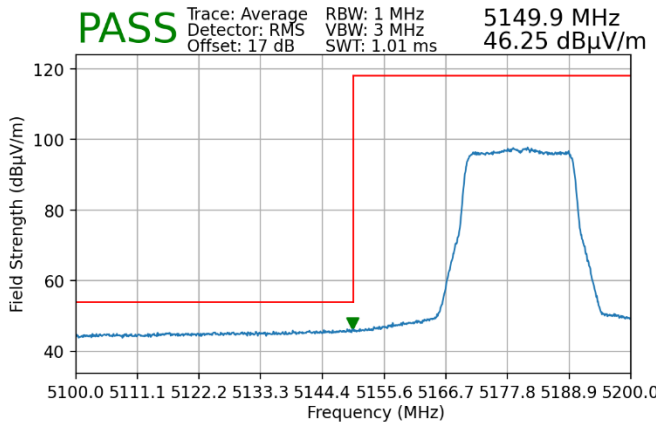
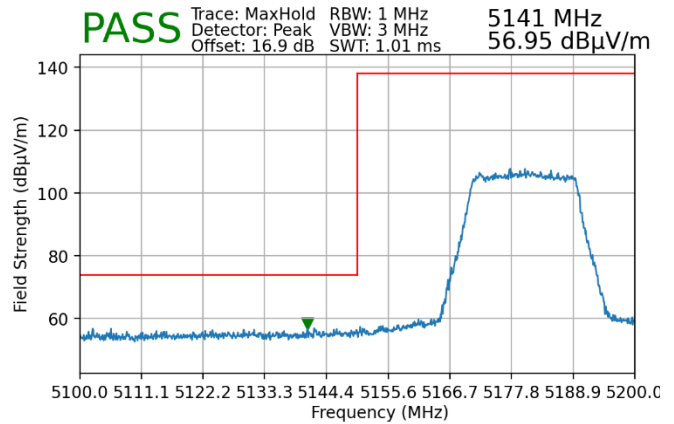


### 7.6.3 MIMO Radiated Band Edge Measurements (20MHz BW)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

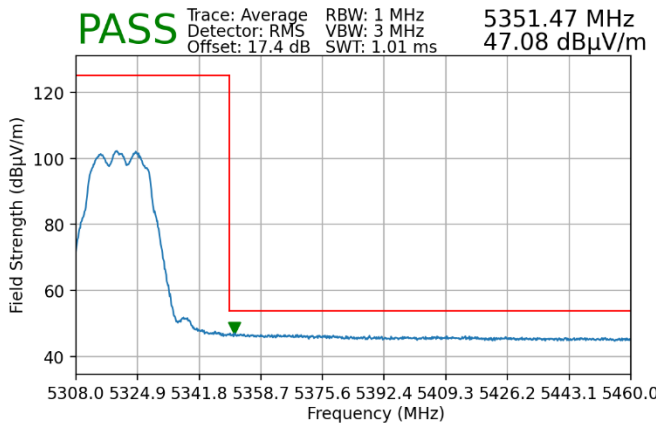


**Plot 7-203. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)**

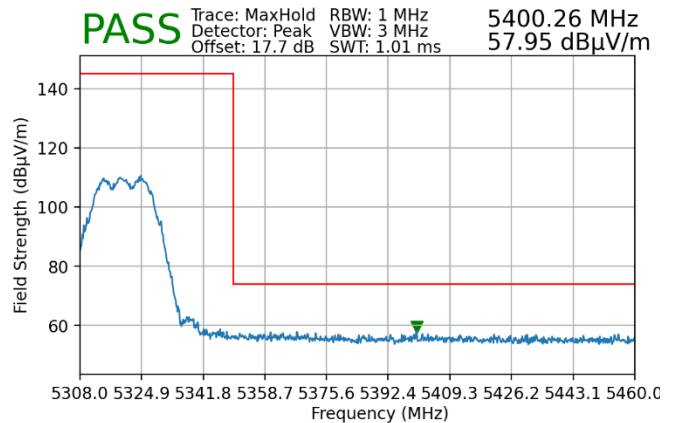


**Plot 7-204. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)**

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



**Plot 7-205. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A)**

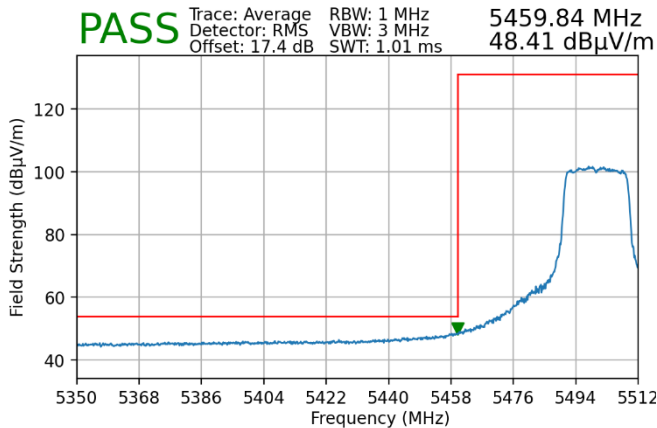


**Plot 7-206. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A)**

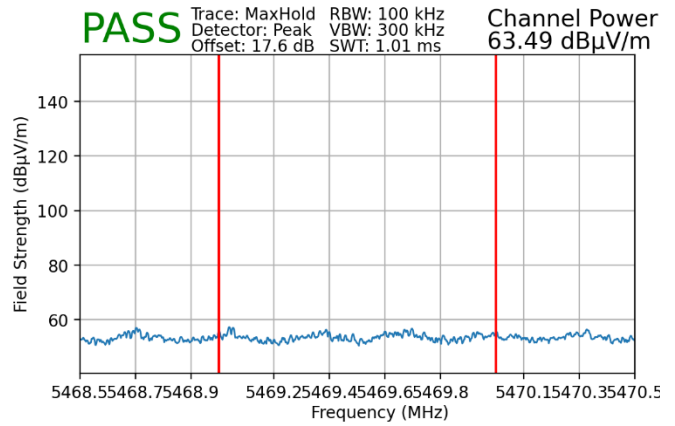
FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2308210093-13.A3L	Test Dates: 8/21/2023 - 11/10/2023	EUT Type: Portable Handset	Page 144 of 168



Worst Case Mode: 802.11ac  
 Worst Case Transfer Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 5500MHz  
 Channel: 100

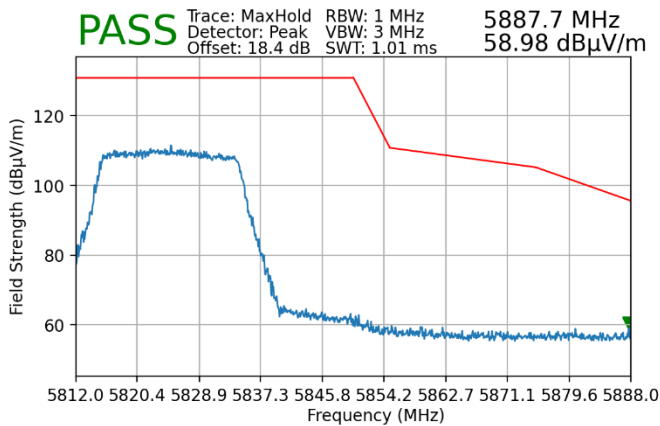


**Plot 7-207. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)**



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

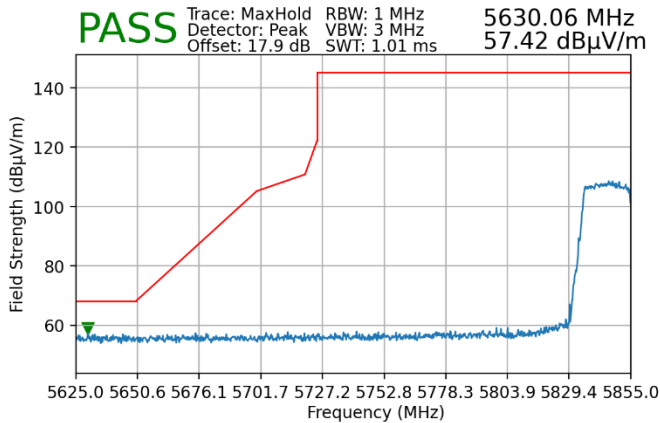
Worst Case Mode: 802.11ax  
 Worst Case Transfer Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 5825MHz  
 Channel: 165



**Plot 7-209. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3)**

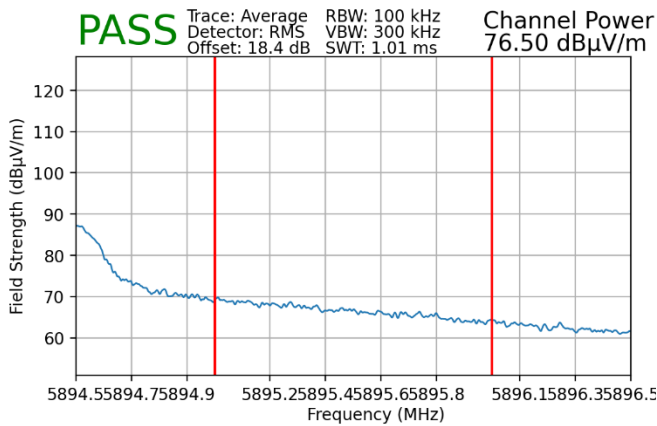
FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2308210093-13.A3L	Test Dates: 8/21/2023 - 11/10/2023	EUT Type: Portable Handset	Page 145 of 168

Worst Case Mode: 802.11be  
 Worst Case Transfer Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 5845MHz  
 Channel: 169

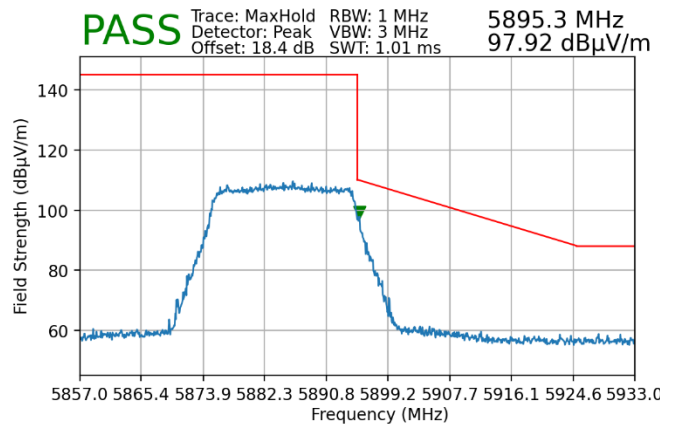


**Plot 7-210. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 4)**

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



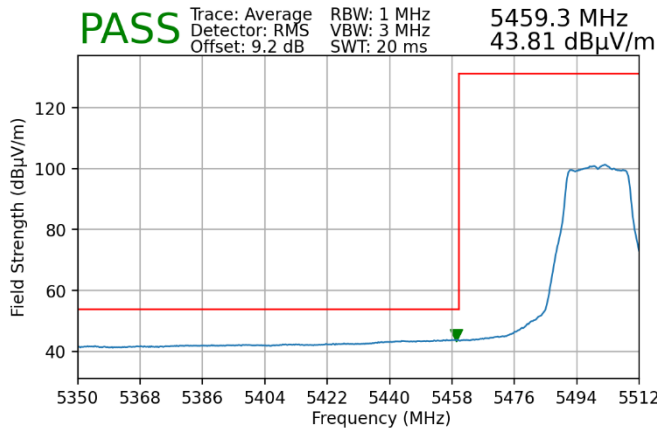
**Plot 7-211. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 4)**



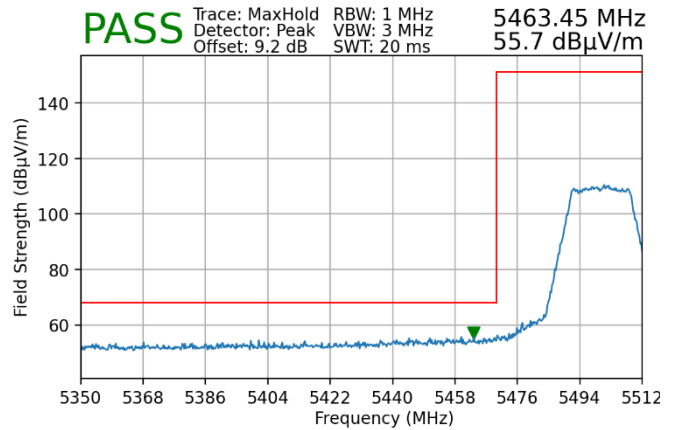
**Plot 7-212. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 4)**

FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2308210093-13.A3L	Test Dates: 8/21/2023 - 11/10/2023	EUT Type: Portable Handset	Page 146 of 168

Worst Case Mode: 802.11ac  
 Worst Case Transfer Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 5500MHz  
 Channel: 100



**Plot 7-213. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C) with WCP**

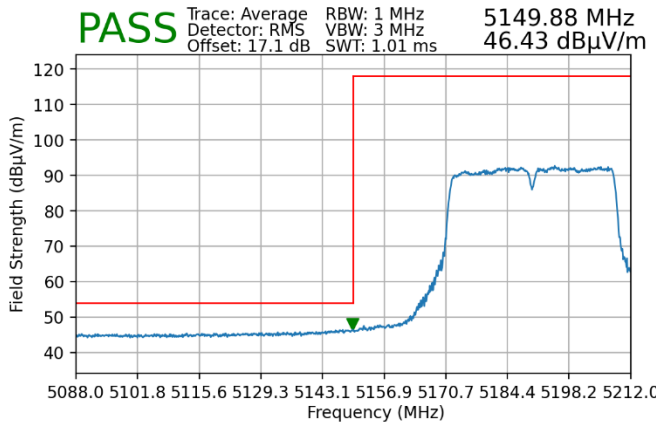


**Plot 7-214. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C) with WCP**

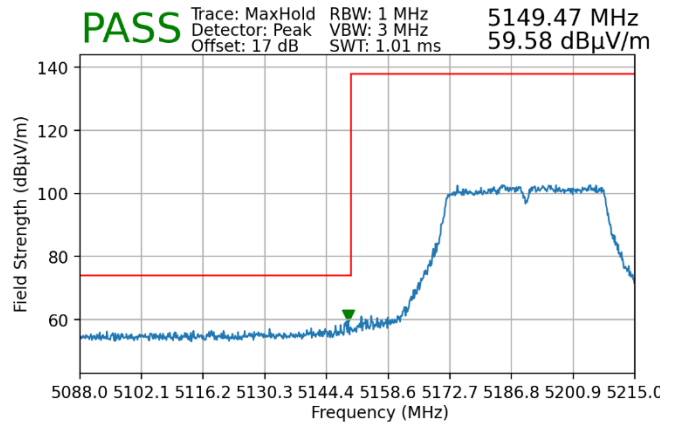
<b>FCC ID:</b> A3LSMS928B	<b>MEASUREMENT REPORT</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1M2308210093-13.A3L	<b>Test Dates:</b> 8/21/2023 - 11/10/2023	<b>EUT Type:</b> Portable Handset	Page 147 of 168

### 7.6.4 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

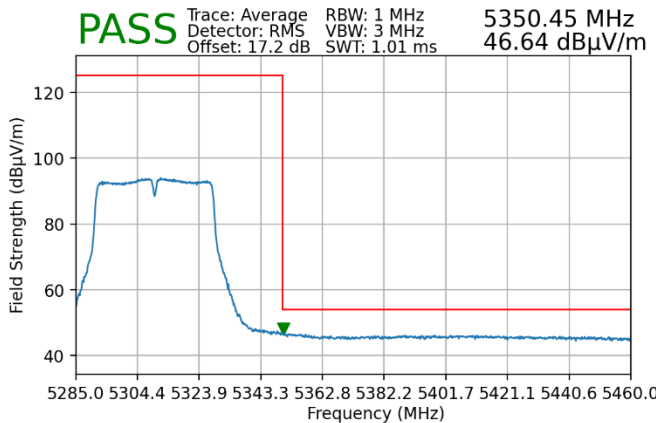


**Plot 7-215. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)**

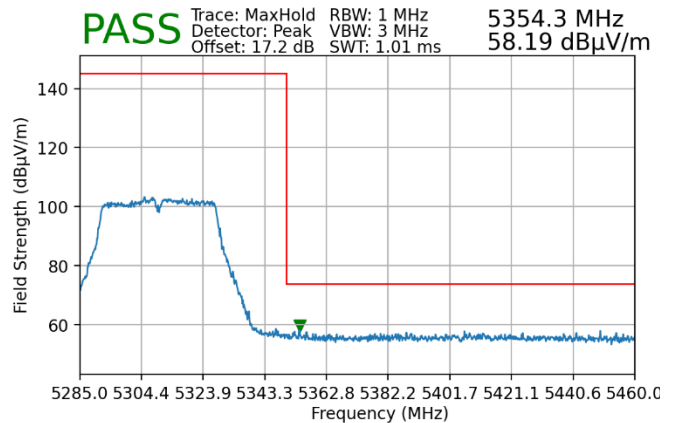


**Plot 7-216. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)**

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



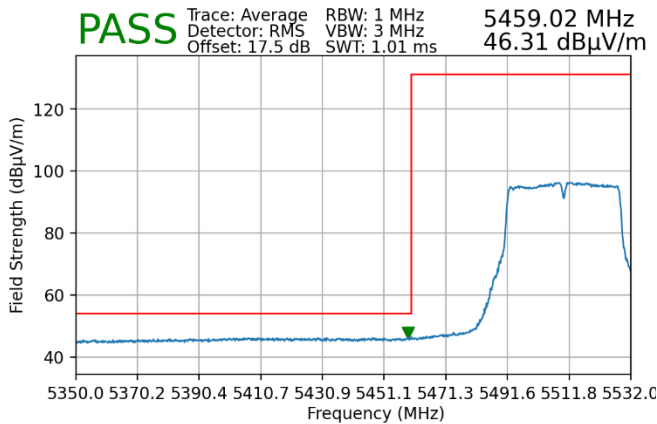
**Plot 7-217. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A)**



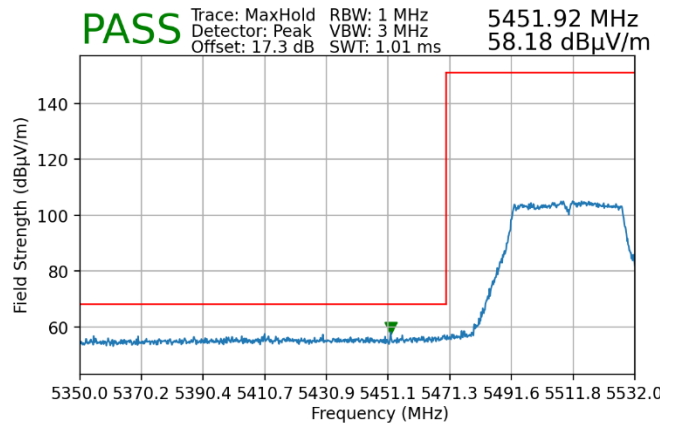
**Plot 7-218. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A)**

FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2308210093-13.A3L	Test Dates: 8/21/2023 - 11/10/2023	EUT Type: Portable Handset	Page 148 of 168

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

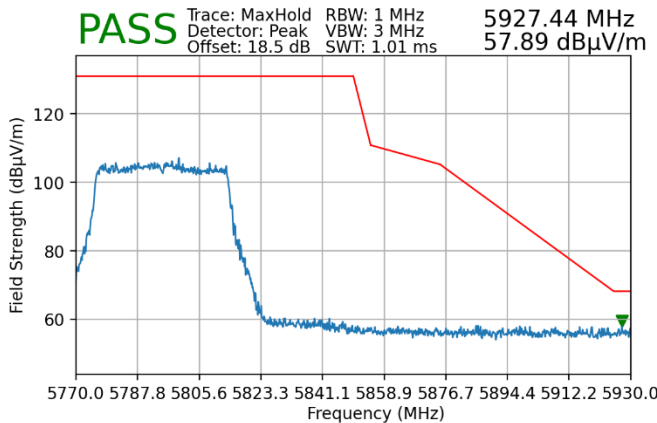


**Plot 7-219. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)**



**Plot 7-220. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C)**

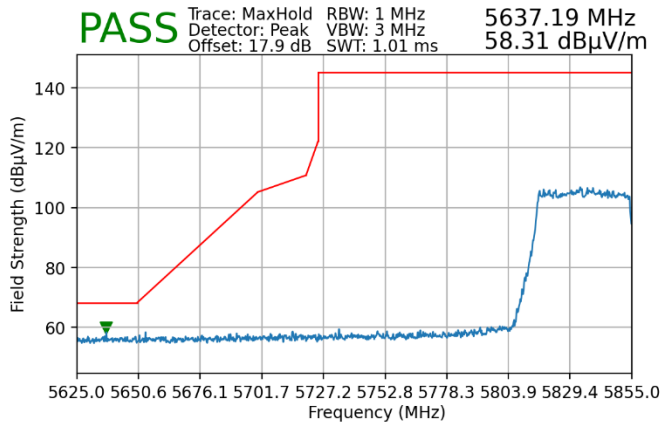
Worst Case Mode: 802.11ax  
 Worst Case Transfer Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 5795MHz  
 Channel: 159



**Plot 7-221. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3)**

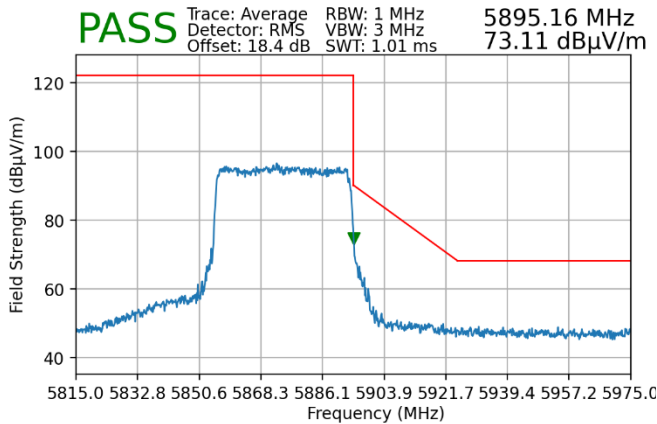
FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2308210093-13.A3L	Test Dates: 8/21/2023 - 11/10/2023	EUT Type: Portable Handset	Page 149 of 168

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

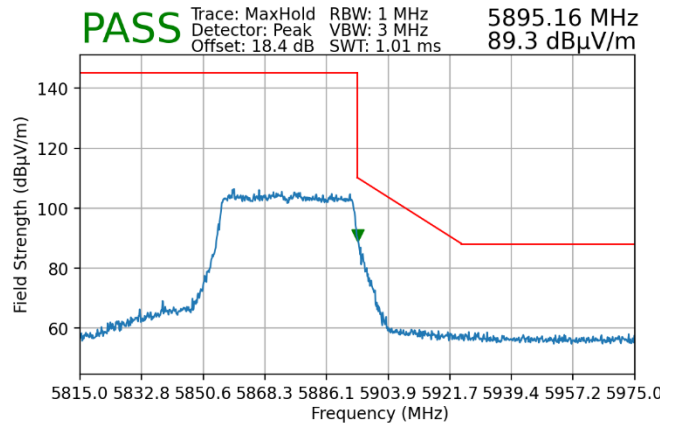


**Plot 7-222. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 4)**

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



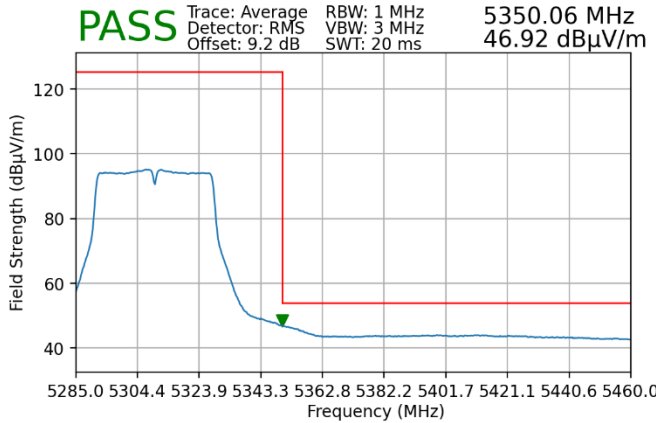
**Plot 7-223. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 4)**



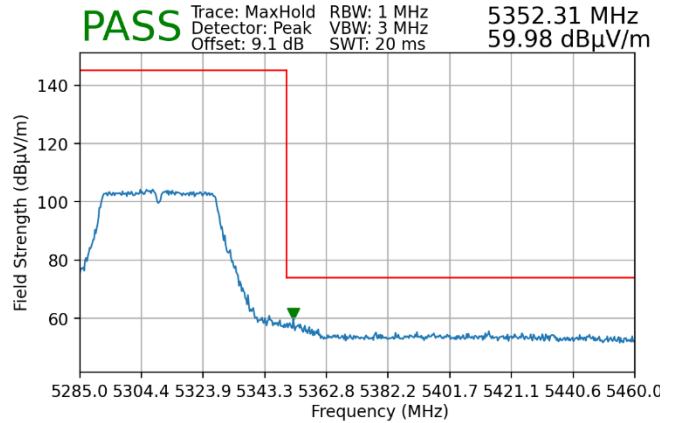
**Plot 7-224. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 4)**

FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2308210093-13.A3L	Test Dates: 8/21/2023 - 11/10/2023	EUT Type: Portable Handset	Page 150 of 168

Worst Case Mode: 802.11n  
 Worst Case Transfer Rate: MCS8  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 5310MHz  
 Channel: 62



**Plot 7-225. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A) with WCP**



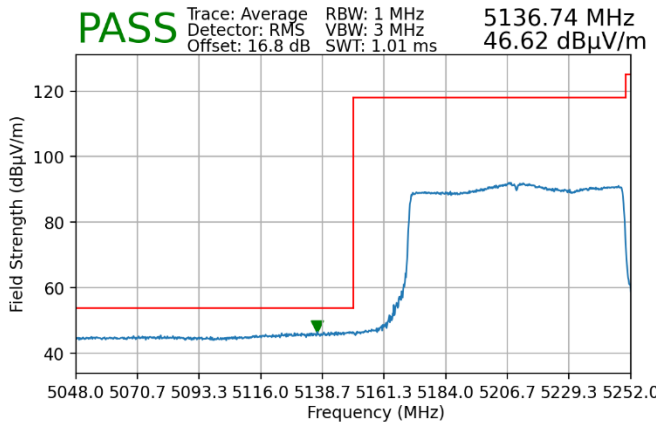
**Plot 7-226. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A) with WCP**

<b>FCC ID:</b> A3LSMS928B	<b>MEASUREMENT REPORT</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1M2308210093-13.A3L	<b>Test Dates:</b> 8/21/2023 - 11/10/2023	<b>EUT Type:</b> Portable Handset	Page 151 of 168

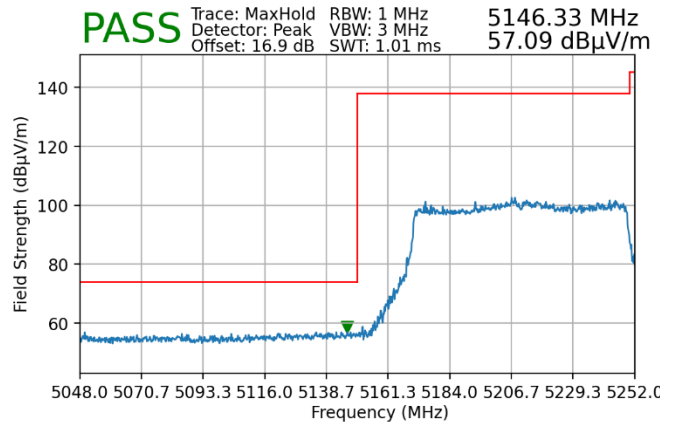


## 7.6.5 MIMO Radiated Band Edge Measurements (80MHz BW)

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

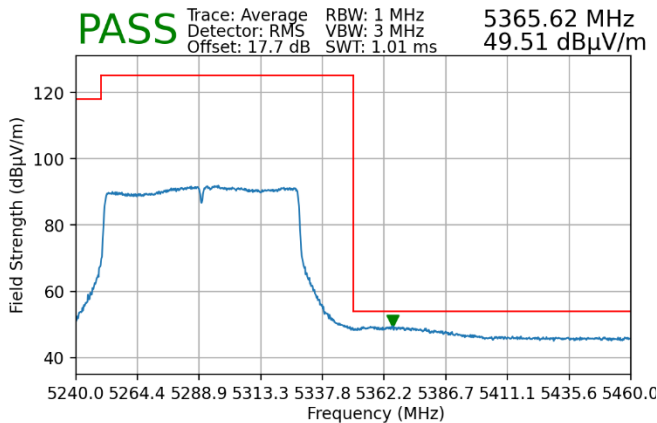


**Plot 7-227. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)**

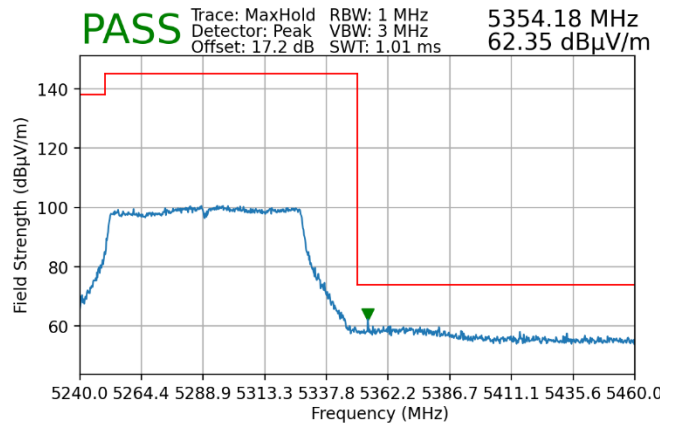


**Plot 7-228. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)**

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



**Plot 7-229. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A)**

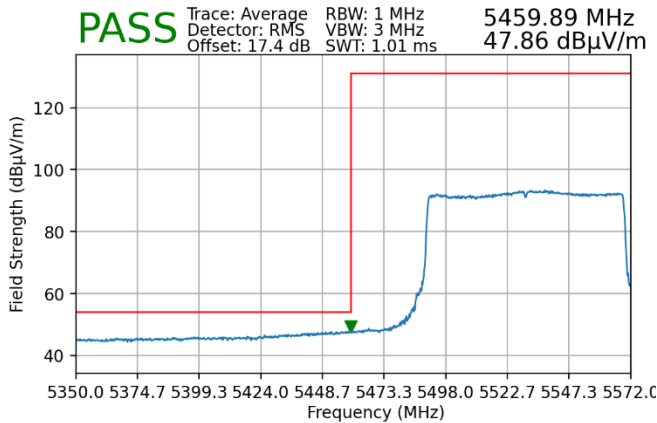


**Plot 7-230. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A)**

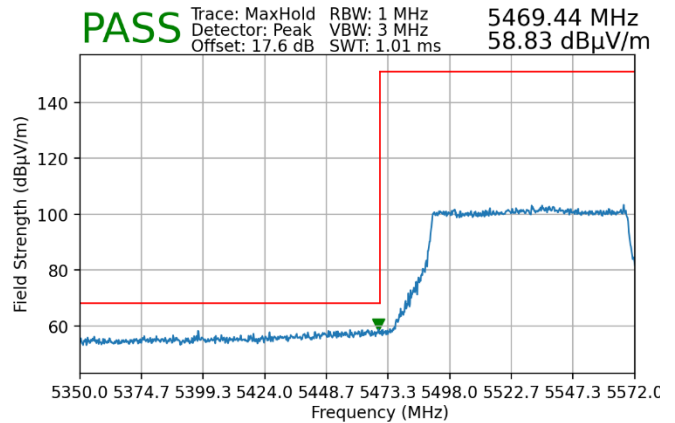
FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2308210093-13.A3L	Test Dates: 8/21/2023 - 11/10/2023	EUT Type: Portable Handset	Page 152 of 168



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

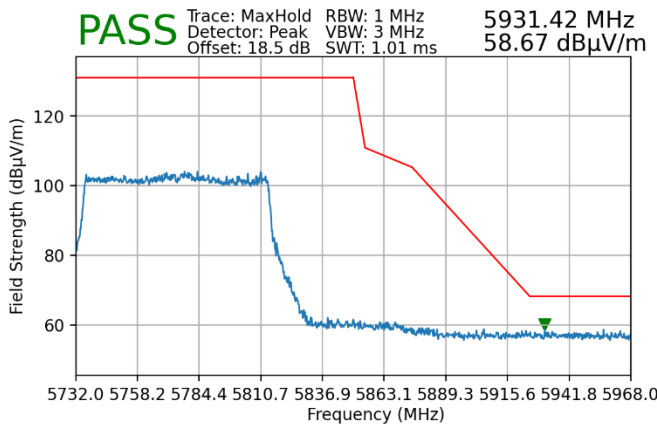


**Plot 7-231. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)**



**Plot 7-232. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C)**

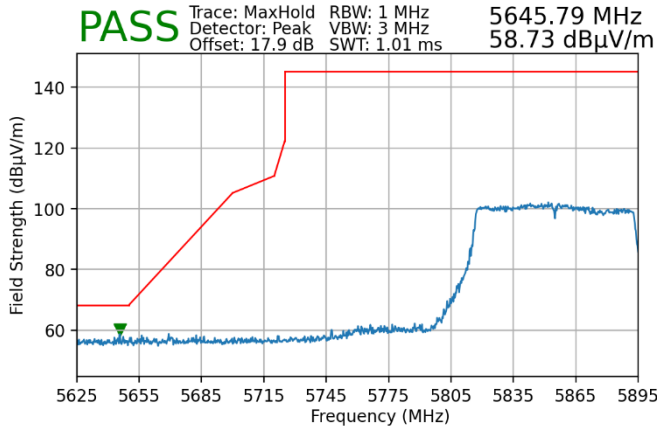
Worst Case Mode: 802.11ax  
 Worst Case Transfer Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 5775MHz  
 Channel: 155



**Plot 7-233. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3)**

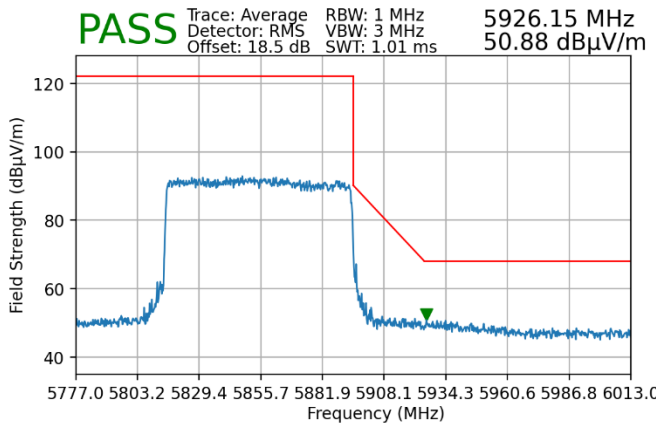
FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2308210093-13.A3L	Test Dates: 8/21/2023 - 11/10/2023	EUT Type: Portable Handset	Page 153 of 168

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

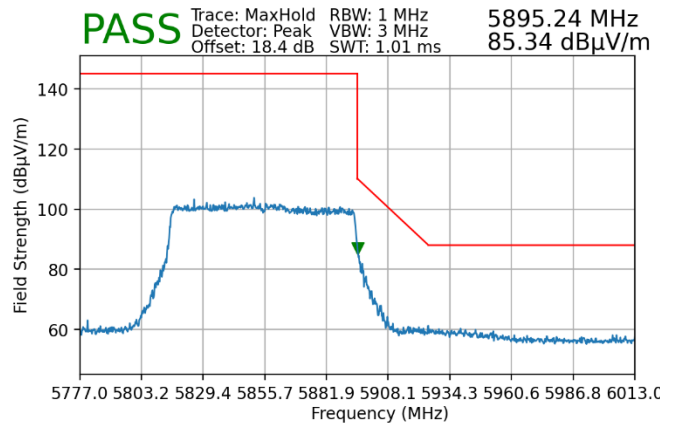


**Plot 7-234. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 4)**

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



**Plot 7-235. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 4)**

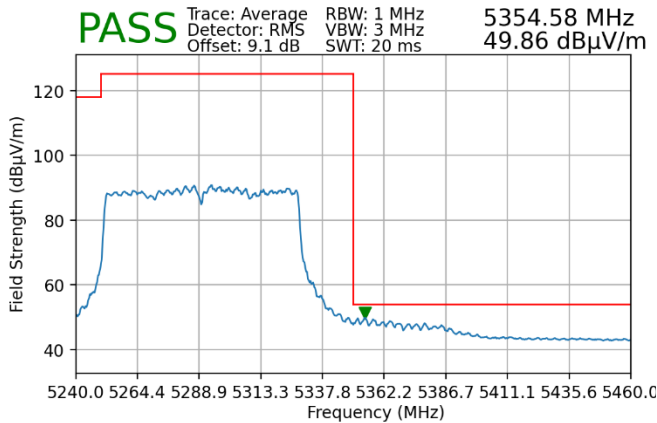


**Plot 7-236. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 4)**

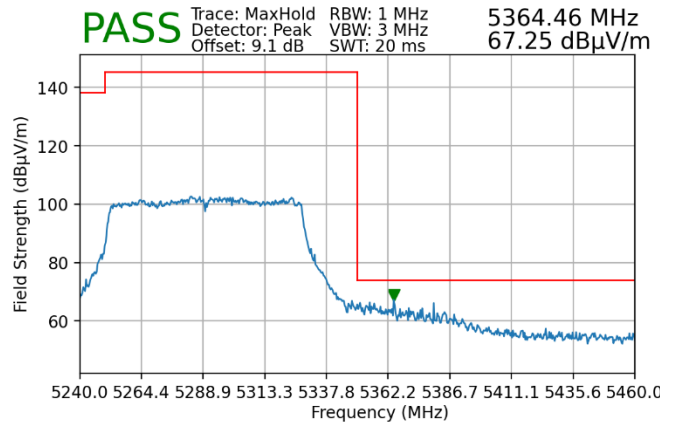
FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
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Worst Case Mode: 802.11ac  
 Worst Case Transfer Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 5290MHz  
 Channel: 58

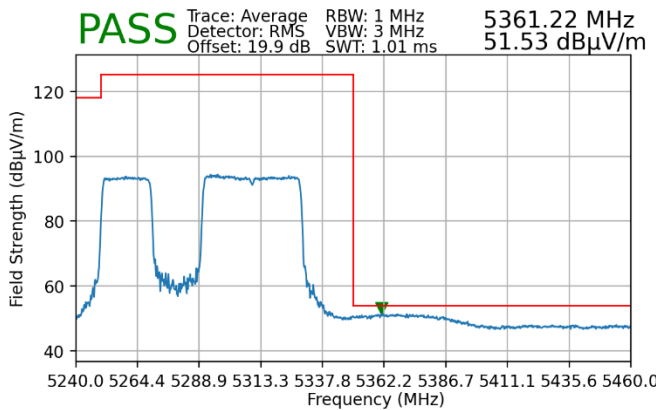


**Plot 7-237. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A) with WCP**

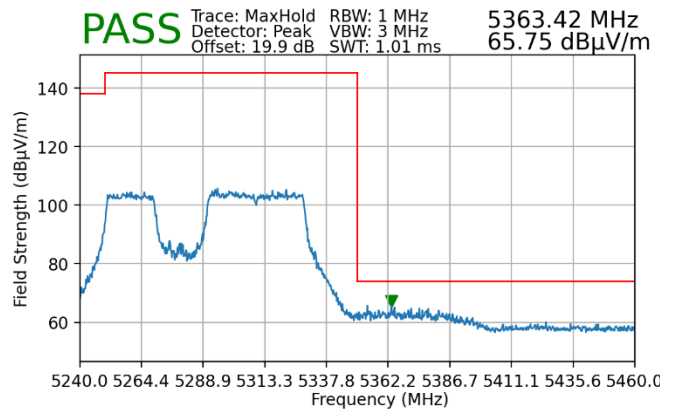


**Plot 7-238. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A) with WCP**

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



**Plot 7-239. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A) - Punctured**

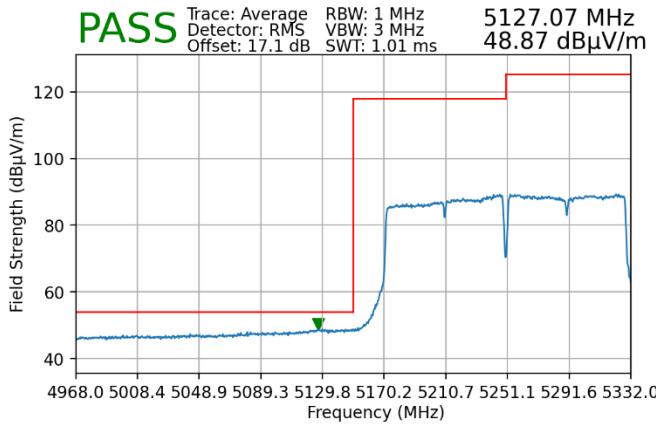


**Plot 7-240. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A) - Punctured**

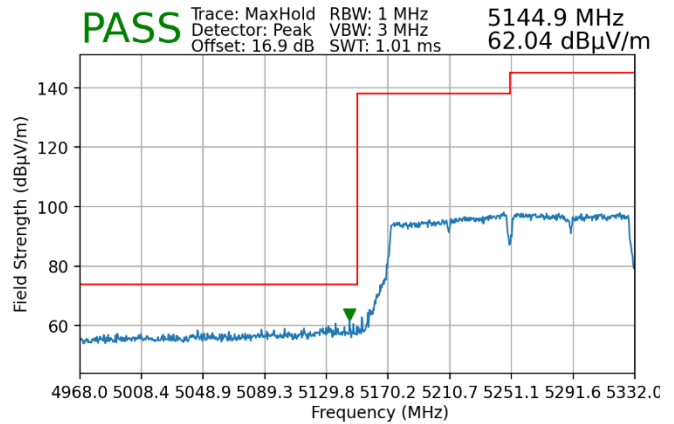
FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2308210093-13.A3L	Test Dates: 8/21/2023 - 11/10/2023	EUT Type: Portable Handset	Page 155 of 168

## 7.6.6 MIMO Radiated Band Edge Measurements (160MHz BW)

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

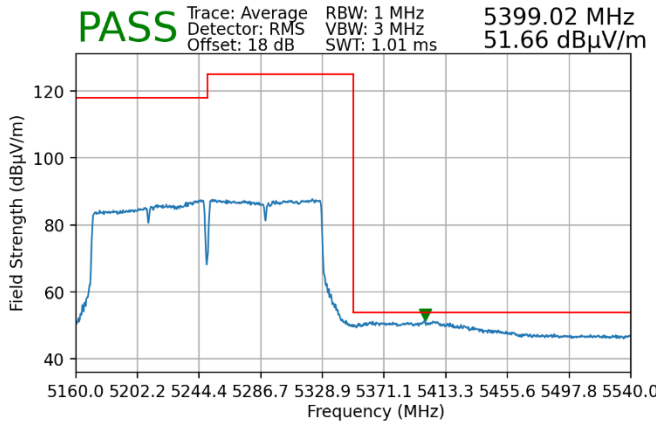


**Plot 7-241. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)**

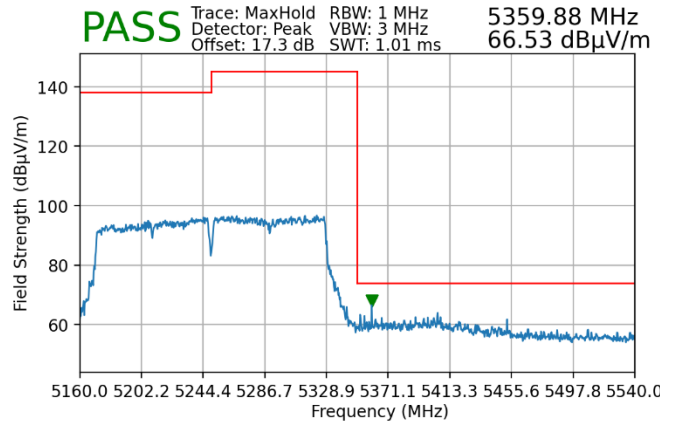


**Plot 7-242. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)**

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



**Plot 7-243. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A)**

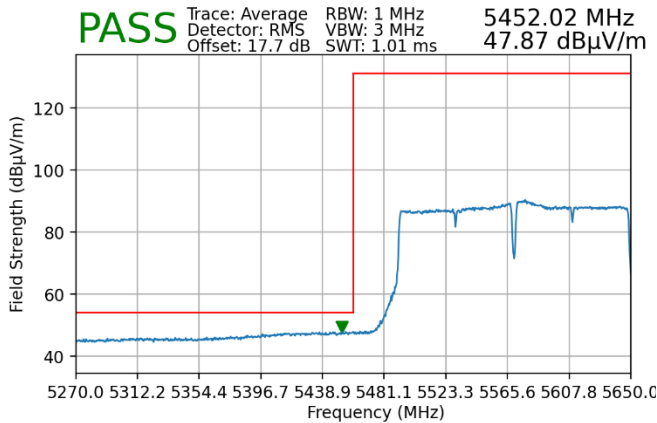


**Plot 7-244. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A)**

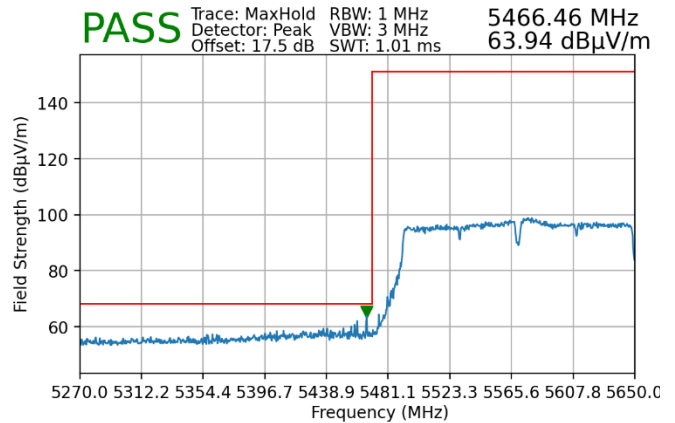
FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
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Worst Case Mode: 802.11ac  
 Worst Case Transfer Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 5570MHz  
 Channel: 114

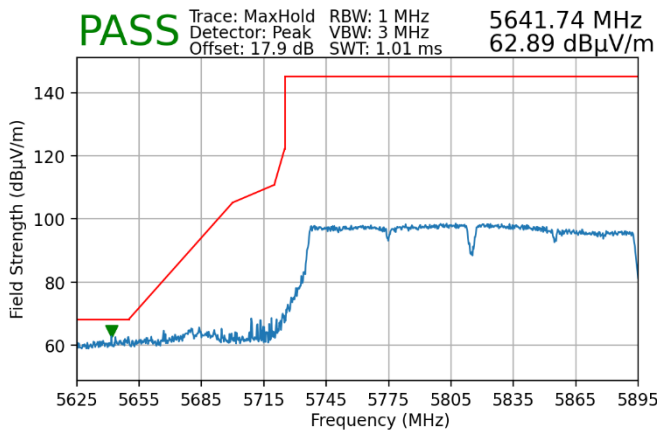


**Plot 7-245. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)**



**Plot 7-246. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C)**

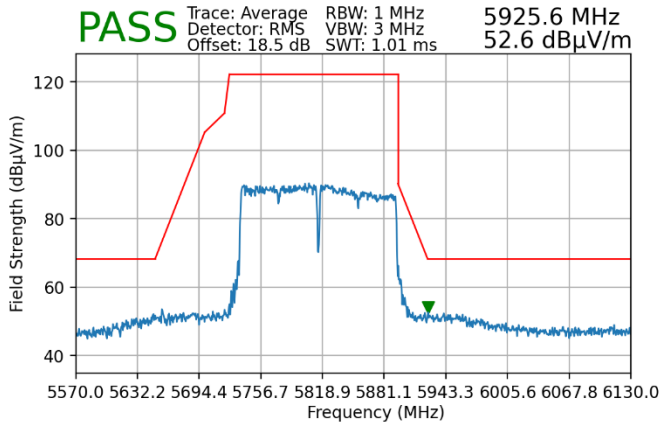
Worst Case Mode: 802.11ac  
 Worst Case Transfer Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 5815MHz  
 Channel: 163



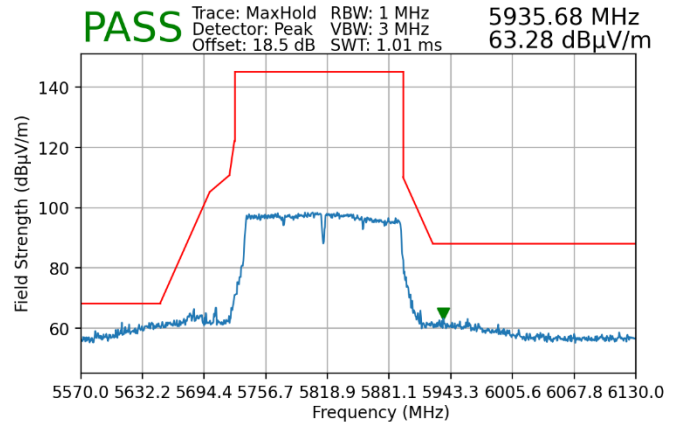
**Plot 7-247. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 4)**

FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 1M2308210093-13.A3L	Test Dates: 8/21/2023 - 11/10/2023	EUT Type: Portable Handset	Page 157 of 168

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

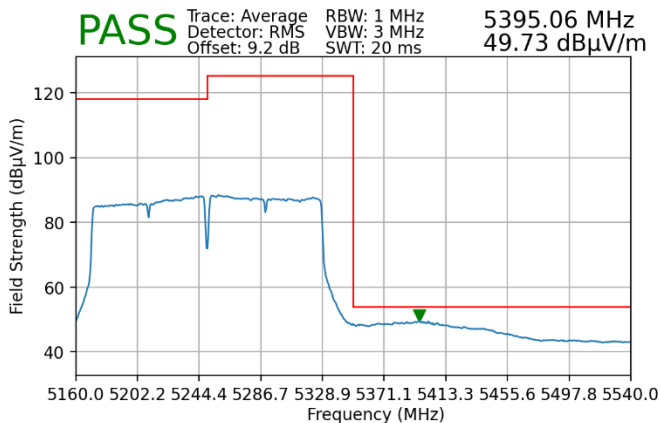


**Plot 7-248. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 4)**

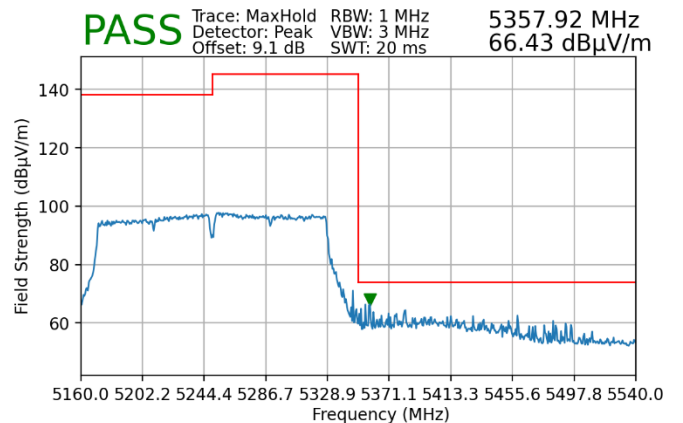


**Plot 7-249. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 4)**

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



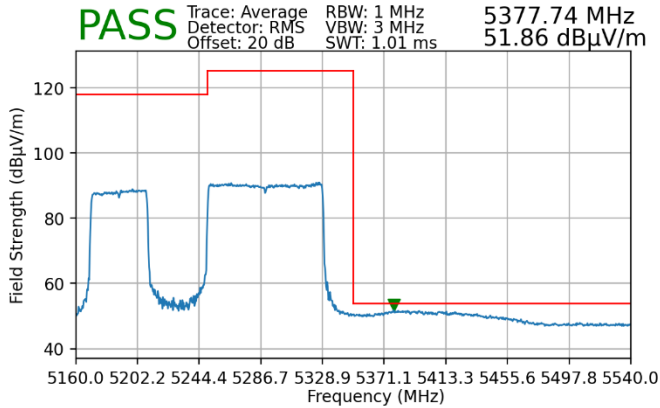
**Plot 7-250. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A) with WCP**



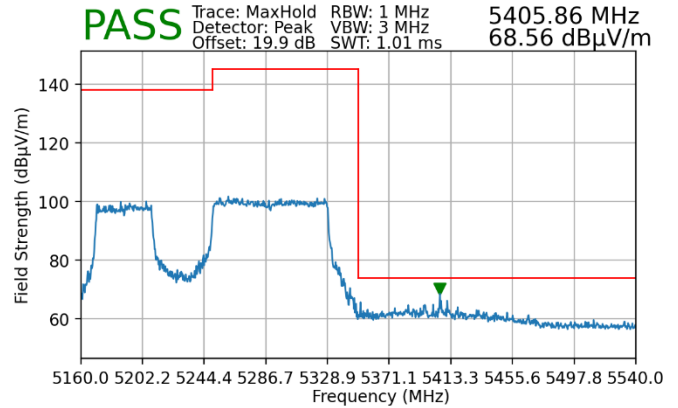
**Plot 7-251. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A) with WCP**

FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
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Worst Case Mode: 802.11ac  
 Worst Case Transfer Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 5250MHz  
 Channel: 50

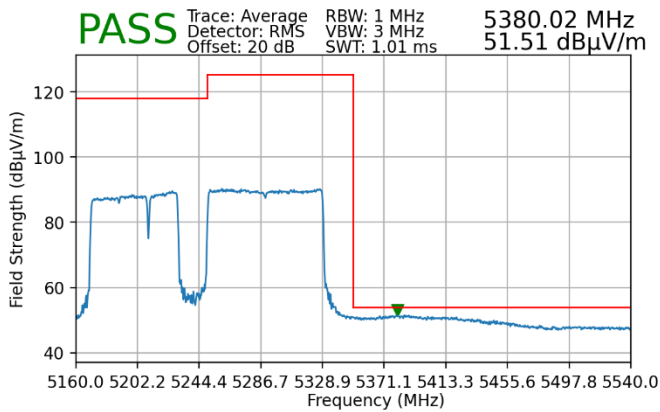


**Plot 7-252. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A) - Punctured**

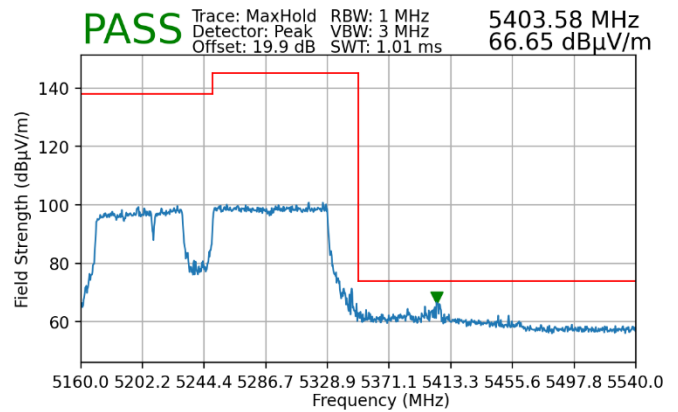


**Plot 7-253. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A) - Punctured**

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



**Plot 7-254. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A) - Punctured**



**Plot 7-255. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A) - Punctured**

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## 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 (dB $\mu$ V)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

**Table 7-37. 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

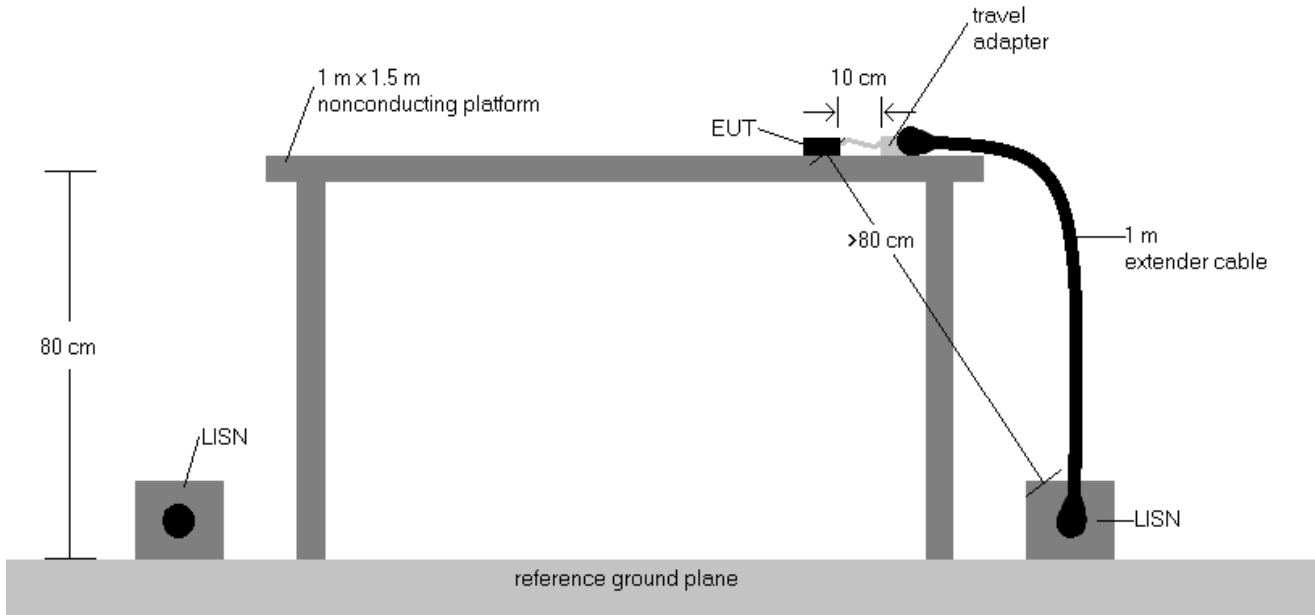
#### Average Field Strength Measurements

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

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**Test Setup**

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

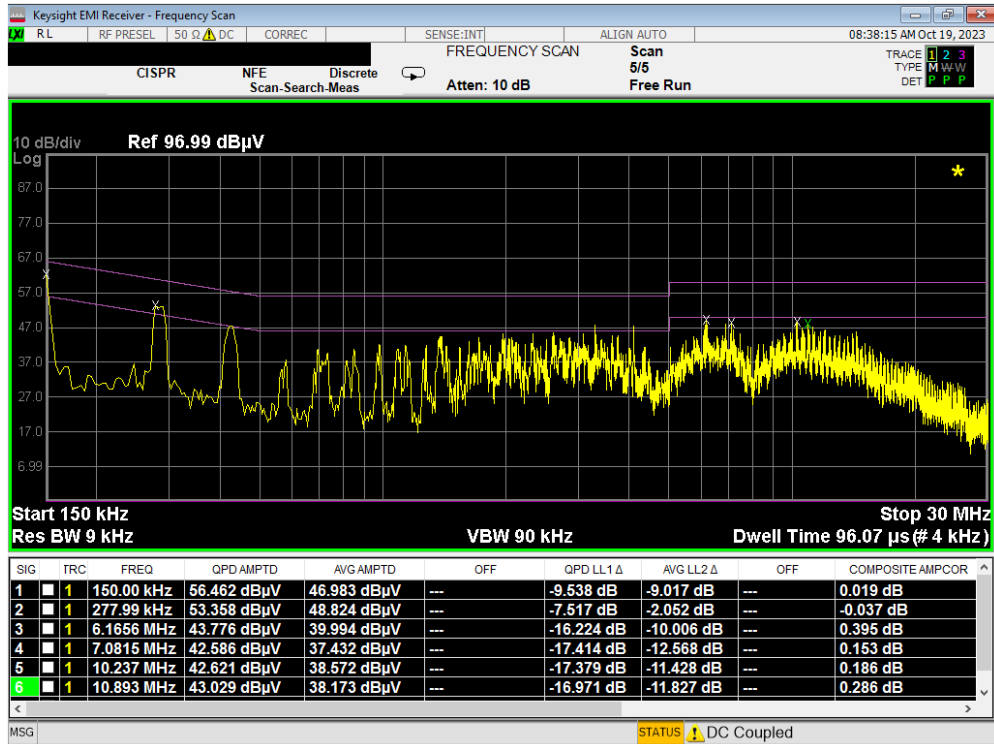


**Figure 7-8. Test Instrument & Measurement Setup**

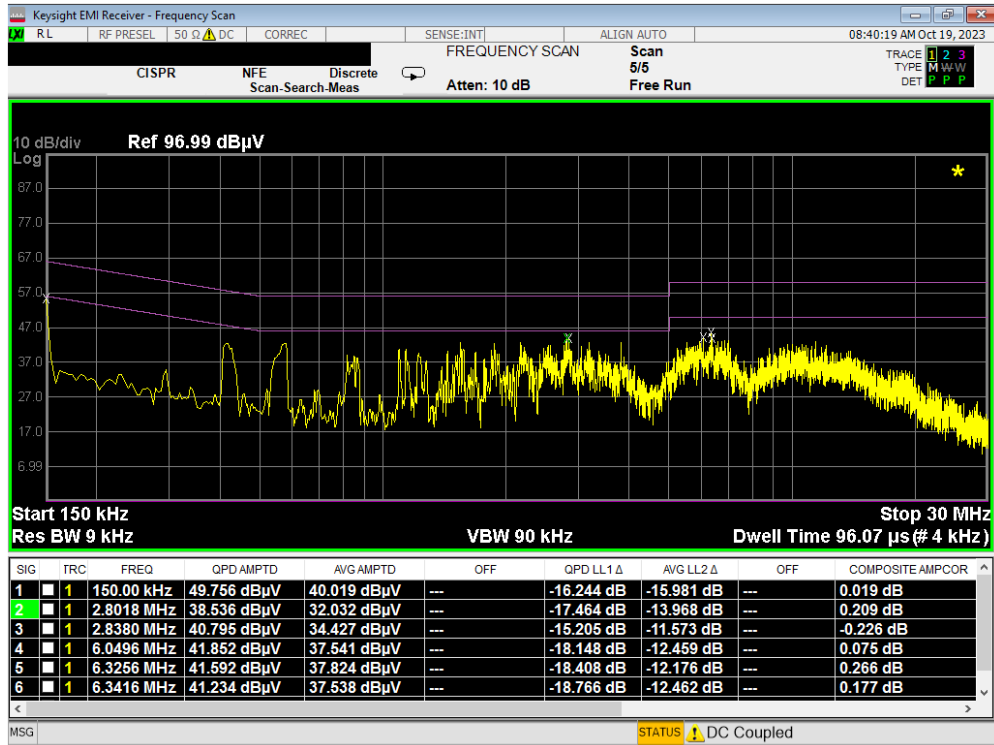
**Test Notes**

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.  $QP/AV\ Level (dB\mu V) = QP/AV\ Analyzer/Receiver\ Level (dB\mu V) + Corr. (dB)$
5.  $Margin (dB) = QP/AV\ Limit (dB\mu V) - QP/AV\ Level (dB\mu V)$
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

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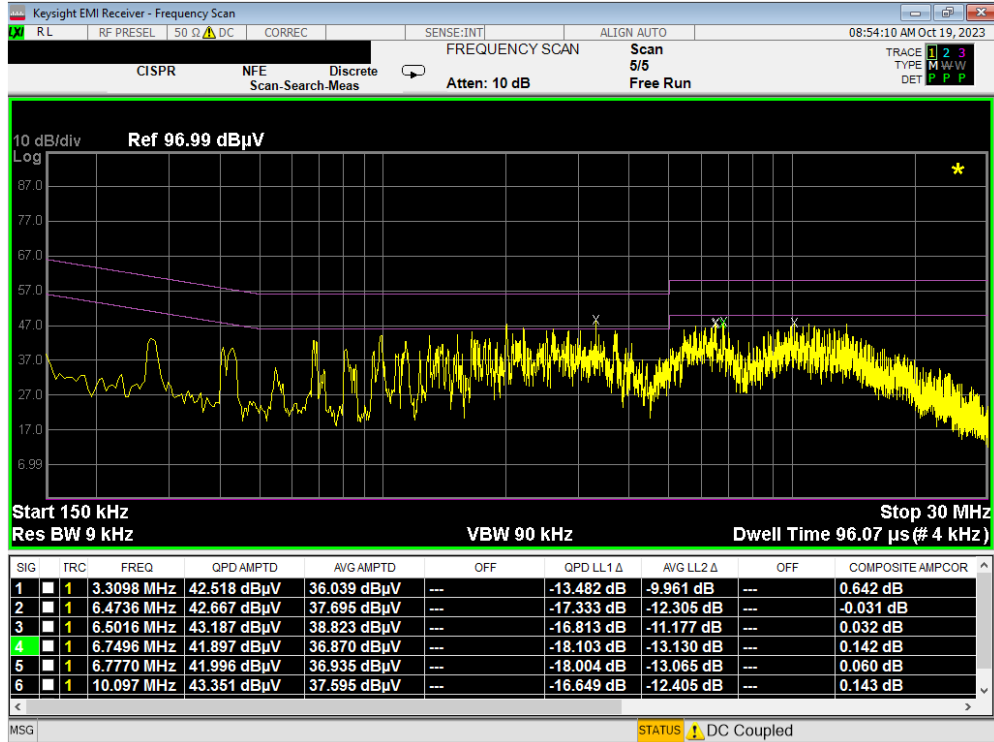


Plot 7-256. Line Conducted Plot with 802.11a UNII Band 1 (L1)

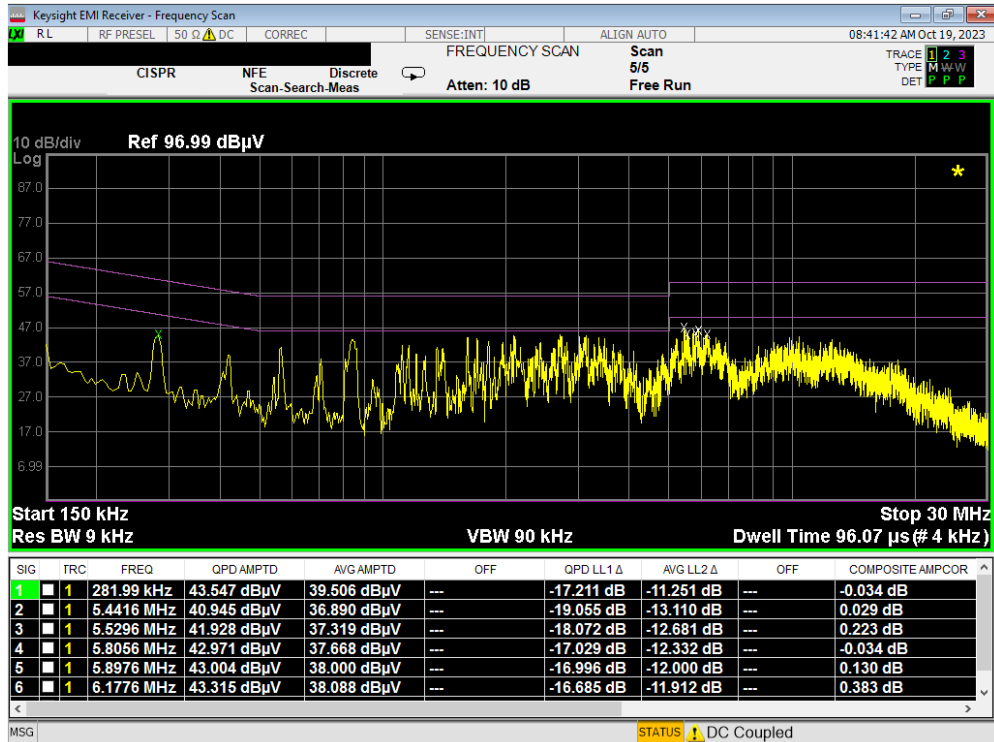


Plot 7-257. Line Conducted Plot with 802.11a UNII Band 1 (N)

FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
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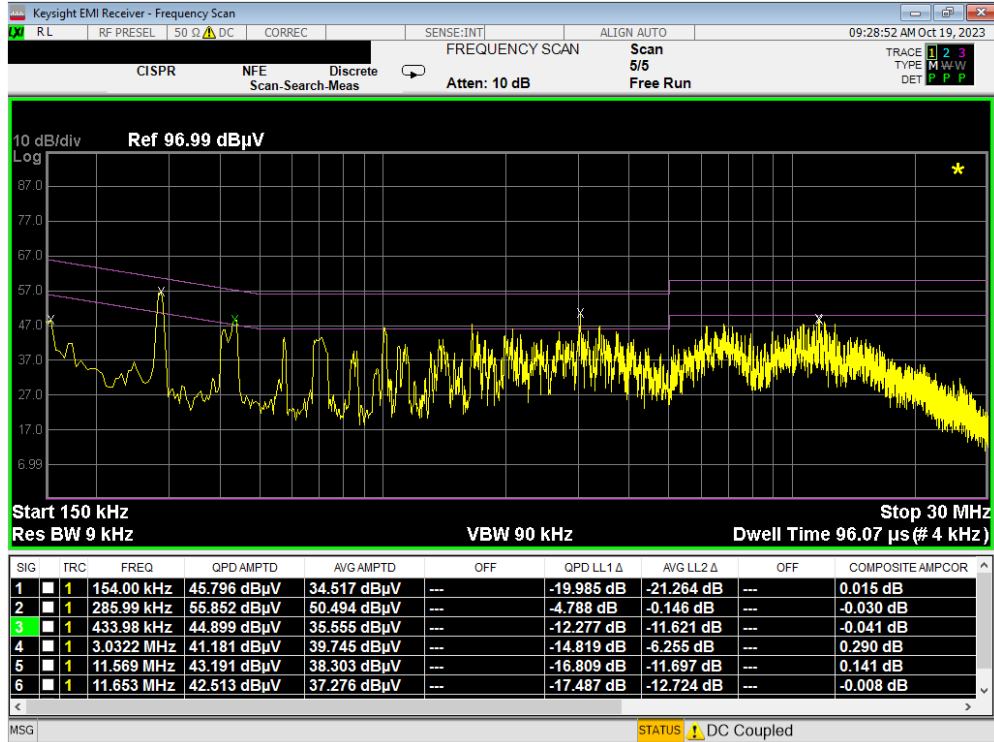


Plot 7-258. Line Conducted Plot with 802.11a UNII Band 2A (L1)

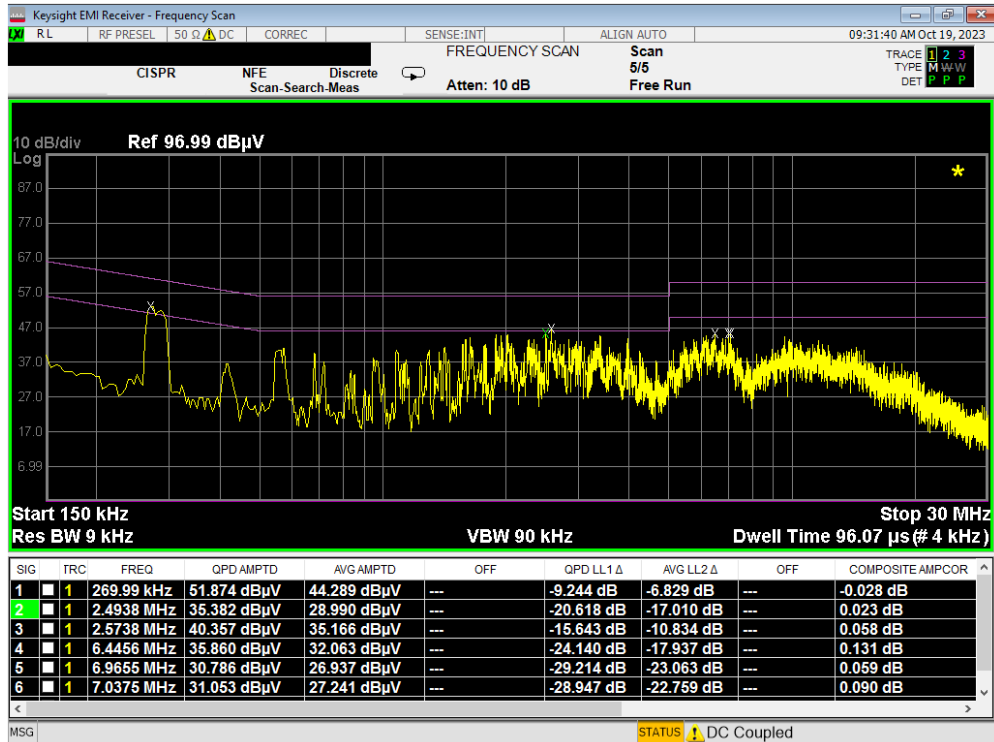


Plot 7-259. Line Conducted Plot with 802.11a UNII Band 2A (N)

FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
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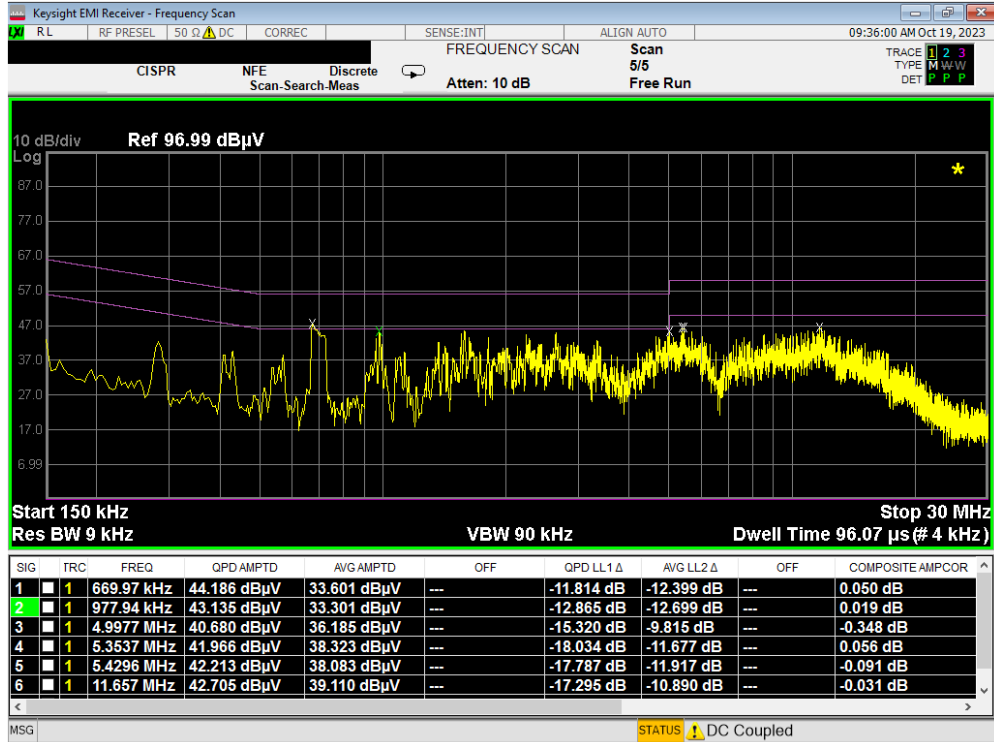


Plot 7-260. Line Conducted Plot with 802.11a UNII Band 2C (L1)

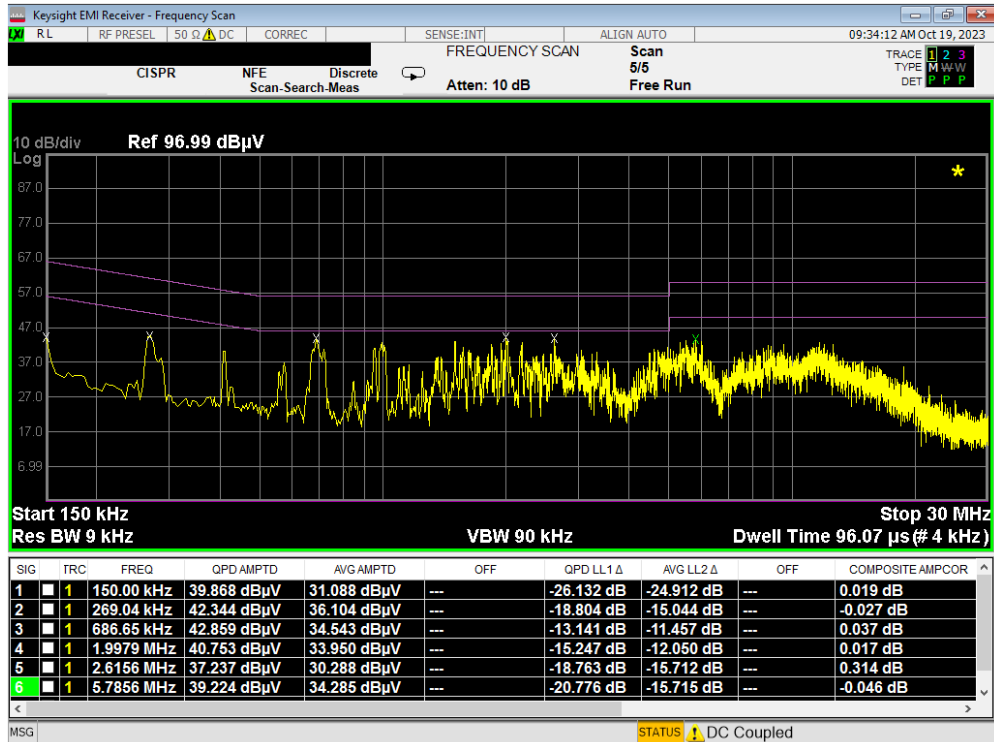


Plot 7-261. Line Conducted Plot with 802.11a UNII Band 2C (N)

FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
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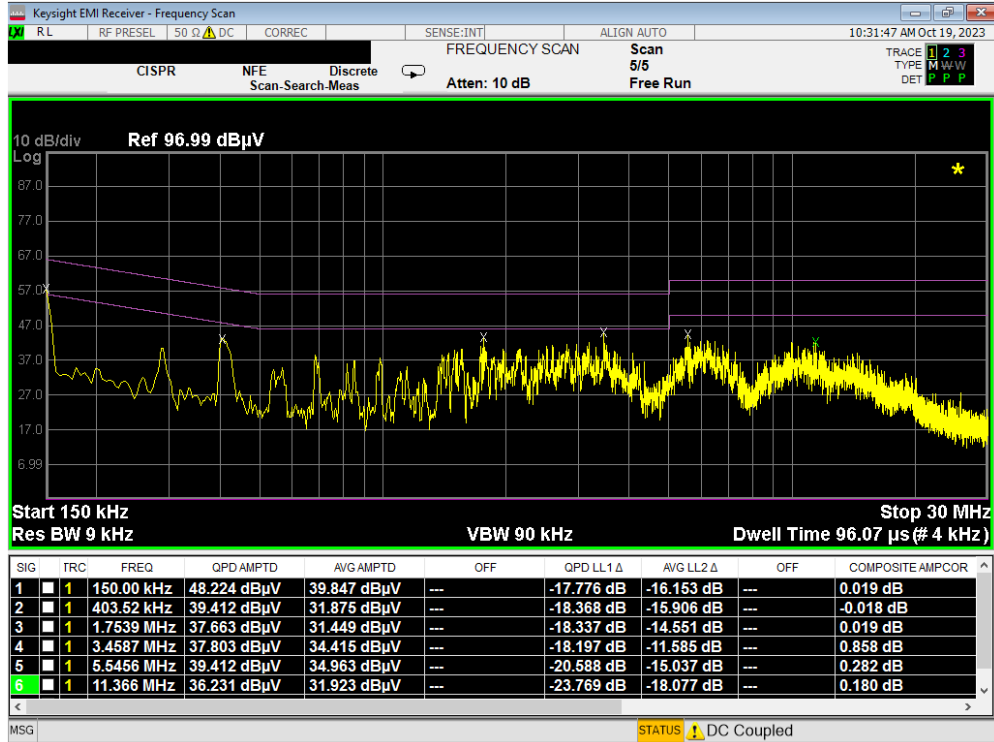


Plot 7-262. Line Conducted Plot with 802.11a UNII Band 3 (L1)

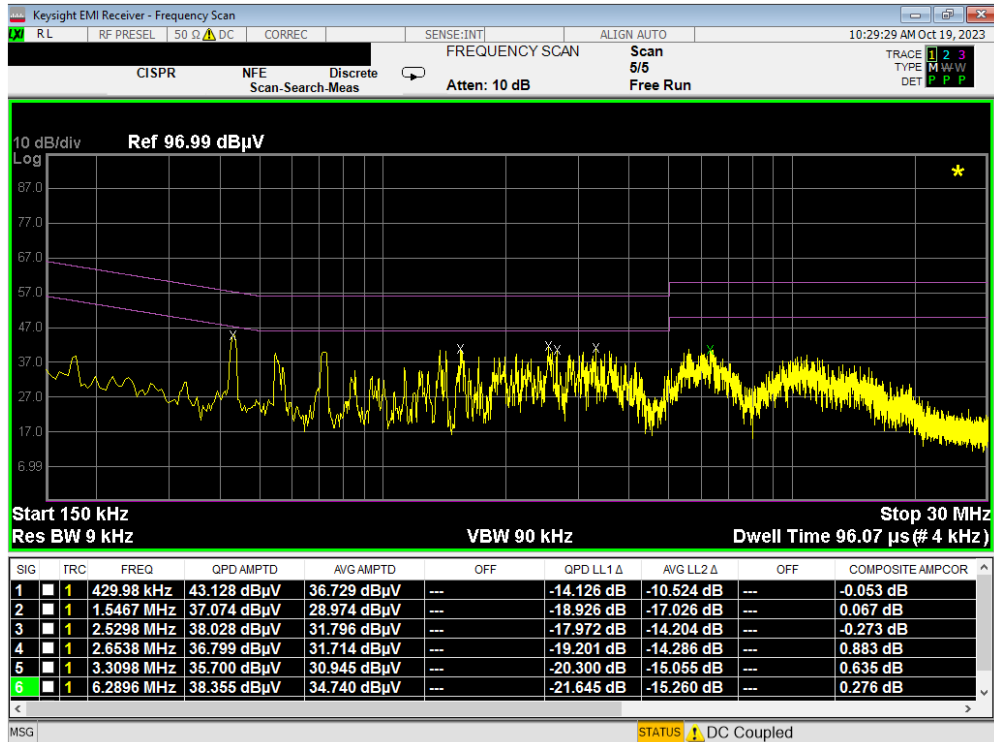


Plot 7-263. Line Conducted Plot with 802.11a UNII Band 3 (N)

FCC ID: A3LSMS928B	MEASUREMENT REPORT		Approved by: Technical Manager
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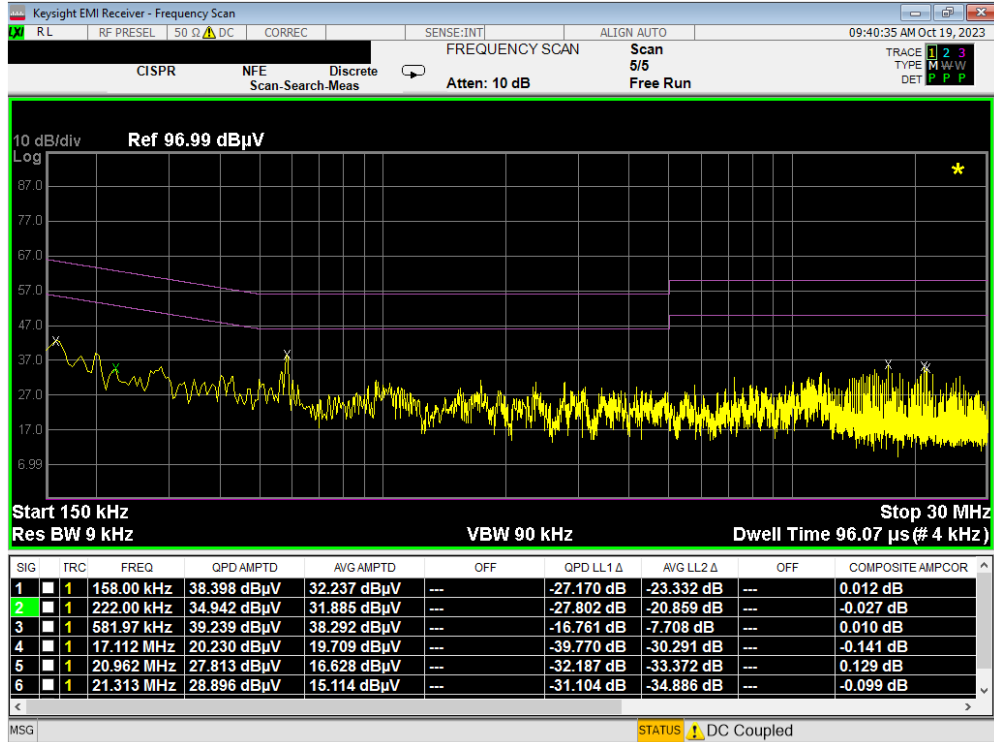


Plot 7-264. Line Conducted Plot with 802.11a UNII Band 4 (L1)

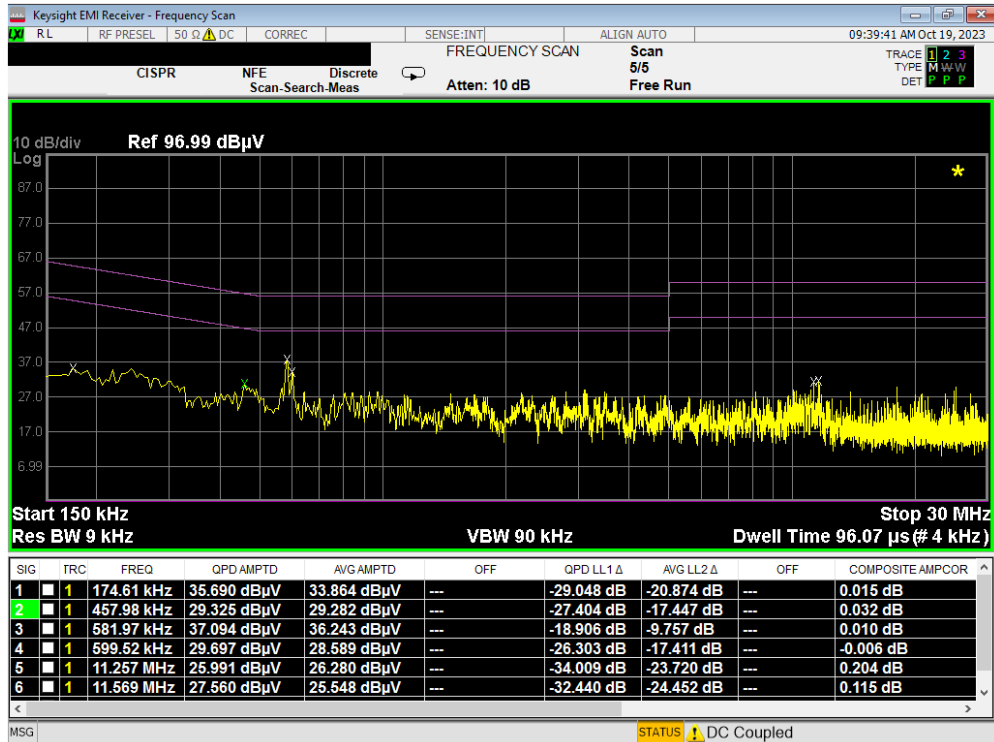


Plot 7-265. Line Conducted Plot with 802.11a UNII Band 4 (N)

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Plot 7-266. Line Conducted Plot with 802.11a UNII Band 1 (L1) with WCP



Plot 7-267. Line Conducted Plot with 802.11a UNII Band 1 (N) with WCP

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## 8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMS928B** is in compliance with Part 15 Subpart E (15.407) of the FCC Rules.

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