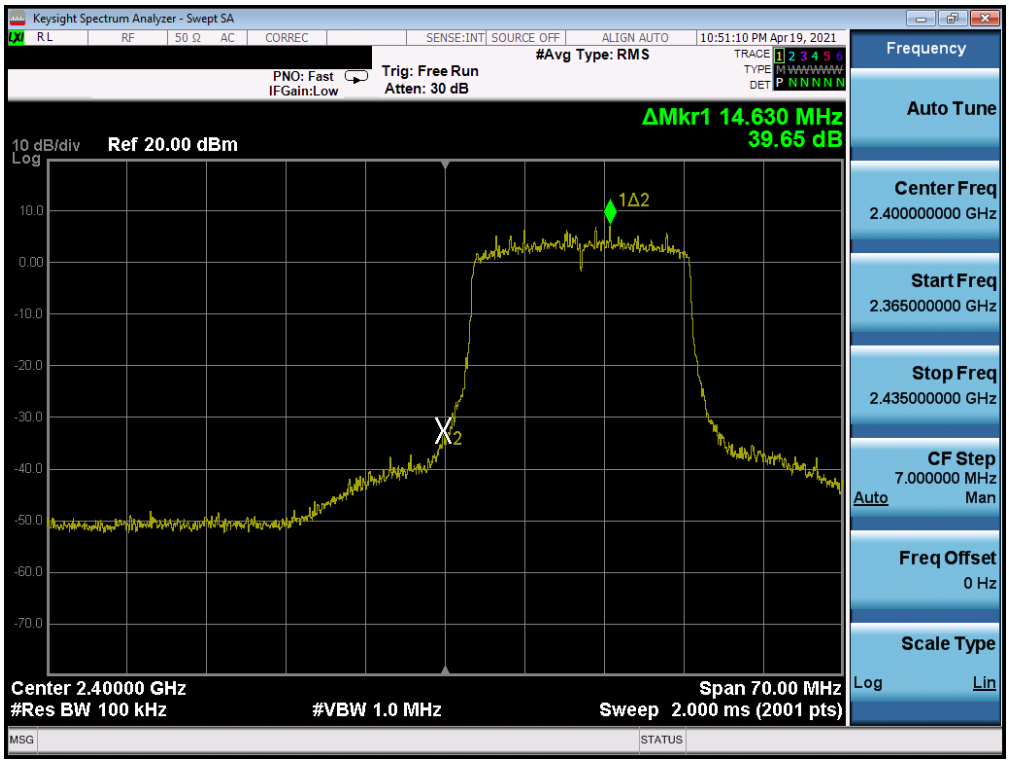
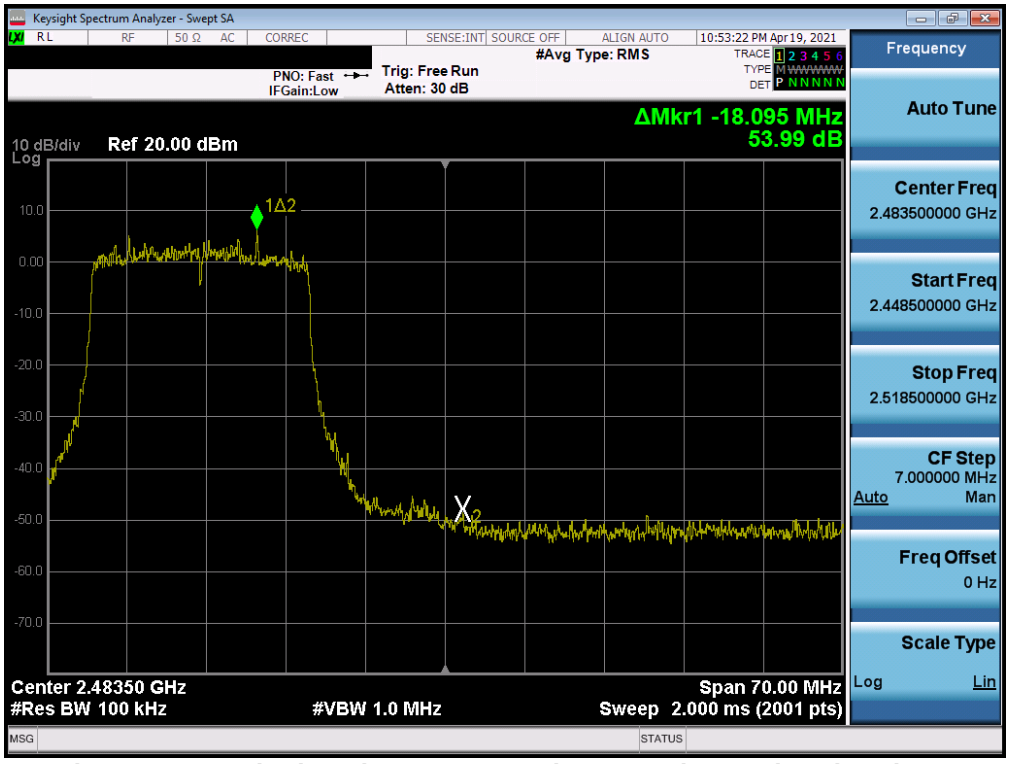
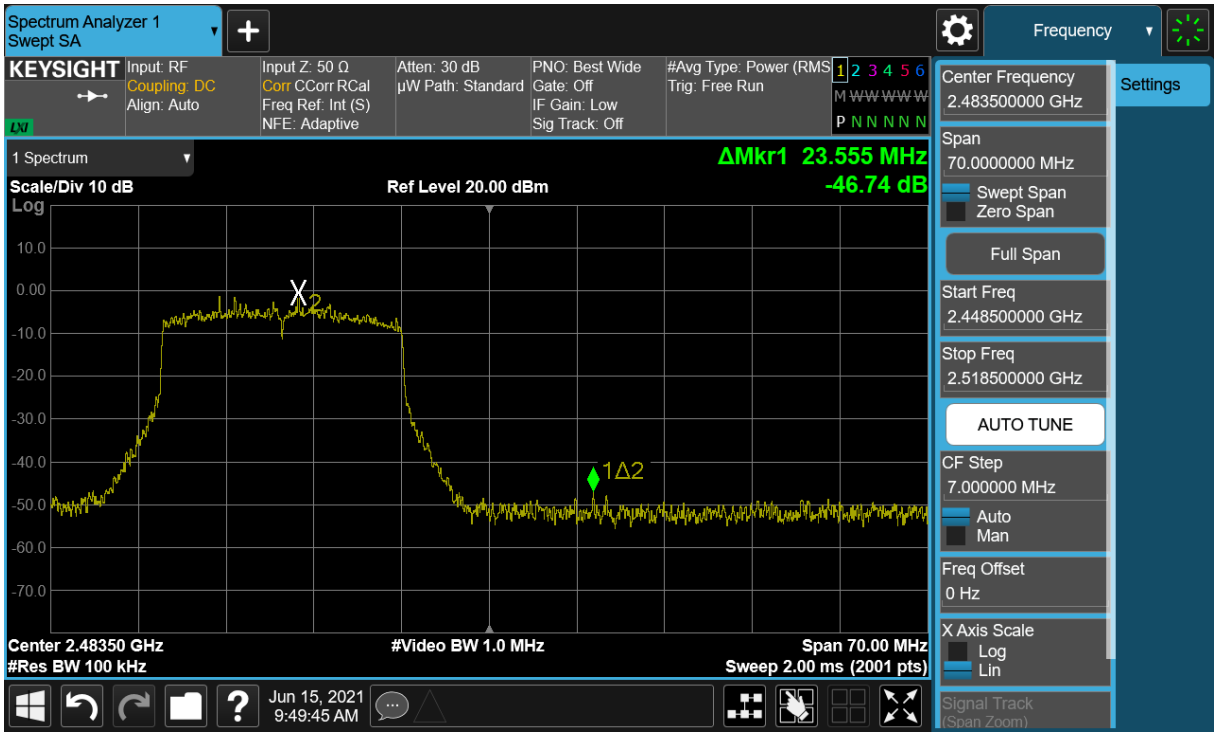


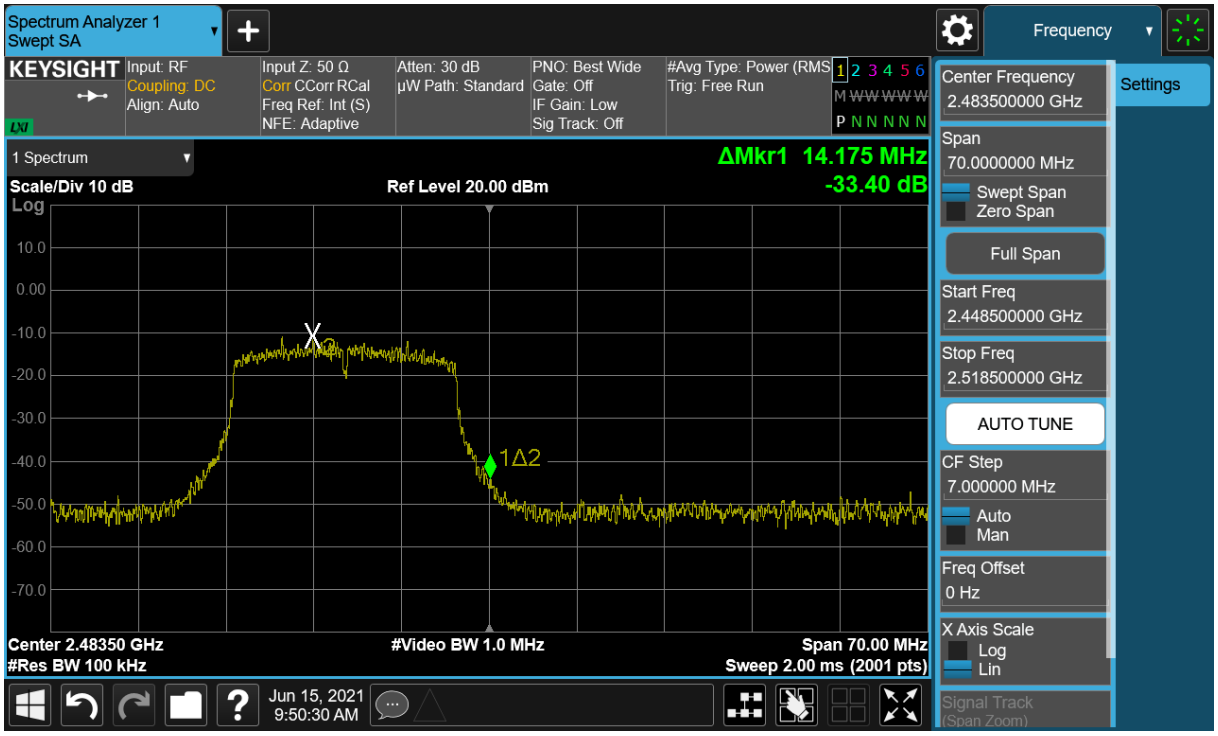
Plot 7-109. Band Edge Plot SISO ANT2 (802.11ax (2.4GHz) – Ch. 1) – Q



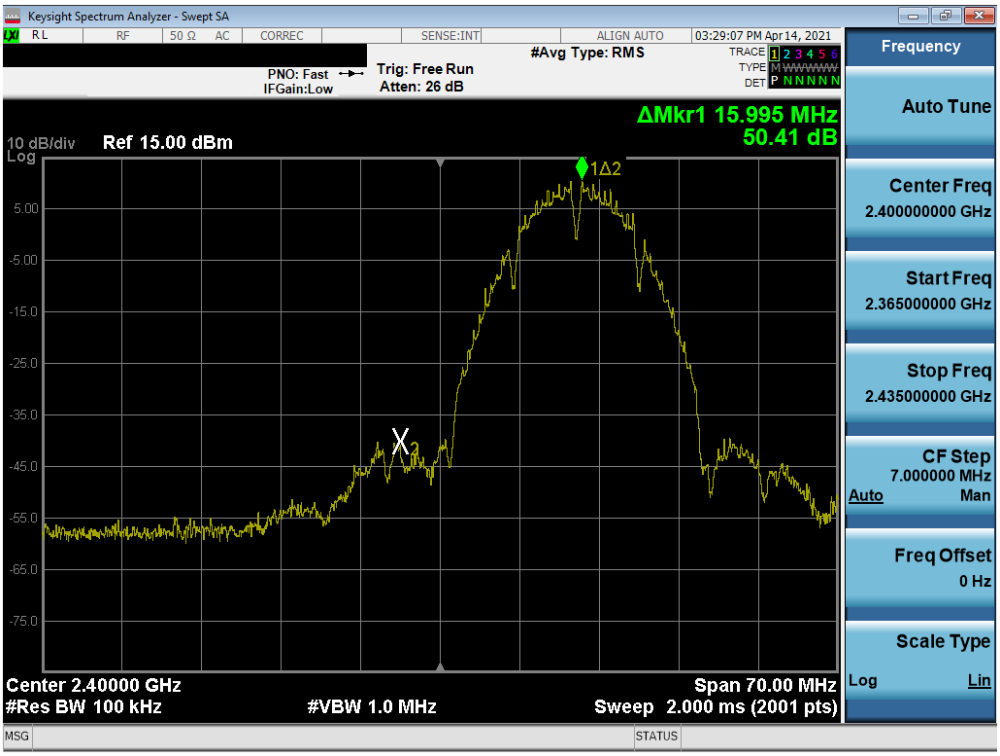
Plot 7-110. Band Edge Plot SISO ANT2 (802.11ax (2.4GHz) – Ch. 11) – Q



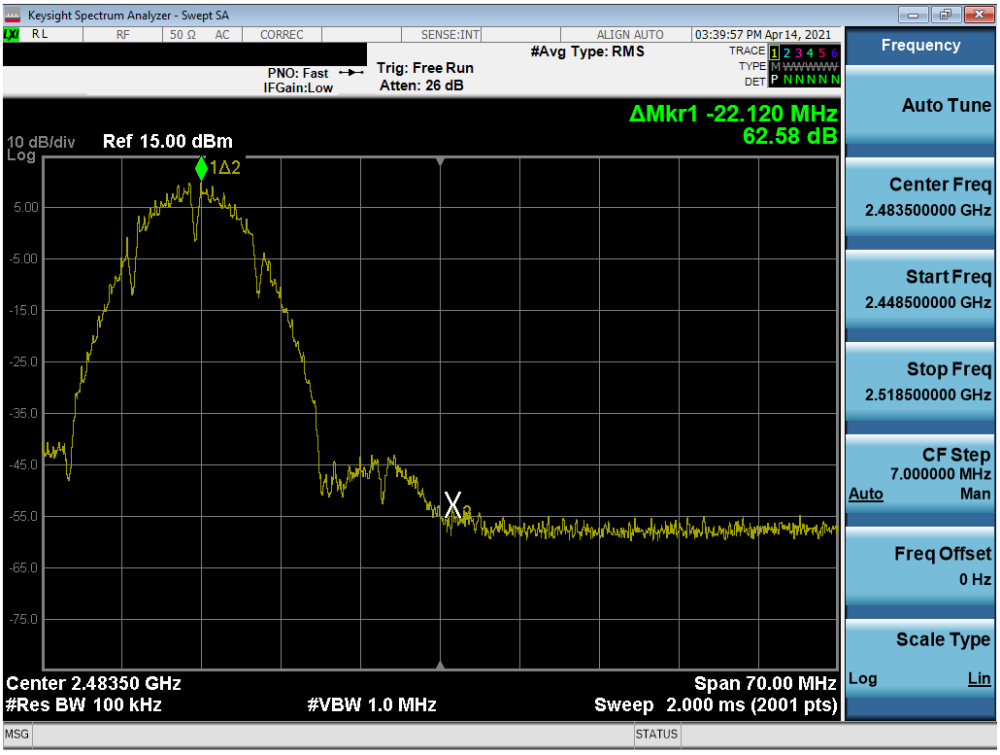
Plot 7-111. Band Edge Plot SISO ANT2 (802.11ax (2.4GHz) – Ch. 12) – Q



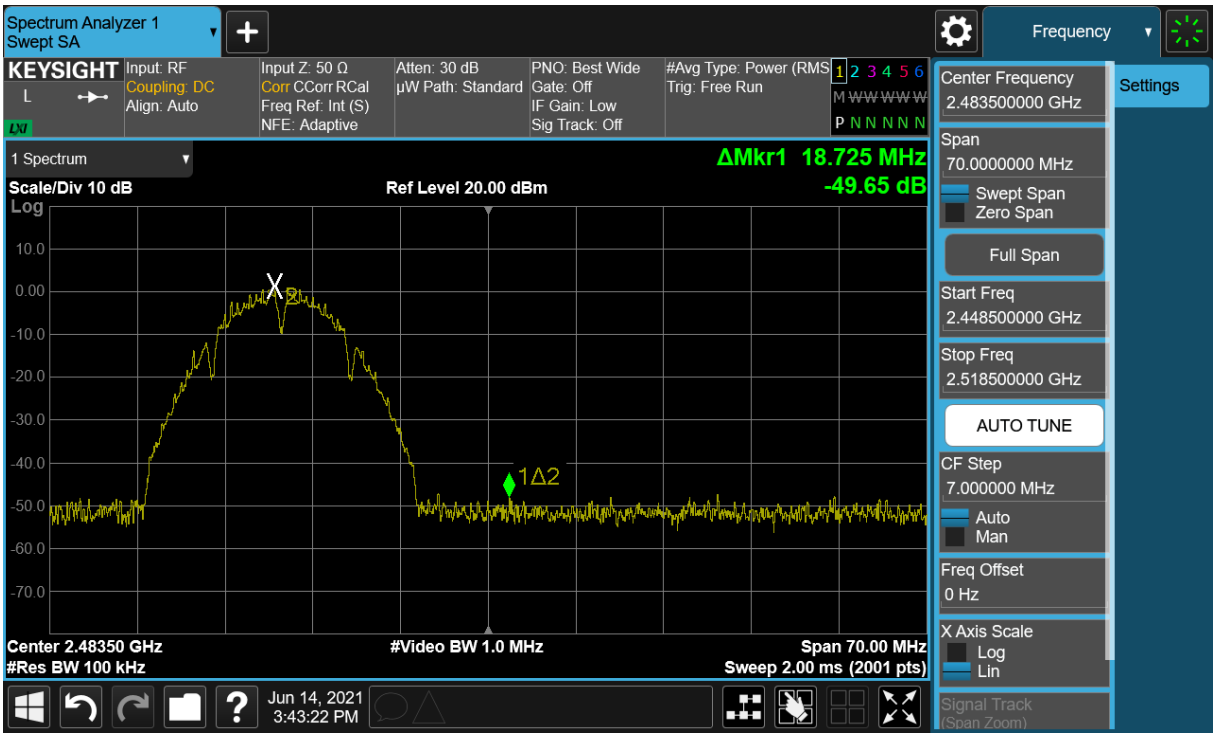
Plot 7-112. Band Edge Plot SISO ANT2 (802.11ax (2.4GHz) – Ch. 13) – Q



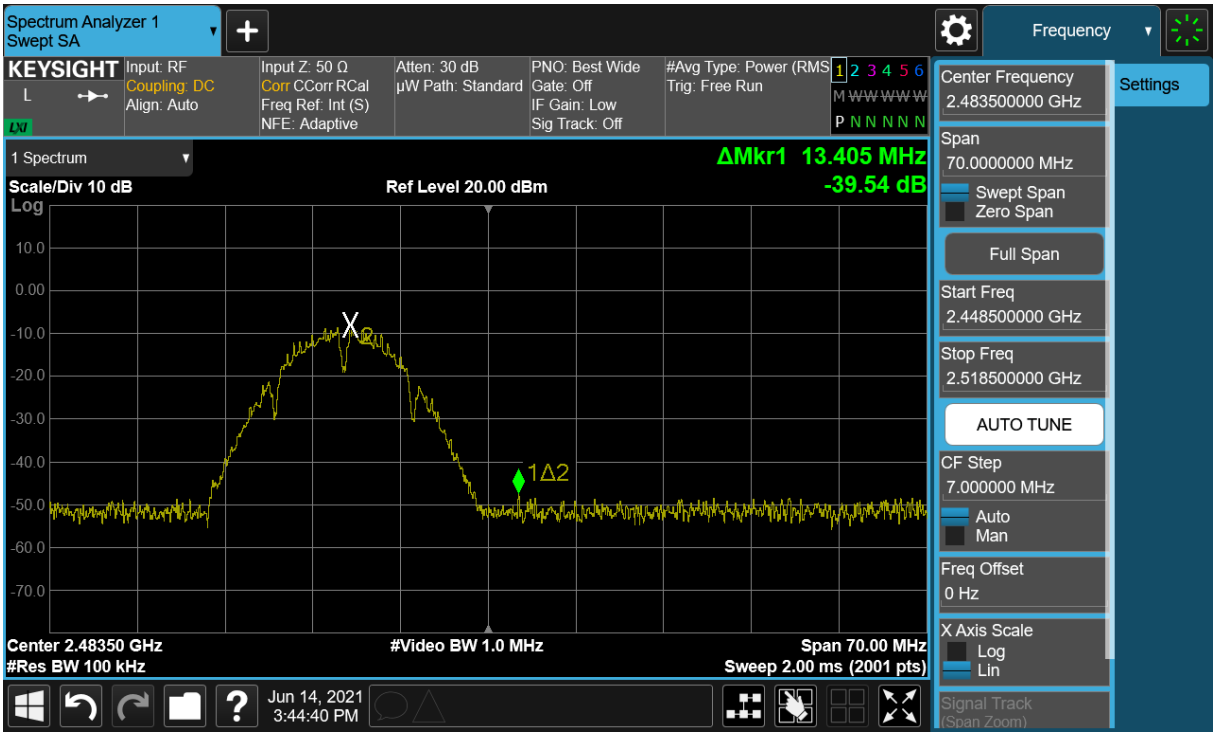
Plot 7-113. Band Edge Plot SISO ANT2 (802.11b – Ch. 1) – N



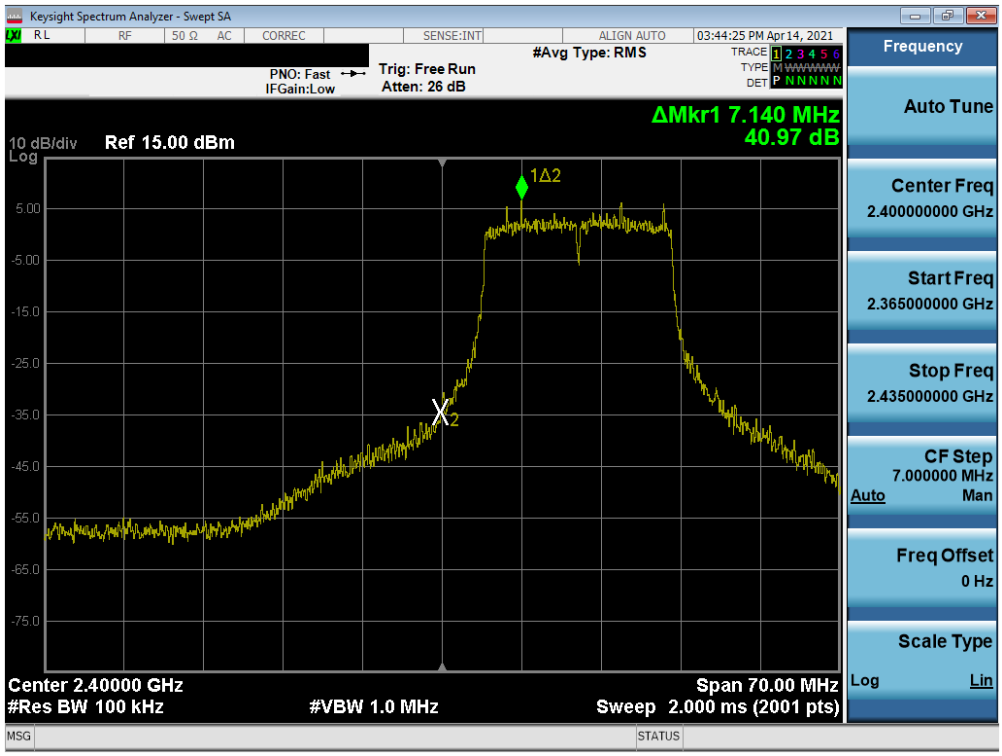
Plot 7-114. Band Edge Plot SISO ANT2 (802.11b – Ch. 11) – N



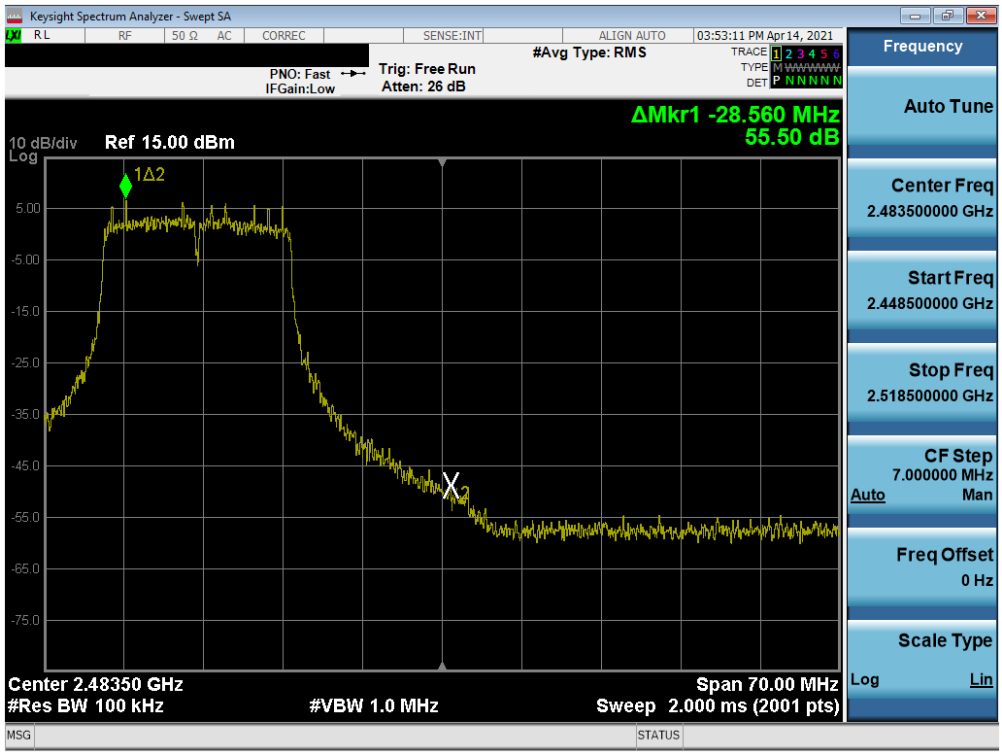
Plot 7-115. Band Edge Plot SISO ANT2 (802.11b – Ch. 12) -- N



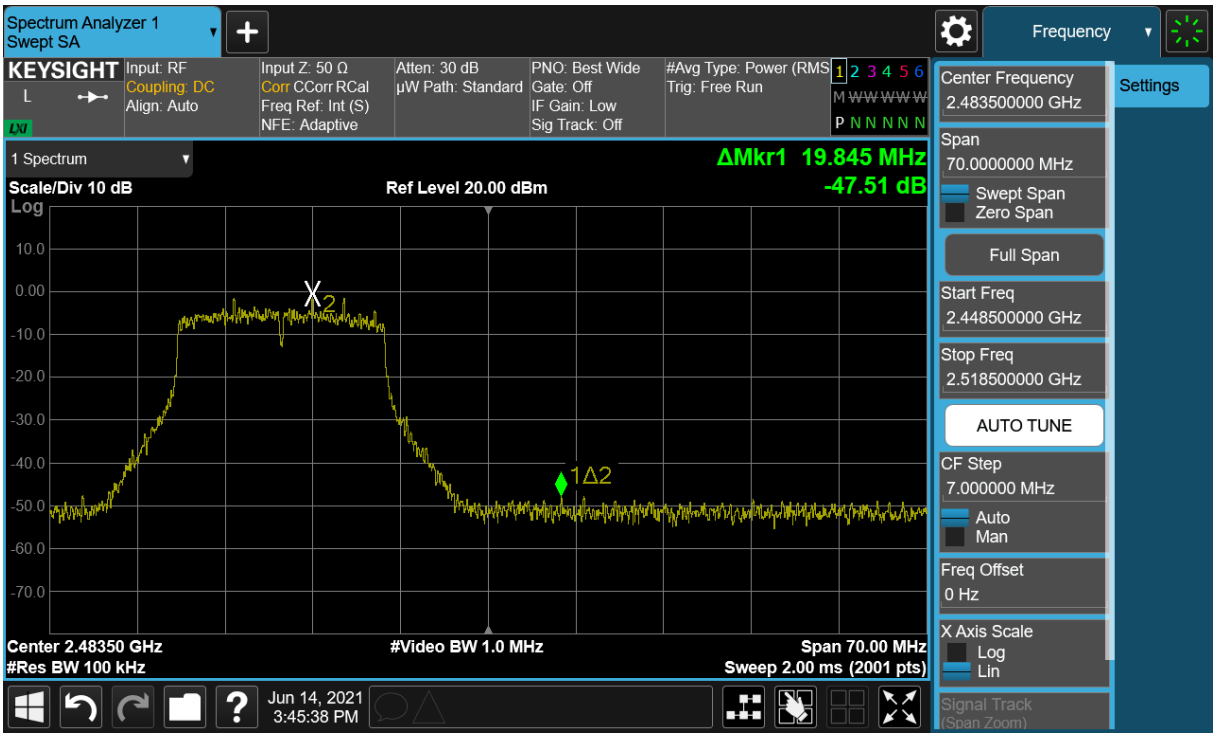
Plot 7-116. Band Edge Plot SISO ANT2 (802.11b – Ch. 13) – N



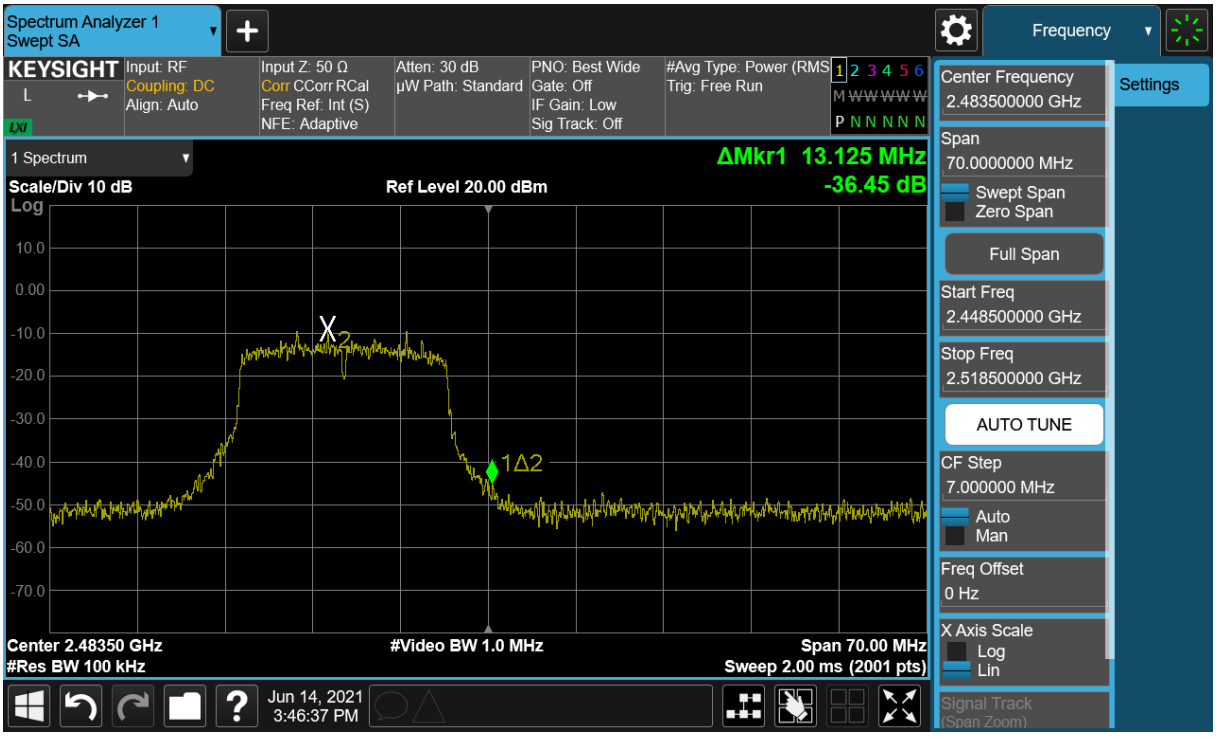
Plot 7-117. Band Edge Plot SISO ANT2 (802.11g– Ch. 1) – N



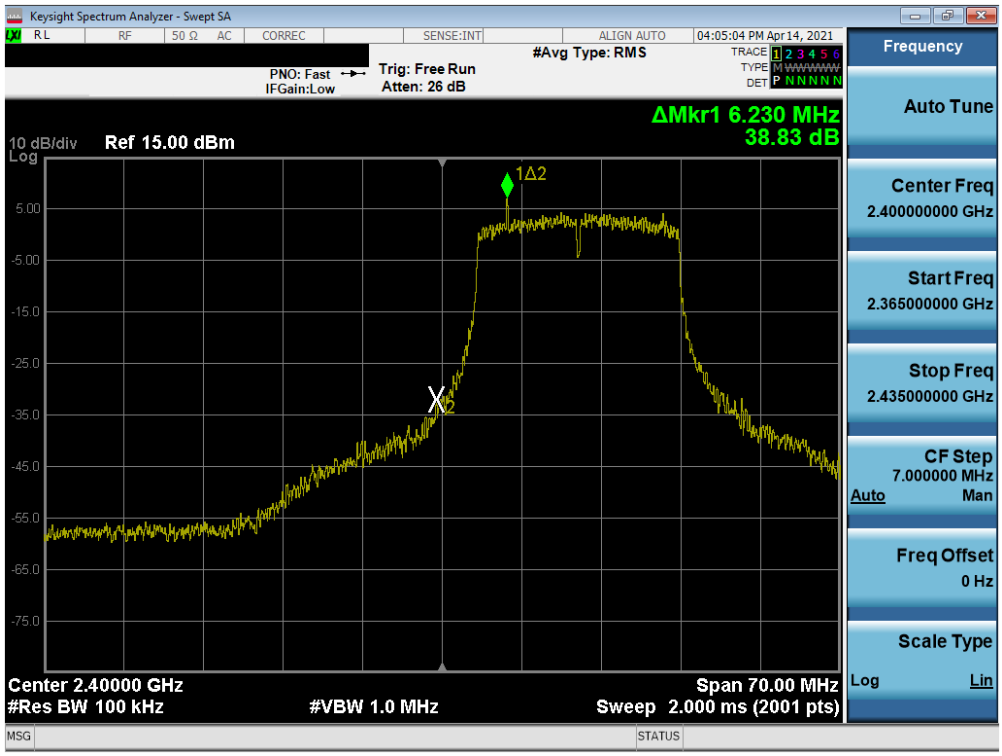
Plot 7-118. Band Edge Plot SISO ANT2 (802.11g – Ch. 11) – N



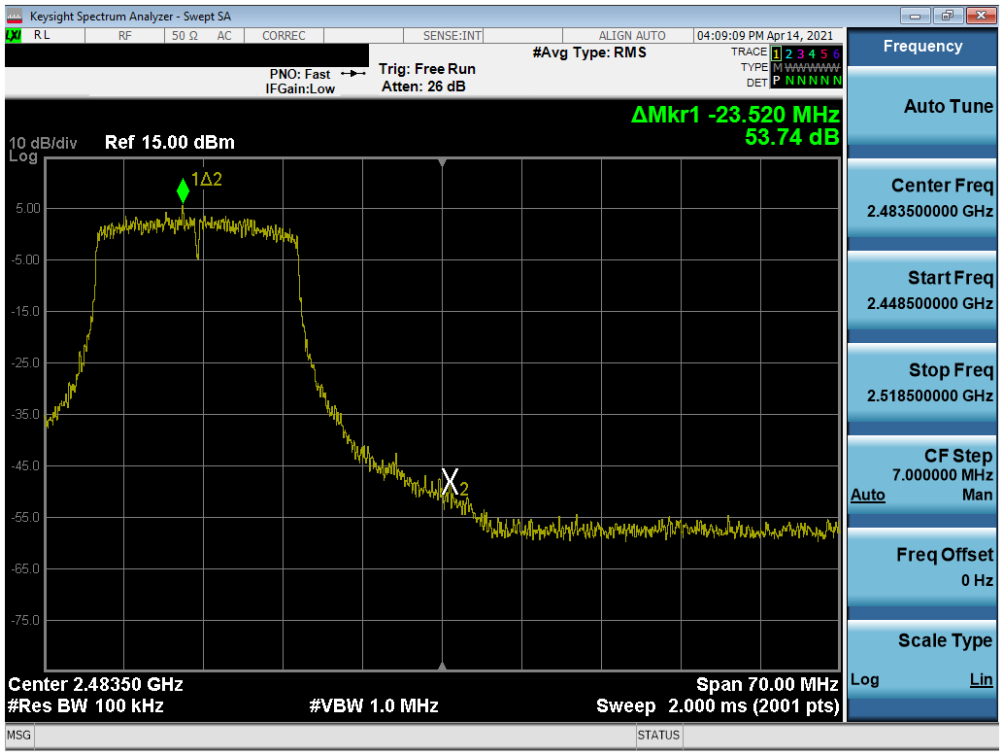
Plot 7-119. Band Edge Plot SISO ANT2 (802.11g– Ch. 12) – N



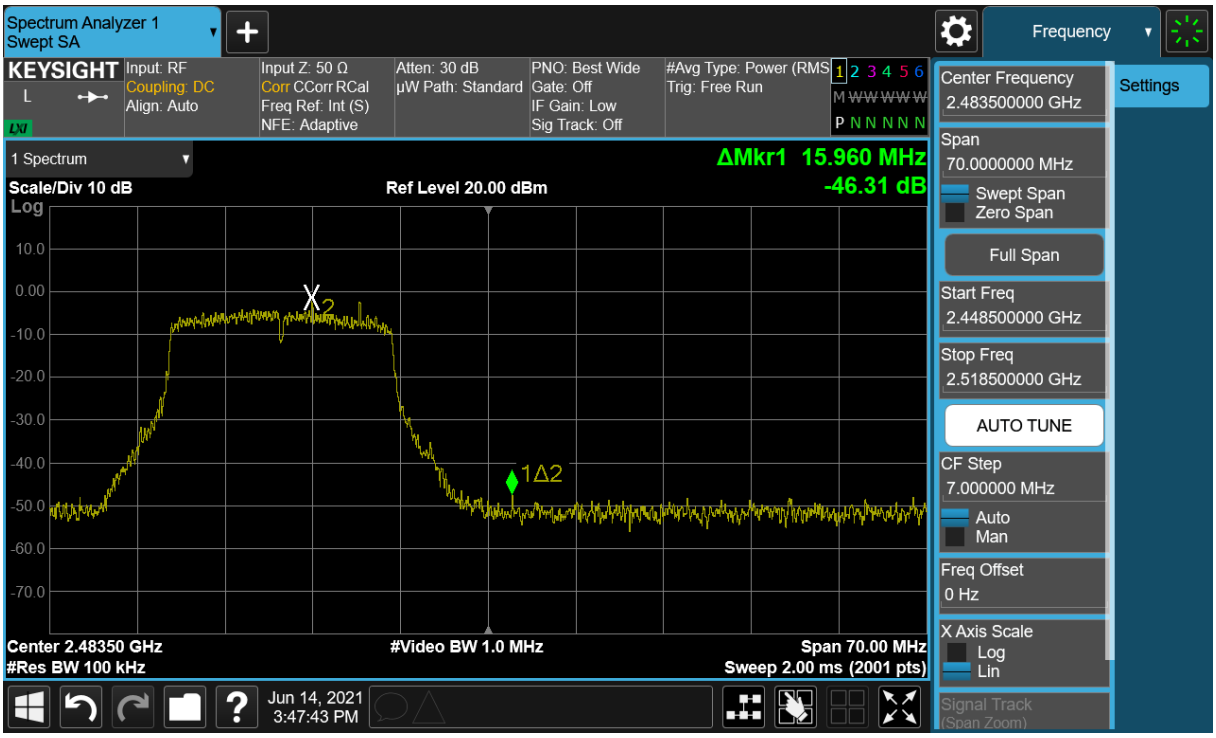
Plot 7-120. Band Edge Plot SISO ANT2 (802.11g – Ch. 13) – N



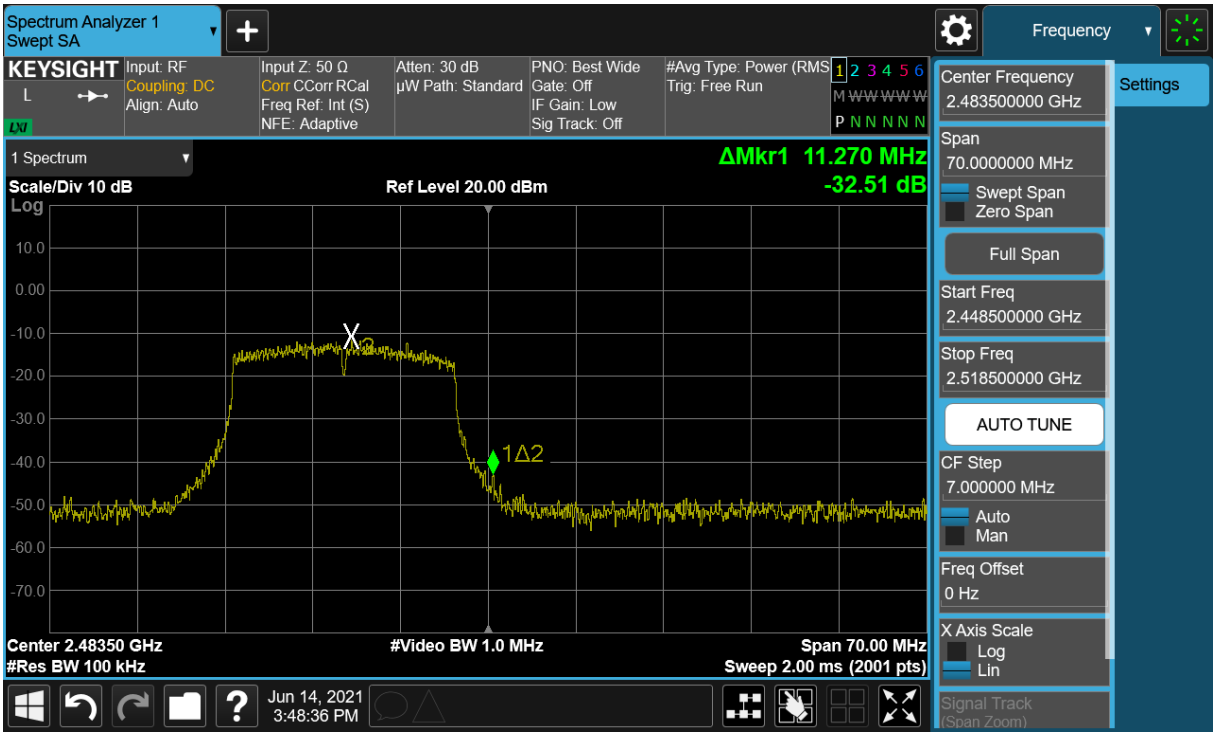
Plot 7-121. Band Edge Plot SISO ANT2 (802.11n (2.4GHz) – Ch. 1) – N



Plot 7-122. Band Edge Plot SISO ANT2 (802.11n (2.4GHz) – Ch. 11) – N

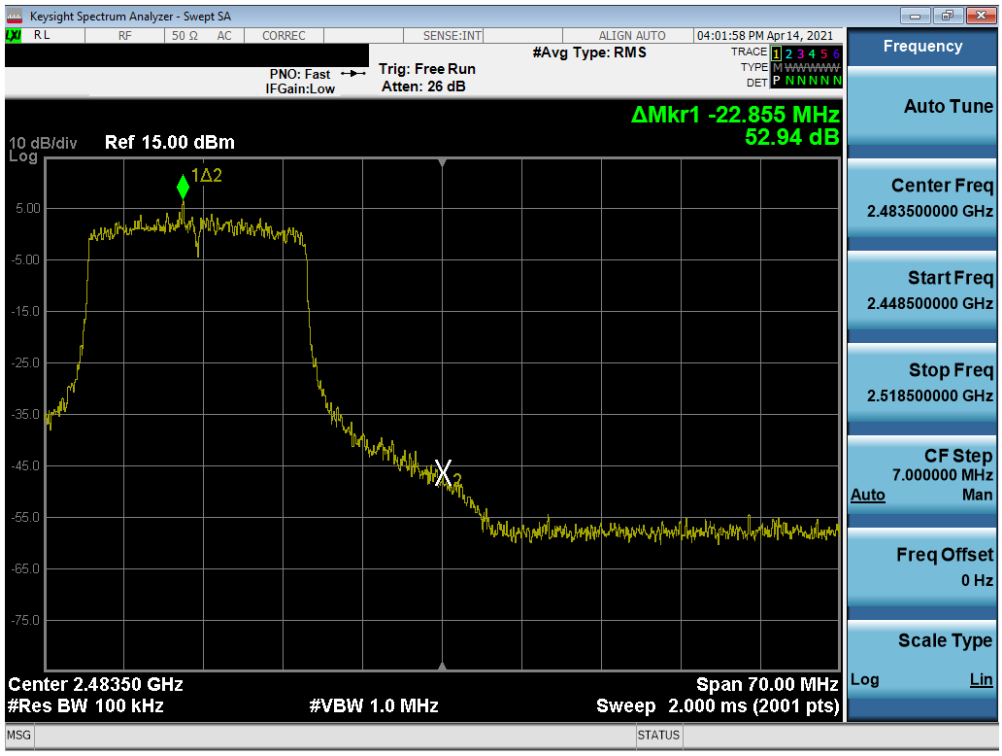


Plot 7-123. Band Edge Plot SISO ANT2 (802.11n (2.4GHz) – Ch. 12) – N

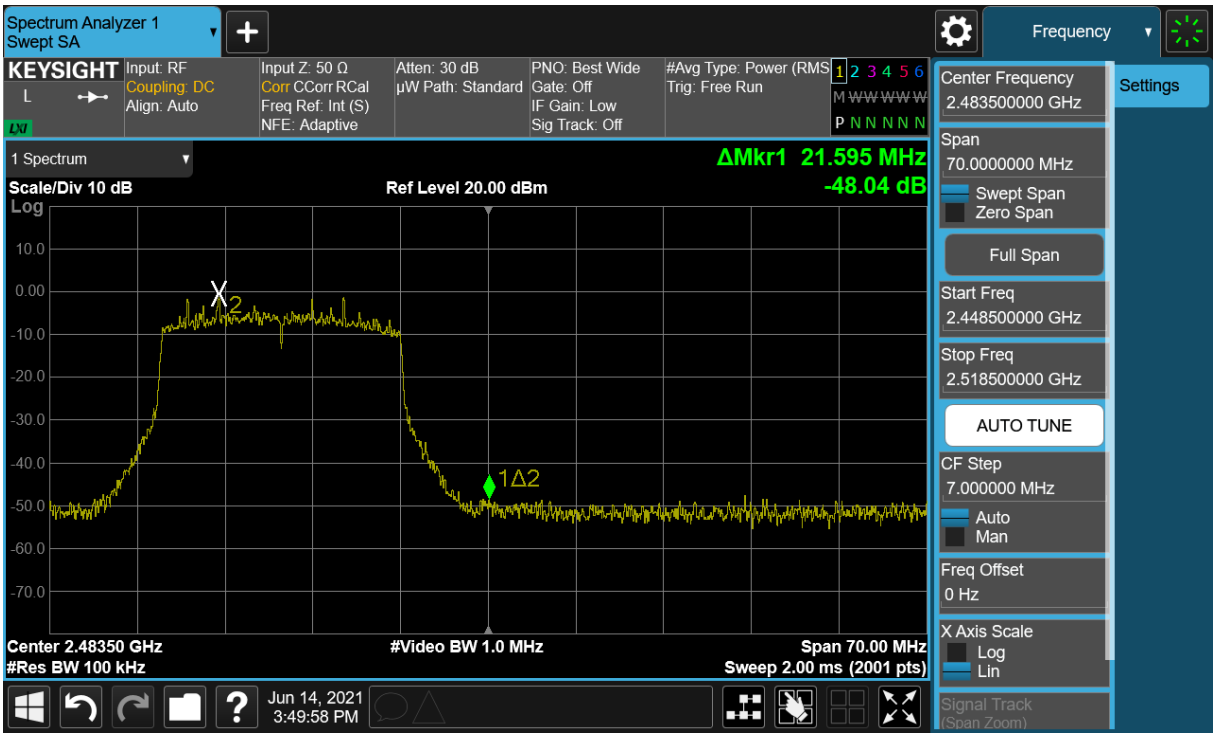


Plot 7-124. Band Edge Plot SISO ANT2 (802.11n (2.4GHz) – Ch. 13) – N

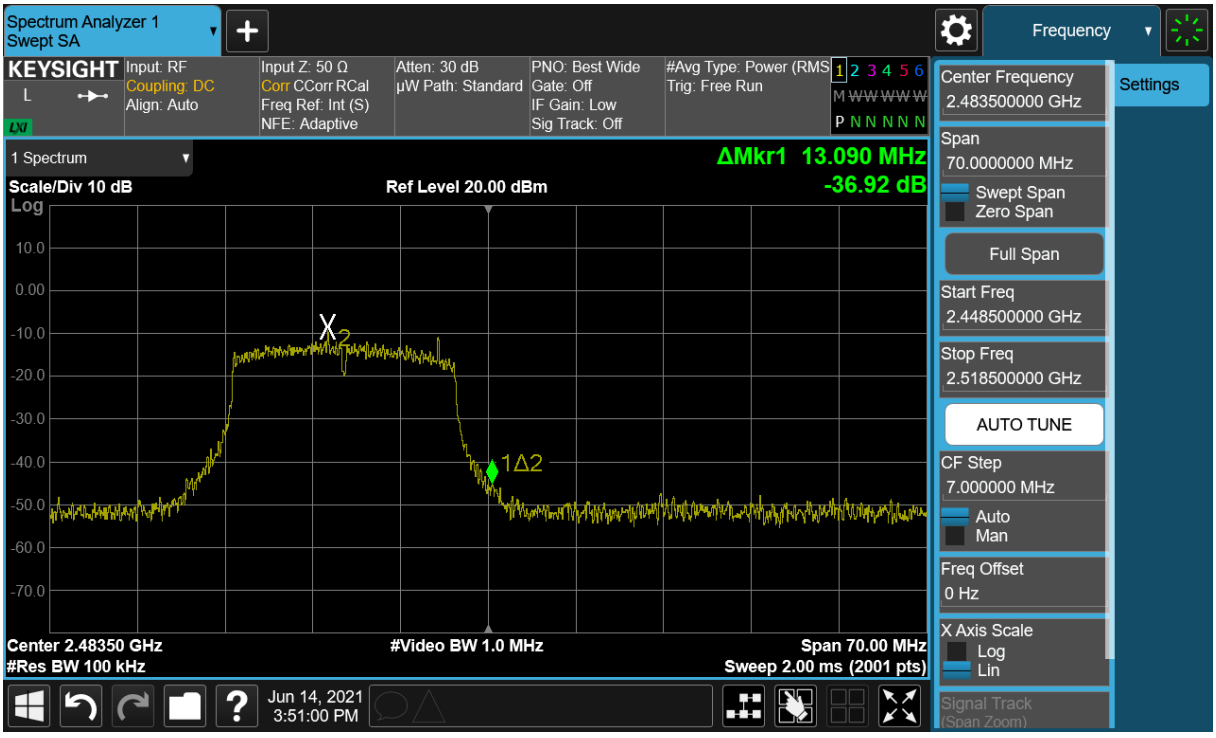
Plot 7-125. Band Edge Plot SISO ANT2 (802.11ax (2.4GHz) – Ch. 1) – N



Plot 7-126. Band Edge Plot SISO ANT2 (802.11ax (2.4GHz) – Ch. 11) – N



Plot 7-127. Band Edge Plot SISO ANT2 (802.11ax (2.4GHz) – Ch. 12) – N



Plot 7-128. Band Edge Plot SISO ANT2 (802.11ax (2.4GHz) – Ch. 13) – N

7.6 Conducted Spurious Emissions

§15.247(d); RSS-247 [5.5]

Test Overview and Limit

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. For the following out of band conducted spurious emissions plots, the EUT was investigated in all available data rates for "b", "g", "n", "ax" modes. The worst case spurious emissions for the 2.4GHz band were found while transmitting in "b" mode at 1 Mbps and are shown in the plots below.

The limit for out-of-band spurious emissions at the band edge is 30dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100kHz bandwidth per the procedure in Section 11.1 of ANSI C63.10-2013 and KDB 558074 D01 v05r02.

Test Procedure Used

ANSI C63.10-2013 – Section 11.11.3
KDB 558074 D01 v05r02 – Section 8.5
ANSI C63.10-2013 – Section 14.3.3
KDB 662911 D01 v02r01 – Section E)3)b)

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to 25GHz (separated into two plots per channel)
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = Peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

Figure 7-5. Test Instrument & Measurement Setup

Test Notes

1. RBW was set to 1MHz rather than 100kHz in order to increase the measurement speed.

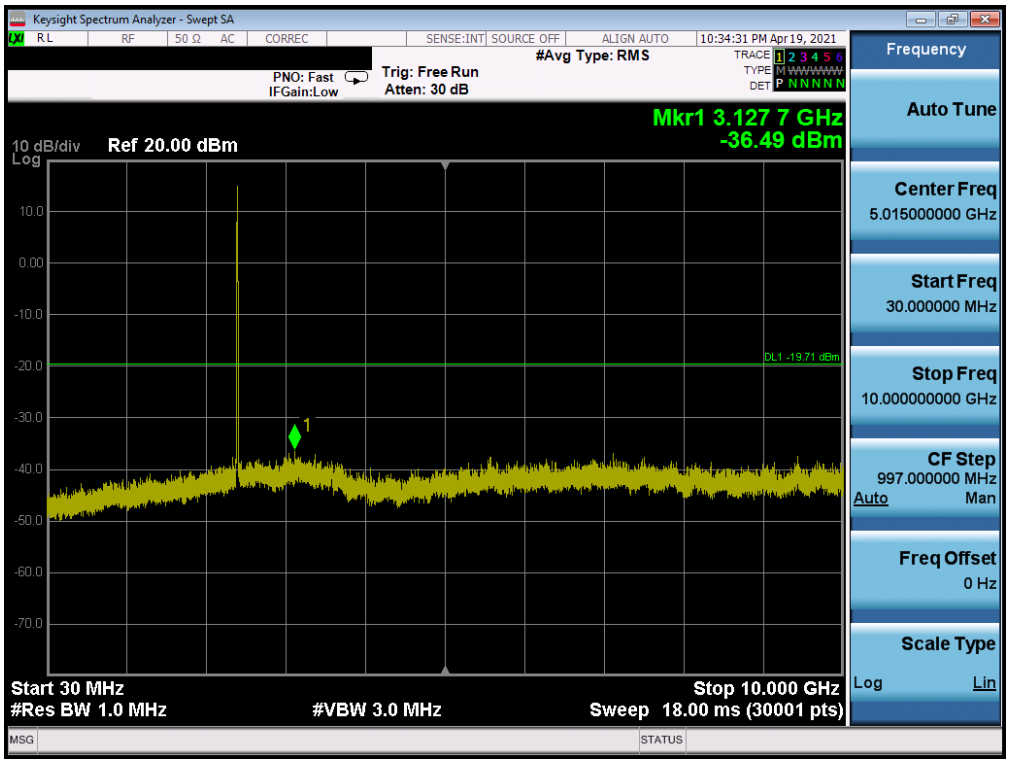
2. The display line shown in the following plots denotes the limit at 30dB below the fundamental emission level measured in a 100kHz bandwidth. However, since the traces in the following plots are measured with a 1MHz RBW, the display line may not necessarily appear to be 30dB below the level of the fundamental in a 1MHz bandwidth.

3. For plots showing conducted spurious emissions near the limit, the frequencies were investigated with a reduced RBW to ensure that no emissions were present.

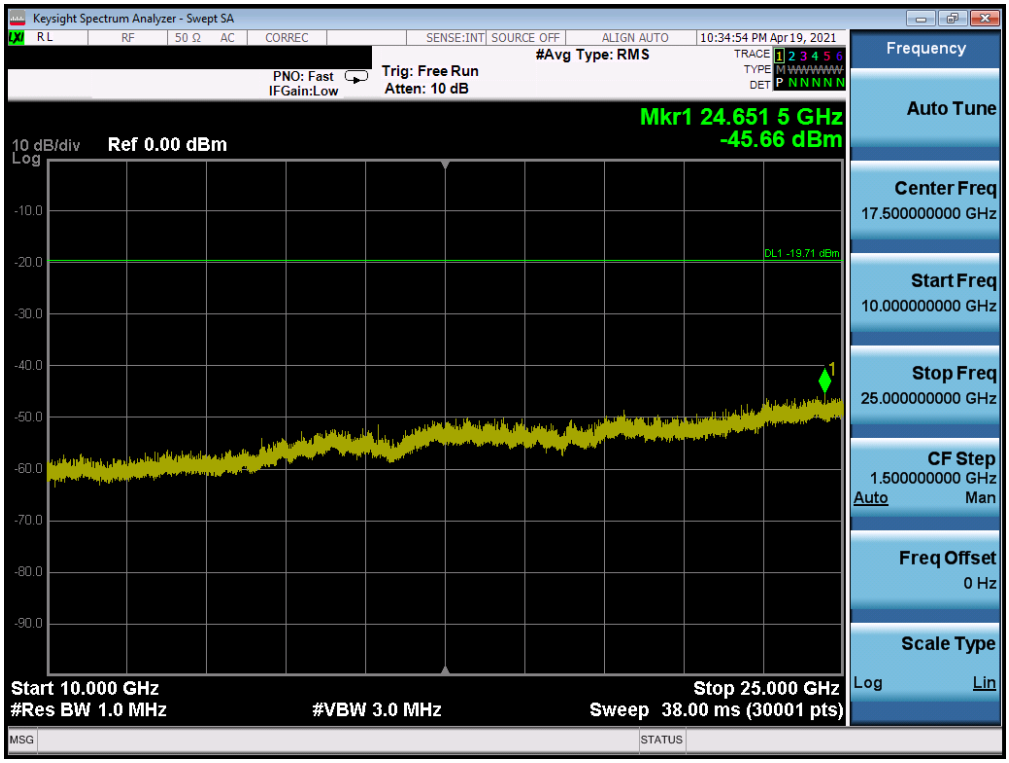
4. The conducted spurious emissions were measured to relative limits. Therefore, in accordance with ANSI C63.10-2013 and KDB 662911 D01 v02r01 Section E)3)b), it was unnecessary to show compliance through the summation of test results of the individual outputs.

5. This device will be manufactured using two different WIFI chipsets (N and Q). Both two chipsets are tested, and both conducted emissions data is shown in this report.

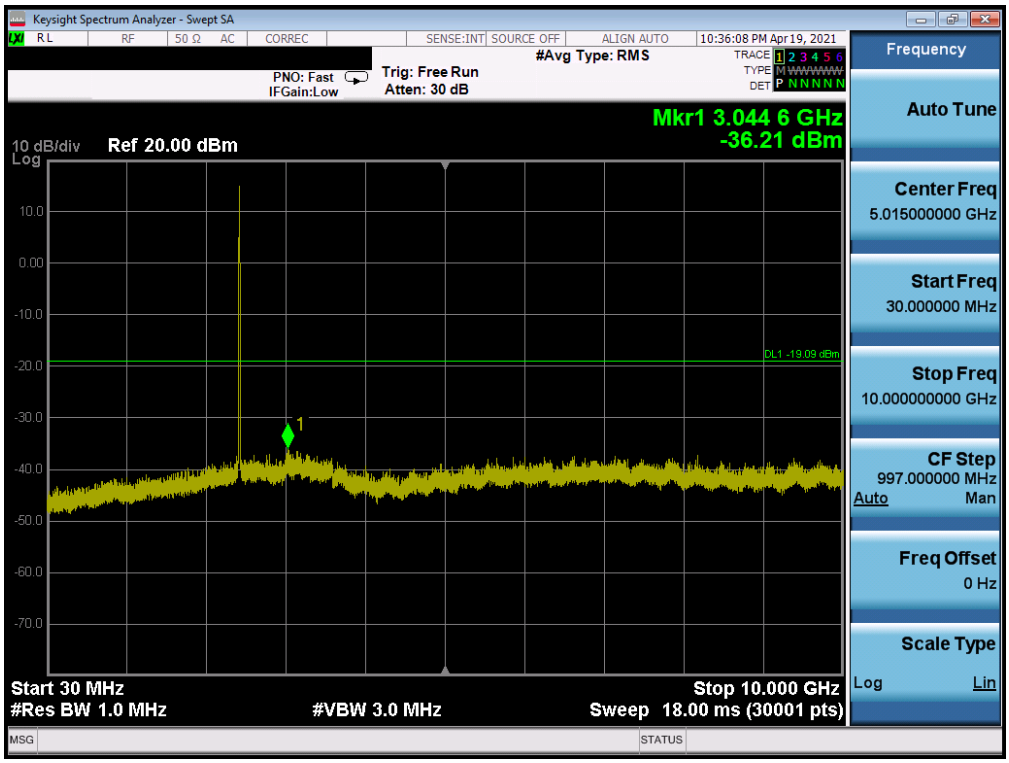
SISO Antenna-2 Conducted Spurious Emissions



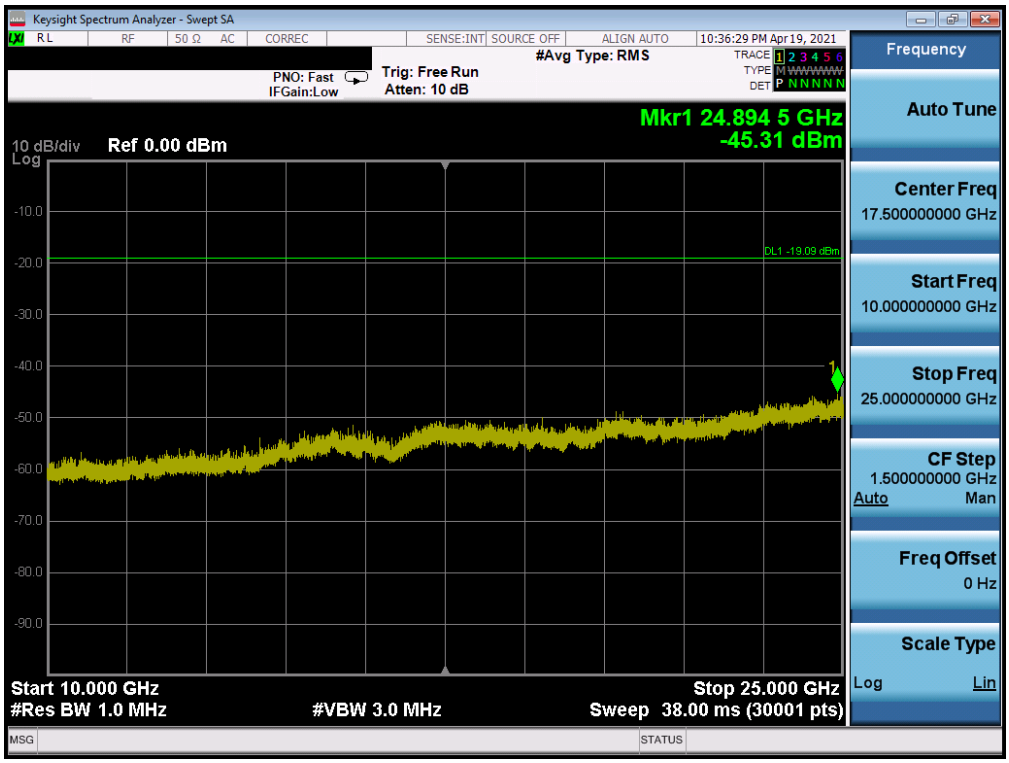
Plot 7-129. Conducted Spurious Plot SISO ANT2 (802.11b – Ch. 1) – Q



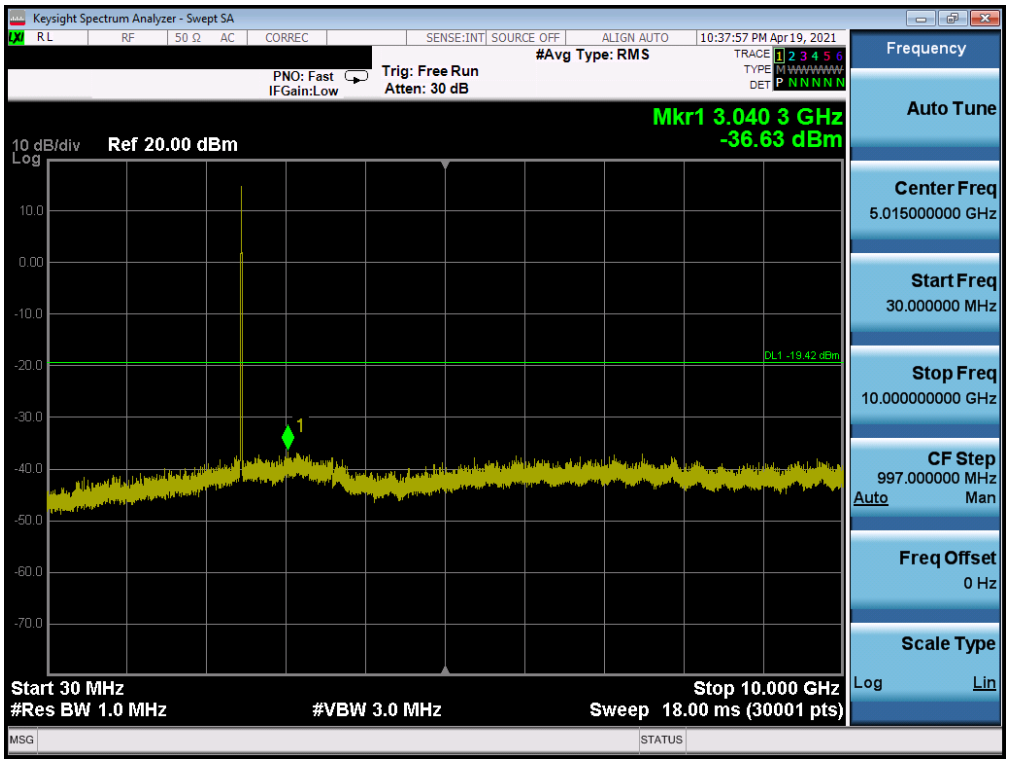
Plot 7-130. Conducted Spurious Plot SISO ANT2 (802.11b – Ch. 1) – Q



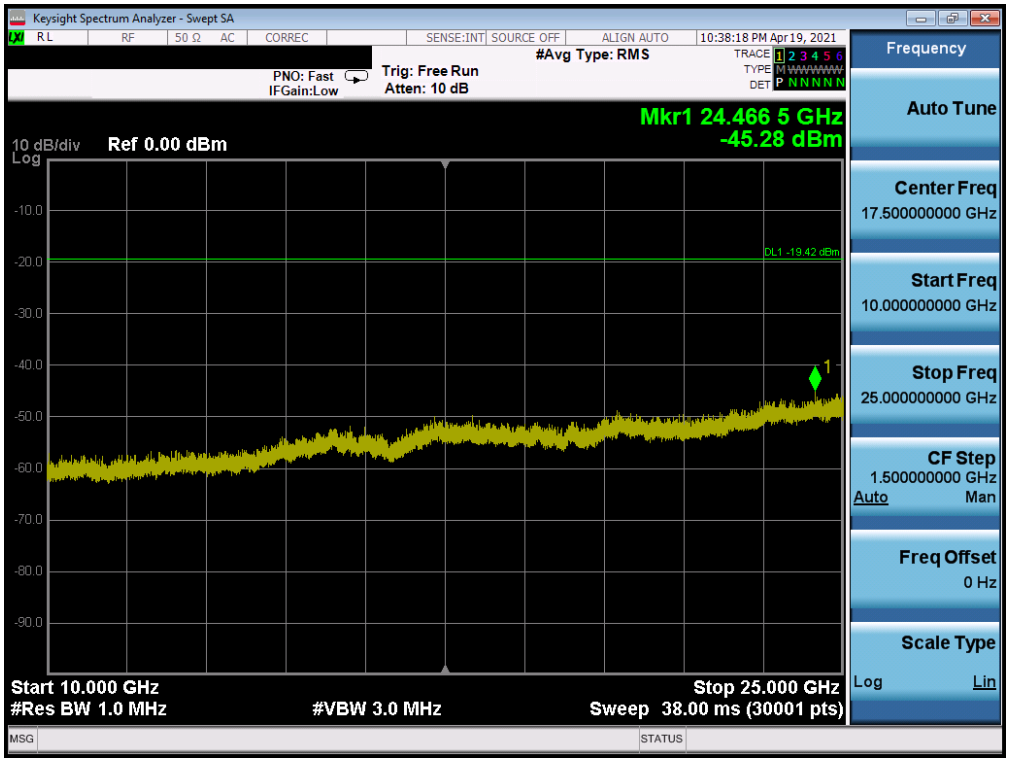
Plot 7-131. Conducted Spurious Plot SISO ANT2 (802.11b – Ch. 6) – Q



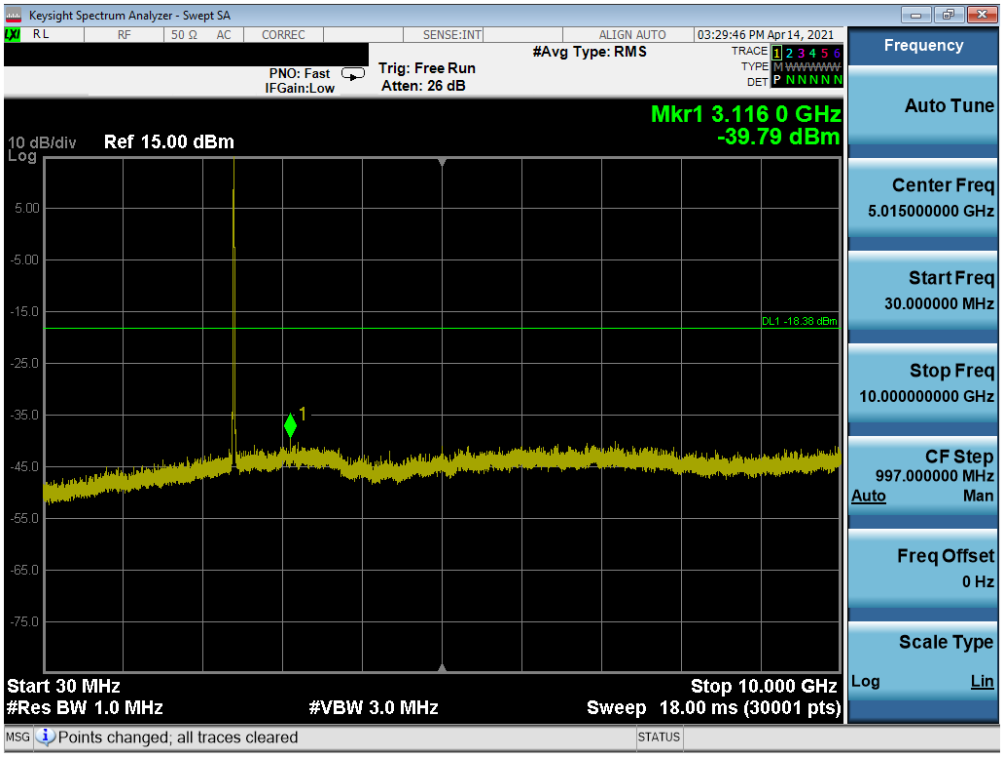
Plot 7-132. Conducted Spurious Plot SISO ANT2 (802.11b – Ch. 6) – Q



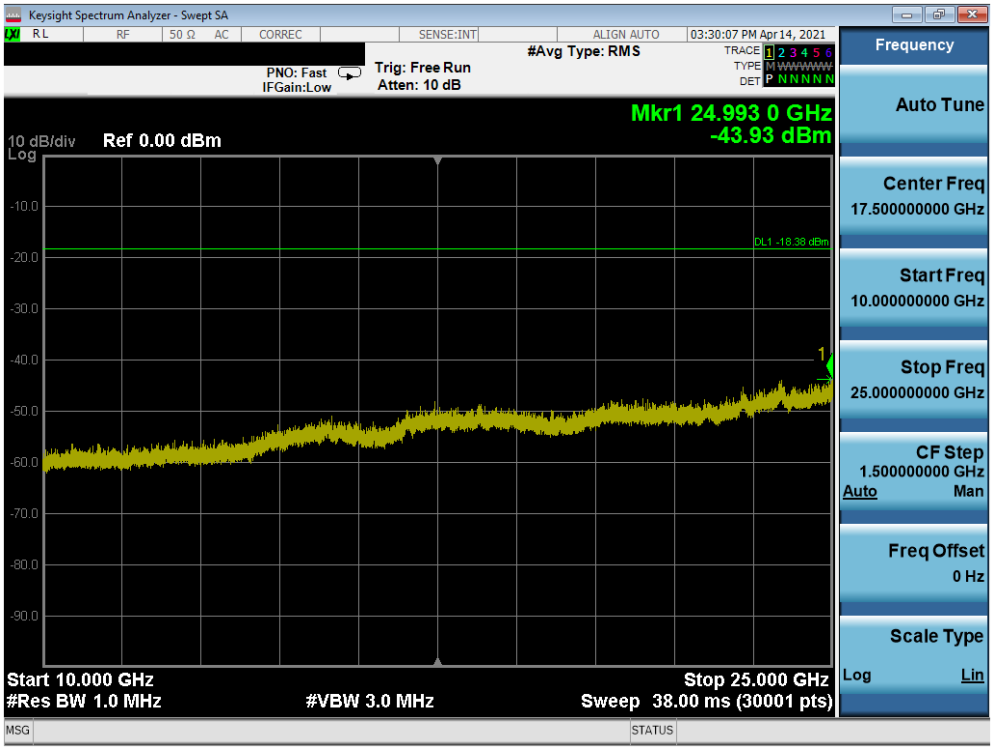
Plot 7-133. Conducted Spurious Plot SISO ANT2 (802.11b – Ch. 11) – Q



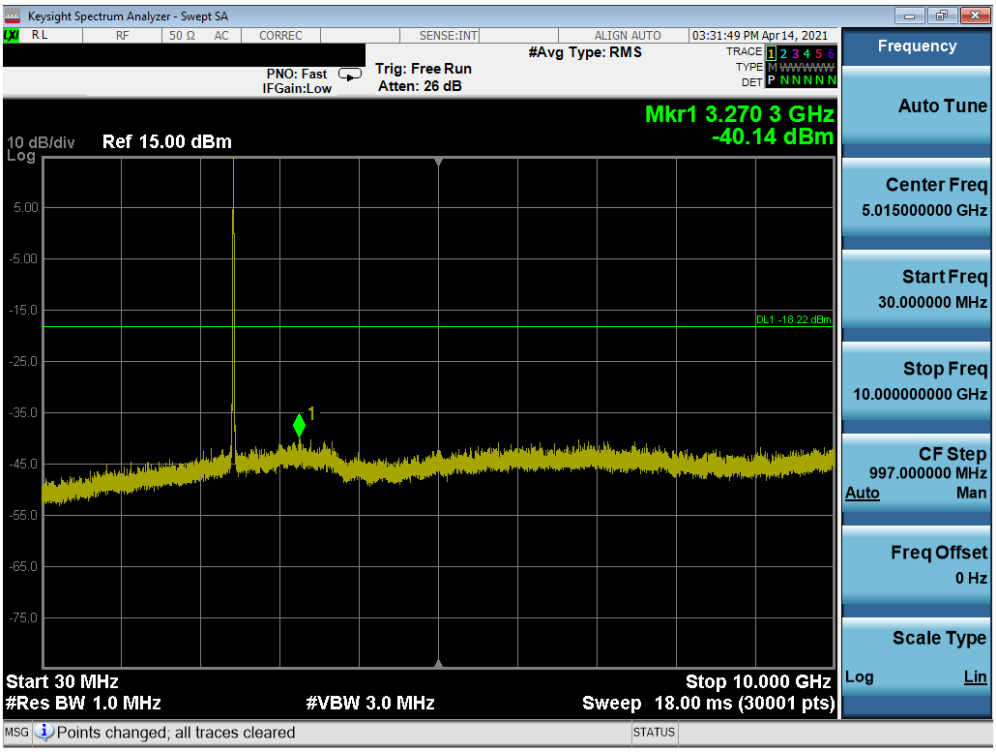
Plot 7-134. Conducted Spurious Plot SISO ANT2 (802.11b – Ch. 11) – Q



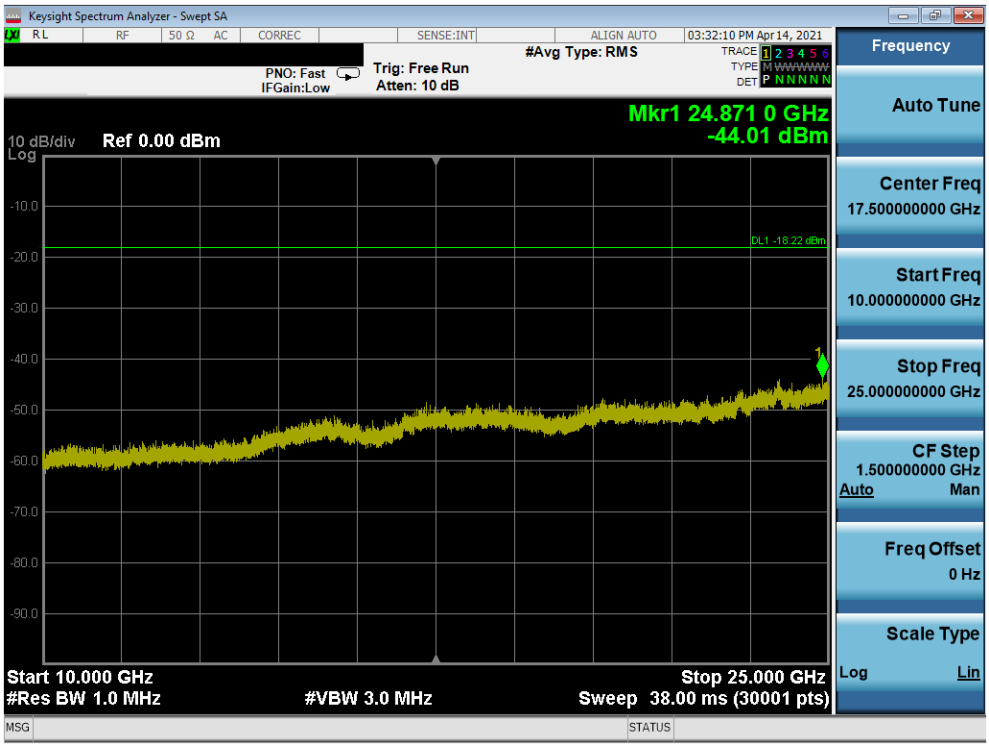
Plot 7-135. Conducted Spurious Plot SISO ANT2 (802.11b – Ch. 1) – N



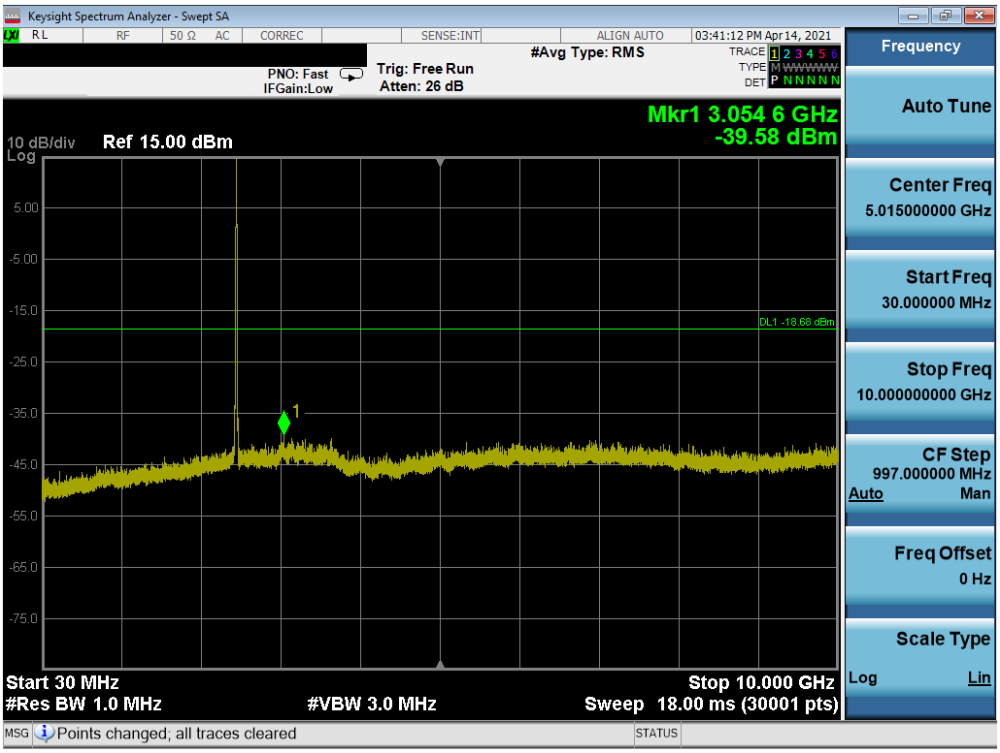
Plot 7-136. Conducted Spurious Plot SISO ANT2 (802.11b – Ch. 1) – N



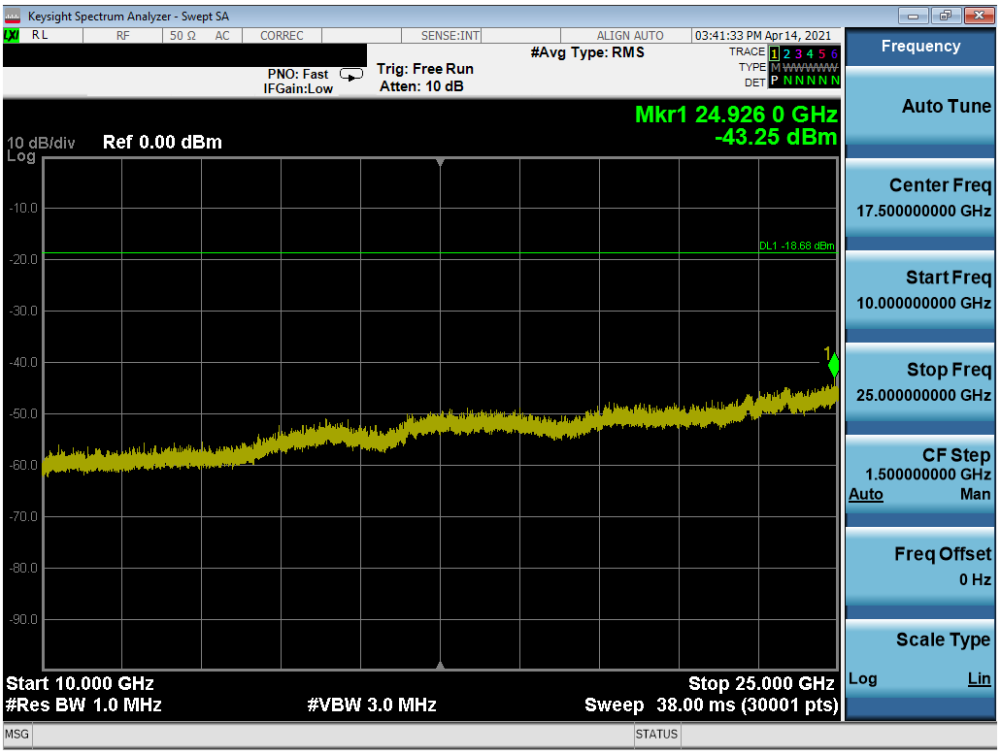
Plot 7-137. Conducted Spurious Plot SISO ANT2 (802.11b – Ch. 6) – N



Plot 7-138. Conducted Spurious Plot SISO ANT2 (802.11b – Ch. 6) – N



Plot 7-139. Conducted Spurious Plot SISO ANT2 (802.11b – Ch. 11) – N



Plot 7-140. Conducted Spurious Plot SISO ANT2 (802.11b – Ch. 11) – N

7.7 Radiated Spurious Emission Measurements – Above 1 GHz

§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-12 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [μV/m]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-12. Radiated Limits

Test Procedures Used

ANSI C63.10-2013 – Section 6.6.4.3
KDB 558074 D01 v05r02 – Sections 8.6, 8.7

Test Settings

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be ≥ 2 x span/RBW)
6. Sweep time = auto
7. Trace (RMS) averaging was performed over at least 100 traces

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

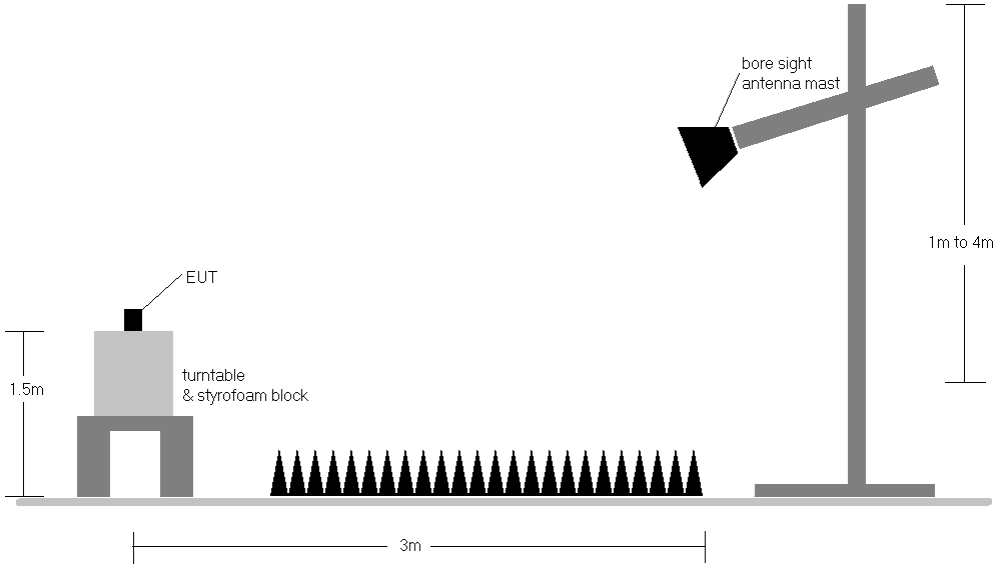


Figure 7-6. Test Instrument & Measurement Setup

Test Notes

1. The optional test procedures for antenna port conducted measurements of unwanted emissions per the guidance of KDB 558074 D01 v05r02 were not used to evaluate this device for compliance to radiated limits. All radiated spurious emissions levels were measured in a radiated test setup.
2. All emissions lying in restricted bands specified in Section 15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-12.
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
6. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
7. Radiated spurious emissions were investigated while operating in MIMO mode, however, it was determined that single antenna operation produced the worst case emissions. Since the emissions produced from MIMO operation were found to be more than 20dB below the limit, the MIMO emissions are not reported.

8. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
9. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
10. This device will be manufactured using two different WIFI chipsets (N and Q) and each chipset supports two configurations: one is with screen open, and one is with screen closed. Both configurations for each chipset are tested, and the worst case radiated emissions data is shown in this report.

Sample Calculations

Determining Spurious Emissions Levels

- Field Strength Level $_{[dB\mu V/m]}$ = Analyzer Level $_{[dBm]}$ + 107 + AFCL $_{[dB/m]}$
- AFCL $_{[dB/m]}$ = Antenna Factor $_{[dB/m]}$ + Cable Loss $_{[dB]}$
- Margin $_{[dB]}$ = Field Strength Level $_{[dB\mu V/m]}$ – Limit $_{[dB\mu V/m]}$

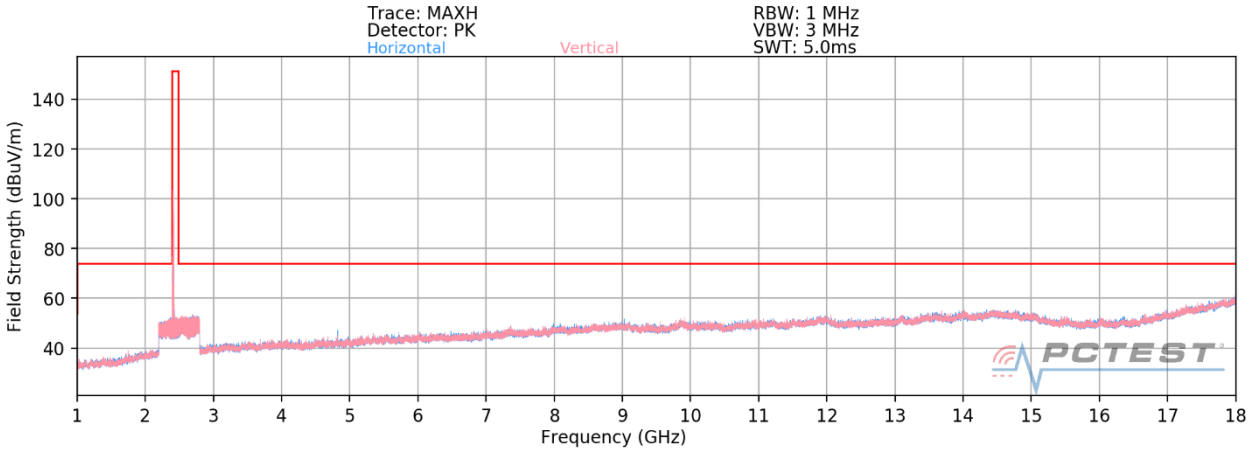
Radiated Band Edge Measurement Offset

- The amplitude offset shown in the radiated restricted band edge plots in Section 7.7 was calculated using the formula:

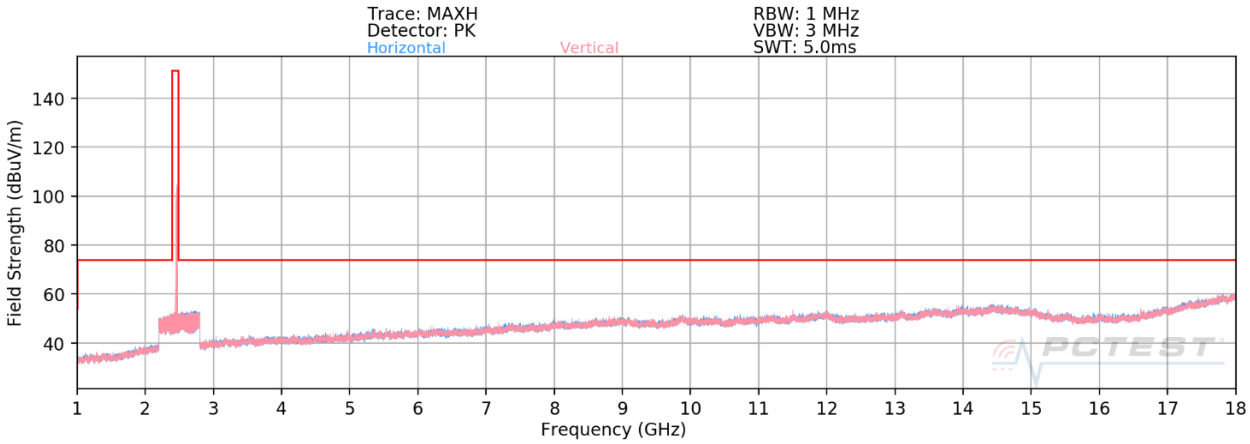
  Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

7.7.1 SISO Antenna-2 Radiated Spurious Emission Measurements

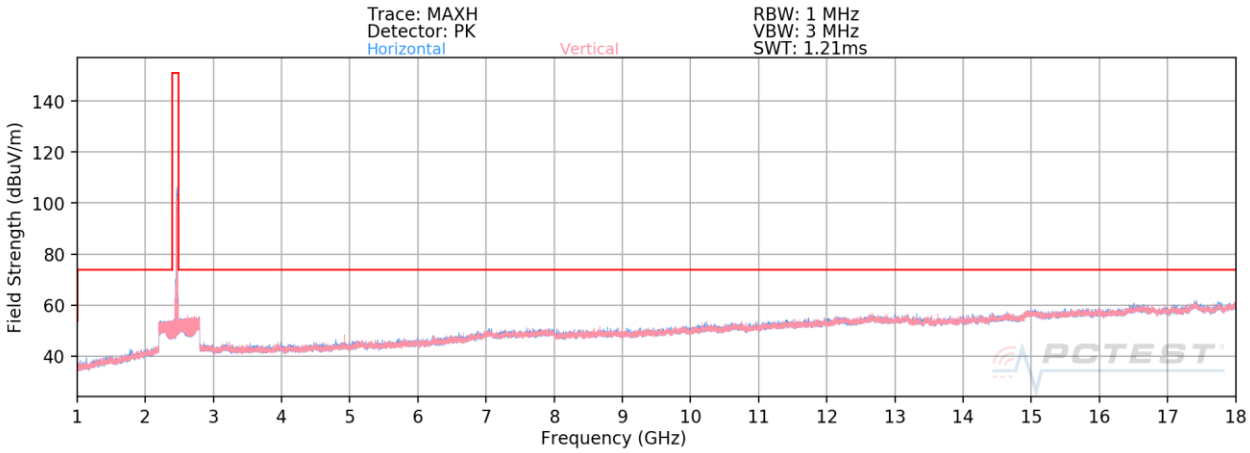
§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]



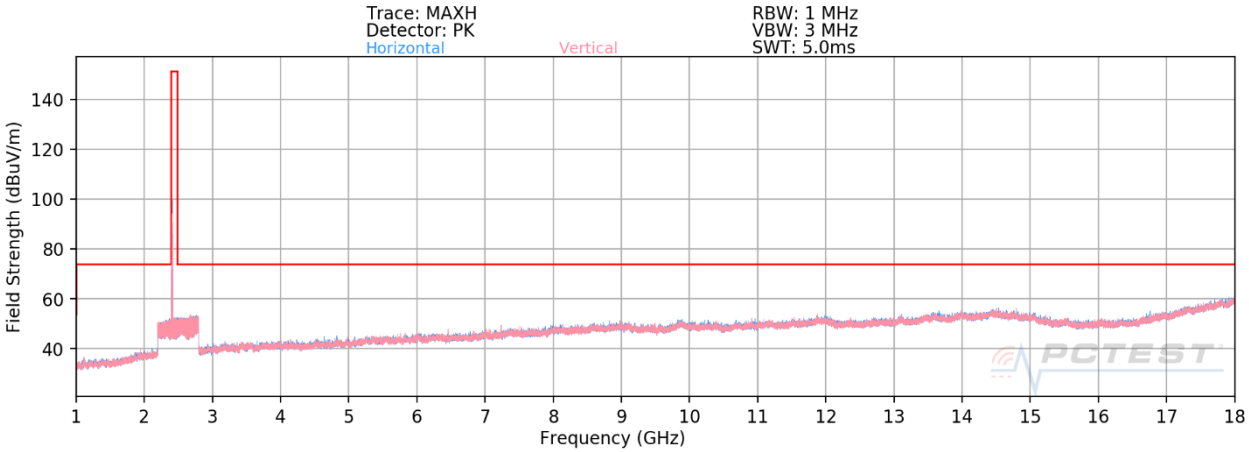
Plot 7-141. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 1) – OPEN (Q)



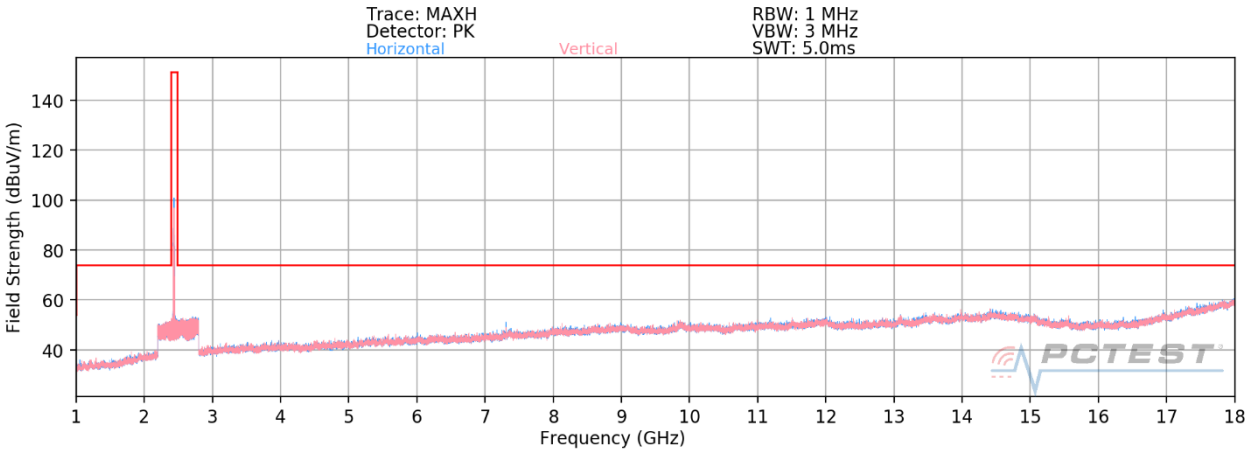
Plot 7-142. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 6) – OPEN (Q)



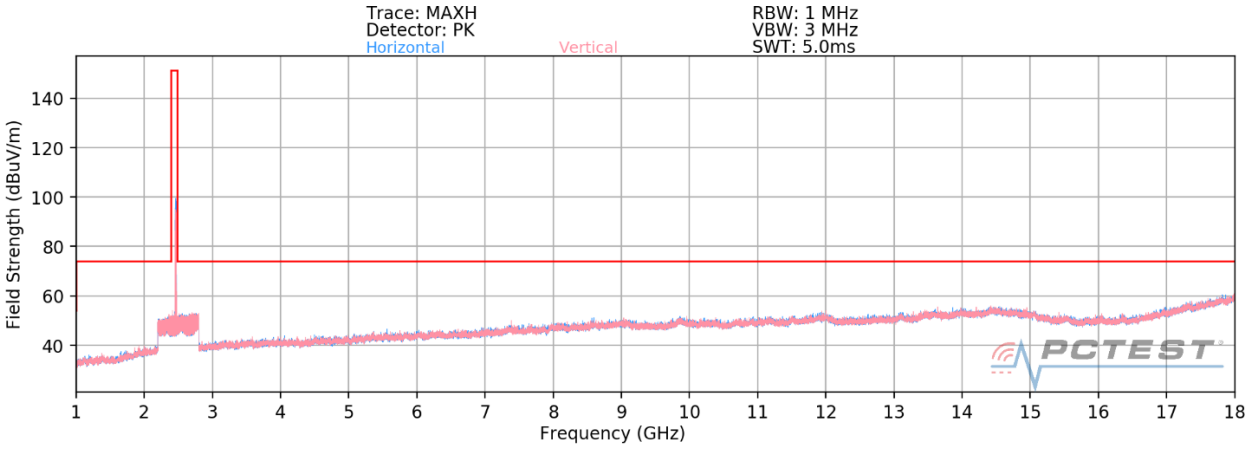
Plot 7-143. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 11) – OPEN (Q)



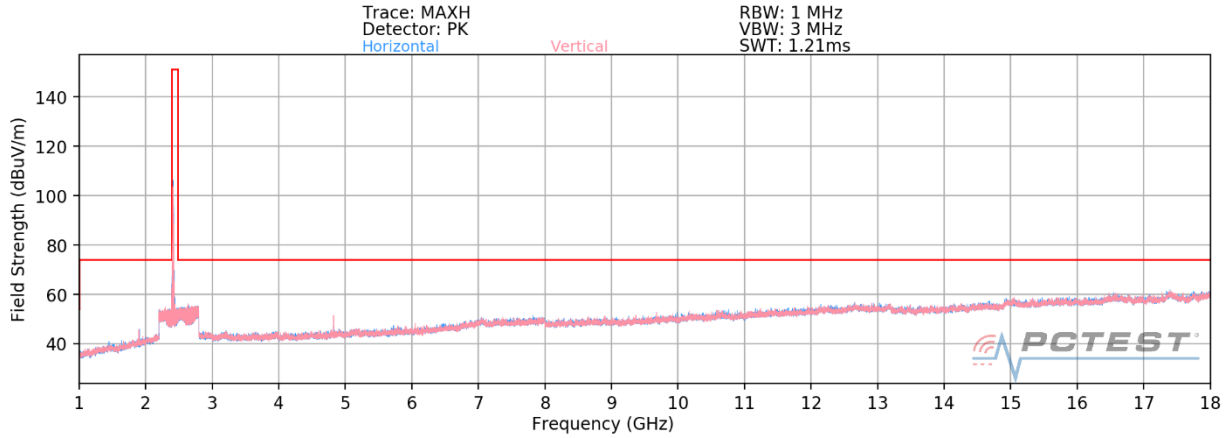
Plot 7-144. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 1) – CLOSED (Q)



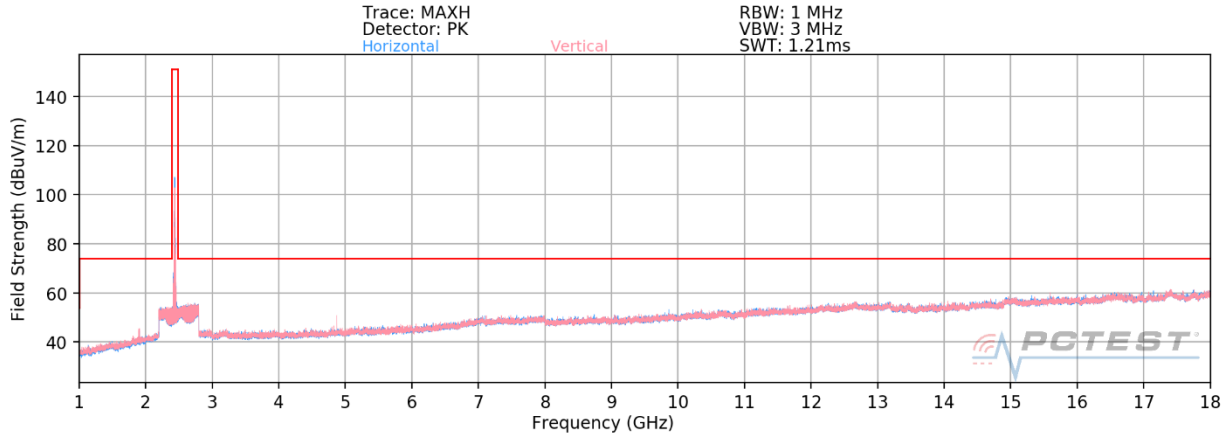
Plot 7-145. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 6) – CLOSED (Q)



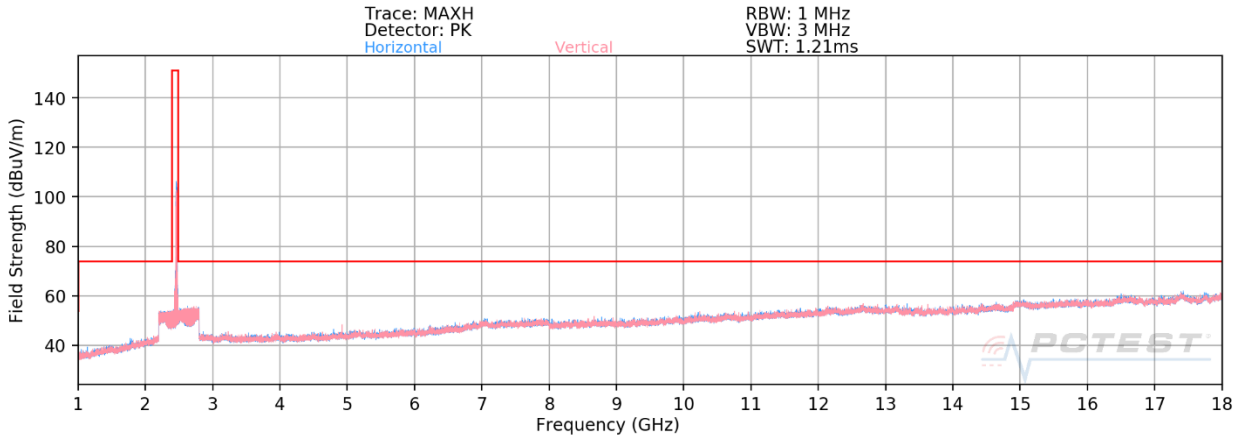
Plot 7-146. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 11) – CLOSED (Q)



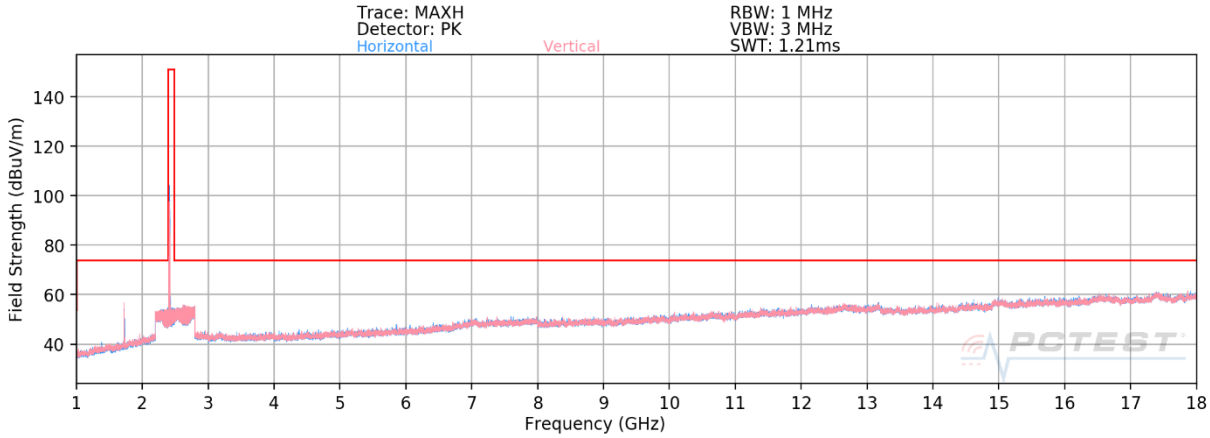
Plot 7-147. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 1) – OPEN (N)



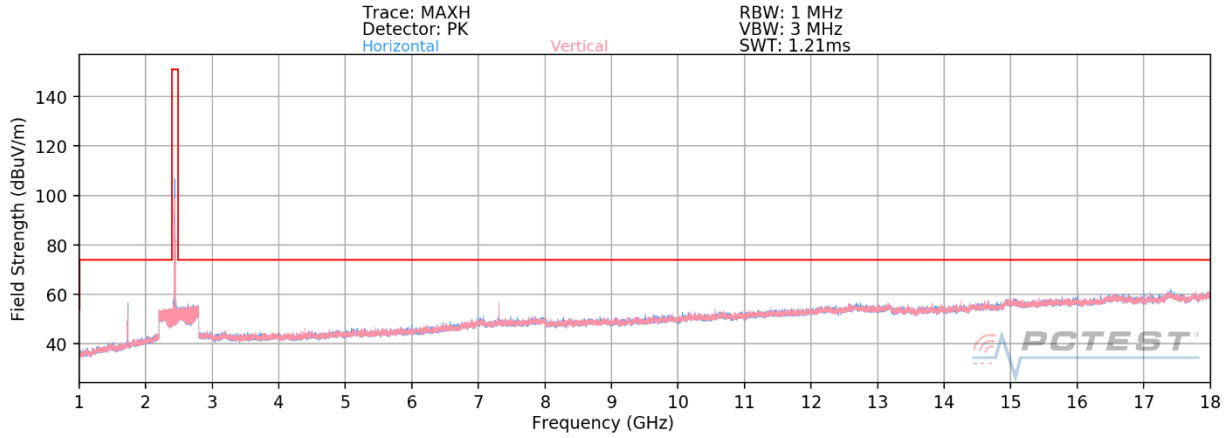
Plot 7-148. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 6) – OPEN (N)



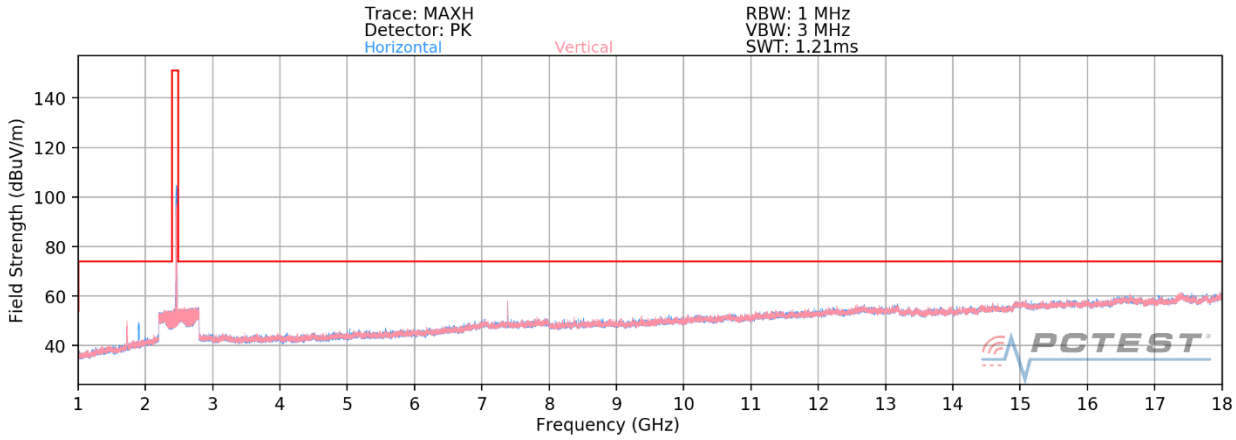
Plot 7-149. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 11) – OPEN (N)



Plot 7-150. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 1) – CLOSED (N)



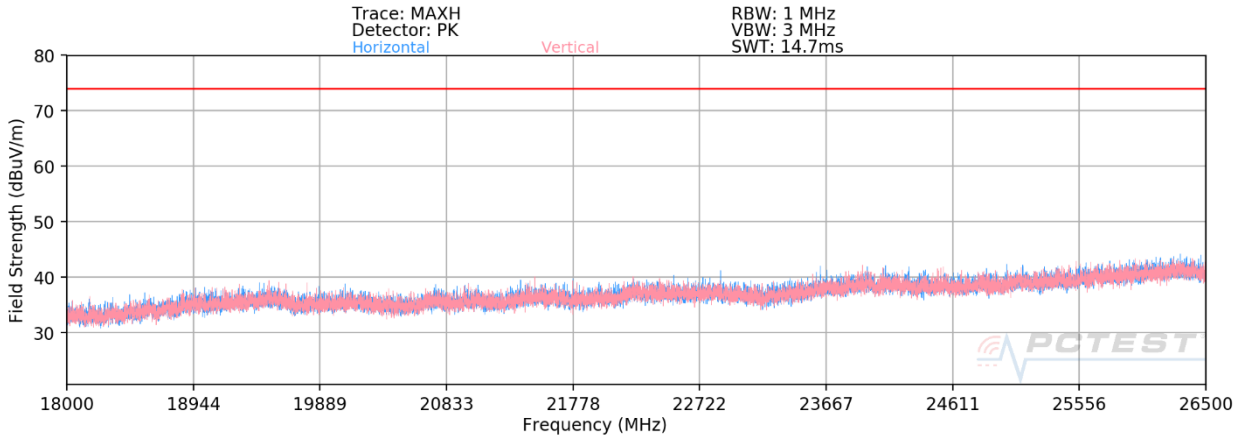
Plot 7-151. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 6) – CLOSED (N)



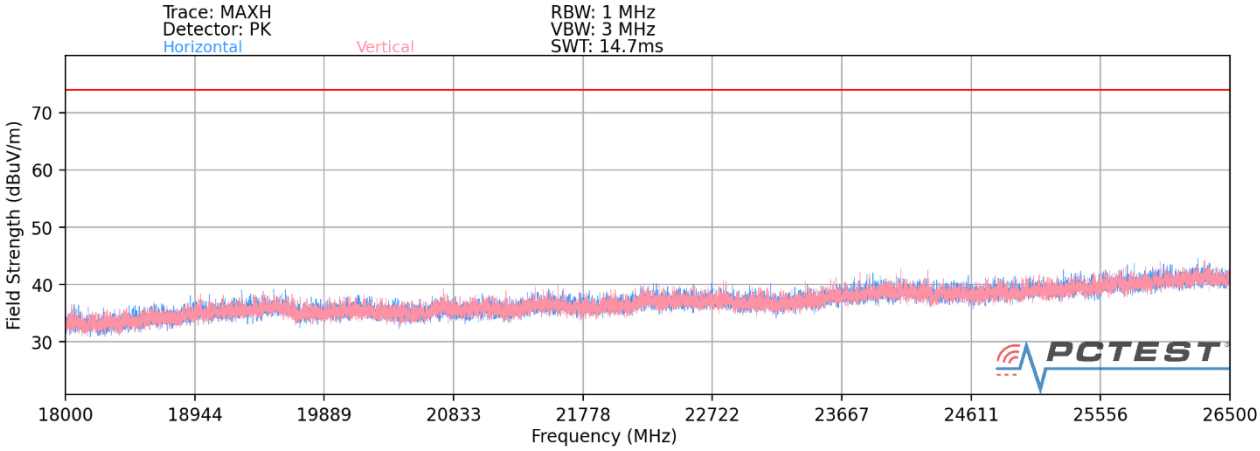
Plot 7-152. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11b – Ch. 11) – CLOSED (N)

SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)

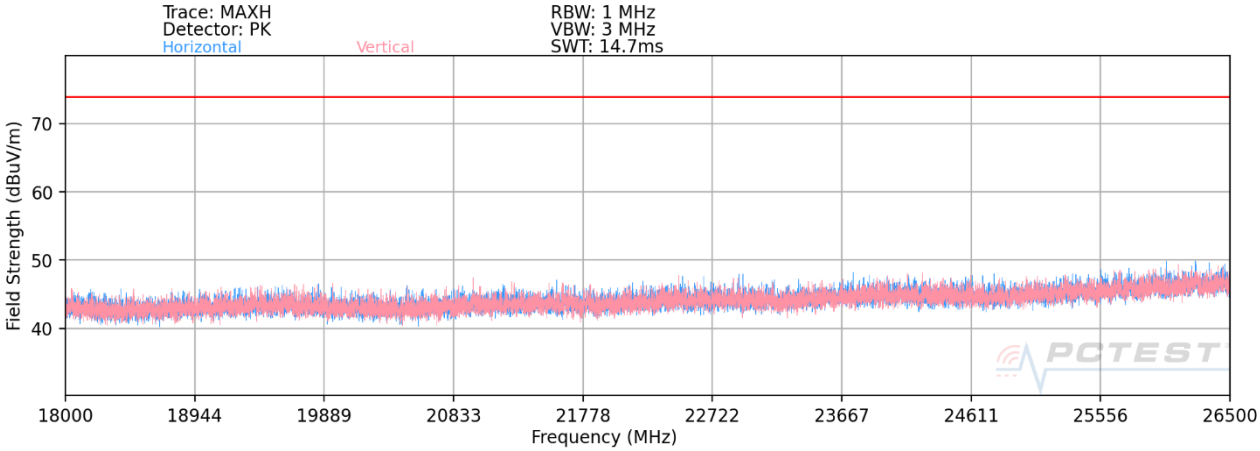
§15.209; RSS-Gen [8.9]



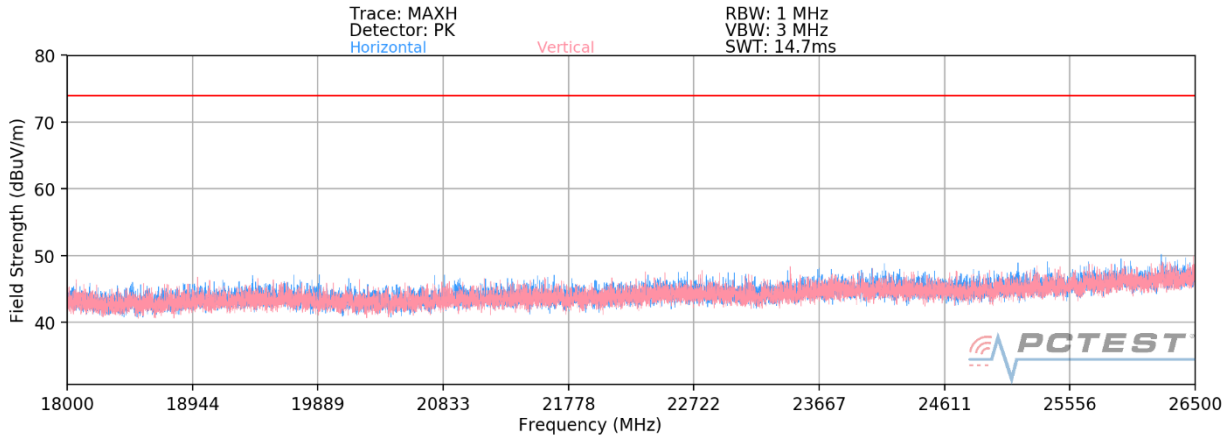
Plot 7-153. Radiated Spurious Plot above 18GHz SISO ANT2 – OPEN (Q)



Plot 7-154. Radiated Spurious Plot above 18GHz SISO ANT2– CLOSED (Q)



Plot 7-155. Radiated Spurious Plot above 18GHz SISO ANT2– OPEN (N)



Plot 7-156. Radiated Spurious Plot above 18GHz SISO ANT2– CLOSED (N)

SISO Antenna-2 Radiated Spurious Emission Measurements

§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11b
Worst Case Transfer Rate:	1 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2412MHz
Channel:	01

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4824.00	Avg	H	223	3	-75.15	9.84	41.69	53.98	-12.29
4824.00	Peak	H	223	3	-65.37	9.84	51.47	73.98	-22.51
12060.00	Avg	H	-	-	-83.95	23.30	46.35	53.98	-7.62
12060.00	Peak	H	-	-	-71.77	23.30	58.53	73.98	-15.44

Table 7-13. Radiated Measurements SISO ANT2 – CLOSED (Q)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4824.00	Avg	H	-	-	-79.65	6.80	34.15	53.98	-19.83
4824.00	Peak	H	-	-	-68.41	6.80	45.39	73.98	-28.59
12060.00	Avg	H	-	-	-81.59	18.06	43.47	53.98	-10.51
12060.00	Peak	H	-	-	-69.86	18.06	55.20	73.98	-18.78

Table 7-14. Radiated Measurements SISO ANT2 – OPEN (N)

Worst Case Mode: 802.11b
Worst Case Transfer Rate: 1 Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 2437MHz
Channel: 06

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4874.00	Avg	H	312	87	-80.52	9.46	35.94	53.98	-18.04
4874.00	Peak	H	312	87	-68.48	9.46	47.98	73.98	-26.00
7311.00	Avg	H	-	-	-82.59	16.16	40.57	53.98	-13.41
7311.00	Peak	H	-	-	-70.37	16.16	52.79	73.98	-21.19
12185.00	Avg	H	-	-	-84.05	23.30	46.25	53.98	-7.73
12185.00	Peak	H	-	-	-72.00	23.30	58.30	73.98	-15.68

Table 7-15. Radiated Measurements SISO ANT2- CLOSED (Q)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4874.00	Avg	H	-	-	-79.74	7.32	34.58	53.98	-19.40
4874.00	Peak	H	-	-	-68.91	7.32	45.41	73.98	-28.57
7311.00	Avg	H	-	-	-70.88	12.45	48.57	53.98	-5.40
7311.00	Peak	H	-	-	-64.29	12.45	55.16	73.98	-18.81
12185.00	Avg	H	-	-	-81.61	18.35	43.74	53.98	-10.24
12185.00	Peak	H	-	-	-70.24	18.35	55.11	73.98	-18.87

Table 7-16. Radiated Measurements SISO ANT2 - OPEN (N)

Worst Case Mode:	802.11b
Worst Case Transfer Rate:	1 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2462MHz
Channel:	11

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	Avg	H	354	348	-79.52	9.69	37.17	53.98	-16.81
4924.00	Peak	H	354	348	-68.29	9.69	48.40	73.98	-25.58
7386.00	Avg	H	-	-	-82.51	15.69	40.18	53.98	-13.80
7386.00	Peak	H	-	-	-70.56	15.69	52.13	73.98	-21.85
12310.00	Avg	H	-	-	-84.73	23.18	45.45	53.98	-8.53
12310.00	Peak	H	-	-	-72.45	23.18	57.73	73.98	-16.25

Table 7-17. Radiated Measurements SISO ANT2 - CLOSED (Q)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	Avg	H	-	-	-79.21	7.44	35.23	53.98	-18.75
4924.00	Peak	H	-	-	-68.48	7.44	45.96	73.98	-28.02
7386.00	Avg	H	125	313	-69.54	12.26	49.72	53.98	-4.26
7386.00	Peak	H	125	313	-58.73	12.26	60.53	73.98	-13.45
12310.00	Avg	H	-	-	-82.18	18.69	43.51	53.98	-10.47
12310.00	Peak	H	-	-	-70.90	18.69	54.79	73.98	-19.19

Table 7-18. Radiated Measurements SISO ANT2 - OPEN (N)

Worst Case Mode:	802.11b
Worst Case Transfer Rate:	1 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2462MHz
Channel:	11

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	Avg	H	-	-	-79.48	7.44	34.96	53.98	-19.02
4924.00	Peak	H	-	-	-68.28	7.44	46.16	73.98	-27.82
7386.00	Avg	H	-	-	-80.17	12.26	39.09	53.98	-14.89
7386.00	Peak	H	-	-	-68.72	12.26	50.54	73.98	-23.44
12310.00	Avg	H	-	-	-80.21	18.69	45.48	53.98	-8.50
12310.00	Peak	H	-	-	-70.87	18.69	54.82	73.98	-19.16

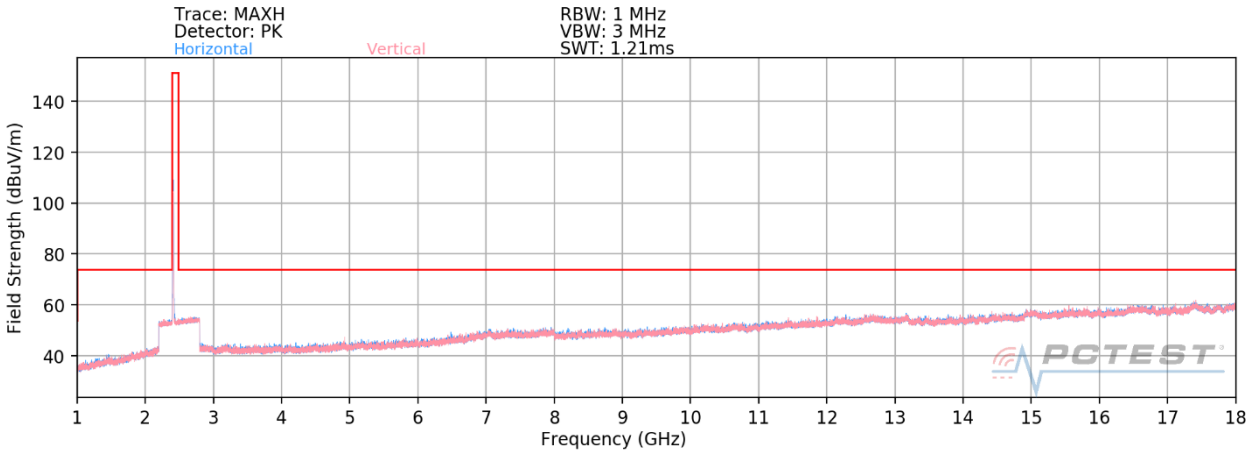
Table 7-19. Radiated Measurements SISO ANT2 with WCP – Q

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	Avg	V	-	-	-79.61	7.44	34.83	53.98	-19.15
4924.00	Peak	V	-	-	-68.25	7.44	46.19	73.98	-27.79
7386.00	Avg	V	-	-	-80.11	12.26	39.15	53.98	-14.83
7386.00	Peak	V	-	-	-69.12	12.26	50.14	73.98	-23.84
12310.00	Avg	V	-	-	-82.30	18.69	43.39	53.98	-10.59
12310.00	Peak	V	-	-	-71.31	18.69	54.38	73.98	-19.60

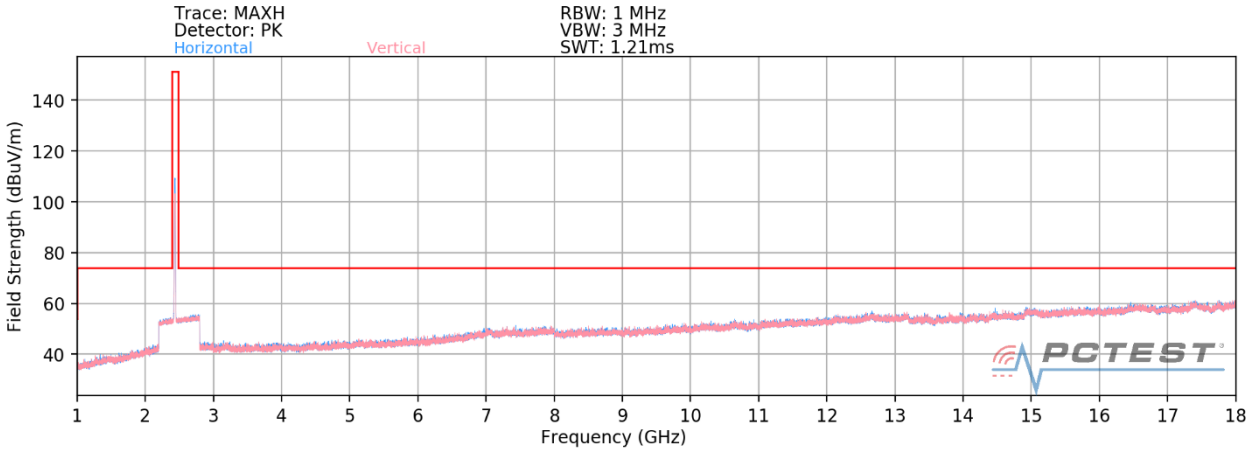
Table 7-20. Radiated Measurements SISO ANT2 with WCP – N

7.7.2 CDD Radiated Spurious Emission Measurements

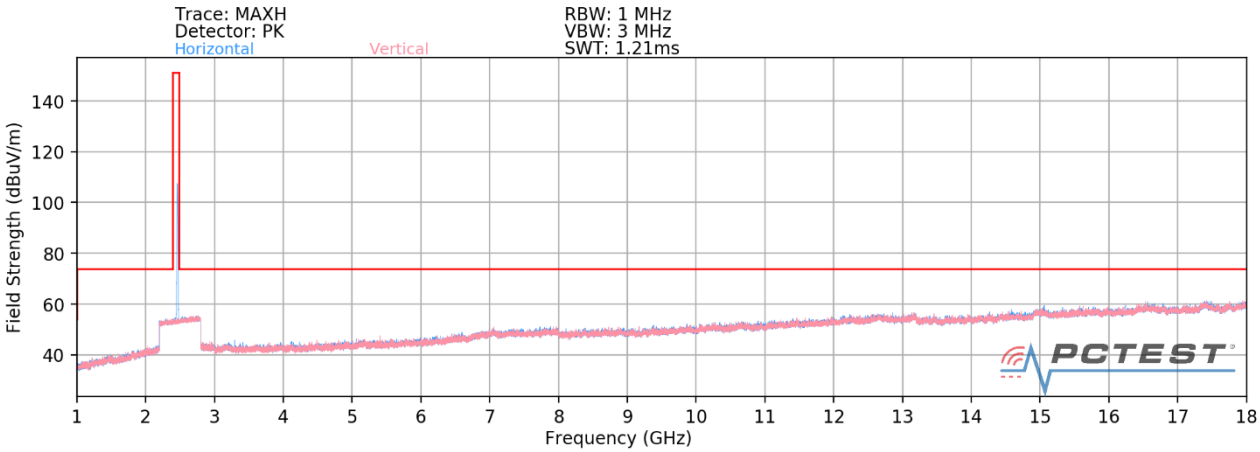
§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]



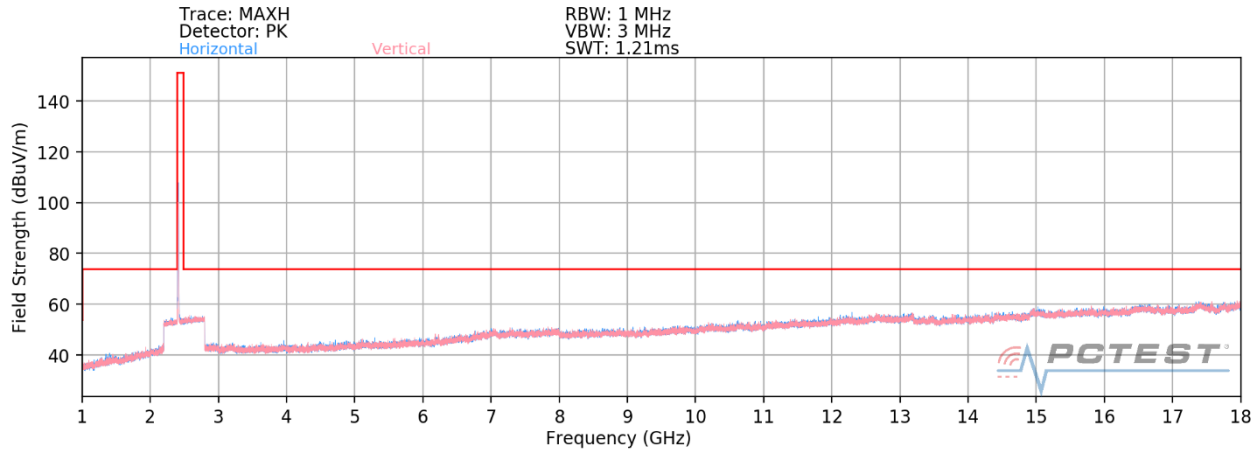
Plot 7-157. Radiated Spurious Plot above 1GHz CDD (802.11b – Ch. 1) – OPEN (Q)



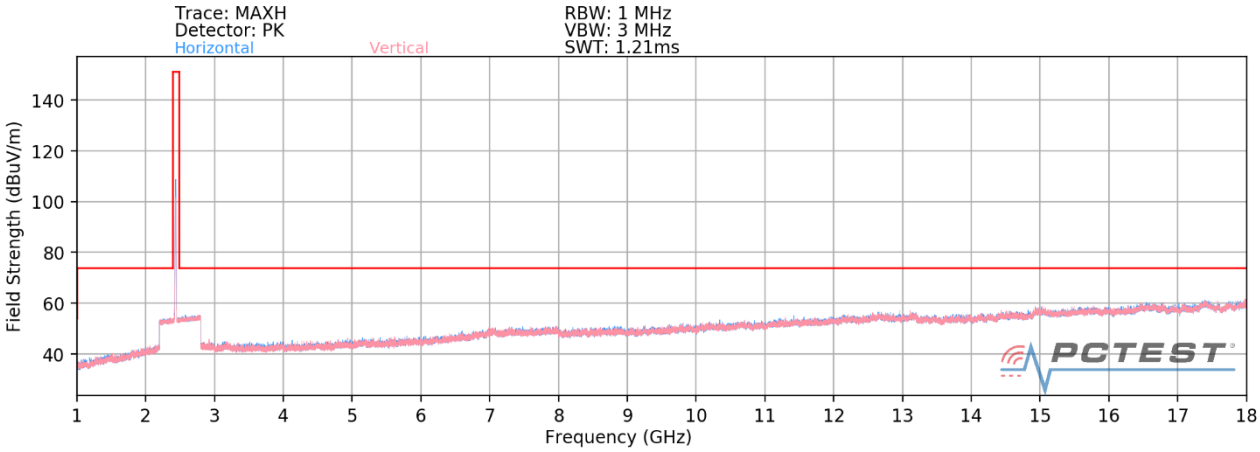
Plot 7-158. Radiated Spurious Plot above 1GHz CDD (802.11b – Ch. 6) – OPEN (Q)



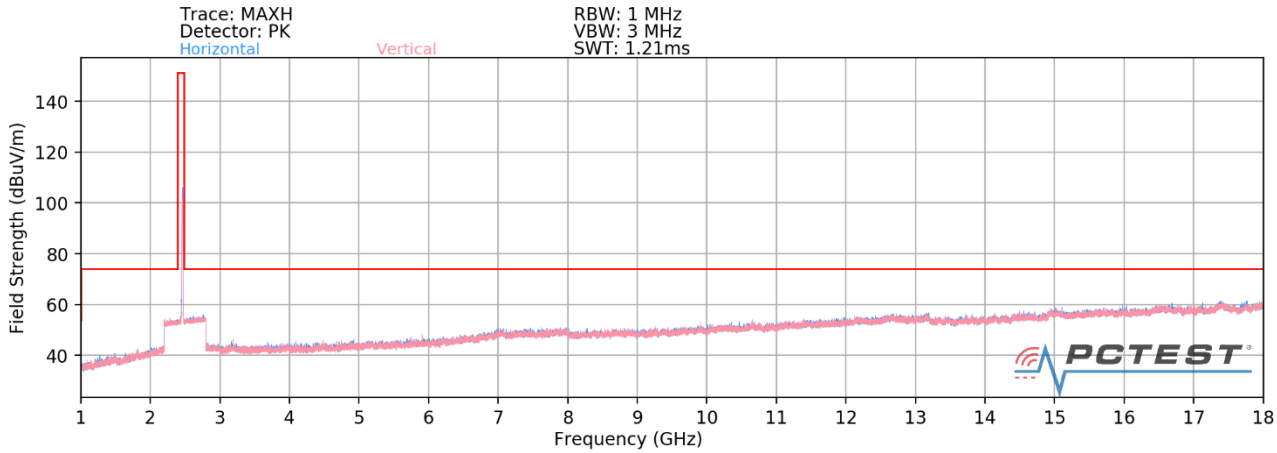
Plot 7-159. Radiated Spurious Plot above 1GHz CDD (802.11b – Ch. 11) – OPEN (Q)



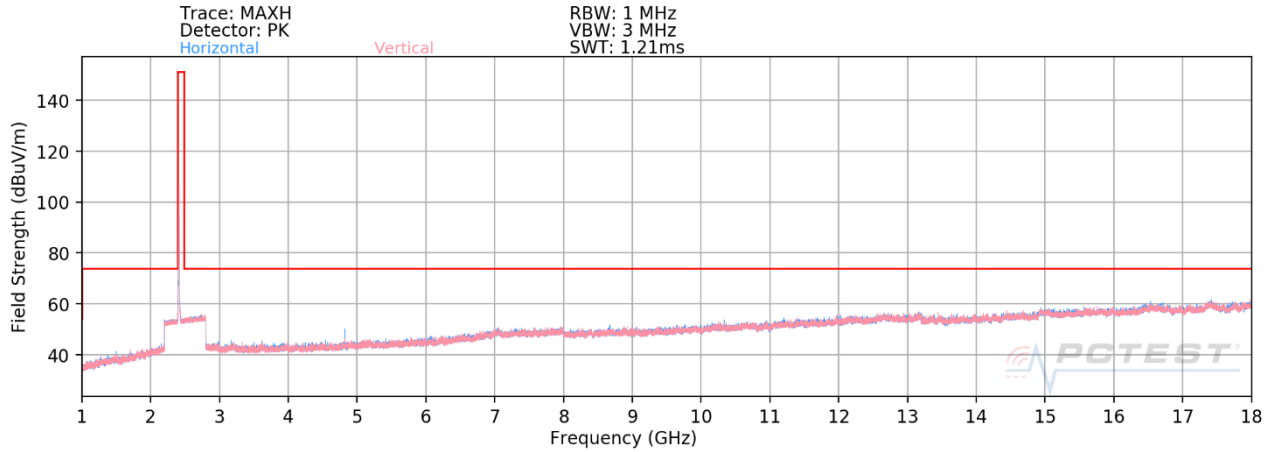
Plot 7-160. Radiated Spurious Plot above 1GHz CDD (802.11b – Ch. 1) – CLOSED (Q)



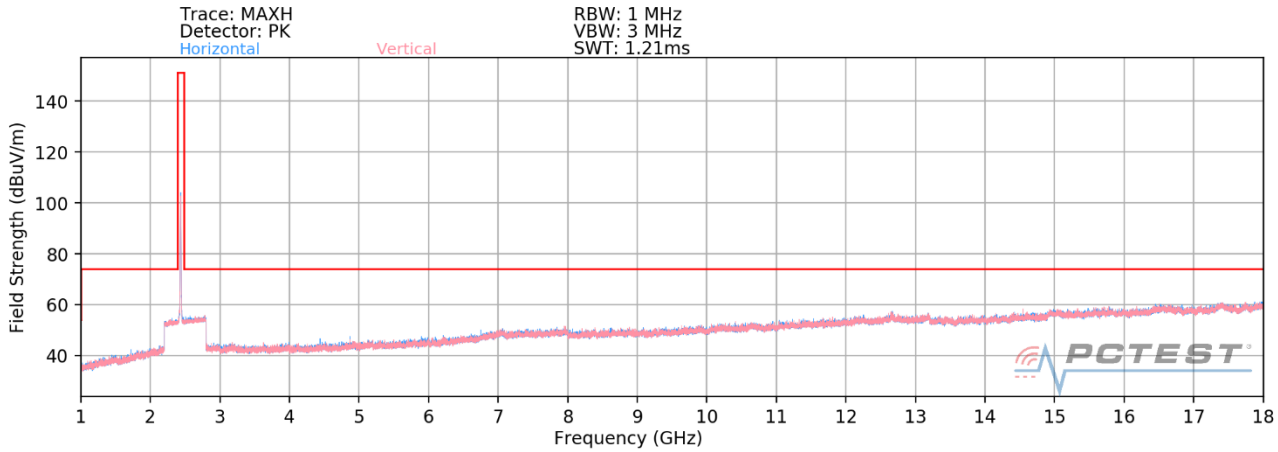
Plot 7-161. Radiated Spurious Plot above 1GHz CDD (802.11b – Ch. 6) – CLOSED (Q)



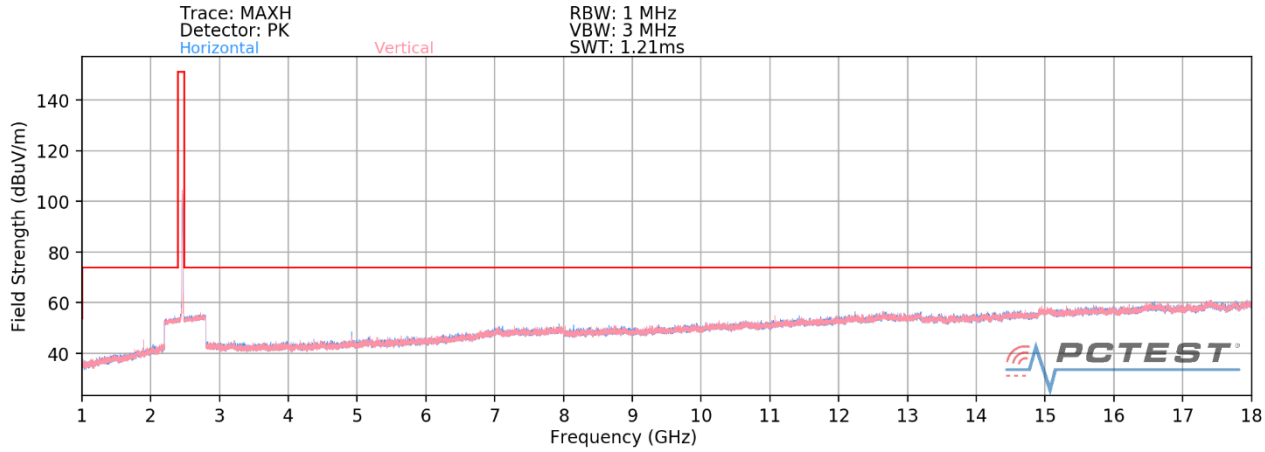
Plot 7-162. Radiated Spurious Plot above 1GHz CDD (802.11b – Ch. 11) – CLOSED (Q)



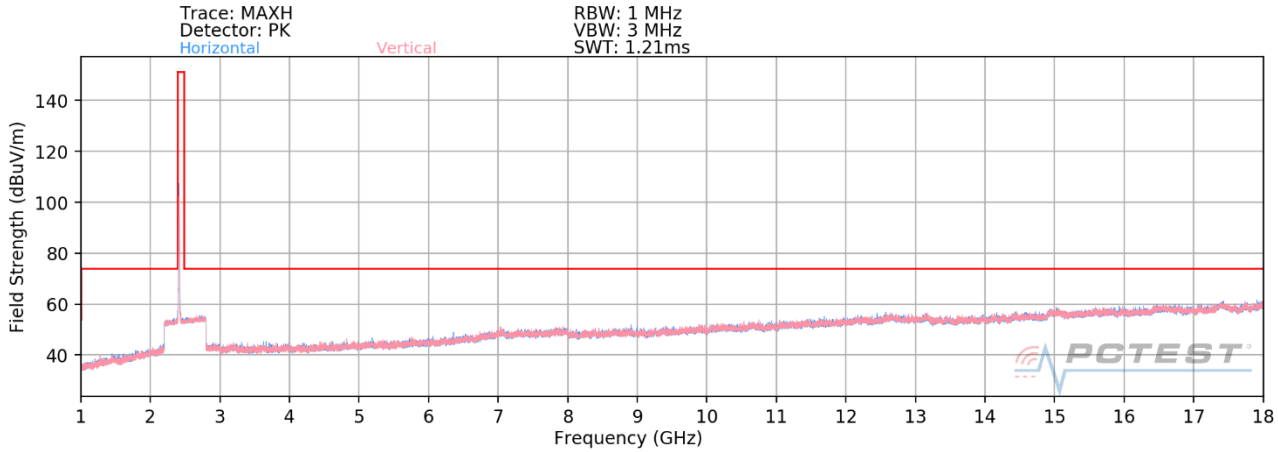
Plot 7-163. Radiated Spurious Plot above 1GHz CDD (802.11b – Ch. 1) – OPEN (N)



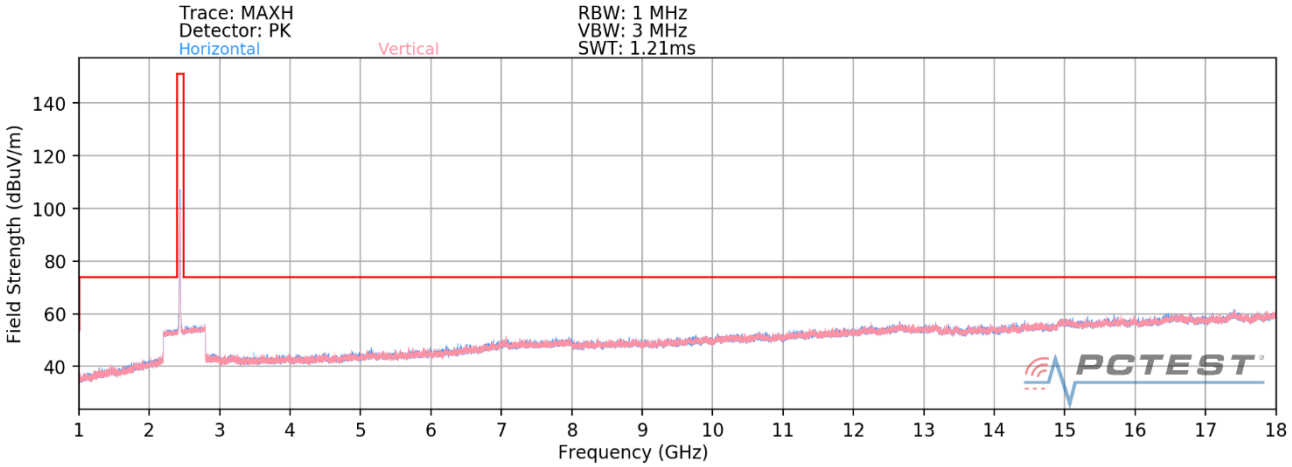
Plot 7-164. Radiated Spurious Plot above 1GHzCDD (802.11b – Ch. 6) – OPEN (N)



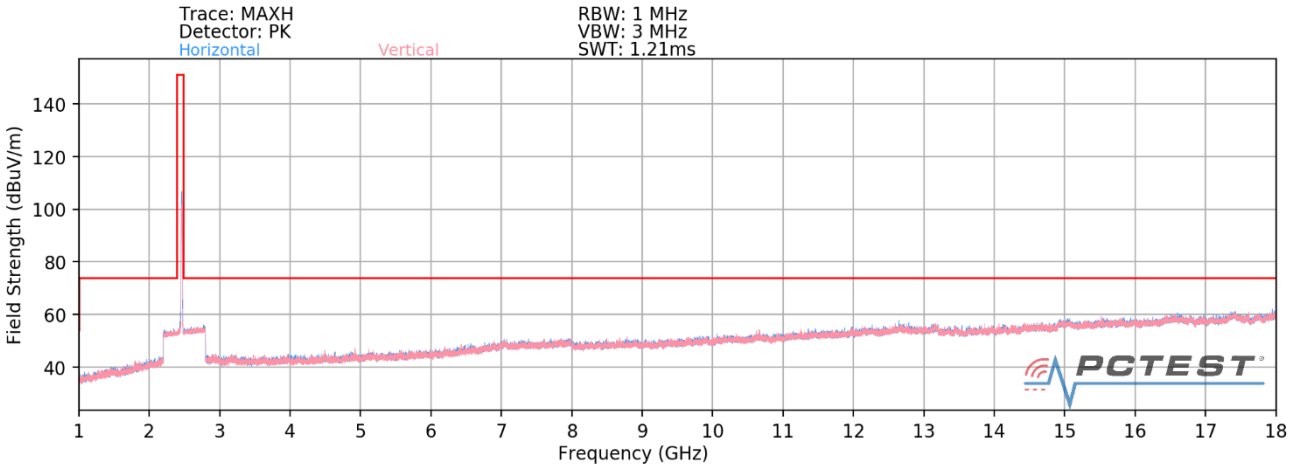
Plot 7-165. Radiated Spurious Plot above 1GHz CDD (802.11b – Ch. 11) – OPEN (N)



Plot 7-166. Radiated Spurious Plot above 1GHz CDD (802.11b – Ch. 1) – CLOSED (N)



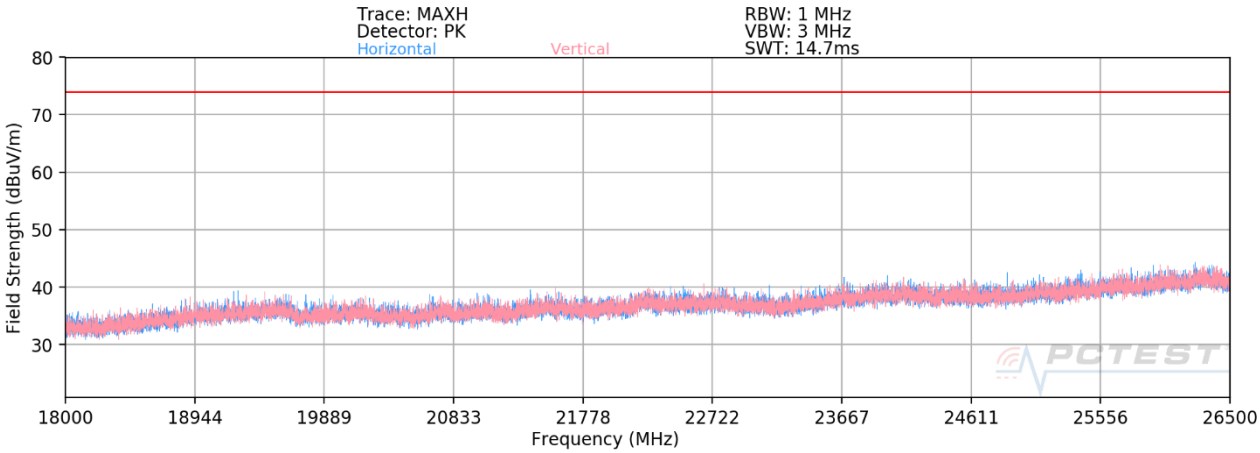
Plot 7-167. Radiated Spurious Plot above 1GHz CDD (802.11b – Ch. 6) – CLOSED (N)



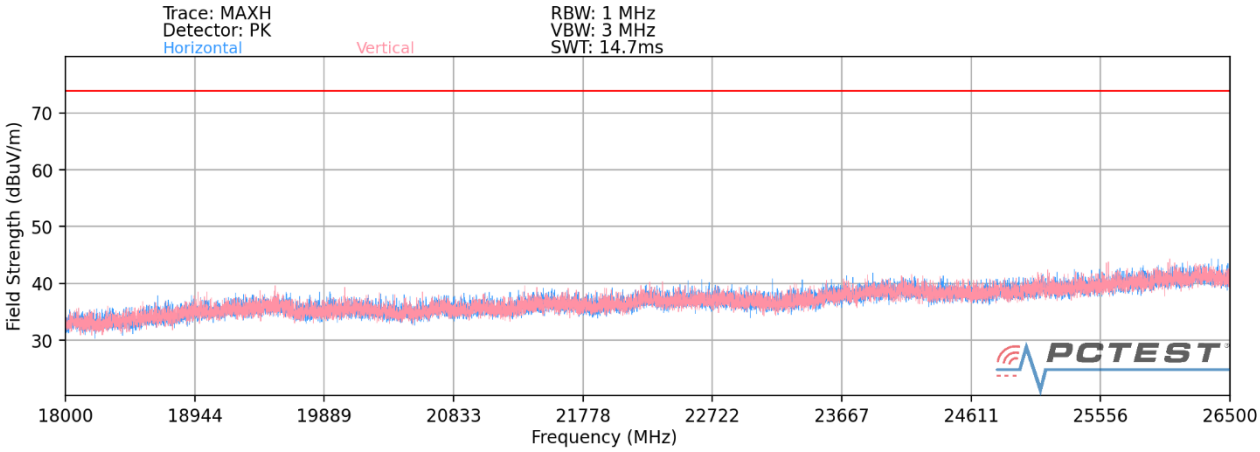
Plot 7-168. Radiated Spurious Plot above 1GHz CDD (802.11b – Ch. 11) – CLOSED (N)

CDD Radiated Spurious Emissions Measurements (Above 18GHz)

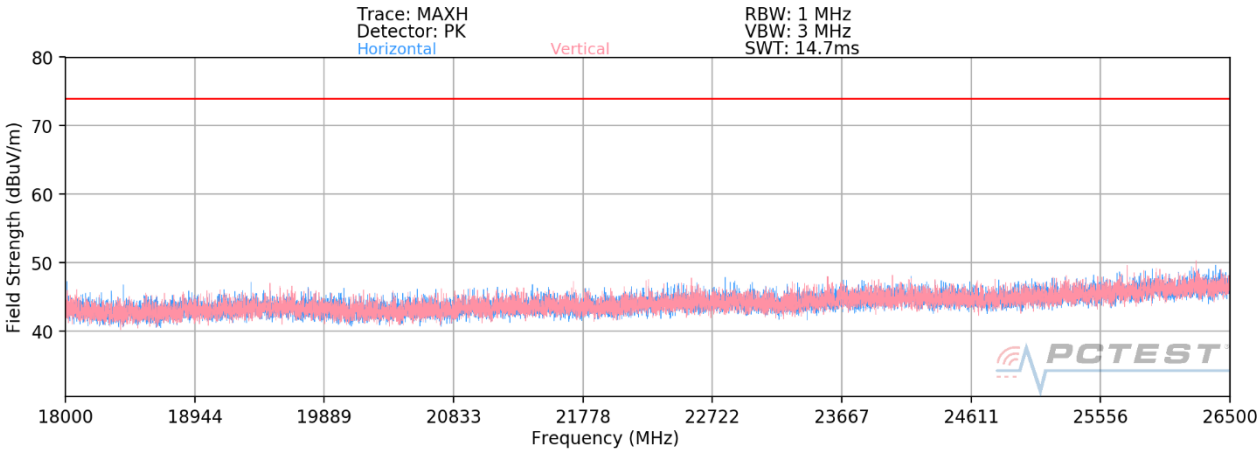
§15.209; RSS-Gen [8.9]



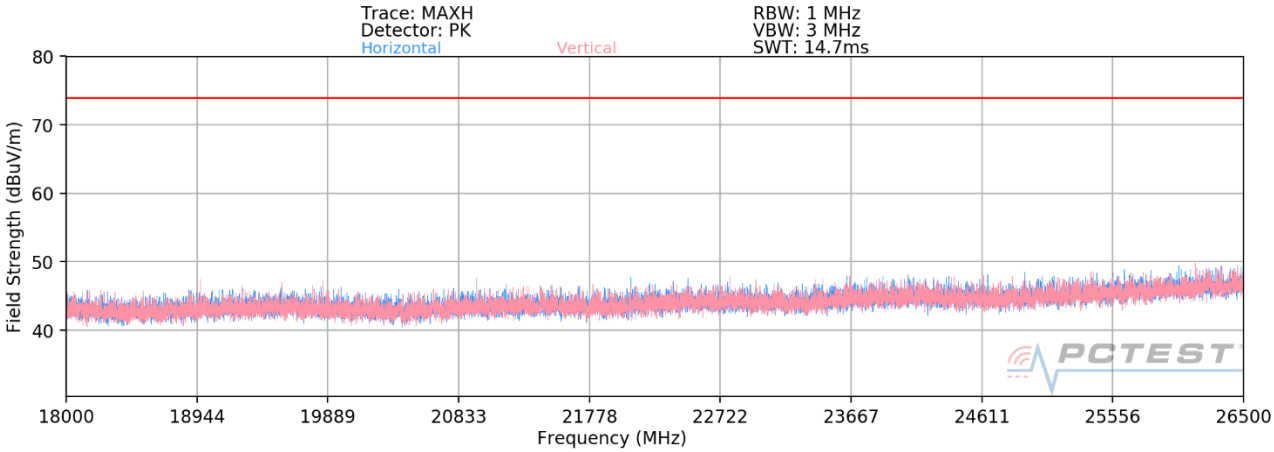
Plot 7-169. Radiated Spurious Plot above 18GHz CDD – OPEN (Q)



Plot 7-170. Radiated Spurious Plot above 18GHz CDD – CLOSED (Q)



Plot 7-171. Radiated Spurious Plot above 18GHz CDD – OPEN (N)



Plot 7-172. Radiated Spurious Plot above 18GHz CDD – CLOSED (N)

MIMO/CDD Radiated Spurious Emission Measurements

§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11b
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2412MHz
Channel:	01

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4824.00	Avg	V	-	-	-79.34	6.79	34.45	53.98	-19.53
4824.00	Peak	V	-	-	-68.59	6.79	45.20	73.98	-28.78
12060.00	Avg	V	-	-	-81.66	18.06	43.40	53.98	-10.58
12060.00	Peak	V	-	-	-71.18	18.06	53.88	73.98	-20.10

Table 7-21. Radiated Measurements CDD – CLOSED (Q)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4824.00	Avg	H	154	41	-66.86	6.80	46.94	53.98	-7.04
4824.00	Peak	H	154	41	-62.55	6.80	51.25	73.98	-22.73
12060.00	Avg	H	-	-	-81.73	18.06	43.33	53.98	-10.65
12060.00	Peak	H	-	-	-70.80	18.06	54.26	73.98	-19.72

Table 7-22. Radiated Measurements CDD – OPEN (N)

Worst Case Mode:	802.11b
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2437MHz
Channel:	06

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4874.00	Avg	V	-	-	-80.07	7.32	34.25	53.98	-19.73
4874.00	Peak	V	-	-	-68.96	7.32	45.36	73.98	-28.62
7311.00	Avg	V	-	-	-80.14	12.45	39.31	53.98	-14.66
7311.00	Peak	V	-	-	-69.00	12.45	50.45	73.98	-23.52
12185.00	Avg	V	-	-	-81.87	18.35	43.48	53.98	-10.50
12185.00	Peak	V	-	-	-70.29	18.35	55.06	73.98	-18.92

Table 7-23. Radiated Measurements CDD – CLOSED (Q)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4874.00	Avg	H	152	33	-70.86	7.32	43.46	53.98	-10.52
4874.00	Peak	H	152	33	-65.09	7.32	49.23	73.98	-24.75
7311.00	Avg	H	-	-	-80.13	12.45	39.32	53.98	-14.65
7311.00	Peak	H	-	-	-69.37	12.45	50.08	73.98	-23.89
12185.00	Avg	H	-	-	-81.86	18.35	43.49	53.98	-10.49
12185.00	Peak	H	-	-	-70.97	18.35	54.38	73.98	-19.60

Table 7-24. Radiated Measurements CDD – OPEN (N)

Worst Case Mode:	802.11b
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2462MHz
Channel:	11

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	Avg	V	148	177	-78.98	7.44	35.46	53.98	-18.52
4924.00	Peak	V	148	177	-68.75	7.44	45.69	73.98	-28.29
7386.00	Avg	V	-	-	-80.38	12.26	38.88	53.98	-15.10
7386.00	Peak	V	-	-	-68.68	12.26	50.58	73.98	-23.40
12310.00	Avg	V	-	-	-80.27	18.69	45.42	53.98	-8.56
12310.00	Peak	V	-	-	-70.89	18.69	54.80	73.98	-19.18

Table 7-25. Radiated Measurements CDD – CLOSED (Q)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	Avg	H	147	35	-68.85	7.44	45.59	53.98	-8.39
4924.00	Peak	H	147	35	-63.77	7.44	50.67	73.98	-23.31
7386.00	Avg	H	-	-	-80.20	12.26	39.06	53.98	-14.92
7386.00	Peak	H	-	-	-69.38	12.26	49.88	73.98	-24.10
12310.00	Avg	H	-	-	-82.21	18.69	43.48	53.98	-10.50
12310.00	Peak	H	-	-	-71.01	18.69	54.68	73.98	-19.30

Table 7-26. Radiated Measurements CDD – OPEN (N)

Worst Case Mode:	802.11b
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2462MHz
Channel:	11

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	Avg	V	-	-	-79.78	7.44	34.66	53.98	-19.32
4924.00	Peak	V	-	-	-68.52	7.44	45.92	73.98	-28.06
7386.00	Avg	V	100	351	-78.99	12.26	40.27	53.98	-13.71
7386.00	Peak	V	100	351	-68.58	12.26	50.68	73.98	-23.30
12310.00	Avg	V	-	-	-82.12	18.69	43.57	53.98	-10.41
12310.00	Peak	V	-	-	-70.39	18.69	55.30	73.98	-18.68

Table 7-27. Radiated Measurements CDD with WCP – Q

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	Avg	V	300	44	-70.88	7.44	43.56	53.98	-10.42
4924.00	Peak	V	300	44	-64.80	7.44	49.64	73.98	-24.34
7386.00	Avg	V	101	349	-73.97	12.26	45.29	53.98	-8.69
7386.00	Peak	V	101	349	-65.43	12.26	53.83	73.98	-20.15
12310.00	Avg	V	-	-	-81.90	18.69	43.79	53.98	-10.19
12310.00	Peak	V	-	-	-70.80	18.69	54.89	73.98	-19.09

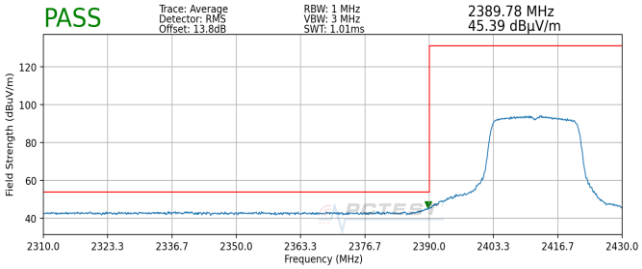
Table 7-28. Radiated Measurements CDD with WCP – N

7.7.3 SISO Antenna-2 Radiated Restricted Band Edge Measurements

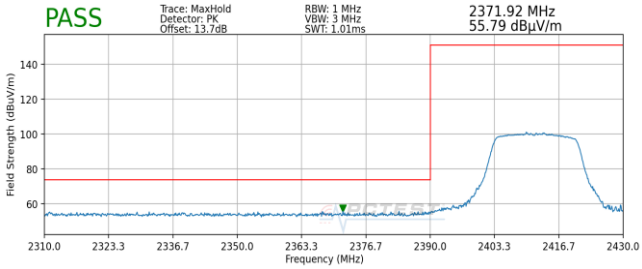
§15.205 §15.209; RSS-Gen [8.9]

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS8
Worst Case Orientation:	Closed
Distance of Measurements:	3 Meters
Operating Frequency:	2412MHz
Channel:	1

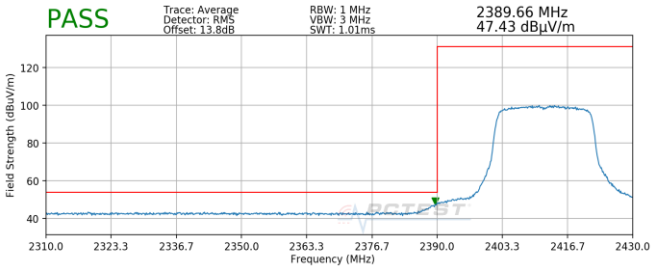


Plot 7-173. Radiated Restricted Lower Band Edge Measurement SISO ANT2 (Average) - Q

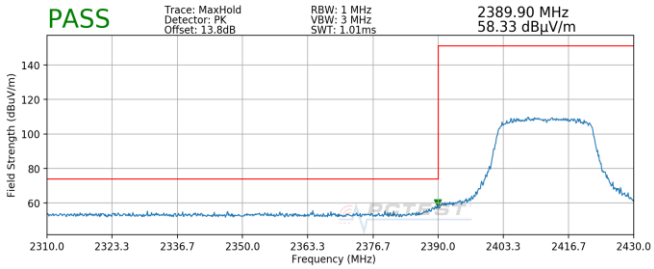


Plot 7-174. Radiated Restricted Lower Band Edge Measurement SISO ANT2 (Peak) - Q

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Worst Case Orientation:	Open
Distance of Measurements:	3 Meters
Operating Frequency:	2412MHz
Channel:	1

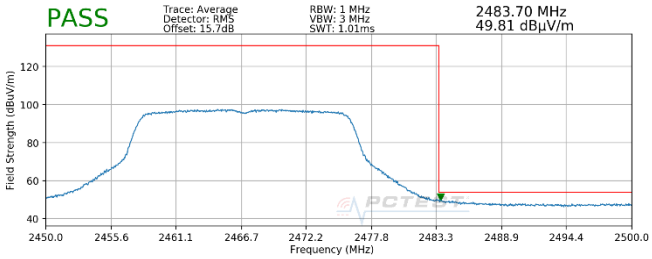


Plot 7-175. Radiated Restricted Lower Band Edge Measurement SISO ANT2 (Average) - N

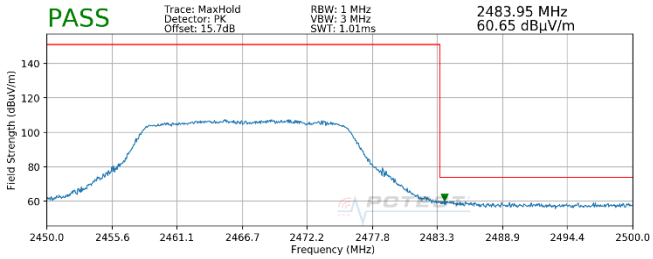


Plot 7-176. Radiated Restricted Lower Band Edge Measurement SISO ANT2 (Peak) - N

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS0
Worst Case Orientation:	Closed
Distance of Measurements:	3 Meters
Operating Frequency:	2467MHz
Channel:	12

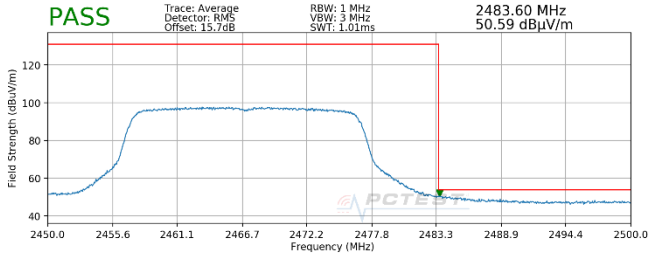


Plot 7-177. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Average) - Q

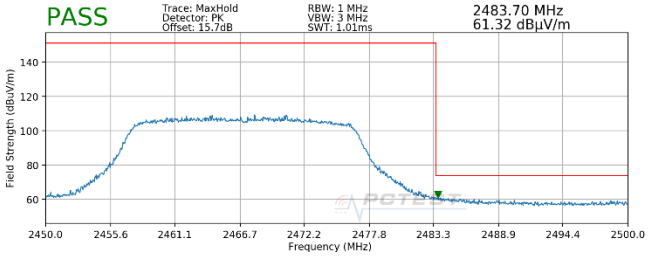


Plot 7-178. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Peak) - Q

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Worst Case Orientation:	Open
Distance of Measurements:	3 Meters
Operating Frequency:	2467MHz
Channel:	12

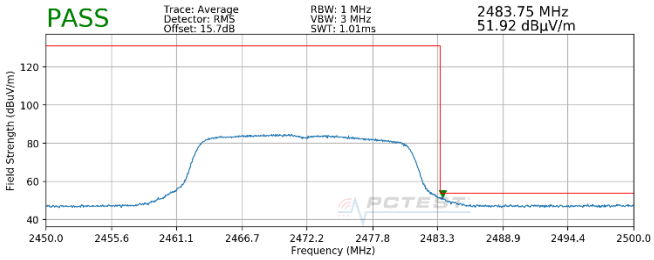


Plot 7-179. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Average) - N

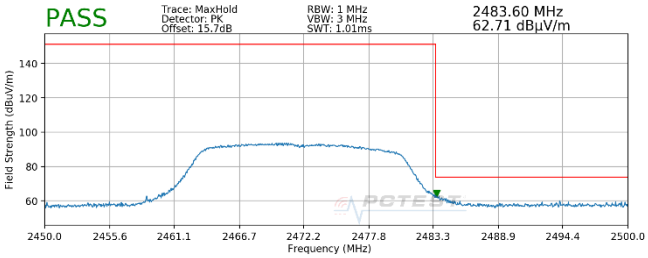


Plot 7-180. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Peak) – N

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS0
Worst Case Orientation:	Closed
Distance of Measurements:	3 Meters
Operating Frequency:	2472MHz
Channel:	13

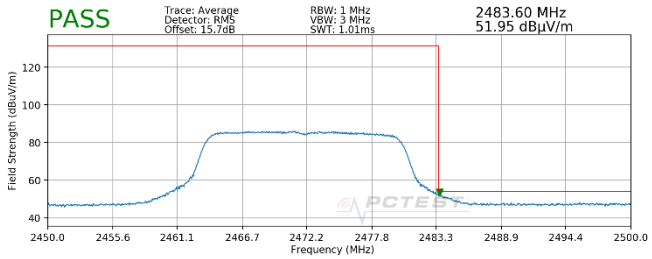


Plot 7-181. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Average) - Q

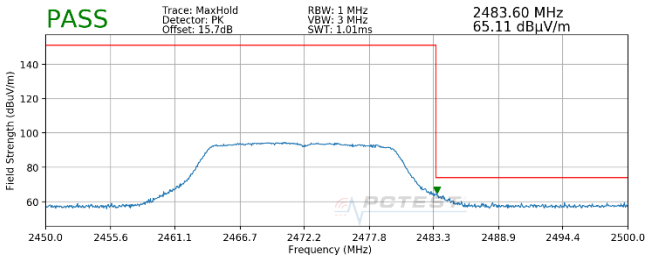


Plot 7-182. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Peak) - Q

Worst Case Mode:	802.11g
Worst Case Transfer Rate:	6Mbps
Worst Case Orientation:	Open
Distance of Measurements:	3 Meters
Operating Frequency:	2472MHz
Channel:	13



Plot 7-183. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Average) - N



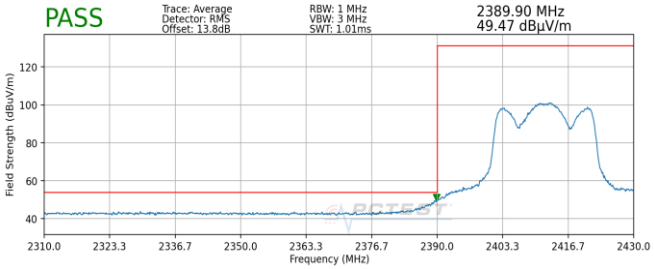
Plot 7-184. Radiated Restricted Upper Band Edge Measurement SISO ANT2 (Peak) – N

7.7.4 MIMO Radiated Restricted Band Edge Measurements

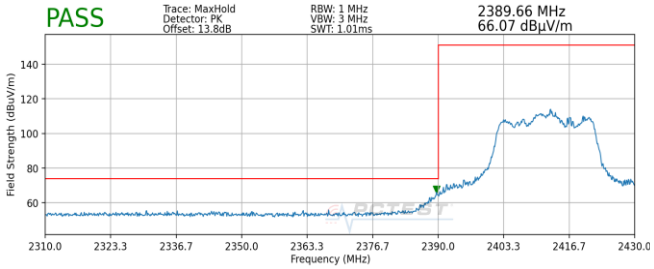
§15.205 §15.209; RSS-Gen [8.9]

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Worst Case Orientation:	Open
Distance of Measurements:	3 Meters
Operating Frequency:	2412MHz
Channel:	1

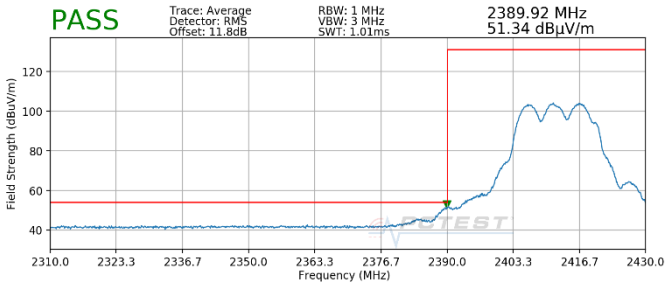


Plot 7-185. Radiated Restricted Lower Band Edge Measurement MIMO (Average) – Q

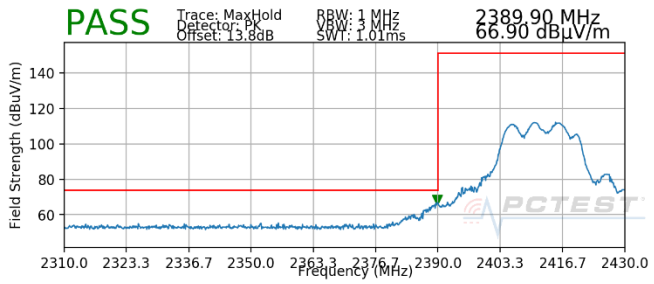


Plot 7-186. Radiated Restricted Lower Band Edge Measurement MIMO (Peak) – Q

Worst Case Mode:	802.11g
Worst Case Transfer Rate:	6 Mbps
Worst Case Orientation:	Open
Distance of Measurements:	3 Meters
Operating Frequency:	2412MHz
Channel:	1



Plot 7-187. Radiated Restricted Lower Band Edge Measurement MIMO (Average) – N



Plot 7-188. Radiated Restricted Lower Band Edge Measurement MIMO (Peak) – N