38	63.54	-23.16	28.91	7.57	38.64	34.74	260	183	Average	VERTICAL		
2	15572.56	52.69	83.54	-30.85	41.22	7.57	38.64	34.74	260	183	Peak	VERTICAL		

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m										
1	15684.82	46.67	63.54	-16.87	35.36	7.61	38.55	34.85	224	152	Average	HORIZONTAL
2	15696.83	60.93	83.54	-22.61	49.63	7.62	38.53	34.85	224	152	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m										
1	15680.28	56.95	83.54	-26.59	45.64	7.61	38.55	34.85	239	152	Peak	VERTICAL
2	15680.28	43.84	63.54	-19.70	32.53	7.61	38.55	34.85	239	152	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable		Antenna Loss Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	10622.03	57.95	83.54	-25.59	48.34	6.22	38.38	34.99	267	136	Peak	HORIZONTAL
2	10629.17	49.33	63.54	-14.21	39.70	6.22	38.38	34.97	267	136	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable		Antenna Loss Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	10620.00	55.49	83.54	-28.05	45.88	6.22	38.38	34.99	52	136	Peak	VERTICAL
2	10620.00	42.47	63.54	-21.07	32.86	6.22	38.38	34.99	52	136	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm	
1	10619.91	49.81	63.54	-13.73	40.20	6.22	38.38	34.99	37	152	Average	HORIZONTAL
2	10620.02	62.51	83.54	-21.03	52.90	6.22	38.38	34.99	37	152	Peak	HORIZONTAL
3	15930.00	42.32	63.54	-21.22	31.32	7.69	38.36	35.05	67	167	Average	HORIZONTAL
4	15937.60	54.30	83.54	-29.24	43.34	7.70	38.34	35.08	67	167	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm	
1	10620.00	47.41	63.54	-16.13	37.80	6.22	38.38	34.99	117	159	Average	VERTICAL
2	10621.40	59.68	83.54	-23.86	50.07	6.22	38.38	34.99	116	159	Peak	VERTICAL
3	15890.80	54.93	83.54	-28.61	43.90	7.68	38.38	35.03	12	199	Peak	VERTICAL
4	15929.80	42.86	63.54	-20.68	31.86	7.69	38.36	35.05	12	199	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	11019.16	58.46	83.54	-25.08	48.47	6.40	38.30	34.71	38	159	Peak	HORIZONTAL
2	11019.99	46.51	63.54	-17.03	36.52	6.40	38.30	34.71	38	159	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	11019.10	59.88	83.54	-23.66	49.89	6.40	38.30	34.71	118	173	Peak	VERTICAL
2	11020.03	47.21	63.54	-16.33	37.22	6.40	38.30	34.71	118	173	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable		Antenna Loss Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	11380.00	58.25	83.54	-25.29	48.11	6.51	38.30	34.67	86	161	Peak	HORIZONTAL
2	11380.00	47.12	63.54	-16.42	36.98	6.51	38.30	34.67	87	161	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable		Antenna Loss Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	11088.20	56.85	83.54	-26.69	46.83	6.42	38.30	34.70	238	178	Peak	VERTICAL
2	11100.00	47.47	63.54	-16.07	37.44	6.43	38.30	34.70	238	178	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	dB dB									
1	11337.80	59.30	83.54	-24.24	49.19	6.49	38.30	34.68	82	174	Peak	HORIZONTAL
2	11340.00	49.28	63.54	-14.26	39.17	6.49	38.30	34.68	79	174	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	dB dB									
1	11340.04	47.48	63.54	-16.06	37.37	6.49	38.30	34.68	275	171	Average	VERTICAL
2	11340.08	53.72	83.54	-29.82	43.61	6.49	38.30	34.68	275	171	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	11510.00	58.14	83.54	-25.40	47.96	6.54	38.30	34.66	90	153	Peak	HORIZONTAL
2	11510.00	49.26	63.54	-14.28	39.08	6.54	38.30	34.66	86	153	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	11510.00	55.56	83.54	-27.98	45.38	6.54	38.30	34.66	50	155	Peak	VERTICAL
2	11510.00	45.30	63.54	-18.24	35.12	6.54	38.30	34.66	50	155	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	dB dB									
1	11590.00	61.25	83.54	-22.29	51.06	6.55	38.33	34.69	90	167	Peak	HORIZONTAL
2	11590.00	49.71	63.54	-13.83	39.52	6.55	38.33	34.69	89	167	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	dB dB									
1	11590.00	58.89	83.54	-24.65	48.70	6.55	38.33	34.69	90	167	Peak	VERTICAL
2	11590.00	46.64	63.54	-16.90	36.45	6.55	38.33	34.69	90	167	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Limit dBuV/m									
1	15630.32	41.15	63.54	-22.39	29.78	7.59	38.59	34.81	103	0	Average	HORIZONTAL
2	15632.34	53.58	83.54	-29.96	42.21	7.59	38.59	34.81	103	200	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Limit dBuV/m									
1	15625.04	53.28	83.54	-30.26	41.90	7.59	38.60	34.81	154	200	Peak	VERTICAL
2	15630.26	40.66	63.54	-22.88	29.29	7.59	38.59	34.81	154	200	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	15871.40	53.02	83.54	-30.52	41.96	7.67	38.40	35.01	333	162	Peak	HORIZONTAL
2	15872.40	40.53	63.54	-23.01	29.47	7.67	38.40	35.01	333	162	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	15820.00	40.73	63.54	-22.81	29.60	7.66	38.44	34.97	135	200	Average	VERTICAL
2	15855.20	53.63	83.54	-29.91	42.56	7.67	38.41	35.01	135	200	Peak	VERTICAL

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m										
1	11060.03	44.89	63.54	-18.65	34.87	6.42	38.30	34.70	39	163	Average	HORIZONTAL
2	11060.30	56.59	83.54	-26.95	46.57	6.42	38.30	34.70	39	163	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m										
1	11059.84	52.41	83.54	-31.13	42.39	6.42	38.30	34.70	236	154	Peak	VERTICAL
2	11060.04	44.43	63.54	-19.11	34.41	6.42	38.30	34.70	236	154	Average	VERTICAL

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq	Level	Limit		Read Level	Cable		Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Over Limit		Loss	dB/m						
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm			
1	11220.00	58.46	83.54	-25.08	48.39	6.46	38.30	34.69	74	151	Peak	HORIZONTAL
2	11220.00	46.72	63.54	-16.82	36.65	6.46	38.30	34.69	74	151	Average	HORIZONTAL

Vertical

Freq	Level	Limit		Read Level	Cable		Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Over Limit		Loss	dB/m						
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm			
1	11220.00	56.33	83.54	-27.21	46.26	6.46	38.30	34.69	112	151	Peak	VERTICAL
2	11220.00	44.33	63.54	-19.21	34.26	6.46	38.30	34.69	106	151	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Limit dBuV/m									
1	11549.93	45.33	63.54	-18.21	35.14	6.55	38.32	34.68	34	162	Average	HORIZONTAL
2	11549.97	55.97	83.54	-27.57	45.78	6.55	38.32	34.68	34	162	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Limit dBuV/m									
1	11549.96	46.68	63.54	-16.86	36.49	6.55	38.32	34.68	276	172	Average	VERTICAL
2	11550.16	54.05	83.54	-29.49	43.86	6.55	38.32	34.68	276	172	Peak	VERTICAL

Straddle Channel

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 144 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq	Level	Limit		Over Line Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm	
1	11437.68	68.50	83.54	-15.04	58.35	6.52	38.30	34.67	33	155	Peak	HORIZONTAL
2	11439.94	56.81	63.54	-6.73	46.66	6.52	38.30	34.67	33	155	Average	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm	
1	11441.77	65.19	83.54	-18.35	55.04	6.52	38.30	34.67	128	157	Peak	VERTICAL
2	11441.94	52.00	63.54	-11.54	41.85	6.52	38.30	34.67	128	157	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
1	11440.20	49.98	63.54	-13.56	39.83	6.52	38.30	34.67	106	151	Average	HORIZONTAL
2	11440.81	62.92	83.54	-20.62	52.77	6.52	38.30	34.67	106	151	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
1	11440.03	45.38	63.54	-18.16	35.23	6.52	38.30	34.67	90	164	Average	VERTICAL
2	11440.52	57.66	83.54	-25.88	47.51	6.52	38.30	34.67	90	164	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq	Level	Limit		Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Over Limit		Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11420.00	60.52	83.54	-23.02	50.38	6.51	38.30	34.67	78	158 Peak	HORIZONTAL
2	11420.00	49.90	63.54	-13.64	39.76	6.51	38.30	34.67	78	158 Average	HORIZONTAL

Vertical

Freq	Level	Limit		Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Over Limit		Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11420.00	59.68	83.54	-23.86	49.54	6.51	38.30	34.67	80	159 Peak	VERTICAL
2	11420.00	48.08	63.54	-15.46	37.94	6.51	38.30	34.67	80	159 Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 140 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 14, 2015		

Horizontal

Freq	Level	Limit		Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Over Limit		Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11380.00	58.25	83.54	-25.29	48.11	6.51	38.30	34.67	86	161 Peak	HORIZONTAL
2	11380.00	47.12	63.54	-16.42	36.98	6.51	38.30	34.67	87	161 Average	HORIZONTAL

Vertical

Freq	Level	Limit		Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Over Limit		Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11380.00	58.30	83.54	-25.24	48.16	6.51	38.30	34.67	69	151 Peak	VERTICAL
2	11380.00	49.19	63.54	-14.35	39.05	6.51	38.30	34.67	69	151 Average	VERTICAL

**For Beamforming Mode**

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 36 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg		
1	15539.90	45.55	63.54	-17.99	34.04	7.56	38.67	34.72	5	170	Average HORIZONTAL
2	15543.10	59.53	83.54	-24.01	48.02	7.56	38.67	34.72	5	170	Peak HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg		
1	15527.80	45.19	63.54	-18.35	33.68	7.56	38.67	34.72	119	155	Average VERTICAL
2	15537.50	58.41	83.54	-25.13	46.90	7.56	38.67	34.72	119	155	Peak VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 40 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	15601.30	49.62	63.54	-13.92	38.21	7.58	38.62	34.79	222	153	Average	HORIZONTAL
2	15604.10	64.01	83.54	-19.53	52.60	7.58	38.62	34.79	222	153	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	15601.90	52.95	63.54	-10.59	41.54	7.58	38.62	34.79	54	189	Average	VERTICAL
2	15602.40	65.16	83.54	-18.38	53.75	7.58	38.62	34.79	54	189	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 48 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	15725.80	62.81	83.54	-20.73	51.55	7.62	38.52	34.88	223	154	Peak	HORIZONTAL
2	15726.80	49.14	63.54	-14.40	37.90	7.62	38.52	34.90	223	154	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	15722.30	52.56	63.54	-10.98	41.30	7.62	38.52	34.88	122	164	Average	VERTICAL
2	15723.10	65.61	83.54	-17.93	54.35	7.62	38.52	34.88	122	164	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 52 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	15777.50	64.10	83.54	-19.44	52.92	7.64	38.48	34.94	78	167 Peak	HORIZONTAL
2	15780.70	51.62	63.54	-11.92	40.44	7.64	38.48	34.94	78	167 Average	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	15779.10	52.00	63.54	-11.54	40.82	7.64	38.48	34.94	69	171 Average	VERTICAL
2	15786.20	66.90	83.54	-16.64	55.73	7.64	38.47	34.94	69	171 Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 60 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
1	10596.30	69.36	83.54	-14.18	59.78	6.20	38.38	35.00	30	152	Peak	HORIZONTAL
2	10600.30	57.07	63.54	-6.47	47.48	6.21	38.38	35.00	30	152	Average	HORIZONTAL
3	15900.70	52.18	63.54	-11.36	41.15	7.69	38.37	35.03	87	164	Average	HORIZONTAL
4	15901.90	64.19	83.54	-19.35	53.16	7.69	38.37	35.03	87	164	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
1	10597.90	68.97	83.54	-14.57	59.38	6.21	38.38	35.00	360	179	Peak	VERTICAL
2	10600.80	56.26	63.54	-7.28	46.66	6.21	38.38	34.99	360	179	Average	VERTICAL
3	15904.00	52.72	63.54	-10.82	41.69	7.69	38.37	35.03	62	169	Average	VERTICAL
4	15907.50	67.40	83.54	-16.14	56.39	7.69	38.37	35.05	62	169	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 64 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	dB dB									
1 10638.40	52.12	63.54	-11.42	42.49	6.23	38.37	34.97	240	166	Average	HORIZONTAL	
2 10638.90	64.41	83.54	-19.13	54.78	6.23	38.37	34.97	240	166	Peak	HORIZONTAL	
3 15956.10	57.92	83.54	-25.62	46.99	7.70	38.33	35.10	3	168	Peak	HORIZONTAL	
4 15957.40	44.29	63.54	-19.25	33.36	7.70	38.33	35.10	3	168	Average	HORIZONTAL	

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	dB dB									
1 10636.60	67.46	83.54	-16.08	57.83	6.23	38.37	34.97	360	175	Peak	VERTICAL	
2 10639.80	55.15	63.54	-8.39	45.52	6.23	38.37	34.97	360	175	Average	VERTICAL	
3 15959.50	46.49	63.54	-17.05	35.56	7.70	38.33	35.10	120	166	Average	VERTICAL	
4 15964.40	60.10	83.54	-23.44	49.17	7.70	38.33	35.10	120	166	Peak	VERTICAL	



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 100 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
1	10999.70	48.76	63.54	-14.78	38.77	6.40	38.30	34.71	41	158	Average	HORIZONTAL
2	11000.20	61.04	83.54	-22.50	51.05	6.40	38.30	34.71	41	158	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
1	10998.40	47.35	63.54	-16.19	37.36	6.40	38.30	34.71	127	160	Average	VERTICAL
2	10998.90	59.27	83.54	-24.27	49.28	6.40	38.30	34.71	127	160	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 116 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg		
1 11159.90	51.31	63.54	-12.23	41.26	6.44	38.30	34.69	69	169	Average	HORIZONTAL
2 11160.00	66.15	83.54	-17.39	56.10	6.44	38.30	34.69	69	169	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg		
1 11159.20	51.26	63.54	-12.28	41.21	6.44	38.30	34.69	122	155	Average	VERTICAL
2 11161.40	64.17	83.54	-19.37	54.12	6.44	38.30	34.69	122	155	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 140 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	11399.96	65.94	83.54	-17.60	55.80	6.51	38.30	34.67	30	157	Peak	HORIZONTAL
2	11400.15	52.26	63.54	-11.28	42.12	6.51	38.30	34.67	30	157	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	11399.98	48.13	63.54	-15.41	37.99	6.51	38.30	34.67	278	172	Average	VERTICAL
2	11400.13	55.68	83.54	-27.86	45.54	6.51	38.30	34.67	278	172	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 149 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Limit dBuV/m									
1 11489.90	54.03	63.54	-9.51	43.86	6.53	38.30	34.66	34	170	Average	HORIZONTAL	
2 11491.00	66.05	83.54	-17.49	55.88	6.53	38.30	34.66	34	170	Peak	HORIZONTAL	

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Limit dBuV/m									
1 11489.90	55.70	83.54	-27.84	45.53	6.53	38.30	34.66	274	200	Peak	VERTICAL	
2 11490.00	47.66	63.54	-15.88	37.49	6.53	38.30	34.66	274	200	Average	VERTICAL	



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 157 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	11568.10	55.64	63.54	-7.90	45.44	6.55	38.33	34.68	132	169	Average	HORIZONTAL
2	11570.20	67.23	83.54	-16.31	57.04	6.55	38.33	34.69	132	169	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	11570.00	58.09	83.54	-25.45	47.90	6.55	38.33	34.69	279	158	Peak	VERTICAL
2	11570.00	50.08	63.54	-13.46	39.89	6.55	38.33	34.69	279	158	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 165 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	11646.60	70.25	83.54	-13.29	60.05	6.56	38.36	34.72	36	168	Peak	HORIZONTAL
2	11648.30	55.09	63.54	-8.45	44.89	6.56	38.36	34.72	36	168	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	11648.10	63.34	83.54	-20.20	53.14	6.56	38.36	34.72	58	191	Peak	VERTICAL
2	11652.00	51.50	63.54	-12.04	41.30	6.56	38.36	34.72	58	191	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 38 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	15570.00	58.63	83.54	-24.91	47.16	7.57	38.64	34.74	27	167	Peak	HORIZONTAL
2	15570.10	46.65	63.54	-16.89	35.18	7.57	38.64	34.74	27	167	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable Loss		Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	15567.70	57.15	83.54	-26.39	45.68	7.57	38.64	34.74	0	167	Peak	VERTICAL
2	15569.80	44.36	63.54	-19.18	32.89	7.57	38.64	34.74	0	167	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 46 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB									
1	15666.40	47.17	63.54	-16.37	35.84	7.60	38.56	34.83	360	200	Average	HORIZONTAL
2	15680.60	58.42	83.54	-25.12	47.11	7.61	38.55	34.85	360	200	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB									
1	15665.20	54.93	63.54	-8.61	43.60	7.60	38.56	34.83	72	171	Average	VERTICAL
2	15695.00	66.39	83.54	-17.15	55.08	7.61	38.55	34.85	72	171	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 54 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB									
1	15785.80	50.49	63.54	-13.05	39.32	7.64	38.47	34.94	74	168	Average	HORIZONTAL
2	15792.50	63.21	83.54	-20.33	52.04	7.64	38.47	34.94	74	168	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB									
1	15785.40	52.14	63.54	-11.40	40.97	7.64	38.47	34.94	74	175	Average	VERTICAL
2	15815.10	64.97	83.54	-18.57	53.84	7.65	38.45	34.97	74	175	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 62 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dB	dB									
1 10620.00	49.43	63.54	-14.11	39.82	6.22	38.38	34.99	25	148	Average	HORIZONTAL	
2 10628.30	62.60	83.54	-20.94	52.97	6.22	38.38	34.97	25	148	Peak	HORIZONTAL	
3 15913.70	43.91	63.54	-19.63	32.90	7.69	38.37	35.05	335	181	Average	HORIZONTAL	
4 15941.40	56.43	83.54	-27.11	45.47	7.70	38.34	35.08	334	181	Peak	HORIZONTAL	

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dB	dB									
1 10600.10	49.21	63.54	-14.33	39.62	6.21	38.38	35.00	104	188	Average	VERTICAL	
2 10602.20	62.83	83.54	-20.71	53.23	6.21	38.38	34.99	104	188	Peak	VERTICAL	
3 15906.40	56.40	83.54	-27.14	45.39	7.69	38.37	35.05	301	181	Peak	VERTICAL	
4 15909.50	44.17	63.54	-19.37	33.16	7.69	38.37	35.05	300	181	Average	VERTICAL	



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 102 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
1	11019.90	47.34	63.54	-16.20	37.35	6.40	38.30	34.71	35	159	Average	HORIZONTAL
2	11020.10	61.39	83.54	-22.15	51.40	6.40	38.30	34.71	35	159	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
1	10997.00	47.08	63.54	-16.46	37.09	6.40	38.30	34.71	121	174	Average	VERTICAL
2	11018.70	59.82	83.54	-23.72	49.83	6.40	38.30	34.71	121	174	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 110 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Limit dBuV/m									
1	11101.80	52.44	63.54	-11.10	42.41	6.43	38.30	34.70	34	170	Average	HORIZONTAL
2	11107.30	67.52	83.54	-16.02	57.49	6.43	38.30	34.70	34	170	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Limit dBuV/m									
1	11088.20	56.85	83.54	-26.69	46.83	6.42	38.30	34.70	238	178	Peak	VERTICAL
2	11100.00	47.47	63.54	-16.07	37.44	6.43	38.30	34.70	238	178	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 134 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	11316.00	50.82	63.54	-12.72	40.71	6.49	38.30	34.68	131	170	Average	HORIZONTAL
2	11338.30	64.75	83.54	-18.79	54.64	6.49	38.30	34.68	131	170	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB									
1	11340.00	48.15	63.54	-15.39	38.04	6.49	38.30	34.68	285	138	Average	VERTICAL
2	11340.20	56.84	83.54	-26.70	46.73	6.49	38.30	34.68	285	138	Peak	VERTICAL

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 151 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 30, 2015		

Horizontal

Freq	Level	Limit		Read Level	Cable		Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Over Limit		Loss	Factor						
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg		cm		
1	11507.69	57.55	83.54	-25.99	47.37	6.54	38.30	34.66	23	178	Peak	HORIZONTAL
2	11510.00	49.63	63.54	-13.91	39.45	6.54	38.30	34.66	23	178	Average	HORIZONTAL

Vertical

Freq	Level	Limit		Read Level	Cable		Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Over Limit		Loss	Factor						
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg		cm		
1	11509.94	54.81	83.54	-28.73	44.63	6.54	38.30	34.66	271	200	Peak	VERTICAL
2	11510.00	47.22	63.54	-16.32	37.04	6.54	38.30	34.66	271	200	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 159 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 30, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss		Antenna Factor		Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB			dB	dB/m	dB	dB					
1	11570.32	54.97	63.54	-8.57	44.78	6.55	38.33	34.69	28	158	Average	HORIZONTAL		
2	11588.78	66.65	83.54	-16.89	56.46	6.55	38.33	34.69	28	158	Peak	HORIZONTAL		

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss		Antenna Factor		Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	dB			dB	dB/m	dB	dB					
1	11589.87	49.11	63.54	-14.43	38.92	6.55	38.33	34.69	256	200	Average	VERTICAL		
2	11589.94	55.76	83.54	-27.78	45.57	6.55	38.33	34.69	256	200	Peak	VERTICAL		



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 42 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 30, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Limit dBuV/m									
1	15630.00	41.37	63.54	-22.17	30.00	7.59	38.59	34.81	331	142	Average	HORIZONTAL
2	15663.01	52.27	83.54	-31.27	40.94	7.60	38.56	34.83	331	141	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Limit dBuV/m									
1	15660.61	51.69	83.54	-31.85	40.34	7.60	38.58	34.83	340	173	Peak	VERTICAL
2	15673.11	39.23	63.54	-24.31	27.90	7.60	38.56	34.83	340	173	Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 58 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 30, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable		Antenna Loss Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	15845.00	52.65	83.54	-30.89	41.56	7.66	38.42	34.99	214	178	Peak	HORIZONTAL
2	15870.00	40.90	63.54	-22.64	29.84	7.67	38.40	35.01	214	178	Average	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable		Antenna Loss Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line	Over Limit		dB	dB						
1	15870.16	43.80	63.54	-19.74	32.74	7.67	38.40	35.01	101	180	Average	VERTICAL
2	15899.81	52.76	83.54	-30.78	41.73	7.68	38.38	35.03	102	177	Peak	VERTICAL

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 106 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 30, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m										
1	11059.84	39.83	63.54	-23.71	29.81	6.42	38.30	34.70	331	200	Average	HORIZONTAL
2	11091.73	52.52	83.54	-31.02	42.49	6.43	38.30	34.70	331	200	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m										
1	11011.28	39.32	63.54	-24.22	29.33	6.40	38.30	34.71	342	187	Average	VERTICAL
2	11091.41	52.29	83.54	-31.25	42.26	6.43	38.30	34.70	342	187	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 122 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 30, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg		
1 11220.16	45.27	63.54	-18.27	35.20	6.46	38.30	34.69	353	194	Average	HORIZONTAL
2 11247.08	55.05	83.54	-28.49	44.96	6.47	38.30	34.68	353	194	Peak	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg		
1 11220.00	45.58	63.54	-17.96	35.51	6.46	38.30	34.69	133	160	Average	VERTICAL
2 11241.31	58.34	83.54	-25.20	48.26	6.46	38.30	34.68	133	160	Peak	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 155 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 30, 2015		

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Limit dBuV/m									
1 11550.00	45.77	63.54	-17.77	35.58	6.55	38.32	34.68	50	174	Average	HORIZONTAL	
2 11563.46	54.09	83.54	-29.45	43.90	6.55	38.32	34.68	50	174	Peak	HORIZONTAL	

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Limit dBuV/m									
1 11549.84	52.28	83.54	-31.26	42.09	6.55	38.32	34.68	285	140	Peak	VERTICAL	
2 11550.00	44.93	63.54	-18.61	34.74	6.55	38.32	34.68	285	140	Average	VERTICAL	

Straddle Channel

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 144/ Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11439.98	71.62	83.54	-11.92	61.47	6.52	38.30	34.67	28	170 Peak	HORIZONTAL
2	11441.00	57.67	63.54	-5.87	47.52	6.52	38.30	34.67	28	170 Average	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11439.94	56.81	83.54	-26.73	46.66	6.52	38.30	34.67	280	175 Peak	VERTICAL
2	11440.01	49.00	63.54	-14.54	38.85	6.52	38.30	34.67	280	175 Average	VERTICAL



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 142 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 30, 2015		

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm	
1	11416.60	67.88	83.54	-15.66	57.74	6.51	38.30	34.67	33	152	Peak	HORIZONTAL
2	11420.13	52.68	63.54	-10.86	42.54	6.51	38.30	34.67	33	152	Average	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm	
1	11419.94	57.30	83.54	-26.24	47.16	6.51	38.30	34.67	282	175	Peak	VERTICAL
2	11419.94	50.95	63.54	-12.59	40.81	6.51	38.30	34.67	282	175	Average	VERTICAL

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 140 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 30, 2015		

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m				dB	dB/m	dB	deg	cm		
1	11380.16	50.23	63.54	-13.31	40.09	6.51	38.30	34.67	34	172	Average	HORIZONTAL
2	11396.35	64.30	83.54	-19.24	54.16	6.51	38.30	34.67	34	172	Peak	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m				dB	dB/m	dB	deg	cm		
1	11380.16	45.11	63.54	-18.43	34.97	6.51	38.30	34.67	260	170	Average	VERTICAL
2	11389.46	52.18	83.54	-31.36	42.04	6.51	38.30	34.67	260	170	Peak	VERTICAL

Note:

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

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

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

4.7. Band Edge Emissions Measurement

4.7.1. Limit

For transmitters operating in the 5.15-5.35 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.

For transmitters operating in the 5.470-5.725 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.

For transmitters operating in the 5.725-5.85 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of –17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of –27 dBm/MHz.

In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (microvolt/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

4.7.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for Peak

4.7.3. Test Procedures

1. The test procedure is the same as section 4.6.3, only the frequency range investigated is limited to 100MHz around bandedges.

4.7.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.6.4.

4.7.5. Test Deviation

There is no deviation with the original standard.

4.7.6. EUT Operation during Test

For Non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For Beamforming mode:

The EUT was programmed to be in beamforming transmitting mode.

4.7.7. Test Result of Band Edge and Fundamental Emissions

For Non-Beamforming Mode

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 36, 40, 48 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 10, 2015		

Channel 36

	Freq	Limit		Over Limit	Read Level	Cable PreampAntenna			T/Pos	A/Pos	Remark
		Freq	Level			Line	Cable Loss	Preamp Factor			
		MHz	dBuV/m	dBuV/m	dB	dB	dB	dB/m			
1	5147.20	77.28	83.54	-6.26	38.43	7.33	0.00	31.52	VERTICAL	249	175 Peak
2	5150.00	63.49	63.54	-0.05	24.64	7.33	0.00	31.52	VERTICAL	249	175 Average
3	5173.00	128.61			89.71	7.35	0.00	31.55	VERTICAL	249	175 Peak
4	5173.13	118.47			79.57	7.35	0.00	31.55	VERTICAL	249	175 Average

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Limit		Over Limit	Read Level	Cable PreampAntenna			T/Pos	A/Pos	Remark
		Freq	Level			Line	Cable Loss	Preamp Factor			
		MHz	dBuV/m	dBuV/m	dB	dB	dB	dB/m			
1	5150.00	59.85	63.54	-3.69	21.00	7.33	0.00	31.52	VERTICAL	258	171 Average
2	5150.00	71.96	83.54	-11.58	33.11	7.33	0.00	31.52	VERTICAL	258	171 Peak
3	5193.00	130.50			91.57	7.37	0.00	31.56	VERTICAL	258	171 Peak
4	5193.25	120.18			81.25	7.37	0.00	31.56	VERTICAL	258	171 Average

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	Freq	Limit		Over Limit	Read Level	Cable PreampAntenna			T/Pos	A/Pos	Remark
		Freq	Level			Line	Cable Loss	Preamp Factor			
		MHz	dBuV/m	dBuV/m	dB	dB	dB	dB/m			
1	5150.00	56.89	63.54	-6.65	18.04	7.33	0.00	31.52	VERTICAL	239	162 Average
2	5150.00	68.02	83.54	-15.52	29.17	7.33	0.00	31.52	VERTICAL	239	162 Peak
3	5233.00	120.17			81.17	7.41	0.00	31.59	VERTICAL	239	162 Average
4	5233.00	130.53			91.53	7.41	0.00	31.59	VERTICAL	239	162 Peak

Item 3, 4 are the fundamental frequency at 5240 MHz.



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 52, 60, 64 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 10, 2015		

Channel 52

	Freq	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
	MHz	Level	Line	Limit	Level	Loss	Factor	Pol/Phase		
1	5253.00	130.74			91.70	7.43	0.00	31.61	VERTICAL	241 162 Peak
2	5253.25	120.36			81.32	7.43	0.00	31.61	VERTICAL	241 162 Average
3	5350.00	57.76	63.54	-5.78	18.56	7.52	0.00	31.68	VERTICAL	241 162 Average
4	5350.00	69.56	83.54	-13.98	30.36	7.52	0.00	31.68	VERTICAL	241 162 Peak

Item 1, 2 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
	MHz	Level	Line	Limit	Level	Loss	Factor	Pol/Phase		
1	5293.00	131.00			91.89	7.47	0.00	31.64	VERTICAL	241 158 Peak
2	5293.75	120.54			81.43	7.47	0.00	31.64	VERTICAL	241 158 Average
3	5350.00	70.84	83.54	-12.70	31.64	7.52	0.00	31.68	VERTICAL	241 158 Peak
4	5350.80	59.80	63.54	-3.74	20.60	7.52	0.00	31.68	VERTICAL	241 158 Average

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
	MHz	Level	Line	Limit	Level	Loss	Factor	Pol/Phase		
1	5313.00	128.86			89.72	7.49	0.00	31.65	VERTICAL	236 158 Peak
2	5313.25	118.64			79.50	7.49	0.00	31.65	VERTICAL	236 158 Average
3	5352.40	63.13	63.54	-0.41	23.93	7.52	0.00	31.68	VERTICAL	236 158 Average
4	5352.40	82.71	83.54	-0.83	43.51	7.52	0.00	31.68	VERTICAL	236 158 Peak

Item 1, 2 are the fundamental frequency at 5320 MHz.



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 100, 116, 140 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 10, 2015		

Channel 100

Freq	Level	Limit		Over Limit	Read Level	Cable PreampAntenna			T/Pos	A/Pos	Remark
		Line	dB			Loss	Factor	Pol/Phase			
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m		deg	cm
1	5459.60	77.64	83.54	-5.90	38.26	7.62	0.00	31.76 VERTICAL	232	162	Peak
2	5460.00	62.74	63.54	-0.80	23.36	7.62	0.00	31.76 VERTICAL	232	162	Average
3	5469.60	80.49	83.54	-3.05	41.08	7.63	0.00	31.78 VERTICAL	232	162	Peak
4	5470.00	63.51	63.54	-0.03	24.10	7.63	0.00	31.78 VERTICAL	232	162	Average
5	5493.25	118.92			79.48	7.65	0.00	31.79 VERTICAL	232	162	Average
6	5494.00	129.04			89.60	7.65	0.00	31.79 VERTICAL	232	162	Peak

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 116

Freq	Level	Limit		Over Limit	Read Level	Cable PreampAntenna			T/Pos	A/Pos	Remark
		Line	dB			Loss	Factor	Pol/Phase			
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m		deg	cm
1	5574.00	119.74			80.16	7.70	0.00	31.88 VERTICAL	229	158	Average
2	5574.38	130.09			90.51	7.70	0.00	31.88 VERTICAL	229	158	Peak
3	5725.00	56.64	63.54	-6.90	16.77	7.79	0.00	32.08 VERTICAL	229	158	Average
4	5725.00	68.26	83.54	-15.28	28.39	7.79	0.00	32.08 VERTICAL	229	158	Peak

Item 1, 2 are the fundamental frequency at 5580 MHz.

Channel 140

Freq	Level	Limit		Over Limit	Read Level	Cable PreampAntenna			T/Pos	A/Pos	Remark
		Line	dB			Loss	Factor	Pol/Phase			
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m		deg	cm
1	5707.25	127.64			87.80	7.78	0.00	32.06 HORIZONTAL	0	159	Peak
2	5707.50	117.42			77.58	7.78	0.00	32.06 HORIZONTAL	0	159	Average
3	5725.00	80.72	83.54	-2.82	40.85	7.79	0.00	32.08 HORIZONTAL	0	159	Peak
4	5726.60	63.53	63.54	-0.01	23.66	7.79	0.00	32.08 HORIZONTAL	0	159	Average

Item 1, 2 are the fundamental frequency at 5700 MHz.



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 149, 157, 165 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 10, 2015		

Channel 149

	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
			Line	Limit	Level	Loss	Factor	Factor	Pol/Phase	deg	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m			
1	5701.40	74.15	77.74	-3.59	34.33	7.78	0.00	32.04	VERTICAL	311	163 Peak
2	5723.00	87.64	87.74	-0.10	47.77	7.79	0.00	32.08	VERTICAL	311	163 Peak
3	5739.25	126.56			86.66	7.80	0.00	32.10	VERTICAL	311	163 Peak
4	5740.00	117.05			77.15	7.80	0.00	32.10	VERTICAL	311	163 Average

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
			Line	Limit	Level	Loss	Factor	Factor	Pol/Phase	deg	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m			
1	5712.20	71.84	77.74	-5.90	31.99	7.79	0.00	32.06	VERTICAL	277	165 Peak
2	5725.00	70.27	87.74	-17.47	30.40	7.79	0.00	32.08	VERTICAL	277	165 Peak
3	5777.75	117.91			77.95	7.82	0.00	32.14	VERTICAL	277	165 Average
4	5779.25	127.65			87.68	7.83	0.00	32.14	VERTICAL	277	165 Peak
5	5852.00	70.24	87.74	-17.50	30.15	7.87	0.00	32.22	VERTICAL	277	165 Peak
6	5862.00	68.41	77.74	-9.33	28.30	7.87	0.00	32.24	VERTICAL	277	165 Peak

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
			Line	Limit	Level	Loss	Factor	Factor	Pol/Phase	deg	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m			
1	5829.75	116.87			76.82	7.85	0.00	32.20	HORIZONTAL	187	160 Average
2	5829.75	126.54			86.49	7.85	0.00	32.20	HORIZONTAL	187	160 Peak
3	5850.00	82.98	87.74	-4.76	42.88	7.87	0.00	32.23	HORIZONTAL	187	160 Peak
4	5864.80	75.27	77.74	-2.47	35.16	7.87	0.00	32.24	HORIZONTAL	187	160 Peak

Item 3, 4 are the fundamental frequency at 5825 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015, May 08, 2015		

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB		dBuV	dB	dB/m	dB	deg	cm		
1	5148.00	75.96	83.54	-7.58	38.56	4.26	33.14	0.00	0	162	Peak	VERTICAL
2	5150.00	61.85	63.54	-1.69	24.45	4.26	33.14	0.00	0	162	Average	VERTICAL
3	5173.00	113.03			75.60	4.26	33.17	0.00	0	162	Average	VERTICAL
4	5173.20	123.46			86.03	4.26	33.17	0.00	0	162	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB		dBuV	dB	dB	dB/m		deg	cm
1	5147.60	69.74	83.54	-13.80	30.89	7.33	0.00	31.52	VERTICAL	32	166 Peak
2	5150.00	56.98	63.54	-6.56	18.13	7.33	0.00	31.52	VERTICAL	32	166 Average
3	5192.80	114.19			75.26	7.37	0.00	31.56	VERTICAL	32	166 Average
4	5193.60	124.00			85.07	7.37	0.00	31.56	VERTICAL	32	166 Peak

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB		dBuV	dB	dB	dB/m		deg	cm
1	5140.40	68.92	83.54	-14.62	30.09	7.32	0.00	31.51	VERTICAL	26	175 Peak
2	5150.00	55.72	63.54	-7.82	16.87	7.33	0.00	31.52	VERTICAL	26	175 Average
3	5232.80	114.91			75.91	7.41	0.00	31.59	VERTICAL	26	175 Average
4	5246.40	125.23			86.22	7.42	0.00	31.59	VERTICAL	26	175 Peak
5	5351.60	70.57	83.54	-12.97	31.37	7.52	0.00	31.68	VERTICAL	26	175 Peak
6	5400.80	57.46	63.54	-6.08	18.16	7.57	0.00	31.73	VERTICAL	26	175 Average

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52, 60, 64 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015, May 08, 2015		

Channel 52

	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
			Line	Limit	Level	Loss	Factor	Pol/Phase	deg	cm	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m			
1	5147.60	68.28	83.54	-15.26	29.43	7.33	0.00	31.52	VERTICAL	28	175 Peak
2	5150.00	55.50	63.54	-8.04	16.65	7.33	0.00	31.52	VERTICAL	28	175 Average
3	5252.80	115.25			76.21	7.43	0.00	31.61	VERTICAL	28	175 Average
4	5267.20	124.97			85.91	7.44	0.00	31.62	VERTICAL	28	175 Peak
5	5350.00	69.58	83.54	-13.96	30.38	7.52	0.00	31.68	VERTICAL	28	175 Peak
6	5420.80	57.44	63.54	-6.10	18.11	7.59	0.00	31.74	VERTICAL	28	175 Average

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
			Line	Limit	Level	Loss	Factor	Pol/Phase	deg	cm	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m			
1	5293.60	124.41			85.30	7.47	0.00	31.64	HORIZONTAL	123	158 Peak
2	5300.80	113.68			74.56	7.47	0.00	31.65	HORIZONTAL	123	158 Average
3	5350.00	57.28	63.54	-6.26	18.08	7.52	0.00	31.68	HORIZONTAL	123	158 Average
4	5356.40	70.60	83.54	-12.94	31.38	7.53	0.00	31.69	HORIZONTAL	123	158 Peak

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark
			Line	Limit	Level	Loss	Factor	Pol/Phase	deg	cm	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m			
1	5313.00	114.42			76.68	4.33	33.41	0.00	359	190	Average
2	5324.40	124.23			86.49	4.33	33.41	0.00	359	190	Peak
3	5350.00	62.32	63.54	-1.22	24.51	4.35	33.46	0.00	359	190	Average
4	5350.60	75.60	83.54	-7.94	37.79	4.35	33.46	0.00	359	190	Peak

Item 1, 2 are the fundamental frequency at 5320 MHz.



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100, 116, 140 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015, May 08, 2015		

Channel 100

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			dBuV	dB	dB/m	dB	deg	cm	
1	5459.20	72.29	83.54	-11.25	34.27	4.40	33.62	0.00	87	192	Peak	HORIZONTAL
2	5460.00	58.33	63.54	-5.21	20.31	4.40	33.62	0.00	87	192	Average	HORIZONTAL
3	5470.00	75.54	83.54	-8.00	37.48	4.41	33.65	0.00	87	192	Peak	HORIZONTAL
4	5470.00	61.57	63.54	-1.97	23.51	4.41	33.65	0.00	87	192	Average	HORIZONTAL
5	5499.00	111.50			73.38	4.42	33.70	0.00	87	192	Average	HORIZONTAL
6	5500.60	120.44			82.32	4.42	33.70	0.00	87	192	Peak	HORIZONTAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 116

Freq	Level	Limit		Over Limit	Read Level	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			dBuV	dB	dB/m	deg	cm		
1	5455.20	68.59	83.54	-14.95	29.21	7.62	0.00	31.76	VERTICAL	312	163	Peak
2	5460.00	55.62	63.54	-7.92	16.24	7.62	0.00	31.76	VERTICAL	312	163	Average
3	5467.60	67.80	83.54	-15.74	28.39	7.63	0.00	31.78	VERTICAL	312	163	Peak
4	5470.00	55.58	63.54	-7.96	16.17	7.63	0.00	31.78	VERTICAL	312	163	Average
5	5572.80	115.22			75.64	7.70	0.00	31.88	VERTICAL	312	163	Average
6	5573.60	124.93			85.35	7.70	0.00	31.88	VERTICAL	312	163	Peak
7	5737.60	69.68	83.54	-13.86	29.80	7.80	0.00	32.08	VERTICAL	312	163	Peak
8	5740.80	56.55	63.54	-6.99	16.65	7.80	0.00	32.10	VERTICAL	312	163	Average

Item 5, 6 are the fundamental frequency at 5580 MHz.

Channel 140

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			dBuV	dB	dB/m	deg	cm		
1	5700.60	112.72			73.91	4.49	34.32	0.00	277	158	Average	VERTICAL
2	5705.00	123.15			84.34	4.49	34.32	0.00	277	158	Peak	VERTICAL
3	5725.00	79.81	83.54	-3.73	40.94	4.50	34.37	0.00	277	158	Peak	VERTICAL
4	5725.00	63.48	63.54	-0.06	24.61	4.50	34.37	0.00	277	158	Average	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 MHz.



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015, May 08, 2015		

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
		Line	dB			Loss	Factor	Pol/Phase			
1	5714.60	74.06	77.74	-3.68	34.21	7.79	0.00	32.06 VERTICAL	62	162	Peak
2	5725.00	87.27	87.74	-0.47	47.40	7.79	0.00	32.08 VERTICAL	62	162	Peak
3	5745.80	114.98			75.07	7.81	0.00	32.10 VERTICAL	62	162	Average
4	5749.80	125.26			85.35	7.81	0.00	32.10 VERTICAL	62	162	Peak

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

Freq	Level	Limit		Over Limit	Read Level	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
		Line	dB			Loss	Factor	Pol/Phase			
1	5693.80	70.31	77.74	-7.43	30.49	7.78	0.00	32.04 VERTICAL	289	155	Peak
2	5748.40	73.87	87.74	-13.87	33.96	7.81	0.00	32.10 VERTICAL	289	155	Peak
3	5789.80	127.17			87.18	7.83	0.00	32.16 VERTICAL	289	155	Peak
4	5793.00	116.20			76.21	7.83	0.00	32.16 VERTICAL	289	155	Average
5	5855.60	70.48	87.74	-17.26	30.39	7.87	0.00	32.22 VERTICAL	289	155	Peak
6	5862.40	69.65	77.74	-8.09	29.54	7.87	0.00	32.24 VERTICAL	289	155	Peak

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark
		Line	dB			Loss	Factor	Factor			
1	5818.00	125.78			86.62	4.53	34.63	0.00	320	168	Peak VERTICAL
2	5818.00	115.78			76.62	4.53	34.63	0.00	320	168	Average VERTICAL
3	5850.00	85.95	87.74	-1.79	46.68	4.54	34.73	0.00	320	168	Peak VERTICAL
4	5860.00	74.05	77.74	-3.69	34.71	4.55	34.79	0.00	320	168	Peak VERTICAL

Item 1, 2 are the fundamental frequency at 5825 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015, May 08, 2015		

Channel 38

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5149.60	78.14	83.54	-5.40	40.74	4.26	33.14	0.00	0	195 Peak	VERTICAL
2	5150.00	63.52	63.54	-0.02	26.12	4.26	33.14	0.00	0	195 Average	VERTICAL
3	5176.80	118.35			80.89	4.27	33.19	0.00	0	195 Peak	VERTICAL
4	5206.80	107.72			70.22	4.28	33.22	0.00	0	195 Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5150.00	69.15	83.54	-14.39	31.75	4.26	33.14	0.00	279	144 Peak	VERTICAL
2	5150.00	58.16	63.54	-5.38	20.76	4.26	33.14	0.00	279	144 Average	VERTICAL
3	5223.40	122.87			85.33	4.29	33.25	0.00	279	144 Peak	VERTICAL
4	5233.60	112.29			74.72	4.30	33.27	0.00	279	144 Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54, 62 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015, May 13, 2015		

Channel 54

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dB	dB/m	dB	deg	cm		
1	5273.60	111.24			73.60	4.31	33.33	0.00	289	137	Average	VERTICAL
2	5285.00	121.96			84.29	4.32	33.35	0.00	289	137	Peak	VERTICAL
3	5350.40	58.04	63.54	-5.50	20.23	4.35	33.46	0.00	289	137	Average	VERTICAL
4	5354.00	70.33	83.54	-13.21	32.52	4.35	33.46	0.00	289	137	Peak	VERTICAL

Item 1, 2 are the fundamental frequency at 5270 MHz.

Channel 62

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dB	dB/m	dB	deg	cm		
1	5318.00	119.12			81.38	4.33	33.41	0.00	0	187	Peak	VERTICAL
2	5318.00	109.73			71.99	4.33	33.41	0.00	0	187	Average	VERTICAL
3	5350.00	63.46	63.54	-0.08	25.65	4.35	33.46	0.00	0	187	Average	VERTICAL
4	5352.00	79.91	83.54	-3.63	42.10	4.35	33.46	0.00	0	187	Peak	VERTICAL

Item 1, 2 are the fundamental frequency at 5310 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102, 110, 134 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015, May 13, 2015		

Channel 102

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5460.00	73.43	83.54	-10.11	35.41	4.40	33.62	0.00	10	178 Peak	VERTICAL
2	5460.00	59.48	63.54	-4.06	21.46	4.40	33.62	0.00	10	178 Average	VERTICAL
3	5470.00	77.78	83.54	-5.76	39.72	4.41	33.65	0.00	10	178 Peak	VERTICAL
4	5470.00	61.64	63.54	-1.90	23.58	4.41	33.65	0.00	10	178 Average	VERTICAL
5	5508.00	107.86			69.74	4.42	33.70	0.00	10	178 Average	VERTICAL
6	5509.60	117.56			79.44	4.42	33.70	0.00	10	178 Peak	VERTICAL

Item 5, 6 are the fundamental frequency at 5510 MHz.

Channel 110

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5454.60	70.78	83.54	-12.76	32.76	4.40	33.62	0.00	29	171 Peak	VERTICAL
2	5460.00	59.34	63.54	-4.20	21.32	4.40	33.62	0.00	29	171 Average	VERTICAL
3	5466.60	72.01	83.54	-11.53	33.95	4.41	33.65	0.00	29	171 Peak	VERTICAL
4	5469.60	60.27	63.54	-3.27	22.21	4.41	33.65	0.00	29	171 Average	VERTICAL
5	5554.20	125.28			86.98	4.44	33.86	0.00	29	171 Peak	VERTICAL
6	5565.60	115.69			77.34	4.44	33.91	0.00	29	171 Average	VERTICAL

Item 5, 6 are the fundamental frequency at 5550 MHz.

Channel 134

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5685.60	111.95			73.19	4.49	34.27	0.00	282	158 Average	VERTICAL
2	5686.00	122.46			83.70	4.49	34.27	0.00	282	158 Peak	VERTICAL
3	5725.00	73.62	83.54	-9.92	34.75	4.50	34.37	0.00	282	158 Peak	VERTICAL
4	5725.00	61.12	63.54	-2.42	22.25	4.50	34.37	0.00	282	158 Average	VERTICAL

Item 1, 2 are the fundamental frequency at 5670 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015, May 13, 2015		

Channel 151

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			dBuV	dB	dB/m	dB	deg	cm	
MHz	dBuV/m	dBuV/m	dB									
1	5715.00	77.68	77.74	-0.06	38.87	4.49	34.32	0.00	23	171	Peak	VERTICAL
2	5724.40	85.33	87.74	-2.41	46.46	4.50	34.37	0.00	23	171	Peak	VERTICAL
3	5746.60	119.58			80.66	4.50	34.42	0.00	23	171	Peak	VERTICAL
4	5746.60	109.78			70.86	4.50	34.42	0.00	23	171	Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dB			dBuV	dB	dB/m	dB	deg	cm	
MHz	dBuV/m	dBuV/m	dB									
1	5705.60	70.04	77.74	-7.70	31.23	4.49	34.32	0.00	232	135	Peak	HORIZONTAL
2	5721.80	72.33	87.74	-15.41	33.46	4.50	34.37	0.00	232	135	Peak	HORIZONTAL
3	5798.00	110.96			71.86	4.52	34.58	0.00	232	135	Average	HORIZONTAL
4	5811.20	121.32			82.16	4.53	34.63	0.00	232	135	Peak	HORIZONTAL
5	5852.00	79.72	87.74	-8.02	40.45	4.54	34.73	0.00	232	135	Peak	HORIZONTAL
6	5861.00	77.17	77.74	-0.57	37.83	4.55	34.79	0.00	232	135	Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5795 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 58 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 13, 2015		

Channel 42

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5141.20	62.24	63.54	-1.30	24.84	4.26	33.14	0.00	99	170	Average
2	5149.20	77.78	83.54	-5.76	40.38	4.26	33.14	0.00	99	170	Peak
3	5244.40	112.56			74.96	4.30	33.30	0.00	99	170	Peak
4	5244.40	103.18			65.58	4.30	33.30	0.00	99	170	Average
5	5350.00	55.01	63.54	-8.53	17.20	4.35	33.46	0.00	99	170	Average
6	5361.20	67.25	83.54	-16.29	29.40	4.36	33.49	0.00	99	170	Peak

Item 4, 5 are the fundamental frequency at 5210 MHz.

Channel 58

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5137.00	70.59	83.54	-12.95	33.23	4.25	33.11	0.00	25	186	Peak
2	5150.00	56.48	63.54	-7.06	19.08	4.26	33.14	0.00	25	186	Average
3	5257.00	115.06			77.46	4.30	33.30	0.00	25	186	Peak
4	5286.00	106.04			68.37	4.32	33.35	0.00	25	186	Average
5	5350.00	62.34	63.54	-1.20	24.53	4.35	33.46	0.00	25	186	Average
6	5377.00	81.08	83.54	-2.46	43.23	4.36	33.49	0.00	25	186	Peak

Item 3, 4 are the fundamental frequency at 5290 MHz.



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106, 122, 155 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 23, 2015		

Channel 106

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5459.00	77.43	83.54	-6.11	39.41	4.40	33.62	0.00	278	130 Peak	VERTICAL
2	5460.00	62.16	63.54	-1.38	24.14	4.40	33.62	0.00	278	130 Average	VERTICAL
3	5469.00	77.72	83.54	-5.82	39.66	4.41	33.65	0.00	278	130 Peak	VERTICAL
4	5470.00	63.22	63.54	-0.32	25.16	4.41	33.65	0.00	278	130 Average	VERTICAL
5	5533.00	104.64			66.41	4.43	33.80	0.00	278	130 Peak	VERTICAL
6	5564.00	114.33			76.03	4.44	33.86	0.00	278	130 Peak	VERTICAL
7	5725.00	55.89	63.54	-7.65	17.02	4.50	34.37	0.00	278	130 Average	VERTICAL
8	5735.00	67.90	83.54	-15.64	28.98	4.50	34.42	0.00	278	130 Peak	VERTICAL

Item 5, 6 are the fundamental frequency at 5530 MHz.

Channel 122

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5456.00	59.66	63.54	-3.88	21.64	4.40	33.62	0.00	65	161 Average	VERTICAL
2	5459.00	72.88	83.54	-10.66	34.86	4.40	33.62	0.00	65	161 Peak	VERTICAL
3	5466.00	72.46	83.54	-11.08	34.40	4.41	33.65	0.00	65	161 Peak	VERTICAL
4	5469.00	59.88	63.54	-3.66	21.82	4.41	33.65	0.00	65	161 Average	VERTICAL
5	5574.00	110.08			71.73	4.44	33.91	0.00	65	161 Average	VERTICAL
6	5615.00	120.10			81.63	4.46	34.01	0.00	65	161 Peak	VERTICAL
7	5729.00	61.76	63.54	-1.78	22.89	4.50	34.37	0.00	65	161 Average	VERTICAL
8	5730.00	75.55	83.54	-7.99	36.68	4.50	34.37	0.00	65	161 Peak	VERTICAL

Item 5, 6 are the fundamental frequency at 5610 MHz.

Channel 155

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5715.00	76.68	77.74	-1.06	37.87	4.49	34.32	0.00	337	174 Peak	VERTICAL
2	5725.00	79.94	87.74	-7.80	41.07	4.50	34.37	0.00	337	174 Peak	VERTICAL
3	5740.00	105.13	87.74	17.39	66.21	4.50	34.42	0.00	337	174 Average	VERTICAL
4	5755.00	114.28			75.29	4.51	34.48	0.00	337	174 Peak	VERTICAL
5	5857.00	76.31			36.97	4.55	34.79	0.00	337	174 Peak	VERTICAL
6	5866.00	74.56	77.74	-3.18	35.22	4.55	34.79	0.00	337	174 Peak	VERTICAL

Item 4, 5 are the fundamental frequency at 5775 MHz.

**Straddle Channel**

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11a CH 144 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 10, 2015		

Channel 144

Freq	Level	Limit Line	Over Limit	Read Level	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark			
					Loss	Factor	Pol/Phase						
		MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB	dB/m			
1	5715.13	119.43				79.58	7.79	0.00	32.06	VERTICAL	306	164	Average
2	5715.13	128.87				89.02	7.79	0.00	32.06	VERTICAL	306	164	Peak
3	5856.00	70.57	77.74	-7.17	30.46		7.87	0.00	32.24	VERTICAL	306	164	Peak

Item 1, 2 are the fundamental frequency at 5720 MHz.



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 144 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 08, 2015		

Channel 144

Freq	Level	Limit	Over	Read	Cable	Preamp	Antenna	T/Pos	A/Pos	Remark
		Line	Limit	Level	Loss	Factor	Factor	Pol/Phase	deg	
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	
1	5712.80	116.16				76.31	7.79	0.00	32.06	VERTICAL
2	5724.80	126.30				86.43	7.79	0.00	32.08	VERTICAL
3	5880.00	69.11	83.54	-14.43	28.97	7.88	0.00	32.26	VERTICAL	293 160 Peak
4	5882.40	56.71	63.54	-6.83	16.57	7.88	0.00	32.26	VERTICAL	293 160 Average

Item 1, 2 are the fundamental frequency at 5720 MHz.



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 142 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	May 13, 2015		

Channel 142

Freq MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Cable		Antenna Loss Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
					Antenna	Loss						
1 5702.00	113.69			74.88	4.49	34.32	0.00	69	162	Average	VERTICAL	
2 5703.00	123.58			84.77	4.49	34.32	0.00	69	162	Peak	VERTICAL	
3 5850.00	57.72	63.54	-5.82	18.45	4.54	34.73	0.00	69	162	Average	VERTICAL	
4 5854.00	70.04	83.54	-13.50	30.70	4.55	34.79	0.00	69	162	Peak	VERTICAL	

Item 1, 2 are the fundamental frequency at 5710 MHz.



Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 138 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Mar. 19, 2015		

Channel 138

Freq MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
					Loss	Factor	Factor	deg	cm		
1 5655.00	120.17			81.53	4.47	34.17	0.00	72	175	Peak	VERTICAL
2 5656.00	110.36			71.72	4.47	34.17	0.00	72	175	Average	VERTICAL
3 5850.00	58.41	63.54	-5.13	19.14	4.54	34.73	0.00	72	175	Average	VERTICAL
4 5851.00	69.62	83.54	-13.92	30.35	4.54	34.73	0.00	72	175	Peak	VERTICAL

Item 1, 2 are the fundamental frequency at 5690 MHz.

For Beamforming Mode

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 36, 40, 48 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 22, 2015, Apr. 23, 2015		

Channel 36

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5149.80	75.29	83.54	-8.25	37.89	4.26	33.14	0.00	356	199 Peak	VERTICAL
2	5150.00	62.73	63.54	-0.81	25.33	4.26	33.14	0.00	356	199 Average	VERTICAL
3	5181.60	123.84			86.38	4.27	33.19	0.00	356	199 Peak	VERTICAL
4	5182.20	114.54			77.08	4.27	33.19	0.00	356	199 Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5143.20	69.88	83.54	-13.66	32.48	4.26	33.14	0.00	309	188 Peak	VERTICAL
2	5150.00	57.48	63.54	-6.06	20.08	4.26	33.14	0.00	309	188 Average	VERTICAL
3	5202.40	115.98			78.48	4.28	33.22	0.00	309	188 Average	VERTICAL
4	5204.80	125.83			88.33	4.28	33.22	0.00	309	188 Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5143.40	68.43	83.54	-15.11	31.03	4.26	33.14	0.00	39	179 Peak	VERTICAL
2	5150.00	55.92	63.54	-7.62	18.52	4.26	33.14	0.00	39	179 Average	VERTICAL
3	5246.60	125.28			87.68	4.30	33.30	0.00	39	179 Peak	VERTICAL
4	5246.60	114.99			77.39	4.30	33.30	0.00	39	179 Average	VERTICAL
5	5357.80	67.88	83.54	-15.66	30.07	4.35	33.46	0.00	39	179 Peak	VERTICAL
6	5357.80	56.49	63.54	-7.05	18.68	4.35	33.46	0.00	39	179 Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 52, 60, 64 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 22, 2015, Apr. 29, 2015		

Channel 52

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB		dBuV	dB	dB/m	dB	deg	cm		
1	5133.80	68.74	83.54	-14.80	31.38	4.25	33.11	0.00	284	200	Peak	VERTICAL
2	5150.00	55.43	63.54	-8.11	18.03	4.26	33.14	0.00	284	200	Average	VERTICAL
3	5257.60	113.41			75.81	4.30	33.30	0.00	284	200	Average	VERTICAL
4	5261.80	125.39			87.75	4.31	33.33	0.00	284	200	Peak	VERTICAL
5	5350.00	55.71	63.54	-7.83	17.90	4.35	33.46	0.00	284	200	Average	VERTICAL
6	5373.40	68.80	83.54	-14.74	30.95	4.36	33.49	0.00	284	200	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB		dBuV	dB	dB/m	dB	deg	cm		
1	5302.00	125.41			87.70	4.33	33.38	0.00	343	200	Peak	VERTICAL
2	5302.00	114.71			77.00	4.33	33.38	0.00	343	200	Average	VERTICAL
3	5350.00	57.53	63.54	-6.01	19.72	4.35	33.46	0.00	343	200	Average	VERTICAL
4	5351.20	69.37	83.54	-14.17	31.56	4.35	33.46	0.00	343	200	Peak	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB		dBuV	dB	dB/m	dB	deg	cm		
1	5323.40	124.51			86.77	4.33	33.41	0.00	266	193	Peak	HORIZONTAL
2	5326.60	113.73			75.96	4.34	33.43	0.00	266	193	Average	HORIZONTAL
3	5350.00	63.23	63.54	-0.31	25.42	4.35	33.46	0.00	266	193	Average	HORIZONTAL
4	5351.00	78.91	83.54	-4.63	41.10	4.35	33.46	0.00	266	193	Peak	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 100, 116, 140 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 22, 2015, Apr. 23, 2015, Apr. 29, 2015		

Channel 100

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5459.60	73.38	83.54	-10.16	35.36	4.40	33.62	0.00	42	200	Peak
2	5460.00	60.18	63.54	-3.36	22.16	4.40	33.62	0.00	42	200	Average
3	5469.20	79.13	83.54	-4.41	41.07	4.41	33.65	0.00	42	200	Peak
4	5470.00	63.44	63.54	-0.10	25.38	4.41	33.65	0.00	42	200	Average
5	5498.00	115.55			77.43	4.42	33.70	0.00	42	200	Average
6	5498.60	126.59			88.47	4.42	33.70	0.00	42	200	Peak

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 116

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5458.00	68.82	83.54	-14.72	30.80	4.40	33.62	0.00	359	193	Peak
2	5460.00	56.88	63.54	-6.66	18.86	4.40	33.62	0.00	359	193	Average
3	5468.00	69.29	83.54	-14.25	31.23	4.41	33.65	0.00	359	193	Peak
4	5470.00	56.83	63.54	-6.71	18.77	4.41	33.65	0.00	359	193	Average
5	5573.00	116.00			77.65	4.44	33.91	0.00	359	193	Average
6	5575.00	126.55			88.20	4.44	33.91	0.00	359	193	Peak
7	5740.00	69.60	83.54	-13.94	30.68	4.50	34.42	0.00	359	193	Peak
8	5740.00	57.72	63.54	-5.82	18.80	4.50	34.42	0.00	359	193	Average

Item 5, 6 are the fundamental frequency at 5580 MHz.

Channel 140

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5698.60	123.58			84.82	4.49	34.27	0.00	294	188	Peak
2	5702.20	113.63			74.82	4.49	34.32	0.00	294	188	Average
3	5725.00	80.10	83.54	-3.44	41.23	4.50	34.37	0.00	294	188	Peak
4	5725.00	63.05	63.54	-0.49	24.18	4.50	34.37	0.00	294	188	Average

Item 1, 2 are the fundamental frequency at 5700 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 149, 157, 165 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 22, 2015, Apr. 29, 2015		

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB		dBuV	dB	dB/m	dB	deg	cm		
1	5712.80	73.13	77.74	-4.61	34.32	4.49	34.32	0.00	298	151	Peak	VERTICAL
2	5724.40	86.29	87.74	-1.45	47.42	4.50	34.37	0.00	298	151	Peak	VERTICAL
3	5747.00	113.97			75.05	4.50	34.42	0.00	298	151	Average	VERTICAL
4	5750.00	125.68			86.76	4.50	34.42	0.00	298	151	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB		dBuV	dB	dB/m	dB	deg	cm		
1	5715.00	69.91	77.74	-7.83	31.10	4.49	34.32	0.00	295	193	Peak	VERTICAL
2	5725.00	70.82	87.74	-16.92	31.95	4.50	34.37	0.00	295	193	Peak	VERTICAL
3	5787.00	115.45			76.35	4.52	34.58	0.00	295	193	Average	VERTICAL
4	5787.40	126.46			87.36	4.52	34.58	0.00	295	193	Peak	VERTICAL
5	5853.20	71.15	87.74	-16.59	31.88	4.54	34.73	0.00	295	193	Peak	VERTICAL
6	5865.60	71.03	77.74	-6.71	31.69	4.55	34.79	0.00	295	193	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB		dBuV	dB	dB/m	dB	deg	cm		
1	5818.20	125.89			86.73	4.53	34.63	0.00	302	200	Peak	VERTICAL
2	5818.60	115.71			76.55	4.53	34.63	0.00	302	200	Average	VERTICAL
3	5850.00	86.28	87.74	-1.46	47.01	4.54	34.73	0.00	302	200	Peak	VERTICAL
4	5862.60	77.63	77.74	-0.11	38.29	4.55	34.79	0.00	302	200	Peak	VERTICAL

Item 1, 2 are the fundamental frequency at 5825 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 38, 46 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 22, 2015, Apr. 29, 2015		

Channel 38

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5148.40	76.71	83.54	-6.83	39.31	4.26	33.14	0.00	18	175 Peak	VERTICAL
2	5150.00	61.57	63.54	-1.97	24.17	4.26	33.14	0.00	18	175 Average	VERTICAL
3	5178.40	107.99			70.53	4.27	33.19	0.00	18	175 Average	VERTICAL
4	5204.00	116.51			79.01	4.28	33.22	0.00	18	175 Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5146.80	72.74	83.54	-10.80	35.34	4.26	33.14	0.00	2	184 Peak	VERTICAL
2	5150.00	59.98	63.54	-3.56	22.58	4.26	33.14	0.00	2	184 Average	VERTICAL
3	5223.60	123.88			86.34	4.29	33.25	0.00	2	184 Peak	VERTICAL
4	5227.20	114.95			77.38	4.30	33.27	0.00	2	184 Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 54, 62 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 22, 2015, Apr. 29, 2015		

Channel 54

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss		Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		dBuV/m	dBuV/m			dB	dB						
1	5273.60	114.96			77.32	4.31	33.33	0.00	24	177	Average	VERTICAL	
2	5274.00	124.16			86.52	4.31	33.33	0.00	24	177	Peak	VERTICAL	
3	5350.00	59.54	63.54	-4.00	21.73	4.35	33.46	0.00	24	177	Average	VERTICAL	
4	5356.40	73.50	83.54	-10.04	35.69	4.35	33.46	0.00	24	177	Peak	VERTICAL	

Item 1, 2 are the fundamental frequency at 5270 MHz.

Channel 62

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss		Antenna Factor	Preamp Factor	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		dBuV/m	dBuV/m			dB	dB						
1	5307.20	120.76			83.05	4.33	33.38	0.00	348	176	Peak	VERTICAL	
2	5326.40	109.03			71.29	4.33	33.41	0.00	348	176	Average	VERTICAL	
3	5350.00	63.13	63.54	-0.41	25.32	4.35	33.46	0.00	348	176	Average	VERTICAL	
4	5353.20	82.57	83.54	-0.97	44.76	4.35	33.46	0.00	348	176	Peak	VERTICAL	

Item 1, 2 are the fundamental frequency at 5310 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 102, 110, 134 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 22, 2015, 2015, Apr. 29, 2015		

Channel 102

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5453.60	74.49	83.54	-9.05	36.47	4.40	33.62	0.00	43	196 Peak	VERTICAL
2	5460.00	59.79	63.54	-3.75	21.77	4.40	33.62	0.00	43	196 Average	VERTICAL
3	5470.00	76.93	83.54	-6.61	38.87	4.41	33.65	0.00	43	196 Peak	VERTICAL
4	5470.00	62.01	63.54	-1.53	23.95	4.41	33.65	0.00	43	196 Average	VERTICAL
5	5495.60	109.18			71.10	4.41	33.67	0.00	43	196 Average	VERTICAL
6	5526.40	119.83			81.65	4.43	33.75	0.00	43	196 Peak	VERTICAL

Item 5, 6 are the fundamental frequency at 5510 MHz.

Channel 110

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5458.00	72.19	83.54	-11.35	34.17	4.40	33.62	0.00	35	166 Peak	VERTICAL
2	5460.00	58.93	63.54	-4.61	20.91	4.40	33.62	0.00	35	166 Average	VERTICAL
3	5469.00	71.55	83.54	-11.99	33.49	4.41	33.65	0.00	35	166 Peak	VERTICAL
4	5470.00	60.32	63.54	-3.22	22.26	4.41	33.65	0.00	35	166 Average	VERTICAL
5	5539.00	126.83			88.60	4.43	33.80	0.00	35	166 Peak	VERTICAL
6	5554.00	115.47			77.17	4.44	33.86	0.00	35	166 Average	VERTICAL

Item 5, 6 are the fundamental frequency at 5550 MHz.

Channel 134

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5667.60	122.93			84.23	4.48	34.22	0.00	317	165 Peak	VERTICAL
2	5668.00	111.87			73.17	4.48	34.22	0.00	317	165 Average	VERTICAL
3	5725.00	62.90	63.54	-0.64	24.03	4.50	34.37	0.00	317	165 Average	VERTICAL
4	5725.80	77.34	83.54	-6.20	38.47	4.50	34.37	0.00	317	165 Peak	VERTICAL

Item 1, 2 are the fundamental frequency at 5670 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 151, 159 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Channel 151

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	m			dB	dBuV	dB	dB/m	dB	deg	
MHz	dBuV/m	dBuV/m		dB								
1	5710.20	77.34	77.74	-0.40	38.53	4.49	34.32	0.00	37	143	Peak	VERTICAL
2	5725.00	79.34	87.74	-8.40	40.47	4.50	34.37	0.00	37	143	Peak	VERTICAL
3	5739.40	110.87			71.95	4.50	34.42	0.00	37	143	Average	VERTICAL
4	5740.60	122.25			83.33	4.50	34.42	0.00	37	143	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	m			dB	dBuV	dB	dB/m	dB	deg	
MHz	dBuV/m	dBuV/m		dB								
1	5715.00	71.56	77.74	-6.18	32.75	4.49	34.32	0.00	308	173	Peak	VERTICAL
2	5723.40	73.44	87.74	-14.30	34.57	4.50	34.37	0.00	308	173	Peak	VERTICAL
3	5791.00	127.37			88.27	4.52	34.58	0.00	308	173	Peak	VERTICAL
4	5791.40	116.27			77.17	4.52	34.58	0.00	308	173	Average	VERTICAL
5	5850.80	76.18	87.74	-11.56	36.91	4.54	34.73	0.00	308	173	Peak	VERTICAL
6	5866.40	75.79	77.74	-1.95	36.45	4.55	34.79	0.00	308	173	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5795 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 42, 58 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 22, 2015		

Channel 42

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5150.00	77.20	83.54	-6.34	39.80	4.26	33.14	0.00	308	199 Peak	VERTICAL
2	5150.00	63.35	63.54	-0.19	25.95	4.26	33.14	0.00	308	199 Average	VERTICAL
3	5244.00	115.74			78.14	4.30	33.30	0.00	308	199 Peak	VERTICAL
4	5244.00	105.07			67.47	4.30	33.30	0.00	308	199 Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

Channel 58

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5142.00	69.79	83.54	-13.75	32.39	4.26	33.14	0.00	0	200 Peak	VERTICAL
2	5150.00	56.12	63.54	-7.42	18.72	4.26	33.14	0.00	0	200 Average	VERTICAL
3	5267.00	118.95			81.31	4.31	33.33	0.00	0	200 Peak	VERTICAL
4	5278.00	106.42			68.75	4.32	33.35	0.00	0	200 Average	VERTICAL
5	5350.00	61.17	63.54	-2.37	23.36	4.35	33.46	0.00	0	200 Average	VERTICAL
6	5366.00	77.40	83.54	-6.14	39.55	4.36	33.49	0.00	0	200 Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5290 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 106, 122, 155 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 22, 2015, Apr. 29, 2015		

Channel 106

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5440.00	74.43	83.54	-9.11	36.45	4.39	33.59	0.00	35	174	Peak
2	5460.00	60.66	63.54	-2.88	22.64	4.40	33.62	0.00	35	174	Average
3	5469.00	80.20	83.54	-3.34	42.14	4.41	33.65	0.00	35	174	Peak
4	5470.00	61.11	63.54	-2.43	23.05	4.41	33.65	0.00	35	174	Average
5	5535.00	104.99			66.76	4.43	33.80	0.00	35	174	Average
6	5536.00	115.59			77.36	4.43	33.80	0.00	35	174	Peak
7	5725.00	56.09	63.54	-7.45	17.22	4.50	34.37	0.00	35	174	Average
8	5731.00	68.77	83.54	-14.77	29.90	4.50	34.37	0.00	35	174	Peak

Item 5, 6 are the fundamental frequency at 5530 MHz.

Channel 122

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5581.20	117.98			79.63	4.44	33.91	0.00	243	136	Peak
2	5586.00	107.28			68.87	4.45	33.96	0.00	243	136	Peak
3	5862.80	67.74	77.74	-10.00	28.40	4.55	34.79	0.00	228	136	Peak

Item 1, 2 are the fundamental frequency at 5610 MHz.

Channel 155

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor	deg	cm		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5714.00	72.31	77.74	-5.43	33.50	4.49	34.32	0.00	360	179	Peak
2	5725.00	76.30	87.74	-11.44	37.43	4.50	34.37	0.00	360	179	Peak
3	5737.00	115.18			76.26	4.50	34.42	0.00	360	179	Peak
4	5771.00	102.00			62.95	4.52	34.53	0.00	360	179	Average
5	5852.00	76.52	87.74	-11.22	37.25	4.54	34.73	0.00	360	179	Peak
6	5872.00	75.18	77.74	-2.56	35.79	4.55	34.84	0.00	360	179	Peak

Item 3, 4 are the fundamental frequency at 5775 MHz.

Straddle Channel

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT20 CH 144 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Channel 144

Freq MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
					Loss	Factor	Factor	deg	cm		
1 5713.00	125.58			86.77	4.49	34.32	0.00	298	200	Peak	VERTICAL
2 5713.00	115.89			77.08	4.49	34.32	0.00	298	200	Average	VERTICAL
3 5875.00	69.44	77.74	-8.30	30.05	4.55	34.84	0.00	298	200	Peak	VERTICAL

Item 1, 2 are the fundamental frequency at 5720 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT40 CH 142 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Channel 142

Freq MHz	Level dBuV/m	Limit		Read Level dB	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	T/Pos deg	A/Pos cm	Remark	Pol/Phase
		Line dBuV/m	Over Limit dB								
1 5702.00	124.90			86.09	4.49	34.32	0.00	306	168	Peak	HORIZONTAL
2 5718.00	113.66			74.79	4.50	34.37	0.00	306	168	Average	HORIZONTAL
3 5859.00	70.40	77.74	-7.34	31.06	4.55	34.79	0.00	306	168	Peak	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5710 MHz.

Temperature	25°C	Humidity	58%
Test Engineer	Andy Tsai	Configurations	IEEE 802.11ac MCS0/Nss2 VHT80 CH 138 / Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4
Test Date	Apr. 29, 2015		

Channel 138

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable	Antenna	Preamp	T/Pos	A/Pos	Remark	Pol/Phase
		Line dBuV/m	dB dB			Loss	Factor	Factor	deg	cm		
1 5723.60	108.20				69.33	4.50	34.37	0.00	250	193	Average	HORIZONTAL
2 5725.20	118.64				79.77	4.50	34.37	0.00	250	193	Peak	HORIZONTAL
3 5853.20	70.37	77.74	-7.37		31.10	4.54	34.73	0.00	250	193	Peak	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5690 MHz.

Note:

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

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

4.8. Frequency Stability Measurement

4.8.1. Limit

In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification).

4.8.2. Measuring Instruments and Setting

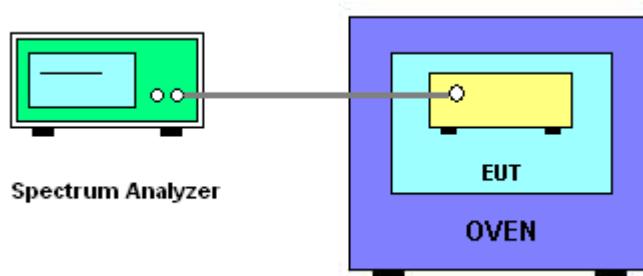
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RBW	10 kHz
VBW	10 kHz
Sweep Time	Auto

4.8.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. fc is declaring of channel frequency. Then the frequency error formula is $(fc-f)/fc \times 10^6$ ppm and the limit is less than ± 20 ppm (IEEE 802.11n specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature is -5°C~50°C.

4.8.4. Test Setup Layout



4.8.5. Test Deviation

There is no deviation with the original standard.

4.8.6. EUT Operation during Test

The EUT was programmed to be in continuously un-modulation transmitting mode.

4.8.7. Test Result of Frequency Stability

Temperature	23.2°C	Humidity	52%
Test Engineer	Lucas Huang	Test Date	May 05, 2015

Mode: 20 MHz

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5200 MHz	5300 MHz	5580 MHz	5785 MHz
126.50	5200.0012	5300.0010	5580.0012	5785.0045
110.00	5200.0043	5300.0012	5580.0012	5785.0045
93.50	5200.0060	5300.0022	5580.0024	5785.0044
Max. Deviation (MHz)	0.006000	0.002200	0.002400	0.004500
Max. Deviation (ppm)	1.15	0.42	0.43	0.78

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5200 MHz	5300 MHz	5580 MHz	5785 MHz
-5	5200.0022	5300.0012	5580.0022	5785.0044
0	5200.0023	5300.0012	5580.0023	5785.0044
10	5200.0012	5300.0012	5580.0053	5785.0045
20	5200.0012	5300.0014	5580.0045	5785.0045
30	5200.0012	5300.0014	5580.0045	5785.0056
40	5200.0012	5300.0014	5580.0055	5785.0056
50	5200.0014	5300.0012	5580.0044	5785.0056
Max. Deviation (MHz)	0.002300	0.001400	0.005500	0.005600
Max. Deviation (ppm)	0.44	0.26	0.99	0.97

Mode: 40 MHz
Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5190 MHz	5310 MHz	5550 MHz	5755 MHz
126.50	5190.0056	5310.0066	5550.0066	5755.0046
110.00	5190.0096	5310.0044	5550.0066	5755.0045
93.50	5190.0065	5310.0056	5550.0046	5755.0065
Max. Deviation (MHz)	0.009600	0.006600	0.006600	0.006500
Max. Deviation (ppm)	1.85	1.24	1.19	1.13

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5190 MHz	5310 MHz	5550 MHz	5755 MHz
-5	5190.0069	5310.0022	5550.0046	5755.0065
0	5190.0046	5310.0021	5550.0056	5755.0046
10	5190.0056	5310.0044	5550.0046	5755.0032
20	5190.0055	5310.0056	5550.0065	5755.0012
30	5190.0066	5310.0056	5550.0046	5755.0056
40	5190.0065	5310.0044	5550.0056	5755.0060
50	5190.0044	5310.0044	5550.0096	5755.0060
Max. Deviation (MHz)	0.006900	0.005600	0.009600	0.006500
Max. Deviation (ppm)	1.33	1.05	1.73	1.13

Mode: 80 MHz

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5210 MHz	5290 MHz	5530 MHz	5775 MHz
126.50	5210.0022	5290.0012	5530.0024	5775.0041
110.00	5210.0016	5290.0023	5530.0033	5775.0055
93.50	5210.0022	5290.0012	5530.0096	5775.0063
Max. Deviation (MHz)	0.002200	0.002300	0.009600	0.006300
Max. Deviation (ppm)	0.42	0.43	1.74	1.09

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5210 MHz	5290 MHz	5530 MHz	5775 MHz
-05	5210.0046	5290.0015	5530.0046	5775.0056
0	5210.0056	5290.0023	5530.0056	5775.0066
10	5210.0046	5290.0045	5530.0069	5775.0062
20	5210.0062	5290.0056	5530.0059	5775.0060
30	5210.0062	5290.0066	5530.0096	5775.0046
40	5210.0012	5290.0045	5530.0045	5775.0033
50	5210.0023	5290.0066	5530.0056	5775.0021
Max. Deviation (MHz)	0.006200	0.006600	0.009600	0.006600
Max. Deviation (ppm)	1.19	1.25	1.74	1.14

4.9. Antenna Requirements

4.9.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. 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 shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

4.9.2. Antenna Connector Construction

Please refer to section 3.3 in this test report; antenna connector complied with the requirements.

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 17, 2014	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 17, 2014	Conduction (CO02-CB)
MXE EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 30MHz	Jan. 13, 2015	Conduction (CO02-CB)
COND Cable	Woken	Cable	01	0.15MHz ~ 30MHz	Dec. 01, 2014	Conduction (CO02-CB)
Software	Audix	E3	5.410e	-	N.C.R.	Conduction (CO02-CB)
BILOG ANTENNA	Schaffner	CBL6112D	22021	20MHz ~ 2GHz	May 06, 2015	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 12, 2015	Radiation (03CH01-CB))
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 28, 2014	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 22, 2014	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Feb. 24, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 12, 2015	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Nov. 25, 2014	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 06, 2014	Radiation (03CH01-CB)
EMI Test Receiver	Agilent	N9038A	MY52260123	9kHz ~ 8GHz	Jan. 21, 2015	Radiation (03CH01-CB)
Turn Table	INN CO	CO 2000	N/A	0 ~ 360 degree	N.C.R.	Radiation (03CH01-CB)
Antenna Mast	INN CO	CO 2000	N/A	1 m ~ 4 m	N.C.R.	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
Thermometer	HTC-1	HTC-1	TP-1	-50°C~70°C	Mar. 11, 2015	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 12, 2014	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 03, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 03, 2014	Conducted (TH01-CB)
Thermometer	HTC-1	HTC-1	TP-8	-50°C~70°C	Mar. 05, 2015	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

NCR means Non-Calibration required.

6. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	2.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%