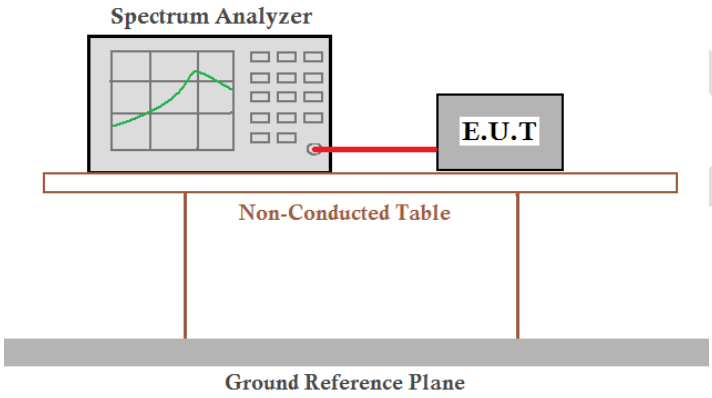
6.5 Power Spectral Density

Test Requirement:	FCC Part15 E Section 15.407 (a) (1) (ii) & (a) (3)
Test Method:	ANSI C63.10:2013, KDB 789033
Limit:	**Band 1: 17 dBm/MHz** (The maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.); **Band 4: 30dBm/500kHz**
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

Band 1

Mode	Test CH	PSD(dBm)		Total (dBm)	Limit (dBm)	Result
		ANT1	ANT2			
802.11a	Lowest	1.32	2.00	/	17.00	Pass
	Middle	2.48	3.07	/	17.00	Pass
	Highest	3.59	4.39	/	17.00	Pass
802.11n(HT20) MIMO	Lowest	1.19	2.00	4.62	17.00	Pass
	Middle	2.45	2.57	5.52	17.00	Pass
	Highest	3.30	4.42	6.91	17.00	Pass
802.11n(HT40) MIMO	Lowest	-1.26	-1.61	1.58	17.00	Pass
	Highest	-0.74	-0.05	2.63	17.00	Pass
802.11ac(HT20) MIMO	Lowest	-0.75	1.31	3.41	17.00	Pass
	Middle	0.32	0.54	3.44	17.00	Pass
	Highest	2.23	1.74	5.00	17.00	Pass
802.11ac(HT40) MIMO	Lowest	-3.37	-3.33	-0.34	17.00	Pass
	Highest	-1.53	-0.63	1.95	17.00	Pass
802.11ac(HT80) MIMO	Middle	-2.92	-3.71	-0.29	17.00	Pass

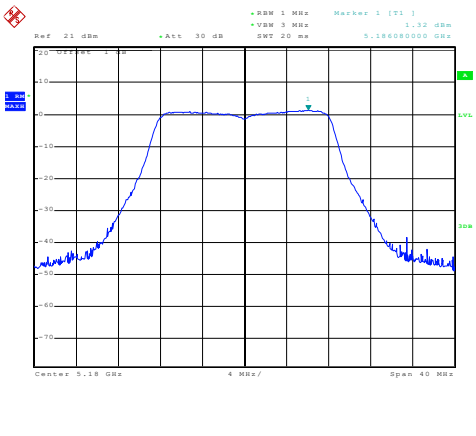
Band 4

Mode	Test CH	PSD(dBm)		Total (dBm)	Limit (dBm)	Result
		ANT1	ANT2			
802.11a	Lowest	2.06	3.70	/	30.00	Pass
	Middle	3.75	0.26	/	30.00	Pass
	Highest	3.52	-1.13	/	3.000	Pass
802.11n(HT20) MIMO	Lowest	2.40	0.71	4.65	30.00	Pass
	Middle	4.47	0.21	2.85	30.00	Pass
	Highest	4.29	-0.87	5.45	30.00	Pass
802.11n(HT40) MIMO	Lowest	-4.67	-3.22	-0.87	30.00	Pass
	Highest	-3.62	-4.20	-0.89	30.00	Pass
802.11ac(HT20) MIMO	Lowest	-0.13	1.57	2.22	3.000	Pass
	Middle	0.84	0.53	3.70	30.00	Pass
	Highest	0.20	-0.43	2.91	30.00	Pass
802.11ac(HT40) MIMO	Lowest	-5.07	-3.76	-1.36	30.00	Pass
	Highest	-3.41	-4.70	-1.00	30.00	Pass
802.11ac(HT80) MIMO	Middle	-6.23	-5.66	-2.93	30.00	Pass

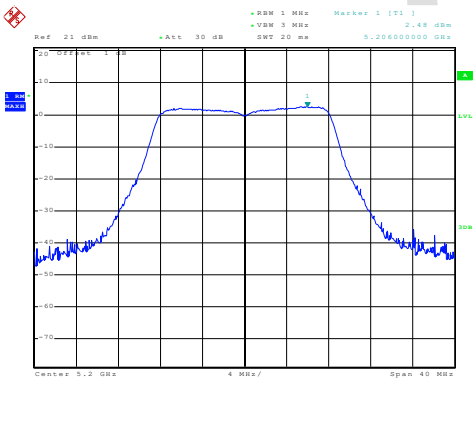
Test plot as follows:

Band 1: ANT1

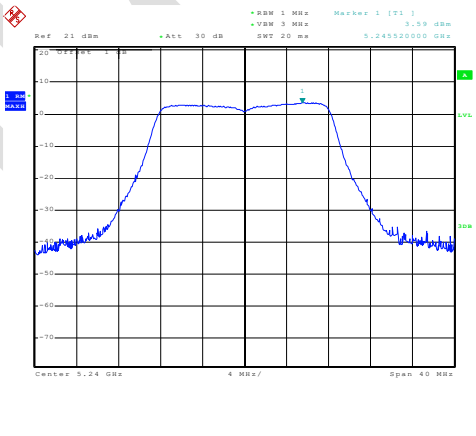
Test mode: 802.11a



Lowest channel

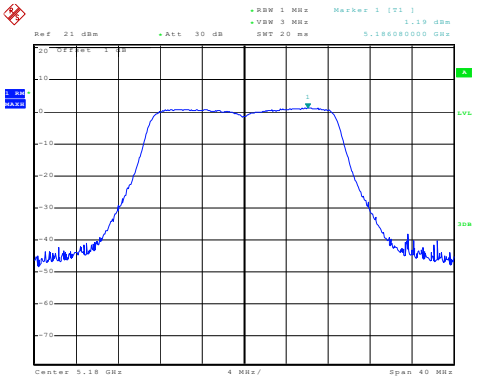


Middle channel

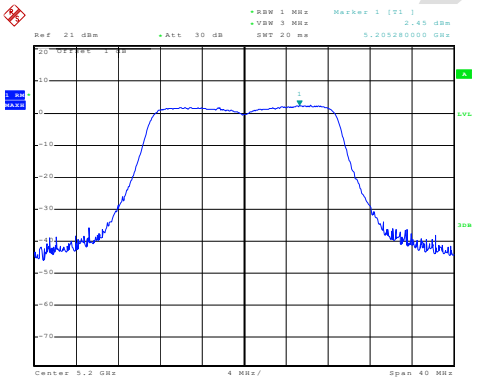


Highest channel

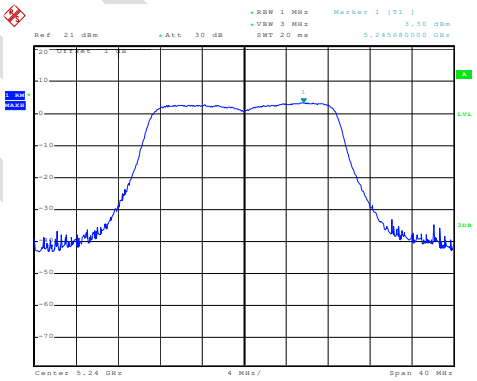
Test mode: 802.11n(HT20)



Lowest channel

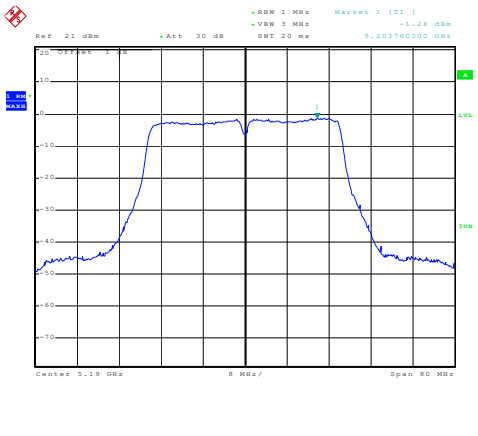


Middle channel

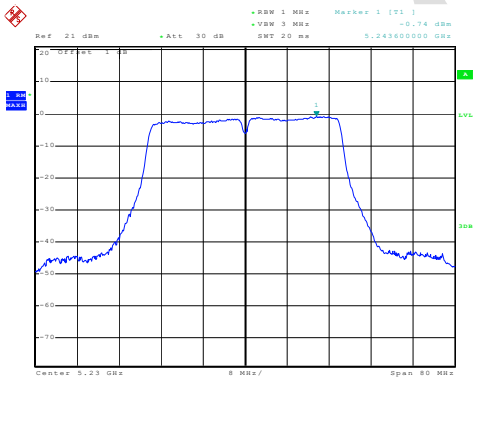


Highest channel

Test mode: 802.11n(HT40)

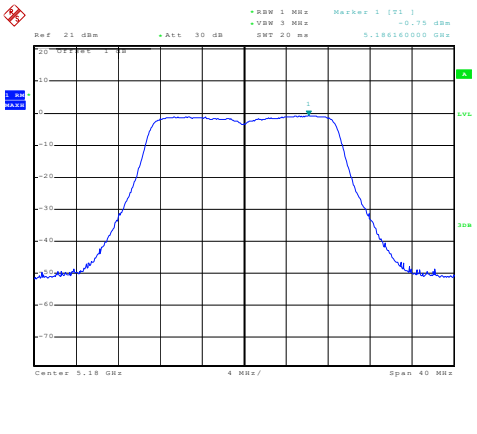


Lowest channel

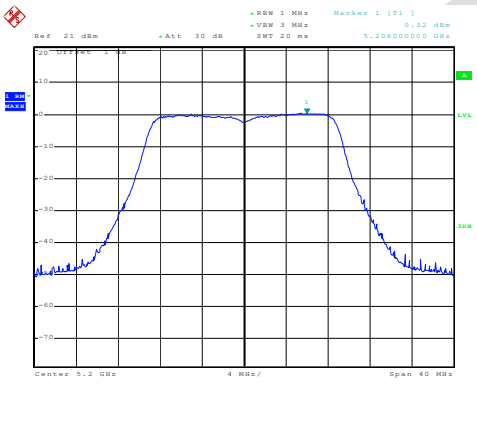


Highest channel

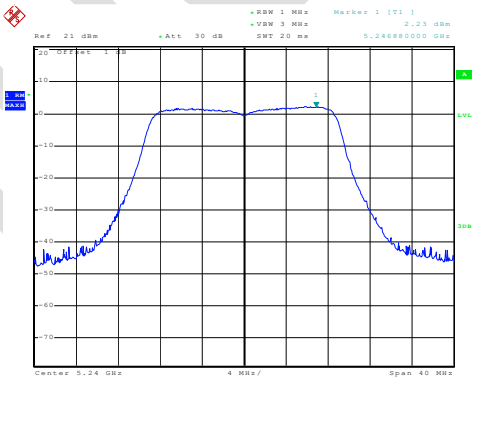
Test mode: 802.11ac(HT20)



Lowest channel

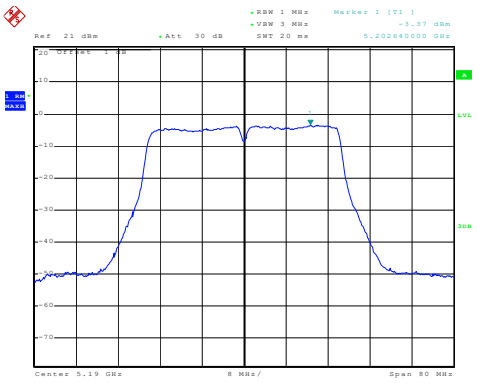


Middle channel

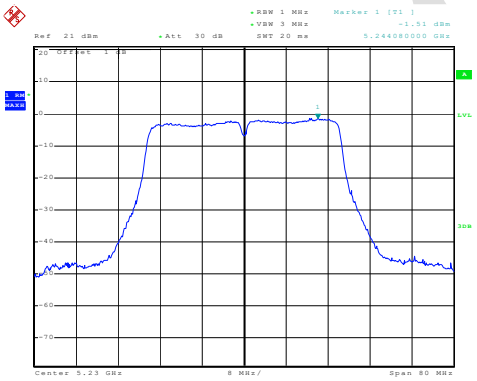


Highest channel

Test mode: 802.11ac(HT40)

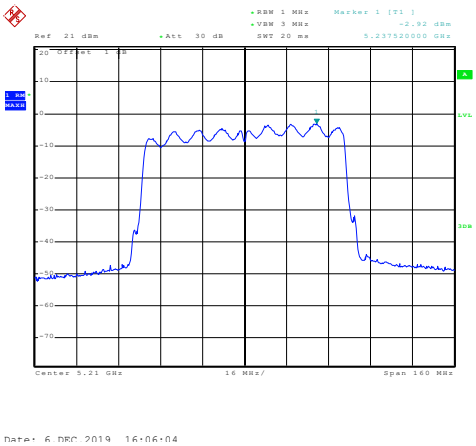


Lowest channel



Highest channel

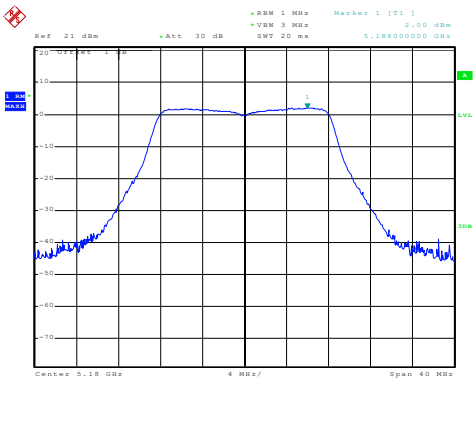
Test mode: 802.11ac(HT80)



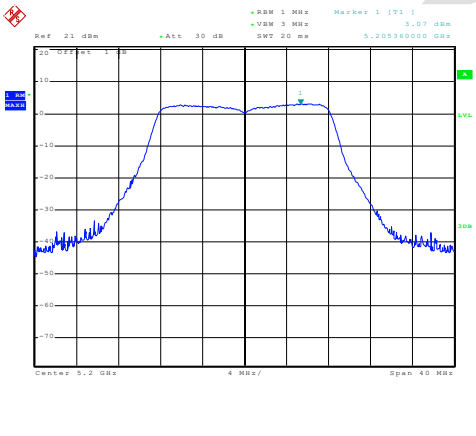
Middle channel

Band1 ANT2:

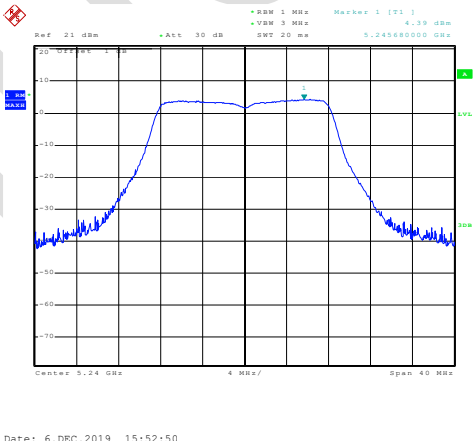
Test mode: 802.11a



Lowest channel

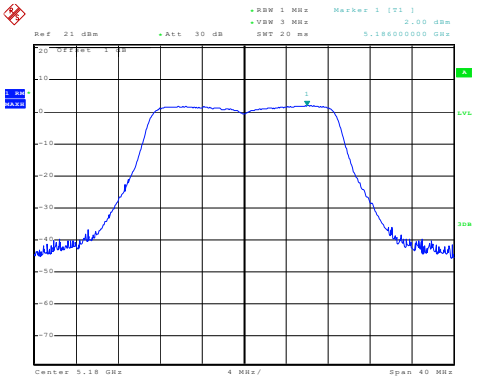


Middle channel

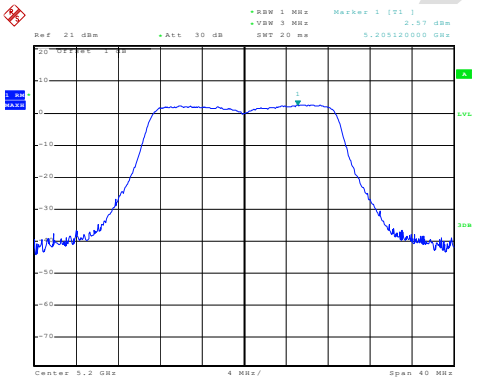


Highest channel

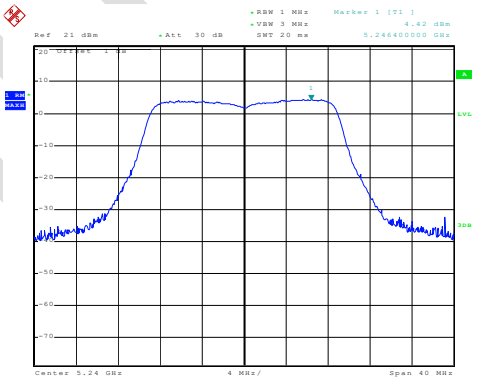
Test mode: 802.11n(HT20)



Lowest channel

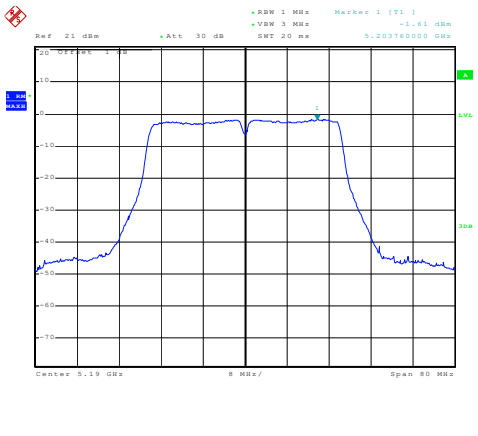


Middle channel

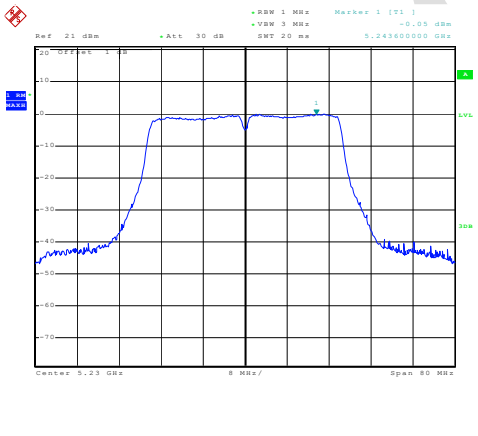


Highest channel

Test mode: 802.11n(HT40)

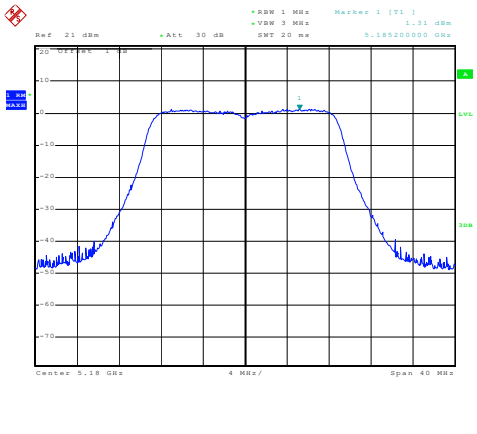


Lowest channel

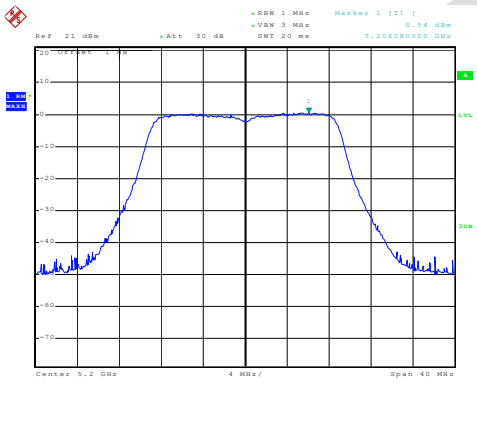


Highest channel

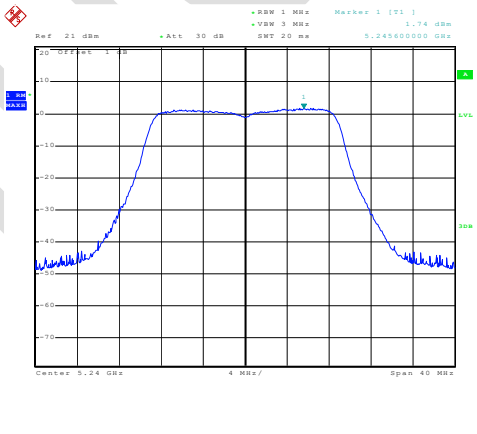
Test mode: 802.11ac(HT20)



Lowest channel

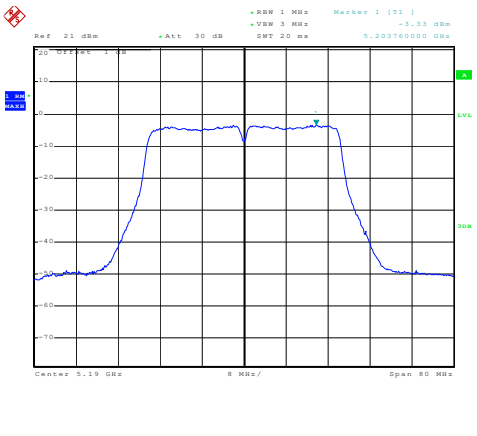


Middle channel

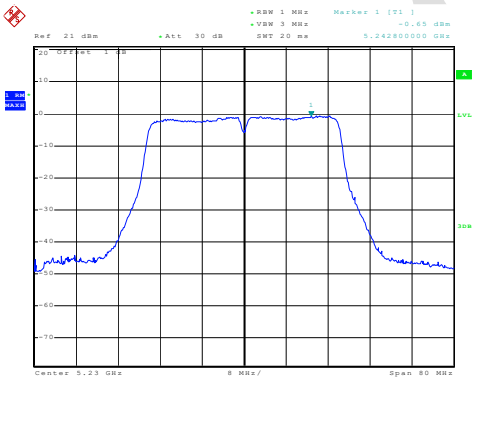


Highest channel

Test mode: 802.11ac(HT40)

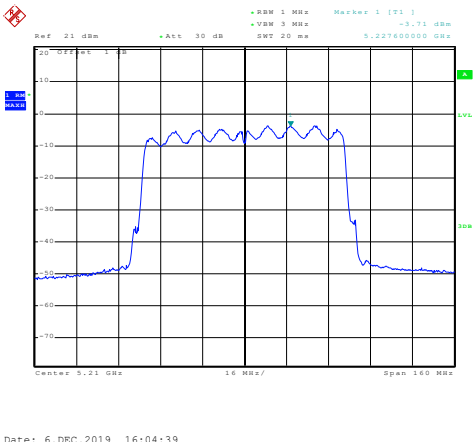


Lowest channel



Highest channel

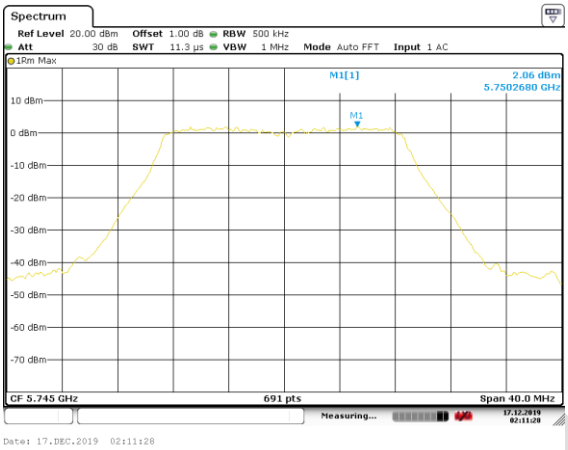
Test mode: 802.11ac(HT80)



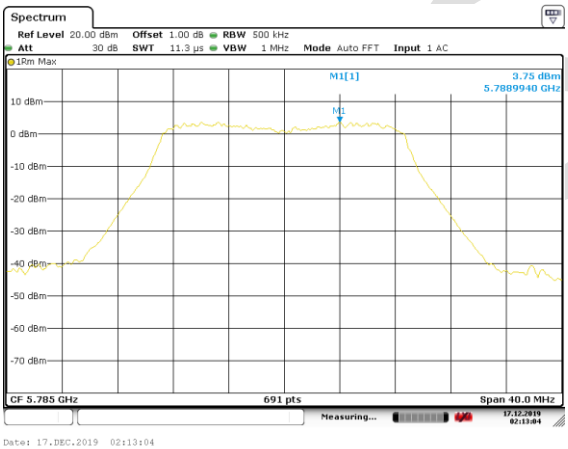
Middle channel

Band 4 ANT1:

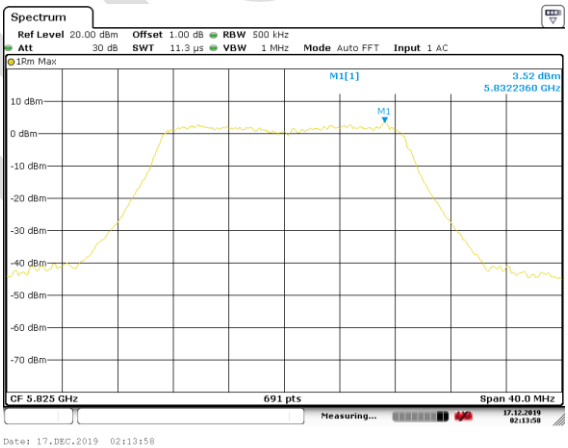
Test mode: 802.11a



Lowest channel

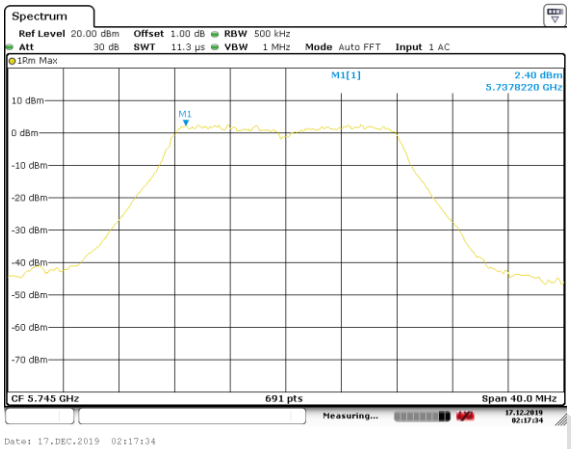


Middle channel

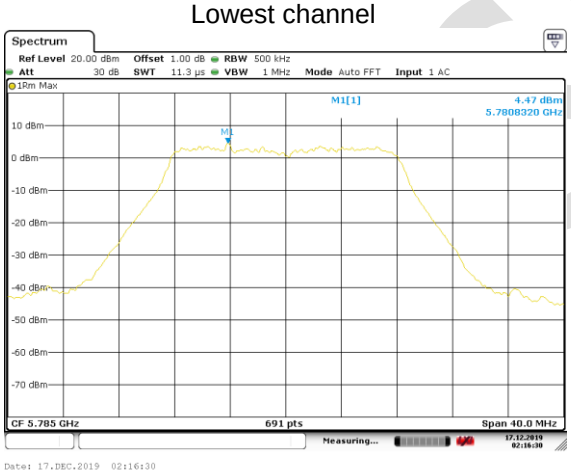


Highest channel

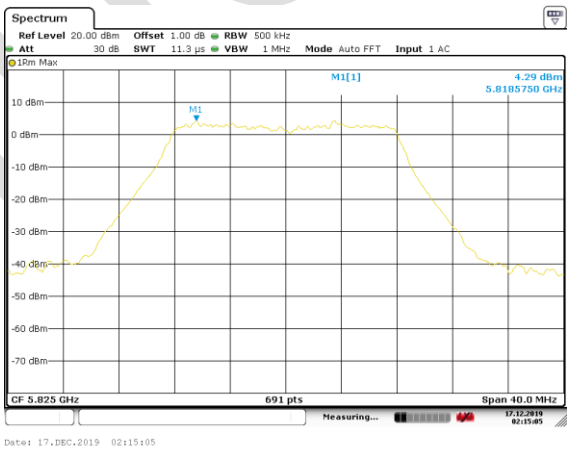
Test mode: 802.11n(HT20)



Lowest channel

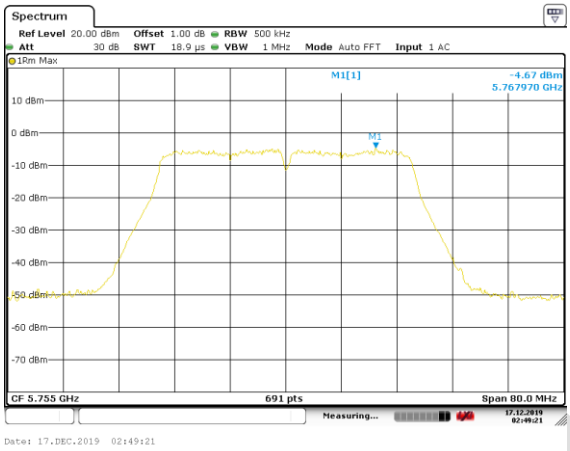


Middle channel

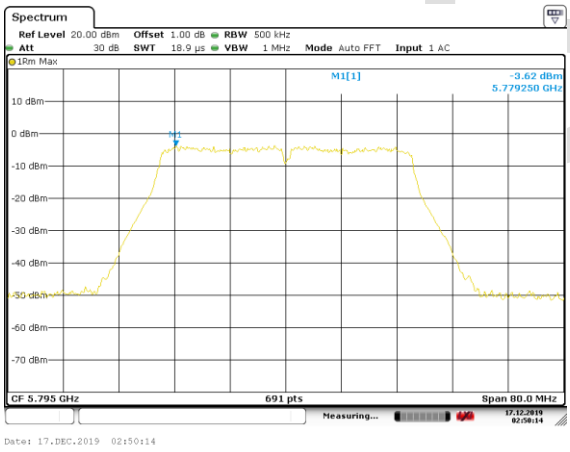


Highest channel

Test mode: 802.11n(HT40)

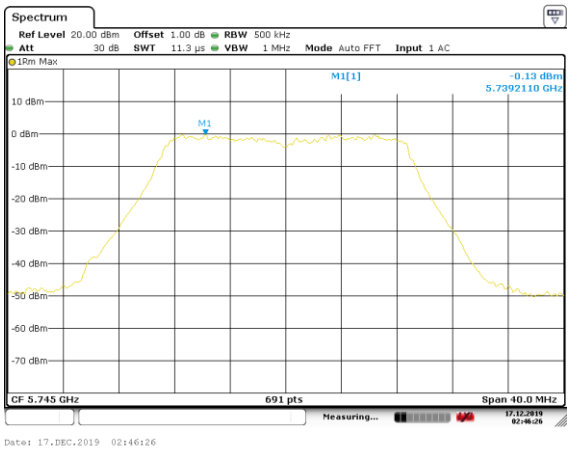


Lowest channel

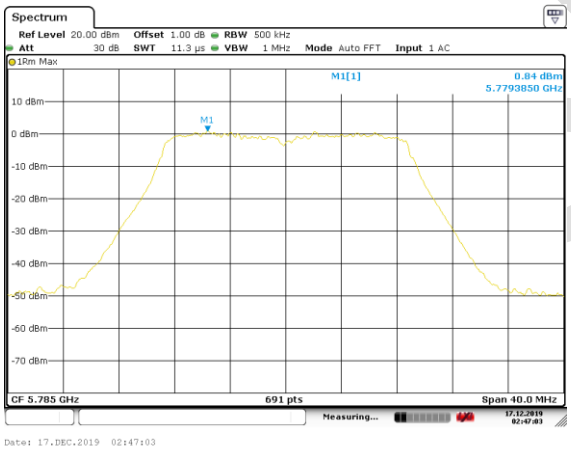


Highest channel

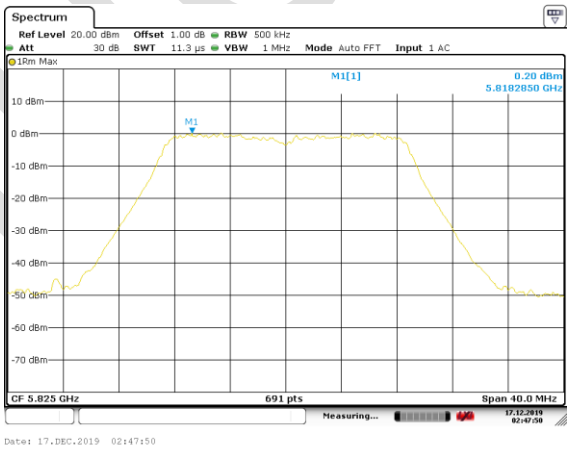
Test mode: 802.11ac(HT20)



Lowest channel

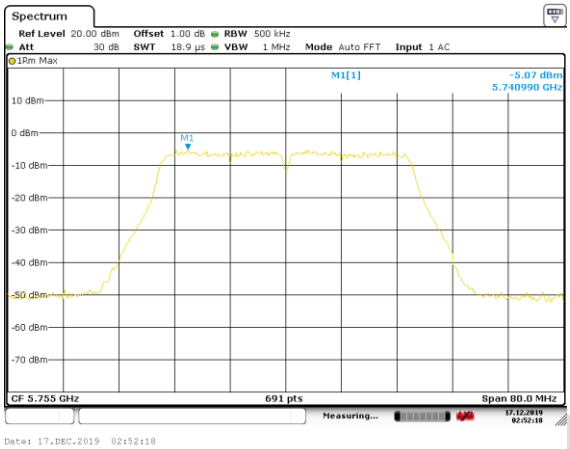


Middle channel

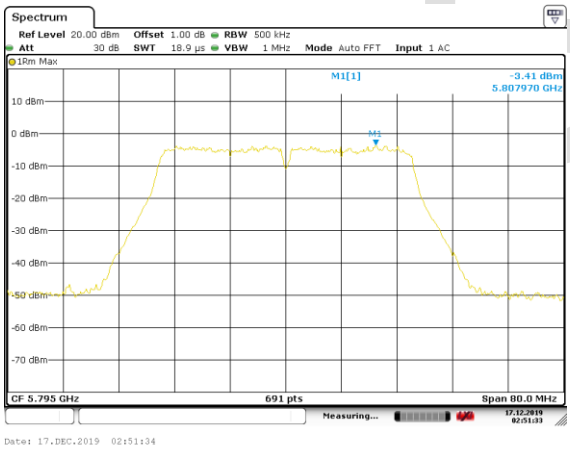


Highest channel

Test mode: 802.11ac(HT40)

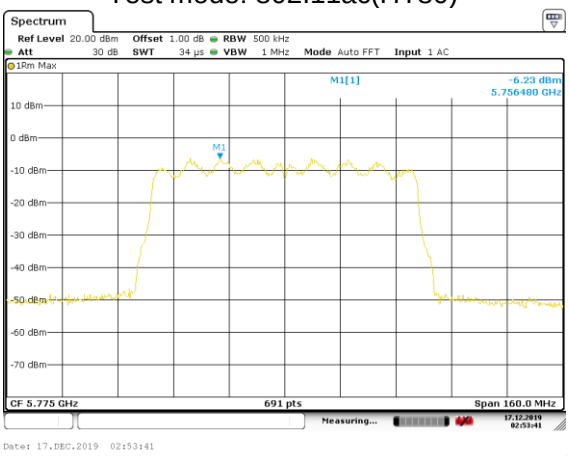


Lowest channel



Highest channel

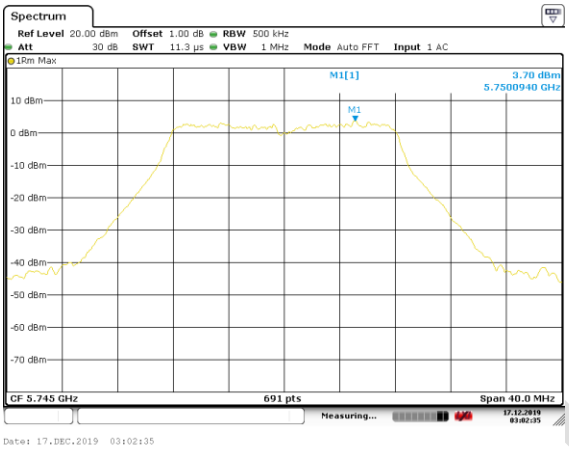
Test mode: 802.11ac(HT80)



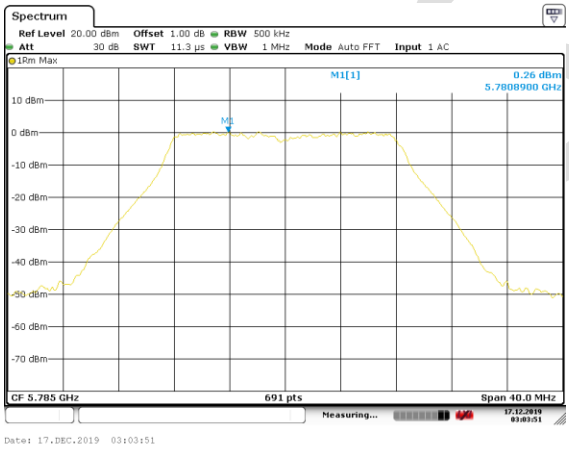
Middle channel

Band 4 ANT2:

Test mode: 802.11a

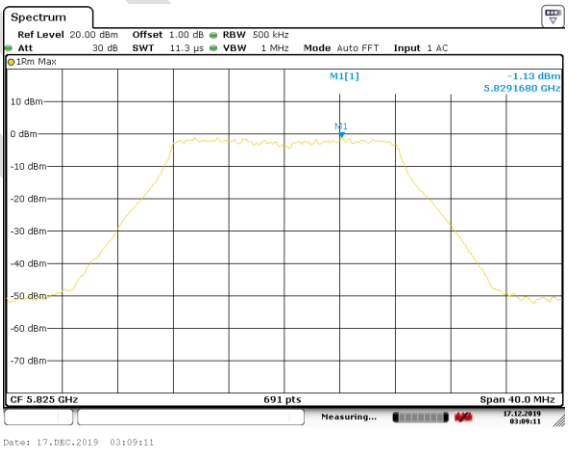


Lowest channel



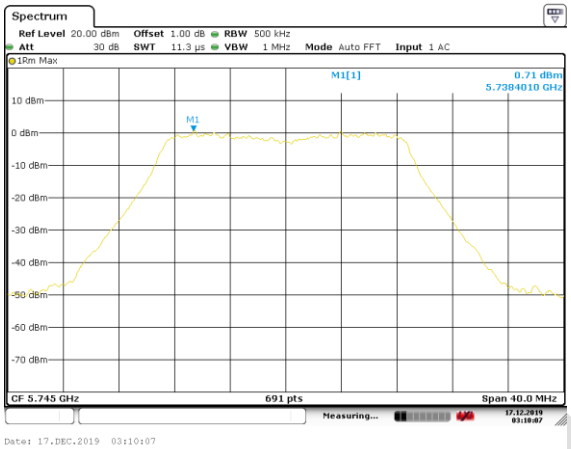
6

Middle channel

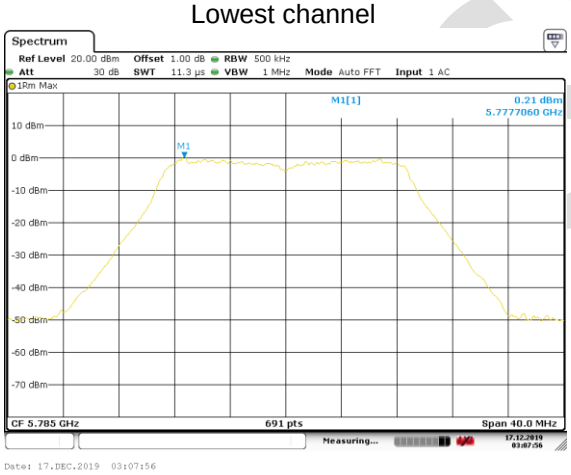


Highest channel

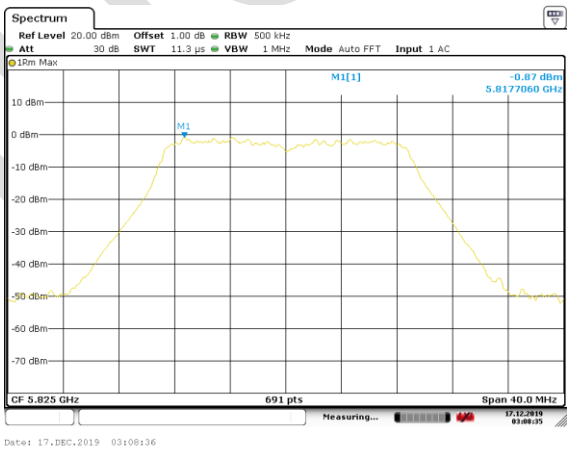
Test mode: 802.11n(HT20)



Lowest channel

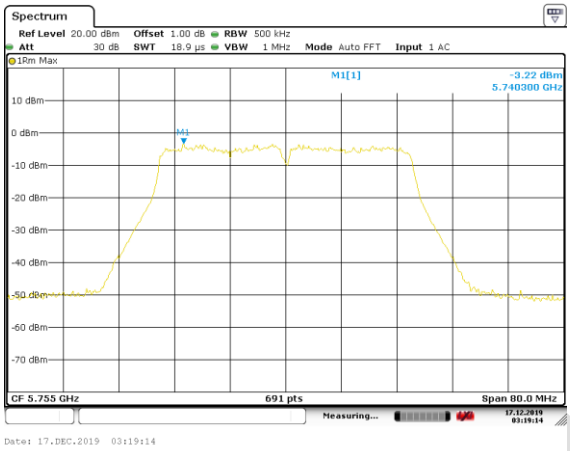


Middle channel

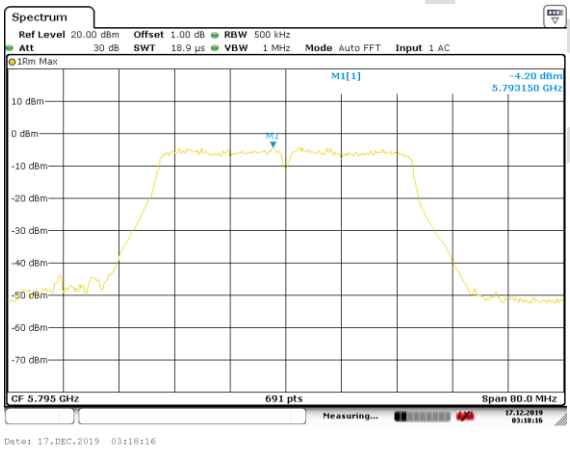


Highest channel

Test mode: 802.11n(HT40)

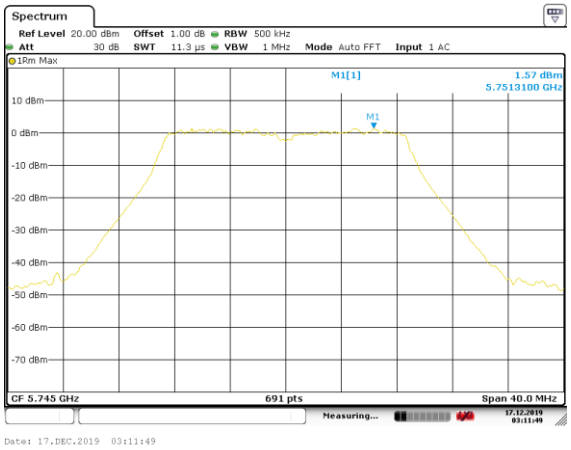


Lowest channel

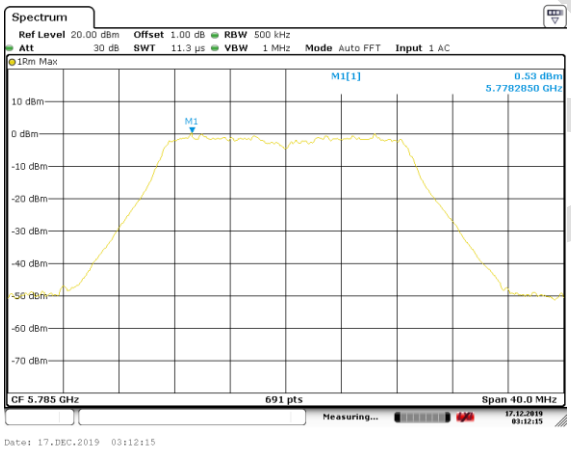


Highest channel

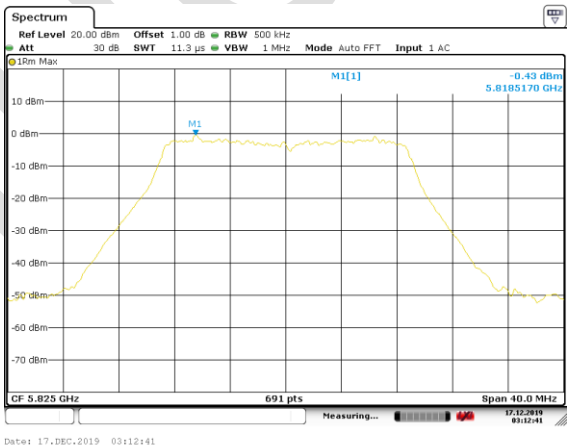
Test mode: 802.11ac(HT20)



Lowest channel

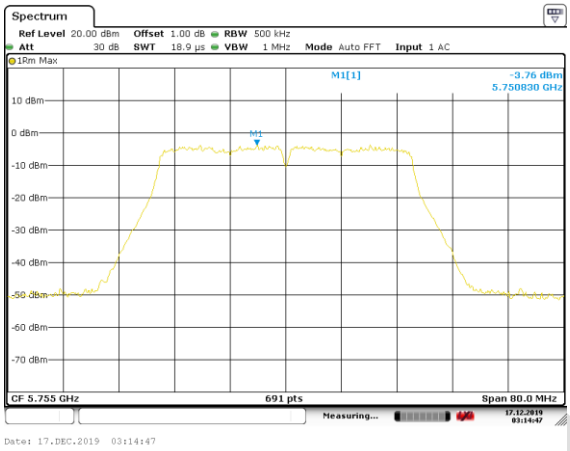


Middle channel

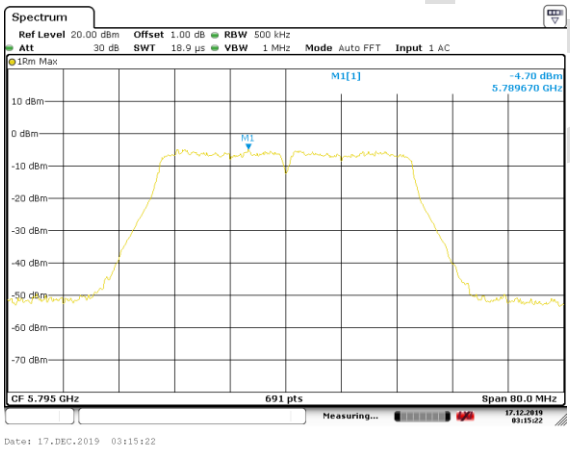


Highest channel

Test mode: 802.11ac(HT40)

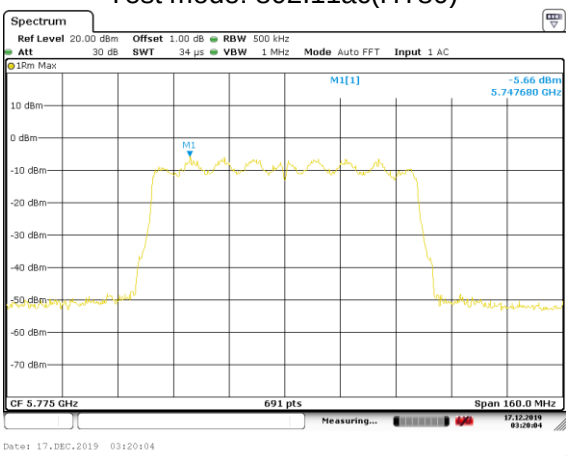


Lowest channel



Highest channel

Test mode: 802.11ac(HT80)



Middle channel

6.6 Band Edge

Test Requirement:	FCC Part15 E Section 15.407 (b)
Test Method:	ANSI C63.10:2013 , KDB 789033
Receiver setup:	

Detector	RBW	VBW	Remark
Quasi-peak	120kHz	300kHz	Quasi-peak Value
RMS	1MHz	3MHz	Average Value

Limit:

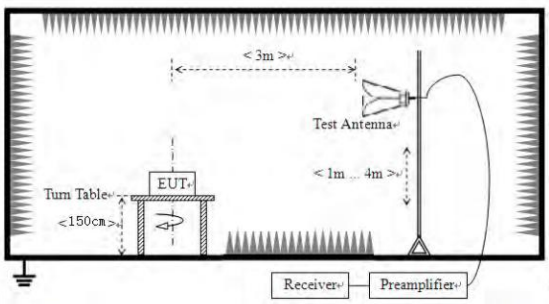
	Limit (dBuV/m @3m)	Remark
Band 1	68.20	Peak Value
	54.00	Average Value
Band 4	68.20	Peak Value
	54.00	Average Value

Remark:
1. Band 1/4 limit:
E[dBμV/m] = EIRP[dBm] + 95.2=68.2 dBuV/m, for EIPR[dBm]= -27dBm.

Test Procedure:

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Test setup:



Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details

Test results:	Passed

Band 1:

ANT1:

802.11a						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	55.43	-9.72	45.71	68.20	-22.49	Horizontal
5150.00	53.26	-9.60	43.66	68.20	-24.54	Vertical
802.11a						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	41.32	-9.72	31.60	54.00	-22.40	Horizontal
5150.00	40.04	-9.60	30.44	54.00	-23.56	Vertical
802.11a						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	54.37	-9.44	44.93	68.20	-23.27	Horizontal
5350.00	52.21	-9.16	43.05	68.20	-25.15	Vertical
802.11a						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	40.05	-9.44	30.61	54.00	-23.99	Horizontal
5350.00	39.39	-9.16	30.23	54.00	-23.77	Vertical

ANT2:

802.11a						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	53.76	-9.72	44.04	68.20	-24.16	Horizontal
5150.00	52.19	-9.60	42.59	68.20	-25.61	Vertical
802.11a						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	42.07	-9.72	32.35	54.00	-21.65	Horizontal
5150.00	41.45	-9.60	31.85	54.00	-22.15	Vertical
802.11a						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	53.59	-9.44	44.15	68.20	-24.05	Horizontal
5350.00	52.01	-9.16	42.85	68.20	-25.35	Vertical
802.11a						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	40.04	-9.44	30.60	54.00	-23.40	Horizontal
5350.00	39.58	-9.16	30.42	54.00	-23.58	Vertical

MIMO:

802.11n-HT20						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	55.36	-9.72	45.64	68.20	-22.56	Horizontal
5150.00	51.04	-9.60	41.44	68.20	-26.76	Vertical
802.11n-HT20						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	41.58	-9.72	31.86	54.00	-22.14	Horizontal
5150.00	39.37	-9.60	29.77	54.00	-24.23	Vertical
802.11n-HT20						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	55.46	-9.44	46.02	68.20	-22.18	Horizontal
5350.00	53.71	-9.16	44.55	68.20	-23.65	Vertical
802.11n-HT20						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	41.15	-9.44	31.71	54.00	-22.29	Horizontal
5350.00	40.03	-9.16	30.87	54.00	-23.13	Vertical

802.11n-HT40						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	53.68	-9.72	43.96	68.20	-24.24	Horizontal
5150.00	52.14	-9.60	42.54	68.20	-25.66	Vertical
802.11n-HT40						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	39.67	-9.72	29.95	54.00	-24.05	Horizontal
5150.00	40.11	-9.60	30.51	54.00	-23.49	Vertical
802.11n-HT40						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	53.47	-9.44	44.03	68.20	-24.17	Horizontal
5350.00	52.51	-9.16	43.35	68.20	-24.85	Vertical
802.11n-HT40						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	39.48	-9.44	30.04	54.00	-23.96	Horizontal
5350.00	38.14	-9.16	28.98	54.00	-25.02	Vertical

802.11ac-HT20						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	53.35	-9.72	43.63	68.20	-24.57	Horizontal
5150.00	51.89	-9.60	42.29	68.20	-25.91	Vertical
802.11ac-HT20						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	40.24	-9.72	30.52	54.00	-23.48	Horizontal
5150.00	39.19	-9.60	29.59	54.00	-24.41	Vertical
802.11ac-HT20						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	54.58	-9.44	45.14	68.20	-23.06	Horizontal
5350.00	52.13	-9.16	42.97	68.20	-25.23	Vertical
802.11ac-HT20						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	40.21	-9.44	30.77	54.00	-23.23	Horizontal
5350.00	39.76	-9.16	30.60	54.00	-23.40	Vertical

802.11ac-HT40						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	54.01	-9.72	44.29	68.20	-23.91	Horizontal
5150.00	53.37	-9.60	43.77	68.20	-24.43	Vertical
802.11ac-HT40						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	40.02	-9.72	30.30	54.00	-23.70	Horizontal
5150.00	40.16	-9.60	30.56	54.00	-23.44	Vertical
802.11ac-HT40						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	53.74	-9.44	44.30	68.20	-23.90	Horizontal
5350.00	52.81	-9.16	43.65	68.20	-24.55	Vertical
802.11ac-HT40						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	39.69	-9.44	30.25	54.00	-23.75	Horizontal
5350.00	40.03	-9.16	30.87	54.00	-23.13	Vertical

802.11ac-HT80						
Test channel			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	53.58	-9.72	43.86	68.20	-24.34	Horizontal
5150.00	52.05	-9.60	42.45	68.20	-25.75	Vertical
802.11ac-HT80						
Test channel			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5150.00	39.03	-9.72	29.31	54.00	-24.69	Horizontal
5150.00	38.24	-9.60	28.64	54.00	-25.36	Vertical
802.11ac-HT80						
Test channel			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	54.25	-9.44	44.81	68.20	-23.39	Horizontal
5350.00	52.86	-9.16	43.70	68.20	-24.50	Vertical
802.11ac-HT80						
Test channel			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	39.06	-9.44	29.62	54.00	-24.38	Horizontal
5350.00	39.34	-9.16	30.18	54.00	-23.82	Vertical

Remark:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *Correct factor= Antenna Factor + Cable Loss – Preamplifier Factor*

Band 4:
ANT1:

802.11a						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	56.36	-8.58	47.78	68.20	-20.42	Horizontal
5725.00	54.03	-8.49	45.54	68.20	-22.66	Vertical
802.11a						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	42.03	-8.58	33.45	54.00	-20.55	Horizontal
5725.00	43.54	-8.49	35.05	54.00	-18.95	Vertical
802.11a						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	52.78	-8.25	44.53	68.20	-23.67	Horizontal
5850.00	51.46	-8.34	43.12	68.20	-25.08	Vertical
802.11a						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	41.36	-8.25	33.11	54.00	-20.89	Horizontal
5850.00	39.29	-8.34	30.95	54.00	-23.05	Vertical

ANT2:

802.11a						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	54.36	-8.58	45.78	68.20	-22.42	Horizontal
5725.00	53.91	-8.49	45.42	68.20	-22.78	Vertical
802.11a						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	42.36	-8.58	33.78	54.00	-20.22	Horizontal
5725.00	41.08	-8.49	32.59	54.00	-21.41	Vertical
802.11a						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	53.24	-8.25	44.99	68.20	-23.21	Horizontal
5850.00	52.09	-8.34	43.75	68.20	-24.45	Vertical
802.11a						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	41.14	-8.25	32.89	54.00	-21.11	Horizontal
5850.00	39.91	-8.34	31.57	54.00	-22.43	Vertical

MIMO:

802.11n-HT20						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	55.01	-8.58	46.43	68.20	-21.77	Horizontal
5725.00	54.23	-8.49	45.74	68.20	-22.46	Vertical
802.11n-HT20						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	40.17	-8.58	31.59	54.00	-22.41	Horizontal
5725.00	39.65	-8.49	31.16	54.00	-22.84	Vertical
802.11n-HT20						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	53.37	-8.25	45.12	68.20	-23.08	Horizontal
5850.00	52.06	-8.34	43.72	68.20	-24.48	Vertical
802.11n-HT20						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	39.65	-8.25	31.40	54.00	-22.60	Horizontal
5850.00	38.16	-8.34	29.82	54.00	-24.18	Vertical

802.11n-HT40						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	53.69	-8.58	45.11	68.20	-23.09	Horizontal
5725.00	52.01	-8.49	43.52	68.20	-24.68	Vertical
802.11n-HT40						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	39.95	-8.58	31.37	54.00	-22.63	Horizontal
5725.00	40.43	-8.49	31.94	54.00	-22.06	Vertical
802.11n-HT40						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	54.49	-8.25	46.24	68.20	-21.96	Horizontal
5850.00	53.03	-8.34	44.69	68.20	-23.51	Vertical
802.11n-HT40						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	39.91	-8.25	31.66	54.00	-22.34	Horizontal
5850.00	40.15	-8.34	31.81	54.00	-22.19	Vertical

802.11ac-HT20						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	54.36	-8.58	45.78	68.20	-22.42	Horizontal
5725.00	53.07	-8.49	44.58	68.20	-23.62	Vertical
802.11ac-HT20						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	42.03	-8.58	33.45	54.00	-20.55	Horizontal
5725.00	41.19	-8.49	32.70	54.00	-21.30	Vertical
802.11ac-HT20						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	53.74	-8.25	45.49	68.20	-22.71	Horizontal
5850.00	52.06	-8.34	43.72	68.20	-24.48	Vertical
802.11ac-HT20						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	39.45	-8.25	31.20	54.00	-22.80	Horizontal
5850.00	40.03	-8.34	31.69	54.00	-22.31	Vertical

802.11ac-HT40						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	55.17	-8.58	46.59	68.20	-21.61	Horizontal
5725.00	53.06	-8.49	44.57	68.20	-23.63	Vertical
802.11ac-HT40						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	40.25	-8.58	31.67	54.00	-22.33	Horizontal
5725.00	39.37	-8.49	30.88	54.00	-23.12	Vertical
802.11ac-HT40						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	55.51	-8.25	47.26	68.20	-20.94	Horizontal
5850.00	54.03	-8.34	45.69	68.20	-22.51	Vertical
802.11ac-HT40						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	39.65	-8.25	31.40	54.00	-22.60	Horizontal
5850.00	40.01	-8.34	31.67	54.00	-22.33	Vertical

802.11ac-HT80						
Test channel			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	55.03	-8.58	46.45	68.20	-21.75	Horizontal
5725.00	53.71	-8.49	45.22	68.20	-22.95	Vertical
802.11ac-HT80						
Test channel			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5725.00	39.06	-8.58	30.48	54.00	-23.52	Horizontal
5725.00	39.14	-8.49	30.65	54.00	-23.55	Vertical
802.11ac-HT80						
Test channel			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	54.41	-8.25	46.16	68.20	-22.04	Horizontal
5850.00	53.03	-8.34	44.69	68.20	-23.51	Vertical
802.11ac-HT80						
Test channel			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5850.00	42.11	-8.25	33.86	54.00	-20.14	Horizontal
5850.00	41.34	-8.34	33.00	54.00	-21.00	Vertical

Remark:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor*

6.7 Spurious Emission

6.7.1 Restricted Band

Test Requirement:	FCC Part15 E Section 15.407(b)
Test Method:	ANSI C63.10: 2013
Test Frequency Range:	Band 1: 4.5 GHz to 5.15 GHz and 5.35GHz to 5.46GHz Band 4: 5.35 GHz to 5.46 GHz
Test site:	Measurement Distance: 3m
Receiver setup:	

Frequency	Detector	RBW	VBW	Remark
Above 1GHz	Peak	1MHz	3MHz	Peak Value
	RMS	1MHz	3MHz	Average Value

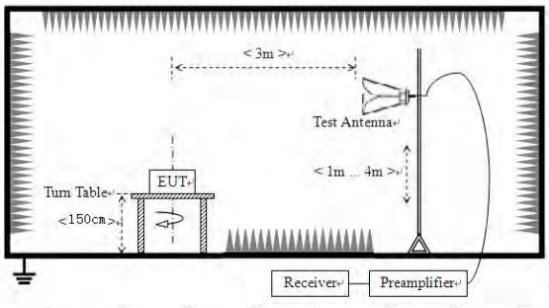
Limit:

Frequency	Limit (dBuV/m @3m)	Remark
Above 1GHz	74.00	Peak Value
	54.00	Average Value

Test Procedure:

7. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
8. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
9. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
10. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
11. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
12. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Test setup:



Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Band 1:

ANT1:

802.11a						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	54.14	-8.45	45.69	74.00	-28.31	Horizontal
4500.00	53.29	-8.45	44.84	74.00	-29.16	Vertical
802.11a						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	38.87	-8.45	30.42	54.00	-23.58	Horizontal
4500.00	39.52	-8.45	31.07	54.00	-22.93	Vertical
802.11a						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	53.37	-9.87	43.50	74.00	-30.50	Horizontal
5460.00	52.25	-9.50	42.75	74.00	-31.25	Vertical
802.11a						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	39.58	-9.87	29.71	54.00	-24.29	Horizontal
5460.00	40.03	-9.50	30.53	54.00	-23.47	Vertical

ANT2:

802.11a						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	54.57	-8.45	46.12	74.00	-27.88	Horizontal
4500.00	53.41	-8.45	44.96	74.00	-29.04	Vertical
802.11a						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	39.06	-8.45	30.61	54.00	-23.39	Horizontal
4500.00	38.44	-8.45	29.99	54.00	-24.01	Vertical
802.11a						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	53.36	-9.87	43.49	74.00	-30.51	Horizontal
5460.00	52.24	-9.50	42.74	74.00	-31.26	Vertical
802.11a						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	38.84	-9.87	28.97	54.00	-25.03	Horizontal
5460.00	39.46	-9.50	29.96	54.00	-24.04	Vertical

MIMO:

802.11n-HT20						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	53.65	-8.45	45.20	74.00	-28.80	Horizontal
4500.00	52.42	-8.45	43.97	74.00	-30.03	Vertical
802.11n-HT20						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	39.03	-8.45	30.58	54.00	-23.42	Horizontal
4500.00	38.84	-8.45	30.39	54.00	-23.61	Vertical
802.11n-HT20						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	53.15	-9.87	43.28	74.00	-30.72	Horizontal
5460.00	52.20	-9.50	42.70	74.00	-31.30	Vertical
802.11n-HT20						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	39.23	-9.87	29.36	54.00	-24.64	Horizontal
5460.00	39.09	-9.50	29.59	54.00	-24.41	Vertical

802.11n-HT40						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	54.41	-8.45	45.96	74.00	-28.04	Horizontal
4500.00	53.32	-8.45	44.87	74.00	-29.13	Vertical
802.11n-HT40						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	41.14	-8.45	32.69	54.00	-21.31	Horizontal
4500.00	39.38	-8.45	30.93	54.00	-23.07	Vertical
802.11n-HT40						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	53.74	-9.87	43.87	74.00	-30.13	Horizontal
5460.00	52.22	-9.50	42.72	74.00	-31.28	Vertical
802.11n-HT40						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	39.17	-9.87	29.30	54.00	-24.70	Horizontal
5460.00	38.84	-9.50	29.34	54.00	-24.66	Vertical

802.11ac-HT20						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	54.23	-8.45	45.78	74.00	-28.22	Horizontal
4500.00	53.26	-8.45	44.81	74.00	-29.19	Vertical
802.11ac-HT20						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	38.48	-8.45	30.03	54.00	-23.97	Horizontal
4500.00	39.26	-8.45	30.81	54.00	-23.19	Vertical
802.11ac-HT20						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	54.17	-9.87	44.30	74.00	-29.70	Horizontal
5460.00	53.36	-9.50	43.86	74.00	-30.14	Vertical
802.11ac-HT20						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	39.22	-9.87	29.35	54.00	-24.65	Horizontal
5460.00	38.34	-9.50	28.84	54.00	-26.16	Vertical

802.11ac-HT40						
Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	53.36	-8.45	44.91	74.00	-29.09	Horizontal
4500.00	52.87	-8.45	44.42	74.00	-29.58	Vertical
802.11ac-HT40						
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	40.44	-8.45	31.99	54.00	-22.01	Horizontal
4500.00	39.56	-8.45	31.11	54.00	-22.89	Vertical
802.11ac-HT40						
Test channel		Highest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	54.41	-9.87	44.54	74.00	-29.46	Horizontal
5460.00	53.03	-9.50	43.53	74.00	-30.47	Vertical
802.11ac-HT40						
Test channel		Highest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	39.69	-9.87	29.82	54.00	-24.18	Horizontal
5460.00	39.06	-9.50	29.56	54.00	-24.44	Vertical

802.11ac-HT80						
Test channel			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	54.43	-8.45	45.98	74.00	-28.02	Horizontal
4500.00	52.58	-8.45	44.13	74.00	-29.87	Vertical
802.11ac-HT80						
Test channel			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4500.00	39.69	-8.45	31.24	54.00	-22.76	Horizontal
4500.00	40.02	-8.45	31.57	54.00	-22.43	Vertical
802.11ac-HT80						
Test channel			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	53.36	-9.87	43.49	74.00	-30.51	Horizontal
5460.00	52.24	-9.50	42.74	74.00	-31.26	Vertical
802.11ac-HT80						
Test channel			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5460.00	39.09	-9.87	29.22	54.00	-24.78	Horizontal
5460.00	38.83	-9.50	29.33	54.00	-24.67	Vertical

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

2. The emission levels of other frequencies are very lower than the limit and not show in test report.

3. Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor

Band 4:

802.11a

ANT1：

Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	53.47	-9.44	44.03	74.00	-29.97	Horizontal
5460.00	52.51	-9.87	42.64	74.00	-31.36	Horizontal
5350.00	53.36	-9.44	43.92	74.00	-30.08	Vertical
5460.00	52.71	-9.87	42.84	74.00	-31.16	Vertical
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	39.06	-9.44	29.62	54.00	-24.38	Horizontal
5460.00	38.87	-9.87	29.00	54.00	-25.00	Horizontal
5350.00	38.65	-9.44	29.21	54.00	-24.79	Vertical
5460.00	38.43	-9.87	28.56	54.00	-25.44	Vertical

ANT2:

Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	52.36	-9.44	42.92	74.00	-31.08	Horizontal
5460.00	53.01	-9.87	43.14	74.00	-30.86	Horizontal
5350.00	53.54	-9.44	44.10	74.00	-29.90	Vertical
5460.00	53.69	-9.87	43.82	74.00	-30.18	Vertical
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	39.69	-9.44	30.25	54.00	-23.75	Horizontal
5460.00	38.43	-9.87	28.56	54.00	-25.44	Horizontal
5350.00	38.57	-9.44	29.13	54.00	-24.87	Vertical
5460.00	38.81	-9.87	28.94	54.00	-25.06	Vertical

MIMO:

802.11n-HT20

Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	53.78	-9.44	44.34	74.00	-29.66	Horizontal
5460.00	53.36	-9.87	43.49	74.00	-30.51	Horizontal
5350.00	52.58	-9.44	43.14	74.00	-30.86	Vertical
5460.00	53.03	-9.87	43.16	74.00	-30.84	Vertical
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	37.57	-9.44	28.13	54.00	-25.87	Horizontal
5460.00	38.26	-9.87	28.39	54.00	-25.61	Horizontal
5350.00	38.74	-9.44	29.30	54.00	-24.70	Vertical
5460.00	38.26	-9.87	28.39	54.00	-25.61	Vertical

802.11n-HT40

Test channel		Lowest	Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	53.32	-9.44	43.88	74.00	-30.12	Horizontal
5460.00	53.41	-9.87	43.54	74.00	-30.46	Horizontal
5350.00	54.02	-9.44	44.58	74.00	-29.42	Vertical
5460.00	53.39	-9.87	43.52	74.00	-30.48	Vertical
Test channel		Lowest	Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	38.84	-9.44	29.40	54.00	-24.60	Horizontal
5460.00	38.65	-9.87	28.78	54.00	-25.22	Horizontal
5350.00	38.34	-9.44	28.90	54.00	-2510	Vertical
5460.00	38.69	-9.87	28.82	54.00	-25.18	Vertical

802.11ac-HT80

Test channel			Level		Peak	
Frequency (MHz)	Read Level (dBuV/m)	Correct factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	53.36	-9.44	43.92	74.00	-30.08	Horizontal
5460.00	52.74	-9.87	42.87	74.00	-31.13	Horizontal
5350.00	54.04	-9.44	44.60	74.00	-29.40	Vertical
5460.00	53.92	-9.87	44.05	74.00	-29.95	Vertical
Test channel			Level		Average	
Frequency (MHz)	Read Level (dBuV/m)	Correct factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
5350.00	39.58	-9.44	30.14	54.00	-23.86	Horizontal
5460.00	38.03	-9.87	28.16	54.00	-25.84	Horizontal
5350.00	37.86	-9.44	28.42	54.00	-25.58	Vertical
5460.00	38.30	-9.87	28.43	54.00	-25.57	Vertical

Remark:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor*
4. *All modulations have been tested ,only worse cases is reported*

6.7.2 Unwanted Emissions in the Restricted Bands

Test Requirement:	FCC Part15 C Section 15.209 and 15.205
Test Method:	ANSI C63.10:2013
Test Frequency Range:	30MHz to 40GHz
Test site:	Measurement Distance: 3m
Receiver setup:	

Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
Above 1GHz	Peak	1MHz	3MHz	Peak Value

Limit:

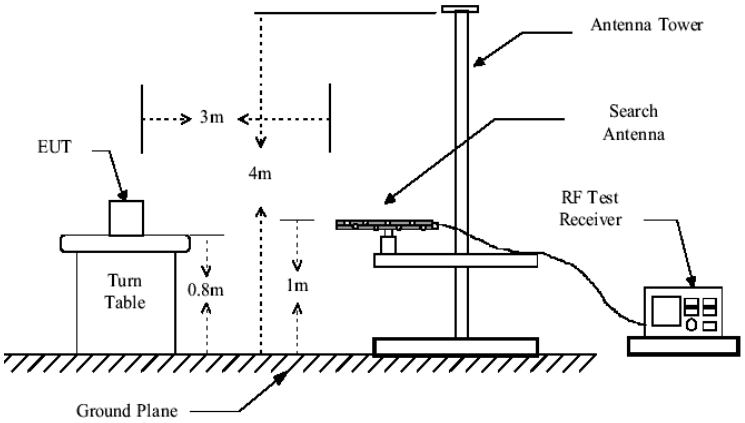
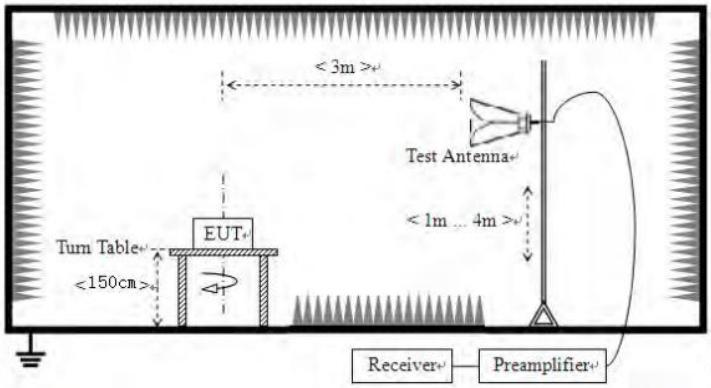
Frequency	Limit (dBuV/m @3m)	Remark
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value

Frequency	Limit (dBm/MHz)	Remark
Above 1GHz	68.20	Peak Value
	54.00	Average Value

Remark:
1. Above 1GHz limit:
E[dBμV/m] = EIRP[dBm] + 95.2=68.2 dBuV/m, for EIPR[dBm]=-27dBm.

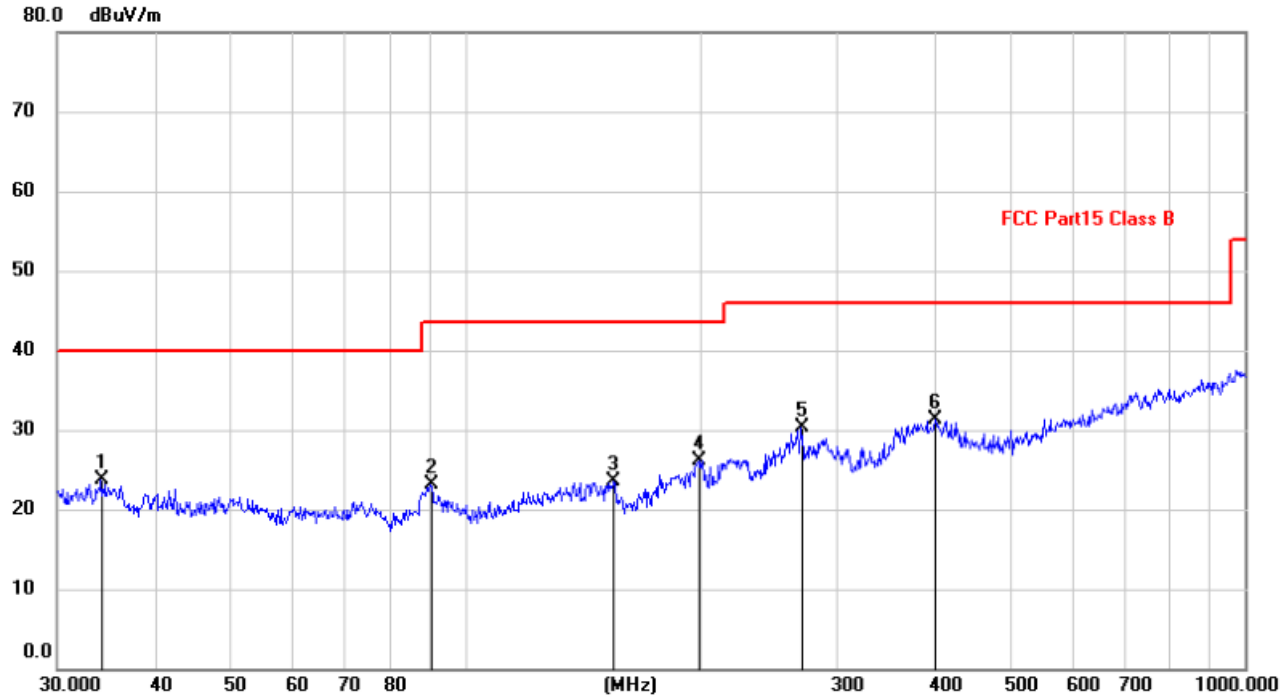
Test Procedure:

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Test setup:	Below 1GHz  Above 1GHz 
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

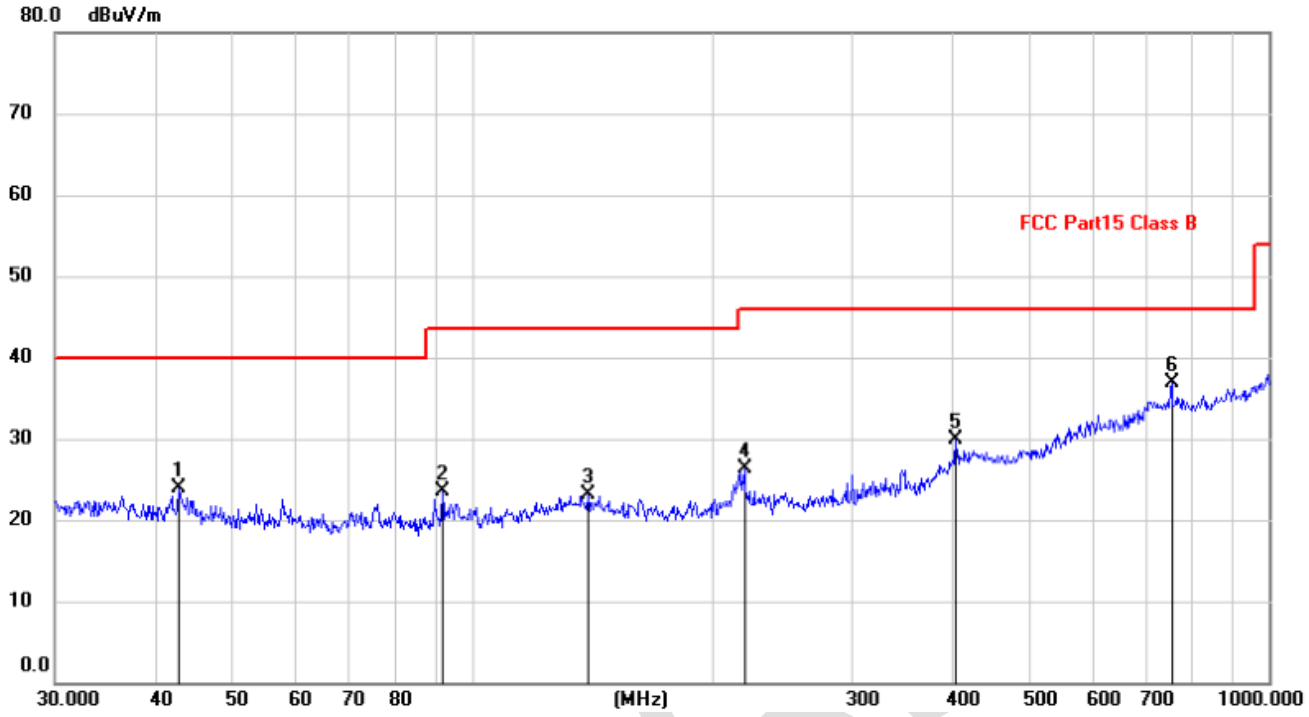
Below 1GHz

Horizontal:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		34.1561	10.83	12.95	23.78	40.00	-16.22	QP
2		90.2205	13.61	9.49	23.10	43.50	-20.40	QP
3		155.3642	10.31	13.12	23.43	43.50	-20.07	QP
4		199.2855	16.23	9.92	26.15	43.50	-17.35	QP
5		269.4284	17.34	12.99	30.33	46.00	-15.67	QP
6	*	400.4318	14.47	16.88	31.35	46.00	-14.65	QP

Vertical:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		42.8997	9.77	14.23	24.00	40.00	-16.00	QP
2		91.8161	13.80	9.67	23.47	43.50	-20.03	QP
3		139.8506	9.87	13.18	23.05	43.50	-20.45	QP
4		219.8447	14.94	11.43	26.37	46.00	-19.63	QP
5		404.6664	12.96	16.97	29.93	46.00	-16.07	QP
6	*	755.3872	13.37	23.45	36.82	46.00	-9.18	QP

Above 1GHz:

Band 1:

ANT1:

802.11a mode Lowest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.00	48.26	2.56	50.82	68.20	-17.38	Vertical
10360.00	48.14	2.56	50.70	68.20	-17.50	Horizontal
802.11a mode Lowest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.00	32.23	2.56	34.79	54.00	-19.21	Vertical
10360.00	31.74	2.56	34.30	54.00	-19.70	Horizontal

802.11a mode Middle channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	48.06	2.71	50.77	68.20	-17.43	Vertical
10400.00	48.22	2.71	50.93	68.20	-17.27	Horizontal
802.11a mode Middle channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	31.78	2.71	34.49	54.00	-19.51	Vertical
10400.00	32.03	2.71	34.74	54.00	-19.26	Horizontal

802.11a mode Highest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.00	47.89	3.04	50.93	68.20	-17.27	Vertical
10480.00	47.65	3.04	50.69	68.20	-17.51	Horizontal
802.11a mode Highest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.00	31.75	3.04	34.79	54.00	-19.21	Vertical
10480.00	32.03	3.04	35.07	54.00	-18.93	Horizontal

ANT2:

802.11a mode Lowest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.00	48.52	2.56	51.08	68.20	-17.12	Vertical
10360.00	48.31	2.56	50.87	68.20	-17.33	Horizontal
802.11a mode Lowest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.00	32.26	2.56	34.82	54.00	-19.18	Vertical
10360.00	31.74	2.56	34.30	54.00	-19.70	Horizontal

802.11a mode Middle channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	48.26	2.71	50.97	68.20	-17.23	Vertical
10400.00	47.81	2.71	50.52	68.20	-17.68	Horizontal
802.11a mode Middle channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	32.11	2.71	34.82	54.00	-19.18	Vertical
10400.00	32.06	2.71	34.77	54.00	-19.23	Horizontal

802.11a mode Highest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.00	47.63	3.04	50.67	68.20	-17.53	Vertical
10480.00	47.52	3.04	50.56	68.20	-17.64	Horizontal
802.11a mode Highest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.00	30.58	3.04	33.62	54.00	-20.38	Vertical
10480.00	31.47	3.04	34.51	54.00	-19.49	Horizontal

MIMO:

802.11n20 mode Lowest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.00	48.74	2.56	51.30	68.20	-16.90	Vertical
10360.00	48.23	2.56	50.79	68.20	-17.41	Horizontal
802.11n20 mode Lowest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.00	32.45	2.56	35.01	54.00	-18.99	Vertical
10360.00	32.03	2.56	34.59	54.00	-19.41	Horizontal

802.11n20 mode Middle channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	47.36	2.71	50.07	68.20	-18.13	Vertical
10400.00	48.14	2.71	50.85	68.20	-17.35	Horizontal
802.11n20 mode Middle channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	32.03	2.71	34.74	54.00	-19.26	Vertical
10400.00	31.44	2.71	34.15	54.00	-19.85	Horizontal

802.11n20 mode Highest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.00	48.26	3.04	51.30	68.20	-16.90	Vertical
10480.00	48.03	3.04	51.07	68.20	-17.13	Horizontal
802.11n20 mode Highest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.00	32.07	3.04	35.11	54.00	-18.69	Vertical
10480.00	32.65	3.04	35.69	54.00	-18.31	Horizontal

802.11n40 mode Lowest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380.00	48.02	2.65	50.67	68.20	-17.53	Vertical
10380.00	48.26	2.65	50.91	68.20	-17.29	Horizontal
802.11n40 mode Lowest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380.00	32.58	2.65	35.28	54.00	-18.77	Vertical
10380.00	31.16	2.65	33.81	54.00	-20.19	Horizontal

802.11n40 mode Highest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460.00	48.03	2.87	50.90	68.20	-17.30	Vertical
10460.00	47.82	2.87	50.69	68.20	-17.51	Horizontal
802.11n40 mode Highest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460.00	31.25	2.87	34.12	54.00	-19.88	Vertical
10460.00	32.28	2.87	35.15	54.00	-18.85	Horizontal

802.11ac20 mode Lowest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.00	48.15	2.56	50.71	68.20	-17.49	Vertical
10360.00	48.06	2.56	50.62	68.20	-17.58	Horizontal
802.11ac20 mode Lowest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10360.00	31.17	2.56	33.73	54.00	-20.27	Vertical
10360.00	32.22	2.56	34.78	54.00	-19.22	Horizontal

802.11ac20 mode Middle channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	48.32	2.71	51.03	68.20	-17.17	Vertical
10400.00	48.08	2.71	50.79	68.20	-17.41	Horizontal

802.11ac20 mode Middle channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10400.00	32.26	2.71	34.97	54.00	-19.03	Vertical
10400.00	32.34	2.71	35.05	54.00	-18.95	Horizontal

802.11ac20 mode Highest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.00	48.17	3.04	51.21	68.20	-16.99	Vertical
10480.00	42.03	3.04	45.07	68.20	-23.13	Horizontal
802.11ac20 mode Highest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10480.00	32.26	3.04	35.30	54.00	-18.70	Vertical
10480.00	32.84	3.04	35.88	54.00	-18.12	Horizontal

802.11ac40 mode Lowest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380.00	48.21	2.65	50.86	68.20	-17.34	Vertical
10380.00	47.68	2.65	50.33	68.20	-17.87	Horizontal
802.11ac40 mode Lowest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10380.00	33.45	2.65	36.10	54.00	-17.90	Vertical
10380.00	32.61	2.65	35.26	54.00	-18.74	Horizontal

802.11ac40 mode Highest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460.00	48.36	2.87	51.23	68.20	-16.97	Vertical
10460.00	47.83	2.87	50.70	68.20	-17.50	Horizontal
802.11ac40 mode Highest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10460.00	33.03	2.87	35.90	54.00	-16.97	Vertical
10460.00	32.29	2.87	50.70	54.00	-17.50	Horizontal

802.11ac80 mode Middle channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10420.00	48.36	2.79	51.15	68.20	-17.05	Vertical
10420.00	48.12	2.79	50.91	68.20	-17.29	Horizontal
802.11ac80 mode Middle channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
10420.00	32.06	2.79	34.85	54.00	-19.15	Vertical
10420.00	31.87	2.79	34.66	54.00	-19.34	Horizontal

Remark:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor*

Band 4:

ANT1:

802.11a mode Lowest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490.00	47.15	3.84	50.99	68.20	-17.21	Vertical
11490.00	47.62	3.84	51.46	68.20	-16.74	Horizontal
802.11a mode Lowest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490.00	31.23	3.84	35.07	54.00	-18.93	Vertical
11490.00	30.41	3.84	34.25	54.00	-19.75	Horizontal

802.11a mode Middle channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11570.00	47.47	3.91	51.38	68.20	-16.82	Vertical
11570.00	46.15	3.91	50.06	68.20	-18.14	Horizontal
802.11a mode Middle channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11570.00	32.03	3.91	35.94	54.00	-18.06	Vertical
11570.00	31.41	3.91	35.32	54.00	-18.68	Horizontal

802.11a mode Highest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650.00	46.36	4.23	50.59	68.20	-17.61	Vertical
11650.00	46.27	4.23	50.50	68.20	-17.70	Horizontal
802.11a mode Highest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650.00	31.14	4.23	35.37	54.00	-18.63	Vertical
11650.00	32.27	4.23	36.50	54.00	-17.50	Horizontal

ANT2：

802.11a mode Lowest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490.00	47.04	3.84	50.88	68.20	-17.32	Vertical
11490.00	47.26	3.84	51.10	68.20	-17.10	Horizontal
802.11a mode Lowest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490.00	32.08	3.84	35.92	54.00	-18.08	Vertical
11490.00	31.64	3.84	35.48	54.00	-18.52	Horizontal

802.11a mode Middle channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11570.00	47.51	3.91	51.42	68.20	-16.78	Vertical
11570.00	46.69	3.91	50.60	68.20	-17.60	Horizontal
802.11a mode Middle channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11570.00	30.01	3.91	33.92	54.00	-20.08	Vertical
11570.00	31.23	3.91	35.14	54.00	-18.86	Horizontal

802.11a mode Highest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650.00	47.30	4.23	51.53	68.20	-16.67	Vertical
11650.00	47.06	4.23	51.29	68.20	-16.91	Horizontal
802.11a mode Highest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650.00	31.24	4.23	35.47	54.00	-18.53	Vertical
11650.00	32.02	4.23	36.25	54.00	-17.75	Horizontal

MIMO:

802.11n20 mode Lowest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490.00	46.68	3.84	50.52	68.20	-17.68	Vertical
11490.00	46.22	3.84	50.06	68.20	-18.14	Horizontal
802.11n20 mode Lowest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490.00	31.24	3.84	35.08	54.00	-18.92	Vertical
11490.00	32.03	3.84	35.87	54.00	-18.13	Horizontal

802.11n20 mode Middle channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11570.00	47.04	3.91	50.95	68.20	-17.25	Vertical
11570.00	46.11	3.91	50.02	68.20	-18.18	Horizontal
802.11n20 mode Middle channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11570.00	31.25	3.91	35.16	54.00	-18.84	Vertical
11570.00	32.06	3.91	35.97	54.00	-18.03	Horizontal

802.11n20 mode Highest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650.00	46.46	4.23	50.69	68.20	-17.51	Vertical
11650.00	45.81	4.23	50.04	68.20	-18.16	Horizontal
802.11n20 mode Highest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650.00	31.14	4.23	35.37	54.00	-18.63	Vertical
11650.00	32.35	4.23	36.58	54.00	-17.42	Horizontal

802.11n40 mode Lowest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11510.00	46.03	3.88	49.91	68.20	-18.29	Vertical
11510.00	46.14	3.88	50.02	68.20	-18.18	Horizontal
802.11n40 mode Lowest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11510.00	30.04	3.88	33.92	54.00	-20.08	Vertical
11510.00	31.25	3.88	35.13	54.00	-18.87	Horizontal

802.11n40 mode Highest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11590.00	47.15	4.02	51.17	68.20	-17.03	Vertical
11590.00	45.62	4.02	49.64	68.20	-18.56	Horizontal
802.11n40 mode Highest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11590.00	31.11	4.02	35.13	54.00	-18.87	Vertical
11590.00	31.65	4.02	35.67	54.00	-18.33	Horizontal

802.11ac20 mode Lowest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490.00	47.42	3.84	51.26	68.20	-16.94	Vertical
11490.00	46.36	3.84	50.20	68.20	-18.00	Horizontal
802.11ac20 mode Lowest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11490.00	32.02	3.84	35.86	54.00	-18.14	Vertical
11490.00	31.25	3.84	35.09	54.00	-18.91	Horizontal

802.11ac20 mode Middle channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11570.00	46.26	3.91	50.17	68.20	-18.03	Vertical
11570.00	45.47	3.91	49.38	68.20	-18.82	Horizontal
802.11ac20 mode Middle channel (Average Value)						

Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11570.00	31.01	3.91	34.92	54.00	-19.08	Vertical
11570.00	30.78	3.91	34.69	54.00	-19.31	Horizontal

802.11ac20 mode Highest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650.00	47.14	4.23	51.37	68.20	-16.38	Vertical
11650.00	46.65	4.23	50.88	68.20	-17.32	Horizontal
802.11ac20 mode Highest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11650.00	30.02	4.23	34.25	54.00	-19.75	Vertical
11650.00	29.74	4.23	33.97	54.00	-20.03	Horizontal

802.11ac40 mode Lowest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11510.00	46.03	3.88	49.91	68.20	-18.29	Vertical
11510.00	46.15	3.88	50.03	68.20	-18.17	Horizontal
802.11ac40 mode Lowest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11510.00	29.03	3.88	32.91	54.00	-21.09	Vertical
11510.00	31.25	3.88	35.13	54.00	-18.87	Horizontal

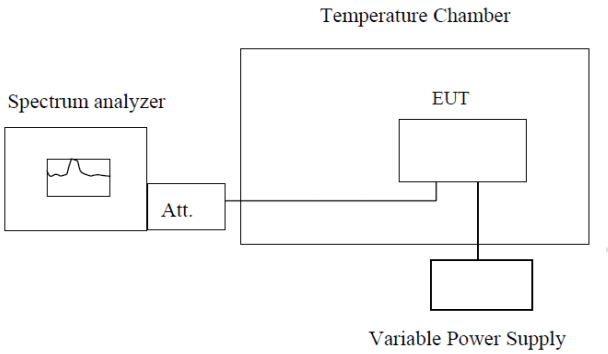
802.11ac40 mode Highest channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11590.00	45.36	4.02	49.38	68.20	-18.82	Vertical
11590.00	46.17	4.02	50.19	68.20	-18.01	Horizontal
802.11ac40 mode Highest channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11590.00	32.03	4.02	36.05	54.00	-17.95	Vertical
11590.00	31.24	4.02	35.26	54.00	-18.74	Horizontal

802.11ac80 mode Middle channel (Peak Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11550.00	46.36	3.89	50.25	68.20	-17.95	Vertical
11550.00	45.24	3.89	49.13	68.20	-19.07	Horizontal
802.11ac80 mode Middle channel (Average Value)						
Frequency (MHz)	Read Level (dBuV)	Correct factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
11550.00	30.24	3.89	34.13	54.00	-19.87	Vertical
11550.00	31.33	3.89	35.22	54.00	-18.78	Horizontal

Remark:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor*
4. *All modulations all have been tested,only worse cases is reported.*

6.8 Frequency stability

Test Requirement:	FCC Part15 E Section 15.407 (g)
Limit:	Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test procedure:	1. The EUT is installed in an environment test chamber with external power source. 2. Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage of EUT. 3. A sufficient stabilization period at each temperature is used prior to each frequency measurement. 4. When temperature is stabled, measure the frequency stability. 5. The test shall be performed under -30 to 50 centigrade and 85 to 115 percent of the nominal voltage. Change setting of chamber and external power source to complete all conditions.
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details, and all channels have been tested, only shows the worst channel data in this report.
Test results:	Passed

Measurement Data (the worst channel):

Band 1:

Voltage vs. Frequency Stability (Lowest channel=5180MHz)

Test conditions		Frequency(MHz)	Max. Deviation (ppm)
Temp(℃)	Voltage(AC /60Hz)		
20	138	5179.985200	2.86
	120	5179.977800	4.29
	102	5179.986100	2.68

Temperature vs. Frequency Stability (Lowest channel=5180MHz)

Test conditions		Frequency(MHz)	Max. Deviation (ppm)
Voltage(AC /60Hz)	Temp(℃)		
120	-30	5179.991400	1.66
	-20	5179.984300	3.03
	-10	5179.978200	4.21
	0	5179.984100	3.07
	10	5179.983300	3.22
	20	5179.978200	4.21
	30	5179.987800	2.36
	40	5179.986700	2.57
	50	5179.979800	3.90

Band 4:

Voltage vs. Frequency Stability (Lowest channel=5745MHz)

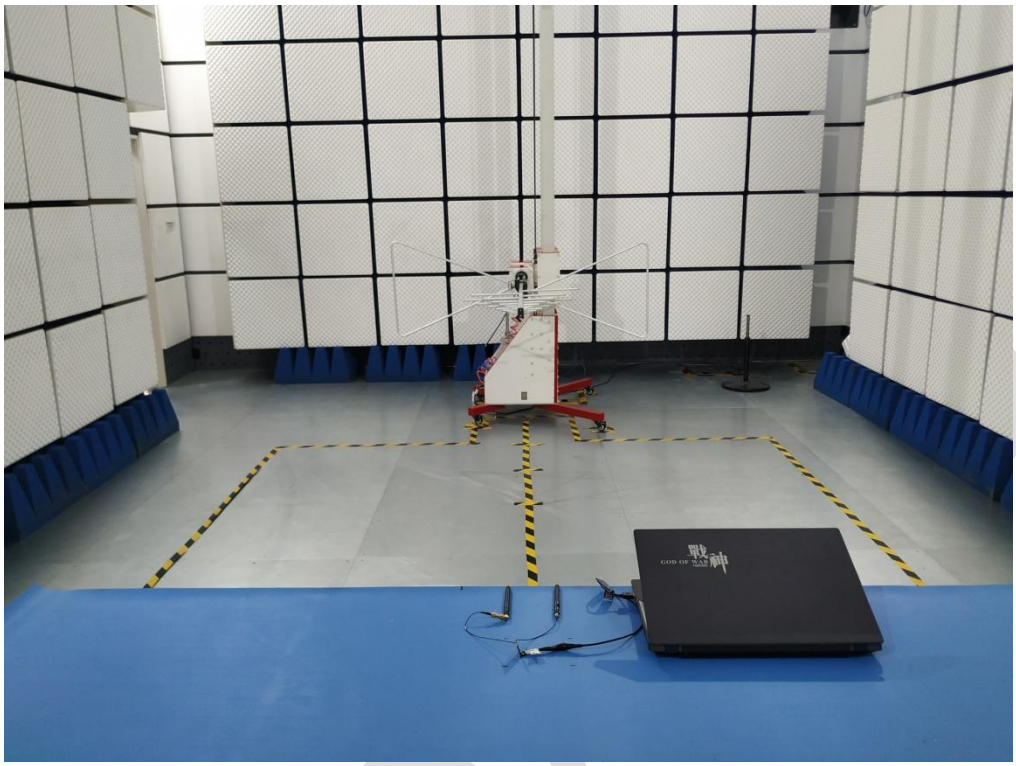
Test conditions		Frequency(MHz)	Max. Deviation (ppm)
Temp(℃)	Voltage(AC /60Hz)		
20	138	5744.986400	2.65
	120	5744.977400	2.37
	102	5744.983200	2.56

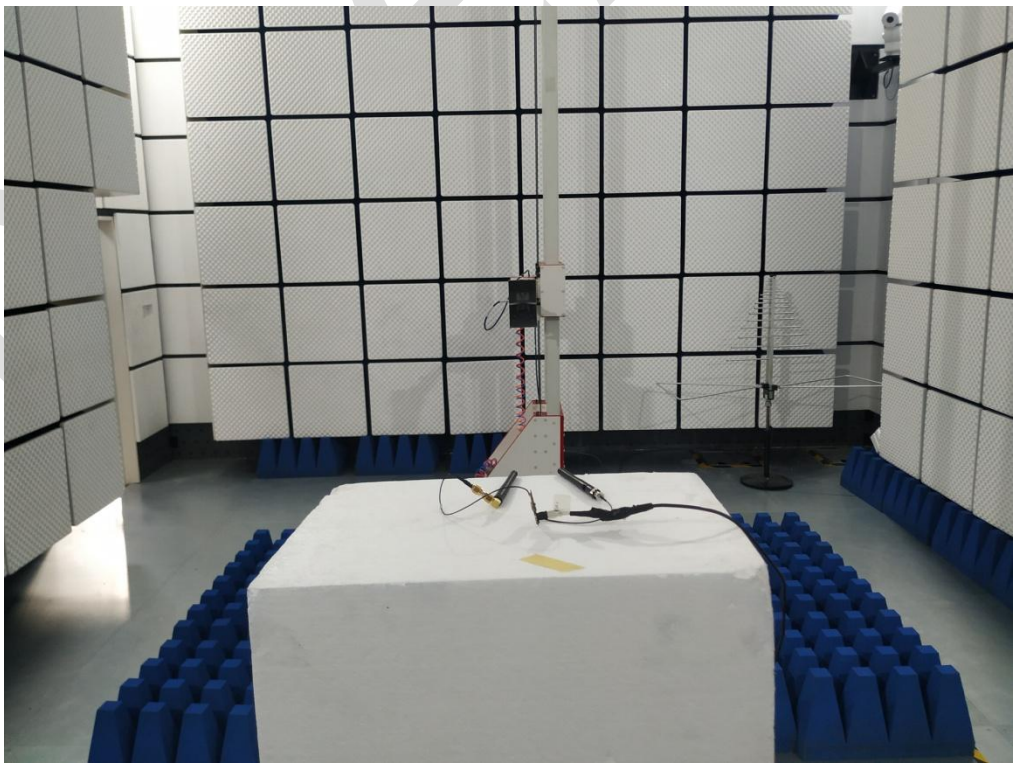
Temperature vs. Frequency Stability (Lowest channel=5745MHz)

Test conditions		Frequency(MHz)	Max. Deviation (ppm)
Voltage(AC /60Hz)	Temp(℃)		
120	-30	5744.988400	2.02
	-20	5744.986500	2.35
	-10	5744.978900	3.67
	0	5744.987400	2.19
	10	5744.990100	1.72
	20	5744.985600	2.51
	30	5744.990600	1.64
	40	5744.979200	3.62
	50	5744.989800	1.78

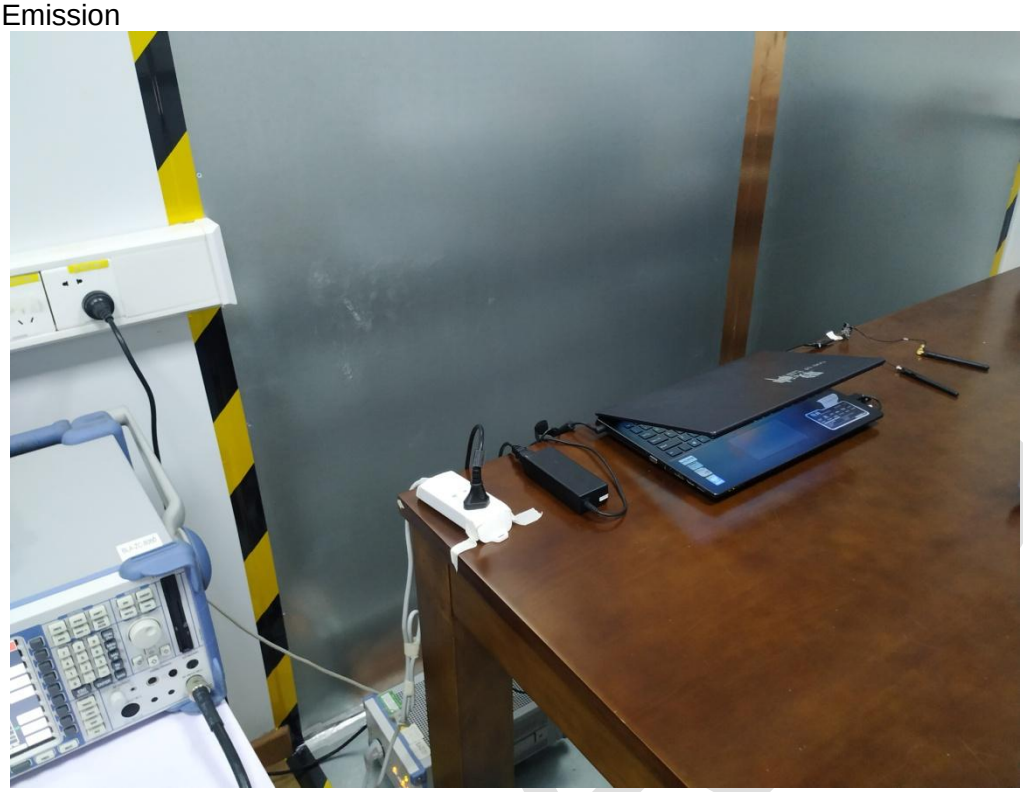
7 Test Setup Photo

Radiated emission





Conducted Emission



8 EUT Constructional Details

Reference to the test report No. BLA-EMC-201911-A53-01

------End of report------