

4.6. Radiated Emissions Measurement

4.6.1. Limit

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

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 / 10Hz for Average
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for peak

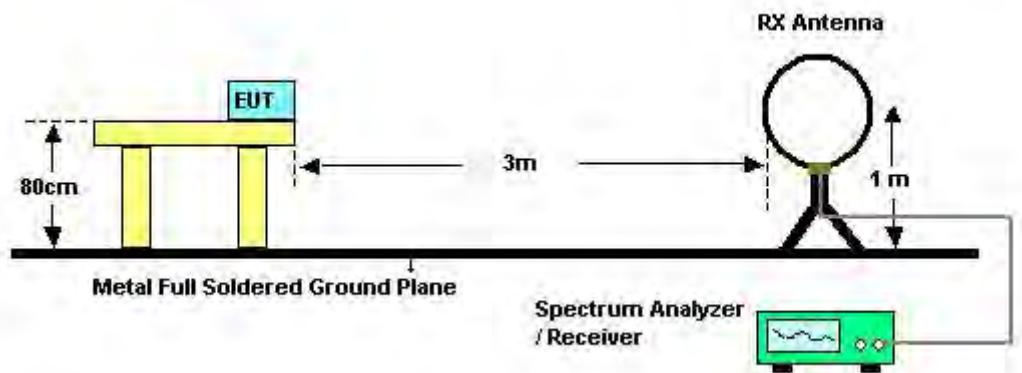
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

4.6.3. Test Procedures

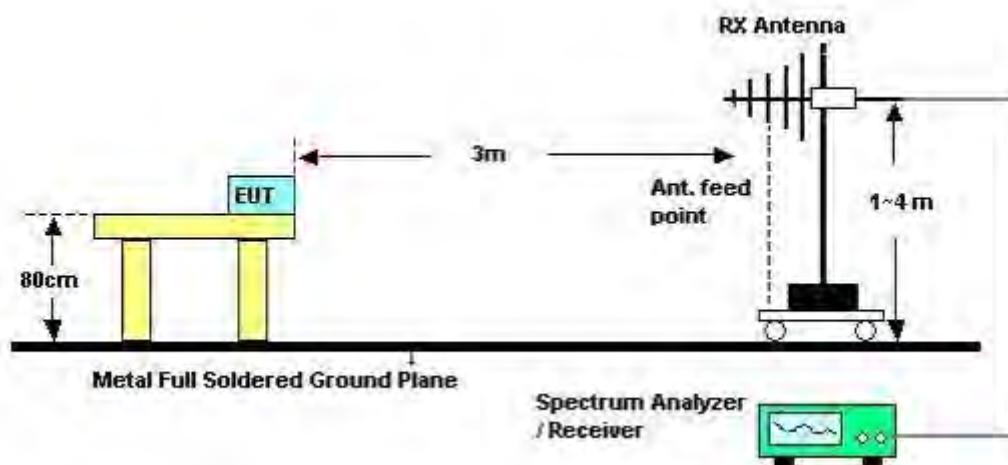
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting 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 RBW for peak reading. Then 1MHz RBW and 10Hz 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

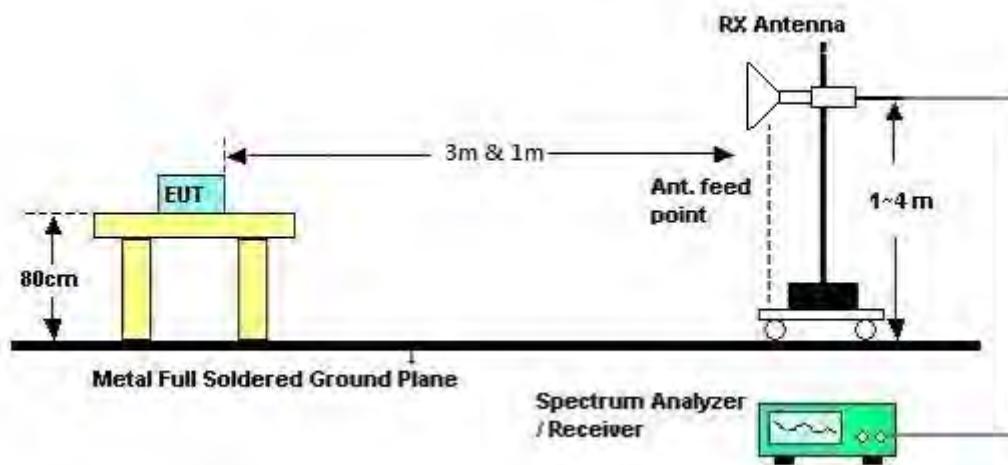
For Radiated Emissions: 9kHz ~30MHz



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.

For STBC mode:

The EUT was programmed to be in continuously transmitting mode.



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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	Normal Link
Test Date	Apr. 26, 2014	Test Mode	Mode 1

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.

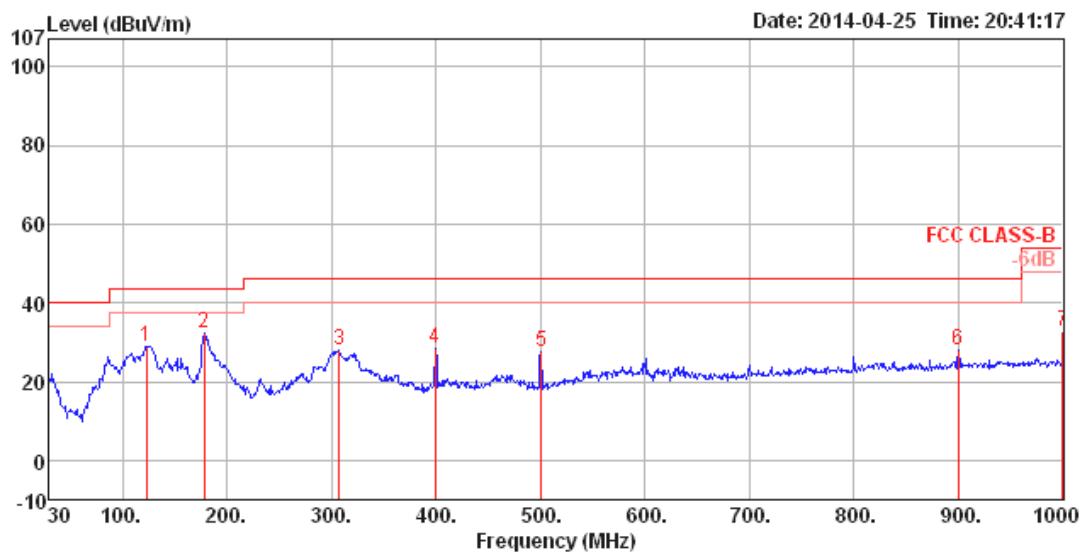
Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB);

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

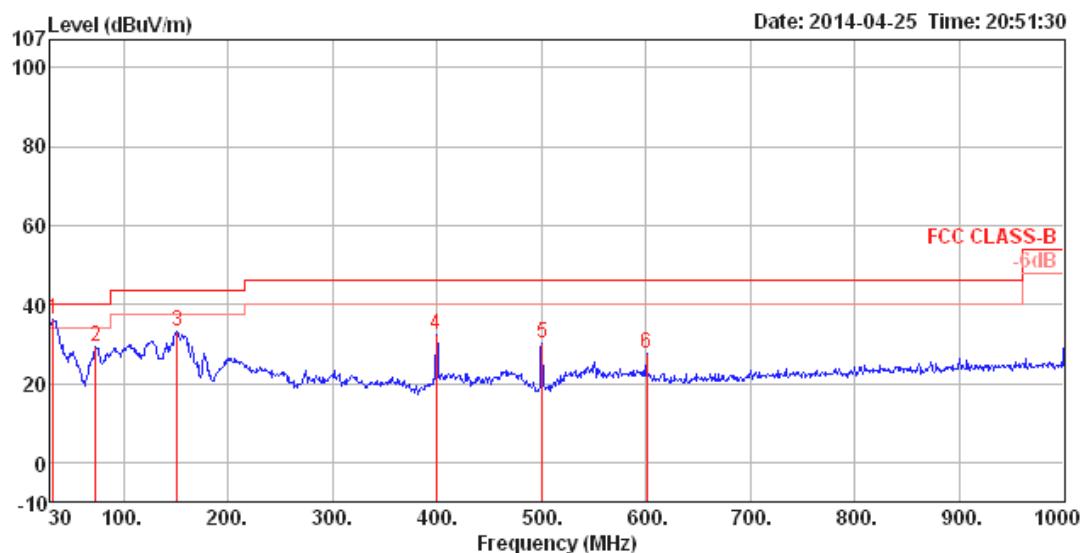
4.6.8. Results of Radiated Emissions (30MHz~1GHz)

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	Normal Link
Test Mode	Mode 1		

Horizontal



Freq	Level	Limit Line	Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
					Loss	Factor	Factor	cm	deg		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	cm	deg	
1	123.12	28.90	43.50	-14.60	47.48	1.31	11.67	31.56	150	193	HORIZONTAL Peak
2	178.41	32.45	43.50	-11.05	53.88	1.60	8.49	31.52	125	148	HORIZONTAL Peak
3	307.42	27.78	46.00	-18.22	43.73	2.14	13.30	31.39	100	166	HORIZONTAL Peak
4	399.57	28.52	46.00	-17.48	41.63	2.49	15.86	31.46	200	237	HORIZONTAL Peak
5	500.45	27.70	46.00	-18.30	39.37	2.82	16.92	31.41	200	104	HORIZONTAL Peak
6	900.09	28.00	46.00	-18.00	34.60	3.97	20.64	31.21	125	308	HORIZONTAL Peak
7	1000.00	32.88	54.00	-21.12	38.41	4.21	21.44	31.18	150	238	HORIZONTAL Peak

Vertical


Freq	Level	Limit		Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB									
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	32.91	36.15	40.00	-3.85	50.96	0.67	16.37	31.85	100	159	VERTICAL	Peak
2	73.65	29.25	40.00	-10.75	54.13	1.02	5.80	31.70	200	219	VERTICAL	Peak
3	151.25	33.26	43.50	-10.24	53.44	1.48	9.90	31.56	100	316	VERTICAL	Peak
4	399.57	32.40	46.00	-13.60	45.51	2.49	15.86	31.46	200	18	VERTICAL	Peak
5	500.45	30.06	46.00	-15.94	41.73	2.82	16.92	31.41	125	196	VERTICAL	Peak
6	600.36	27.64	46.00	-18.36	37.31	3.12	18.45	31.24	100	106	VERTICAL	Peak

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB 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	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 2
Test Date	May 24, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m				
MHz	dBuV/m	dBuV/m	dB							cm	deg	
1 15537.92	51.91	74.00	-22.09	42.50	6.13	38.45	35.17	Peak		100	148	HORIZONTAL
2 15541.75	39.33	54.00	-14.67	29.92	6.13	38.45	35.17	Average		100	148	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m				
MHz	dBuV/m	dBuV/m	dB							cm	deg	
1 15541.35	40.04	54.00	-13.96	30.63	6.13	38.45	35.17	Average		100	41	VERTICAL
2 15541.75	54.24	74.00	-19.76	44.83	6.13	38.45	35.17	Peak		100	41	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 2
Test Date	May 24, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15598.59	51.02	54.00	-2.98	41.71	6.13	38.36	35.18	Average	106	291	HORIZONTAL
2	15604.70	65.82	74.00	-8.18	56.52	6.13	38.36	35.19	Peak	106	291	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15600.14	51.20	54.00	-2.80	41.90	6.13	38.36	35.19	Average	155	246	VERTICAL
2	15600.83	65.25	74.00	-8.75	55.95	6.13	38.36	35.19	Peak	155	246	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 2
Test Date	May 24, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15720.64	49.94	54.00	-4.06	40.82	6.14	38.19	35.21	Average	130	292	HORIZONTAL
2	15723.61	64.82	74.00	-9.18	55.70	6.14	38.19	35.21	Peak	130	292	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15718.53	48.86	54.00	-5.14	39.74	6.14	38.19	35.21	Average	131	121	VERTICAL
2	15722.96	61.76	74.00	-12.24	52.64	6.14	38.19	35.21	Peak	131	121	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

Freq	Level	Limit		Over	Read	Cable			Preamp	A/Pos	T/Pos	Pol/Phase
		Line	dB			Loss	Antenna	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg		
1	11491.40	40.06	54.00	-13.94	26.40	9.24	39.50	35.08	Average	100	40	HORIZONTAL
2	11491.60	51.21	74.00	-22.79	37.55	9.24	39.50	35.08	Peak	100	40	HORIZONTAL

Vertical

Freq	Level	Limit		Over	Read	Cable			Preamp	A/Pos	T/Pos	Pol/Phase
		Line	dB			Loss	Antenna	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg		
1	11485.84	39.93	54.00	-14.07	26.27	9.24	39.50	35.08	Average	100	49	VERTICAL
2	11489.22	53.06	74.00	-20.94	39.40	9.24	39.50	35.08	Peak	100	49	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

Freq	Level	Limit		Over	Read	Cable			Preamp	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m				
MHz	dBuV/m	dBuV/m	dB							cm	deg	
1	11569.84	55.14	74.00	-18.86	41.50	9.26	39.47	35.09	Peak	102	273	HORIZONTAL
2	11570.18	42.25	54.00	-11.75	28.61	9.26	39.47	35.09	Average	102	273	HORIZONTAL

Vertical

Freq	Level	Limit		Over	Read	Cable			Preamp	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m				
MHz	dBuV/m	dBuV/m	dB							cm	deg	
1	11567.38	41.05	54.00	-12.95	27.40	9.26	39.48	35.09	Average	129	80	VERTICAL
2	11570.14	53.60	74.00	-20.40	39.96	9.26	39.47	35.09	Peak	129	80	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Loss Factor			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	cm	deg	
1	11569.74	53.48	74.00	-20.52	39.84	9.26	39.47	35.09	Peak	161	344	HORIZONTAL		
2	11573.38	40.94	54.00	-13.06	27.29	9.26	39.47	35.08	Average	161	344	HORIZONTAL		

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Loss Factor			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	cm	deg	
1	11566.24	40.76	54.00	-13.24	27.11	9.26	39.48	35.09	Average	122	61	VERTICAL		
2	11574.26	53.77	74.00	-20.23	40.12	9.26	39.47	35.08	Peak	122	61	VERTICAL		



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 2
Test Date	May 24, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15567.37	39.04	54.00	-14.96	29.68	6.13	38.40	35.17	Average	100	217	HORIZONTAL
2	15570.14	51.74	74.00	-22.26	42.38	6.13	38.40	35.17	Peak	100	217	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15567.50	39.17	54.00	-14.83	29.81	6.13	38.40	35.17	Average	100	146	VERTICAL
2	15572.18	51.88	74.00	-22.12	42.52	6.13	38.40	35.17	Peak	100	146	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 2
Test Date	May 24, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15688.78	39.09	54.00	-14.91	29.93	6.14	38.23	35.21	Average	100	86	HORIZONTAL
2	15693.53	52.05	74.00	-21.95	42.89	6.14	38.23	35.21	Peak	100	86	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15692.37	40.60	54.00	-13.40	31.44	6.14	38.23	35.21	Average	141	38	VERTICAL
2	15692.79	52.63	74.00	-21.37	43.47	6.14	38.23	35.21	Peak	141	38	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

Freq	Level	Limit		Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m				
MHz	dBuV/m	dBuV/m	dB							cm	deg	
1	11505.64	40.28	54.00	-13.72	26.63	9.25	39.50	35.10	Average	100	137	HORIZONTAL
2	11514.12	53.15	74.00	-20.85	39.50	9.25	39.50	35.10	Peak	100	137	HORIZONTAL

Vertical

Freq	Level	Limit		Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m				
MHz	dBuV/m	dBuV/m	dB							cm	deg	
1	11505.18	40.21	54.00	-13.79	26.56	9.25	39.50	35.10	Average	100	89	VERTICAL
2	11514.28	52.91	74.00	-21.09	39.26	9.25	39.50	35.10	Peak	100	89	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

Freq	Level	Limit		Over	Read	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBm			Loss	Factor	Factor			
1	11589.92	41.42	54.00	-12.58	27.76	9.27	39.47	35.08	Average	100	307 HORIZONTAL
2	11590.06	54.84	74.00	-19.16	41.18	9.27	39.47	35.08	Peak	100	307 HORIZONTAL

Vertical

Freq	Level	Limit		Over	Read	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBm			Loss	Factor	Factor			
1	11587.46	54.72	74.00	-19.28	41.06	9.27	39.47	35.08	Peak	100	33 VERTICAL
2	11593.00	41.45	54.00	-12.55	27.79	9.27	39.47	35.08	Average	100	33 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 2
Test Date	May 24, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15625.64	38.55	54.00	-15.45	29.27	6.14	38.33	35.19	Average	100	95	HORIZONTAL
2	15627.24	51.56	74.00	-22.44	42.28	6.14	38.33	35.19	Peak	100	95	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15620.80	39.12	54.00	-14.88	29.85	6.13	38.33	35.19	Average	100	26	VERTICAL
2	15629.94	50.06	74.00	-23.94	40.80	6.14	38.31	35.19	Peak	100	26	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11551.02	40.98	54.00	-13.02	27.33	9.26	39.48	35.09	Average	100	131	HORIZONTAL
2	11552.30	53.69	74.00	-20.31	40.04	9.26	39.48	35.09	Peak	100	131	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11546.66	54.06	74.00	-19.94	40.40	9.26	39.49	35.09	Peak	100	240	VERTICAL
2	11550.56	41.08	54.00	-12.92	27.43	9.26	39.48	35.09	Average	100	240	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15537.46	43.57	54.00	-10.43	30.24	10.77	38.15	35.59	Average	100	113	HORIZONTAL
2	15540.60	57.90	74.00	-16.10	44.60	10.77	38.12	35.59	Peak	100	113	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15535.52	43.43	54.00	-10.57	30.10	10.77	38.15	35.59	Average	100	146	VERTICAL
2	15540.62	56.87	74.00	-17.13	43.57	10.77	38.12	35.59	Peak	100	146	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15598.50	49.50	54.00	-4.50	36.26	10.78	38.04	35.58	Average	100	246	HORIZONTAL
2	15598.86	64.37	74.00	-9.63	51.13	10.78	38.04	35.58	Peak	100	246	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15595.42	48.31	54.00	-5.69	35.07	10.78	38.04	35.58	Average	129	59	VERTICAL
2	15597.72	63.00	74.00	-11.00	49.76	10.78	38.04	35.58	Peak	129	59	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1	15723.12	66.11	74.00	-7.89	53.03	10.79	37.85	35.56	Peak	100	246	HORIZONTAL
2	15723.32	51.39	54.00	-2.61	38.31	10.79	37.85	35.56	Average	100	246	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1	15720.30	48.33	54.00	-5.67	35.25	10.79	37.85	35.56	Average	100	21	VERTICAL
2	15722.26	61.96	74.00	-12.04	48.88	10.79	37.85	35.56	Peak	100	21	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	11491.78	40.24	54.00	-13.76	26.58	9.24	39.50	35.08	Average	100	275	HORIZONTAL
2	11494.56	53.04	74.00	-20.96	39.38	9.24	39.50	35.08	Peak	100	275	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	11485.62	40.32	54.00	-13.68	26.66	9.24	39.50	35.08	Average	100	4	VERTICAL
2	11486.80	53.20	74.00	-20.80	39.54	9.24	39.50	35.08	Peak	100	4	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1	11570.48	42.25	54.00	-11.75	28.61	9.26	39.47	35.09	Average	100	210	HORIZONTAL
2	11574.98	54.99	74.00	-19.01	41.34	9.26	39.47	35.08	Peak	100	210	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1	11566.90	41.66	54.00	-12.34	28.01	9.26	39.48	35.09	Average	100	11	VERTICAL
2	11573.26	54.16	74.00	-19.84	40.51	9.26	39.47	35.08	Peak	100	11	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m				
1	11646.12	41.93	54.00	-12.07	28.28	9.28	39.44	35.07	Average	100	172	HORIZONTAL
2	11654.72	54.61	74.00	-19.39	40.96	9.28	39.44	35.07	Peak	100	172	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m				
1	11645.82	41.78	54.00	-12.22	28.13	9.28	39.44	35.07	Average	100	52	VERTICAL
2	11649.98	54.45	74.00	-19.55	40.80	9.28	39.44	35.07	Peak	100	52	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1	15567.68	55.69	74.00	-18.31	42.40	10.78	38.09	35.58	Peak	100	113	HORIZONTAL
2	15570.36	43.96	54.00	-10.04	30.67	10.78	38.09	35.58	Average	100	113	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1	15568.90	56.82	74.00	-17.18	43.53	10.78	38.09	35.58	Peak	100	162	VERTICAL
2	15569.66	44.06	54.00	-9.94	30.77	10.78	38.09	35.58	Average	100	162	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15689.78	47.00	54.00	-7.00	33.86	10.79	37.91	35.56	Average	100	163	HORIZONTAL
2	15690.96	58.12	74.00	-15.88	44.98	10.79	37.91	35.56	Peak	100	163	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15693.72	46.87	54.00	-7.13	33.76	10.79	37.88	35.56	Average	100	163	VERTICAL
2	15694.56	57.71	74.00	-16.29	44.60	10.79	37.88	35.56	Peak	100	163	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11505.00	40.27	54.00	-13.73	26.62	9.25	39.50	35.10	Average	100	184	HORIZONTAL
2	11506.46	53.41	74.00	-20.59	39.76	9.25	39.50	35.10	Peak	100	184	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11509.04	53.35	74.00	-20.65	39.70	9.25	39.50	35.10	Peak	100	185	VERTICAL
2	11509.88	39.92	54.00	-14.08	26.27	9.25	39.50	35.10	Average	100	185	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1	11586.58	54.06	74.00	-19.92	40.42	9.27	39.47	35.08	Peak	100	285	HORIZONTAL
2	11590.02	41.68	54.00	-12.32	28.02	9.27	39.47	35.08	Average	100	285	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1	11586.58	41.20	54.00	-12.80	27.54	9.27	39.47	35.08	Average	100	121	VERTICAL
2	11590.38	54.30	74.00	-19.70	40.64	9.27	39.47	35.08	Peak	100	121	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15625.06	51.96	74.00	-22.04	38.76	10.78	37.99	35.57	Peak	100	159	HORIZONTAL
2	15634.86	44.65	54.00	-9.35	31.45	10.78	37.99	35.57	Average	100	159	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15627.04	44.75	54.00	-9.25	31.55	10.78	37.99	35.57	Average	100	147	VERTICAL
2	15631.58	51.61	74.00	-22.39	38.41	10.78	37.99	35.57	Peak	100	147	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		
1	11527.72	54.15	74.00	-19.85	40.50	9.25	39.49	35.09	Peak	100	89 HORIZONTAL
2	11533.84	40.59	54.00	-13.41	26.93	9.26	39.49	35.09	Average	100	89 HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		
1	11534.74	54.53	74.00	-19.47	40.87	9.26	39.49	35.09	Peak	100	110 VERTICAL
2	11543.55	40.97	54.00	-13.03	27.31	9.26	39.49	35.09	Average	100	110 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	dB dB							deg	cm	
1	15539.20	44.74	54.00	-9.26	32.94	7.85	38.67	34.72	Average	352	100	HORIZONTAL
2	15541.08	58.51	74.00	-15.49	46.71	7.85	38.67	34.72	Peak	352	100	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	dB dB							deg	cm	
1	15534.64	57.70	74.00	-16.30	45.90	7.85	38.67	34.72	Peak	1	100	VERTICAL
2	15549.36	44.28	54.00	-9.72	32.50	7.86	38.66	34.74	Average	1	100	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
1	15601.56	47.33	54.00	-6.67	35.62	7.88	38.62	34.79	Average	356	100 HORIZONTAL
2	15601.96	62.96	74.00	-11.04	51.25	7.88	38.62	34.79	Peak	356	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
1	15602.36	45.85	54.00	-8.15	34.14	7.88	38.62	34.79	Average	225	100 VERTICAL
2	15606.60	61.10	74.00	-12.90	49.39	7.88	38.62	34.79	Peak	225	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	15718.16	46.93	54.00	-7.07	35.37	7.92	38.52	34.88	Average	39	106 HORIZONTAL
2	15723.56	62.14	74.00	-11.86	50.58	7.92	38.52	34.88	Peak	39	106 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	15712.84	61.11	74.00	-12.89	49.55	7.91	38.53	34.88	Peak	225	148 VERTICAL
2	15717.92	45.81	54.00	-8.19	34.25	7.92	38.52	34.88	Average	225	148 VERTICAL



SPORTON LAB.

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Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11492.48	39.82	54.00	-14.18	29.44	6.74	38.30	34.66	Average	231	100 HORIZONTAL
2	11496.28	53.63	74.00	-20.37	43.25	6.74	38.30	34.66	Peak	231	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11481.96	39.15	54.00	-14.85	28.77	6.74	38.30	34.66	Average	48	100 VERTICAL
2	11499.60	54.02	74.00	-19.98	43.63	6.75	38.30	34.66	Peak	48	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss		Antenna Factor		Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
		Line	m			dB	dB	dB/m	dB			deg	cm	
1	11568.44	43.34	54.00	-10.66	32.92	6.77	38.33	34.68	Average			232	110	HORIZONTAL
2	11568.84	57.86	74.00	-16.14	47.44	6.77	38.33	34.68	Peak			232	110	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss		Antenna Factor		Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
		Line	m			dB	dB	dB/m	dB			deg	cm	
1	11574.16	42.42	54.00	-11.58	32.01	6.77	38.33	34.69	Average			201	100	VERTICAL
2	11574.24	56.64	74.00	-17.36	46.23	6.77	38.33	34.69	Peak			201	100	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11649.68	40.73	54.00	-13.27	30.29	6.80	38.36	34.72	Average	230	117 HORIZONTAL
2	11649.92	54.74	74.00	-19.26	44.30	6.80	38.36	34.72	Peak	230	117 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	11649.60	55.36	74.00	-18.64	44.92	6.80	38.36	34.72	Peak	203	129 VERTICAL
2	11649.88	40.73	54.00	-13.27	30.29	6.80	38.36	34.72	Average	203	129 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	15560.20	44.18	54.00	-9.82	32.40	7.86	38.66	34.74	Average	110	100 HORIZONTAL
2	15560.64	56.92	74.00	-17.08	45.16	7.86	38.64	34.74	Peak	110	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	15560.04	44.10	54.00	-9.90	32.32	7.86	38.66	34.74	Average	279	100 VERTICAL
2	15574.96	56.89	74.00	-17.11	45.16	7.86	38.64	34.77	Peak	279	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	15691.32	58.46	74.00	-15.54	46.86	7.90	38.55	34.85	Peak	11	100 HORIZONTAL
2	15693.72	43.66	54.00	-10.34	32.06	7.90	38.55	34.85	Average	11	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	15682.20	42.65	54.00	-11.35	31.05	7.90	38.55	34.85	Average	332	100 VERTICAL
2	15684.88	56.63	74.00	-17.37	45.03	7.90	38.55	34.85	Peak	332	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	11512.24	53.40	74.00	-20.60	43.01	6.75	38.30	34.66	Peak	226	100 HORIZONTAL
2	11515.80	39.23	54.00	-14.77	28.82	6.76	38.31	34.66	Average	226	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	11504.36	52.98	74.00	-21.02	42.59	6.75	38.30	34.66	Peak	340	100 VERTICAL
2	11507.40	38.95	54.00	-15.05	28.56	6.75	38.30	34.66	Average	340	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable		Antenna Factor dB	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line	Over Limit		Loss	Antenna				deg	cm	
1	11592.04	39.48	54.00	-14.52	29.06	6.78	38.33	34.69	Average	228	100	HORIZONTAL
2	11596.64	53.01	74.00	-20.99	42.60	6.78	38.33	34.70	Peak	228	100	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Read Level dBuV	Cable		Antenna Factor dB	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line	Over Limit		Loss	Antenna				deg	cm	
1	11585.36	39.00	54.00	-15.00	28.58	6.78	38.33	34.69	Average	91	100	VERTICAL
2	11586.76	53.34	74.00	-20.66	42.92	6.78	38.33	34.69	Peak	91	100	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			dB	dBuV	dB			
1	15636.84	56.51	74.00	-17.49	44.84	7.89	38.59	34.81	Peak	12	100 HORIZONTAL
2	15638.68	42.62	54.00	-11.38	30.95	7.89	38.59	34.81	Average	12	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			dB	dBuV	dB			
1	15621.88	56.68	74.00	-17.32	44.99	7.88	38.60	34.79	Peak	217	100 VERTICAL
2	15638.08	42.58	54.00	-11.42	30.91	7.89	38.59	34.81	Average	217	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	11548.84	53.19	74.00	-20.81	42.78	6.77	38.32	34.68	Peak	248	100 HORIZONTAL
2	11551.92	38.98	54.00	-15.02	28.57	6.77	38.32	34.68	Average	248	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	11542.32	52.97	74.00	-21.03	42.57	6.76	38.31	34.67	Peak	100	100 VERTICAL
2	11554.40	39.04	54.00	-14.96	28.63	6.77	38.32	34.68	Average	100	100 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.



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	cm	deg
1	15535.19	39.23	54.00	-14.77	29.82	6.13	38.45	35.17	Average		100	251	HORIZONTAL	
2	15542.80	53.13	74.00	-20.87	43.72	6.13	38.45	35.17	Peak		100	251	HORIZONTAL	

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	cm	deg
1	15539.39	39.32	54.00	-14.68	29.91	6.13	38.45	35.17	Average		100	324	VERTICAL	
2	15543.13	52.22	74.00	-21.78	42.81	6.13	38.45	35.17	Peak		100	324	VERTICAL	



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg			
1	15603.25	45.46	54.00	-8.54	36.16	6.13	38.36	35.19	Average	100	27	HORIZONTAL		
2	15603.75	59.23	74.00	-14.77	49.93	6.13	38.36	35.19	Peak	100	27	HORIZONTAL		

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg			
1	15599.01	41.83	54.00	-12.17	32.53	6.13	38.36	35.19	Average	120	233	VERTICAL		
2	15603.43	54.63	74.00	-19.37	45.33	6.13	38.36	35.19	Peak	120	233	VERTICAL		



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15718.88	50.46	54.00	-3.54	41.34	6.14	38.19	35.21	Average	125	1	HORIZONTAL
2	15720.67	64.73	74.00	-9.27	55.61	6.14	38.19	35.21	Peak	125	1	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15716.75	59.66	74.00	-14.34	50.54	6.14	38.19	35.21	Peak	101	131	VERTICAL
2	15718.99	45.46	54.00	-8.54	36.34	6.14	38.19	35.21	Average	101	131	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			dB	dBuV	dB	dB/m	dB	cm	deg
1	11484.10	43.13	54.00	-10.87	29.79	9.09	39.10	34.85	100	105	HORIZONTAL	Average
2	11485.64	55.11	74.00	-18.89	41.77	9.09	39.10	34.85	100	105	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			dB	dBuV	dB	dB/m	dB	cm	deg
1	11492.52	54.88	74.00	-19.12	41.54	9.09	39.10	34.85	100	0	VERTICAL	Peak
2	11498.18	43.27	54.00	-10.73	29.92	9.10	39.10	34.85	100	0	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			dB	dBuV	dB	dB/m	dB	cm	
1	11562.88	54.70	74.00	-19.30	41.43	9.11	39.01	34.85	100	196	HORIZONTAL	Peak
2	11566.28	43.24	54.00	-10.76	29.97	9.11	39.01	34.85	100	196	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			dB	dBuV	dB	dB/m	dB	cm	
1	11577.90	54.17	74.00	-19.83	40.90	9.11	39.01	34.85	100	141	VERTICAL	Peak
2	11578.02	44.25	54.00	-9.75	30.98	9.11	39.01	34.85	100	141	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11649.56	42.97	54.00	-11.03	29.78	9.11	38.93	34.85	100	278	HORIZONTAL	Average
2	11650.14	55.71	74.00	-18.29	42.52	9.11	38.93	34.85	100	278	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11649.63	54.86	74.00	-19.14	41.67	9.11	38.93	34.85	100	240	VERTICAL	Peak
2	11649.88	43.11	54.00	-10.89	29.92	9.11	38.93	34.85	100	240	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15446.15	39.25	54.00	-14.75	29.51	6.09	38.75	35.10	Average	112	98	HORIZONTAL
2	15447.85	52.39	74.00	-21.61	42.65	6.09	38.75	35.10	Peak	112	98	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	15449.52	39.14	54.00	-14.86	29.40	6.09	38.75	35.10	Average	101	211	VERTICAL
2	15453.85	52.10	74.00	-21.90	42.36	6.09	38.75	35.10	Peak	101	211	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15692.52	44.63	54.00	-9.37	35.47	6.14	38.23	35.21	Average	126	360	HORIZONTAL
2	15693.88	57.74	74.00	-16.26	48.58	6.14	38.23	35.21	Peak	126	360	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15693.77	52.98	74.00	-21.02	43.82	6.14	38.23	35.21	Peak	101	124	VERTICAL
2	15693.88	40.12	54.00	-13.88	30.96	6.14	38.23	35.21	Average	101	124	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz	dBuV/m	dBuV/m	dB									
1	11509.58	55.04	74.00	-18.96	41.69	9.10	39.10	34.85	100	147	HORIZONTAL	Peak
2	11511.86	42.57	54.00	-11.43	29.22	9.10	39.10	34.85	100	147	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz	dBuV/m	dBuV/m	dB									
1	11508.50	42.58	54.00	-11.42	29.23	9.10	39.10	34.85	100	252	VERTICAL	Average
2	11512.09	54.53	74.00	-19.47	41.18	9.10	39.10	34.85	100	252	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11591.74	42.46	54.00	-11.54	29.23	9.11	38.97	34.85	100	205	HORIZONTAL	Average
2	11592.04	54.82	74.00	-19.18	41.59	9.11	38.97	34.85	100	205	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11591.30	54.39	74.00	-19.61	41.16	9.11	38.97	34.85	100	137	VERTICAL	Peak
2	11592.33	42.53	54.00	-11.47	29.30	9.11	38.97	34.85	100	137	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15633.89	52.65	74.00	-21.35	43.39	6.14	38.31	35.19 Peak	101	91	HORIZONTAL
2	15634.34	38.72	54.00	-15.28	29.46	6.14	38.31	35.19 Average	101	91	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15630.95	39.02	54.00	-14.98	29.76	6.14	38.31	35.19 Average	101	17	VERTICAL
2	15633.16	51.72	74.00	-22.28	42.46	6.14	38.31	35.19 Peak	101	17	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Horizontal

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11547.88	42.46	54.00	-11.54	29.15	9.10	39.06	34.85	100	292	HORIZONTAL	Average
2	11549.31	54.40	74.00	-19.60	41.09	9.10	39.06	34.85	100	292	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11548.95	55.24	74.00	-18.76	41.93	9.10	39.06	34.85	100	315	VERTICAL	Peak
2	11552.05	42.67	54.00	-11.33	29.41	9.10	39.01	34.85	100	315	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	cm	deg
1	15535.35	38.90	54.00	-15.10	29.49	6.13	38.45	35.17	Average		100	254	HORIZONTAL	
2	15537.21	52.77	74.00	-21.23	43.36	6.13	38.45	35.17	Peak		100	254	HORIZONTAL	

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	cm	deg
1	15538.73	38.65	54.00	-15.35	29.24	6.13	38.45	35.17	Average		100	159	VERTICAL	
2	15540.75	52.14	74.00	-21.86	42.73	6.13	38.45	35.17	Peak		100	159	VERTICAL	

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15599.73	56.69	74.00	-17.31	47.39	6.13	38.36	35.19 Peak	100	360	HORIZONTAL
2	15600.11	41.67	54.00	-12.33	32.37	6.13	38.36	35.19 Average	100	360	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15598.08	53.70	74.00	-20.30	44.39	6.13	38.36	35.18 Peak	100	235	VERTICAL
2	15603.49	40.31	54.00	-13.69	31.01	6.13	38.36	35.19 Average	100	235	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15715.08	60.30	74.00	-13.70	51.18	6.14	38.19	35.21 Peak	127	360	HORIZONTAL
2	15719.76	46.64	54.00	-7.36	37.52	6.14	38.19	35.21 Average	127	360	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15716.59	54.30	74.00	-19.70	45.18	6.14	38.19	35.21 Peak	100	115	VERTICAL
2	15716.84	43.03	54.00	-10.97	33.91	6.14	38.19	35.21 Average	100	115	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	Limit			Loss	Factor	Factor	cm	deg		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg			
1	11484.10	44.13	54.00	-9.87	30.79	9.09	39.10	34.85	100	105	HORIZONTAL	Average
2	11485.64	55.11	74.00	-18.89	41.77	9.09	39.10	34.85	100	105	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	Limit			Loss	Factor	Factor	cm	deg		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg			
1	11492.52	54.88	74.00	-19.12	41.54	9.09	39.10	34.85	100	0	VERTICAL	Peak
2	11498.18	44.27	54.00	-9.73	30.92	9.10	39.10	34.85	100	0	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		dBuV/m	dBuV/m			dB	dBuV	dB	dB/m	dB		
1	11562.88	54.70	74.00	-19.30	41.43	9.11	39.01	34.85	100	196	HORIZONTAL	Peak
2	11566.28	44.24	54.00	-9.76	30.97	9.11	39.01	34.85	100	196	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		dBuV/m	dBuV/m			dB	dBuV	dB	dB/m	dB		
1	11577.90	54.17	74.00	-19.83	40.90	9.11	39.01	34.85	100	141	VERTICAL	Peak
2	11578.02	45.25	54.00	-8.75	31.98	9.11	39.01	34.85	100	141	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		dBuV/m	dBuV/m			dB	dBuV	dB	dB/m	dB		
1	11649.56	42.97	54.00	-11.03	29.78	9.11	38.93	34.85	100	278	HORIZONTAL	Average
2	11650.14	55.71	74.00	-18.29	42.52	9.11	38.93	34.85	100	278	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		dBuV/m	dBuV/m			dB	dBuV	dB	dB/m	dB		
1	11649.63	54.86	74.00	-19.14	41.67	9.11	38.93	34.85	100	240	VERTICAL	Peak
2	11649.88	43.11	54.00	-10.89	29.92	9.11	38.93	34.85	100	240	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15570.24	52.12	74.00	-21.88	42.76	6.13	38.40	35.17 Peak	100	159	HORIZONTAL
2	15572.82	38.77	54.00	-15.23	29.41	6.13	38.40	35.17 Average	100	159	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15573.01	38.82	54.00	-15.18	29.46	6.13	38.40	35.17 Average	100	250	VERTICAL
2	15573.54	51.83	74.00	-22.17	42.48	6.13	38.40	35.18 Peak	100	250	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15688.80	51.90	74.00	-22.10	42.74	6.14	38.23	35.21 Peak	100	171	HORIZONTAL
2	15692.48	40.36	54.00	-13.64	31.20	6.14	38.23	35.21 Average	100	171	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15689.23	52.80	74.00	-21.20	43.64	6.14	38.23	35.21 Peak	100	272	VERTICAL
2	15689.81	39.49	54.00	-14.51	30.33	6.14	38.23	35.21 Average	100	272	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dBuV	dB	dB/m	dB	cm		
1	11509.58	55.04	74.00	-18.96	41.69	9.10	39.10	34.85	100	147	HORIZONTAL	Peak
2	11511.86	43.57	54.00	-10.43	30.22	9.10	39.10	34.85	100	147	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dBuV	dB	dB/m	dB	cm		
1	11508.50	43.58	54.00	-10.42	30.23	9.10	39.10	34.85	100	252	VERTICAL	Average
2	11512.09	54.53	74.00	-19.47	41.18	9.10	39.10	34.85	100	252	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11591.74	43.46	54.00	-10.54	30.23	9.11	38.97	34.85	100	205	HORIZONTAL	Average
2	11592.04	54.82	74.00	-19.18	41.59	9.11	38.97	34.85	100	205	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11591.30	54.39	74.00	-19.61	41.16	9.11	38.97	34.85	100	137	VERTICAL	Peak
2	11592.33	42.53	54.00	-11.47	29.30	9.11	38.97	34.85	100	137	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15628.40	51.60	74.00	-22.40	42.32	6.14	38.33	35.19 Peak	100	100	HORIZONTAL
2	15634.21	38.90	54.00	-15.10	29.64	6.14	38.31	35.19 Average	100	100	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15632.00	38.74	54.00	-15.26	29.48	6.14	38.31	35.19 Average	100	241	VERTICAL
2	15632.45	51.92	74.00	-22.08	42.66	6.14	38.31	35.19 Peak	100	241	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11547.88	42.46	54.00	-11.54	29.15	9.10	39.06	34.85	100	292	HORIZONTAL	Average
2	11549.31	54.40	74.00	-19.60	41.09	9.10	39.06	34.85	100	292	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11548.95	55.24	74.00	-18.76	41.93	9.10	39.06	34.85	100	315	VERTICAL	Peak
2	11552.05	43.27	54.00	-10.73	30.01	9.10	39.01	34.85	100	315	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15635.10	57.56	74.00	-16.44	43.08	10.36	38.75	34.63	100	36	HORIZONTAL	Peak
2	15651.70	46.11	54.00	-7.89	31.67	10.36	38.73	34.65	100	36	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15651.70	46.11	54.00	-7.89	31.67	10.36	38.73	34.65	100	226	VERTICAL	Average
2	15655.00	57.63	74.00	-16.37	43.20	10.36	38.73	34.66	100	226	VERTICAL	Peak

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15684.14	56.82	74.00	-17.18	42.43	10.36	38.73	34.70	100	202	HORIZONTAL	Peak
2	15689.78	45.85	54.00	-8.15	31.46	10.36	38.73	34.70	100	202	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15684.98	45.67	54.00	-8.33	31.28	10.36	38.73	34.70	100	298	VERTICAL	Average
2	15698.52	56.22	74.00	-17.78	41.85	10.36	38.72	34.71	100	298	VERTICAL	Peak

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15568.10	45.54	54.00	-8.46	30.95	10.37	38.77	34.55	100	360	HORIZONTAL	Average
2	15573.92	57.15	74.00	-16.85	42.57	10.37	38.77	34.56	100	360	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15568.10	56.73	74.00	-17.27	42.14	10.37	38.77	34.55	100	291	VERTICAL	Peak
2	15575.76	45.68	54.00	-8.32	31.11	10.36	38.77	34.56	100	291	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11447.58	42.34	54.00	-11.66	29.03	9.06	39.10	34.85	100	146	HORIZONTAL	Average
2	11450.45	54.77	74.00	-19.23	41.46	9.06	39.10	34.85	100	146	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11447.54	42.36	54.00	-11.64	29.05	9.06	39.10	34.85	100	126	VERTICAL	Average
2	11452.21	54.04	74.00	-19.96	40.73	9.06	39.10	34.85	100	126	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11571.09	42.45	54.00	-11.55	29.18	9.11	39.01	34.85	100	296	HORIZONTAL	Average
2	11571.85	55.04	74.00	-18.96	41.77	9.11	39.01	34.85	100	296	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11569.03	54.32	74.00	-19.68	41.05	9.11	39.01	34.85	100	279	VERTICAL	Peak
2	11572.09	42.20	54.00	-11.80	28.93	9.11	39.01	34.85	100	279	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11650.82	54.76	74.00	-19.24	41.61	9.11	38.89	34.85	100	226	HORIZONTAL	Peak
2	11650.83	43.24	54.00	-10.76	30.09	9.11	38.89	34.85	100	226	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11650.44	55.68	74.00	-18.32	42.49	9.11	38.93	34.85	100	238	VERTICAL	Peak
2	11651.75	42.12	54.00	-11.88	28.97	9.11	38.89	34.85	100	238	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	15683.92	55.90	74.00	-18.10	41.50	10.36	38.73	34.69	100	327	HORIZONTAL	Peak
2	15686.68	45.83	54.00	-8.17	31.44	10.36	38.73	34.70	100	327	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	15687.16	56.04	74.00	-17.96	41.65	10.36	38.73	34.70	100	260	VERTICAL	Peak
2	15697.50	45.29	54.00	-8.71	30.92	10.36	38.72	34.71	100	260	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		dB	dB			Loss	Factor	Factor	cm	deg		
1	15593.12	57.48	74.00	-16.52	42.93	10.36	38.77	34.58	100	126	HORIZONTAL	Peak
2	15601.94	46.37	54.00	-7.63	31.85	10.36	38.75	34.59	100	126	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		dB	dB			Loss	Factor	Factor	cm	deg		
1	15594.04	56.89	74.00	-17.11	42.34	10.36	38.77	34.58	100	67	VERTICAL	Peak
2	15600.00	45.81	54.00	-8.19	31.27	10.36	38.77	34.59	100	67	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg			
1	11508.62	55.67	74.00	-18.33	42.32	9.10	39.10	34.85	100	287	HORIZONTAL	Peak
2	11509.54	42.95	54.00	-11.05	29.60	9.10	39.10	34.85	100	287	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg			
1	11508.31	54.33	74.00	-19.67	40.98	9.10	39.10	34.85	100	270	VERTICAL	Peak
2	11510.42	42.88	54.00	-11.12	29.53	9.10	39.10	34.85	100	270	VERTICAL	Average



SPORTON LAB.

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Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		dBuV/m	dBuV/m			dB	dBuV	dB	dB/m	dB		
1	11588.29	54.85	74.00	-19.15	41.62	9.11	38.97	34.85	100	241	HORIZONTAL	Peak
2	11592.02	42.85	54.00	-11.15	29.62	9.11	38.97	34.85	100	241	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		dBuV/m	dBuV/m			dB	dBuV	dB	dB/m	dB		
1	11588.13	42.82	54.00	-11.18	29.59	9.11	38.97	34.85	100	201	VERTICAL	Average
2	11588.53	54.29	74.00	-19.71	41.06	9.11	38.97	34.85	100	201	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	15538.46	56.98	74.00	-17.02	42.34	10.37	38.78	34.51	100	230	HORIZONTAL	Peak
2	15540.46	45.77	54.00	-8.23	31.14	10.37	38.78	34.52	100	230	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	15531.06	45.93	54.00	-8.07	31.28	10.37	38.78	34.50	100	315	VERTICAL	Average
2	15540.62	56.91	74.00	-17.09	42.28	10.37	38.78	34.52	100	315	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11547.77	54.67	74.00	-19.33	41.36	9.10	39.06	34.85	100	154	HORIZONTAL Peak
2	11551.51	43.00	54.00	-11.00	29.74	9.10	39.01	34.85	100	154	HORIZONTAL Average

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11548.54	54.58	74.00	-19.42	41.27	9.10	39.06	34.85	100	202	VERTICAL Peak
2	11550.24	43.05	54.00	-10.95	29.79	9.10	39.01	34.85	100	202	VERTICAL Average

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.



<For Beamforming Mode>

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
MHz	dBuV/m	dBuV/m	dB									
1	15545.32	45.25	54.00	-8.75	31.94	10.78	38.12	35.59	Average	100	147	HORIZONTAL
2	15549.96	57.41	74.00	-16.59	44.10	10.78	38.12	35.59	Peak	100	147	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
MHz	dBuV/m	dBuV/m	dB									
1	15532.24	58.45	74.00	-15.55	45.12	10.77	38.15	35.59	Peak	100	253	VERTICAL
2	15539.88	44.52	54.00	-9.48	31.22	10.77	38.12	35.59	Average	100	253	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable			Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			dB	dBuV	dB	dB/m		cm	deg	
1	15500.80	56.92	74.00	-17.08	43.55	10.77	38.20	35.60	Peak		100	102	HORIZONTAL
2	15522.40	44.89	54.00	-9.11	31.56	10.77	38.15	35.59	Average		100	102	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable			Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			dB	dBuV	dB	dB/m		cm	deg	
1	15524.00	44.71	54.00	-9.29	31.38	10.77	38.15	35.59	Average		100	251	VERTICAL
2	15697.60	57.01	74.00	-16.99	43.90	10.79	37.88	35.56	Peak		100	251	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15717.90	45.92	54.00	-8.06	32.84	10.79	37.85	35.56	Average	100	4	HORIZONTAL
2	15721.54	56.96	74.00	-17.04	43.88	10.79	37.85	35.56	Peak	100	4	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15720.50	56.57	74.00	-17.43	43.49	10.79	37.85	35.56	Peak	100	259	VERTICAL
2	15721.12	44.68	54.00	-9.32	31.60	10.79	37.85	35.56	Average	100	259	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
MHz	dBuV/m	dBuV/m	dB	dB	cm	deg						
1	11486.10	40.50	54.00	-13.50	26.84	9.24	39.50	35.08	Average	100	102	HORIZONTAL
2	11492.36	53.00	74.00	-21.00	39.34	9.24	39.50	35.08	Peak	100	102	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
MHz	dBuV/m	dBuV/m	dB	dB	cm	deg						
1	11486.04	40.65	54.00	-13.35	26.99	9.24	39.50	35.08	Average	100	246	VERTICAL
2	11489.02	53.66	74.00	-20.34	40.00	9.24	39.50	35.08	Peak	100	246	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	11570.42	41.42	54.00	-12.58	27.78	9.26	39.47	35.09	Average	100	124	HORIZONTAL
2	11573.72	54.14	74.00	-19.86	40.49	9.26	39.47	35.08	Peak	100	124	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	11570.04	54.17	74.00	-19.83	40.53	9.26	39.47	35.09	Peak	100	214	VERTICAL
2	11573.22	41.39	54.00	-12.61	27.74	9.26	39.47	35.08	Average	100	214	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	11646.08	42.47	54.00	-11.53	28.82	9.28	39.44	35.07	Average	100	67	HORIZONTAL
2	11647.22	55.69	74.00	-18.31	42.04	9.28	39.44	35.07	Peak	100	67	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	11645.56	42.61	54.00	-11.39	28.96	9.28	39.44	35.07	Average	100	269	VERTICAL
2	11651.40	56.14	74.00	-17.86	42.49	9.28	39.44	35.07	Peak	100	269	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15566.86	44.62	54.00	-9.38	31.33	10.78	38.09	35.58	Average	100	164	HORIZONTAL
2	15571.54	57.92	74.00	-16.06	44.63	10.78	38.09	35.58	Peak	100	164	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15567.64	57.36	74.00	-16.64	44.07	10.78	38.09	35.58	Peak	100	291	VERTICAL
2	15567.72	44.58	54.00	-9.42	31.29	10.78	38.09	35.58	Average	100	291	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15686.00	43.48	54.00	-10.52	30.34	10.79	37.91	35.56	Average	100	120	HORIZONTAL
2	15691.12	56.82	74.00	-17.18	43.71	10.79	37.88	35.56	Peak	100	120	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15694.72	56.91	74.00	-17.09	43.80	10.79	37.88	35.56	Peak	100	282	VERTICAL
2	15694.76	43.87	54.00	-10.13	30.76	10.79	37.88	35.56	Average	103	282	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			dBuV	dB	dB/m		cm	deg	
1	11505.44	40.65	54.00	-13.35	27.00	9.25	39.50	35.10	Average	100	9	HORIZONTAL
2	11507.20	53.68	74.00	-20.32	40.03	9.25	39.50	35.10	Peak	100	9	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			dBuV	dB	dB/m		cm	deg	
1	11512.20	53.48	74.00	-20.52	39.83	9.25	39.50	35.10	Peak	100	281	VERTICAL
2	11513.56	40.32	54.00	-13.68	26.67	9.25	39.50	35.10	Average	100	281	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over	Read	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11580.16	54.94	74.00	-19.06	41.29	9.26	39.47	35.08	Peak	100	119 HORIZONTAL
2	11592.56	41.70	54.00	-12.30	28.04	9.27	39.47	35.08	Average	100	119 HORIZONTAL

Vertical

Freq	Level	Limit		Over	Read	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11582.48	54.07	74.00	-19.93	40.42	9.26	39.47	35.08	Peak	100	238 VERTICAL
2	11592.96	41.81	54.00	-12.19	28.15	9.27	39.47	35.08	Average	100	238 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15631.14	44.07	54.00	-9.93	30.87	10.78	37.99	35.57	Average	100	125	HORIZONTAL
2	15633.12	56.68	74.00	-17.32	43.48	10.78	37.99	35.57	Peak	100	125	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15629.24	56.87	74.00	-17.13	43.67	10.78	37.99	35.57	Peak	100	278	VERTICAL
2	15632.78	44.16	54.00	-9.84	30.96	10.78	37.99	35.57	Average	100	278	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11550.68	41.16	54.00	-12.84	27.51	9.26	39.48	35.09	Average	100	120	HORIZONTAL
2	11553.92	53.86	74.00	-20.14	40.21	9.26	39.48	35.09	Peak	100	120	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11552.96	41.26	54.00	-12.74	27.61	9.26	39.48	35.09	Average	100	252	VERTICAL
2	11558.88	54.11	74.00	-19.89	40.46	9.26	39.48	35.09	Peak	100	252	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	15539.34	56.95	74.00	-17.05	45.15	7.85	38.67	34.72	Peak	294	100 HORIZONTAL
2	15539.53	43.30	54.00	-10.70	31.50	7.85	38.67	34.72	Average	294	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	15539.04	43.37	54.00	-10.63	31.57	7.85	38.67	34.72	Average	140	100 VERTICAL
2	15539.24	56.42	74.00	-17.58	44.62	7.85	38.67	34.72	Peak	140	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	Over Line Limit							deg	cm	
1	15600.21	43.04	54.00	-10.96	31.33	7.88	38.62	34.79	Average	89	100	HORIZONTAL
2	15600.36	56.90	74.00	-17.10	45.19	7.88	38.62	34.79	Peak	89	100	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	Over Line Limit							deg	cm	
1	15599.36	56.09	74.00	-17.91	44.38	7.88	38.62	34.79	Peak	177	100	VERTICAL
2	15599.70	43.53	54.00	-10.47	31.82	7.88	38.62	34.79	Average	177	100	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamplifier	Remark	T/Pos	A/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		deg	cm	
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB				
1	15719.53	43.21	54.00	-10.79	31.65	7.92	38.52	34.88 Average	320	100	HORIZONTAL
2	15719.87	56.25	74.00	-17.75	44.69	7.92	38.52	34.88 Peak	320	100	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamplifier	Remark	T/Pos	A/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		deg	cm	
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB				
1	15719.80	42.79	54.00	-11.21	31.23	7.92	38.52	34.88 Average	219	100	VERTICAL
2	15720.69	56.72	74.00	-17.28	45.16	7.92	38.52	34.88 Peak	219	100	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm	
1	11490.00	52.92	74.00	-21.08	42.54	6.74	38.30	34.66 Peak	154	100 HORIZONTAL
2	11490.33	39.68	54.00	-14.32	29.30	6.74	38.30	34.66 Average	154	100 HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm	
1	11490.61	53.01	74.00	-20.99	42.63	6.74	38.30	34.66 Peak	247	100 VERTICAL
2	11490.79	39.59	54.00	-14.41	29.21	6.74	38.30	34.66 Average	247	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	11569.70	52.95	74.00	-21.05	42.53	6.77	38.33	34.68	Peak	277	100 HORIZONTAL
2	11570.44	39.82	54.00	-14.18	29.41	6.77	38.33	34.69	Average	277	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	11569.45	52.57	74.00	-21.43	42.15	6.77	38.33	34.68	Peak	189	100 VERTICAL
2	11570.70	40.41	54.00	-13.59	30.00	6.77	38.33	34.69	Average	189	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	CableAntenna Preamp			T/Pos deg	A/Pos cm	Pol/Phase
					Loss	Factor	Factor			
1 11649.74	53.43	74.00	-20.57	42.99	6.80	38.36	34.72	Peak	95	100 HORIZONTAL
2 11649.93	40.42	54.00	-13.58	29.98	6.80	38.36	34.72	Average	95	100 HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	CableAntenna Preamp			T/Pos deg	A/Pos cm	Pol/Phase
					Loss	Factor	Factor			
1 11649.86	53.24	74.00	-20.76	42.80	6.80	38.36	34.72	Peak	210	100 VERTICAL
2 11650.59	40.36	54.00	-13.64	29.92	6.80	38.36	34.72	Average	210	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	15569.55	43.19	54.00	-10.81	31.43	7.86	38.64	34.74	Average	196	100 HORIZONTAL
2	15570.23	56.77	74.00	-17.23	45.01	7.86	38.64	34.74	Peak	196	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	15569.08	43.13	54.00	-10.87	31.37	7.86	38.64	34.74	Average	48	100 VERTICAL
2	15570.38	56.57	74.00	-17.43	44.81	7.86	38.64	34.74	Peak	48	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	Limit dB							deg	cm	
1	15690.02	43.74	54.00	-10.26	32.14	7.90	38.55	34.85	Average	248	100	HORIZONTAL
2	15690.58	56.53	74.00	-17.47	44.93	7.90	38.55	34.85	Peak	248	100	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	Limit dB							deg	cm	
1	15689.03	56.68	74.00	-17.32	45.08	7.90	38.55	34.85	Peak	146	100	VERTICAL
2	15689.15	43.20	54.00	-10.80	31.60	7.90	38.55	34.85	Average	146	100	VERTICAL



SPORTON LAB.

Report No.: FR441804-02AB

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			dBuV	dB	dB/m		deg	cm	
1	11509.25	39.56	54.00	-14.44	29.17	6.75	38.30	34.66	Average	142	100	HORIZONTAL
2	11510.78	52.85	74.00	-21.15	42.46	6.75	38.30	34.66	Peak	142	100	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			dBuV	dB	dB/m		deg	cm	
1	11509.82	53.24	74.00	-20.76	42.85	6.75	38.30	34.66	Peak	62	100	VERTICAL
2	11510.65	39.67	54.00	-14.33	29.28	6.75	38.30	34.66	Average	62	100	VERTICAL



SPORTON LAB.

Report No.: FR441804-02AB

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	dB dB							deg	cm	
1	11589.40	39.68	54.00	-14.32	29.26	6.78	38.33	34.69	Average	231	100	HORIZONTAL
2	11589.70	52.40	74.00	-21.60	41.98	6.78	38.33	34.69	Peak	231	100	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	dB dB							deg	cm	
1	11590.67	52.56	74.00	-21.44	42.14	6.78	38.33	34.69	Peak	303	100	VERTICAL
2	11590.79	39.61	54.00	-14.39	29.19	6.78	38.33	34.69	Average	303	100	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	15629.82	56.35	74.00	-17.65	44.68	7.89	38.59	34.81	Peak	165	100 HORIZONTAL
2	15630.78	42.79	54.00	-11.21	31.12	7.89	38.59	34.81	Average	165	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	15629.39	56.15	74.00	-17.85	44.48	7.89	38.59	34.81	Peak	287	100 VERTICAL
2	15629.69	43.24	54.00	-10.76	31.57	7.89	38.59	34.81	Average	287	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq MHz	Level dBuV/m	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos deg	A/Pos cm	Pol/Phase
		dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1 11549.30	39.76	54.00	-14.24	29.35	6.77	38.32	34.68	Average	64	100	HORIZONTAL
2 11550.09	52.55	74.00	-21.45	42.14	6.77	38.32	34.68	Peak	64	100	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos deg	A/Pos cm	Pol/Phase
		dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1 11549.52	39.78	54.00	-14.22	29.37	6.77	38.32	34.68	Average	214	100	VERTICAL
2 11550.06	52.87	74.00	-21.13	42.46	6.77	38.32	34.68	Peak	214	100	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.



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	cm	deg
1	15535.22	41.98	54.00	-12.02	32.57	6.13	38.45	35.17	Average		100	211	HORIZONTAL	
2	15544.05	54.90	74.00	-19.10	45.51	6.13	38.43	35.17	Peak		100	211	HORIZONTAL	

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	cm	deg
1	15541.81	41.85	54.00	-12.15	32.44	6.13	38.45	35.17	Average		100	253	VERTICAL	
2	15542.02	55.04	74.00	-18.96	45.63	6.13	38.45	35.17	Peak		100	253	VERTICAL	



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1	15597.26	44.41	54.00	-9.59	35.10	6.13	38.36	35.18	Average	100	360	HORIZONTAL
2	15597.95	58.67	74.00	-15.33	49.36	6.13	38.36	35.18	Peak	100	360	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			
1	15598.65	55.46	74.00	-18.54	46.15	6.13	38.36	35.18	Peak	100	240	VERTICAL
2	15598.97	42.75	54.00	-11.25	33.45	6.13	38.36	35.19	Average	100	240	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	cm	deg
1	15720.10	43.98	54.00	-10.02	34.86	6.14	38.19	35.21	Average		100	151	HORIZONTAL	
2	15724.20	54.98	74.00	-19.02	45.86	6.14	38.19	35.21	Peak		100	151	HORIZONTAL	

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	cm	deg
1	15716.59	43.02	54.00	-10.98	33.90	6.14	38.19	35.21	Average		100	215	VERTICAL	
2	15722.20	55.06	74.00	-18.94	45.94	6.14	38.19	35.21	Peak		100	215	VERTICAL	



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11490.33	55.52	74.00	-18.48	42.18	9.09	39.10	34.85	100	258	HORIZONTAL	Peak
2	11490.43	42.52	54.00	-11.48	29.18	9.09	39.10	34.85	100	258	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11491.10	42.59	54.00	-11.41	29.25	9.09	39.10	34.85	100	360	VERTICAL	Average
2	11491.97	55.32	74.00	-18.68	41.98	9.09	39.10	34.85	100	360	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11571.00	43.28	54.00	-10.72	30.01	9.11	39.01	34.85	100	196	HORIZONTAL	Average
2	11571.59	55.69	74.00	-18.31	42.42	9.11	39.01	34.85	100	196	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11567.91	55.32	74.00	-18.68	42.05	9.11	39.01	34.85	100	221	VERTICAL	Peak
2	11569.16	42.11	54.00	-11.89	28.84	9.11	39.01	34.85	100	221	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		dBm	dBm			dB	dBuV	dB	dB/m	dB	cm	
1	11648.34	55.12	74.00	-18.88	41.93	9.11	38.93	34.85	100	94	HORIZONTAL	Peak
2	11651.18	42.81	54.00	-11.19	29.66	9.11	38.89	34.85	100	94	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		dBm	dBm			dB	dBuV	dB	dB/m	dB	cm	
1	11648.83	55.20	74.00	-18.80	42.01	9.11	38.93	34.85	100	170	VERTICAL	Peak
2	11651.11	42.61	54.00	-11.39	29.46	9.11	38.89	34.85	100	170	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15570.63	54.60	74.00	-19.40	45.24	6.13	38.40	35.17 Peak	100	316	HORIZONTAL
2	15573.30	41.81	54.00	-12.19	32.46	6.13	38.40	35.18 Average	100	316	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15571.17	41.73	54.00	-12.27	32.37	6.13	38.40	35.17 Average	100	181	VERTICAL
2	15573.94	55.46	74.00	-18.54	46.11	6.13	38.40	35.18 Peak	100	181	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15687.36	42.41	54.00	-11.59	33.25	6.14	38.23	35.21	Average	100	360	HORIZONTAL
2	15692.72	55.62	74.00	-18.38	46.46	6.14	38.23	35.21	Peak	100	360	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15688.59	55.46	74.00	-18.54	46.30	6.14	38.23	35.21	Peak	100	236	VERTICAL
2	15692.50	42.21	54.00	-11.79	33.05	6.14	38.23	35.21	Average	100	236	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dBm	dBmV	dB	cm	deg		
1	11508.17	54.27	74.00	-19.73	40.92	9.10	39.10	34.85	100	91	HORIZONTAL	Peak
2	11510.75	42.18	54.00	-11.82	28.83	9.10	39.10	34.85	100	91	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dBm	dBmV	dB	cm	deg		
1	11511.67	42.51	54.00	-11.49	29.16	9.10	39.10	34.85	100	146	VERTICAL	Average
2	11512.11	55.95	74.00	-18.05	42.60	9.10	39.10	34.85	100	146	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dB	dBm	dB	cm	deg		
1	11591.47	54.51	74.00	-19.49	41.28	9.11	38.97	34.85	100	114	HORIZONTAL	Peak
2	11592.45	42.20	54.00	-11.80	28.97	9.11	38.97	34.85	100	114	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dB	dBm	dB	cm	deg		
1	11587.84	54.86	74.00	-19.14	41.63	9.11	38.97	34.85	100	222	VERTICAL	Peak
2	11591.93	42.39	54.00	-11.61	29.16	9.11	38.97	34.85	100	222	VERTICAL	Average

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB				
1	15627.15	54.94	74.00	-19.06	45.66	6.14	38.33	35.19 Peak	100	170	HORIZONTAL
2	15634.62	41.80	54.00	-12.20	32.54	6.14	38.31	35.19 Average	100	170	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB				
1	15626.78	54.91	74.00	-19.09	45.63	6.14	38.33	35.19 Peak	100	279	VERTICAL
2	15628.49	41.86	54.00	-12.14	32.58	6.14	38.33	35.19 Average	100	279	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11549.58	42.21	54.00	-11.79	28.90	9.10	39.06	34.85	100	53	HORIZONTAL	Average
2	11550.71	54.51	74.00	-19.49	41.25	9.10	39.01	34.85	100	53	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11549.43	42.35	54.00	-11.65	29.04	9.10	39.06	34.85	100	114	VERTICAL	Average
2	11551.38	54.42	74.00	-19.58	41.16	9.10	39.01	34.85	100	114	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	cm	deg
1	15537.80	43.85	54.00	-10.15	34.44	6.13	38.45	35.17	Average		101	329	HORIZONTAL	
2	15541.51	56.56	74.00	-17.44	47.15	6.13	38.45	35.17	Peak		101	329	HORIZONTAL	

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	cm	deg
1	15536.31	43.60	54.00	-10.40	34.19	6.13	38.45	35.17	Average		101	44	VERTICAL	
2	15537.87	56.39	74.00	-17.61	46.98	6.13	38.45	35.17	Peak		101	44	VERTICAL	

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15597.16	60.83	74.00	-13.17	51.52	6.13	38.36	35.18 Peak	100	13	HORIZONTAL
2	15597.26	46.97	54.00	-7.03	37.66	6.13	38.36	35.18 Average	100	13	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15597.04	57.80	74.00	-16.20	48.49	6.13	38.36	35.18 Peak	100	153	VERTICAL
2	15602.32	44.74	54.00	-9.26	35.44	6.13	38.36	35.19 Average	100	153	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15718.70	62.36	74.00	-11.64	53.24	6.14	38.19	35.21 Peak	124	351	HORIZONTAL
2	15723.08	46.70	54.00	-7.30	37.58	6.14	38.19	35.21 Average	124	351	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15718.72	46.19	54.00	-7.81	37.07	6.14	38.19	35.21 Average	100	221	VERTICAL
2	15722.40	57.81	74.00	-16.19	48.69	6.14	38.19	35.21 Peak	100	221	VERTICAL



SPORTON LAB.

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Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Line	Read Limit	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11447.66	42.26	54.00	-11.74	28.95	9.06	39.10	34.85	100	179	HORIZONTAL	Average
2	11448.88	54.94	74.00	-19.06	41.63	9.06	39.10	34.85	100	179	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11447.50	42.30	54.00	-11.70	28.99	9.06	39.10	34.85	100	124	VERTICAL	Average
2	11448.88	54.94	74.00	-19.06	41.63	9.06	39.10	34.85	100	124	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dBuV	dB	dB/m	dB	cm		
1	11569.53	54.15	74.00	-19.85	40.88	9.11	39.01	34.85	100	343	HORIZONTAL	Peak
2	11571.16	42.88	54.00	-11.12	29.61	9.11	39.01	34.85	100	343	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dBuV	dB	dB/m	dB	cm		
1	11570.88	53.73	74.00	-20.27	40.46	9.11	39.01	34.85	100	359	VERTICAL	Peak
2	11572.48	42.74	54.00	-11.26	29.47	9.11	39.01	34.85	100	359	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dBm	dBm	dB/m	dB	cm		
1	11650.42	55.00	74.00	-19.00	41.81	9.11	38.93	34.85	100	234	HORIZONTAL	Peak
2	11651.78	43.26	54.00	-10.74	30.11	9.11	38.89	34.85	100	234	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dBm	dBm	dB/m	dB	cm		
1	11650.07	54.64	74.00	-19.36	41.45	9.11	38.93	34.85	100	200	VERTICAL	Peak
2	11650.48	43.47	54.00	-10.53	30.28	9.11	38.93	34.85	100	200	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	cm	deg
1	15570.87	43.57	54.00	-10.43	34.21	6.13	38.40	35.17	Average		100	192	HORIZONTAL	
2	15573.54	56.63	74.00	-17.37	47.28	6.13	38.40	35.18	Peak		100	192	HORIZONTAL	

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	cm	deg
1	15567.68	43.54	54.00	-10.46	34.18	6.13	38.40	35.17	Average		100	273	VERTICAL	
2	15567.69	56.63	74.00	-17.37	47.27	6.13	38.40	35.17	Peak		100	273	VERTICAL	

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15685.02	57.38	74.00	-16.62	48.22	6.14	38.23	35.21 Peak	100	140	HORIZONTAL
2	15688.32	44.37	54.00	-9.63	35.21	6.14	38.23	35.21 Average	100	140	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15693.94	57.54	74.00	-16.46	48.38	6.14	38.23	35.21 Peak	100	278	VERTICAL
2	15694.04	44.14	54.00	-9.86	34.98	6.14	38.23	35.21 Average	100	278	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dBm	dBmV	dB	cm	deg		
1	11507.53	54.76	74.00	-19.24	41.41	9.10	39.10	34.85	100	178	HORIZONTAL	Peak
2	11509.33	42.87	54.00	-11.13	29.52	9.10	39.10	34.85	100	178	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dBm	dBmV	dB	cm	deg		
1	11510.00	54.60	74.00	-19.40	41.25	9.10	39.10	34.85	100	251	VERTICAL	Peak
2	11511.57	43.13	54.00	-10.87	29.78	9.10	39.10	34.85	100	251	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11590.13	43.02	54.00	-10.98	29.79	9.11	38.97	34.85	100	230	HORIZONTAL	Average
2	11591.39	55.36	74.00	-18.64	42.13	9.11	38.97	34.85	100	230	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11588.40	54.31	74.00	-19.69	41.08	9.11	38.97	34.85	100	205	VERTICAL	Peak
2	11591.93	42.84	54.00	-11.16	29.61	9.11	38.97	34.85	100	205	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15627.61	57.66	74.00	-16.34	48.38	6.14	38.33	35.19 Peak	100	89	HORIZONTAL
2	15631.33	42.61	54.00	-11.39	33.35	6.14	38.31	35.19 Average	100	89	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15630.30	42.60	54.00	-11.40	33.34	6.14	38.31	35.19 Average	100	198	VERTICAL
2	15630.43	56.56	74.00	-17.44	47.30	6.14	38.31	35.19 Peak	100	198	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11547.57	42.70	54.00	-11.30	29.39	9.10	39.06	34.85	100	139	HORIZONTAL	Average
2	11550.40	54.10	74.00	-19.90	40.84	9.10	39.01	34.85	100	139	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11550.69	43.17	54.00	-10.83	29.91	9.10	39.01	34.85	100	146	VERTICAL	Average
2	11551.25	55.02	74.00	-18.98	41.76	9.10	39.01	34.85	100	146	VERTICAL	Peak

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.

<For STBC Mode>

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15532.36	57.72	74.00	-16.28	44.39	10.77	38.15	35.59	Peak	100	17	HORIZONTAL
2	15535.24	44.88	54.00	-9.12	31.55	10.77	38.15	35.59	Average	100	17	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15535.60	45.22	54.00	-8.78	31.89	10.77	38.15	35.59	Average	100	298	VERTICAL
2	15545.84	57.42	74.00	-16.58	44.11	10.78	38.12	35.59	Peak	100	298	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15595.88	48.23	54.00	-5.77	34.99	10.78	38.04	35.58	Average	100	175	HORIZONTAL
2	15603.16	61.90	74.00	-12.10	48.66	10.78	38.04	35.58	Peak	100	175	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15596.12	46.48	54.00	-7.52	33.24	10.78	38.04	35.58	Average	141	29	VERTICAL
2	15599.88	60.59	74.00	-13.41	47.35	10.78	38.04	35.58	Peak	141	29	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15719.56	61.97	74.00	-12.03	48.89	10.79	37.85	35.56	Peak	100	247	HORIZONTAL
2	15721.40	49.20	54.00	-4.80	36.12	10.79	37.85	35.56	Average	100	247	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15713.16	59.65	74.00	-14.35	46.57	10.79	37.85	35.56	Peak	121	57	VERTICAL
2	15719.00	47.17	54.00	-6.83	34.09	10.79	37.85	35.56	Average	121	57	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			dBuV	dB	dB/m		cm	deg	
1	11490.48	53.02	74.00	-20.98	39.36	9.24	39.50	35.08	Peak	100	267	HORIZONTAL
2	11497.20	40.32	54.00	-13.68	26.68	9.24	39.50	35.10	Average	100	267	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			dBuV	dB	dB/m		cm	deg	
1	11490.32	40.36	54.00	-13.64	26.70	9.24	39.50	35.08	Average	100	52	VERTICAL
2	11497.20	52.81	74.00	-21.19	39.17	9.24	39.50	35.10	Peak	100	52	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			dBuV	dB	dB/m				
1	11567.56	54.74	74.00	-19.26	41.10	9.26	39.47	35.09	Peak	117	266	HORIZONTAL
2	11570.52	41.96	54.00	-12.04	28.32	9.26	39.47	35.09	Average	117	266	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m	dBuV	dB	dB/m	dB	dB				
1	11566.68	54.25	74.00	-19.75	40.60	9.26	39.48	35.09	Peak	100	48	VERTICAL
2	11570.48	41.75	54.00	-12.25	28.11	9.26	39.47	35.09	Average	100	48	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBm			dB	dBm	dB				cm	deg	
1	11643.32	55.25	74.00	-18.75	41.60	9.28	39.44	35.07	Peak			100	276	HORIZONTAL
2	11657.00	42.65	54.00	-11.35	29.00	9.28	39.44	35.07	Average			100	276	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBm			dB	dBm	dB				cm	deg	
1	11644.24	55.02	74.00	-18.98	41.37	9.28	39.44	35.07	Peak			145	37	VERTICAL
2	11651.56	42.54	54.00	-11.46	28.89	9.28	39.44	35.07	Average			145	37	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
MHz	dBuV/m	dBuV/m	dB	dB	dB	dB	dB/m	dB	cm	deg	cm	deg
1	15560.00	44.46	54.00	-9.54	31.17	10.78	38.09	35.58	Average	100	35	HORIZONTAL
2	15562.88	57.18	74.00	-16.82	43.89	10.78	38.09	35.58	Peak	100	35	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
MHz	dBuV/m	dBuV/m	dB	dB	dB	dB	dB/m	dB	cm	deg	cm	deg
1	15564.76	44.52	54.00	-9.48	31.23	10.78	38.09	35.58	Average	100	357	VERTICAL
2	15572.48	57.85	74.00	-16.15	44.58	10.78	38.07	35.58	Peak	100	357	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15694.68	45.97	54.00	-8.03	32.86	10.79	37.88	35.56	Average	100	233	HORIZONTAL
2	15696.76	58.79	74.00	-15.21	45.68	10.79	37.88	35.56	Peak	100	233	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15689.64	44.30	54.00	-9.70	31.16	10.79	37.91	35.56	Average	100	172	VERTICAL
2	15698.76	57.31	74.00	-16.69	44.20	10.79	37.88	35.56	Peak	100	172	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			dB	dBuV	dB		cm	deg	
1	11508.24	53.08	74.00	-20.92	39.43	9.25	39.50	35.10	Peak	100	198	HORIZONTAL
2	11518.96	40.11	54.00	-13.89	26.47	9.25	39.49	35.10	Average	100	198	HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			dB	dBuV	dB		cm	deg	
1	11503.12	52.87	74.00	-21.13	39.22	9.25	39.50	35.10	Peak	100	117	VERTICAL
2	11519.60	40.10	54.00	-13.90	26.46	9.25	39.49	35.10	Average	100	117	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11597.80	41.59	54.00	-12.41	27.93	9.27	39.47	35.08	Average	100	169	HORIZONTAL
2	11600.00	54.66	74.00	-19.34	41.00	9.27	39.47	35.08	Peak	100	169	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11596.84	54.68	74.00	-19.32	41.02	9.27	39.47	35.08	Peak	100	201	VERTICAL
2	11598.88	41.65	54.00	-12.35	27.99	9.27	39.47	35.08	Average	100	201	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15627.12	56.71	74.00	-17.29	43.51	10.78	37.99	35.57	Peak	100	150	HORIZONTAL
2	15630.24	43.51	54.00	-10.49	30.31	10.78	37.99	35.57	Average	100	150	HORIZONTAL

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15623.48	43.99	54.00	-10.01	30.79	10.78	37.99	35.57	Average	100	189	VERTICAL
2	15623.48	54.99	74.00	-19.01	41.79	10.78	37.99	35.57	Peak	100	189	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			Cable Loss	Antenna Factor	Preamp Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11540.56	54.46	74.00	-19.54	40.80	9.26	39.49	35.09	Peak	100	53 HORIZONTAL
2	11587.60	41.64	54.00	-12.36	27.98	9.27	39.47	35.08	Average	100	53 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			Cable Loss	Antenna Factor	Preamp Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11551.12	54.48	74.00	-19.52	40.83	9.26	39.48	35.09	Peak	100	276 VERTICAL
2	11585.36	41.43	54.00	-12.57	27.77	9.27	39.47	35.08	Average	100	276 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over	Read	Cable			Antenna	Preamp	T/Pos	A/Pos	Pol/Phase
		Line	Limit			Loss	Factor	Factor					
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm				
1	15532.64	43.39	54.00	-10.61	31.59	7.85	38.67	34.72	Average	315	100	HORIZONTAL	
2	15536.88	58.16	74.00	-15.84	46.36	7.85	38.67	34.72	Peak	315	100	HORIZONTAL	

Vertical

Freq	Level	Limit		Over	Read	Cable			Antenna	Preamp	T/Pos	A/Pos	Pol/Phase
		Line	Limit			Loss	Factor	Factor					
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm				
1	15531.76	43.42	54.00	-10.58	31.62	7.85	38.67	34.72	Average	62	100	VERTICAL	
2	15532.96	57.95	74.00	-16.05	46.15	7.85	38.67	34.72	Peak	62	100	VERTICAL	



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	15594.92	66.19	74.00	-7.81	54.46	7.88	38.62	34.77	Peak	53	111 HORIZONTAL
2	15601.32	48.31	54.00	-5.69	36.60	7.88	38.62	34.79	Average	53	111 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	15594.72	61.34	74.00	-12.66	49.61	7.88	38.62	34.77	Peak	224	100 VERTICAL
2	15600.96	46.75	54.00	-7.25	35.04	7.88	38.62	34.79	Average	224	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			dB	dBuV	dB			
1	15714.80	67.97	74.00	-6.03	56.41	7.92	38.52	34.88	Peak	52	107 HORIZONTAL
2	15721.36	50.89	54.00	-3.11	39.33	7.92	38.52	34.88	Average	52	107 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			dB	dBuV	dB			
1	15714.84	60.95	74.00	-13.05	49.39	7.92	38.52	34.88	Peak	237	100 VERTICAL
2	15717.16	45.92	54.00	-8.08	34.36	7.92	38.52	34.88	Average	237	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	Remark	T/Pos deg	A/Pos cm	Pol/Phase
		Line dBuV/m	Over Line dB							deg	cm	
1	11489.88	39.20	54.00	-14.80	28.82	6.74	38.30	34.66	Average	53	100	HORIZONTAL
2	11493.68	53.19	74.00	-20.81	42.81	6.74	38.30	34.66	Peak	53	100	HORIZONTAL

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	Remark	T/Pos deg	A/Pos cm	Pol/Phase
		Line dBuV/m	Over Line dB							deg	cm	
1	11490.20	39.08	54.00	-14.92	28.70	6.74	38.30	34.66	Average	286	100	VERTICAL
2	11493.52	53.10	74.00	-20.90	42.72	6.74	38.30	34.66	Peak	286	100	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	Limit dBuV/m							deg	cm	
1 11569.96	43.73	54.00	-10.27	33.32	6.77	38.33	34.69	Average	232	114	HORIZONTAL	
2 11570.00	58.38	74.00	-15.62	47.97	6.77	38.33	34.69	Peak	232	114	HORIZONTAL	

Vertical

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss dB	Antenna Factor dB/m	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	Limit dBuV/m							deg	cm	
1 11571.38	42.43	54.00	-11.57	32.02	6.77	38.33	34.69	Average	310	100	VERTICAL	
2 11575.52	57.16	74.00	-16.84	46.75	6.77	38.33	34.69	Peak	310	100	VERTICAL	



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			dB	dBuV	dB			
1	11649.82	40.82	54.00	-13.18	30.38	6.80	38.36	34.72	Average	233	100 HORIZONTAL
2	11654.08	54.32	74.00	-19.68	43.88	6.80	38.36	34.72	Peak	233	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			dB	dBuV	dB			
1	11646.16	39.75	54.00	-14.25	29.30	6.80	38.36	34.71	Average	356	100 VERTICAL
2	11646.40	54.03	74.00	-19.97	43.59	6.80	38.36	34.72	Peak	356	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase	
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	15560.72	42.97	54.00	-11.03	31.21	7.86	38.64	34.74	Average	29	100 HORIZONTAL
2	15575.60	57.21	74.00	-16.79	45.48	7.86	38.64	34.77	Peak	29	100 HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase	
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	15561.28	42.98	54.00	-11.02	31.22	7.86	38.64	34.74	Average	250	100 VERTICAL
2	15574.08	56.98	74.00	-17.02	45.25	7.86	38.64	34.77	Peak	250	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase	
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	15683.20	58.47	74.00	-15.53	46.87	7.90	38.55	34.85	Peak	52	100 HORIZONTAL
2	15693.28	44.29	54.00	-9.71	32.69	7.90	38.55	34.85	Average	52	100 HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase	
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	15681.36	57.82	74.00	-16.18	46.22	7.90	38.55	34.85	Peak	288	100 VERTICAL
2	15684.36	42.78	54.00	-11.22	31.18	7.90	38.55	34.85	Average	288	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	11515.64	53.45	74.00	-20.55	43.04	6.76	38.31	34.66	Peak	164	100 HORIZONTAL
2	11518.08	39.01	54.00	-14.99	28.60	6.76	38.31	34.66	Average	164	100 HORIZONTAL

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	11514.04	53.23	74.00	-20.77	42.84	6.75	38.30	34.66	Peak	290	100 VERTICAL
2	11518.24	39.02	54.00	-14.98	28.61	6.76	38.31	34.66	Average	290	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit		Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	Over Limit		Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm
1	11584.56	53.86	74.00	-20.14	43.44	6.78	38.33	34.69 Peak	231	100 HORIZONTAL
2	11589.68	40.01	54.00	-13.99	29.59	6.78	38.33	34.69 Average	231	100 HORIZONTAL

Vertical

Freq	Level	Limit		Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	Over Limit		Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm
1	11589.84	39.35	54.00	-14.65	28.93	6.78	38.33	34.69 Average	313	100 VERTICAL
2	11594.44	54.50	74.00	-19.50	44.08	6.78	38.33	34.69 Peak	313	100 VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase	
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	15631.24	56.79	74.00	-17.21	45.12	7.89	38.59	34.81	Peak	50	100 HORIZONTAL
2	15637.44	42.53	54.00	-11.47	30.86	7.89	38.59	34.81	Average	50	100 HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase	
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	15623.16	56.55	74.00	-17.45	44.86	7.88	38.60	34.79	Peak	253	100 VERTICAL
2	15638.68	42.55	54.00	-11.45	30.88	7.89	38.59	34.81	Average	253	100 VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase	
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m		dB	dB	dB/m	dB	deg	cm		
1	11540.12	53.50	74.00	-20.50	43.10	6.76	38.31	34.67	Peak	199	100 HORIZONTAL
2	11549.04	39.02	54.00	-14.98	28.61	6.77	38.32	34.68	Average	199	100 HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase	
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m		dB	dB	dB/m	dB	deg	cm		
1	11559.64	53.15	74.00	-20.85	42.74	6.77	38.32	34.68	Peak	326	100 VERTICAL
2	11559.80	39.09	54.00	-14.91	28.68	6.77	38.32	34.68	Average	326	100 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.



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15536.09	54.88	74.00	-19.12	45.47	6.13	38.45	35.17 Peak	100	195	HORIZONTAL
2	15539.84	41.85	54.00	-12.15	32.44	6.13	38.45	35.17 Average	100	195	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15538.62	41.92	54.00	-12.08	32.51	6.13	38.45	35.17 Average	100	305	VERTICAL
2	15540.34	55.65	74.00	-18.35	46.24	6.13	38.45	35.17 Peak	100	305	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15599.04	52.88	74.00	-21.12	43.58	6.13	38.36	35.19 Peak	100	244	HORIZONTAL
2	15600.37	42.28	54.00	-11.72	32.98	6.13	38.36	35.19 Average	100	244	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15603.62	39.20	54.00	-14.80	29.90	6.13	38.36	35.19 Average	100	330	VERTICAL
2	15603.62	50.64	74.00	-23.36	41.34	6.13	38.36	35.19 Peak	100	330	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15716.75	60.14	74.00	-13.86	51.02	6.14	38.19	35.21 Peak	127	360	HORIZONTAL
2	15720.02	45.99	54.00	-8.01	36.87	6.14	38.19	35.21 Average	127	360	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
1	15718.56	41.00	54.00	-13.00	31.88	6.14	38.19	35.21 Average	100	258	VERTICAL
2	15718.89	52.49	74.00	-21.51	43.37	6.14	38.19	35.21 Peak	100	258	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz	dBuV/m	dBuV/m	dB									
1 11484.10	43.13	54.00	-10.87	29.79	9.09	39.10	34.85	100	105	HORIZONTAL	Average	
2 11485.64	55.11	74.00	-18.89	41.77	9.09	39.10	34.85	100	105	HORIZONTAL	Peak	

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz	dBuV/m	dBuV/m	dB									
1 11492.52	54.88	74.00	-19.12	41.54	9.09	39.10	34.85	100	0	VERTICAL	Peak	
2 11498.18	43.27	54.00	-10.73	29.92	9.10	39.10	34.85	100	0	VERTICAL	Average	



SPORTON LAB.

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Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11562.88	54.70	74.00	-19.30	41.43	9.11	39.01	34.85	100	196	HORIZONTAL	Peak
2	11566.28	43.24	54.00	-10.76	29.97	9.11	39.01	34.85	100	196	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11577.90	54.17	74.00	-19.83	40.90	9.11	39.01	34.85	100	141	VERTICAL	Peak
2	11578.02	45.25	54.00	-8.75	31.98	9.11	39.01	34.85	100	141	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11649.56	42.97	54.00	-11.03	29.78	9.11	38.93	34.85	100	278	HORIZONTAL	Average
2	11650.14	55.71	74.00	-18.29	42.52	9.11	38.93	34.85	100	278	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11649.63	54.86	74.00	-19.14	41.67	9.11	38.93	34.85	100	240	VERTICAL	Peak
2	11649.88	43.11	54.00	-10.89	29.92	9.11	38.93	34.85	100	240	VERTICAL	Average

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB				
1 15571.41	52.54	74.00	-21.46	43.18	6.13	38.40	35.17	Peak	100	171	HORIZONTAL
2 15572.55	38.68	54.00	-15.32	29.32	6.13	38.40	35.17	Average	100	171	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor		cm	deg	
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB				
1 15568.67	51.97	74.00	-22.03	42.61	6.13	38.40	35.17	Peak	100	289	VERTICAL
2 15570.74	38.80	54.00	-15.20	29.44	6.13	38.40	35.17	Average	100	289	VERTICAL

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15686.63	51.75	74.00	-22.25	42.59	6.14	38.23	35.21 Peak	100	165	HORIZONTAL
2	15694.12	40.48	54.00	-13.52	31.32	6.14	38.23	35.21 Average	100	165	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15689.70	52.29	74.00	-21.71	43.13	6.14	38.23	35.21 Peak	100	272	VERTICAL
2	15693.11	39.80	54.00	-14.20	30.64	6.14	38.23	35.21 Average	100	272	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dBm	dB	dBm	dB	cm		
1	11509.58	55.04	74.00	-18.96	41.69	9.10	39.10	34.85	100	147	HORIZONTAL	Peak
2	11511.86	43.57	54.00	-10.43	30.22	9.10	39.10	34.85	100	147	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			dBm	dB	dBm	dB	cm		
1	11508.50	42.58	54.00	-11.42	29.23	9.10	39.10	34.85	100	252	VERTICAL	Average
2	11512.09	54.53	74.00	-19.47	41.18	9.10	39.10	34.85	100	252	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11591.74	42.46	54.00	-11.54	29.23	9.11	38.97	34.85	100	205	HORIZONTAL	Average
2	11592.04	54.82	74.00	-19.18	41.59	9.11	38.97	34.85	100	205	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11591.30	54.39	74.00	-19.61	41.16	9.11	38.97	34.85	100	137	VERTICAL	Peak
2	11592.33	42.53	54.00	-11.47	29.30	9.11	38.97	34.85	100	137	VERTICAL	Average

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2
Test Date	Jun. 13, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Horizontal

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15626.88	51.63	74.00	-22.37	42.35	6.14	38.33	35.19 Peak	100	215	HORIZONTAL
2	15628.85	38.85	54.00	-15.15	29.59	6.14	38.31	35.19 Average	100	215	HORIZONTAL

Vertical

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15627.74	51.71	74.00	-22.29	42.43	6.14	38.33	35.19 Peak	100	114	VERTICAL
2	15630.08	38.87	54.00	-15.13	29.61	6.14	38.31	35.19 Average	100	114	VERTICAL



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2Tx)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11547.88	43.46	54.00	-10.54	30.15	9.10	39.06	34.85	100	292	HORIZONTAL	Average
2	11549.31	54.40	74.00	-19.60	41.09	9.10	39.06	34.85	100	292	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11548.95	55.24	74.00	-18.76	41.93	9.10	39.06	34.85	100	315	VERTICAL	Peak
2	11552.05	42.67	54.00	-11.33	29.41	9.10	39.01	34.85	100	315	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	15631.60	46.28	54.00	-7.72	31.80	10.36	38.75	34.63	100	322	HORIZONTAL	Average
2	15633.08	56.93	74.00	-17.07	42.45	10.36	38.75	34.63	100	322	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	15627.70	56.87	74.00	-17.13	42.38	10.36	38.75	34.62	100	106	VERTICAL	Peak
2	15630.32	46.25	54.00	-7.75	31.77	10.36	38.75	34.63	100	106	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	10630.64	40.34	54.00	-13.66	27.76	8.49	38.95	34.86	100	34	HORIZONTAL	Average
2	10632.26	51.83	74.00	-22.17	39.25	8.49	38.95	34.86	100	34	HORIZONTAL	Peak
3	15958.50	55.51	74.00	-18.49	41.35	10.34	38.86	35.04	100	327	HORIZONTAL	Peak
4	15968.44	44.24	54.00	-9.76	30.05	10.34	38.90	35.05	100	327	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	10630.14	40.80	54.00	-13.20	28.22	8.49	38.95	34.86	100	8	VERTICAL	Average
2	10632.42	53.20	74.00	-20.80	40.62	8.49	38.95	34.86	100	8	VERTICAL	Peak
3	15951.72	44.66	54.00	-9.34	30.49	10.34	38.86	35.03	100	217	VERTICAL	Average
4	15968.44	56.27	74.00	-17.73	42.08	10.34	38.90	35.05	100	217	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15568.36	45.96	54.00	-8.04	31.37	10.37	38.77	34.55	100	324	HORIZONTAL	Average
2	15576.04	57.23	74.00	-16.77	42.66	10.36	38.77	34.56	100	324	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Line	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	15562.24	57.52	74.00	-16.48	42.92	10.37	38.77	34.54	100	231	VERTICAL	Peak
2	15574.56	46.32	54.00	-7.68	31.74	10.37	38.77	34.56	100	231	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11448.19	42.19	54.00	-11.81	28.88	9.06	39.10	34.85	100	225	HORIZONTAL	Average
2	11448.20	55.35	74.00	-18.65	42.04	9.06	39.10	34.85	100	225	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11447.68	55.28	74.00	-18.72	41.97	9.06	39.10	34.85	100	204	VERTICAL	Peak
2	11448.41	43.17	54.00	-10.83	29.86	9.06	39.10	34.85	100	204	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11570.41	42.85	54.00	-11.15	29.58	9.11	39.01	34.85	100	271	HORIZONTAL	Average
2	11570.96	54.45	74.00	-19.55	41.18	9.11	39.01	34.85	100	271	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11568.83	54.29	74.00	-19.71	41.02	9.11	39.01	34.85	100	303	VERTICAL	Peak
2	11571.81	42.70	54.00	-11.30	29.43	9.11	39.01	34.85	100	303	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11648.45	54.77	74.00	-19.23	41.58	9.11	38.93	34.85	100	309	HORIZONTAL	Peak
2	11650.20	43.42	54.00	-10.58	30.23	9.11	38.93	34.85	100	309	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11651.04	55.36	74.00	-18.64	42.21	9.11	38.89	34.85	100	255	VERTICAL	Peak
2	11651.96	43.60	54.00	-10.40	30.45	9.11	38.89	34.85	100	255	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg			
1	15704.90	45.06	54.00	-8.94	30.70	10.36	38.72	34.72	100	276	HORIZONTAL	Average
2	15737.90	56.30	74.00	-17.70	42.00	10.36	38.70	34.76	100	276	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg			
1	15704.90	46.06	54.00	-7.94	31.70	10.36	38.72	34.72	100	359	VERTICAL	Average
2	15712.35	56.37	74.00	-17.63	42.02	10.36	38.72	34.73	100	359	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	15607.40	45.53	54.00	-8.47	31.02	10.36	38.75	34.60	100	28	HORIZONTAL	Average
2	15620.30	57.17	74.00	-16.83	42.68	10.36	38.75	34.62	100	28	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	15613.95	46.03	54.00	-7.97	31.53	10.36	38.75	34.61	100	335	VERTICAL	Average
2	15620.70	56.70	74.00	-17.30	42.21	10.36	38.75	34.62	100	335	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11510.85	42.80	54.00	-11.20	29.45	9.10	39.10	34.85	100	174	HORIZONTAL	Average
2	11511.71	54.92	74.00	-19.08	41.57	9.10	39.10	34.85	100	174	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11508.47	54.41	74.00	-19.59	41.06	9.10	39.10	34.85	100	150	VERTICAL	Peak
2	11510.62	42.94	54.00	-11.06	29.59	9.10	39.10	34.85	100	150	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
1	11590.80	54.51	74.00	-19.49	41.28	9.11	38.97	34.85	100	254	HORIZONTAL	Peak
2	11591.50	42.86	54.00	-11.14	29.63	9.11	38.97	34.85	100	254	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
1	11591.55	43.04	54.00	-10.96	29.81	9.11	38.97	34.85	100	304	VERTICAL	Average
2	11591.96	54.67	74.00	-19.33	41.44	9.11	38.97	34.85	100	304	VERTICAL	Peak



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	15539.45	56.32	74.00	-17.68	41.68	10.37	38.78	34.51	100	131	HORIZONTAL	Peak
2	15560.65	45.72	54.00	-8.28	31.12	10.37	38.77	34.54	100	131	HORIZONTAL	Average

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	15522.60	56.71	74.00	-17.29	42.05	10.37	38.78	34.49	100	209	VERTICAL	Peak
2	15562.65	46.06	54.00	-7.94	31.46	10.37	38.77	34.54	100	209	VERTICAL	Average



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Chain 1 + Chain 2 + Chain 3
Test Date	Jun. 14, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Horizontal

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11550.35	43.05	54.00	-10.95	29.79	9.10	39.01	34.85	100	232	HORIZONTAL	Average
2	11550.86	54.36	74.00	-19.64	41.10	9.10	39.01	34.85	100	232	HORIZONTAL	Peak

Vertical

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
1	11551.64	55.81	74.00	-18.19	42.55	9.10	39.01	34.85	100	182	VERTICAL	Peak
2	11552.49	43.01	54.00	-10.99	29.75	9.10	39.01	34.85	100	182	VERTICAL	Average

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 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

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

4.7.2. 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 / 10Hz for Average
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for Peak

4.7.3. Test Procedures

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

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.

For STBC mode:

The EUT was programmed to be in continuously transmitting mode.

4.7.7. Test Result of Band Edge and Fundamental Emissions

<For Non-Beamforming Mode>

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 2
Test Date	May 24, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5147.12	70.18	74.00	-3.82	67.55	3.43	34.11	34.91	Peak	100	92 VERTICAL
2	5150.00	52.47	54.00	-1.53	49.84	3.43	34.11	34.91	Average	100	92 VERTICAL
3	5178.24	114.42			111.73	3.44	34.16	34.91	Peak	100	92 VERTICAL
4	5179.04	103.25			100.56	3.44	34.16	34.91	Average	100	92 VERTICAL

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5127.24	52.88	54.00	-1.12	50.27	3.43	34.09	34.91	Average	102	127 VERTICAL
2	5150.00	72.46	74.00	-1.54	69.83	3.43	34.11	34.91	Peak	102	127 VERTICAL
3	5199.04	107.18			104.46	3.45	34.18	34.91	Average	102	127 VERTICAL
4	5199.04	118.41			115.69	3.45	34.18	34.91	Peak	102	127 VERTICAL

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5112.50	50.25	54.00	-3.75	47.67	3.42	34.06	34.90	Average	100	104 VERTICAL
2	5145.19	62.99	74.00	-11.01	60.36	3.43	34.11	34.91	Peak	100	104 VERTICAL
3	5239.04	107.62			104.84	3.46	34.23	34.91	Average	100	104 VERTICAL
4	5243.85	119.01			116.21	3.46	34.25	34.91	Peak	100	104 VERTICAL
5	5358.17	48.97	54.00	-5.03	46.00	3.49	34.39	34.91	Average	100	104 VERTICAL
6	5359.62	60.91	74.00	-13.09	57.94	3.49	34.39	34.91	Peak	100	104 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 2
Test Date	May 24, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	
1	5715.00	67.04	68.20	-1.16	63.70	3.60	34.68	34.94	Peak	100	322 VERTICAL
2	5724.20	76.93	78.20	-1.27	73.58	3.60	34.69	34.94	Peak	100	322 VERTICAL
3	5743.72	100.11			96.74	3.61	34.70	34.94	Average	100	322 VERTICAL
4	5744.20	110.98			107.61	3.61	34.70	34.94	Peak	100	322 VERTICAL
5	5832.21	56.83	78.20	-21.37	53.42	3.63	34.73	34.95	Peak	100	322 VERTICAL

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

Channel 157

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	
1	5710.83	66.78	68.20	-1.42	63.44	3.60	34.68	34.94	Peak	100	34 VERTICAL
2	5723.40	73.49	78.20	-4.71	70.14	3.60	34.69	34.94	Peak	100	34 VERTICAL
3	5783.72	106.47			103.07	3.63	34.71	34.94	Average	100	34 VERTICAL
4	5787.89	117.90			114.49	3.63	34.72	34.94	Peak	100	34 VERTICAL
5	5850.32	67.50	78.20	-10.70	64.07	3.64	34.74	34.95	Peak	100	34 VERTICAL
6	5866.41	60.50	68.20	-7.70	57.06	3.65	34.74	34.95	Peak	100	34 VERTICAL

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

Channel 165

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg	
1	5823.56	111.34			107.93	3.63	34.73	34.95	Peak	107	253 VERTICAL
2	5826.28	100.12			96.71	3.63	34.73	34.95	Average	107	253 VERTICAL
3	5850.00	72.55	78.20	-5.65	69.12	3.64	34.74	34.95	Peak	107	253 VERTICAL
4	5867.85	66.98	68.20	-1.22	63.54	3.65	34.74	34.95	Peak	107	253 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 2
Test Date	May 24, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
MHz	dBuV/m	dBuV/m	dB									
1	5148.40	72.44	74.00	-1.56	69.81	3.43	34.11	34.91	Peak	100	100	VERTICAL
2	5150.00	52.78	54.00	-1.22	50.15	3.43	34.11	34.91	Average	100	100	VERTICAL
3	5193.53	96.73			94.02	3.44	34.18	34.91	Average	100	100	VERTICAL
4	5194.49	109.02			106.31	3.44	34.18	34.91	Peak	100	100	VERTICAL

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
MHz	dBuV/m	dBuV/m	dB									
1	5149.36	52.66	54.00	-1.34	50.03	3.43	34.11	34.91	Average	100	103	VERTICAL
2	5149.68	65.98	74.00	-8.02	63.35	3.43	34.11	34.91	Peak	100	103	VERTICAL
3	5234.81	101.41			98.63	3.46	34.23	34.91	Average	100	103	VERTICAL
4	5238.65	113.21			110.43	3.46	34.23	34.91	Peak	100	103	VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 2
Test Date	May 24, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 151

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	5710.83	66.73	68.20	-1.47	63.39	3.60	34.68	34.94	Peak	100	38	VERTICAL
2	5725.00	72.16	78.20	-6.04	68.81	3.60	34.69	34.94	Peak	100	38	VERTICAL
3	5749.87	94.61			91.24	3.61	34.70	34.94	Average	100	38	VERTICAL
4	5758.85	106.55			103.17	3.62	34.70	34.94	Peak	100	38	VERTICAL

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

Channel 159

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	5710.83	57.47	68.20	-10.73	54.13	3.60	34.68	34.94	Peak	100	215	VERTICAL
2	5721.80	61.08	78.20	-17.12	57.73	3.60	34.69	34.94	Peak	100	215	VERTICAL
3	5798.53	109.35			105.94	3.63	34.72	34.94	Peak	100	215	VERTICAL
4	5799.81	97.45			94.04	3.63	34.72	34.94	Average	100	215	VERTICAL
5	5851.28	69.28	78.20	-8.92	65.85	3.64	34.74	34.95	Peak	100	215	VERTICAL
6	5864.49	66.79	68.20	-1.41	63.35	3.65	34.74	34.95	Peak	100	215	VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 2
Test Date	May 24, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 1TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	5142.79	52.70	54.00	-1.30	50.07	3.43	34.11	34.91	Average	100	92	VERTICAL
2	5145.99	72.43	74.00	-1.57	69.80	3.43	34.11	34.91	Peak	100	92	VERTICAL
3	5221.22	92.37			89.62	3.46	34.20	34.91	Average	100	92	VERTICAL
4	5222.02	106.20			103.45	3.46	34.20	34.91	Peak	100	92	VERTICAL
5	5350.00	42.04	54.00	-11.96	39.07	3.49	34.39	34.91	Average	100	92	VERTICAL
6	5360.42	53.88	74.00	-20.12	50.91	3.49	34.39	34.91	Peak	100	92	VERTICAL

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		cm	deg	
1	5715.00	66.79	68.20	-1.41	63.45	3.60	34.68	34.94	Peak	100	125	VERTICAL
2	5725.00	71.43	78.20	-6.77	68.08	3.60	34.69	34.94	Peak	100	125	VERTICAL
3	5782.21	91.87			88.47	3.63	34.71	34.94	Average	100	125	VERTICAL
4	5783.81	105.92			102.52	3.63	34.71	34.94	Peak	100	125	VERTICAL
5	5853.21	67.75	78.20	-10.45	64.32	3.64	34.74	34.95	Peak	100	125	VERTICAL
6	5863.21	65.29	68.20	-2.91	61.85	3.65	34.74	34.95	Peak	100	125	VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m			
MHz	dBuV/m	dBuV/m	dB						cm	deg	
1	5148.40	69.73	74.00	-4.27	64.79	6.13	34.01	35.20	Peak	100	130 VERTICAL
2	5150.00	52.80	54.00	-1.20	47.86	6.13	34.01	35.20	Average	100	130 VERTICAL
3	5181.80	114.08			109.05	6.15	34.08	35.20	Peak	100	130 VERTICAL
4	5184.60	102.66			97.63	6.15	34.08	35.20	Average	100	130 VERTICAL

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m			
MHz	dBuV/m	dBuV/m	dB						cm	deg	
1	5149.20	52.98	54.00	-1.02	48.04	6.13	34.01	35.20	Average	104	232 VERTICAL
2	5150.00	69.40	74.00	-4.60	64.46	6.13	34.01	35.20	Peak	104	232 VERTICAL
3	5198.80	107.92			102.85	6.16	34.11	35.20	Average	104	232 VERTICAL
4	5199.20	118.88			113.81	6.16	34.11	35.20	Peak	104	232 VERTICAL

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m			
MHz	dBuV/m	dBuV/m	dB						cm	deg	
1	5111.00	60.34	74.00	-13.66	55.49	6.11	33.94	35.20	Peak	100	234 VERTICAL
2	5111.60	49.17	54.00	-4.83	44.32	6.11	33.94	35.20	Average	100	234 VERTICAL
3	5238.80	108.34			103.18	6.18	34.18	35.20	Average	100	234 VERTICAL
4	5238.80	119.28			114.12	6.18	34.18	35.20	Peak	100	234 VERTICAL
5	5361.40	52.90	54.00	-1.10	47.41	6.27	34.42	35.20	Average	100	234 VERTICAL
6	5364.40	64.77	74.00	-9.23	59.28	6.27	34.42	35.20	Peak	100	234 VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Freq	Line			Loss	Factor	Factor			
1	5714.20	66.54	68.20	-1.66	60.43	6.44	34.87	35.20	Peak	101	100 VERTICAL
2	5721.80	76.72	78.20	-1.48	70.60	6.45	34.87	35.20	Peak	101	100 VERTICAL
3	5744.20	102.12			95.97	6.45	34.90	35.20	Average	101	100 VERTICAL
4	5746.60	113.12			106.97	6.45	34.90	35.20	Peak	101	100 VERTICAL

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

Channel 157

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Freq	Line			Loss	Factor	Factor			
1	5699.00	66.41	68.20	-1.79	60.32	6.43	34.86	35.20	Peak	100	100 VERTICAL
2	5725.00	70.59	78.20	-7.61	64.45	6.45	34.89	35.20	Peak	100	100 VERTICAL
3	5784.20	119.83			113.64	6.46	34.93	35.20	Peak	100	100 VERTICAL
4	5784.60	108.59			102.40	6.46	34.93	35.20	Average	100	100 VERTICAL
5	5850.00	67.14	78.20	-11.06	60.87	6.49	34.98	35.20	Peak	100	100 VERTICAL
6	5867.20	66.69	68.20	-1.51	60.40	6.50	34.99	35.20	Peak	100	100 VERTICAL

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

Channel 165

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Freq	Line			Loss	Factor	Factor			
1	5822.60	102.83			96.60	6.48	34.95	35.20	Average	100	238 VERTICAL
2	5822.60	114.70			108.47	6.48	34.95	35.20	Peak	100	238 VERTICAL
3	5850.40	73.29	78.20	-4.91	67.02	6.49	34.98	35.20	Peak	100	238 VERTICAL
4	5860.40	66.63	68.20	-1.57	60.34	6.50	34.99	35.20	Peak	100	238 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m			
MHz	dBuV/m	dBuV/m	dB						cm	deg	
1	5147.20	70.55	74.00	-3.45	65.61	6.13	34.01	35.20	Peak	103	36 VERTICAL
2	5149.60	52.72	54.00	-1.28	47.78	6.13	34.01	35.20	Average	103	36 VERTICAL
3	5194.40	110.26			105.22	6.16	34.08	35.20	Peak	103	36 VERTICAL
4	5194.80	98.48			93.41	6.16	34.11	35.20	Average	103	36 VERTICAL

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m			
MHz	dBuV/m	dBuV/m	dB						cm	deg	
1	5148.80	52.71	54.00	-1.29	47.77	6.13	34.01	35.20	Average	100	233 VERTICAL
2	5148.80	66.02	74.00	-7.98	61.08	6.13	34.01	35.20	Peak	100	233 VERTICAL
3	5226.40	103.84			98.71	6.18	34.15	35.20	Average	100	233 VERTICAL
4	5226.40	116.26			111.13	6.18	34.15	35.20	Peak	100	233 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 151

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m			
1	5713.80	67.14	68.20	-1.06	61.03	6.44	34.87	35.20	Peak	100	100 VERTICAL
2	5724.60	71.38	78.20	-6.82	65.24	6.45	34.89	35.20	Peak	100	100 VERTICAL
3	5766.60	109.40			103.23	6.46	34.91	35.20	Peak	100	100 VERTICAL
4	5769.40	98.12			91.95	6.46	34.91	35.20	Average	100	100 VERTICAL

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

Channel 159

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m			
1	5711.00	60.52	68.20	-7.68	54.41	6.44	34.87	35.20	Peak	100	239 VERTICAL
2	5723.00	63.67	78.20	-14.53	57.53	6.45	34.89	35.20	Peak	100	239 VERTICAL
3	5790.20	99.10			92.90	6.47	34.93	35.20	Average	100	239 VERTICAL
4	5792.60	110.55			104.34	6.47	34.94	35.20	Peak	100	239 VERTICAL
5	5850.00	69.67	78.20	-8.53	63.40	6.49	34.98	35.20	Peak	100	239 VERTICAL
6	5860.80	66.82	68.20	-1.38	60.53	6.50	34.99	35.20	Peak	100	239 VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Freq	Line			Loss	Factor	Factor			
1	5140.00	70.97	74.00	-3.03	66.06	6.13	33.98	35.20	Peak	101	32 VERTICAL
2	5149.00	52.71	54.00	-1.29	47.77	6.13	34.01	35.20	Average	101	32 VERTICAL
3	5199.00	93.27			88.20	6.16	34.11	35.20	Average	101	32 VERTICAL
4	5202.00	105.80			100.73	6.16	34.11	35.20	Peak	101	32 VERTICAL
5	5350.00	59.37	74.00	-14.63	53.89	6.26	34.42	35.20	Peak	101	32 VERTICAL
6	5355.00	46.63	54.00	-7.37	41.15	6.26	34.42	35.20	Average	101	32 VERTICAL

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Freq	Line			Loss	Factor	Factor			
1	5702.40	66.88	68.20	-1.32	60.78	6.44	34.86	35.20	Peak	100	78 VERTICAL
2	5724.40	69.43	78.20	-8.77	63.29	6.45	34.89	35.20	Peak	100	78 VERTICAL
3	5782.20	106.78			100.59	6.46	34.93	35.20	Peak	100	78 VERTICAL
4	5784.00	94.33			88.14	6.46	34.93	35.20	Average	100	78 VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBm			Loss	Factor	Factor			
1	5021.00	52.61	54.00	-1.39	48.03	6.05	33.73	35.20	Average	100	130 VERTICAL
2	5146.00	66.24	74.00	-7.76	61.30	6.13	34.01	35.20	Peak	100	130 VERTICAL
3	5186.00	114.85			109.82	6.15	34.08	35.20	Peak	100	130 VERTICAL
4	5187.00	104.61			99.58	6.15	34.08	35.20	Average	100	130 VERTICAL

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBm			Loss	Factor	Factor			
1	5119.00	52.80	54.00	-1.20	47.95	6.11	33.94	35.20	Average	103	274 VERTICAL
2	5150.00	65.42	74.00	-8.58	60.48	6.13	34.01	35.20	Peak	103	274 VERTICAL
3	5200.00	109.05			103.98	6.16	34.11	35.20	Average	103	274 VERTICAL
4	5205.00	119.77			114.70	6.16	34.11	35.20	Peak	103	274 VERTICAL
5	5355.00	50.32	54.00	-3.68	44.84	6.26	34.42	35.20	Average	103	274 VERTICAL
6	5364.00	61.86	74.00	-12.14	56.37	6.27	34.42	35.20	Peak	103	274 VERTICAL

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBm			Loss	Factor	Factor			
1	5118.00	50.42	54.00	-3.58	45.57	6.11	33.94	35.20	Average	100	247 VERTICAL
2	5118.00	62.07	74.00	-11.93	57.22	6.11	33.94	35.20	Peak	100	247 VERTICAL
3	5238.00	109.18			104.02	6.18	34.18	35.20	Average	100	247 VERTICAL
4	5238.00	119.71			114.55	6.18	34.18	35.20	Peak	100	247 VERTICAL
5	5353.00	63.88	74.00	-10.12	58.40	6.26	34.42	35.20	Peak	100	247 VERTICAL
6	5358.00	52.93	54.00	-1.07	47.45	6.26	34.42	35.20	Average	100	247 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5710.60	67.02	68.20	-1.18	62.57	4.71	34.32	34.58	Peak	51	100 VERTICAL
2	5724.20	73.61	78.20	-4.59	69.10	4.72	34.37	34.58	Peak	51	100 VERTICAL
3	5746.20	116.44			111.87	4.73	34.42	34.58	Peak	51	100 VERTICAL
4	5746.20	105.52			100.95	4.73	34.42	34.58	Average	51	100 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	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5706.00	64.94	68.20	-3.26	60.49	4.71	34.32	34.58	Peak	290	100 VERTICAL
2	5719.00	66.96	78.20	-11.24	62.45	4.72	34.37	34.58	Peak	290	100 VERTICAL
3	5786.20	121.85			117.10	4.76	34.58	34.59	Peak	290	100 VERTICAL
4	5786.20	110.67			105.92	4.76	34.58	34.59	Average	290	100 VERTICAL
5	5851.80	68.56	78.20	-9.64	63.63	4.80	34.73	34.60	Peak	290	100 VERTICAL
6	5861.20	67.15	68.20	-1.05	62.15	4.81	34.79	34.60	Peak	290	100 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	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5826.20	116.99			112.12	4.79	34.68	34.60	Peak	252	100 VERTICAL
2	5826.60	105.63			100.76	4.79	34.68	34.60	Average	252	100 VERTICAL
3	5850.80	75.97	78.20	-2.23	71.04	4.80	34.73	34.60	Peak	252	100 VERTICAL
4	5860.40	67.05	68.20	-1.15	62.05	4.81	34.79	34.60	Peak	252	100 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 38

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable			Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	dB			Loss	dB	dB/m				deg	cm	
1 5148.40	52.79	54.00	-1.21	49.84	4.34	33.14	34.53	Average				116	100	VERTICAL
2 5150.00	70.64	74.00	-3.36	67.69	4.34	33.14	34.53	Peak				116	100	VERTICAL
3 5193.20	100.09			97.03	4.37	33.22	34.53	Average				116	100	VERTICAL
4 5203.20	111.74			108.68	4.37	33.22	34.53	Peak				116	100	VERTICAL

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

Channel 46

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable			Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	dB			Loss	dB	dB/m				deg	cm	
1 5147.60	52.75	54.00	-1.25	49.80	4.34	33.14	34.53	Average				114	100	VERTICAL
2 5148.40	67.28	74.00	-6.72	64.33	4.34	33.14	34.53	Peak				114	100	VERTICAL
3 5232.80	105.63			102.50	4.39	33.27	34.53	Average				114	100	VERTICAL
4 5233.20	117.91			114.78	4.39	33.27	34.53	Peak				114	100	VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 151

Freq MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Cable			Antenna Loss Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
					dB	dB	dB/m				deg	cm	
1 5714.20	67.01	68.20	-1.19	62.56	4.71	34.32	34.58	Peak			231	100	VERTICAL
2 5724.60	74.97	78.20	-3.23	70.46	4.72	34.37	34.58	Peak			231	100	VERTICAL
3 5759.80	112.16			107.52	4.74	34.48	34.58	Peak			231	100	VERTICAL
4 5759.80	100.02			95.38	4.74	34.48	34.58	Average			231	100	VERTICAL

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

Channel 159

Freq MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Cable			Antenna Loss Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
					dB	dB	dB/m				deg	cm	
1 5791.40	113.90			109.15	4.76	34.58	34.59	Peak			252	100	VERTICAL
2 5791.40	101.84			97.09	4.76	34.58	34.59	Average			252	100	VERTICAL
3 5851.20	71.95	78.20	-6.25	67.02	4.80	34.73	34.60	Peak			252	100	VERTICAL
4 5861.20	66.92	68.20	-1.28	61.92	4.81	34.79	34.60	Peak			252	100	VERTICAL

Item 1, 2 are the fundamental frequency at 5795 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	T/Pos	A/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		deg	cm	
1	5142.80	52.99	54.00	-1.01	50.04	4.34	33.14	34.53	Average	116	100	VERTICAL
2	5147.60	67.41	74.00	-6.59	64.46	4.34	33.14	34.53	Peak	116	100	VERTICAL
3	5213.20	95.23			92.13	4.38	33.25	34.53	Average	116	100	VERTICAL
4	5214.00	108.62			105.52	4.38	33.25	34.53	Peak	116	100	VERTICAL
5	5358.00	45.00	54.00	-9.00	41.60	4.47	33.46	34.53	Average	116	100	VERTICAL
6	5370.80	57.78	74.00	-16.22	54.34	4.48	33.49	34.53	Peak	116	100	VERTICAL

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	T/Pos	A/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m		deg	cm	
1	5710.80	66.51	68.20	-1.69	62.06	4.71	34.32	34.58	Peak	252	100	VERTICAL
2	5721.40	69.36	78.20	-8.84	64.85	4.72	34.37	34.58	Peak	252	100	VERTICAL
3	5786.40	108.67			103.92	4.76	34.58	34.59	Peak	252	100	VERTICAL
4	5791.20	95.20			90.45	4.76	34.58	34.59	Average	252	100	VERTICAL
5	5850.00	68.86	78.20	-9.34	63.93	4.80	34.73	34.60	Peak	252	100	VERTICAL
6	5860.00	66.99	68.20	-1.21	61.99	4.81	34.79	34.60	Peak	252	100	VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 2
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
1	5148.50	70.73	74.00	-3.27	67.13	5.99	33.02	35.41	104	20	VERTICAL	Peak
2	5150.00	52.44	54.00	-1.56	48.84	5.99	33.02	35.41	104	20	VERTICAL	Average
3	5181.00	101.98			98.36	6.01	33.04	35.43	104	20	VERTICAL	Average
4	5181.50	112.21			108.59	6.01	33.04	35.43	104	20	VERTICAL	Peak

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
1	5146.50	68.45	74.00	-5.55	64.85	5.99	33.02	35.41	104	20	VERTICAL	Peak
2	5150.00	52.59	54.00	-1.41	48.99	5.99	33.02	35.41	104	20	VERTICAL	Average
3	5199.00	105.62			101.98	6.02	33.05	35.43	104	20	VERTICAL	Average
4	5202.00	115.83			112.18	6.02	33.06	35.43	104	20	VERTICAL	Peak

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
1	5125.50	49.22	54.00	-4.78	45.66	5.98	32.99	35.41	102	9	VERTICAL	Average
2	5127.50	63.58	74.00	-10.42	60.00	5.98	33.01	35.41	102	9	VERTICAL	Peak
3	5238.50	107.96			104.27	6.05	33.09	35.45	102	9	VERTICAL	Average
4	5242.00	118.38			114.69	6.05	33.09	35.45	102	9	VERTICAL	Peak
5	5353.50	47.04	54.00	-6.96	43.01	6.12	33.40	35.49	102	9	VERTICAL	Average
6	5358.50	59.35	74.00	-14.65	55.27	6.12	33.45	35.49	102	9	VERTICAL	Peak

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 2
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			Loss	Factor	Factor	cm	deg		
1	5714.50	66.85	68.20	-1.35	61.69	6.35	34.16	35.35	101	15	VERTICAL	Peak
2	5722.50	74.08	78.20	-4.12	68.89	6.35	34.18	35.34	101	15	VERTICAL	Peak
3	5745.50	98.50			93.25	6.37	34.20	35.32	101	15	VERTICAL	Average
4	5750.00	109.14			103.89	6.37	34.20	35.32	101	15	VERTICAL	Peak
5	5850.00	59.02	78.20	-19.18	53.22	6.43	34.60	35.23	101	15	VERTICAL	Peak
6	5860.00	62.40	68.20	-5.80	56.51	6.44	34.67	35.22	101	15	VERTICAL	Peak

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

Channel 157

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			Loss	Factor	Factor	cm	deg		
1	5713.00	64.11	68.20	-4.09	58.96	6.34	34.16	35.35	100	5	VERTICAL	Peak
2	5724.00	66.38	78.20	-11.82	61.19	6.35	34.18	35.34	100	5	VERTICAL	Peak
3	5784.00	114.55			109.12	6.39	34.33	35.29	100	5	VERTICAL	Peak
4	5786.50	103.76			98.33	6.39	34.33	35.29	100	5	VERTICAL	Average
5	5850.00	68.79	78.20	-9.41	62.99	6.43	34.60	35.23	100	5	VERTICAL	Peak
6	5862.00	66.79	68.20	-1.41	60.90	6.44	34.67	35.22	100	5	VERTICAL	Peak

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

Channel 165

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			Loss	Factor	Factor	cm	deg		
1	5701.00	60.10	68.20	-8.10	54.98	6.34	34.14	35.36	108	6	VERTICAL	Peak
2	5725.00	59.25	78.20	-18.95	54.06	6.35	34.18	35.34	108	6	VERTICAL	Peak
3	5823.00	109.37			103.68	6.42	34.53	35.26	108	6	VERTICAL	Average
4	5826.50	98.65			92.95	6.42	34.53	35.25	108	6	VERTICAL	Average
5	5850.00	72.93	78.20	-5.27	67.13	6.43	34.60	35.23	108	6	VERTICAL	Peak
6	5865.50	66.95	68.20	-1.25	61.06	6.44	34.67	35.22	108	6	VERTICAL	Average

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 2
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
MHz		dBuV/m	dBuV/m									
1	5149.50	67.21	74.00	-6.79	63.61	5.99	33.02	35.41	104	20	VERTICAL	Peak
2	5150.00	52.57	54.00	-1.43	48.97	5.99	33.02	35.41	104	20	VERTICAL	Average
3	5185.50	96.23			92.61	6.01	33.04	35.43	104	20	VERTICAL	Average
4	5203.00	106.63			102.97	6.03	33.06	35.43	104	20	VERTICAL	Peak

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
MHz		dBuV/m	dBuV/m									
1	5150.00	52.56	54.00	-1.44	48.96	5.99	33.02	35.41	122	8	VERTICAL	Average
2	5150.00	65.84	74.00	-8.16	62.24	5.99	33.02	35.41	122	8	VERTICAL	Peak
3	5235.50	102.08			98.39	6.04	33.09	35.44	122	8	VERTICAL	Average
4	5240.50	113.19			109.50	6.05	33.09	35.45	122	8	VERTICAL	Peak

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 2
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Channel 151

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz	dBuV/m	dBuV/m	dB									
1	5712.50	66.63	68.20	-1.57	61.48	6.34	34.16	35.35	101	16	VERTICAL	Peak
2	5724.50	70.89	78.20	-7.31	65.70	6.35	34.18	35.34	101	16	VERTICAL	Peak
3	5749.50	104.85			99.60	6.37	34.20	35.32	101	16	VERTICAL	Peak
4	5760.00	93.60			88.26	6.38	34.27	35.31	101	16	VERTICAL	Average
5	5850.00	58.80	78.20	-19.40	53.00	6.43	34.60	35.23	101	16	VERTICAL	Peak
6	5868.50	61.79	68.20	-6.41	55.89	6.45	34.67	35.22	101	16	VERTICAL	Peak

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

Channel 159

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz	dBuV/m	dBuV/m	dB									
1	5715.00	58.20	68.20	-10.00	53.04	6.35	34.16	35.35	107	8	VERTICAL	Peak
2	5725.00	59.05	78.20	-19.15	53.86	6.35	34.18	35.34	107	8	VERTICAL	Peak
3	5798.50	95.16			89.64	6.40	34.40	35.28	107	8	VERTICAL	Average
4	5805.50	106.06			100.45	6.41	34.47	35.27	107	8	VERTICAL	Peak
5	5850.00	69.48	78.20	-8.72	63.68	6.43	34.60	35.23	107	8	VERTICAL	Peak
6	5868.50	66.79	68.20	-1.41	60.89	6.45	34.67	35.22	107	8	VERTICAL	Peak

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 2
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 1TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
		MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	cm	deg
1	5148.50	66.81	74.00	-7.19	63.21	5.99	33.02	35.41	114	9	VERTICAL	Peak
2	5150.00	52.47	54.00	-1.53	48.87	5.99	33.02	35.41	114	9	VERTICAL	Average
3	5194.00	103.73			100.09	6.02	33.05	35.43	114	9	VERTICAL	Peak
4	5197.50	91.22			87.58	6.02	33.05	35.43	114	9	VERTICAL	Average

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
		MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	cm	deg
1	5711.50	63.66	68.20	-4.54	58.51	6.34	34.16	35.35	109	12	VERTICAL	Peak
2	5724.50	67.47	78.20	-10.73	62.28	6.35	34.18	35.34	109	12	VERTICAL	Peak
3	5797.50	102.33			96.81	6.40	34.40	35.28	109	12	VERTICAL	Peak
4	5801.50	90.18			84.65	6.40	34.40	35.27	109	12	VERTICAL	Average
5	5852.00	67.71	78.20	-10.49	61.90	6.44	34.60	35.23	109	12	VERTICAL	Peak
6	5870.50	66.66	68.20	-1.54	60.75	6.45	34.67	35.21	109	12	VERTICAL	Peak

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			Loss	Factor	Factor	cm	deg		
MHz		dBuV/m	dBuV/m			dB	dBuV	dB	dB/m	dB	cm	deg
1	5150.00	52.73	54.00	-1.27	49.13	5.99	33.02	35.41	112	346	VERTICAL	Average
2	5150.00	70.24	74.00	-3.76	66.64	5.99	33.02	35.41	112	346	VERTICAL	Peak
3	5182.00	115.19			111.57	6.01	33.04	35.43	112	346	VERTICAL	Peak
4	5182.50	105.30			101.68	6.01	33.04	35.43	112	346	VERTICAL	Average

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			Loss	Factor	Factor	cm	deg		
MHz		dBuV/m	dBuV/m			dB	dBuV	dB	dB/m	dB	cm	deg
1	5141.00	65.08	74.00	-8.92	61.49	5.99	33.01	35.41	112	358	VERTICAL	Peak
2	5150.00	52.45	54.00	-1.55	48.85	5.99	33.02	35.41	112	358	VERTICAL	Average
3	5201.00	109.25			105.61	6.02	33.05	35.43	112	358	VERTICAL	Average
4	5201.00	118.86			115.22	6.02	33.05	35.43	112	358	VERTICAL	Peak

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			Loss	Factor	Factor	cm	deg		
MHz		dBuV/m	dBuV/m			dB	dBuV	dB	dB/m	dB	cm	deg
1	5118.00	65.54	74.00	-8.46	61.98	5.97	32.99	35.40	113	7	VERTICAL	Peak
2	5118.50	52.59	54.00	-1.41	49.03	5.97	32.99	35.40	113	7	VERTICAL	Average
3	5239.00	110.67			106.98	6.05	33.09	35.45	113	7	VERTICAL	Average
4	5239.00	120.38			116.69	6.05	33.09	35.45	113	7	VERTICAL	Peak
5	5352.00	48.09	54.00	-5.91	44.07	6.11	33.40	35.49	113	7	VERTICAL	Average
6	5359.50	61.12	74.00	-12.88	57.04	6.12	33.45	35.49	113	7	VERTICAL	Peak

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz		dBuV/m	dBuV/m									
1	5715.00	67.15	68.20	-1.05	61.99	6.35	34.16	35.35	100	344	VERTICAL	Peak
2	5725.00	74.28	78.20	-3.92	69.09	6.35	34.18	35.34	100	344	VERTICAL	Peak
3	5742.00	112.02			106.79	6.36	34.20	35.33	100	344	VERTICAL	Peak
4	5744.50	101.98			96.74	6.36	34.20	35.32	100	344	VERTICAL	Average
5	5856.00	61.58	78.20	-16.62	55.70	6.44	34.67	35.23	100	344	VERTICAL	Peak
6	5862.00	62.74	68.20	-5.46	56.85	6.44	34.67	35.22	100	344	VERTICAL	Peak

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

Channel 157

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz		dBuV/m	dBuV/m									
1	5708.00	65.95	68.20	-2.25	60.81	6.34	34.16	35.36	100	344	VERTICAL	Peak
2	5725.00	65.74	78.20	-12.46	60.55	6.35	34.18	35.34	100	344	VERTICAL	Peak
3	5787.00	107.59			102.16	6.39	34.33	35.29	100	344	VERTICAL	Average
4	5787.00	117.46			112.03	6.39	34.33	35.29	100	344	VERTICAL	Peak
5	5850.00	63.98	78.20	-14.22	58.18	6.43	34.60	35.23	100	344	VERTICAL	Peak
6	5862.00	66.66	68.20	-1.54	60.77	6.44	34.67	35.22	100	344	VERTICAL	Average

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

Channel 165

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz		dBuV/m	dBuV/m									
1	5697.00	60.02	68.20	-8.18	54.92	6.33	34.14	35.37	100	12	VERTICAL	Peak
2	5725.00	58.25	78.20	-19.95	53.06	6.35	34.18	35.34	100	12	VERTICAL	Peak
3	5822.00	111.27			105.64	6.42	34.47	35.26	100	12	VERTICAL	Peak
4	5827.00	101.32			95.62	6.42	34.53	35.25	100	12	VERTICAL	Average
5	5852.50	70.61	78.20	-7.59	64.80	6.44	34.60	35.23	100	12	VERTICAL	Peak
6	5860.00	66.87	68.20	-1.33	60.98	6.44	34.67	35.22	100	12	VERTICAL	Peak

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
1	5150.00	52.74	54.00	-1.26	49.14	5.99	33.02	35.41	114	347	VERTICAL	Average
2	5150.00	70.54	74.00	-3.46	66.94	5.99	33.02	35.41	114	347	VERTICAL	Peak
3	5185.00	99.94			96.32	6.01	33.04	35.43	114	347	VERTICAL	Average
4	5185.00	109.97			106.35	6.01	33.04	35.43	114	347	VERTICAL	Peak

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
1	5146.50	65.16	74.00	-8.84	61.56	5.99	33.02	35.41	112	8	VERTICAL	Peak
2	5149.50	52.41	54.00	-1.59	48.81	5.99	33.02	35.41	112	8	VERTICAL	Average
3	5224.00	104.70			101.02	6.04	33.08	35.44	112	8	VERTICAL	Average
4	5227.00	114.46			110.78	6.04	33.08	35.44	112	8	VERTICAL	Peak

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 151

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	Factor	Factor		
1	5707.00	66.88	68.20	-1.32	61.74	6.34	34.16	35.36	100	346	VERTICAL	Peak
2	5725.00	67.87	78.20	-10.33	62.68	6.35	34.18	35.34	100	346	VERTICAL	Peak
3	5738.00	107.79			102.58	6.36	34.18	35.33	100	346	VERTICAL	Peak
4	5749.50	97.33			92.08	6.37	34.20	35.32	100	346	VERTICAL	Average
5	5850.00	60.47	78.20	-17.73	54.67	6.43	34.60	35.23	100	346	VERTICAL	Peak
6	5889.50	61.42	68.20	-6.78	55.43	6.46	34.73	35.20	100	346	VERTICAL	Peak

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

Channel 159

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	Factor	Factor		
1	5702.50	60.85	68.20	-7.35	55.73	6.34	34.14	35.36	100	12	VERTICAL	Peak
2	5725.00	59.79	78.20	-18.41	54.60	6.35	34.18	35.34	100	12	VERTICAL	Peak
3	5799.00	110.75			105.23	6.40	34.40	35.28	100	12	VERTICAL	Peak
4	5799.50	99.46			93.94	6.40	34.40	35.28	100	12	VERTICAL	Average
5	5854.50	67.55	78.20	-10.65	61.74	6.44	34.60	35.23	100	12	VERTICAL	Peak
6	5860.00	66.99	68.20	-1.21	61.10	6.44	34.67	35.22	100	12	VERTICAL	Peak

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz	dBuV/m	dBuV/m	dB									
1	5147.50	69.02	74.00	-4.98	65.42	5.99	33.02	35.41	113	7	VERTICAL	Peak
2	5150.00	52.76	54.00	-1.24	49.16	5.99	33.02	35.41	113	7	VERTICAL	Average
3	5199.00	95.27			91.63	6.02	33.05	35.43	113	7	VERTICAL	Average
4	5221.50	106.83			103.15	6.04	33.08	35.44	113	7	VERTICAL	Peak
5	5350.00	43.74	54.00	-10.26	39.72	6.11	33.40	35.49	113	7	VERTICAL	Average
6	5358.00	57.82	74.00	-16.18	53.74	6.12	33.45	35.49	113	7	VERTICAL	Peak

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz	dBuV/m	dBuV/m	dB									
1	5702.00	66.80	68.20	-1.40	61.68	6.34	34.14	35.36	100	345	VERTICAL	Peak
2	5724.50	65.13	78.20	-13.07	59.94	6.35	34.18	35.34	100	345	VERTICAL	Peak
3	5789.50	93.61			88.11	6.39	34.40	35.29	100	345	VERTICAL	Average
4	5799.00	105.45			99.93	6.40	34.40	35.28	100	345	VERTICAL	Peak
5	5850.00	63.83	78.20	-14.37	58.03	6.43	34.60	35.23	100	345	VERTICAL	Peak
6	5864.50	63.78	68.20	-4.42	57.89	6.44	34.67	35.22	100	345	VERTICAL	Peak

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5150.00	71.61	74.00	-2.39	68.66	4.34	33.14	34.53	Peak	50	100 VERTICAL
2	5150.00	52.59	54.00	-1.41	49.64	4.34	33.14	34.53	Average	50	100 VERTICAL
3	5185.00	116.14			113.12	4.36	33.19	34.53	Peak	50	100 VERTICAL
4	5185.00	105.08			102.06	4.36	33.19	34.53	Average	50	100 VERTICAL

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5078.00	52.71	54.00	-1.29	49.91	4.30	33.03	34.53	Average	360	117 VERTICAL
2	5123.00	63.65	74.00	-10.35	60.74	4.33	33.11	34.53	Peak	360	117 VERTICAL
3	5199.00	121.00			117.94	4.37	33.22	34.53	Peak	360	117 VERTICAL
4	5199.00	111.07			108.01	4.37	33.22	34.53	Average	360	117 VERTICAL

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5118.00	62.73	74.00	-11.27	59.85	4.32	33.09	34.53	Peak	358	116 VERTICAL
2	5128.00	51.92	54.00	-2.08	49.01	4.33	33.11	34.53	Average	358	116 VERTICAL
3	5238.00	122.76			119.63	4.39	33.27	34.53	Peak	358	116 VERTICAL
4	5238.80	112.93			109.80	4.39	33.27	34.53	Average	358	116 VERTICAL
5	5354.00	63.78	74.00	-10.22	60.38	4.47	33.46	34.53	Peak	358	116 VERTICAL
6	5359.00	52.67	54.00	-1.33	49.27	4.47	33.46	34.53	Average	358	116 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable Loss			Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m						
1	5714.80	67.16	68.20	-1.04	62.00	6.35	34.16	35.35	100	348	VERTICAL	Peak		
2	5720.20	72.45	78.20	-5.75	67.29	6.35	34.16	35.35	100	348	VERTICAL	Peak		
3	5739.80	103.72			98.49	6.36	34.20	35.33	100	348	VERTICAL	Average		
4	5739.90	114.90			109.67	6.36	34.20	35.33	100	348	VERTICAL	Peak		

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

Channel 157

Freq	Level	Limit		Over Limit	Read Level	Cable Loss			Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m						
1	5710.20	66.86	68.20	-1.34	61.72	6.34	34.16	35.36	100	16	VERTICAL	Peak		
2	5718.00	69.52	78.20	-8.68	64.36	6.35	34.16	35.35	100	16	VERTICAL	Peak		
3	5784.60	109.20			103.77	6.39	34.33	35.29	100	16	VERTICAL	Average		
4	5790.20	119.88			114.36	6.40	34.40	35.28	100	16	VERTICAL	Peak		
5	5850.80	66.01	78.20	-12.19	60.21	6.43	34.60	35.23	100	16	VERTICAL	Peak		
6	5860.40	66.90	68.20	-1.30	61.01	6.44	34.67	35.22	100	16	VERTICAL	Peak		

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

Channel 165

Freq	Level	Limit		Over Limit	Read Level	Cable Loss			Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m						
1	5819.80	105.02			99.40	6.41	34.47	35.26	100	349	VERTICAL	Average		
2	5820.00	115.73			110.11	6.41	34.47	35.26	100	349	VERTICAL	Peak		
3	5850.20	76.55	78.20	-1.65	70.75	6.43	34.60	35.23	100	349	VERTICAL	Peak		
4	5860.40	63.65	68.20	-4.55	57.76	6.44	34.67	35.22	100	349	VERTICAL	Peak		

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5148.80	52.67	54.00	-1.33	49.72	4.34	33.14	34.53	Average	360	118 VERTICAL
2	5149.00	67.55	74.00	-6.45	64.60	4.34	33.14	34.53	Peak	360	118 VERTICAL
3	5184.00	113.21			110.19	4.36	33.19	34.53	Peak	360	118 VERTICAL
4	5194.00	101.65			98.59	4.37	33.22	34.53	Average	360	118 VERTICAL

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5145.00	64.47	74.00	-9.53	61.52	4.34	33.14	34.53	Peak	360	116 VERTICAL
2	5149.00	52.79	54.00	-1.21	49.84	4.34	33.14	34.53	Average	360	116 VERTICAL
3	5234.00	117.90			114.77	4.39	33.27	34.53	Peak	360	116 VERTICAL
4	5234.00	107.55			104.42	4.39	33.27	34.53	Average	360	116 VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 151

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
1	5710.00	66.40	68.20	-1.80	61.26	6.34	34.16	35.36	100	350	VERTICAL	Peak
2	5724.80	71.00	78.20	-7.20	65.81	6.35	34.18	35.34	100	350	VERTICAL	Peak
3	5760.00	100.73			95.39	6.38	34.27	35.31	100	350	VERTICAL	Average
4	5760.00	111.76			106.42	6.38	34.27	35.31	100	350	VERTICAL	Peak

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

Channel 159

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamplifier	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
1	5800.00	102.50			96.98	6.40	34.40	35.28	100	17	VERTICAL	Average
2	5800.20	114.15			108.63	6.40	34.40	35.28	100	17	VERTICAL	Peak
3	5850.60	72.48	78.20	-5.72	66.68	6.43	34.60	35.23	100	17	VERTICAL	Peak
4	5860.40	66.90	68.20	-1.30	61.01	6.44	34.67	35.22	100	17	VERTICAL	Peak

Item 1, 2 are the fundamental frequency at 5795 MHz.



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	5148.00	52.55	54.00	-1.45	49.60	4.34	33.14	34.53	Average	360	116 VERTICAL
2	5150.00	70.25	74.00	-3.75	67.30	4.34	33.14	34.53	Peak	360	116 VERTICAL
3	5204.00	108.71			105.65	4.37	33.22	34.53	Peak	360	116 VERTICAL
4	5204.00	95.87			92.81	4.37	33.22	34.53	Average	360	116 VERTICAL
5	5350.00	46.45	54.00	-7.55	43.05	4.47	33.46	34.53	Average	360	116 VERTICAL
6	5351.00	58.96	74.00	-15.04	55.56	4.47	33.46	34.53	Peak	360	116 VERTICAL

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			Loss	Factor	Factor				
1	5715.00	66.60	68.20	-1.60	61.44	6.35	34.16	35.35	100	349 VERTICAL	Peak	
2	5720.60	68.33	78.20	-9.87	63.17	6.35	34.16	35.35	100	349 VERTICAL	Peak	
3	5784.80	108.69			103.26	6.39	34.33	35.29	100	349 VERTICAL	Peak	
4	5789.80	95.56			90.05	6.39	34.40	35.28	100	349 VERTICAL	Average	

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



<For Beamforming Mode>

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable Loss Factor			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBm			dB	dBm	dB	dB/m	dB	dB	cm	deg	
1	5149.20	70.74	74.00	-3.26	65.80	6.13	34.01	35.20	Peak			107	65	VERTICAL
2	5150.00	52.66	54.00	-1.34	47.72	6.13	34.01	35.20	Average			107	65	VERTICAL
3	5178.80	103.74			98.71	6.15	34.08	35.20	Average			107	65	VERTICAL
4	5179.20	115.15			110.12	6.15	34.08	35.20	Peak			107	65	VERTICAL

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable Loss Factor			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBm			dB	dBm	dB	dB/m	dB	dB	cm	deg	
1	5150.00	52.57	54.00	-1.43	47.63	6.13	34.01	35.20	Average			106	66	VERTICAL
2	5150.00	67.68	74.00	-6.32	62.74	6.13	34.01	35.20	Peak			106	66	VERTICAL
3	5208.00	108.64			103.56	6.17	34.11	35.20	Average			106	66	VERTICAL
4	5208.00	119.58			114.50	6.17	34.11	35.20	Peak			106	66	VERTICAL
5	5361.00	49.41	54.00	-4.59	43.92	6.27	34.42	35.20	Average			106	66	VERTICAL
6	5365.00	61.03	74.00	-12.97	55.50	6.27	34.46	35.20	Peak			106	66	VERTICAL

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable Loss Factor			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBm			dB	dBm	dB	dB/m	dB	dB	cm	deg	
1	5113.00	63.15	74.00	-10.85	58.30	6.11	33.94	35.20	Peak			100	62	VERTICAL
2	5119.00	51.61	54.00	-2.39	46.76	6.11	33.94	35.20	Average			100	62	VERTICAL
3	5239.00	119.36			114.20	6.18	34.18	35.20	Peak			100	62	VERTICAL
4	5241.00	108.20			103.04	6.18	34.18	35.20	Average			100	62	VERTICAL
5	5361.00	52.65	54.00	-1.35	47.16	6.27	34.42	35.20	Average			100	62	VERTICAL
6	5367.00	65.38	74.00	-8.62	59.85	6.27	34.46	35.20	Peak			100	62	VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable			Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBm			dBuV	dB	dB/m			cm	deg	
1	5715.00	67.11	68.20	-1.09	61.00	6.44	34.87	35.20	Peak		101	236	VERTICAL
2	5724.00	76.13	78.20	-2.07	69.99	6.45	34.89	35.20	Peak		101	236	VERTICAL
3	5743.00	102.29			96.14	6.45	34.90	35.20	Average		101	236	VERTICAL
4	5744.00	114.20			108.05	6.45	34.90	35.20	Peak		101	236	VERTICAL
5	5858.00	63.20	78.20	-15.00	56.92	6.50	34.98	35.20	Peak		101	236	VERTICAL
6	5863.00	64.26	68.20	-3.94	57.97	6.50	34.99	35.20	Peak		101	236	VERTICAL

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

Channel 157

Freq	Level	Limit		Over Limit	Read Level	Cable			Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBm			dBuV	dB	dB/m			cm	deg	
1	5711.00	66.72	68.20	-1.48	60.61	6.44	34.87	35.20	Peak		100	237	VERTICAL
2	5725.00	67.50	78.20	-10.70	61.36	6.45	34.89	35.20	Peak		100	237	VERTICAL
3	5783.00	119.01			112.82	6.46	34.93	35.20	Peak		100	237	VERTICAL
4	5784.00	107.54			101.35	6.46	34.93	35.20	Average		100	237	VERTICAL
5	5857.00	69.85	78.20	-8.35	63.57	6.50	34.98	35.20	Peak		100	237	VERTICAL
6	5863.00	66.83	68.20	-1.37	60.54	6.50	34.99	35.20	Peak		100	237	VERTICAL

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

Channel 165

Freq	Level	Limit		Over Limit	Read Level	Cable			Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dBm			dBuV	dB	dB/m			cm	deg	
1	5663.00	60.69	68.20	-7.51	54.64	6.42	34.83	35.20	Average		100	240	VERTICAL
2	5723.00	58.11	78.20	-20.09	51.97	6.45	34.89	35.20	Average		100	240	VERTICAL
3	5822.00	116.27			110.04	6.48	34.95	35.20	Average		100	240	VERTICAL
4	5823.00	104.10			97.87	6.48	34.95	35.20	Average		100	240	VERTICAL
5	5850.00	71.72	78.20	-6.48	65.45	6.49	34.98	35.20	Average		100	240	VERTICAL
6	5860.00	66.76	68.20	-1.44	60.47	6.50	34.99	35.20	Average		100	240	VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable			Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m					
MHz	dBuV/m	dBuV/m	dB								cm	deg	
1	5149.20	72.14	74.00	-1.86	67.20	6.13	34.01	35.20	Peak		105	36	VERTICAL
2	5150.00	52.97	54.00	-1.03	48.03	6.13	34.01	35.20	Average		105	36	VERTICAL
3	5184.80	99.58			94.55	6.15	34.08	35.20	Average		105	36	VERTICAL
4	5185.60	110.18			105.15	6.15	34.08	35.20	Peak		105	36	VERTICAL

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable			Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m					
MHz	dBuV/m	dBuV/m	dB								cm	deg	
1	5141.00	64.96	74.00	-9.04	60.05	6.13	33.98	35.20	Peak		101	233	VERTICAL
2	5150.00	52.46	54.00	-1.54	47.52	6.13	34.01	35.20	Average		101	233	VERTICAL
3	5225.00	117.11			111.98	6.18	34.15	35.20	Peak		101	233	VERTICAL
4	5235.00	105.67			100.51	6.18	34.18	35.20	Average		101	233	VERTICAL
5	5354.00	50.75	54.00	-3.25	45.27	6.26	34.42	35.20	Average		101	233	VERTICAL
6	5356.00	63.34	74.00	-10.66	57.86	6.26	34.42	35.20	Peak		101	233	VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 151

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	Line	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5715.00	66.70	68.20	-1.50	60.59	6.44	34.87	35.20	Average	100	100	VERTICAL
2	5722.00	74.60	78.20	-3.60	68.48	6.45	34.87	35.20	Average	100	100	VERTICAL
3	5768.00	99.32			93.15	6.46	34.91	35.20	Average	100	100	VERTICAL
4	5768.00	109.76			103.59	6.46	34.91	35.20	Average	100	100	VERTICAL
5	5852.00	59.45	78.20	-18.75	53.18	6.49	34.98	35.20	Average	100	100	VERTICAL
6	5866.00	60.07	68.20	-8.13	53.78	6.50	34.99	35.20	Average	100	100	VERTICAL

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

Channel 159

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	Line	dB	dBuV	dB	dB/m	dB	cm	deg	
1	5698.00	60.78	68.20	-7.42	54.69	6.43	34.86	35.20	Peak	100	238	VERTICAL
2	5718.00	65.79	78.20	-12.41	59.67	6.45	34.87	35.20	Peak	100	238	VERTICAL
3	5782.00	99.62			93.43	6.46	34.93	35.20	Average	100	238	VERTICAL
4	5791.00	111.47			105.26	6.47	34.94	35.20	Peak	100	238	VERTICAL
5	5851.00	69.00	78.20	-9.20	62.73	6.49	34.98	35.20	Peak	100	238	VERTICAL
6	5861.00	67.05	68.20	-1.15	60.76	6.50	34.99	35.20	Peak	100	238	VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m						
MHz		dBuV/m	dBuV/m			dB						cm	deg	
1	5145.00	70.17	74.00	-3.83	65.23	6.13	34.01	35.20	Peak			100	63	VERTICAL
2	5150.00	52.84	54.00	-1.16	47.90	6.13	34.01	35.20	Average			100	63	VERTICAL
3	5207.00	107.15			102.08	6.16	34.11	35.20	Peak			100	63	VERTICAL
4	5224.00	96.53			91.41	6.17	34.15	35.20	Average			100	63	VERTICAL
5	5354.00	47.06	54.00	-6.94	41.58	6.26	34.42	35.20	Average			100	63	VERTICAL
6	5355.00	59.47	74.00	-14.53	53.99	6.26	34.42	35.20	Peak			100	63	VERTICAL

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m						
MHz		dBuV/m	dBuV/m			dB						cm	deg	
1	5714.00	66.95	68.20	-1.25	60.84	6.44	34.87	35.20	Peak			100	101	VERTICAL
2	5717.00	68.54	78.20	-9.66	62.43	6.44	34.87	35.20	Peak			100	101	VERTICAL
3	5783.00	109.71			103.52	6.46	34.93	35.20	Peak			100	101	VERTICAL
4	5784.00	96.85			90.66	6.46	34.93	35.20	Average			100	101	VERTICAL
5	5852.00	70.33	78.20	-7.87	64.06	6.49	34.98	35.20	Peak			100	101	VERTICAL
6	5860.00	65.63	68.20	-2.57	59.34	6.50	34.99	35.20	Peak			100	101	VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Cable Loss	Antenna Factor	Preamp Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5149.40	70.09	74.00	-3.91	67.14	4.34	33.14	34.53	Peak	116	100 VERTICAL
2	5150.00	52.76	54.00	-1.24	49.81	4.34	33.14	34.53	Average	116	100 VERTICAL
3	5182.00	106.65			103.63	4.36	33.19	34.53	Average	116	100 VERTICAL
4	5182.20	120.29			117.27	4.36	33.19	34.53	Peak	116	100 VERTICAL

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Cable Loss	Antenna Factor	Preamp Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5126.60	65.50	74.00	-8.50	62.59	4.33	33.11	34.53	Peak	232	100 VERTICAL
2	5128.00	52.86	54.00	-1.14	49.95	4.33	33.11	34.53	Average	232	100 VERTICAL
3	5201.20	107.63			104.57	4.37	33.22	34.53	Average	232	100 VERTICAL
4	5201.80	120.93			117.87	4.37	33.22	34.53	Peak	232	100 VERTICAL

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Cable Loss	Antenna Factor	Preamp Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5118.80	62.84	74.00	-11.16	59.96	4.32	33.09	34.53	Peak	117	100 VERTICAL
2	5118.80	50.87	54.00	-3.13	47.99	4.32	33.09	34.53	Average	117	100 VERTICAL
3	5232.20	108.55			105.42	4.39	33.27	34.53	Average	117	100 VERTICAL
4	5237.00	121.45			118.32	4.39	33.27	34.53	Peak	117	100 VERTICAL
5	5353.00	52.86	54.00	-1.14	49.46	4.47	33.46	34.53	Average	117	100 VERTICAL
6	5360.80	66.02	74.00	-7.98	62.58	4.48	33.49	34.53	Peak	117	100 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 149

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm	
1	5714.00	67.07	68.20	-1.13	62.62	4.71	34.32	34.58 Peak	287	100 VERTICAL
2	5724.00	74.86	78.20	-3.34	70.35	4.72	34.37	34.58 Peak	287	100 VERTICAL
3	5744.00	105.44			100.87	4.73	34.42	34.58 Average	287	100 VERTICAL
4	5745.00	117.60			113.03	4.73	34.42	34.58 Peak	287	100 VERTICAL
5	5857.00	62.24	78.20	-15.96	57.24	4.81	34.79	34.60 Peak	287	100 VERTICAL
6	5867.00	62.56	68.20	-5.64	57.56	4.81	34.79	34.60 Peak	287	100 VERTICAL

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

Channel 157

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm	
1	5705.00	65.74	68.20	-2.46	61.29	4.71	34.32	34.58 Peak	60	100 VERTICAL
2	5725.00	59.98	78.20	-18.22	55.47	4.72	34.37	34.58 Peak	60	100 VERTICAL
3	5782.00	107.02			102.33	4.75	34.53	34.59 Average	60	100 VERTICAL
4	5783.00	120.31			115.62	4.75	34.53	34.59 Peak	60	100 VERTICAL
5	5856.00	65.20	78.20	-13.00	60.20	4.81	34.79	34.60 Peak	60	100 VERTICAL
6	5862.00	66.66	68.20	-1.54	61.66	4.81	34.79	34.60 Peak	60	100 VERTICAL

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

Channel 165

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase
		Line	Limit	Level	Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm	
1	5701.00	59.79	68.20	-8.41	55.33	4.71	34.32	34.57 Peak	291	100 VERTICAL
2	5720.00	56.84	78.20	-21.36	52.33	4.72	34.37	34.58 Peak	291	100 VERTICAL
3	5823.00	105.43			100.56	4.79	34.68	34.60 Average	291	100 VERTICAL
4	5825.00	116.92			112.05	4.79	34.68	34.60 Peak	291	100 VERTICAL
5	5850.00	75.10	78.20	-3.10	70.17	4.80	34.73	34.60 Peak	291	100 VERTICAL
6	5861.00	66.94	68.20	-1.26	61.94	4.81	34.79	34.60 Peak	291	100 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m			
MHz		dBuV/m	dBuV/m	dB					deg	cm	
1	5149.60	65.50	74.00	-8.50	62.55	4.34	33.14	34.53	Peak	115	101 VERTICAL
2	5150.00	52.97	54.00	-1.03	50.02	4.34	33.14	34.53	Average	115	101 VERTICAL
3	5184.80	113.26			110.24	4.36	33.19	34.53	Peak	115	101 VERTICAL
4	5186.40	100.46			97.44	4.36	33.19	34.53	Average	115	101 VERTICAL

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m			
MHz		dBuV/m	dBuV/m	dB					deg	cm	
1	5145.20	67.83	74.00	-6.17	64.88	4.34	33.14	34.53	Peak	232	100 VERTICAL
2	5147.60	52.88	54.00	-1.12	49.93	4.34	33.14	34.53	Average	232	100 VERTICAL
3	5225.60	116.71			113.58	4.39	33.27	34.53	Peak	232	100 VERTICAL
4	5226.40	105.07			101.94	4.39	33.27	34.53	Average	232	100 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 151

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m			
MHz	dBuV/m	dBuV/m	dB						deg	cm	
1	5715.00	66.79	68.20	-1.41	62.34	4.71	34.32	34.58	Average	118	100 VERTICAL
2	5724.00	69.41	78.20	-8.79	64.90	4.72	34.37	34.58	Average	118	100 VERTICAL
3	5747.00	112.95			108.38	4.73	34.42	34.58	Average	118	100 VERTICAL
4	5760.00	99.95			95.31	4.74	34.48	34.58	Average	118	100 VERTICAL
5	5850.00	60.90	78.20	-17.30	55.97	4.80	34.73	34.60	Average	118	100 VERTICAL
6	5874.00	60.61	68.20	-7.59	55.55	4.82	34.84	34.60	Average	118	100 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	Pol/Phase
		Line	dB			dBuV	dB	dB/m			
MHz	dBuV/m	dBuV/m	dB						deg	cm	
1	5681.00	60.34	68.20	-7.86	56.01	4.68	34.22	34.57	Peak	114	100 VERTICAL
2	5725.00	65.22	78.20	-12.98	60.71	4.72	34.37	34.58	Peak	114	100 VERTICAL
3	5798.00	102.11			97.36	4.76	34.58	34.59	Average	114	100 VERTICAL
4	5801.00	113.82			109.07	4.76	34.58	34.59	Peak	114	100 VERTICAL
5	5853.00	69.47	78.20	-8.73	64.54	4.80	34.73	34.60	Peak	114	100 VERTICAL
6	5860.00	66.63	68.20	-1.57	61.63	4.81	34.79	34.60	Peak	114	100 VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	dB/m			
1	5146.00	67.62	74.00	-6.38	64.67	4.34	33.14	34.53	Peak	115	100 VERTICAL
2	5147.60	52.88	54.00	-1.12	49.93	4.34	33.14	34.53	Average	115	100 VERTICAL
3	5172.40	107.77			104.78	4.35	33.17	34.53	Peak	115	100 VERTICAL
4	5224.40	95.53			92.43	4.38	33.25	34.53	Average	115	100 VERTICAL

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	dB/m			
1	5702.00	66.75	68.20	-1.45	62.29	4.71	34.32	34.57	Peak	289	100 VERTICAL
2	5721.00	69.96	78.20	-8.24	65.45	4.72	34.37	34.58	Peak	289	100 VERTICAL
3	5751.00	111.84			107.27	4.73	34.42	34.58	Peak	289	100 VERTICAL
4	5769.00	96.65			91.95	4.75	34.53	34.58	Average	289	100 VERTICAL
5	5853.00	66.27	78.20	-11.93	61.34	4.80	34.73	34.60	Peak	289	100 VERTICAL
6	5865.00	64.16	68.20	-4.04	59.16	4.81	34.79	34.60	Peak	289	100 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Cable Loss	Antenna Factor	Preamp Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5146.96	72.35	74.00	-1.65	69.40	4.34	33.14	34.53	Peak	18	132 VERTICAL
2	5150.00	52.94	54.00	-1.06	49.99	4.34	33.14	34.53	Average	18	132 VERTICAL
3	5177.76	106.43			103.41	4.36	33.19	34.53	Average	18	132 VERTICAL
4	5178.08	117.24			114.22	4.36	33.19	34.53	Peak	18	132 VERTICAL

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Cable Loss	Antenna Factor	Preamp Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5078.37	65.89	74.00	-8.11	63.09	4.30	33.03	34.53	Peak	65	100 VERTICAL
2	5080.77	52.90	54.00	-1.10	50.10	4.30	33.03	34.53	Average	65	100 VERTICAL
3	5198.08	119.86			116.80	4.37	33.22	34.53	Peak	65	100 VERTICAL
4	5198.56	109.07			106.01	4.37	33.22	34.53	Average	65	100 VERTICAL

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Cable Loss	Antenna Factor	Preamp Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5126.92	65.88	74.00	-8.12	62.97	4.33	33.11	34.53	Peak	12	116 VERTICAL
2	5126.92	52.81	54.00	-1.19	49.90	4.33	33.11	34.53	Average	12	116 VERTICAL
3	5239.52	111.46			108.33	4.39	33.27	34.53	Average	12	116 VERTICAL
4	5246.73	121.67			118.50	4.40	33.30	34.53	Peak	12	116 VERTICAL
5	5362.50	64.44	74.00	-9.56	61.00	4.48	33.49	34.53	Peak	12	116 VERTICAL
6	5362.50	52.06	54.00	-1.94	48.62	4.48	33.49	34.53	Average	12	116 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dB	dBuV	dB	dB/m	dB	deg	cm	
1	5715.00	66.63	68.20	-1.57	62.18	4.71	34.32	34.58	Peak	15	105 VERTICAL
2	5725.00	76.40	78.20	-1.80	71.89	4.72	34.37	34.58	Peak	15	105 VERTICAL
3	5747.56	118.13			113.56	4.73	34.42	34.58	Peak	15	105 VERTICAL
4	5747.56	107.54			102.97	4.73	34.42	34.58	Average	15	105 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	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dB	dBuV	dB	dB/m	dB	deg	cm	
1	5708.75	63.81	68.20	-4.39	59.36	4.71	34.32	34.58	Peak	7	103 VERTICAL
2	5722.60	62.72	78.20	-15.48	58.21	4.72	34.37	34.58	Peak	7	103 VERTICAL
3	5786.92	122.16			117.41	4.76	34.58	34.59	Peak	7	103 VERTICAL
4	5786.92	111.53			106.78	4.76	34.58	34.59	Average	7	103 VERTICAL
5	5850.00	67.59	78.20	-10.61	62.66	4.80	34.73	34.60	Peak	7	103 VERTICAL
6	5861.92	67.00	68.20	-1.20	62.00	4.81	34.79	34.60	Peak	7	103 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	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dB	dBuV	dB	dB/m	dB	deg	cm	
1	5824.36	107.06			102.19	4.79	34.68	34.60	Average	8	103 VERTICAL
2	5827.24	118.14			113.27	4.79	34.68	34.60	Peak	8	103 VERTICAL
3	5850.00	75.25	78.20	-2.95	70.32	4.80	34.73	34.60	Peak	8	103 VERTICAL
4	5860.00	67.01	68.20	-1.19	62.01	4.81	34.79	34.60	Peak	8	103 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5149.04	52.80	54.00	-1.20	49.85	4.34	33.14	34.53	Average	2	116 VERTICAL
2	5149.68	65.87	74.00	-8.13	62.92	4.34	33.14	34.53	Peak	2	116 VERTICAL
3	5193.85	113.71			110.65	4.37	33.22	34.53	Peak	2	116 VERTICAL
4	5193.85	101.97			98.91	4.37	33.22	34.53	Average	2	116 VERTICAL

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5147.44	52.93	54.00	-1.07	49.98	4.34	33.14	34.53	Average	12	116 VERTICAL
2	5148.40	66.80	74.00	-7.20	63.85	4.34	33.14	34.53	Peak	12	116 VERTICAL
3	5224.55	107.15			104.02	4.39	33.27	34.53	Average	12	116 VERTICAL
4	5234.81	119.03			115.90	4.39	33.27	34.53	Peak	12	116 VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 151

Freq MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Cable			Preamp Factor	Remark	T/Pos deg	A/Pos cm	Pol/Phase
					Loss	Antenna Factor	Remark					
1 5715.00	66.77	68.20	-1.43	62.32	4.71	34.32	34.58	Peak		14	105	VERTICAL
2 5723.40	73.37	78.20	-4.83	68.86	4.72	34.37	34.58	Peak		14	105	VERTICAL
3 5749.87	114.45			109.88	4.73	34.42	34.58	Peak		14	105	VERTICAL
4 5749.87	103.08			98.51	4.73	34.42	34.58	Average		14	105	VERTICAL

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

Channel 159

Freq MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Cable			Preamp Factor	Remark	T/Pos deg	A/Pos cm	Pol/Phase
					Loss	Antenna Factor	Remark					
1 5789.55	116.28			111.53	4.76	34.58	34.59	Peak		9	102	VERTICAL
2 5792.12	104.44			99.69	4.76	34.58	34.59	Average		9	102	VERTICAL
3 5850.00	71.98	78.20	-6.22	67.05	4.80	34.73	34.60	Peak		9	102	VERTICAL
4 5860.00	67.13	68.20	-1.07	62.13	4.81	34.79	34.60	Peak		9	102	VERTICAL

Item 1, 2 are the fundamental frequency at 5795 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dB			dB	dB/m	dB			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	dB	deg	cm	
1	5149.36	52.98	54.00	-1.02	50.03	4.34	33.14	34.53	Average	3	116 VERTICAL
2	5150.00	69.75	74.00	-4.25	66.80	4.34	33.14	34.53	Peak	3	116 VERTICAL
3	5199.10	107.95			104.89	4.37	33.22	34.53	Peak	3	116 VERTICAL
4	5199.10	96.41			93.35	4.37	33.22	34.53	Average	3	116 VERTICAL

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dB			dB	dB/m	dB			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m	dB	deg	cm	
1	5715.00	63.29	68.20	-4.91	58.84	4.71	34.32	34.58	Peak	7	102 VERTICAL
2	5724.36	66.99	78.20	-11.21	62.48	4.72	34.37	34.58	Peak	7	102 VERTICAL
3	5789.10	98.62			93.87	4.76	34.58	34.59	Average	7	102 VERTICAL
4	5798.72	111.37			106.62	4.76	34.58	34.59	Peak	7	102 VERTICAL
5	5850.00	70.94	78.20	-7.26	66.01	4.80	34.73	34.60	Peak	7	102 VERTICAL
6	5860.00	67.16	68.20	-1.04	62.16	4.81	34.79	34.60	Peak	7	102 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 36

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss			Antenna Factor dB	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	dBuV/m			dB	dB	dB/m				deg	cm	
1 5150.00	67.61	74.00	-6.39	64.66	4.34	33.14	34.53	Peak	344	116	VERTICAL			
2 5150.00	52.84	54.00	-1.16	49.89	4.34	33.14	34.53	Average	344	116	VERTICAL			
3 5172.79	107.79			104.80	4.35	33.17	34.53	Average	344	116	VERTICAL			
4 5184.01	119.26			116.24	4.36	33.19	34.53	Peak	344	116	VERTICAL			

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

Channel 40

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss			Antenna Factor dB	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	dBuV/m			dB	dB	dB/m				deg	cm	
1 5112.34	52.55	54.00	-1.45	49.67	4.32	33.09	34.53	Average	345	126	VERTICAL			
2 5140.39	64.66	74.00	-9.34	61.71	4.34	33.14	34.53	Peak	345	126	VERTICAL			
3 5197.60	110.72			107.66	4.37	33.22	34.53	Average	345	126	VERTICAL			
4 5199.20	121.28			118.22	4.37	33.22	34.53	Peak	345	126	VERTICAL			

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

Channel 48

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss			Antenna Factor dB	Preamp Factor dB	Remark	T/Pos	A/Pos	Pol/Phase
		Line dBuV/m	dBuV/m			dB	dB	dB/m				deg	cm	
1 5125.96	64.41	74.00	-9.59	61.50	4.33	33.11	34.53	Peak	361	115	VERTICAL			
2 5127.56	52.79	54.00	-1.21	49.88	4.33	33.11	34.53	Average	361	115	VERTICAL			
3 5232.79	111.38			108.25	4.39	33.27	34.53	Average	361	115	VERTICAL			
4 5237.60	121.63			118.50	4.39	33.27	34.53	Peak	361	115	VERTICAL			
5 5352.40	64.14	74.00	-9.86	60.74	4.47	33.46	34.53	Peak	361	115	VERTICAL			
6 5352.40	52.22	54.00	-1.78	48.82	4.47	33.46	34.53	Average	361	115	VERTICAL			

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2 + Chain 3
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	5710.99	66.97	68.20	-1.23	62.52	4.71	34.32	34.58	Peak	345	112 VERTICAL
2	5720.99	73.75	78.20	-4.45	69.24	4.72	34.37	34.58	Peak	345	112 VERTICAL
3	5743.40	116.99			112.42	4.73	34.42	34.58	Peak	345	112 VERTICAL
4	5746.60	104.42			99.85	4.73	34.42	34.58	Average	345	112 VERTICAL
5	5853.21	59.40	78.20	-18.80	54.47	4.80	34.73	34.60	Peak	345	112 VERTICAL
6	5860.80	62.46	68.20	-5.74	57.46	4.81	34.79	34.60	Peak	345	112 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	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	5712.60	65.12	68.20	-3.08	60.67	4.71	34.32	34.58	Average	346	111 VERTICAL
2	5725.00	63.24	78.20	-14.96	58.73	4.72	34.37	34.58	Average	346	111 VERTICAL
3	5782.60	122.02			117.33	4.75	34.53	34.59	Average	346	111 VERTICAL
4	5787.40	109.82			105.07	4.76	34.58	34.59	Peak	346	111 VERTICAL
5	5850.00	66.12	78.20	-12.08	61.19	4.80	34.73	34.60	Average	346	111 VERTICAL
6	5863.62	67.03	68.20	-1.17	62.03	4.81	34.79	34.60	Average	346	111 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	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
1	5706.19	61.39	68.20	-6.81	56.94	4.71	34.32	34.58	Peak	346	102 VERTICAL
2	5721.80	57.46	78.20	-20.74	52.95	4.72	34.37	34.58	Peak	346	102 VERTICAL
3	5826.60	106.89			102.02	4.79	34.68	34.60	Average	346	102 VERTICAL
4	5833.01	118.03			113.16	4.79	34.68	34.60	Peak	346	102 VERTICAL
5	5850.00	75.91	78.20	-2.29	70.98	4.80	34.73	34.60	Peak	346	102 VERTICAL
6	5862.40	66.81	68.20	-1.39	61.81	4.81	34.79	34.60	Peak	346	102 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2 + Chain 3
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5149.20	52.60	54.00	-1.40	49.65	4.34	33.14	34.53	Average	360	118 VERTICAL
2	5150.00	64.56	74.00	-9.44	61.61	4.34	33.14	34.53	Peak	360	118 VERTICAL
3	5184.39	111.96			108.94	4.36	33.19	34.53	Peak	360	118 VERTICAL
4	5186.80	102.59			99.57	4.36	33.19	34.53	Average	360	118 VERTICAL

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5147.60	66.37	74.00	-7.63	63.42	4.34	33.14	34.53	Peak	360	117 VERTICAL
2	5148.40	52.81	54.00	-1.19	49.86	4.34	33.14	34.53	Average	360	117 VERTICAL
3	5223.59	106.59			103.49	4.38	33.25	34.53	Average	360	117 VERTICAL
4	5233.21	116.96			113.83	4.39	33.27	34.53	Peak	360	117 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2 + Chain 3
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 151

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase	
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5706.99	66.67	68.20	-1.53	62.22	4.71	34.32	34.58	Peak	349	112 VERTICAL
2	5722.60	71.86	78.20	-6.34	67.35	4.72	34.37	34.58	Peak	349	112 VERTICAL
3	5758.21	114.48			109.84	4.74	34.48	34.58	Peak	349	112 VERTICAL
4	5759.01	102.80			98.16	4.74	34.48	34.58	Average	349	112 VERTICAL
5	5850.00	60.88	78.20	-17.32	55.95	4.80	34.73	34.60	Peak	349	112 VERTICAL
6	5862.40	61.10	68.20	-7.10	56.10	4.81	34.79	34.60	Peak	349	112 VERTICAL

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

Channel 159

Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	T/Pos	A/Pos	Pol/Phase	
		Line	Limit	Level	Loss	Factor	Factor				
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5709.39	61.86	68.20	-6.34	57.41	4.71	34.32	34.58	Average	347	103 VERTICAL
2	5725.00	64.64	78.20	-13.56	60.13	4.72	34.37	34.58	Average	347	103 VERTICAL
3	5799.01	105.25			100.50	4.76	34.58	34.59	Peak	347	103 VERTICAL
4	5799.01	116.28			111.53	4.76	34.58	34.59	Average	347	103 VERTICAL
5	5850.80	69.56	78.20	-8.64	64.63	4.80	34.73	34.60	Average	347	103 VERTICAL
6	5862.40	66.78	68.20	-1.42	61.78	4.81	34.79	34.60	Average	347	103 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2 + Chain 3
Test Date	May 30, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5147.60	67.75	74.00	-6.25	64.80	4.34	33.14	34.53	Peak	363	116 VERTICAL
2	5150.00	52.47	54.00	-1.53	49.52	4.34	33.14	34.53	Average	360	116 VERTICAL
3	5201.19	106.94			103.88	4.37	33.22	34.53	Peak	363	116 VERTICAL
4	5217.21	96.94			93.84	4.38	33.25	34.53	Average	360	116 VERTICAL
5	5350.80	56.10	74.00	-17.90	52.70	4.47	33.46	34.53	Peak	363	116 VERTICAL
6	5350.80	42.70	54.00	-11.30	39.30	4.47	33.46	34.53	Average	363	116 VERTICAL

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5704.58	66.82	68.20	-1.38	62.36	4.71	34.32	34.57	Peak	348	113 VERTICAL
2	5725.00	67.97	78.20	-10.23	63.46	4.72	34.37	34.58	Peak	348	113 VERTICAL
3	5744.55	111.92			107.35	4.73	34.42	34.58	Peak	348	113 VERTICAL
4	5791.03	100.01			95.26	4.76	34.58	34.59	Average	348	113 VERTICAL
5	5850.00	65.05	78.20	-13.15	60.12	4.80	34.73	34.60	Peak	348	113 VERTICAL
6	5860.00	63.20	68.20	-5.00	58.20	4.81	34.79	34.60	Peak	348	113 VERTICAL

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



<For STBC Mode>

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			Cable Loss	Antenna Factor	Preamp Factor			
1	5147.80	67.42	74.00	-6.58	62.48	6.13	34.01	35.20	Peak	100	113 VERTICAL
2	5150.00	52.42	54.00	-1.58	47.48	6.13	34.01	35.20	Average	100	113 VERTICAL
3	5177.80	101.56			96.53	6.15	34.08	35.20	Average	100	113 VERTICAL
4	5187.60	112.79			107.76	6.15	34.08	35.20	Peak	100	113 VERTICAL

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			Cable Loss	Antenna Factor	Preamp Factor			
1	5147.20	66.91	74.00	-7.09	61.97	6.13	34.01	35.20	Peak	100	114 VERTICAL
2	5149.60	52.53	54.00	-1.47	47.59	6.13	34.01	35.20	Average	100	114 VERTICAL
3	5197.60	106.65			101.58	6.16	34.11	35.20	Average	100	114 VERTICAL
4	5201.20	118.72			113.65	6.16	34.11	35.20	Peak	100	114 VERTICAL

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBuV/m			Cable Loss	Antenna Factor	Preamp Factor			
1	5113.40	49.52	54.00	-4.48	44.67	6.11	33.94	35.20	Average	100	234 VERTICAL
2	5113.40	61.32	74.00	-12.68	56.47	6.11	33.94	35.20	Peak	100	234 VERTICAL
3	5233.40	106.59			101.43	6.18	34.18	35.20	Average	100	234 VERTICAL
4	5238.80	118.02			112.86	6.18	34.18	35.20	Peak	100	234 VERTICAL
5	5366.80	52.62	54.00	-1.38	47.09	6.27	34.46	35.20	Average	100	234 VERTICAL
6	5367.40	65.67	74.00	-8.33	60.14	6.27	34.46	35.20	Peak	100	234 VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBm			Loss	Factor	Factor			
1	5714.60	66.72	68.20	-1.48	60.61	6.44	34.87	35.20	Peak	101	302 VERTICAL
2	5721.00	72.67	78.20	-5.53	66.55	6.45	34.87	35.20	Peak	101	302 VERTICAL
3	5742.60	101.02			94.87	6.45	34.90	35.20	Average	101	302 VERTICAL
4	5743.00	112.91			106.76	6.45	34.90	35.20	Peak	101	302 VERTICAL

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

Channel 157

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBm			Loss	Factor	Factor			
1	5711.80	67.07	68.20	-1.13	60.96	6.44	34.87	35.20	Peak	100	100 VERTICAL
2	5722.60	68.52	78.20	-9.68	62.40	6.45	34.87	35.20	Peak	100	100 VERTICAL
3	5784.20	120.25			114.06	6.46	34.93	35.20	Peak	100	100 VERTICAL
4	5787.00	107.68			101.48	6.47	34.93	35.20	Average	100	100 VERTICAL
5	5854.80	68.60	78.20	-9.60	62.32	6.50	34.98	35.20	Peak	100	100 VERTICAL
6	5870.00	66.81	68.20	-1.39	60.52	6.50	34.99	35.20	Peak	100	100 VERTICAL

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

Channel 165

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			A/Pos	T/Pos	Pol/Phase
		Line	dBm			Loss	Factor	Factor			
1	5817.40	114.56			108.33	6.48	34.95	35.20	Peak	100	240 VERTICAL
2	5822.60	103.29			97.06	6.48	34.95	35.20	Average	100	240 VERTICAL
3	5850.00	74.46	78.20	-3.74	68.19	6.49	34.98	35.20	Peak	100	240 VERTICAL
4	5861.60	66.41	68.20	-1.79	60.12	6.50	34.99	35.20	Peak	100	240 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable			Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m					
MHz	dBuV/m	dBuV/m	dB								cm	deg	
1	5148.80	72.28	74.00	-1.72	67.34	6.13	34.01	35.20	Peak		100	306	VERTICAL
2	5150.00	52.69	54.00	-1.31	47.75	6.13	34.01	35.20	Average		100	306	VERTICAL
3	5193.20	97.60			92.56	6.16	34.08	35.20	Average		100	306	VERTICAL
4	5202.80	110.47			105.40	6.16	34.11	35.20	Peak		100	306	VERTICAL

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable			Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m					
MHz	dBuV/m	dBuV/m	dB								cm	deg	
1	5147.60	66.97	74.00	-7.03	62.03	6.13	34.01	35.20	Peak		100	233	VERTICAL
2	5148.40	52.54	54.00	-1.46	47.60	6.13	34.01	35.20	Average		100	233	VERTICAL
3	5226.40	103.66			98.53	6.18	34.15	35.20	Average		100	233	VERTICAL
4	5227.20	116.06			110.93	6.18	34.15	35.20	Peak		100	233	VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 151

Freq	Level	Limit		Over Limit	Read Level	Cable			Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m			cm	deg	
1	5713.40	66.94	68.20	-1.26	60.83	6.44	34.87	35.20	Peak		102	239	VERTICAL
2	5722.60	71.30	78.20	-6.90	65.18	6.45	34.87	35.20	Peak		102	239	VERTICAL
3	5760.20	110.29			104.12	6.46	34.91	35.20	Peak		102	239	VERTICAL
4	5763.00	97.85			91.68	6.46	34.91	35.20	Average		102	239	VERTICAL

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

Channel 159

Freq	Level	Limit		Over Limit	Read Level	Cable			Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		Line	dB			dBuV	dB	dB/m			cm	deg	
1	5791.00	111.75			105.54	6.47	34.94	35.20	Peak		100	74	VERTICAL
2	5791.40	98.91			92.70	6.47	34.94	35.20	Average		100	74	VERTICAL
3	5850.40	69.42	78.20	-8.78	63.15	6.49	34.98	35.20	Peak		100	74	VERTICAL
4	5881.60	66.87	68.20	-1.33	60.56	6.50	35.01	35.20	Peak		100	74	VERTICAL

Item 1, 2 are the fundamental frequency at 5795 MHz.



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2
Test Date	May 26, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 2TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable Loss			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg		
1	5138.00	67.03	74.00	-6.97	62.13	6.12	33.98	35.20	Peak		107	65	VERTICAL	
2	5150.00	52.56	54.00	-1.44	47.62	6.13	34.01	35.20	Average		107	65	VERTICAL	
3	5198.00	93.28			88.21	6.16	34.11	35.20	Average		107	65	VERTICAL	
4	5216.00	106.39			101.27	6.17	34.15	35.20	Peak		107	65	VERTICAL	

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable Loss			Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	dB	cm	deg		
1	5714.40	66.95	68.20	-1.25	60.84	6.44	34.87	35.20	Peak		100	298	VERTICAL	
2	5719.60	66.62	78.20	-11.58	60.50	6.45	34.87	35.20	Peak		100	298	VERTICAL	
3	5784.00	107.43			101.24	6.46	34.93	35.20	Peak		100	298	VERTICAL	
4	5787.00	93.19			86.99	6.47	34.93	35.20	Average		100	298	VERTICAL	
5	5850.60	65.55	78.20	-12.65	59.28	6.49	34.98	35.20	Peak		100	298	VERTICAL	
6	5866.60	64.95	68.20	-3.25	58.66	6.50	34.99	35.20	Peak		100	298	VERTICAL	

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m				dB	dB	dB/m	dB	deg	cm
1	5150.00	68.09	74.00	-5.91	65.14	4.34	33.14	34.53	Peak	117	100 VERTICAL
2	5150.00	52.43	54.00	-1.57	49.48	4.34	33.14	34.53	Average	117	100 VERTICAL
3	5173.40	106.66			103.67	4.35	33.17	34.53	Average	117	100 VERTICAL
4	5177.40	117.50			114.48	4.36	33.19	34.53	Peak	117	100 VERTICAL

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m				dB	dB	dB/m	dB	deg	cm
1	5149.20	68.83	74.00	-5.17	65.88	4.34	33.14	34.53	Peak	116	100 VERTICAL
2	5150.00	52.81	54.00	-1.19	49.86	4.34	33.14	34.53	Average	116	100 VERTICAL
3	5193.20	109.60			106.54	4.37	33.22	34.53	Average	116	100 VERTICAL
4	5199.20	120.72			117.66	4.37	33.22	34.53	Peak	116	100 VERTICAL

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dB			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m				dB	dB	dB/m	dB	deg	cm
1	5124.20	64.00	74.00	-10.00	61.09	4.33	33.11	34.53	Peak	119	100 VERTICAL
2	5126.60	51.00	54.00	-3.00	48.09	4.33	33.11	34.53	Average	119	100 VERTICAL
3	5233.40	110.70			107.57	4.39	33.27	34.53	Average	119	100 VERTICAL
4	5241.80	121.91			118.74	4.40	33.30	34.53	Peak	119	100 VERTICAL
5	5353.60	52.77	54.00	-1.23	49.37	4.47	33.46	34.53	Average	119	100 VERTICAL
6	5357.80	65.16	74.00	-8.84	61.76	4.47	33.46	34.53	Peak	119	100 VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5715.00	67.12	68.20	-1.08	62.67	4.71	34.32	34.58 Peak	118	100	VERTICAL
2	5723.40	75.41	78.20	-2.79	70.90	4.72	34.37	34.58 Peak	118	100	VERTICAL
3	5747.00	104.95			100.38	4.73	34.42	34.58 Average	118	100	VERTICAL
4	5747.40	116.57			112.00	4.73	34.42	34.58 Peak	118	100	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	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5710.80	67.02	68.20	-1.18	62.57	4.71	34.32	34.58 Peak	118	100	VERTICAL
2	5725.00	67.86	78.20	-10.34	63.35	4.72	34.37	34.58 Peak	118	100	VERTICAL
3	5786.80	110.31			105.56	4.76	34.58	34.59 Average	118	100	VERTICAL
4	5788.00	122.33			117.58	4.76	34.58	34.59 Peak	118	100	VERTICAL
5	5850.00	68.61	78.20	-9.59	63.68	4.80	34.73	34.60 Peak	118	100	VERTICAL
6	5860.60	66.77	68.20	-1.43	61.77	4.81	34.79	34.60 Peak	118	100	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	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5827.00	104.80			99.93	4.79	34.68	34.60 Average	118	100	VERTICAL
2	5827.80	116.38			111.51	4.79	34.68	34.60 Peak	118	100	VERTICAL
3	5850.00	76.71	78.20	-1.49	71.78	4.80	34.73	34.60 Peak	118	100	VERTICAL
4	5860.40	67.14	68.20	-1.06	62.14	4.81	34.79	34.60 Peak	118	100	VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5150.00	68.54	74.00	-5.46	65.59	4.34	33.14	34.53	Peak	117	100 VERTICAL
2	5150.00	52.95	54.00	-1.05	50.00	4.34	33.14	34.53	Average	117	100 VERTICAL
3	5184.00	111.99			108.97	4.36	33.19	34.53	Peak	117	100 VERTICAL
4	5193.60	100.24			97.18	4.37	33.22	34.53	Average	117	100 VERTICAL

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5141.60	68.38	74.00	-5.62	65.43	4.34	33.14	34.53	Peak	118	100 VERTICAL
2	5148.80	52.63	54.00	-1.37	49.68	4.34	33.14	34.53	Average	118	100 VERTICAL
3	5233.20	106.81			103.68	4.39	33.27	34.53	Average	118	100 VERTICAL
4	5235.60	118.25			115.12	4.39	33.27	34.53	Peak	118	100 VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 151

Freq MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Cable			Preamp Factor	Remark	T/Pos deg	A/Pos cm	Pol/Phase
					Antenna Loss	Factor	Factor					
1 5709.40	67.16	68.20	-1.04	62.71	4.71	34.32	34.58	Peak		56	100	VERTICAL
2 5722.20	71.73	78.20	-6.47	67.22	4.72	34.37	34.58	Peak		56	100	VERTICAL
3 5758.60	100.46			95.82	4.74	34.48	34.58	Average		56	100	VERTICAL
4 5760.20	113.03			108.39	4.74	34.48	34.58	Peak		56	100	VERTICAL

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

Channel 159

Freq MHz	Level dBuV/m	Limit Line dBuV/m	Over Limit dB	Read Level dBuV	Cable			Preamp Factor	Remark	T/Pos deg	A/Pos cm	Pol/Phase
					Antenna Loss	Factor	Factor					
1 5707.80	63.81	68.20	-4.39	59.36	4.71	34.32	34.58	Peak		117	100	VERTICAL
2 5725.00	62.97	78.20	-15.23	58.46	4.72	34.37	34.58	Peak		117	100	VERTICAL
3 5789.80	115.82			111.07	4.76	34.58	34.59	Peak		117	100	VERTICAL
4 5791.40	102.28			97.53	4.76	34.58	34.59	Average		117	100	VERTICAL
5 5850.00	70.96	78.20	-7.24	66.03	4.80	34.73	34.60	Peak		117	100	VERTICAL
6 5860.00	67.04	68.20	-1.16	62.04	4.81	34.79	34.60	Peak		117	100	VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2 + Chain 3
Test Date	May 27, 2014	Test Mode	Mode 1 (Ant. 2 Dipole antenna / 5dBi / 3TX)

Channel 42

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss			Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
		dB	dBuV/m			dB	dB/m	deg				deg	cm	
1 5145.20	67.69	74.00	-6.31	64.74	4.34	33.14	34.53	Peak				118	100	VERTICAL
2 5150.00	52.88	54.00	-1.12	49.93	4.34	33.14	34.53	Average				118	100	VERTICAL
3 5213.20	95.18			92.08	4.38	33.25	34.53	Average				118	100	VERTICAL
4 5214.00	108.04			104.94	4.38	33.25	34.53	Peak				118	100	VERTICAL

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

Channel 155

Freq MHz	Level dBuV/m	Limit		Over Line Limit	Read Level dBuV	Cable Loss			Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
		dB	dBuV/m			dB	dB/m	deg				deg	cm	
1 5714.40	66.95	68.20	-1.25	62.50	4.71	34.32	34.58	Peak				118	100	VERTICAL
2 5719.00	71.14	78.20	-7.06	66.63	4.72	34.37	34.58	Peak				118	100	VERTICAL
3 5787.00	96.30			91.55	4.76	34.58	34.59	Average				118	100	VERTICAL
4 5790.00	110.16			105.41	4.76	34.58	34.59	Peak				118	100	VERTICAL
5 5850.00	65.82	78.20	-12.38	60.89	4.80	34.73	34.60	Peak				118	100	VERTICAL
6 5867.20	64.77	68.20	-3.43	59.77	4.81	34.79	34.60	Peak				118	100	VERTICAL

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
MHz	dBm	dBm	dBm	dB	dBmV	dB	dB/m	dB	cm	deg		
1	5148.50	66.01	74.00	-7.99	62.41	5.99	33.02	35.41	123	11	VERTICAL	Peak
2	5150.00	52.54	54.00	-1.46	48.94	5.99	33.02	35.41	123	11	VERTICAL	Average
3	5182.00	104.60			100.98	6.01	33.04	35.43	123	11	VERTICAL	Average
4	5188.00	114.26			110.62	6.02	33.05	35.43	123	11	VERTICAL	Peak

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
MHz	dBm	dBm	dBm	dB	dBmV	dB	dB/m	dB	cm	deg		
1	5150.00	52.61	54.00	-1.39	49.01	5.99	33.02	35.41	102	349	VERTICAL	Average
2	5150.00	65.10	74.00	-8.90	61.50	5.99	33.02	35.41	102	349	VERTICAL	Peak
3	5198.00	107.68			104.04	6.02	33.05	35.43	102	349	VERTICAL	Average
4	5198.50	116.97			113.33	6.02	33.05	35.43	102	349	VERTICAL	Peak

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
MHz	dBm	dBm	dBm	dB	dBmV	dB	dB/m	dB	cm	deg		
1	5122.00	52.57	54.00	-1.43	49.00	5.98	32.99	35.40	134	342	VERTICAL	Average
2	5127.00	63.72	74.00	-10.28	60.14	5.98	33.01	35.41	134	342	VERTICAL	Peak
3	5241.00	115.80			112.11	6.05	33.09	35.45	134	342	VERTICAL	Peak
4	5242.00	107.22			103.53	6.05	33.09	35.45	134	342	VERTICAL	Average
5	5360.00	61.16	74.00	-12.84	57.08	6.12	33.45	35.49	134	342	VERTICAL	Peak
6	5361.50	48.36	54.00	-5.64	44.28	6.12	33.45	35.49	134	342	VERTICAL	Average

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg			
1	5712.40	67.19	68.20	-1.01	62.04	6.34	34.16	35.35	100	352	VERTICAL	Peak
2	5722.60	72.30	78.20	-5.90	67.11	6.35	34.18	35.34	100	352	VERTICAL	Peak
3	5742.00	111.26			106.03	6.36	34.20	35.33	100	352	VERTICAL	Peak
4	5743.00	101.15			95.92	6.36	34.20	35.33	100	352	VERTICAL	Average
5	5852.50	59.81	78.20	-18.39	54.00	6.44	34.60	35.23	100	352	VERTICAL	Peak
6	5861.00	60.21	68.20	-7.99	54.32	6.44	34.67	35.22	100	352	VERTICAL	Peak

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

Channel 157

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg			
1	5705.50	65.31	68.20	-2.89	60.19	6.34	34.14	35.36	100	12	VERTICAL	Peak
2	5725.00	66.58	78.20	-11.62	61.39	6.35	34.18	35.34	100	12	VERTICAL	Peak
3	5787.00	108.71			103.28	6.39	34.33	35.29	100	12	VERTICAL	Average
4	5787.00	120.30			114.87	6.39	34.33	35.29	100	12	VERTICAL	Peak
5	5854.50	68.74	78.20	-9.46	62.93	6.44	34.60	35.23	100	12	VERTICAL	Peak
6	5861.00	66.99	68.20	-1.21	61.10	6.44	34.67	35.22	100	12	VERTICAL	Peak

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

Channel 165

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg			
1	5700.50	59.99	68.20	-8.21	54.87	6.34	34.14	35.36	100	12	VERTICAL	Peak
2	5722.50	59.05	78.20	-19.15	53.86	6.35	34.18	35.34	100	12	VERTICAL	Peak
3	5821.50	112.28			106.65	6.42	34.47	35.26	100	12	VERTICAL	Average
4	5827.00	102.48			96.78	6.42	34.53	35.25	100	12	VERTICAL	Average
5	5851.00	72.30	78.20	-5.90	66.50	6.43	34.60	35.23	100	12	VERTICAL	Peak
6	5862.00	66.97	68.20	-1.23	61.08	6.44	34.67	35.22	100	12	VERTICAL	Peak

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
1	5149.00	67.20	74.00	-6.80	63.60	5.99	33.02	35.41	123	8 VERTICAL	Peak	
2	5150.00	52.54	54.00	-1.46	48.94	5.99	33.02	35.41	123	8 VERTICAL	Average	
3	5184.00	110.63			107.01	6.01	33.04	35.43	123	8 VERTICAL	Peak	
4	5186.50	99.38			95.75	6.02	33.04	35.43	123	8 VERTICAL	Average	

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
1	5142.00	66.48	74.00	-7.52	62.88	5.99	33.02	35.41	122	7 VERTICAL	Peak	
2	5150.00	52.53	54.00	-1.47	48.93	5.99	33.02	35.41	122	7 VERTICAL	Average	
3	5226.00	116.50			112.82	6.04	33.08	35.44	122	7 VERTICAL	Peak	
4	5226.50	104.87			101.19	6.04	33.08	35.44	122	7 VERTICAL	Average	

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 151

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			Loss	Factor	Factor	cm	deg		
1	5712.00	66.83	68.20	-1.37	61.68	6.34	34.16	35.35	100	16	VERTICAL	Peak
2	5725.50	70.26	78.20	-7.94	65.07	6.35	34.18	35.34	100	16	VERTICAL	Peak
3	5749.00	108.95			103.70	6.37	34.20	35.32	100	16	VERTICAL	Peak
4	5763.00	97.52			92.18	6.38	34.27	35.31	100	16	VERTICAL	Average
5	5850.00	60.29	78.20	-17.91	54.49	6.43	34.60	35.23	100	16	VERTICAL	Peak
6	5865.00	61.25	68.20	-6.95	55.36	6.44	34.67	35.22	100	16	VERTICAL	Peak

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

Channel 159

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			Loss	Factor	Factor	cm	deg		
1	5714.00	60.51	68.20	-7.69	55.36	6.34	34.16	35.35	100	16	VERTICAL	Peak
2	5725.00	60.13	78.20	-18.07	54.94	6.35	34.18	35.34	100	16	VERTICAL	Peak
3	5799.50	110.65			105.13	6.40	34.40	35.28	100	16	VERTICAL	Peak
4	5800.00	98.48			92.96	6.40	34.40	35.28	100	16	VERTICAL	Average
5	5850.00	67.80	78.20	-10.40	62.00	6.43	34.60	35.23	100	16	VERTICAL	Peak
6	5860.00	66.76	68.20	-1.44	60.87	6.44	34.67	35.22	100	16	VERTICAL	Peak

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 2TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz		dBuV/m	dBuV/m									
1	5146.50	69.42	74.00	-4.58	65.82	5.99	33.02	35.41	124	6 VERTICAL	Peak	
2	5150.00	52.43	54.00	-1.57	48.83	5.99	33.02	35.41	124	6 VERTICAL	Average	
3	5218.50	107.18			103.51	6.03	33.08	35.44	124	6 VERTICAL	Peak	
4	5222.00	94.36			90.68	6.04	33.08	35.44	124	6 VERTICAL	Average	
5	5350.00	43.92	54.00	-10.08	39.90	6.11	33.40	35.49	124	6 VERTICAL	Average	
6	5362.50	57.69	74.00	-16.31	53.61	6.12	33.45	35.49	124	6 VERTICAL	Peak	

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			dBuV	dB	dB/m	dB	cm		
MHz		dBuV/m	dBuV/m									
1	5706.50	66.68	68.20	-1.52	61.54	6.34	34.16	35.36	100	12 VERTICAL	Peak	
2	5720.50	66.43	78.20	-11.77	61.27	6.35	34.16	35.35	100	12 VERTICAL	Peak	
3	5787.00	93.40			87.97	6.39	34.33	35.29	100	12 VERTICAL	Average	
4	5804.00	106.45			100.92	6.40	34.40	35.27	100	12 VERTICAL	Peak	
5	5850.00	63.71	78.20	-14.49	57.91	6.43	34.60	35.23	100	12 VERTICAL	Peak	
6	5869.00	64.04	68.20	-4.16	58.14	6.45	34.67	35.22	100	12 VERTICAL	Peak	

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

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 36

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5150.00	68.68	74.00	-5.32	65.73	4.34	33.14	34.53	Peak	343	116 VERTICAL
2	5150.00	52.67	54.00	-1.33	49.72	4.34	33.14	34.53	Average	343	116 VERTICAL
3	5181.00	119.37			116.35	4.36	33.19	34.53	Peak	343	116 VERTICAL
4	5182.00	108.47			105.45	4.36	33.19	34.53	Average	343	116 VERTICAL

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

Channel 40

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5077.00	64.57	74.00	-9.43	61.77	4.30	33.03	34.53	Peak	20	119 VERTICAL
2	5082.00	52.56	54.00	-1.44	49.76	4.30	33.03	34.53	Average	20	119 VERTICAL
3	5198.00	109.69			106.63	4.37	33.22	34.53	Average	20	119 VERTICAL
4	5202.00	119.25			116.19	4.37	33.22	34.53	Peak	20	119 VERTICAL

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

Channel 48

Freq	Level	Limit		Over Limit	Read Level	Cable Antenna Preamp			T/Pos	A/Pos	Pol/Phase
		Line	dBuV/m			Loss	Factor	Factor			
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	deg	cm	
1	5126.00	61.46	74.00	-12.54	58.55	4.33	33.11	34.53	Peak	343	114 VERTICAL
2	5126.00	49.96	54.00	-4.04	47.05	4.33	33.11	34.53	Average	343	114 VERTICAL
3	5242.00	121.05			117.88	4.40	33.30	34.53	Peak	343	114 VERTICAL
4	5242.00	109.76			106.59	4.40	33.30	34.53	Average	343	114 VERTICAL
5	5361.00	65.65	74.00	-8.35	62.21	4.48	33.49	34.53	Peak	343	114 VERTICAL
6	5362.00	52.72	54.00	-1.28	49.28	4.48	33.49	34.53	Average	343	114 VERTICAL

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 149

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
1	5713.60	66.43	68.20	-1.77	61.28	6.34	34.16	35.35	118	13	VERTICAL	Peak
2	5724.60	74.99	78.20	-3.21	69.80	6.35	34.18	35.34	118	13	VERTICAL	Peak
3	5743.40	115.08			109.85	6.36	34.20	35.33	118	13	VERTICAL	Peak
4	5747.20	104.55			99.30	6.37	34.20	35.32	118	13	VERTICAL	Average

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

Channel 157

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
1	5713.20	65.20	68.20	-3.00	60.05	6.34	34.16	35.35	110	11	VERTICAL	Peak
2	5723.60	66.92	78.20	-11.28	61.73	6.35	34.18	35.34	110	11	VERTICAL	Peak
3	5786.40	120.65			115.22	6.39	34.33	35.29	110	11	VERTICAL	Peak
4	5787.20	109.35			103.92	6.39	34.33	35.29	110	11	VERTICAL	Average
5	5856.40	66.75	78.20	-11.45	60.87	6.44	34.67	35.23	110	11	VERTICAL	Peak
6	5862.00	66.78	68.20	-1.42	60.89	6.44	34.67	35.22	110	11	VERTICAL	Peak

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

Channel 165

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Factor	Factor	cm	deg		
1	5826.50	117.25			111.55	6.42	34.53	35.25	118	12	VERTICAL	Peak
2	5827.20	106.29			100.59	6.42	34.53	35.25	118	12	VERTICAL	Average
3	5850.10	77.00	78.20	-1.20	71.20	6.43	34.60	35.23	118	12	VERTICAL	Peak
4	5864.50	66.74	68.20	-1.46	60.85	6.44	34.67	35.22	118	12	VERTICAL	Peak

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 38

Freq	Level	Limit		Over Limit	Read Level	Cable			A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Antenna Factor	Preamplifier Factor				
1	5149.00	65.61	74.00	-8.39	62.01	5.99	33.02	35.41	122	355	VERTICAL	Peak
2	5150.00	52.65	54.00	-1.35	49.05	5.99	33.02	35.41	122	355	VERTICAL	Average
3	5193.40	102.05			98.41	6.02	33.05	35.43	122	355	VERTICAL	Average
4	5194.00	113.50			109.86	6.02	33.05	35.43	122	355	VERTICAL	Peak

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

Channel 46

Freq	Level	Limit		Over Limit	Read Level	Cable			A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBm			Loss	Antenna Factor	Preamplifier Factor				
1	5146.20	67.56	74.00	-6.44	63.96	5.99	33.02	35.41	121	353	VERTICAL	Peak
2	5149.00	53.00	54.00	-1.00	49.40	5.99	33.02	35.41	121	353	VERTICAL	Average
3	5232.00	119.04			115.35	6.04	33.09	35.44	121	353	VERTICAL	Peak
4	5233.40	107.65			103.96	6.04	33.09	35.44	121	353	VERTICAL	Average

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



Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 151

Freq	Level	Limit		Over Limit	Read Level	Cable			A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			Loss	Antenna Factor	Preamp Factor				
1	5713.20	67.07	68.20	-1.13	61.92	6.34	34.16	35.35	100	349	VERTICAL	Peak
2	5725.00	70.85	78.20	-7.35	65.66	6.35	34.18	35.34	100	349	VERTICAL	Peak
3	5759.60	99.84			94.51	6.37	34.27	35.31	100	349	VERTICAL	Average
4	5760.60	111.46			106.12	6.38	34.27	35.31	100	349	VERTICAL	Peak

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

Channel 159

Freq	Level	Limit		Over Limit	Read Level	Cable			A/Pos	T/Pos	Pol/Phase	Remark
		Line	dBuV/m			Loss	Antenna Factor	Preamp Factor				
1	5791.60	101.49			95.97	6.40	34.40	35.28	117	11	VERTICAL	Average
2	5801.00	114.49			108.97	6.40	34.40	35.28	117	11	VERTICAL	Peak
3	5850.00	69.69	78.20	-8.51	63.89	6.43	34.60	35.23	117	11	VERTICAL	Peak
4	5860.00	67.09	68.20	-1.11	61.20	6.44	34.67	35.22	117	11	VERTICAL	Peak

Item 1, 2 are the fundamental frequency at 5795 MHz.

Temperature	24°C	Humidity	56%
Test Engineer	Nick Peng	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Chain 1 + Chain 2 + Chain 3
Test Date	May 29, 2014	Test Mode	Mode 2 (Ant. 4 Panel antenna / 5.1dBi / 3TX)

Channel 42

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	cm	deg		
1	5144.00	64.26	74.00	-9.74	60.66	5.99	33.02	35.41	112	12	VERTICAL	Peak
2	5150.00	52.66	54.00	-1.34	49.06	5.99	33.02	35.41	112	12	VERTICAL	Average
3	5220.00	109.03			105.35	6.04	33.08	35.44	112	12	VERTICAL	Peak
4	5222.00	96.67			92.99	6.04	33.08	35.44	112	12	VERTICAL	Average

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

Channel 155

Freq	Level	Limit		Over Limit	Read Level	Cable	Antenna	Preamp	A/Pos	T/Pos	Pol/Phase	Remark
		Line	dB			Loss	Factor	Factor	cm	deg		
MHz	dBuV/m	dBuV/m		dB	dBuV	dB	dB/m	dB	cm	deg		
1	5705.00	66.83	68.20	-1.37	61.71	6.34	34.14	35.36	100	346	VERTICAL	Peak
2	5725.50	69.14	78.20	-9.06	63.95	6.35	34.18	35.34	100	346	VERTICAL	Peak
3	5787.00	96.17			90.74	6.39	34.33	35.29	100	346	VERTICAL	Average
4	5788.00	108.32			102.89	6.39	34.33	35.29	100	346	VERTICAL	Peak
5	5850.00	65.10	78.20	-13.10	59.30	6.43	34.60	35.23	100	346	VERTICAL	Peak
6	5860.00	65.05	68.20	-3.15	59.16	6.44	34.67	35.22	100	346	VERTICAL	Peak

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

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

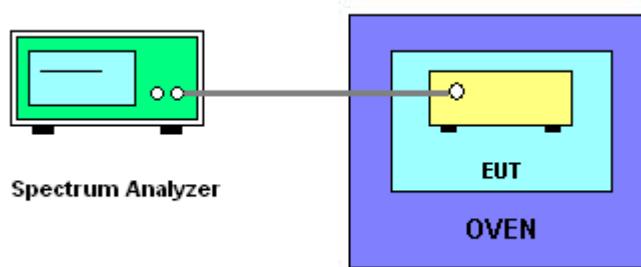
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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 -20°C~40°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	22°C	Humidity	55%
Test Engineer	Serway Li	Test Date	Jun. 16, 2014

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5200 MHz
126.50	5199.9594
110.00	5199.9598
93.50	5199.9599
Max. Deviation (MHz)	0.040600
Max. Deviation (ppm)	7.81

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5200 MHz
-20	5199.9582
-10	5199.9588
0	5199.9592
10	5199.9596
20	5199.9598
30	5199.9606
40	5199.9614
Max. Deviation (MHz)	0.041800
Max. Deviation (ppm)	8.04

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
EMI Test Receiver	R&S	ESCS 30	100355	9kHz ~ 2.75GHz	Apr. 23, 2014	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Nov. 23, 2013	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 11, 2013	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	Dec. 04, 2013	Conduction (CO01-CB)
Software	Audix	E3	5.410e	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA	Schaffner	CBL6112B	2928	30MHz ~ 2GHz	Dec. 27, 2013	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30MHz	Nov. 05, 2012*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz~18GHz	Nov. 01, 2013	Radiation (03CH01-CB)
Horn Antenna	SCHWARZBEAK	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Dec. 17, 2013	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Nov. 12, 2013	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Dec. 16, 2013	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Oct. 23, 2013	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100019	9kHz~40GHz	Dec. 02, 2013	Radiation (03CH01-CB)
EMI Test Receiver	Agilent	N9038A	MY52260123	9kHz ~ 8GHz	Dec. 12, 2013	Radiation (03CH01-CB)
Turn Table	INN CO	CO 2000	N/A	0 ~ 360 degree	N.C.R.	Radiation (03CH01-CB)
Antenna Mast	INN CO	CO2000	N/A	1 m - 4 m	N.C.R.	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30MHz - 1GHz	Nov. 17, 2013	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-3	N/A	1GHz - 40GHz	Nov. 17, 2013	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-4	N/A	1GHz - 40GHz	Nov. 17, 2013	Radiation (03CH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 03, 2014	Conducted (TH01-CB)
Signal Generator	R&S	SMR40	100302	10MHz-40GHz	Dec. 02, 2013	Conducted (TH01-CB)
RF Power Divider	Woken	2 Way	0120A02056002D	2GHz ~ 18GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Power Divider	Woken	3 Way	MDC2366	2GHz ~ 18GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Power Divider	Woken	4 Way	0120A04056002D	2GHz ~ 18GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-7	-	1GHz - 26.5GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-8	-	1GHz - 26.5GHz	Nov. 17, 2013	Conducted (TH01-CB)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Cable-high	Woken	High Cable-9	-	1GHz – 26.5GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-10	-	1GHz – 26.5GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-11	-	1GHz – 26.5GHz	Nov. 17, 2013	Conducted (TH01-CB)
Power Sensor	Anritsu	MA2411B	0917223	300MHz~40GHz	Sep. 18, 2013	Conducted (TH01-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Sep. 18, 2013	Conducted (TH01-CB)

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

“*” Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.

6. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	Remark
Conducted Emissions	1.7 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	2.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	2.6 dB	Confidence levels of 95%