6.3.4 Test Result

Test Mode	Data rate	DCF [dB]	Band	Frequency [MHz]	Avg Power [dBm]	Max Output Power [dBm]	Limit [dBm]	Margin [dB]
802.11a SISO	6 Mbps	0.39	UNII 1	5 180	-6.45	-6.06	23.98	30.04
				5 220	-8.00	-7.61	23.98	31.59
				5 240	-7.76	-7.37	23.98	31.35
802.11n(HT20) SISO	MCS0	0.40	UNII 1	5 180	-7.96	-7.56	23.98	31.54
				5 220	-8.15	-7.75	23.98	31.73
				5 240	-7.99	-7.59	23.98	31.57
802.11n(HT40) SISO	MCS0	0.81	UNII 1	5 190	-7.94	-7.13	23.98	31.11
				5 230	-8.21	-7.40	23.98	31.38
802.11ac(VHT20) SISO	MCS0	0.87	UNII 1	5 180	-7.04	-6.17	23.98	30.15
				5 220	-8.19	-7.32	23.98	31.30
				5 240	-8.35	-7.48	23.98	31.46
802.11ac(VHT40) SISO	MCS0	0.73	UNII 1	5 190	-8.03	-7.30	23.98	31.28
				5 230	-8.22	-7.49	23.98	31.47

- The results are measured by Peak/average Power meter & Sensor.

6.4 Power Spectral Density

6.4.1 Regulation

§15.407(a)(1)(iv) : 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.

§15.407(a)(2) : For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. 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.

§15.407(a)(3) : For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

6.4.2 Test Procedure

Method SA-1 uses trace averaging with the EUT transmitting at full power throughout each sweep. The procedure for this method is as follows:

a) Set span to encompass the entire 26 dB EBW or 99% OBW of the signal.
b) Set RBW = 1 MHz.(500 kHz in case of U-NII 3)
c) Set VBW ≥ 3 MHz.
d) Number of points in sweep ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
e) Sweep time = auto.
f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
g) If transmit duty cycle < 98%, use a video trigger with the trigger level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no OFF intervals) or at duty cycle ≥ 98%, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run.”
h) Trace average at least 100 traces in power averaging (rms) mode.
i) Compute power by integrating the spectrum across the 26 dB EBW or 99% OBW of the signal using the instrument’s band power measurement function, with band limits set equal to the EBW or OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 26 dB EBW or 99% OBW of the spectrum.

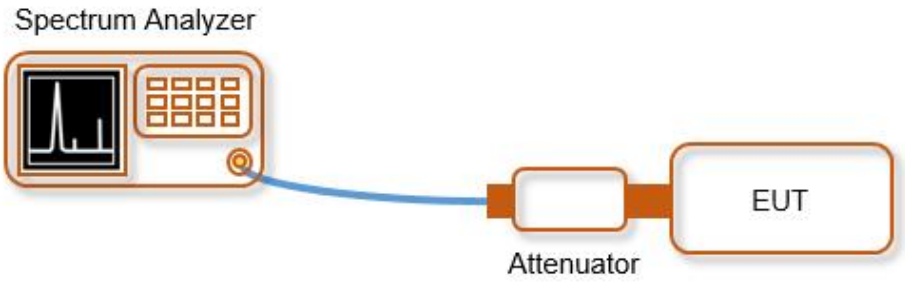
Method SA-2 uses trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction. The procedure for this method is as follows:

a) Set span to encompass the entire 26 dB EBW or 99% OBW of the signal.
b) Set RBW = 1 MHz.(500 kHz in case of U-NII 3)
c) Set VBW ≥ 3 MHz.
d) Number of points in sweep ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
e) Sweep time = auto.
f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
g) Do not use sweep triggering. Allow the sweep to "free run."
h) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
i) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
j) Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add 10 log (1/0.25) = 6 dB if the duty cycle is 25%.

Method SA-3 uses power averaging (rms) detection with max hold. The procedure for this method is as follows:

a) Set span to encompass the entire 26 dB EBW or 99% OBW of the signal.
b) Set sweep trigger to "free run."
c) Set RBW = 1 MHz.(500 kHz in case of U-NII 3)
d) Set VBW ≥ 3 MHz.
e) Number of points in sweep ≥ [2 × span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.)
f) Sweep time ≤ (number of points in sweep) × T, Note: If this results in a sweep time less than the auto sweep time of the analyzer, Method SA-3 Alternative shall not be used. (The purpose of this step is to ensure that averaging time in each bin is less than or equal to the minimum time of a transmission.)
g) Detector = power averaging (rms).
h) Trace mode = max hold.
i) Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
j) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the spectrum.

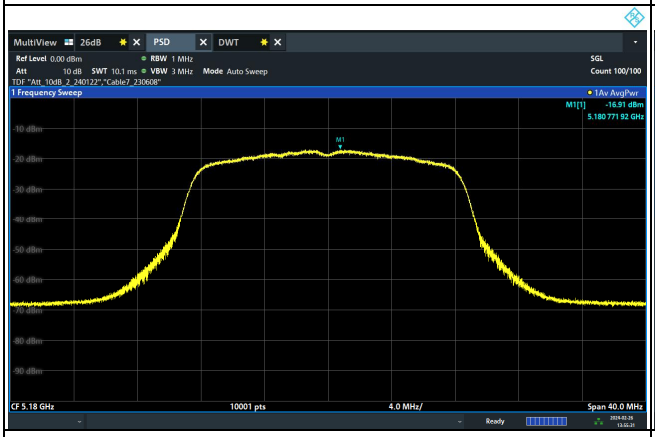
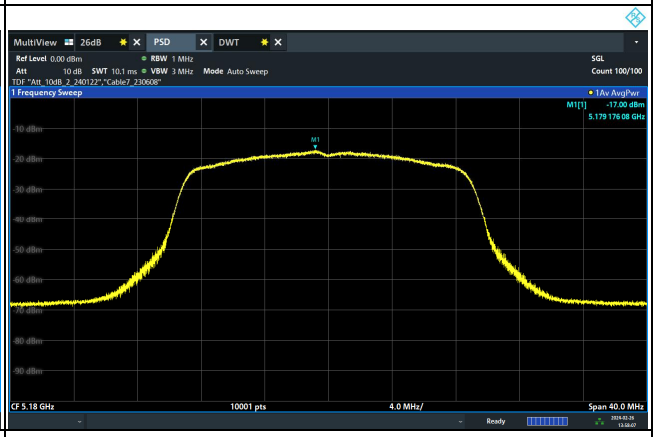
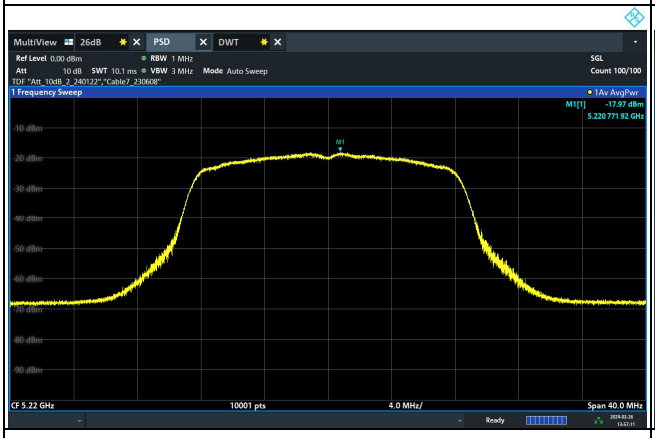
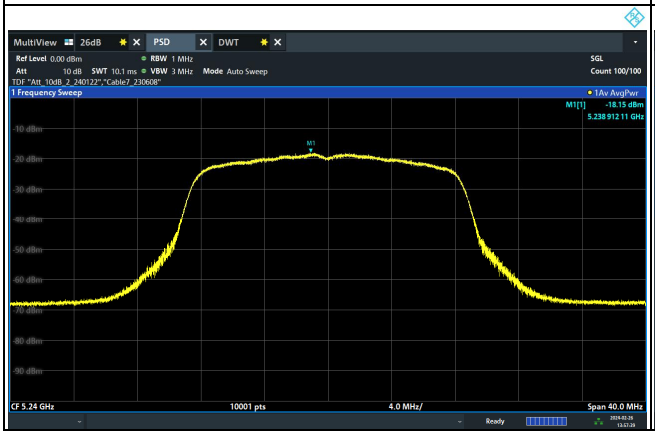
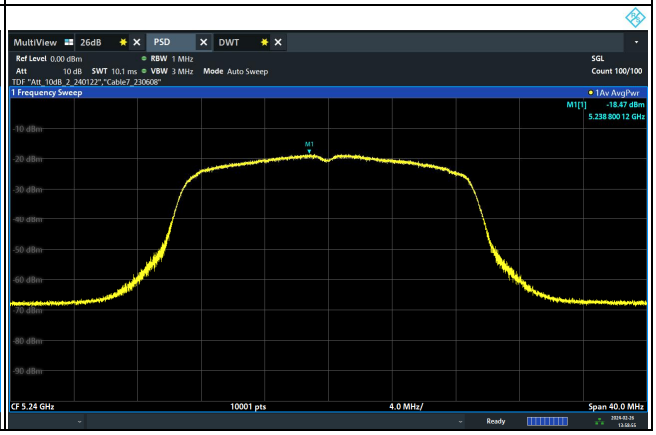
6.4.3 Test Setup

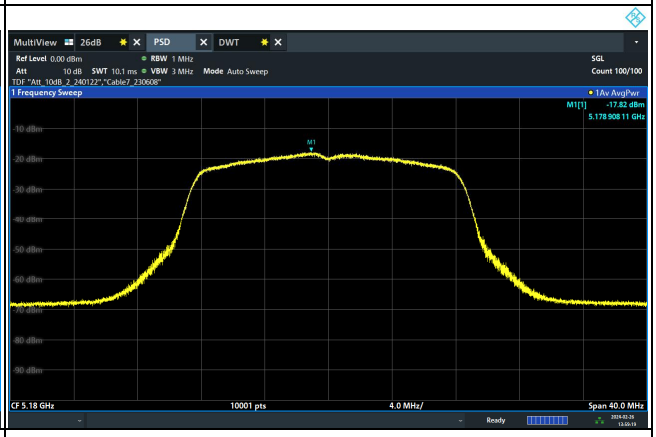
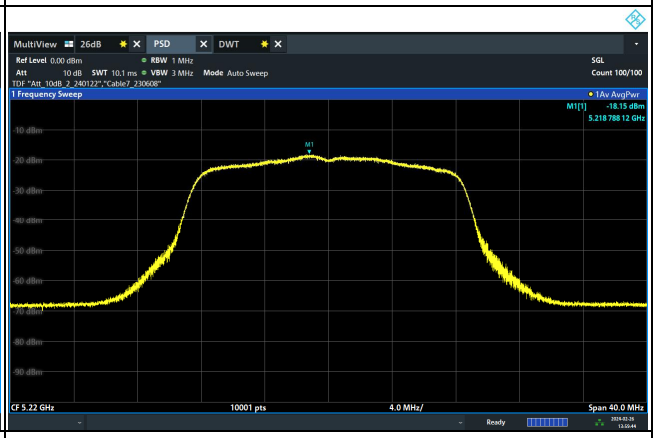
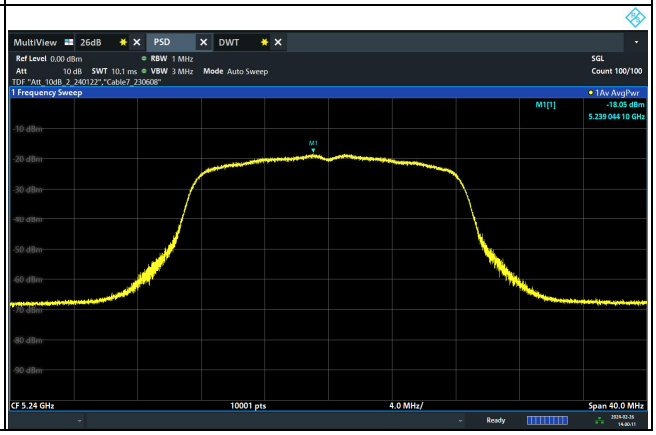


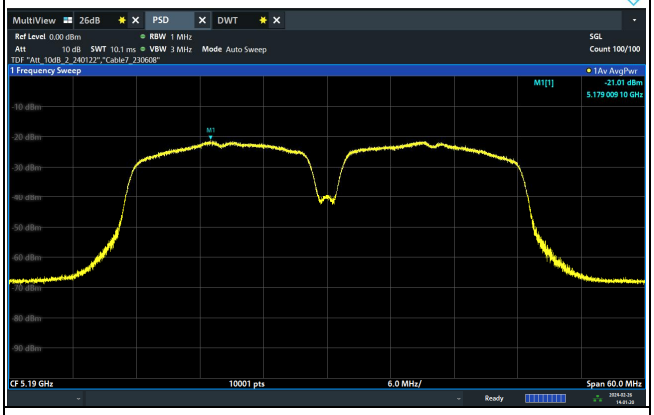
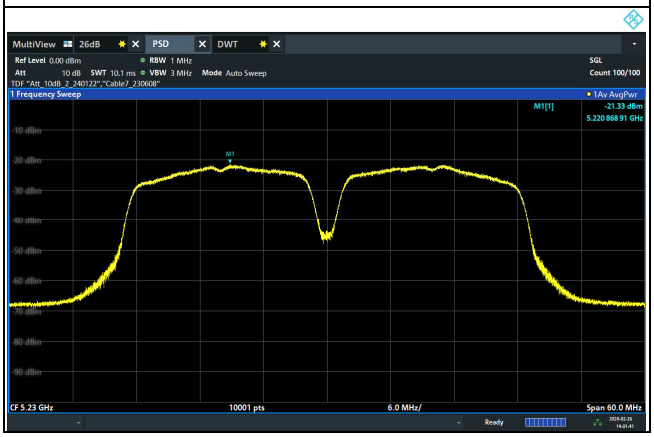
6.4.4 Test Result

Test Mode	Data rate	DCF [dB]	Band	Frequency [MHz]	Measred PSD [dBm/MHz]	PSD Result [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]
802.11a SISO	6 Mbps	0.39	UNII 1	5 180	-16.91	-16.52	11.00	27.52
				5 220	-17.97	-17.58	11.00	28.58
				5 240	-18.15	-17.76	11.00	28.76
802.11n(HT20) SISO	MCS0	0.40	UNII 1	5 180	-17.00	-16.60	11.00	27.60
				5 220	-18.26	-17.86	11.00	28.86
				5 240	-18.47	-18.07	11.00	29.07
802.11n(HT40) SISO	MCS0	0.81	UNII 1	5 190	-20.80	-19.99	11.00	30.99
				5 230	-21.51	-20.70	11.00	31.70
802.11ac(VHT20) SISO	MCS0	0.87	UNII 1	5 180	-17.82	-16.95	11.00	27.95
				5 220	-18.15	-17.28	11.00	28.28
				5 240	-18.05	-17.18	11.00	28.18
802.11ac(VHT40) SISO	MCS0	0.73	UNII 1	5 190	-21.01	-20.28	11.00	31.28
				5 230	-21.33	-20.60	11.00	31.60

Test Plot of Power Spectral Density

UNII 1	
802.11a	**802.11n(HT20)**
5 180 MHz	**5 180 MHz**
	
5 220 MHz	**5 220 MHz**
	
5 240 MHz	**5 240 MHz**
	

UNII 1	
802.11n(HT40)	**802.11ac(VHT20)**
5 190 MHz	**5 180 MHz**
	
5 230 MHz	**5 220 MHz**
	
-	**5 240 MHz**
-	

UNII 1
802.11ac(VHT40)
5 190 MHz

5 230 MHz


6.5 Spurious Emission, Band edge and Restricted Bands

6.5.1 Regulation

§15.407(b) : Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum 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 e.i.r.p. of −27 dBm/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 e.i.r.p. of −27 dBm/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 e.i.r.p. of −27 dBm/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.
  (ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

§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 (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permItted under other sections of this part, e.g., §§15.231 and 15.241.

§15.205(a) : Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

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			

1Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

2Above 38.6

§15.205 (b) : Except as provided in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

6.5.2 Test Procedure

Spurious Radiated Emissions

1. The preliminary radiated measurement were performed to determine the frequency producing the maximum emissions in an semi-anechoic chamber at a distance of 3 meters.
2. The EUT was placed on the top of the 0.8-meter height, 1 x 1.5 meter non-metallic table. To find the maximum emission levels, the height of a measuring antenna was changed and the turntable was rotated 360º.
3. The antenna polarization was also changed from vertical to horizontal. The spectrum was scanned from 9 kHz to 30 MHz using the loop antenna, and from 30 to 1000 MHz using the Bi-Log antenna, and from 1000 MHz to 40000 MHz using the horn antenna.
4. To obtain the final measurement data, the EUT was arranged on a turntable situated on a 4 x 4 meter in an semi-anechoic chamber. The EUT was tested at a distance 3 meters.
5. Each frequency found during preliminary measurements was re-examined and investigated. The test-receiver system was set up to average, peak, and quasi-peak detector fuction with specified bandwidth.
6. The 0.8 m height is for below 1 GHz testing, and 1.5 m is for above 1GHz testing.

Procedure for unwanted emissions maximum measurements above 1 000 MHz

The procedure for peak unwanted emissions measurements above 1000 MHz is as follows:

a) Peak emission levels are measured by setting the instrument as follows:
   1) RBW = 1 MHz
   2) VBW ≥ [3 × RBW]
   3) Detector = peak
   4) Sweep time = auto
   5) Trace mode = max hold
   6) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, then the time required for the trace to stabilize will increase by a factor of approximately 1 / D, where D is the duty cycle. For example, at 50% duty cycle, the measurement time will increase by a factor of two, relative to measurement time for continuous transmission.

b) In case of bandedge measurement, follow the procedure a) except for the following changes:
   1) RBW = 100 kHz
   2) VBW ≥ [3 × RBW]
   3) Perform a band-power integration across the 1 MHz bandwidth in which the bandedge emission level is to be measured.
   CAUTION: You must ensure that the spectrum analyzer or EMI receiver is set for peak-detection and max-hold for this measurement.

Procedure for average unwanted emissions measurements above 1 000 MHz

a) The procedure for method AD is as follows: Primary method

   1) RBW = 1 MHz.
   2) VBW ≥ [3 × RBW].
   3) Detector = RMS (power averaging), if [span / (# of points in sweep)] ≤ RBW / 2. Satisfying this condition can require increasing the number of points in the sweep or reducing the span. If the condition is not satisfied, then the detector mode shall be set to peak.
   4) 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.)
   5) Sweep time = auto.
   6) 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.)
   7) 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:
      - 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.

- 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.
- 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.

b) The procedure for method VB is as follows: Alternative method

1) RBW = 1 MHz.
2) VBW
   - If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW ≤ RBW/100 (i.e., 10 kHz) but not less than 10 Hz.
   - If the EUT duty cycle is < 98%, set VBW ≥ 1/T
3) Video bandwidth mode or display mode
   - The instrument shall be set to ensure that video filtering is applied in the power domain. Typically, this requires setting the detector mode to rms and setting the Average-VBW Type to power averaging (rms).
   - As an alternative, the analyzer may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some analyzers require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode.
4) Detector = Peak
5) Sweep time = auto
6) Trace mode = max hold
7) Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98% duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of 1/D, where D is the duty cycle. For example, use at least 200 traces if the duty cycle is 25%. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—rather than turning on and off with the transmit cycle, at least 50 traces shall be averaged.)

c) In case of bandedge measurement, follow the procedure a) except for the following changes:
1) RBW = 100 kHz
2) VBW ≥ [3 × RBW]
3) Perform a band-power integration across the 1 MHz bandwidth in which the bandedge emission level is to be measured.

Procedure for unwanted emissions measurements below 1 000 MHz

a) The procedure for unwanted emissions measurements below 1 000 MHz is as follows:
1) Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2) RBW =

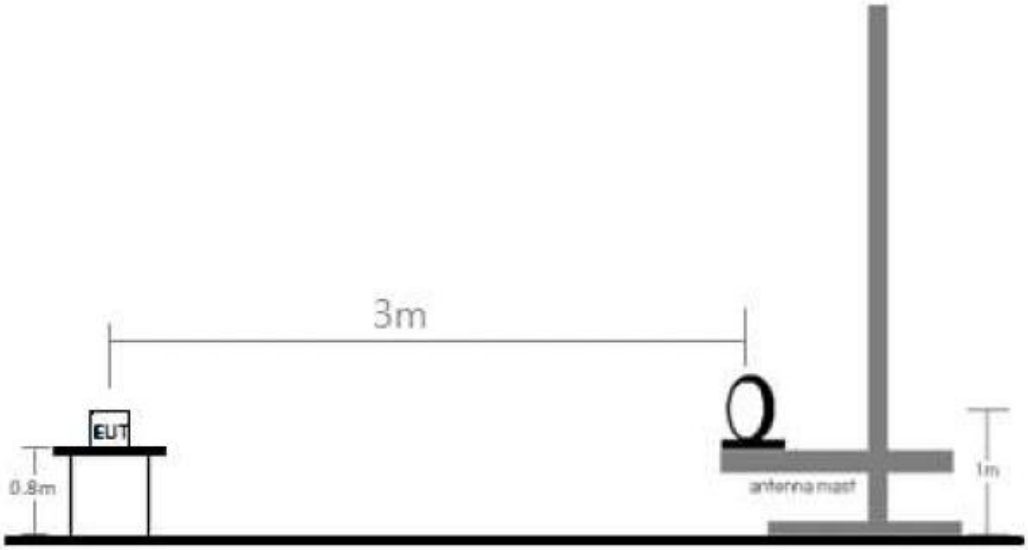
Frequency	RBW
9 kHz to 150 kHz	200 Hz to 300 Hz
0.15 MHz to 30 MHz	9 kHz to 10 kHz
30 MHz to 1000 MHz	100 kHz to 120 kHZ

3) Detector = CISPR Quasi-peak
4) Sweep time = auto couple
5) Compliance shall be determined using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.

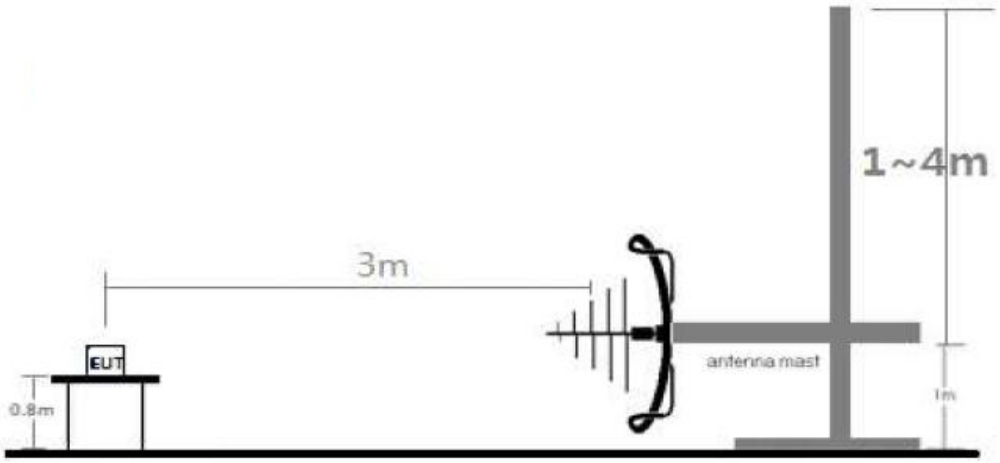
- Sample Calculation

- Field Strength Level [dBμV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m] + Duty Cycle Correction [dB]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable loss [dB]
- Margin [dB] = Field Strength Level [dBμV/m] – Limit [dBμV/m]

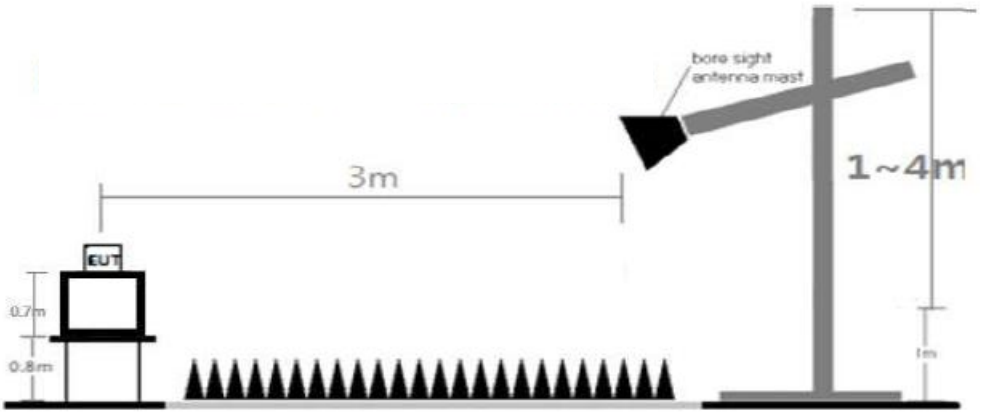
6.5.3 Test Setup

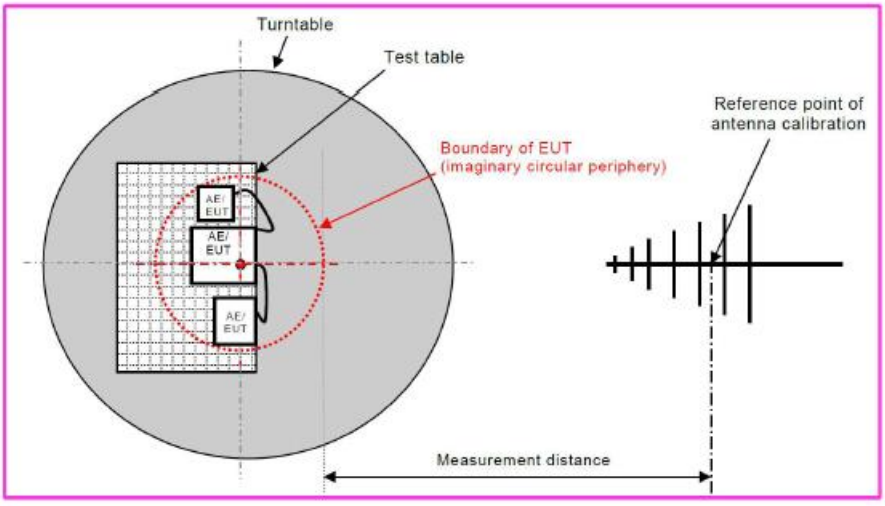


[Radiated Emission Test Setup Below 30 MHz]



[Radiated Emission Test Setup Below 1 GHz]



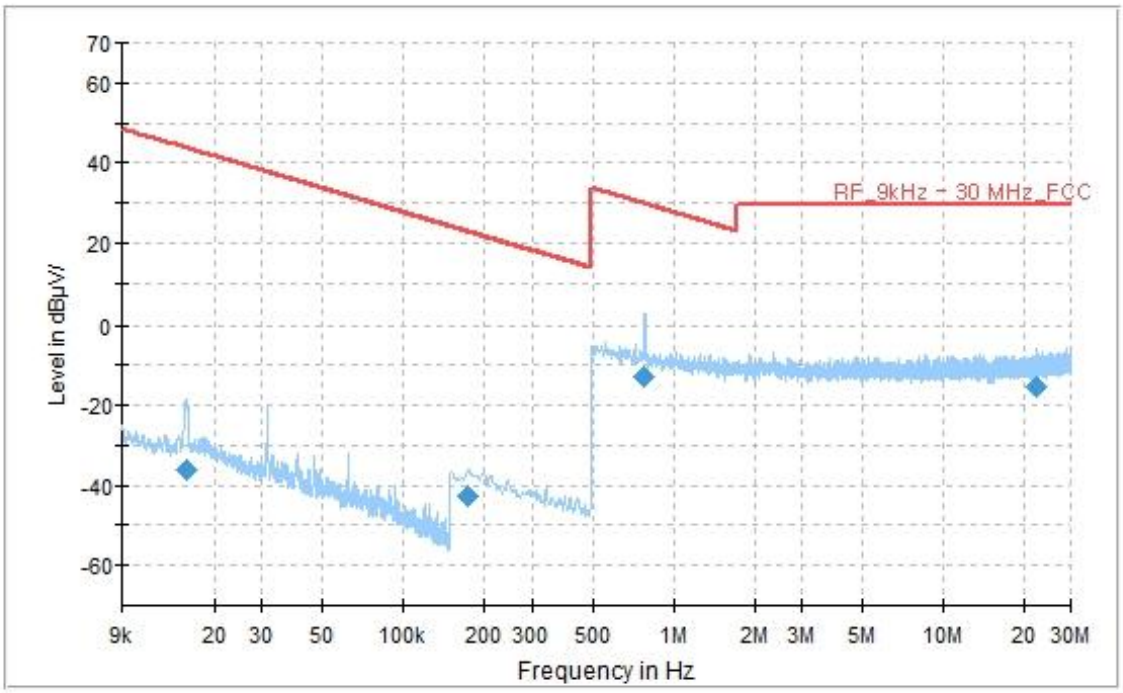


[Radiated Emission Test Setup Above 1 GHz]

6.5.4 Test Result

Radiated Emission (Below 30 MHz)

Worst case - RE(Below 30 MHz)_802.11a_5 180 MHz



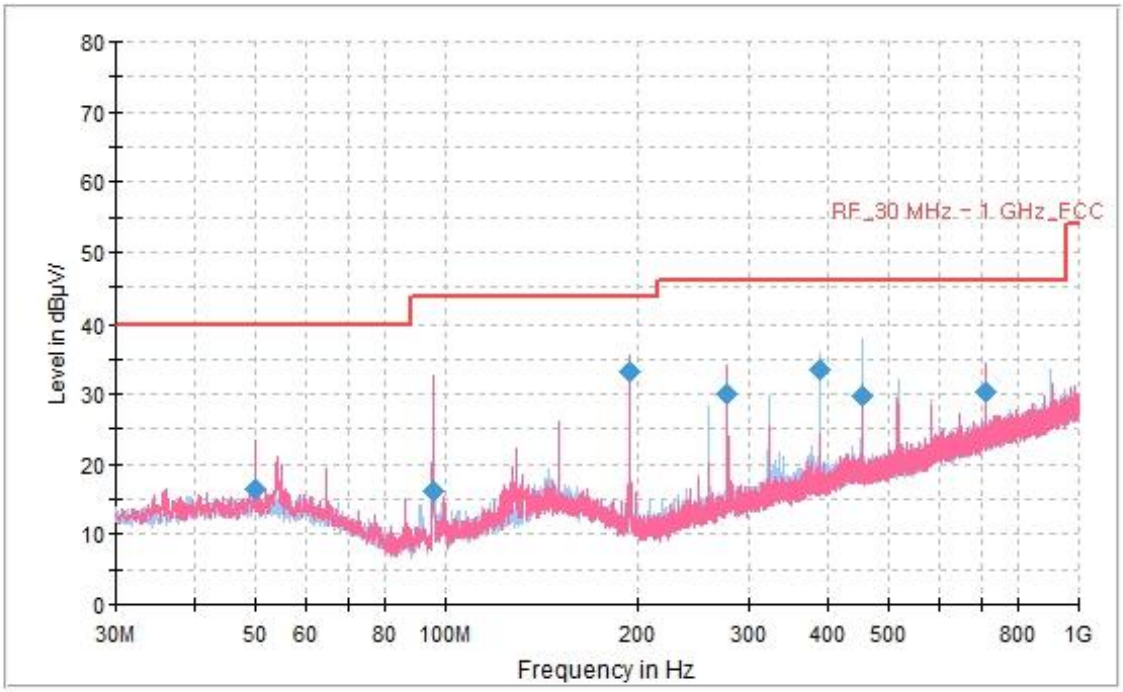
Frequency [MHz]	Quasi-peak Reading [dBuV]	Quasi-Peak Result [dBuV/m]	Distance Factor [dB]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Corrction Factor [dB/m]
0.016	23.01	-36.39	-80	43.67	80.06	100	Ground parallel	123	-59.40
0.174	16.53	-42.87	-80	22.78	65.65	100	Ground parallel	25	-59.40
0.781	6.48	-12.82	-40	29.76	42.58	100	Ground parallel	181	-19.30
22.193	2.70	-15.20	-40	29.54	44.75	100	Ground parallel	281	-17.90

Note)

1. Quasi Peak(dBuV/m) = QP Reading Value(dBµV) + Correction Factor(dB/m) + Distance Factor(dB)
2. Correction Factor(dB) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin(dB) = (Quasi Peak) Limit (dBµV/m) – (Quasi Peak) Result (dBµV/m)
4. We tested three kind of Antenna Pol (Parallel, Perpendicular, Ground parallel) and reported worst case antenna Pol.

Radiated Emission (Below 1 GHz)

Worst case - RE(Below 1 GHz)_802.11a_5 180 MHz

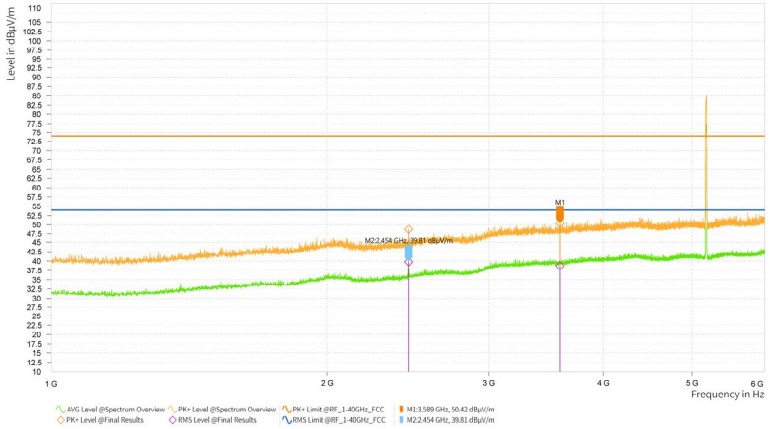


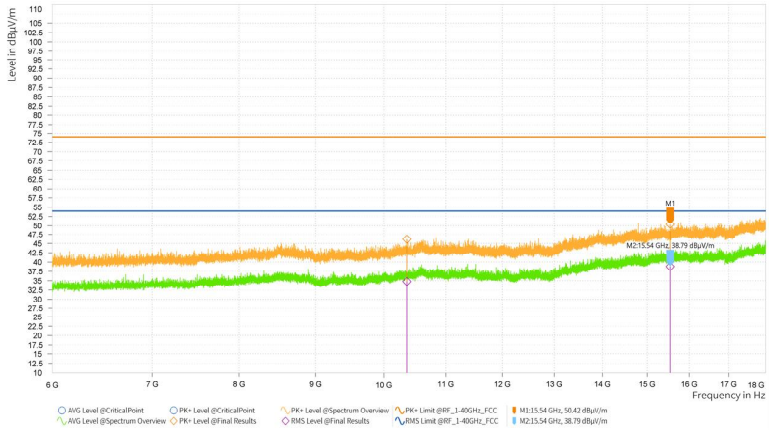
Frequency [MHz]	Quasi-Peak Reading [dBuV]	Quasi-Peak Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol	Azimuth [deg]	Corrction Factor [dB/m]
49.939	24.39	16.59	40.00	23.41	100	V	129	-7.80
95.529	29.37	16.27	43.52	27.25	100	V	304	-13.10
194.361	43.42	33.22	43.52	10.31	100	V	192	-10.20
277.512	36.87	30.07	46.02	15.95	200	V	194	-6.80
388.469	37.18	33.38	46.02	12.64	100	H	183	-3.80
452.812	31.70	29.70	46.02	16.32	200	H	53	-2.00
711.964	27.15	30.25	46.02	15.77	100	V	355	3.10

Note)
1. Quasi Peak(dBµV/m) = Quasi Peak Reading Value(dBµV) + Correction Factor(dB/m)
2. Correction Factor(dB) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin(dB) = (Quasi Peak) Limit (dBµV/m) – (Quasi Peak) Result (dBµV/m).

Radiated Emission (Above 1 GHz)

RE(Above 1 GHz)_802.11a_5 180 MHz



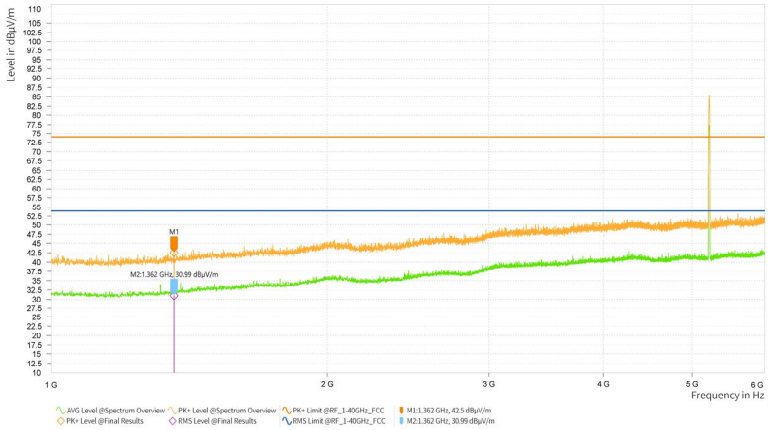


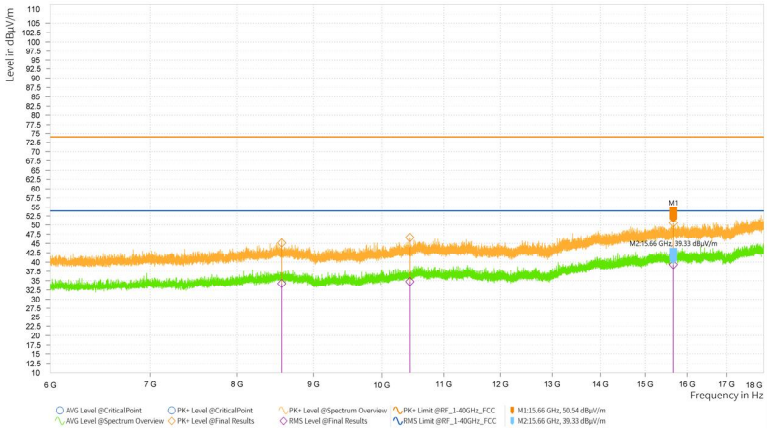
Frequency [MHz]	Peak Reading [dBuV]	Peak Result [dBuV/m]	AVG Reading [dBuV]	AVG Result [dBuV/m]	DCCF [dB]	Height [cm]	Pol	Azimuth [deg]	Corr. [dB/m]	Peak Margin [dB]	Peak Limit [dBuV/m]	AVG Margin [dB]	AVG Limit [dBuV/m]
2 454.000	48.99	48.70	40.10	40.20	0.39	1.00	V	321.1	-0.29	19.50	68.20	13.80	54.00
3 588.500	46.33	50.42	34.62	39.10	0.39	3.00	H	135.4	4.09	17.78	68.20	14.90	54.00
10 360.000	43.96	46.16	32.61	35.20	0.39	2.00	H	267.6	2.20	22.04	68.20	18.80	54.00
* 15 540.000	42.78	50.42	31.15	39.18	0.39	2.00	V	36.6	7.64	23.58	74.00	14.82	54.00

Note)

1. Peak Result(dBuV/m) = Peak Reading Value(dBuV) + Correction Factor(dB/m)
2. AVG Result(dBuV/m) = Average Reading Value(dBuV) + Correction Factor(dB/m) + DCCF(dB)
3. DCCF(Duty Cycle Correction Factor) = 10 x Log(1/Duty Cycle)
4. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor (dB)
5. Margin(dB) = (Peak/AVG) Limit (dBuV/m) – (Peak/AVG) Result (dBuV/m)
6. * - indicates frequency in Restricted Band.

RE(Above 1 GHz)_802.11a_5 220 MHz

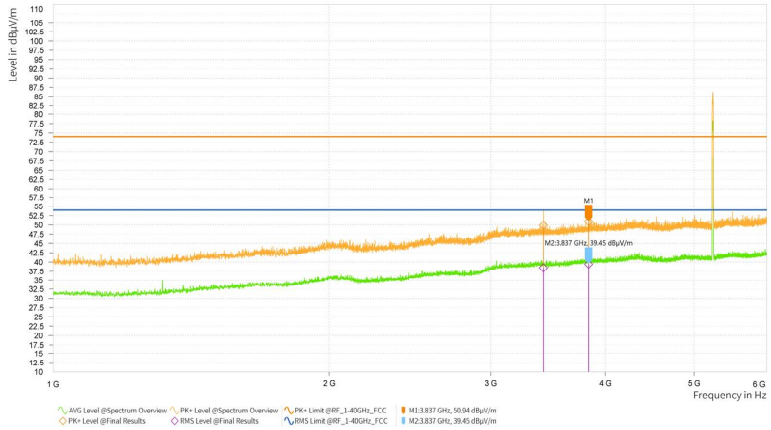


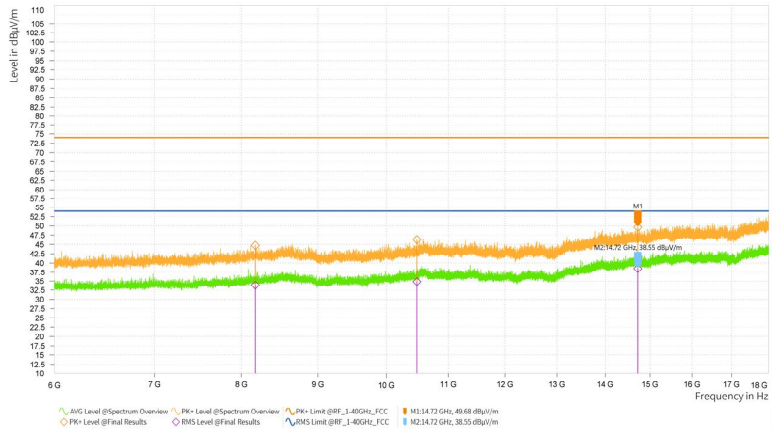


	Frequency [MHz]	Peak Reading [dBuV]	Peak Result [dBuV/m]	AVG Reading [dBuV]	AVG Result [dBuV/m]	DCCF [dB]	Height [cm]	Pol	Azimuth [deg]	Corr. [dB/m]	Peak Margin [dB]	Peak Limit [dBuV/m]	AVG Margin [dB]	AVG Limit [dBuV/m]
	1 361.500	48.00	42.50	36.49	31.38	0.39	1.00	H	358.6	-5.50	25.70	68.20	22.62	54.00
	8 569.200	43.88	45.17	32.93	34.61	0.39	2.00	H	224.1	1.29	23.03	68.20	19.39	54.00
	10 440.000	44.32	46.63	32.45	35.15	0.39	3.00	V	304.1	2.31	21.57	68.20	18.85	54.00
*	15 660.000	42.86	50.54	31.65	39.72	0.39	2.00	H	98.1	7.68	23.46	74.00	14.28	54.00

Note)
1. Peak Result(dBuV/m) = Peak Reading Value(dBuV) + Correction Factor(dB/m)
2. AVG Result(dBuV/m) = Average Reading Value(dBuV) + Correction Factor(dB/m) + DCCF(dB)
3. DCCF(Duty Cycle Correction Factor) = 10 x Log(1/Duty Cycle)
4. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor (dB)
5. Margin(dB) = (Peak/AVG) Limit (dBuV/m) – (Peak/AVG) Result (dBuV/m)
6. * - indicates frequency in Restricted Band.

RE(Above 1 GHz)_802.11a_5 240 MHz

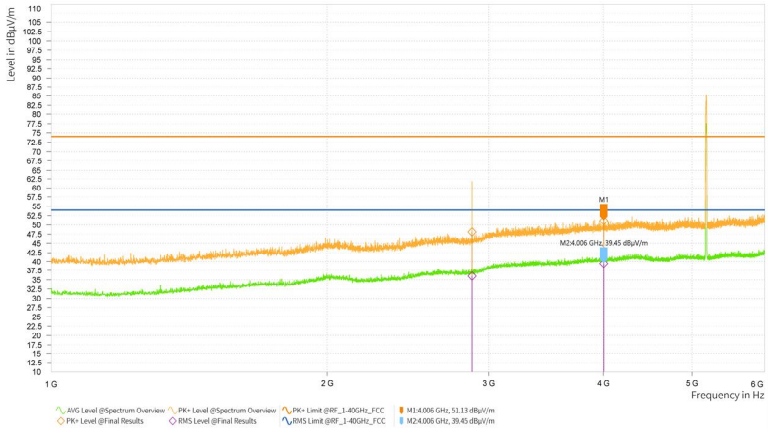


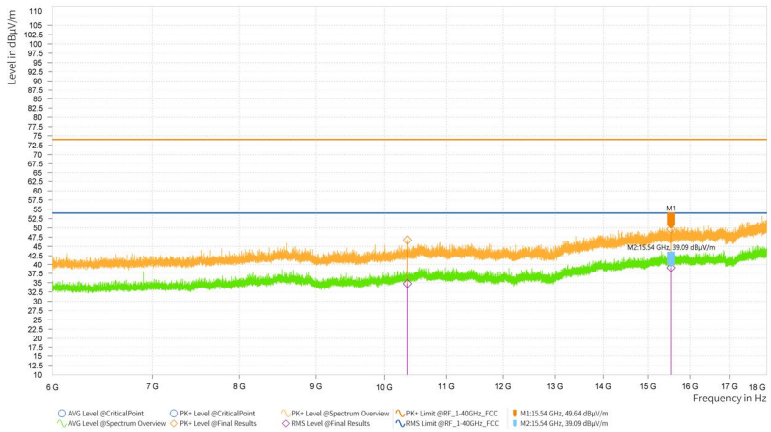


	Frequency [MHz]	Peak Reading [dBuV]	Peak Result [dBuV/m]	AVG Reading [dBuV]	AVG Result [dBuV/m]	DCCF [dB]	Height [cm]	Pol	Azimuth [deg]	Corr. [dB/m]	Peak Margin [dB]	Peak Limit [dBuV/m]	AVG Margin [dB]	AVG Limit [dBuV/m]
	3 424.500	46.00	49.89	34.59	38.87	0.39	3.00	V	0.0	3.89	18.31	68.20	15.13	54.00
*	3 837.000	45.99	50.94	34.50	39.84	0.39	3.00	H	0.0	4.95	23.06	74.00	14.16	54.00
*	8 174.400	43.67	44.74	32.78	34.24	0.39	3.00	V	62.6	1.07	29.26	74.00	19.76	54.00
	10 480.000	44.02	46.30	32.54	35.21	0.39	2.00	H	209.2	2.28	21.90	68.20	18.79	54.00
	14 720.000	42.33	49.68	31.20	38.94	0.39	2.00	H	95.5	7.35	18.52	68.20	15.06	54.00

Note)
1. Peak Result(dBuV/m) = Peak Reading Value(dBuV) + Correction Factor(dB/m)
2. AVG Result(dBuV/m) = Average Reading Value(dBuV) + Correction Factor(dB/m) + DCCF(dB)
3. DCCF(Duty Cycle Correction Factor) = 10 x Log(1/Duty Cycle)
4. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor (dB)
5. Margin(dB) = (Peak/AVG) Limit (dBuV/m) – (Peak/AVG) Result (dBuV/m)
6. * - indicates frequency in Restricted Band.

RE(Above 1 GHz)_802.11n(HT20)_5 180 MHz





	Frequency [MHz]	Peak Reading [dBuV]	Peak Result [dBuV/m]	AVG Reading [dBuV]	AVG Result [dBuV/m]	DCCF [dB]	Height [cm]	Pol	Azimuth [deg]	Corr. [dB/m]	Peak Margin [dB]	Peak Limit [dBuV/m]	AVG Margin [dB]	AVG Limit [dBuV/m]
*	2 877.500	47.15	48.10	35.06	36.41	0.40	3.00	H	263.2	0.95	25.90	74.00	17.59	54.00
*	4 005.500	45.93	51.13	34.25	39.85	0.40	1.00	H	261.2	5.20	22.87	74.00	14.15	54.00
	10 360.000	44.53	46.73	32.55	35.15	0.40	3.00	V	110.4	2.20	21.47	68.20	18.85	54.00
*	15 540.000	42.00	49.64	31.45	39.49	0.40	3.00	H	124.3	7.64	24.36	74.00	14.51	54.00

Note)
1. Peak Result(dBuV/m) = Peak Reading Value(dBuV) + Correction Factor(dB/m)
2. AVG Result(dBuV/m) = Average Reading Value(dBuV) + Correction Factor(dB/m) + DCCF(dB)
3. DCCF(Duty Cycle Correction Factor) = 10 x Log(1/Duty Cycle)
4. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor (dB)
5. Margin(dB) = (Peak/AVG) Limit (dBuV/m) – (Peak/AVG) Result (dBuV/m)
6. * - indicates frequency in Restricted Band.