



802.11ac (VHT20) Mode

A.Test Verdict:

Frequency (MHz)	Measured PPSD (dBm/MHz)		Duty Factor	Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
	ANT1	ANT2				
5180	3.66	4.14	0.08	7.00	8.44	PASS
5220	3.74	3.97		6.95		
5240	3.50	3.84		6.76		
5260	3.16	3.71		6.53		
5300	3.27	3.54		6.50		
5320	3.28	3.67		6.57		
5500	3.84	4.03		7.03		
5600	3.60	4.39		7.10		
5720	2.68	2.83		5.85		
Frequency (MHz)	Measured PPSD (dBm/500KHz)		Duty Factor	Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
	ANT A	ANT B				
5720	-0.16	0.14	0.08	3.08	27.44	PASS
5745	-0.05	0.19		3.16		
5785	0.39	0.67		3.62		
5825	0.91	1.03		4.06		
Note: Directional gain = 5.55dBi +10log(2) = 8.56dBi>6dBi, so the limit shall be reduced to 11-(8.56-6) = 8.44dBm for 5.18-5.24 GHz band and reduced to 30-(8.56-6) = 27.44dBm for 5.745-5.825 GHz band.						

B.Test Plot:



(Channel 36, 5180MHz, 802.11ac (VHT20), ANT2)



(Channel 44, 5220MHz, 802.11ac (VHT20), ANT2)



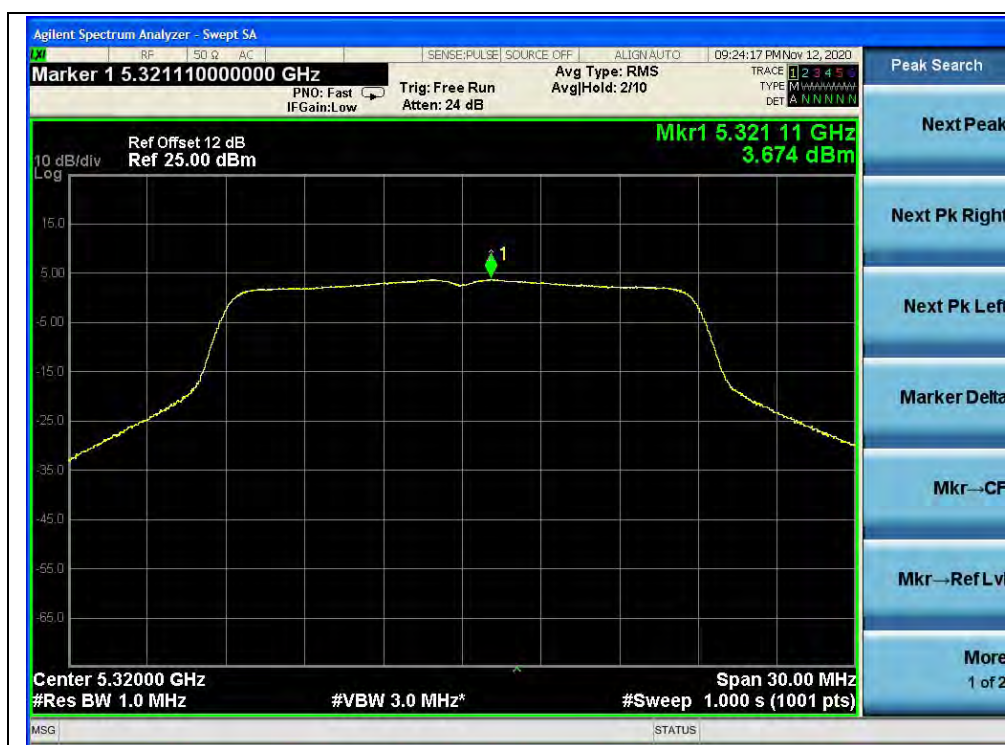
(Channel 48, 5240MHz, 802.11ac (VHT20), ANT2)



(Channel 52, 5260MHz, 802.11ac (VHT20), ANT2)



(Channel 60, 5300MHz, 802.11ac (VHT20), ANT2)



(Channel 64, 5320MHz, 802.11ac (VHT20), ANT2)



(Channel 100, 5500MHz, 802.11ac (VHT20), ANT2)



(Channel 120, 5600MHz, 802.11ac (VHT20), ANT2)



(Channel 144, 5720MHz, 802.11ac (VHT20), ANT2)



(Channel 144, 5720MHz, 802.11ac(VHT20), ANT2)



(Channel 149, 5745MHz, 802.11ac (VHT20), ANT2)



(Channel 157, 5785MHz, 802.11ac (VHT20), ANT2)



(Channel 165, 5825MHz, 802.11ac (VHT20), ANT2)



802.11ac (VHT40) Mode

A.Test Verdict:

Frequency (MHz)	Measured PPSD (dBm/MHz)		Duty Factor	Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
	ANT1	ANT2				
5190	1.45	2.04	0.16	4.93	8.44	PASS
5230	1.34	1.58		4.63		
5270	0.79	1.25		4.20		
5310	0.85	1.32		4.26		
5510	1.52	1.43		4.65		
5630	1.27	2.33		5.00		
5710	0.33	0.73		3.70		
Frequency (MHz)	Measured PPSD (dBm/500KHz)		Duty Factor	Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
	ANT A	ANT B				
5710	-2.47	-2.21	0.16	0.83	27.44	PASS
5755	-2.40	-1.78		1.09		
5795	-1.95	-1.65		1.37		
Note: Directional gain = 5.55dBi +10log(2) = 8.56dBi>6dBi, so the limit shall be reduced to 11-(8.56-6) = 8.44dBm for 5.18-5.24 GHz band and reduced to 30-(8.56-6) = 27.44dBm for 5.745-5.825 GHz band.						

B.Test Plot:



(Channel 38, 5190MHz, 802.11ac (VHT40), ANT2)



(Channel 46, 5230MHz, 802.11ac (VHT40), ANT2)



(Channel 54, 5270MHz, 802.11ac (VHT40), ANT2)



(Channel 62, 5310MHz, 802.11ac (VHT40), ANT2)



(Channel 102, 5510MHz, 802.11ac (VHT40), ANT2)



(Channel 126, 5630MHz, 802.11ac (VHT40), ANT2)



(Channel 142, 5710MHz, 802.11ac (VHT40), ANT2)



(Channel 142, 5710MHz, 802.11ac (VHT40), ANT2)



(Channel 151, 5755MHz, 802.11ac (VHT40), ANT2)



(Channel 159, 5795MHz, 802.11ac (VHT40), ANT2)



802.11ac (VHT80) Mode

A.Test Verdict:

Frequency (MHz)	Measured PPSD (dBm/MHz)		Duty Factor	Total PPSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
	ANT1	ANT2				
5210	-2.04	-1.34	0.33	1.66	8.44	PASS
5290	-2.54	-2.21		0.97		
5530	-1.92	-1.47		1.65		
5610	-2.42	-1.31		1.51		
5690	-2.69	-2.15		0.93		
Frequency (MHz)	Measured PPSD (dBm/500KHz)		Duty Factor	Total PPSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
	ANT A	ANT B				
5690	-5.46	-5.02	0.33	-1.89	27.44	PASS
5775	-5.55	-5.39		-2.13		

Note: Directional gain = $5.55\text{dBi} + 10\log(2) = 8.56\text{dBi} > 6\text{dBi}$, so the limit shall be reduced to $11 - (8.56 - 6) = 8.44\text{dBm}$ for 5.18-5.24 GHz band and reduced to $30 - (8.56 - 6) = 27.44\text{dBm}$ for 5.745-5.825 GHz band.

B.Test Plot:



(Channel 42, 5210MHz, 802.11ac (VHT80), ANT2)



(Channel 58, 5290MHz, 802.11ac (VHT80), ANT2)



(Channel 106, 5530MHz, 802.11ac (VHT80), ANT2)



(Channel 122, 5610MHz, 802.11ac (VHT80), ANT2)



(Channel 138, 5690MHz, 802.11ac (VHT80), ANT2)



(Channel 138, 5690MHz, 802.11ac (VHT80), ANT2)



(Channel 155, 5775MHz, 802.11ac (VHT80), ANT2)



2.6. Frequency Stability

2.6.1. Requirement

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.

2.6.2. Test Procedure

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between 5°C to 40°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

2.6.3. Test Result

U-NII-1 (Ch. 36) 5180MHz				
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	Fre. Dev. (kHz)	Deviation (ppm)
100%	3.8	+20(Ref)	18	3.475
100%		-30	22	4.247
100%		-20	25	4.826
100%		-10	27	5.212
100%		0	19	3.668
100%		+10	17	3.282
100%		+20	21	4.054
100%		+30	26	5.019
100%		+40	30	5.792
100%		+50	25	4.826
115%	4.2	+20	19	3.668
85%	3.6	+20	21	4.054



U-NII-2A (Ch. 52)				
5260MHz				
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	Fre. Dev. (kHz)	Deviation (ppm)
100%	3.8	+20(Ref)	21	3.992
100%		-30	25	4.753
100%		-20	30	5.703
100%		-10	29	5.513
100%		0	22	4.183
100%		+10	19	3.612
100%		+20	23	4.373
100%		+30	32	6.084
100%		+40	35	6.654
100%		+50	25	4.753
115%	4.2	+20	27	5.133
85%	3.6	+20	30	5.703

U-NII-2C (Ch. 100)				
5500MHz				
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	Fre. Dev. (kHz)	Deviation (ppm)
100%	3.8	+20(Ref)	23	4.182
100%		-30	31	5.636
100%		-20	29	5.273
100%		-10	26	4.727
100%		0	25	4.545
100%		+10	22	4.000
100%		+20	20	3.636
100%		+30	23	4.182
100%		+40	26	4.727
100%		+50	23	4.182
115%	4.2	+20	28	5.091
85%	3.6	+20	30	5.455



U-NII-3 (Ch. 149) 5745MHz				
VOLTAGE (%)	POWER (VDC)	TEMP (°C)	Fre. Dev. (kHz)	Deviation (ppm)
100%	3.8	+20(Ref)	27	4.909
100%		-30	19	3.455
100%		-20	17	3.091
100%		-10	21	3.818
100%		0	21	3.818
100%		+10	30	5.455
100%		+20	25	4.545
100%		+30	26	4.727
100%		+40	27	4.909
100%		+50	21	3.818
115%	4.2	+20	30	5.455
85%	3.6	+20	31	5.636

2.7. Conducted Emission

2.7.1. Requirement

According to FCC section 15.207, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

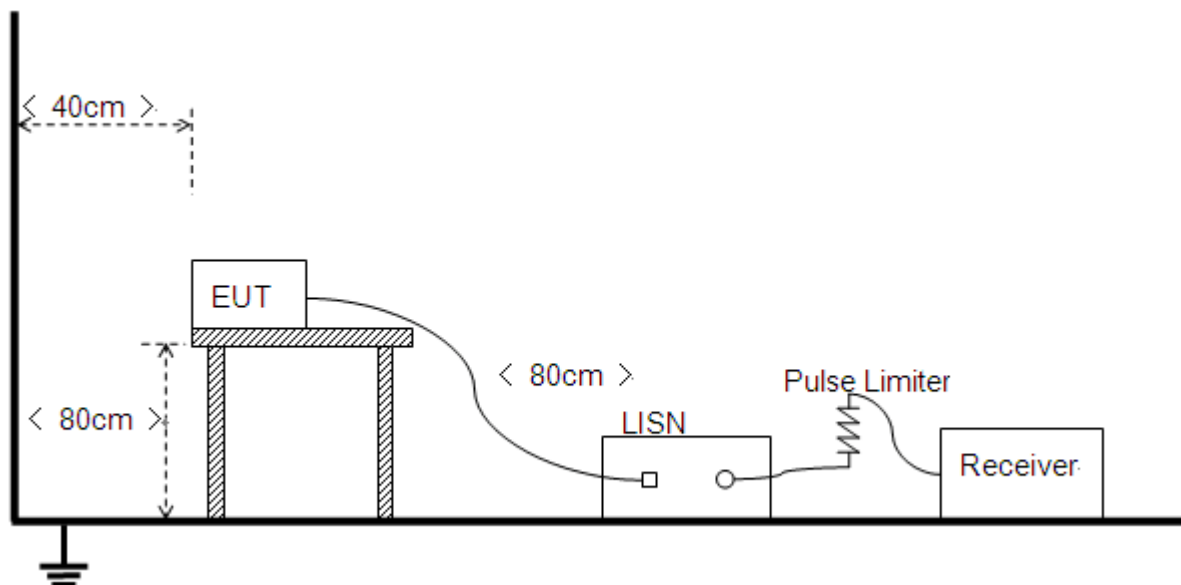
Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

Note:

- (a) The lower limit shall apply at the band edges.
- (b) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

2.7.2. Test Description

Test Setup:



The Table-top EUT was placed upon a non-metallic table 0.8m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10: 2013.



2.7.3. Test Result

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Set RBW=9kHz, VBW=30kHz. Refer to recorded points and Plot below.

Note: Both of the test voltage AC 120V/60Hz and AC 230V/50Hz were considered and tested respectively, only the results of the worst case AC 120V/60Hz were recorded in this report.

A. Test Setup:

Test Mode: EUT+PC+ADAPTER+WIFI TX

Test Voltage: AC 120V/60Hz

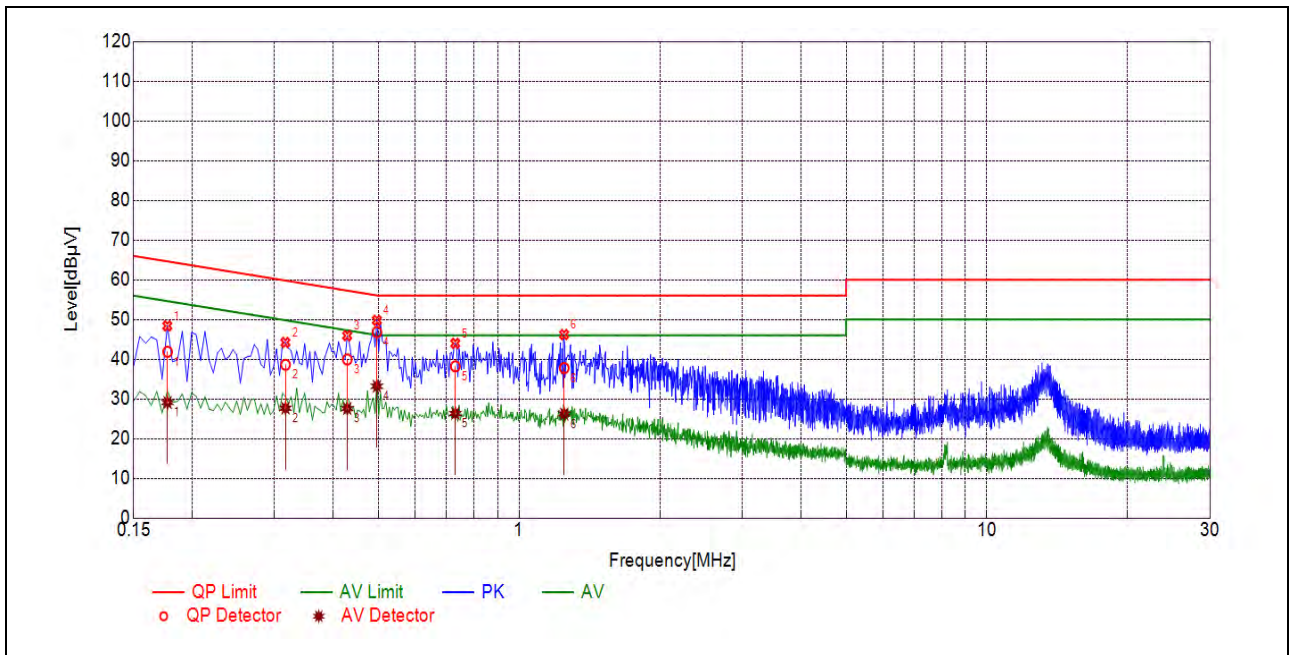
The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V]} = U_R + L_{\text{Cable loss}} \text{ [dB]} + A_{\text{Factor}}$$

U_R : Receiver Reading

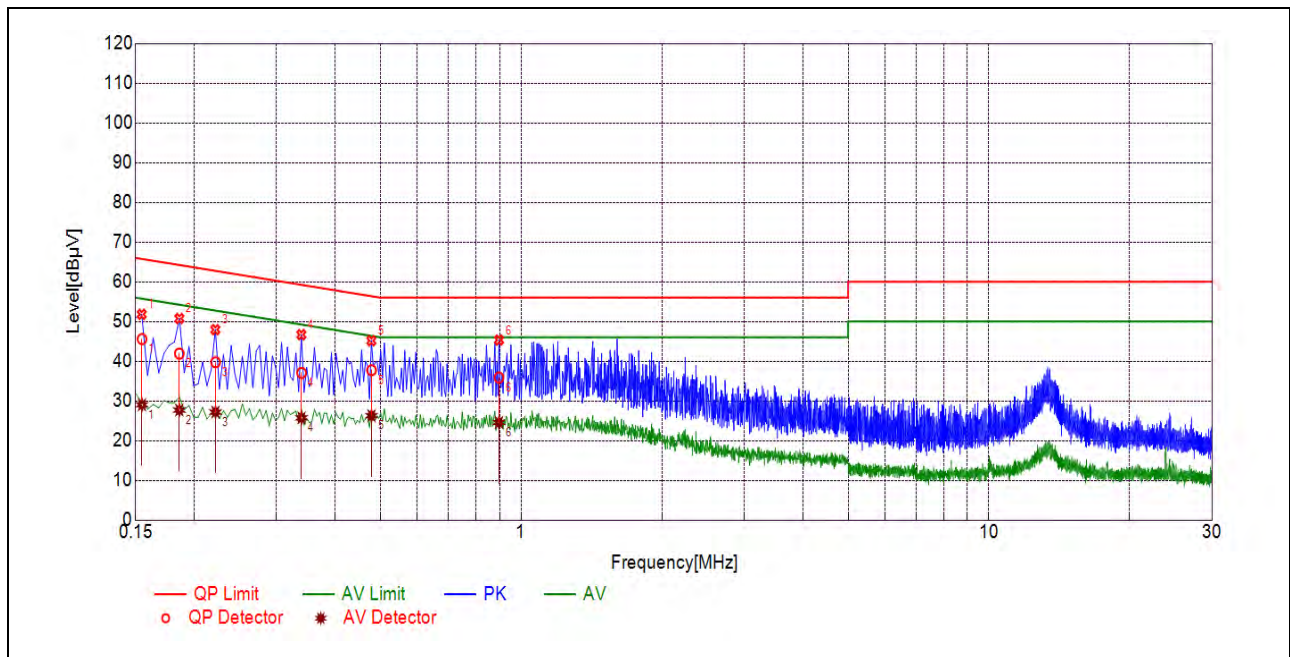
A_{Factor} : Voltage division factor of LISN

B.Test Plot:



(L Phase)

No.	Fre. (MHz)	Emission Level (dBμV)		Limit (dBμV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1772	41.88	64.62	64.62	54.62	Line	PASS
2	0.3167	38.60	59.79	59.79	49.79		PASS
3	0.4292	39.93	57.27	57.27	47.27		PASS
4	0.4965	46.82	56.06	56.06	46.06		PASS
5	0.7304	38.21	56.00	56.00	46.00		PASS
6	1.2484	37.76	56.00	56.00	46.00		PASS



(N Phase)

No.	Fre. (MHz)	Emission Level (dBμV)		Limit (dBμV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1547	45.58	29.04	65.75	55.75	Neutral	PASS
2	0.1859	41.93	27.71	64.22	54.22		PASS
3	0.2222	39.75	27.20	62.74	52.74		PASS
4	0.3393	37.03	25.75	59.22	49.22		PASS
5	0.4789	37.73	26.28	56.36	46.36		PASS
6	0.8966	35.86	24.56	56.00	46.00		PASS

2.8. Restricted Frequency Bands

2.8.1. Requirement

The peak emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) 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 EIRP of -27dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:
 - (i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

The following formula is used to convert the equipment isotropic radiated power(e.i.r.p.) to field strength (dBμV/m);

$$E = 1000000 \times \sqrt{30P} / 3 \mu\text{V/m}$$

where P is the EIRP in Watts

Therefore: -27 dBm/MHz = 68.23 dBuV/m

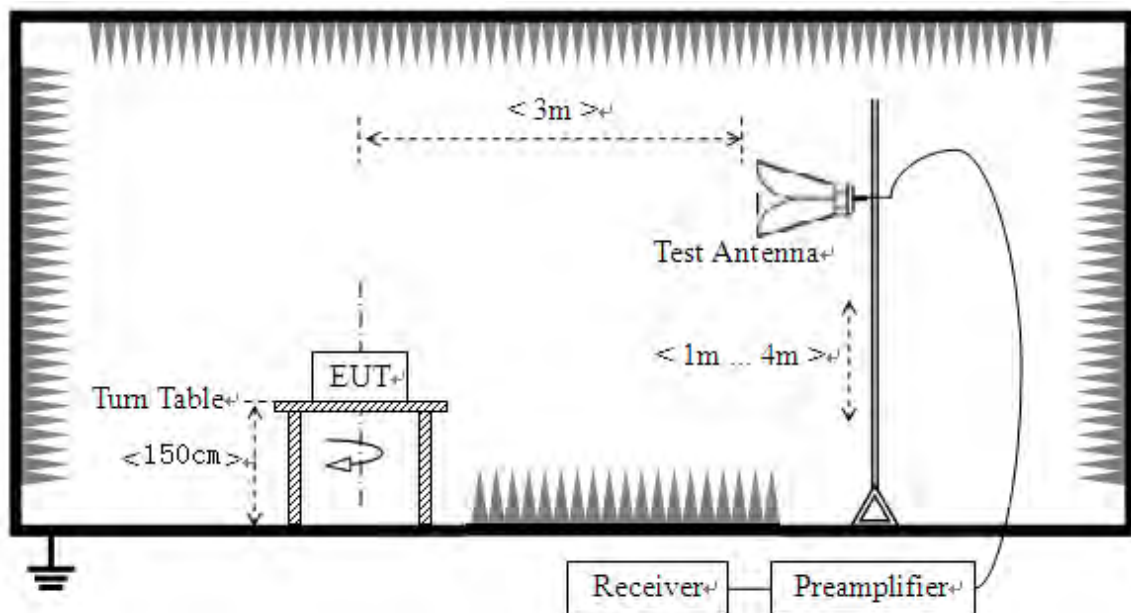
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 - 0.490	$2400/F(\text{kHz})$	300
0.490 - 1.705	$24000/F(\text{kHz})$	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table).

2.8.2.Test Description

Test Setup





The EUT is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

KDB 789033 Section H) 3)5)6(d)) was used in order to prove compliance

For the Test Antenna:

Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.

2.8.3.Test Result

The lowest and highest channels are tested to verify Restricted Frequency Bands.

The measurement results are obtained as below:

$E [dB\mu V/m] = U_R + A_T + A_{Factor} [dB]; A_T = L_{Cable loss} [dB] - G_{preamp} [dB]$

A_T : Total correction Factor except Antenna; U_R : Receiver Reading

G_{preamp} : Preamplifier Gain; A_{Factor} : Antenna Factor at 3m

Note 1: Restricted Frequency Bands were performed when antenna was at vertical and horizontal polarity, and only the worse test condition (vertical) was recorded in this test report.

Note 2 All test modes and bandwidth were considered and evaluated respectively by performing full test, only the worst data were recorded for each bandwidth.

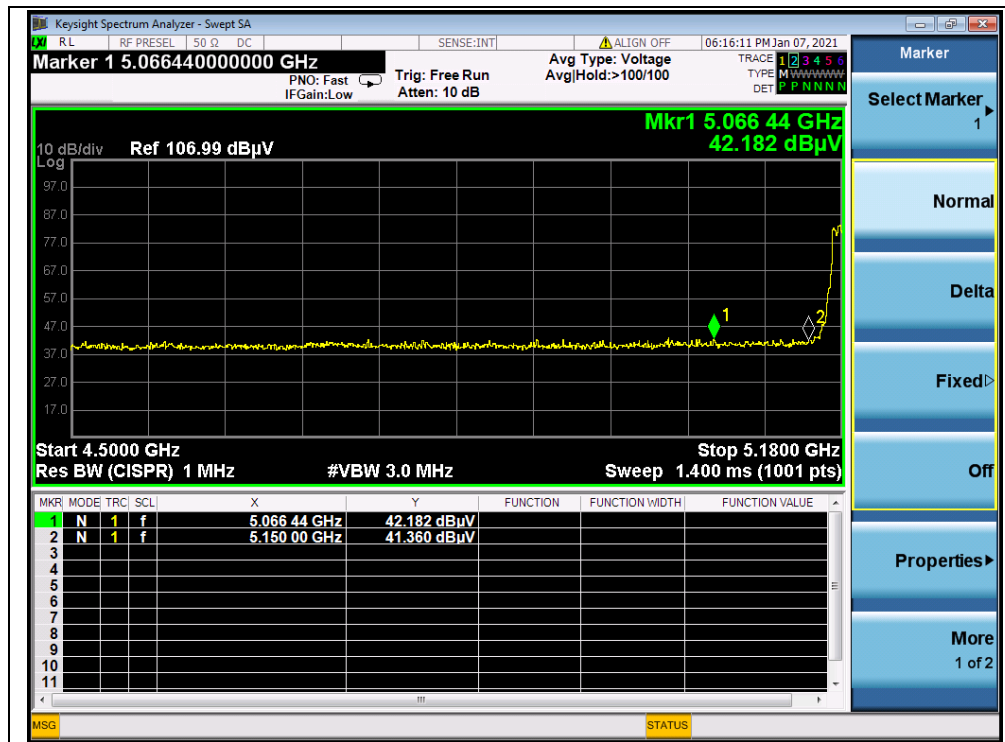
802.11a Mode

A.Test Verdict:

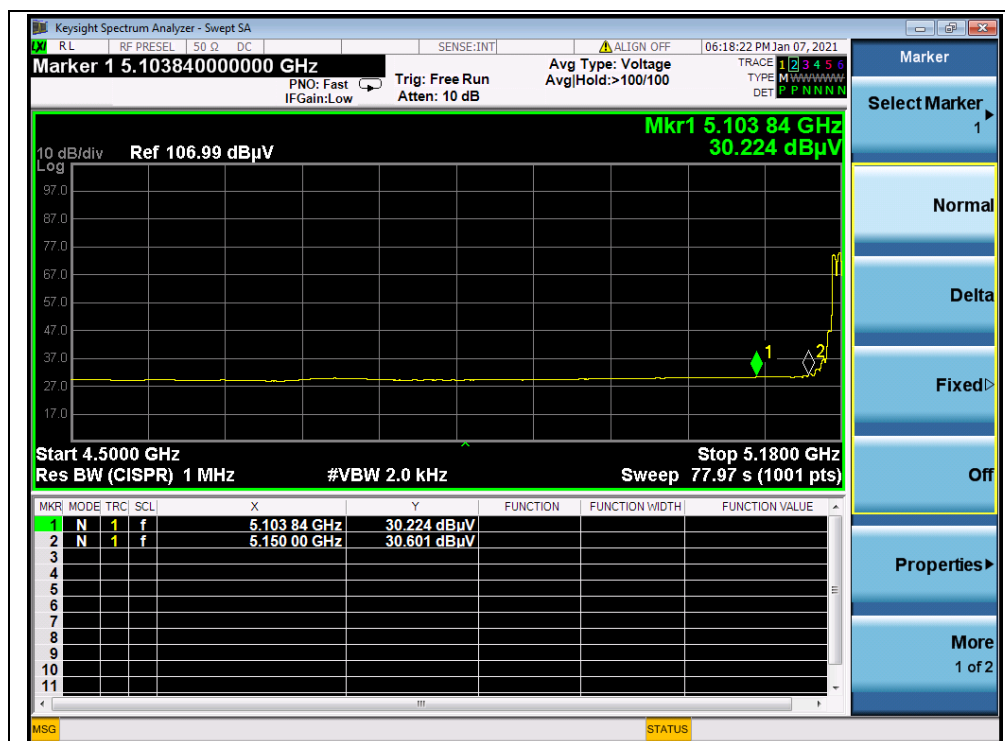
Channel	Frequency (MHz)	Detector	Receiver Reading U_R (dB μ V)	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV						
36	5066.44	PK	42.18	-16.92	32.20	57.46	74	PASS
36	5150.00	AV	30.60	-16.92	32.20	45.88	54	PASS
64	5351.08	PK	37.99	-16.80	32.20	53.39	74	PASS
64	5350.00	AV	28.45	-16.80	32.20	43.85	54	PASS
100	5465.57	PK	40.16	-16.64	32.20	55.72	68.23	PASS
100	5470.00	AV	30.24	-16.64	32.20	45.80	54	PASS
144	5725.00	PK	41.48	-16.64	32.20	57.04	68.23	PASS
144	5727.30	AV	31.06	-16.64	32.20	46.62	54	PASS
149	5725.00	PK	44.15	-16.23	32.20	60.12	122.23	PASS
165	5925.00	PK	40.20	-16.23	32.20	56.17	68.23	PASS



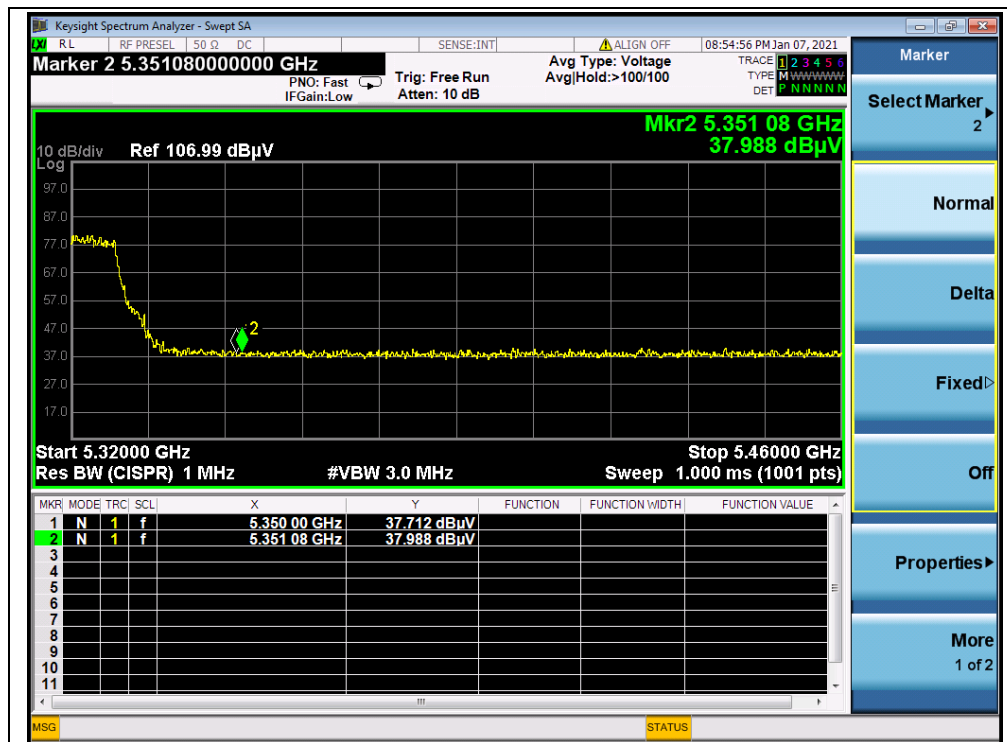
B.Test Plot:



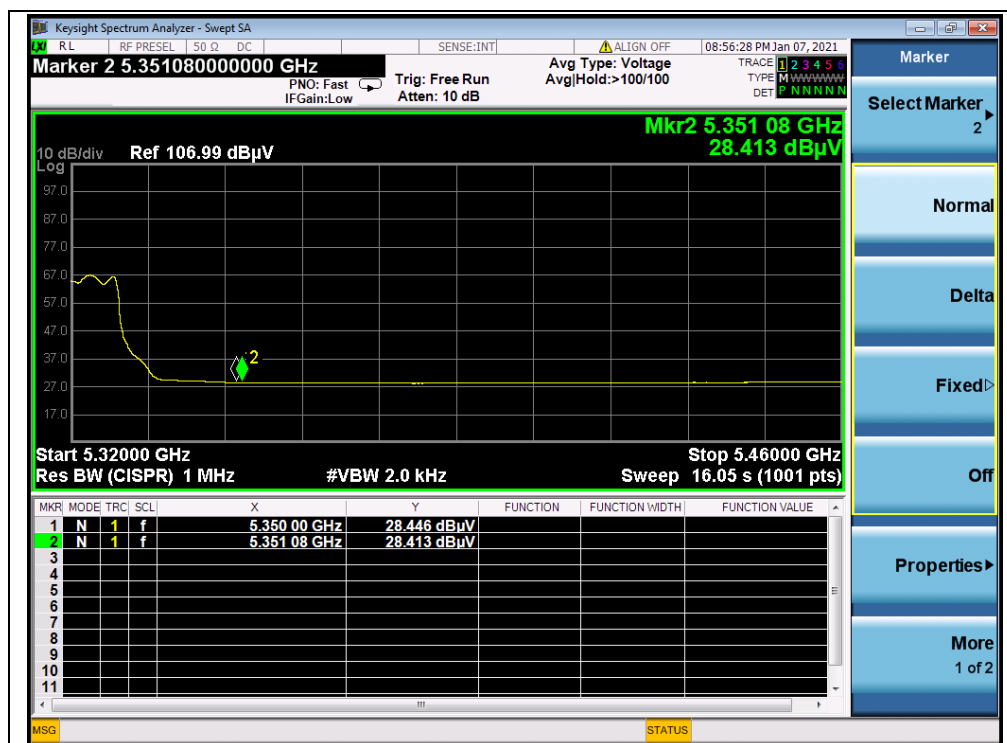
(PEAK, Channel 36, 802.11a)



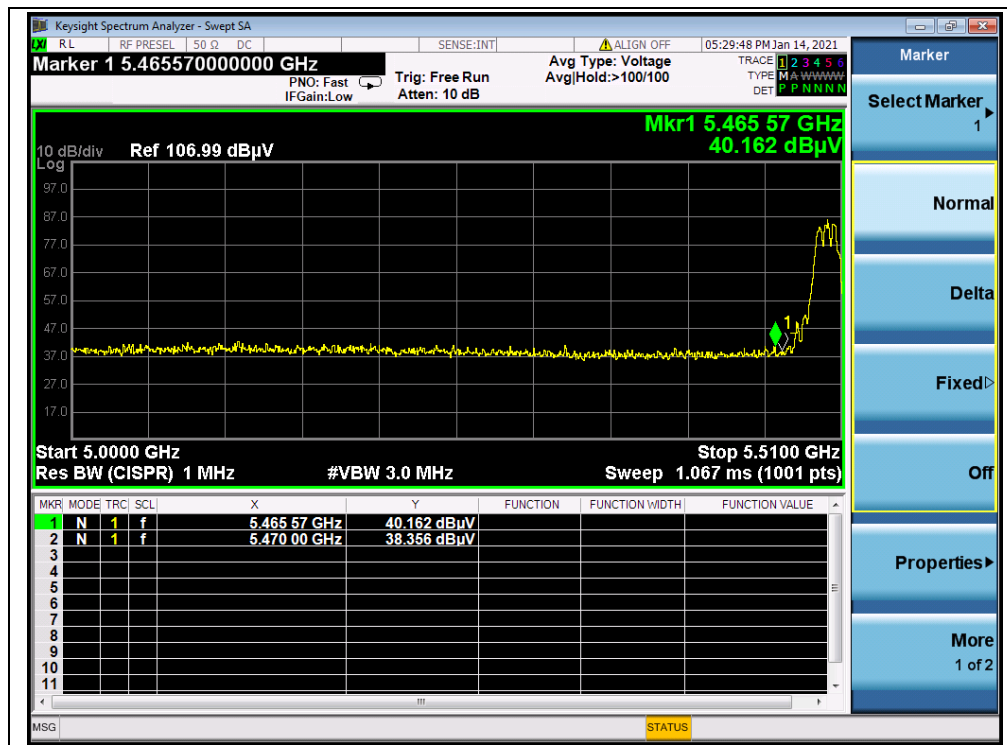
(AVERAGE, Channel 36, 802.11a)



(PEAK, Channel 64, 802.11a)



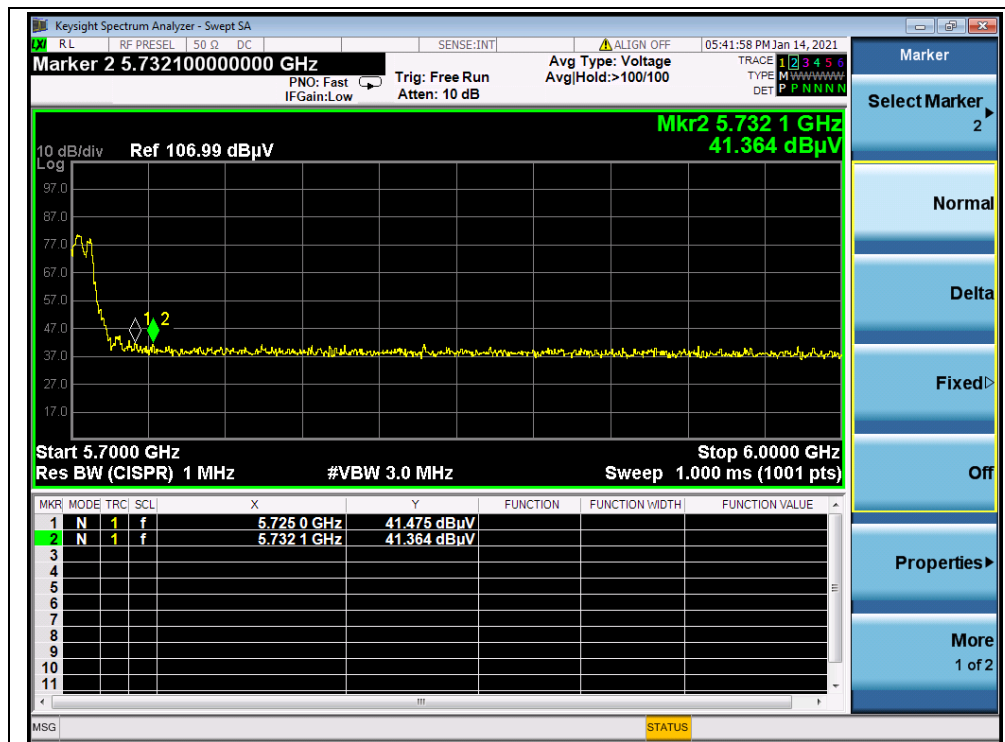
(AVERAGE, Channel 64, 802.11a)



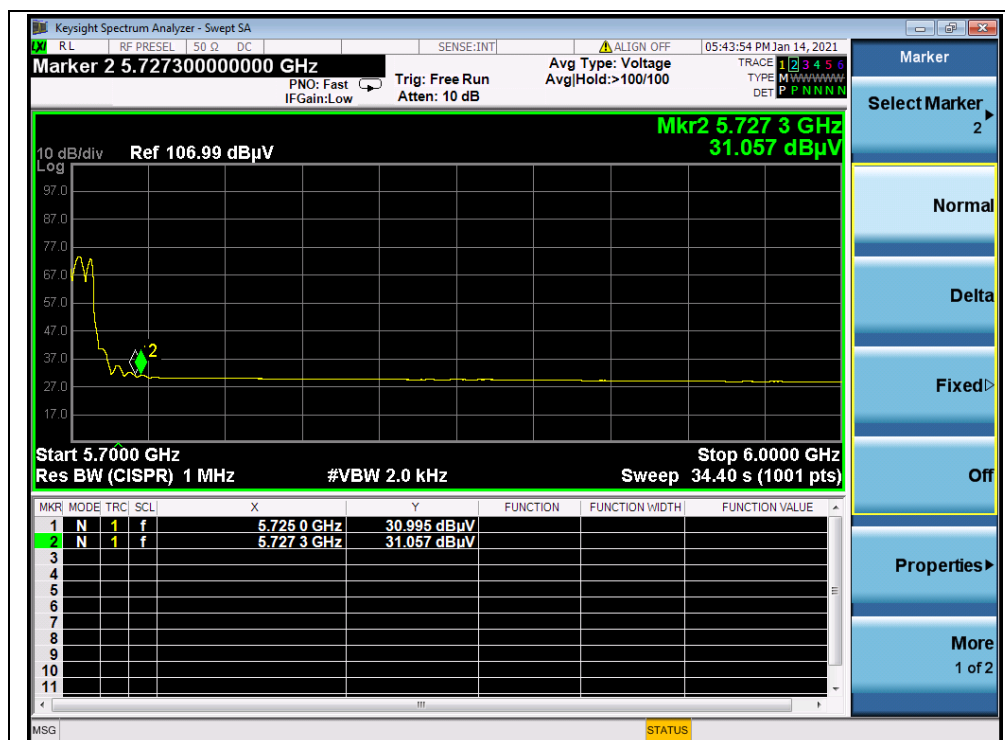
(PEAK, Channel100, 802.11a)



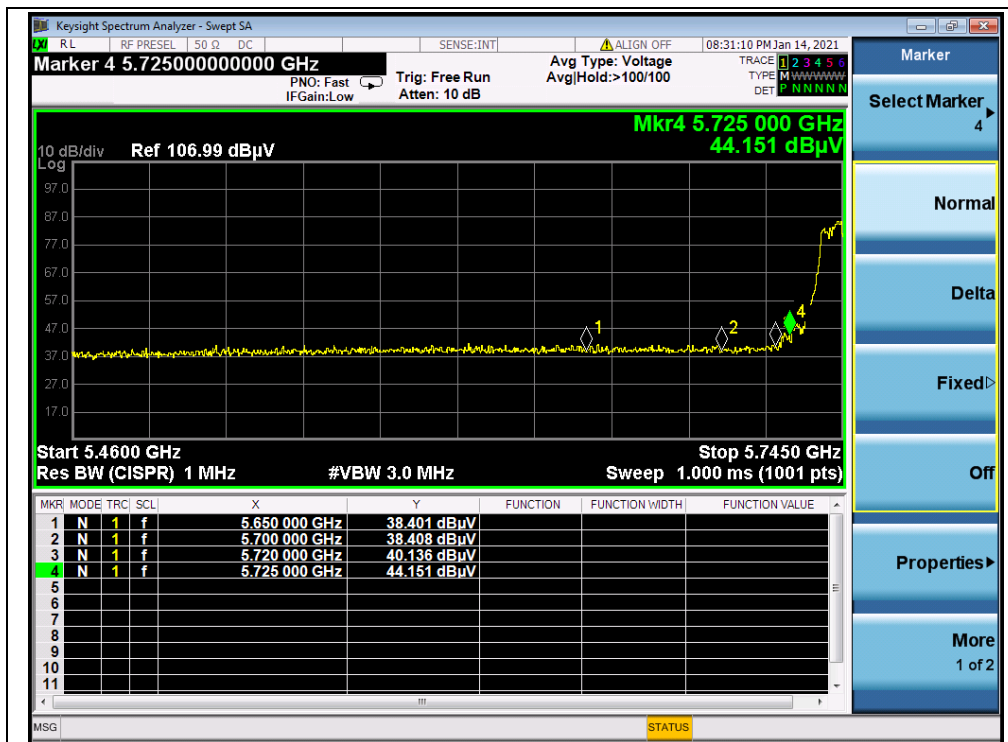
(AVERAGE, Channel 100, 802.11a)



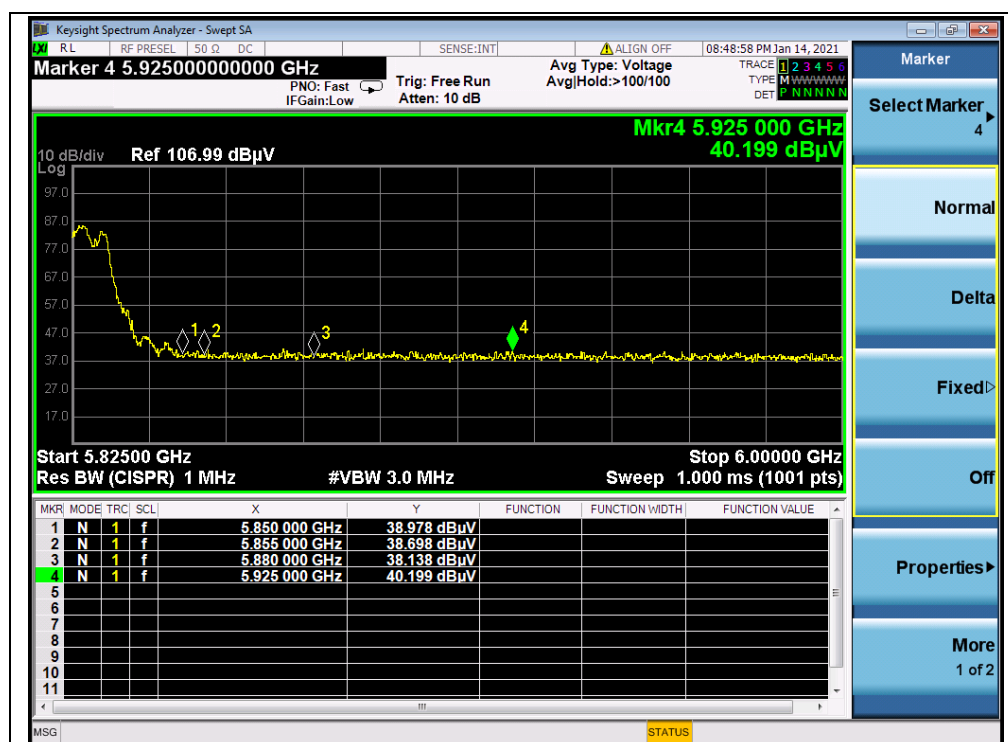
(PEAK, Channel 144, 802.11a)



(AVERAGE, Channel 144, 802.11a)



(PEAK, Channel 149, 802.11a)



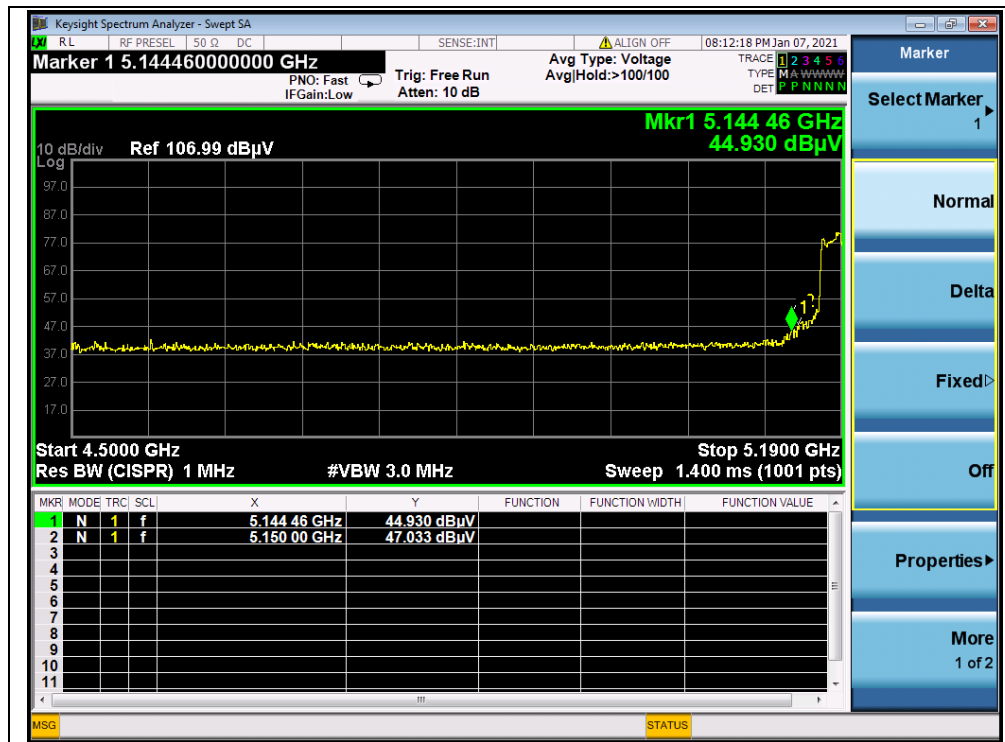
(PEAK, Channel 165, 802.11a)

**802.11n (HT40) Mode****A.Test Verdict:**

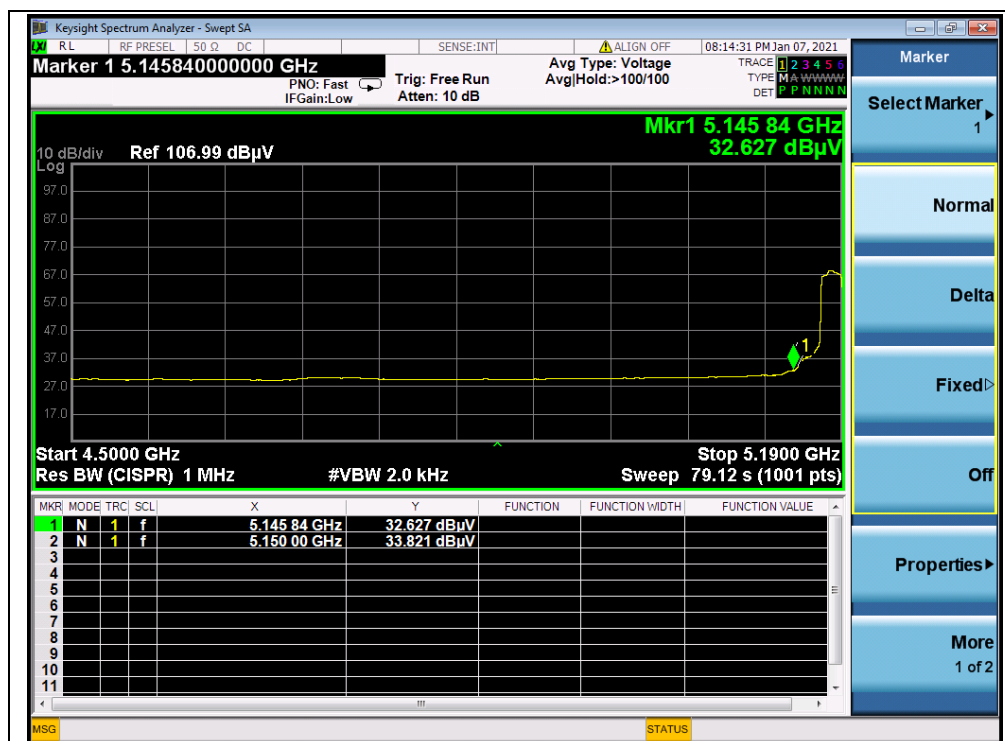
Channel	Frequency (MHz)	Detector	Receiver Reading U_R (dB μ V)	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV						
38	5150.00	PK	47.03	-16.92	32.20	62.31	74	PASS
38	5150.00	AV	33.82	-16.92	32.20	49.1	54	PASS
62	5390.85	PK	40.07	-16.80	32.20	55.47	74	PASS
62	5350.00	AV	29.05	-16.80	32.20	44.45	54	PASS
102	5470.00	PK	40.77	-16.64	32.20	56.33	68.23	PASS
102	5470.00	AV	32.30	-16.64	32.20	47.86	54	PASS
142	5759.95	PK	42.37	-16.64	32.20	57.93	68.23	PASS
142	5725.00	AV	30.49	-16.64	32.20	46.05	54	PASS
151	5725.00	PK	48.26	-16.23	32.20	64.23	122.23	PASS
159	5850.00	PK	41.29	-16.23	32.20	57.26	122.23	PASS



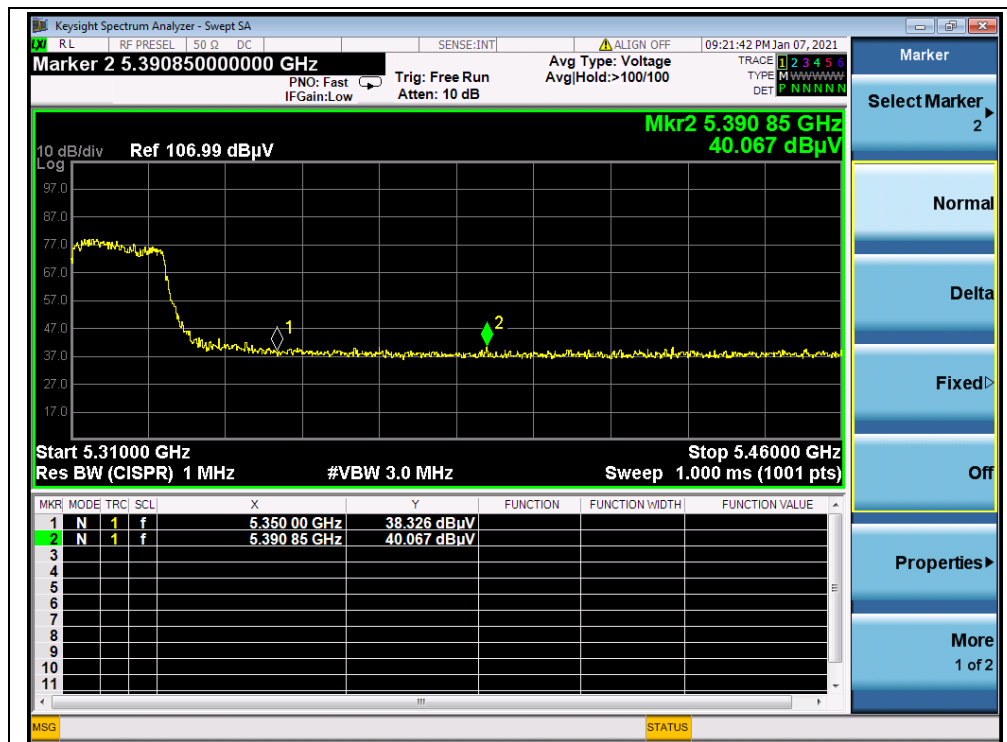
B.Test Plot:



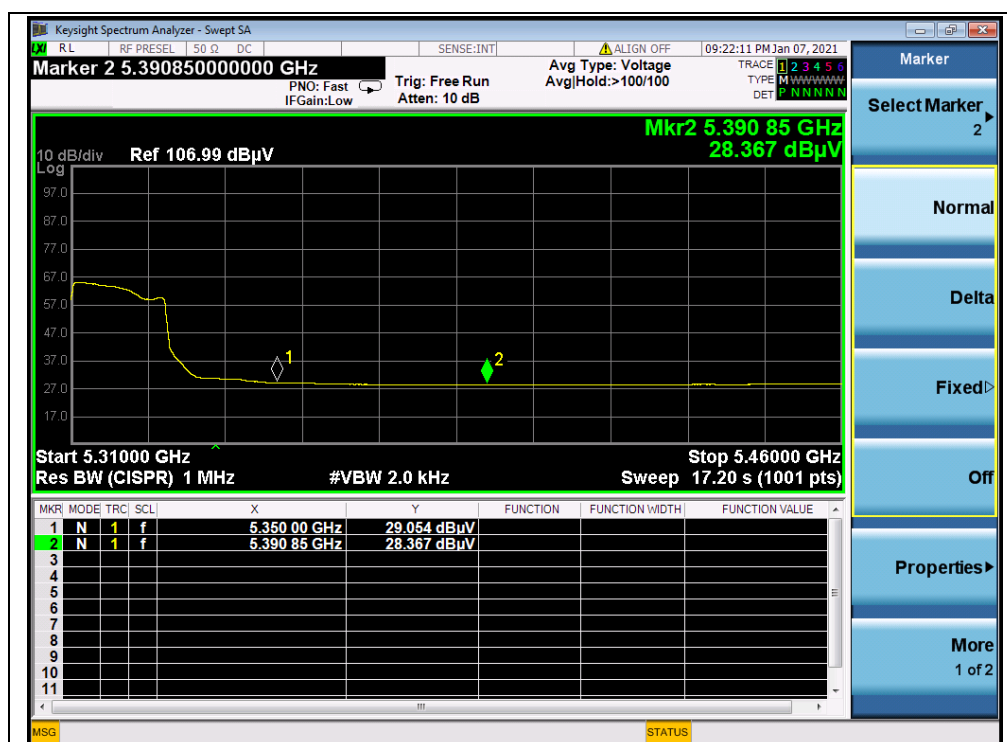
(PEAK, Channel 38, 802.11n (HT40))



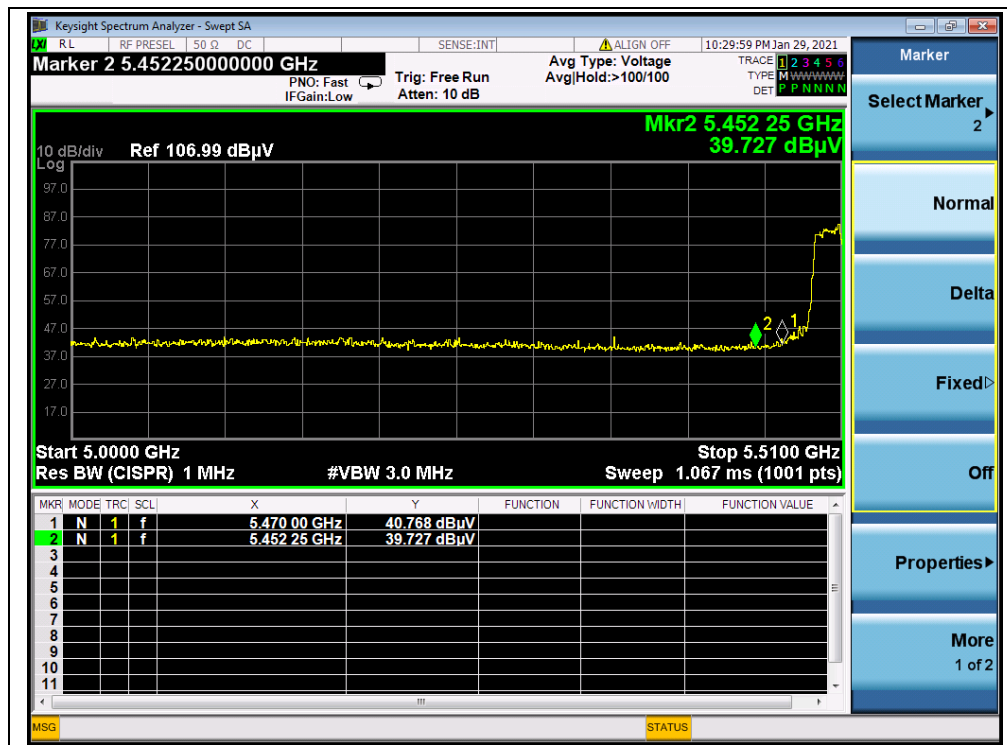
(AVERAGE, Channel 38, 802.11n (HT40))



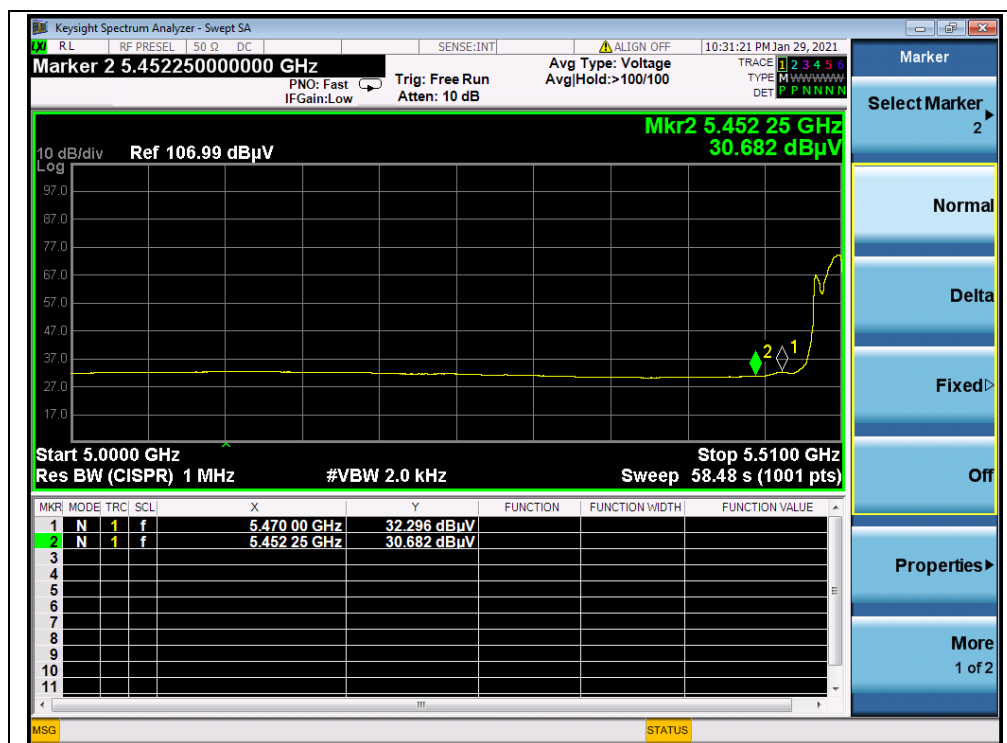
(PEAK, Channel 62, 802.11n (HT40))



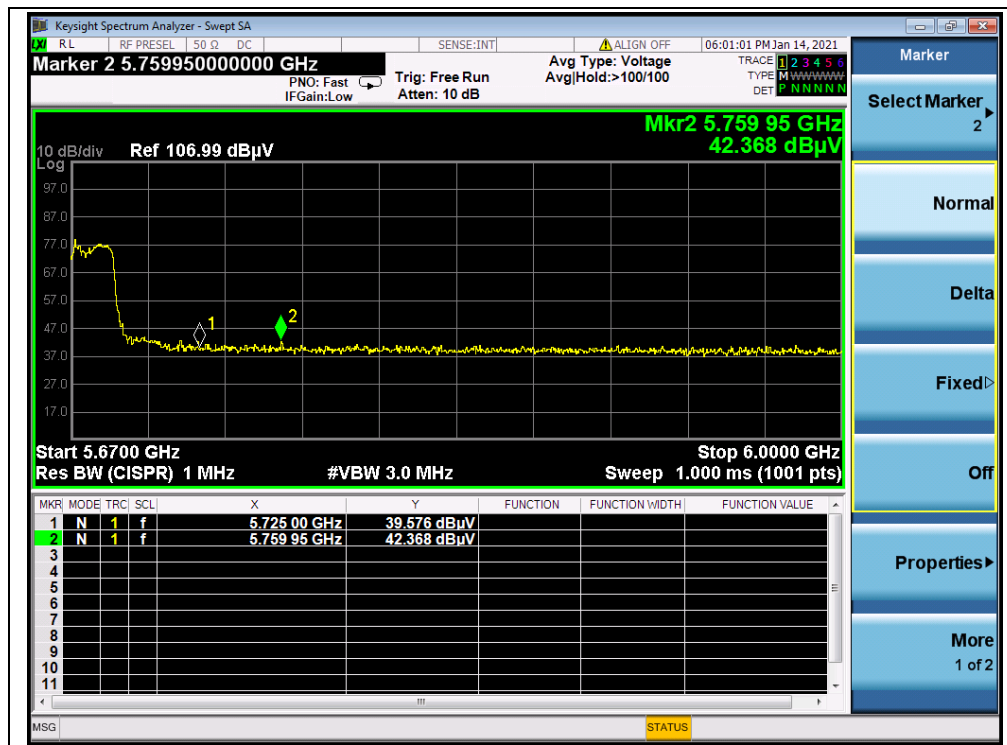
(AVERAGE, Channel 62, 802.11n (HT40))



(PEAK, Channel 102, 802.11n (HT40))



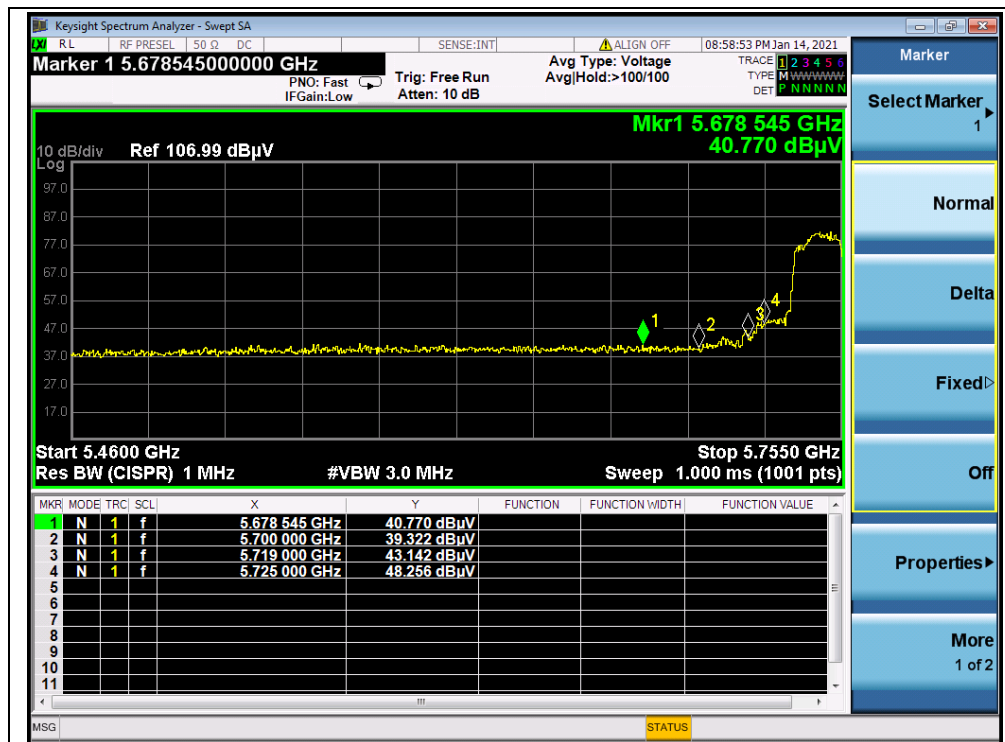
(AVERAGE, Channel 102, 802.11n (HT40))



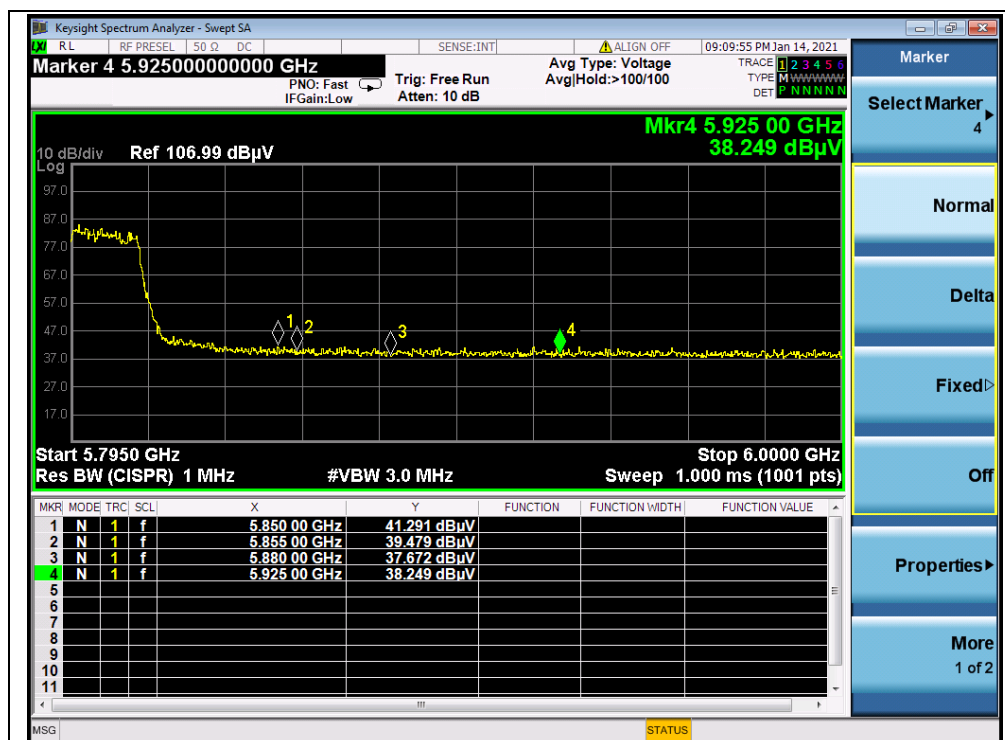
(PEAK, Channel 142, 802.11n (HT40))



(AVERAGE, Channel 142, 802.11n (HT40))



(PEAK, Channel 151, 802.11n (HT40))



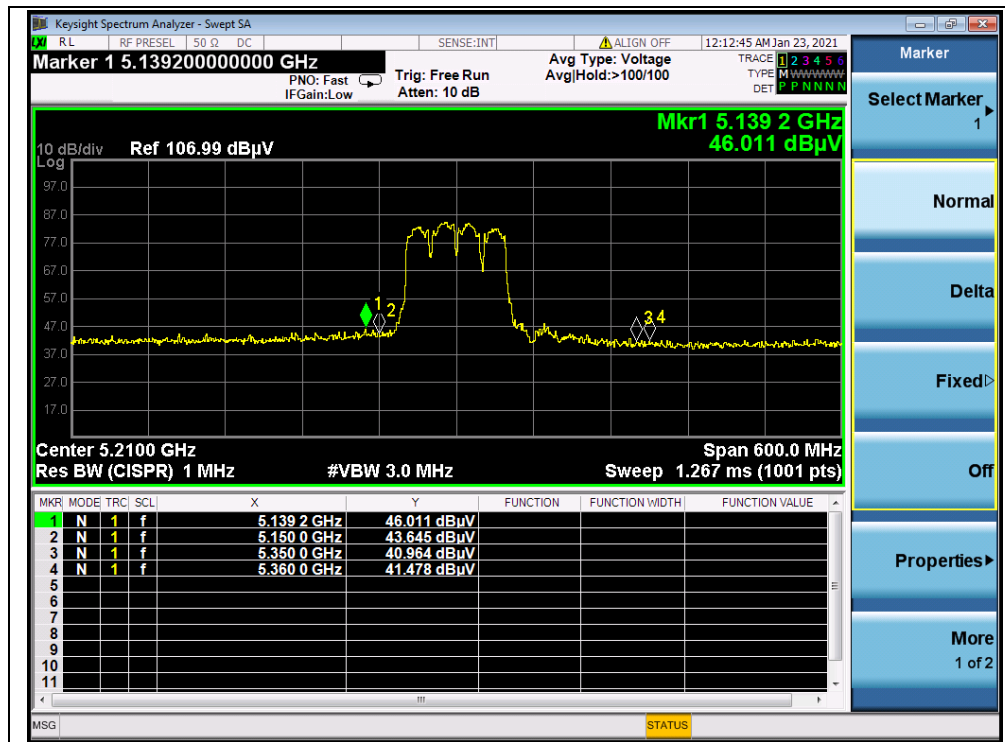
(PEAK, Channel 159, 802.11n (HT40))

**802.11ac (VHT80) Mode****A.Test Verdict:**

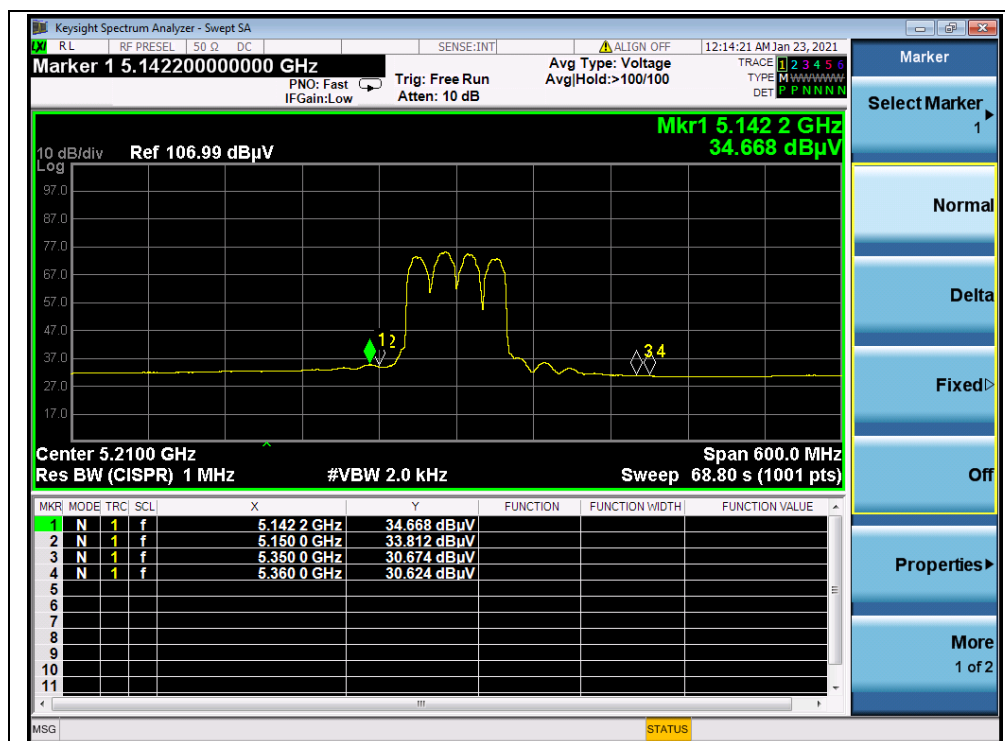
Channel	Frequency (MHz)	Detector	Receiver Reading U_R (dB μ V)	A_T (dB)	A_{Factor} (dB@3m)	Max. Emission E (dB μ V/m)	Limit (dB μ V/m)	Verdict
		PK/ AV						
42	5139.20	PK	46.01	-16.92	32.20	61.29	74	PASS
42	5142.20	AV	34.67	-16.92	32.20	49.95	54	PASS
58	5370.40	PK	39.94	-16.80	32.20	55.34	74	PASS
58	5350.00	AV	28.89	-16.80	32.20	44.29	54	PASS
106	5459.51	PK	40.81	-16.64	32.20	56.37	74	PASS
106	5470.00	AV	29.43	-16.64	32.20	44.99	54	PASS
138	5762.00	PK	41.27	-16.64	32.20	56.83	68.23	PASS
138	5725.00	AV	29.92	-16.64	32.20	45.48	54	PASS
155	5717.59	PK	41.25	-16.23	32.20	57.22	110.15	PASS
155	5887.05	PK	40.35	-16.23	32.20	56.32	96.31	PASS



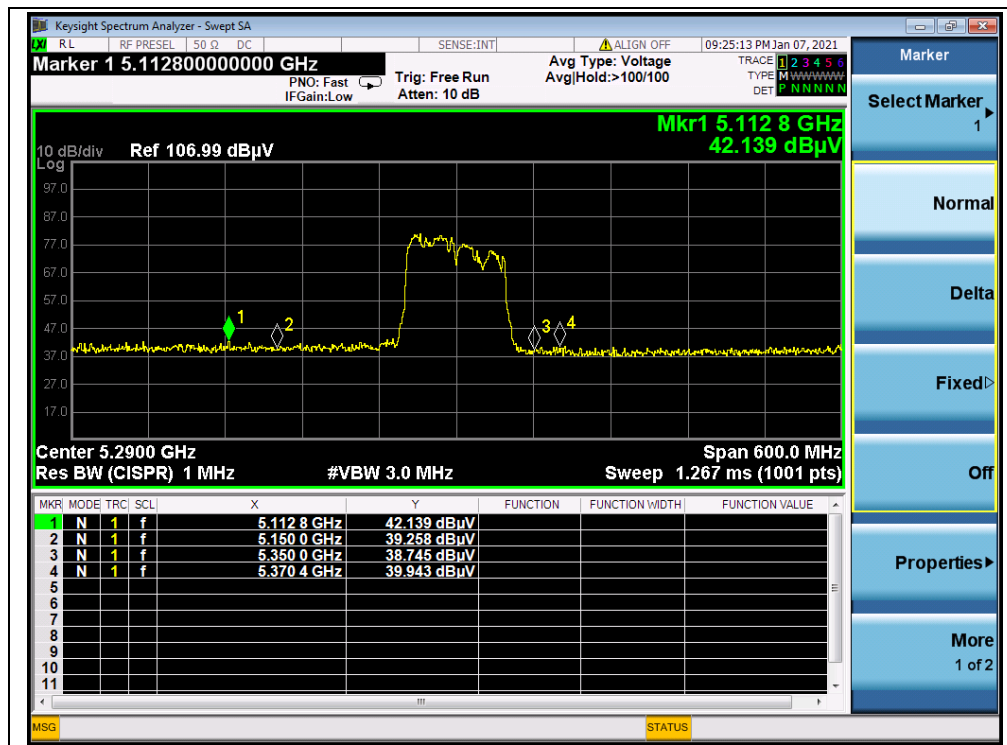
B.Test Plot:



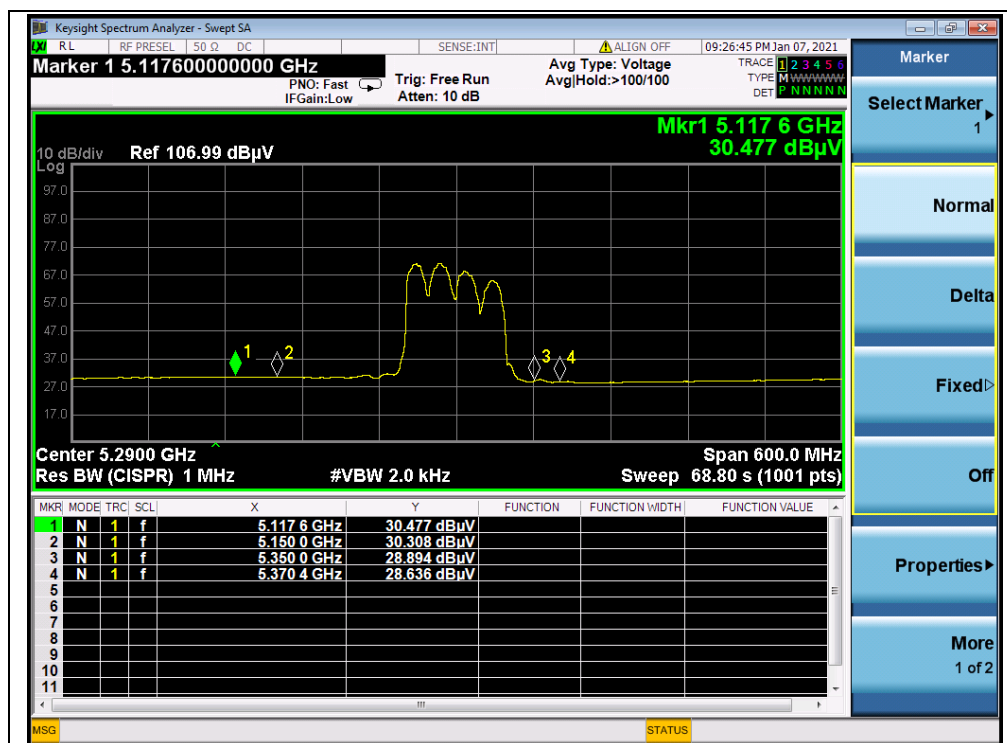
(PEAK, Channel 42, 802.11ac (VHT80))



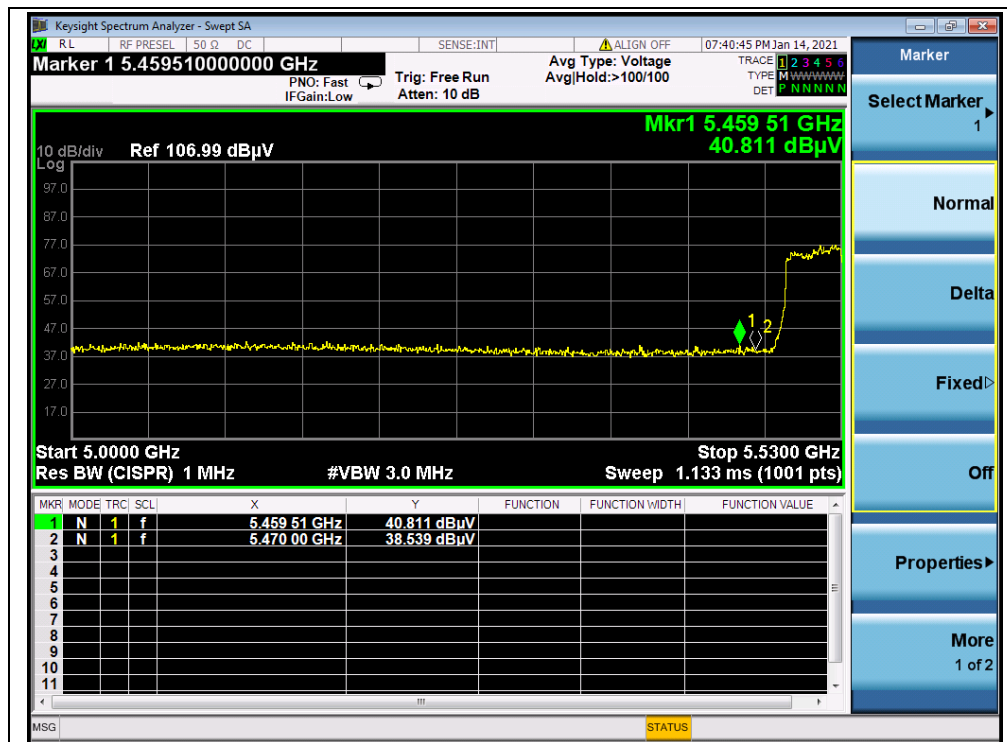
(AVERAGE, Channel 42, 802.11ac (VHT80))



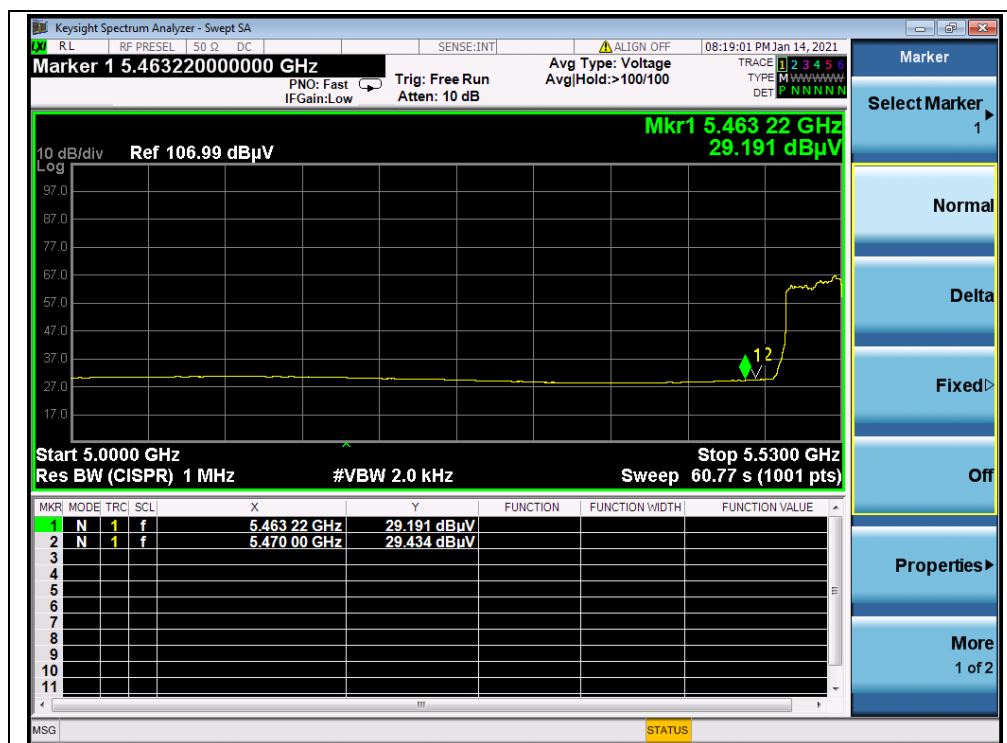
(PEAK, Channel 58, 802.11ac (VHT80))



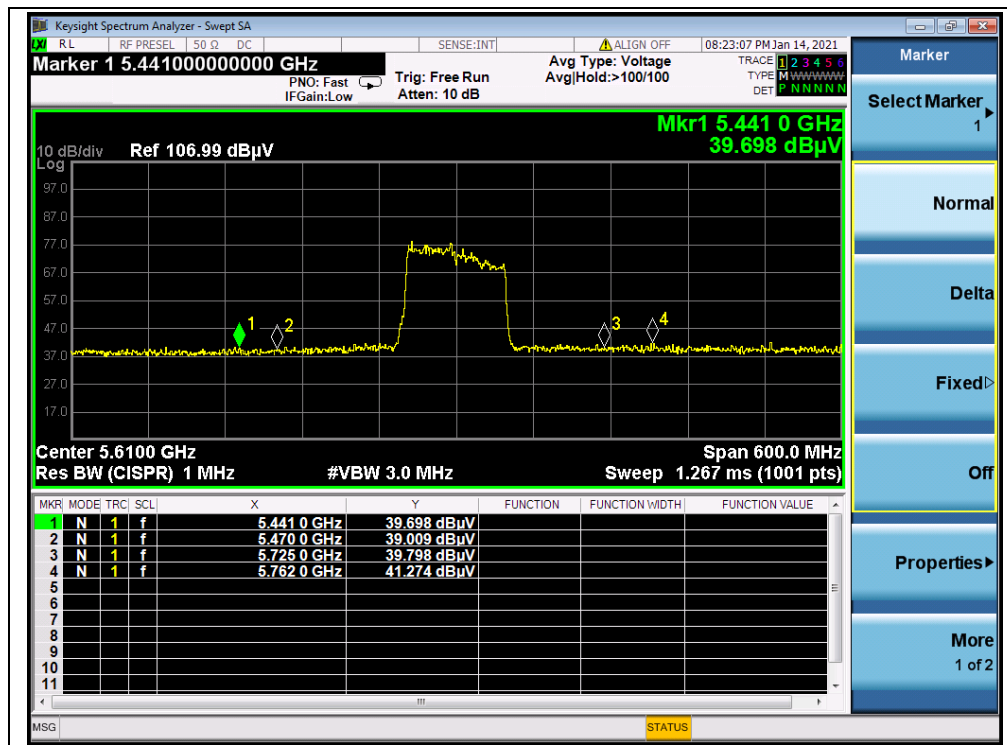
(AVERAGE, Channel 58, 802.11ac (VHT80))



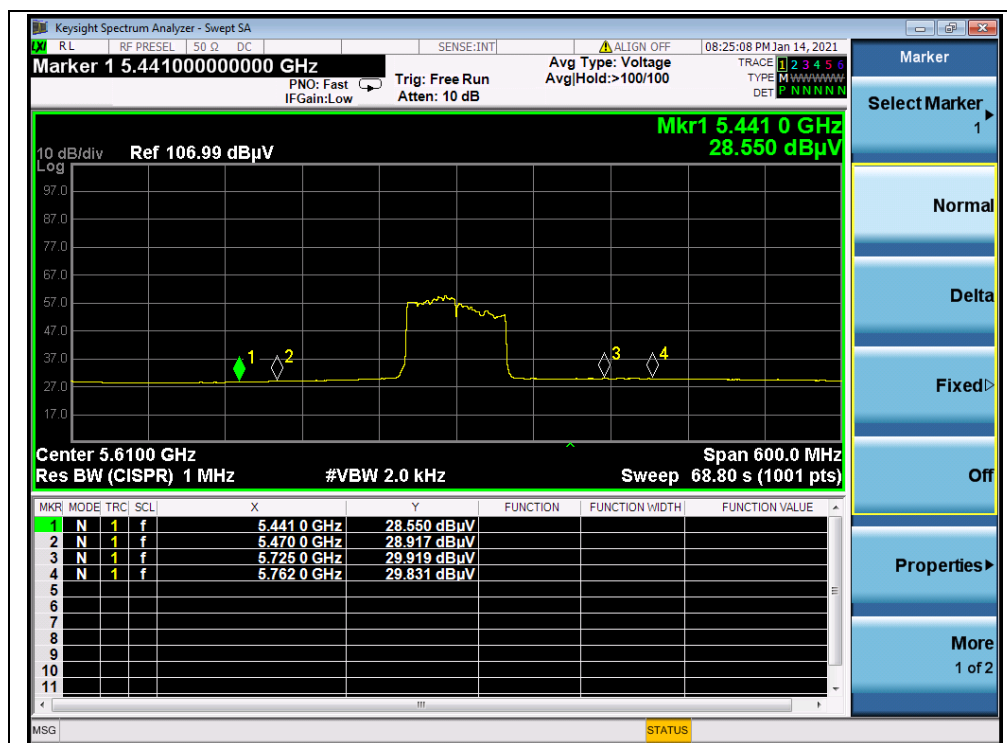
(PEAK, Channel 106, 802.11ac (VHT80))



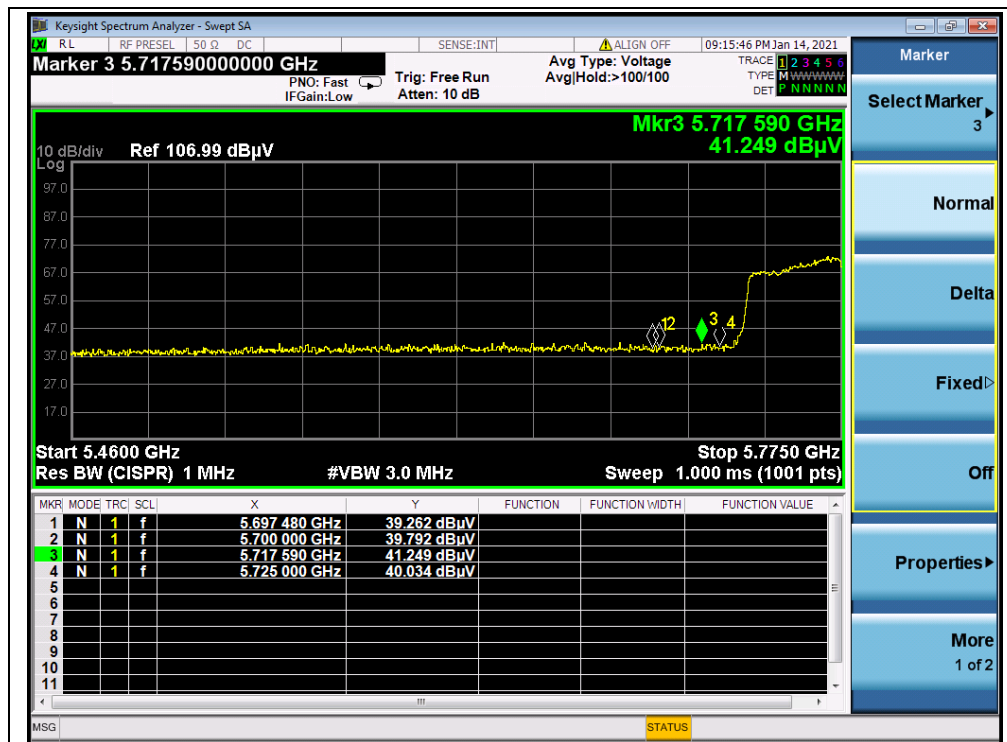
(AVERAGE, Channel 106, 802.11ac (VHT80))



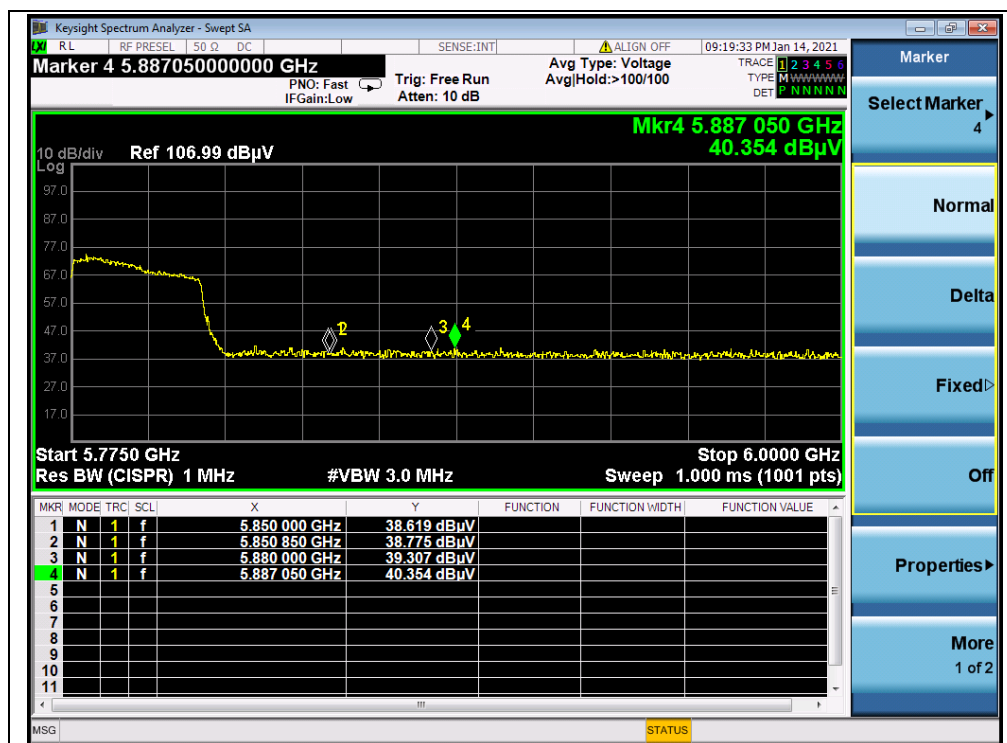
(PEAK, Channel 138, 802.11ac (VHT80))



(AVERAGE, Channel 138, 802.11ac (VHT80))



(PEAK, Channel 155, 802.11ac (VHT80))



(PEAK, Channel 155, 802.11ac (VHT80))

2.9. Radiated Emission

2.9.1. Requirement

The peak emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) 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 EIRP of -27dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (3) For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of -27dBm/MHz.
- (4) 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.

The following formula is used to convert the equipment isotropic radiated power(e.i.r.p.) to field strength (dBμV/m);

$$E = 1000000 \times \sqrt{30P} / 3 \mu\text{V/m}$$

where P is the EIRP in Watts

Therefore: -27 dBm/MHz = 68.23 dBuV/m

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

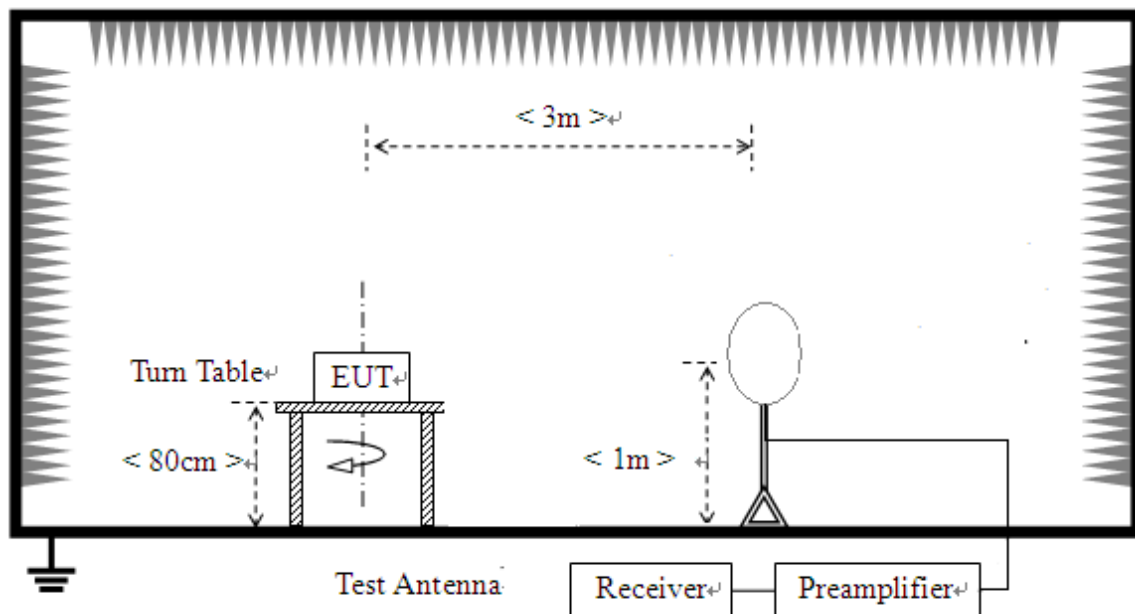
Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table).

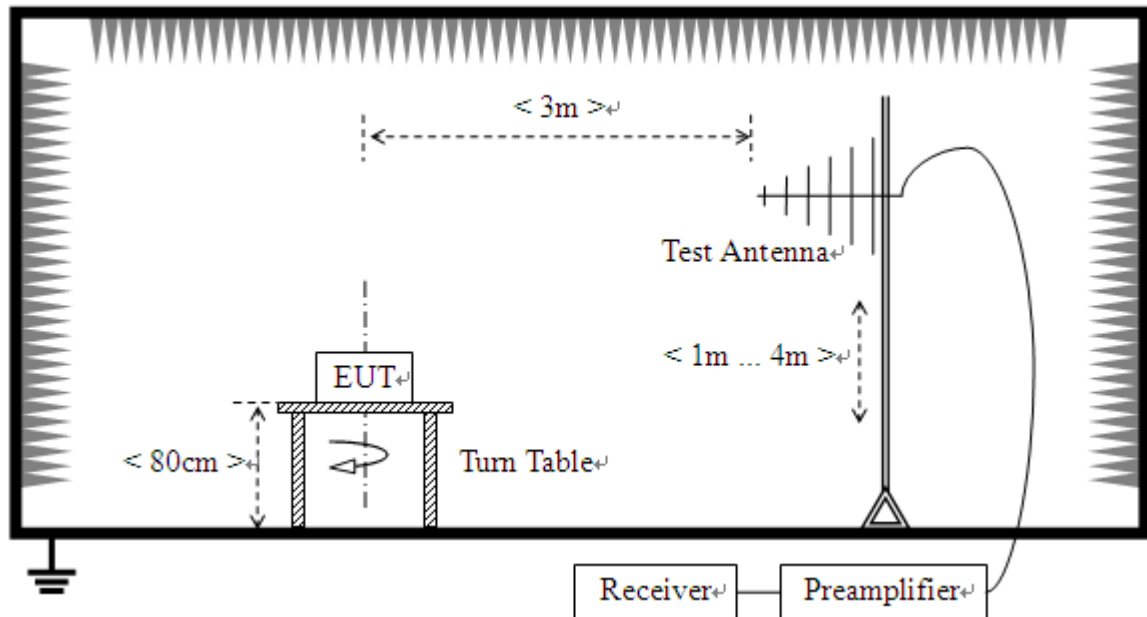
2.9.2. Test Description

Test Setup:

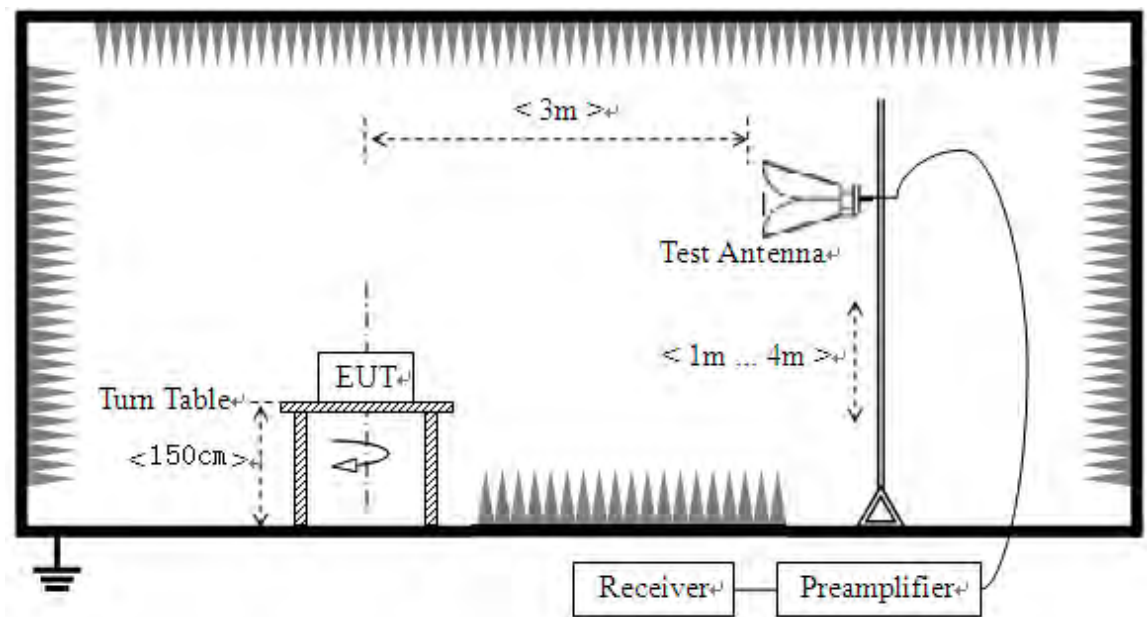
- 1) For radiated emissions from 9kHz to 30MHz



2) For radiated emissions from 30MHz to1GHz



3) For radiated emissions above 1GHz



The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.



For measurements below 30MHz, the emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9kHz-90 kHz, 110kHz-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

For measurements below 1GHz the resolution bandwidth is set to 100kHz for peak detection measurements or 120kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements and as applicable for average measurements.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

2.9.3.Test Result

According to ANSI C63.10, because of peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak (or average) detector, the measurement data from a spectrum analyzer peak detector will represent the worst-case results, if the peak measured value complies with the quasi-peak (or average) limit, it is unnecessary to perform an quasi-peak measurement (or average).

The measurement results are obtained as below:

$$E [\text{dB}\mu\text{V/m}] = U_R + A_T + A_{\text{Factor}} [\text{dB}]; A_T = L_{\text{Cable loss}} [\text{dB}] - G_{\text{preamp}} [\text{dB}]$$

A_T : Total correction Factor except Antenna

U_R : Receiver Reading

G_{preamp} : Preamplifier Gain

A_{Factor} : Antenna Factor at 3m

During the test, the total correction Factor A_T and A_{Factor} were built in test software.

Note 1: All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

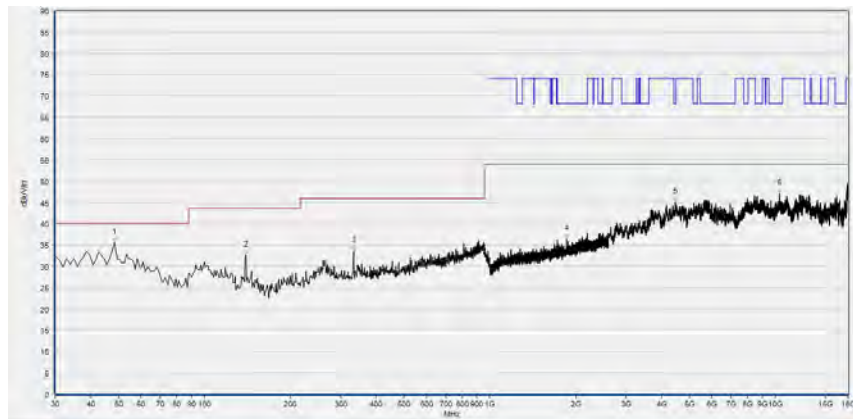
Note 2: For the frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note 3: For the frequency, which started from 18GHz to 40GHz, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note 4: All test modes and bandwidth were considered and evaluated respectively by performing full test, only the worst data were recorded for each bandwidth.

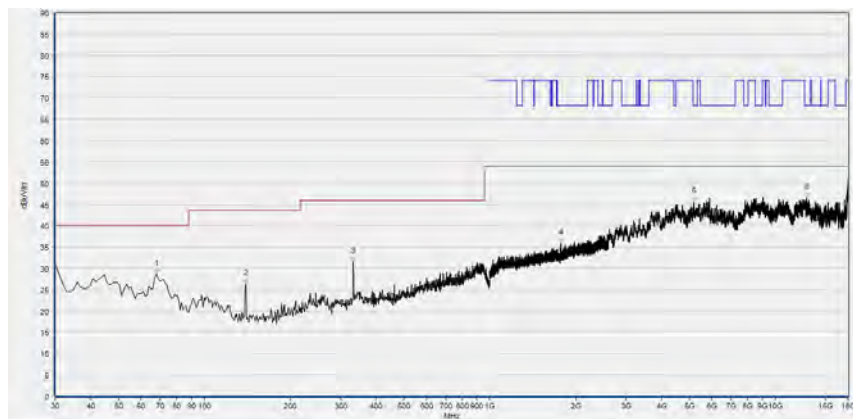
**802.11a Mode**

Plot for Channel 36



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
48.448	35.61	N/A	N/A	N/A	40.00	N/A	Horizontal	PASS
139.720	32.57	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
332.943	33.46	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1854.685	36.34	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
4466.853	45.02	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
10363.153	47.02	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 18GHz)

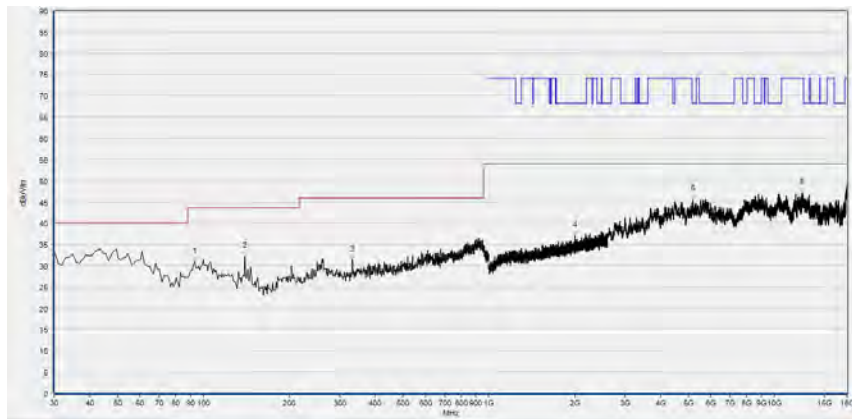


Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
67.868	28.58	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
139.720	26.34	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
331.972	31.43	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1776.792	35.86	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5190.798	45.66	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
12880.016	46.57	N/A	N/A	68.23	N/A	N/A	Vertical	PASS

(Antenna Vertical, 30MHz to 18GHz)

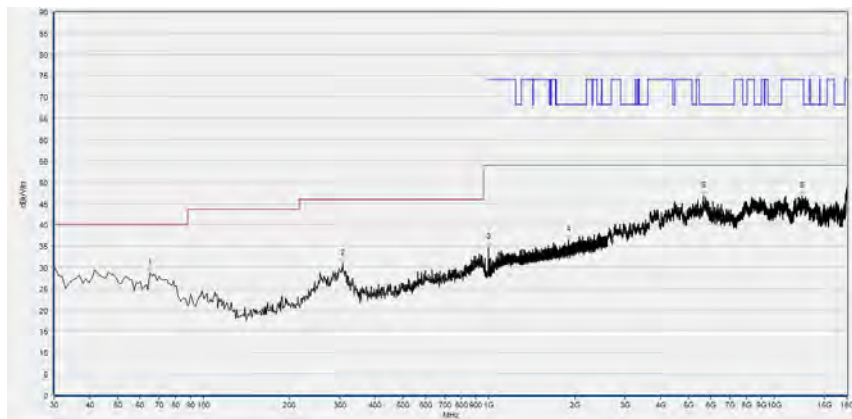


Plot for Channel 44



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
93.113	30.84	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
139.720	32.11	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
331.972	31.34	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
2001.400	37.04	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5181.556	45.57	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12538.068	47.09	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

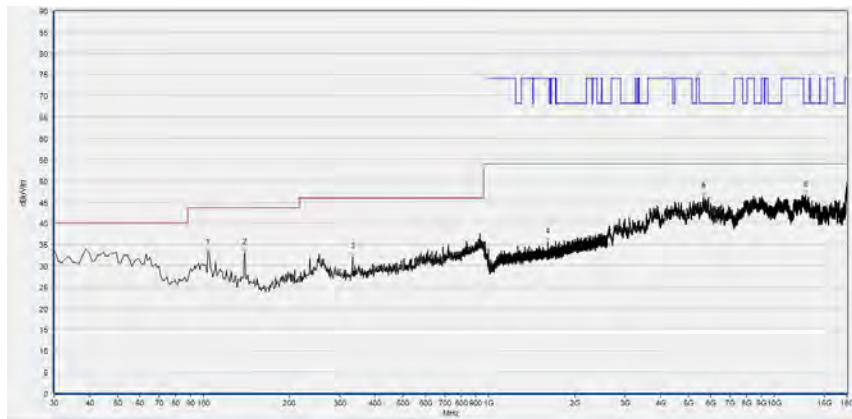
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
64.955	28.59	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
307.698	30.92	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
998.058	34.71	N/A	N/A	N/A	54.00	N/A	Vertical	PASS
1899.500	36.32	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5640.568	46.75	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
12528.826	46.76	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

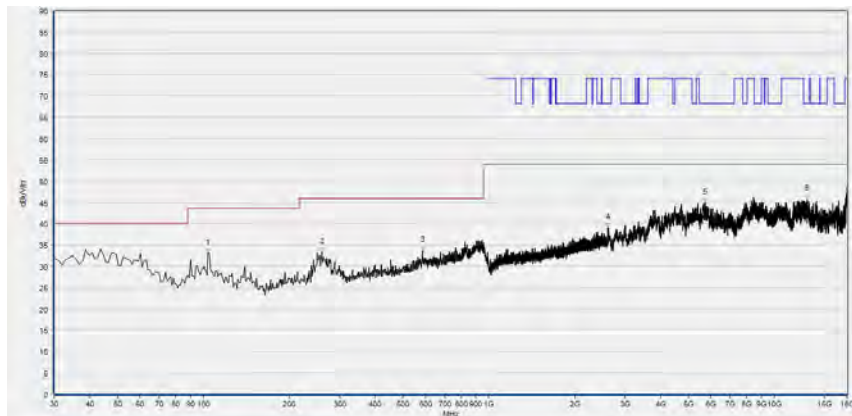
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 48



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
103.794	33.02	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
139.720	33.05	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
332.943	32.01	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1611.937	35.47	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
5652.891	46.25	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12895.419	46.66	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS

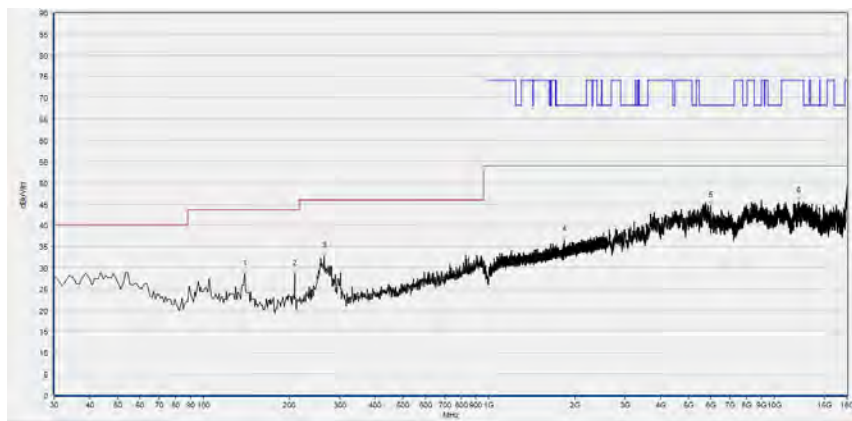
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
103.794	32.99	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
260.120	33.32	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
585.395	33.68	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2612.322	39.00	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5732.987	44.87	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
13061.772	45.67	N/A	N/A	68.23	N/A	N/A	Vertical	PASS

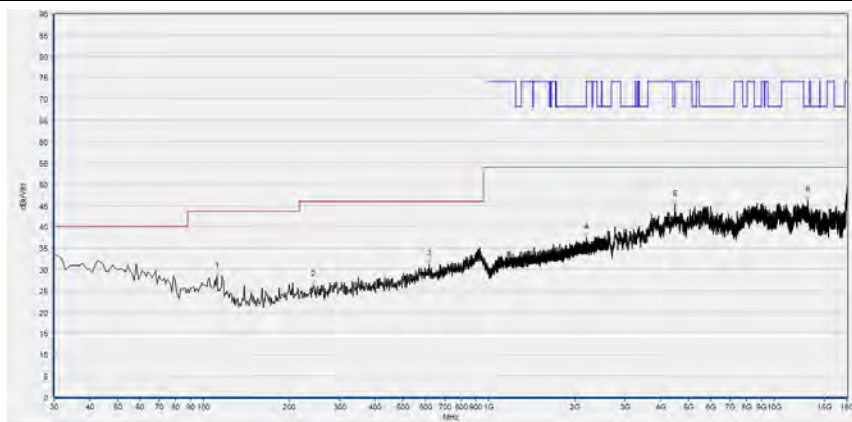
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 52



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
139.720	28.43	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
208.659	28.51	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
264.975	32.60	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1842.414	36.45	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5973.275	44.66	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12131.426	45.66	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

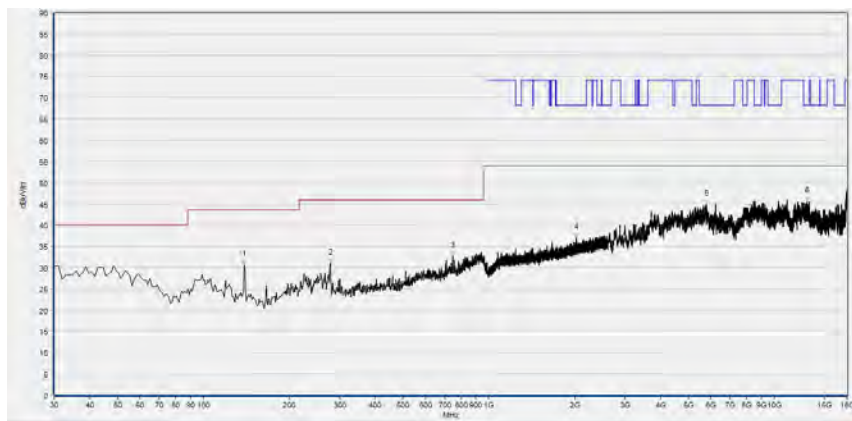
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
111.562	28.36	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
243.614	26.27	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
617.437	31.15	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2195.599	37.44	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
4476.095	45.29	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
13086.417	46.26	N/A	N/A	68.23	N/A	N/A	Vertical	PASS

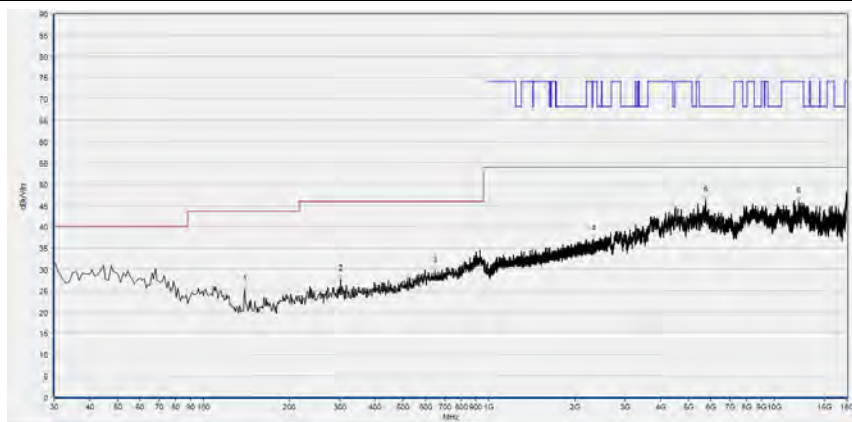
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 60



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
138.749	30.72	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
278.569	31.06	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
746.577	32.64	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
2029.677	36.97	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5782.276	44.85	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
13040.208	45.60	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS

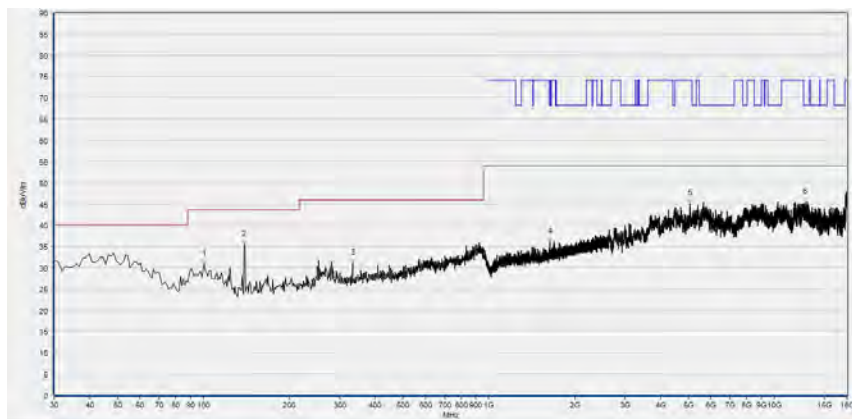
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
139.720	25.18	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
302.843	27.61	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
645.596	29.68	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2327.376	36.98	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
5757.632	46.21	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
12156.071	45.92	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

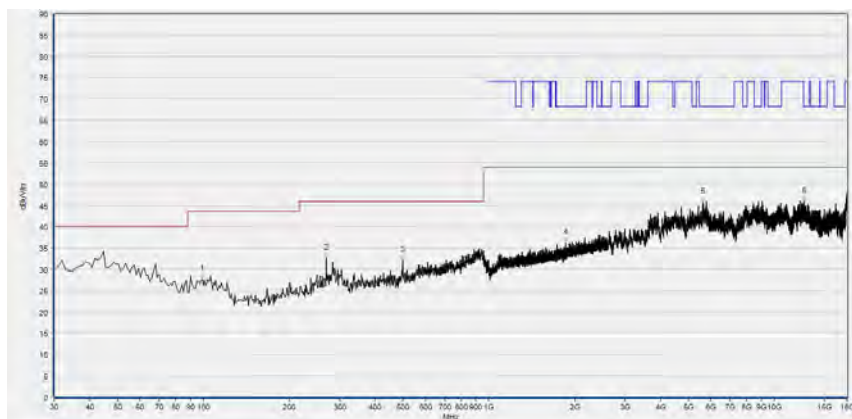
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 64



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
100.881	30.91	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
138.749	35.33	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
332.943	30.97	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1640.213	36.03	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5076.815	45.14	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
12827.646	45.48	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 18GHz)

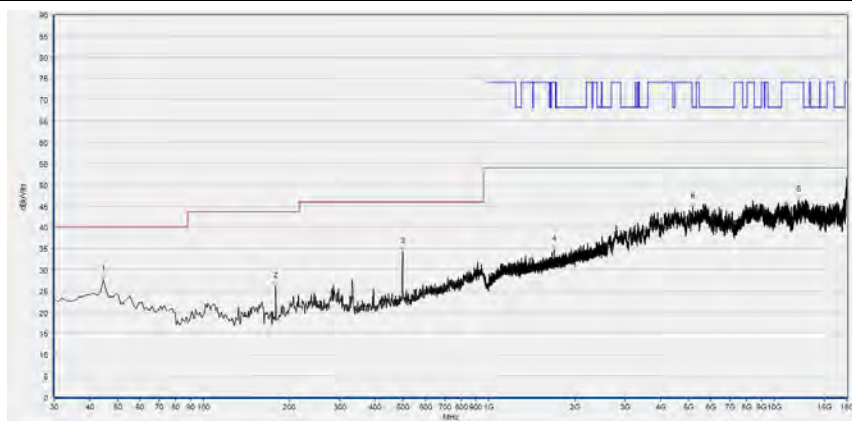


Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
98.939	27.69	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
268.859	32.52	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
498.979	32.01	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1854.685	36.26	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5634.407	45.71	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
12719.824	45.86	N/A	N/A	68.23	N/A	N/A	Vertical	PASS

(Antenna Vertical, 30MHz to 18GHz)

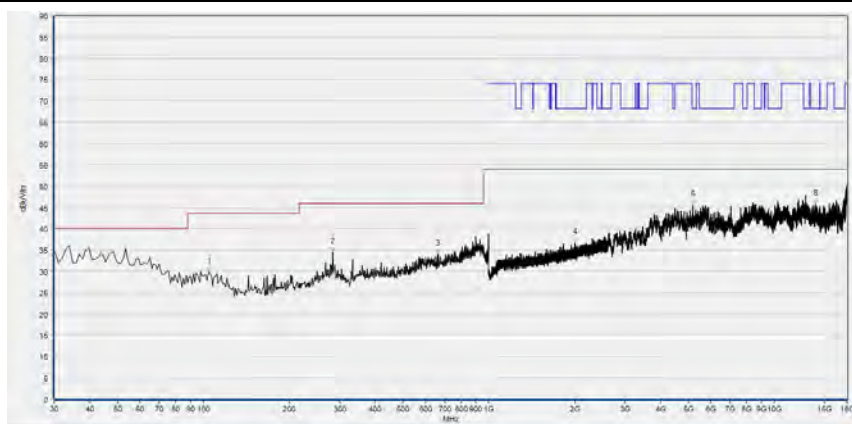


Plot for Channel 100



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
44.565	27.60	N/A	N/A	N/A	40.00	N/A	Horizontal	PASS
179.530	26.13	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
498.979	34.14	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1690.897	34.73	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
5187.718	44.74	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12193.039	46.37	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

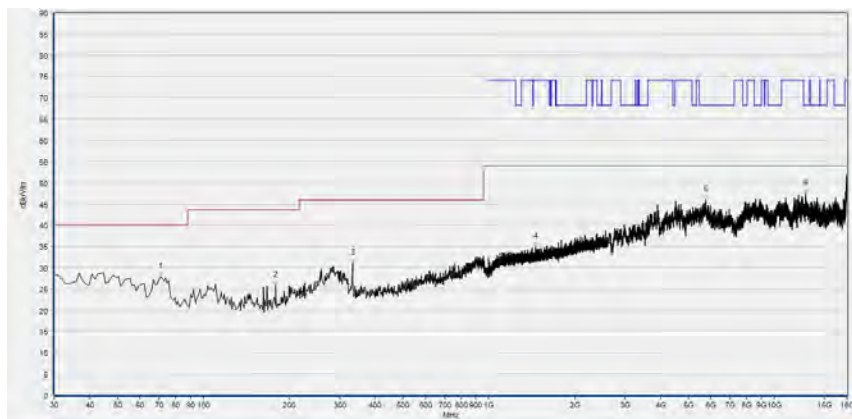
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
104.765	29.81	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
283.423	34.48	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
661.131	33.98	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2001.400	36.69	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5181.556	45.67	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
14004.441	45.79	N/A	N/A	68.23	N/A	N/A	Vertical	PASS

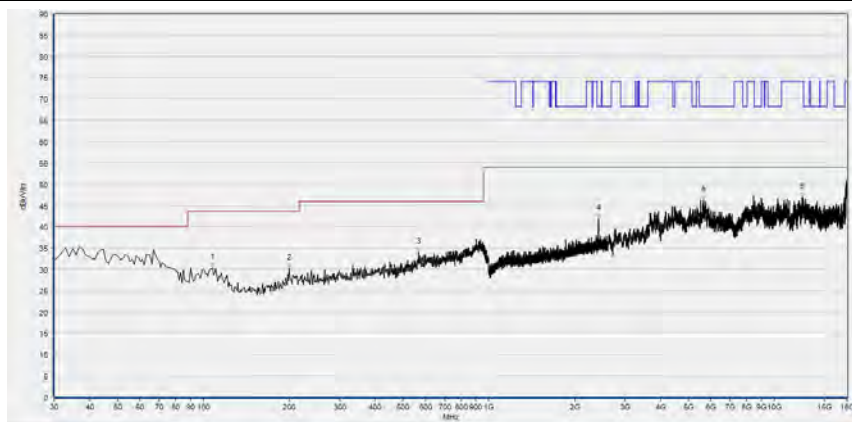
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 120



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
70.781	27.81	N/A	N/A	N/A	40.00	N/A	Horizontal	PASS
179.530	25.78	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
332.943	31.05	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1455.085	34.79	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
5754.551	45.89	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12895.419	47.38	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS

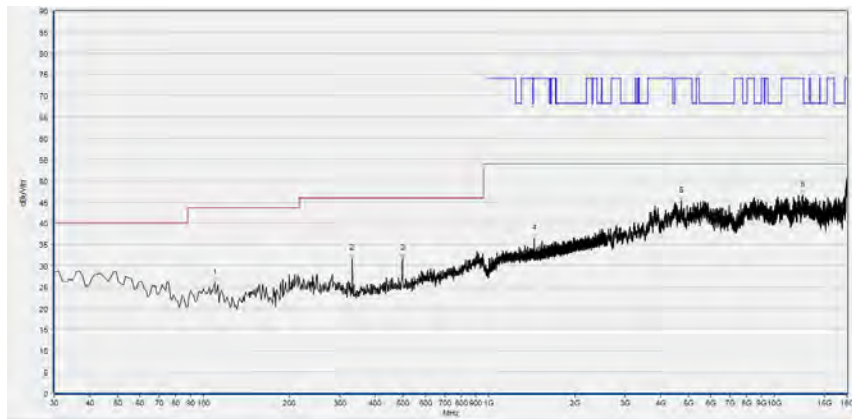
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
107.678	30.28	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
199.920	30.14	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
566.947	33.95	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2422.874	41.92	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5646.729	46.24	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
12534.987	46.98	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

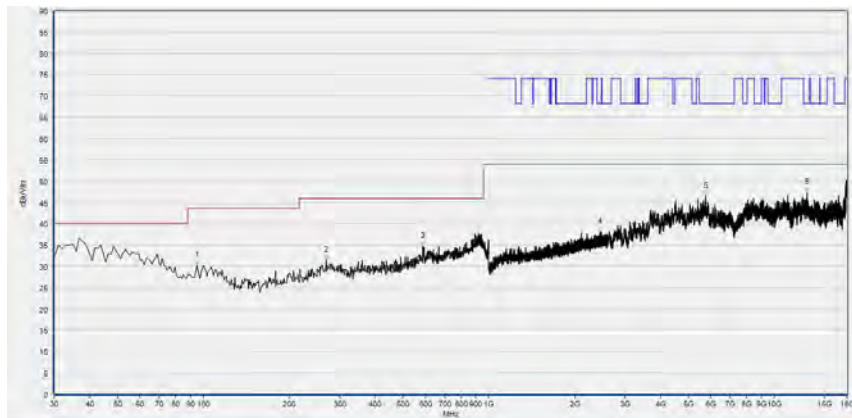
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 144



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
109.620	26.00	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
331.972	31.66	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
498.979	31.62	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1439.613	36.39	N/A	N/A	74.00	N/A	74.00	Horizontal	PASS
4719.464	45.21	N/A	N/A	74.00	N/A	74.00	Horizontal	PASS
12608.922	46.52	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

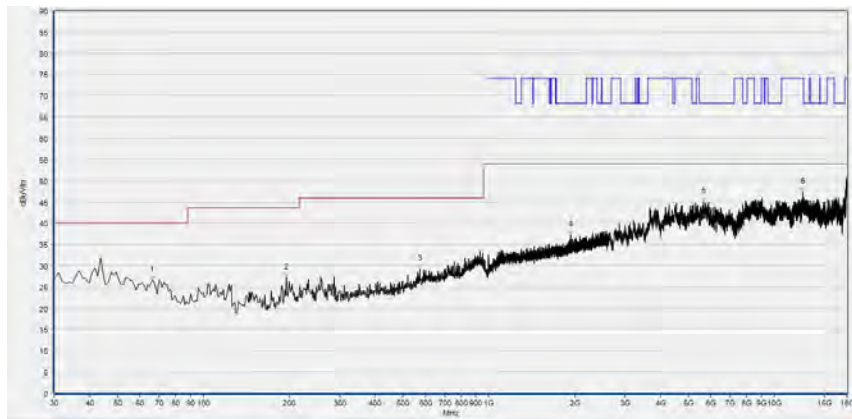
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
95.055	30.11	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
268.859	31.37	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
586.366	34.72	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2454.351	38.10	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5763.793	46.43	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
13034.047	47.25	N/A	N/A	68.23	N/A	N/A	Vertical	PASS

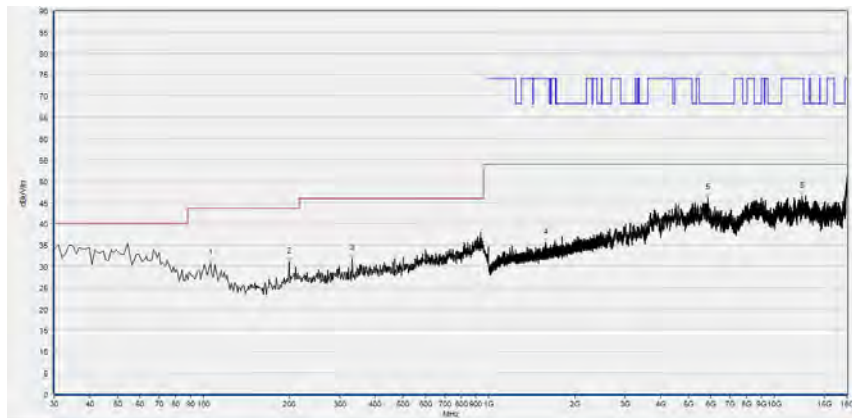
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 149



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
65.926	26.51	N/A	N/A	N/A	40.00	N/A	Horizontal	PASS
195.065	27.17	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
572.773	29.14	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1930.443	37.29	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5665.213	45.01	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12599.680	47.19	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

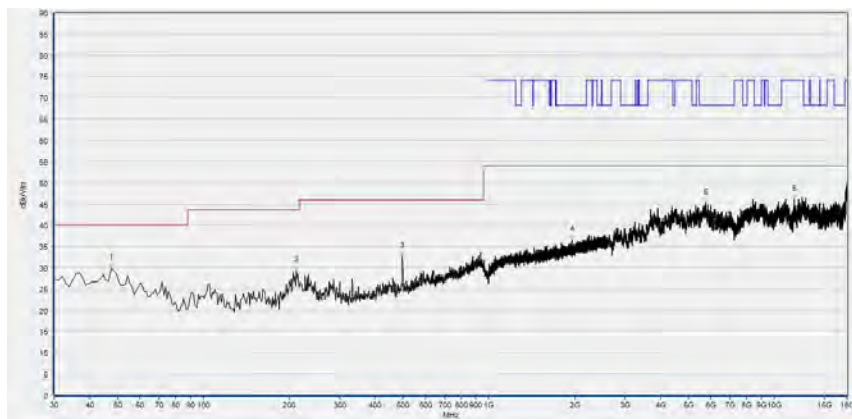
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
105.736	30.66	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
199.920	30.95	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
331.972	31.84	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1579.927	35.51	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
5865.453	46.14	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
12538.068	46.50	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

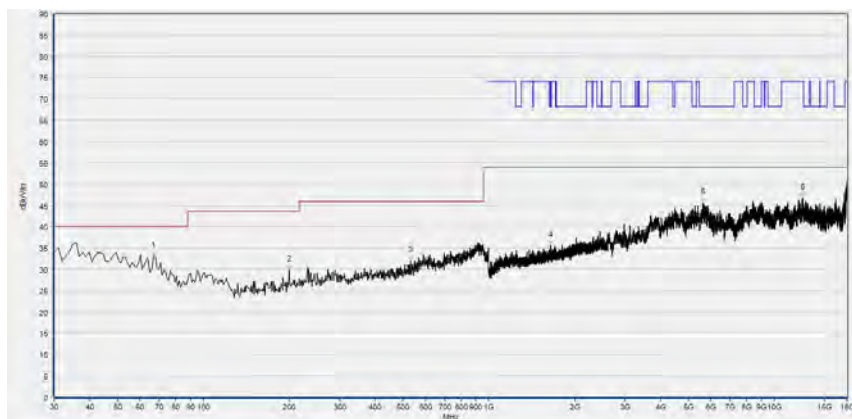
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 157



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
47.477	29.79	N/A	N/A	N/A	40.00	N/A	Horizontal	PASS
211.572	29.37	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
498.008	32.69	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1958.186	36.55	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
5742.228	45.22	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
11734.027	46.13	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

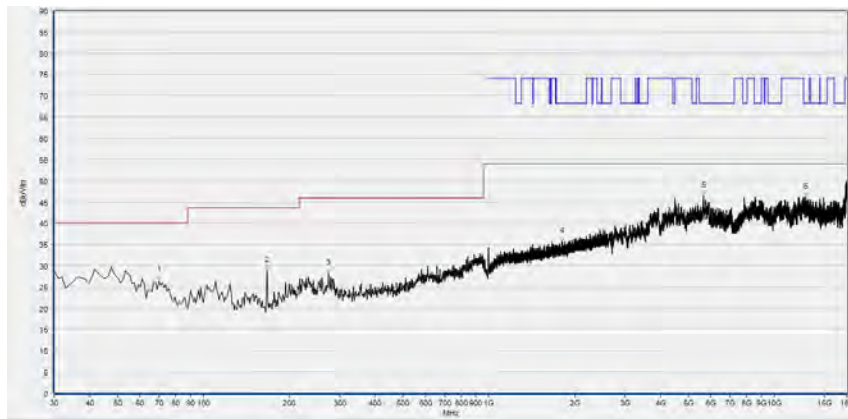
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
66.897	33.04	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
199.920	29.82	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
531.021	32.06	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1648.216	35.52	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5628.246	45.52	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
12624.325	46.70	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

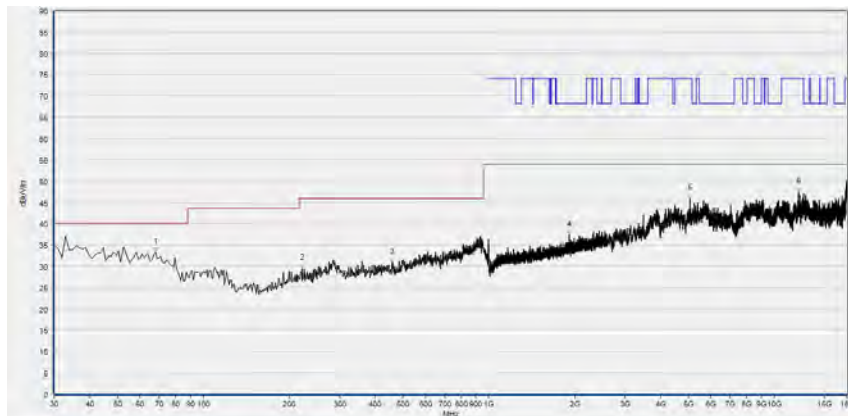
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 165



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
69.810	26.56	N/A	N/A	N/A	40.00	N/A	Horizontal	PASS
166.907	28.74	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
274.685	28.16	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1804.535	35.72	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5649.810	46.38	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12910.822	46.07	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 18GHz)

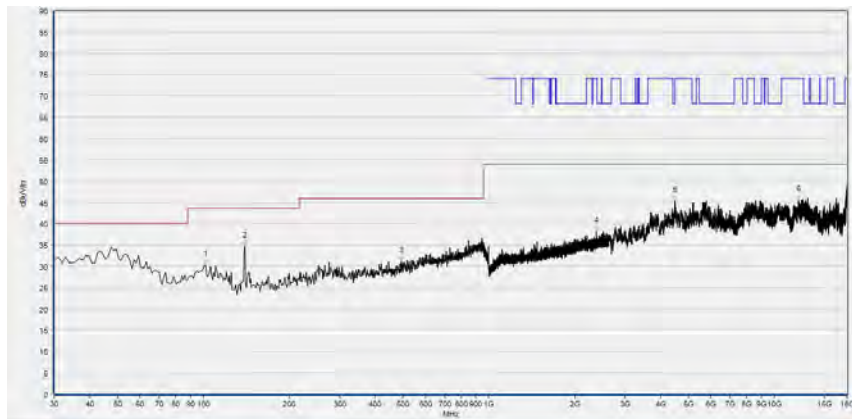


Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
67.868	33.31	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
222.252	29.57	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
457.227	30.81	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1912.304	37.37	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5061.412	45.84	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
12193.039	47.38	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

(Antenna Vertical, 30MHz to 18GHz)

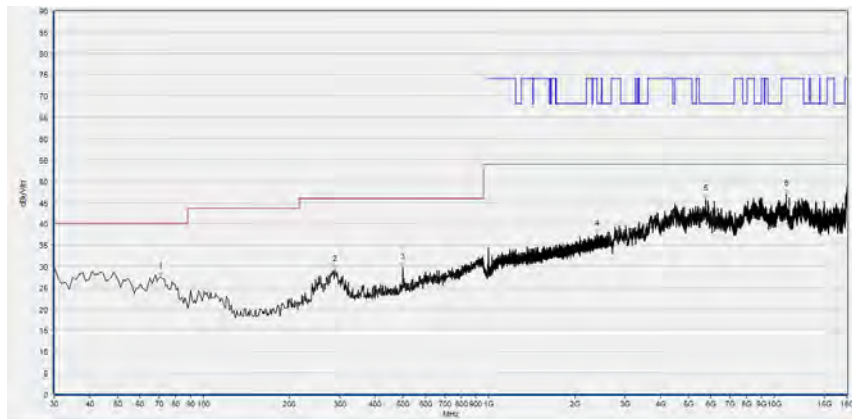
**802.11n (HT40) mode**

Plot for Channel 38



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
101.852	30.29	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
139.720	34.66	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
495.095	31.14	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
2386.596	38.14	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
4476.095	45.39	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12159.152	45.51	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

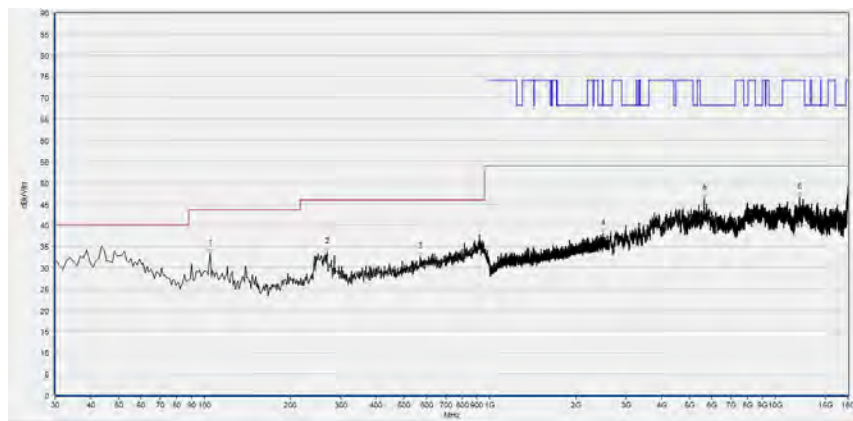
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
70.781	27.56	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
288.278	29.24	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
498.979	29.63	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2388.196	37.48	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
5751.470	45.82	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
11003.921	46.87	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

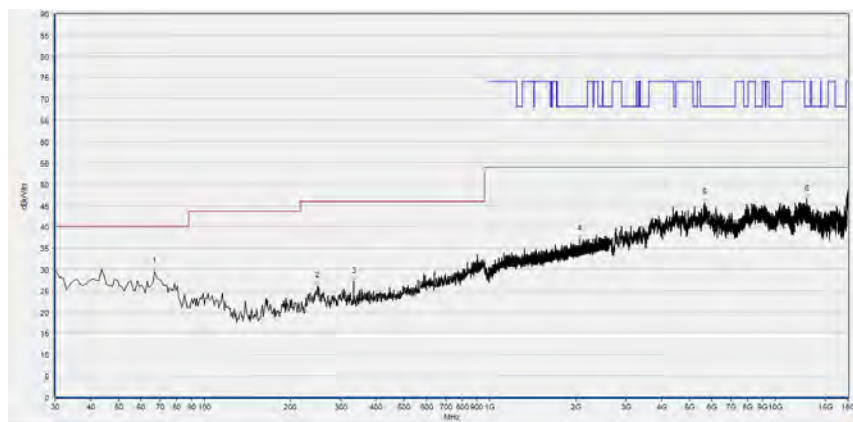
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 46



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
104.765	33.40	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
268.859	33.73	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
570.831	32.46	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
2498.633	38.12	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
5637.487	46.22	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12180.716	46.53	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

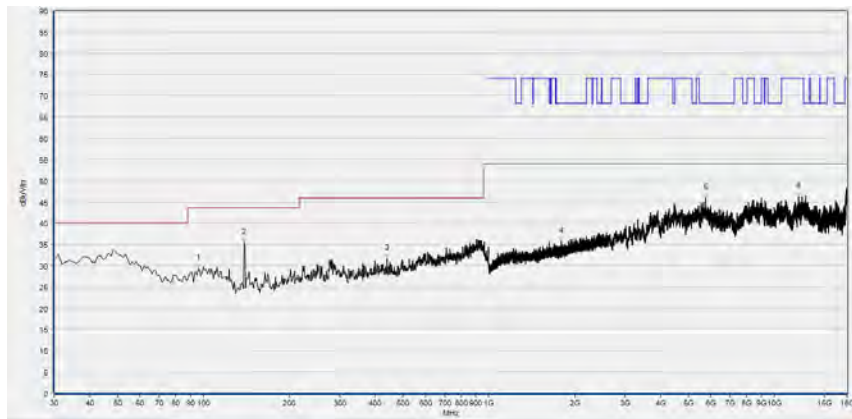
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
66.897	29.48	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
248.468	26.22	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
332.943	27.20	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2064.355	37.01	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5649.810	45.60	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
12880.016	46.36	N/A	N/A	68.23	N/A	N/A	Vertical	PASS

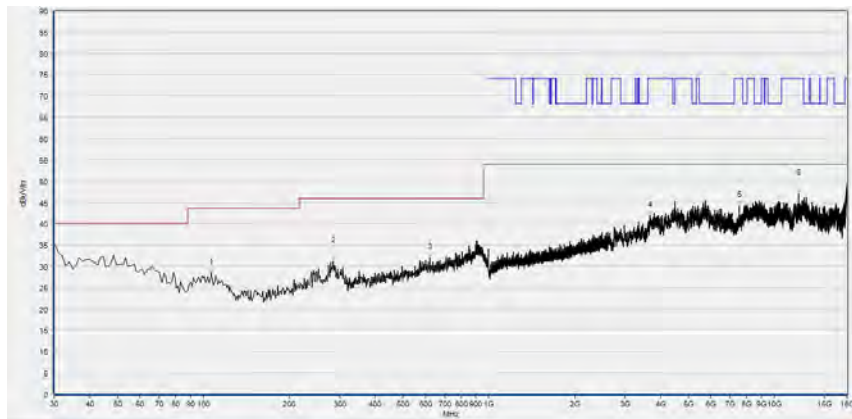
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 54



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
96.026	29.26	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
138.749	35.37	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
439.750	31.60	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1797.599	35.70	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5763.793	45.86	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12146.829	46.31	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

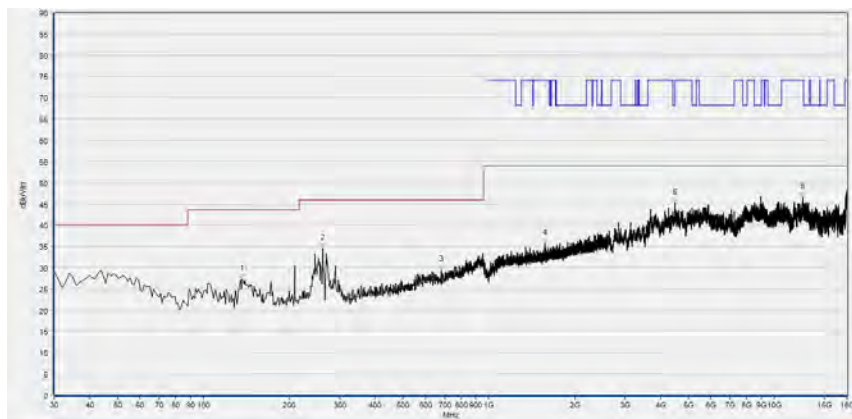
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
106.707	28.55	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
285.365	31.23	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
623.263	31.99	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
3668.974	41.88	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
7525.905	44.29	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
12174.555	47.01	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

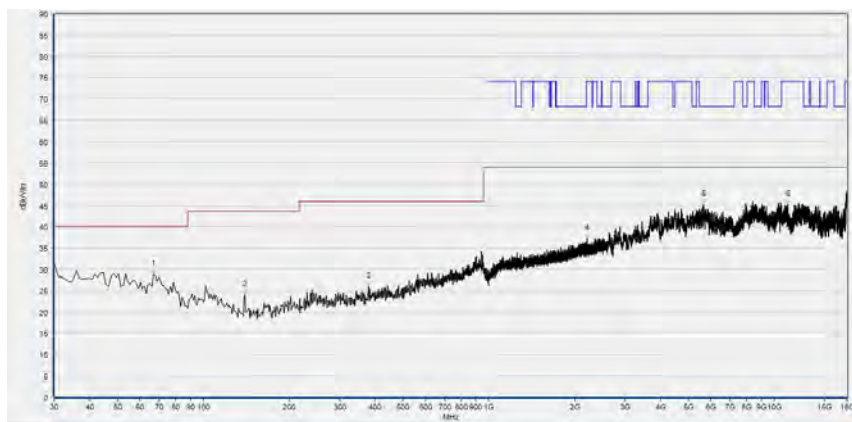
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 62



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
136.807	27.28	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
262.062	34.51	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
680.551	29.42	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1568.723	35.68	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
4476.095	45.32	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12612.002	46.53	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

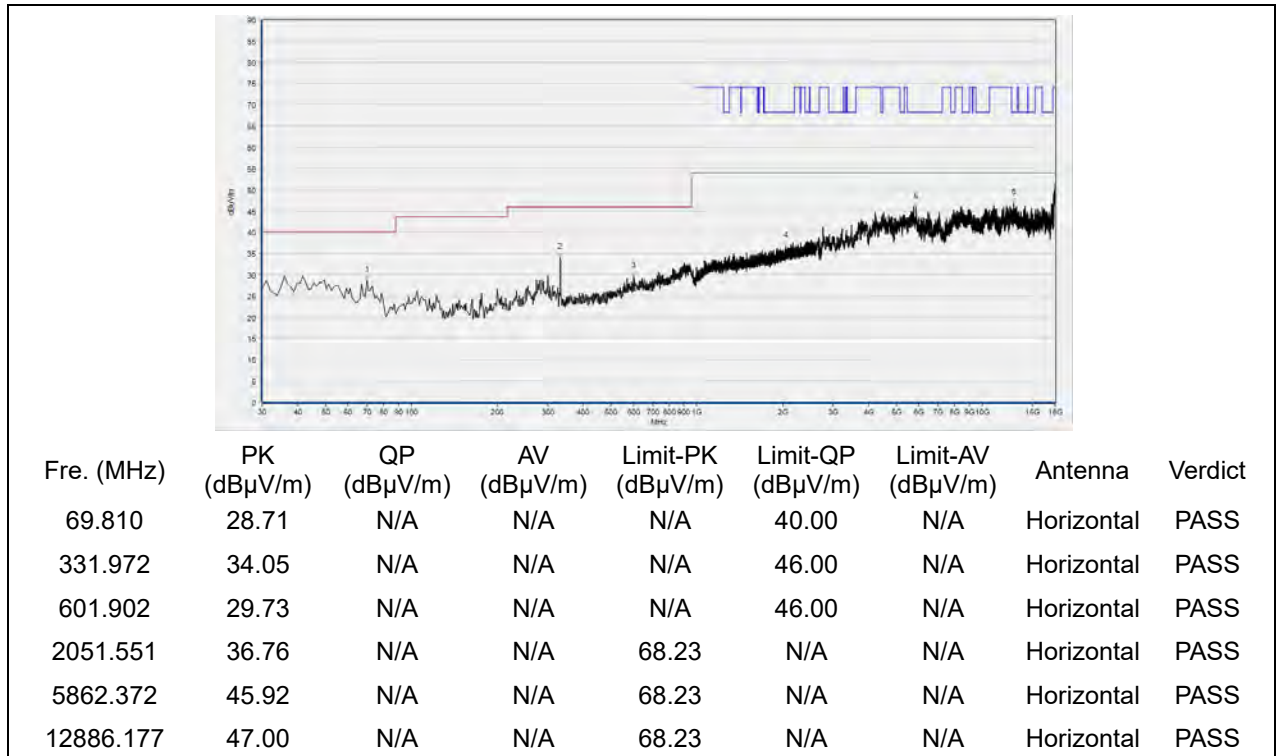
(Antenna Horizontal, 30MHz to 18GHz)



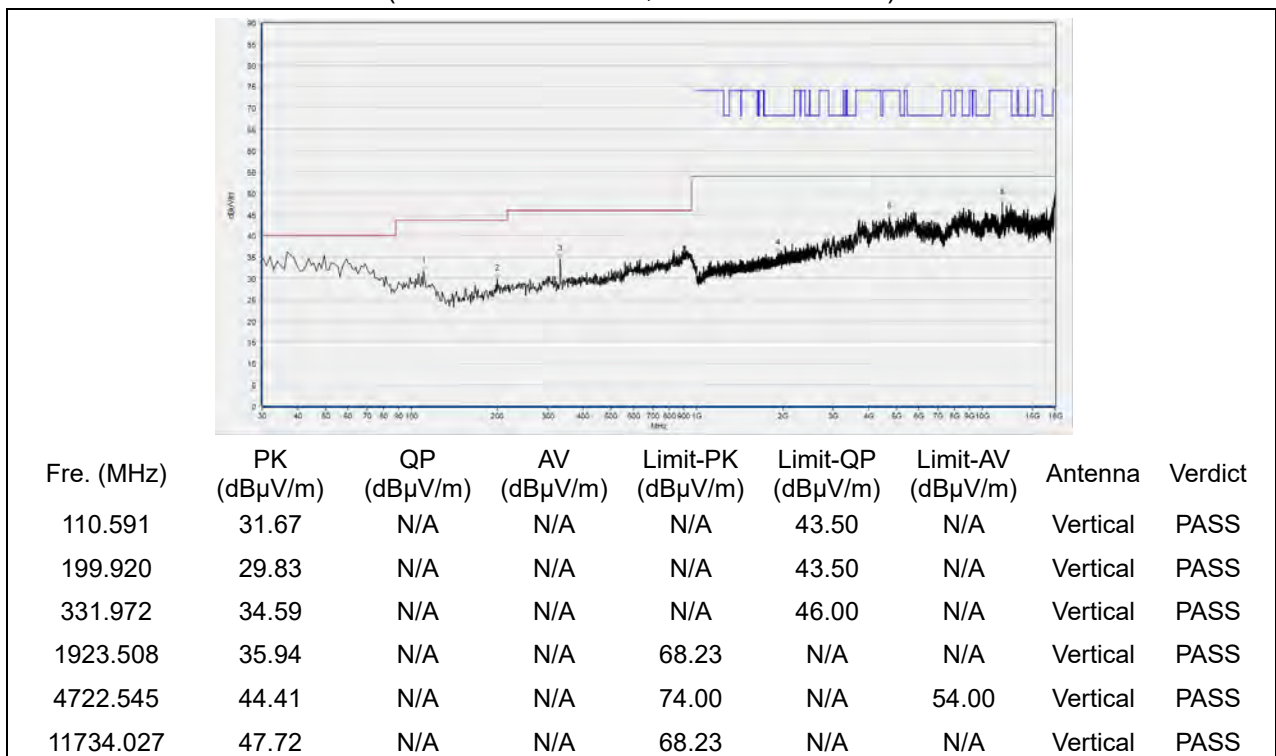
Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
66.897	28.80	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
139.720	23.94	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
379.550	25.93	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2211.070	37.25	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
5668.294	45.20	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
11127.145	45.32	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 102

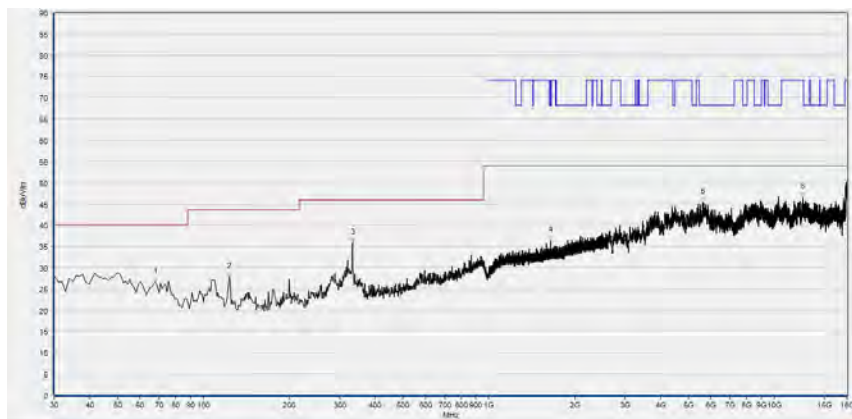


(Antenna Horizontal, 30MHz to 18GHz)



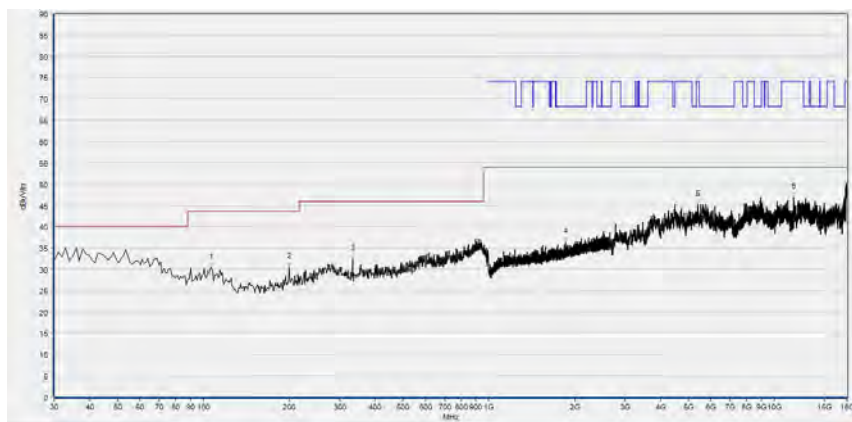
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 126



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
67.868	26.72	N/A	N/A	N/A	40.00	N/A	Horizontal	PASS
123.213	27.81	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
332.943	35.90	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1648.216	36.39	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5622.084	45.44	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12627.405	46.55	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

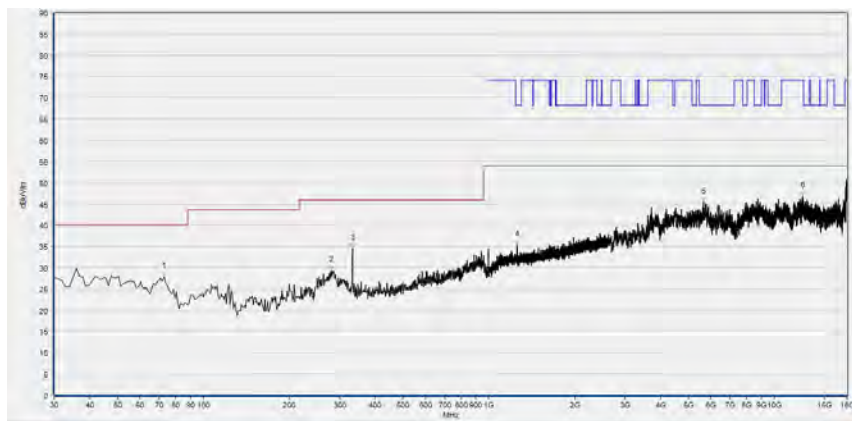
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
106.707	30.36	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
199.920	30.44	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
332.943	32.38	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1863.221	36.41	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5397.199	45.23	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
11709.382	46.86	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

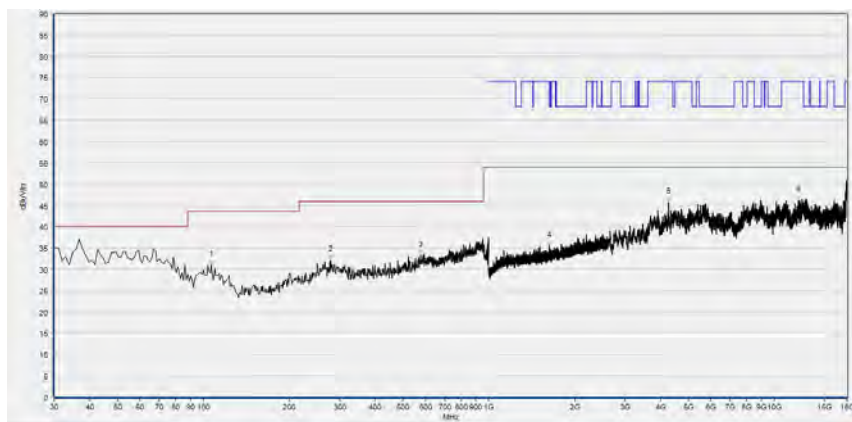
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 142



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
72.723	27.74	N/A	N/A	N/A	40.00	N/A	Horizontal	PASS
281.481	29.37	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
332.943	34.45	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1258.753	35.34	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5659.052	45.35	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12602.761	46.88	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

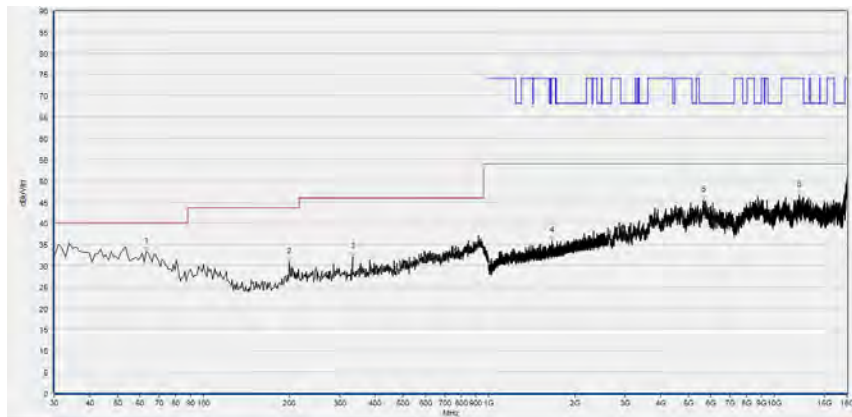
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
106.707	31.08	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
279.540	32.16	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
576.657	33.37	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1623.141	35.52	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
4257.371	45.81	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
12156.071	46.23	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

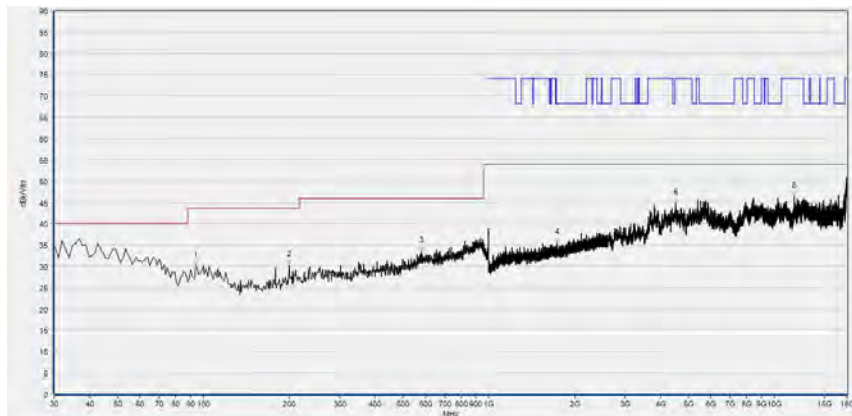
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 151



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
63.013	33.34	N/A	N/A	N/A	40.00	N/A	Horizontal	PASS
199.920	30.89	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
332.943	31.95	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1661.020	35.94	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
5662.132	45.39	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12202.280	46.53	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

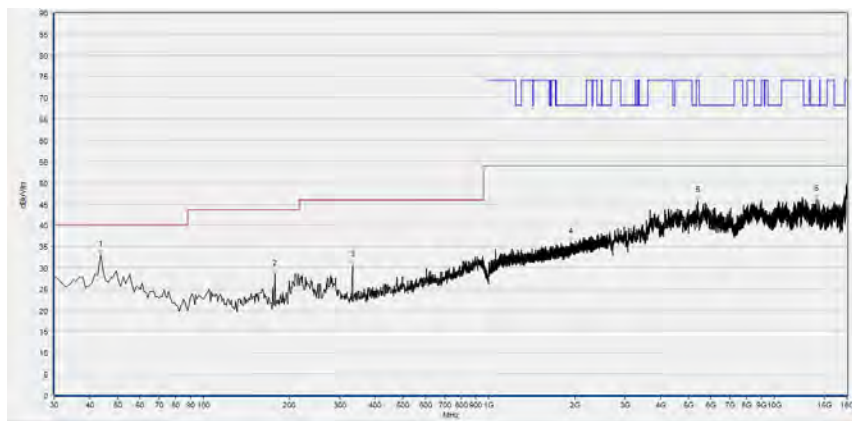
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
94.084	30.24	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
199.920	30.32	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
579.570	33.56	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1730.377	35.59	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
4516.143	44.80	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
11724.785	46.41	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

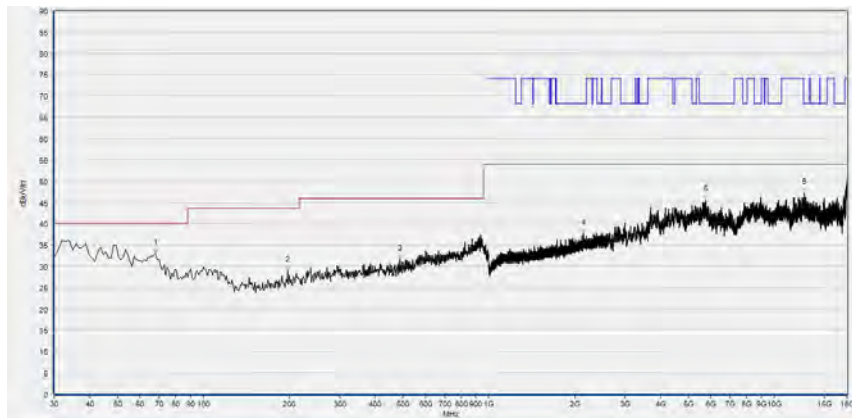
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 159



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
43.594	33.00	N/A	N/A	N/A	40.00	N/A	Horizontal	PASS
177.588	28.56	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
332.943	30.46	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1936.312	36.01	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5394.119	45.80	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
14047.570	46.03	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 18GHz)

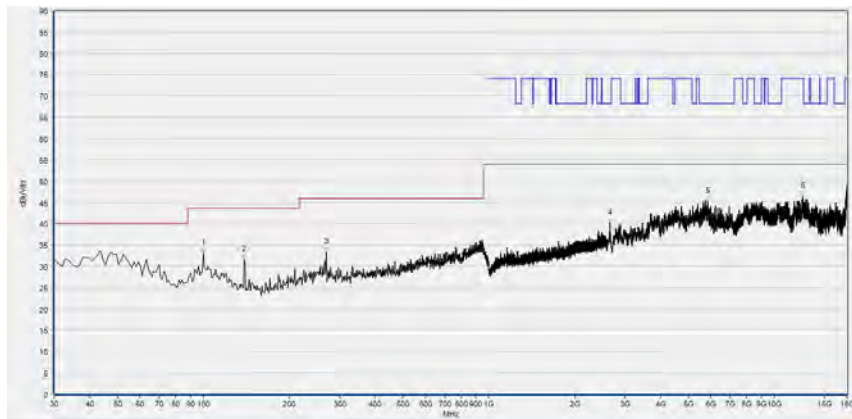


Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
67.868	33.06	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
197.007	28.97	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
488.298	31.64	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2144.915	37.71	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
5766.873	45.67	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
12744.469	47.20	N/A	N/A	68.23	N/A	N/A	Vertical	PASS

(Antenna Vertical, 30MHz to 18GHz)

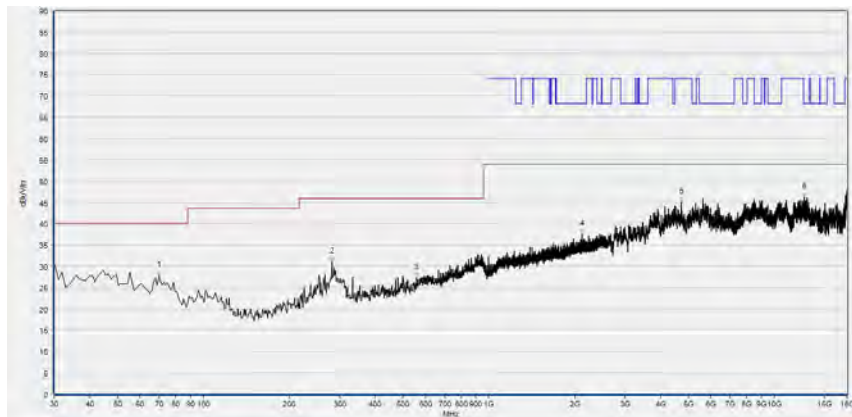
**802.11ac (VHT80) Mode**

Plot for Channel 42



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
99.910	32.98	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
138.749	31.45	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
268.859	33.27	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
2655.451	40.13	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5837.728	45.24	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12621.244	46.48	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

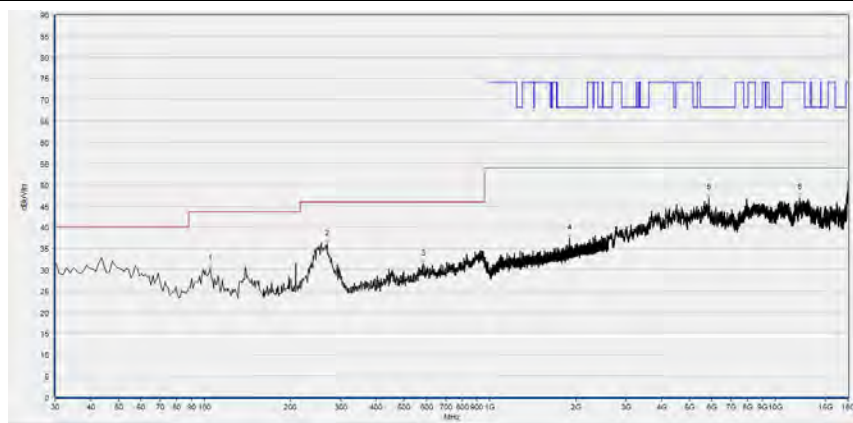
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
69.810	27.83	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
282.452	30.96	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
558.208	27.31	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2120.373	37.47	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
4716.383	45.06	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
12707.502	46.28	N/A	N/A	68.23	N/A	N/A	Vertical	PASS

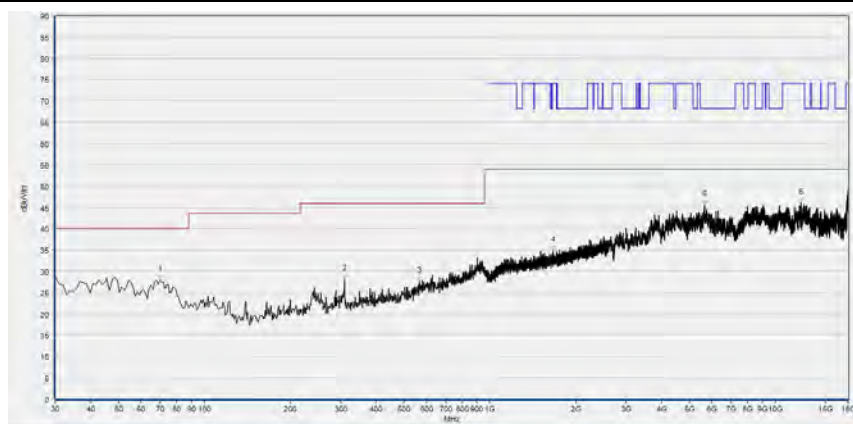
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 58



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
104.765	30.16	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
268.859	36.03	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
582.482	31.37	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1901.100	37.38	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5843.889	46.93	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12162.232	46.93	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

(Antenna Horizontal, 30MHz to 18GHz)

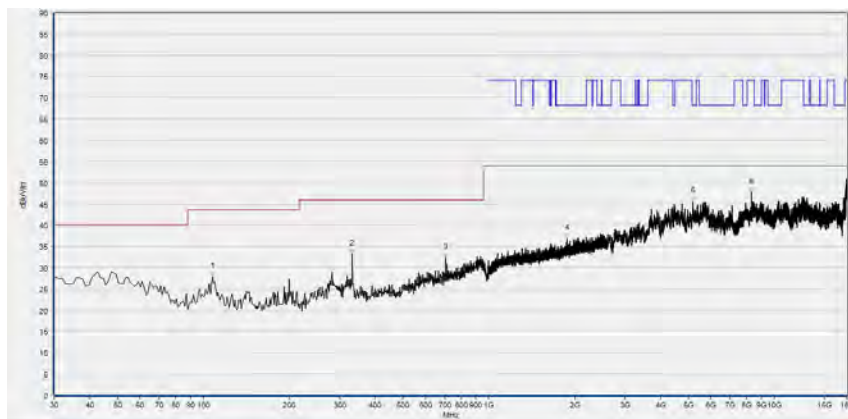


Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
69.810	27.94	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
309.640	28.23	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
567.918	27.70	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1664.755	34.82	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
5640.568	45.60	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
12307.021	46.02	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

(Antenna Vertical, 30MHz to 18GHz)

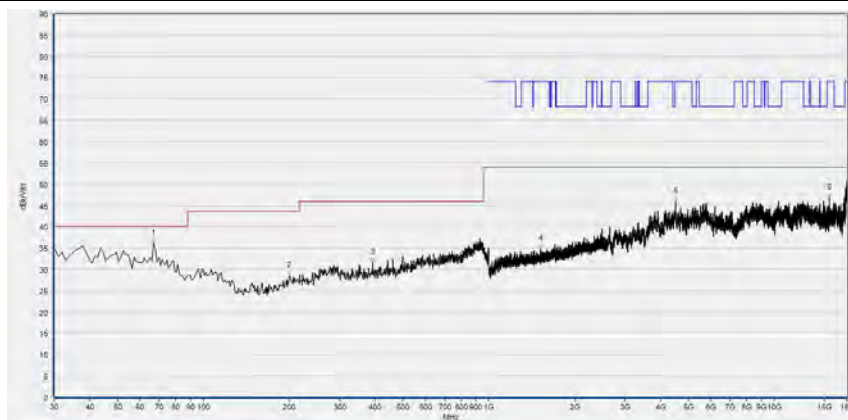


Plot for Channel 106



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
107.678	27.76	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
331.972	33.26	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
703.854	32.28	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1881.894	36.83	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
5187.718	45.65	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
8323.785	47.72	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

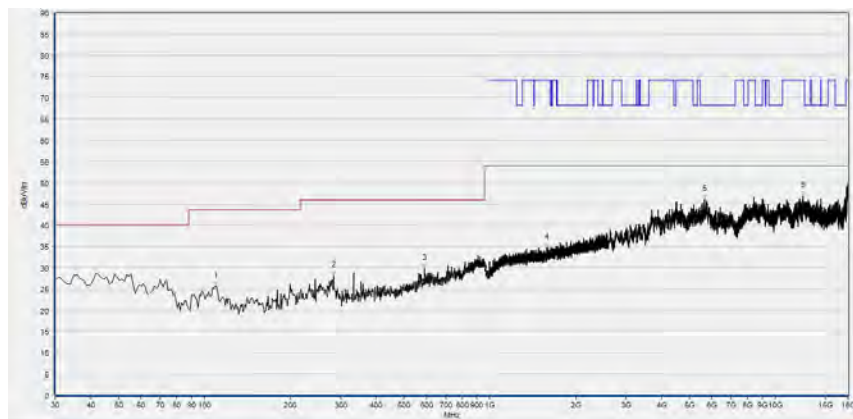
(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
66.897	36.05	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
199.920	28.50	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
391.201	31.48	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1517.506	34.74	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
4503.821	45.86	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
15609.442	46.81	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

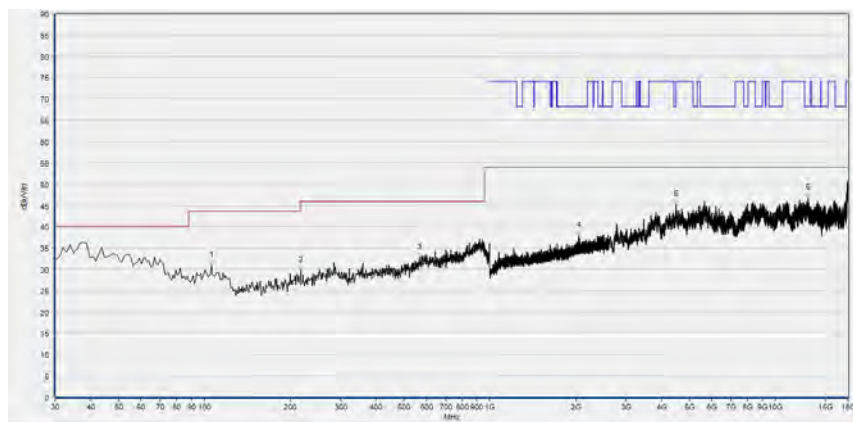
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 122



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
109.620	25.61	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
283.423	28.09	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
590.250	29.79	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
1579.927	34.75	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
5637.487	46.05	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS
12516.503	46.92	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS

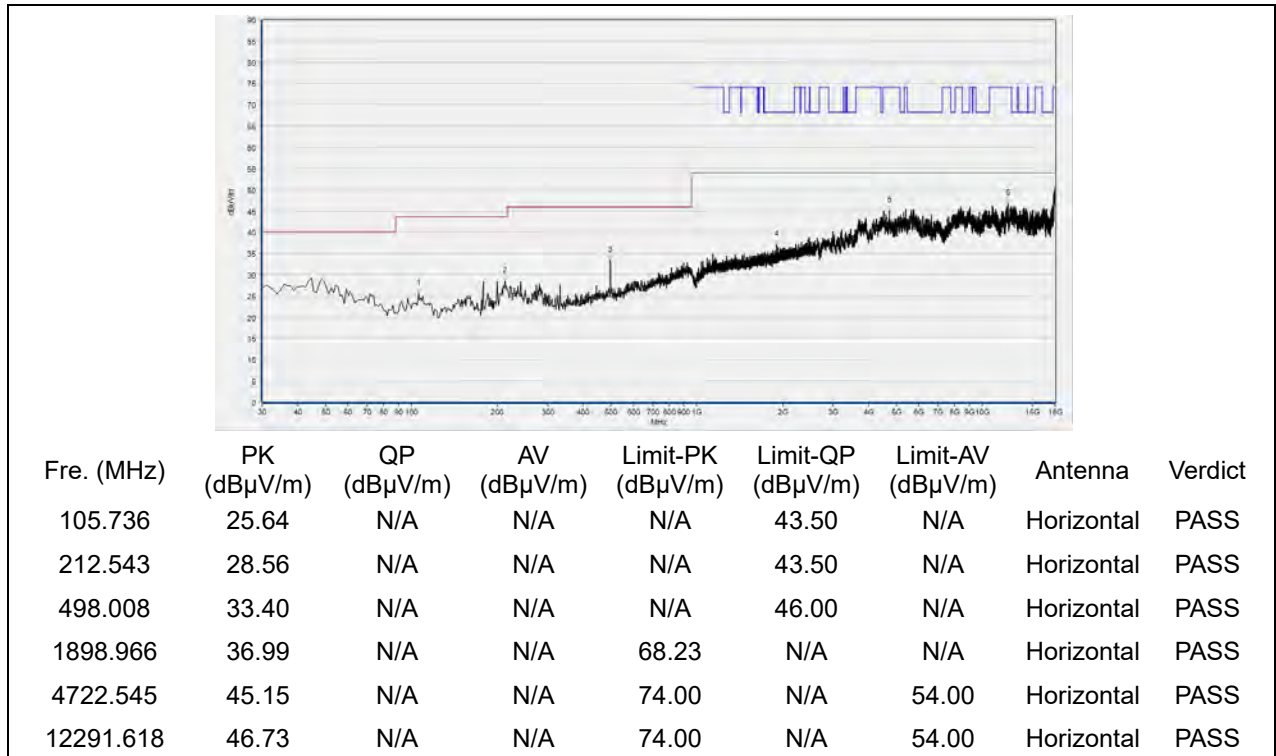
(Antenna Horizontal, 30MHz to 18GHz)



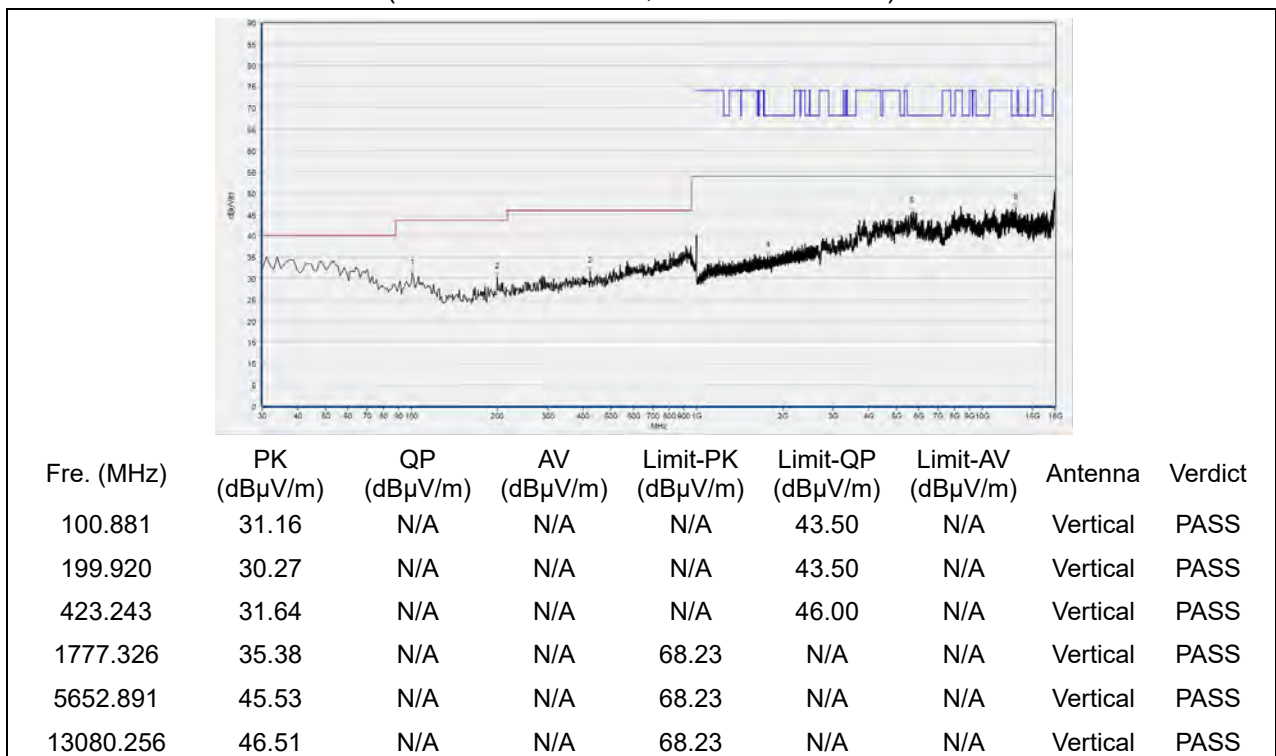
Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
105.736	30.87	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
217.397	29.61	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
566.947	32.61	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
2044.081	37.89	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
4491.498	45.31	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
13064.853	46.80	N/A	N/A	68.23	N/A	N/A	Vertical	PASS

(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 138

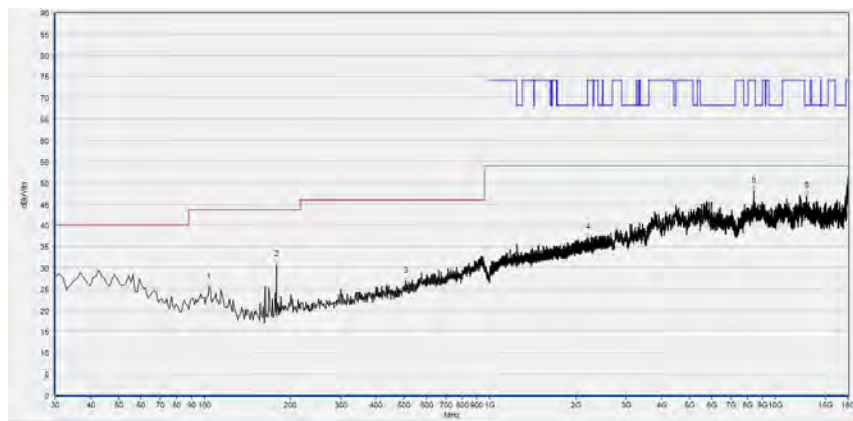


(Antenna Horizontal, 30MHz to 18GHz)



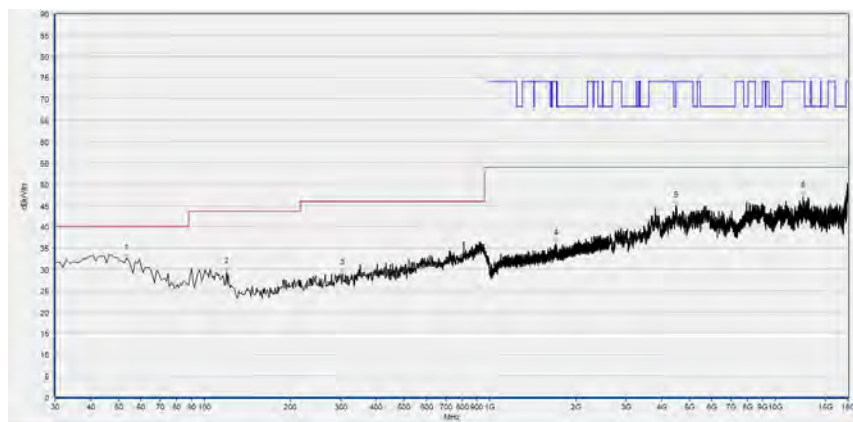
(Antenna Vertical, 30MHz to 18GHz)

Plot for Channel 155



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
103.794	25.24	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
178.559	30.63	N/A	N/A	N/A	43.50	N/A	Horizontal	PASS
506.747	26.79	N/A	N/A	N/A	46.00	N/A	Horizontal	PASS
2212.137	37.00	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
8406.961	48.17	N/A	N/A	74.00	N/A	54.00	Horizontal	PASS
12883.097	46.93	N/A	N/A	68.23	N/A	N/A	Horizontal	PASS

(Antenna Horizontal, 30MHz to 18GHz)



Fre. (MHz)	PK (dBμV/m)	QP (dBμV/m)	AV (dBμV/m)	Limit-PK (dBμV/m)	Limit-QP (dBμV/m)	Limit-AV (dBμV/m)	Antenna	Verdict
53.303	32.49	N/A	N/A	N/A	40.00	N/A	Vertical	PASS
119.329	29.27	N/A	N/A	N/A	43.50	N/A	Vertical	PASS
304.785	29.04	N/A	N/A	N/A	46.00	N/A	Vertical	PASS
1701.034	36.11	N/A	N/A	74.00	N/A	54.00	Vertical	PASS
4479.176	44.87	N/A	N/A	68.23	N/A	N/A	Vertical	PASS
12513.423	47.09	N/A	N/A	74.00	N/A	54.00	Vertical	PASS

(Antenna Vertical, 30MHz to 18GHz)

Annex A Test Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test items	Uncertainty
Peak Output Power	$\pm 2.22\text{dB}$
Power spectral density (PSD)	$\pm 2.22\text{dB}$
Bandwidth	$\pm 5\%$
Restricted Frequency Bands	$\pm 5\%$
Radiated Emission	$\pm 2.95\text{dB}$
Conducted Emission	$\pm 2.44\text{dB}$

This uncertainty represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.



Annex B Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.



4. Test Equipments Utilized

4.1 Conducted Test Equipments

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Attenuator 1	N/A	10dB	Resnet	N/A	N/A
EXA Signal Analyzer	MY53470836	N9010A	Agilent	2020.04.01	2021.03.31
USB Wideband Power Sensor	MY54210011	U2021XA	Agilent	2020.04.01	2021.03.31
RF cable (30MHz-26GHz)	CB01	RF01	Morlab	N/A	N/A
Coaxial cable	CB02	RF02	Morlab	N/A	N/A
SMA connector	CN01	RF03	HUBER-SUHNER	N/A	N/A
Temperature Chamber	12108015	DTL-003S101	YOMA	2020.01.08	2021.01.07

4.2 Conducted Emission Test Equipments

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Receiver	MY56400093	N9038A	KEYSIGHT	2020.03.26	2021.03.25
LISN	812744	NSLK 8127	Schwarzbeck	2020.03.26	2021.03.25
Pulse Limiter (10dB)	VTSD 9561 F-B #206	VTSD 9561-F	Schwarzbeck	2020.07.24	2021.07.23
Coaxial cable(BNC) (30MHz-26GHz)	CB01	EMC01	Morlab	N/A	N/A
Computer	DF2DR A01 DPC	VOSTRO 5370	DELL	N/A	N/A
PC Adapter	N/A	LA45NM1 40	LITEON	N/A	N/A

4.3 List of Software Used

Description	Manufacturer	Software Version
Test System	Tonscend	V2.6
Power Panel	Agilent	V3.8
MORLAB EMCR V1.2	MORLAB	V1.0
TS+ -[JS32-CE]	Tonscend	V2.5.0.0

**4.4 Radiated Test Equipments**

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Receiver	MY54130016	N9038A	Agilent	2020.07.21	2021.07.20
Test Antenna - Bi-Log	9163-519	VULB 9163	Schwarzbeck	2019.05.24	2022.05.23
Test Antenna - Horn	BBHA9170 #774	BBHA 9170	Schwarzbeck	2019.07.26	2022.07.25
Test Antenna - Loop	1519-022	FMZB1519	Schwarzbeck	2019.02.14	2022.02.13
Test Antenna - Horn	01774	BBHA 9120D	Schwarzbeck	2019.07.26	2022.07.25
Coaxial cable (N male) (9KHz-30MHz)	CB04	EMC04	Morlab	N/A	N/A
Coaxial cable (N male) (30MHz-26GHz)	CB02	EMC02	Morlab	N/A	N/A
Coaxial cable (N male) (30MHz-26GHz)	CB03	EMC03	Morlab	N/A	N/A
Coaxial cable (N male) (30MHz-40GHz)	CB05	EMC05	Morlab	N/A	N/A
1-18GHz pre-Amplifier	61171/61172	S020180L32 03	Tonscend	2020.07.21	2021.07.20
18-26.5GHz pre-Amplifier	46732	S10M100L38 02	Tonscend	2020.07.21	2021.07.20
26-40GHz pre-Amplifier	56774	S40M400L40 02	Tonscend	2020.07.21	2021.07.20
Notch Filter	N/A	WRCG-5150-5350	Wainwright	2020.07.21	2021.07.20
Notch Filter	N/A	WRCG-5470-5725	Wainwright	2020.07.21	2021.07.20
Notch Filter	N/A	WRCG-5725-5850	Wainwright	2020.07.21	2021.07.20



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Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Anechoic Chamber	N/A	9m*6m*6m	CRT	2020.01.06	2023.01.05

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