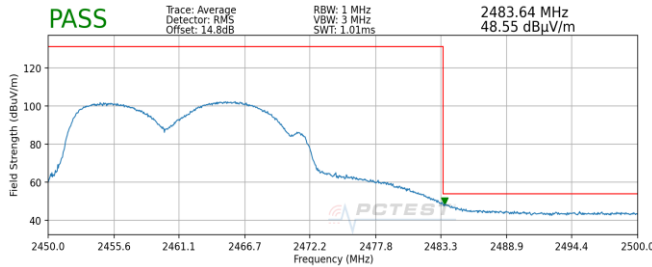
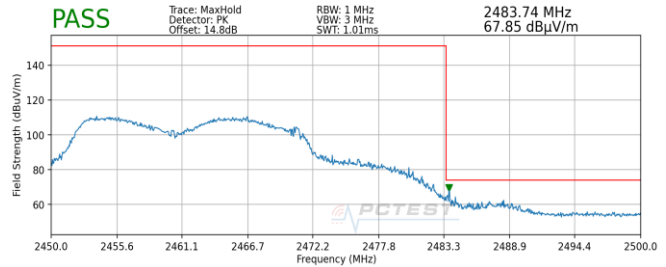


Worst Case Mode: 802.11ax
 Worst Case Transfer Rate: MCS0
 Worst Case Orientation: Open
 Distance of Measurements: 3 Meters
 Operating Frequency: 2462MHz
 Channel: 11

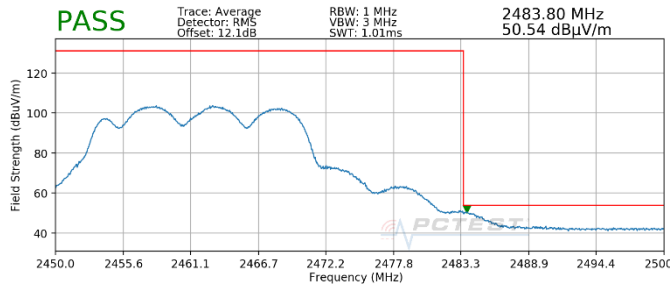


Plot 7-189. Radiated Restricted Upper Band Edge Measurement MIMO (Average) – Q

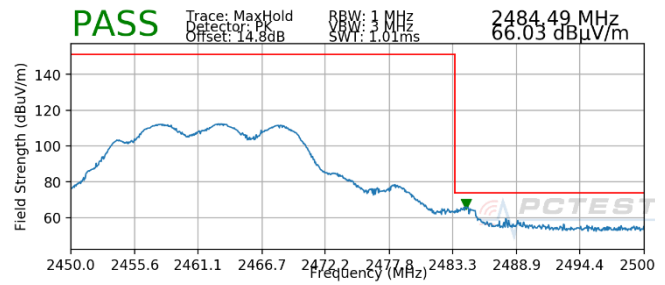


Plot 7-190. Radiated Restricted Upper Band Edge Measurement MIMO (Peak) – Q

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



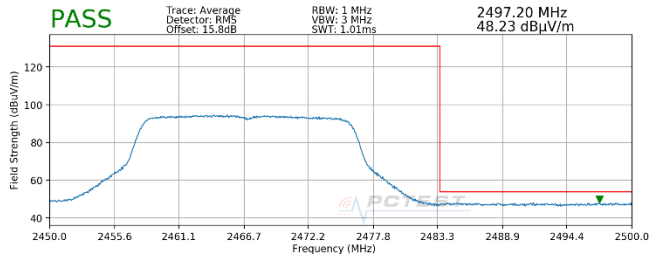
Plot 7-191. Radiated Restricted Upper Band Edge Measurement MIMO (Average) – N



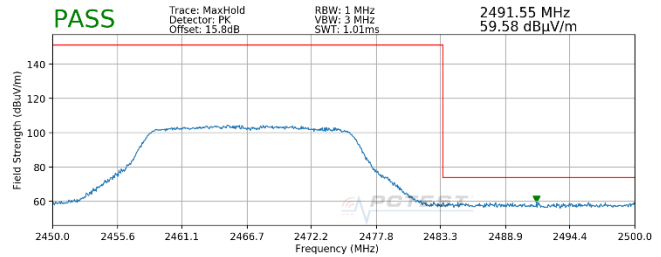
Plot 7-192. Radiated Restricted Upper Band Edge Measurement MIMO (Peak) – N

| | | | |
|---|--|---------------------------------------|---|
| FCC ID: A3LSMF711B |  <p>PCTEST® Proud to be part of element</p> | MEASUREMENT REPORT (CERTIFICATION) |  <p>Approved by: Technical Manager</p> |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | Page 124 of 141 |

Worst Case Mode: 802.11n
 Worst Case Transfer Rate: MCS8
 Worst Case Orientation: Open
 Distance of Measurements: 3 Meters
 Operating Frequency: 2467MHz
 Channel: 12

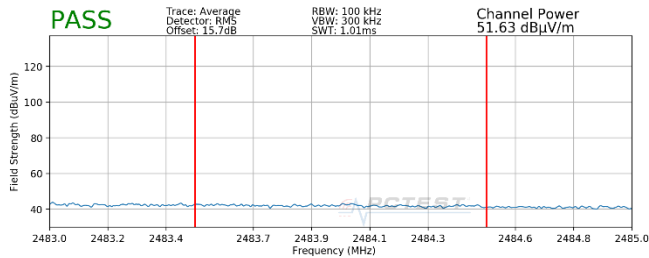


Plot 7-193. Radiated Restricted Upper Band Edge Measurement MIMO (Average) – Q

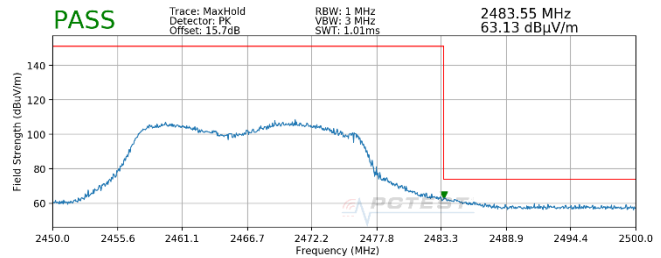


Plot 7-194. Radiated Restricted Upper Band Edge Measurement MIMO (Peak) – Q

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



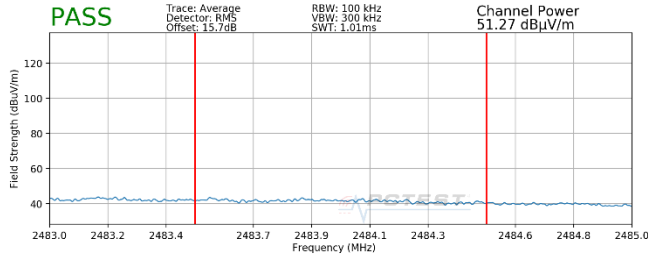
Plot 7-195. Radiated Restricted Upper Band Edge Measurement MIMO (Average) – N



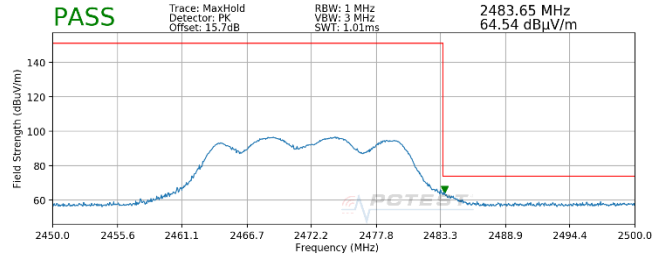
Plot 7-196. Radiated Restricted Upper Band Edge Measurement MIMO (Peak) – N

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMF711B |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | | Page 125 of 141 |

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

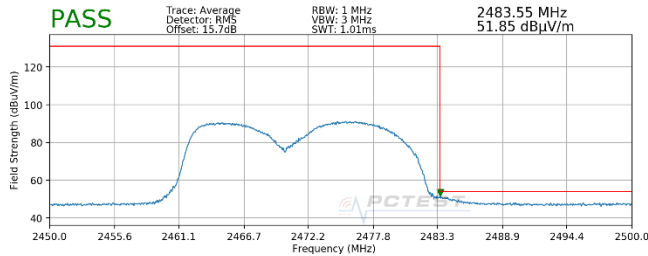


Plot 7-197. Radiated Restricted Upper Band Edge Measurement MIMO (Average) – Q

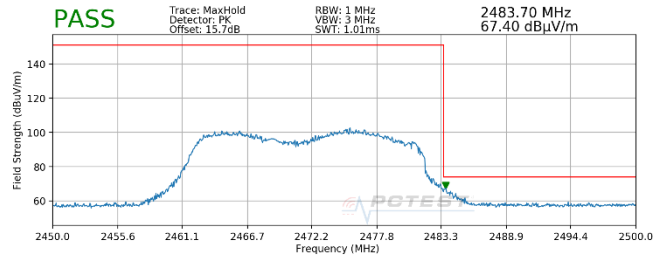


Plot 7-198. Radiated Restricted Upper Band Edge Measurement MIMO (Peak) – Q

| | |
|---------------------------|----------|
| Worst Case Mode: | 802.11ax |
| Worst Case Transfer Rate: | MCS0 |
| Worst Case Orientation: | Open |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2472MHz |
| Channel: | 13 |



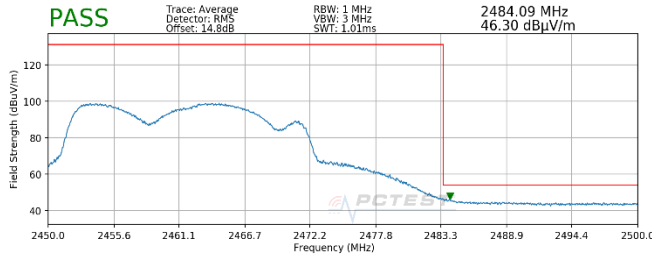
Plot 7-199. Radiated Restricted Upper Band Edge Measurement MIMO (Average) – N



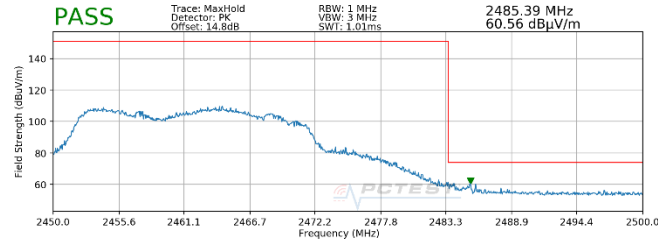
Plot 7-200. Radiated Restricted Upper Band Edge Measurement MIMO (Peak) – N

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMF711B |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | | Page 126 of 141 |

Worst Case Mode: 802.11ax
 Worst Case Transfer Rate: MCS0
 Worst Case Orientation: Open
 Distance of Measurements: 3 Meters
 Operating Frequency: 2462MHz
 Channel: 11

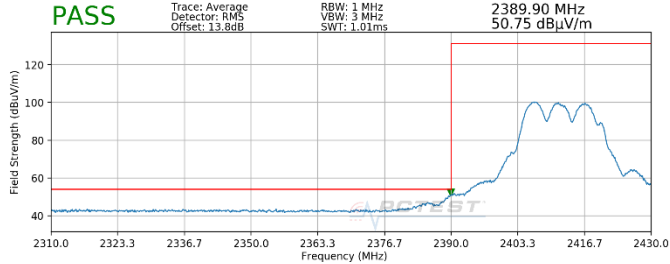


Plot 7-201. Radiated Restricted Band Edge Measurement MIMO with WCP (Average) – Q

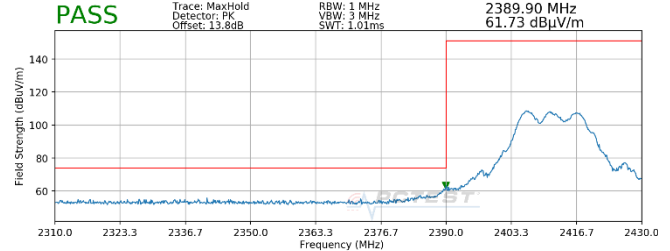


Plot 7-202. Radiated Restricted Band Edge Measurement MIMO with WCP (Peak) – Q

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 7-203. Radiated Restricted Band Edge Measurement MIMO with WCP (Average) – N



Plot 7-204. Radiated Restricted Band Edge Measurement MIMO with WCP (Peak) – N

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMF711B |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | | Page 127 of 141 |

7.8 Radiated Spurious Emissions Measurements – Below 1GHz §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 7-29 per Section 15.209 and RSS-Gen (8.9).

| Frequency | Field Strength [μ V/m] | Measured Distance [Meters] |
|-------------------|--------------------------------|-------------------------------|
| 0.009 – 0.490 MHz | 2400/F (kHz) | 300 |
| 0.490 – 1.705 MHz | 24000/F (kHz) | 30 |
| 1.705 – 30.00 MHz | 30 | 30 |
| 30.00 – 88.00 MHz | 100 | 3 |
| 88.00 – 216.0 MHz | 150 | 3 |
| 216.0 – 960.0 MHz | 200 | 3 |
| Above 960.0 MHz | 500 | 3 |

Table 7-29. Radiated Limits

Test Procedures Used

ANSI C63.10-2013

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMF711B |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | Page 128 of 141 | |

Test Setup

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

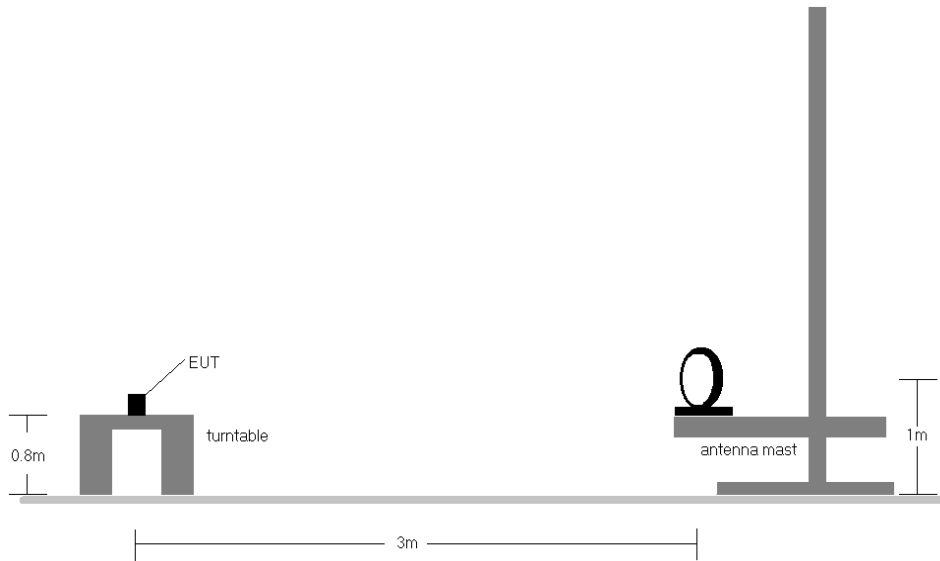


Figure 7-7. Radiated Test Setup < 30Mhz

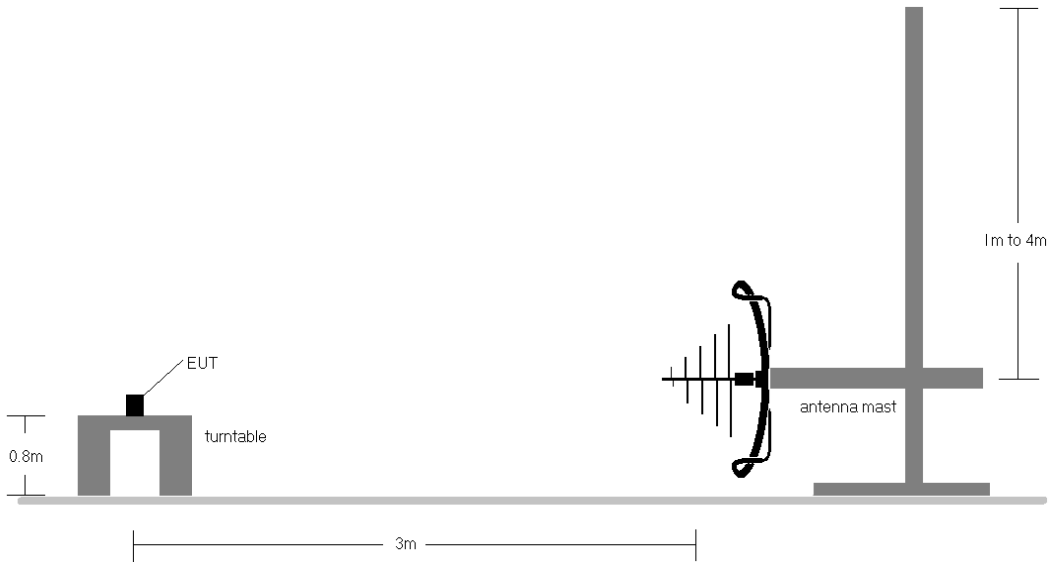


Figure 7-8. Radiated Test Setup < 1GHz

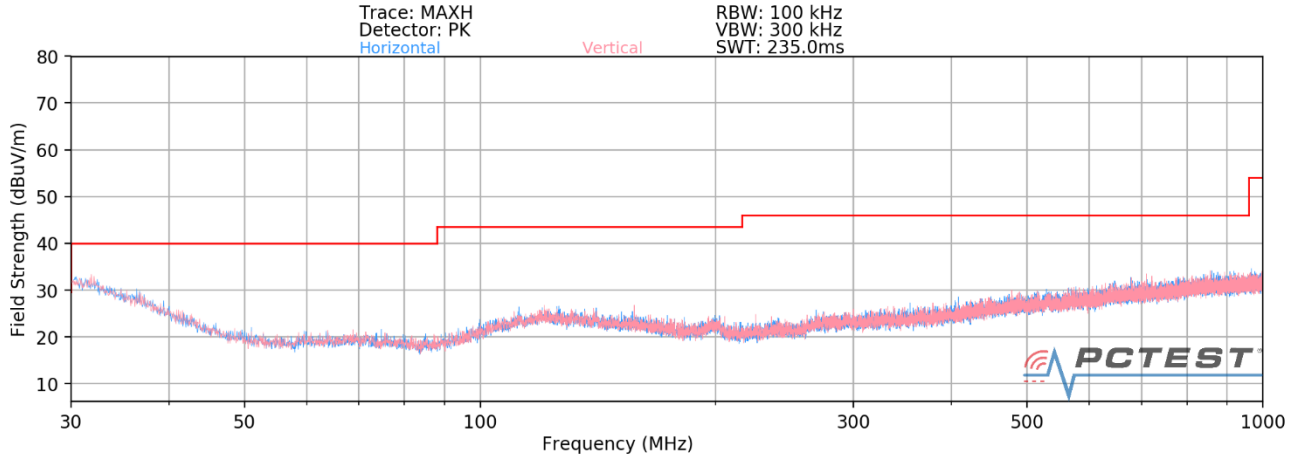
| | | | |
|--|---|---|--|
| <p>FCC ID: A3LSMF711B</p> | | <p>MEASUREMENT REPORT (CERTIFICATION)</p> | <p>Approved by: Technical Manager</p> |
| <p>Test Report S/N: 1M2104130035-10.A3L</p> | <p>Test Dates: 04/12/2021 – 06/26/2021</p> | <p>EUT Type: Portable Handset</p> | <p>Page 129 of 141</p> |

Test Notes

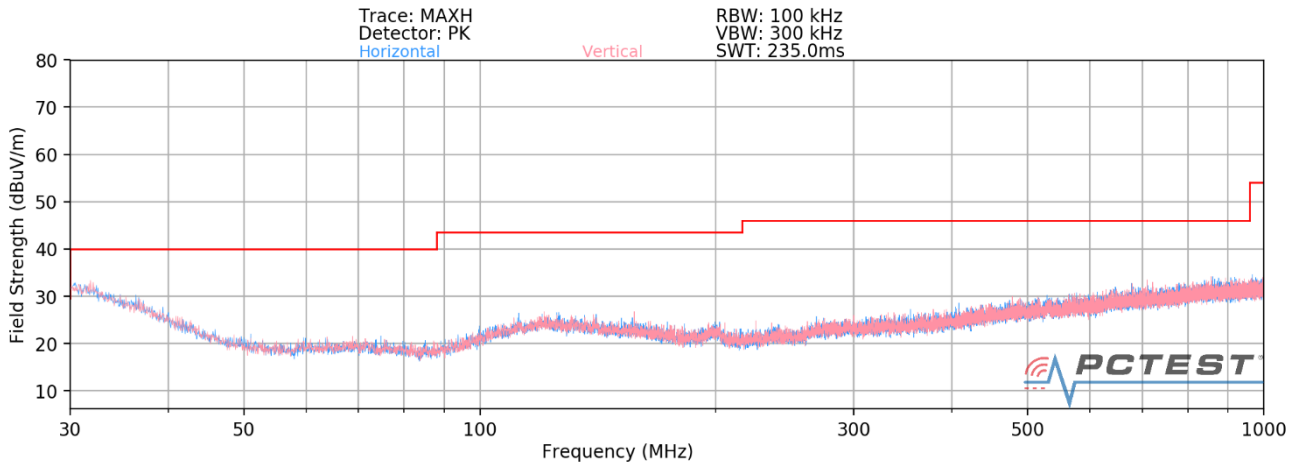
1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen(8.10) are below the limit shown in Table 7-29.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
3. This unit was tested with its standard battery.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. The results recorded using the broadband antenna is known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. There were no emissions detected in the 30MHz – 1GHz frequency range, as shown in the subsequent plots.
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.

| | | | |
|--|---|---|---|
| FCC ID: A3LSMF711B |  | MEASUREMENT REPORT (CERTIFICATION) |  Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | Page 130 of 141 |

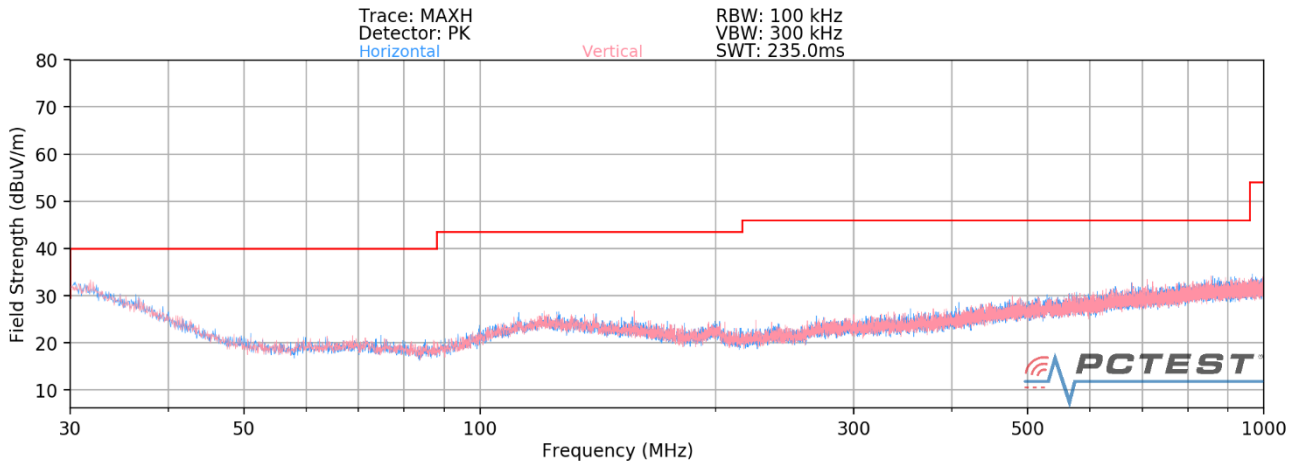
MIMO Radiated Spurious Emissions Measurements (Below 1GHz)
§15.209; RSS-Gen [8.9]



Plot 7-205. Radiated Spurious Plot below 1GHz MIMO – OPEN (Q)

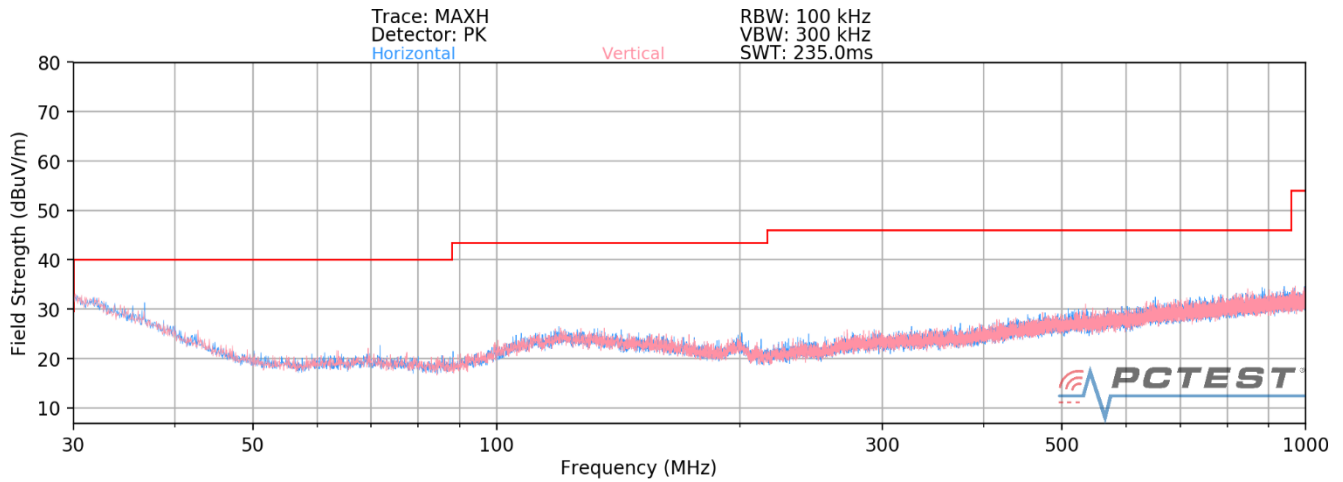


Plot 7-206. Radiated Spurious Plot below 1GHz MIMO – CLOSED (Q)



Plot 7-207. Radiated Spurious Plot below 1GHz MIMO – OPEN (N)

| | | | | |
|---|--|---------------------------------------|--|-----------------------------------|
| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | | Page 131 of 141 |



Plot 7-208. Radiated Spurious Plot below 1GHz MIMO – CLOSED (N)

| | | | | |
|--|---|---|-----------------|--|
| FCC ID: A3LSMF711B | | MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | Page 132 of 141 | |

7.9 Line-Conducted Test Data

§15.207; RSS-Gen [8.8]

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 Section 15.207 and RSS-Gen (8.8).

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

Table 7-30. 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

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMF711B |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | | Page 133 of 141 |

Test Setup

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

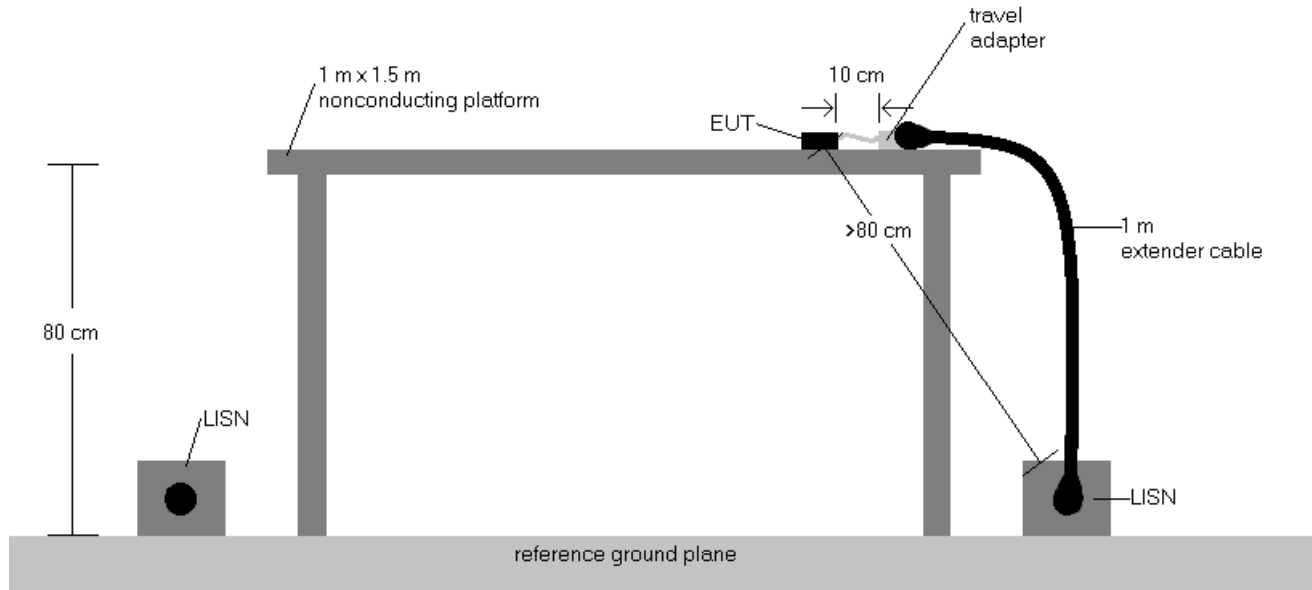
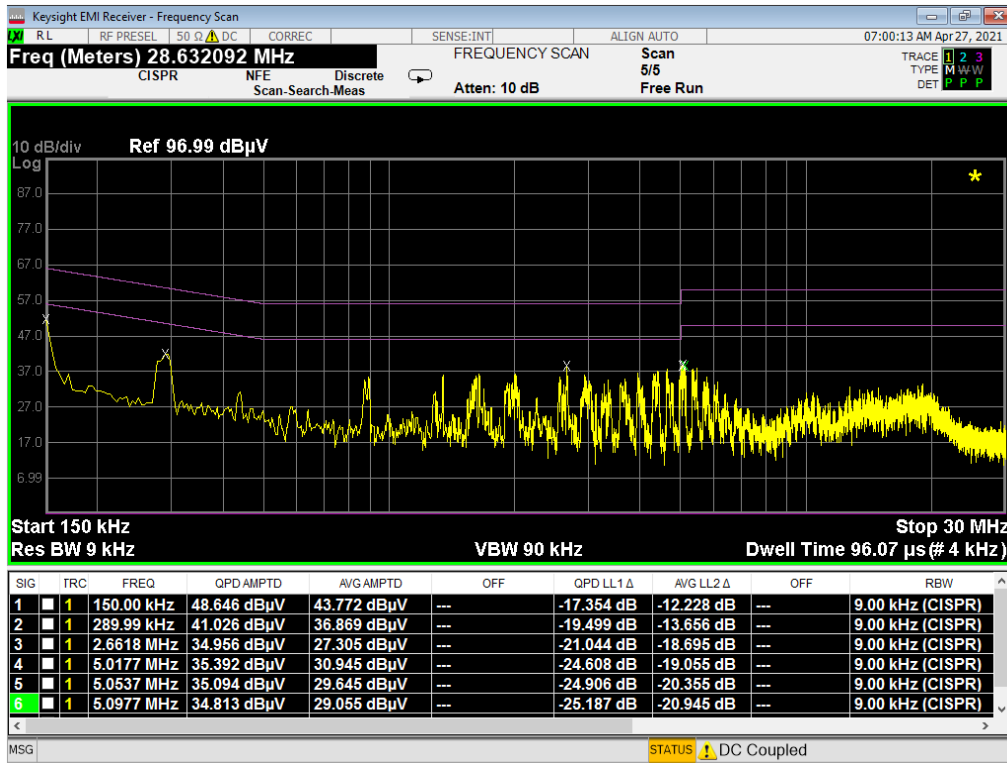


Figure 7-9. Test Instrument & Measurement Setup

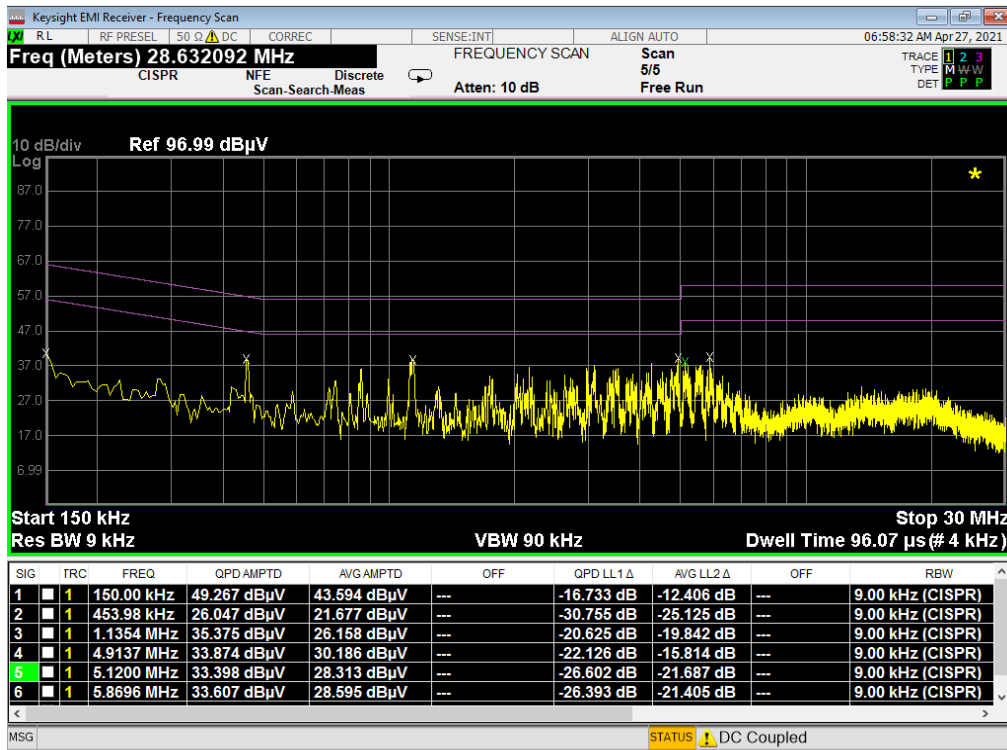
Test Notes

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 are specified in Part 15.207 and RSS-Gen(8.8).
3. $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
4. $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Corr. (dB)}$
5. $\text{Margin (dB)} = \text{QP/AV Limit (dB}\mu\text{V)} - \text{QP/AV Level (dB}\mu\text{V)}$
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.
8. The EMI Receiver mode of the Agilent MXE was used to perform AC line conducted emissions testing.
9. 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.

| | | | | |
|---|---|---------------------------------------|---|-----------------------------------|
| FCC ID: A3LSMF711B |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | | Page 134 of 141 |

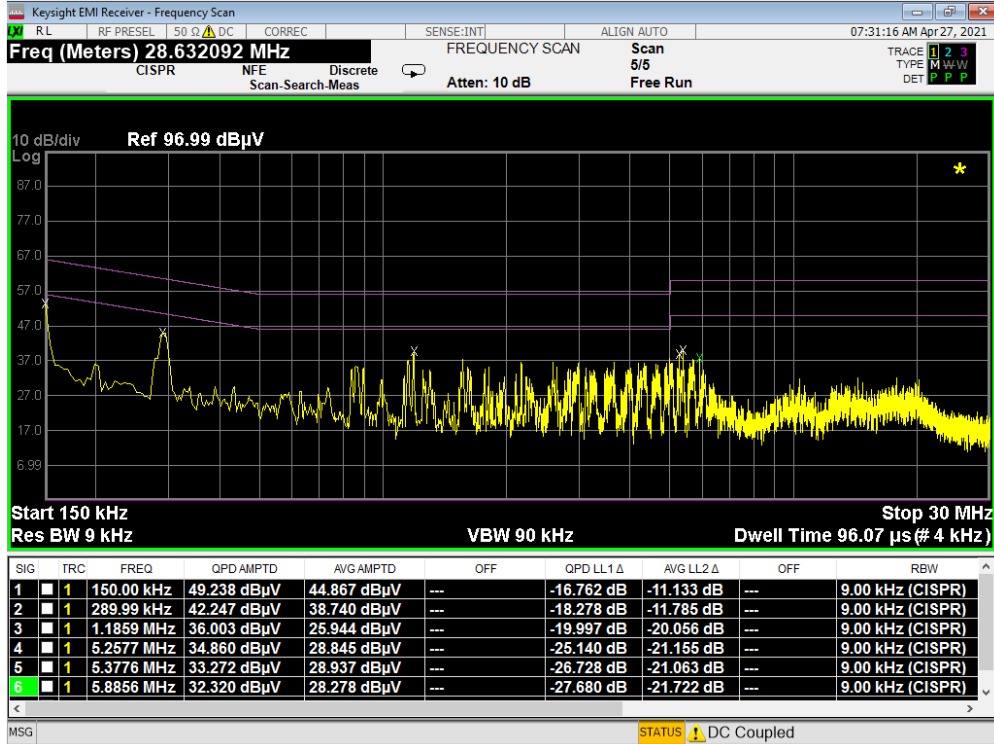


Plot 7-209. Line Conducted Plot with 802.11b (L1) – OPEN (Q)

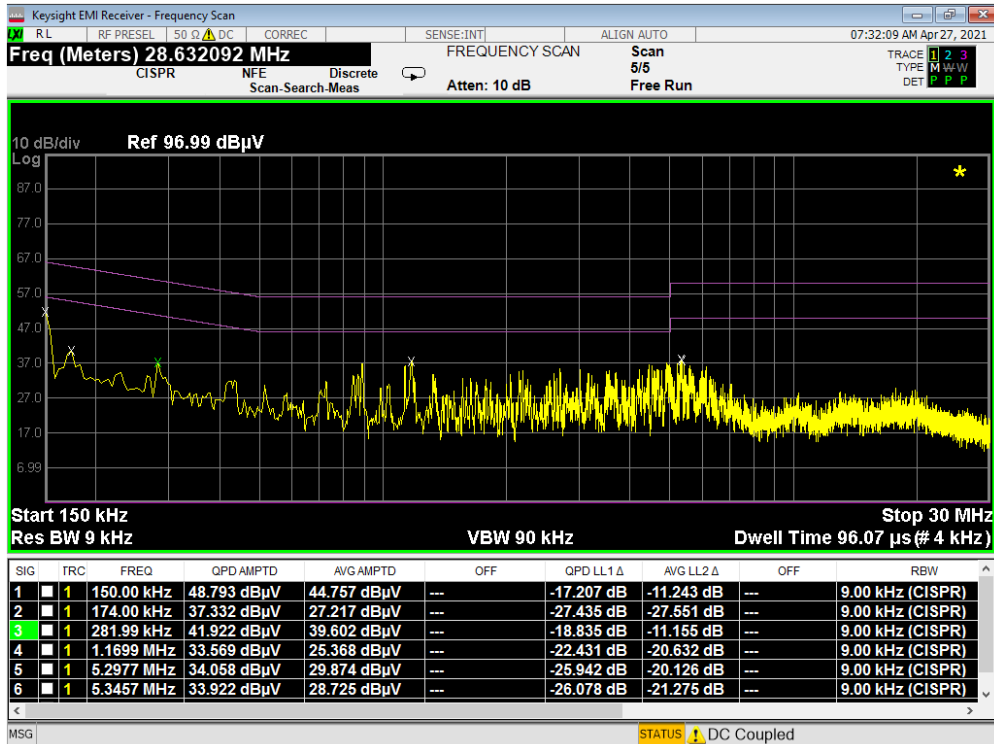


Plot 7-210. Line Conducted Plot with 802.11b (N) – OPEN (Q)

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMF711B | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | | Page 135 of 141 |

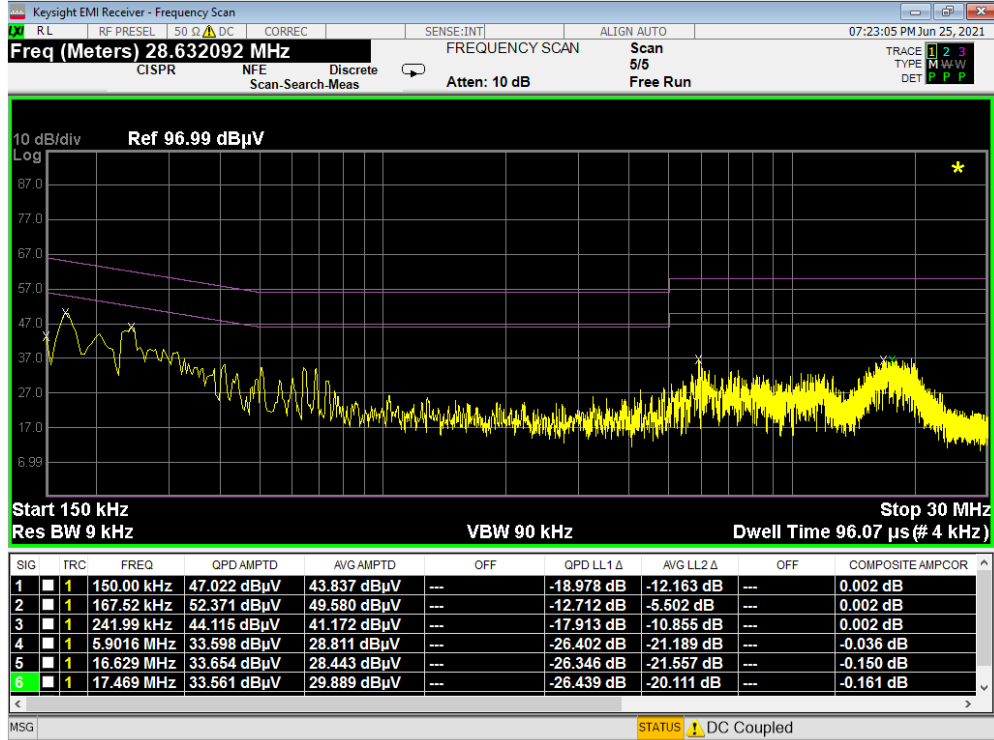


Plot 7-211. Line Conducted Plot with 802.11b (L1) – CLOSED (Q)

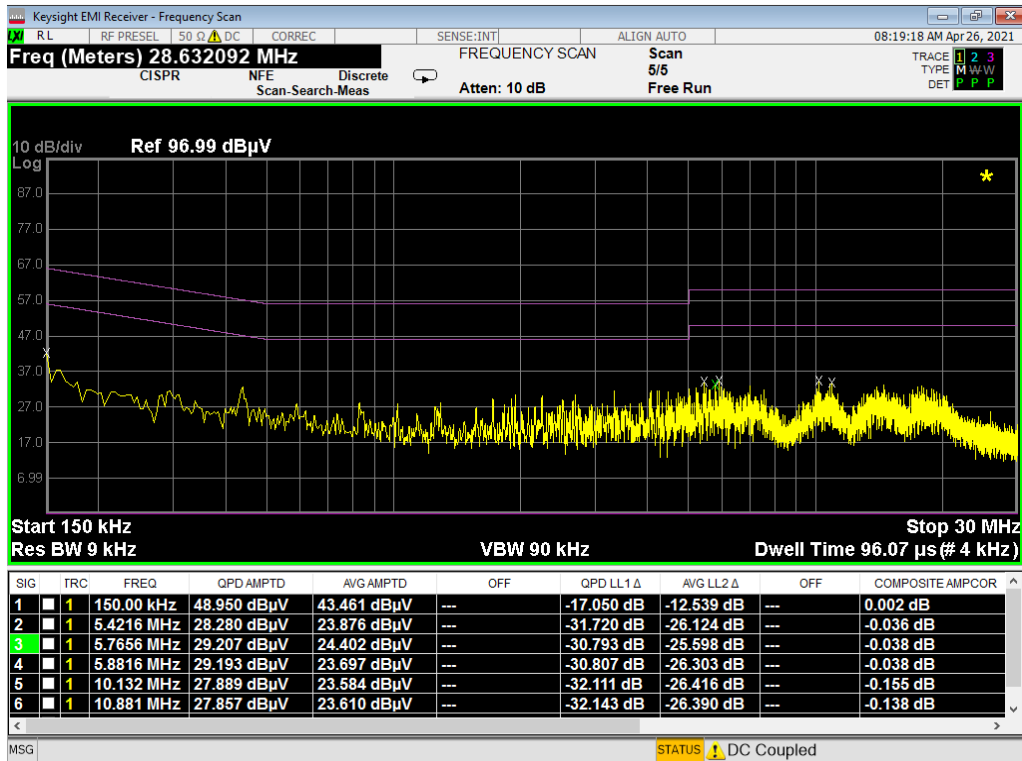


Plot 7-212. Line Conducted Plot with 802.11b (N) – CLOSED (Q)

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMF711B | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | | Page 136 of 141 |

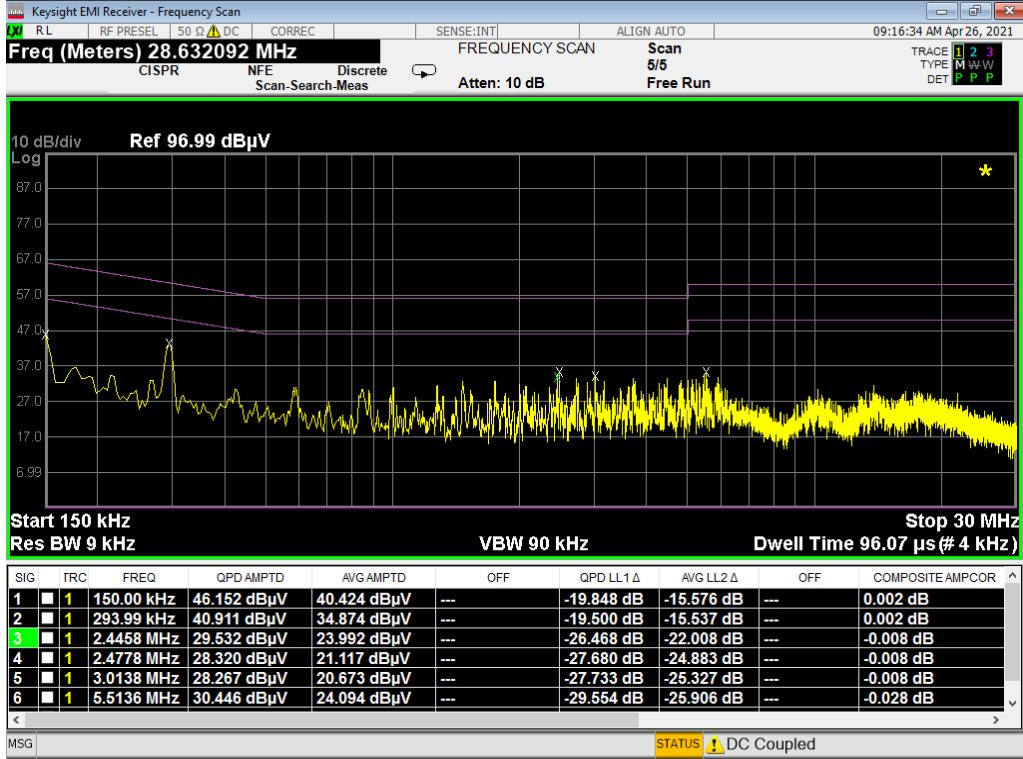


Plot 7-213. Line Conducted Plot with 802.11b (L1) – OPEN (N)

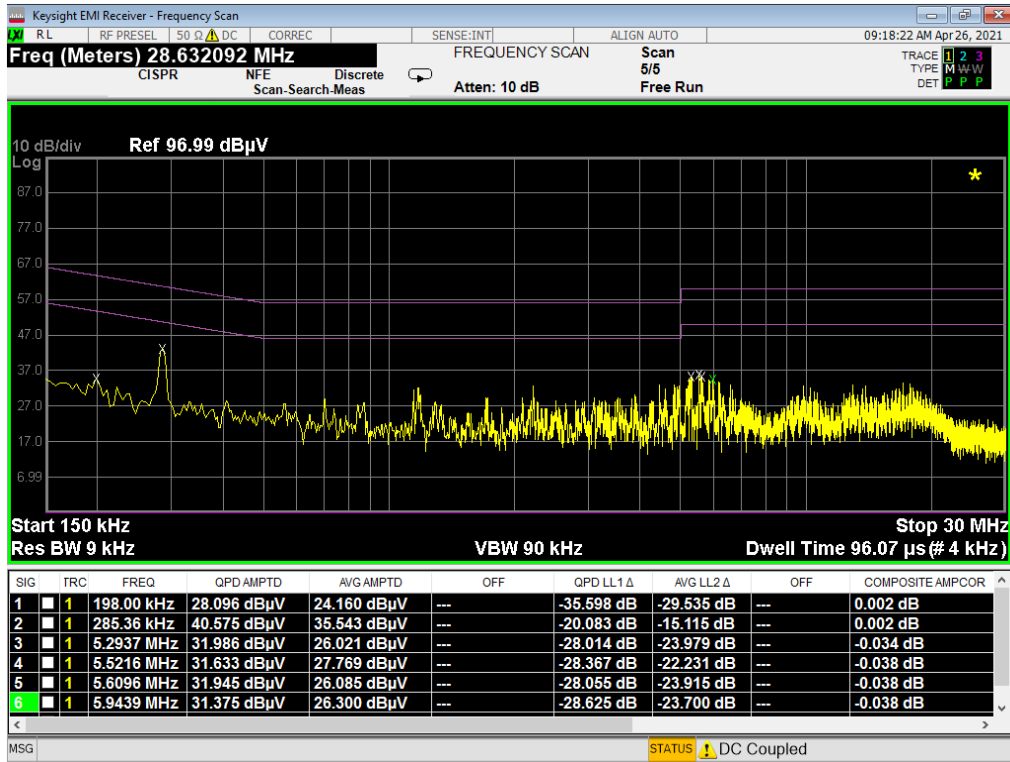


Plot 7-214. Line Conducted Plot with 802.11b (N) – OPEN (N)

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMF711B | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | | Page 137 of 141 |

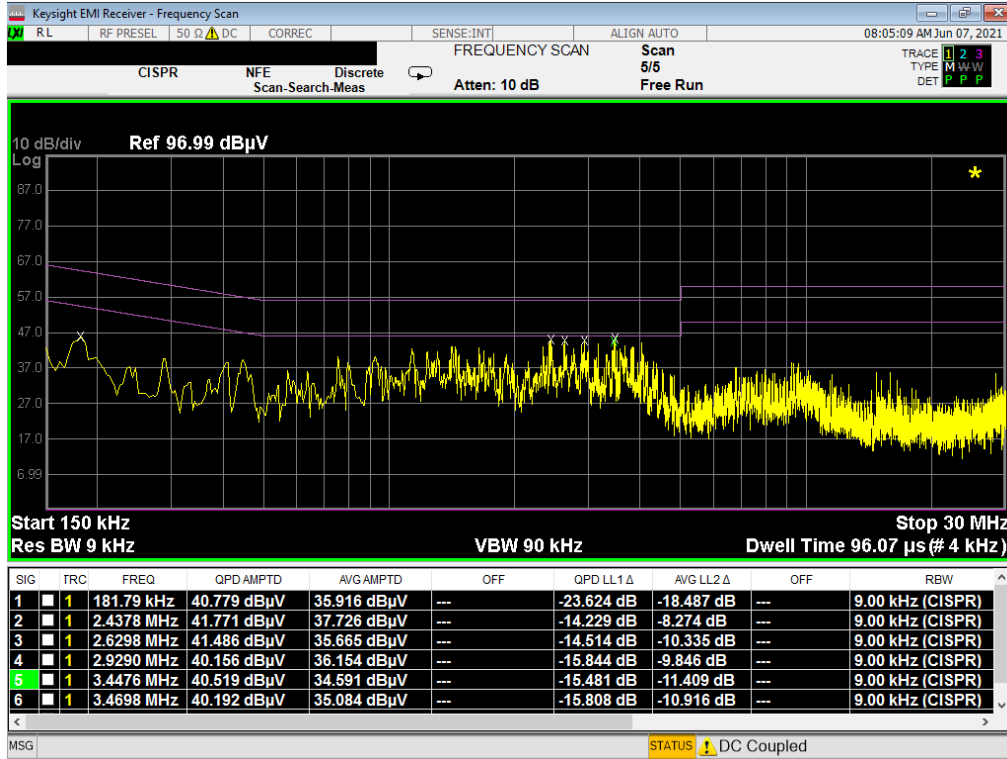


Plot 7-215. Line Conducted Plot with 802.11b (L1) – CLOSED (N)

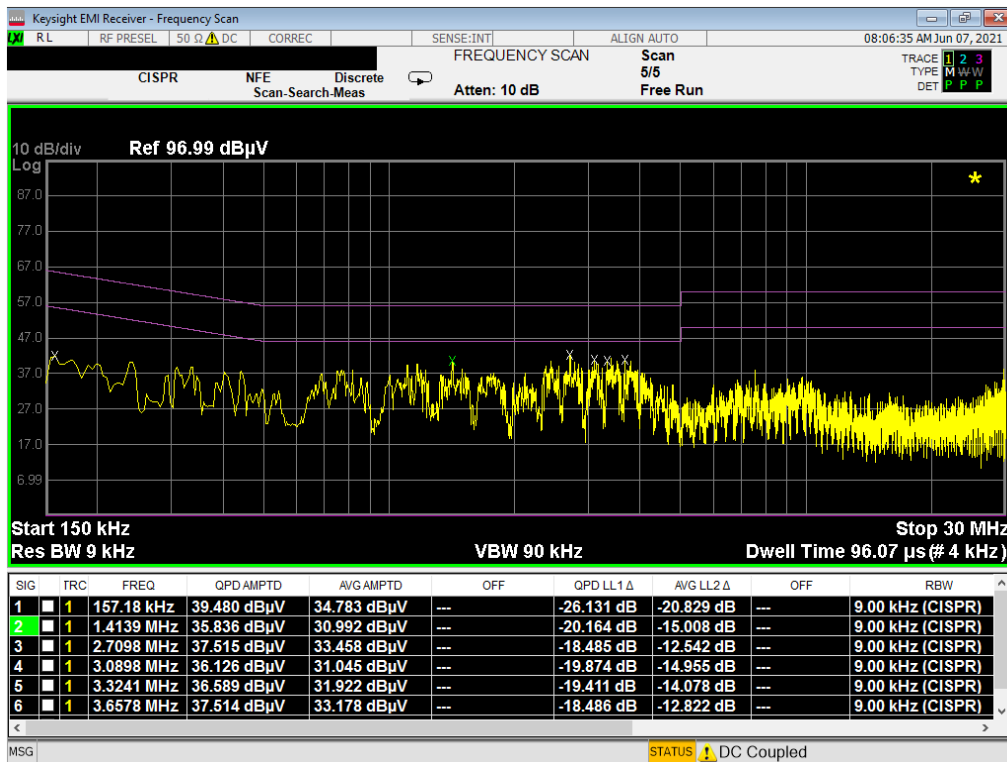


Plot 7-216. Line Conducted Plot with 802.11b (N) – CLOSED (N)

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMF711B | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | | Page 138 of 141 |

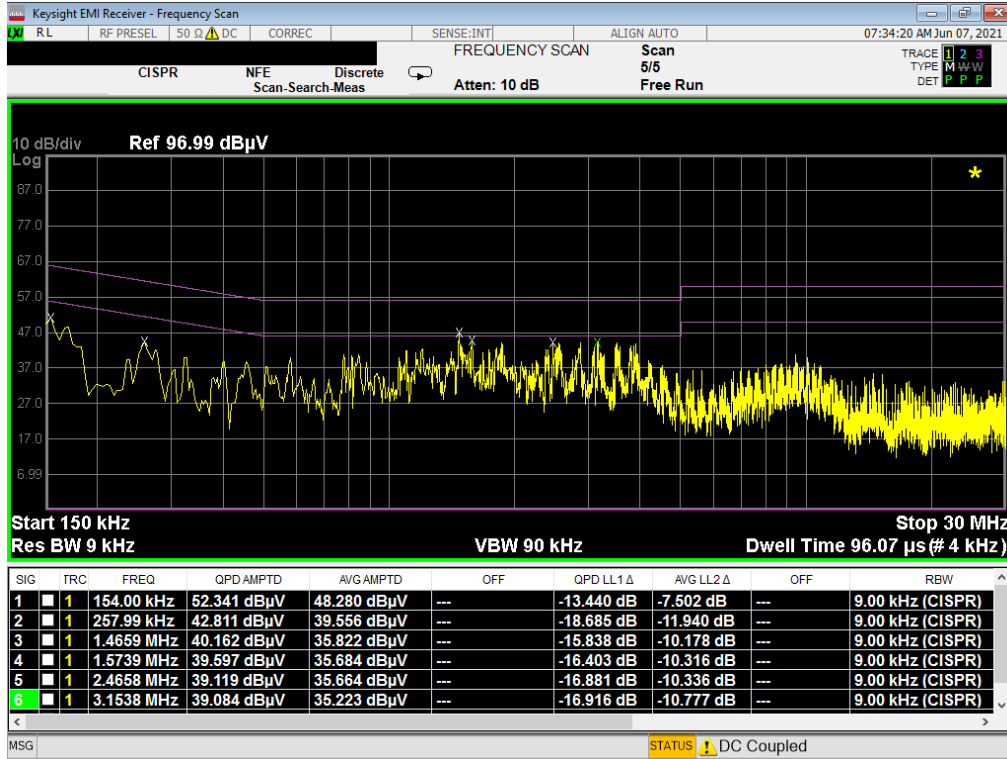


Plot 7-217. Line Conducted Plot with 802.11b (L1) with WCP – Q

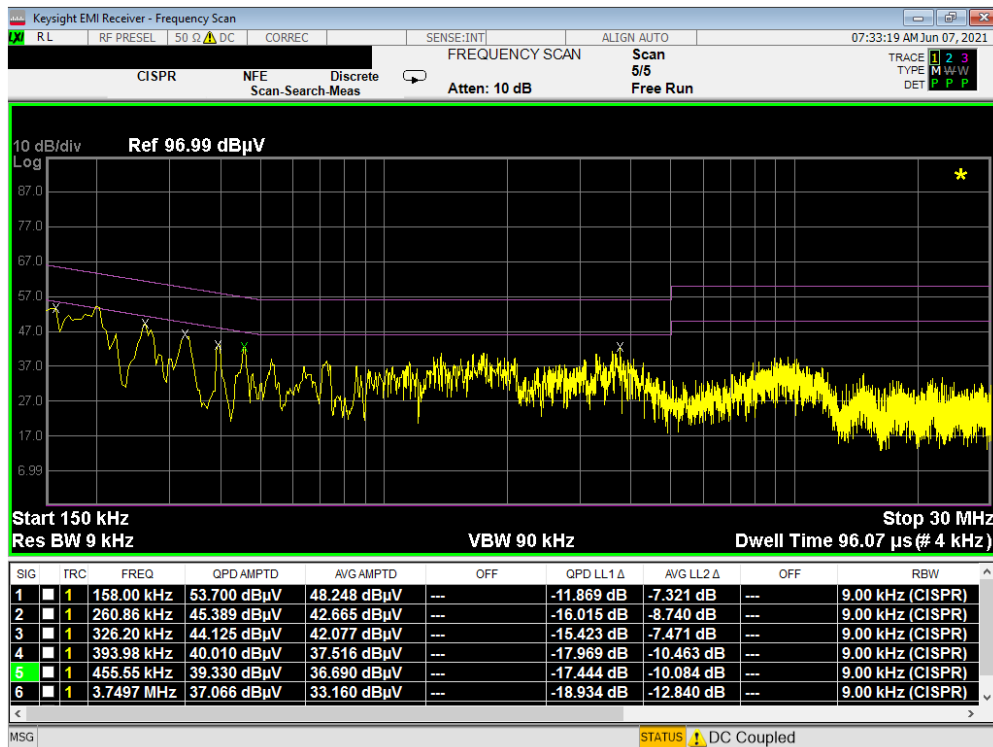


Plot 7-218. Line Conducted Plot with 802.11b (N) with WCP – Q

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMF711B | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | | Page 139 of 141 |



Plot 7-219. Line Conducted Plot with 802.11b (L1) with WCP - N



Plot 7-220. Line Conducted Plot with 802.11b (N) with WCP - N

| | | | | |
|---|--|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMF711B | PCTEST Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 - 06/26/2021 | EUT Type: Portable Handset | | Page 140 of 141 |

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMF711B** is in compliance with Part 15 Subpart C (15.247) of the FCC Rules.

| | | | |
|--|---|---|---|
| FCC ID: A3LSMF711B |  | MEASUREMENT REPORT (CERTIFICATION) |  Approved by: Technical Manager |
| Test Report S/N: 1M2104130035-10.A3L | Test Dates: 04/12/2021 – 06/26/2021 | EUT Type: Portable Handset | Page 141 of 141 |