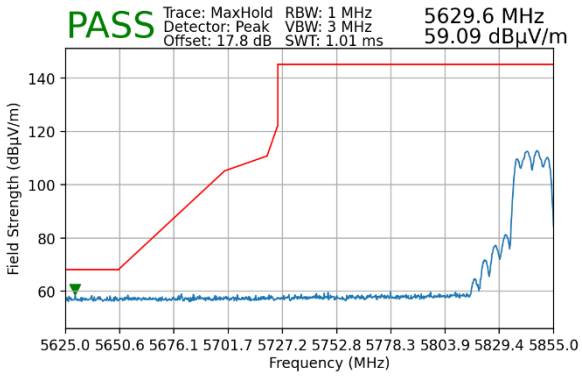
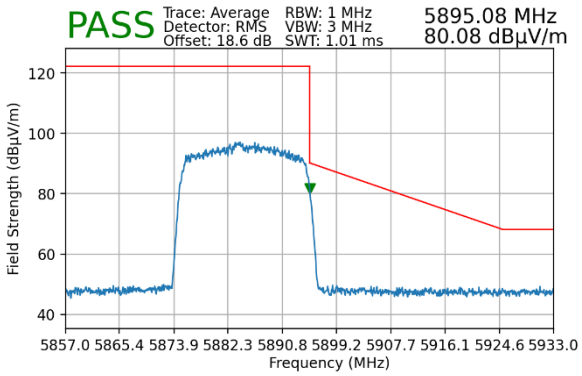
Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6M
Distance of Measurements:	3 Meters
Operating Frequency:	5845MHz
Channel:	169

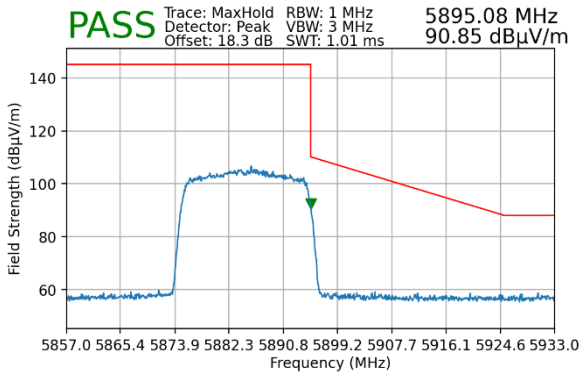


Plot 7-181. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 4)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5885MHz
Channel:	177



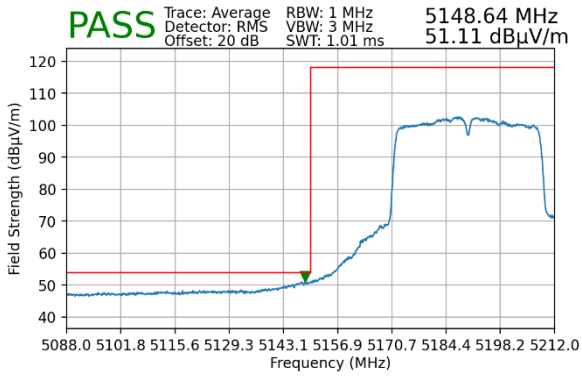
Plot 7-182. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 4)



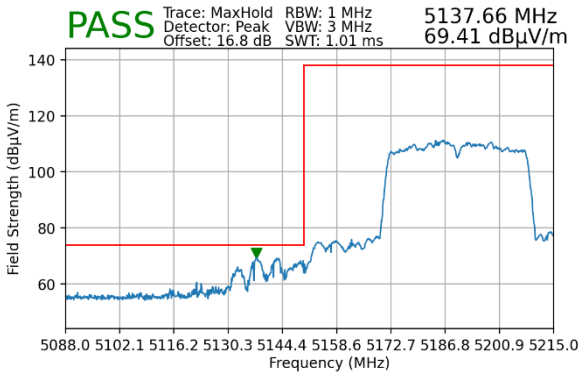
Plot 7-183. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 4)

7.6.3 MIMO Radiated Band Edge Measurements (40MHz BW)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

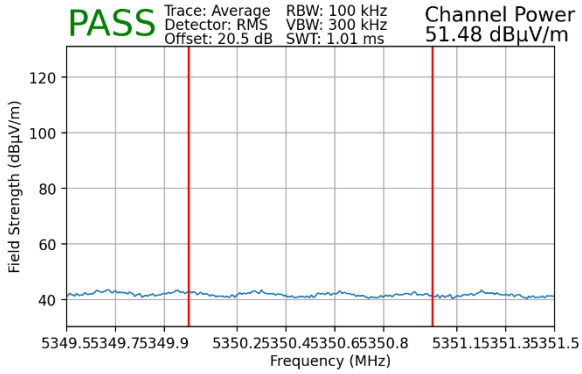


Plot 7-184. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)

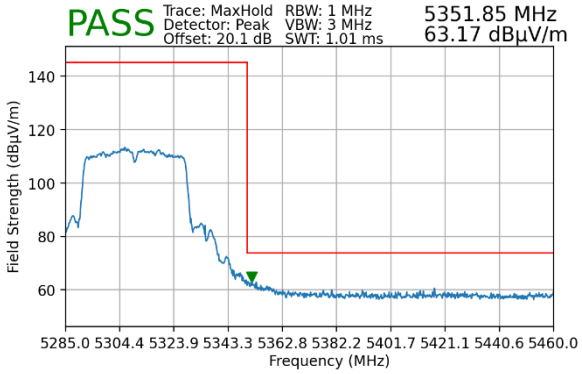


Plot 7-185. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62

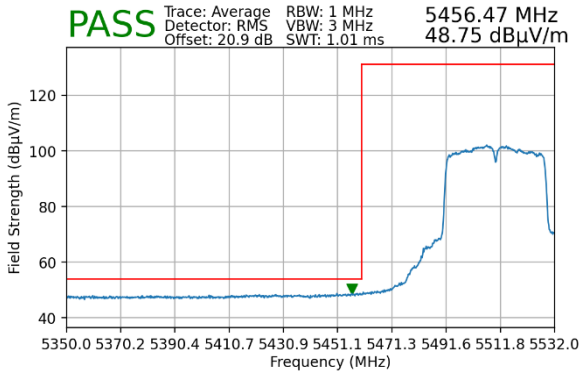


Plot 7-186. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A)

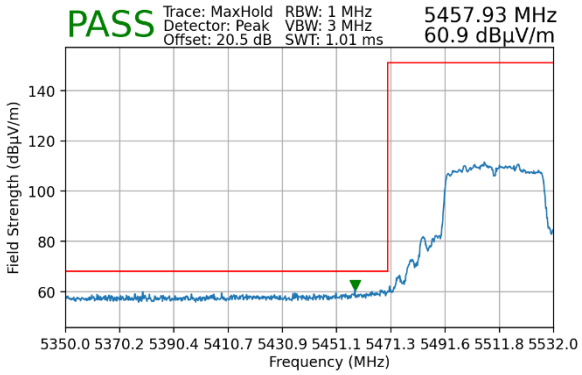


Plot 7-187. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5510MHz
Channel:	102

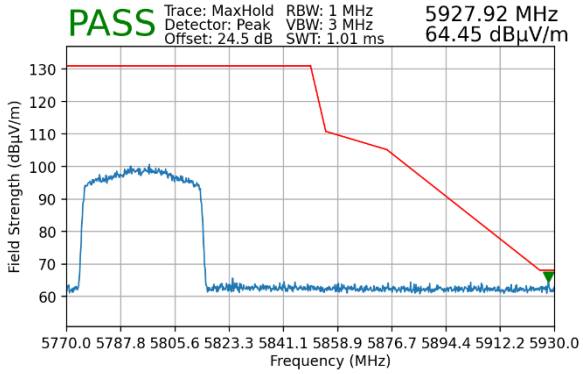


Plot 7-188. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)



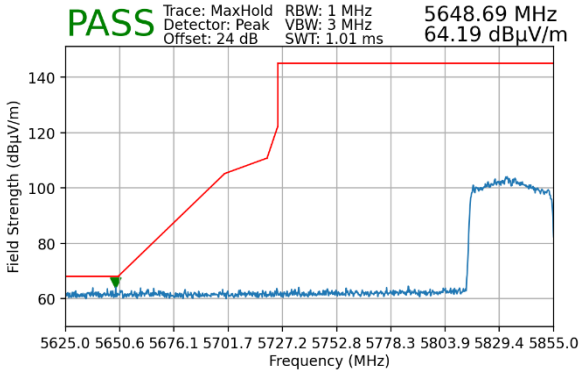
Plot 7-189. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5795MHz
Channel:	159



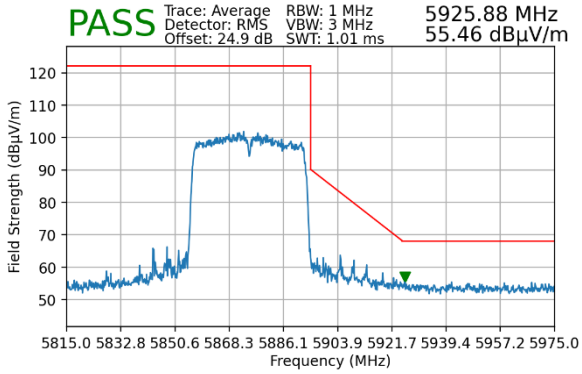
Plot 7-190. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5835MHz
Channel:	167

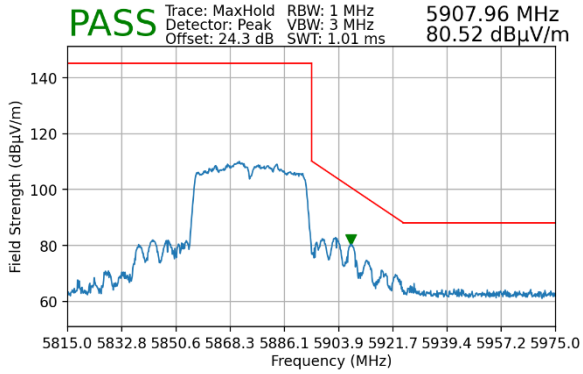


Plot 7-191. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 4)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5875MHz
Channel:	175



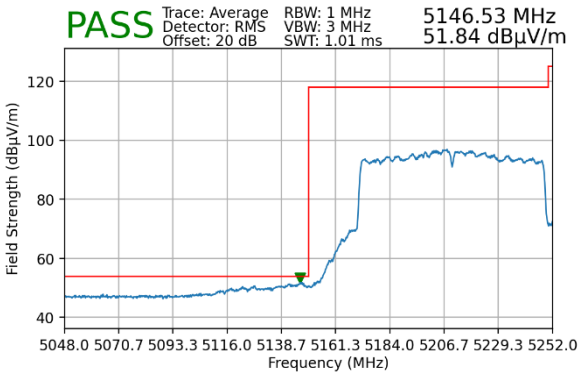
Plot 7-192. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 4)



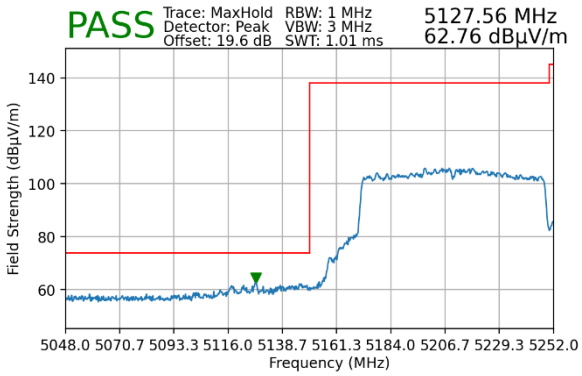
Plot 7-193. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 4)

7.6.4 MIMO Radiated Band Edge Measurements (80MHz BW)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

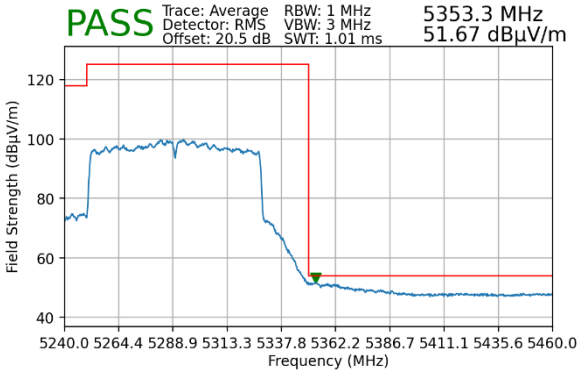


Plot 7-194. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)

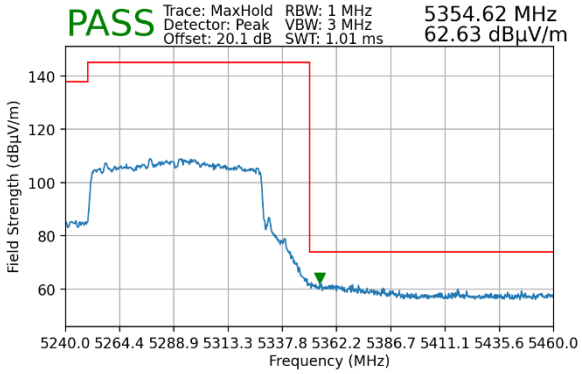


Plot 7-195. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58

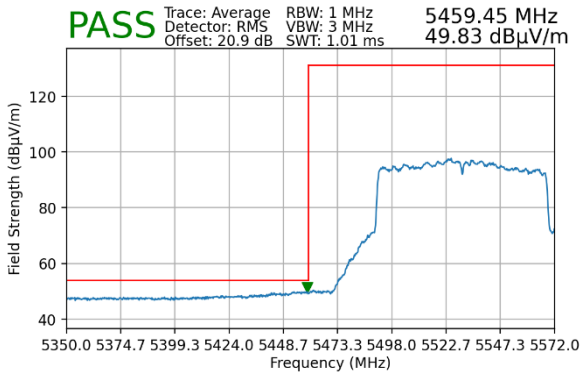


Plot 7-196. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A)

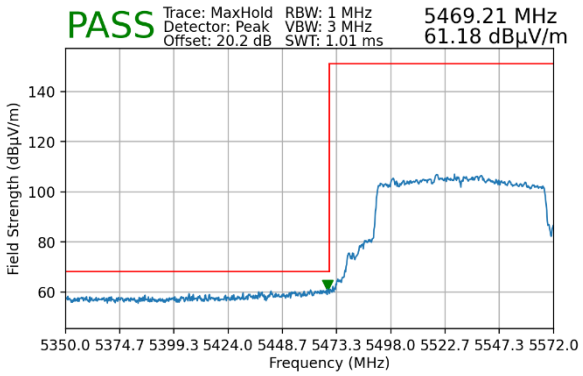


Plot 7-197. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106

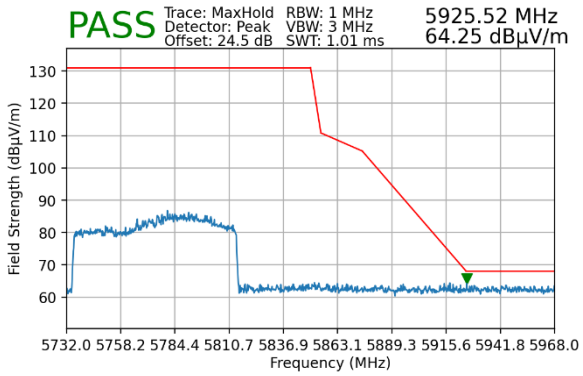


Plot 7-198. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)



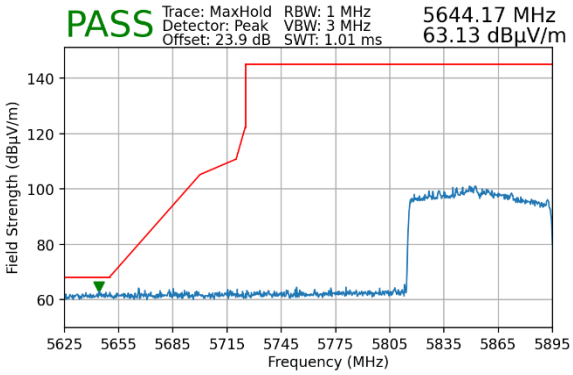
Plot 7-199. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5775MHz
Channel:	155



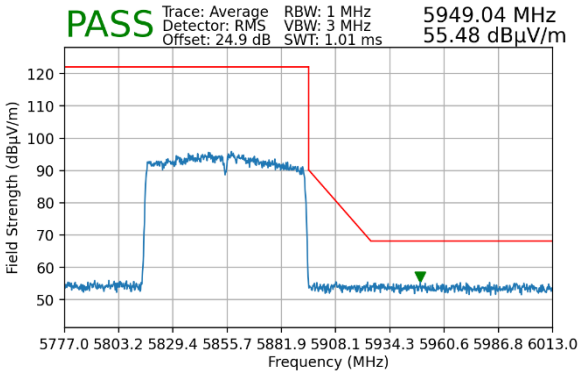
Plot 7-200. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5855MHz
Channel:	171

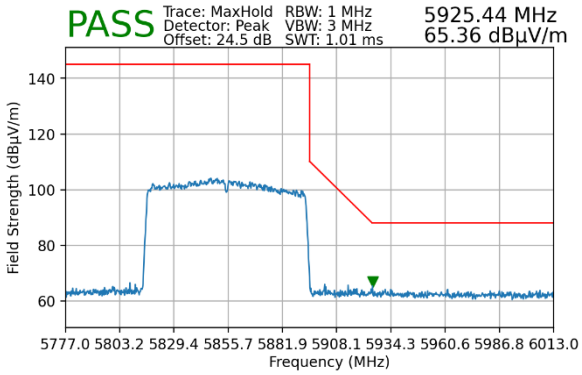


Plot 7-201. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 4)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5855MHz
Channel:	171



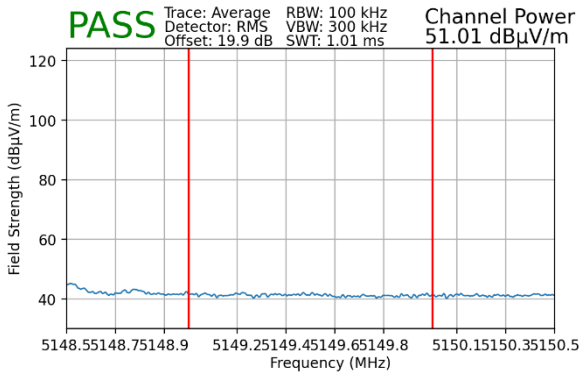
Plot 7-202. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 4)



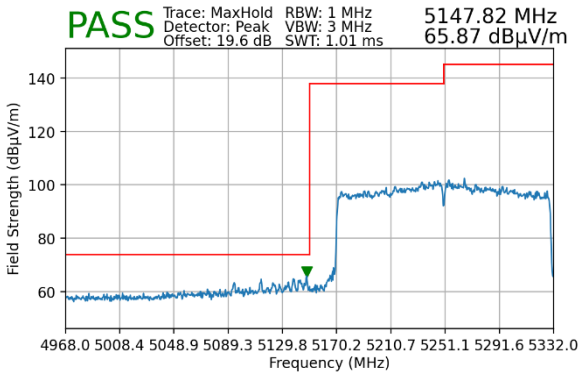
Plot 7-203. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 4)

7.6.5 MIMO Radiated Band Edge Measurements (160MHz BW)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5250MHz
Channel:	50

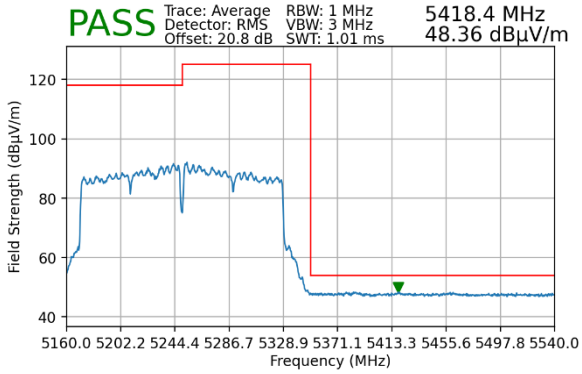


Plot 7-204. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)

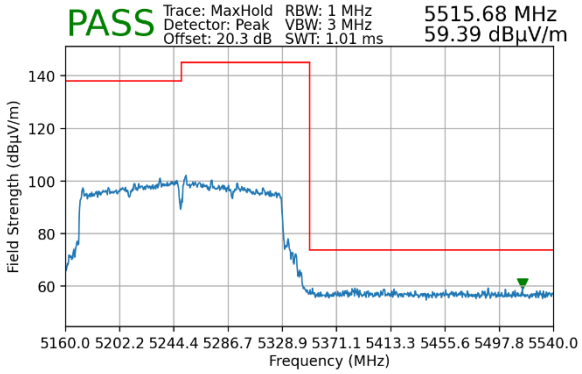


Plot 7-205. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5250MHz
Channel:	50

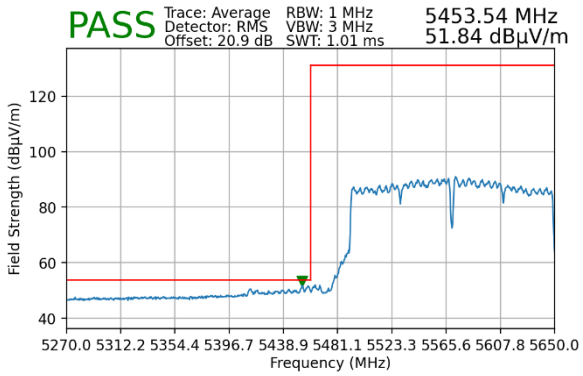


Plot 7-206. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A)

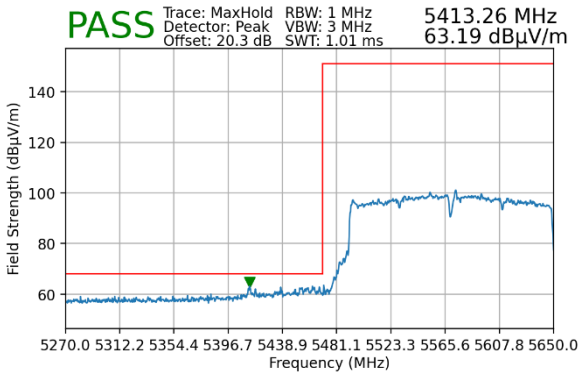


Plot 7-207. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5570MHz
Channel:	114

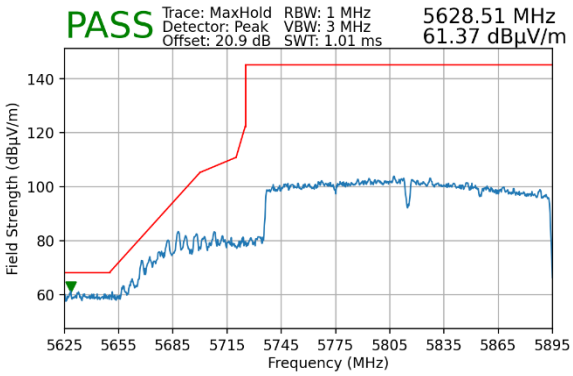


Plot 7-208. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)



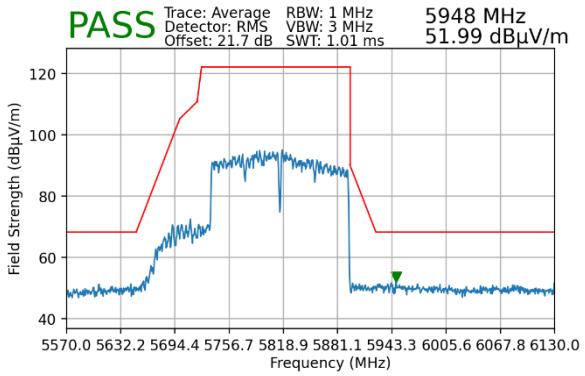
Plot 7-209. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5815MHz
Channel:	163

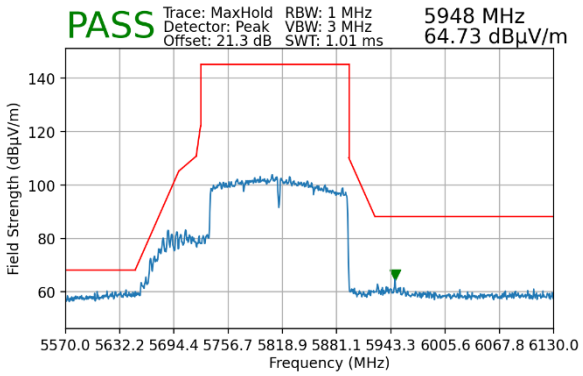


Plot 7-210. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 4)

Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5815MHz
Channel:	163



Plot 7-211. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 4)



Plot 7-212. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 4)

7.7 Line-Conducted Test Data

Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN 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 conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst-case emissions are reported in this section.

All conducted emissions must not exceed the limits shown in the table below per FCC §15.207 and RSS-Gen (8.8).

Frequency of emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 7-28. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10-2013, Section 6.2

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Test Setup

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

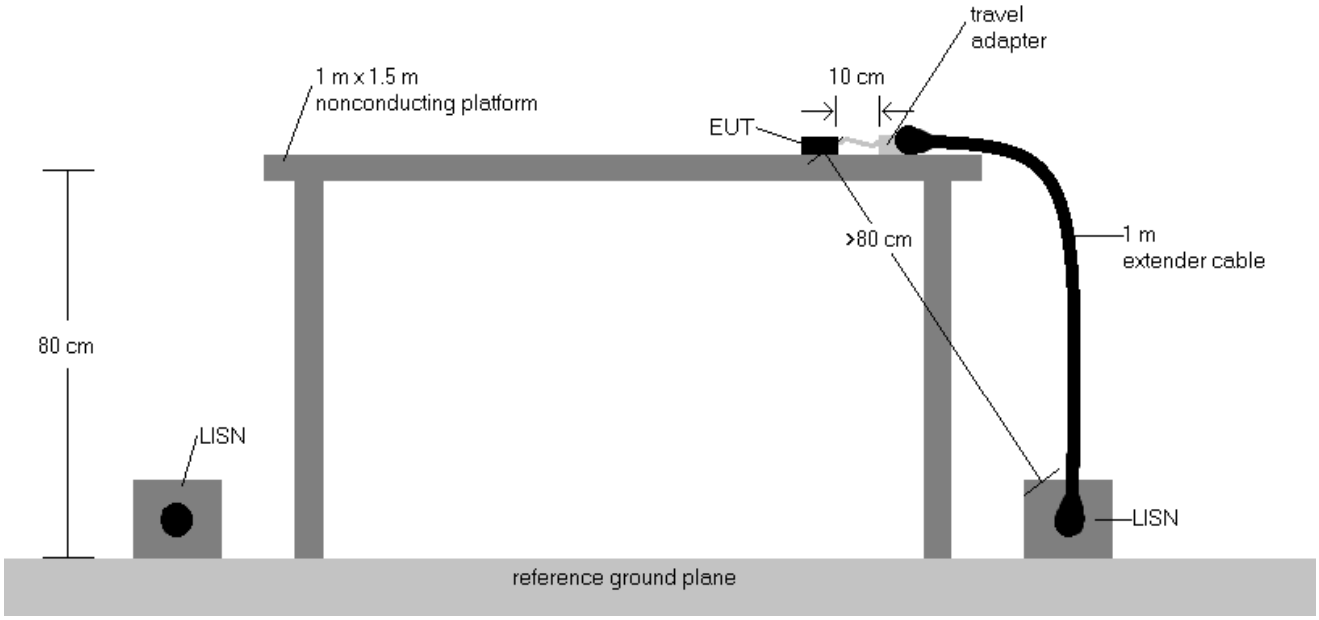
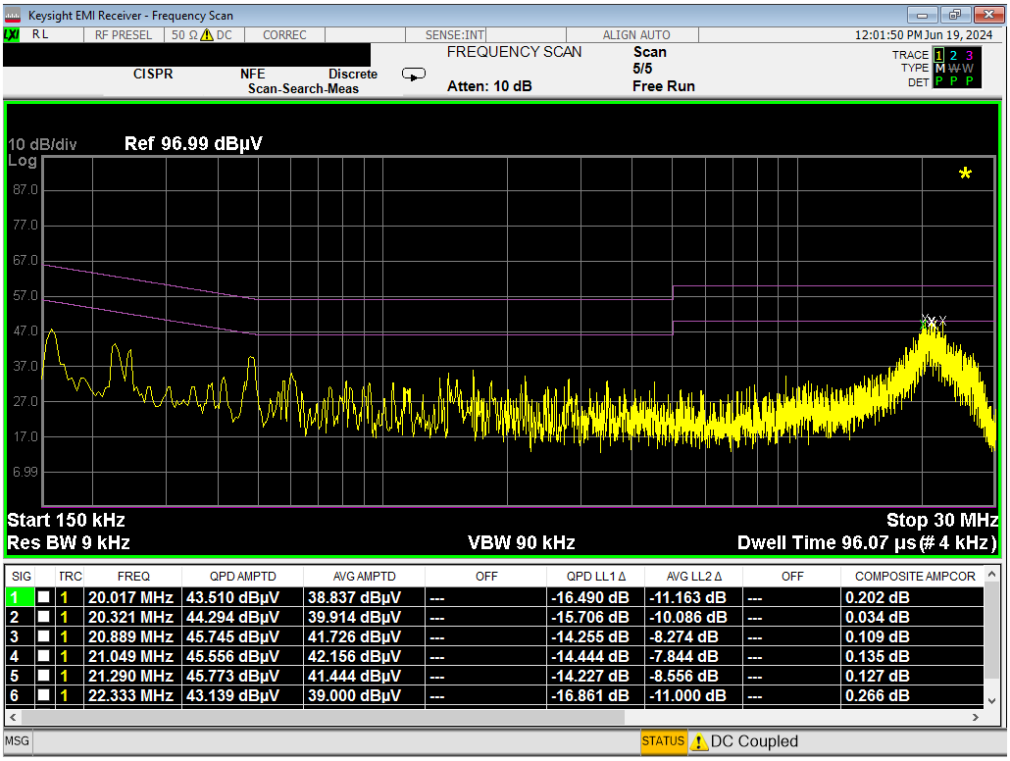


Figure 7-8. Test Instrument & Measurement Setup

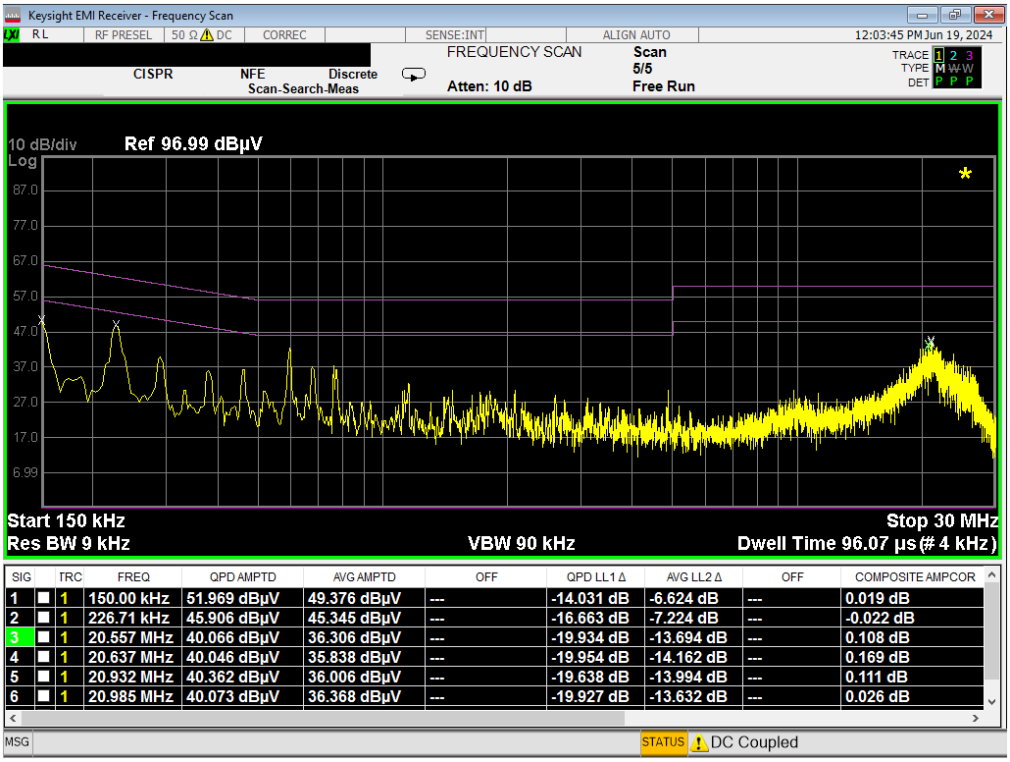
Test Notes

1. All modes of operation were investigated, and the worst-case emissions are reported using mid channel. The emissions found were not affected by the choice of channel used during testing.
2. The limit for an intentional radiator from 150kHz to 30MHz is specified in §15.207 and RSS-Gen (8.8).
3. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
4. QP/AV Level (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Corr. (dB)
5. Margin (dB) = QP/AV Limit (dBμV) - QP/AV Level (dBμV)
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.



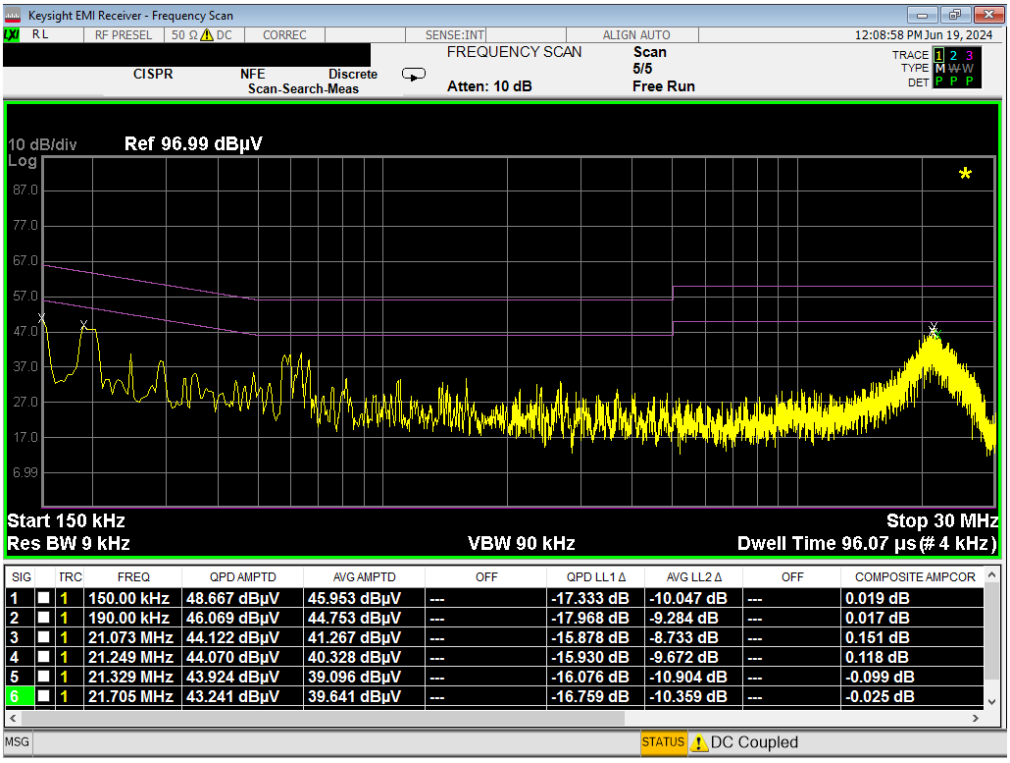
SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	COMPOSITE AMPCOR
1	1	20.017 MHz	43.510 dBµV	38.837 dBµV	---	-16.490 dB	-11.163 dB	---	0.202 dB
2	1	20.321 MHz	44.294 dBµV	39.914 dBµV	---	-15.706 dB	-10.086 dB	---	0.034 dB
3	1	20.889 MHz	45.745 dBµV	41.726 dBµV	---	-14.255 dB	-8.274 dB	---	0.109 dB
4	1	21.049 MHz	45.556 dBµV	42.156 dBµV	---	-14.444 dB	-7.844 dB	---	0.135 dB
5	1	21.290 MHz	45.773 dBµV	41.444 dBµV	---	-14.227 dB	-8.556 dB	---	0.127 dB
6	1	22.333 MHz	43.139 dBµV	39.000 dBµV	---	-16.861 dB	-11.000 dB	---	0.266 dB

Plot 7-213. Line Conducted Plot with 802.11a UNII Band 1 (L1)

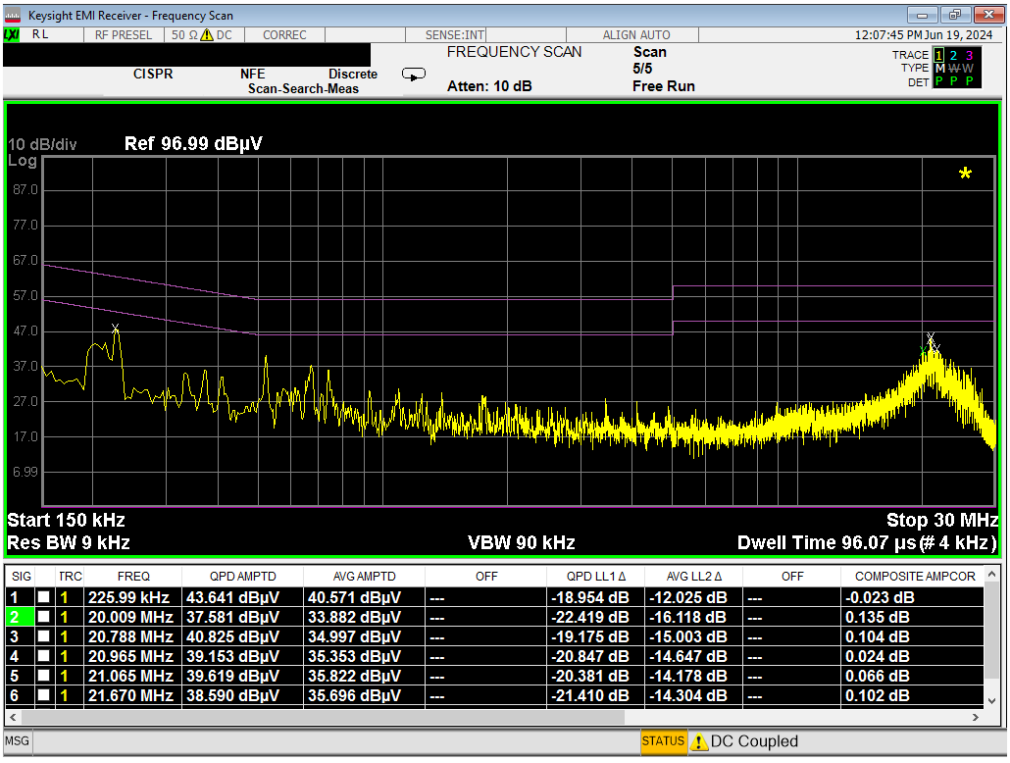


SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	COMPOSITE AMPCOR
1	1	150.00 kHz	51.969 dBµV	49.376 dBµV	---	-14.031 dB	-6.624 dB	---	0.019 dB
2	1	226.71 kHz	45.906 dBµV	45.345 dBµV	---	-16.663 dB	-7.224 dB	---	-0.022 dB
3	1	20.557 MHz	40.066 dBµV	36.306 dBµV	---	-19.934 dB	-13.694 dB	---	0.108 dB
4	1	20.637 MHz	40.046 dBµV	35.838 dBµV	---	-19.954 dB	-14.162 dB	---	0.169 dB
5	1	20.932 MHz	40.362 dBµV	36.006 dBµV	---	-19.638 dB	-13.994 dB	---	0.111 dB
6	1	20.985 MHz	40.073 dBµV	36.368 dBµV	---	-19.927 dB	-13.632 dB	---	0.026 dB

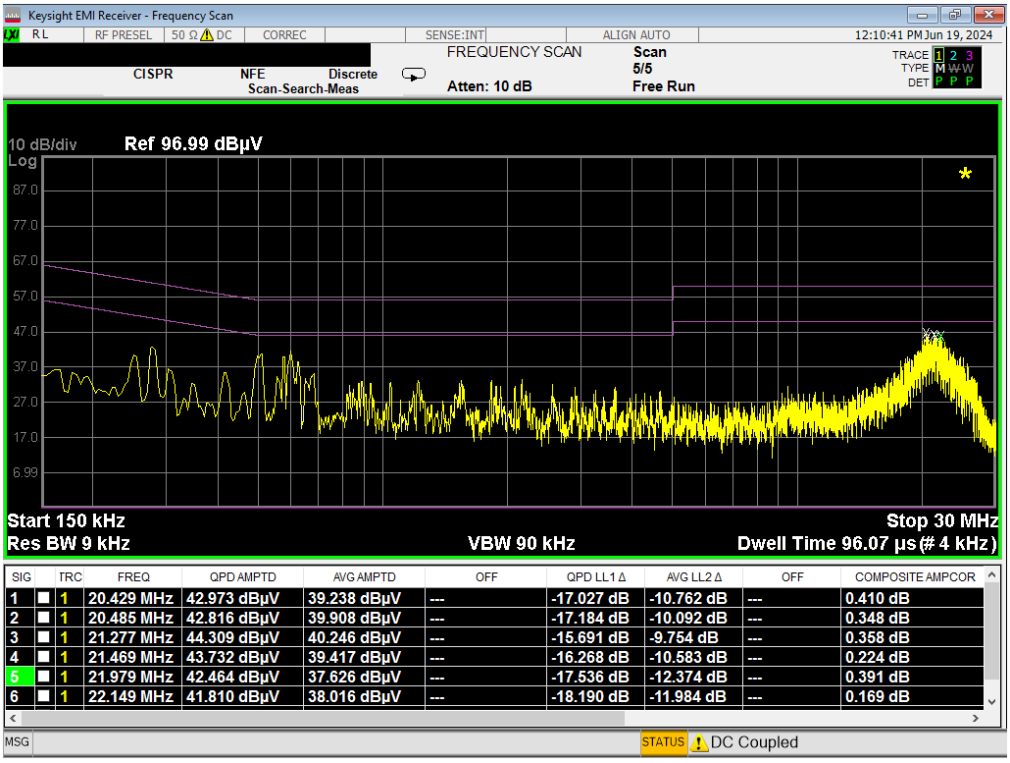
Plot 7-214. Line Conducted Plot with 802.11a UNII Band 1 (N)



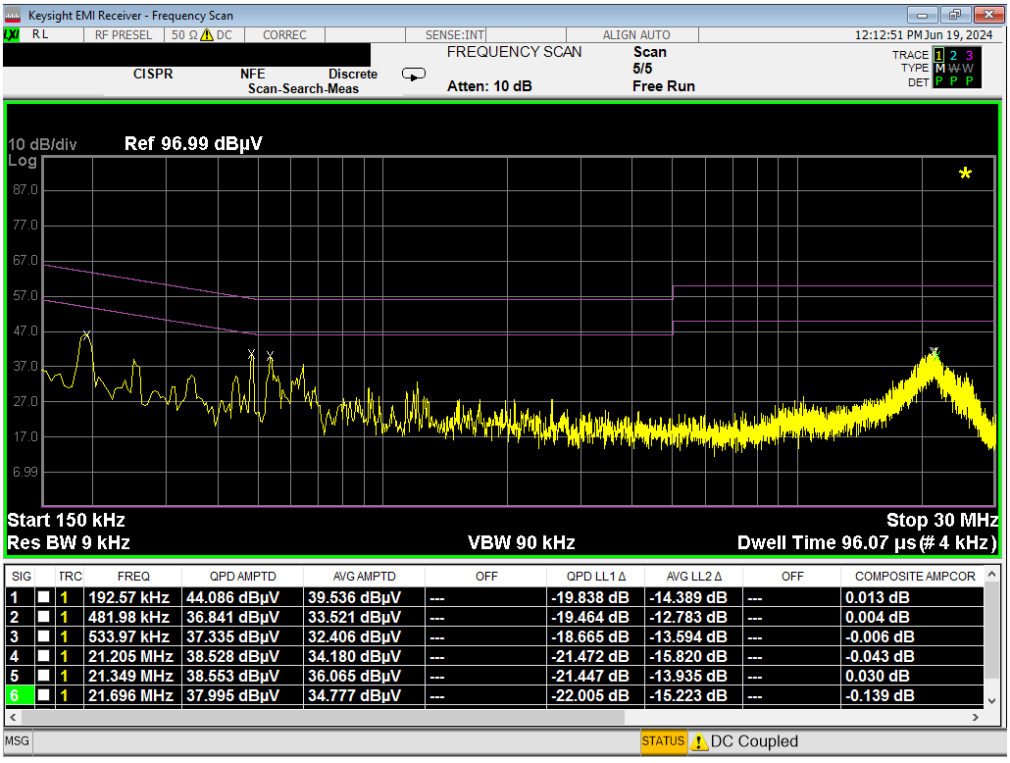
Plot 7-215. Line Conducted Plot with 802.11a UNII Band 2A (L1)



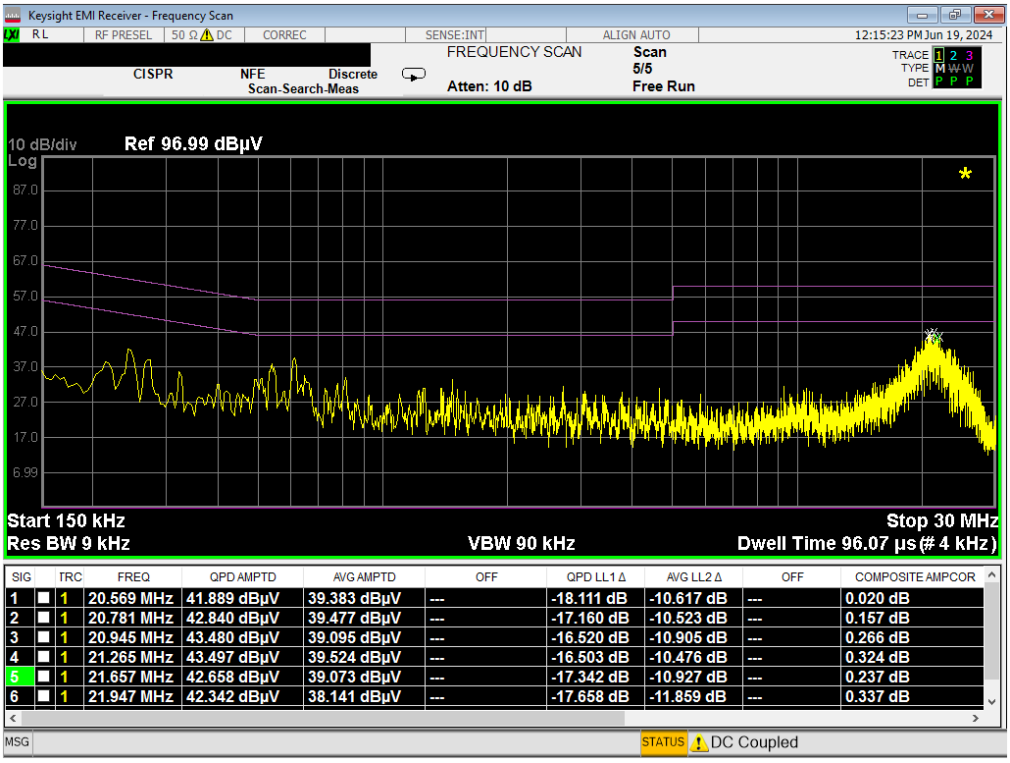
Plot 7-216. Line Conducted Plot with 802.11a UNII Band 2A (N)



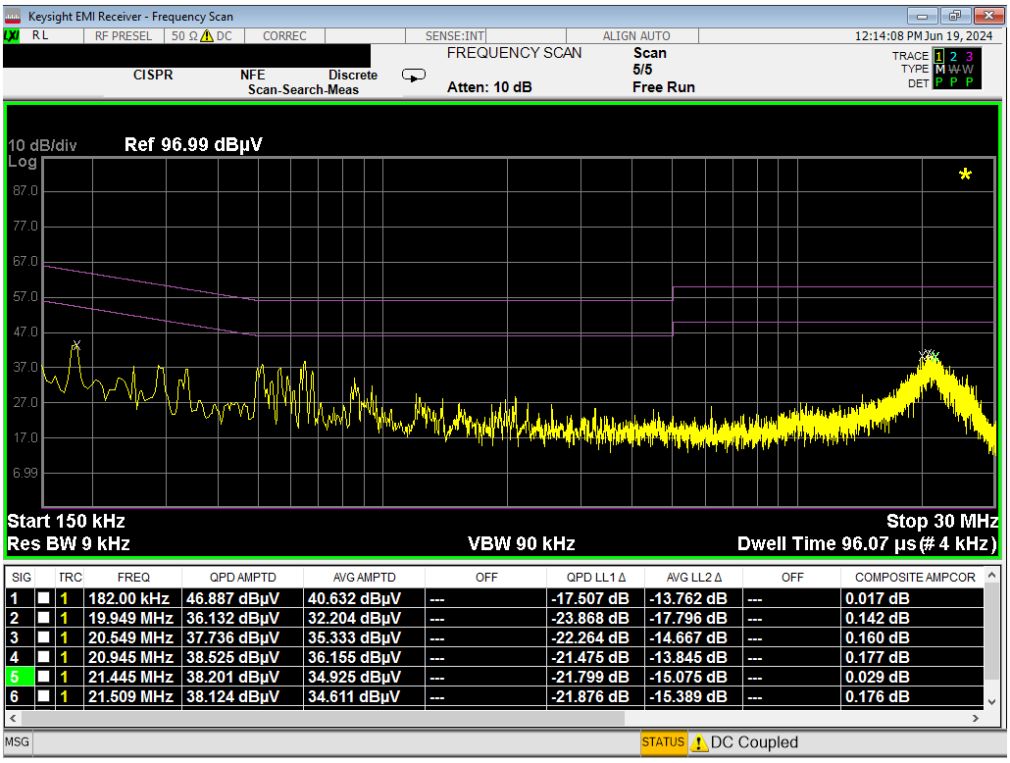
Plot 7-217. Line Conducted Plot with 802.11a UNII Band 2C (L1)



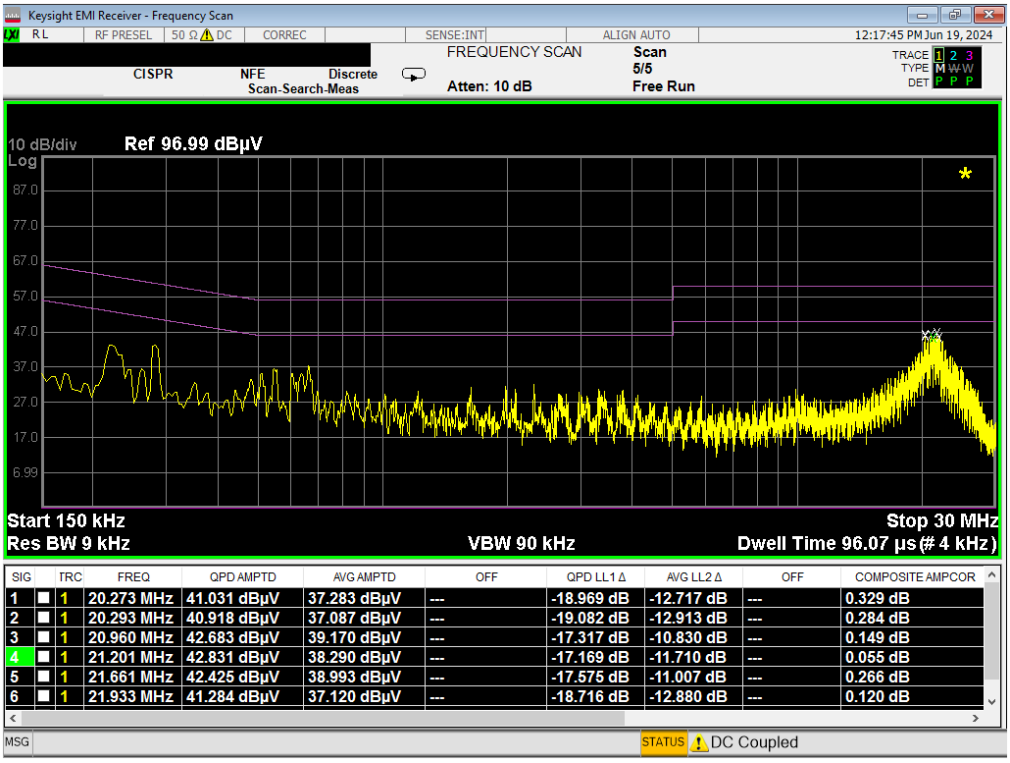
Plot 7-218. Line Conducted Plot with 802.11a UNII Band 2C (N)



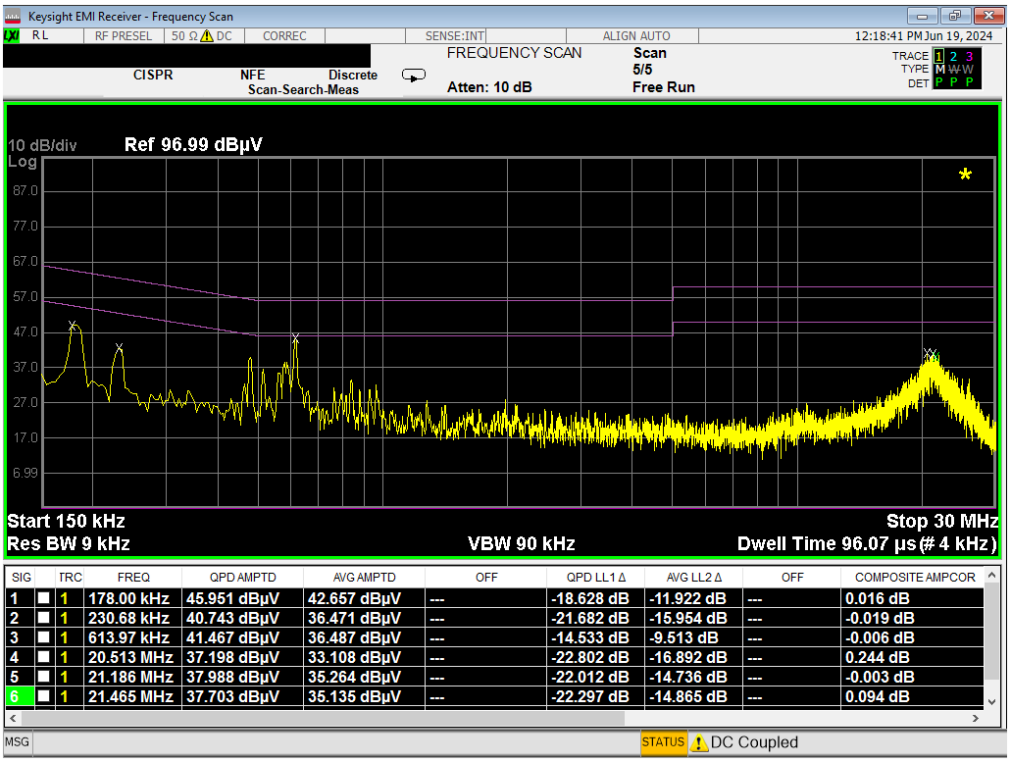
Plot 7-219. Line Conducted Plot with 802.11a UNII Band 3 (L1)



Plot 7-220. Line Conducted Plot with 802.11a UNII Band 3 (N)



Plot 7-221. Line Conducted Plot with 802.11a UNII Band 4 (L1)



Plot 7-222. Line Conducted Plot with 802.11a UNII Band 4 (N)

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Tablet FCC ID: A3LSMX820** is in compliance with Part 15 Subpart E (15.407) of the FCC Rules.