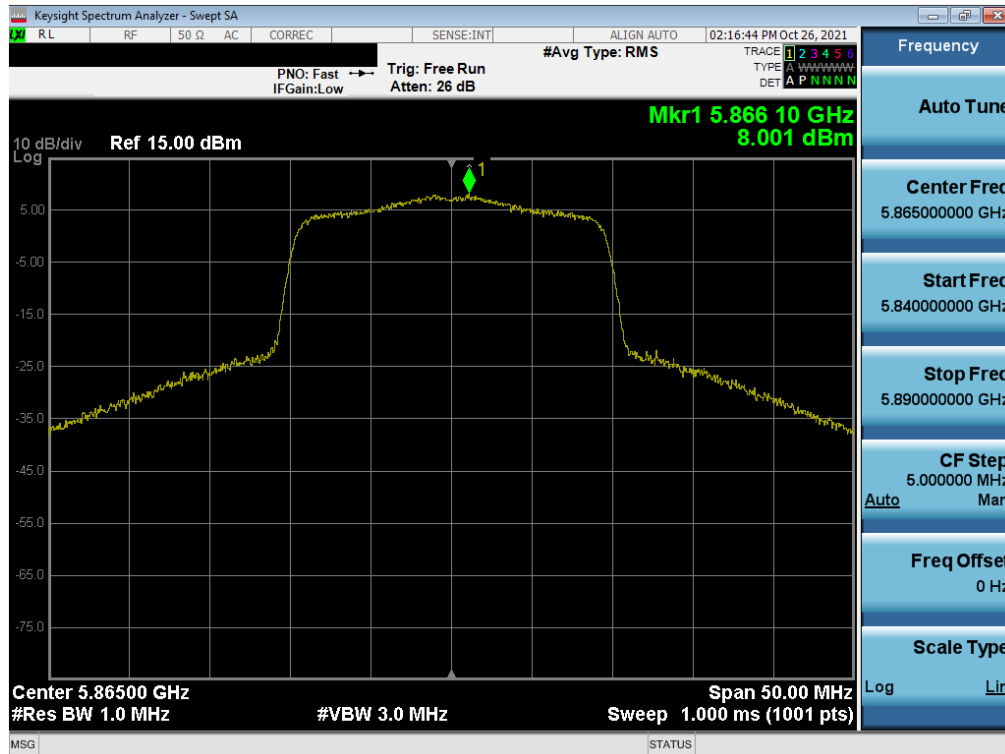
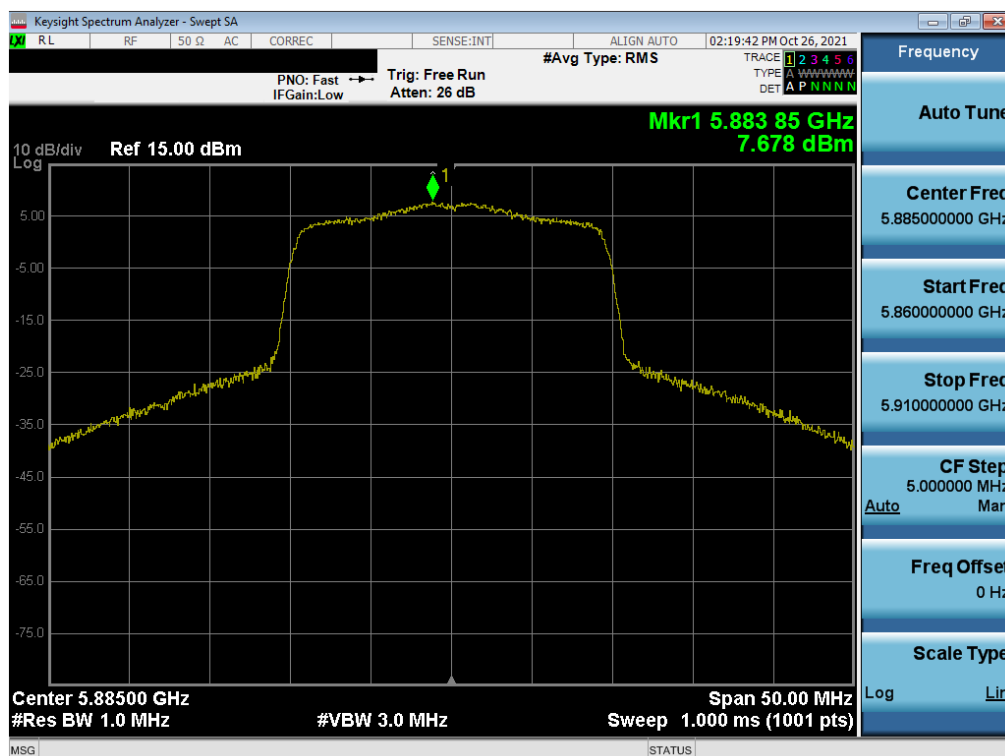


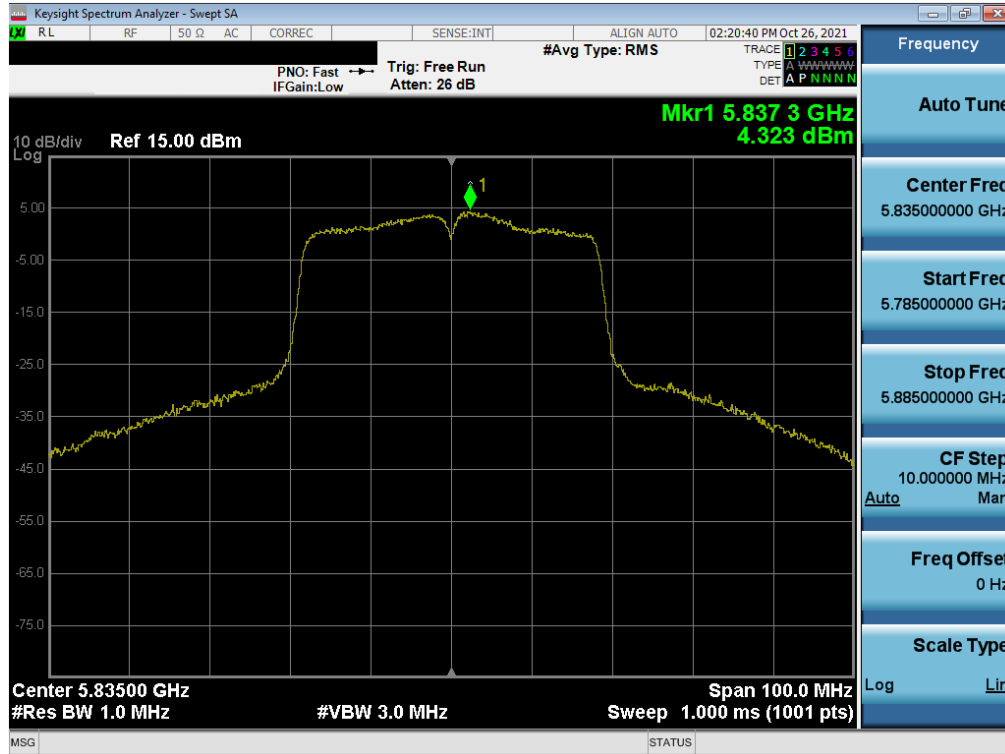


Plot 7-234. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 4) – Ch. 173)

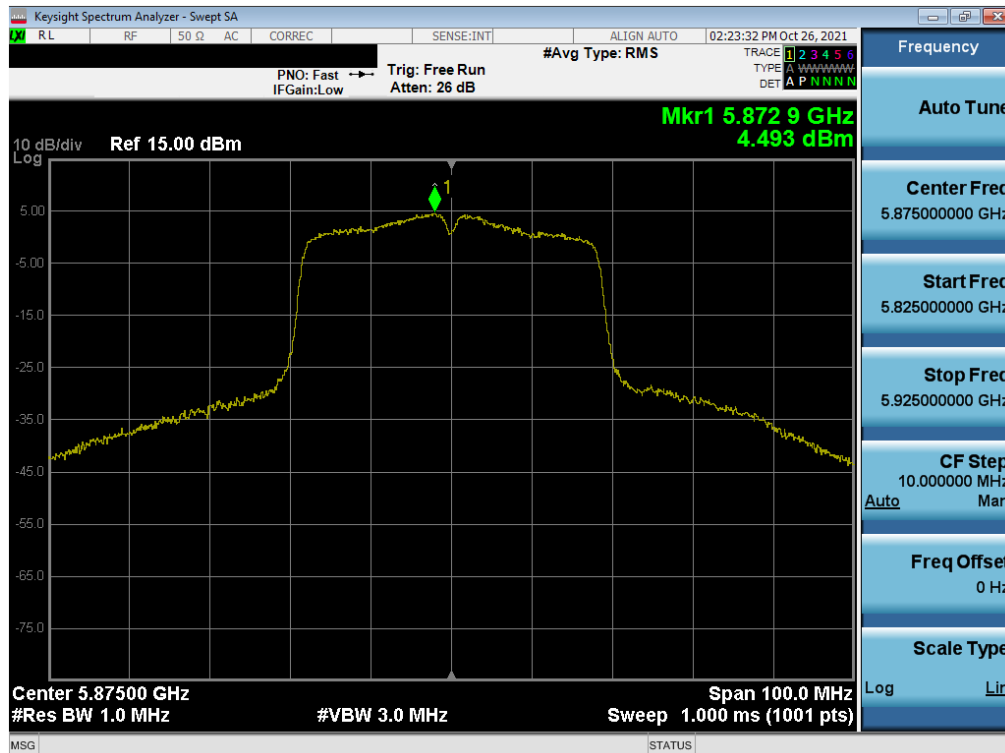


Plot 7-235. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 4) – Ch. 177)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 156 of 297                   |

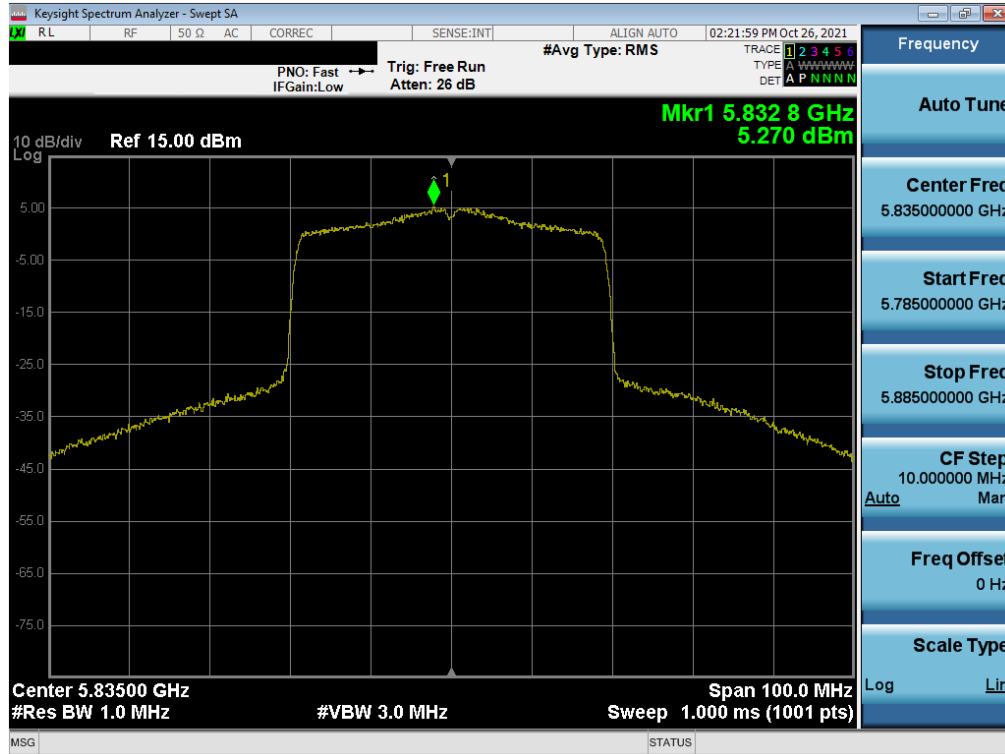


Plot 7-236. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3/4) – Ch. 167)

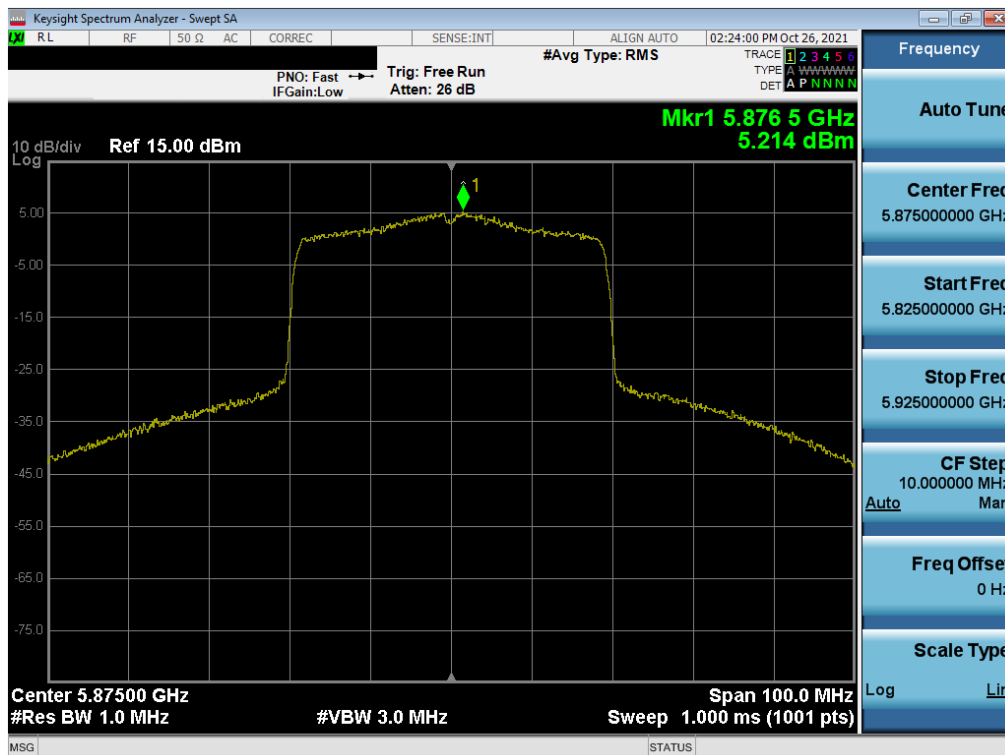


Plot 7-237. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 4) – Ch. 175)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 157 of 297                   |

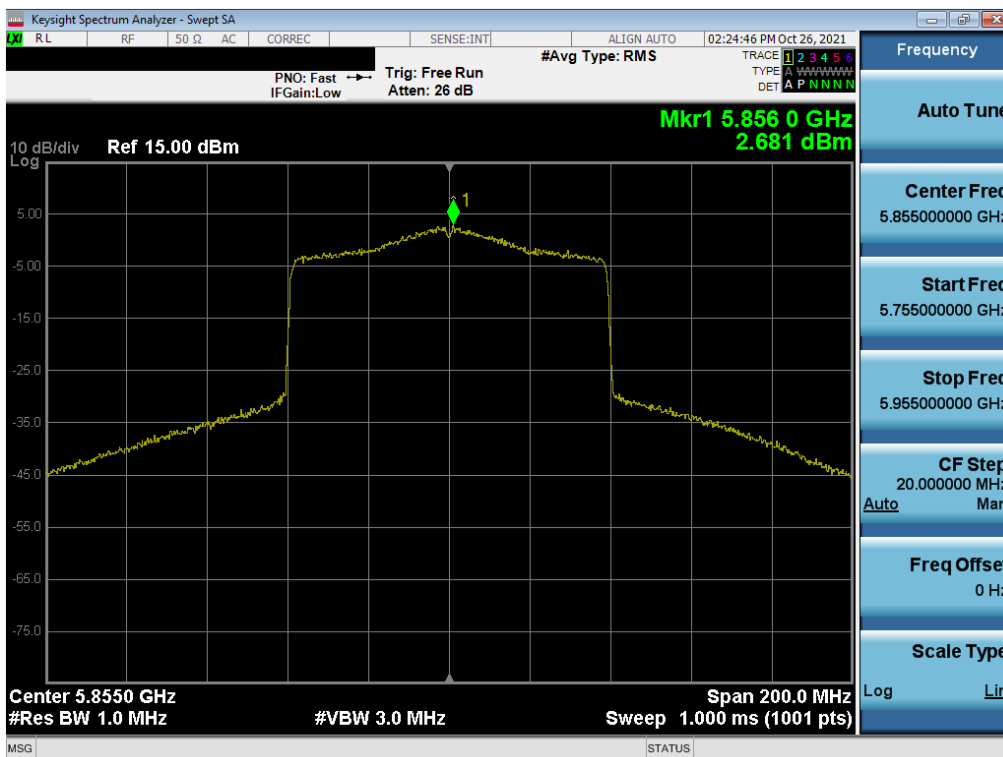


Plot 7-238. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 3/4) – Ch. 167)



Plot 7-239. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 4) – Ch. 175)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 158 of 297                   |

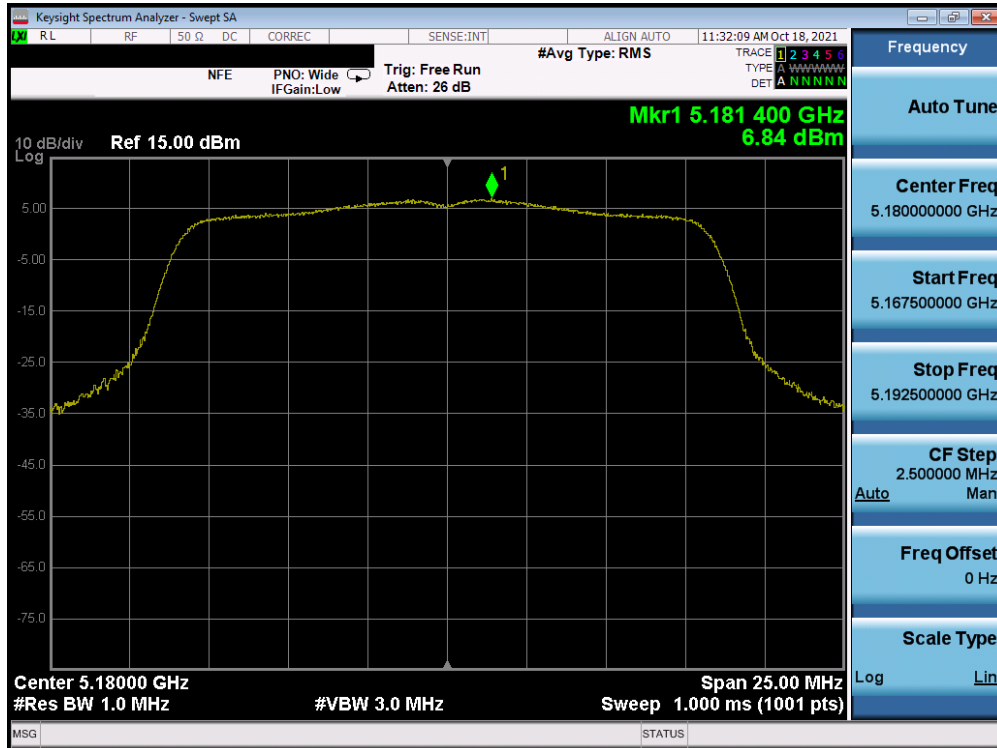


## SISO Antenna-2 Power Spectral Density Measurements

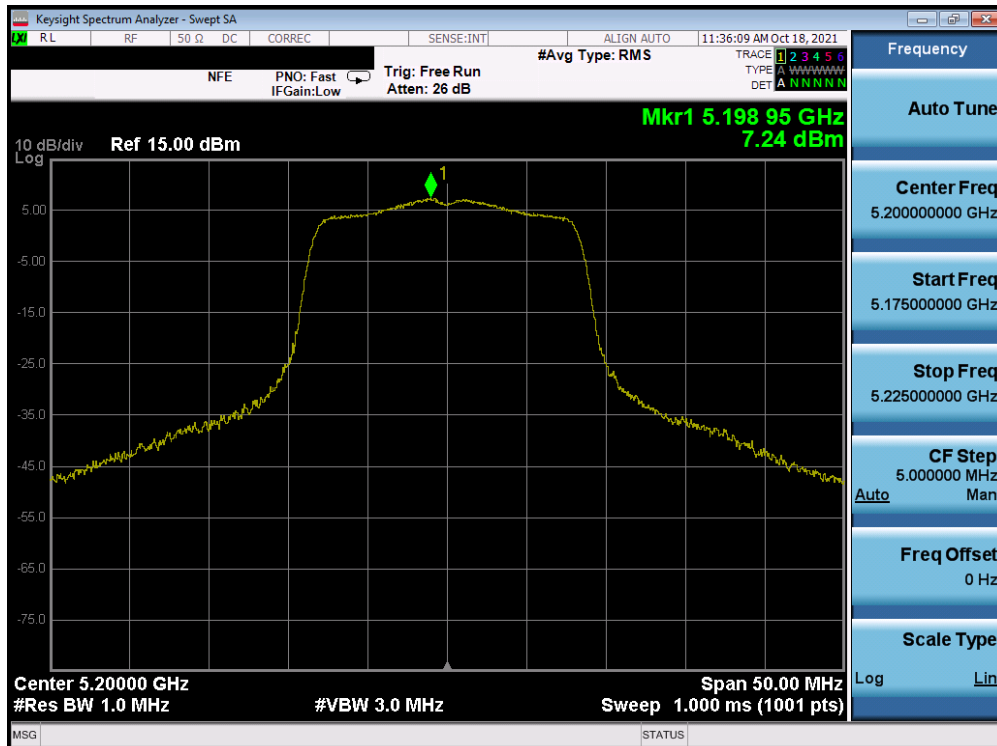
|         | Frequency [MHz] | Channel No. | 802.11 Mode | Data Rate [Mbps] | Measured Power Density [dBm] | Max Power Density [dBm/MHz] | Margin [dB] |
|---------|-----------------|-------------|-------------|------------------|------------------------------|-----------------------------|-------------|
| Band 1  | 5180            | 36          | a           | 6                | 6.84                         | 11.0                        | -4.16       |
|         | 5200            | 40          | a           | 6                | 7.24                         | 11.0                        | -3.76       |
|         | 5240            | 48          | a           | 6                | 7.02                         | 11.0                        | -3.98       |
|         | 5180            | 36          | n (20MHz)   | 6.5/7.2 (MCS0)   | 8.06                         | 11.0                        | -2.94       |
|         | 5200            | 40          | n (20MHz)   | 6.5/7.2 (MCS0)   | 8.25                         | 11.0                        | -2.75       |
|         | 5240            | 48          | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.91                         | 11.0                        | -3.09       |
|         | 5180            | 36          | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.87                         | 11.0                        | -3.13       |
|         | 5200            | 40          | ax (20MHz)  | 6.5/7.2 (MCS0)   | 8.10                         | 11.0                        | -2.90       |
|         | 5240            | 48          | ax (20MHz)  | 6.5/7.2 (MCS0)   | 8.05                         | 11.0                        | -2.95       |
|         | 5190            | 38          | n (40MHz)   | 13.5/15 (MCS0)   | 4.04                         | 11.0                        | -6.96       |
|         | 5230            | 46          | n (40MHz)   | 13.5/15 (MCS0)   | 3.83                         | 11.0                        | -7.17       |
|         | 5190            | 38          | ax (40MHz)  | 13.5/15 (MCS0)   | 4.47                         | 11.0                        | -6.53       |
|         | 5230            | 46          | ax (40MHz)  | 13.5/15 (MCS0)   | 4.32                         | 11.0                        | -6.68       |
|         | 5210            | 42          | ac (80MHz)  | 29.3/32.5 (MCS0) | -0.02                        | 11.0                        | -11.02      |
|         | 5210            | 42          | ax (80MHz)  | 29.3/32.5 (MCS0) | 1.91                         | 11.0                        | -9.09       |
| Band 2A | 5260            | 52          | a           | 6                | 7.54                         | 11.0                        | -3.46       |
|         | 5280            | 56          | a           | 6                | 7.31                         | 11.0                        | -3.69       |
|         | 5320            | 64          | a           | 6                | 6.45                         | 11.0                        | -4.55       |
|         | 5260            | 52          | n (20MHz)   | 6.5/7.2 (MCS0)   | 8.26                         | 11.0                        | -2.74       |
|         | 5280            | 56          | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.72                         | 11.0                        | -3.28       |
|         | 5320            | 64          | n (20MHz)   | 6.5/7.2 (MCS0)   | 6.98                         | 11.0                        | -4.02       |
|         | 5260            | 52          | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.99                         | 11.0                        | -3.01       |
|         | 5280            | 56          | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.74                         | 11.0                        | -3.26       |
|         | 5320            | 64          | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.47                         | 11.0                        | -3.53       |
|         | 5270            | 54          | n (40MHz)   | 13.5/15 (MCS0)   | 3.02                         | 11.0                        | -7.98       |
|         | 5310            | 62          | n (40MHz)   | 13.5/15 (MCS0)   | 3.76                         | 11.0                        | -7.24       |
|         | 5270            | 54          | ax (40MHz)  | 13.5/15 (MCS0)   | 4.47                         | 11.0                        | -6.53       |
|         | 5310            | 62          | ax (40MHz)  | 13.5/15 (MCS0)   | 3.91                         | 11.0                        | -7.09       |
|         | 5290            | 58          | ac (80MHz)  | 29.3/32.5 (MCS0) | 0.60                         | 11.0                        | -10.40      |
|         | 5290            | 58          | ax (80MHz)  | 29.3/32.5 (MCS0) | 2.37                         | 11.0                        | -8.63       |
| Band 2C | 5500            | 100         | a           | 6                | 6.62                         | 11.0                        | -4.38       |
|         | 5600            | 120         | a           | 6                | 6.29                         | 11.0                        | -4.71       |
|         | 5720            | 144         | a           | 6                | 6.94                         | 11.0                        | -4.07       |
|         | 5500            | 100         | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.79                         | 11.0                        | -3.21       |
|         | 5600            | 120         | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.73                         | 11.0                        | -3.27       |
|         | 5720            | 144         | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.73                         | 11.0                        | -3.27       |
|         | 5500            | 100         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.22                         | 11.0                        | -3.78       |
|         | 5600            | 120         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.67                         | 11.0                        | -3.33       |
|         | 5720            | 144         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.59                         | 11.0                        | -3.41       |
|         | 5510            | 102         | n (40MHz)   | 13.5/15 (MCS0)   | 3.72                         | 11.0                        | -7.28       |
|         | 5590            | 118         | n (40MHz)   | 13.5/15 (MCS0)   | 4.17                         | 11.0                        | -6.83       |
|         | 5710            | 142         | n (40MHz)   | 13.5/15 (MCS0)   | 4.98                         | 11.0                        | -6.02       |
|         | 5510            | 102         | ax (40MHz)  | 13.5/15 (MCS0)   | 4.62                         | 11.0                        | -6.38       |
|         | 5590            | 118         | ax (40MHz)  | 13.5/15 (MCS0)   | 4.69                         | 11.0                        | -6.31       |
|         | 5710            | 142         | ax (40MHz)  | 13.5/15 (MCS0)   | 4.94                         | 11.0                        | -6.06       |
|         | 5530            | 106         | ac (80MHz)  | 29.3/32.5 (MCS0) | -0.02                        | 11.0                        | -11.02      |
|         | 5610            | 122         | ac (80MHz)  | 29.3/32.5 (MCS0) | 1.20                         | 11.0                        | -9.80       |
|         | 5690            | 138         | ac (80MHz)  | 29.3/32.5 (MCS0) | -1.73                        | 11.0                        | -12.73      |
|         | 5530            | 106         | ax (80MHz)  | 29.3/32.5 (MCS0) | 2.01                         | 11.0                        | -8.99       |
|         | 5610            | 122         | ax (80MHz)  | 29.3/32.5 (MCS0) | 2.44                         | 11.0                        | -8.56       |
|         | 5690            | 138         | ax (80MHz)  | 29.3/32.5 (MCS0) | -0.14                        | 11.0                        | -11.14      |

**Table 7-32. Conducted Power Spectral Density Measurements SISO ANT2**

|                                         |                                                                                     |                                       |                                                                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                | EUT Type:<br>Portable Handset         |                                                                                       | Page 160 of 297                   |

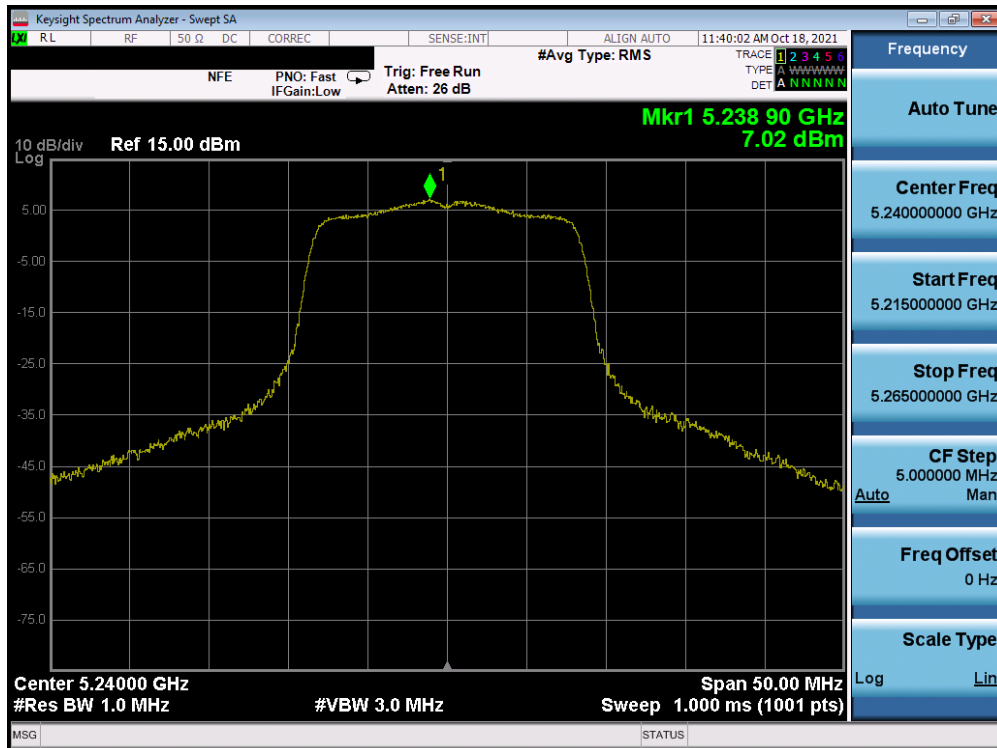


Plot 7-241. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 1) – Ch. 36)

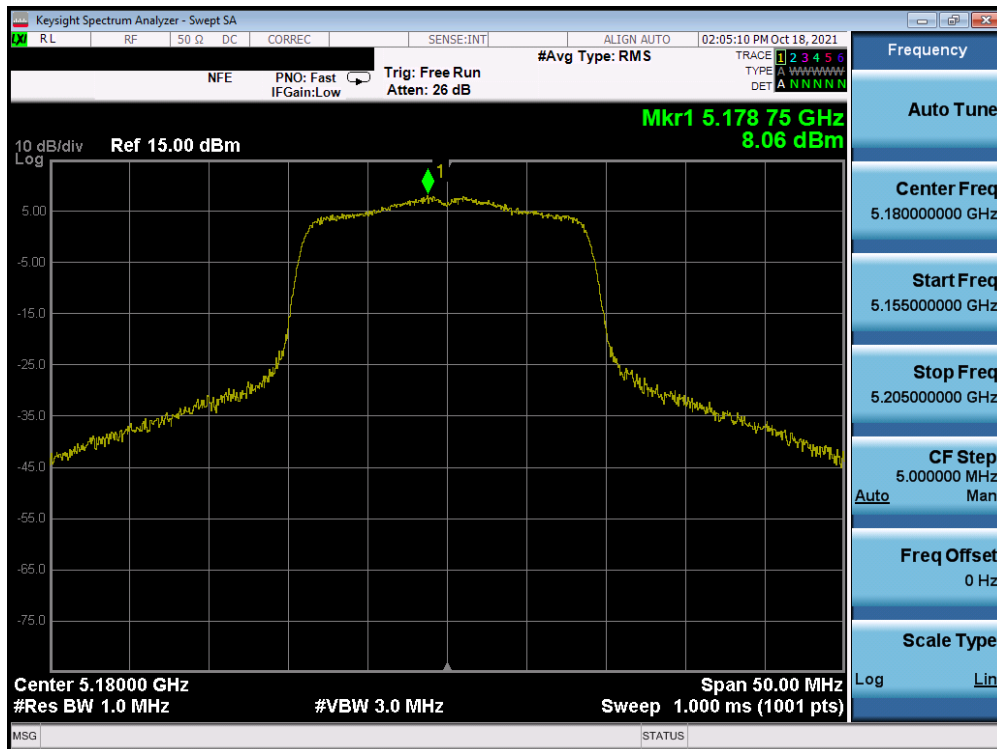


Plot 7-242. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 1) – Ch. 40)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 161 of 297                   |

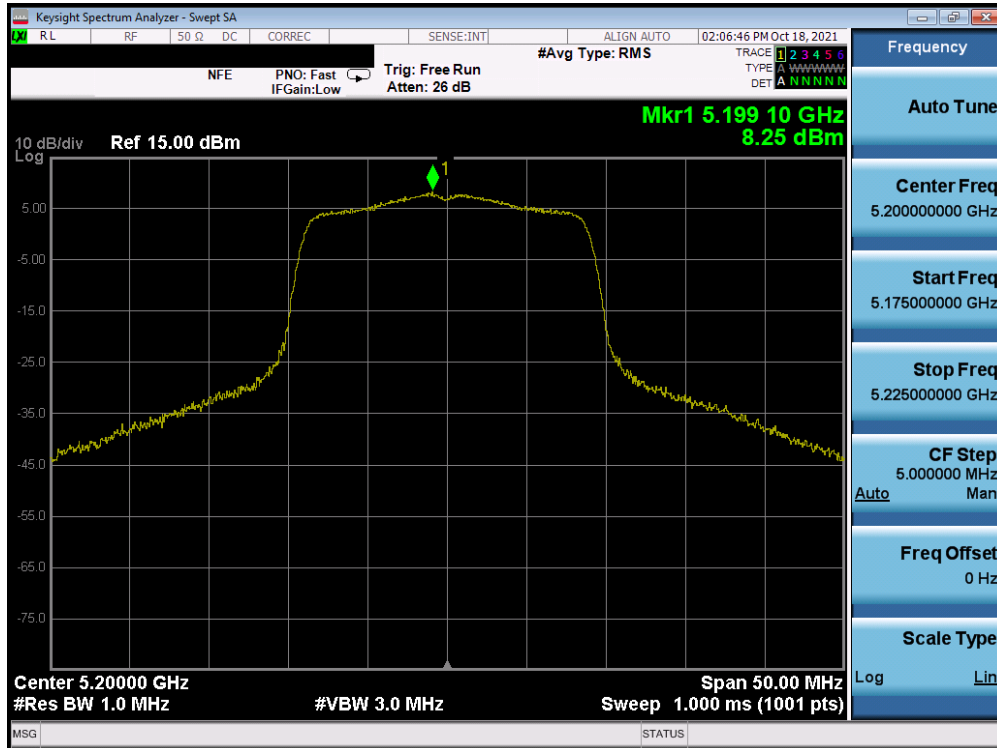


Plot 7-243. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 1) – Ch. 48)

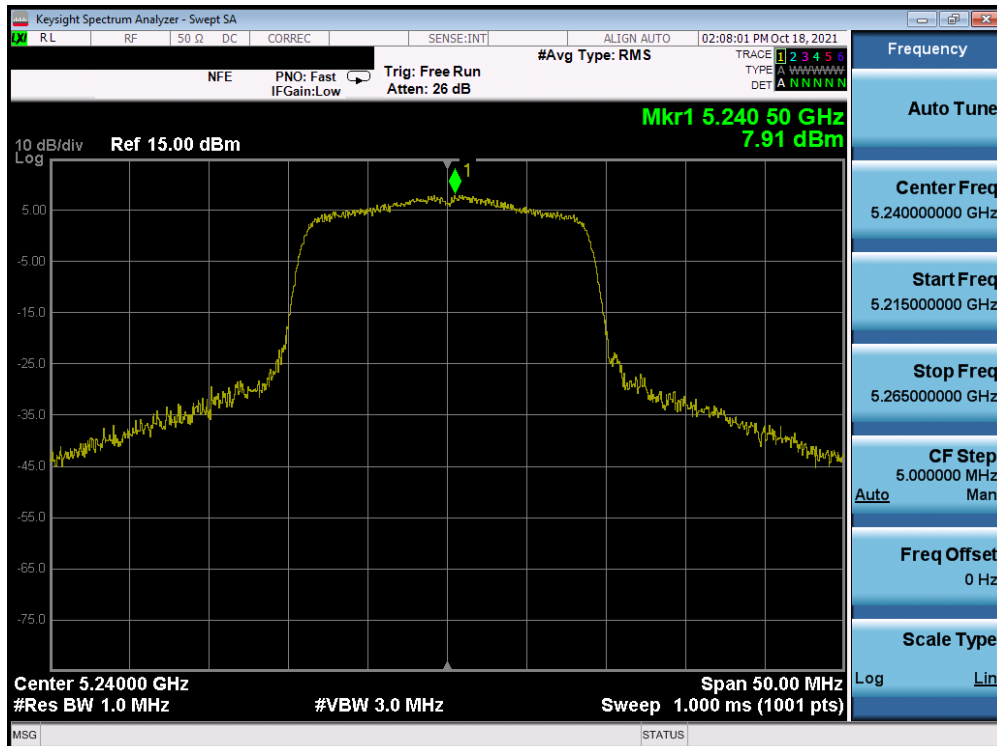


Plot 7-244. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 162 of 297                   |

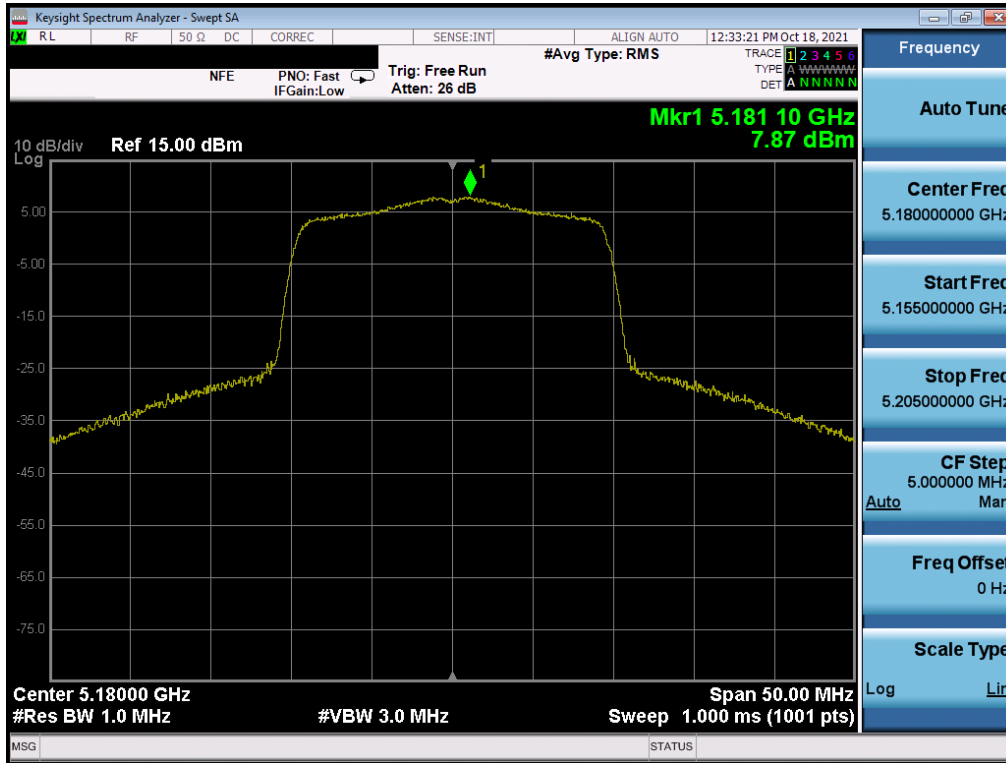


Plot 7-245. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

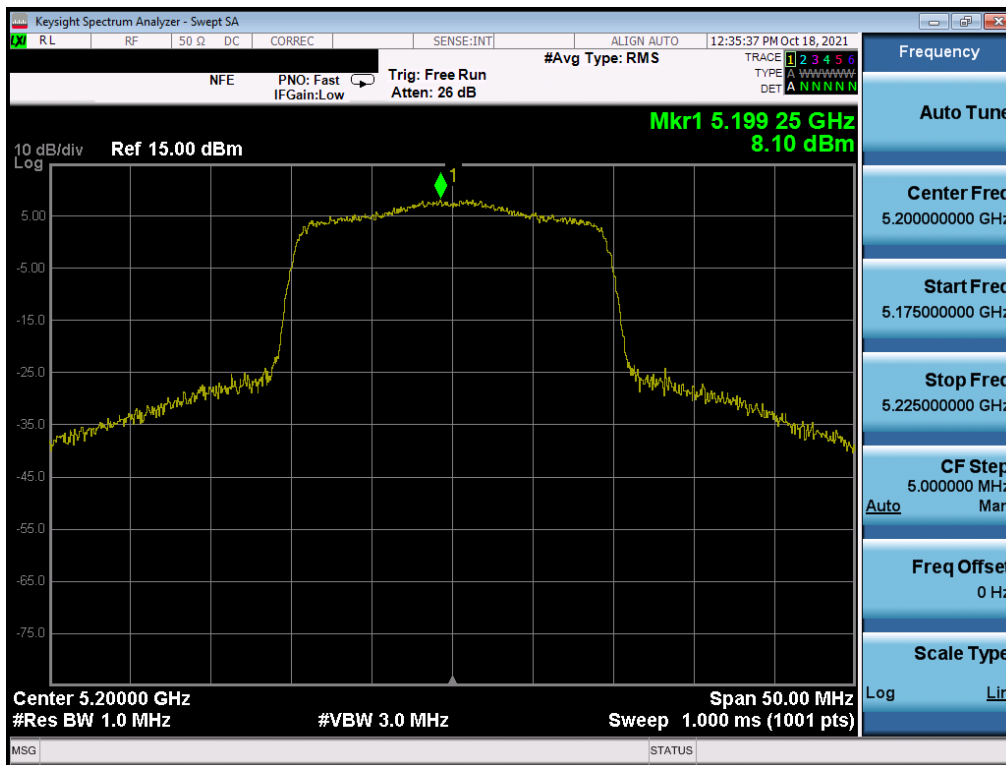


Plot 7-246. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 163 of 297                   |

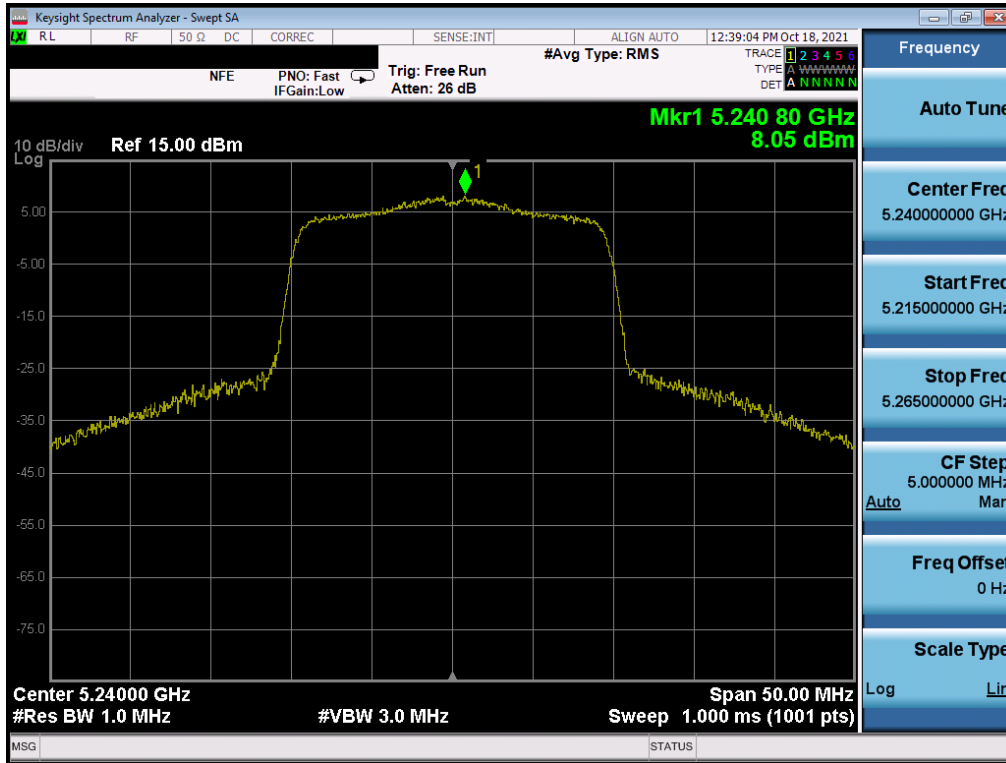


Plot 7-247. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 1) – Ch. 36)

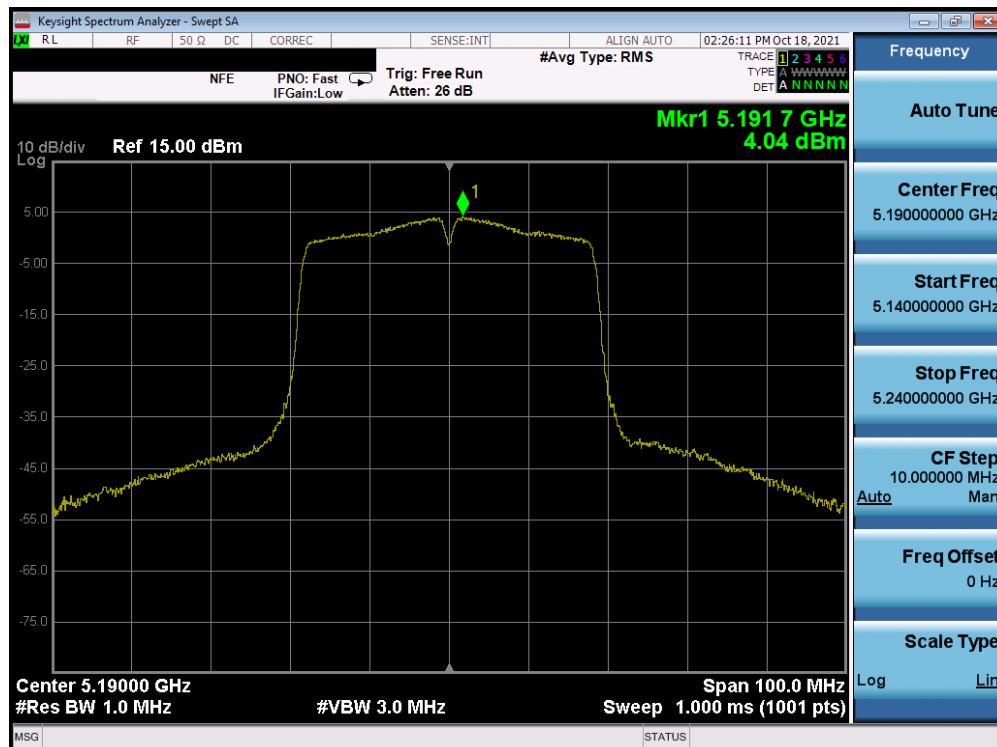


Plot 7-248. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 1) – Ch. 40)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 164 of 297                   |

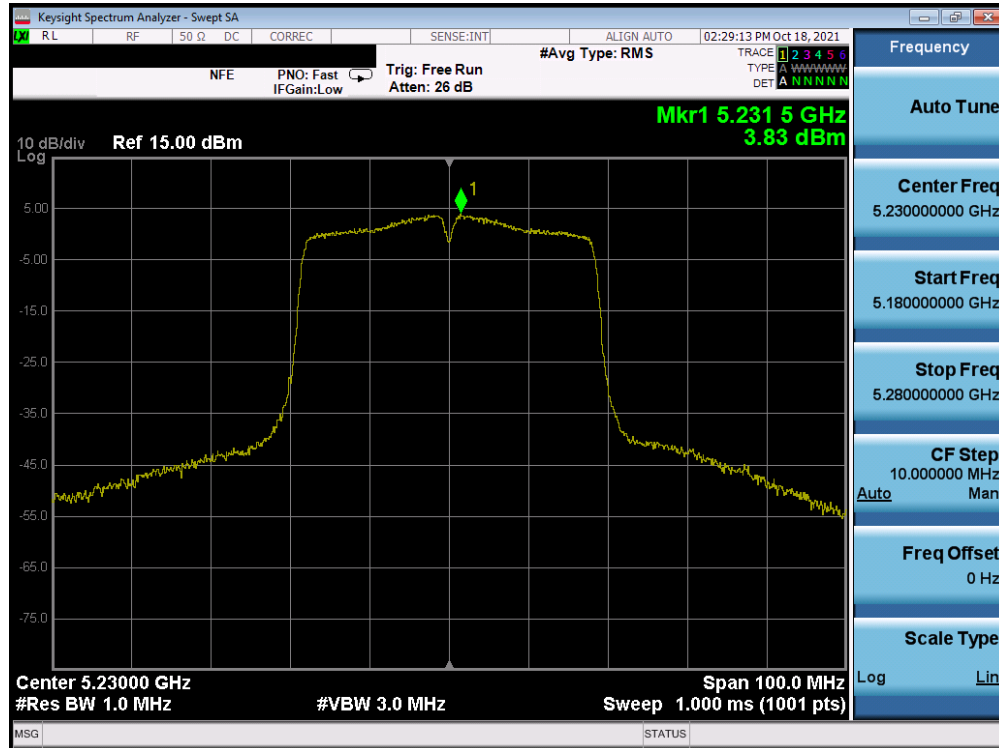


Plot 7-249. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 1) – Ch. 48)

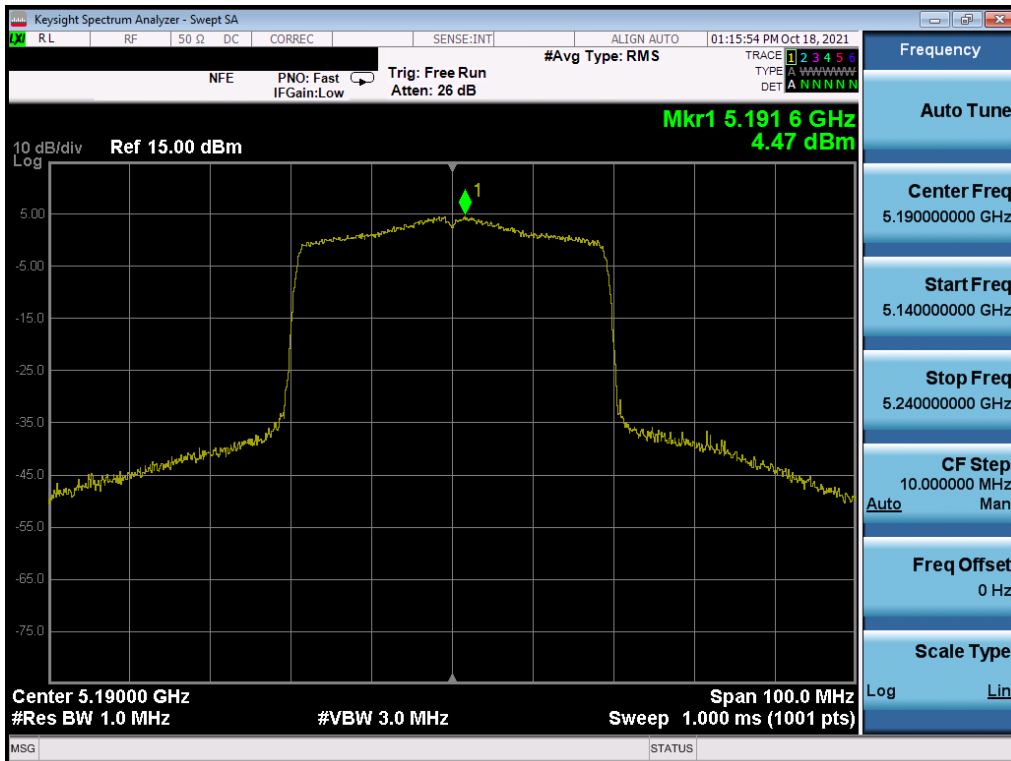


Plot 7-250. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 1) – Ch. 38)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 165 of 297                   |

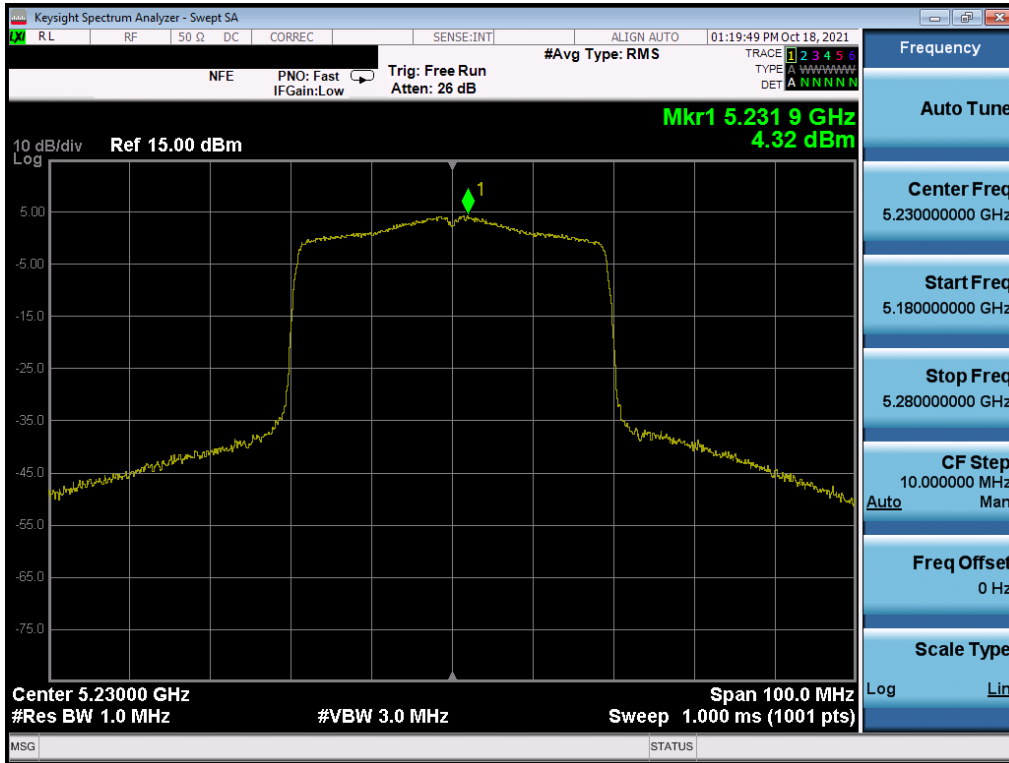


Plot 7-251. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

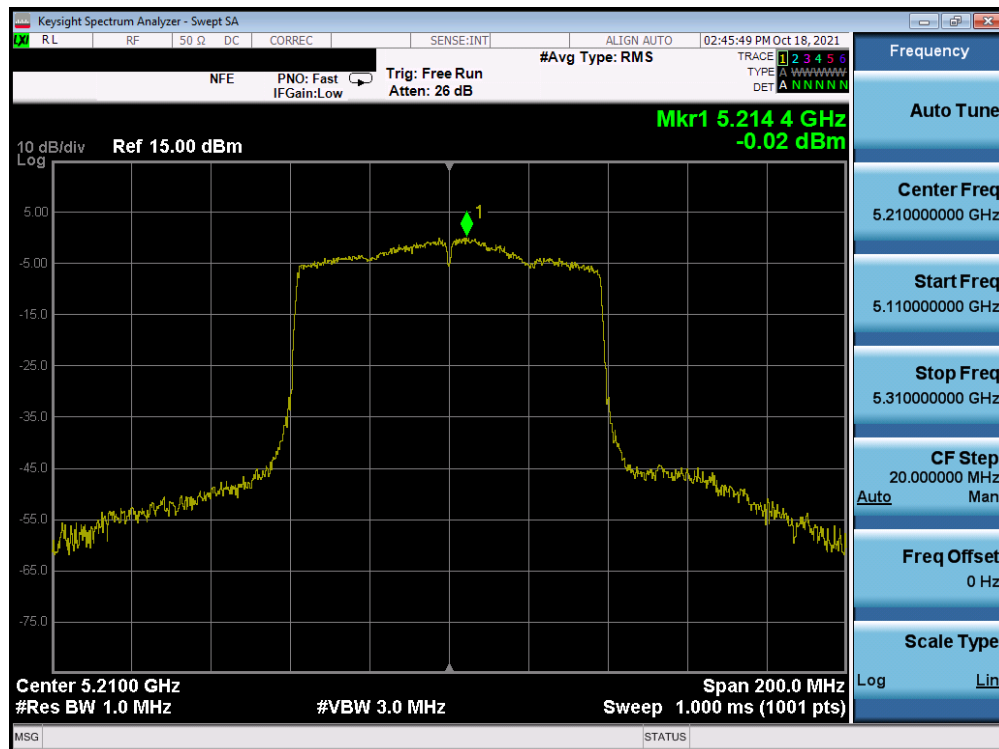


Plot 7-252. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 1) – Ch. 38)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 166 of 297                   |

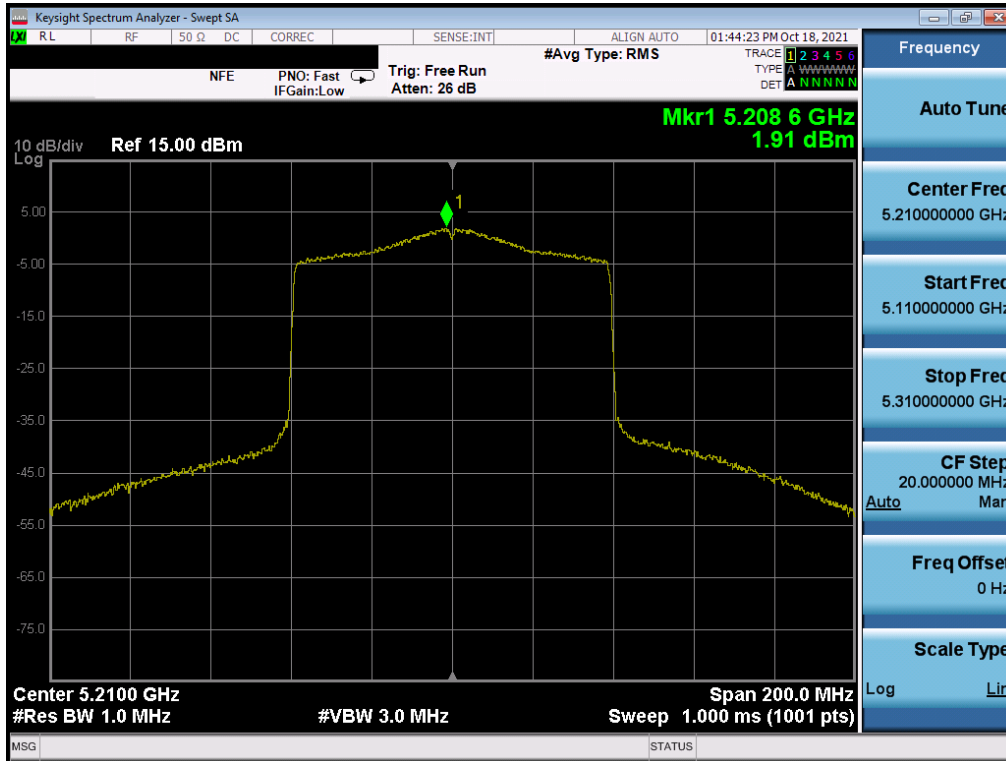


Plot 7-253. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 1) – Ch. 46)

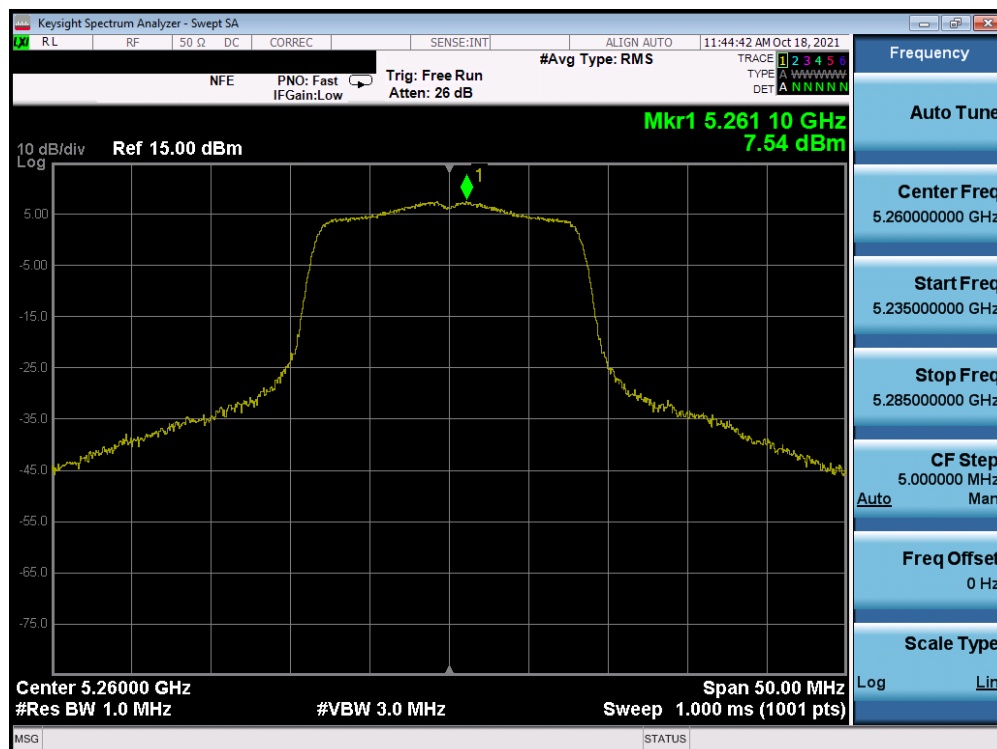


Plot 7-254. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 167 of 297                   |

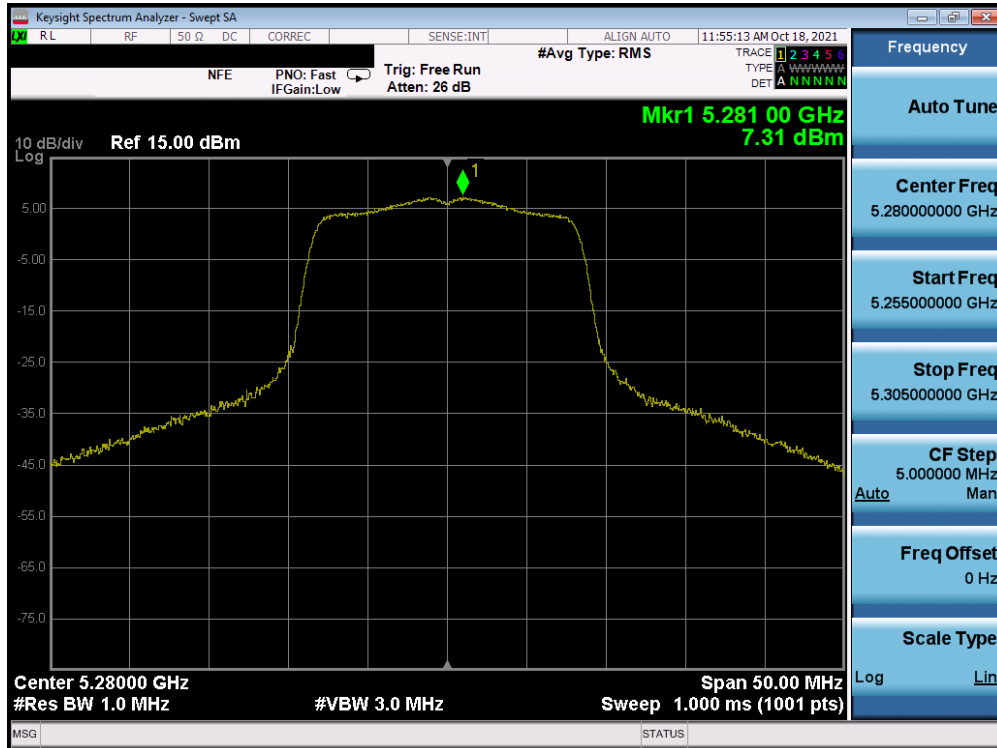


Plot 7-255. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 1) – Ch. 42)

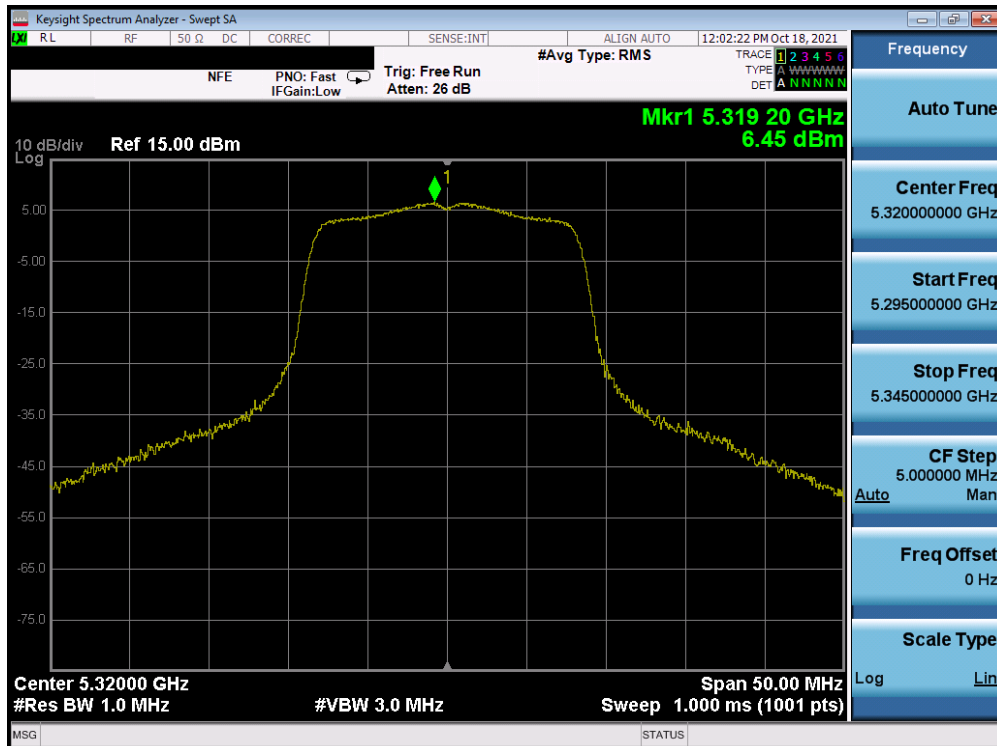


Plot 7-256. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2A) – Ch. 52)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 168 of 297                   |

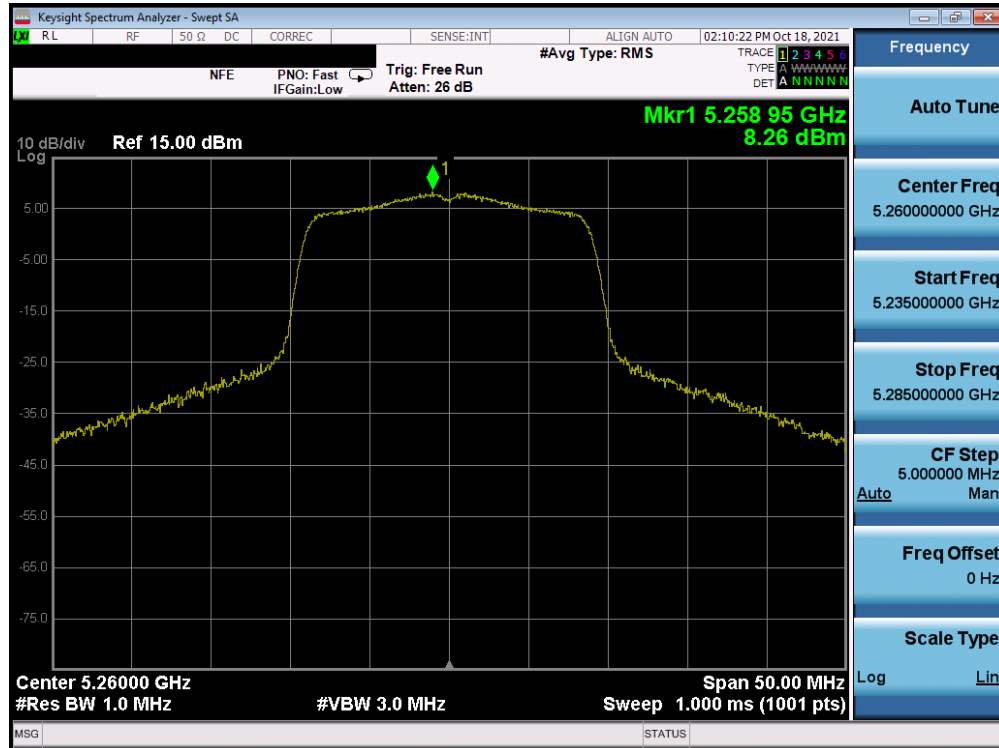


Plot 7-257. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2A) – Ch. 56)

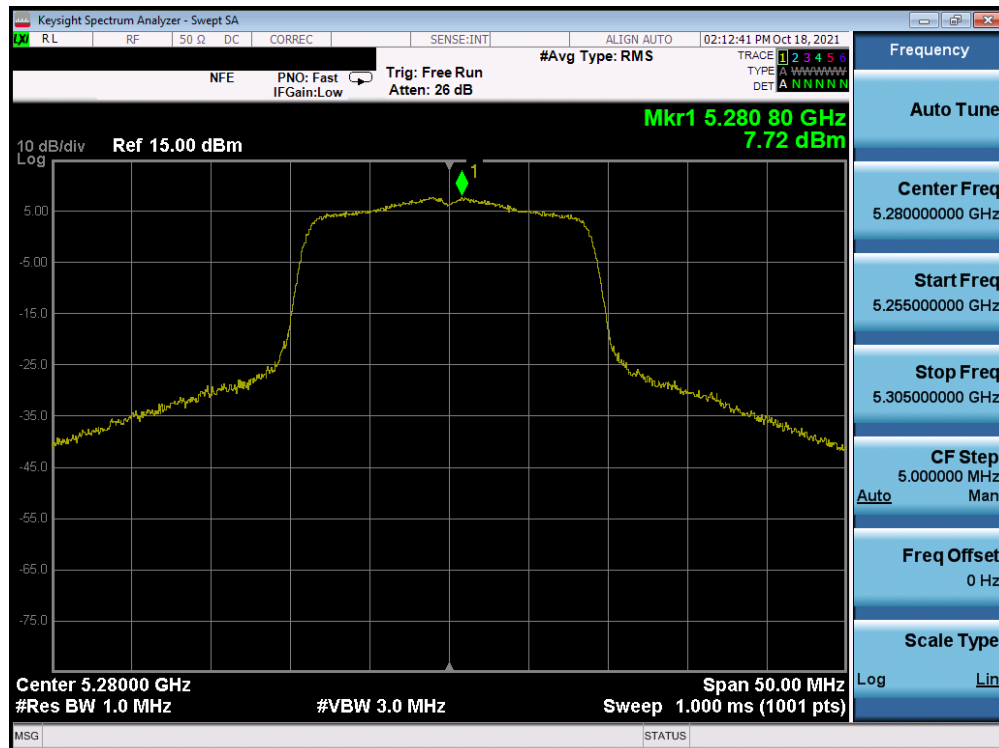


Plot 7-258. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2A) – Ch. 64)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 169 of 297                   |

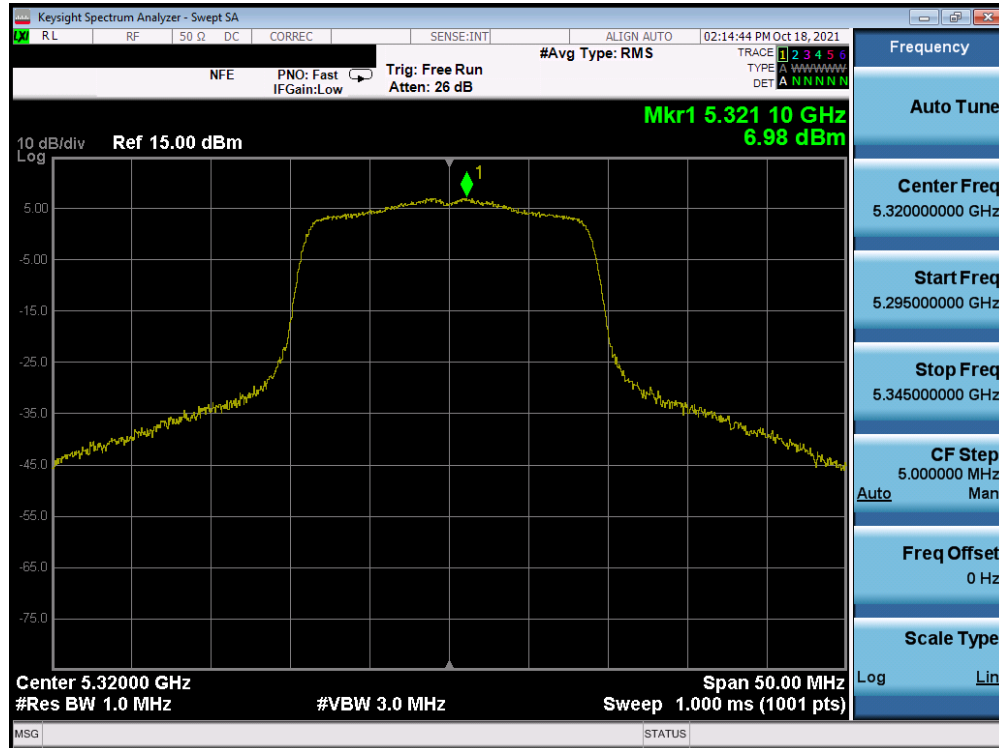


Plot 7-259. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

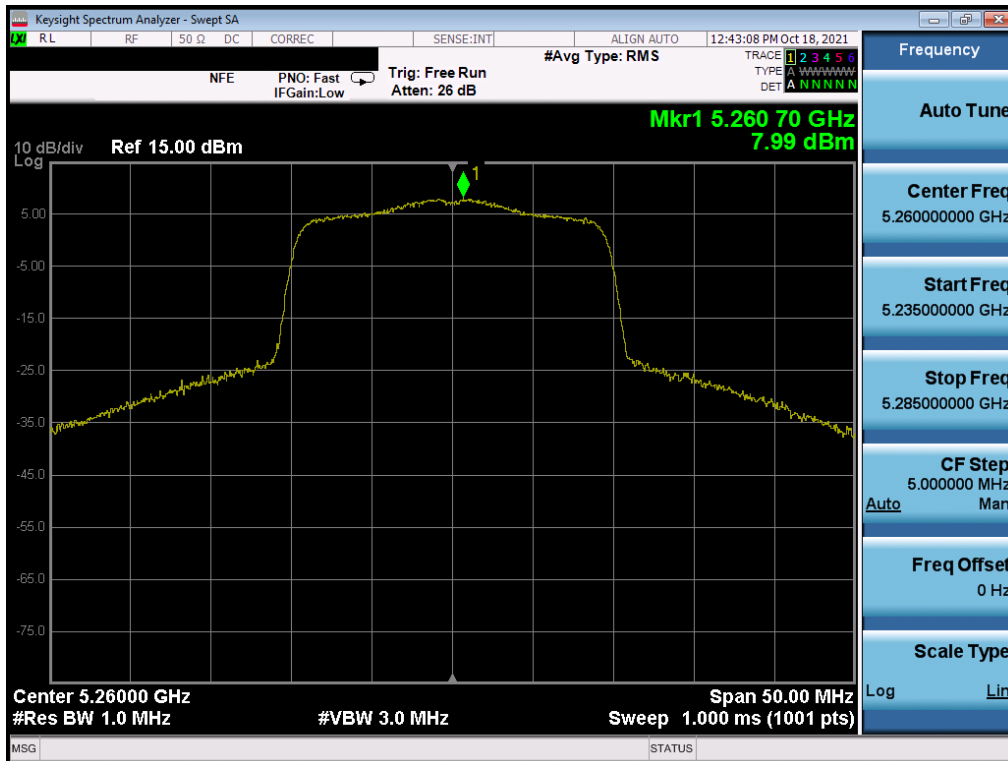


Plot 7-260. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 170 of 297                   |

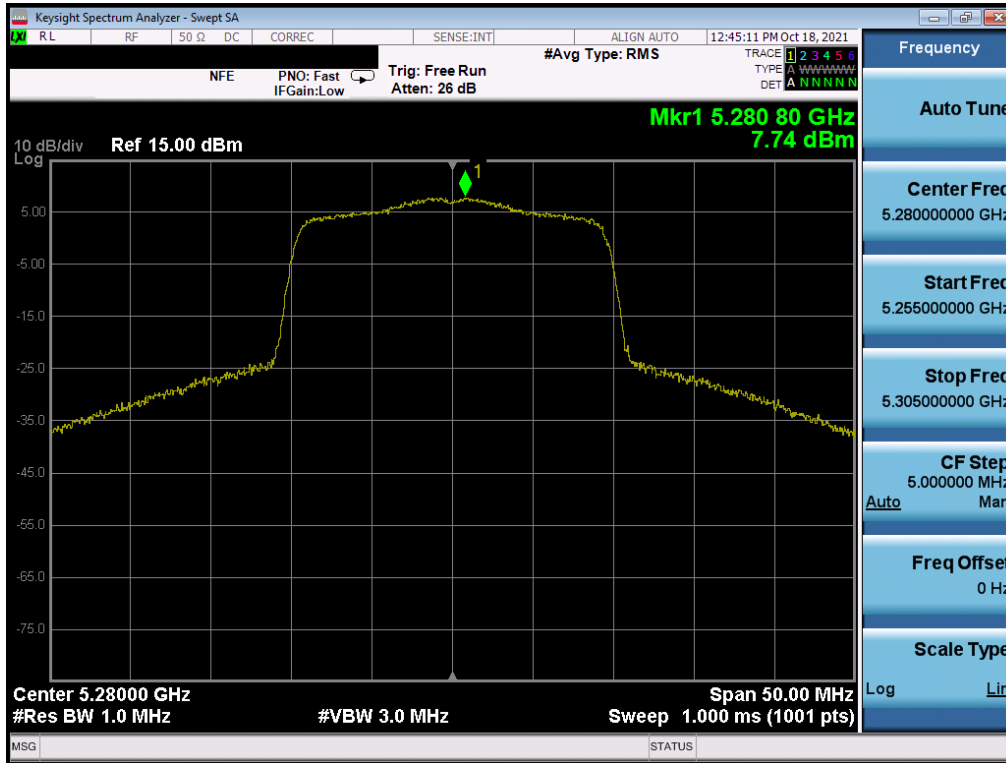


Plot 7-261. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

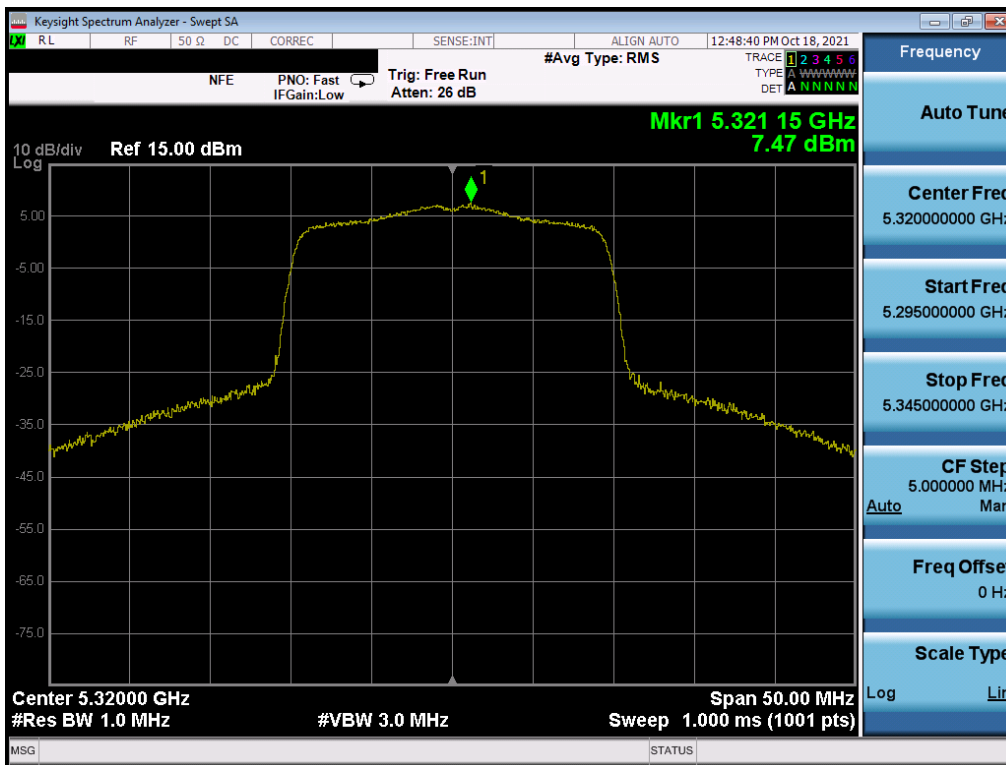


Plot 7-262. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2A) – Ch. 52)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 171 of 297                   |

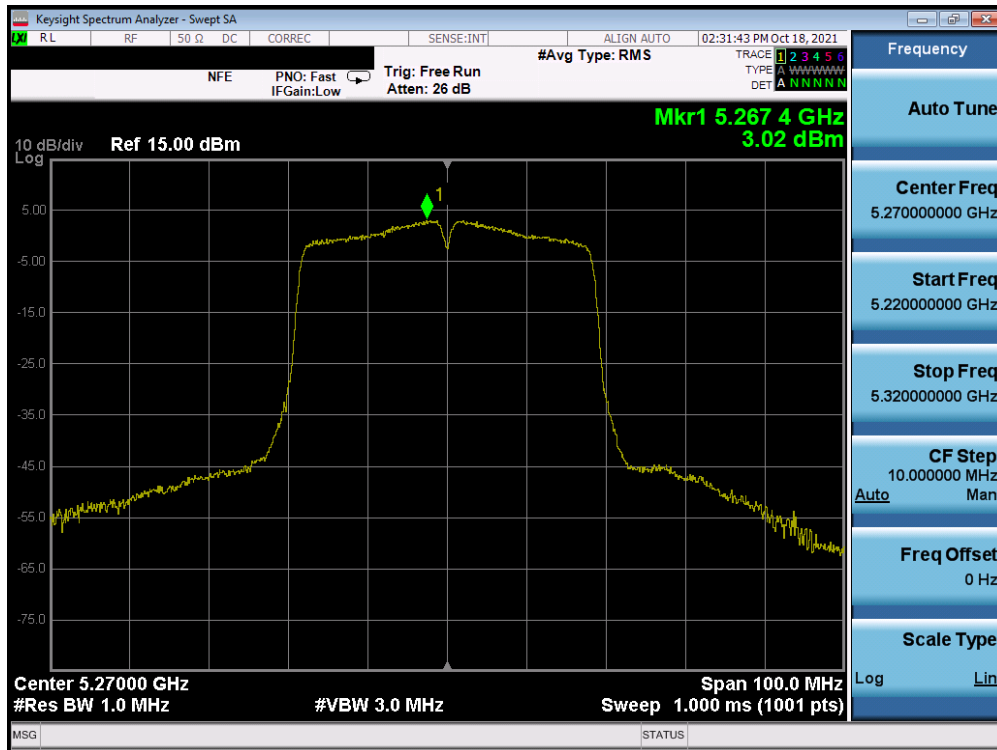


Plot 7-263. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2A) – Ch. 56)

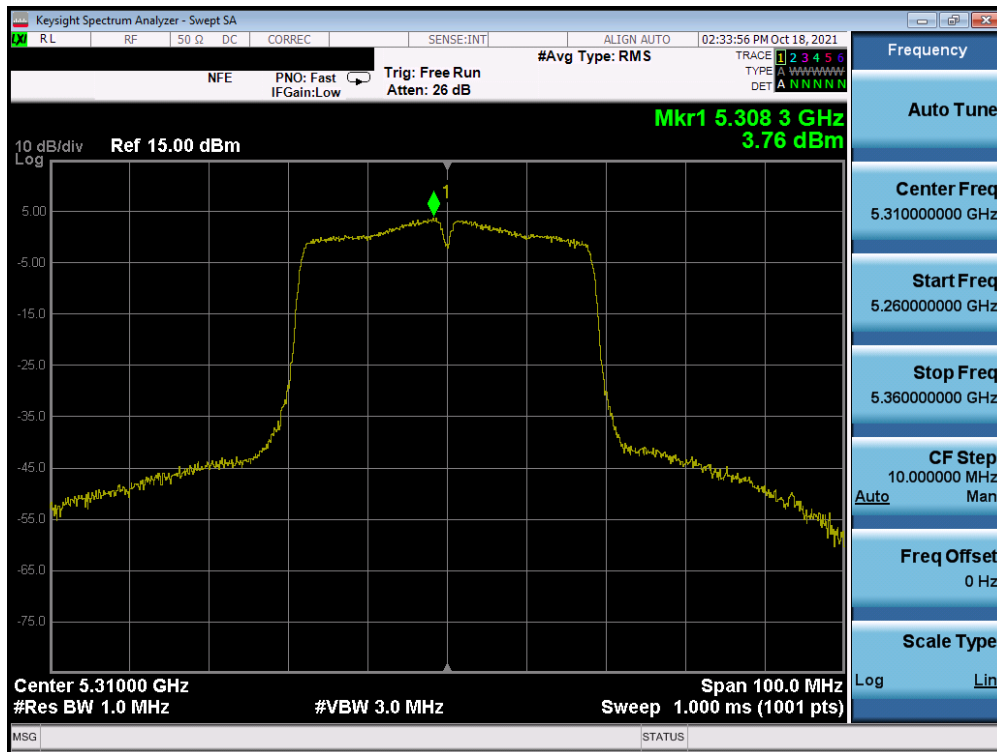


Plot 7-264. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2A) – Ch. 64)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 172 of 297                   |

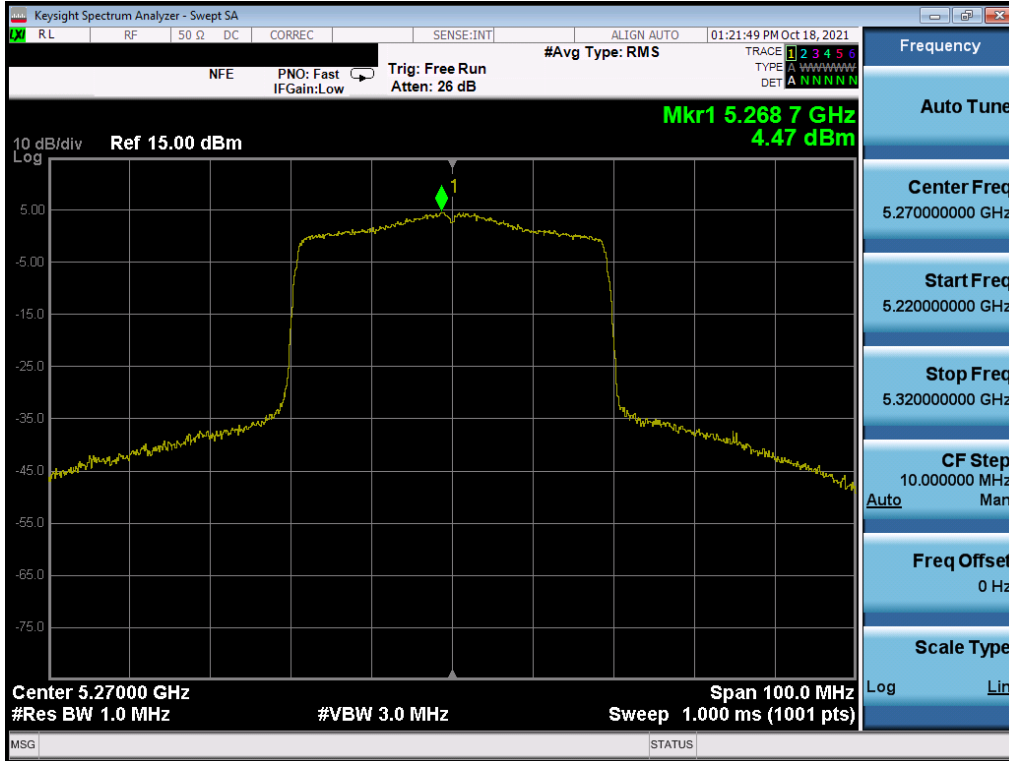


Plot 7-265. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

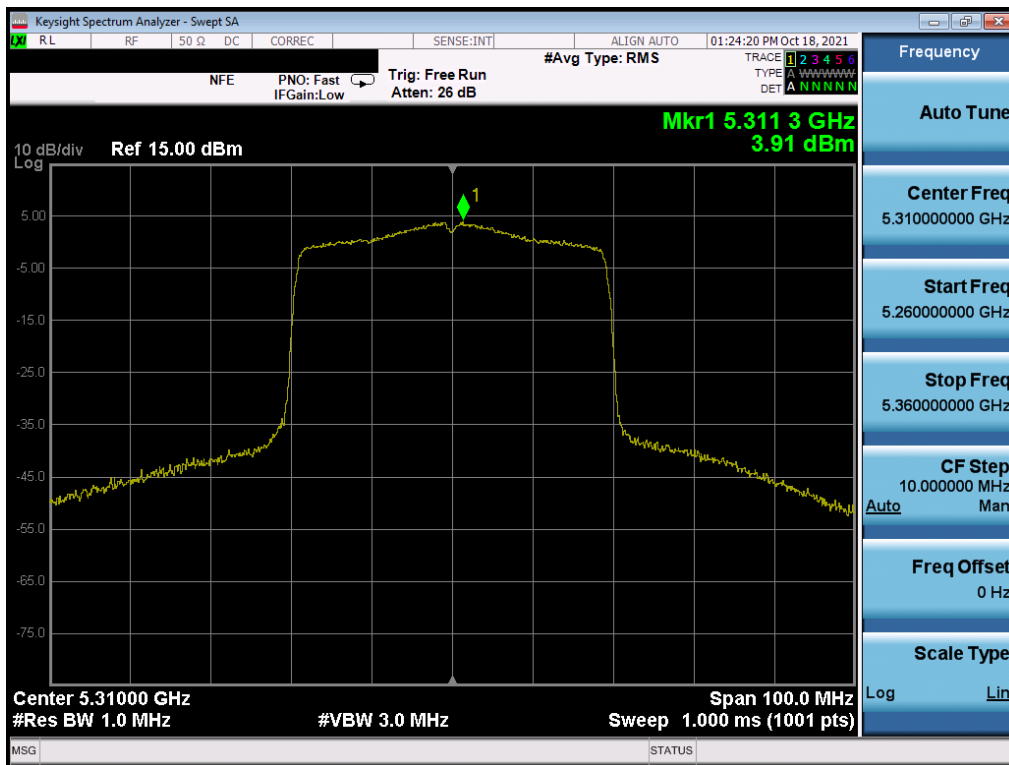


Plot 7-266. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 173 of 297                   |

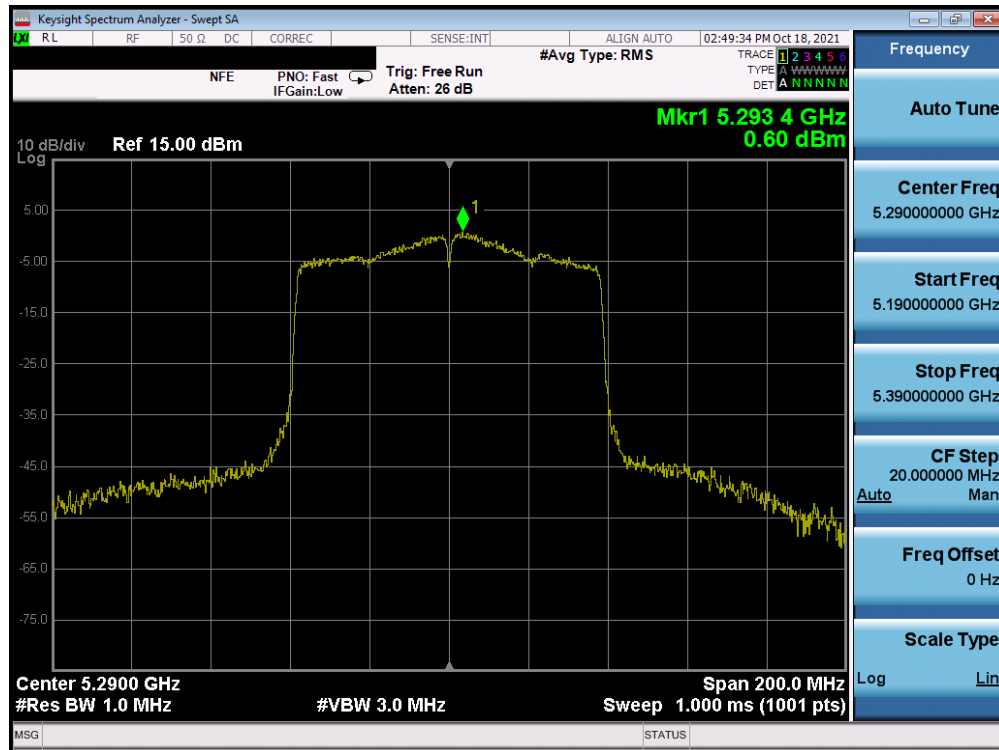


Plot 7-267. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2A) – Ch. 54)

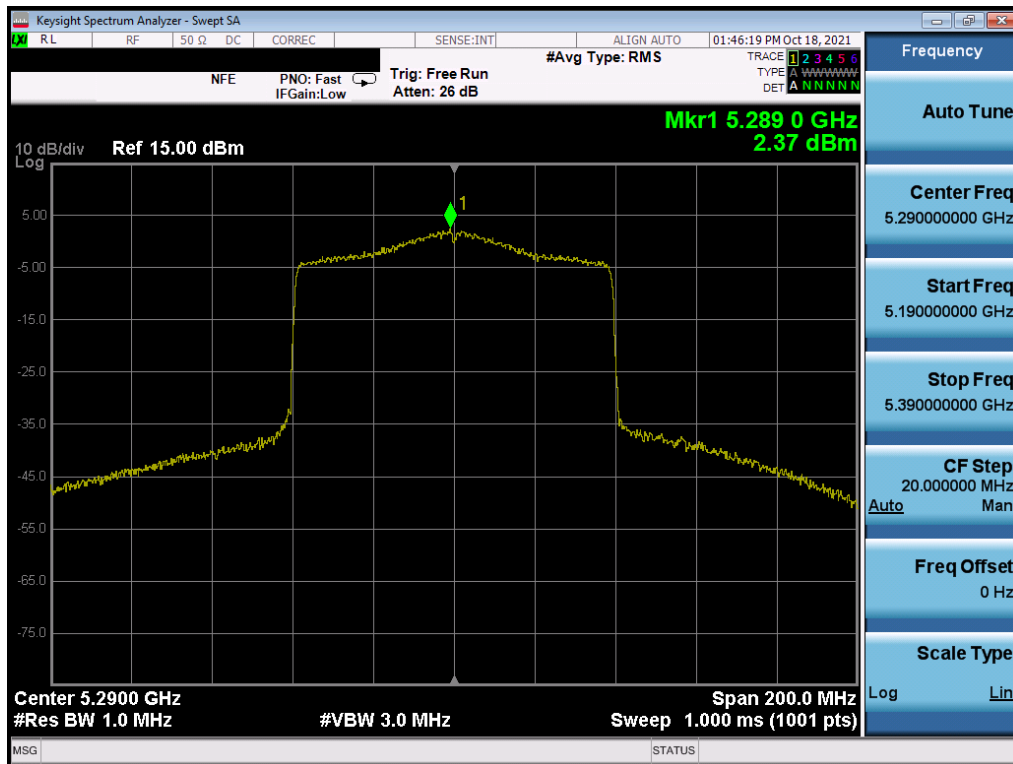


Plot 7-268. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2A) – Ch. 62)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 174 of 297                   |

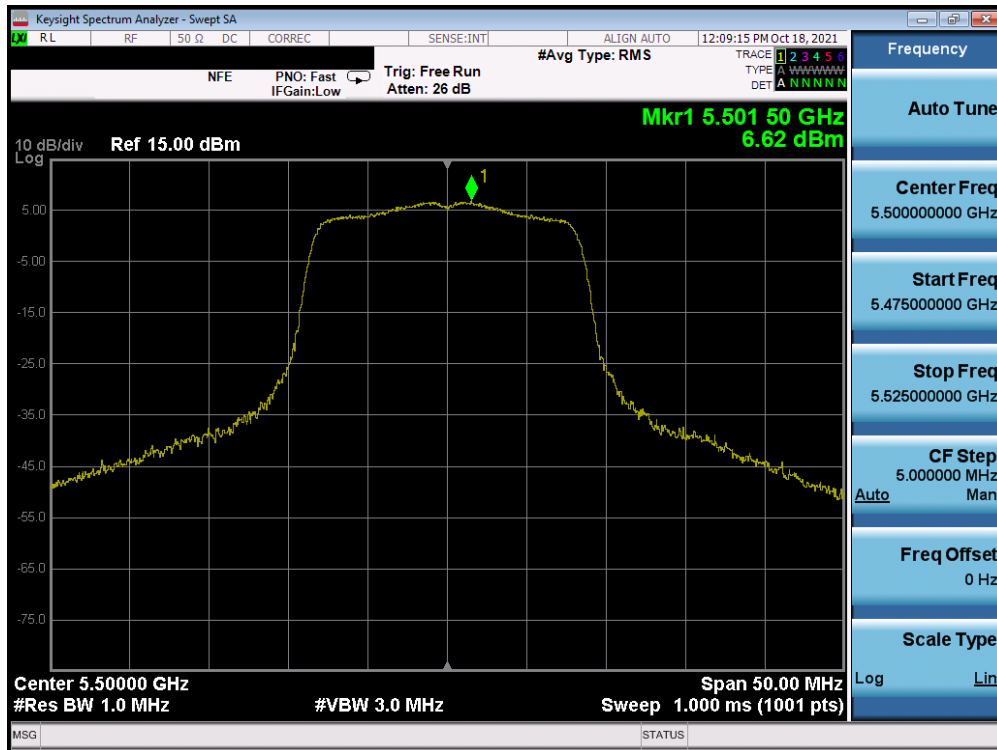


Plot 7-269. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

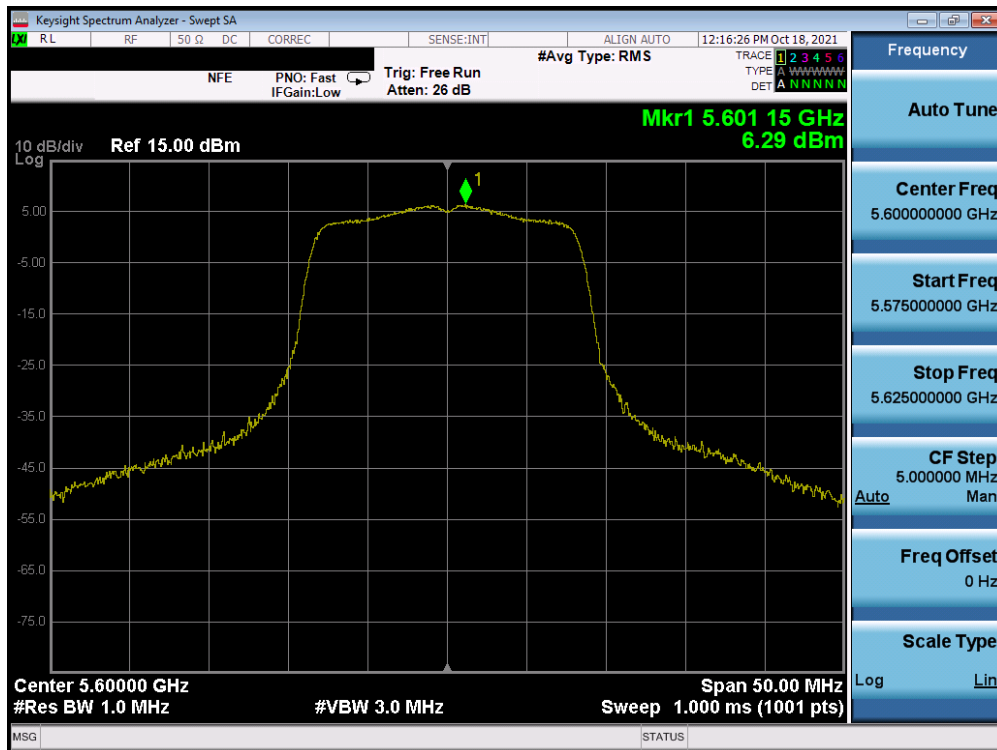


Plot 7-270. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2A) – Ch. 58)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 175 of 297                   |

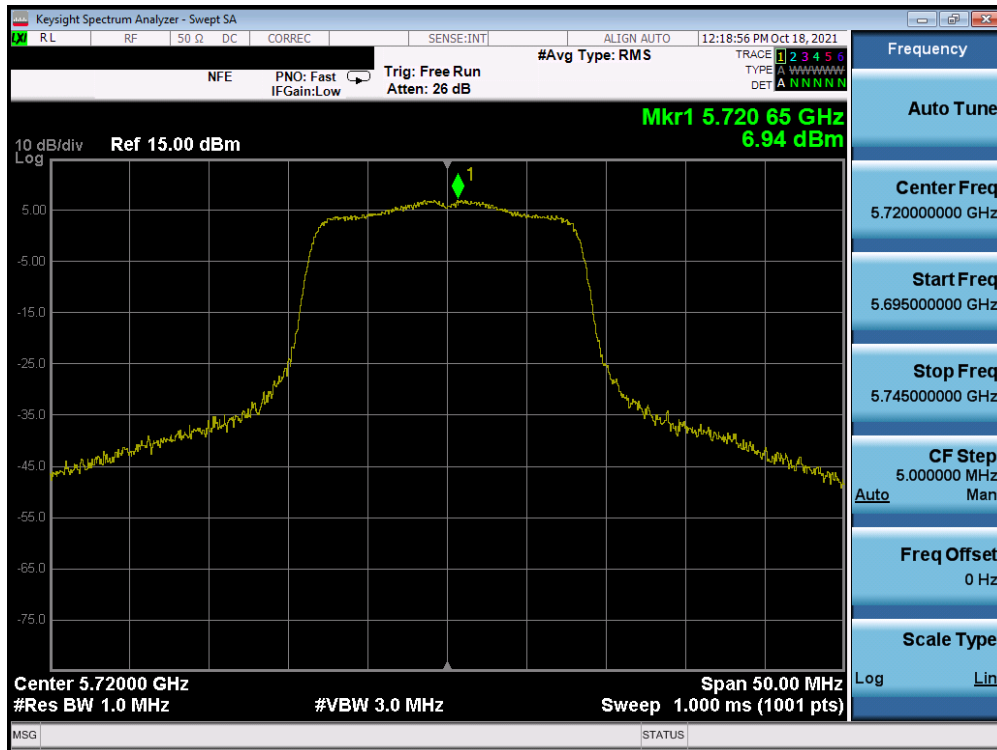


Plot 7-271. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2C) – Ch. 100)

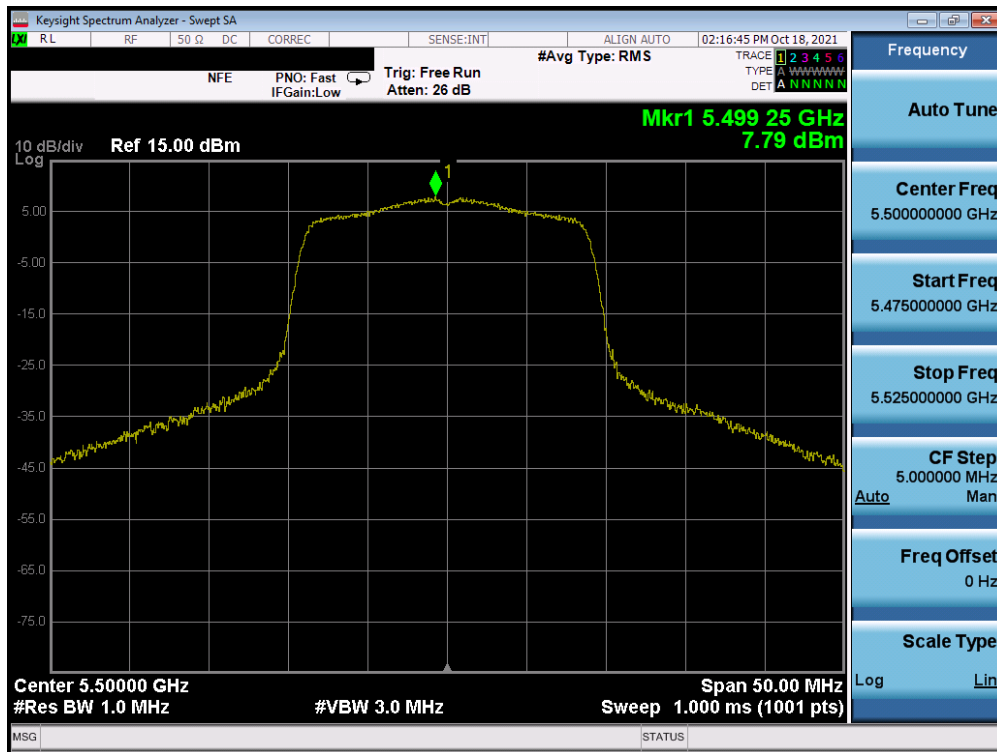


Plot 7-272. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2C) – Ch. 120)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 176 of 297                   |

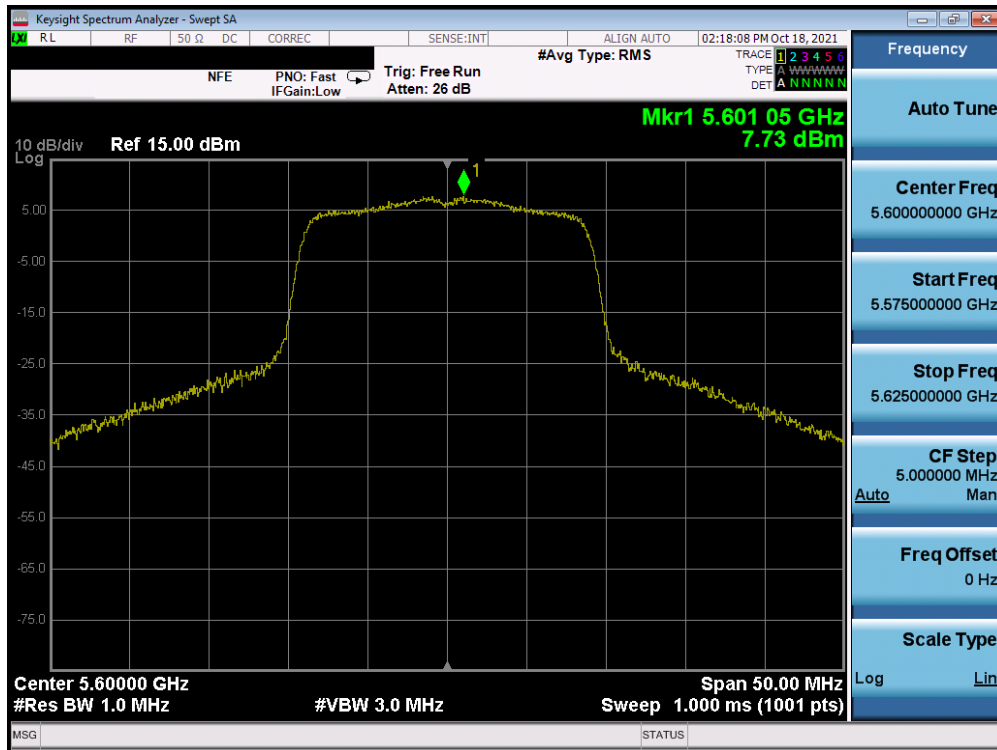


Plot 7-273. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2C) – Ch. 144)

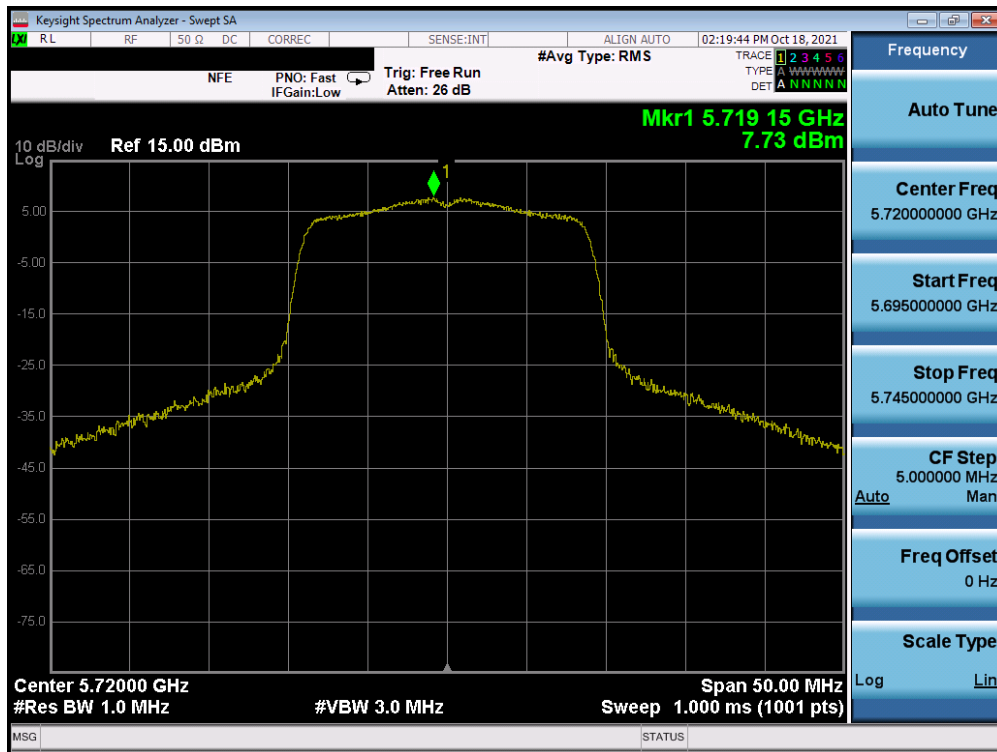


Plot 7-274. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 177 of 297                   |

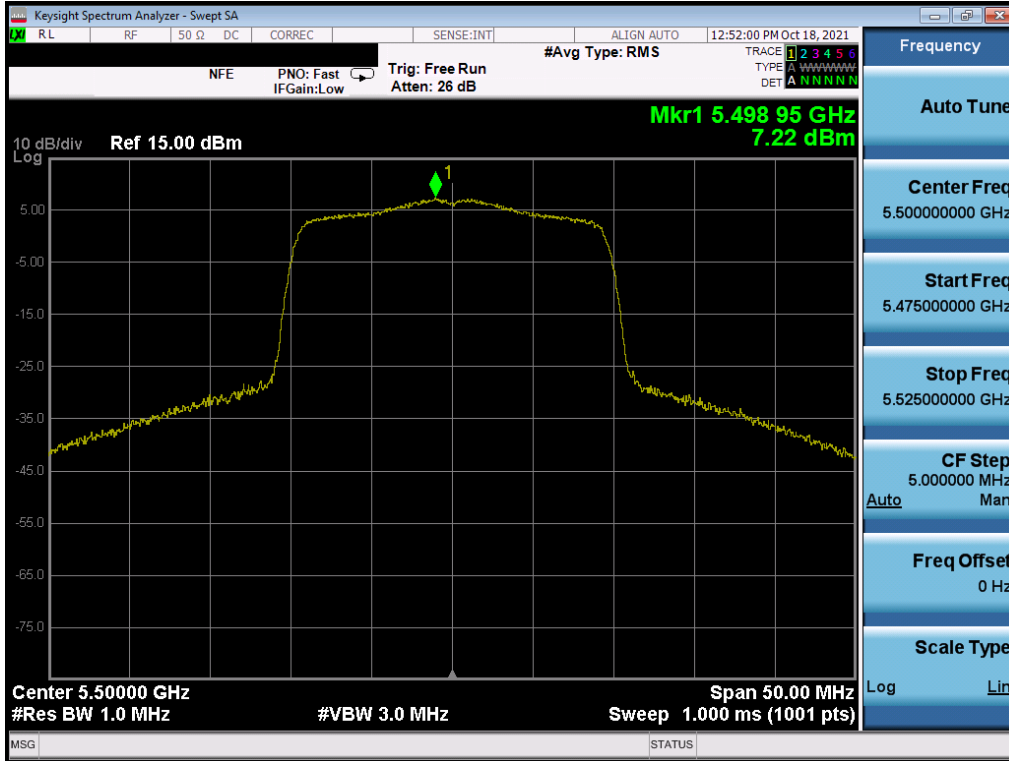


Plot 7-275. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)

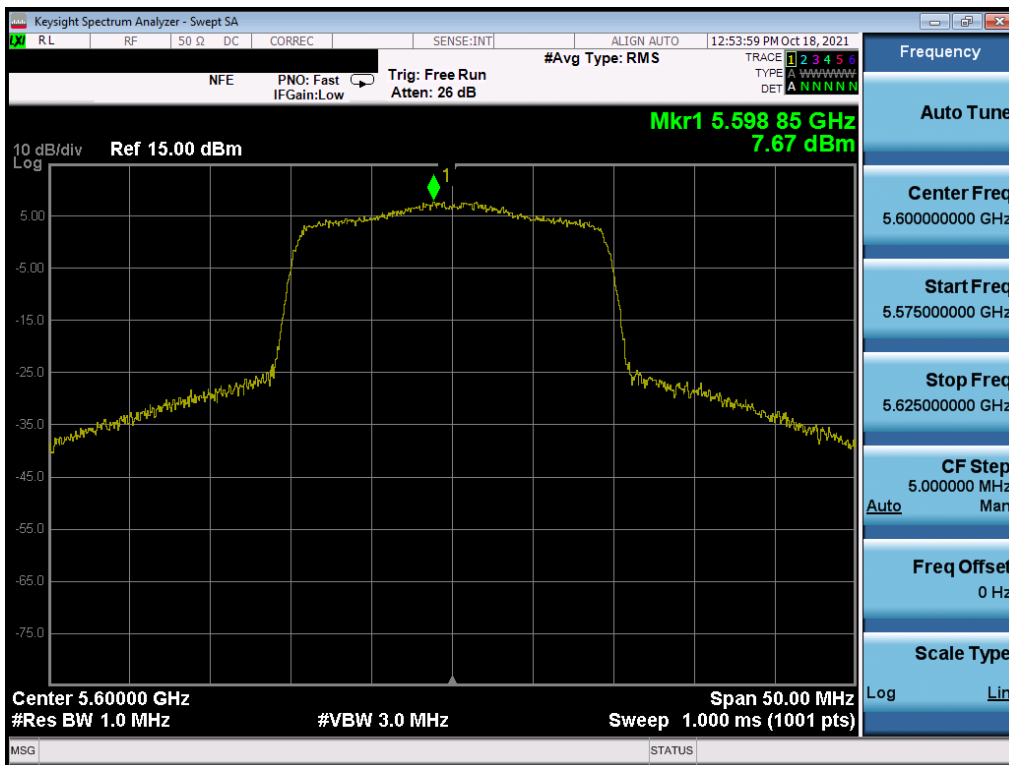


Plot 7-276. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 178 of 297                   |

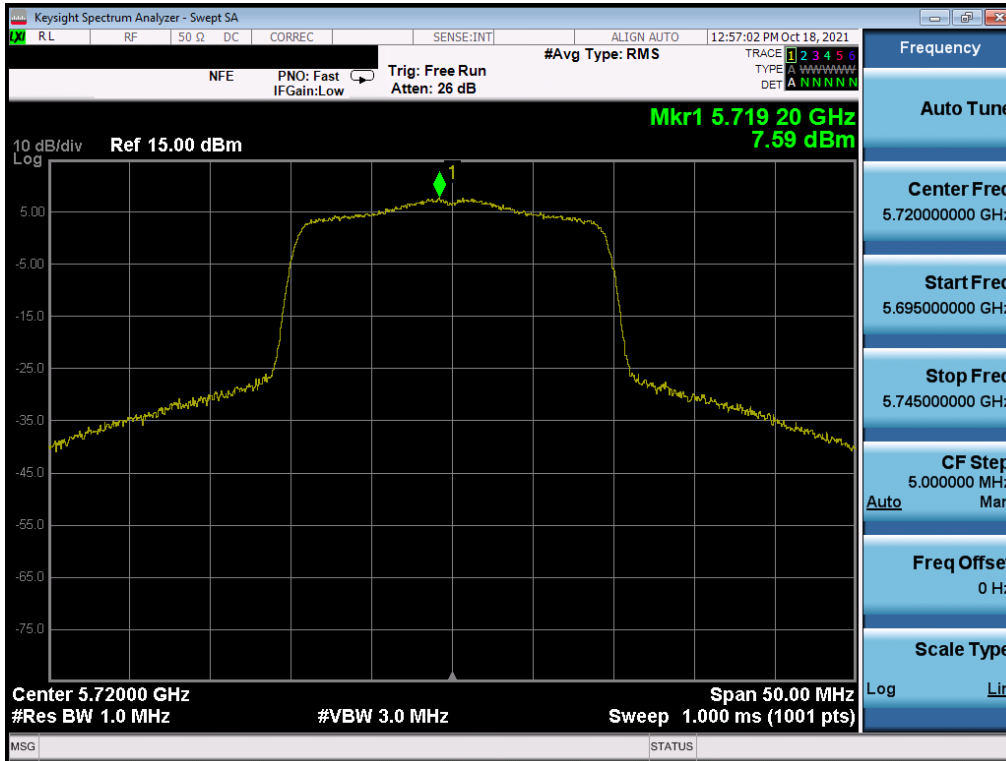


Plot 7-277. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2C) – Ch. 100)

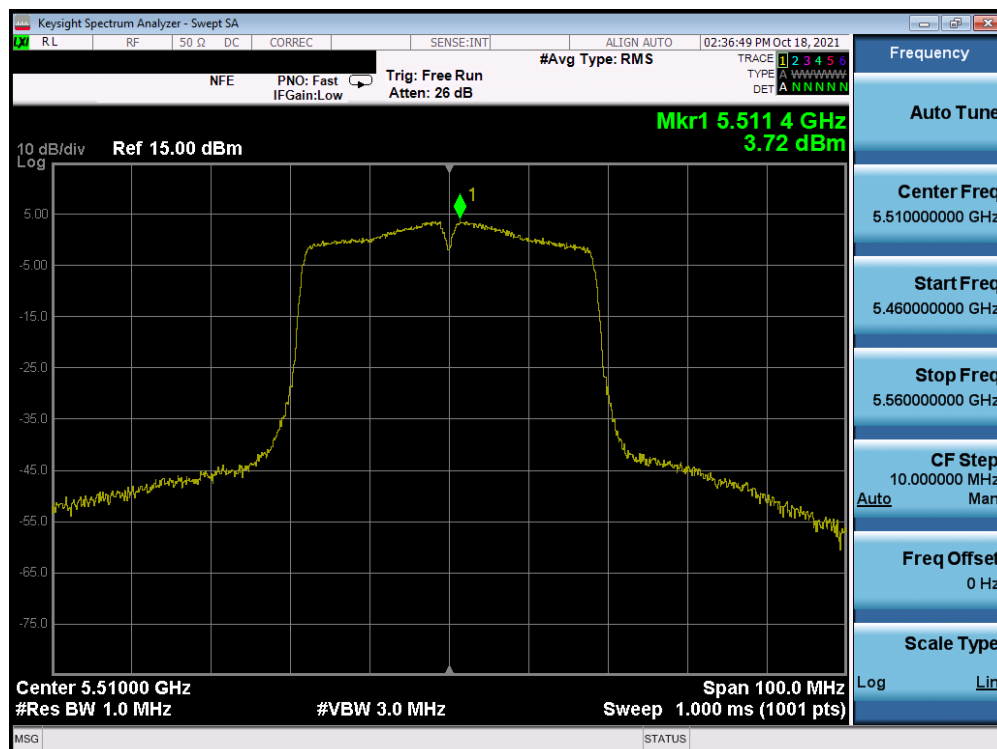


Plot 7-278. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2C) – Ch. 120)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 179 of 297                   |

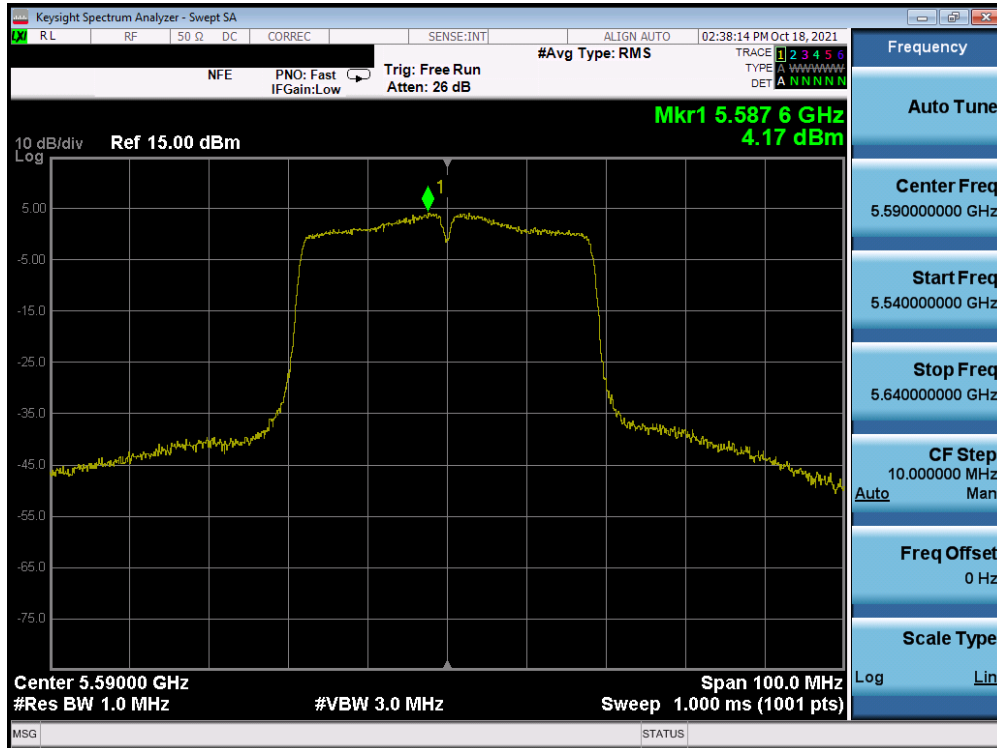


Plot 7-279. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2C) – Ch. 144)

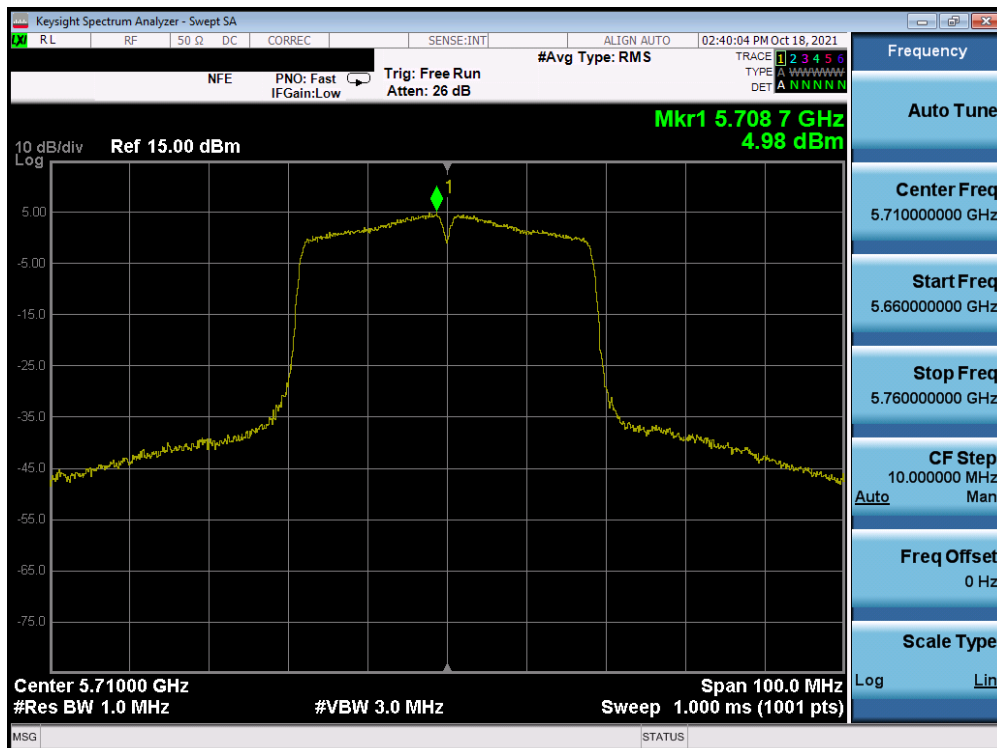


Plot 7-280. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 180 of 297                   |

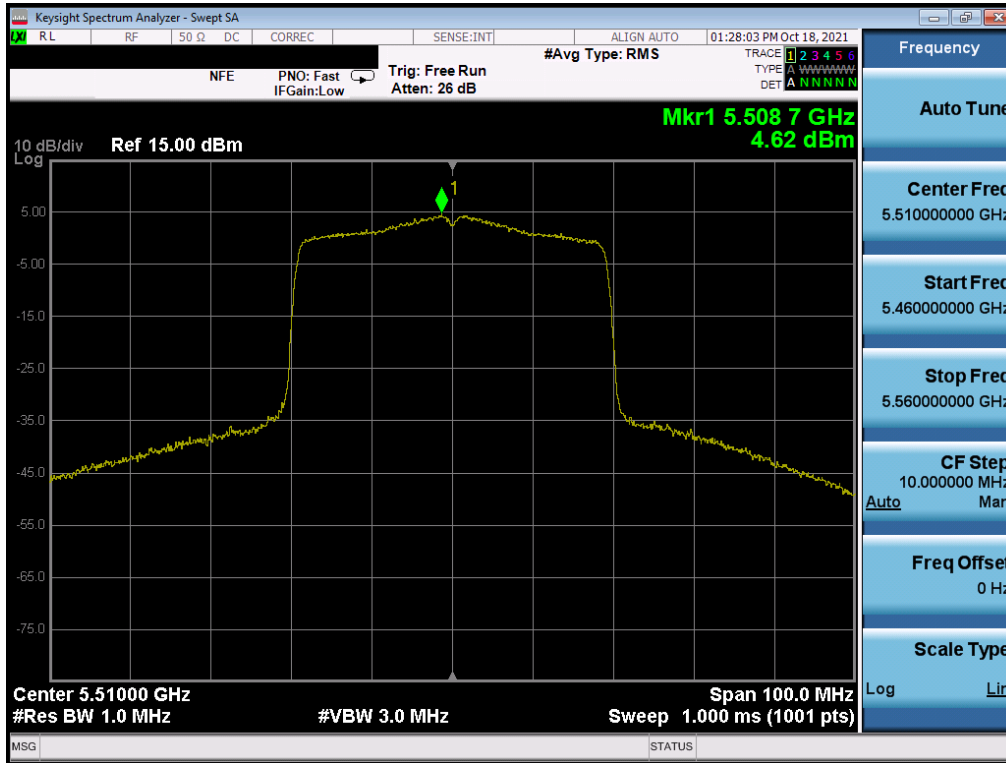


Plot 7-281. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2C) – Ch. 118)

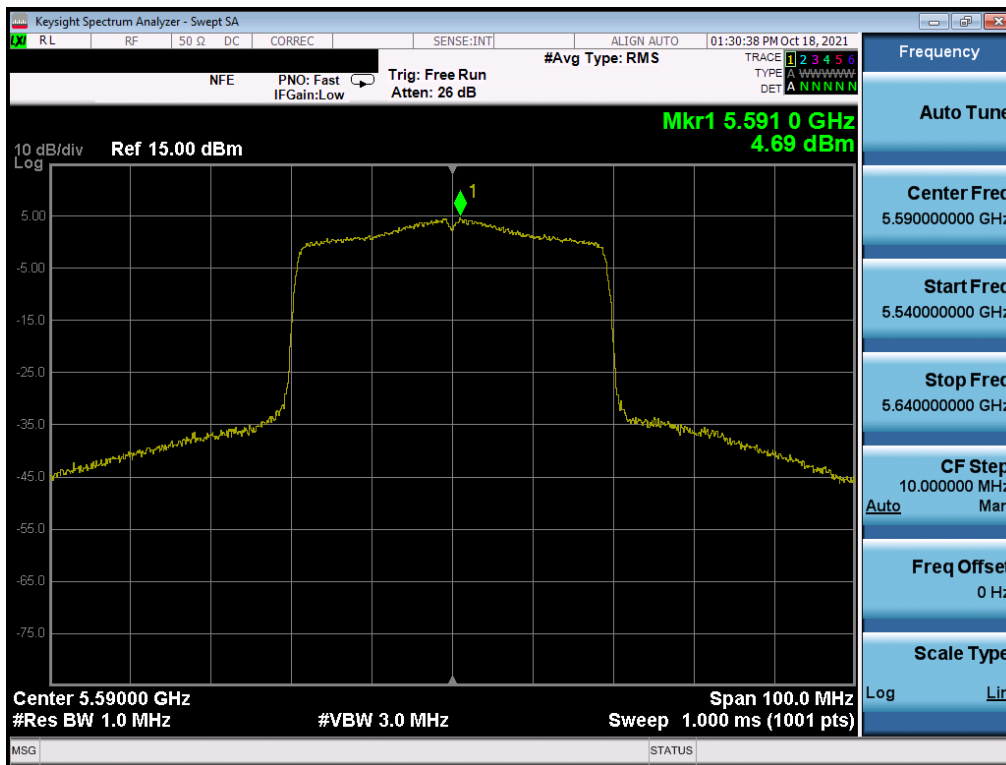


Plot 7-282. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 181 of 297                   |

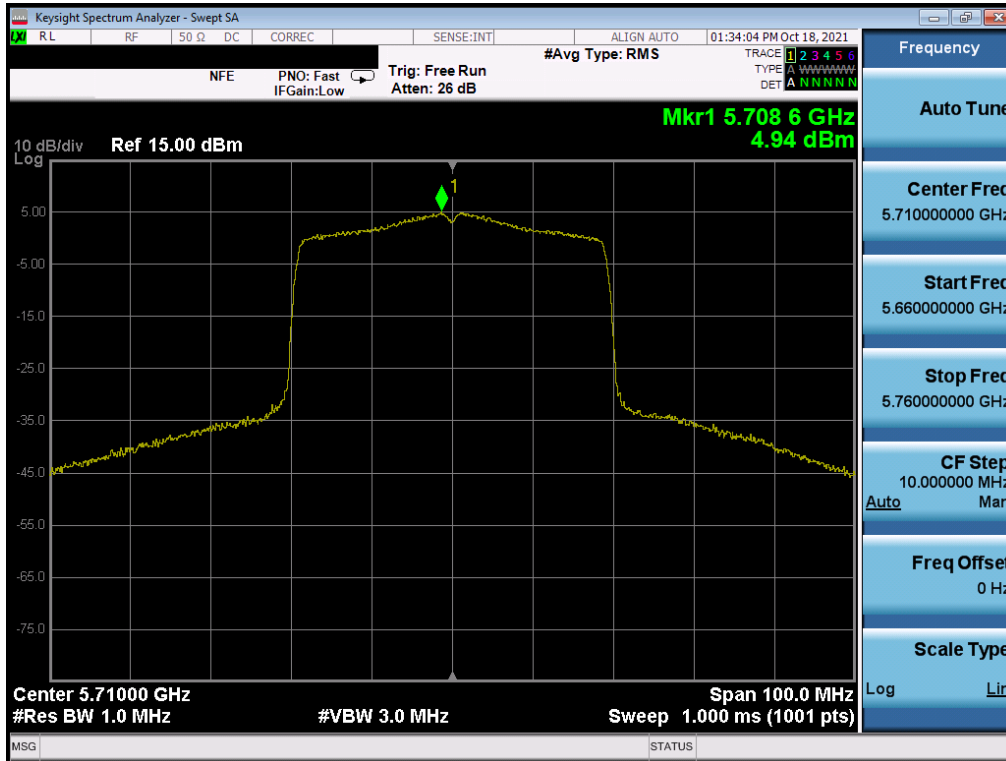


Plot 7-283. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2C) – Ch. 102)

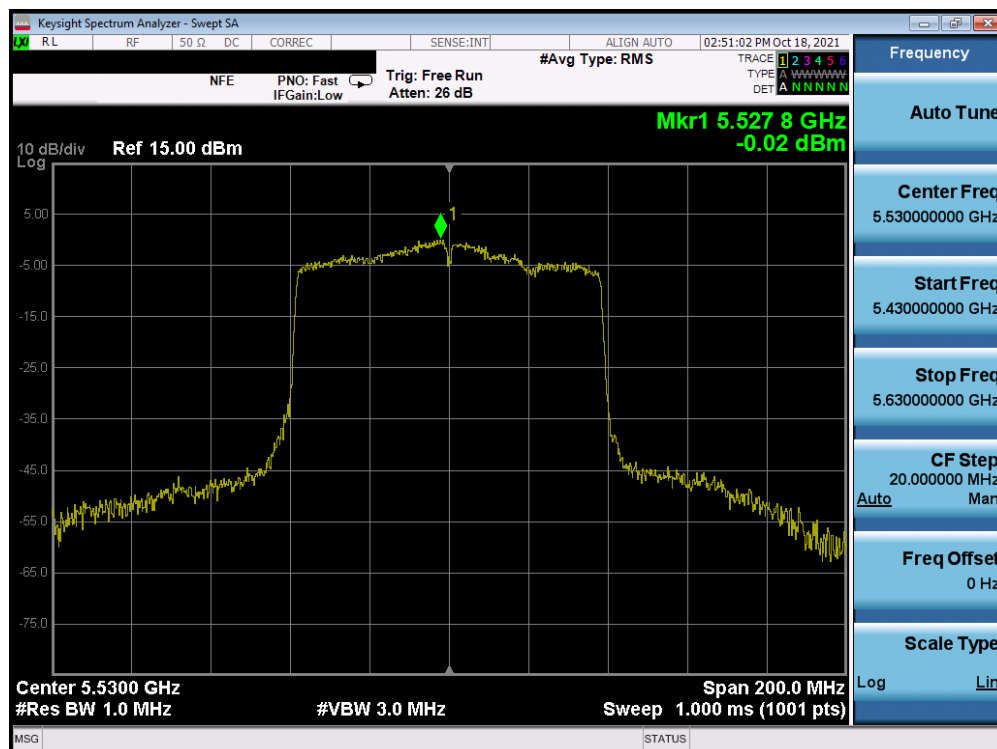


Plot 7-284. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2C) – Ch. 118)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 182 of 297                   |

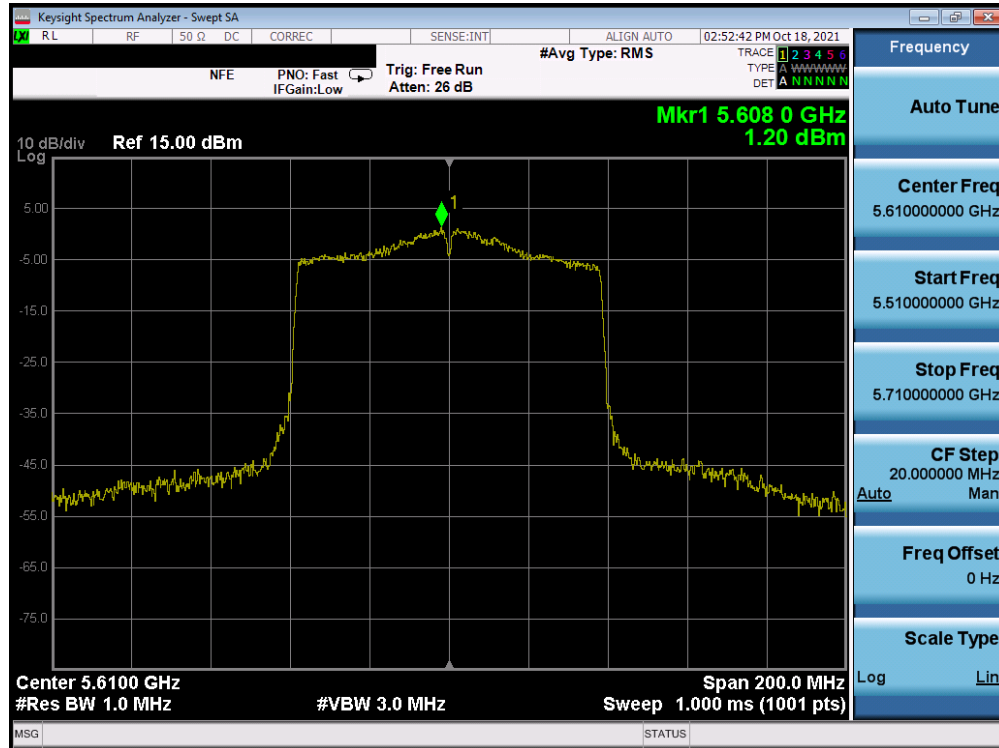


Plot 7-285. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2C) – Ch. 142)

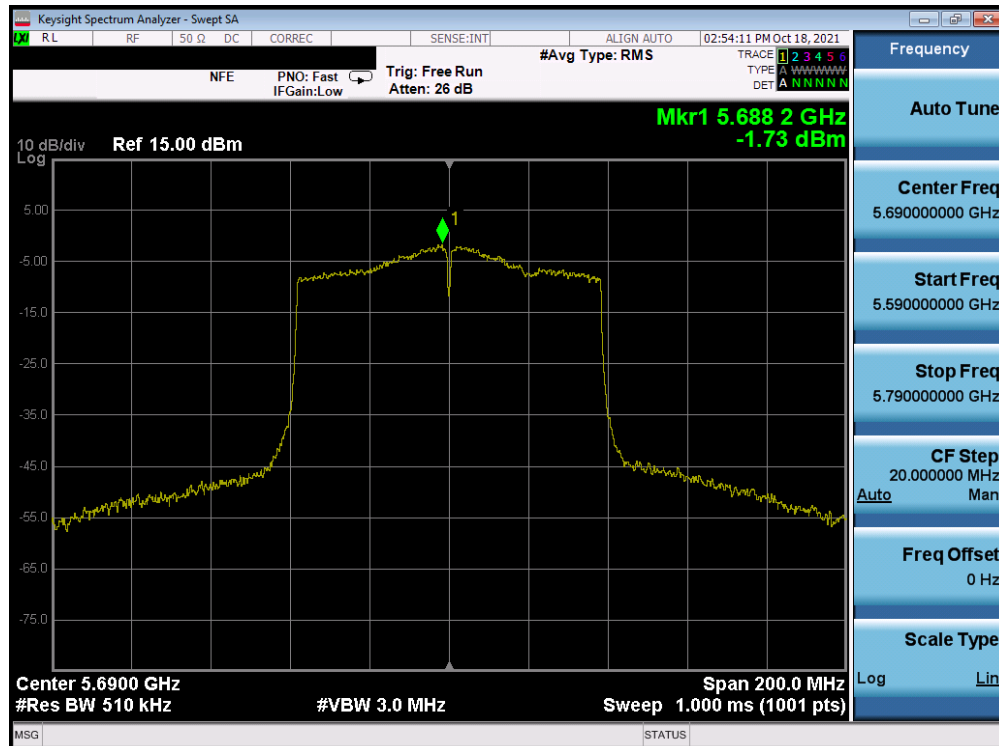


Plot 7-286. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 183 of 297                   |

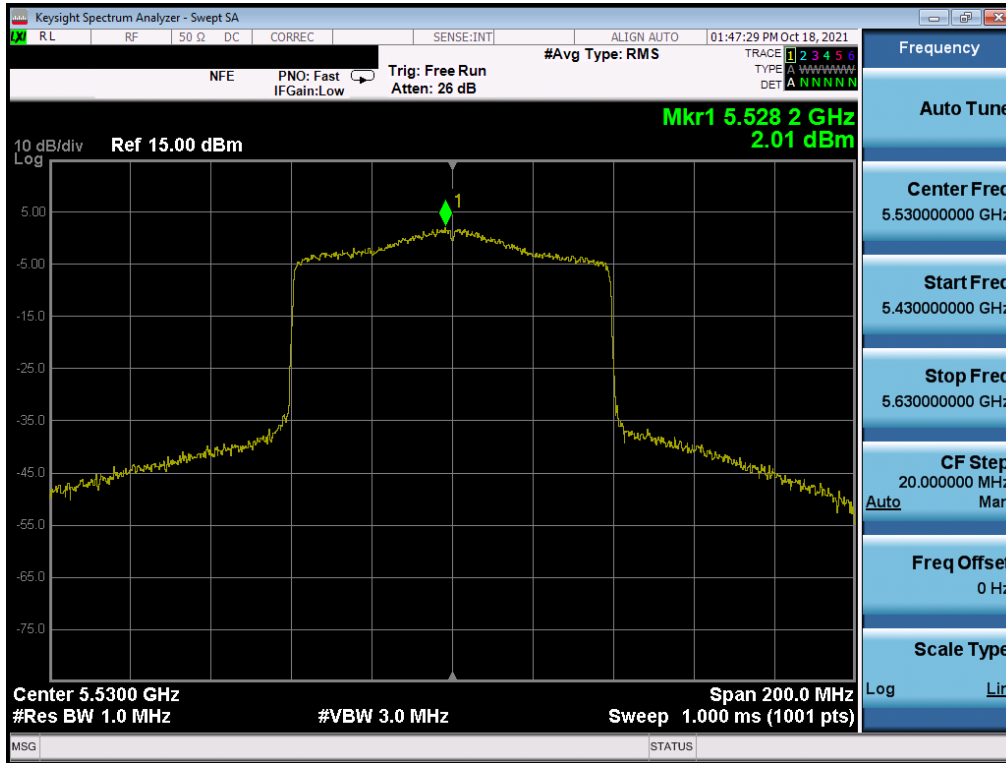


Plot 7-287. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2C) – Ch. 122)

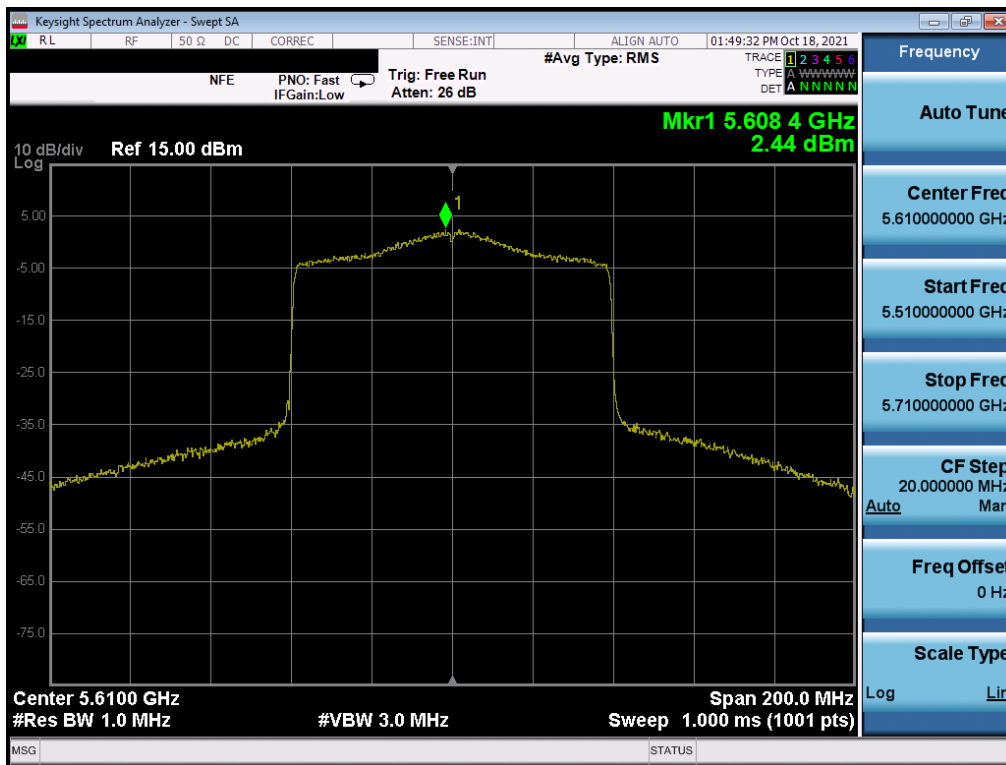


Plot 7-288. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 184 of 297                   |

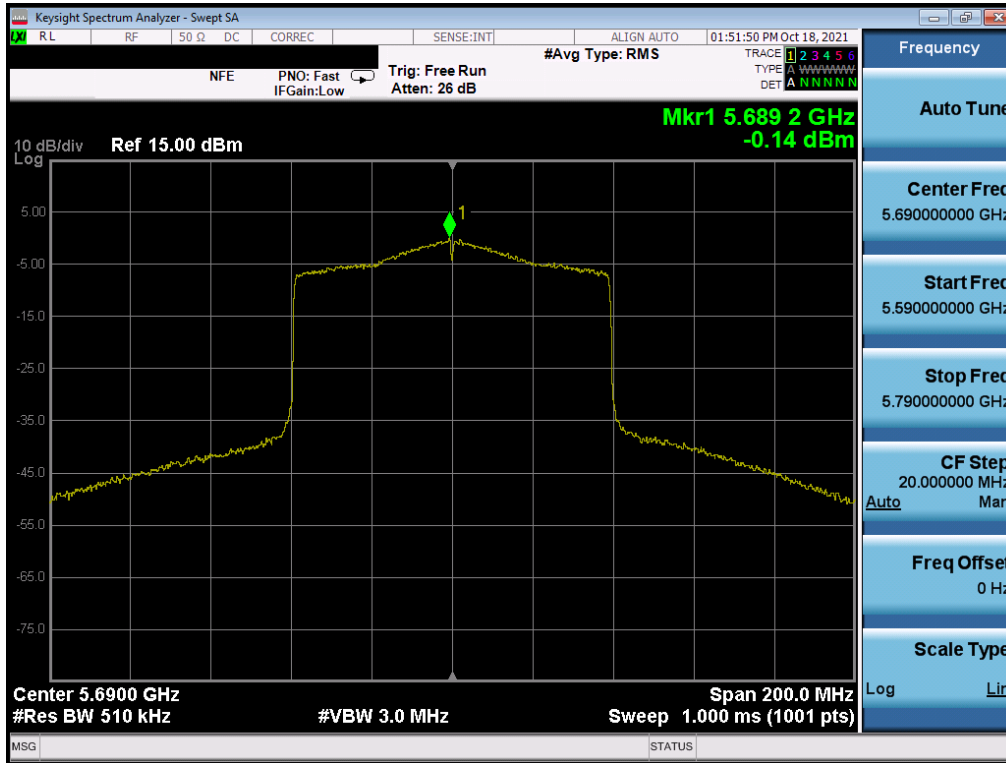


Plot 7-289. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2C) – Ch. 106)



Plot 7-290. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2C) – Ch. 122)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 185 of 297                   |

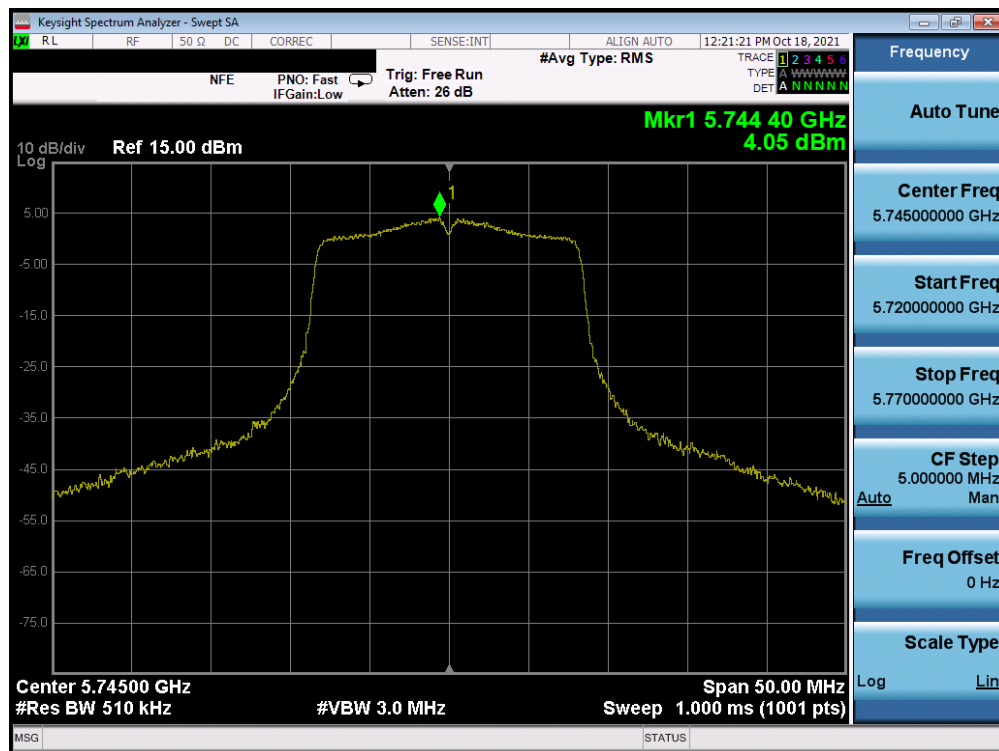


Plot 7-291. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2C) – Ch. 138)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 186 of 297                   |

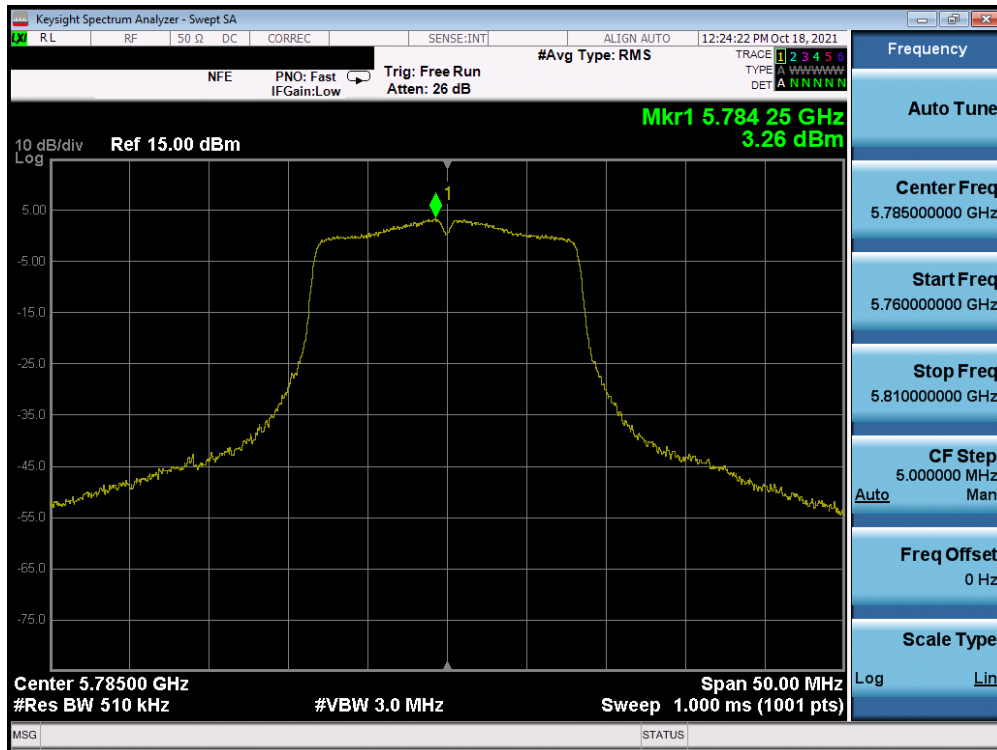
|        | Frequency [MHz] | Channel No. | 802.11 Mode | Data Rate [Mbps] | Measured Power Density [dBm] | Max Permissible Power Density [dBm/500kHz] | Margin [dB] |
|--------|-----------------|-------------|-------------|------------------|------------------------------|--------------------------------------------|-------------|
| Band 3 | 5745            | 149         | a           | 6                | 4.05                         | 30.0                                       | -25.95      |
|        | 5785            | 157         | a           | 6                | 3.26                         | 30.0                                       | -26.74      |
|        | 5825            | 165         | a           | 6                | 3.88                         | 30.0                                       | -26.12      |
|        | 5745            | 149         | n (20MHz)   | 6.5/7.2 (MCS0)   | 4.37                         | 30.0                                       | -25.63      |
|        | 5785            | 157         | n (20MHz)   | 6.5/7.2 (MCS0)   | 4.38                         | 30.0                                       | -25.62      |
|        | 5825            | 165         | n (20MHz)   | 6.5/7.2 (MCS0)   | 4.62                         | 30.0                                       | -25.38      |
|        | 5745            | 149         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 4.58                         | 30.0                                       | -25.42      |
|        | 5785            | 157         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 4.55                         | 30.0                                       | -25.45      |
|        | 5825            | 165         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 4.29                         | 30.0                                       | -25.71      |
|        | 5755            | 151         | n (40MHz)   | 13.5/15 (MCS0)   | 1.07                         | 30.0                                       | -28.93      |
|        | 5795            | 159         | n (40MHz)   | 13.5/15 (MCS0)   | 0.21                         | 30.0                                       | -29.79      |
|        | 5755            | 151         | ax (40MHz)  | 13.5/15 (MCS0)   | 1.89                         | 30.0                                       | -28.11      |
|        | 5795            | 159         | ax (40MHz)  | 13.5/15 (MCS0)   | 1.45                         | 30.0                                       | -28.55      |
|        | 5775            | 155         | ac (80MHz)  | 29.3/32.5 (MCS0) | -0.72                        | 30.0                                       | -30.72      |
|        | 5775            | 155         | ax (80MHz)  | 29.3/32.5 (MCS0) | -0.24                        | 30.0                                       | -30.24      |

Table 7-33. Band 3 Conducted Power Spectral Density Measurements SISO ANT2

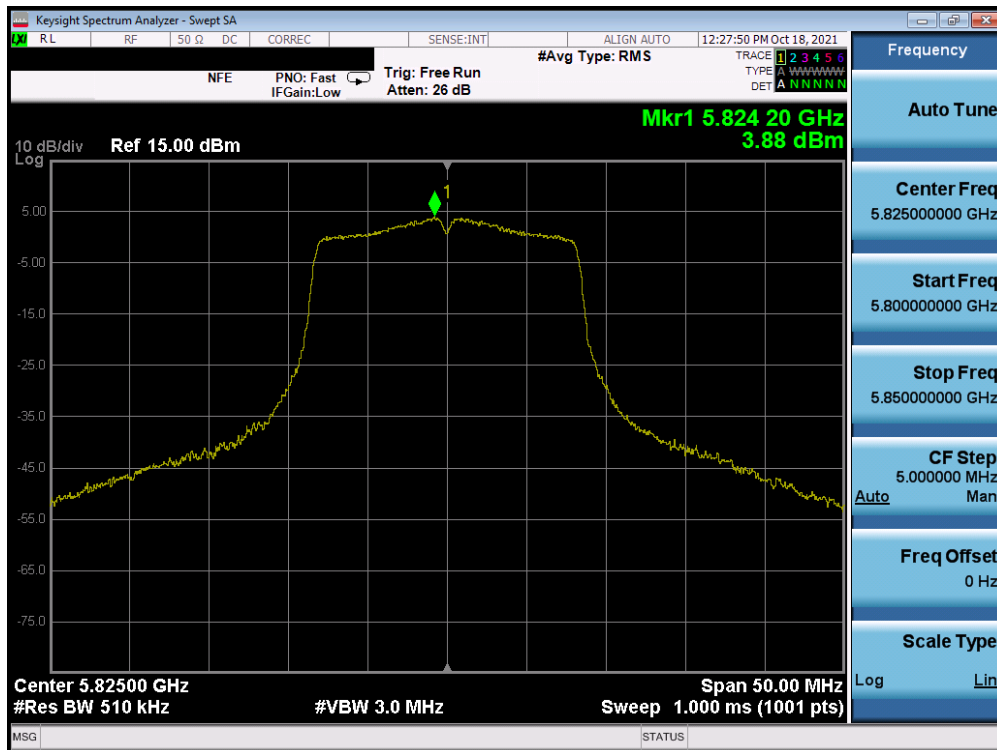


Plot 7-292. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3) – Ch. 149)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 187 of 297                   |

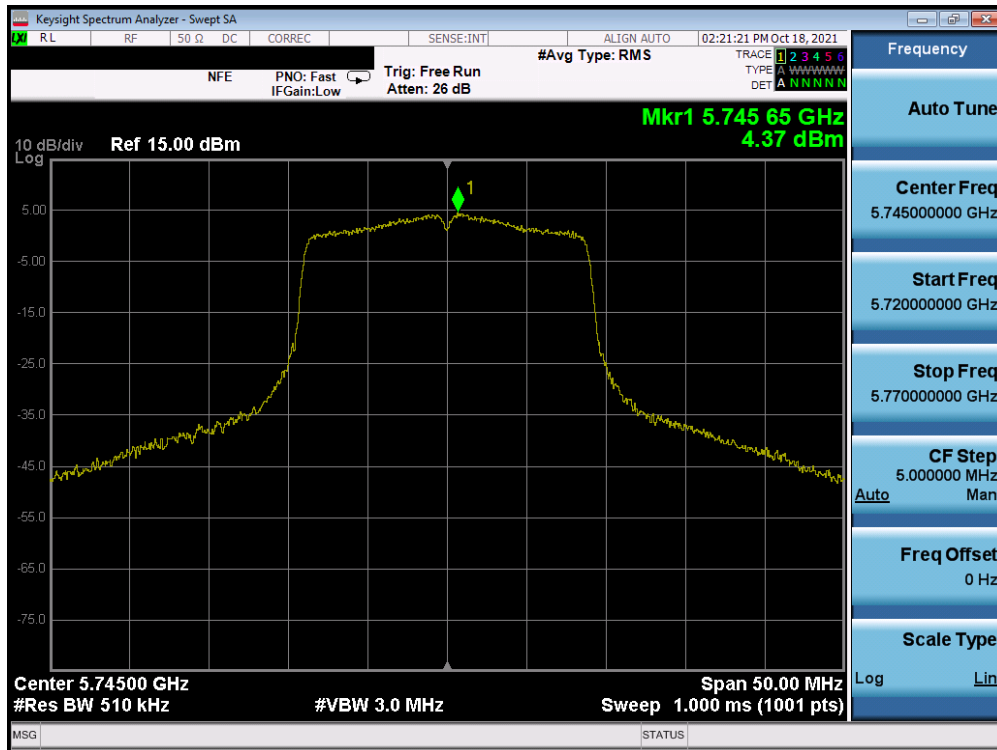


Plot 7-293. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3) – Ch. 157)

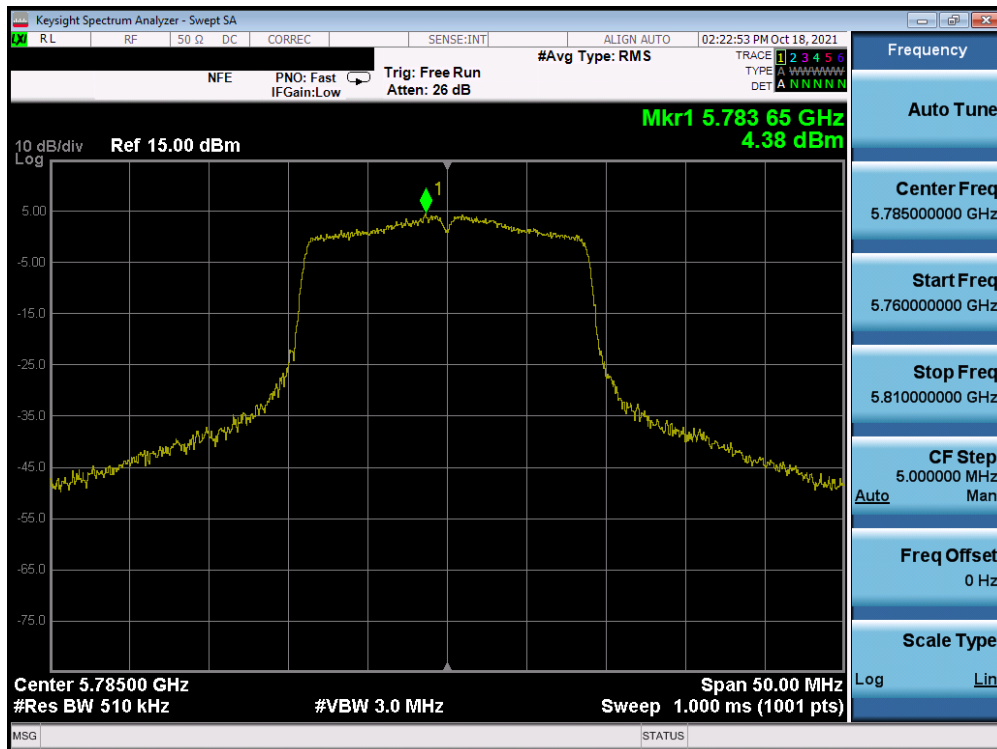


Plot 7-294. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3) – Ch. 165)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 188 of 297                   |

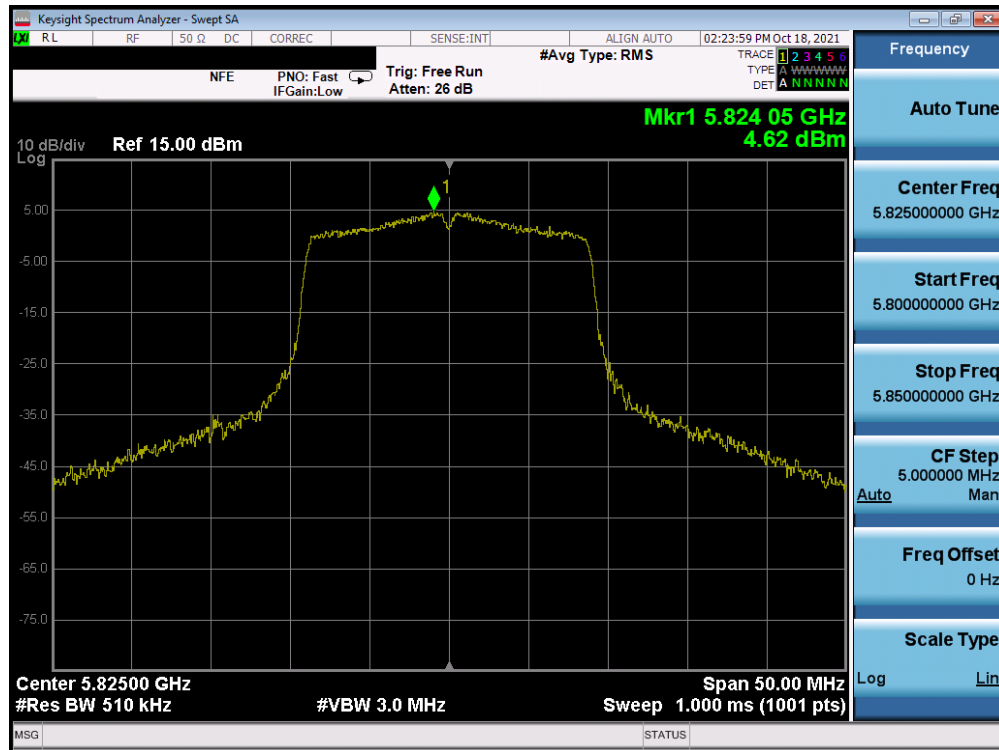


Plot 7-295. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) – Ch. 149)

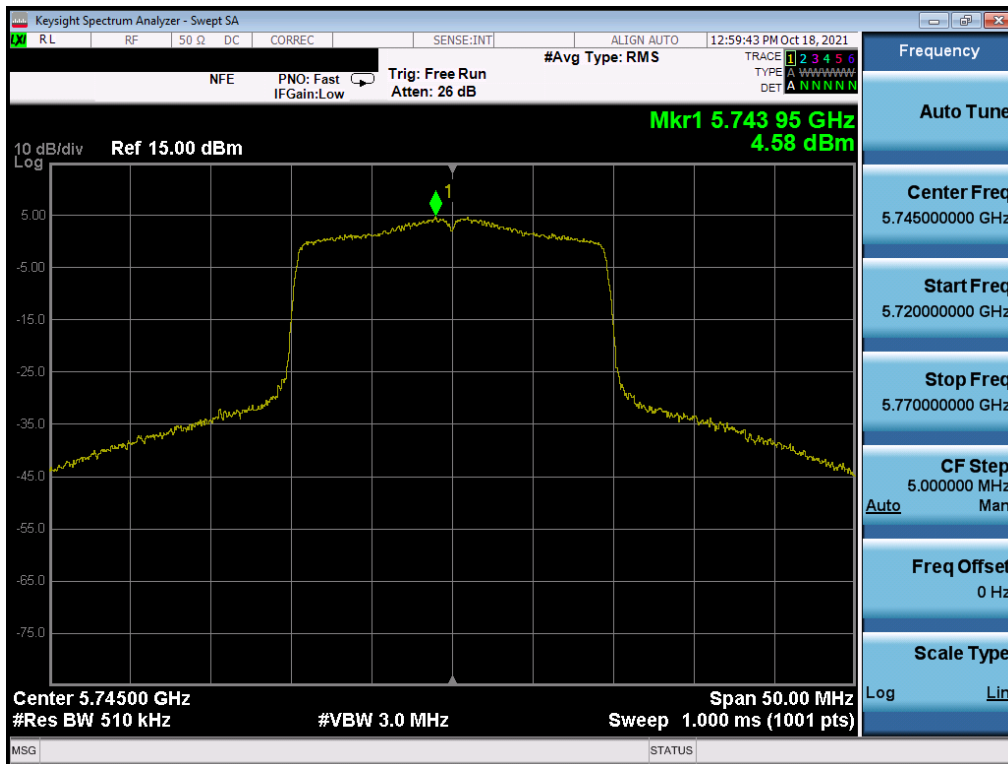


Plot 7-296. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) – Ch. 157)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 189 of 297                   |



Plot 7-297. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) – Ch. 165)

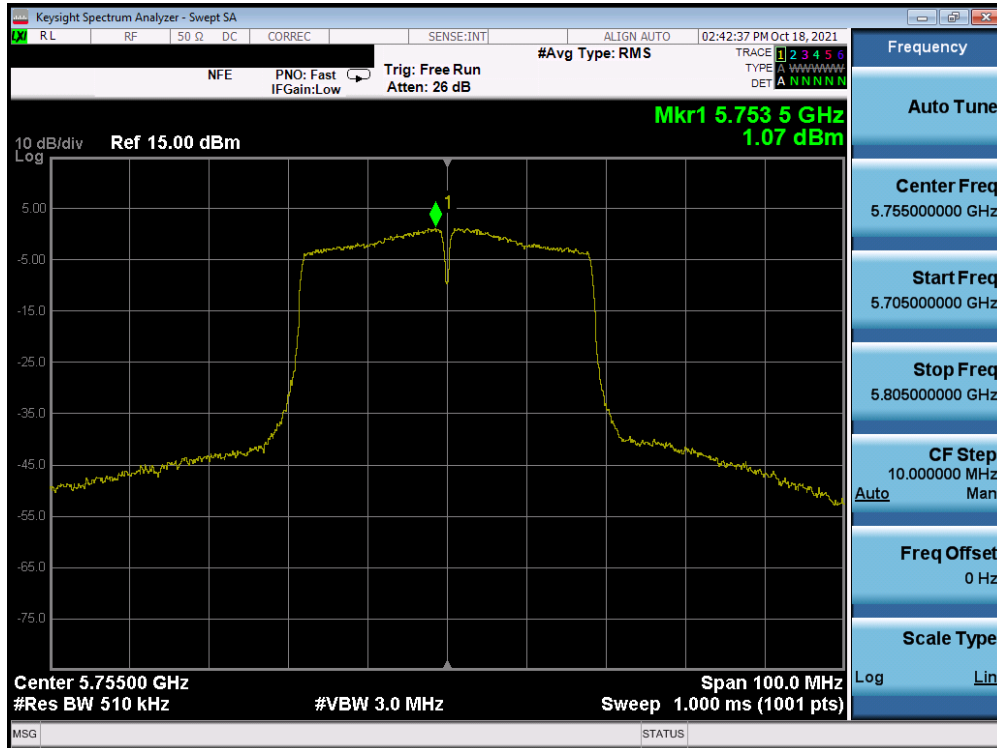


Plot 7-298. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 3) – Ch. 149)

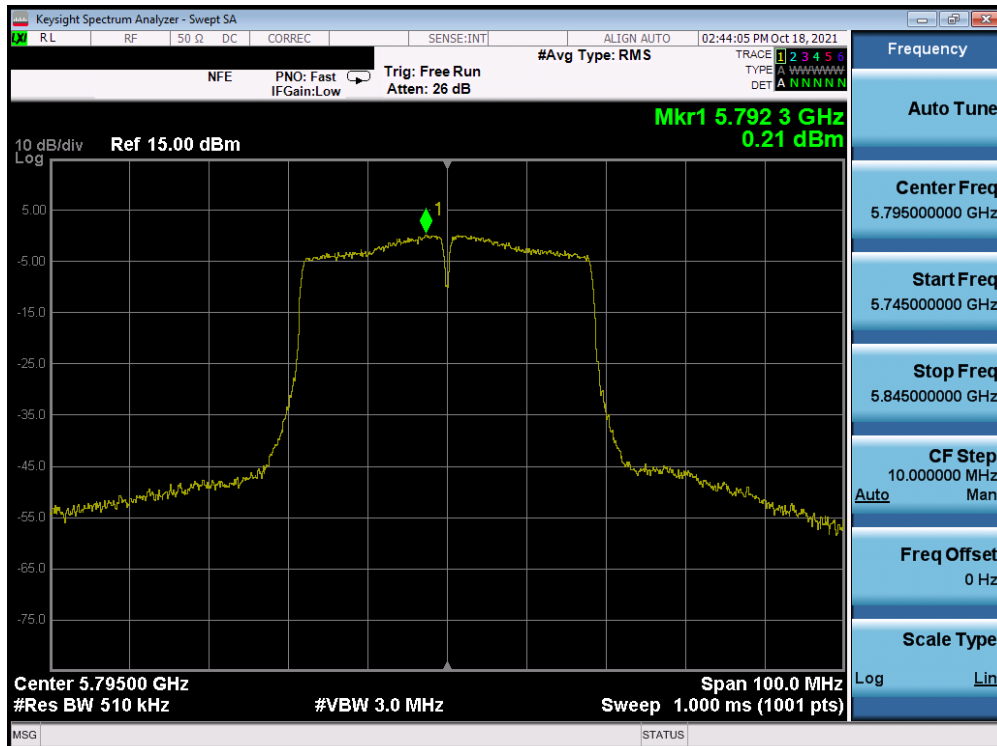
|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 190 of 297                   |



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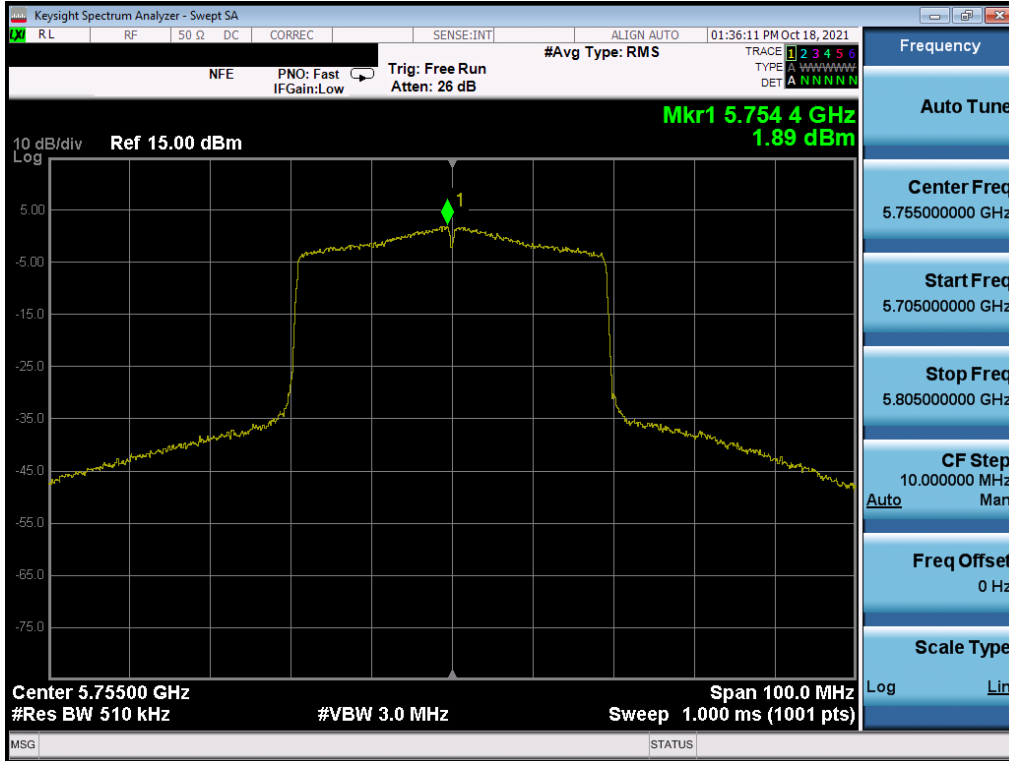


Plot 7-301. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

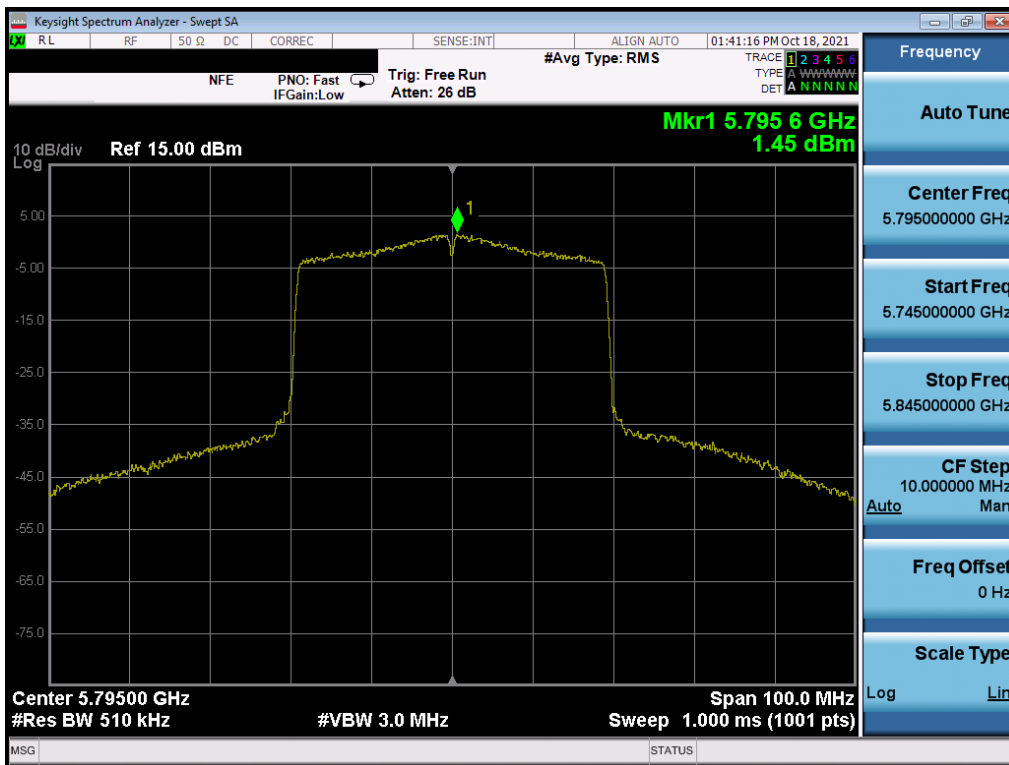


Plot 7-302. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) – Ch. 159)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 192 of 297                   |

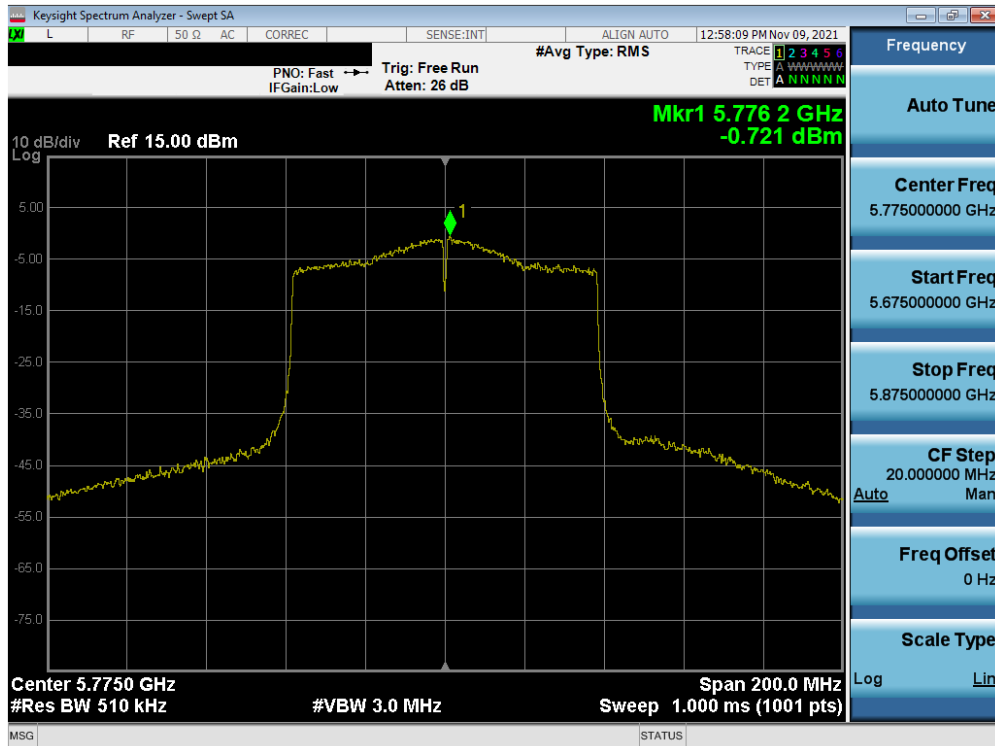


Plot 7-303. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) – Ch. 151)

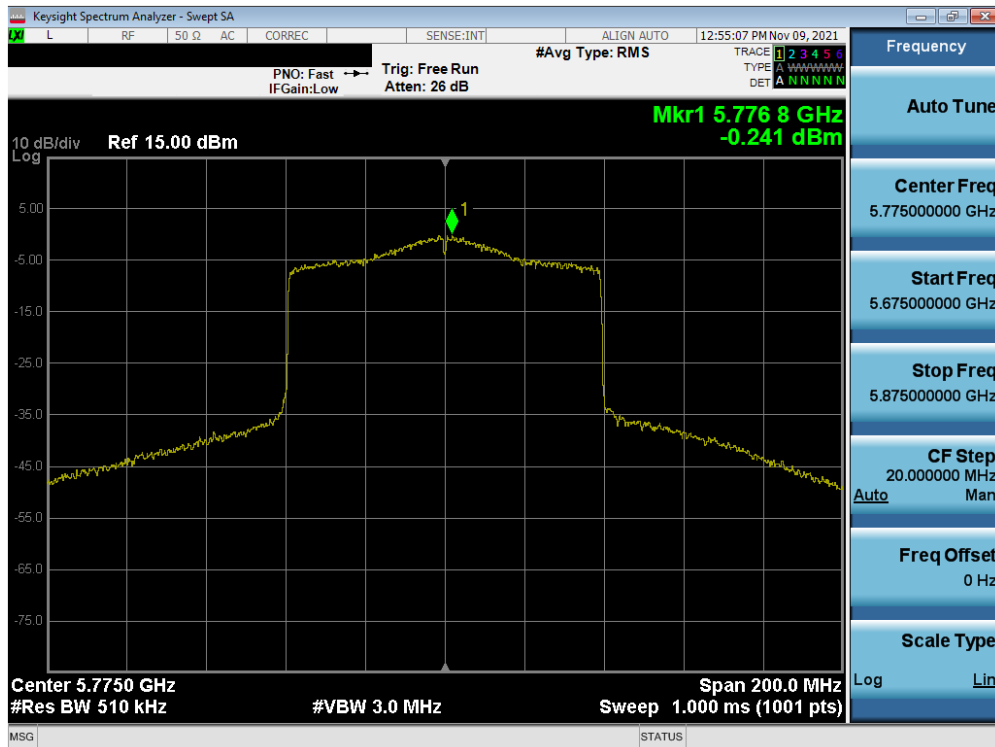


Plot 7-304. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) – Ch. 159)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 193 of 297                   |



Plot 7-305. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

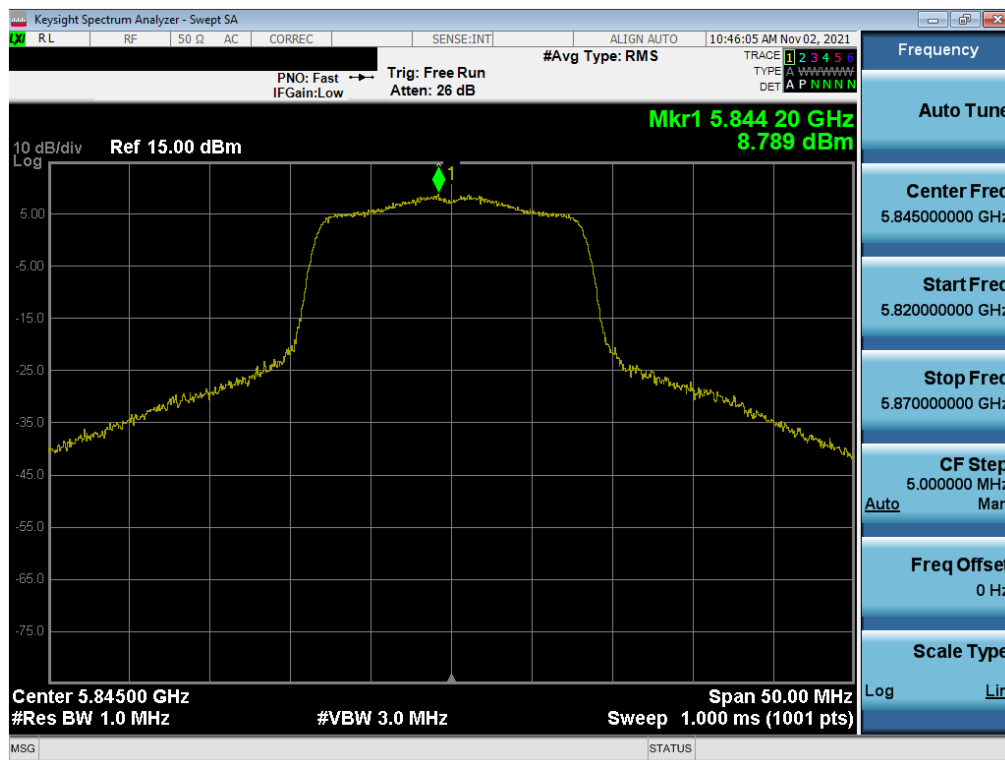


Plot 7-306. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 3) – Ch. 155)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 194 of 297                   |

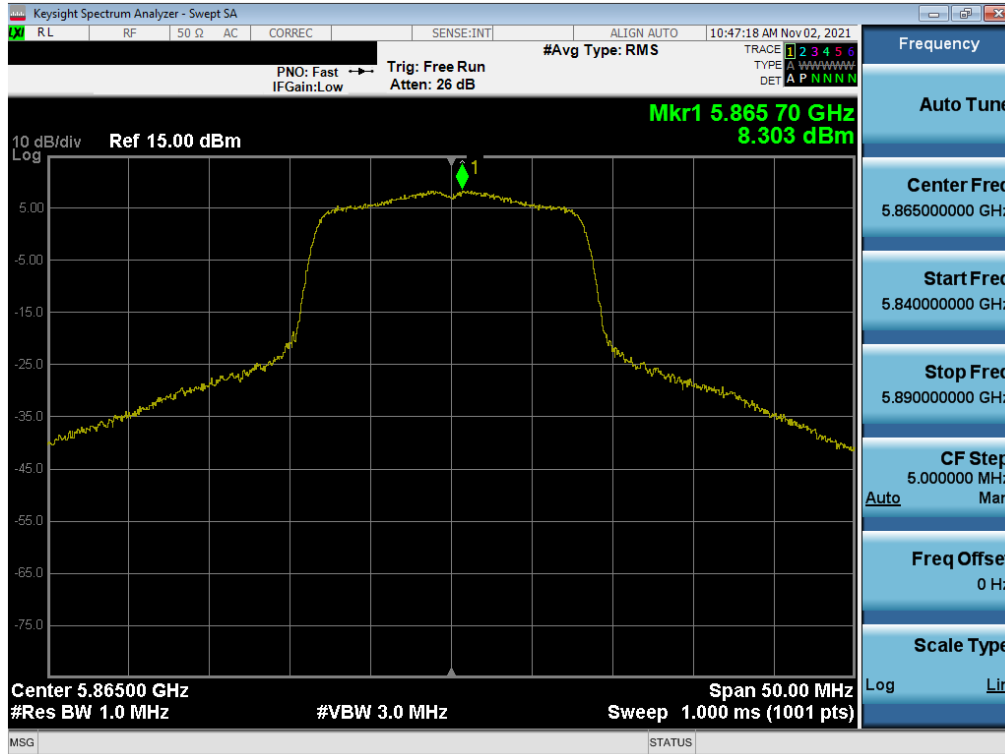
|          | Frequency [MHz] | Channel No. | 802.11 Mode | Data Rate [Mbps] | Measured Power Density [dBm/MHz] | Max Permissible Power Density [dBm/500kHz] | Margin [dB] | Antenna Gain [dBi] | EIRP Power Density [dBm/MHz] | Max EIRP Power Density [dBm/MHz] | Margin [dB] |
|----------|-----------------|-------------|-------------|------------------|----------------------------------|--------------------------------------------|-------------|--------------------|------------------------------|----------------------------------|-------------|
| Band 3/4 | 5845            | 169         | a           | 6                | 8.79                             | 30.00                                      | -21.21      | -7.80              | 0.99                         | 14.00                            | -13.01      |
| Band 4   | 5865            | 173         | a           | 6                | 8.30                             |                                            |             | -7.80              | 0.50                         | 14.00                            | -13.50      |
|          | 5885            | 177         | a           | 6                | 10.36                            |                                            |             | -7.80              | 2.56                         | 14.00                            | -11.44      |
| Band 3/4 | 5845            | 169         | n (20MHz)   | 6.5/7.2 (MCS0)   | 8.21                             | 30.00                                      | -21.79      | -7.80              | 0.41                         | 14.00                            | -13.59      |
| Band 4   | 5865            | 173         | n (20MHz)   | 6.5/7.2 (MCS0)   | 8.11                             |                                            |             | -7.80              | 0.31                         | 14.00                            | -13.69      |
|          | 5885            | 177         | n (20MHz)   | 6.5/7.2 (MCS0)   | 9.82                             |                                            |             | -7.80              | 2.02                         | 14.00                            | -11.98      |
| Band 3/4 | 5845            | 169         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 8.36                             | 30.00                                      | -21.64      | -7.80              | 0.56                         | 14.00                            | -13.44      |
| Band 4   | 5865            | 173         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 8.41                             |                                            |             | -7.80              | 0.61                         | 14.00                            | -13.39      |
|          | 5885            | 177         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 9.17                             |                                            |             | -7.80              | 1.37                         | 14.00                            | -12.63      |
| Band 3/4 | 5835            | 167         | n (40MHz)   | 13.5/15 (MCS0)   | 4.75                             | 30.00                                      | -25.25      | -7.80              | -3.05                        | 14.00                            | -17.05      |
| Band 4   | 5875            | 175         | n (40MHz)   | 13.5/15 (MCS0)   | 4.48                             |                                            |             | -7.80              | -3.33                        | 14.00                            | -17.33      |
| Band 3/4 | 5835            | 167         | ax (40MHz)  | 13.5/15 (MCS0)   | 5.81                             | 30.00                                      | -24.20      | -7.80              | -2.00                        | 14.00                            | -16.00      |
| Band 4   | 5875            | 175         | ax (40MHz)  | 13.5/15 (MCS0)   | 5.34                             |                                            |             | -7.80              | -2.46                        | 14.00                            | -16.46      |
| Band 3/4 | 5855            | 171         | ax (80MHz)  | 29.3/32.5 (MCS0) | 3.52                             | 30.00                                      | -26.48      | -7.80              | -4.28                        | 14.00                            | -18.28      |

Table 7-34. Band 3 e.i.r.p. Spectral Density Measurements UNII 4 SISO ANT2

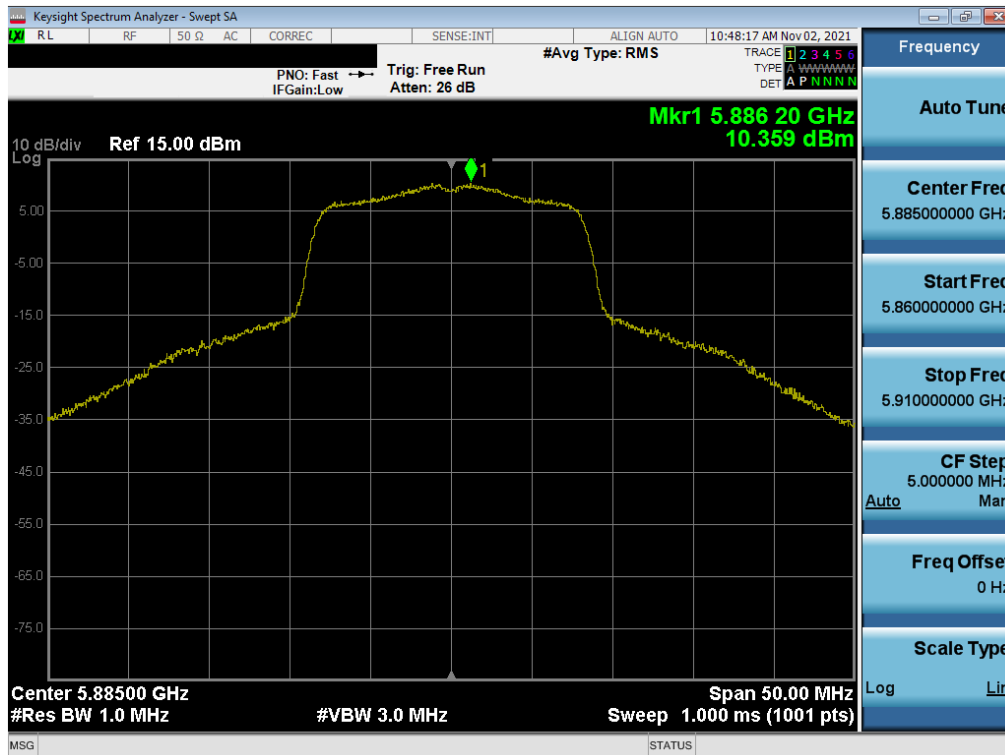


Plot 7-307. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3/4) – Ch. 169)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 195 of 297                   |

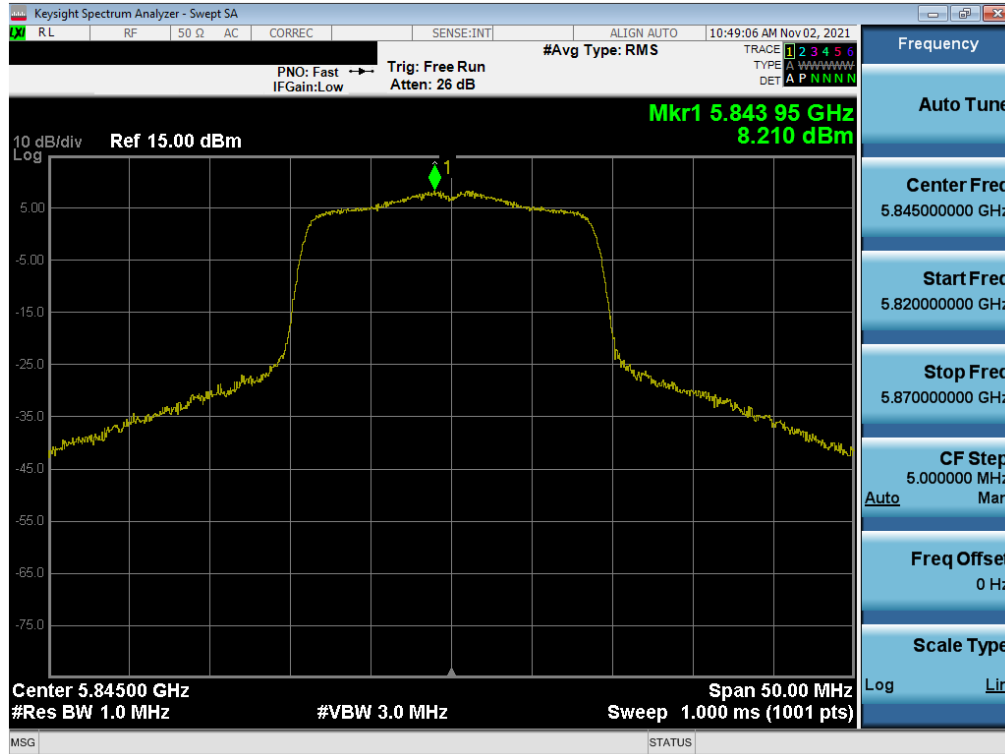


Plot 7-308. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 4) – Ch. 173)

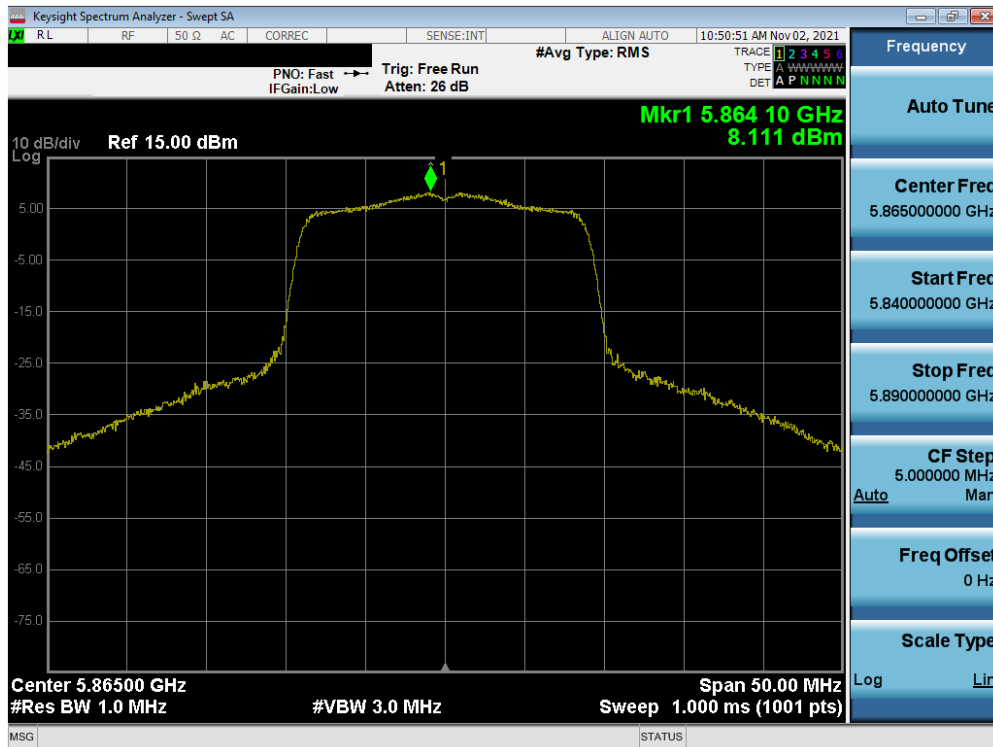


Plot 7-309. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 4) – Ch. 177)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 196 of 297                   |

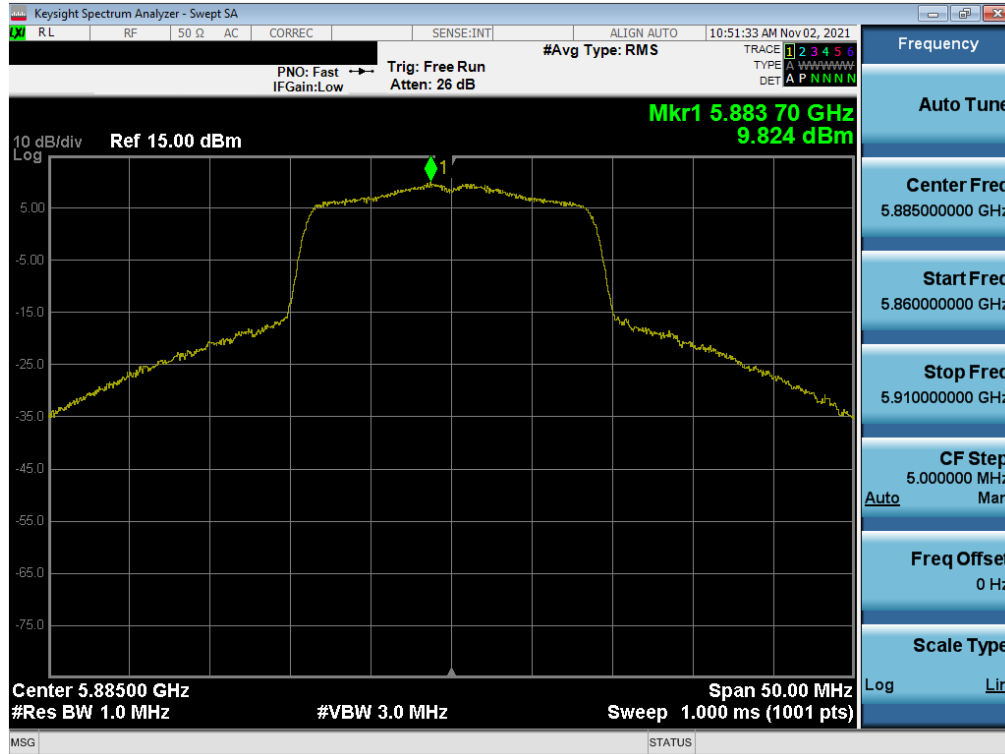


Plot 7-310. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3/4) – Ch. 169)

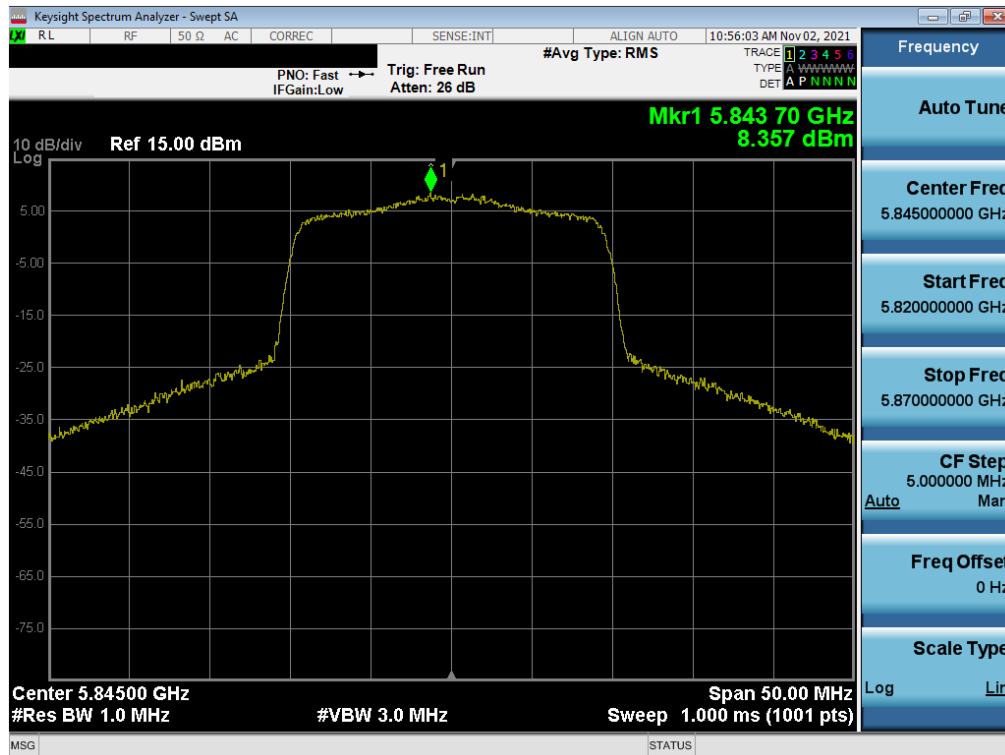


Plot 7-311. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 4) – Ch. 173)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 197 of 297                   |

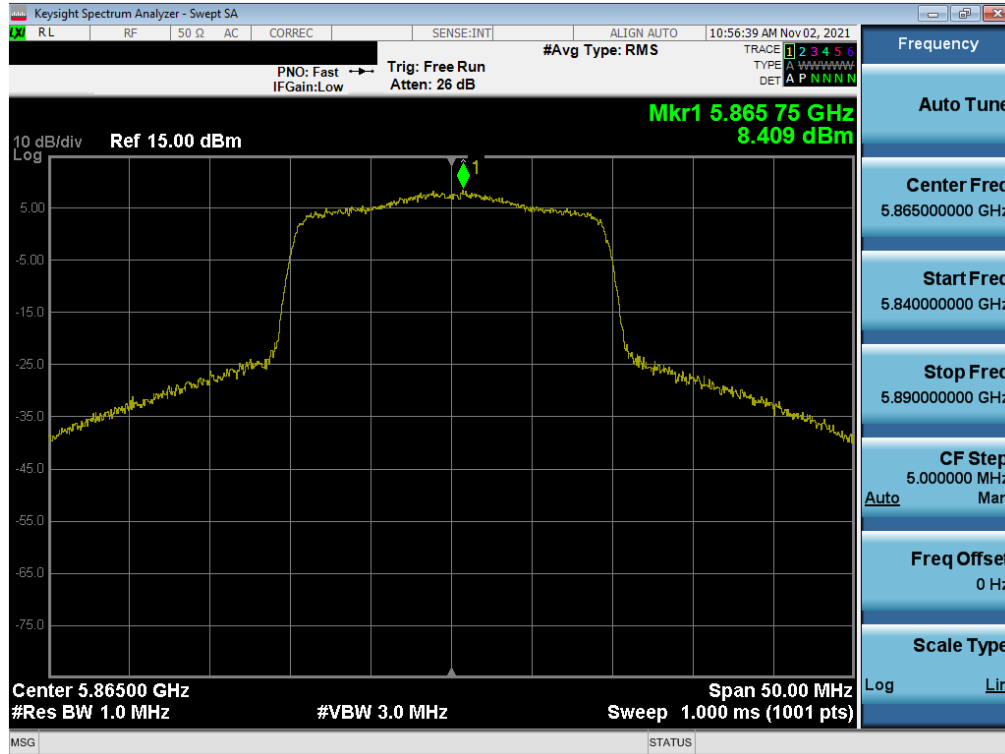


Plot 7-312. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 4) – Ch. 177)

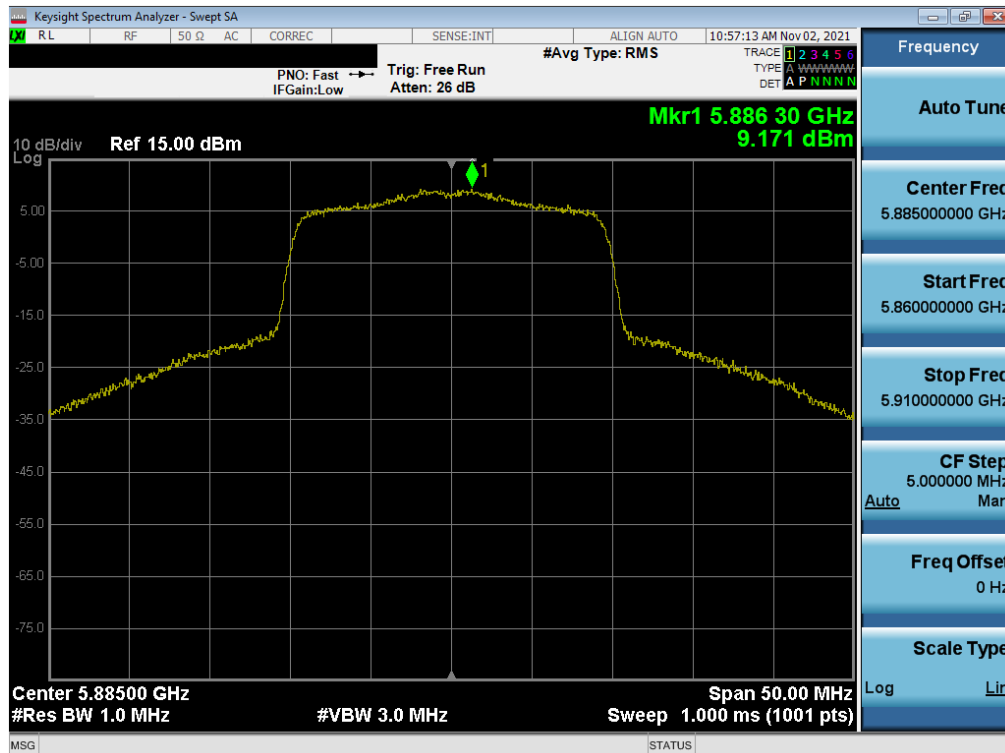


Plot 7-313. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 3/4) – Ch. 169)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 198 of 297                   |

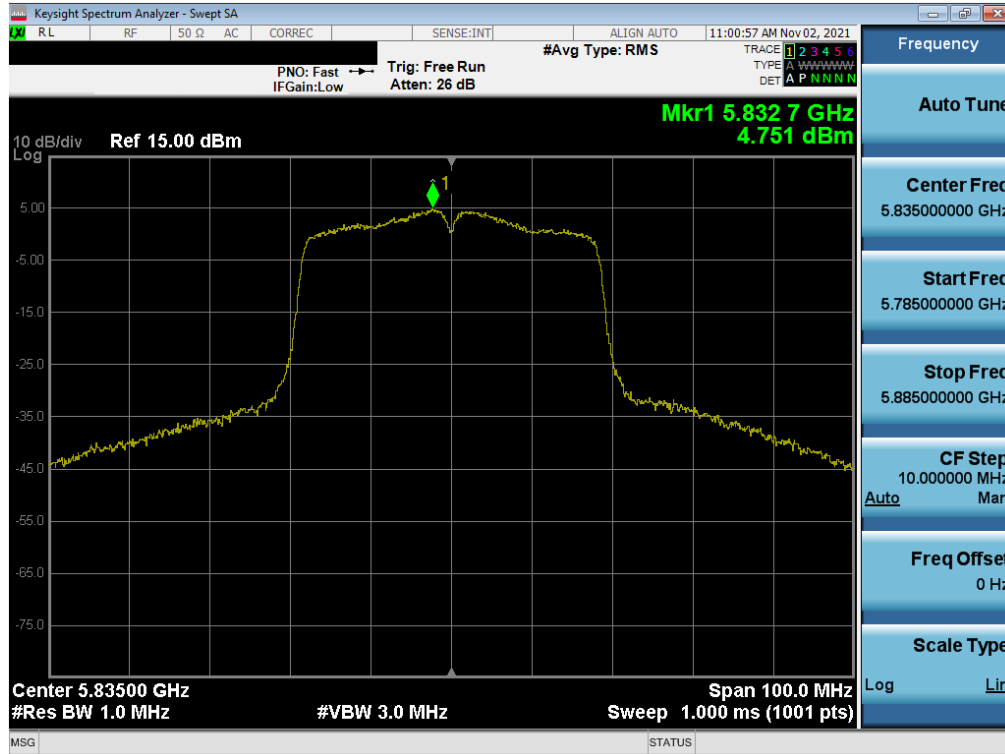


Plot 7-314. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 4) – Ch. 173)

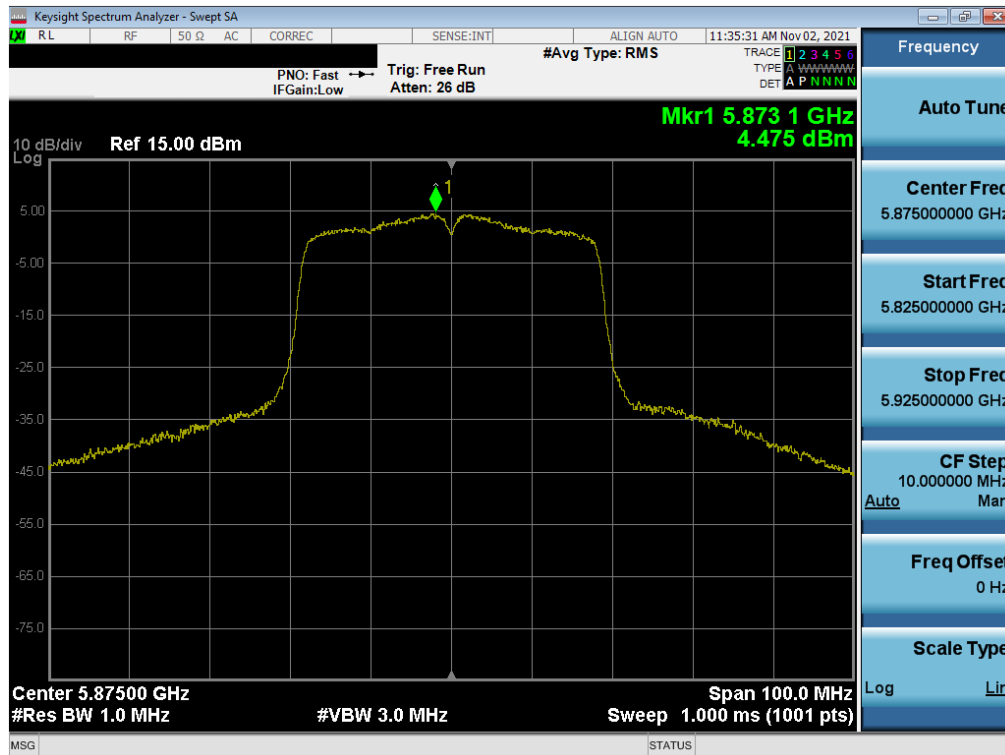


Plot 7-315. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 4) – Ch. 177)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 199 of 297                   |

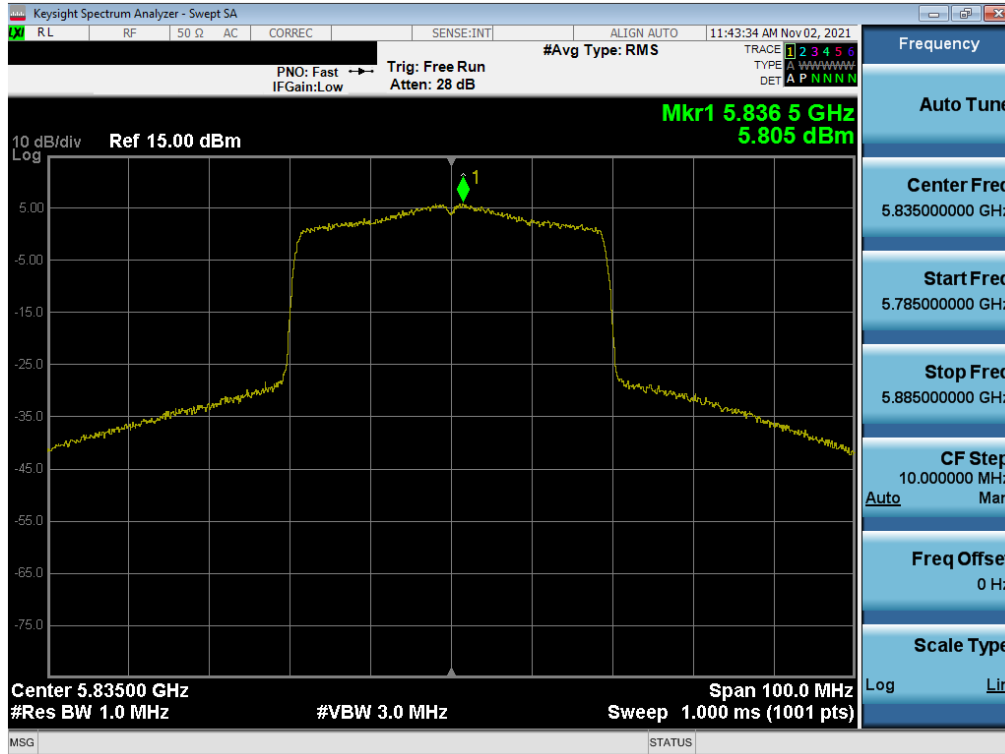


Plot 7-316. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3/4) – Ch. 167)

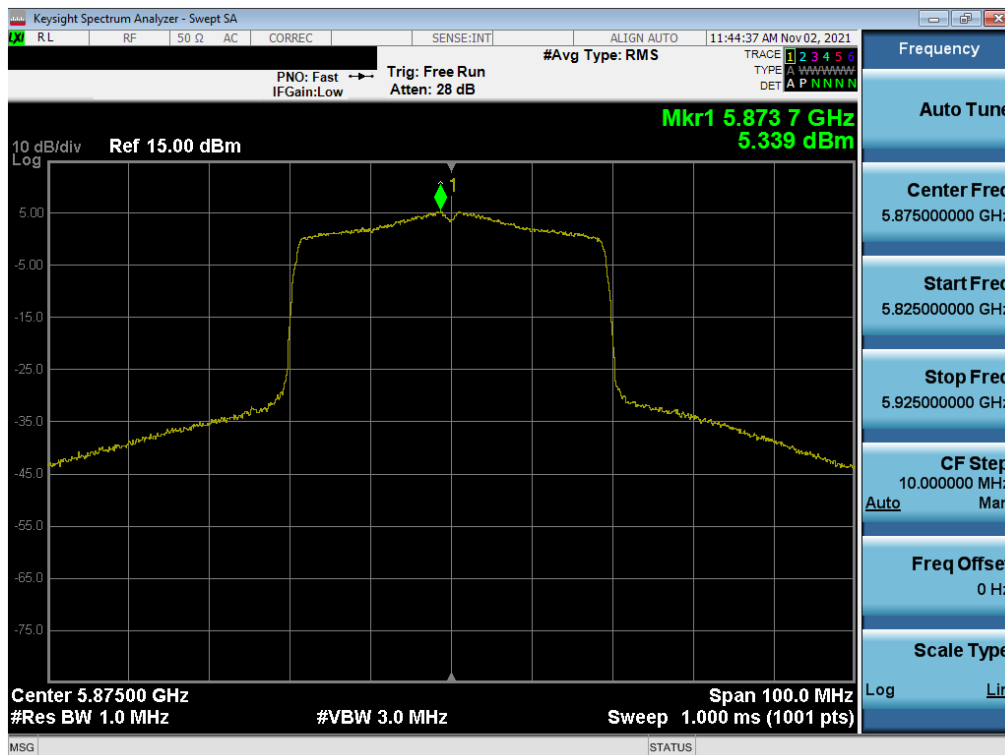


Plot 7-317. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 4) – Ch. 175)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 200 of 297                   |

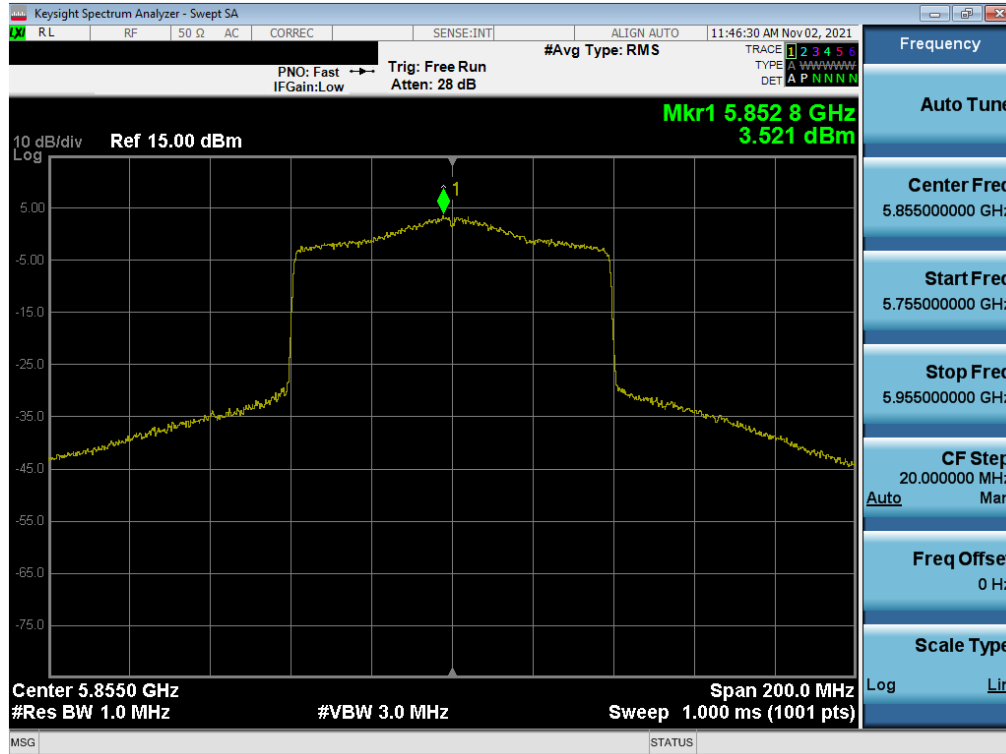


Plot 7-318. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3/4) – Ch. 167)



Plot 7-319. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 4) – Ch. 175)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 201 of 297                   |



Plot 7-320. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 3/4) – Ch. 171)

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 202 of 297                   |

## Summed MIMO Power Spectral Density Measurements

|         | Frequency [MHz] | Channel No. | 802.11 Mode | Data Rate [Mbps] | Antenna-1 Power Density [dBm] | Antenna-2 Power Density [dBm] | Summed MIMO Power Density [dBm] | Max Power Density [dBm/MHz] | Margin [dB] |
|---------|-----------------|-------------|-------------|------------------|-------------------------------|-------------------------------|---------------------------------|-----------------------------|-------------|
| Band 1  | 5180            | 36          | a           | 6                | 7.93                          | 6.84                          | 10.43                           | 11.0                        | -0.57       |
|         | 5200            | 40          | a           | 6                | 8.01                          | 7.24                          | 10.65                           | 11.0                        | -0.35       |
|         | 5240            | 48          | a           | 6                | 7.85                          | 7.02                          | 10.47                           | 11.0                        | -0.53       |
|         | 5180            | 36          | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.77                          | 8.06                          | 10.93                           | 11.0                        | -0.07       |
|         | 5200            | 40          | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.42                          | 8.25                          | 10.87                           | 11.0                        | -0.13       |
|         | 5240            | 48          | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.36                          | 7.91                          | 10.66                           | 11.0                        | -0.34       |
|         | 5180            | 36          | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.91                          | 7.87                          | 10.90                           | 11.0                        | -0.10       |
|         | 5200            | 40          | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.40                          | 8.10                          | 10.77                           | 11.0                        | -0.23       |
|         | 5240            | 48          | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.89                          | 8.05                          | 10.98                           | 11.0                        | -0.02       |
|         | 5190            | 38          | n (40MHz)   | 13.5/15 (MCS0)   | 4.38                          | 4.04                          | 7.22                            | 11.0                        | -3.78       |
|         | 5230            | 46          | n (40MHz)   | 13.5/15 (MCS0)   | 4.29                          | 3.83                          | 7.08                            | 11.0                        | -3.92       |
|         | 5190            | 38          | ax (40MHz)  | 13.5/15 (MCS0)   | 5.05                          | 4.47                          | 7.78                            | 11.0                        | -3.22       |
|         | 5230            | 46          | ax (40MHz)  | 13.5/15 (MCS0)   | 4.64                          | 4.32                          | 7.49                            | 11.0                        | -3.51       |
|         | 5210            | 42          | ac (80MHz)  | 29.3/32.5 (MCS0) | 0.50                          | -0.02                         | 3.26                            | 11.0                        | -7.74       |
|         | 5210            | 42          | ax (80MHz)  | 29.3/32.5 (MCS0) | 2.16                          | 1.91                          | 5.04                            | 11.0                        | -5.96       |
| Band 2A | 5260            | 52          | a           | 6                | 8.00                          | 7.54                          | 10.79                           | 11.0                        | -0.21       |
|         | 5280            | 56          | a           | 6                | 7.93                          | 7.31                          | 10.64                           | 11.0                        | -0.36       |
|         | 5320            | 64          | a           | 6                | 7.35                          | 6.45                          | 9.93                            | 11.0                        | -1.07       |
|         | 5260            | 52          | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.12                          | 8.26                          | 10.74                           | 11.0                        | -0.26       |
|         | 5280            | 56          | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.99                          | 7.72                          | 10.87                           | 11.0                        | -0.13       |
|         | 5320            | 64          | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.15                          | 6.98                          | 10.07                           | 11.0                        | -0.93       |
|         | 5260            | 52          | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.29                          | 7.99                          | 10.66                           | 11.0                        | -0.34       |
|         | 5280            | 56          | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.56                          | 7.74                          | 10.66                           | 11.0                        | -0.34       |
|         | 5320            | 64          | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.70                          | 7.47                          | 10.60                           | 11.0                        | -0.40       |
|         | 5270            | 54          | n (40MHz)   | 13.5/15 (MCS0)   | 4.02                          | 3.02                          | 6.56                            | 11.0                        | -4.44       |
|         | 5310            | 62          | n (40MHz)   | 13.5/15 (MCS0)   | 3.84                          | 3.76                          | 6.81                            | 11.0                        | -4.19       |
|         | 5270            | 54          | ax (40MHz)  | 13.5/15 (MCS0)   | 4.99                          | 4.47                          | 7.75                            | 11.0                        | -3.25       |
|         | 5310            | 62          | ax (40MHz)  | 13.5/15 (MCS0)   | 4.50                          | 3.91                          | 7.23                            | 11.0                        | -3.77       |
|         | 5290            | 58          | ac (80MHz)  | 29.3/32.5 (MCS0) | 0.82                          | 0.60                          | 3.72                            | 11.0                        | -7.28       |
|         | 5290            | 58          | ax (80MHz)  | 29.3/32.5 (MCS0) | 2.17                          | 2.37                          | 5.28                            | 11.0                        | -5.72       |
| Band 2C | 5500            | 100         | a           | 6                | 7.60                          | 6.62                          | 10.15                           | 11.0                        | -0.85       |
|         | 5600            | 120         | a           | 6                | 7.52                          | 6.29                          | 9.96                            | 11.0                        | -1.04       |
|         | 5720            | 144         | a           | 6                | 8.11                          | 6.94                          | 10.57                           | 11.0                        | -0.43       |
|         | 5500            | 100         | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.42                          | 7.79                          | 10.62                           | 11.0                        | -0.38       |
|         | 5600            | 120         | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.28                          | 7.73                          | 10.52                           | 11.0                        | -0.48       |
|         | 5720            | 144         | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.96                          | 7.73                          | 10.86                           | 11.0                        | -0.14       |
|         | 5500            | 100         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.79                          | 7.22                          | 10.52                           | 11.0                        | -0.48       |
|         | 5600            | 120         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 8.24                          | 7.67                          | 10.98                           | 11.0                        | -0.02       |
|         | 5720            | 144         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 8.03                          | 7.59                          | 10.83                           | 11.0                        | -0.17       |
|         | 5510            | 102         | n (40MHz)   | 13.5/15 (MCS0)   | 4.03                          | 3.72                          | 6.89                            | 11.0                        | -4.11       |
|         | 5590            | 118         | n (40MHz)   | 13.5/15 (MCS0)   | 4.63                          | 4.17                          | 7.42                            | 11.0                        | -3.58       |
|         | 5710            | 142         | n (40MHz)   | 13.5/15 (MCS0)   | 4.23                          | 4.98                          | 7.63                            | 11.0                        | -3.37       |
|         | 5510            | 102         | ax (40MHz)  | 13.5/15 (MCS0)   | 5.56                          | 4.62                          | 8.13                            | 11.0                        | -2.87       |
|         | 5590            | 118         | ax (40MHz)  | 13.5/15 (MCS0)   | 5.33                          | 4.69                          | 8.03                            | 11.0                        | -2.97       |
|         | 5710            | 142         | ax (40MHz)  | 13.5/15 (MCS0)   | 5.92                          | 4.94                          | 8.47                            | 11.0                        | -2.53       |
|         | 5530            | 106         | ac (80MHz)  | 29.3/32.5 (MCS0) | 0.56                          | -0.02                         | 3.29                            | 11.0                        | -7.71       |
|         | 5610            | 122         | ac (80MHz)  | 29.3/32.5 (MCS0) | 0.85                          | 1.20                          | 4.04                            | 11.0                        | -6.96       |
|         | 5690            | 138         | ac (80MHz)  | 29.3/32.5 (MCS0) | -2.23                         | -1.73                         | 1.04                            | 11.0                        | -9.96       |
|         | 5530            | 106         | ax (80MHz)  | 29.3/32.5 (MCS0) | 2.45                          | 2.01                          | 5.24                            | 11.0                        | -5.76       |
|         | 5610            | 122         | ax (80MHz)  | 29.3/32.5 (MCS0) | 2.72                          | 2.44                          | 5.59                            | 11.0                        | -5.41       |
|         | 5690            | 138         | ax (80MHz)  | 29.3/32.5 (MCS0) | -0.28                         | -0.14                         | 2.80                            | 11.0                        | -8.20       |

Table 7-35. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

|                                         |                                                                                     |                                       |                                                                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                | EUT Type:<br>Portable Handset         |                                                                                       | Page 203 of 297                   |

|        | Frequency [MHz] | Channel No. | 802.11 Mode | Data Rate [Mbps] | Antenna-1 Power Density [dBm] | Antenna-2 Power Density [dBm] | Summed MIMO Power Density [dBm] | Max Permissible Power Density [dBm/500kHz] | Margin [dB] |
|--------|-----------------|-------------|-------------|------------------|-------------------------------|-------------------------------|---------------------------------|--------------------------------------------|-------------|
| Band 3 | 5745            | 149         | a           | 6                | 5.32                          | 4.05                          | 7.74                            | 30.0                                       | -22.26      |
|        | 5785            | 157         | a           | 6                | 5.17                          | 3.26                          | 7.33                            | 30.0                                       | -22.67      |
|        | 5825            | 165         | a           | 6                | 5.37                          | 3.88                          | 7.70                            | 30.0                                       | -22.30      |
|        | 5745            | 149         | n (20MHz)   | 6.5/7.2 (MCS0)   | 5.39                          | 4.37                          | 7.92                            | 30.0                                       | -22.08      |
|        | 5785            | 157         | n (20MHz)   | 6.5/7.2 (MCS0)   | 4.81                          | 4.38                          | 7.61                            | 30.0                                       | -22.39      |
|        | 5825            | 165         | n (20MHz)   | 6.5/7.2 (MCS0)   | 5.06                          | 4.62                          | 7.86                            | 30.0                                       | -22.14      |
|        | 5745            | 149         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 5.06                          | 4.58                          | 7.84                            | 30.0                                       | -22.16      |
|        | 5785            | 157         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 5.37                          | 4.55                          | 7.99                            | 30.0                                       | -22.01      |
|        | 5825            | 165         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 5.07                          | 4.29                          | 7.71                            | 30.0                                       | -22.29      |
|        | 5755            | 151         | n (40MHz)   | 13.5/15 (MCS0)   | 2.21                          | 1.07                          | 4.69                            | 30.0                                       | -25.31      |
|        | 5795            | 159         | n (40MHz)   | 13.5/15 (MCS0)   | 1.73                          | 0.21                          | 4.05                            | 30.0                                       | -25.95      |
|        | 5755            | 151         | ax (40MHz)  | 13.5/15 (MCS0)   | 2.79                          | 1.89                          | 5.38                            | 30.0                                       | -24.62      |
|        | 5795            | 159         | ax (40MHz)  | 13.5/15 (MCS0)   | 2.52                          | 1.45                          | 5.03                            | 30.0                                       | -24.97      |
|        | 5775            | 155         | ac (80MHz)  | 29.3/32.5 (MCS0) | -0.67                         | 0.44                          | 2.93                            | 30.0                                       | -27.07      |
|        | 5775            | 155         | ax (80MHz)  | 29.3/32.5 (MCS0) | 2.10                          | 1.25                          | 4.71                            | 30.0                                       | -25.29      |

**Table 7-36. Band 3 MIMO Conducted Power Spectral Density Measurements**

|          | Frequency [MHz] | Channel No. | 802.11 Mode | Data Rate [Mbps] | Antenna-1 Power Density [dBm/MHz] | Antenna-2 Power Density [dBm/MHz] | MIMO Summed Power Density [dBm/MHz] | Directional Antenna Gain [dBi] | EIRP Power Density [dBm/MHz] | Max EIRP Power Density [dBm/MHz] | Margin [dB] |
|----------|-----------------|-------------|-------------|------------------|-----------------------------------|-----------------------------------|-------------------------------------|--------------------------------|------------------------------|----------------------------------|-------------|
| Band 3/4 | 5845            | 169         | a           | 6                | 8.19                              | 8.79                              | 11.51                               | -3.95                          | 7.56                         | 14.00                            | -6.44       |
| Band 4   | 5865            | 173         | a           | 6                | 8.16                              | 8.30                              | 11.24                               | -3.95                          | 7.29                         | 14.00                            | -6.71       |
|          | 5885            | 177         | a           | 6                | 8.61                              | 10.36                             | 12.58                               | -3.95                          | 8.63                         | 14.00                            | -5.37       |
| Band 3/4 | 5845            | 169         | n (20MHz)   | 6.5/7.2 (MCS0)   | 8.71                              | 8.21                              | 11.48                               | -3.95                          | 7.52                         | 14.00                            | -6.48       |
| Band 4   | 5865            | 173         | n (20MHz)   | 6.5/7.2 (MCS0)   | 8.92                              | 8.11                              | 11.55                               | -3.95                          | 7.59                         | 14.00                            | -6.41       |
|          | 5885            | 177         | n (20MHz)   | 6.5/7.2 (MCS0)   | 8.56                              | 9.82                              | 12.25                               | -3.95                          | 8.30                         | 14.00                            | -5.70       |
| Band 3/4 | 5845            | 169         | ac (20MHz)  | 6.5/7.2 (MCS0)   | 8.83                              | 8.61                              | 11.73                               | -3.95                          | 7.78                         | 14.00                            | -6.22       |
| Band 4   | 5865            | 173         | ac (20MHz)  | 6.5/7.2 (MCS0)   | 8.58                              | 8.07                              | 11.34                               | -3.95                          | 7.39                         | 14.00                            | -6.61       |
|          | 5885            | 177         | ac (20MHz)  | 6.5/7.2 (MCS0)   | 8.15                              | 9.91                              | 12.13                               | -3.95                          | 8.18                         | 14.00                            | -5.82       |
| Band 3/4 | 5845            | 169         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.85                              | 8.36                              | 11.12                               | -3.95                          | 7.17                         | 14.00                            | -6.83       |
| Band 4   | 5865            | 173         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 8.00                              | 8.41                              | 11.22                               | -3.95                          | 7.27                         | 14.00                            | -6.73       |
|          | 5885            | 177         | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.68                              | 9.17                              | 11.50                               | -3.95                          | 7.55                         | 14.00                            | -6.45       |
| Band 3/4 | 5835            | 167         | n (40MHz)   | 13.5/15 (MCS0)   | 4.32                              | 4.75                              | 7.55                                | -3.95                          | 3.60                         | 14.00                            | -10.40      |
| Band 4   | 5875            | 175         | n (40MHz)   | 13.5/15 (MCS0)   | 4.49                              | 4.48                              | 7.49                                | -3.95                          | 3.54                         | 14.00                            | -10.46      |
| Band 3/4 | 5835            | 167         | ac (40MHz)  | 13.5/15 (MCS0)   | 5.65                              | 5.55                              | 8.61                                | -3.95                          | 4.66                         | 14.00                            | -9.34       |
| Band 4   | 5875            | 175         | ac (40MHz)  | 13.5/15 (MCS0)   | 5.44                              | 5.46                              | 8.46                                | -3.95                          | 4.51                         | 14.00                            | -9.49       |
| Band 3/4 | 5835            | 167         | ax (40MHz)  | 13.5/15 (MCS0)   | 5.27                              | 5.81                              | 8.56                                | -3.95                          | 4.60                         | 14.00                            | -9.40       |
| Band 4   | 5875            | 175         | ax (40MHz)  | 13.5/15 (MCS0)   | 5.21                              | 5.34                              | 8.29                                | -3.95                          | 4.33                         | 14.00                            | -9.67       |
| Band 3/4 | 5855            | 171         | ac (80MHz)  | 29.3/32.5 (MCS0) | 2.85                              | 2.57                              | 5.72                                | -3.95                          | 1.77                         | 14.00                            | -12.23      |
|          | 5855            | 171         | ax (80MHz)  | 29.3/32.5 (MCS0) | 2.68                              | 3.52                              | 6.13                                | -3.95                          | 2.18                         | 14.00                            | -11.82      |

**Table 7-37. Band 4 MIMO e.i.r.p Spectral Density Measurements**

|                                         |                                                                                     |                                       |                                                                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                | EUT Type:<br>Portable Handset         |                                                                                       | Page 204 of 297                   |

#### Note:

Per ANSI C63.10-2013 Section 14.3.2.2 and KDB 662911 v02r01 Section E)2), the power spectral density at Antenna-1 and Antenna-2 were first measured separately as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

#### Sample MIMO Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted power spectral density was measured to be 7.77 dBm for Antenna-1 and 8.06 dBm for Antenna-2.

$$\text{Antenna 1} + \text{Antenna 2} = \text{MIMO}$$

$$(7.77 \text{ dBm} + 8.06 \text{ dBm}) = (5.99 \text{ mW} + 6.40 \text{ mW}) = 12.39 \text{ mW} = 10.93 \text{ dBm}$$

#### Sample e.i.r.p Power Spectral Density Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average MIMO power density was calculated to be 10.93 dBm with directional gain of -3.72 dBi.

$$\text{e.i.r.p. Power Spectral Density(dBm)} = \text{Power Spectral Density (dBm)} + \text{Ant gain (dBi)}$$

$$10.93 \text{ dBm} + (-3.72) \text{ dBi} = 7.21 \text{ dBm}$$

|                                         |                                                                                     |                                       |                                                                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                | EUT Type:<br>Portable Handset         |                                                                                       | Page 205 of 297                   |

## 7.6 Radiated Spurious Emission Measurements – Above 1GHz

§15.407(b) §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 its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11n (40MHz BW), 802.11ac (80MHz), and 802.11ax (80MHz)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

***For transmitters operating in the 5.15-5.25 GHz and 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.***

***For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.***

***For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.***

***For transmitters operating in the 5.850 – 5.895 GHz band: all emissions at or above 5.895GHz shall not exceed an e.i.r.p. of -5dBm/MHz and shall decrease linearly up to an e.i.r.p. of -27dBm/MHz at or above 5.925GHz, and all emissions below 5.725 GHz shall not exceed an e.i.r.p. of -27dBm/MHz at 5.65 GHz increasing linearly to 10dBm/MHz at 5.7GHz and from 5.7GHz increasing linearly to a level of 15.6dBm/MHz at 5.72GHz, and from 5.72GHz increasing linearly to a level of 27dBm/MHz at 5.725GHz.***

***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 7-38 per Section 15.209 and RSS-Gen (8.9).***

| Frequency       | Field Strength<br>[μV/m] | Measured Distance<br>[Meters] |
|-----------------|--------------------------|-------------------------------|
| Above 960.0 MHz | 500                      | 3                             |

**Table 7-38. Radiated Limits**

### Test Procedures Used

ANSI C63.10-2013 – Sections 12.7.7.2, 12.7.6, 12.7.5  
 KDB 789033 D02 v02r01 – Section G

### Test Settings

#### Average Measurements above 1GHz (Method AD)

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)

|                                         |                                                                                     |                                       |                                                                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                | EUT Type:<br>Portable Handset         |                                                                                       | Page 206 of 297                   |

5. Number of measurement points = 1001 (Number of points must be  $\geq 2 \times \text{span/RBW}$ )
6. Averaging type = power (RMS)
7. Sweep time = auto couple
8. Trace was averaged over 100 sweeps

#### **Peak Measurements above 1GHz**

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

#### **Peak Measurements below 1GHz**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 120kHz
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

#### **Test Setup**

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

|                                         |                                                                                                                                                                                                              |                                       |                                                                                       |                                   |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  <b>PCTEST</b><br>Proud to be part of  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                                                                                                                                         | EUT Type:<br>Portable Handset         |                                                                                       | Page 207 of 297                   |

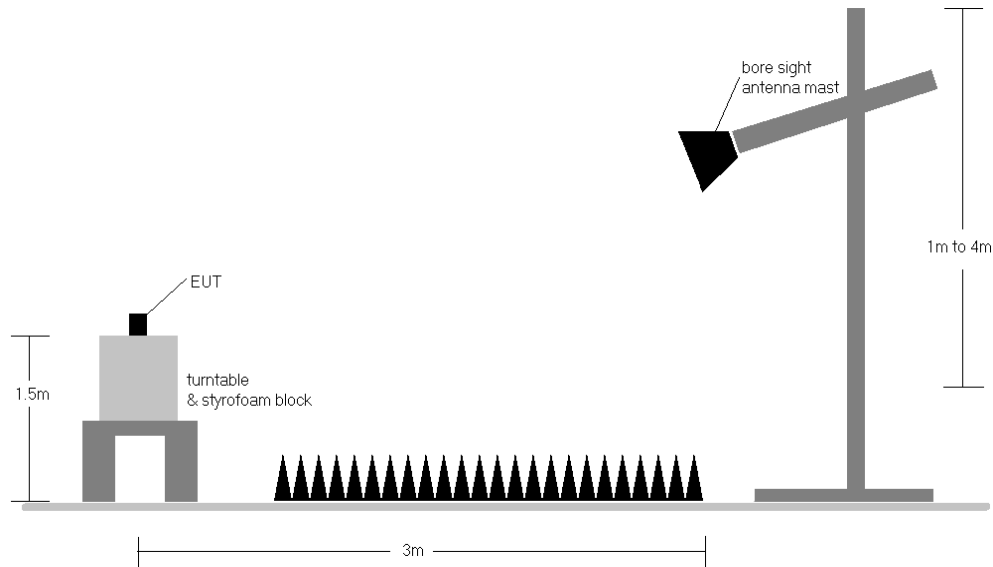


**Figure 7-5. Test Instrument & Measurement Setup**

|                                         |                                                                                     |                                       |                                                                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                | EUT Type:<br>Portable Handset         |                                                                                       | Page 208 of 297                   |

## Test Notes

1. All emissions that lie in the restricted bands (denoted by a \* next to the frequency) specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-38.
2. All UNII Band 1 – 3 that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. For UNII Band 4, the -27dBm/MHz limit is measured with an RMS detector. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
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.

## Sample Calculations

### Determining Spurious Emissions Levels

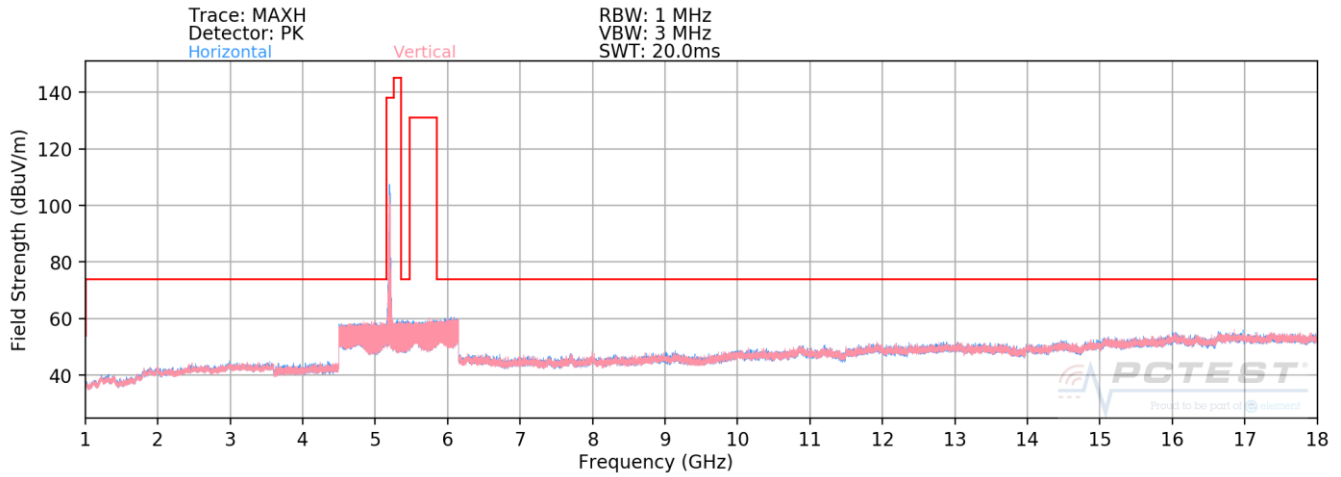
- Field Strength Level [dBμV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB]
- Margin [dB] = Field Strength Level [dBμV/m] – Limit [dBμV/m]

### Radiated Band Edge Measurement Offset

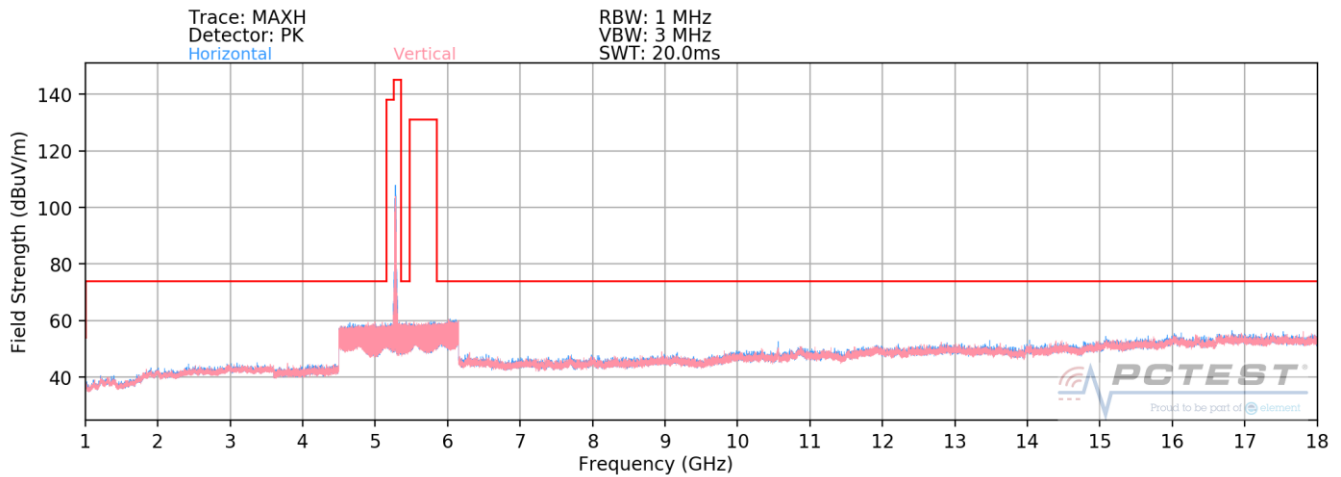
- The amplitude offset shown in the radiated restricted band edge plots was calculated using the formula:  
Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

|                                         |                                                                                                                                                                                                              |                                       |                                                                                       |                                   |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  <b>PCTEST</b><br>Proud to be part of  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                                                                                                                                         | EUT Type:<br>Portable Handset         |                                                                                       | Page 209 of 297                   |

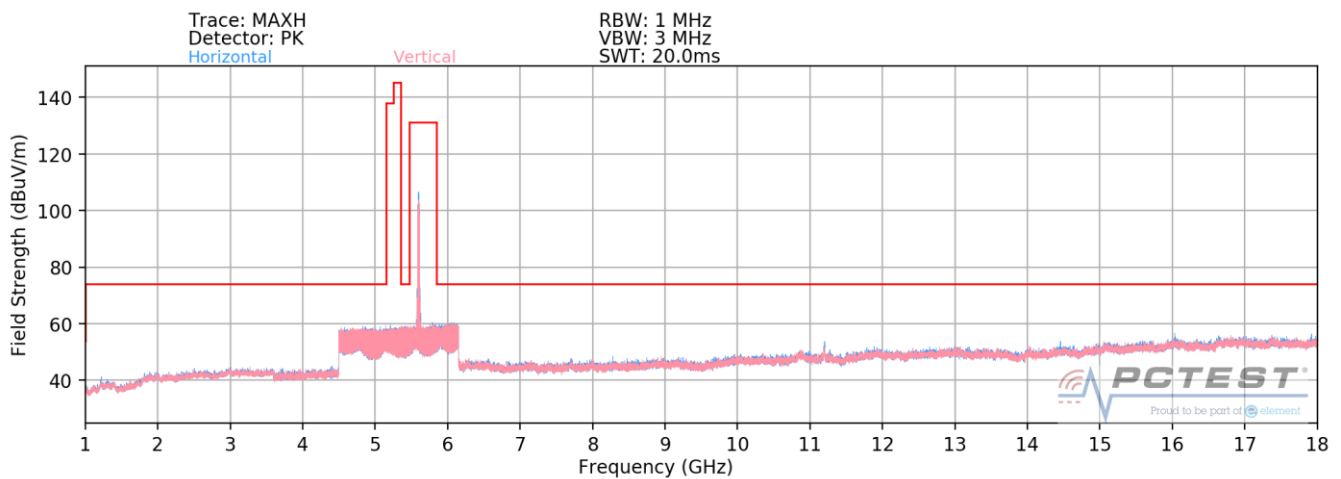
## 7.6.1 SISO Antenna-1 Radiated Spurious Emission Measurements



**Plot 7-321. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U1 Ch. 40)**

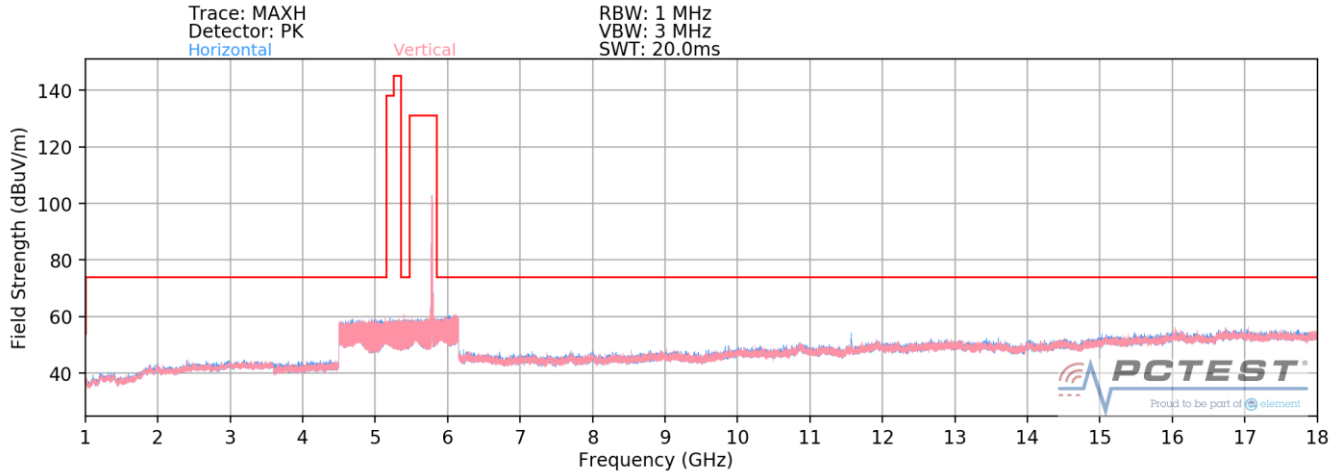


**Plot 7-322. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U2A Ch. 56)**

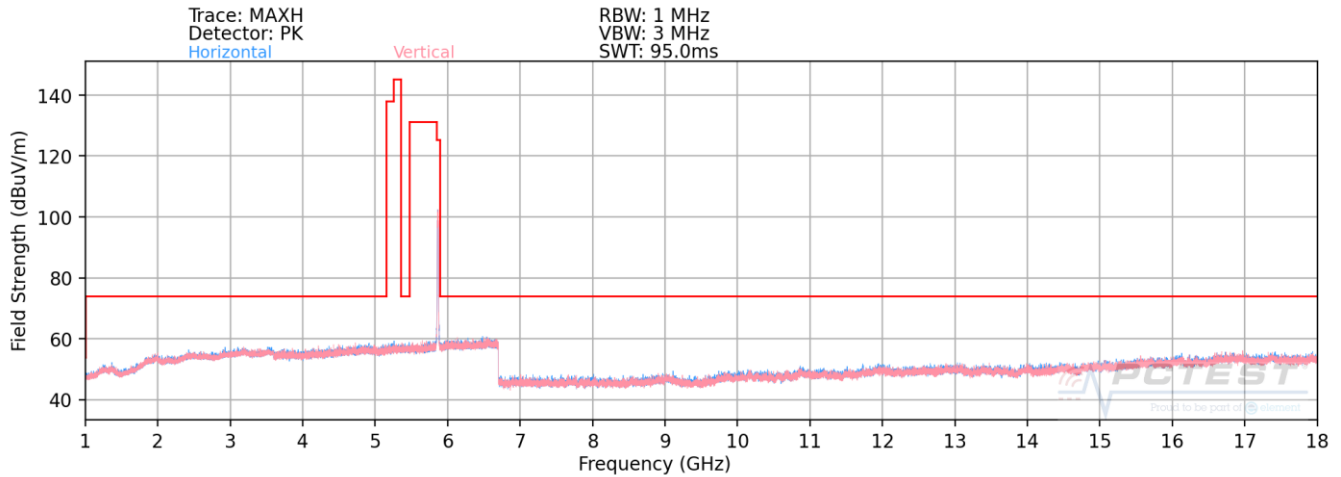


|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 210 of 297                   |

**Plot 7-323. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U2C Ch. 120)**



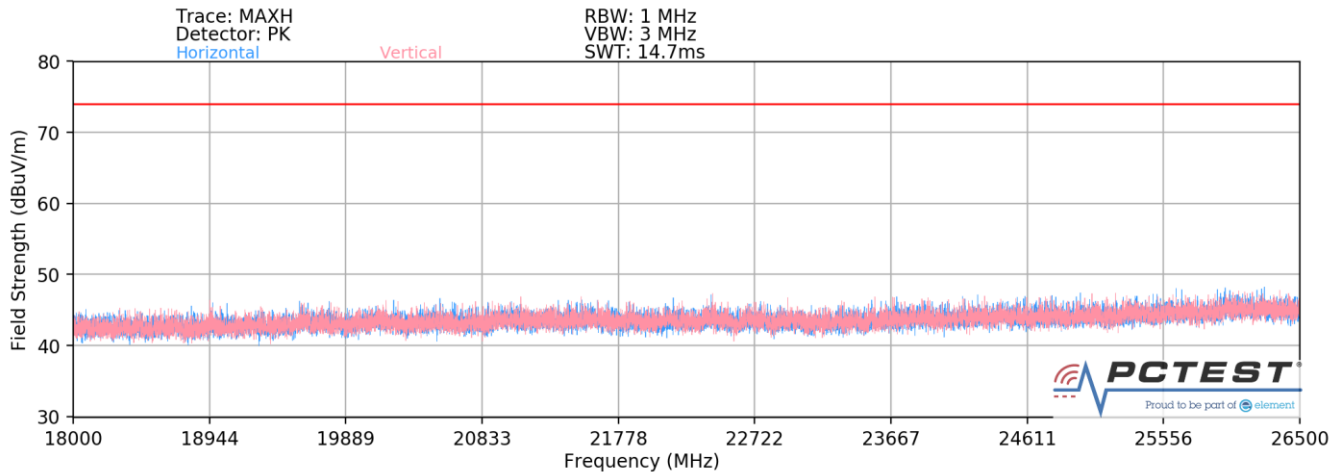
**Plot 7-324. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U3 Ch. 157)**



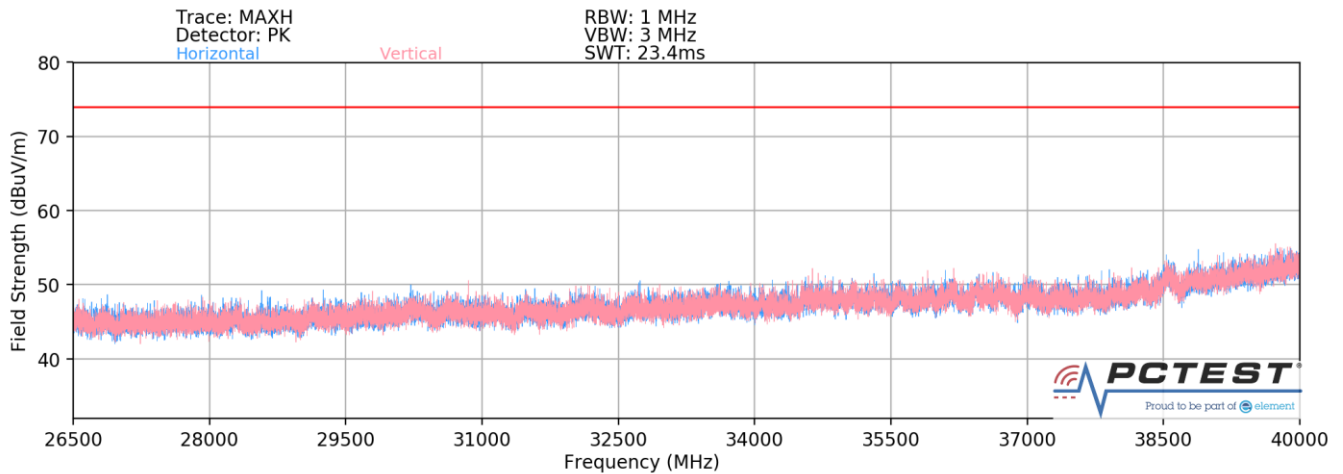
**Plot 7-325. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U4 Ch. 173)**

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 211 of 297                   |

## SISO Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)



**Plot 7-326. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 (802.11a)**



**Plot 7-327. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11a)**

|                                         |                                              |                                       |                |                                   |
|-----------------------------------------|----------------------------------------------|---------------------------------------|----------------|-----------------------------------|
| FCC ID: A3LSMS901U                      | <b>PCTEST</b><br>Proud to be part of element | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021         | EUT Type:<br>Portable Handset         |                | Page 212 of 297                   |

## SISO Antenna-1 Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209: RSS-Gen [8.9]

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5180MHz  
Channel: 36

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10360.00        | Peak     | H               | 270                 | 297                        | -65.54               | 12.16       | 0.00                            | 53.62                   | 68.20          | -14.58      |
| * 15540.00      | Average  | H               | -                   | -                          | -82.04               | 16.69       | 0.00                            | 41.65                   | 53.98          | -12.33      |
| * 15540.00      | Peak     | H               | -                   | -                          | -69.73               | 16.69       | 0.00                            | 53.96                   | 73.98          | -20.02      |
| * 20720.00      | Average  | H               | 150                 | 308                        | -66.96               | 4.37        | -9.54                           | 34.87                   | 53.98          | -19.11      |
| * 20720.00      | Peak     | H               | 150                 | 308                        | -57.62               | 4.37        | -9.54                           | 44.22                   | 73.98          | -29.76      |
| 25900.00        | Peak     | H               | -                   | -                          | -56.95               | 5.87        | -9.54                           | 46.38                   | 68.20          | -21.82      |

**Table 7-39. Radiated Measurements SISO ANT1**

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5200MHz  
Channel: 40

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10400.00        | Peak     | H               | 268                 | 295                        | -64.34               | 11.75       | 0.00                            | 54.41                   | 68.20          | -13.79      |
| * 15600.00      | Average  | H               | -                   | -                          | -82.39               | 17.47       | 0.00                            | 42.08                   | 53.98          | -11.90      |
| * 15600.00      | Peak     | H               | -                   | -                          | -70.40               | 17.47       | 0.00                            | 54.07                   | 73.98          | -19.91      |
| * 20800.00      | Average  | H               | 150                 | 309                        | -65.63               | 4.47        | -9.54                           | 36.30                   | 53.98          | -17.68      |
| * 20800.00      | Peak     | H               | 150                 | 309                        | -56.64               | 4.47        | -9.54                           | 45.29                   | 73.98          | -28.69      |
| 26000.00        | Peak     | H               | -                   | -                          | -57.35               | 6.04        | -9.54                           | 46.14                   | 68.20          | -22.06      |

**Table 7-40. Radiated Measurements SISO ANT1**

|                                         |                                                                                     |                                       |                                                                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                | EUT Type:<br>Portable Handset         |                                                                                       | Page 213 of 297                   |

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5240MHz  
Channel: 48

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10480.00        | Peak     | H               | 193                 | 291                        | -65.76               | 12.40       | 0.00                            | 53.64                   | 68.20          | -14.56      |
| * 15720.00      | Average  | H               | -                   | -                          | -82.95               | 17.59       | 0.00                            | 41.64                   | 53.98          | -12.34      |
| * 15720.00      | Peak     | H               | -                   | -                          | -71.03               | 17.59       | 0.00                            | 53.56                   | 73.98          | -20.42      |
| * 20960.00      | Average  | H               | 150                 | 312                        | -66.86               | 4.65        | -9.54                           | 35.25                   | 53.98          | -18.73      |
| * 20960.00      | Peak     | H               | 150                 | 312                        | -57.54               | 4.65        | -9.54                           | 44.57                   | 73.98          | -29.41      |
| 26200.00        | Peak     | H               | -                   | -                          | -57.12               | 5.76        | -9.54                           | 46.09                   | 68.20          | -22.11      |

**Table 7-41. Radiated Measurements SISO ANT1**

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5260MHz  
Channel: 52

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10520.00        | Peak     | H               | 130                 | 297                        | -65.77               | 12.54       | 0.00                            | 53.77                   | 68.20          | -14.43      |
| * 15780.00      | Average  | H               | -                   | -                          | -82.98               | 17.26       | 0.00                            | 41.28                   | 53.98          | -12.70      |
| * 15780.00      | Peak     | H               | -                   | -                          | -71.32               | 17.26       | 0.00                            | 52.94                   | 73.98          | -21.04      |
| * 21040.00      | Average  | H               | 150                 | 308                        | -66.29               | 4.68        | -9.54                           | 35.85                   | 53.98          | -18.13      |
| * 21040.00      | Peak     | H               | 150                 | 308                        | -57.17               | 4.68        | -9.54                           | 44.97                   | 73.98          | -29.01      |
| 26300.00        | Peak     | H               | -                   | -                          | -57.78               | 5.68        | -9.54                           | 45.36                   | 68.20          | -22.84      |

**Table 7-42. Radiated Measurements SISO ANT1**

|                                         |                                                                                                                                                                                                              |                                       |                                                                                       |                                   |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  <b>PCTEST</b><br>Proud to be part of  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                                                                                                                                         | EUT Type:<br>Portable Handset         |                                                                                       | Page 214 of 297                   |

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5280MHz  
Channel: 56

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10560.00        | Peak     | H               | 135                 | 295                        | -64.48               | 12.54       | 0.00                            | 55.06                   | 68.20          | -13.14      |
| * 15840.00      | Average  | H               | -                   | -                          | -82.95               | 17.42       | 0.00                            | 41.47                   | 53.98          | -12.50      |
| * 15840.00      | Peak     | H               | -                   | -                          | -70.54               | 17.42       | 0.00                            | 53.88                   | 73.98          | -20.09      |
| * 21120.00      | Average  | H               | 150                 | 315                        | -66.16               | 4.78        | -9.54                           | 36.08                   | 53.98          | -17.90      |
| * 21120.00      | Peak     | H               | 150                 | 315                        | -57.00               | 4.78        | -9.54                           | 45.23                   | 73.98          | -28.75      |
| 26400.00        | Peak     | H               | -                   | -                          | -57.45               | 5.75        | -9.54                           | 45.76                   | 68.20          | -22.44      |

**Table 7-43. Radiated Measurements SISO ANT1**

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5320MHz  
Channel: 64

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 10640.00      | Average  | H               | 120                 | 297                        | -77.17               | 12.65       | 0.00                            | 42.48                   | 53.98          | -11.50      |
| * 10640.00      | Peak     | H               | 120                 | 297                        | -65.02               | 12.65       | 0.00                            | 54.63                   | 73.98          | -19.35      |
| * 15960.00      | Average  | H               | -                   | -                          | -83.15               | 18.41       | 0.00                            | 42.26                   | 53.98          | -11.72      |
| * 15960.00      | Peak     | H               | -                   | -                          | -70.90               | 18.41       | 0.00                            | 54.51                   | 73.98          | -19.47      |
| * 21280.00      | Average  | H               | 150                 | 312                        | -66.86               | 4.92        | -9.54                           | 35.52                   | 53.98          | -18.46      |
| * 21280.00      | Peak     | H               | 150                 | 312                        | -57.81               | 4.92        | -9.54                           | 44.57                   | 73.98          | -29.41      |
| 26600.00        | Peak     | H               | -                   | -                          | -58.15               | 5.78        | -9.54                           | 45.09                   | 68.20          | -23.11      |

**Table 7-44. Radiated Measurements SISO ANT1**

|                                         |                                                                                     |                                       |                                                                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                | EUT Type:<br>Portable Handset         |                                                                                       | Page 215 of 297                   |

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5500MHz  
Channel: 100

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11000.00      | Average  | H               | 112                 | 22                         | -75.09               | 12.80       | 0.00                            | 44.71                   | 53.98          | -9.27       |
| * 11000.00      | Peak     | H               | 112                 | 22                         | -62.38               | 12.80       | 0.00                            | 57.42                   | 73.98          | -16.56      |
| 16500.00        | Peak     | H               | -                   | -                          | -70.52               | 18.36       | 0.00                            | 54.84                   | 68.20          | -13.36      |
| 22000.00        | Peak     | H               | 150                 | 28                         | -56.89               | 4.80        | -9.54                           | 45.36                   | 68.20          | -22.84      |
| 27500.00        | Peak     | H               | -                   | -                          | -56.67               | 5.93        | -9.54                           | 46.71                   | 68.20          | -21.49      |

**Table 7-45. Radiated Measurements SISO ANT1**

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5600MHz  
Channel: 120

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11200.00      | Average  | H               | 250                 | 335                        | -73.13               | 12.90       | 0.00                            | 46.77                   | 53.98          | -7.21       |
| * 11200.00      | Peak     | H               | 250                 | 335                        | -60.45               | 12.90       | 0.00                            | 59.45                   | 73.98          | -14.53      |
| 16800.00        | Peak     | H               | -                   | -                          | -70.26               | 18.52       | 0.00                            | 55.26                   | 68.20          | -12.94      |
| * 22400.00      | Average  | H               | -                   | -                          | -66.99               | 4.84        | -9.54                           | 35.31                   | 53.98          | -18.67      |
| * 22400.00      | Peak     | H               | -                   | -                          | -56.52               | 4.84        | -9.54                           | 45.77                   | 73.98          | -28.21      |
| 28000.00        | Peak     | H               | -                   | -                          | -57.09               | 6.12        | -9.54                           | 46.49                   | 68.20          | -21.71      |

**Table 7-46. Radiated Measurements SISO ANT1**

|                                         |                                                                                     |                                       |                                                                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                | EUT Type:<br>Portable Handset         |                                                                                       | Page 216 of 297                   |

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5720MHz  
Channel: 144

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11440.00      | Average  | H               | 250                 | 331                        | -71.38               | 12.86       | 0.00                            | 48.48                   | 53.98          | -5.50       |
| * 11440.00      | Peak     | H               | 250                 | 331                        | -59.30               | 12.86       | 0.00                            | 60.56                   | 73.98          | -13.42      |
| 17160.00        | Peak     | H               | -                   | -                          | -70.10               | 18.02       | 0.00                            | 54.92                   | 68.20          | -13.28      |
| * 22880.00      | Average  | H               | -                   | -                          | -67.55               | 4.77        | -9.54                           | 34.68                   | 53.98          | -19.30      |
| * 22880.00      | Peak     | H               | -                   | -                          | -57.11               | 4.77        | -9.54                           | 45.12                   | 73.98          | -28.86      |
| 28600.00        | Peak     | H               | -                   | -                          | -57.92               | 6.32        | -9.54                           | 45.86                   | 68.20          | -22.34      |

**Table 7-47. Radiated Measurements SISO ANT1**

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5745MHz  
Channel: 149

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11490.00      | Average  | H               | 179                 | 325                        | -73.90               | 13.58       | 0.00                            | 46.68                   | 53.98          | -7.30       |
| * 11490.00      | Peak     | H               | 179                 | 325                        | -60.66               | 13.58       | 0.00                            | 59.92                   | 73.98          | -14.06      |
| 17235.00        | Peak     | H               | -                   | -                          | -69.84               | 17.76       | 0.00                            | 54.92                   | 68.20          | -13.28      |
| * 22980.00      | Average  | H               | -                   | -                          | -68.06               | 4.67        | -9.54                           | 34.07                   | 53.98          | -19.91      |
| * 22980.00      | Peak     | H               | -                   | -                          | -57.81               | 4.67        | -9.54                           | 44.32                   | 73.98          | -29.66      |
| 28725.00        | Peak     | H               | -                   | -                          | -58.09               | 6.42        | -9.54                           | 45.78                   | 68.20          | -22.42      |

**Table 7-48. Radiated Measurements SISO ANT1**

|                                         |                                                                                                                                                                                                              |                                       |                                                                                       |                                   |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  <b>PCTEST</b><br>Proud to be part of  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                                                                                                                                         | EUT Type:<br>Portable Handset         |                                                                                       | Page 217 of 297                   |

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5785MHz  
Channel: 157

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11570.00      | Average  | H               | 254                 | 331                        | -73.77               | 13.03       | 0.00                            | 46.26                   | 53.98          | -7.72       |
| * 11570.00      | Peak     | H               | 254                 | 331                        | -61.53               | 13.03       | 0.00                            | 58.50                   | 73.98          | -15.48      |
| 17355.00        | Peak     | H               | -                   | -                          | -70.34               | 18.72       | 0.00                            | 55.38                   | 68.20          | -12.82      |
| 23140.00        | Peak     | H               | -                   | -                          | -57.32               | 4.61        | -9.54                           | 44.74                   | 68.20          | -23.46      |
| 28925.00        | Peak     | H               | -                   | -                          | -57.98               | 6.50        | -9.54                           | 45.97                   | 68.20          | -22.23      |

**Table 7-49. Radiated Measurements SISO ANT1**

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5825MHz  
Channel: 165

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11650.00      | Average  | H               | 185                 | 332                        | -76.98               | 13.65       | 0.00                            | 43.67                   | 53.98          | -10.31      |
| * 11650.00      | Peak     | H               | 185                 | 332                        | -63.96               | 13.65       | 0.00                            | 56.69                   | 73.98          | -17.29      |
| 17475.00        | Peak     | H               | -                   | -                          | -69.97               | 17.76       | 0.00                            | 54.79                   | 68.20          | -13.41      |
| 23300.00        | Peak     | H               | -                   | -                          | -57.68               | 4.72        | -9.54                           | 44.51                   | 68.20          | -23.69      |
| 29125.00        | Peak     | H               | -                   | -                          | -57.66               | 6.86        | -9.54                           | 46.66                   | 68.20          | -21.54      |

**Table 7-50. Radiated Measurements SISO ANT1**

|                                         |                                                                                                                                                                                                              |                                       |                                                                                       |                                   |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  <b>PCTEST</b><br>Proud to be part of  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                                                                                                                                         | EUT Type:<br>Portable Handset         |                                                                                       | Page 218 of 297                   |

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5845MHz  
Channel: 169

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11690.00      | Average  | H               | 160                 | 332                        | -78.09               | 14.34       | 0.00                            | 43.25                   | 53.98          | -10.72      |
| * 11690.00      | Peak     | H               | 160                 | 332                        | -65.83               | 14.34       | 0.00                            | 55.51                   | 73.98          | -18.46      |
| 17535.00        | Peak     | H               | -                   | -                          | -70.15               | 18.43       | 0.00                            | 55.28                   | 68.20          | -12.92      |
| 23380.00        | Peak     | H               |                     | -                          | -55.24               | 4.67        | -9.54                           | 46.89                   | 68.20          | -21.31      |
| 29225.00        | Peak     | H               |                     | -                          | -55.70               | 6.67        | -9.54                           | 48.43                   | 68.20          | -19.77      |
| 35070.00        | Peak     | H               |                     | -                          | -54.33               | 8.56        | -9.54                           | 51.69                   | 68.20          | -16.51      |

**Table 7-51. Radiated Measurements SISO ANT1**

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5865MHz  
Channel: 173

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11730.00      | Average  | H               | 238                 | 46                         | -77.83               | 13.97       | 0.00                            | 43.14                   | 53.98          | -10.84      |
| * 11730.00      | Peak     | H               | 238                 | 46                         | -65.41               | 13.97       | 0.00                            | 55.56                   | 73.98          | -18.42      |
| 17595.00        | Peak     | H               | -                   | -                          | -70.42               | 18.25       | 0.00                            | 54.83                   | 68.20          | -13.37      |
| 23460.00        | Peak     | H               | -                   | -                          | -56.23               | 4.62        | -9.54                           | 45.85                   | 68.20          | -22.35      |
| 29325.00        | Peak     | H               | -                   | -                          | -55.71               | 6.99        | -9.54                           | 48.73                   | 68.20          | -19.47      |
| 35190.00        | Peak     | H               | -                   | -                          | -55.48               | 8.73        | -9.54                           | 50.71                   | 68.20          | -17.49      |

**Table 7-52. Radiated Measurements SISO ANT1**

|                                         |                                                                                                                                                                                                              |                                       |                                                                                       |                                   |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  <b>PCTEST</b><br>Proud to be part of  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                                                                                                                                         | EUT Type:<br>Portable Handset         |                                                                                       | Page 219 of 297                   |

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5885MHz  
Channel: 177

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11770.00      | Average  | H               | 235.00              | 46.00                      | -77.76               | 14.09       | 0.00                            | 43.33                   | 53.98          | -10.65      |
| * 11770.00      | Peak     | H               | 235                 | 46                         | -65.88               | 14.09       | 0.00                            | 55.21                   | 73.98          | -18.77      |
| 17655.00        | Peak     | H               | -                   | -                          | -70.21               | 18.05       | 0.00                            | 54.84                   | 68.20          | -13.36      |
| 23540.00        | Peak     | H               | -                   | -                          | -55.60               | 4.71        | -9.54                           | 56.11                   | 68.20          | -12.09      |
| 29425.00        | Peak     | H               | -                   | -                          | -55.52               | 7.01        | -9.54                           | 58.49                   | 68.20          | -9.71       |
| 35310.00        | Peak     | H               | -                   | -                          | -54.30               | 8.79        | -9.54                           | 61.49                   | 68.20          | -6.71       |

**Table 7-53. Radiated Measurements SISO ANT1**

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5745MHz  
Channel: 149

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11490.00      | Average  | H               | 157                 | 6                          | -79.21               | 13.58       | 0.00                            | 41.37                   | 53.98          | -12.61      |
| * 11490.00      | Peak     | H               | 157                 | 6                          | -66.97               | 13.58       | 0.00                            | 53.61                   | 73.98          | -20.37      |
| 17235.00        | Peak     | H               | -                   | -                          | -69.70               | 17.76       | 0.00                            | 55.06                   | 68.20          | -13.14      |
| * 22980.00      | Average  | H               | -                   | -                          | -66.89               | 4.67        | -9.54                           | 35.24                   | 53.98          | -18.74      |
| * 22980.00      | Peak     | H               | -                   | -                          | -58.98               | 4.67        | -9.54                           | 43.15                   | 73.98          | -30.83      |
| 28725.00        | Peak     | H               | -                   | -                          | -59.42               | 6.42        | -9.54                           | 44.46                   | 68.20          | -23.74      |

**Table 7-54. Radiated Measurements SISO ANT1 with WCP**

|                                         |                                                                                     |                                       |                                                                                       |                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| FCC ID: A3LSMS901U                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2109080099-11.A3L | Test Dates:<br>9/22/2021 - 11/9/2021                                                | EUT Type:<br>Portable Handset         |                                                                                       | Page 220 of 297                   |