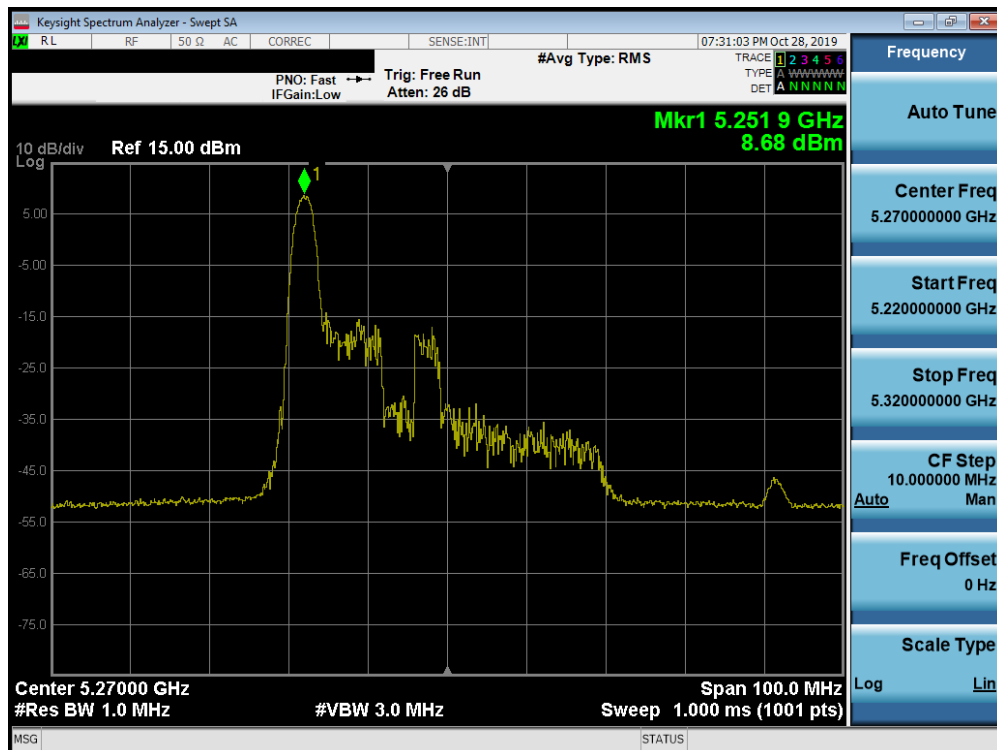


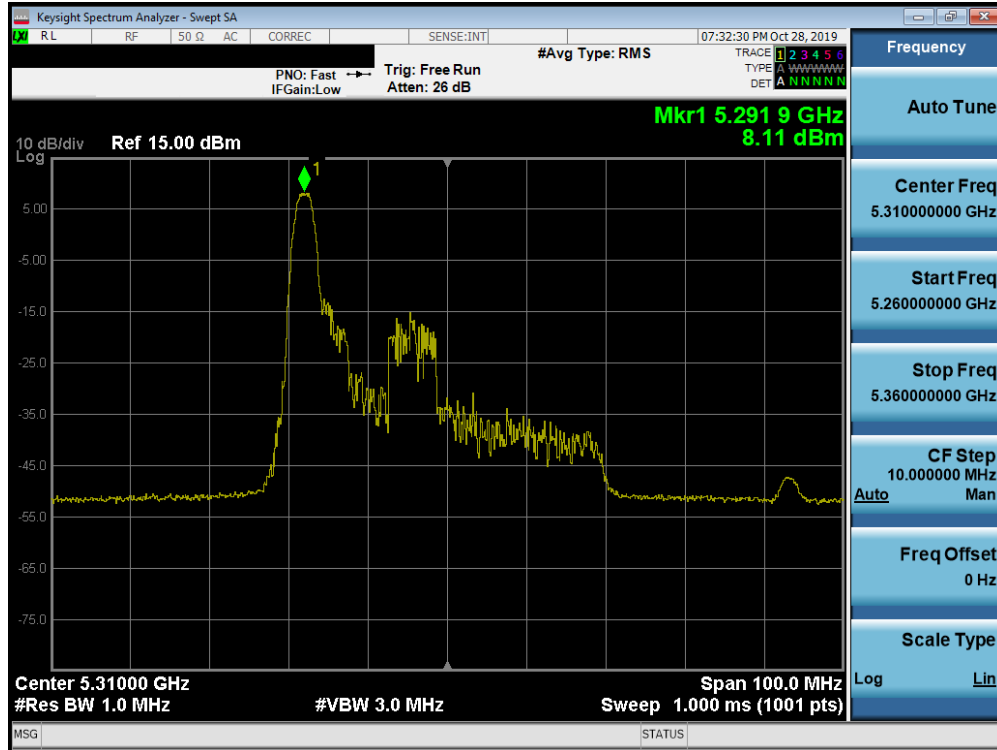


Plot 7-117. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 64)

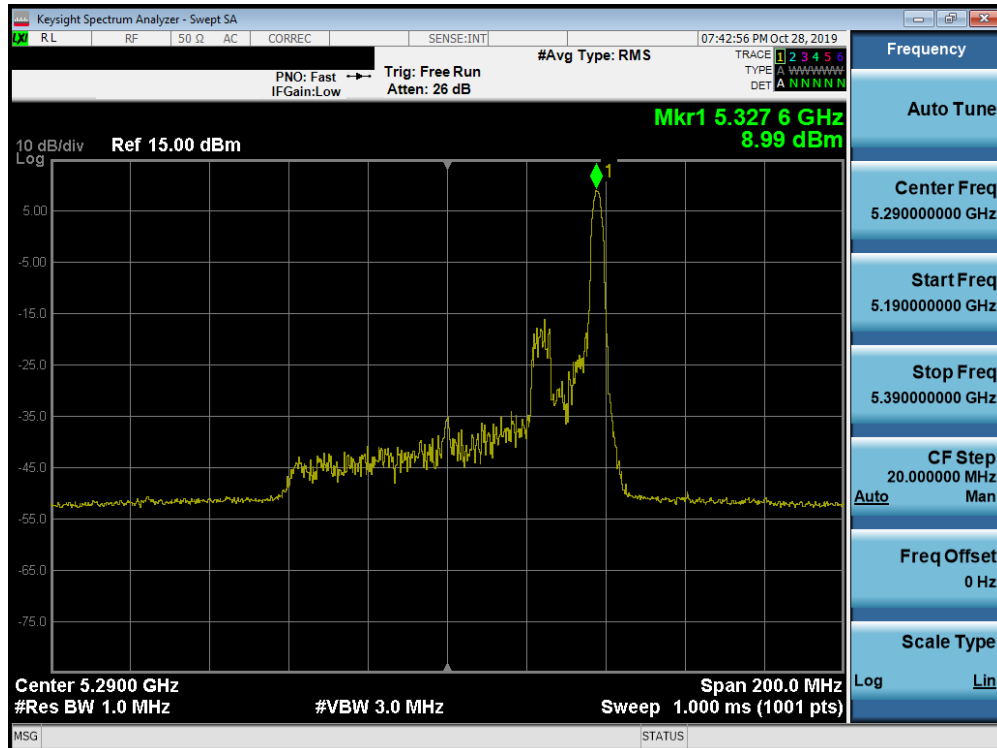


Plot 7-118. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 102 of 265                 |

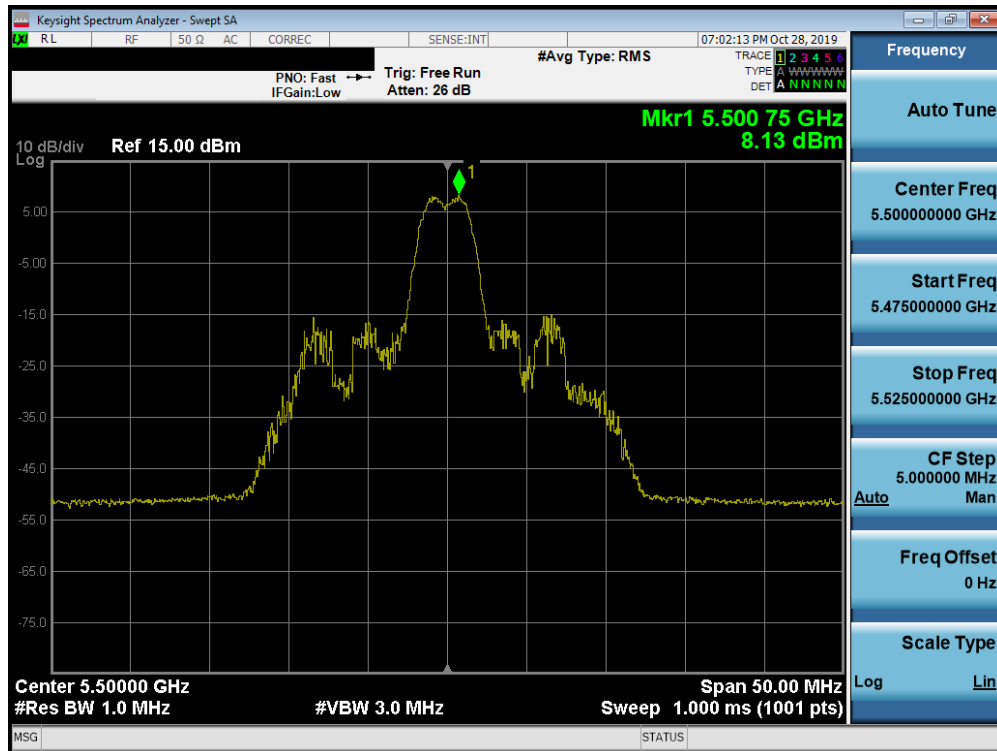


Plot 7-119. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

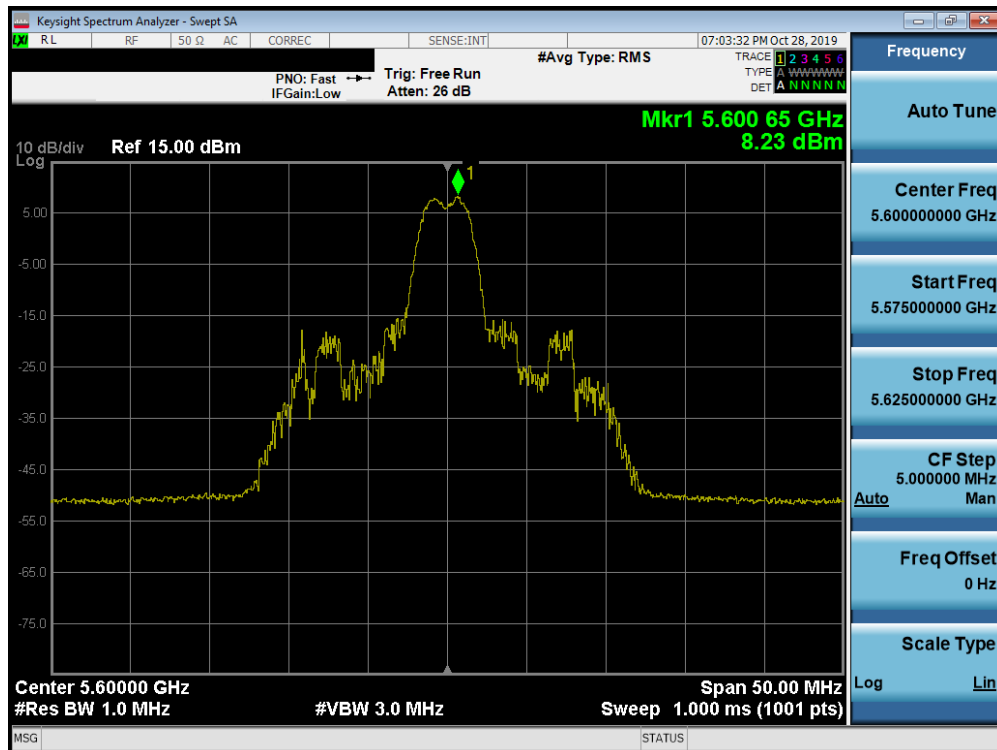


Plot 7-120. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 103 of 265                 |

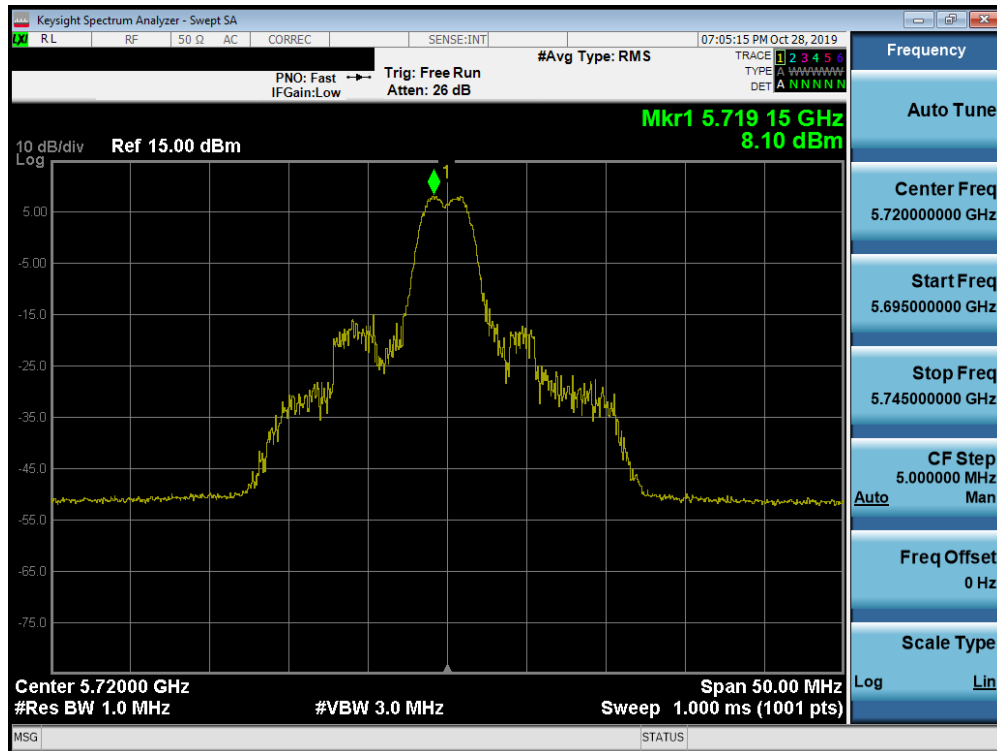


Plot 7-121. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

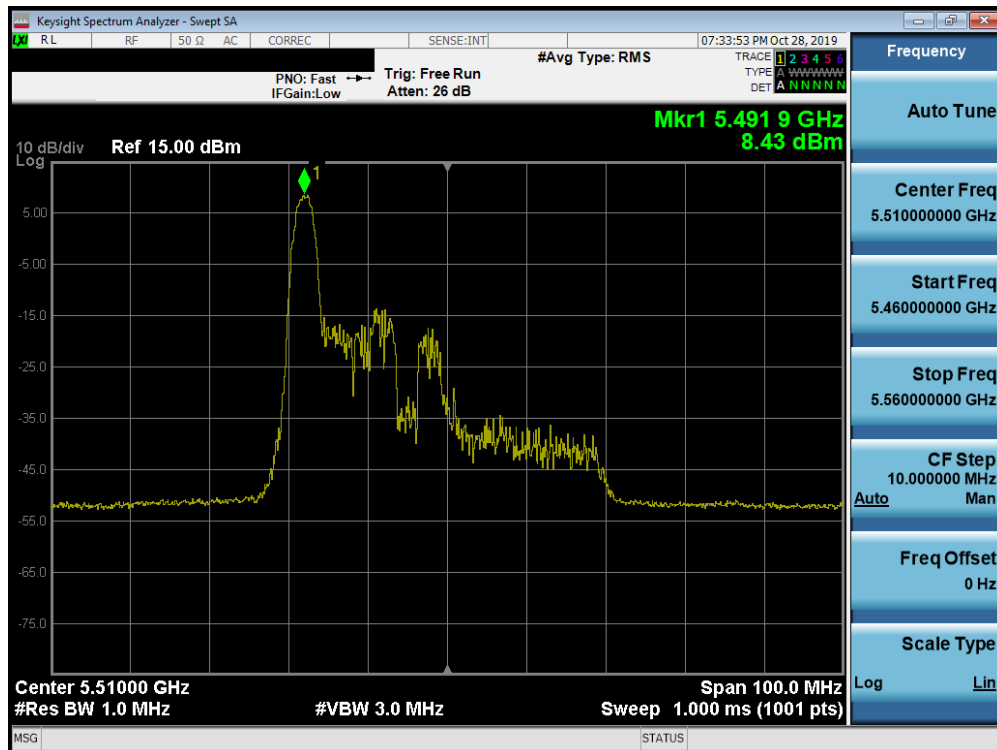


Plot 7-122. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 104 of 265                 |

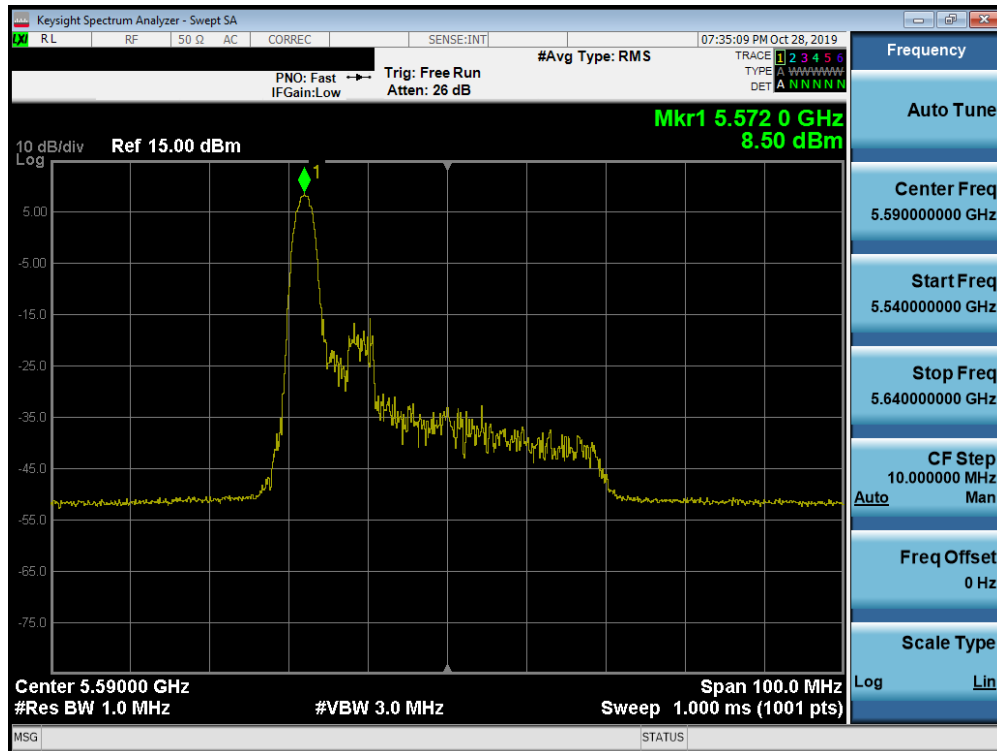


Plot 7-123. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

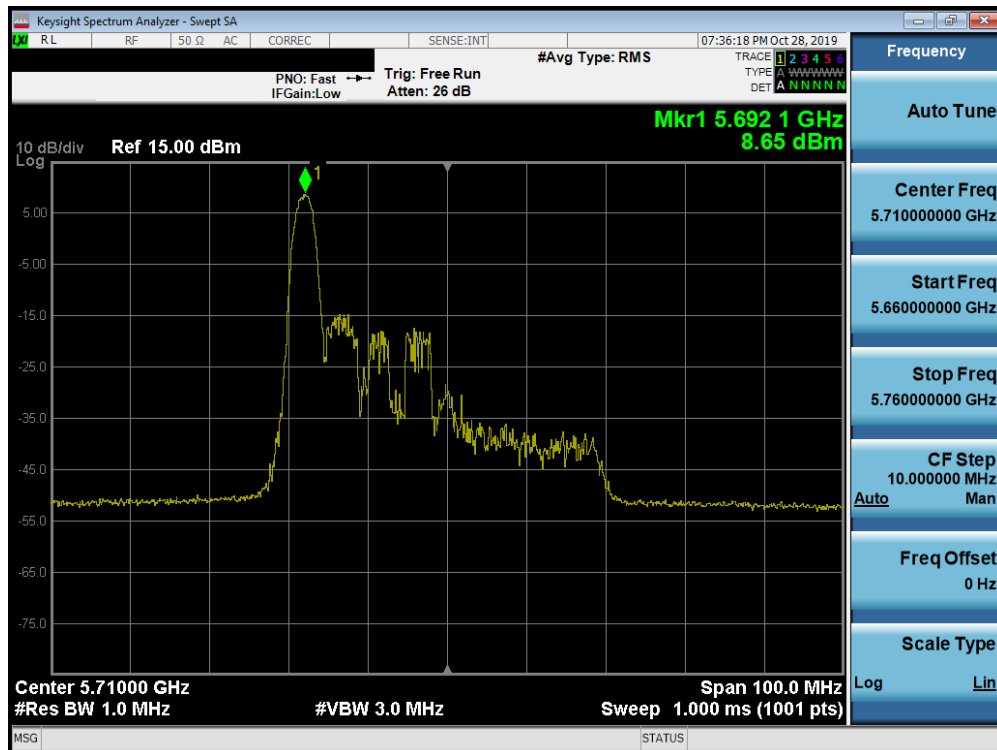


Plot 7-124. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 105 of 265                 |

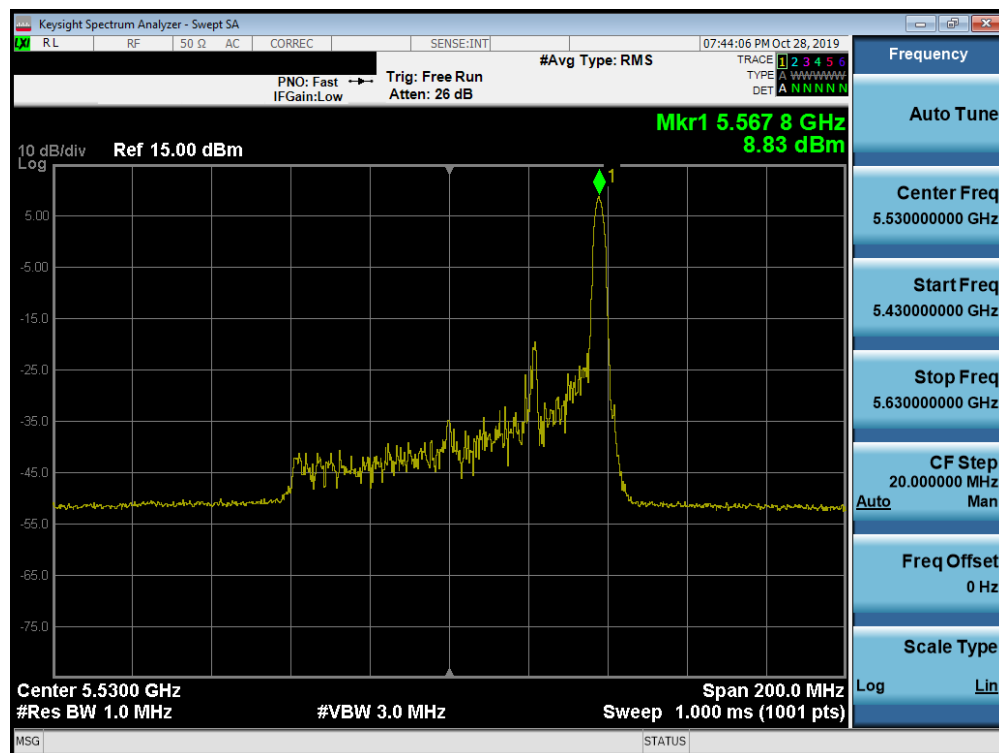


Plot 7-125. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

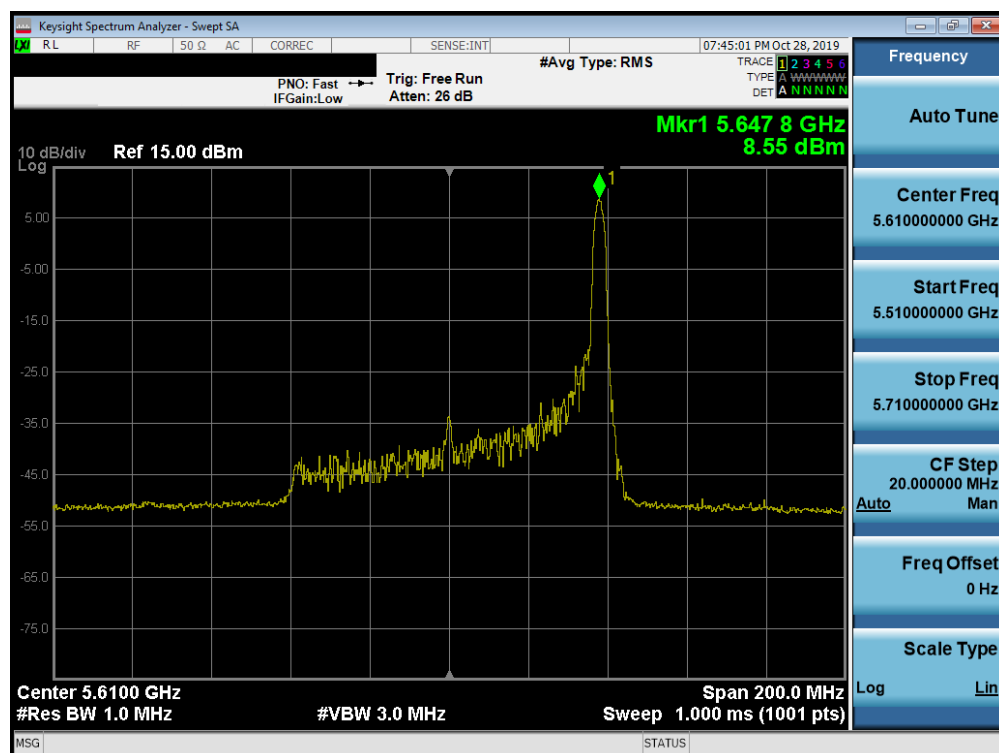


Plot 7-126. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 106 of 265                 |

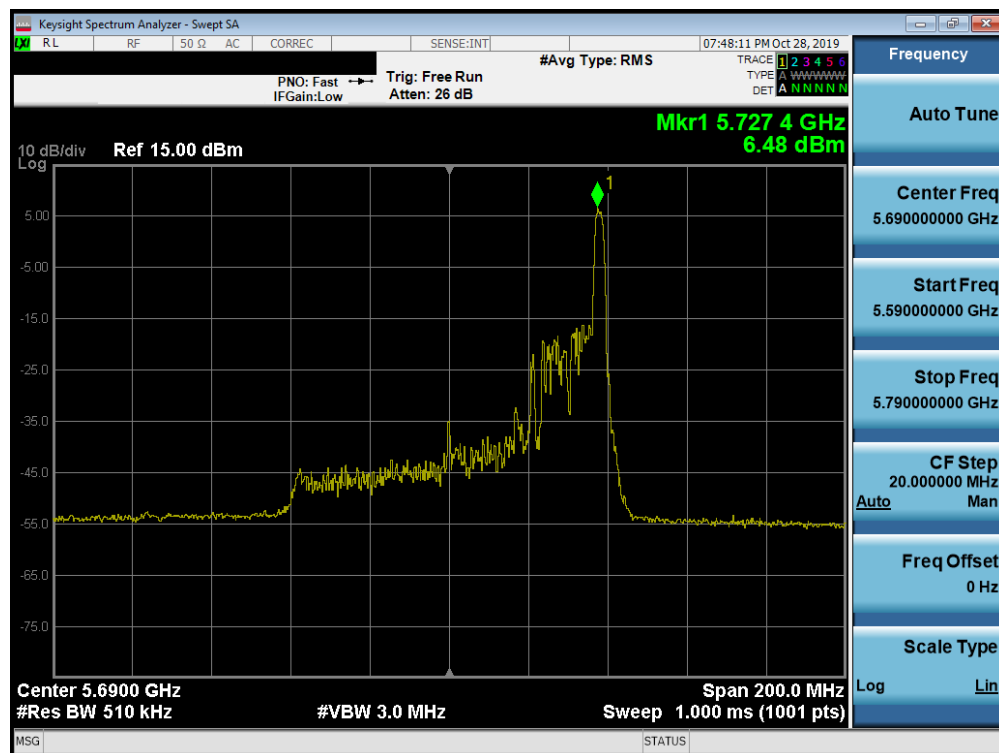


Plot 7-127. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)



Plot 7-128. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 107 of 265                 |



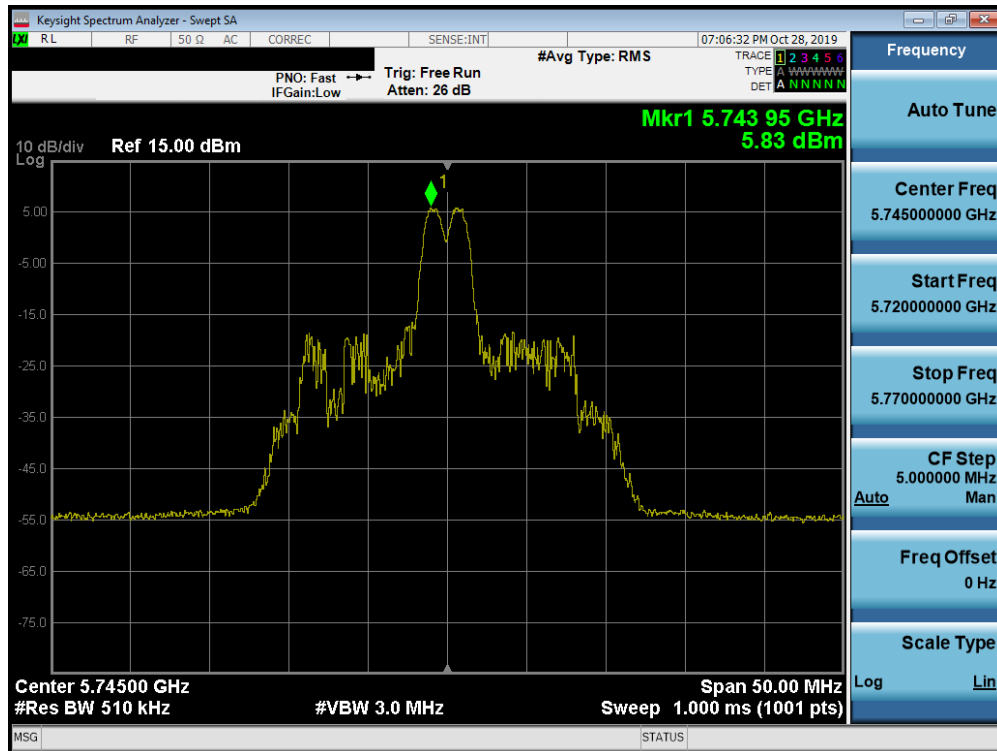
Plot 7-129. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

|                                         |                                                                                     |                                       |                                                                                       |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSMG986W                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20                                                  | EUT Type:<br>Portable Handset         |                                                                                       | Page 108 of 265                 |

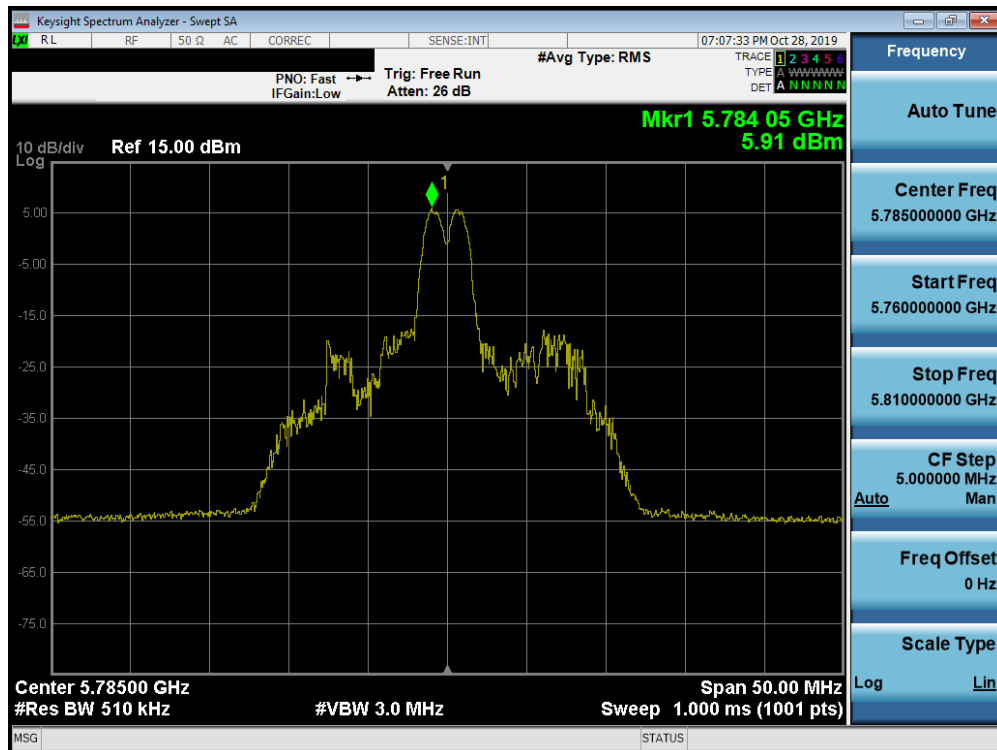
|        | Frequency [MHz] | Channel No. | 802.11 Mode | Tones | Data Rate [Mbps] | Measured Power Density [dBm] | Max Permissible Power Density | Margin [dB] |
|--------|-----------------|-------------|-------------|-------|------------------|------------------------------|-------------------------------|-------------|
| Band 3 | 5745            | 149         | ax (20MHz)  | 26T   | MCS0             | 5.83                         | 30.00                         | -24.17      |
|        | 5785            | 157         | ax (20MHz)  | 26T   | MCS0             | 5.91                         | 30.00                         | -24.09      |
|        | 5825            | 165         | ax (20MHz)  | 26T   | MCS0             | 5.55                         | 30.00                         | -24.45      |
|        | 5755            | 151         | ax (40MHz)  | 26T   | MCS0             | 6.71                         | 30.00                         | -23.29      |
|        | 5795            | 159         | ax (40MHz)  | 26T   | MCS0             | 6.96                         | 30.00                         | -23.04      |
|        | 5775            | 155         | ax (80MHz)  | 26T   | MCS0             | 9.08                         | 30.00                         | -20.92      |

**Table 7-59. Band 3 Conducted Power Spectral Density Measurements SISO ANT2 (26 Tones)**

|                                         |                                                                                                                                                                                                                     |                               |                                 |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------|
| FCC ID: A3LSMG986W                      |  <b>MEASUREMENT REPORT (CERTIFICATION)</b>  |                               | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20                                                                                                                                                                                  | EUT Type:<br>Portable Handset |                                 |
|                                         |                                                                                                                                                                                                                     |                               | Page 109 of 265                 |

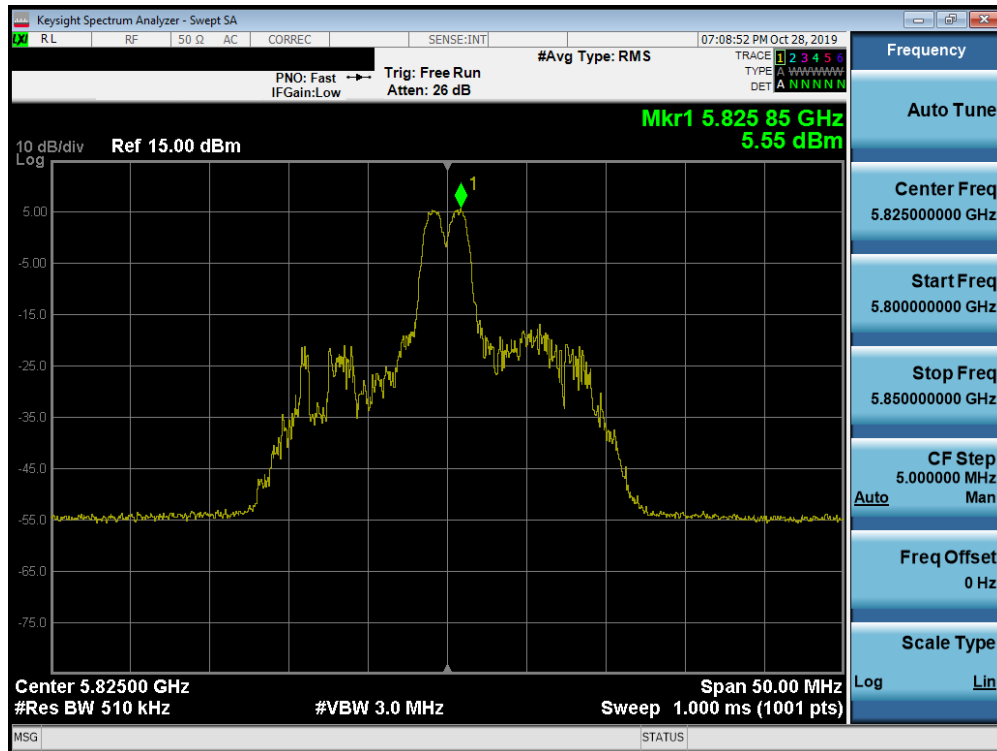


Plot 7-130. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 149)

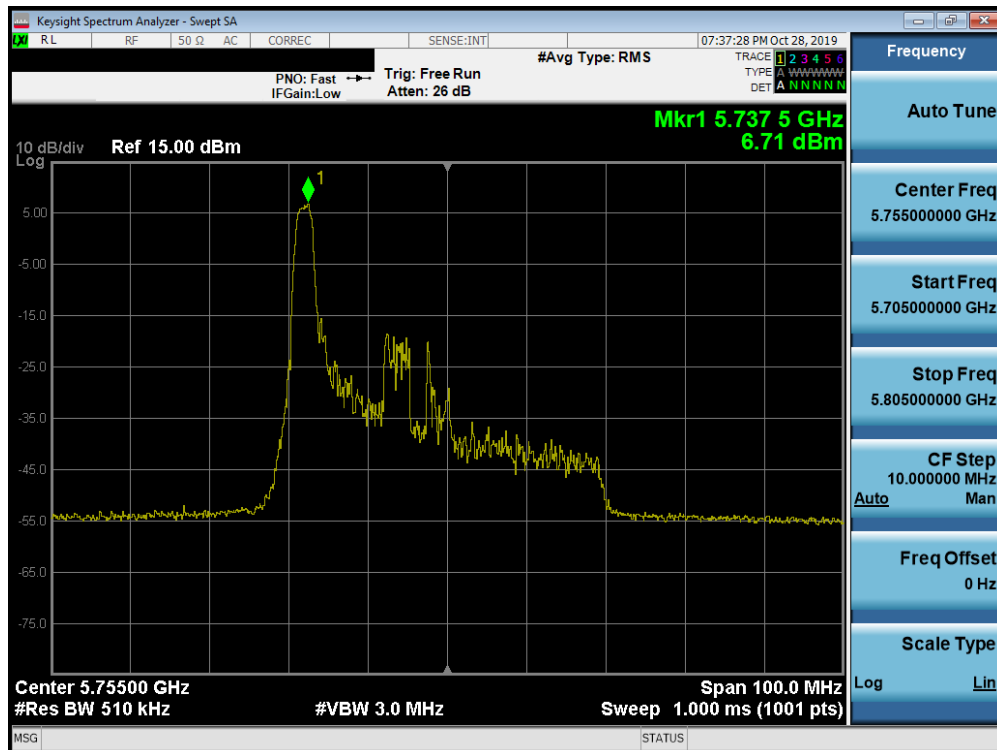


Plot 7-131. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 157)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 110 of 265                 |

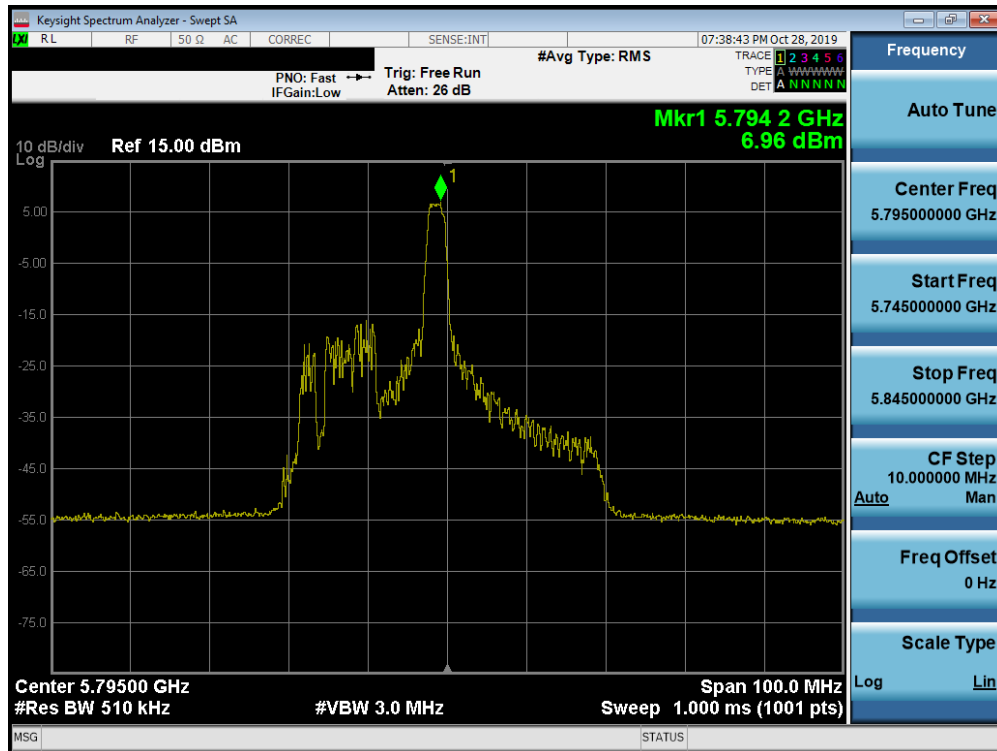


Plot 7-132. Power Spectral Density Plot SISO ANT2 (20 MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

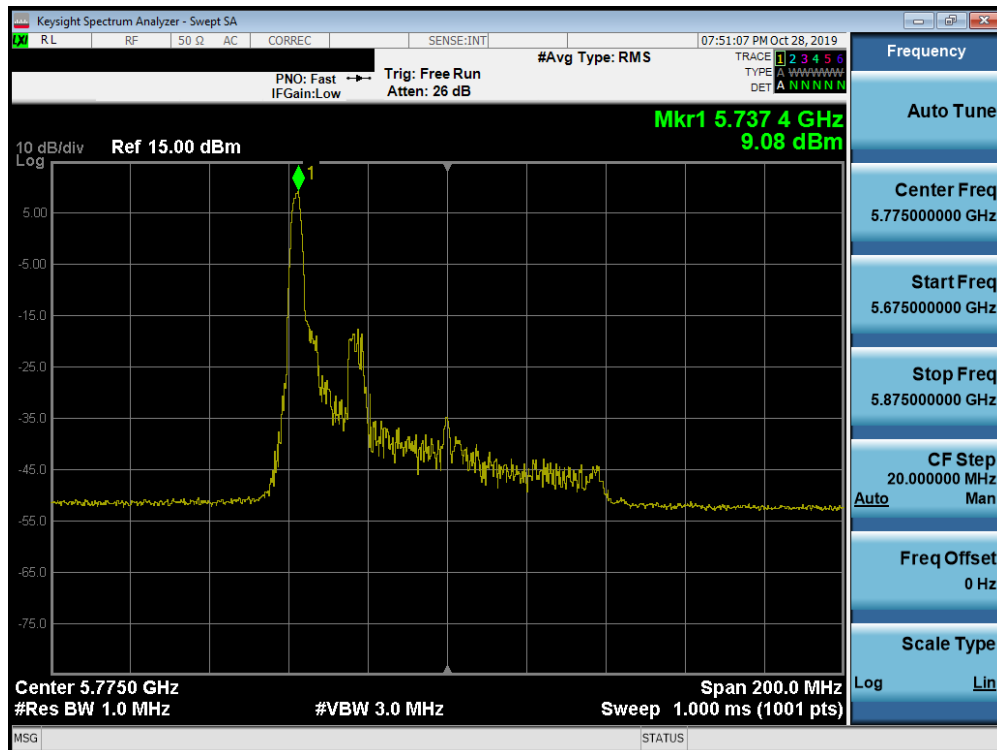


Plot 7-133. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 111 of 265                 |



Plot 7-134. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)



Plot 7-135. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 112 of 265                 |

## SISO Antenna-2 Power Spectral Density Measurements (Full Tones)

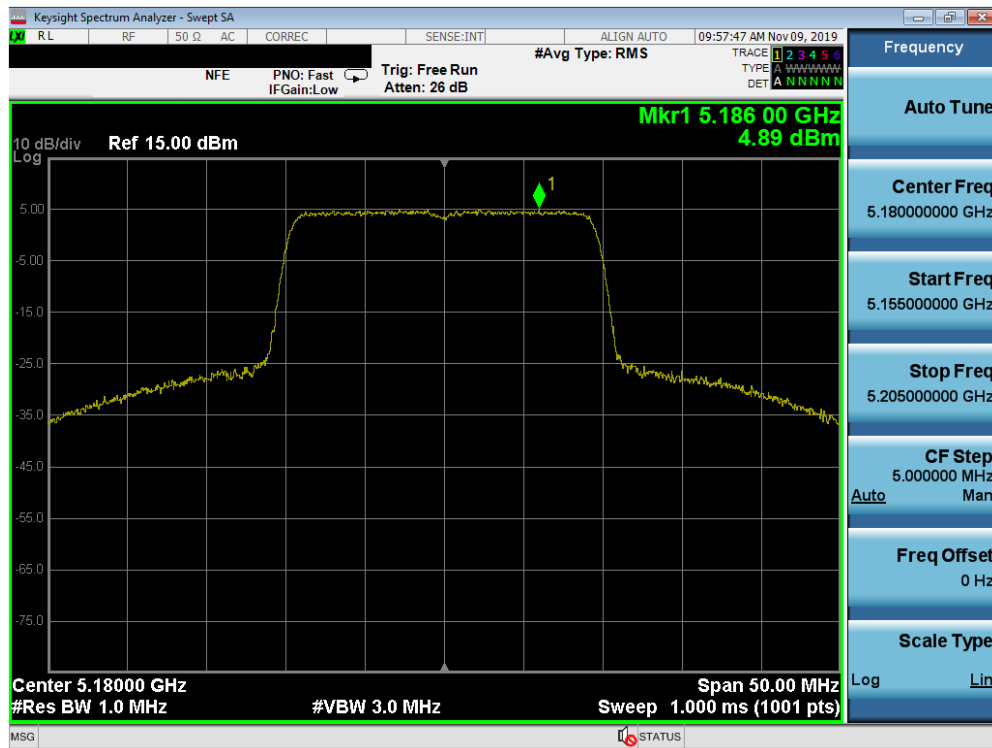
|         | Frequency [MHz] | Channel No. | 802.11 Mode | Tones | Data Rate [Mbps] | Measured Power Density [dBm] | Max Power Density [dBm/MHz] | Margin [dB] |
|---------|-----------------|-------------|-------------|-------|------------------|------------------------------|-----------------------------|-------------|
| Band 1  | 5180            | 36          | ax (20MHz)  | 242T  | MCS0             | 4.89                         | 11.0                        | -6.11       |
|         | 5200            | 40          | ax (20MHz)  | 242T  | MCS0             | 5.24                         | 11.0                        | -5.76       |
|         | 5240            | 48          | ax (20MHz)  | 242T  | MCS0             | 5.18                         | 11.0                        | -5.82       |
|         | 5190            | 38          | ax (40MHz)  | 242T  | MCS0             | -0.84                        | 11.0                        | -11.84      |
|         | 5230            | 46          | ax (40MHz)  | 242T  | MCS0             | -0.73                        | 11.0                        | -11.73      |
|         | 5210            | 42          | ax (80MHz)  | 242T  | MCS0             | -4.94                        | 11.0                        | -15.94      |
| Band 2A | 5260            | 52          | ax (20MHz)  | 242T  | MCS0             | 3.82                         | 11.0                        | -7.18       |
|         | 5280            | 56          | ax (20MHz)  | 242T  | MCS0             | 4.05                         | 11.0                        | -6.95       |
|         | 5320            | 64          | ax (20MHz)  | 242T  | MCS0             | 4.40                         | 11.0                        | -6.60       |
|         | 5270            | 54          | ax (40MHz)  | 242T  | MCS0             | -0.87                        | 11.0                        | -11.87      |
|         | 5310            | 62          | ax (40MHz)  | 242T  | MCS0             | -0.77                        | 11.0                        | -11.77      |
|         | 5290            | 58          | ax (80MHz)  | 242T  | MCS0             | -4.31                        | 11.0                        | -15.31      |
| Band 2C | 5500            | 100         | ax (20MHz)  | 242T  | MCS0             | 3.85                         | 11.0                        | -7.15       |
|         | 5600            | 120         | ax (20MHz)  | 242T  | MCS0             | 4.15                         | 11.0                        | -6.85       |
|         | 5720            | 144         | ax (20MHz)  | 242T  | MCS0             | 4.11                         | 11.0                        | -6.89       |
|         | 5510            | 102         | ax (40MHz)  | 242T  | MCS0             | -0.80                        | 11.0                        | -11.80      |
|         | 5590            | 118         | ax (40MHz)  | 242T  | MCS0             | -1.08                        | 11.0                        | -12.08      |
|         | 5710            | 142         | ax (40MHz)  | 242T  | MCS0             | -0.63                        | 11.0                        | -11.63      |
|         | 5530            | 106         | ax (80MHz)  | 242T  | MCS0             | -4.16                        | 11.0                        | -15.16      |
|         | 5610            | 122         | ax (80MHz)  | 242T  | MCS0             | -4.19                        | 11.0                        | -15.19      |
|         | 5690            | 138         | ax (80MHz)  | 242T  | MCS0             | -7.25                        | 11.0                        | -18.25      |

Table 7-60. Conducted Power Spectral Density Measurements SISO ANT2 (Full Tones)

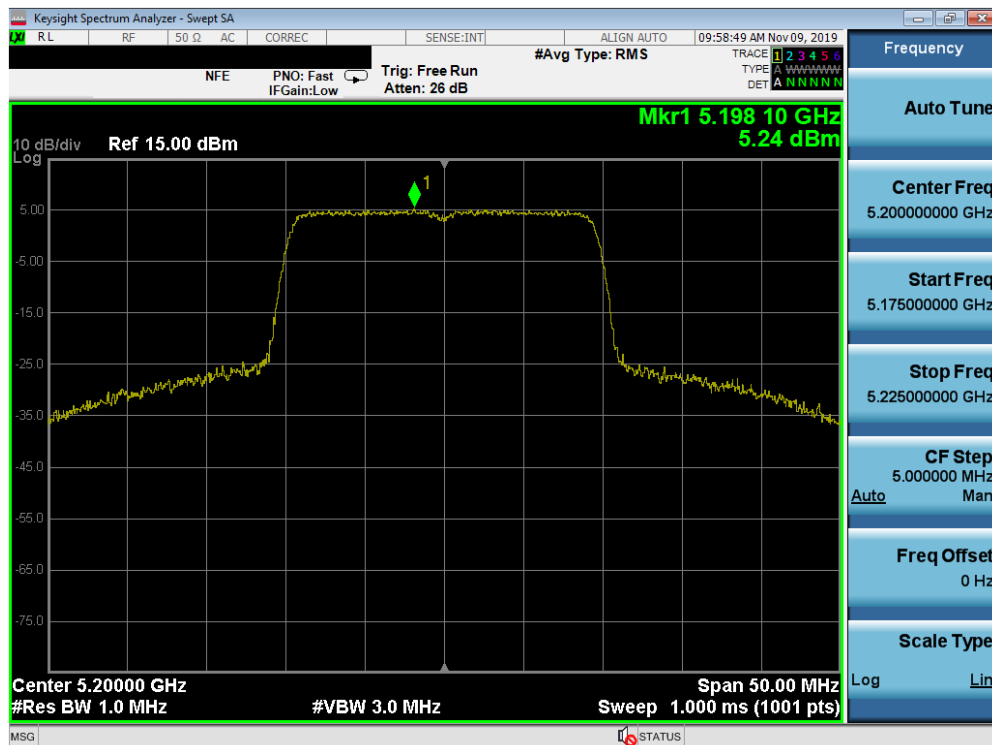
|        | Frequency [MHz] | Channel No. | 802.11 Mode | Tones | Data Rate [Mbps] | Measured Power Density [dBm] | Antenna Gain [dBi] | e.i.r.p. Power Density [dBm/MHz] | ISED Max e.i.r.p. Power Density [dBm/MHz] | Margin [dB] |
|--------|-----------------|-------------|-------------|-------|------------------|------------------------------|--------------------|----------------------------------|-------------------------------------------|-------------|
| Band 1 | 5180            | 36          | ax (20MHz)  | 242T  | MCS0             | 4.89                         | -6.45              | -1.56                            | 10.0                                      | -11.56      |
|        | 5200            | 40          | ax (20MHz)  | 242T  | MCS0             | 5.24                         | -6.69              | -1.45                            | 10.0                                      | -11.45      |
|        | 5240            | 48          | ax (20MHz)  | 242T  | MCS0             | 5.18                         | -6.45              | -1.27                            | 10.0                                      | -11.27      |
|        | 5190            | 38          | ax (40MHz)  | 484T  | MCS0             | -0.84                        | -6.69              | -7.53                            | 10.0                                      | -17.53      |
|        | 5230            | 46          | ax (40MHz)  | 484T  | MCS0             | -0.73                        | -6.45              | -7.18                            | 10.0                                      | -17.18      |
|        | 5210            | 42          | ax (80MHz)  | 996T  | MCS0             | -4.94                        | -6.45              | -11.39                           | 10.0                                      | -21.39      |

Table 7-61. Band 1 e.i.r.p Conducted Power Spectral Density Measurements ISED (Full Tones)

|                                         |                                                                                     |                               |                                    |                                                                                       |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSMG986W                      |  |                               | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20                                                  | EUT Type:<br>Portable Handset |                                    |                                                                                       | Page 113 of 265                 |

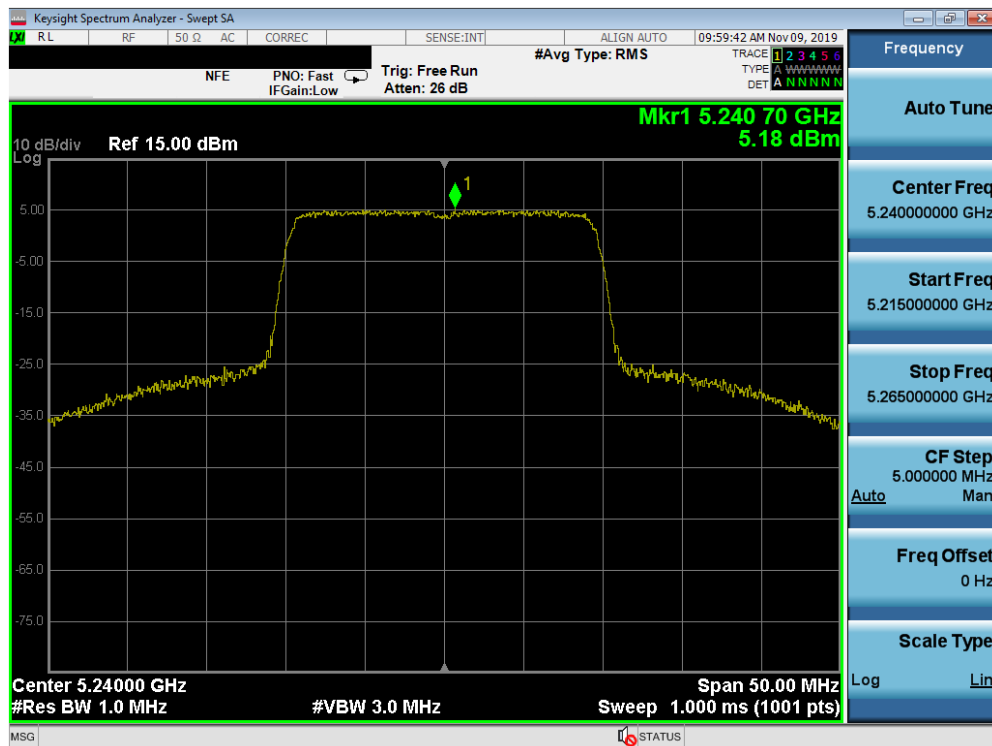


Plot 7-136. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 36)

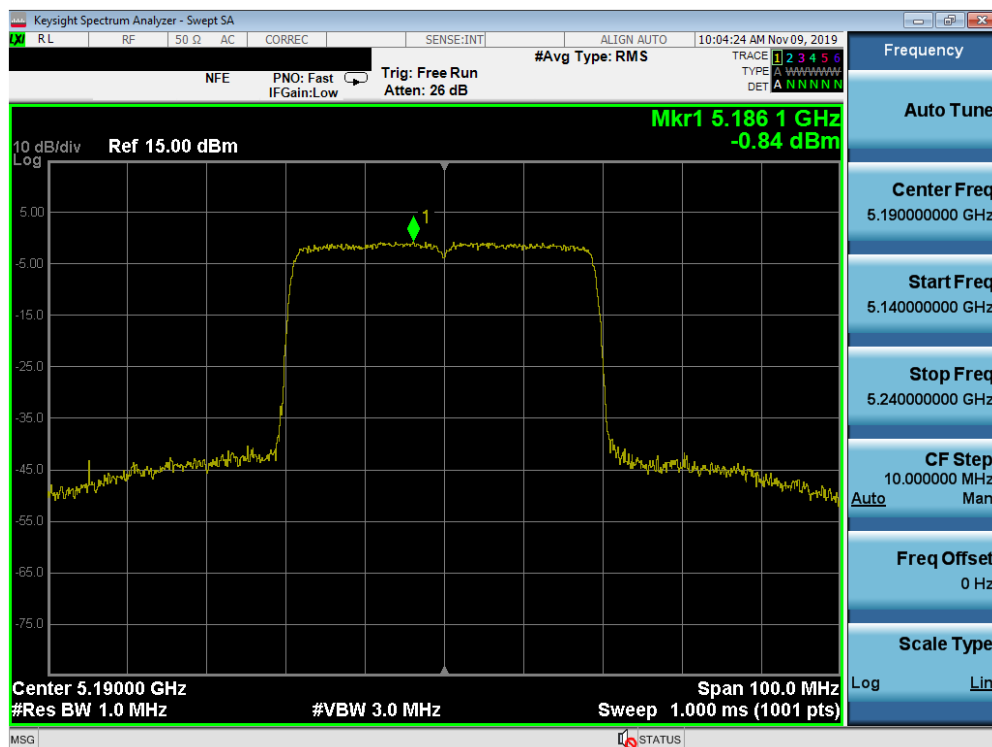


Plot 7-137. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 40)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 114 of 265                 |

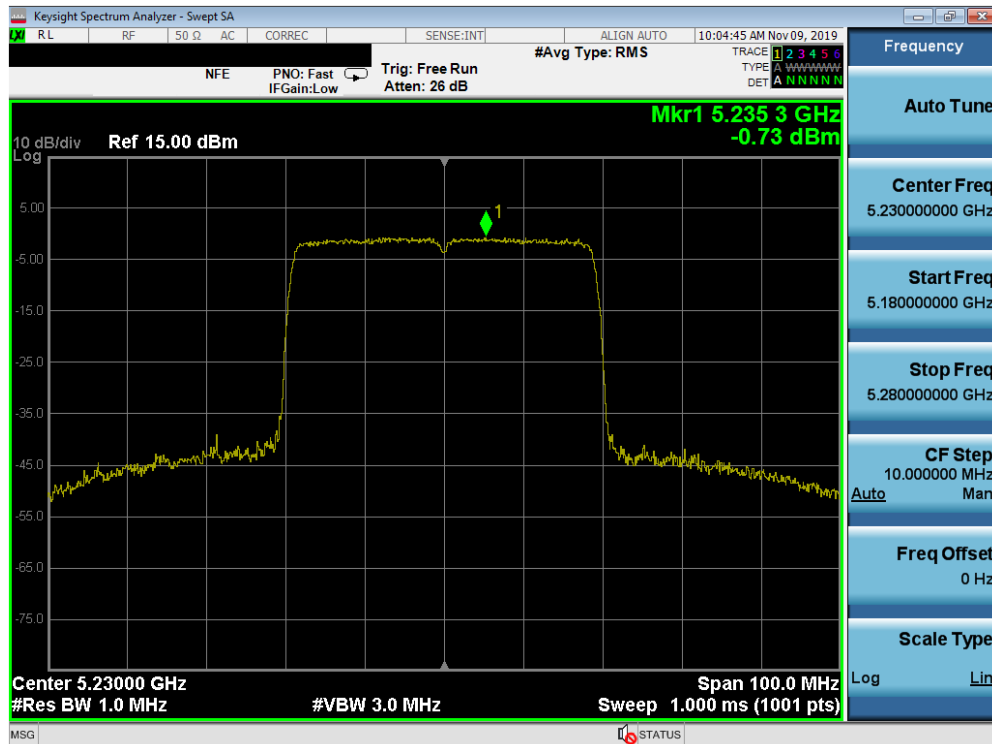


Plot 7-138. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 48)

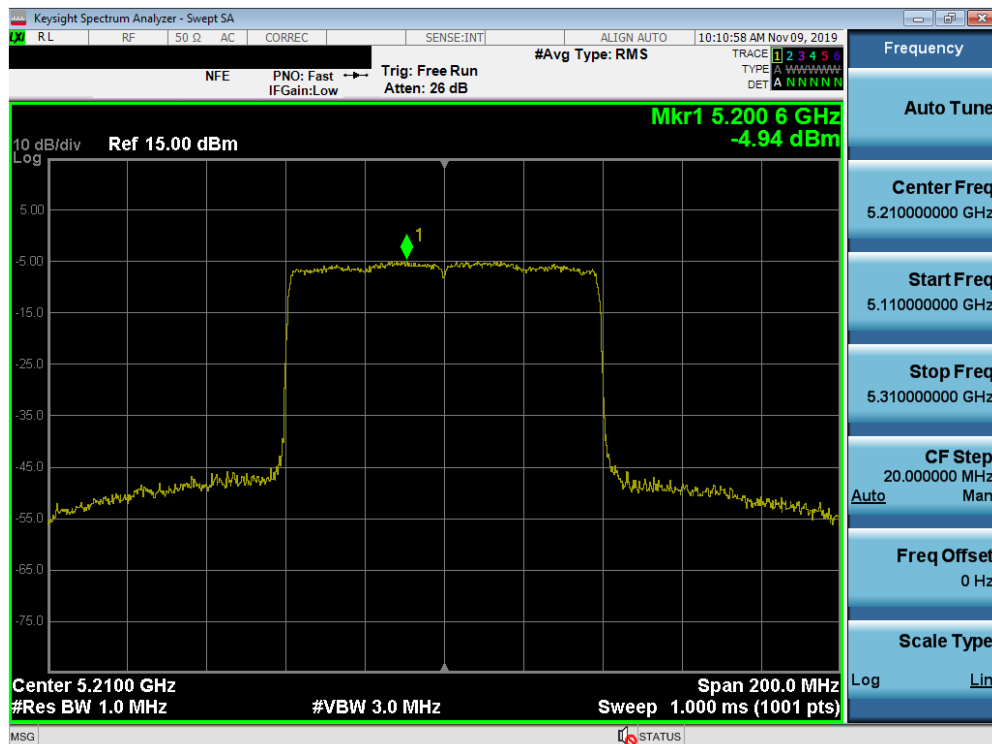


Plot 7-139. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 38)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 115 of 265                 |

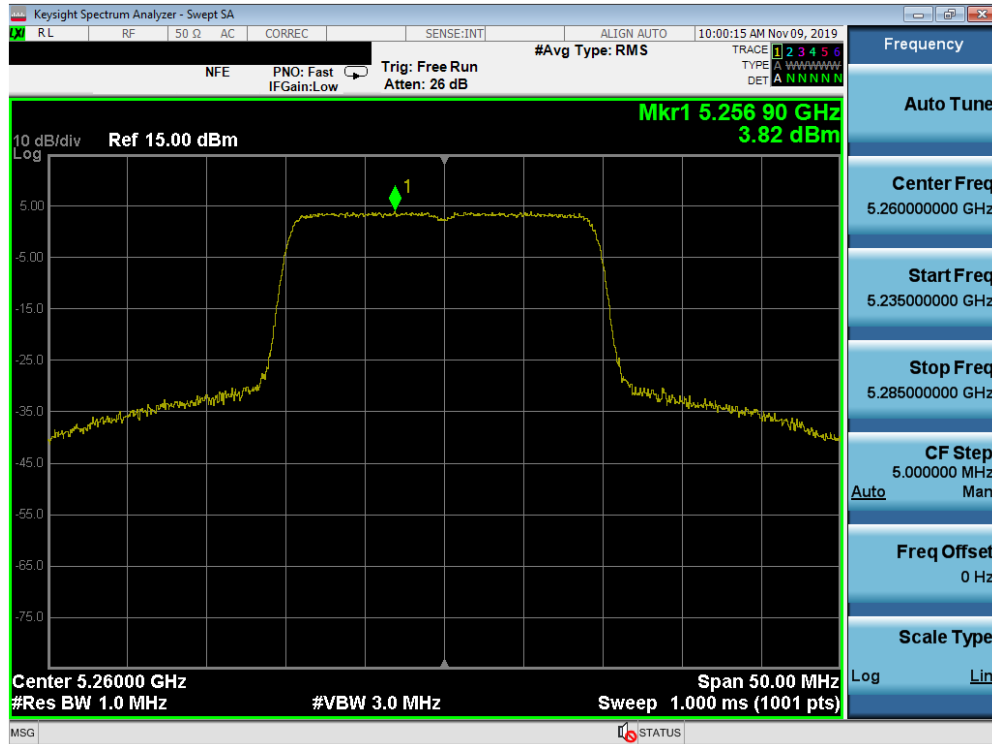


Plot 7-140. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 46)

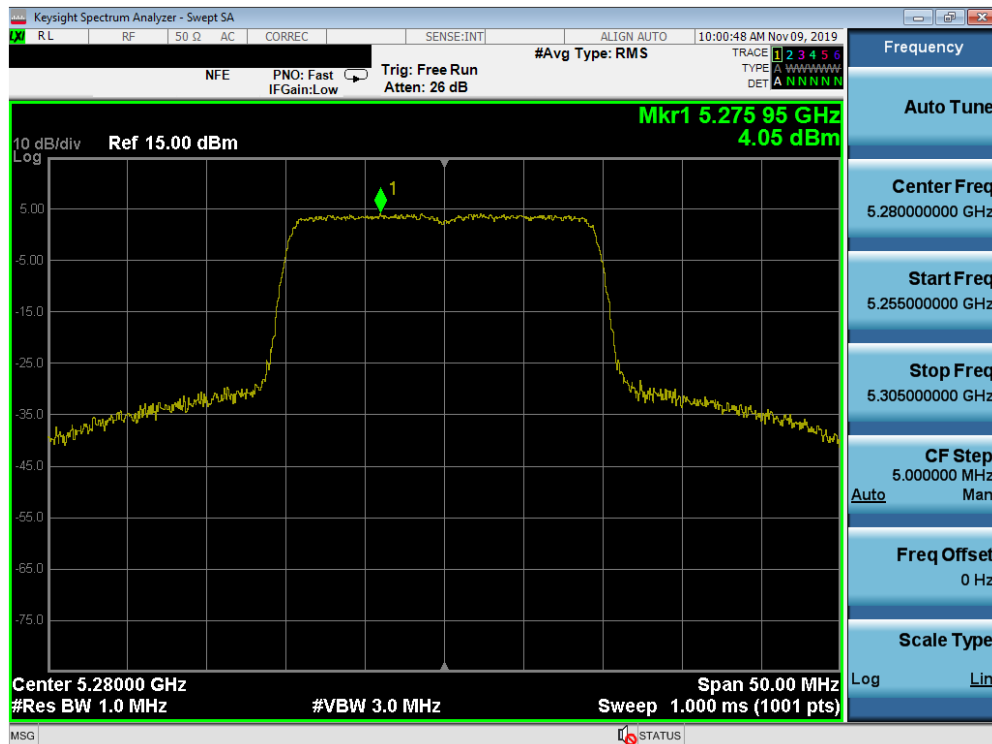


Plot 7-141. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 42)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 116 of 265                 |

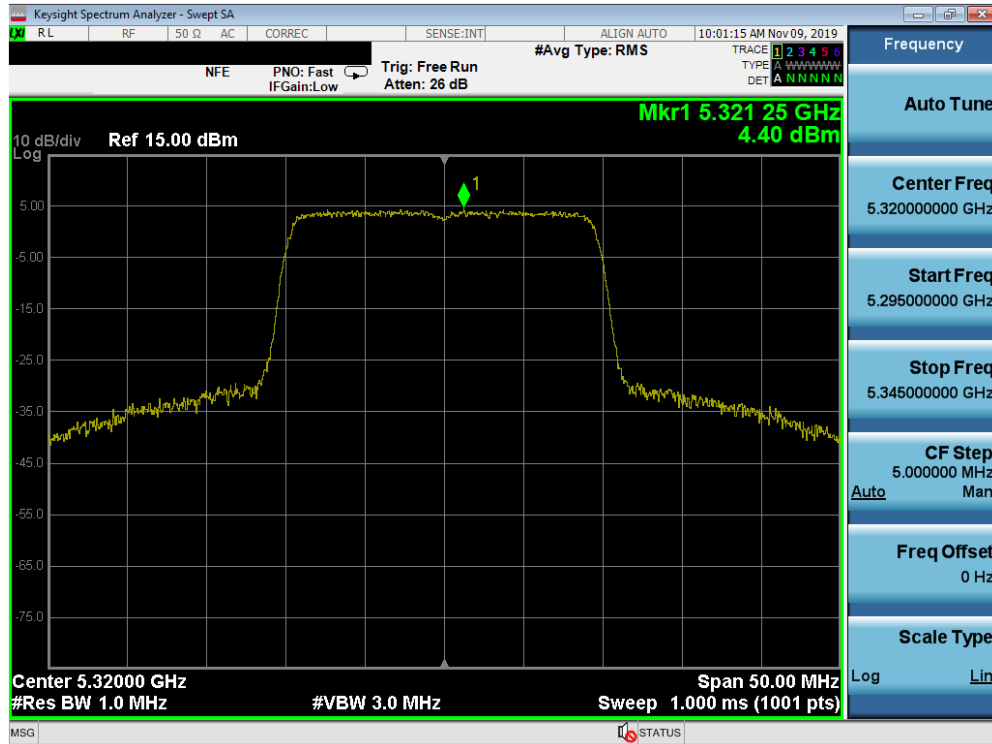


Plot 7-142. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 52)

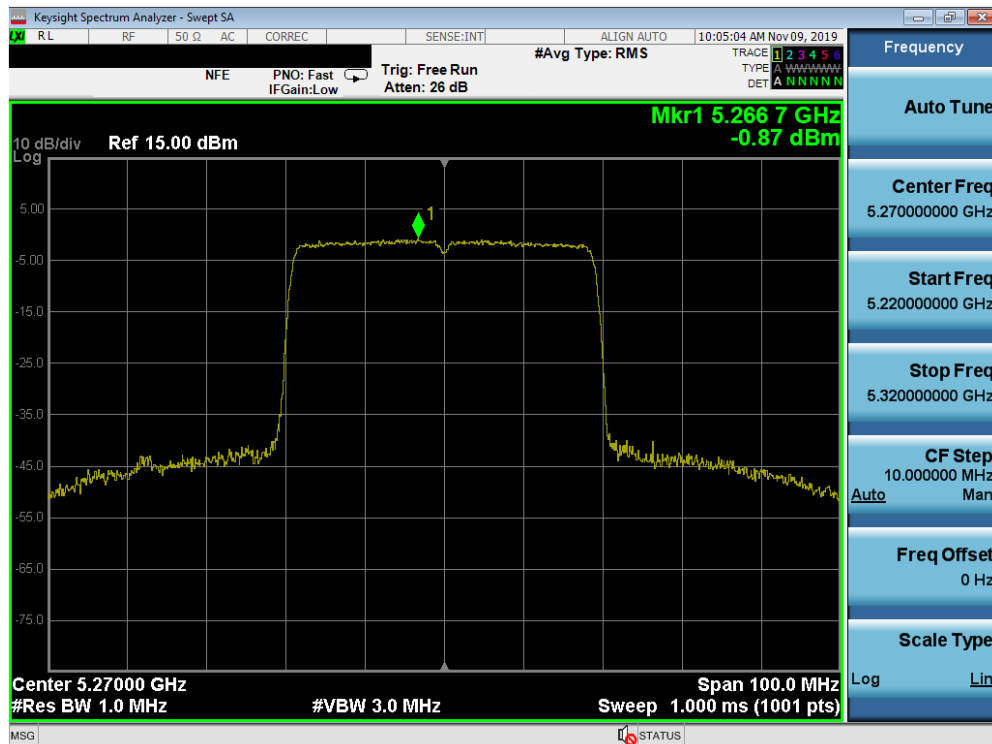


Plot 7-143. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 56)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 117 of 265                 |

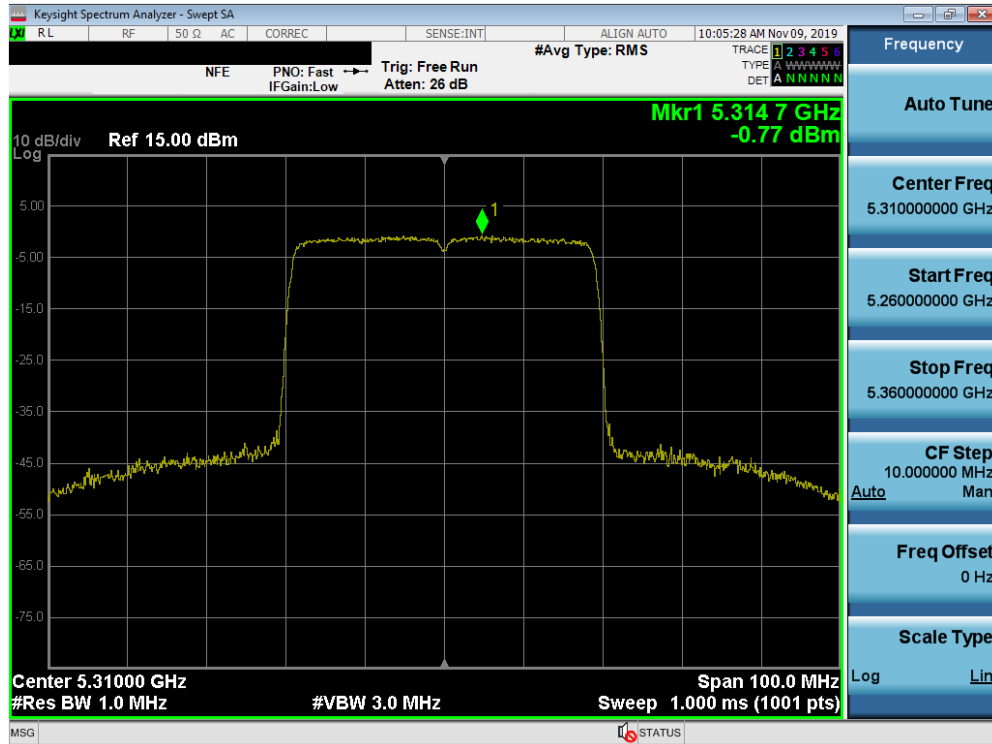


Plot 7-144. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 64)

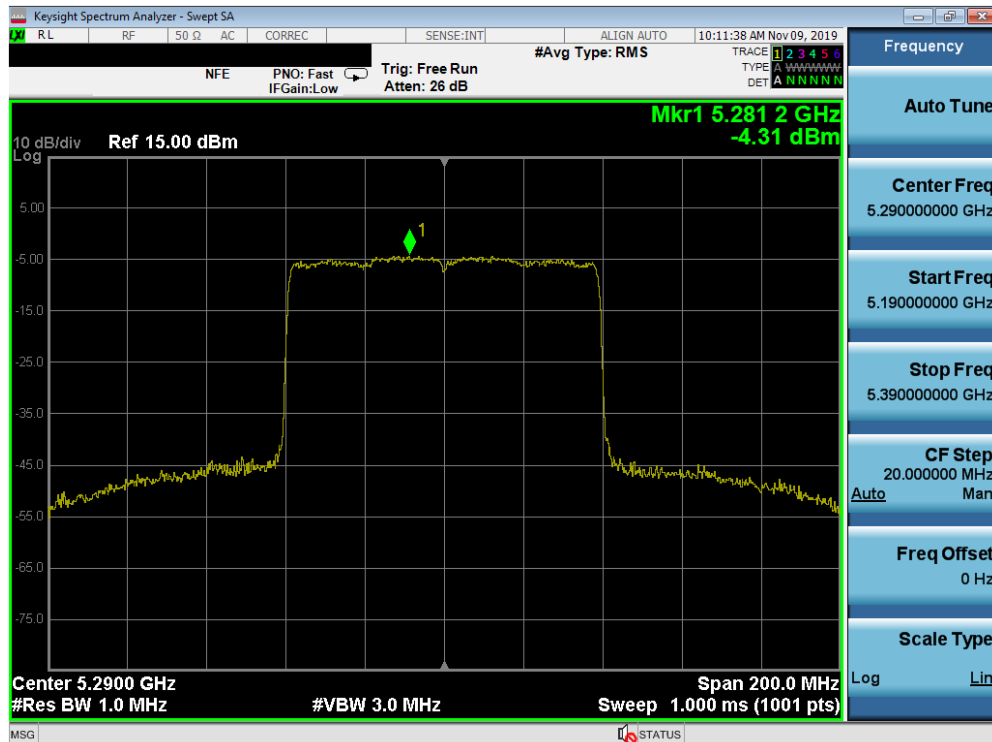


Plot 7-145. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 54)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 118 of 265                 |

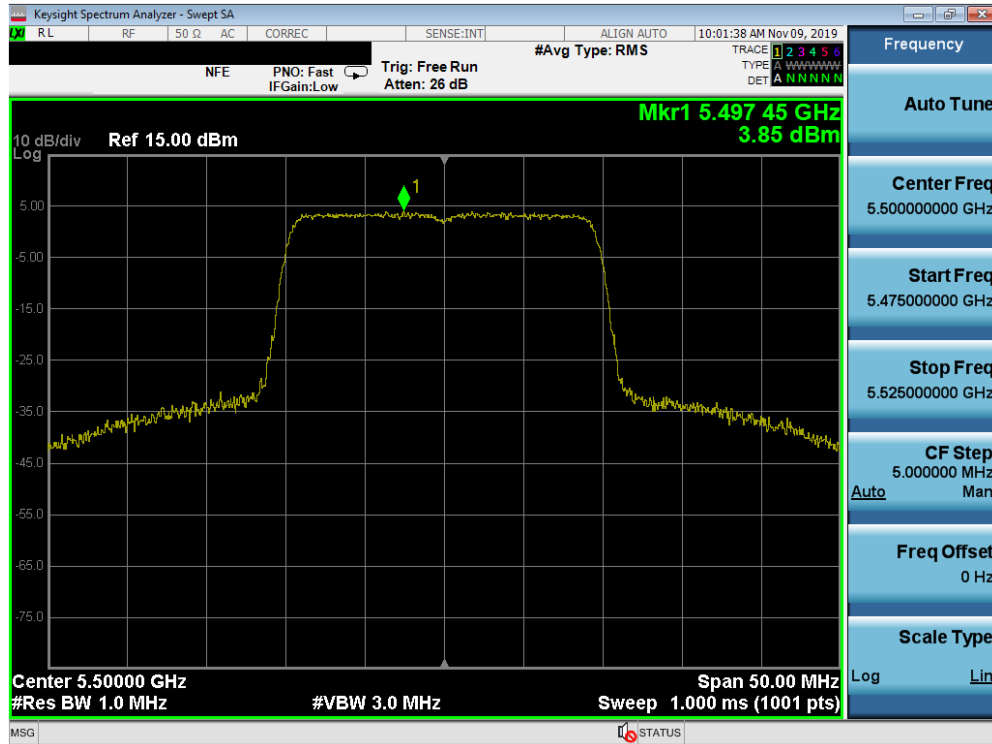


Plot 7-146. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 62)

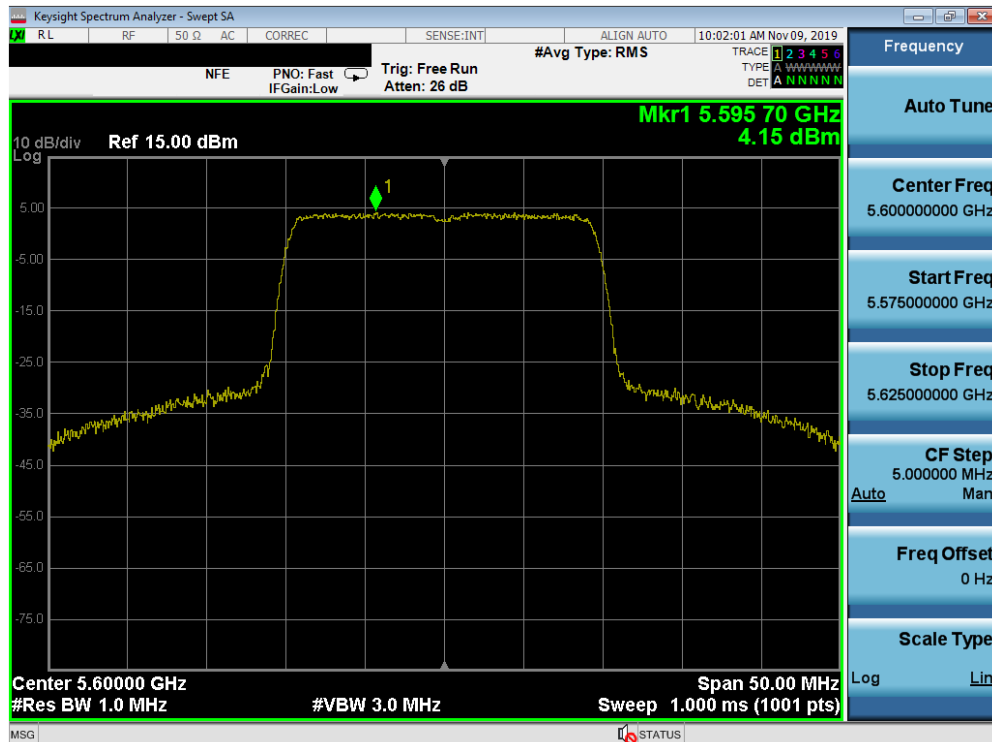


Plot 7-147. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 58)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 119 of 265                 |

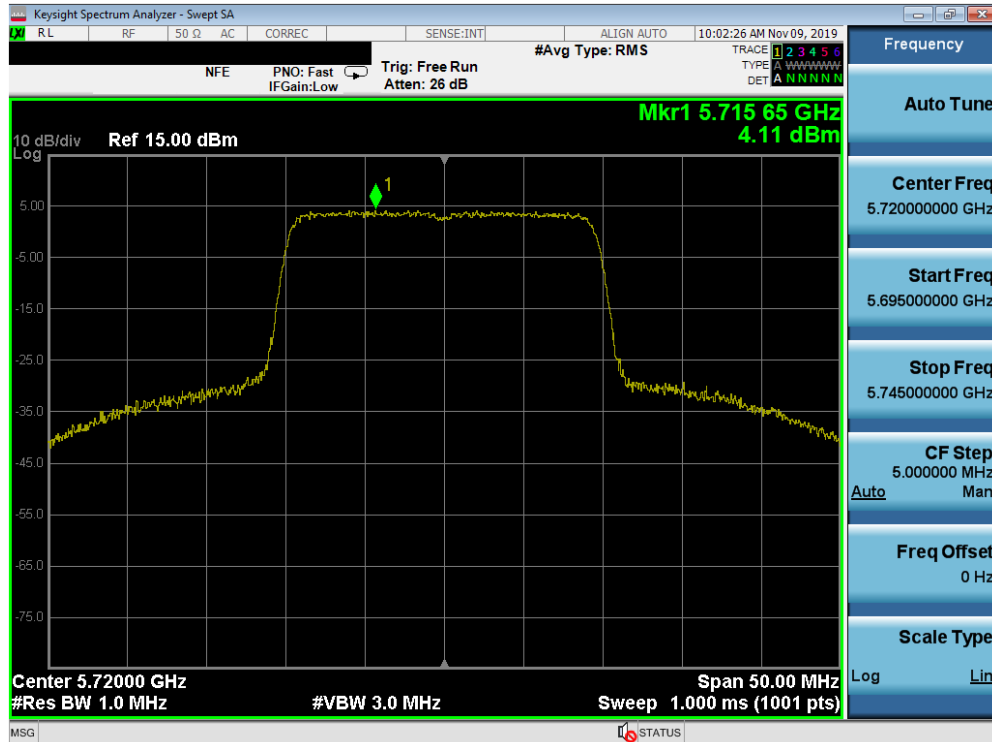


Plot 7-148. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 100)

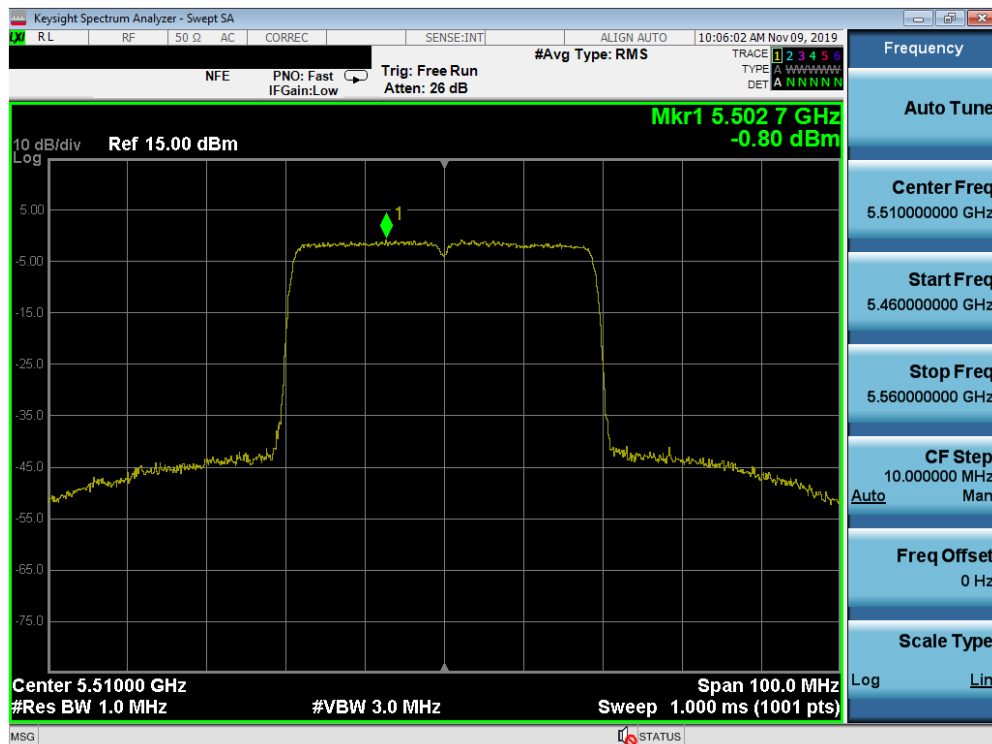


Plot 7-149. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 120)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 120 of 265                 |

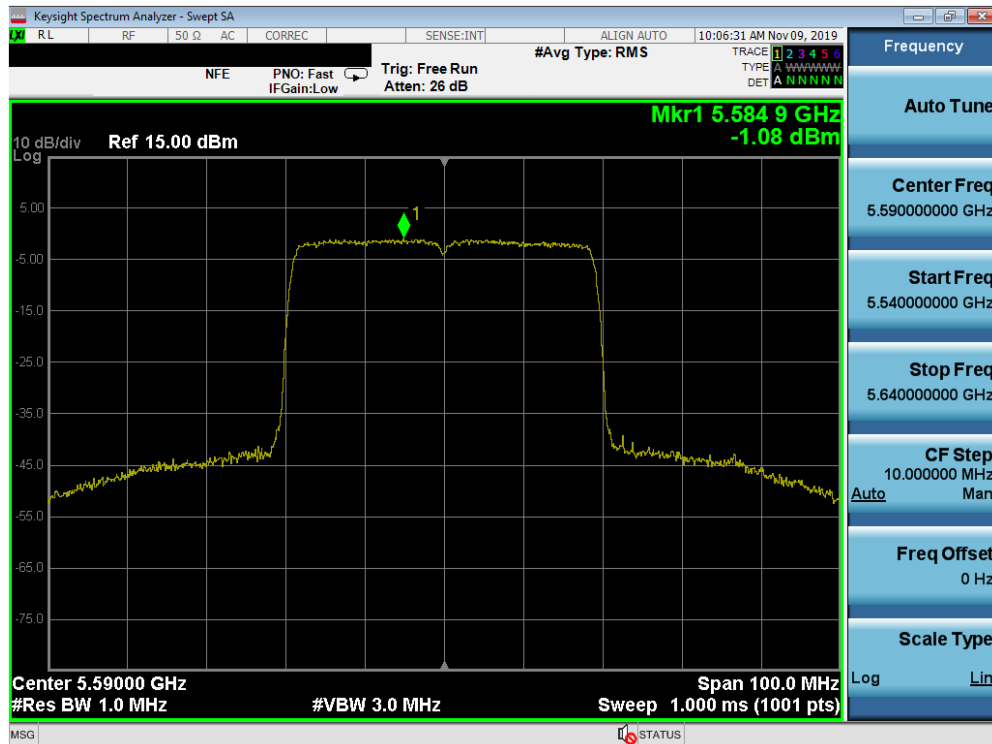


Plot 7-150. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 144)

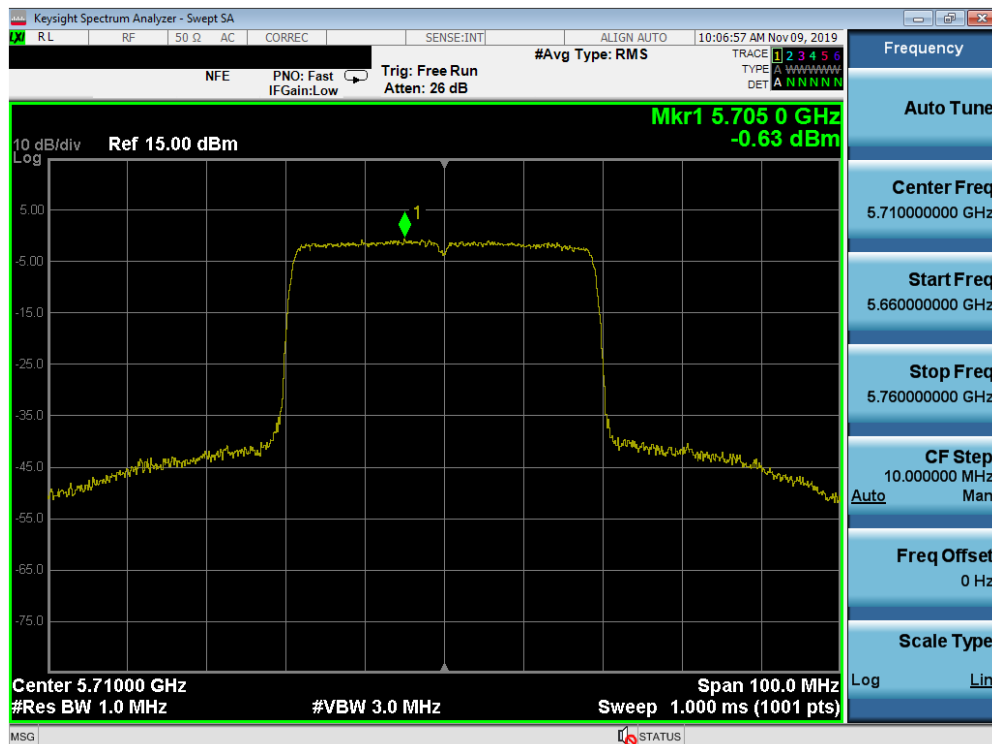


Plot 7-151. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 102)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 121 of 265                 |

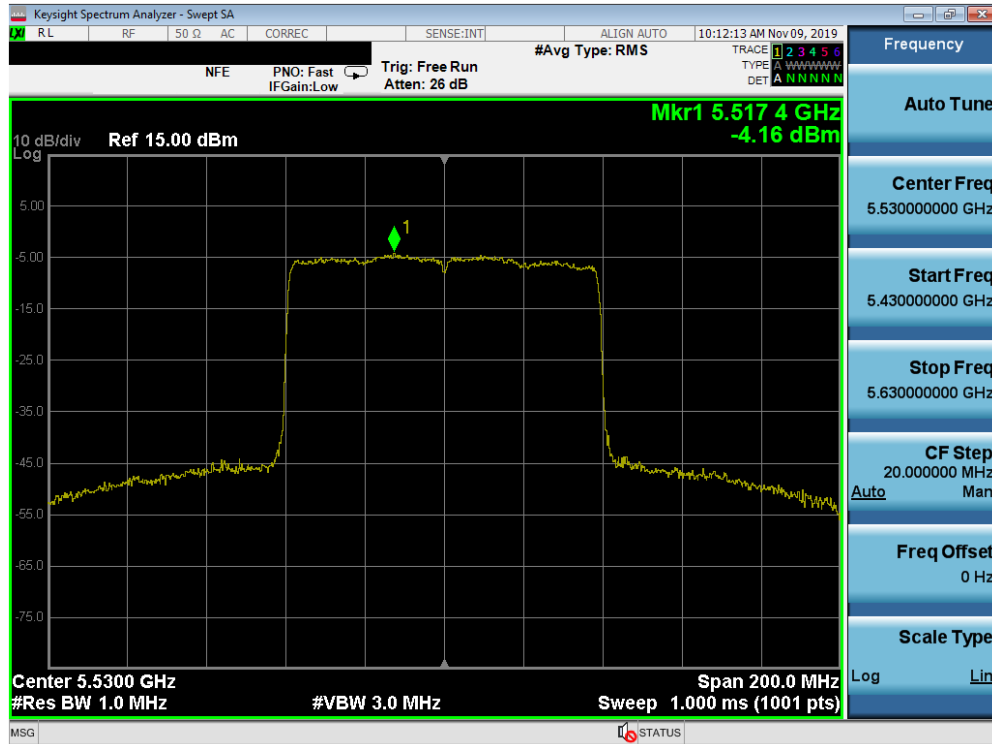


Plot 7-152. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 118)

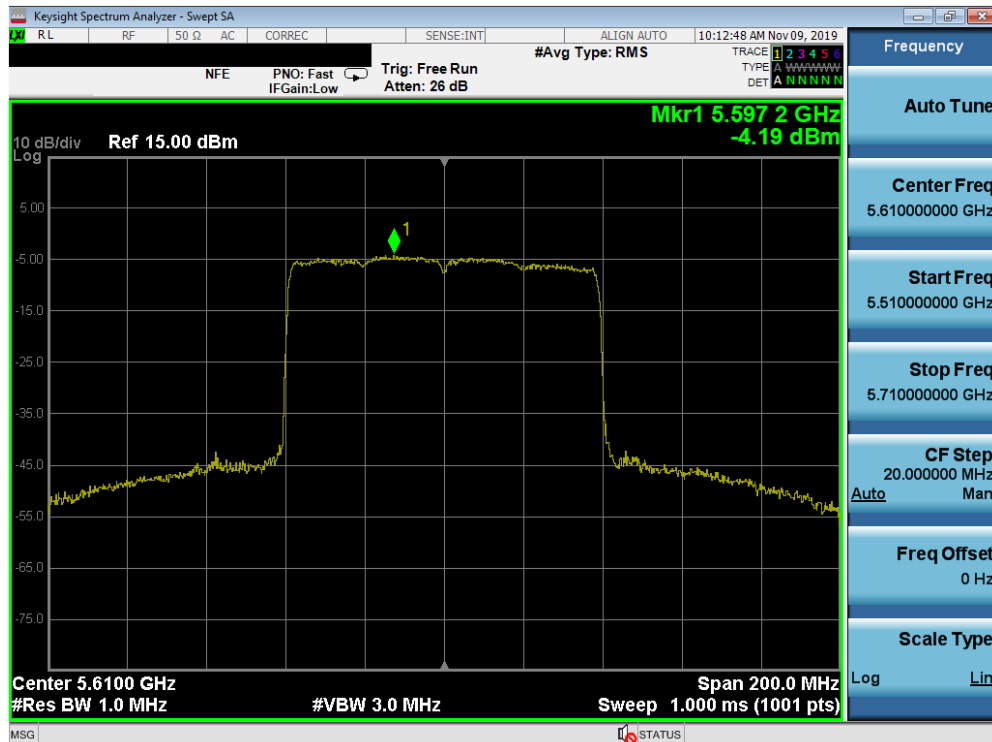


Plot 7-153. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 142)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 122 of 265                 |

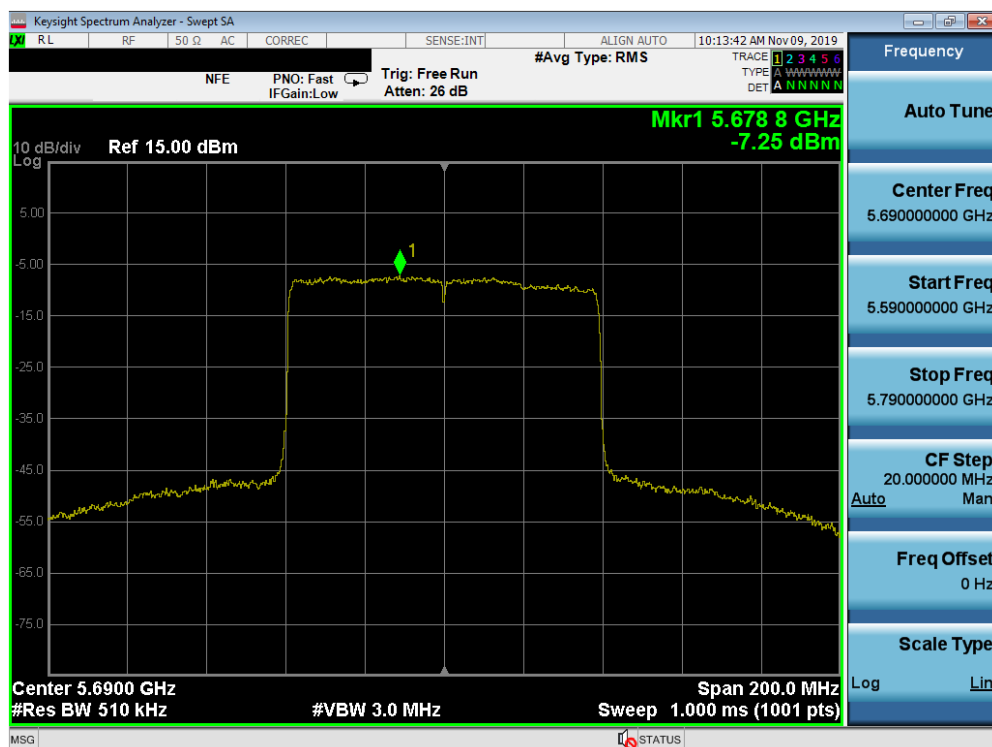


Plot 7-154. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 106)



Plot 7-155. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 122)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 123 of 265                 |



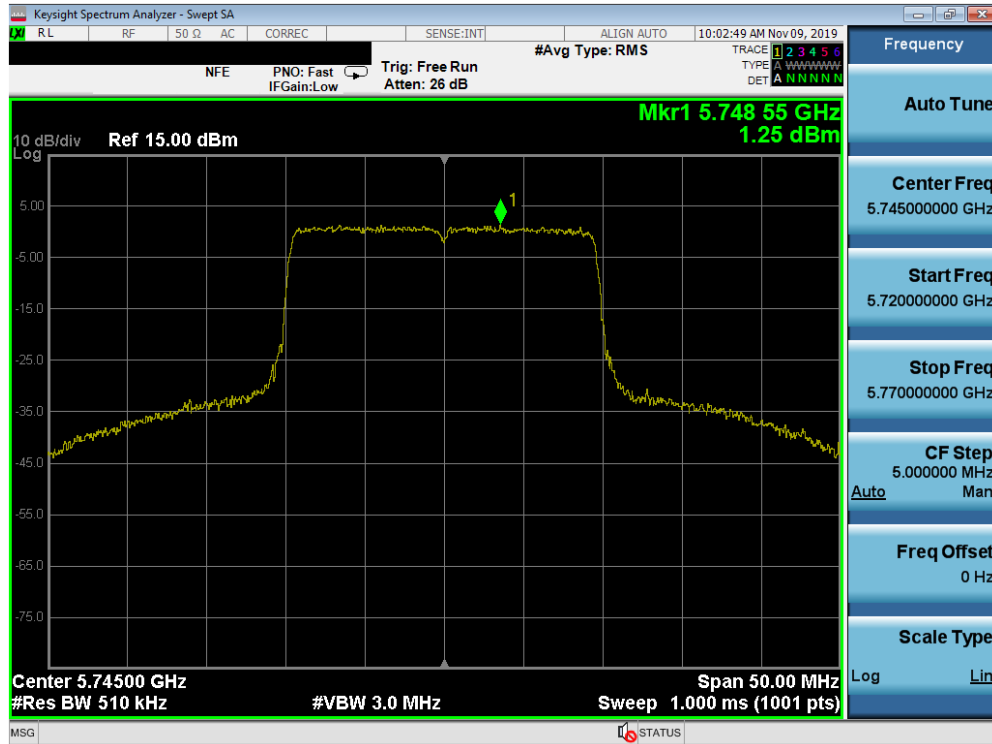
Plot 7-156. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 138)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 124 of 265                 |

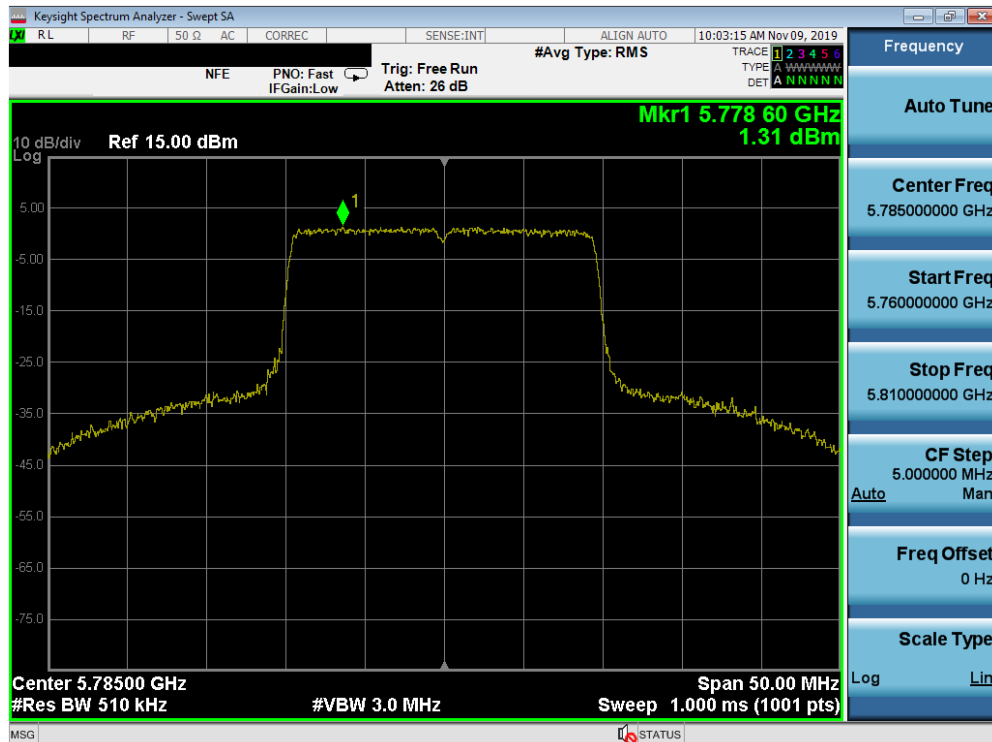
|        | Frequency<br>[MHz] | Channel<br>No. | 802.11 Mode | Tones | Data Rate<br>[Mbps] | Measured Power<br>Density [dBm] | Max<br>Permissible<br>Power<br>Density | Margin<br>[dB] |
|--------|--------------------|----------------|-------------|-------|---------------------|---------------------------------|----------------------------------------|----------------|
| Band 3 | 5745               | 149            | ax (20MHz)  | 242T  | MCS0                | 1.25                            | 30.00                                  | -28.75         |
|        | 5785               | 157            | ax (20MHz)  | 242T  | MCS0                | 1.31                            | 30.00                                  | -28.69         |
|        | 5825               | 165            | ax (20MHz)  | 242T  | MCS0                | 1.39                            | 30.00                                  | -28.61         |
|        | 5755               | 151            | ax (40MHz)  | 242T  | MCS0                | -3.16                           | 30.00                                  | -33.16         |
|        | 5795               | 159            | ax (40MHz)  | 242T  | MCS0                | -3.38                           | 30.00                                  | -33.38         |
|        | 5775               | 155            | ax (80MHz)  | 242T  | MCS0                | -4.88                           | 30.00                                  | -34.88         |

**Table 7-62. Band 3 Conducted Power Spectral Density Measurements SISO ANT2 (Full Tones)**

|                                         |                                                                                     |                               |                                       |                                                                                       |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSMG986W                      |  |                               | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20                                                  | EUT Type:<br>Portable Handset |                                       |                                                                                       | Page 125 of 265                 |



Plot 7-157. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 149)

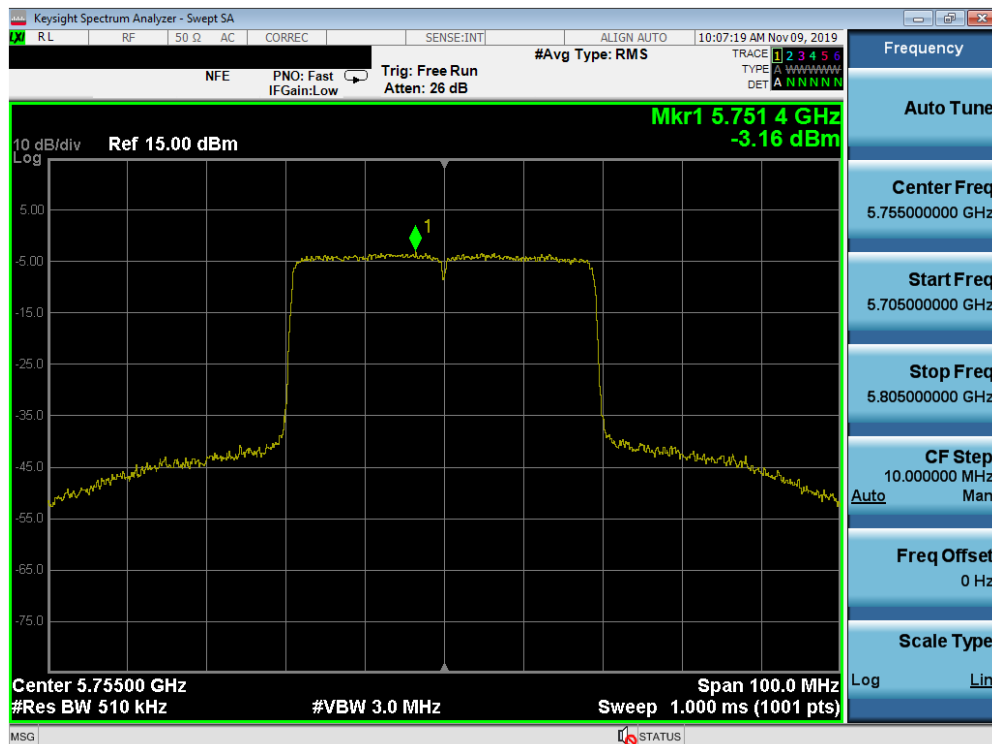


Plot 7-158. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 157)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 126 of 265                 |

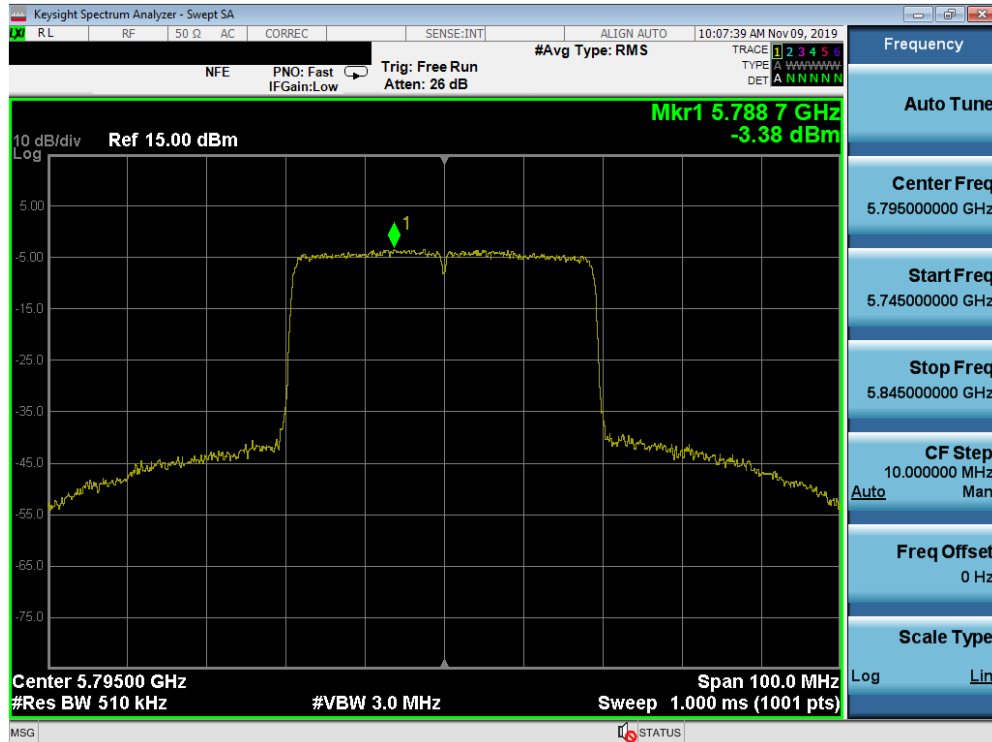


Plot 7-159. Power Spectral Density Plot SISO ANT2 (20 MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 165)

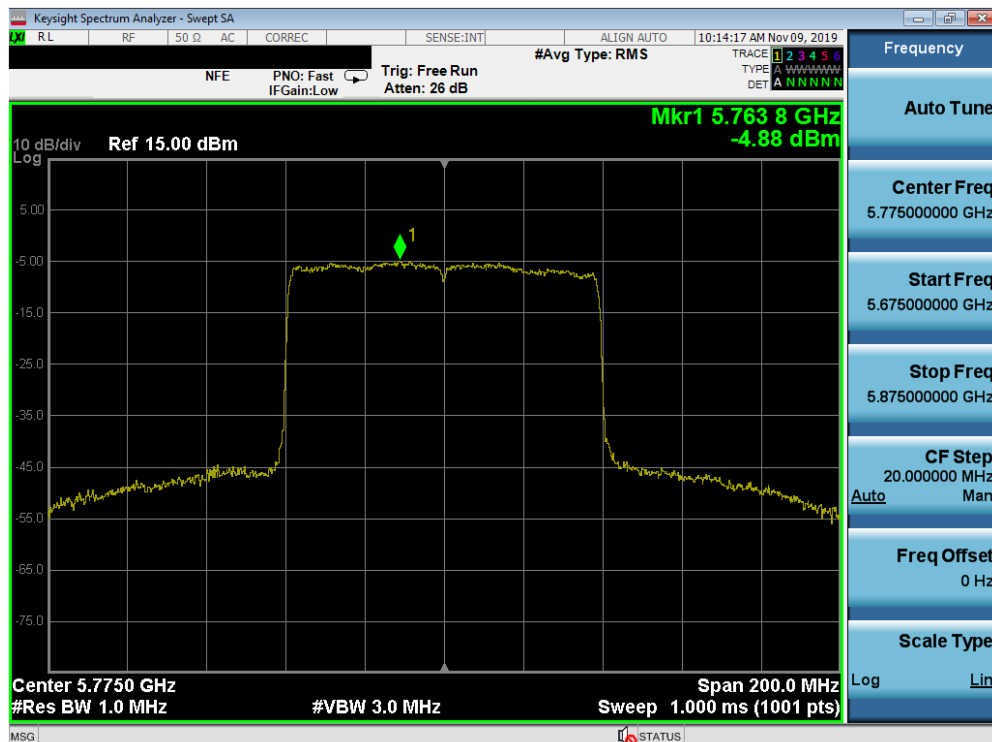


Plot 7-160. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 151)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 127 of 265                 |



Plot 7-161. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 159)



Plot 7-162. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 155)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 128 of 265                 |

## Summed MIMO Power Spectral Density Measurements (26 Tones)

|         | Frequency [MHz] | Channel No. | 802.11 Mode | Tones | 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          | ax (20MHz)  | 26T   | MCS0             | 5.16                          | 6.17                          | 8.70                            | 11.00                       | -2.30       |
|         | 5200            | 40          | ax (20MHz)  | 26T   | MCS0             | 5.07                          | 6.33                          | 8.76                            | 11.00                       | -2.24       |
|         | 5240            | 48          | ax (20MHz)  | 26T   | MCS0             | 5.83                          | 6.50                          | 9.19                            | 11.00                       | -1.81       |
|         | 5190            | 38          | ax (40MHz)  | 26T   | MCS0             | 5.92                          | 6.01                          | 8.97                            | 11.00                       | -2.03       |
|         | 5230            | 46          | ax (40MHz)  | 26T   | MCS0             | 6.29                          | 6.29                          | 9.30                            | 11.00                       | -1.70       |
|         | 5210            | 42          | ax (80MHz)  | 26T   | MCS0             | 6.36                          | 6.32                          | 9.35                            | 11.00                       | -1.65       |
| Band 2A | 5260            | 52          | ax (20MHz)  | 26T   | MCS0             | 4.36                          | 5.04                          | 7.72                            | 11.00                       | -3.28       |
|         | 5280            | 56          | ax (20MHz)  | 26T   | MCS0             | 4.44                          | 4.88                          | 7.67                            | 11.00                       | -3.33       |
|         | 5320            | 64          | ax (20MHz)  | 26T   | MCS0             | 5.28                          | 5.61                          | 8.46                            | 11.00                       | -2.54       |
|         | 5270            | 54          | ax (40MHz)  | 26T   | MCS0             | 5.18                          | 5.03                          | 8.12                            | 11.00                       | -2.88       |
|         | 5310            | 62          | ax (40MHz)  | 26T   | MCS0             | 5.85                          | 5.88                          | 8.87                            | 11.00                       | -2.13       |
|         | 5290            | 58          | ax (80MHz)  | 26T   | MCS0             | 5.53                          | 6.01                          | 8.79                            | 11.00                       | -2.21       |
| Band 2C | 5500            | 100         | ax (20MHz)  | 26T   | MCS0             | 4.92                          | 4.30                          | 7.63                            | 11.00                       | -3.37       |
|         | 5600            | 120         | ax (20MHz)  | 26T   | MCS0             | 4.18                          | 4.65                          | 7.43                            | 11.00                       | -3.57       |
|         | 5720            | 144         | ax (20MHz)  | 26T   | MCS0             | 4.68                          | 4.90                          | 7.80                            | 11.00                       | -3.20       |
|         | 5510            | 102         | ax (40MHz)  | 26T   | MCS0             | 5.59                          | 4.99                          | 8.31                            | 11.00                       | -2.69       |
|         | 5590            | 118         | ax (40MHz)  | 26T   | MCS0             | 6.72                          | 5.68                          | 9.24                            | 11.00                       | -1.76       |
|         | 5710            | 142         | ax (40MHz)  | 26T   | MCS0             | 5.91                          | 5.01                          | 8.49                            | 11.00                       | -2.51       |
|         | 5530            | 106         | ax (80MHz)  | 26T   | MCS0             | 6.66                          | 5.47                          | 9.12                            | 11.00                       | -1.88       |
|         | 5610            | 122         | ax (80MHz)  | 26T   | MCS0             | 6.79                          | 5.45                          | 9.18                            | 11.00                       | -1.82       |
|         | 5690            | 138         | ax (80MHz)  | 26T   | MCS0             | 4.37                          | 3.02                          | 6.76                            | 11.00                       | -4.24       |

Table 7-63. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

|        | Frequency [MHz] | Channel No. | 802.11 Mode | Tones | Data Rate [Mbps] | Antenna-1 Power Density [dBm] | Antenna-2 Power Density [dBm] | Summed MIMO Power Density [dBm] | Directional Antenna Gain [dBi] | e.i.r.p. Power Density [dBm/MHz] | ISED Max e.i.r.p. Power Density [dBm/MHz] | Margin [dB] |
|--------|-----------------|-------------|-------------|-------|------------------|-------------------------------|-------------------------------|---------------------------------|--------------------------------|----------------------------------|-------------------------------------------|-------------|
| Band 1 | 5180            | 36          | ax (20MHz)  | 26T   | MCS0             | 5.16                          | 8.70                          | 10.29                           | -3.44                          | 6.85                             | 10.0                                      | -3.15       |
|        | 5200            | 40          | ax (20MHz)  | 26T   | MCS0             | 5.07                          | 8.76                          | 10.30                           | -3.68                          | 6.62                             | 10.0                                      | -3.38       |
|        | 5240            | 48          | ax (20MHz)  | 26T   | MCS0             | 5.83                          | 9.19                          | 10.84                           | -3.44                          | 7.40                             | 10.0                                      | -2.60       |
|        | 5190            | 38          | ax (40MHz)  | 26T   | MCS0             | 5.92                          | 8.97                          | 10.72                           | -3.68                          | 7.04                             | 10.0                                      | -2.96       |
|        | 5230            | 46          | ax (40MHz)  | 26T   | MCS0             | 6.29                          | 9.30                          | 11.06                           | -3.44                          | 7.62                             | 10.0                                      | -2.38       |
|        | 5210            | 42          | ax (80MHz)  | 26T   | MCS0             | 6.36                          | 9.35                          | 11.12                           | -3.44                          | 7.68                             | 10.0                                      | -2.32       |

Table 7-64. Band 1 MIMO e.i.r.p Conducted Power Spectral Density Measurements (ISED 26 Tones)

|        | Frequency [MHz] | Channel No. | 802.11 Mode | Tones | Data Rate [Mbps] | Antenna-1 Power Density [dBm] | Antenna-2 Power Density [dBm] | Summed MIMO Power Density [dBm] | Max Permissible Power Density | Margin [dB] |
|--------|-----------------|-------------|-------------|-------|------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------|-------------|
| Band 3 | 5745            | 149         | ax (20MHz)  | 26T   | MCS0             | 2.69                          | 3.73                          | 6.25                            | 30.00                         | -23.75      |
|        | 5785            | 157         | ax (20MHz)  | 26T   | MCS0             | 2.67                          | 3.04                          | 5.87                            | 30.00                         | -24.13      |
|        | 5825            | 165         | ax (20MHz)  | 26T   | MCS0             | 2.29                          | 2.91                          | 5.62                            | 30.00                         | -24.38      |
|        | 5755            | 151         | ax (40MHz)  | 26T   | MCS0             | 2.67                          | 2.85                          | 5.77                            | 30.00                         | -24.23      |
|        | 5795            | 159         | ax (40MHz)  | 26T   | MCS0             | 2.85                          | 3.49                          | 6.19                            | 30.00                         | -23.81      |
|        | 5775            | 155         | ax (80MHz)  | 26T   | MCS0             | 6.10                          | 6.47                          | 9.30                            | 30.00                         | -20.70      |

Table 7-65. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

|                                         |                                                                                                                                                                                                                     |                               |                                 |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------|
| FCC ID: A3LSMG986W                      |  <b>MEASUREMENT REPORT (CERTIFICATION)</b>  |                               | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20                                                                                                                                                                                  | EUT Type:<br>Portable Handset | Page 129 of 265                 |

## Summed MIMO Power Spectral Density Measurements (Full Tones)

|         | Frequency [MHz] | Channel No. | 802.11 Mode | Tones | 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          | ax (20MHz)  | 242T  | MCS0             | 0.62                          | 0.89                          | 3.77                            | 11.00                       | -7.23       |
|         | 5200            | 40          | ax (20MHz)  | 242T  | MCS0             | 0.77                          | 1.12                          | 3.96                            | 11.00                       | -7.04       |
|         | 5240            | 48          | ax (20MHz)  | 242T  | MCS0             | 1.68                          | 1.42                          | 4.56                            | 11.00                       | -6.44       |
|         | 5190            | 38          | ax (40MHz)  | 484T  | MCS0             | -1.84                         | -1.46                         | 1.36                            | 11.00                       | -9.64       |
|         | 5230            | 46          | ax (40MHz)  | 484T  | MCS0             | -2.44                         | -1.99                         | 0.80                            | 11.00                       | -10.20      |
|         | 5210            | 42          | ax (80MHz)  | 996T  | MCS0             | -6.16                         | -6.96                         | -3.53                           | 11.00                       | -14.53      |
| Band 2A | 5260            | 52          | ax (20MHz)  | 242T  | MCS0             | 2.15                          | 1.57                          | 4.88                            | 11.00                       | -6.12       |
|         | 5280            | 56          | ax (20MHz)  | 242T  | MCS0             | 3.00                          | 1.47                          | 5.31                            | 11.00                       | -5.69       |
|         | 5320            | 64          | ax (20MHz)  | 242T  | MCS0             | 2.78                          | 1.28                          | 5.10                            | 11.00                       | -5.90       |
|         | 5270            | 54          | ax (40MHz)  | 484T  | MCS0             | -2.97                         | -2.68                         | 0.19                            | 11.00                       | -10.81      |
|         | 5310            | 62          | ax (40MHz)  | 484T  | MCS0             | -2.15                         | -2.41                         | 0.73                            | 11.00                       | -10.27      |
|         | 5290            | 58          | ax (80MHz)  | 996T  | MCS0             | -6.02                         | -6.61                         | -3.29                           | 11.00                       | -14.29      |
| Band 2C | 5500            | 100         | ax (20MHz)  | 242T  | MCS0             | 2.35                          | 1.97                          | 5.17                            | 11.00                       | -5.83       |
|         | 5600            | 120         | ax (20MHz)  | 242T  | MCS0             | 1.78                          | 0.63                          | 4.25                            | 11.00                       | -6.75       |
|         | 5720            | 144         | ax (20MHz)  | 242T  | MCS0             | 1.17                          | -0.19                         | 3.55                            | 11.00                       | -7.45       |
|         | 5510            | 102         | ax (40MHz)  | 484T  | MCS0             | -2.67                         | -3.10                         | 0.13                            | 11.00                       | -10.87      |
|         | 5590            | 118         | ax (40MHz)  | 484T  | MCS0             | -3.10                         | -3.54                         | -0.30                           | 11.00                       | -11.30      |
|         | 5710            | 142         | ax (40MHz)  | 484T  | MCS0             | -1.51                         | -2.22                         | 1.16                            | 11.00                       | -9.84       |
|         | 5530            | 106         | ax (80MHz)  | 996T  | MCS0             | -6.41                         | -6.83                         | -3.61                           | 11.00                       | -14.61      |
|         | 5610            | 122         | ax (80MHz)  | 996T  | MCS0             | -7.14                         | -7.38                         | -4.25                           | 11.00                       | -15.25      |
|         | 5690            | 138         | ax (80MHz)  | 996T  | MCS0             | -9.58                         | -9.99                         | -6.77                           | 11.00                       | -17.77      |

Table 7-66. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)

|        | Frequency [MHz] | Channel No. | 802.11 Mode | Tones | Data Rate [Mbps] | Antenna-1 Power Density [dBm] | Antenna-2 Power Density [dBm] | Summed MIMO Power Density [dBm] | Directional Antenna Gain [dBi] | e.i.r.p. Power Density [dBm/MHz] | ISED Max e.i.r.p. Power Density [dBm/MHz] | Margin [dB] |
|--------|-----------------|-------------|-------------|-------|------------------|-------------------------------|-------------------------------|---------------------------------|--------------------------------|----------------------------------|-------------------------------------------|-------------|
| Band 1 | 5180            | 36          | ax (20MHz)  | 242T  | MCS0             | 0.62                          | 0.89                          | 3.77                            | -3.44                          | 0.33                             | 10.0                                      | -9.67       |
|        | 5200            | 40          | ax (20MHz)  | 242T  | MCS0             | 0.77                          | 1.12                          | 3.96                            | -3.68                          | 0.28                             | 10.0                                      | -9.72       |
|        | 5240            | 48          | ax (20MHz)  | 242T  | MCS0             | 1.68                          | 1.42                          | 4.56                            | -3.44                          | 1.12                             | 10.0                                      | -8.88       |
|        | 5190            | 38          | ax (40MHz)  | 484T  | MCS0             | -1.84                         | -1.46                         | 1.36                            | -3.68                          | -2.32                            | 10.0                                      | -12.32      |
|        | 5230            | 46          | ax (40MHz)  | 484T  | MCS0             | -2.44                         | -1.99                         | 0.80                            | -3.44                          | -2.64                            | 10.0                                      | -12.64      |
|        | 5210            | 42          | ax (80MHz)  | 996T  | MCS0             | -6.16                         | -6.96                         | -3.53                           | -3.44                          | -6.97                            | 10.0                                      | -16.97      |

Table 7-67. Band 1 MIMO e.i.r.p Conducted Power Spectral Density Measurements (ISED 26 Tones)

|        | Frequency [MHz] | Channel No. | 802.11 Mode | Tones | Data Rate [Mbps] | Antenna-1 Power Density [dBm] | Antenna-2 Power Density [dBm] | Summed MIMO Power Density [dBm] | Max Permissible Power Density | Margin [dB] |
|--------|-----------------|-------------|-------------|-------|------------------|-------------------------------|-------------------------------|---------------------------------|-------------------------------|-------------|
| Band 3 | 5745            | 149         | ax (20MHz)  | 242T  | MCS0             | -0.88                         | -0.87                         | 2.13                            | 30.00                         | -27.87      |
|        | 5785            | 157         | ax (20MHz)  | 242T  | MCS0             | -1.36                         | -0.89                         | 1.89                            | 30.00                         | -28.11      |
|        | 5825            | 165         | ax (20MHz)  | 242T  | MCS0             | -1.33                         | -1.57                         | 1.56                            | 30.00                         | -28.44      |
|        | 5755            | 151         | ax (40MHz)  | 242T  | MCS0             | -4.52                         | -4.22                         | -1.36                           | 30.00                         | -31.36      |
|        | 5795            | 159         | ax (40MHz)  | 242T  | MCS0             | -5.82                         | -6.07                         | -2.93                           | 30.00                         | -32.93      |
|        | 5775            | 155         | ax (80MHz)  | 242T  | MCS0             | -7.66                         | -6.26                         | -3.89                           | 30.00                         | -33.89      |

Table 7-68. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)

|                                         |                                                                                     |                                       |                                                                                       |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSMG986W                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20                                                  | EUT Type:<br>Portable Handset         |                                                                                       | Page 130 of 265                 |

**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 with reduced Antenna 1 and Antenna 2 powers per manufacture's tune-up document. The measured values were then summed in linear power units then converted back to dBm.

Per ANSI C63.10-2013 Section 14.4.3, the directional gain is calculated using the following formula, where  $G_N$  is the gain of the nth antenna and  $N_{ANT}$ , the total number of antennas used.

$$\text{Directional gain} = 10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}] \text{ dBi}$$

**Sample Directional Gain Calculation:**

Assuming the antenna gain is -8.61 dBi for Antenna-1 and -7.68 dBi for Antenna-2.

$$\begin{aligned} \text{Directional gain} &= 10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}] \text{ dBi} \\ &= 10 \log[(10^{-8.61/20} + 10^{-7.68/20} / 2] \text{ dBi} \\ &= (-3.59) \text{ dBi} \end{aligned}$$

**Sample MIMO Calculation:**

Assuming the average conducted power spectral density was measured to be 5.88 dBm for Antenna-1 and 6.27 dBm for Antenna-2.

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

$$(5.88 \text{ dBm} + 6.27 \text{ dBm}) = (3.87 \text{ mW} + 4.24 \text{ mW}) = 8.11 \text{ mW} = 9.09 \text{ dBm}$$

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

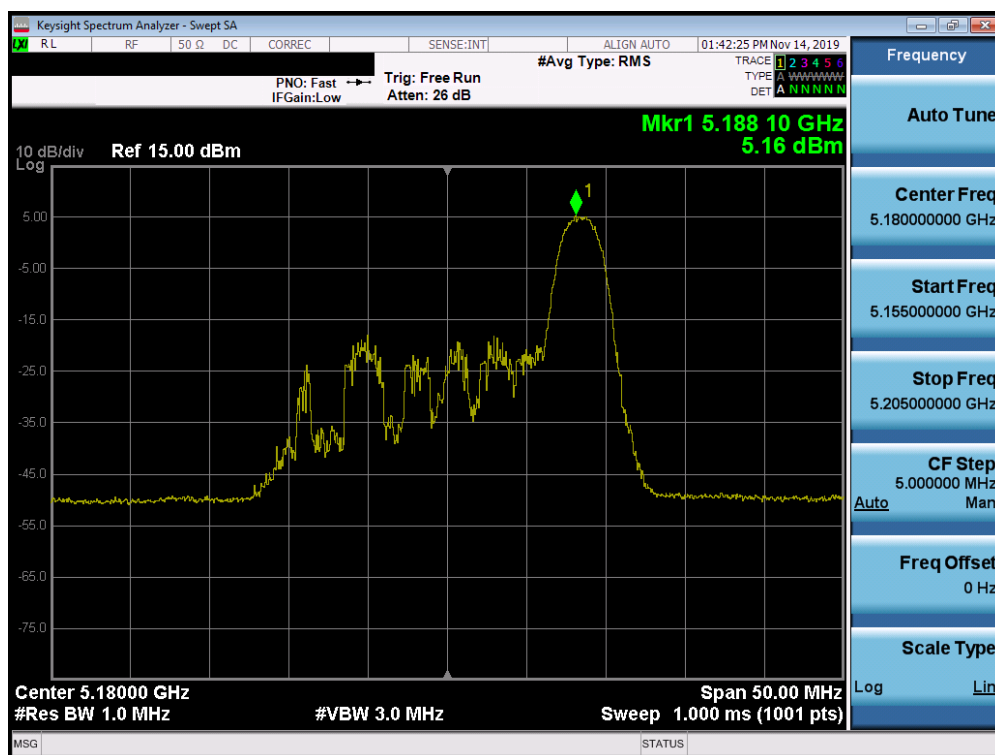
Assuming the MIMO power spectral density was measured to be 10.72 dBm with directional gain of -3.44 dBi

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

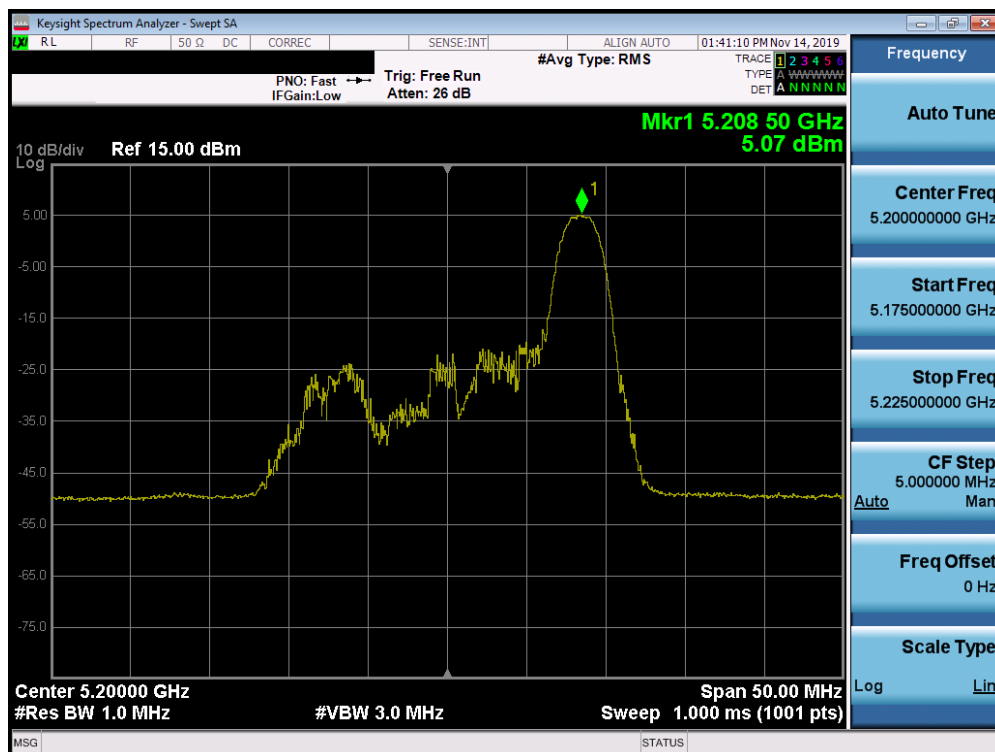
$$10.72 \text{ dBm} + (-3.44) \text{ dBi} = 7.28 \text{ dBm}$$

|                                         |                                                                                     |                                       |                                                                                       |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSMG986W                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20                                                  | EUT Type:<br>Portable Handset         |                                                                                       | Page 131 of 265                 |

## MIMO Antenna-1 Power Spectral Density Measurements (26 Tones)

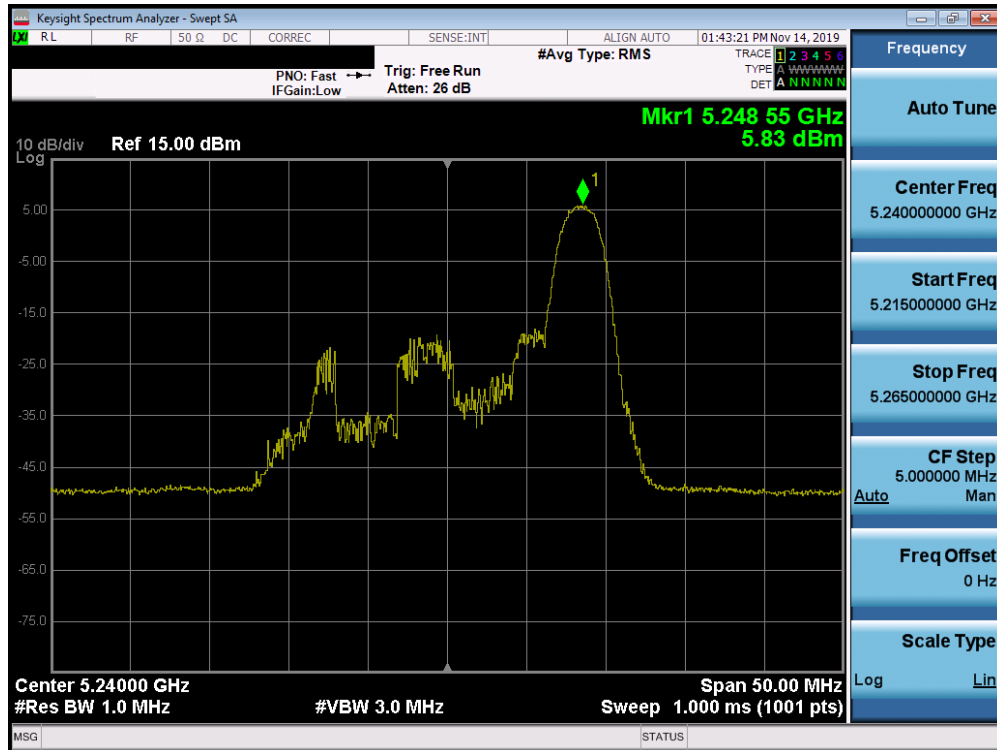


Plot 7-163. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)

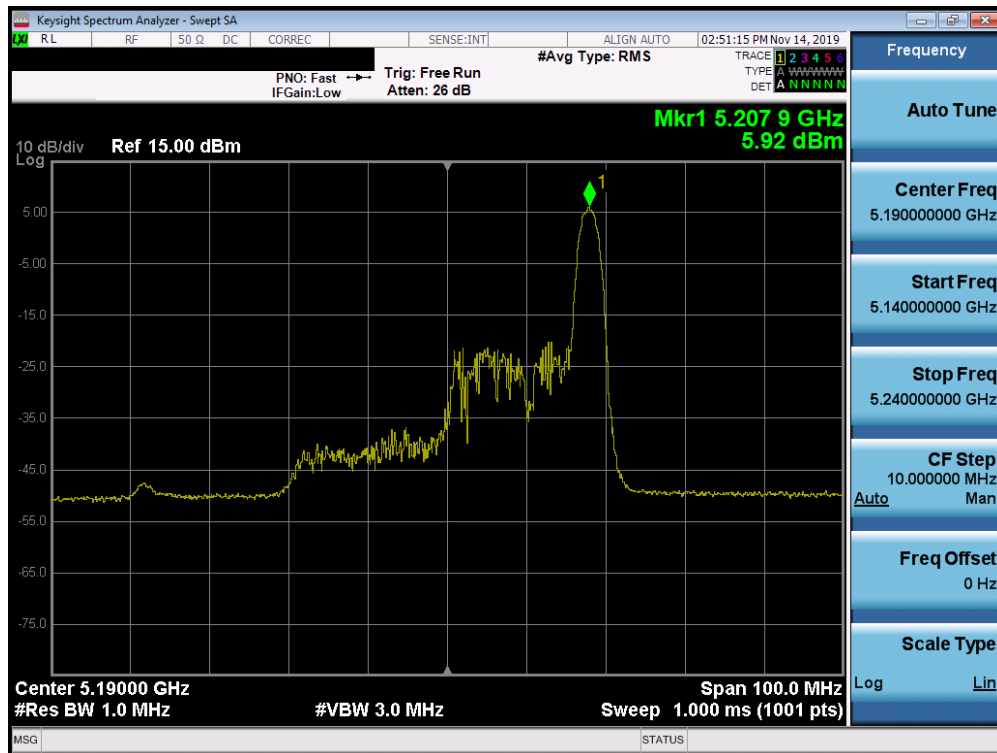


Plot 7-164. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

|                                         |                                                                                     |                                       |                                                                                       |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: A3LSMG986W                      |  | MEASUREMENT REPORT<br>(CERTIFICATION) |  | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20                                                  | EUT Type:<br>Portable Handset         |                                                                                       | Page 132 of 265                 |

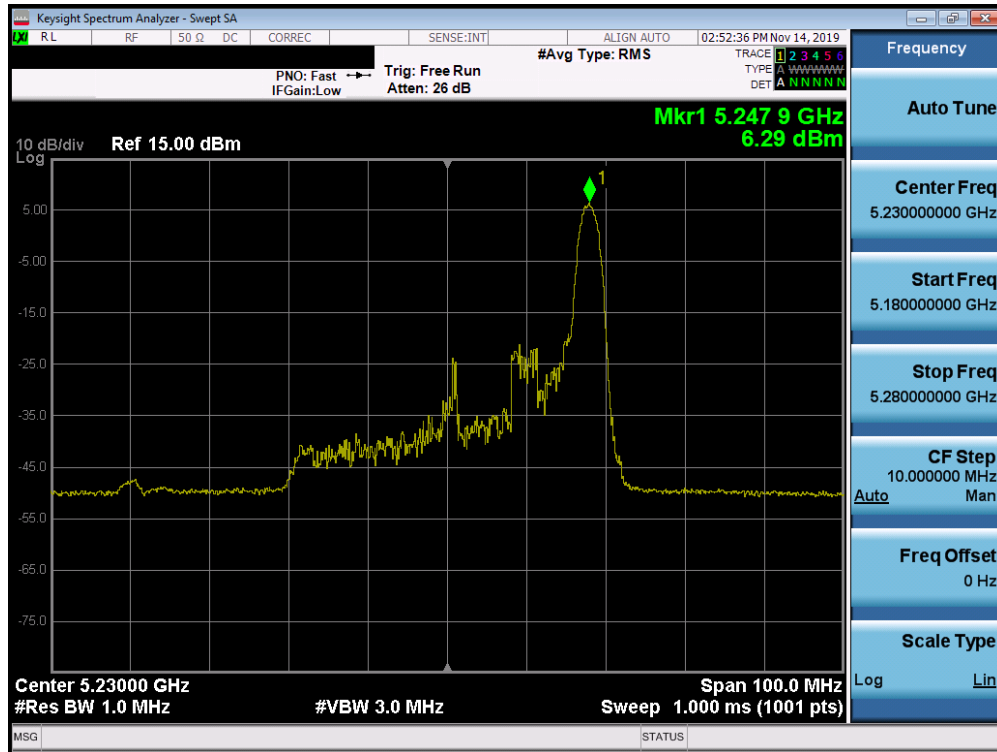


Plot 7-165. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

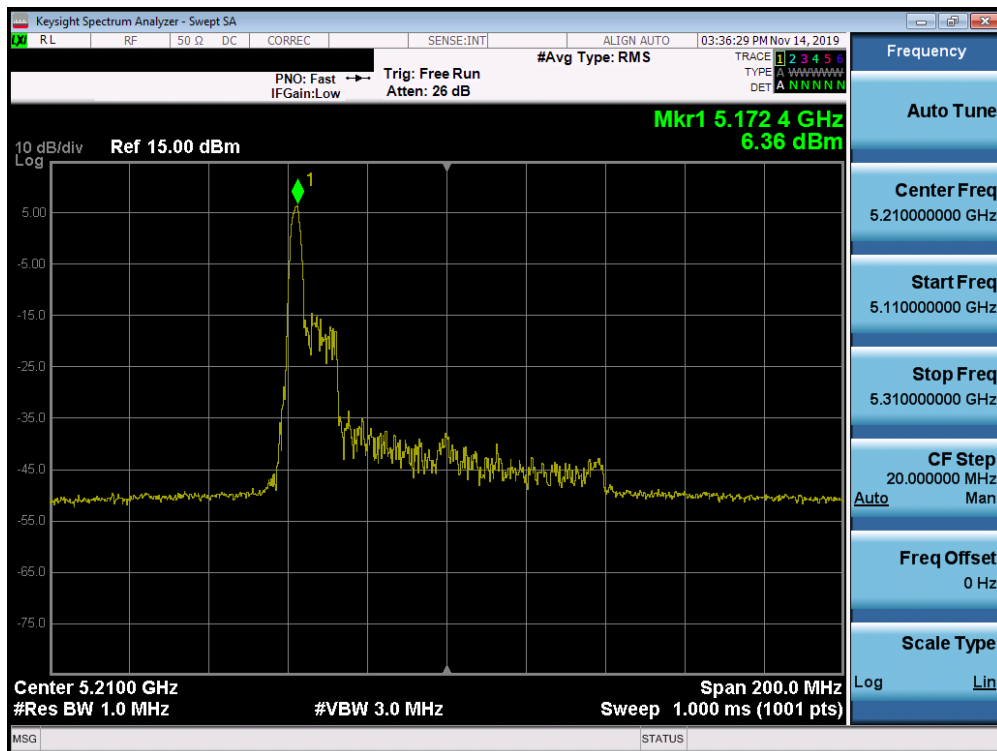


Plot 7-166. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 133 of 265                 |

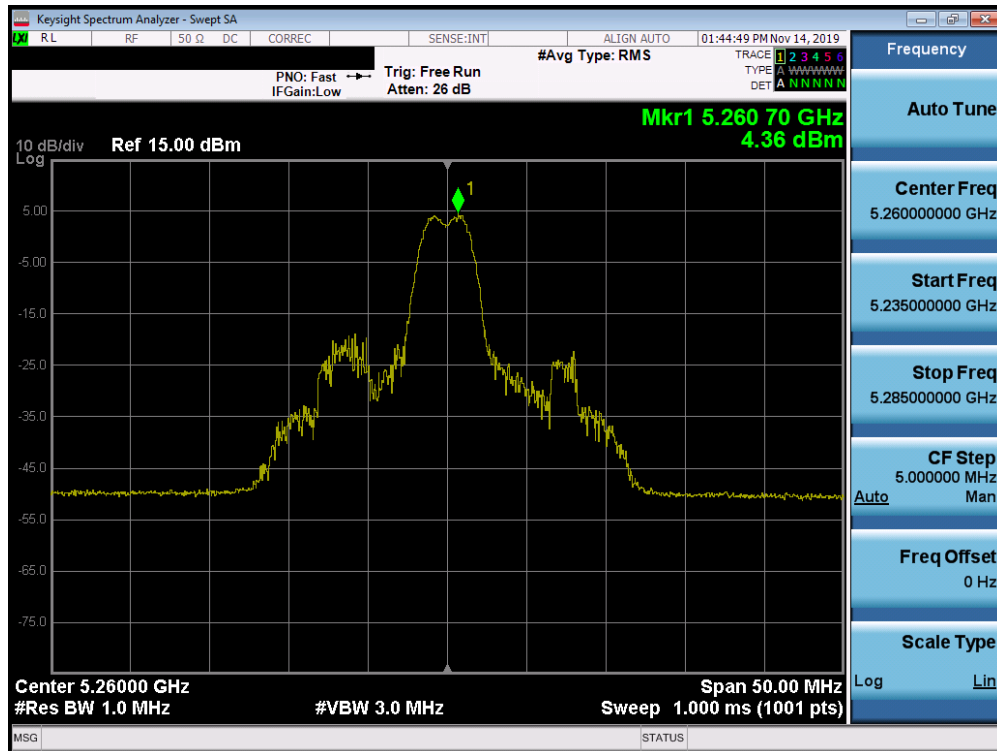


Plot 7-167. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)

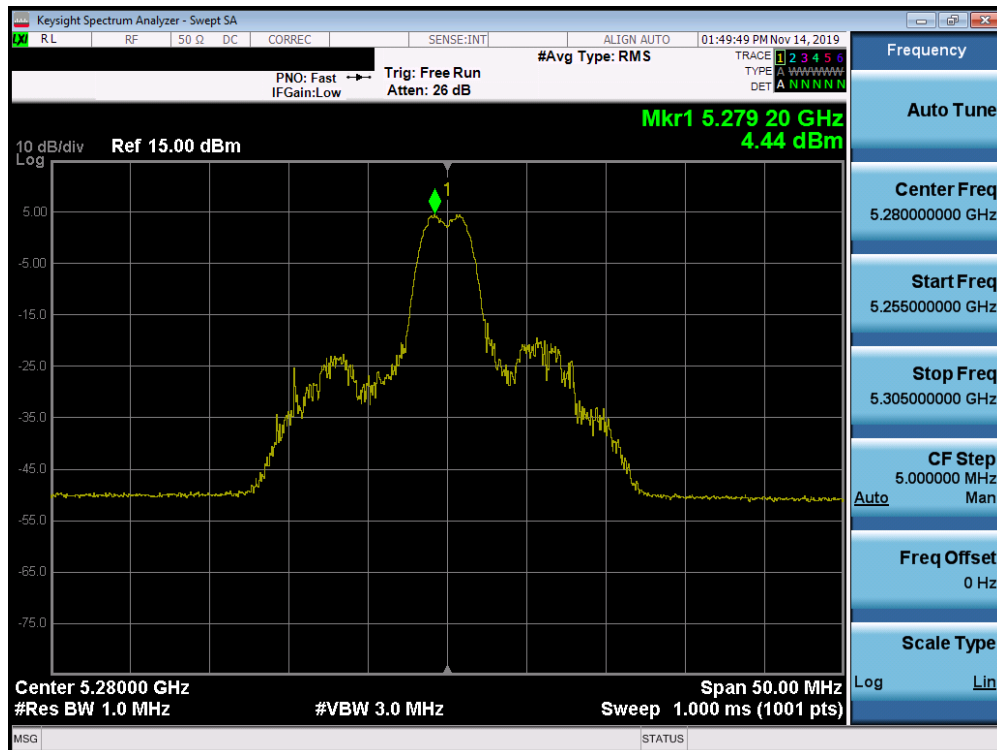


Plot 7-168. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 134 of 265                 |

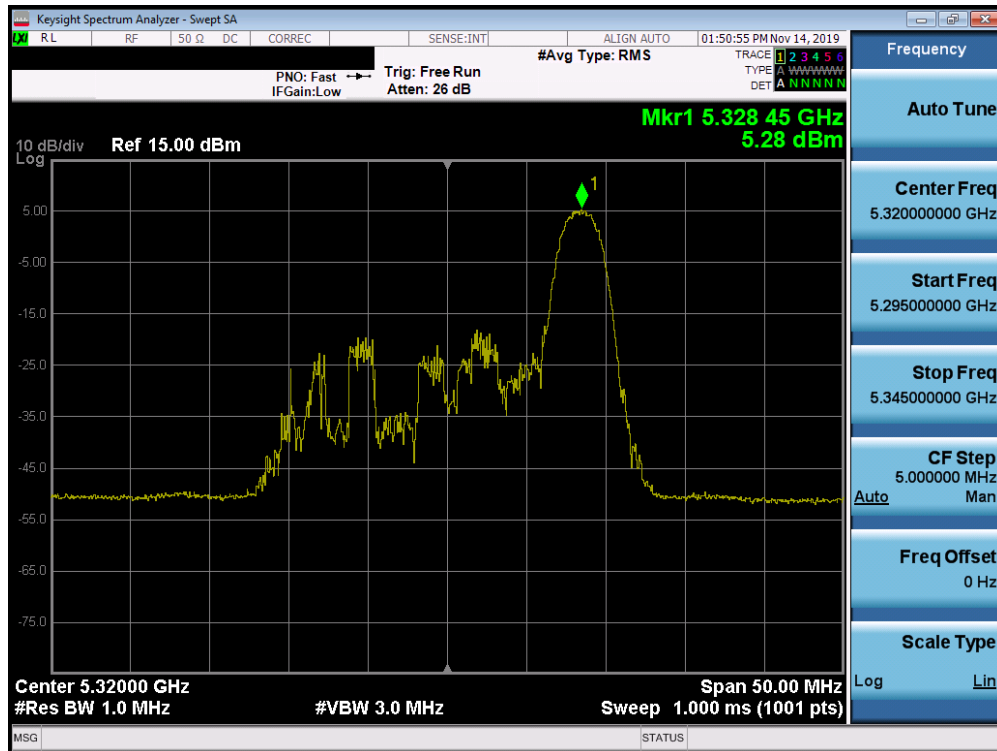


Plot 7-169. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

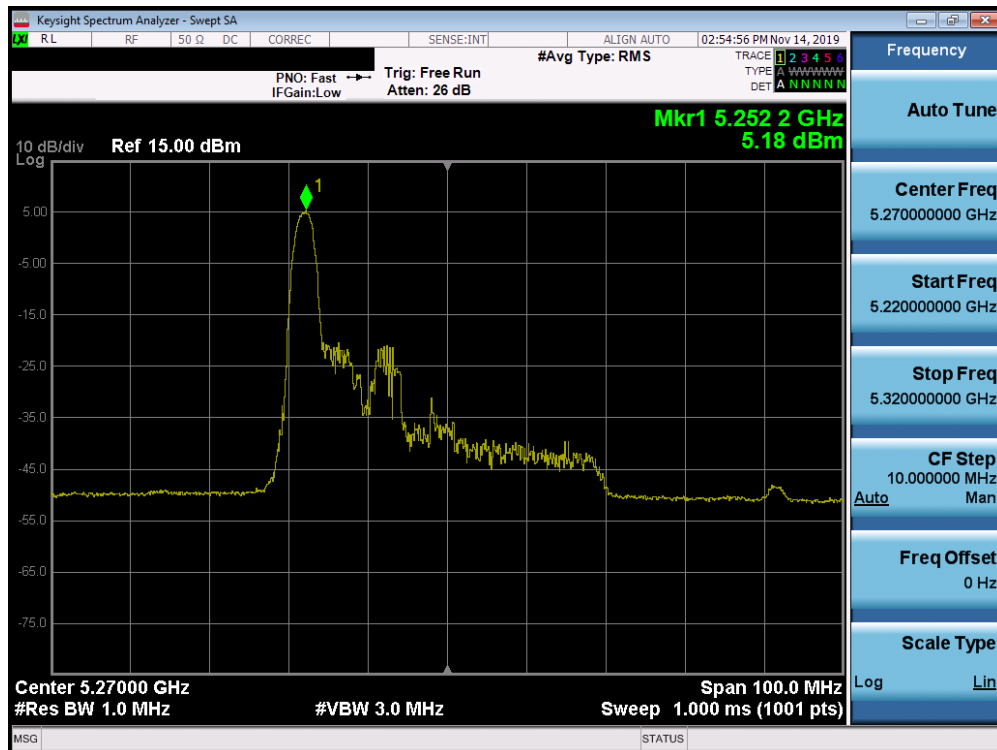


Plot 7-170. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 135 of 265                 |

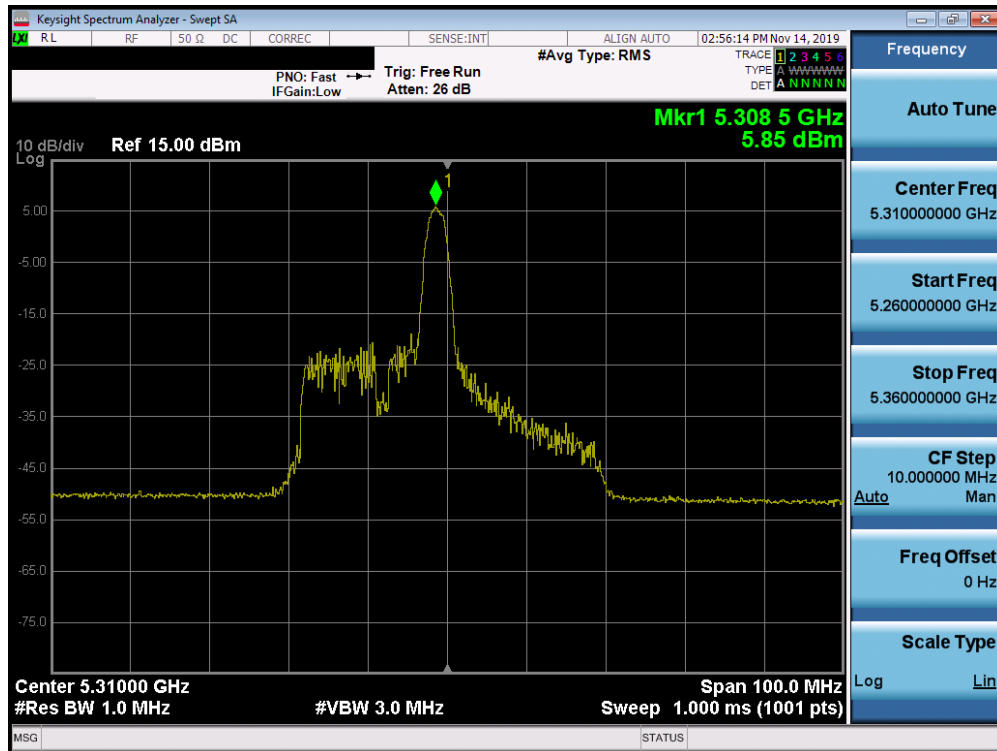


Plot 7-171. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)

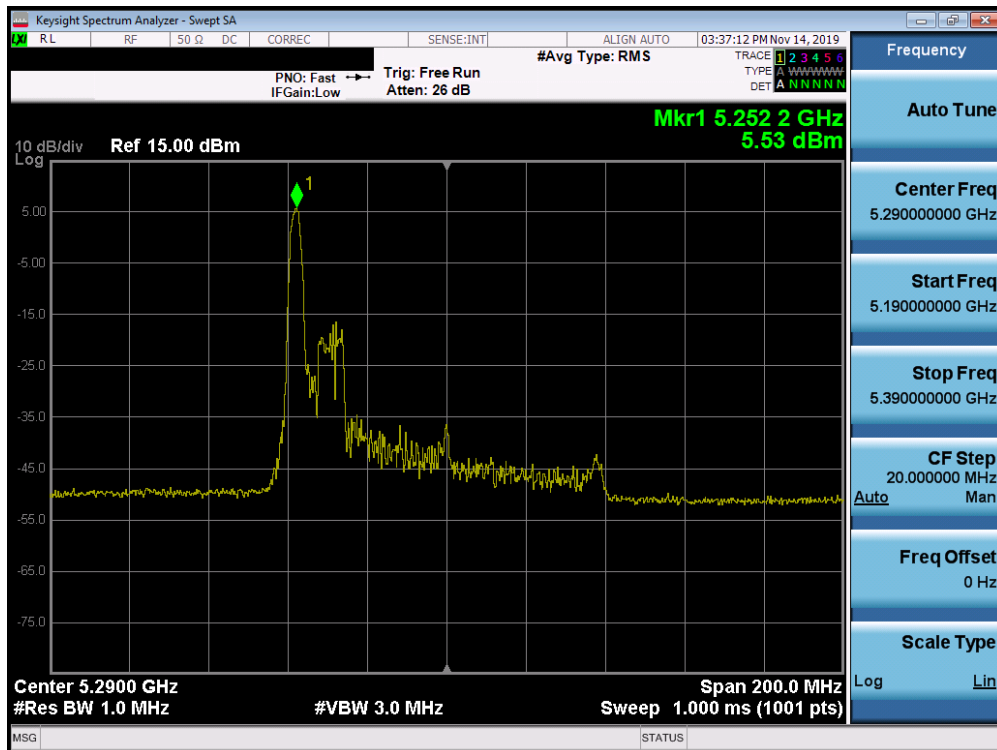


Plot 7-172. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 136 of 265                 |

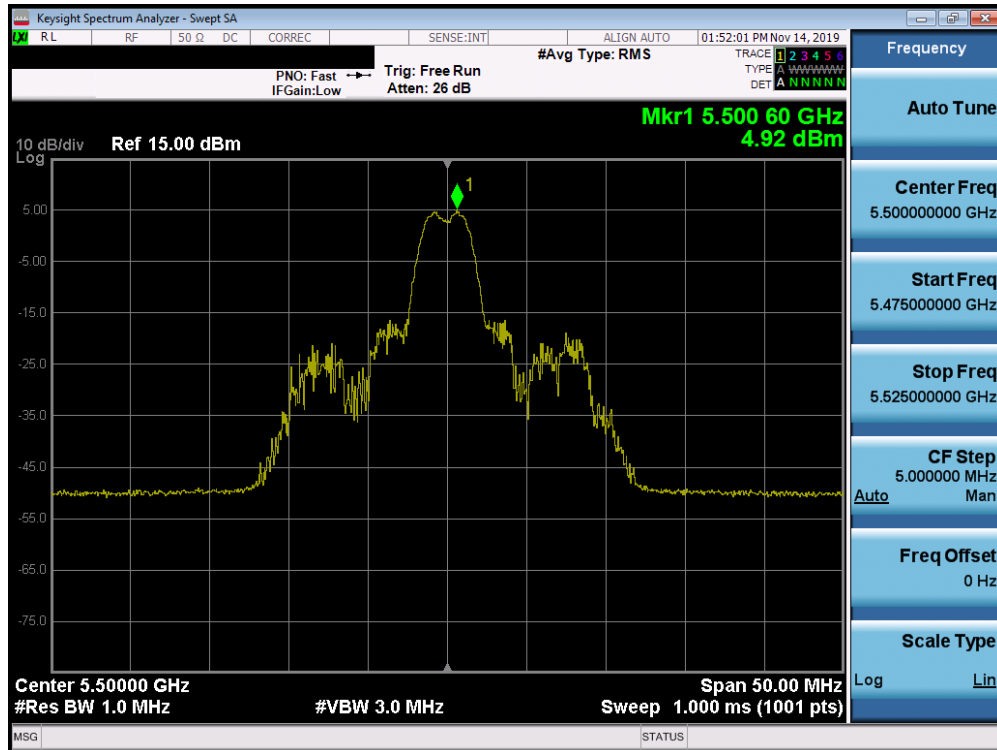


Plot 7-173. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

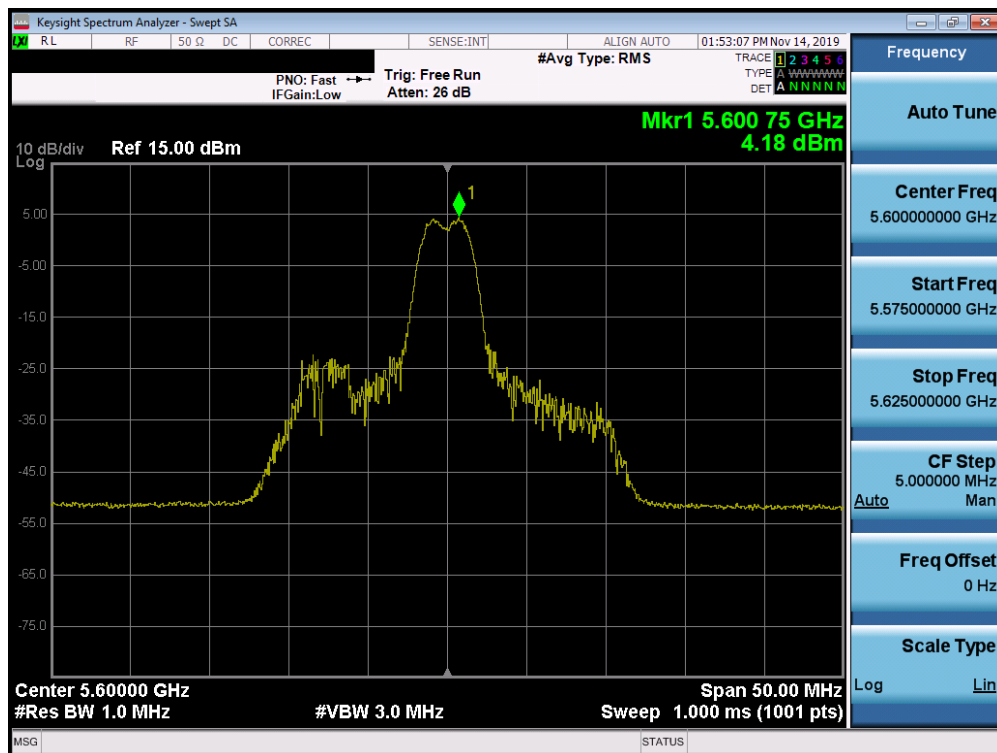


Plot 7-174. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 137 of 265                 |

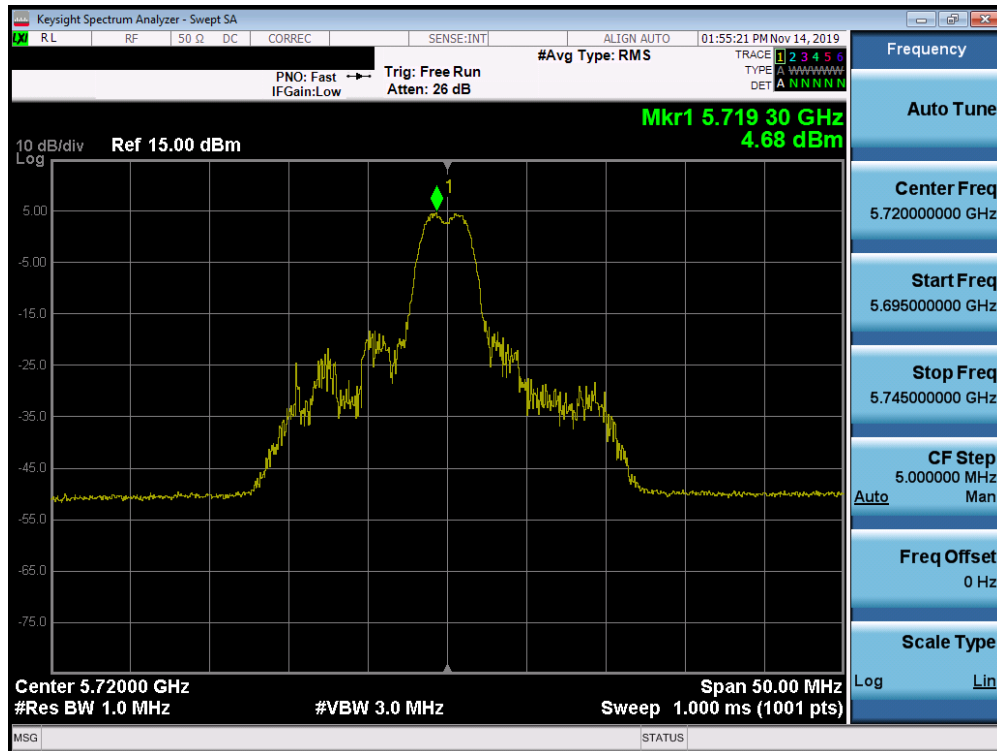


Plot 7-175. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

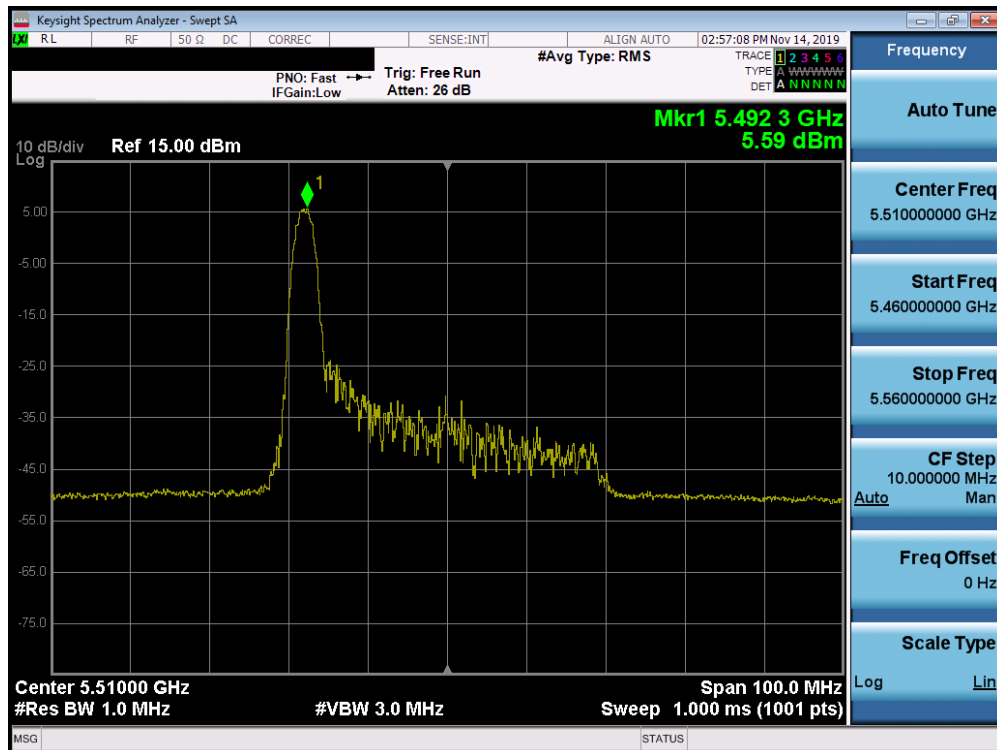


Plot 7-176. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 138 of 265                 |

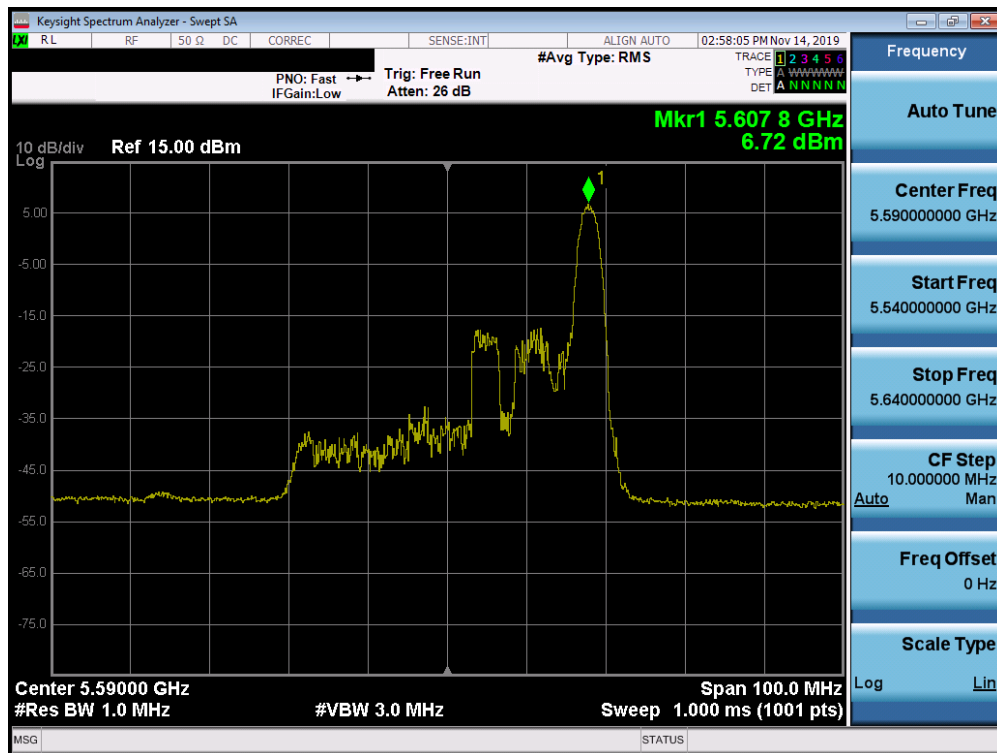


Plot 7-177. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

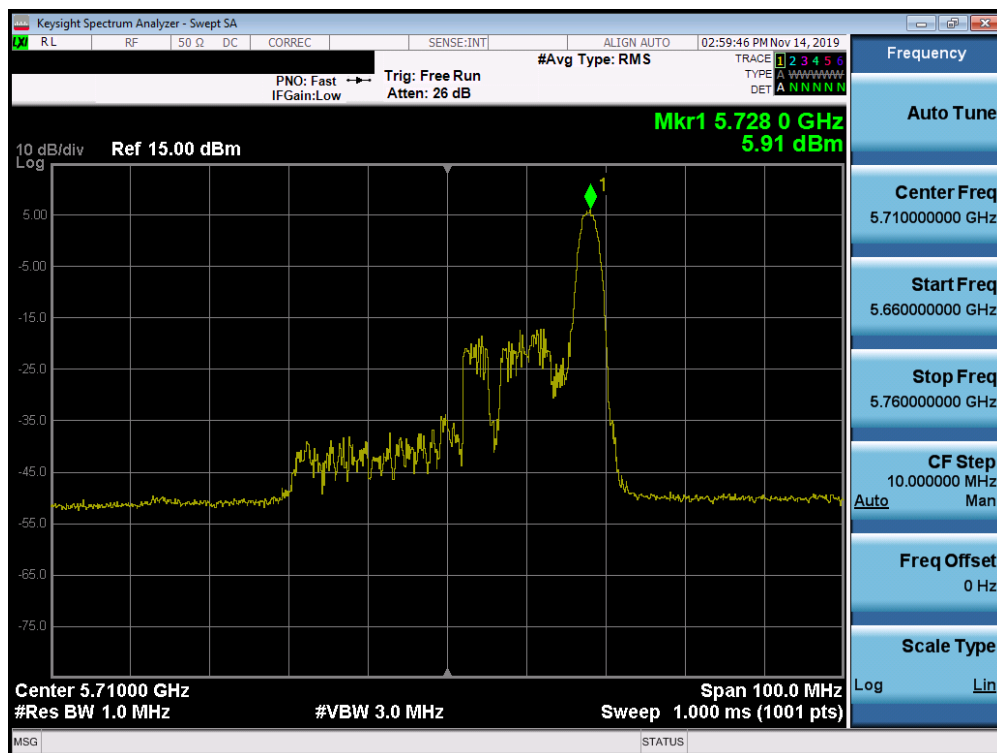


Plot 7-178. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 139 of 265                 |

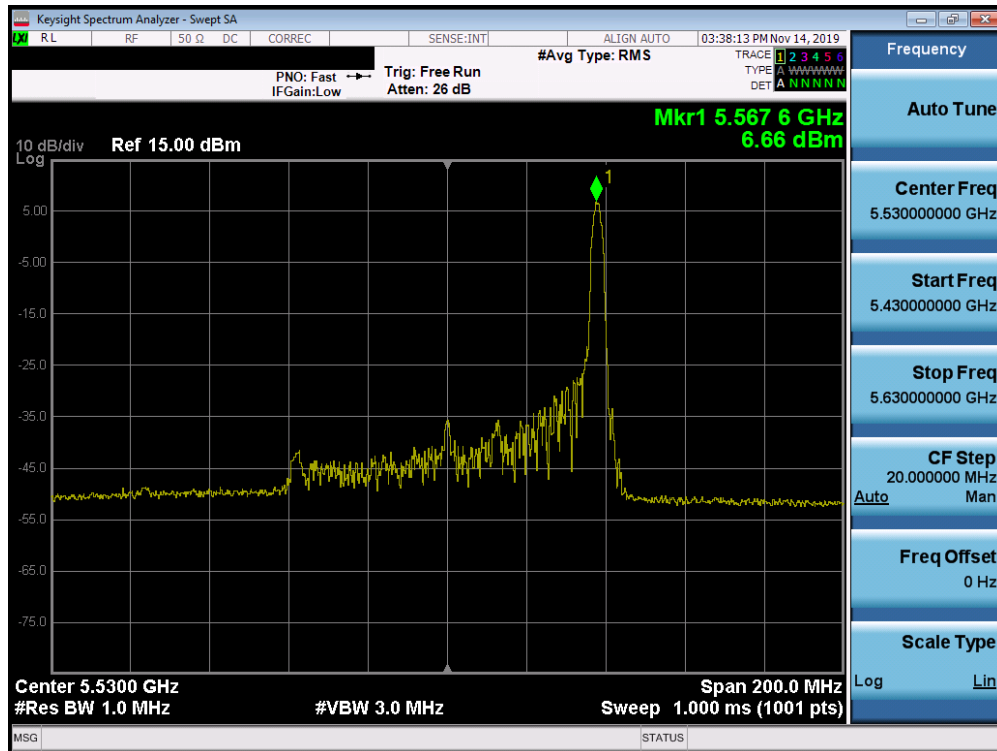


Plot 7-179. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

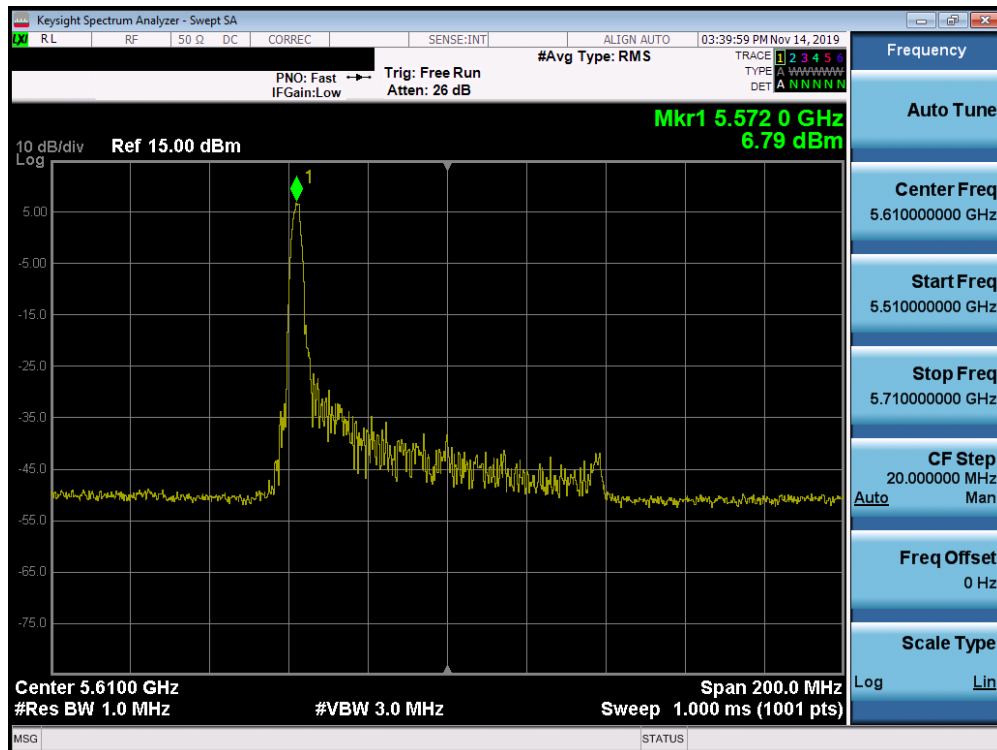


Plot 7-180. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 140 of 265                 |

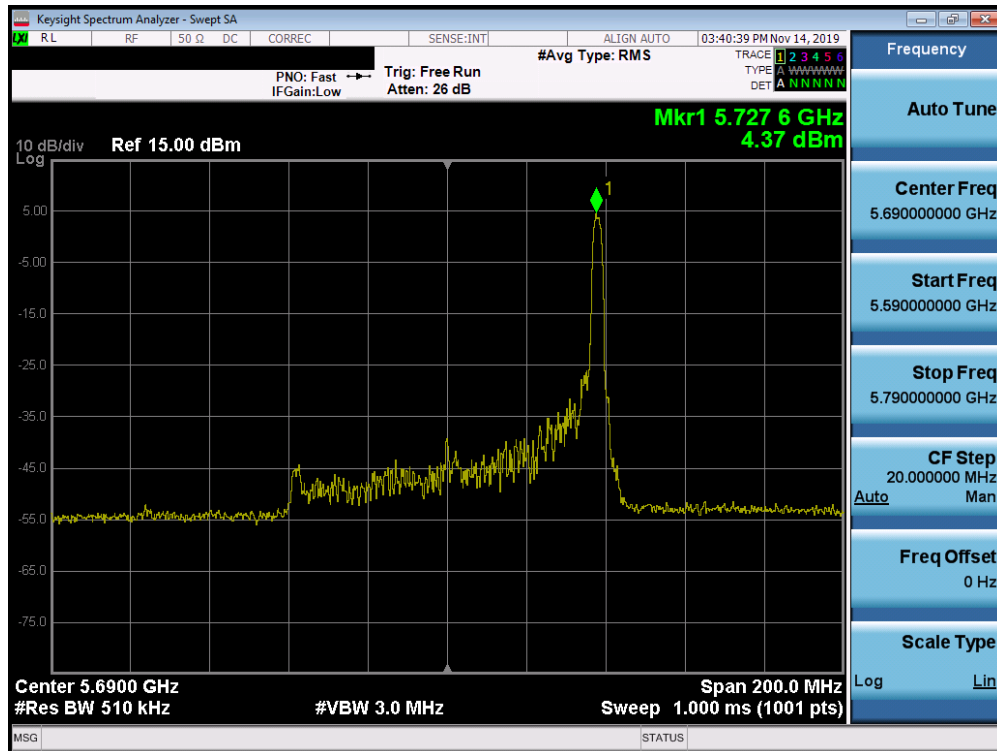


Plot 7-181. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)

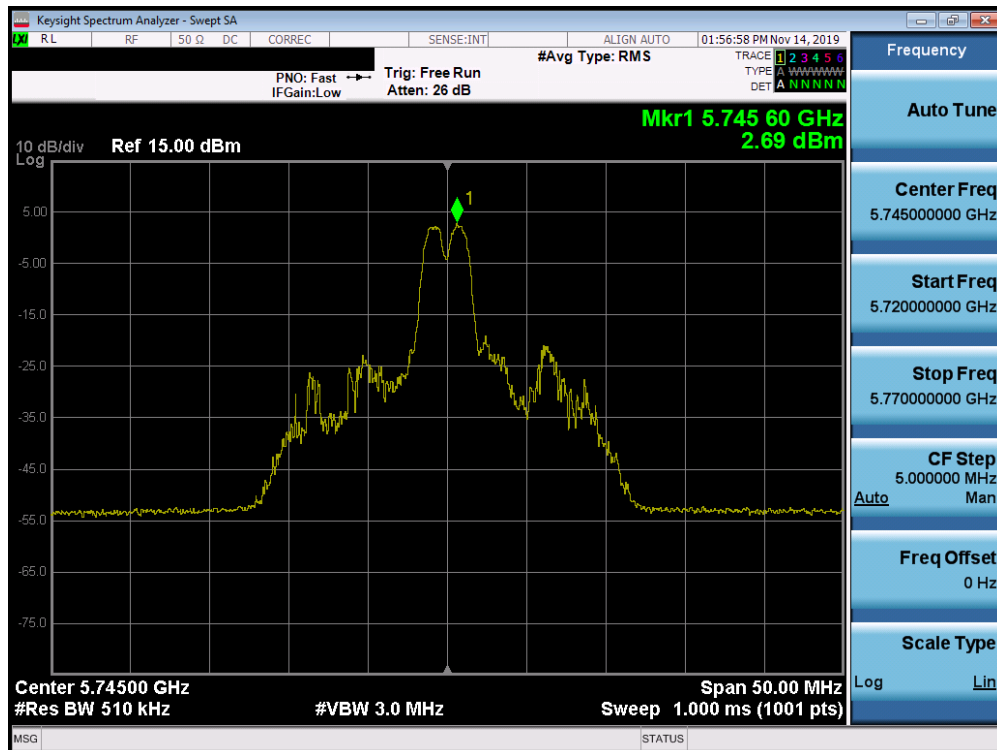


Plot 7-182. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 141 of 265                 |

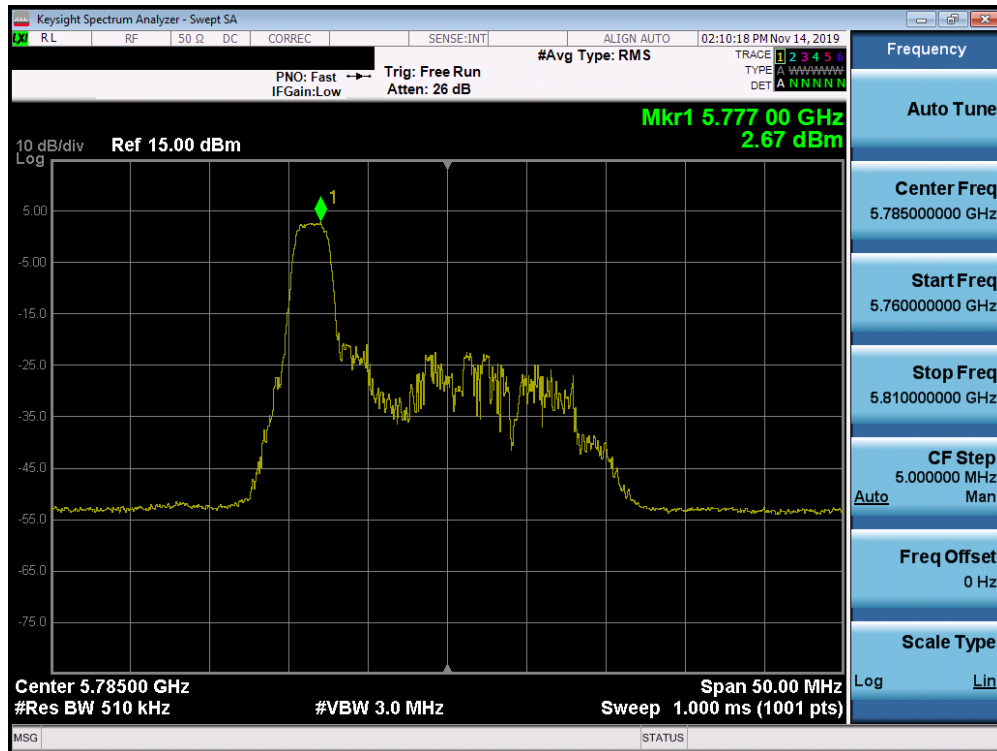


Plot 7-183. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

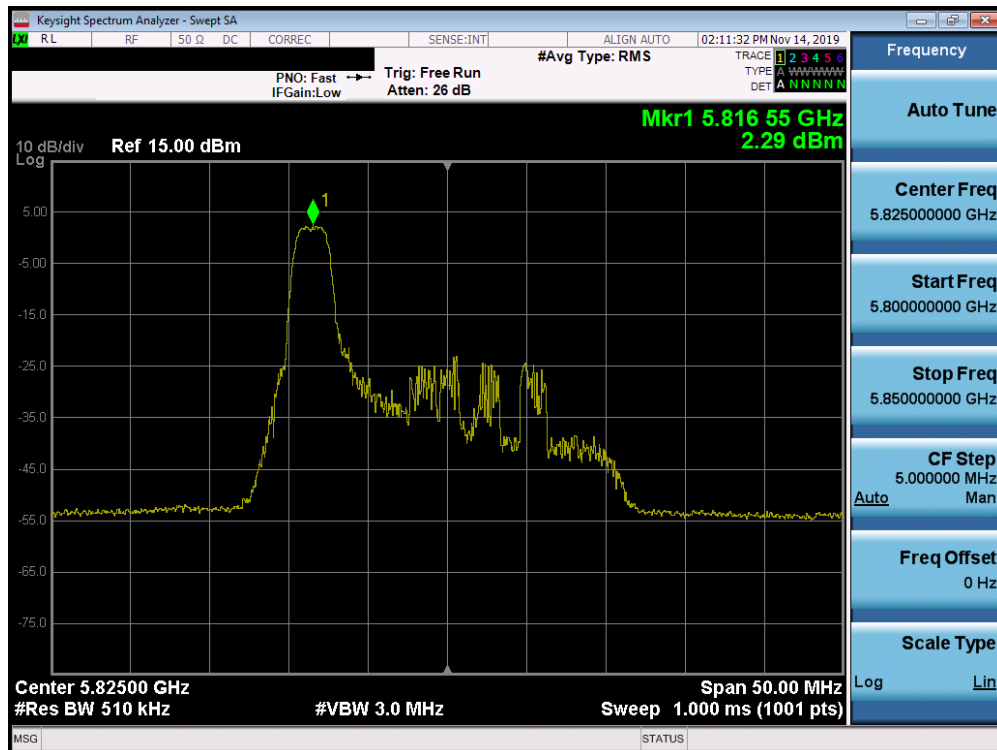


Plot 7-184. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 142 of 265                 |

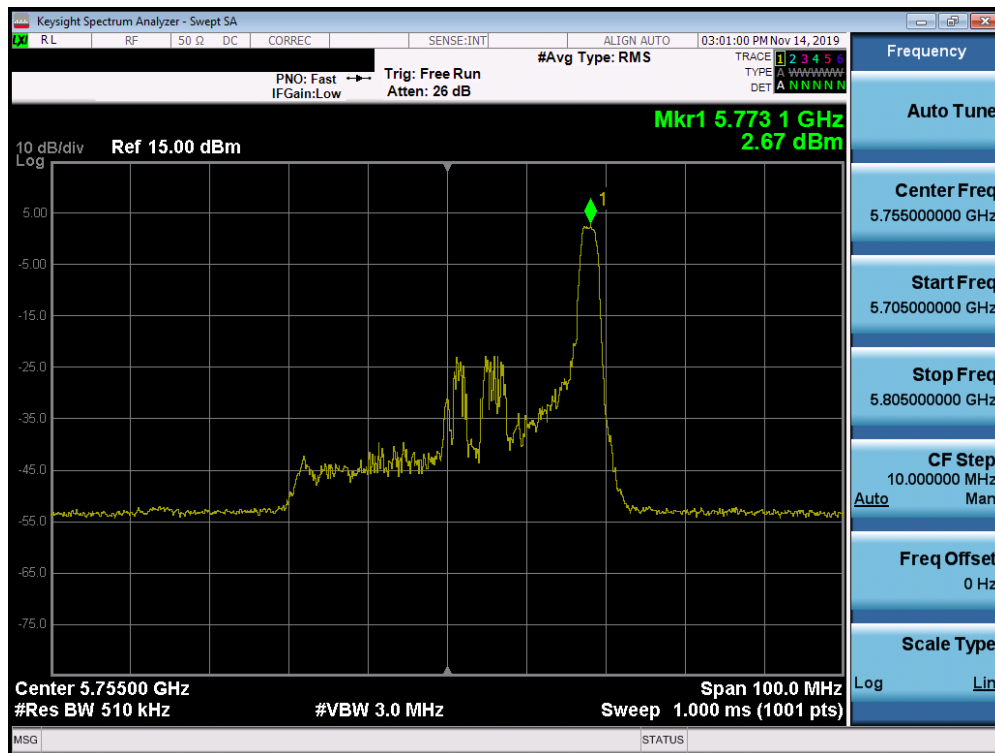


Plot 7-185. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

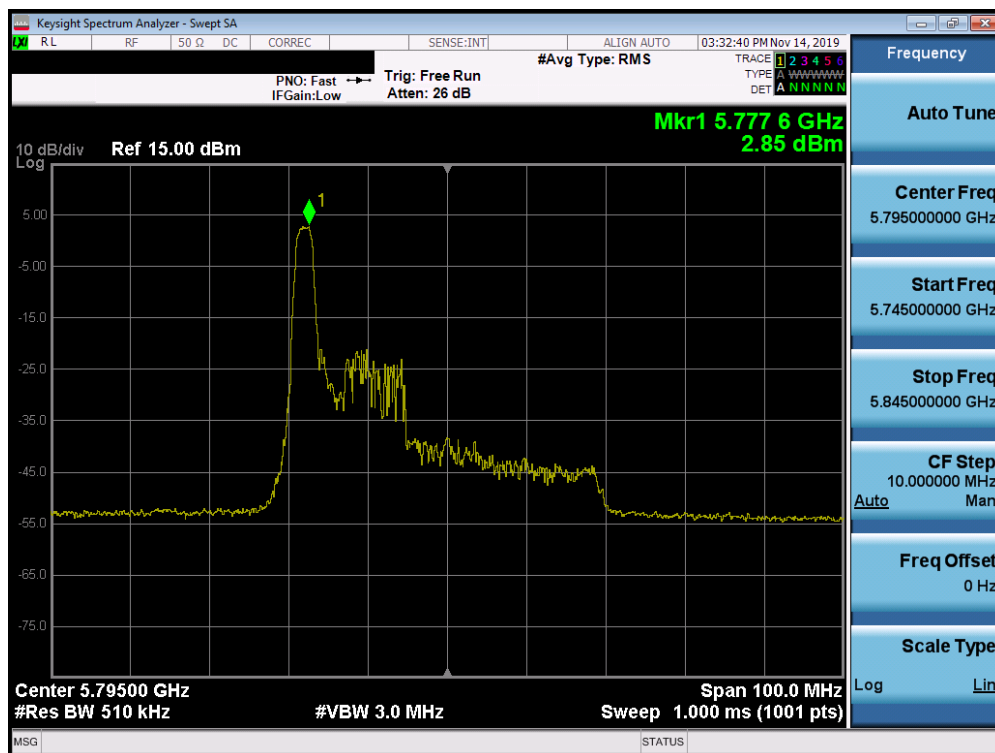


Plot 7-186. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 143 of 265                 |

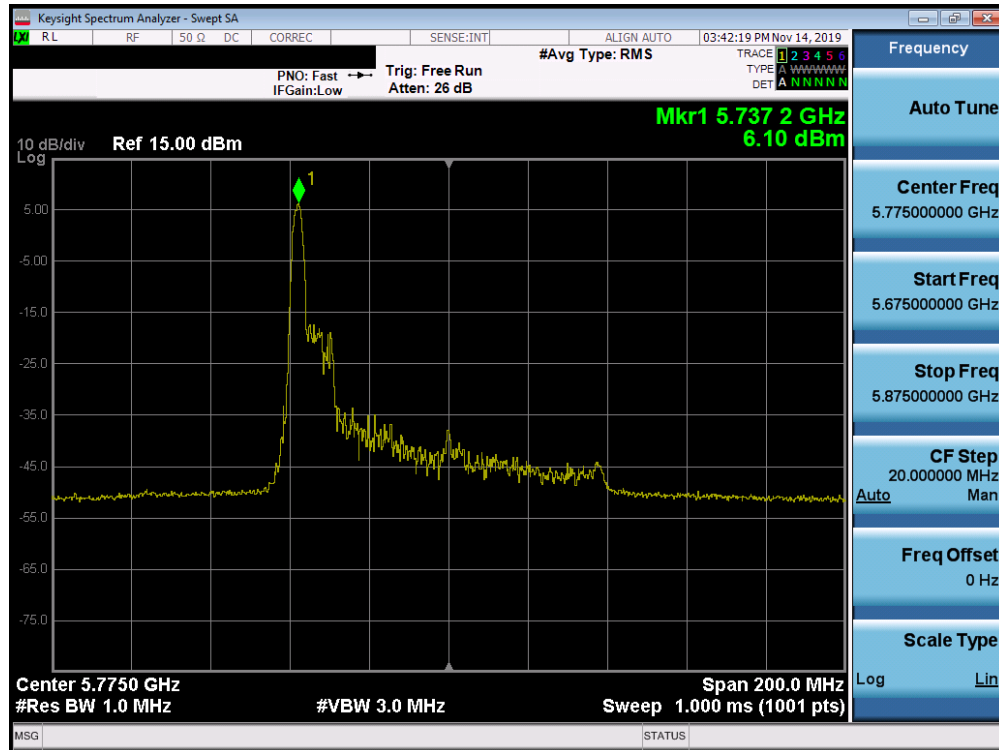


Plot 7-187. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

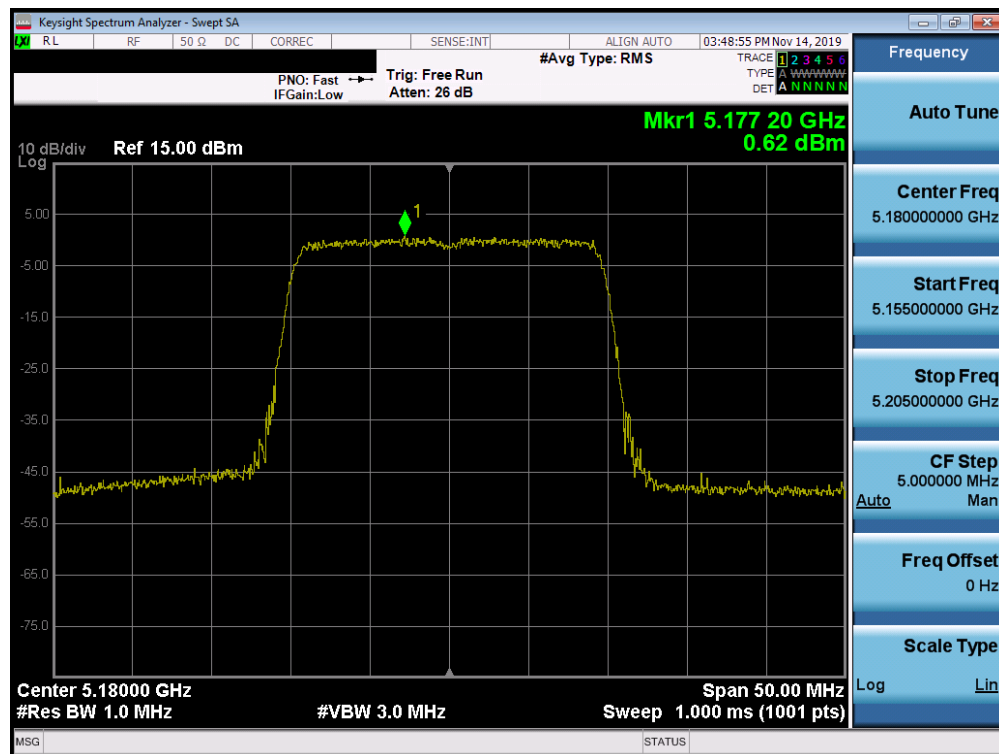


Plot 7-188. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 144 of 265                 |

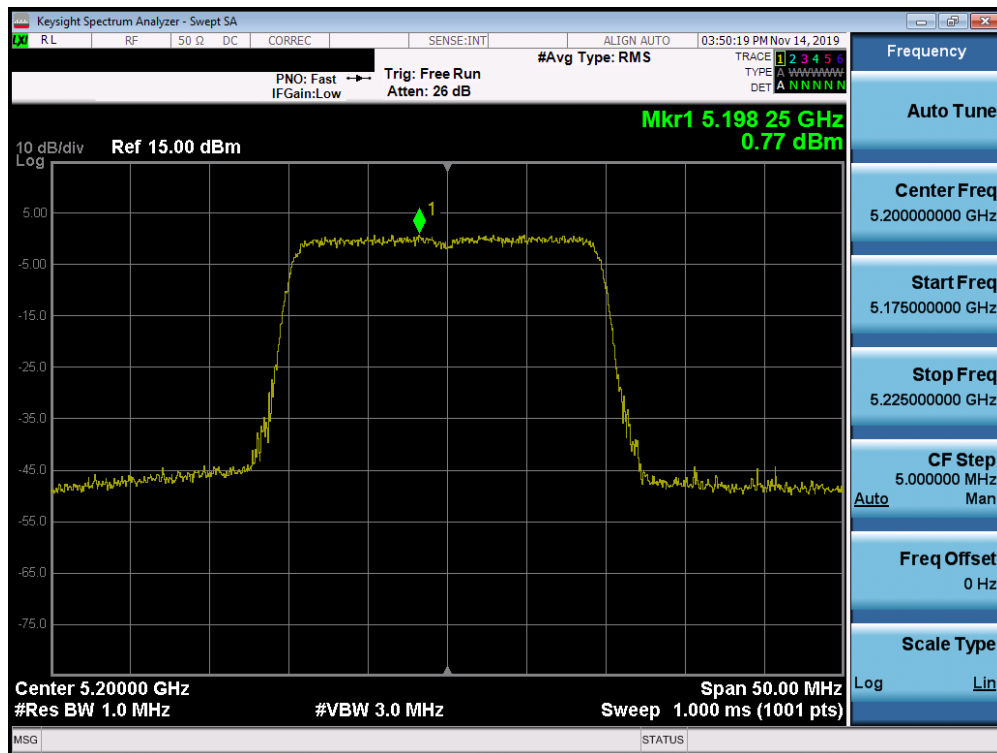


Plot 7-189. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

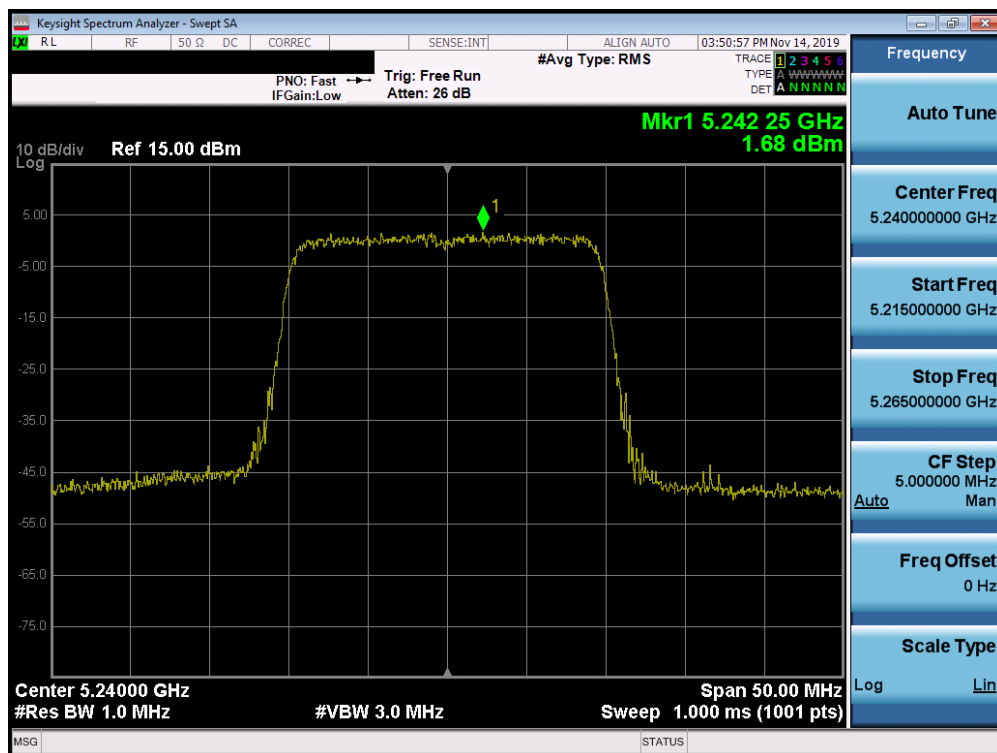


Plot 7-190. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 36)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 145 of 265                 |

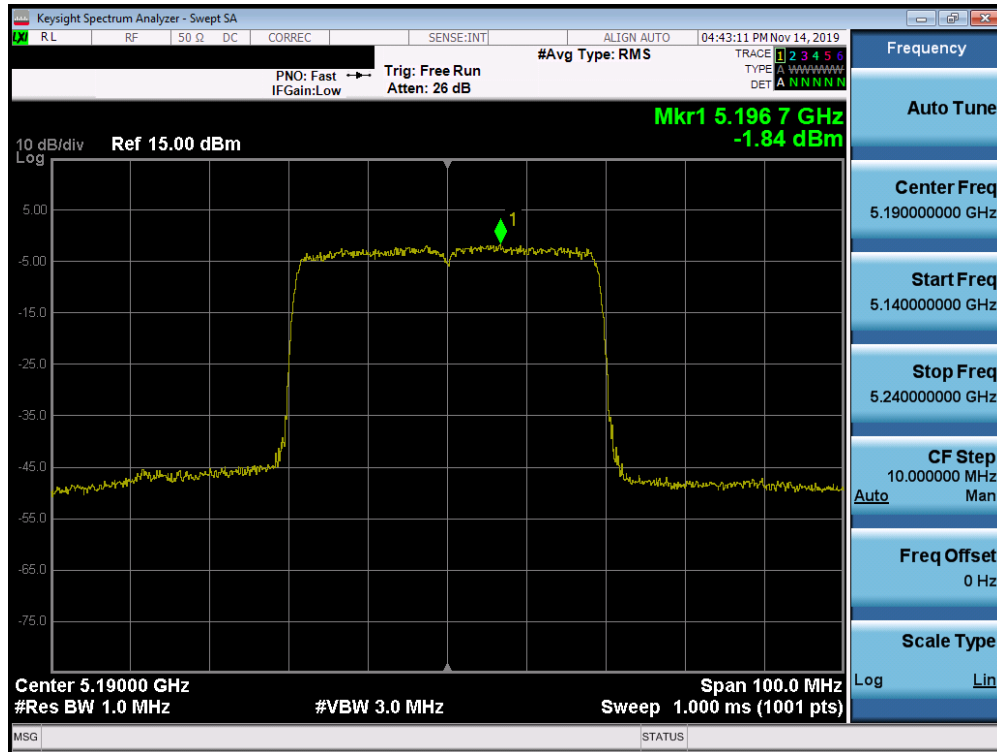


Plot 7-191. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 40)

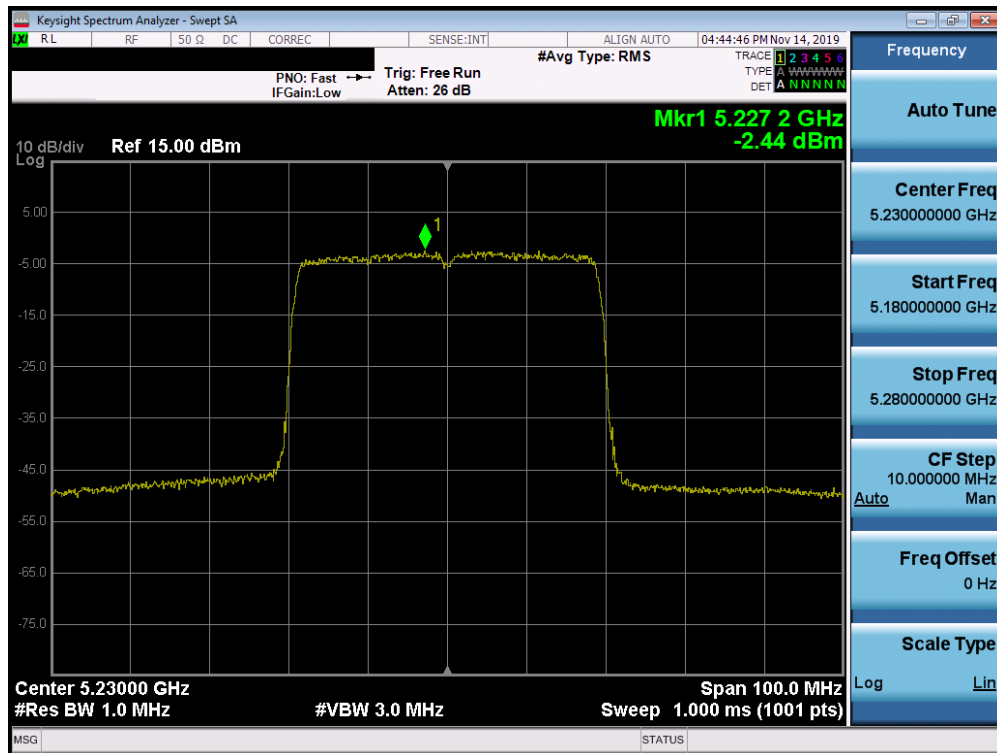


Plot 7-192. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 48)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 146 of 265                 |

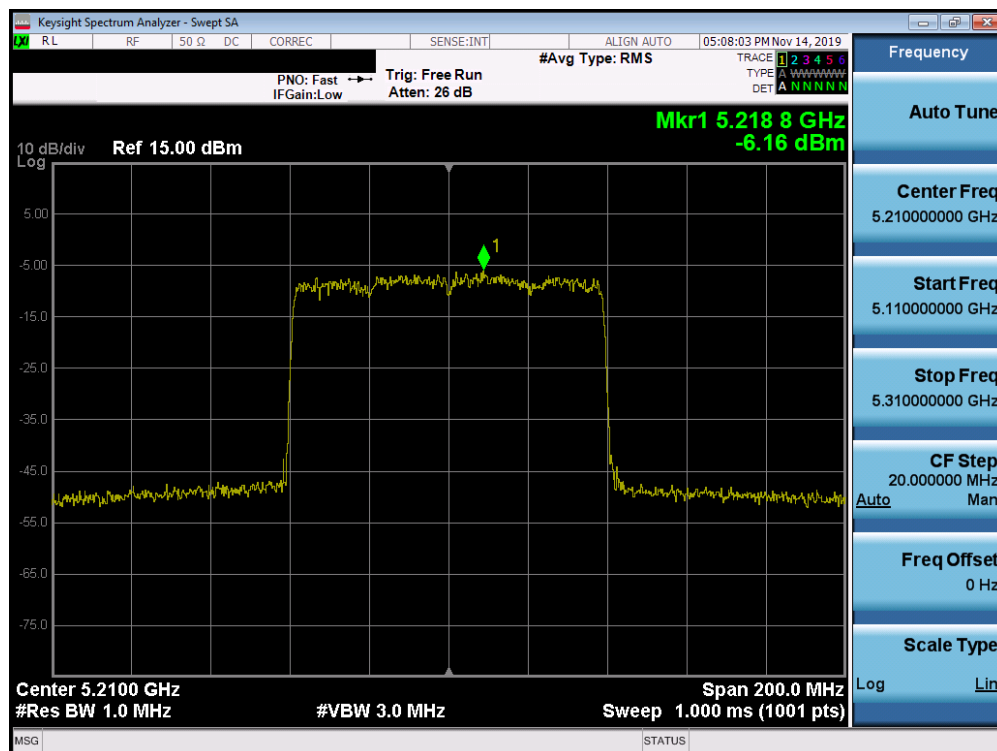


Plot 7-193. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 38)

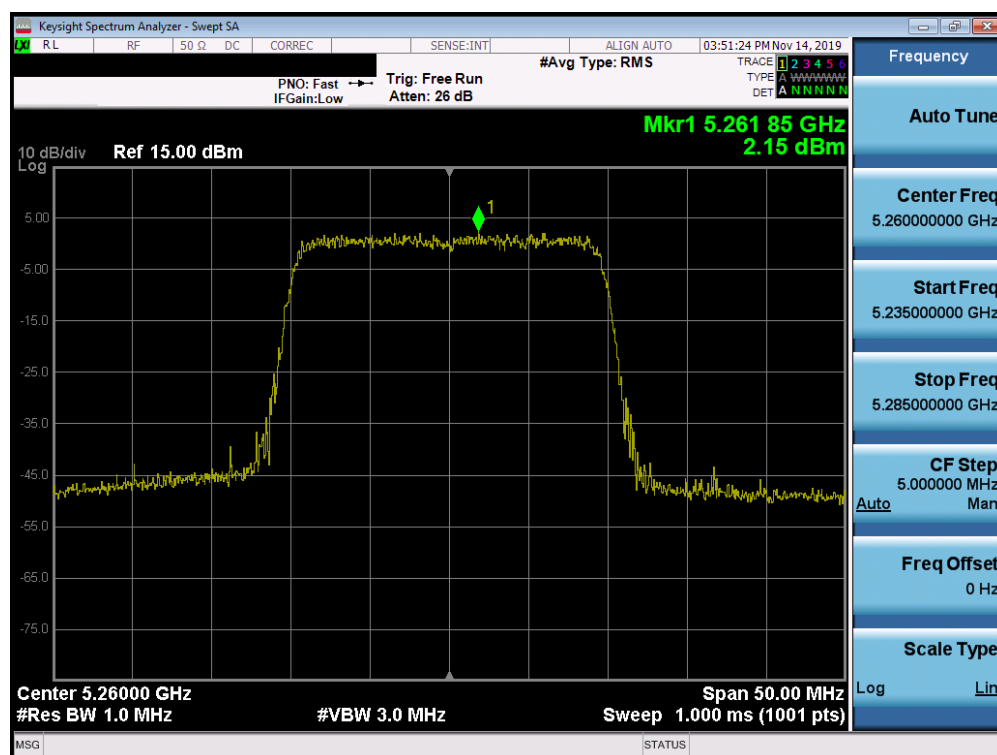


Plot 7-194. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 46)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 147 of 265                 |

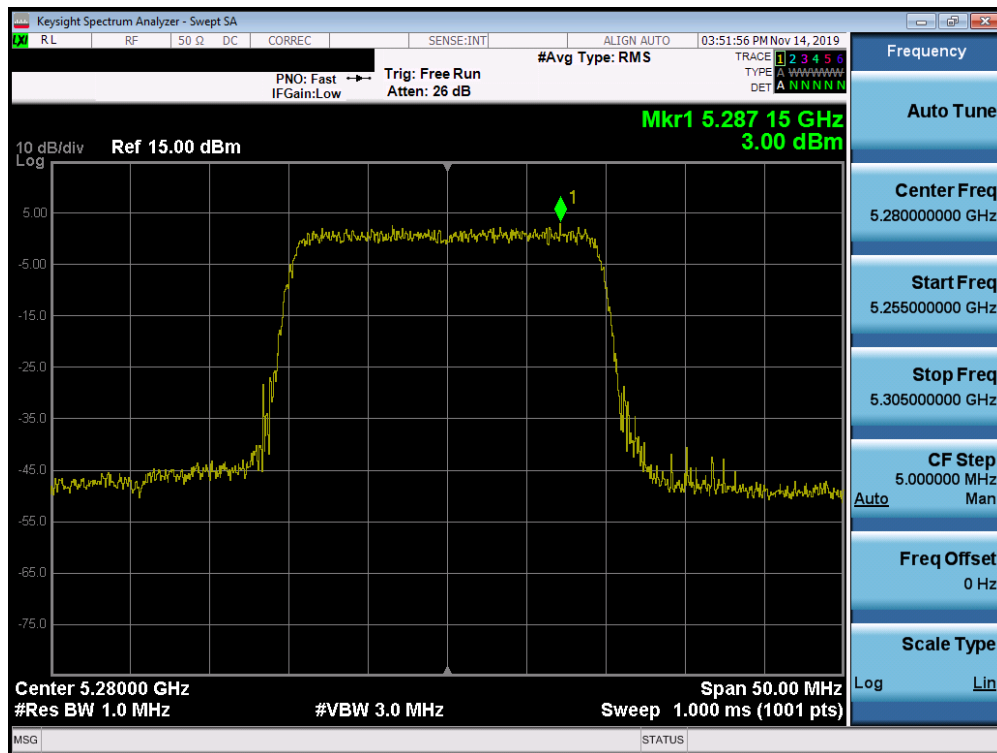


**Plot 7-195. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 42)**

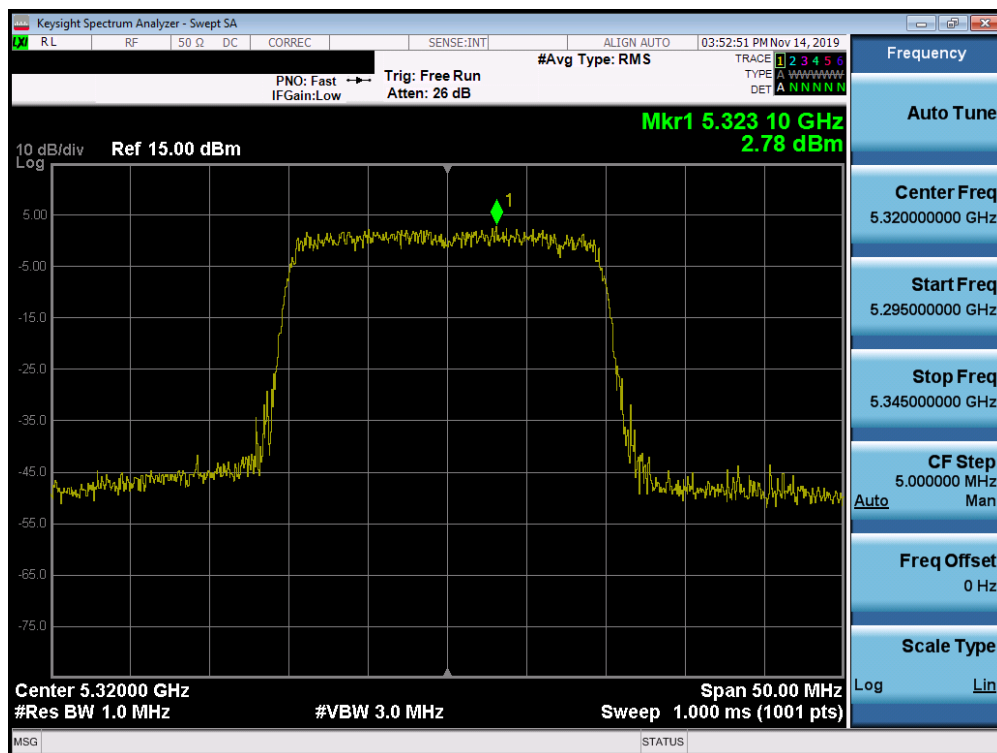


**Plot 7-196. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 52)**

|                                                |                                                                                                                                                                                                                         |                                      |                                        |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------|
| FCC ID: A3LSMG986W                             |  <b>MEASUREMENT REPORT<br/>(CERTIFICATION)</b>  |                                      | <b>Approved by:</b><br>Quality Manager |
| <b>Test Report S/N:</b><br>1M1911010179-06.A3L | <b>Test Dates:</b><br>10/11/19 - 01/20/20                                                                                                                                                                               | <b>EUT Type:</b><br>Portable Handset | Page 148 of 265                        |

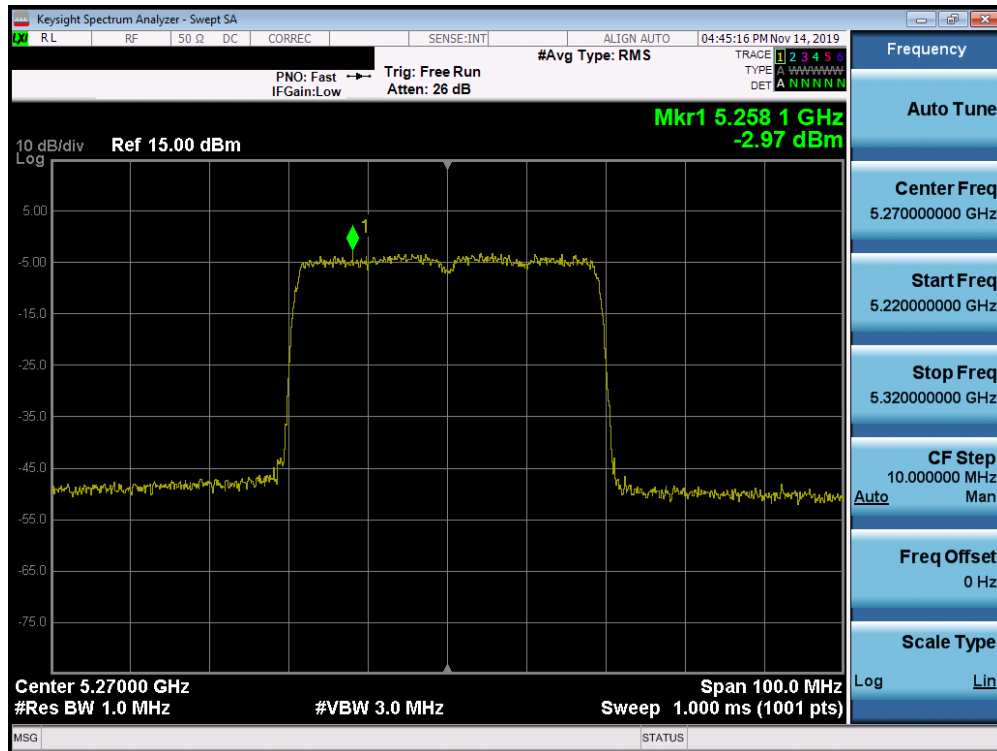


Plot 7-197. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 56)

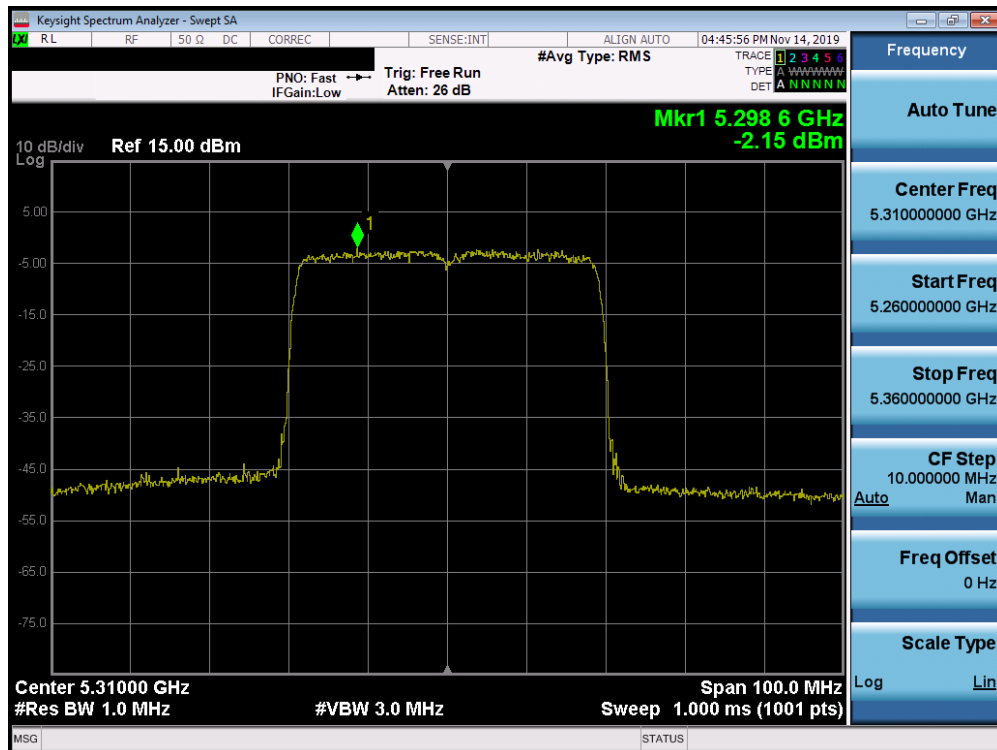


Plot 7-198. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 64)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 149 of 265                 |

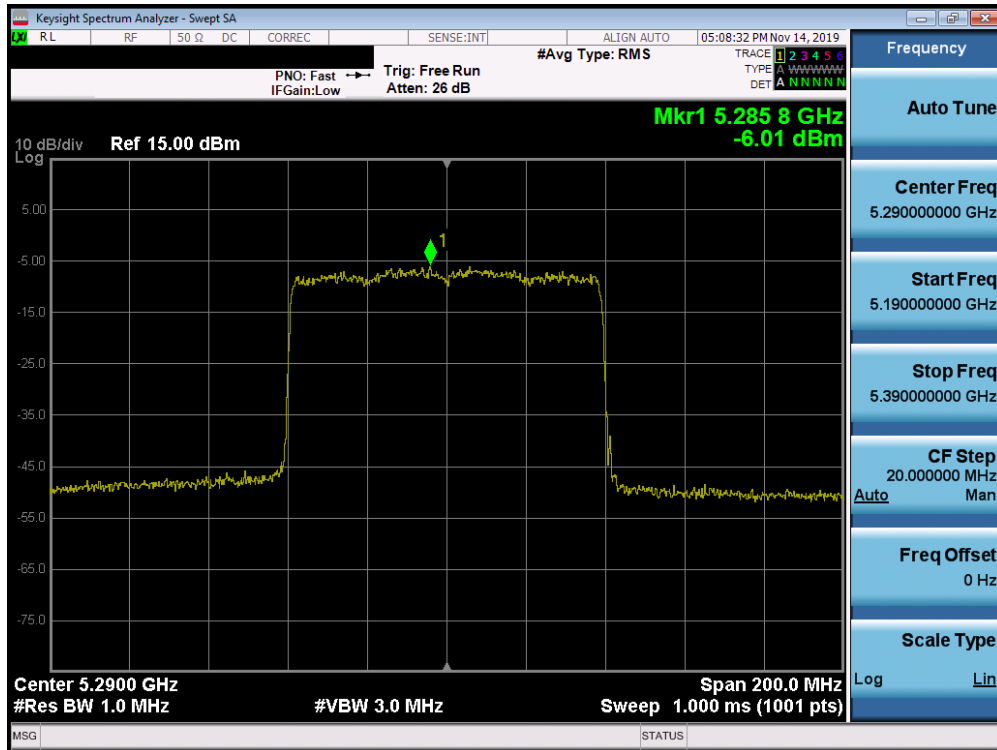


Plot 7-199. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 54)

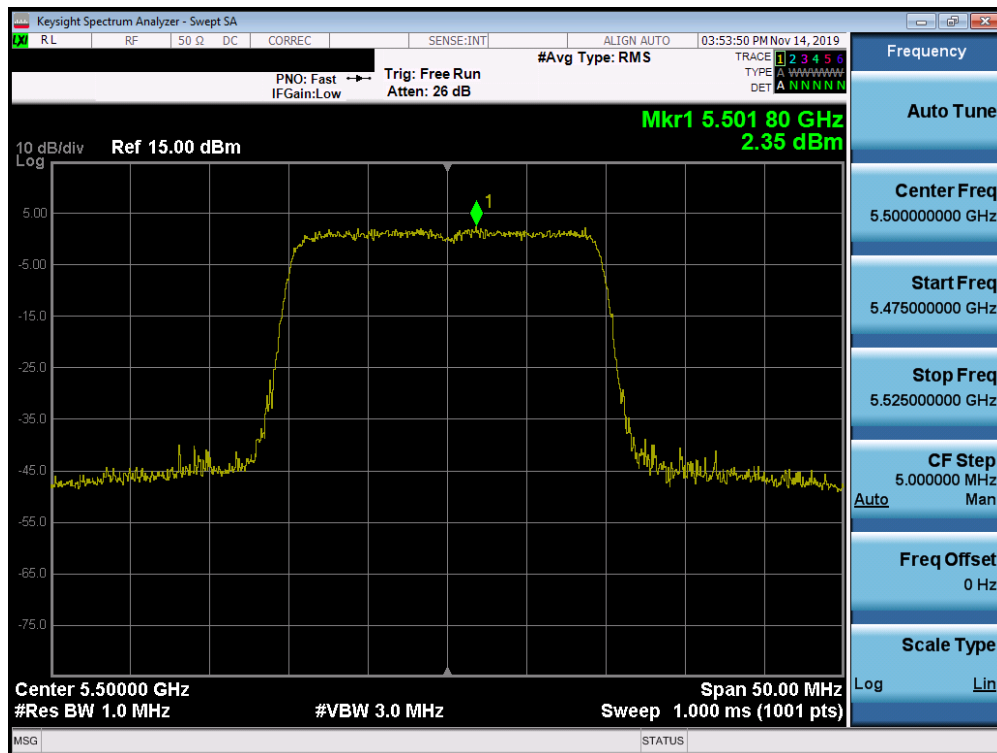


Plot 7-200. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 62)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 150 of 265                 |

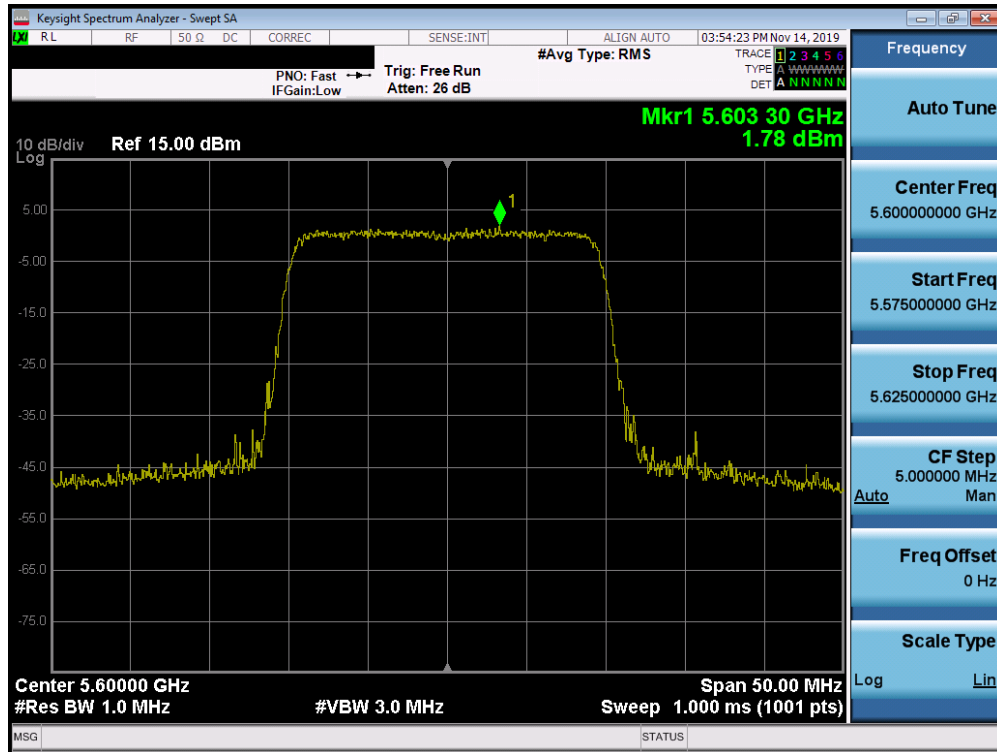


Plot 7-201. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 58)

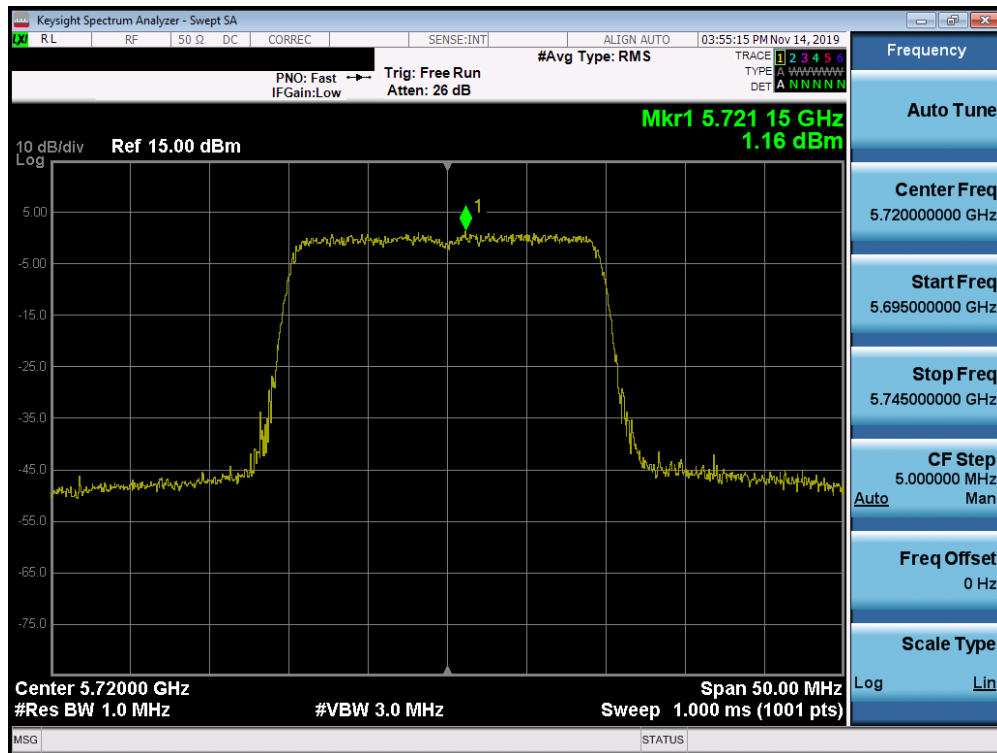


Plot 7-202. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 100)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 151 of 265                 |

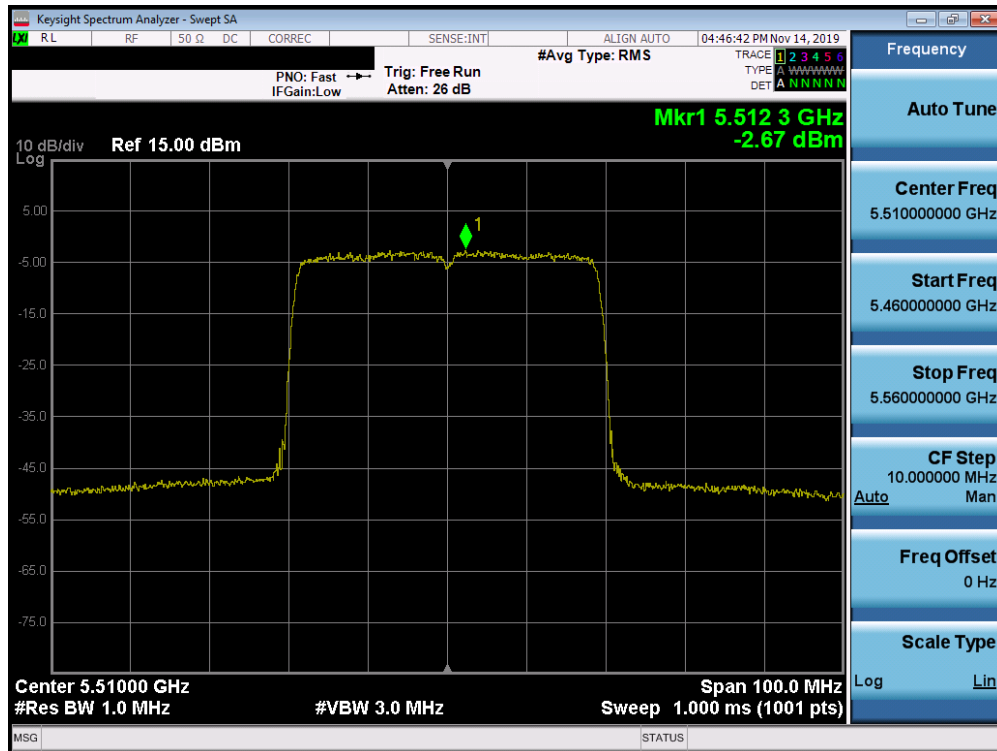


Plot 7-203. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 120)

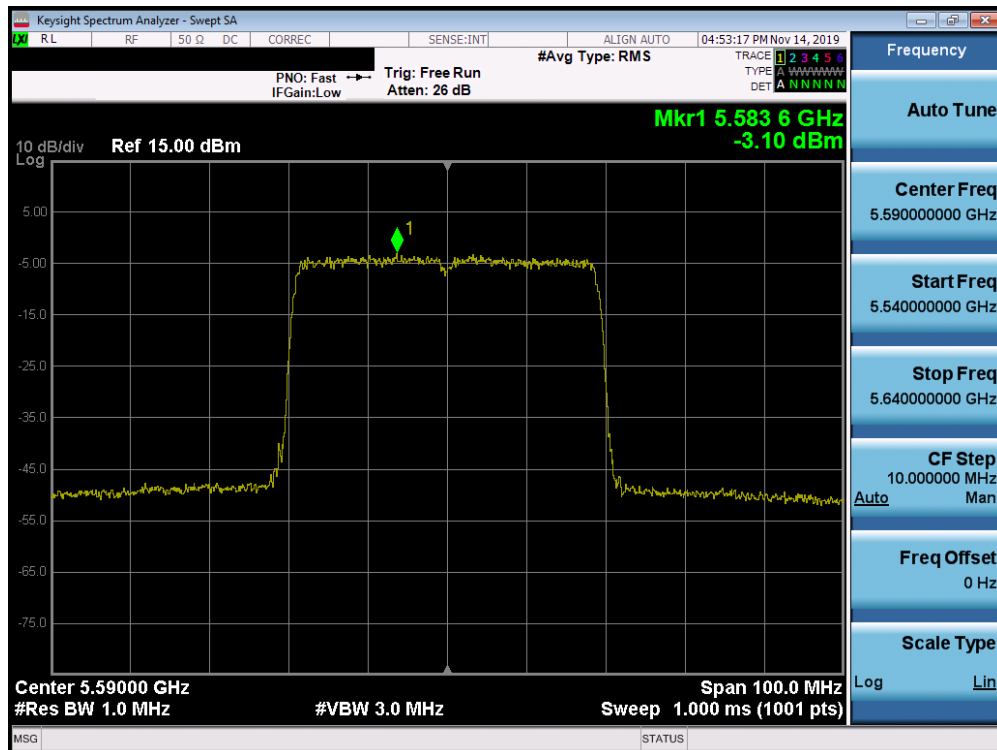


Plot 7-204. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 144)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 152 of 265                 |

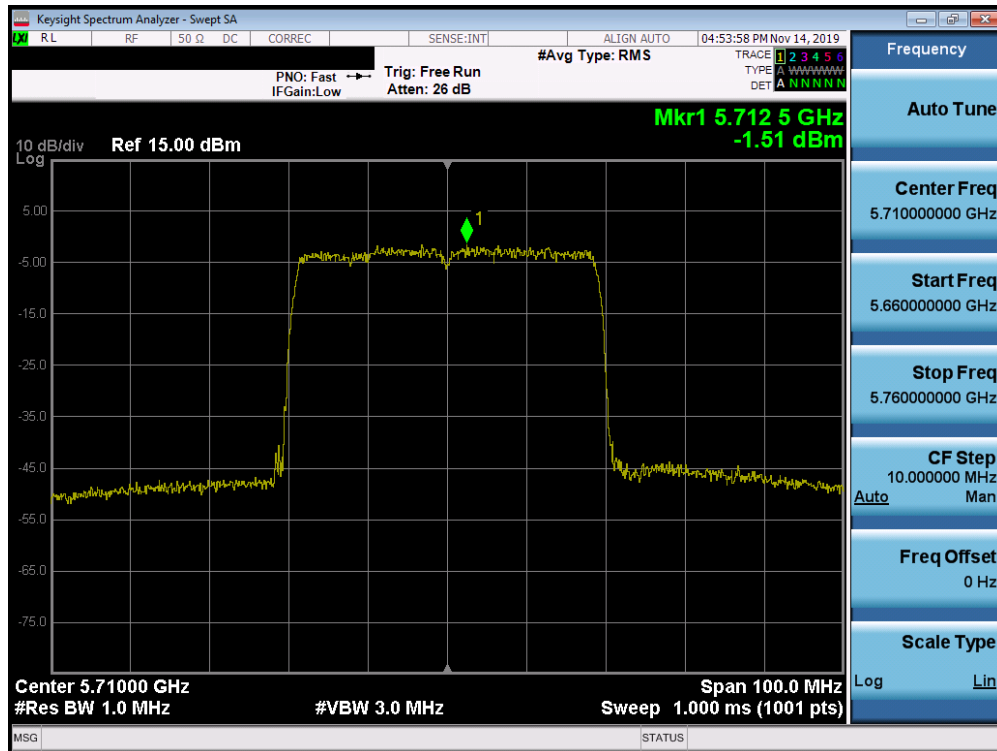


Plot 7-205. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 102)

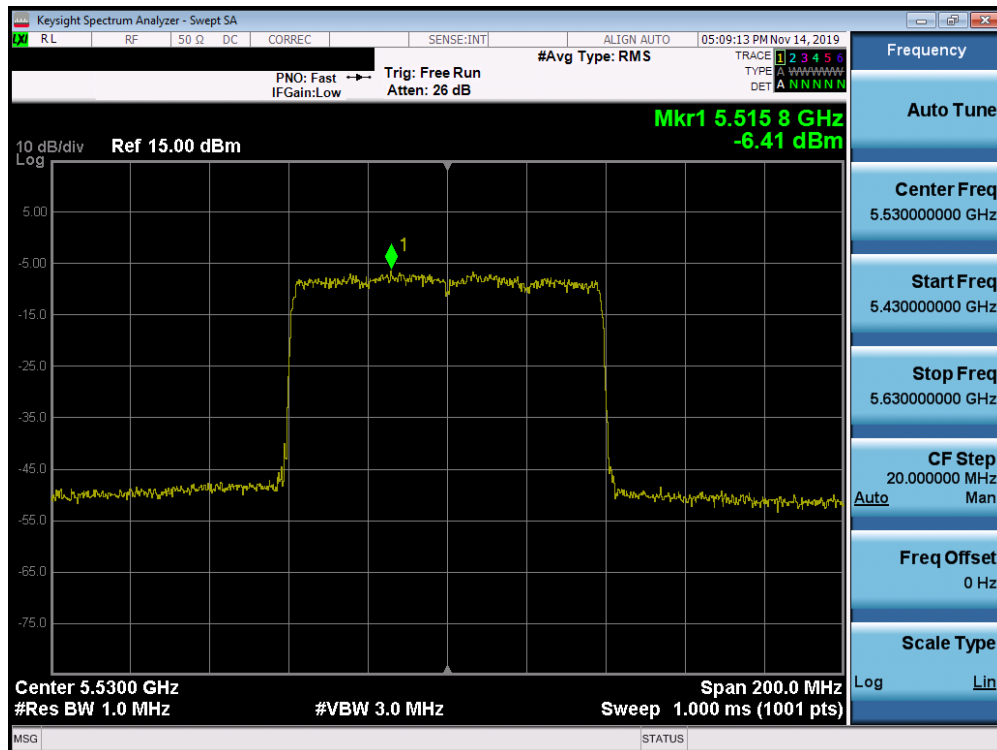


Plot 7-206. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 118)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 153 of 265                 |

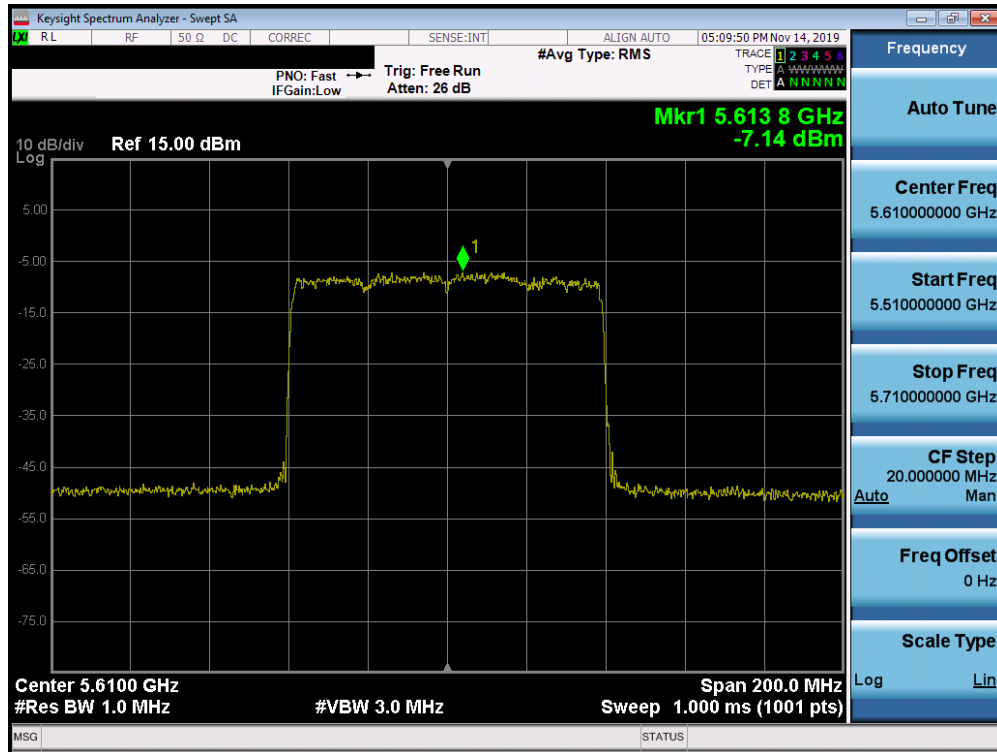


Plot 7-207. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 142)

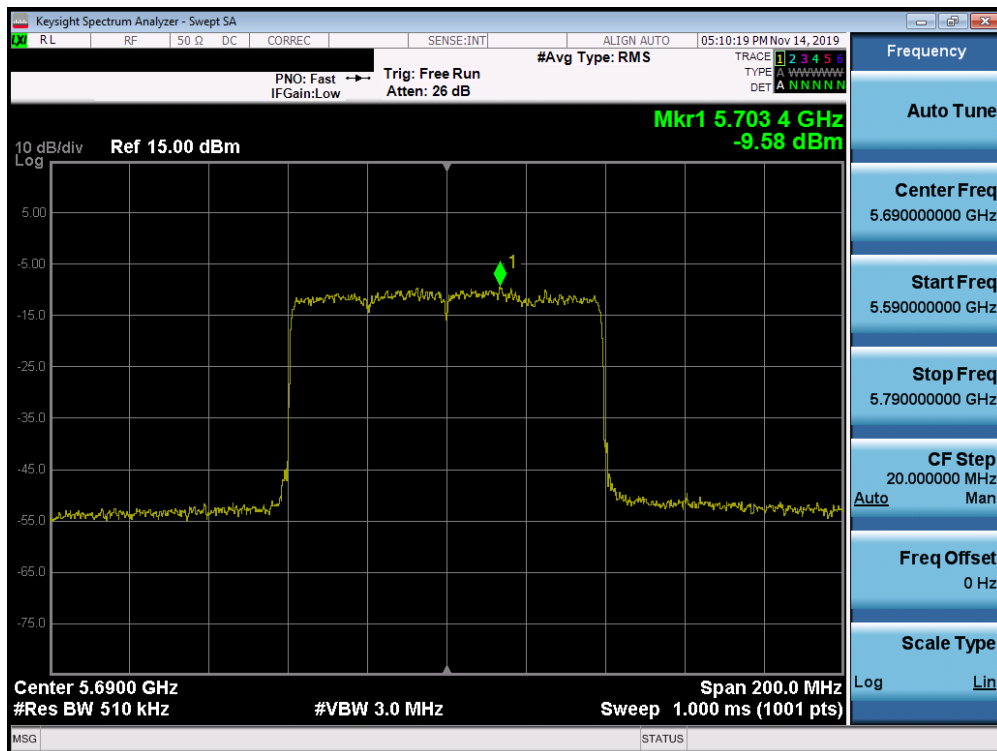


Plot 7-208. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 106)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 154 of 265                 |

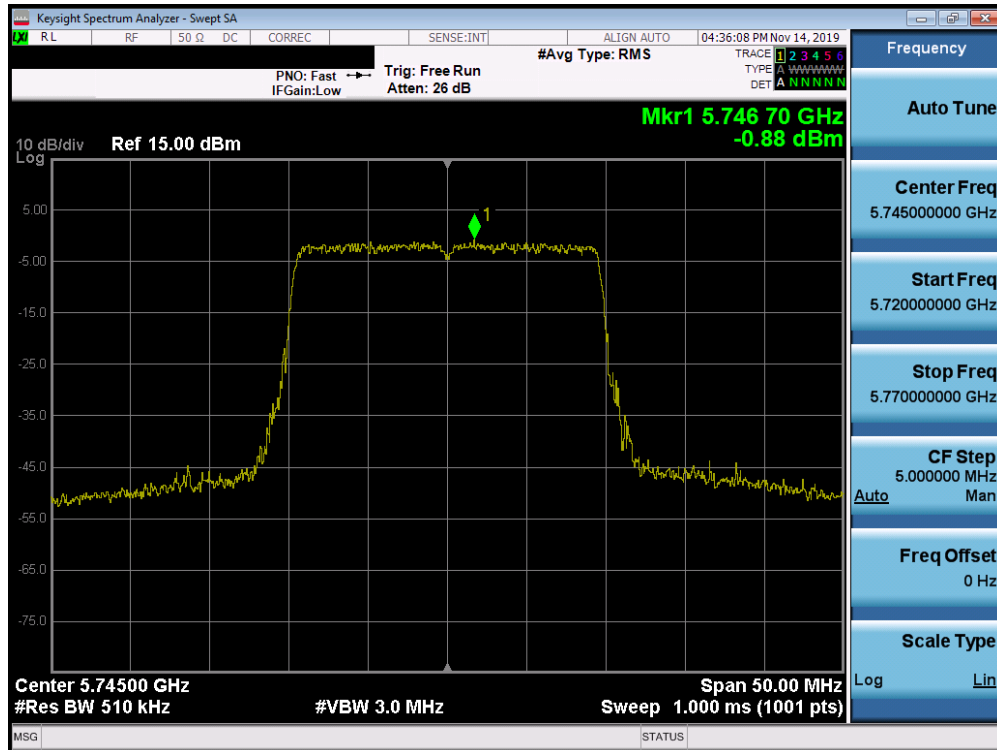


Plot 7-209. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 122)

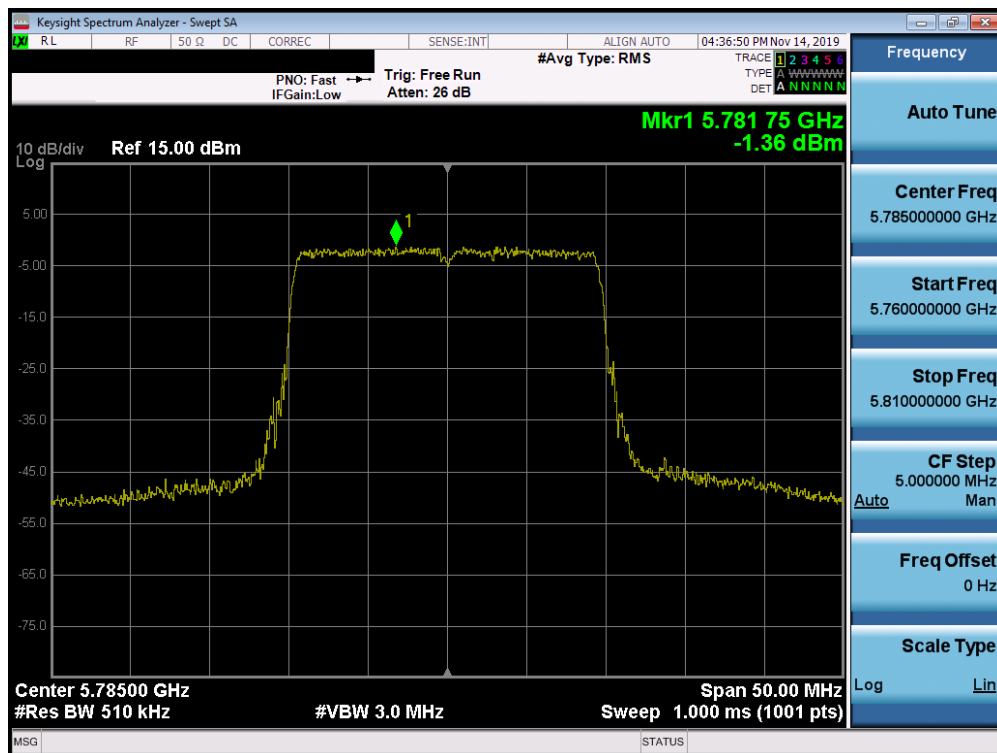


Plot 7-210. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 138)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 155 of 265                 |

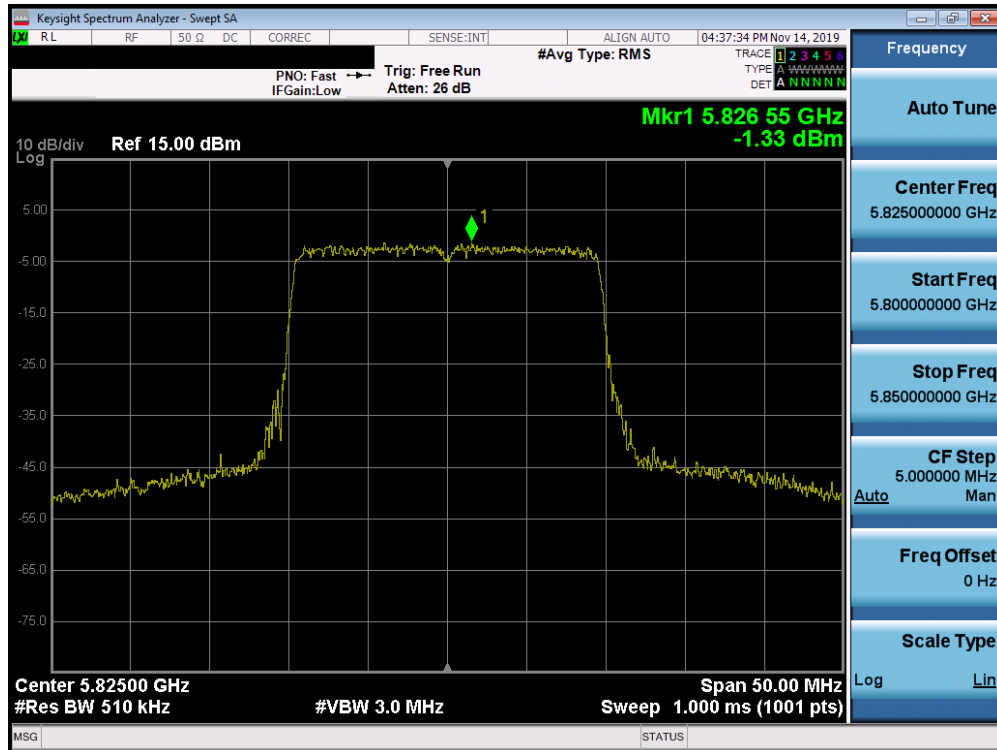


Plot 7-211. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 149)

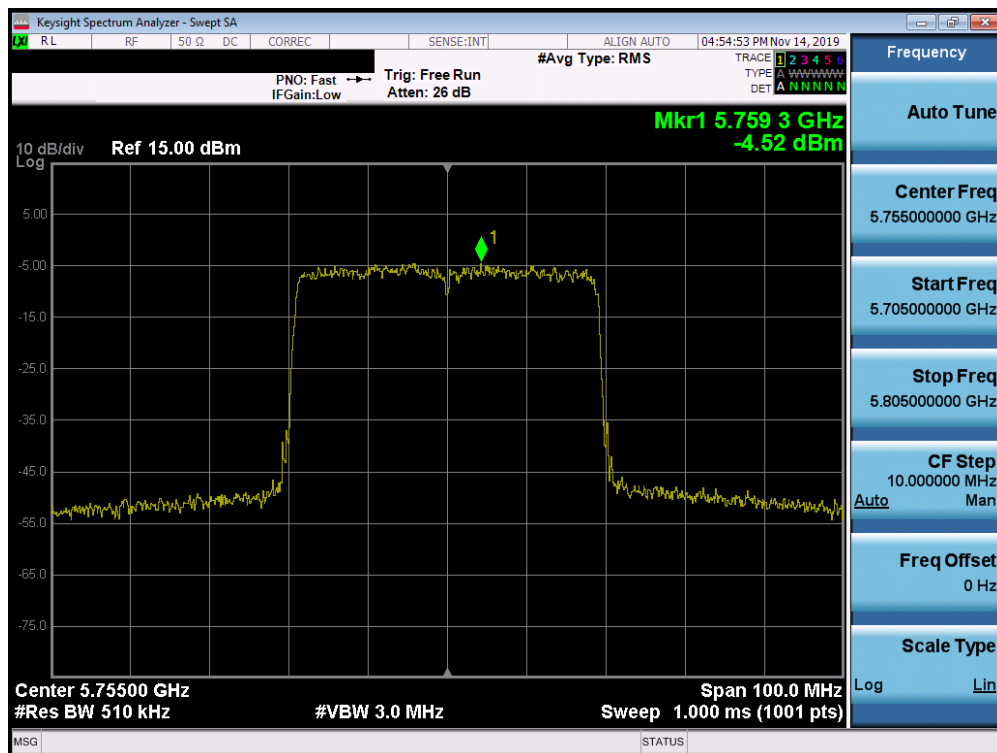


Plot 7-212. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 157)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 156 of 265                 |

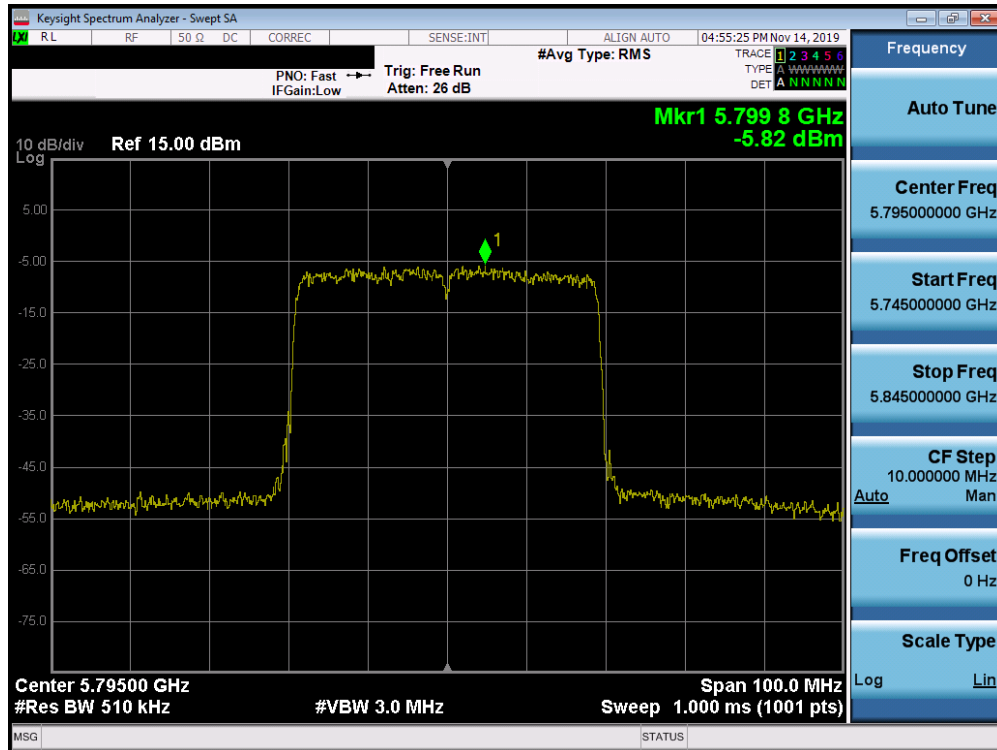


Plot 7-213. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 165)

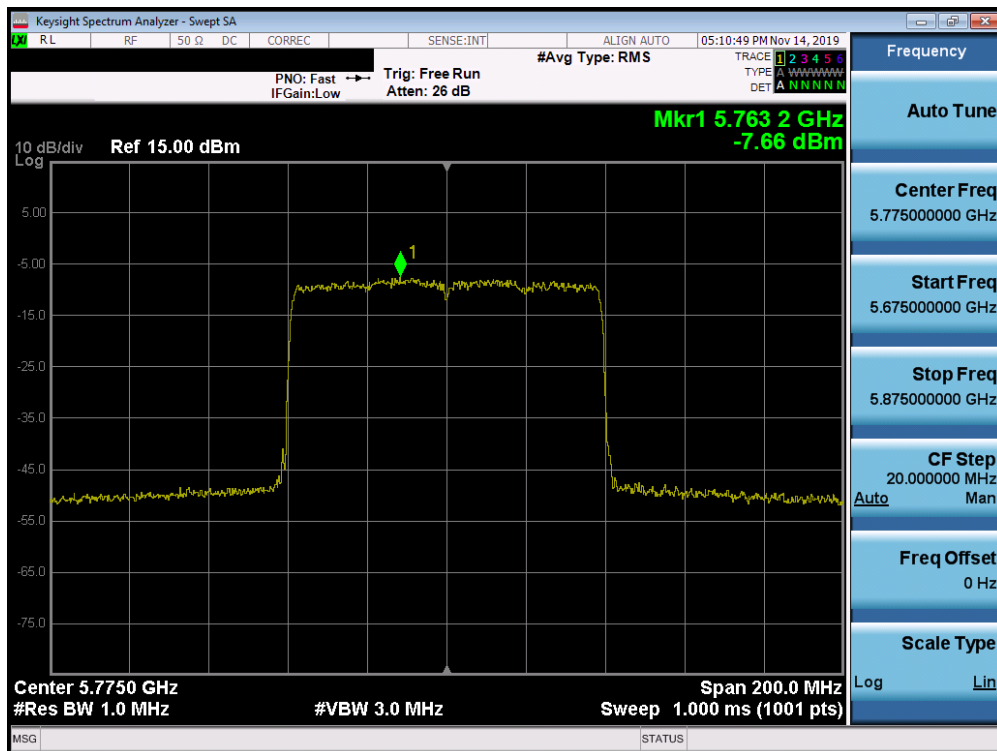


Plot 7-214. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 151)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 157 of 265                 |



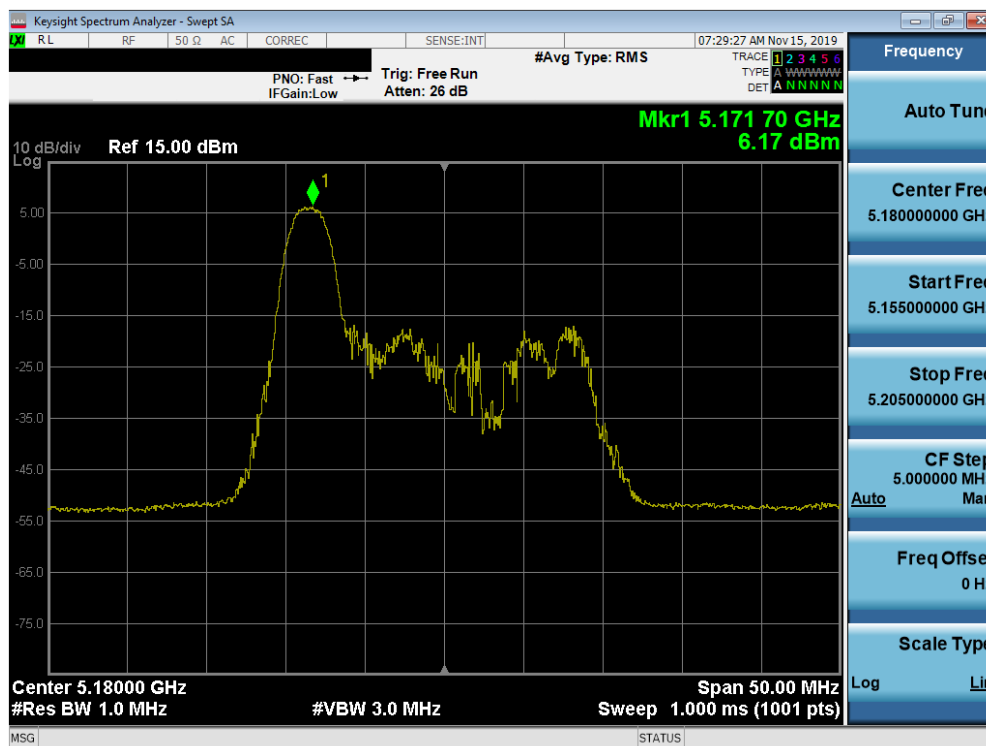
Plot 7-215. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 159)



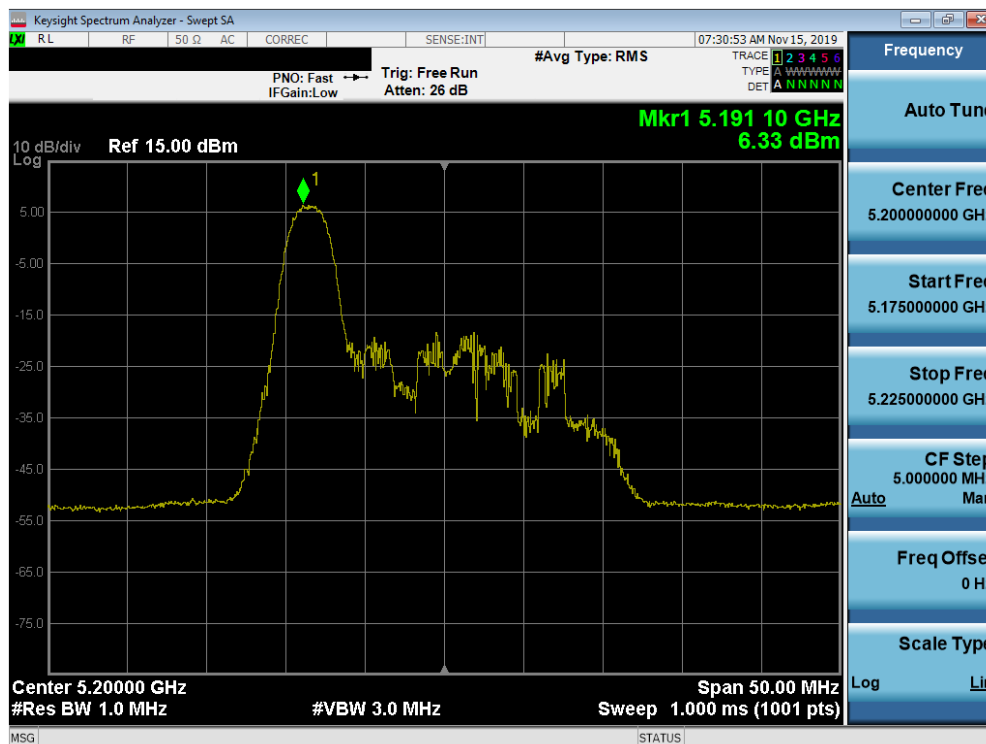
Plot 7-216. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 155)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 158 of 265                 |

### MIMO Antenna-2 Power Spectral Density Measurements (26 Tones)

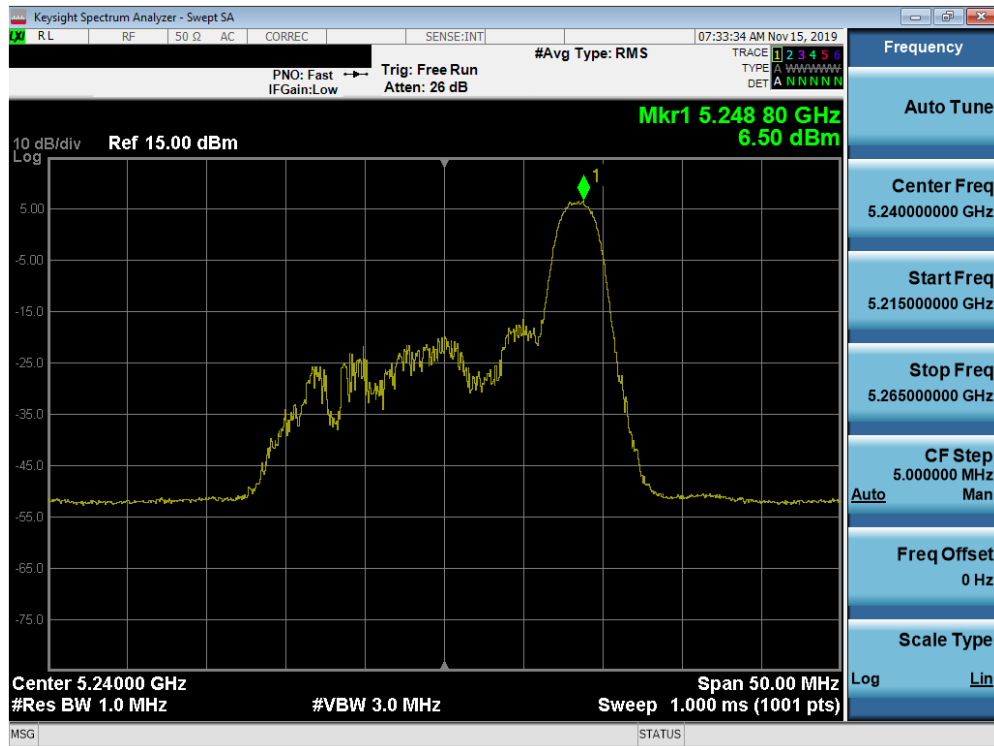


**Plot 7-217. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)**

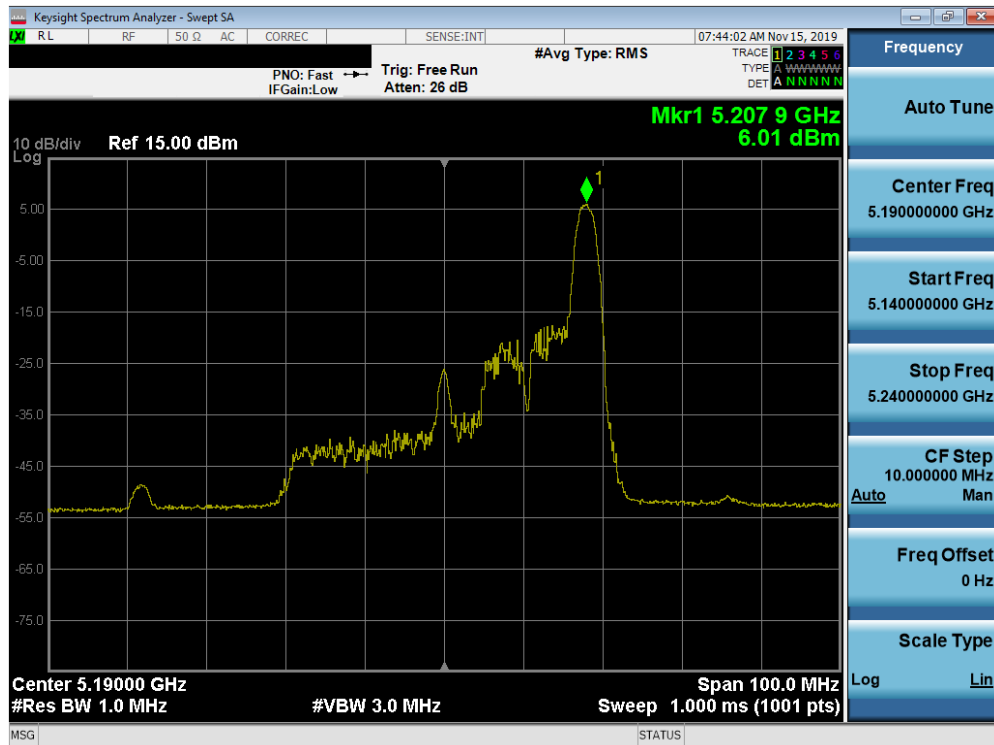


**Plot 7-218. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)**

|                                                |                                                                                                                                                                                                                         |                                      |                                        |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------|
| FCC ID: A3LSMG986W                             |  <b>MEASUREMENT REPORT<br/>(CERTIFICATION)</b>  |                                      | <b>Approved by:</b><br>Quality Manager |
| <b>Test Report S/N:</b><br>1M1911010179-06.A3L | <b>Test Dates:</b><br>10/11/19 - 01/20/20                                                                                                                                                                               | <b>EUT Type:</b><br>Portable Handset | Page 159 of 265                        |

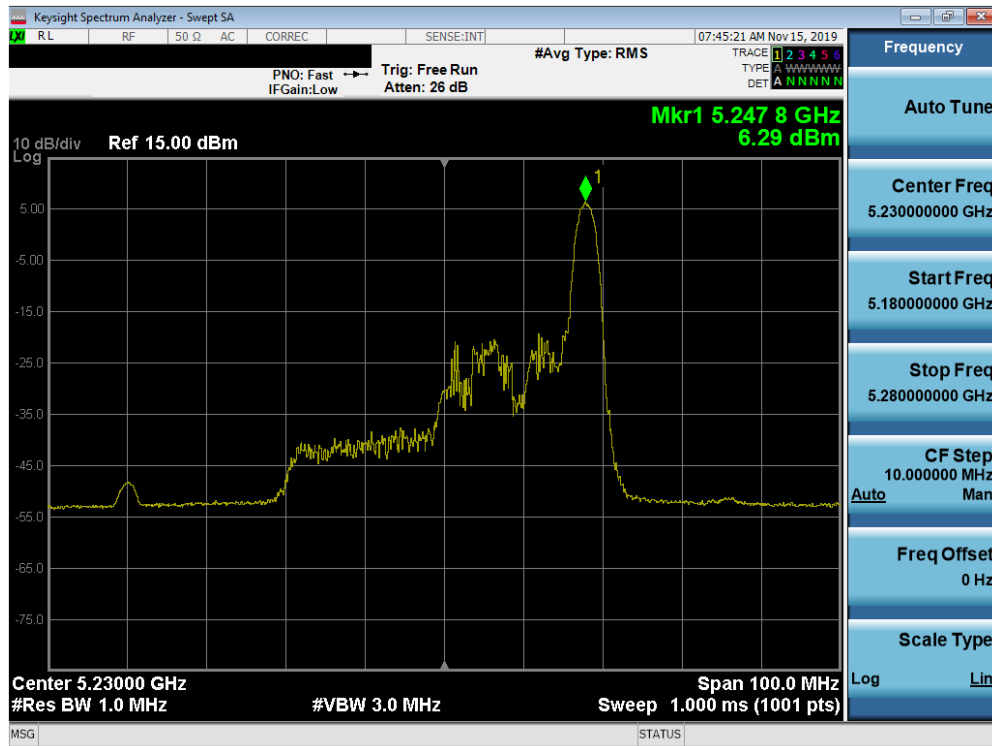


Plot 7-219. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

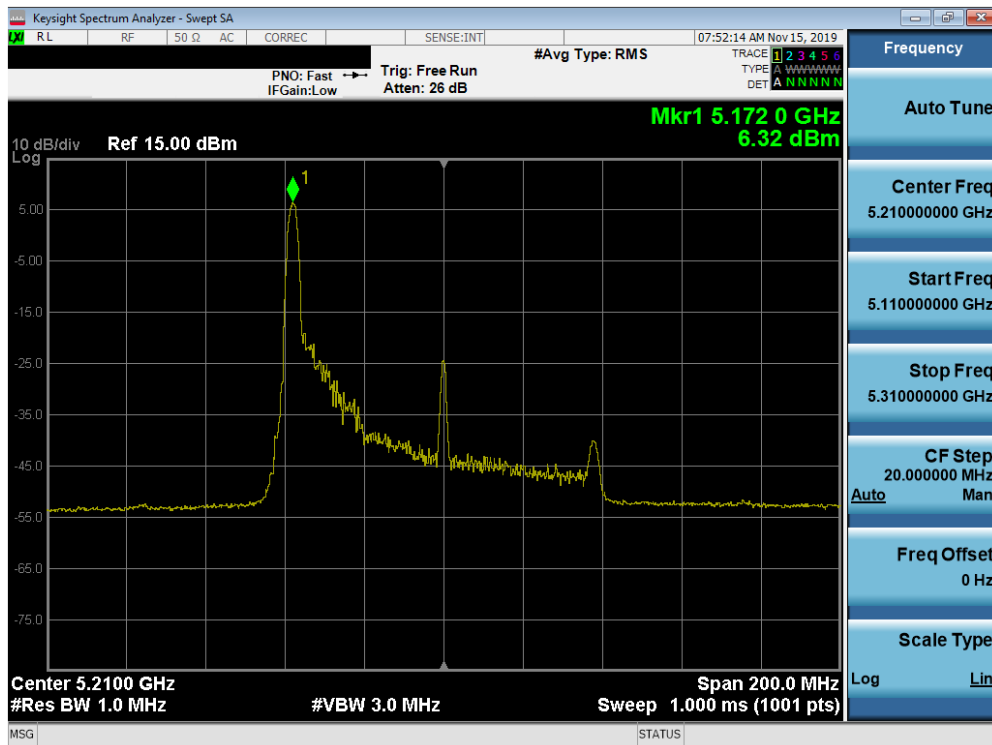


Plot 7-220. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 160 of 265                 |

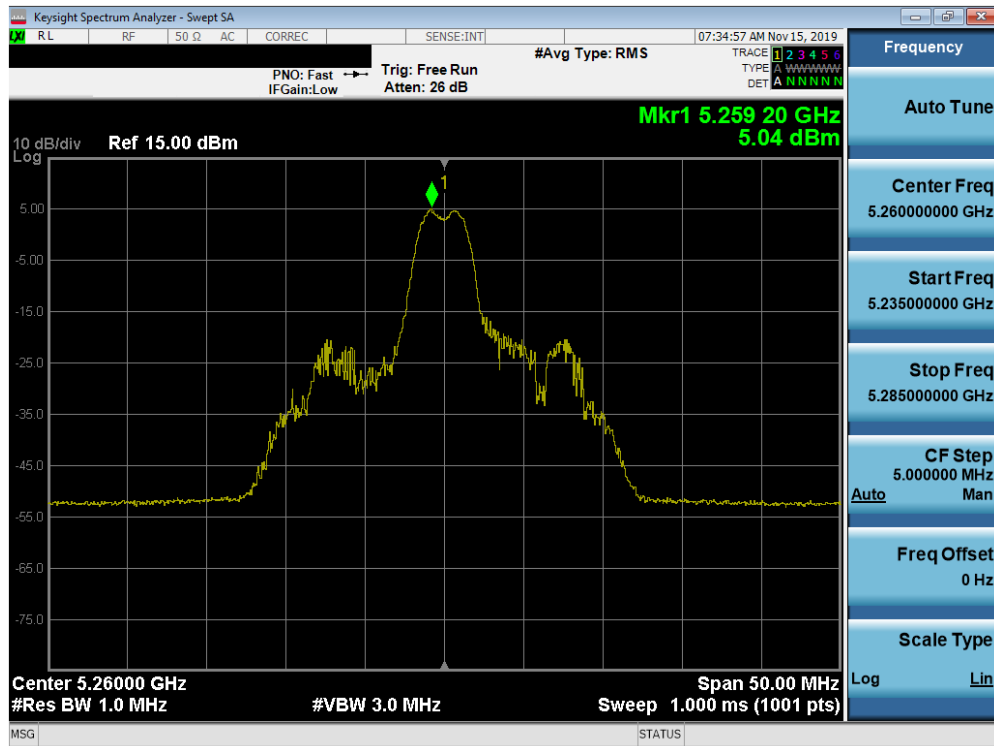


Plot 7-221. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)

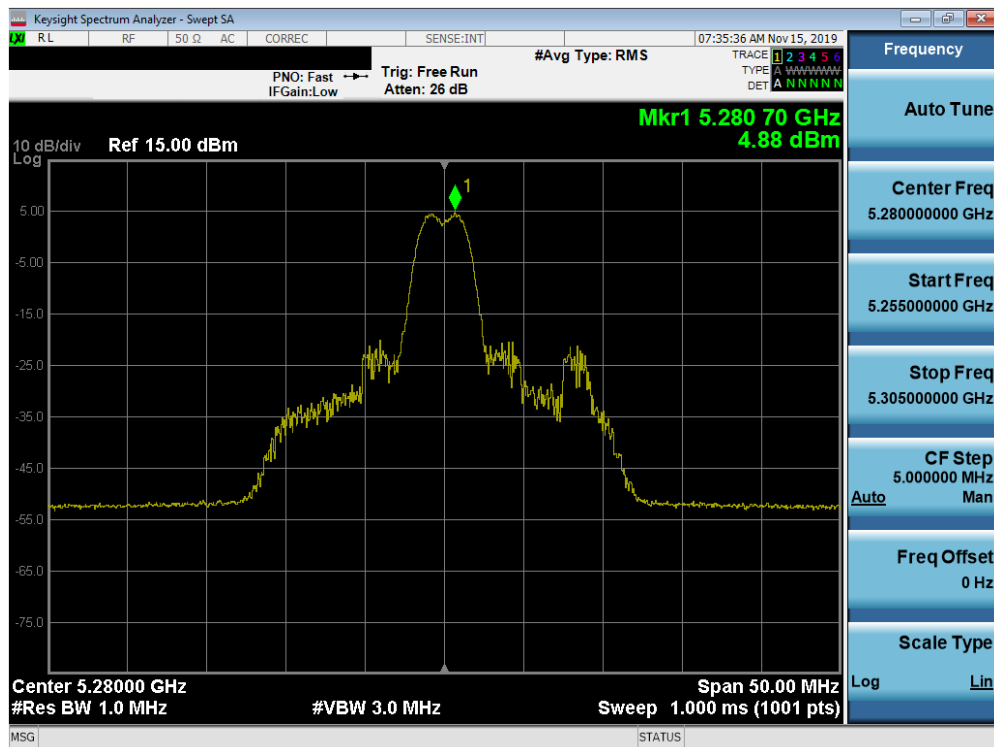


Plot 7-222. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 161 of 265                 |



Plot 7-223. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)



Plot 7-224. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

|                                         |                                    |                                       |                |                                 |
|-----------------------------------------|------------------------------------|---------------------------------------|----------------|---------------------------------|
| FCC ID: A3LSMG986W                      | <b>PCTEST</b>                      | MEASUREMENT REPORT<br>(CERTIFICATION) | <b>SAMSUNG</b> | Approved by:<br>Quality Manager |
| Test Report S/N:<br>1M1911010179-06.A3L | Test Dates:<br>10/11/19 - 01/20/20 | EUT Type:<br>Portable Handset         |                | Page 162 of 265                 |