Test Results

Voltage (V)	Temperature (°C)	U-NII-1 Test Results			
		5200MHz			
		1min	2min	5min	10min
3.87	0	5200.001293	5199.999592	5199.998082	5199.988264
3.87	5	5199.999441	5199.998968	5199.995746	5199.986861
3.87	10	5199.998321	5199.998730	5199.988620	5199.986743
3.87	15	5199.994880	5199.998384	5199.988508	5199.980515
3.87	20	5199.993385	5199.995388	5199.984059	5199.970736
3.87	25	5199.986100	5199.991732	5199.979243	5199.969853
3.87	30	5199.978349	5199.990836	5199.977773	5199.965795
3.87	35	5199.971830	5199.984946	5199.976257	5199.955962
3.6	20	5199.969548	5199.977134	5199.970890	5199.952702
4.45	20	5199.962433	5199.968492	5199.969444	5199.948462
Max. ΔMHz		-0.037567	-0.031508	-0.030556	-0.051538
PPM		-7.224481	-6.059267	-5.876246	-9.911214

Voltage (V)	Temperature (°C)	U-NII-2A Test Results			
		5300MHz			
		1min	2min	5min	10min
3.87	0	5299.993478	5299.985633	5299.984600	5299.980642
3.87	5	5299.989853	5299.985026	5299.980854	5299.972688
3.87	10	5299.981973	5299.981144	5299.979801	5299.972256
3.87	15	5299.980697	5299.973074	5299.979403	5299.967480
3.87	20	5299.973858	5299.964842	5299.969410	5299.959005
3.87	25	5299.967850	5299.963980	5299.966377	5299.956623
3.87	30	5299.960986	5299.957787	5299.959760	5299.949638
3.87	35	5299.954624	5299.951759	5299.956655	5299.947434
3.6	20	5299.950391	5299.942249	5299.949529	5299.941257
4.45	20	5299.940956	5299.933624	5299.943297	5299.939009
Max. ΔMHz		-0.059044	-0.066376	-0.056703	-0.060991
PPM		-11.140411	-12.523864	-10.698655	-11.507774

Voltage (V)	Temperature (°C)	U-NII-2C Test Results			
		5580MHz			
		1min	2min	5min	10min
3.87	0	5579.999737	5579.994462	5579.987544	5579.986518
3.87	5	5579.991837	5579.988420	5579.983437	5579.981312
3.87	10	5579.984139	5579.979004	5579.974693	5579.977057
3.87	15	5579.983913	5579.970871	5579.968292	5579.976592
3.87	20	5579.979478	5579.961703	5579.958299	5579.971057
3.87	25	5579.978666	5579.954185	5579.954550	5579.964995
3.87	30	5579.970726	5579.952995	5579.951315	5579.957024
3.87	35	5579.963634	5579.948864	5579.944561	5579.952291
3.6	20	5579.961433	5579.948678	5579.941585	5579.942348
4.45	20	5579.960923	5579.945122	5579.935922	5579.937054
Max. ΔMHz		-0.039077	-0.054878	-0.064078	-0.062946
PPM		-7.002977	-9.834679	-11.483430	-11.280647

Voltage (V)	Temperature (°C)	U-NII-3 Test Results			
		5785MHz			
		1min	2min	5min	10min
3.87	0	5784.991236	5784.983896	5784.980198	5784.976563
3.87	5	5784.985365	5784.978247	5784.971454	5784.968207
3.87	10	5784.979029	5784.971591	5784.966780	5784.963912
3.87	15	5784.978239	5784.968034	5784.961790	5784.957303
3.87	20	5784.971997	5784.961977	5784.957821	5784.954843
3.87	25	5784.964066	5784.957564	5784.953011	5784.949345
3.87	30	5784.963318	5784.955978	5784.951909	5784.949285
3.87	35	5784.953765	5784.952611	5784.948179	5784.948348
3.6	20	5784.950461	5784.948032	5784.946212	5784.938955
4.45	20	5784.946590	5784.944729	5784.937083	5784.935307
Max. ΔMHz		-0.053410	-0.055271	-0.062917	-0.064693
PPM		-9.232541	-9.554276	-10.875835	-11.182895

5.4. Power Spectral Density

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

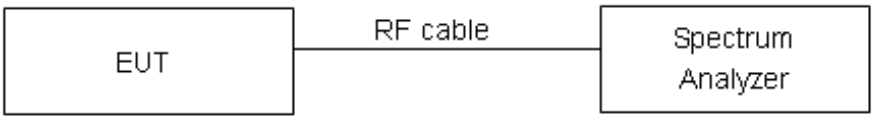
Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

Set RBW = 1MHz, VBW =3MHz for the band 5.150-5.250GHz, 5.250-5.350GHz, 5.470-5.725GHz.
Set RBW = 470kHz, VBW =1.5MHz for the band 5.725-5.850GHz

The conducted PSD is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

Test setup



Limits

Rule FCC Part 15.407(a)(1)/ Part 15.407(a)(2) / Part 15.407(a)(3)
For an indoor access point operating in the band 5.15-5.25 GHz, 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.
For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 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.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 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.
For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500kHz band. If transmittingantennas 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.

Frequency Bands/MHz	Limits
5150-5250	11dBm/MHz
5.25-5.35 GHz and 5.47-5.725 GHz	11dBm/MHz
5725-5850	30dBm/500kHz

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.75dB.

Test Results:

Note: Power Spectral Density =Read Value+Duty cycle correction factor

U-NII-1

Mode	Channel Number	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	36	-8.86	-8.86	11	PASS
	40	9.26	9.26	11	PASS
	48	8.72	8.72	11	PASS
802.11n HT20	36	4.57	4.57	11	PASS
	40	8.24	8.24	11	PASS
	48	7.85	7.85	11	PASS
802.11n HT40	38	-4.37	-4.18	11	PASS
	46	4.00	4.19	11	PASS
802.11ac VHT20	36	4.69	4.69	11	PASS
	40	8.27	8.27	11	PASS
	48	7.62	7.62	11	PASS
802.11ac VHT40	38	-4.37	-4.18	11	PASS
	46	4.00	4.19	11	PASS
802.11ac VHT80	42	-8.78	-8.46	11	PASS

U-NII-2A

Mode	Channel Number	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	52	8.41	8.41	11	PASS
	60	8.57	8.57	11	PASS
	64	5.63	5.63	11	PASS
802.11n HT20	52	7.85	7.85	11	PASS
	60	8.72	8.72	11	PASS
	64	5.71	5.71	11	PASS
802.11n HT40	54	4.03	4.22	11	PASS
	62	-3.78	-3.59	11	PASS
802.11ac	52	8.48	8.48	11	PASS

VHT20	60	8.39	8.39	11	PASS
	64	5.37	5.37	11	PASS
802.11ac VHT40	54	4.05	4.24	11	PASS
	62	-3.58	-3.39	11	PASS
802.11ac VHT80	58	-9.14	-8.82	11	PASS

U-NII-2C

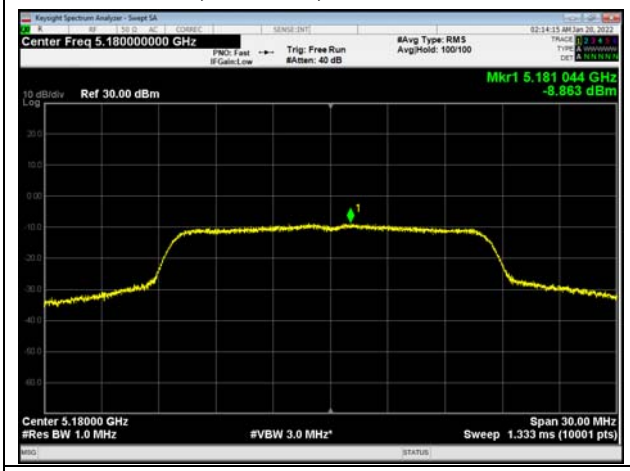
Mode	Channel Number	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
802.11a	100	6.90	6.90	11	PASS
	104	7.57	7.57	11	PASS
	120	7.78	7.78	11	PASS
	136	8.34	8.34	11	PASS
	140	4.46	4.46	11	PASS
802.11n HT20	100	6.96	6.96	11	PASS
	104	7.62	7.62	11	PASS
	120	7.77	7.77	11	PASS
	136	8.13	8.13	11	PASS
	140	3.92	3.92	11	PASS
802.11n HT40	102	-3.91	-3.72	11	PASS
	110	2.60	2.79	11	PASS
	118	3.64	3.83	11	PASS
	126	3.17	3.36	11	PASS
	134	3.80	3.99	11	PASS
	142	3.78	3.97	11	PASS
802.11ac VHT20	100	7.08	7.08	11	PASS
	104	7.84	7.84	11	PASS
	120	7.44	7.44	11	PASS
	136	8.00	8.00	11	PASS
	140	4.11	4.11	11	PASS
802.11ac VHT40	102	-3.84	-3.65	11	PASS
	110	3.96	4.15	11	PASS
	118	3.96	4.15	11	PASS
	126	3.71	3.90	11	PASS

	134	4.28	4.47	11	PASS
	142	4.07	4.26	11	PASS
802.11ac VHT80	106	-7.38	-7.06	11	PASS
	122	0.13	0.45	11	PASS
	138	0.74	1.06	11	PASS

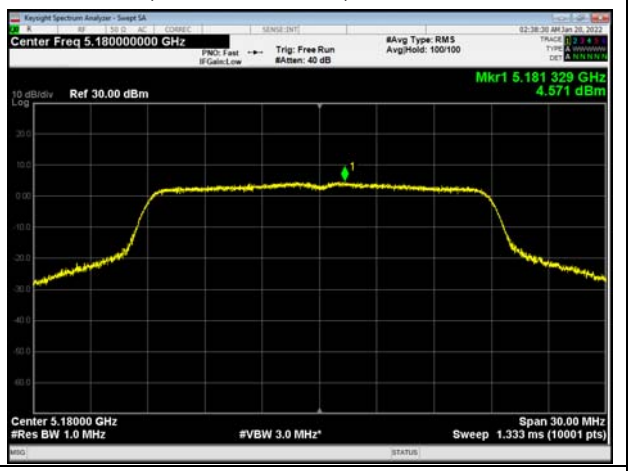
U-NII-3

Mode	Channel Number	Read Value (dBm/470kHz)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Conclusion
802.11a	149	5.67	5.94	30	PASS
	157	5.35	5.62	30	PASS
	165	5.16	5.43	30	PASS
802.11n HT20	149	4.64	4.91	30	PASS
	157	4.38	4.65	30	PASS
	165	4.17	4.44	30	PASS
802.11n HT40	151	-0.26	0.20	30	PASS
	159	-0.38	0.08	30	PASS
802.11ac VHT20	149	4.35	4.62	30	PASS
	157	4.13	4.40	30	PASS
	165	3.89	4.16	30	PASS
802.11ac VHT40	151	-0.04	0.42	30	PASS
	159	-0.38	0.08	30	PASS
802.11ac VHT80	155	-3.67	-3.08	30	PASS
Note:PSD=Read Value+Duty cycle+10*LOG(500/470) correction factor					

U-NII-1, 802.11a, Channel No.: 36



U-NII-1, 802.11n HT20, Channel No.: 36



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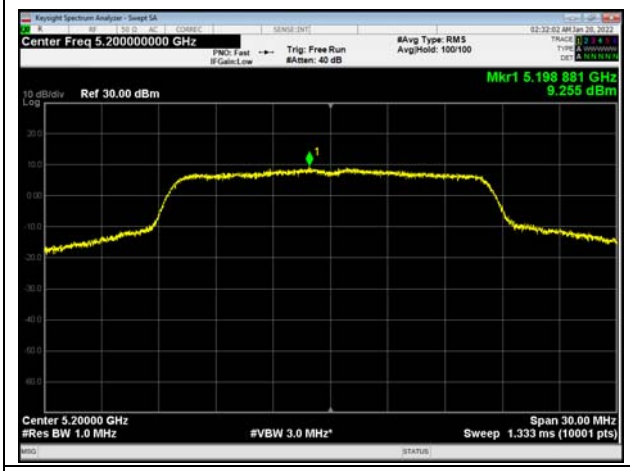

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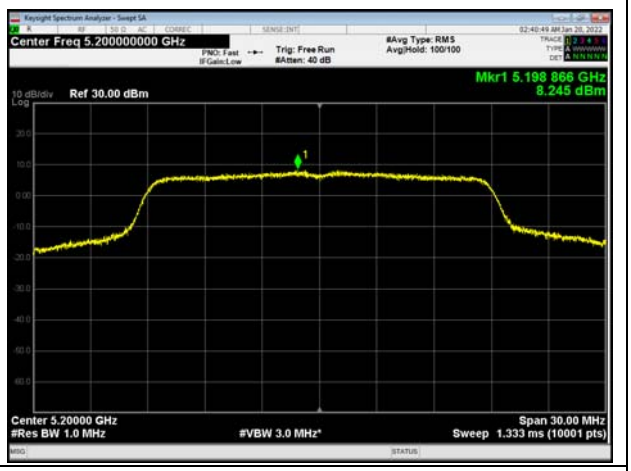

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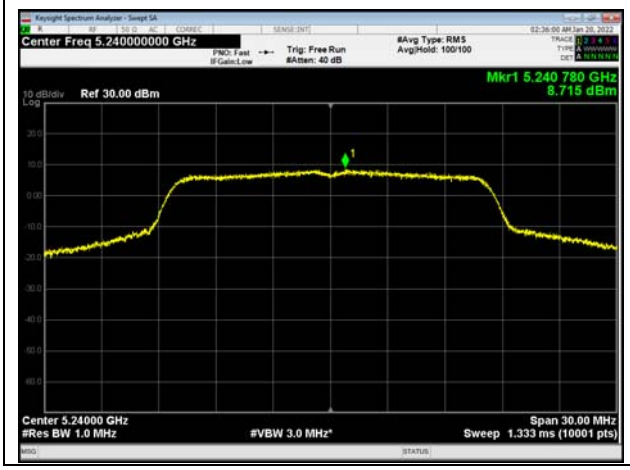

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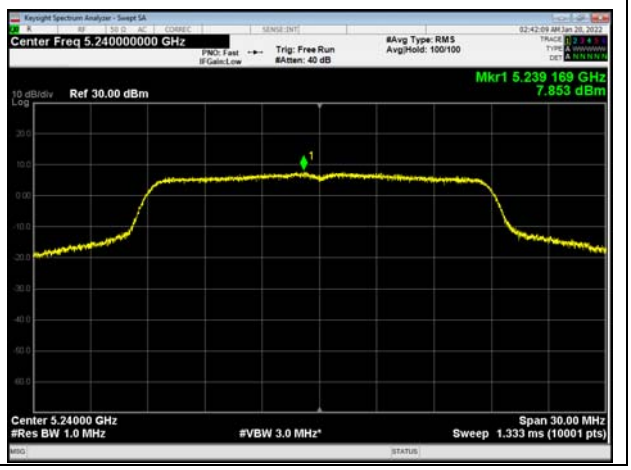
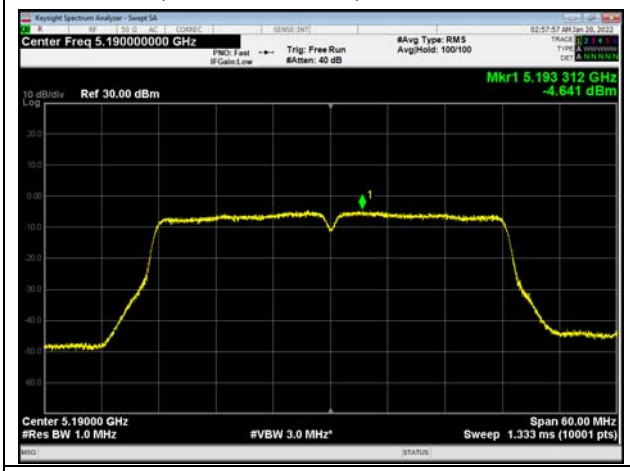
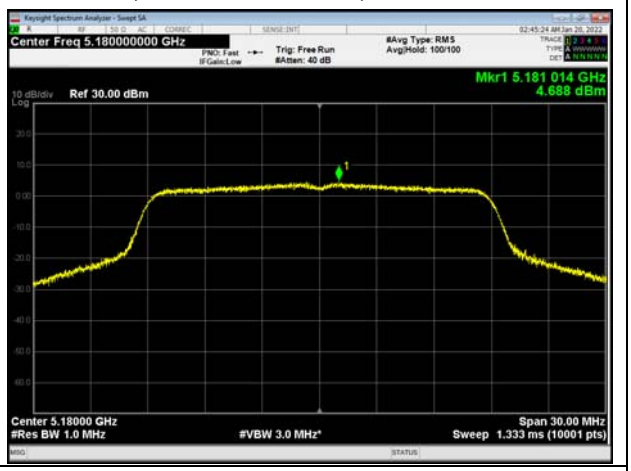


U-NII-1, 802.11n HT40, Channel No.: 38



U-NII-1, 802.11ac VHT20, Channel No.: 36



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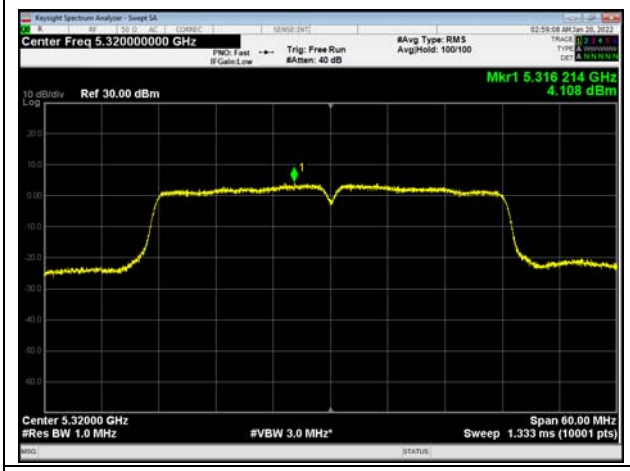

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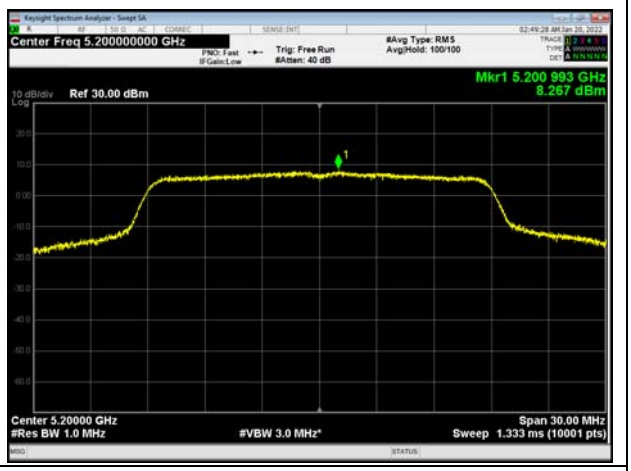

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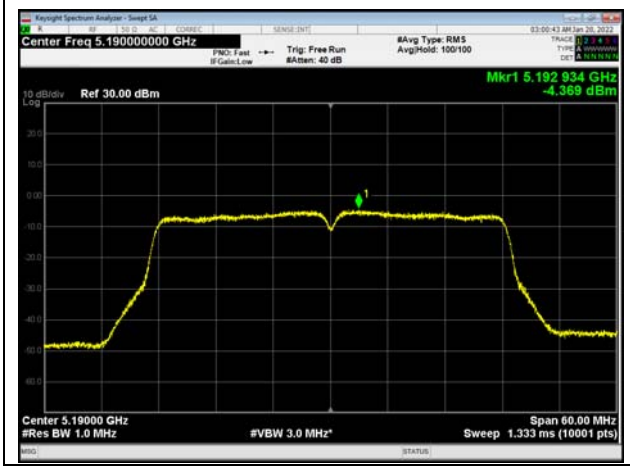

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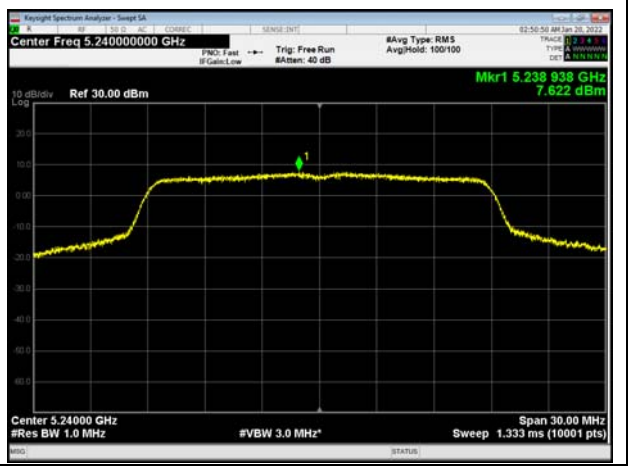

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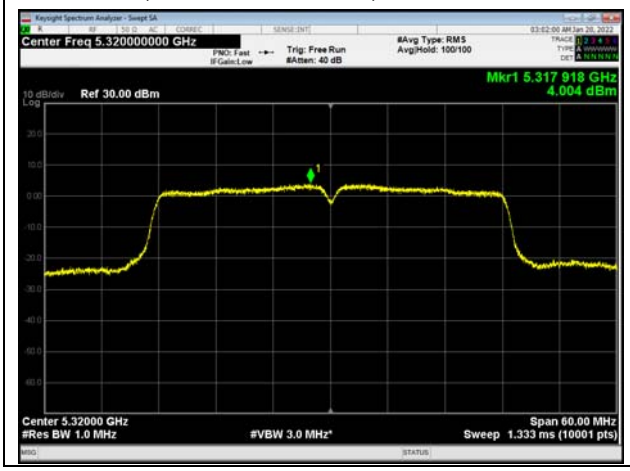

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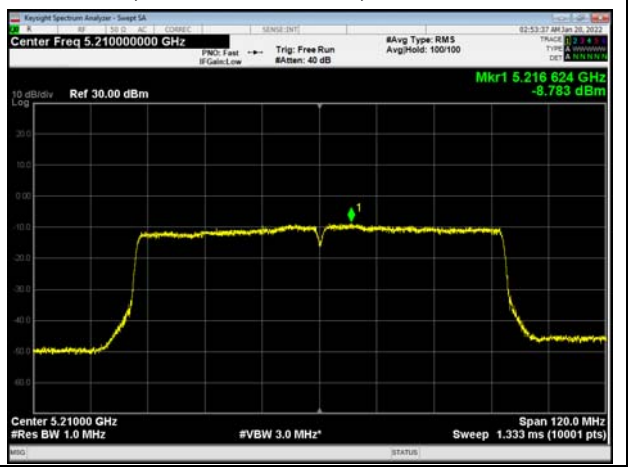
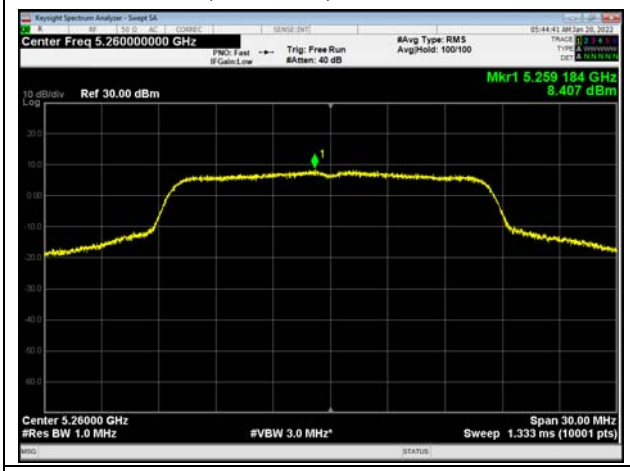


U-NII-2A, 802.11a, Channel No.: 52



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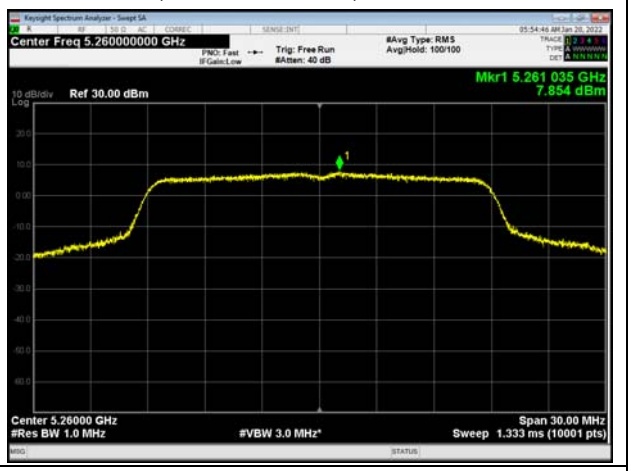

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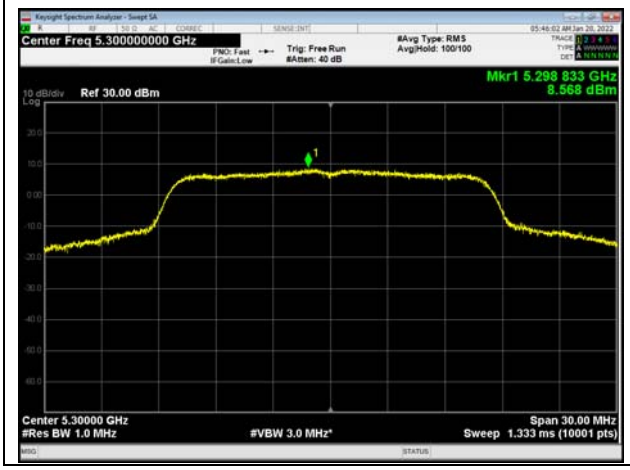
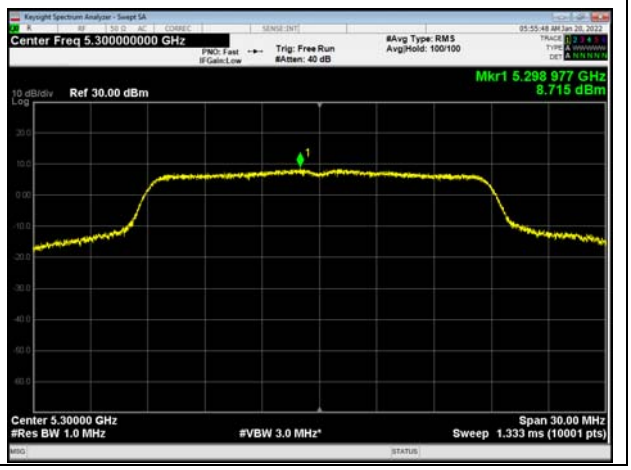


U-NII-2A, 802.11n HT20, Channel No.: 60



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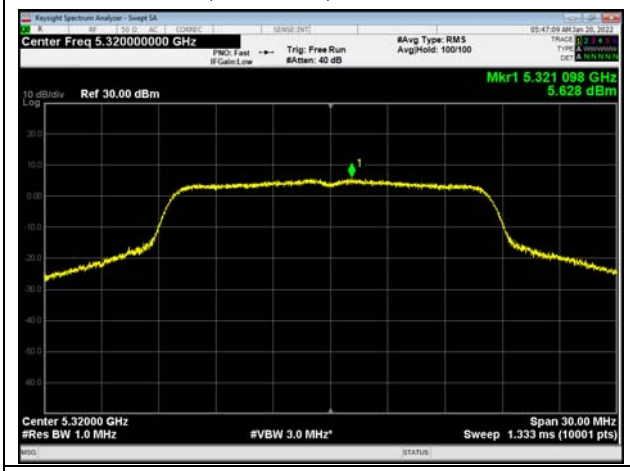

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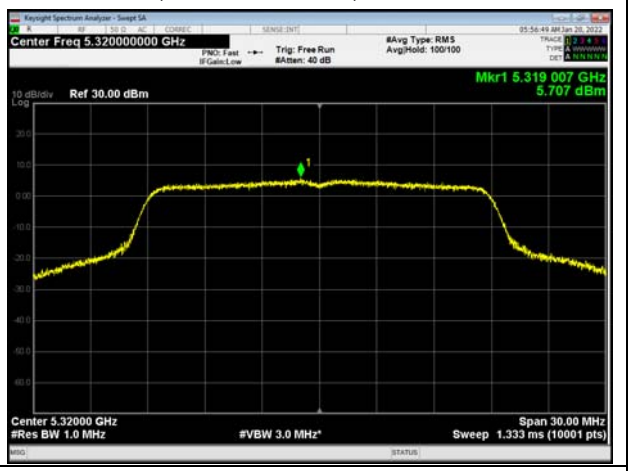
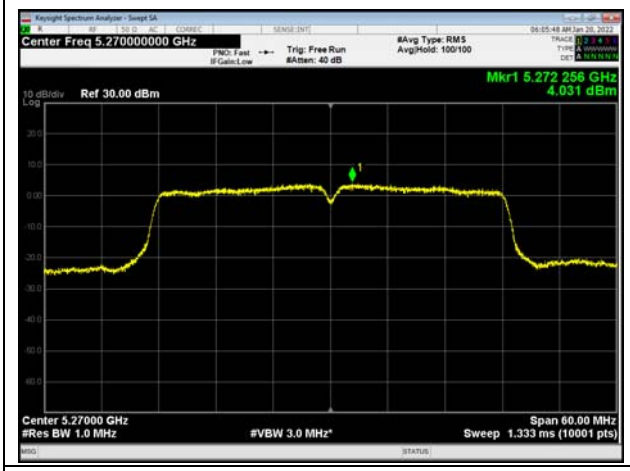
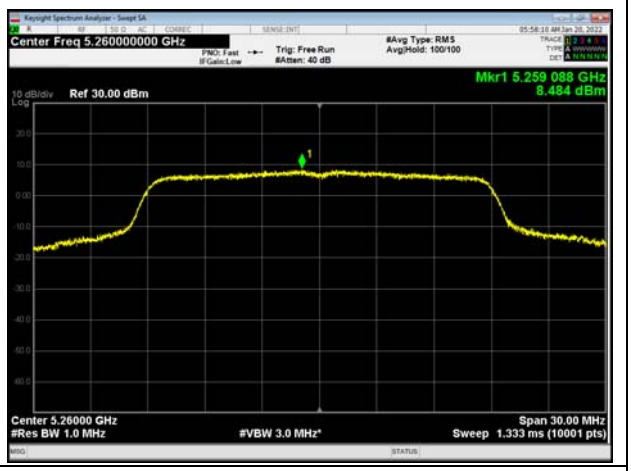


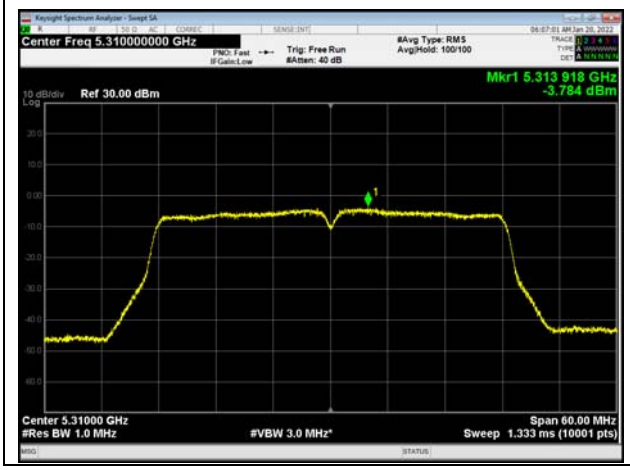
U-NII-2A, 802.11n HT40, Channel No.: 54



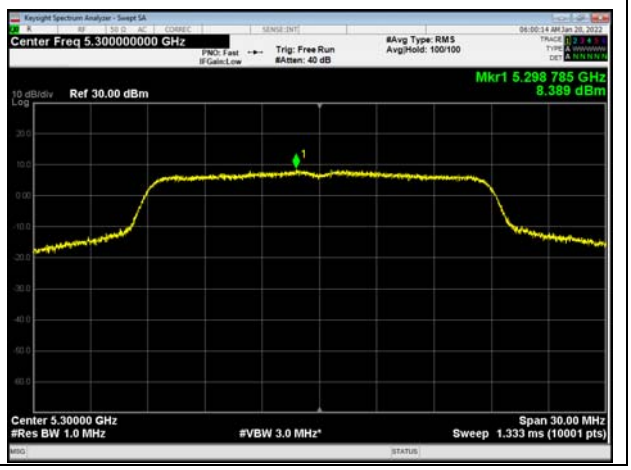
U-NII-2A, 802.11ac VHT20, Channel No.:52



U-NII-2A, 802.11n HT40, Channel No.: 62



U-NII-2A, 802.11ac VHT20, Channel No.: 60



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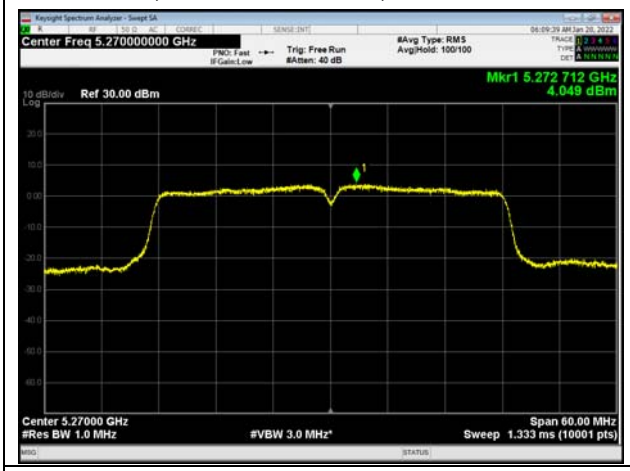

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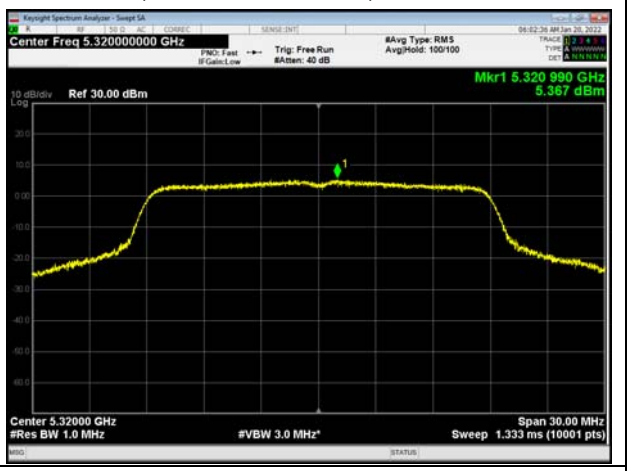
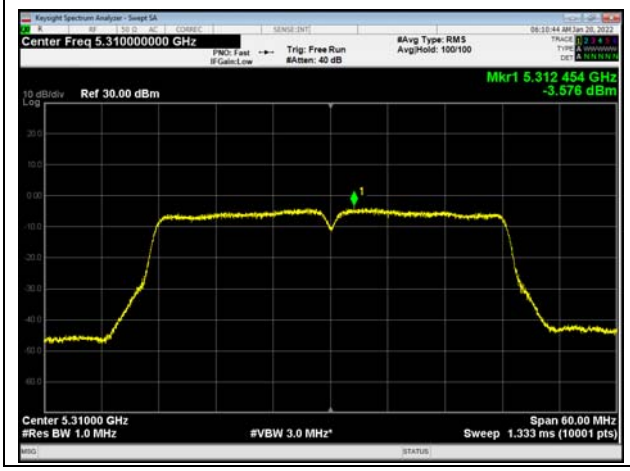


U-NII-2A, 802.11ac VHT40, Channel No.: 62



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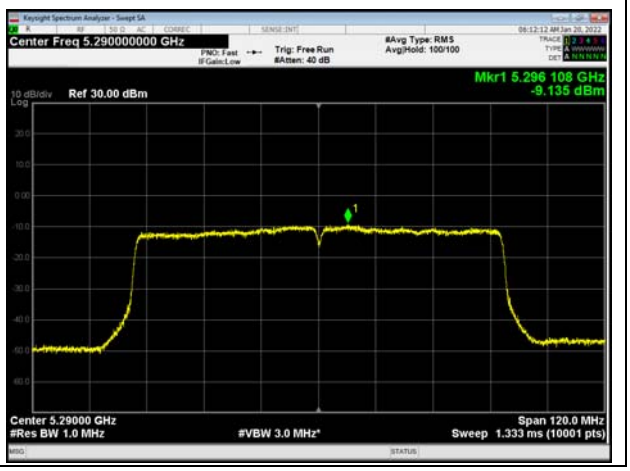

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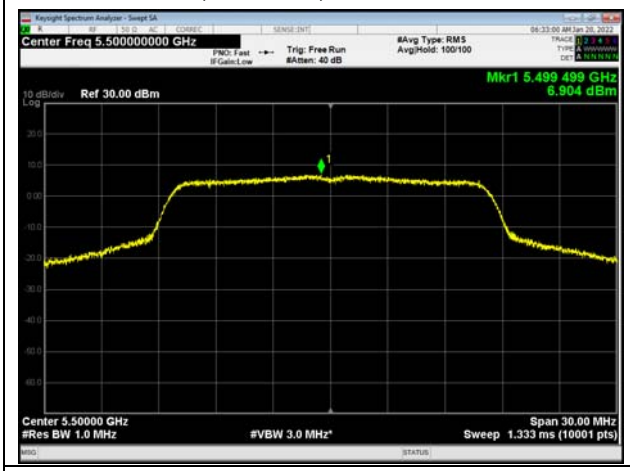

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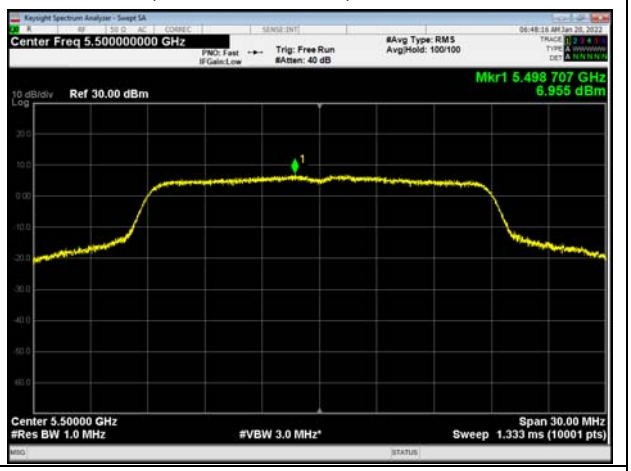

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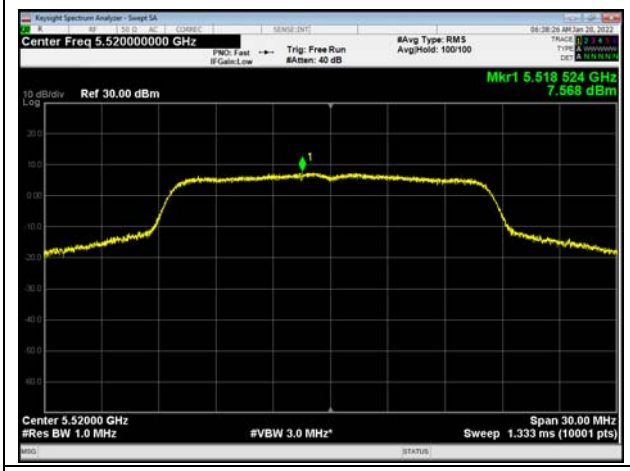

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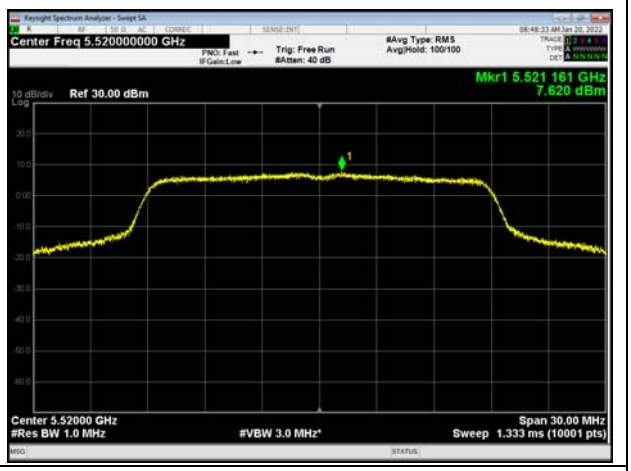

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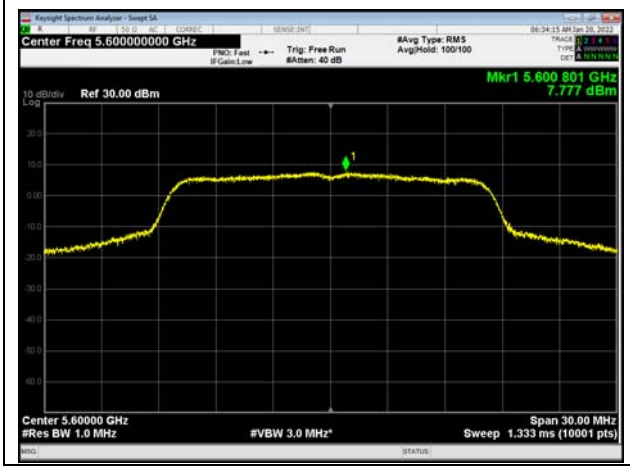

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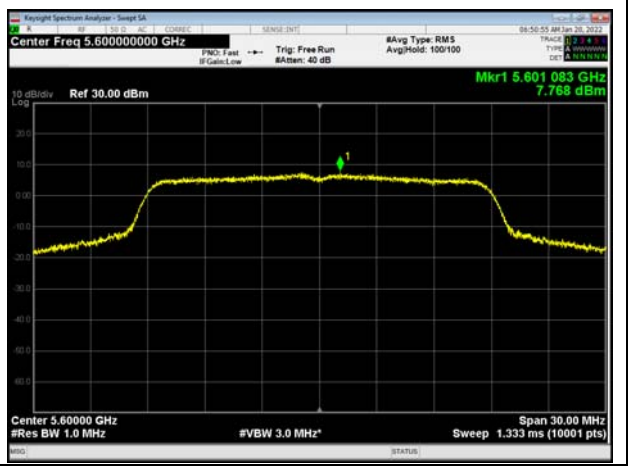

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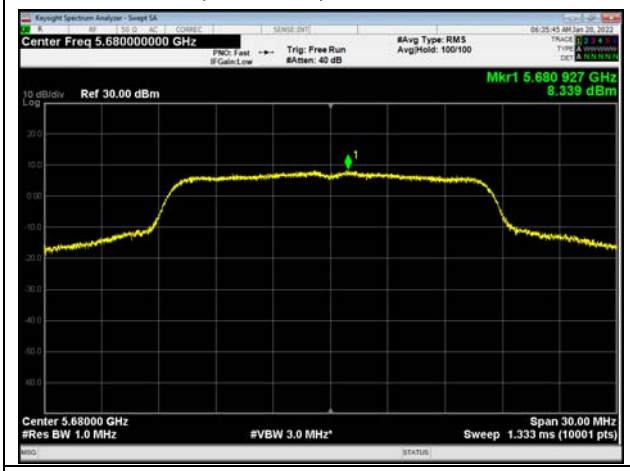

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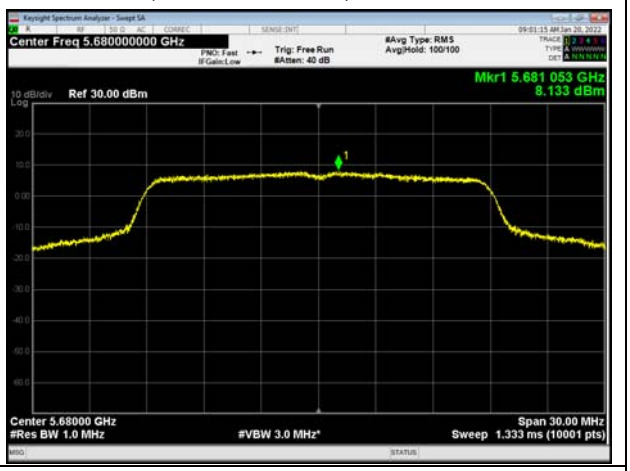

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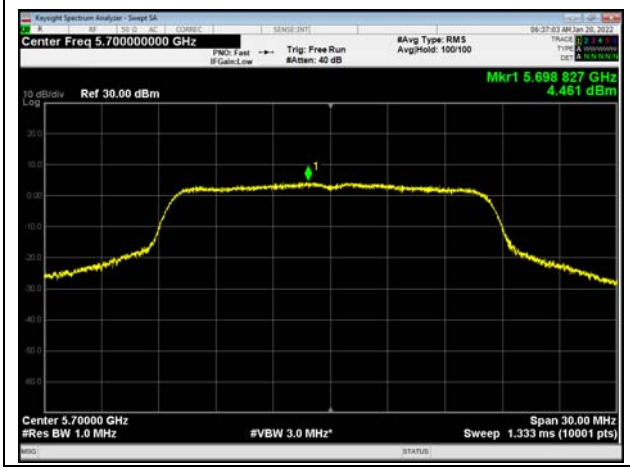

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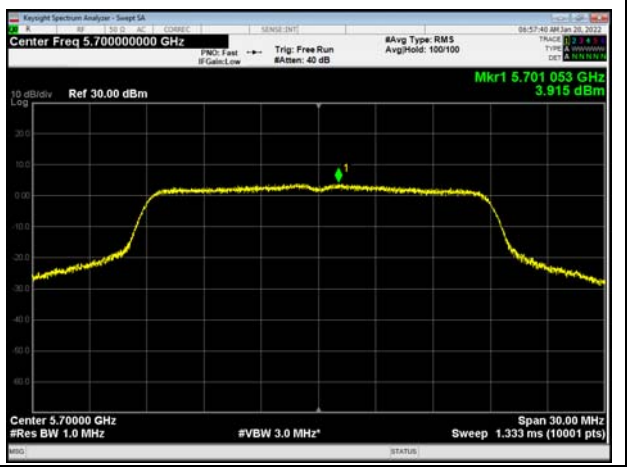

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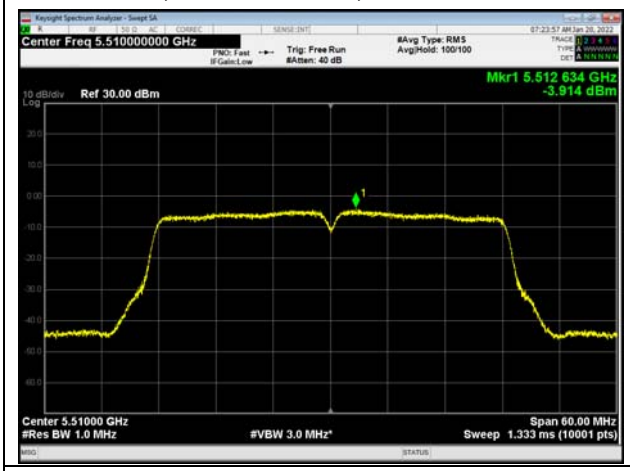

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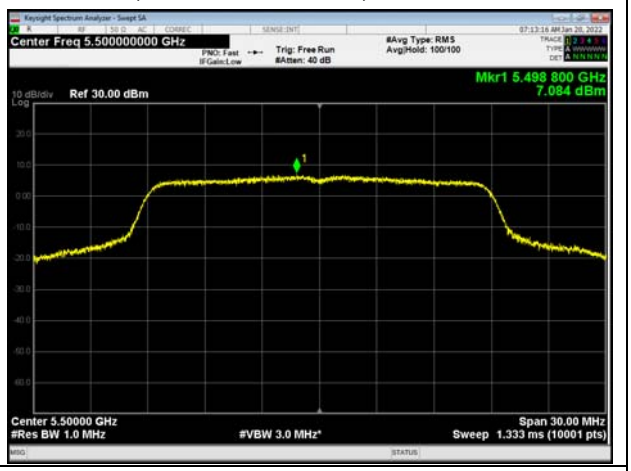

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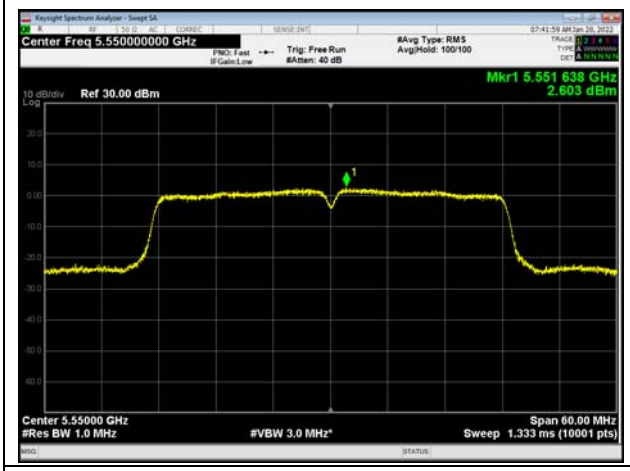

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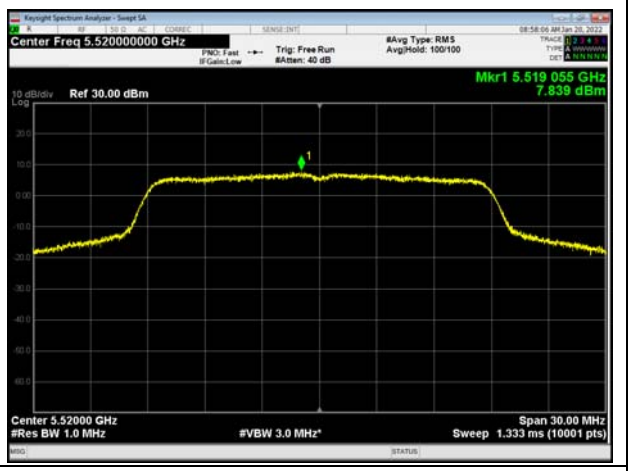

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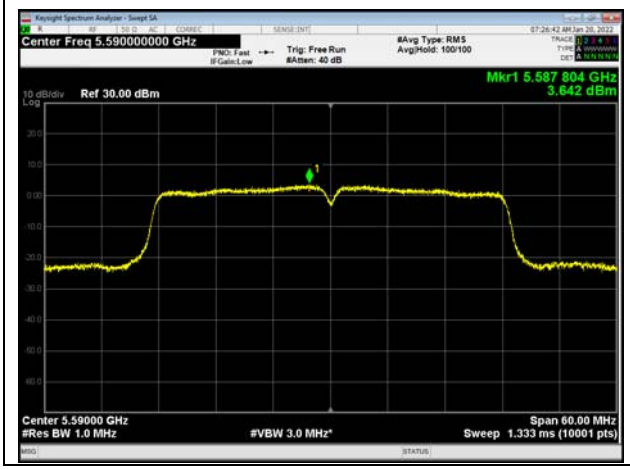

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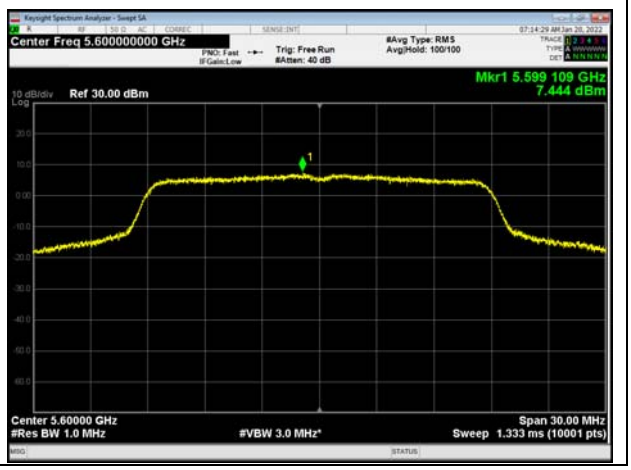

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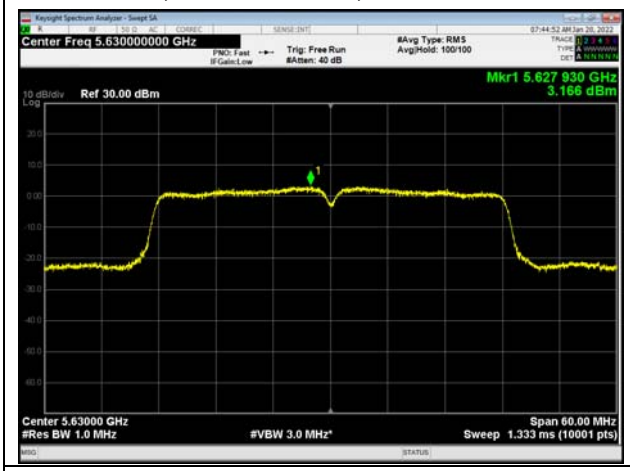

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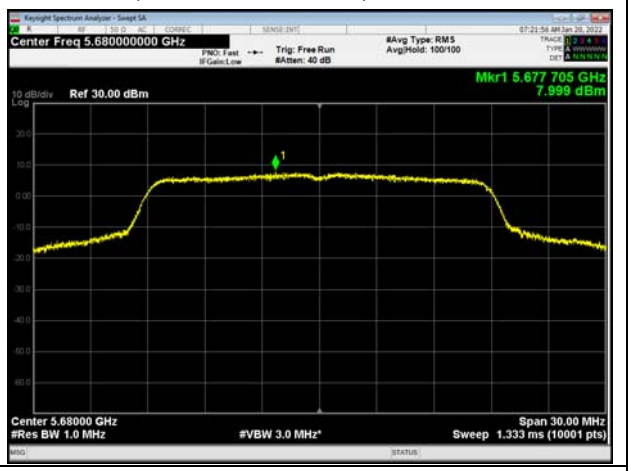

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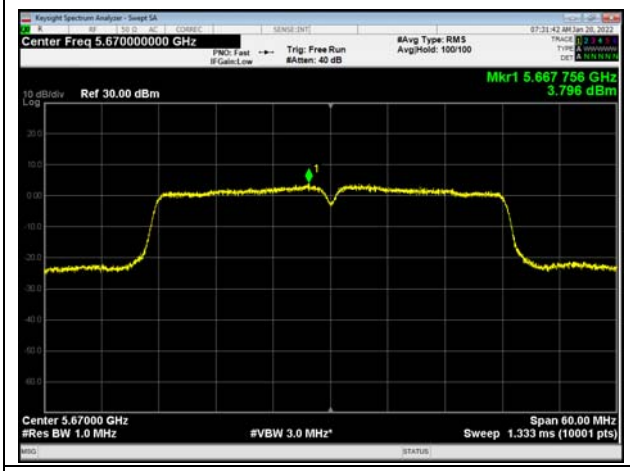

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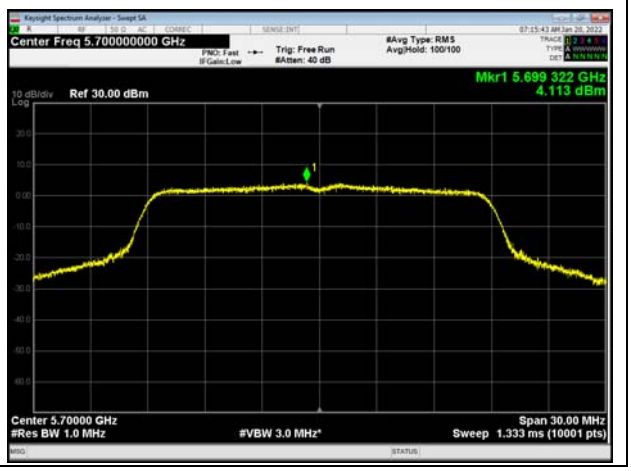

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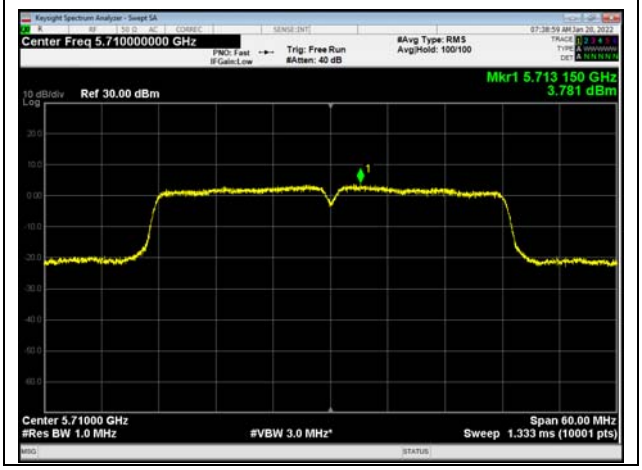

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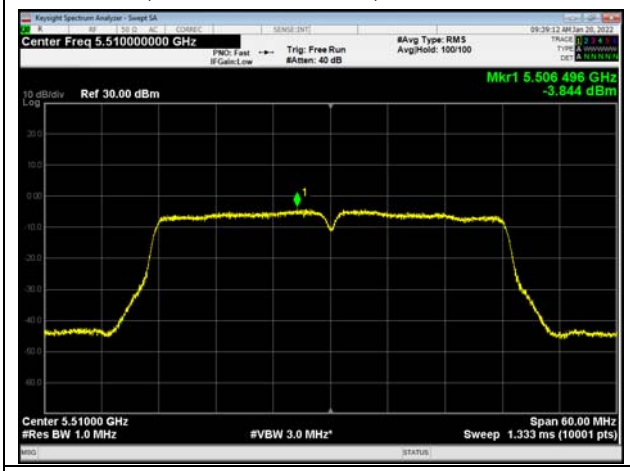

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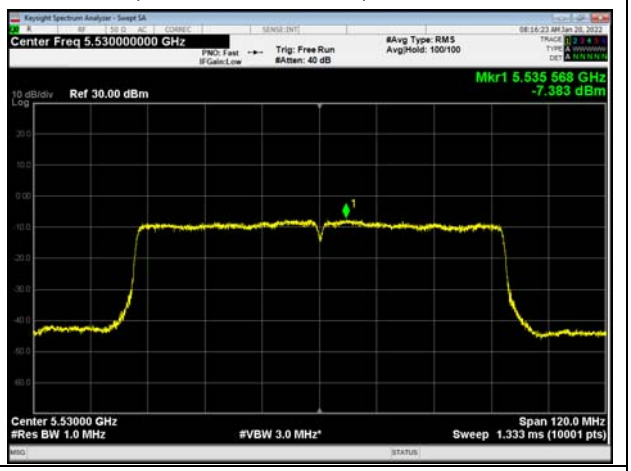

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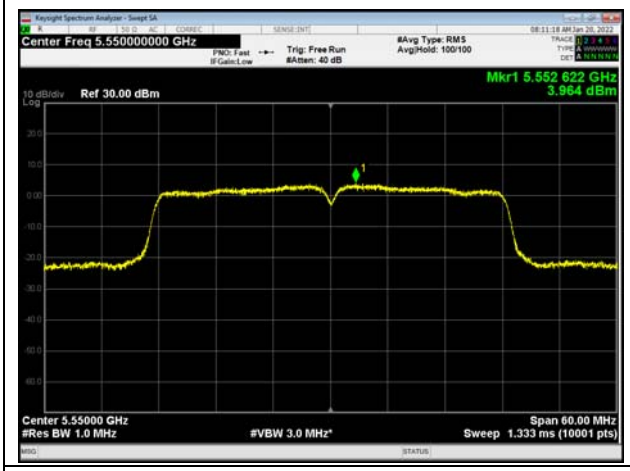

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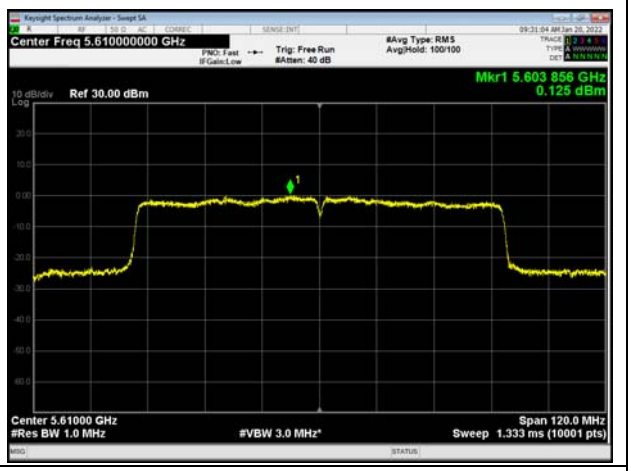

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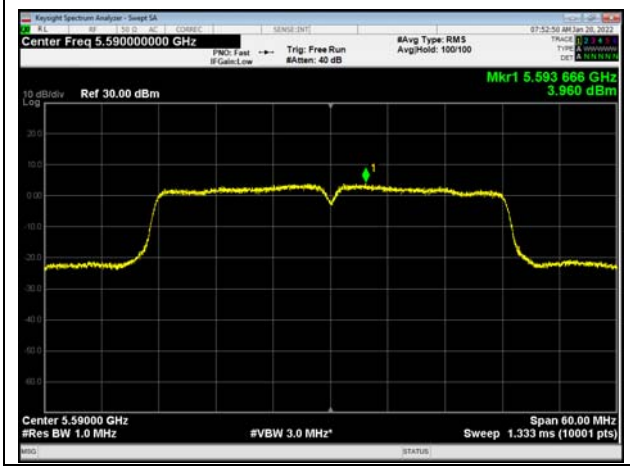

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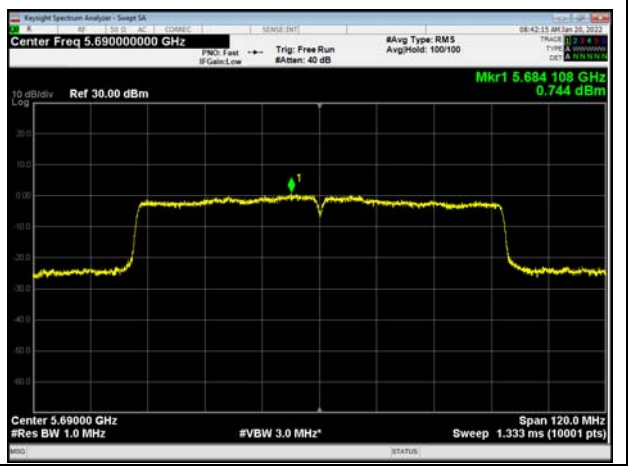

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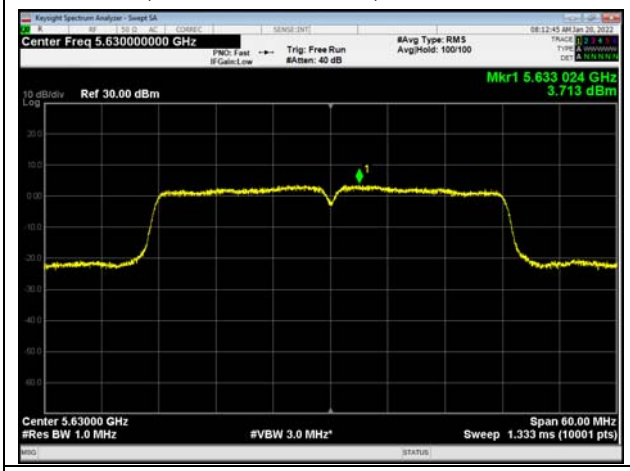

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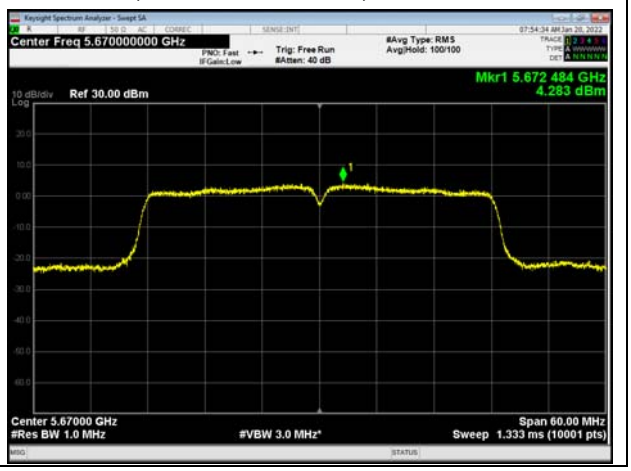

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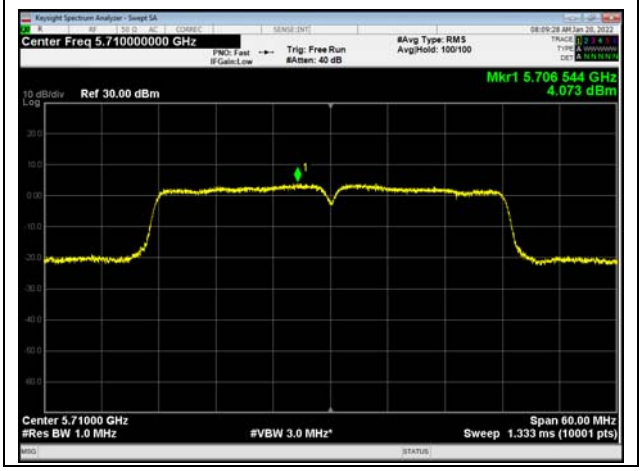
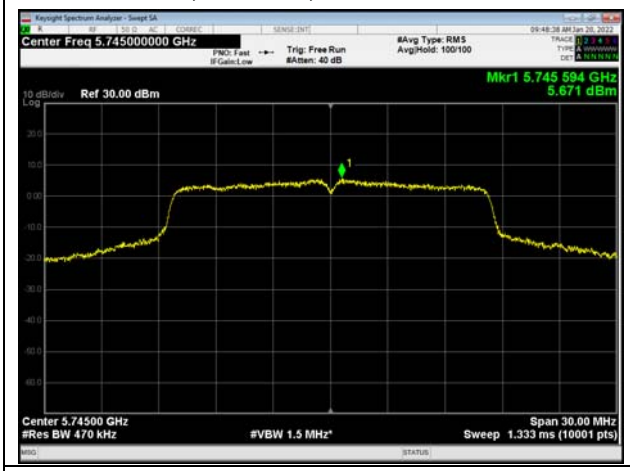


U-NII-3, 802.11a, Channel No.: 149



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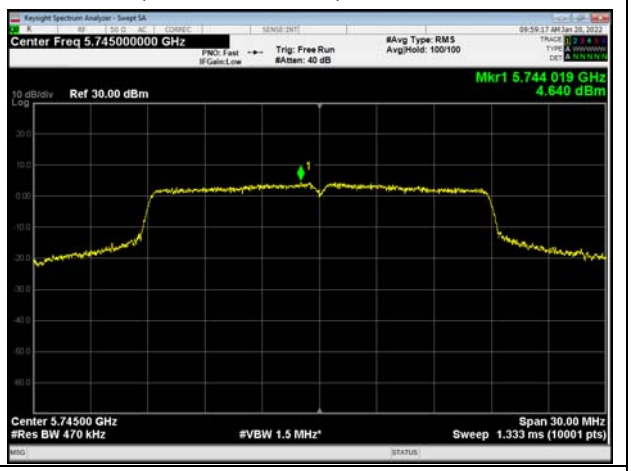

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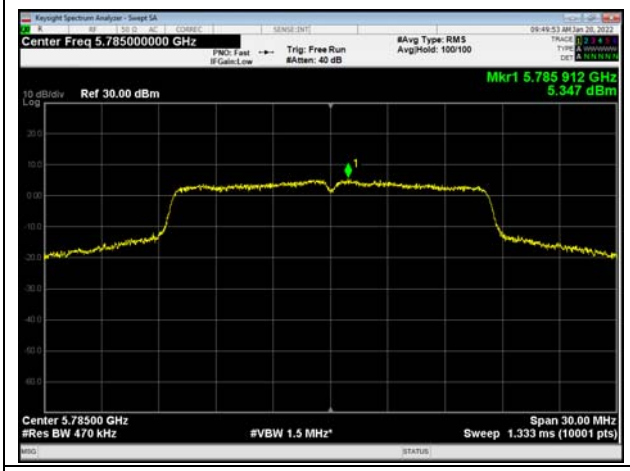

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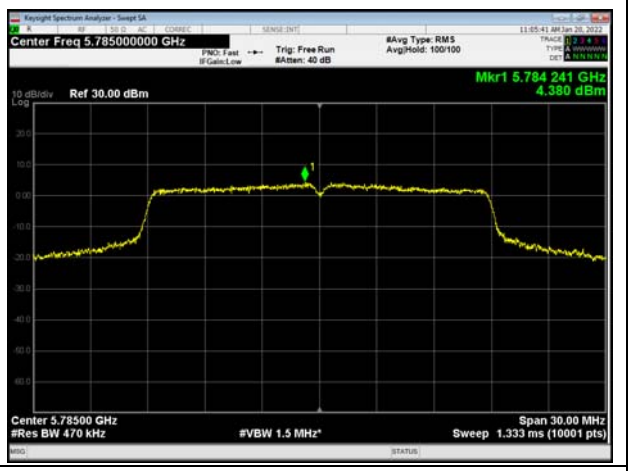

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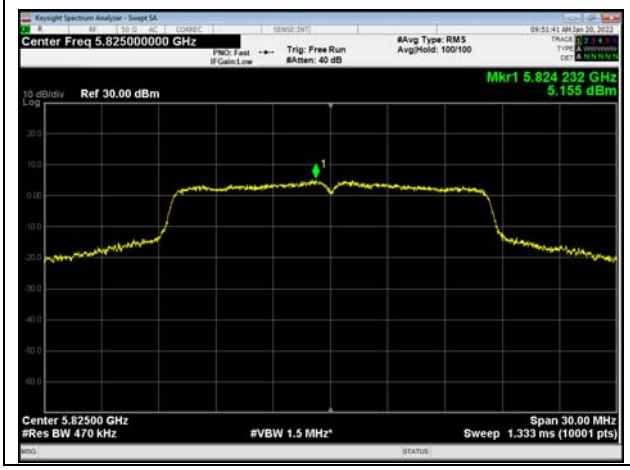

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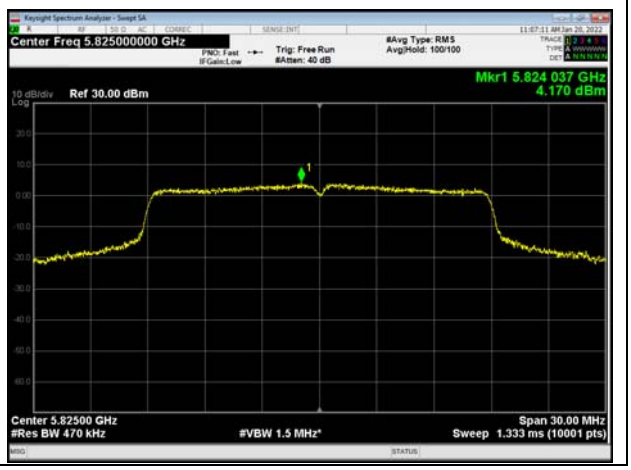

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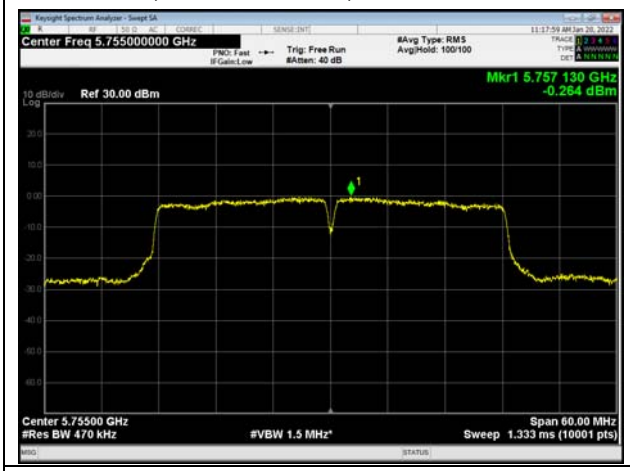

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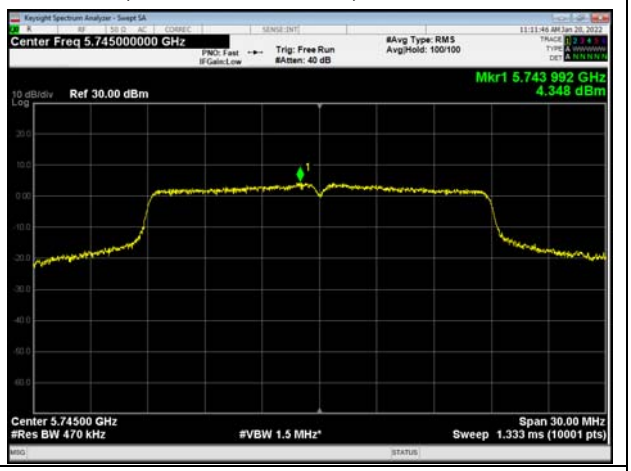

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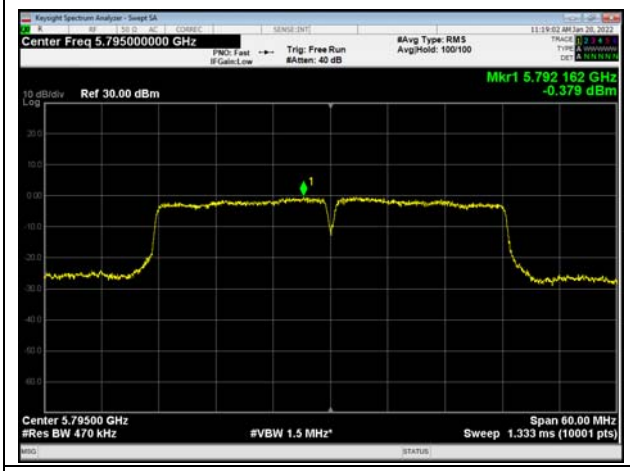

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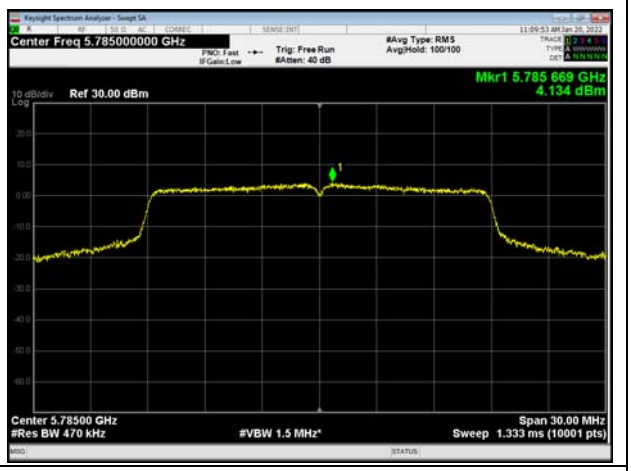

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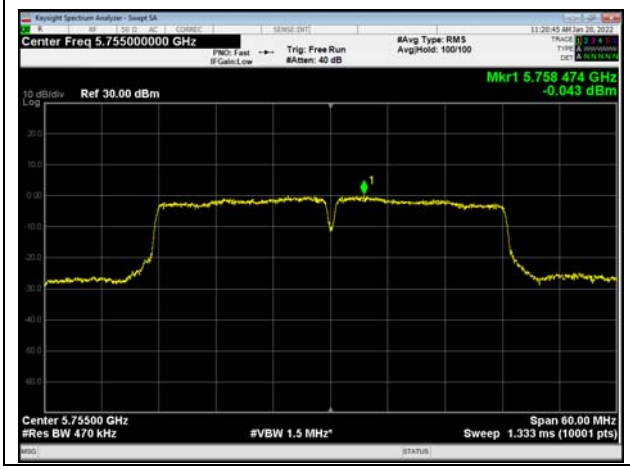

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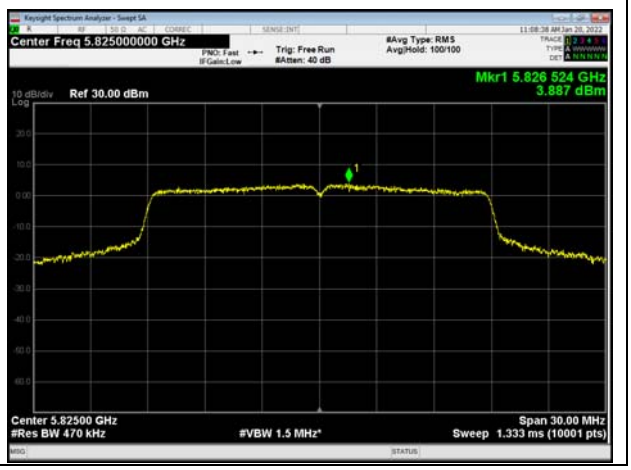

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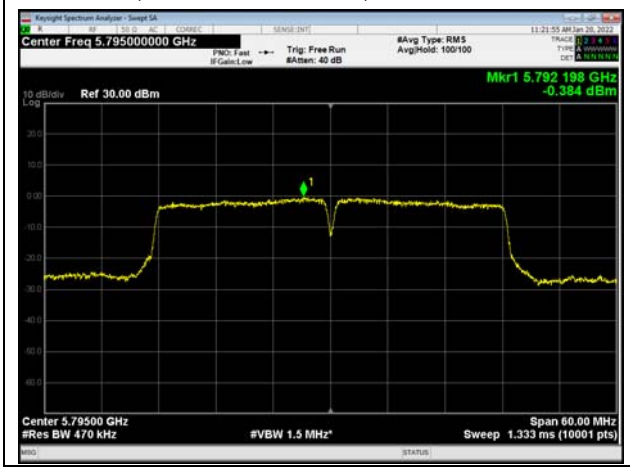
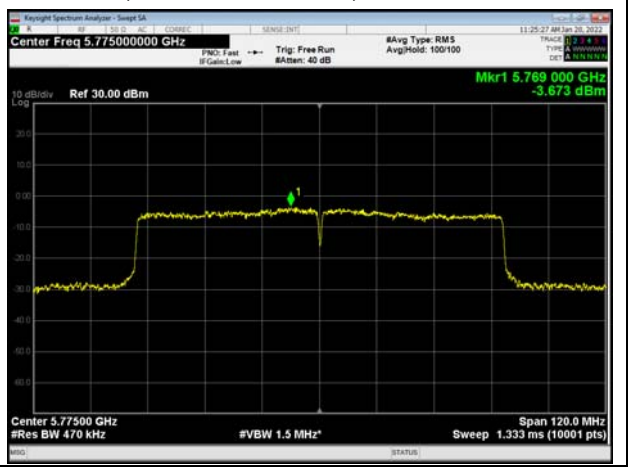
	

5.5. Unwanted Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.
Sweep the whole frequency band range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.
Set the spectrum analyzer in the following:
9kHz~150 kHz
RBW=200Hz, VBW=1kHz/ Sweep=AUTO
150 kHz~30MHz
RBW=9KHz, VBW=30KHz,/ Sweep=AUTO
Below 1GHz
RBW=100kHz / VBW=300kHz / Sweep=AUTO
a) Peak emission levels are measured by setting the instrument as follows:
Above 1GHz
PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO
b) Average emission levels are measured by setting the instrument as follows:
Above 1GHz
AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO
c) Detector: The measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)
e) Sweep time = auto.
f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of 1 / D, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific

emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)

g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is [10 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.

2) If linear voltage averaging mode was used in the preceding step e), then the correction factor is [20 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.

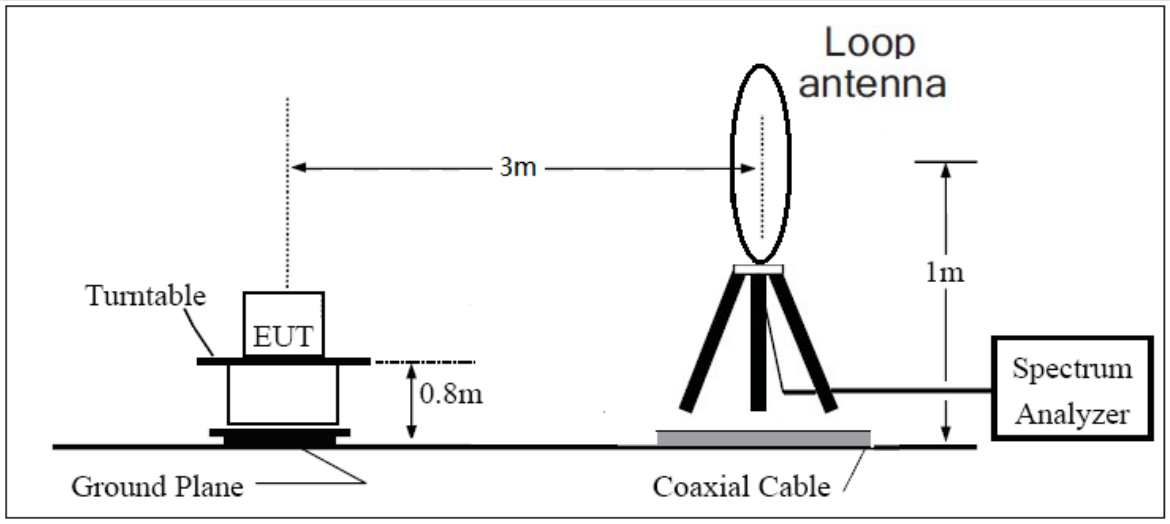
3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

Reduce the video bandwidth until no significant variations in the displayed signal are observed in subsequent traces, provided the video bandwidth is no less than 1 Hz. For regulatory requirements that specify averaging only over the transmit duration (e.g., digital transmission system [DTS] and Unlicensed National Information Infrastructure [U-NII]), the video bandwidth shall be greater than [1 / (minimum transmitter on time)] and no less than 1 Hz.

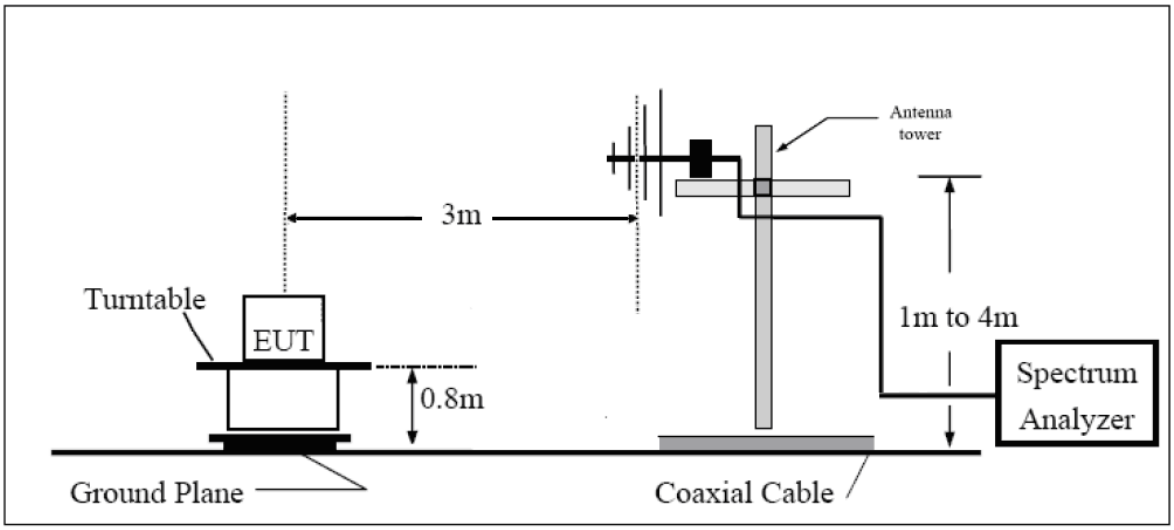
The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the loop antenna is vertical, others antenna are vertical and horizontal.

The test is in transmitting mode.

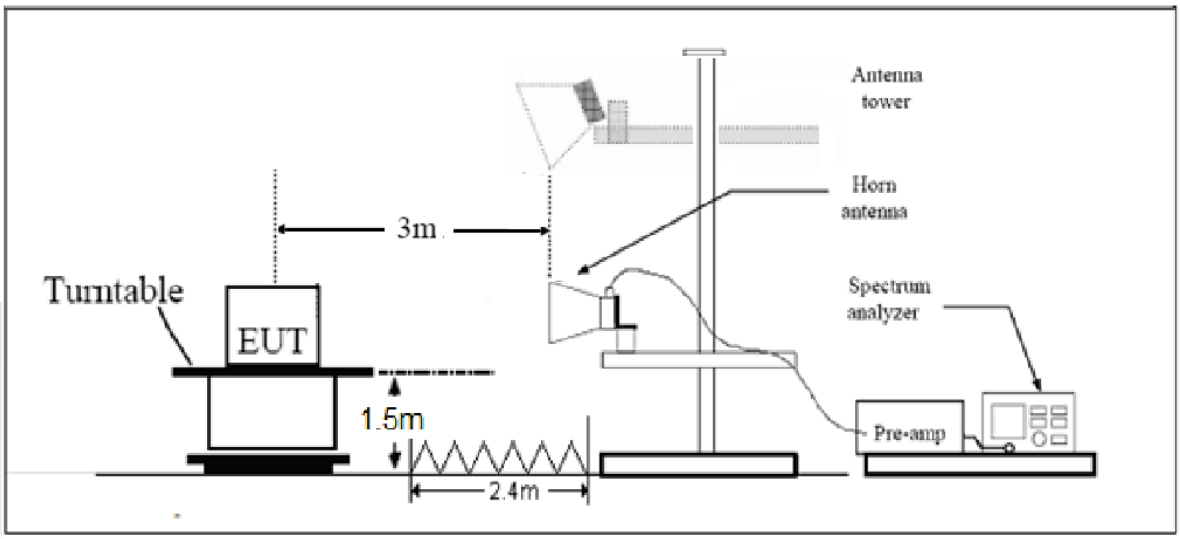
9KHz~~~30MHz



30MHz~~~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Limits

(1) For transmitters operating in the 5725-5850 MHz band: 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.

(2) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

(3) 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 e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

(4) 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 e.i.r.p. of −27 dBm/MHz(68.2dBμV/m).

Note: the following formula is used to convert the EIRP to field strength

§1、E[dBμV/m] = EIRP[dBm] - 20 log(d[meters]) + 104.77, where E = field strength and

d = distance at which field strength limit is specified in the rules;

§2、E[dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters

(5) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table.

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
0.009–0.490	2400/F(kHz)	/
0.490–1.705	24000/F(kHz)	/
1.705–30.0	30	/
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 1.96.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.17 dB
200MHz-1GHz	4.84 dB
1-18GHz	4.35 dB
18-26.5GHz	5.90 dB
26.5GHz~40GHz	5.92 dB

Test Results:

The modulation and bandwidth are similar for 802.11n mode for 20MHz/40MHz and 802.11ac mode for V20MHz/V40MHz, therefore investigated worst case to representative mode in test report.

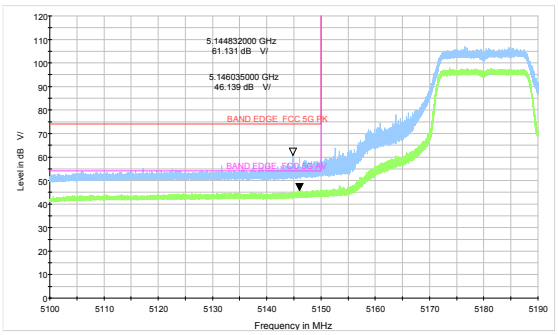
A font (Level in dB礦/m)in the test plot =(level in dB μ V/m)

A font (Level in dBμV/)in the test plot =(level in dB μ V/m)

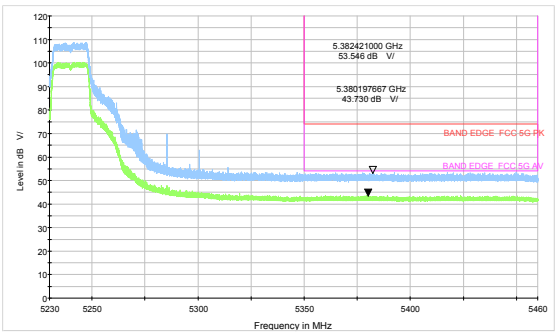
The signal beyond the limit is carrier.

U-NII-1

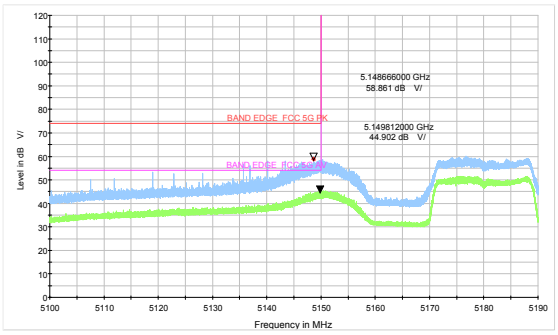
802.11a-Channel 36: Peak + Average



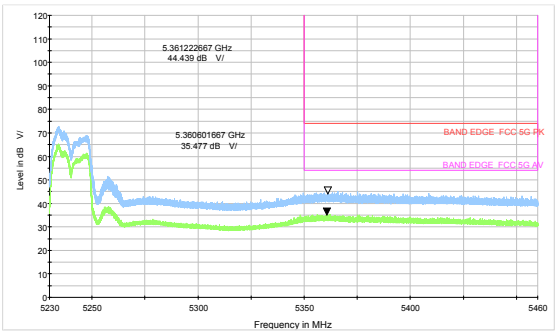
802.11a-Channel 48: Peak + Average



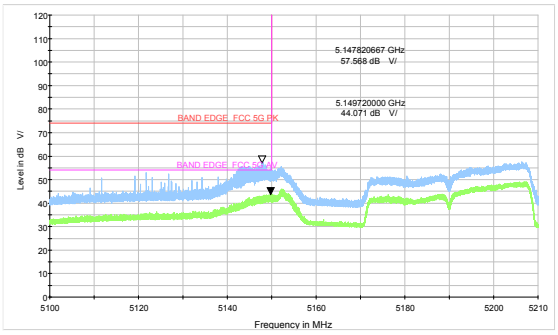
802.11ac VHT20 -Channel 36: Peak + Average



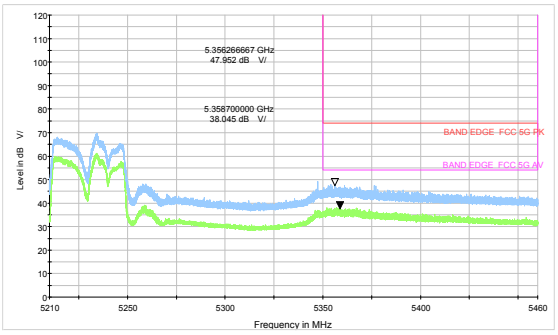
802.11ac VHT20 -Channel 48: Peak + Average



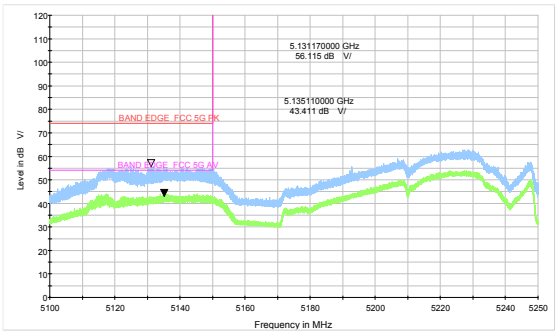
802.11ac VHT40-Channel 38: Peak + Average



802.11ac VHT40-Channel 46: Peak + Average

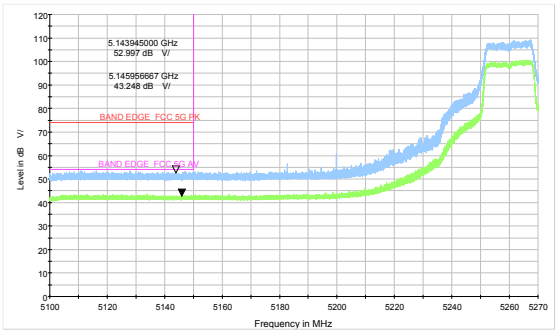


802.11ac VHT80 –Channel 42: Peak + Average

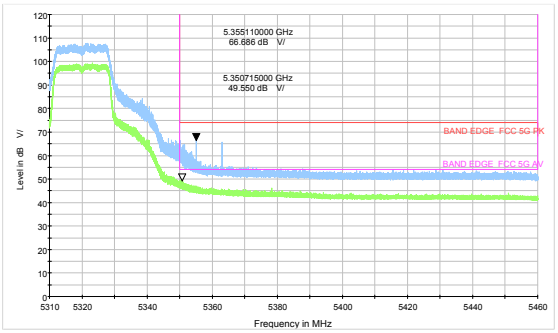


U-NII-2A

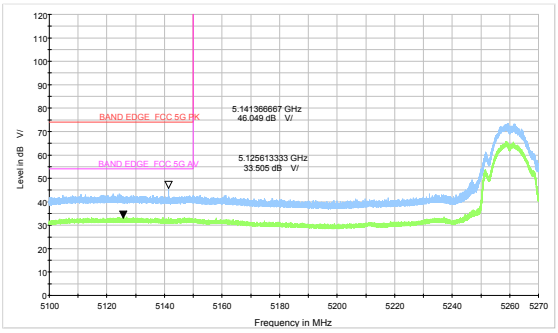
802.11a-Channel 52: Peak + Average



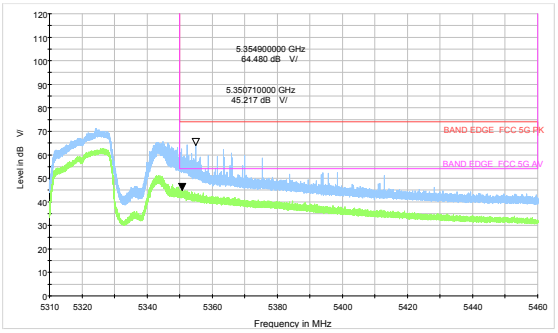
802.11a-Channel 64: Peak + Average



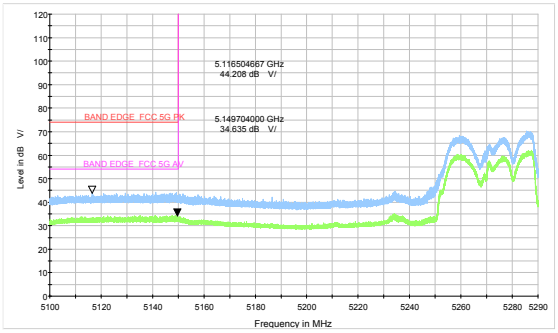
802.11ac VHT20 -Channel 52: Peak + Average



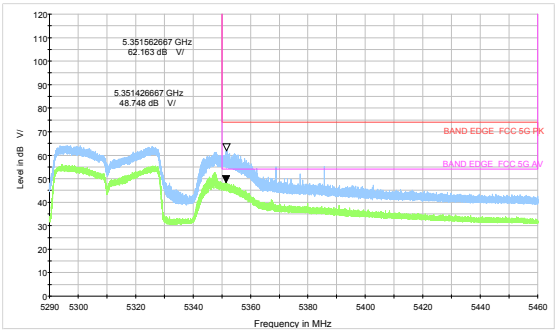
802.11ac VHT20 -Channel 64: Peak + Average



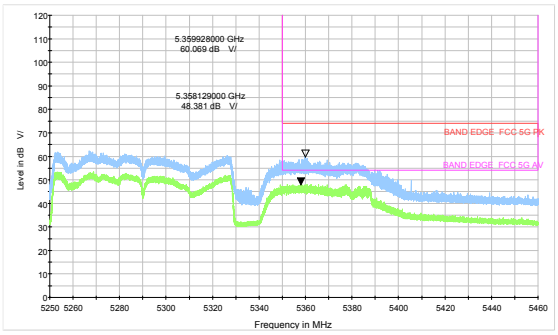
802.11ac VHT40-Channel 54: Peak + Average



802.11ac VHT40-Channel 62: Peak + Average

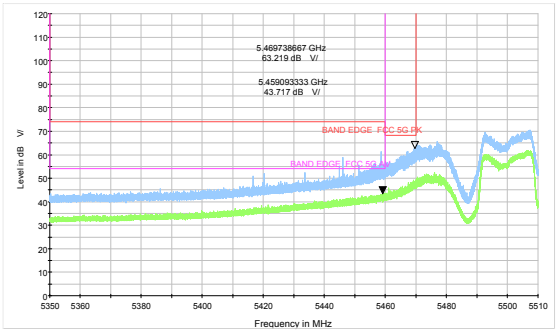


802.11ac VHT80 –Channel 58: Peak + Average

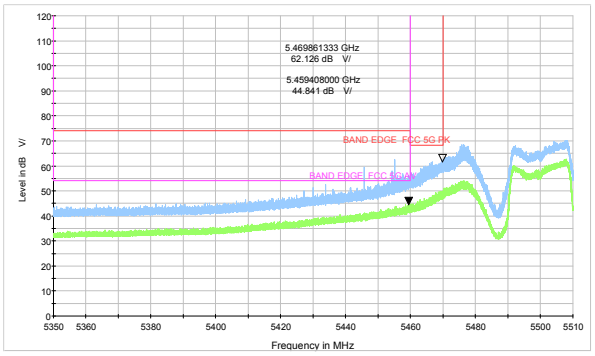


U-NII-2C

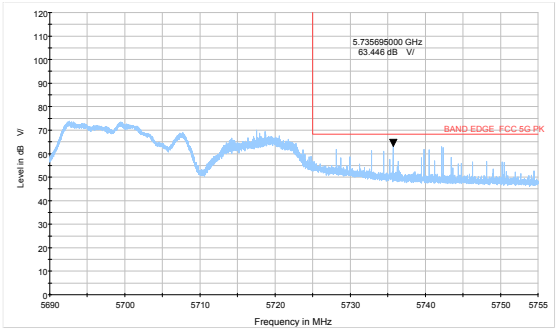
802.11a-Channel 100: Peak + Average



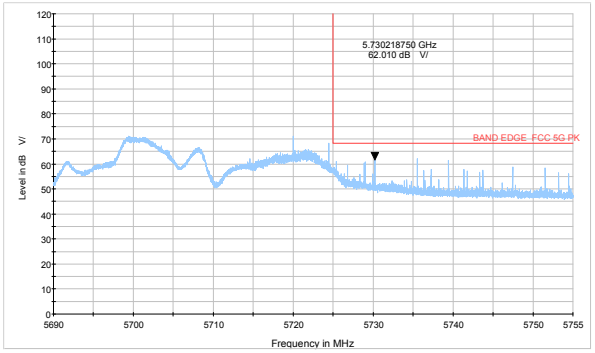
802.11ac VHT20 -Channel 100: Peak + Average



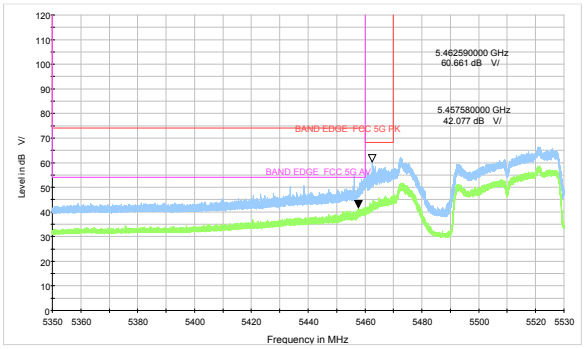
802.11a-Channel 140: Peak



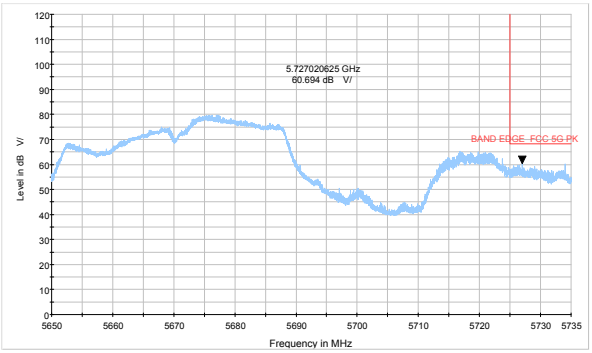
802.11ac VHT20 -Channel 140: Peak



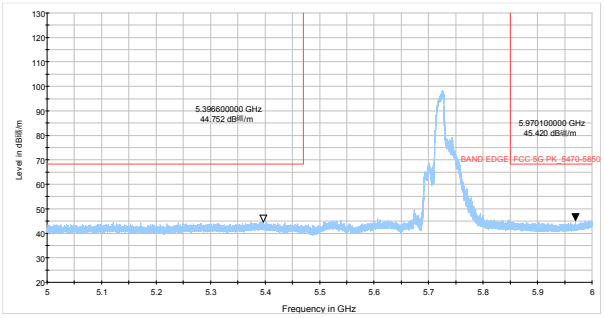
802.11ac VHT40-Channel 102: Peak + Average



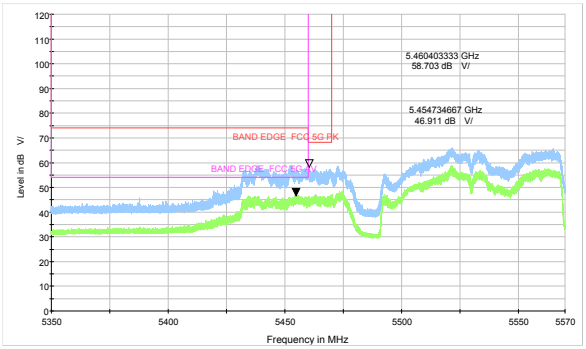
802.11ac VHT40-Channel 134: Peak + Average



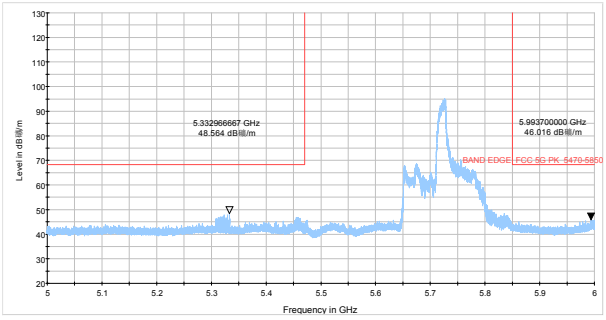
802.11ac VHT40-Channel 142: Peak



802.11ac VHT80 –Channel 106: Peak + Average

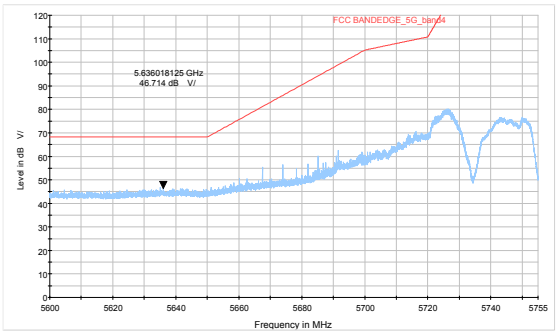


802.11ac VHT80 –Channel 138: Peak

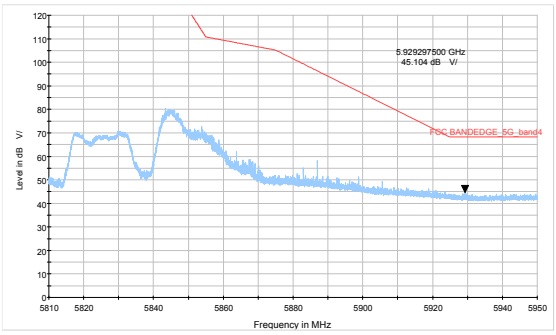


U-NII-3

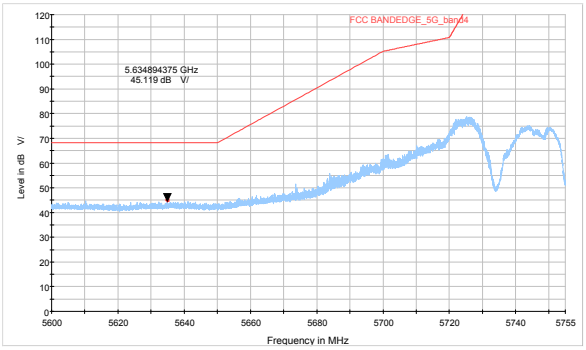
802.11a-Channel 149: Peak



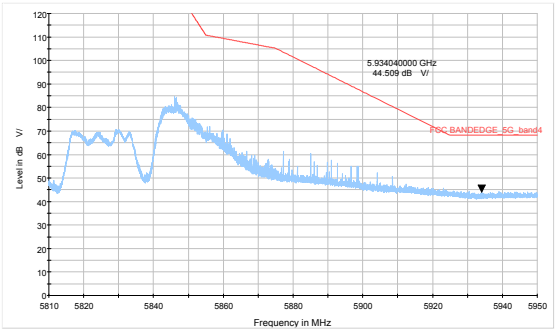
802.11a-Channel 165: Peak



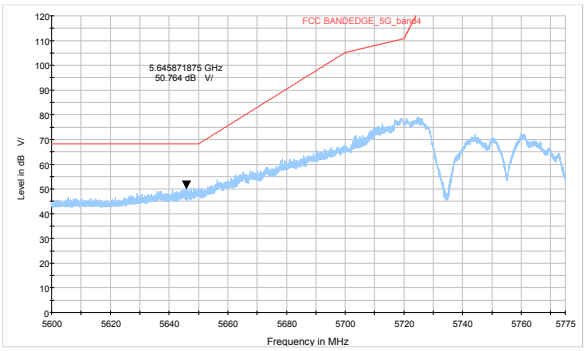
802.11ac VHT20-Channel 149: Peak



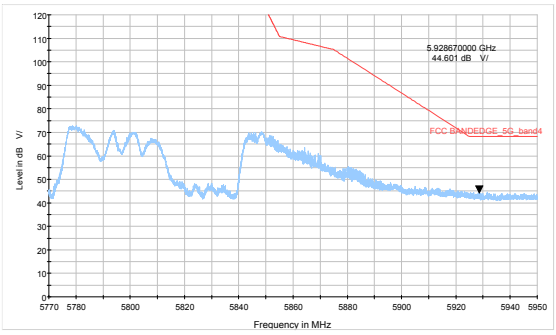
802.11ac VHT20-Channel 165: Peak



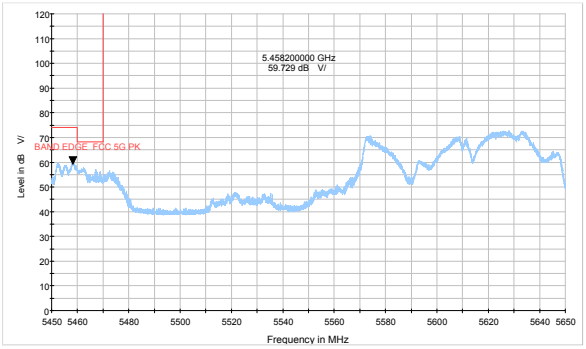
802.11ac VHT40-Channel 151: Peak



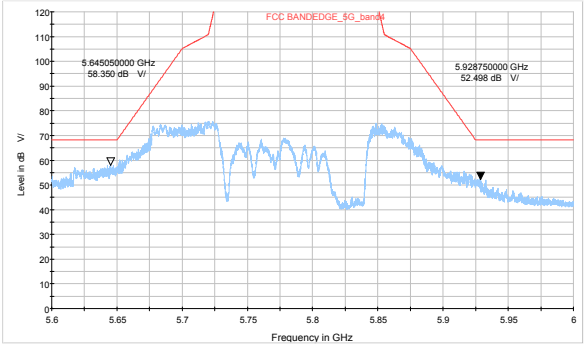
802.11ac VHT40-Channel 159: Peak



802.11ac VHT80- Channel 122: Peak



802.11ac VHT80- Channel 155: Peak



Result of RE

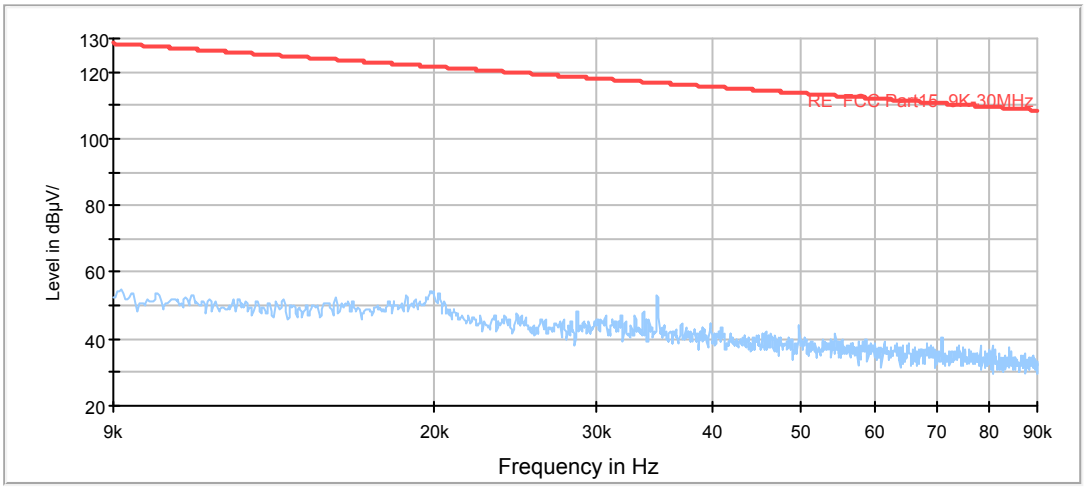
Test result

A font (Level in dBµV/)in the test plot =(level in dB µ V/m)

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, 802.11a, Channel 64 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

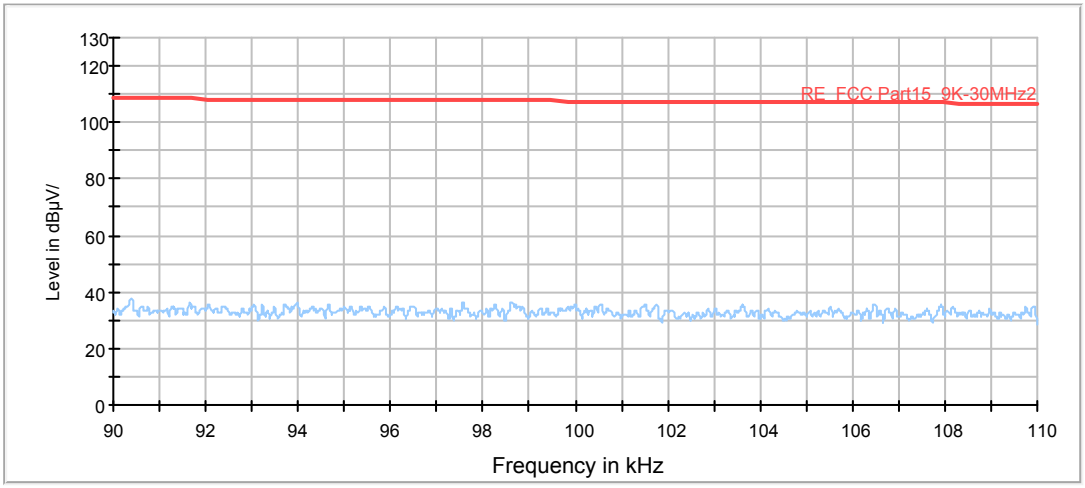
Continuous TX mode:

FCC RE 9K-90KHz AV



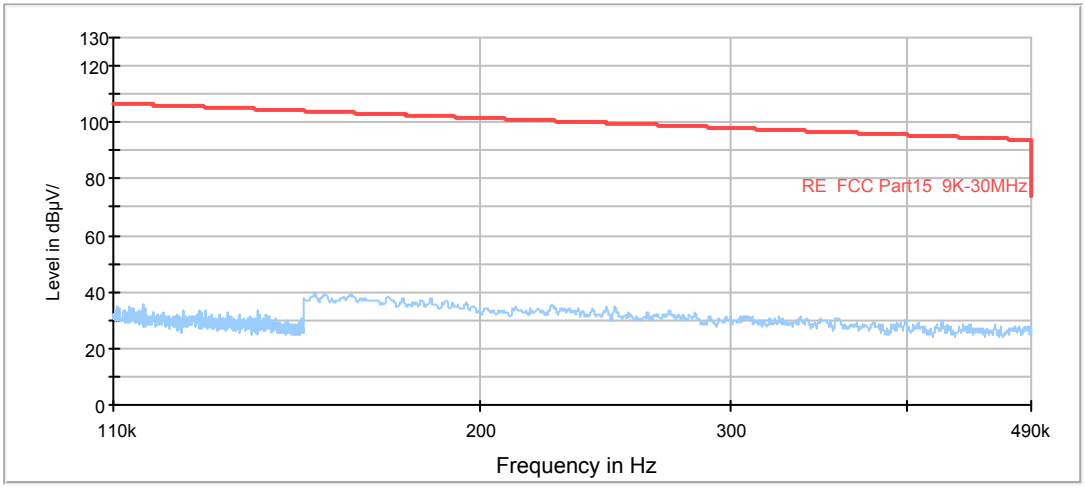
Radiates Emission from 9KHz to 90KHz

FCC RE 90K-110KHz QP



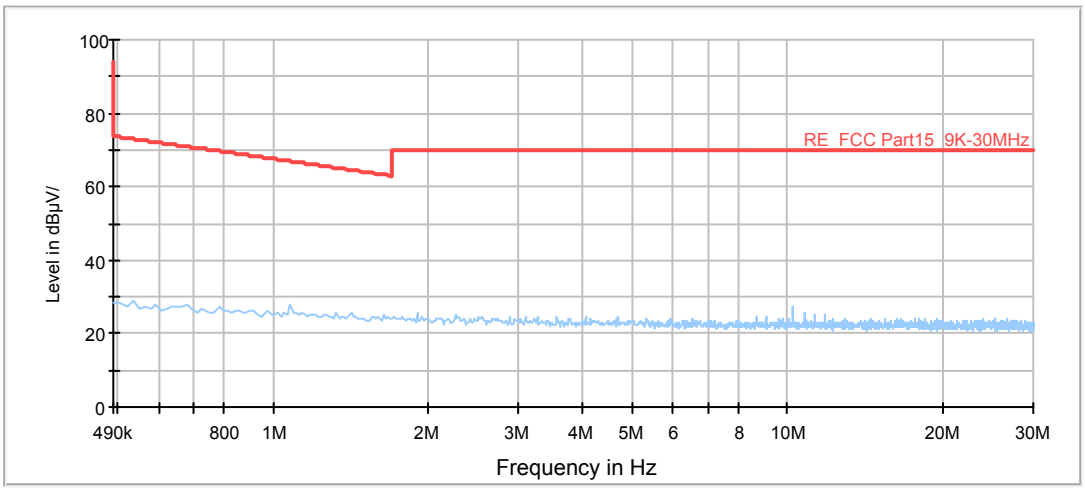
Radiates Emission from 90KHz to 110KHz

FCC RE 110K-490KHz AV

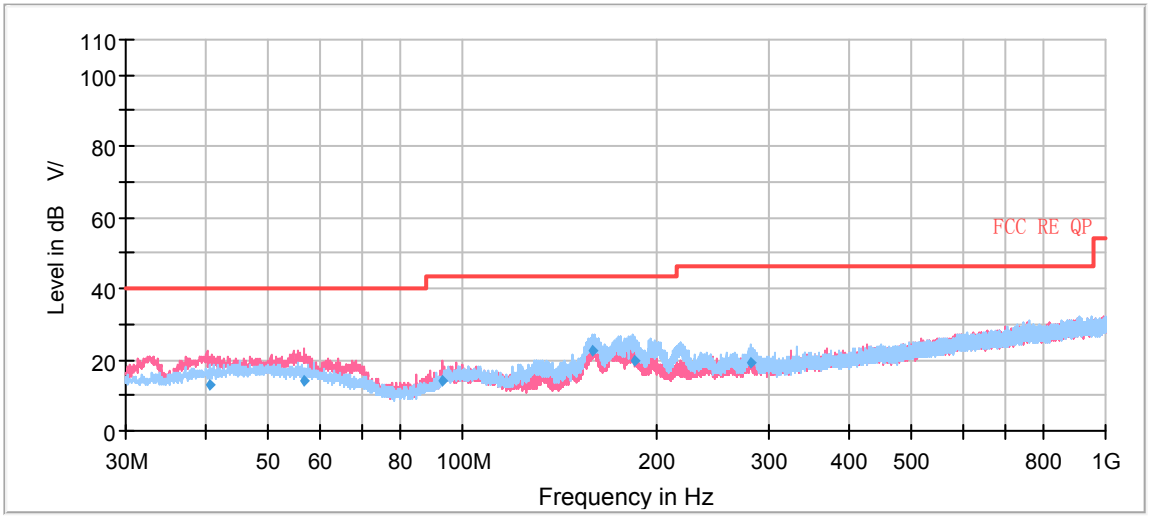


Radiates Emission from 110KHz to 490KHz

FCC RE 490K-30MHz QP



Radiates Emission from 490KHz to 30MHz



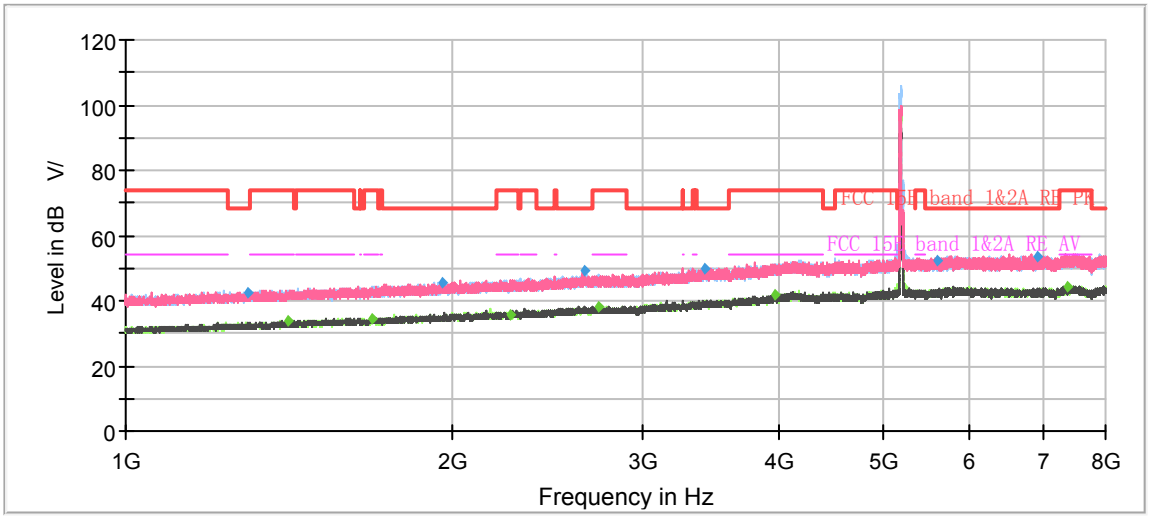
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
40.600333	12.86	185.0	V	206.0	20	27.14	40.00
56.819667	14.38	100.0	V	41.0	20	25.62	40.00
93.381000	14.07	100.0	V	161.0	17	29.43	43.50
159.642333	22.77	175.0	H	222.0	15	20.73	43.50
184.759333	19.65	184.0	H	65.0	17	23.85	43.50
281.521000	19.00	109.0	H	68.0	20	27.00	46.00

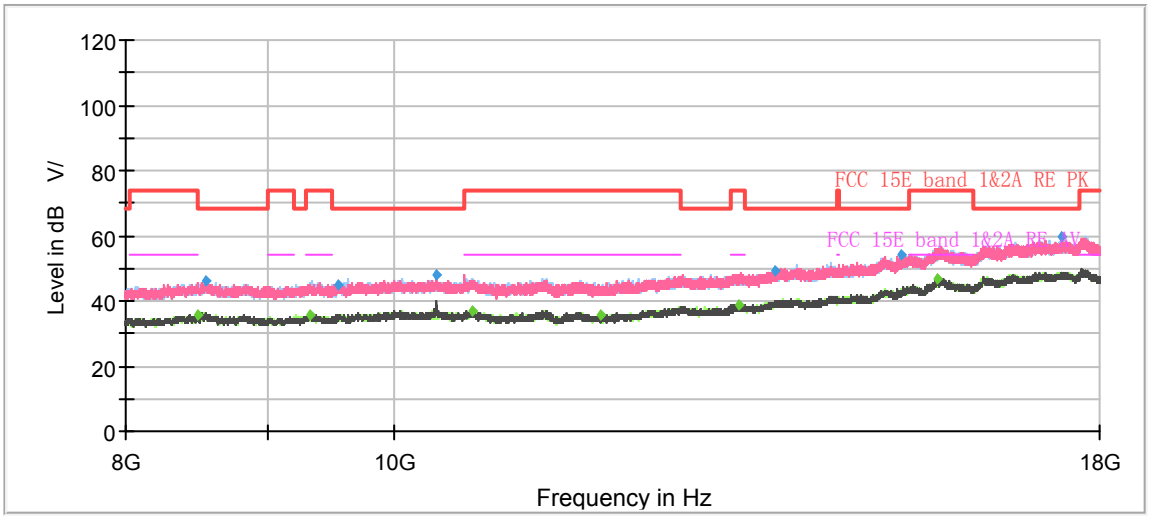
Remark: 1. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)

2. Margin = Limit – Quasi-Peak

802.11a CH36



Radiates Emission from 1GHz to 8GHz



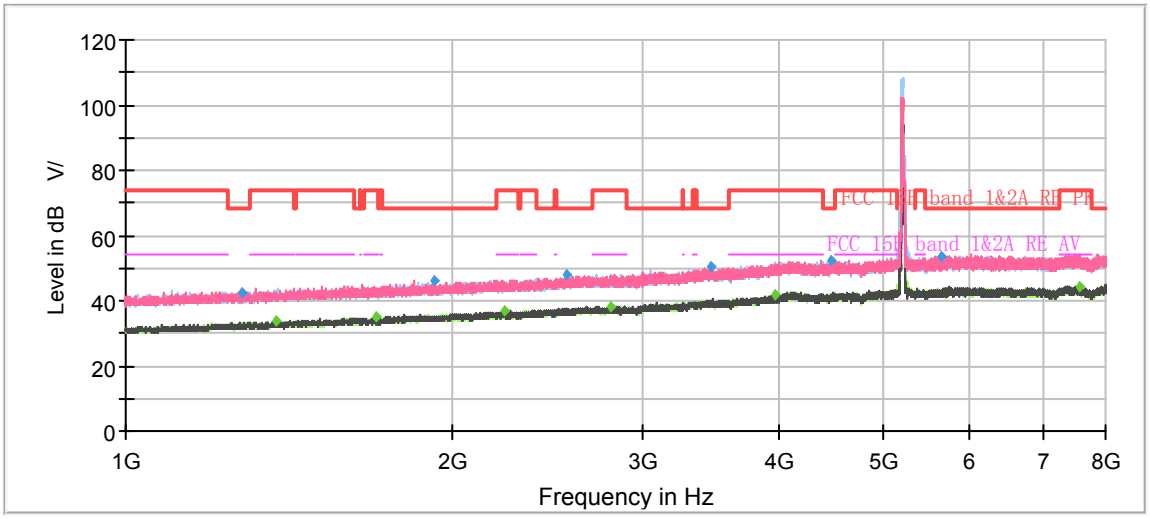
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

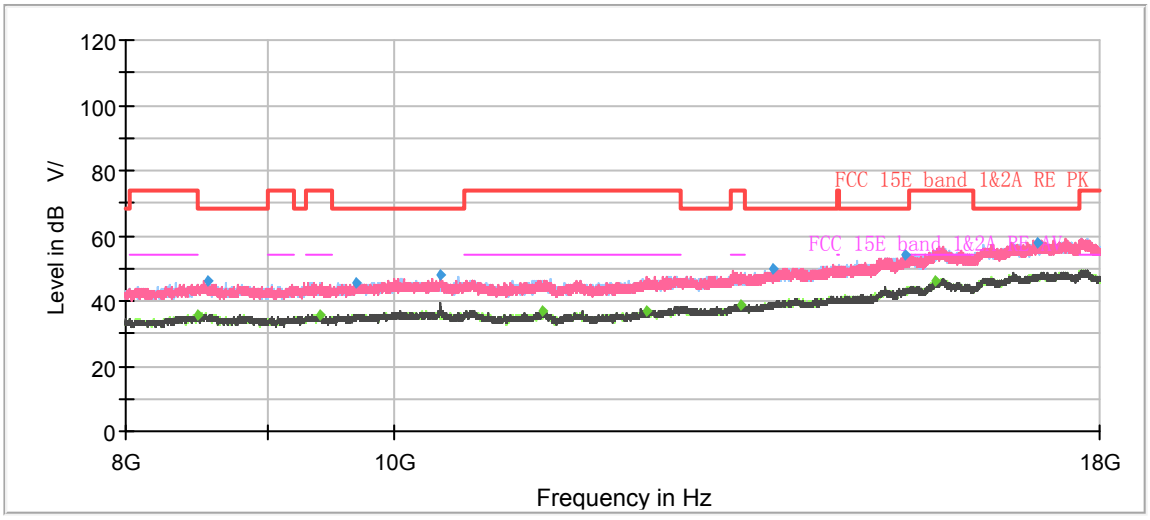
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1294.933333	42.73	---	68.20	25.47	100.0	H	68.0	-7
1414.166667	---	33.78	54.00	20.22	100.0	H	174.0	-6
1686.233333	---	34.67	54.00	19.33	100.0	V	233.0	-5
1958.300000	45.77	---	68.20	22.43	200.0	H	270.0	-3
2258.133333	---	35.45	54.00	18.55	200.0	H	209.0	-2
2652.466667	48.98	---	68.20	19.22	200.0	H	170.0	0
2725.966667	---	38.02	54.00	15.98	200.0	H	255.0	1
3412.200000	50.13	---	68.20	18.07	100.0	V	233.0	4
3962.633333	---	41.85	54.00	12.15	100.0	H	196.0	6
5599.233333	52.54	---	68.20	15.66	200.0	V	21.0	10
6918.033333	53.76	---	68.20	14.44	200.0	H	86.0	11
7371.400000	---	44.37	54.00	9.63	200.0	H	209.0	11

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11a CH40



Radiates Emission from 1GHz to 8GHz



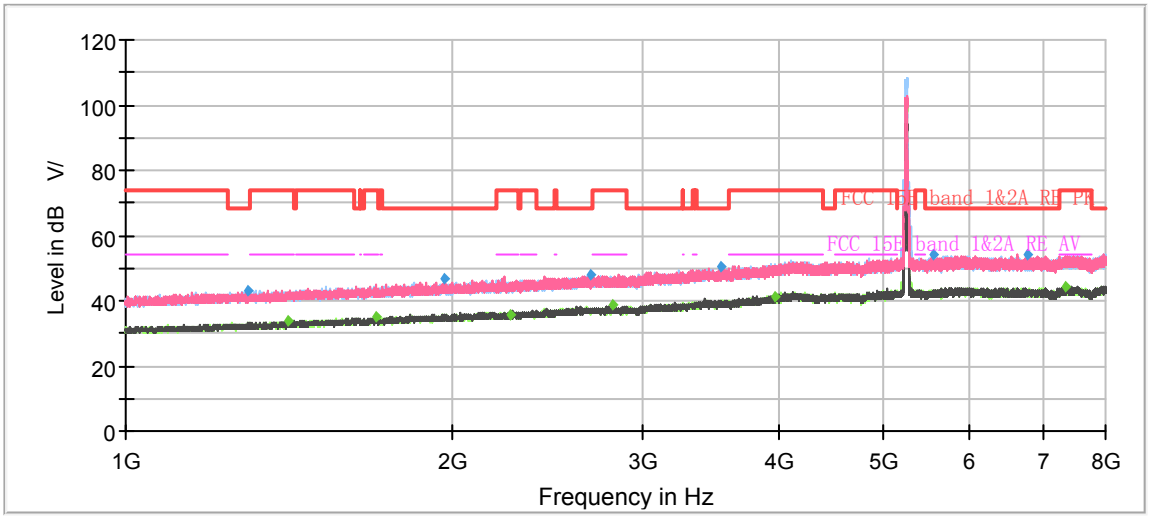
Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

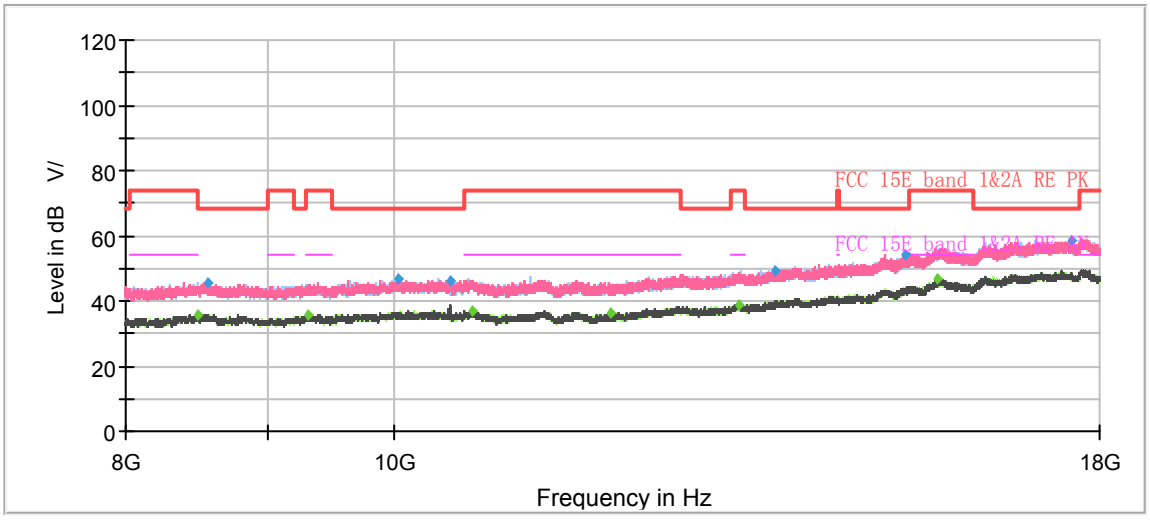
Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1281.866667	42.44	---	68.20	25.76	100.0	V	261.0	-7
1377.533333	---	33.74	54.00	20.26	100.0	H	173.0	-6
1700.233333	---	34.78	54.00	19.22	200.0	H	263.0	-5
1921.900000	46.14	---	68.20	22.06	100.0	V	145.0	-3
2238.066667	---	36.88	54.00	17.12	200.0	V	85.0	-2
2550.500000	48.21	---	68.20	19.99	200.0	V	77.0	0
2796.200000	---	38.05	54.00	15.95	200.0	H	330.0	1
3458.866667	50.16	---	68.20	18.04	200.0	H	164.0	4
3957.733333	---	41.69	54.00	12.31	100.0	V	224.0	6
4469.433333	52.21	---	68.20	15.99	200.0	V	145.0	7
5654.533333	53.60	---	68.20	14.60	200.0	H	263.0	10
7566.000000	---	44.39	54.00	9.61	200.0	H	308.0	11

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)

802.11a CH48



Radiates Emission from 1GHz to 8GHz



Note: The signal beyond the limit is carrier.

Radiates Emission from 8GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
1297.500000	43.12	---	68.20	25.08	200.0	V	30.0	-7
1410.200000	---	33.69	54.00	20.31	200.0	V	53.0	-6
1701.866667	---	34.79	54.00	19.21	100.0	V	102.0	-5
1964.133333	46.48	---	68.20	21.72	200.0	V	173.0	-3
2262.333333	---	35.84	54.00	18.16	200.0	V	128.0	-2
2680.000000	48.23	---	68.20	19.97	200.0	H	255.0	0
2812.300000	---	38.61	54.00	15.39	100.0	V	335.0	1
3536.566667	50.44	---	68.20	17.76	100.0	V	276.0	4
3970.333333	---	41.43	54.00	12.57	200.0	H	232.0	6
5554.900000	54.01	---	68.20	14.19	100.0	H	248.0	10
6786.200000	53.88	---	68.20	14.32	200.0	V	120.0	10
7354.133333	---	44.37	54.00	9.63	100.0	H	248.0	11

Remark: 1. Correction Factor = Antenna factor+ Insertion loss (cable loss + amplifier gain)