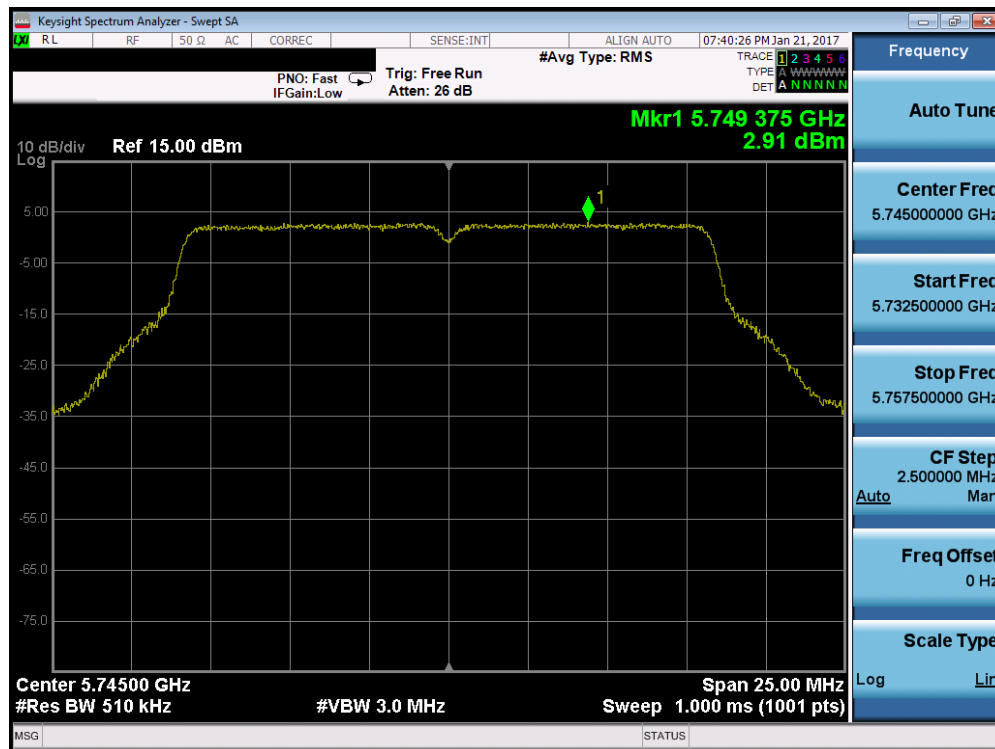


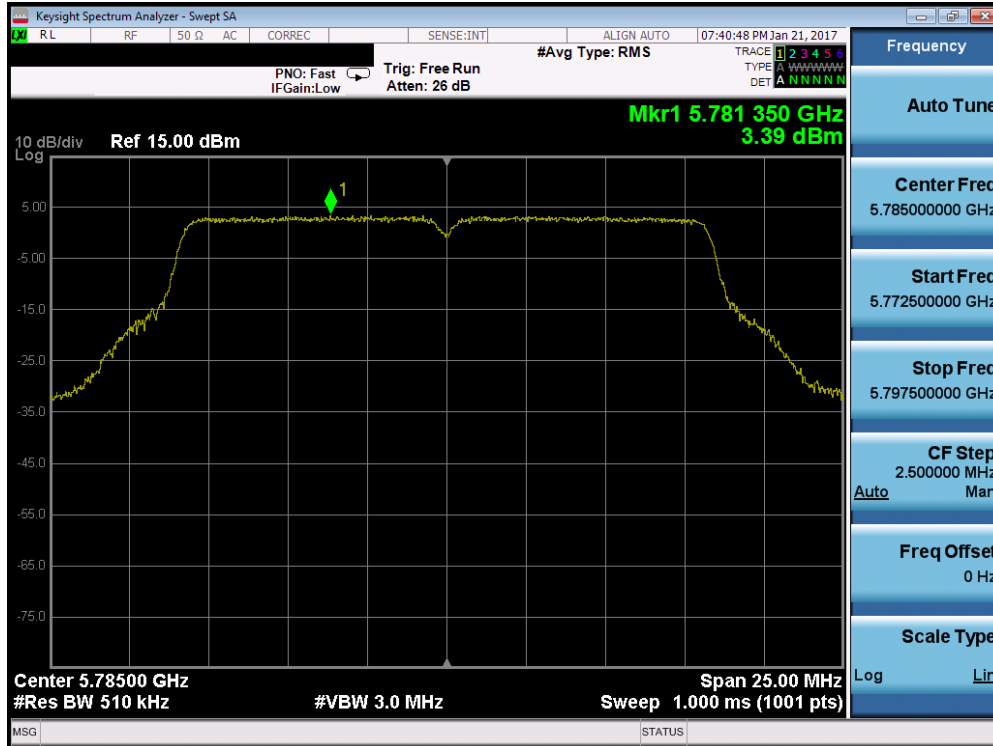
| | Frequency [MHz] | Channel No. | 802.11 Mode | Data Rate [Mbps] | Measured Power Density [dBm] | Max Permissible Power Density [dBm/500kHz] | Margin [dB] | Pass / Fail |
|---------------|-----------------|-------------|-------------|------------------|------------------------------|--|-------------|-------------|
| Band 3 | 5745 | 149 | a | 6 | 2.91 | 30.0 | -27.09 | Pass |
| | 5785 | 157 | a | 6 | 3.39 | 30.0 | -26.61 | Pass |
| | 5825 | 165 | a | 6 | 3.08 | 30.0 | -26.92 | Pass |
| | 5745 | 149 | n (20MHz) | 6.5/7.2 (MCS0) | 2.64 | 30.0 | -27.36 | Pass |
| | 5785 | 157 | n (20MHz) | 6.5/7.2 (MCS0) | 2.95 | 30.0 | -27.05 | Pass |
| | 5825 | 165 | n (20MHz) | 6.5/7.2 (MCS0) | 2.84 | 30.0 | -27.16 | Pass |
| | 5755 | 151 | n (40MHz) | 13.5/15 (MCS0) | -1.63 | 30.0 | -31.63 | Pass |
| | 5795 | 159 | n (40MHz) | 13.5/15 (MCS0) | -1.25 | 30.0 | -31.25 | Pass |
| | 5775 | 155 | ac (80MHz) | 29.3/32.5 (MCS0) | -2.47 | 30.0 | -32.47 | Pass |

Table 7-19. Band 3 Conducted Power Spectral Density Measurements

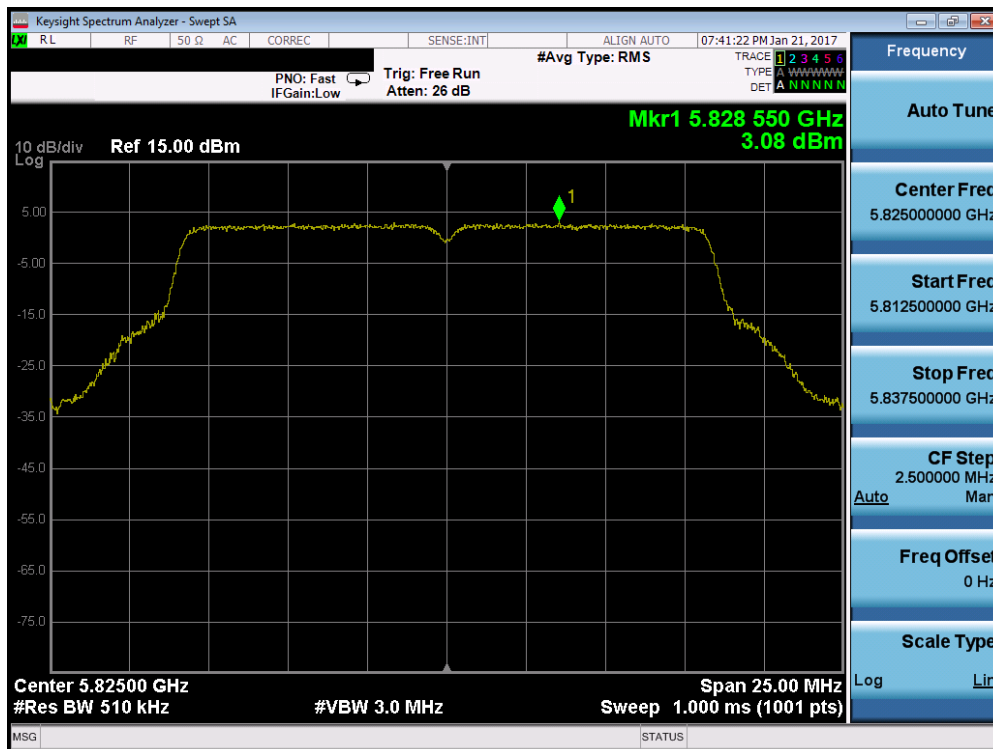


Plot 7-109. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 149)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 83 of 260 |

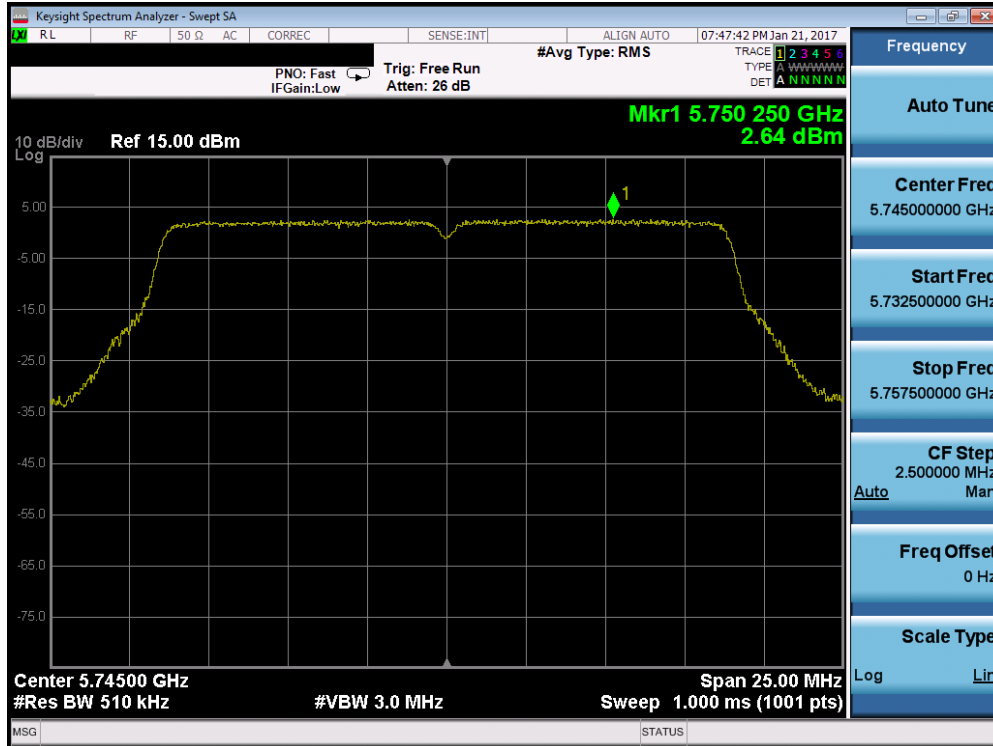


Plot 7-110. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 157)

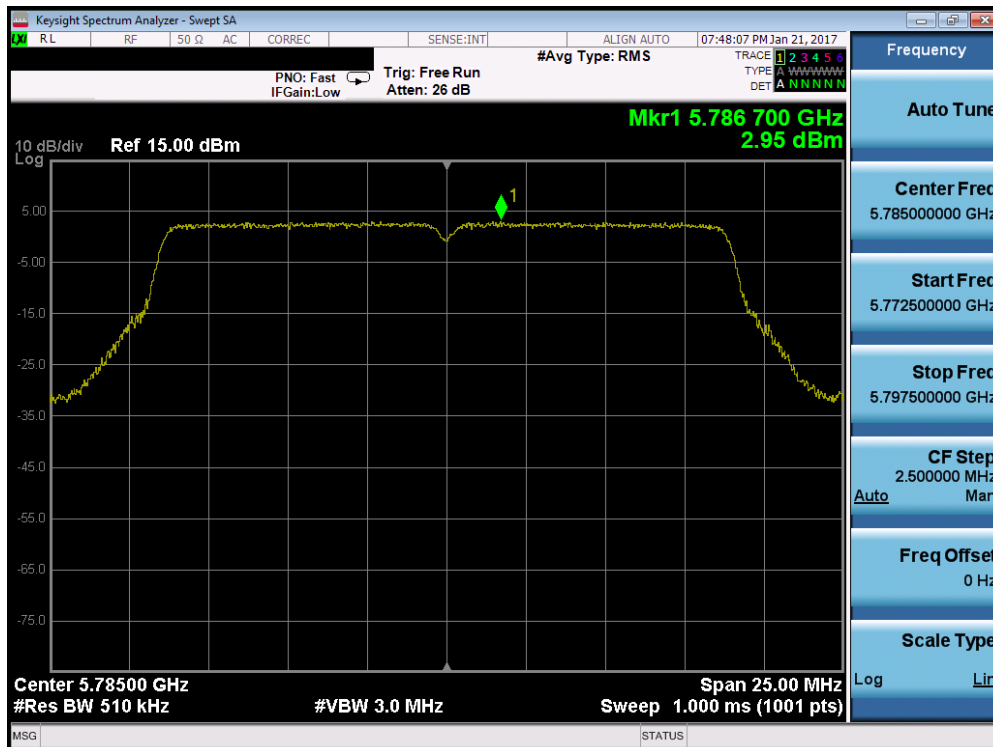


Plot 7-111. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 165)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 84 of 260 |

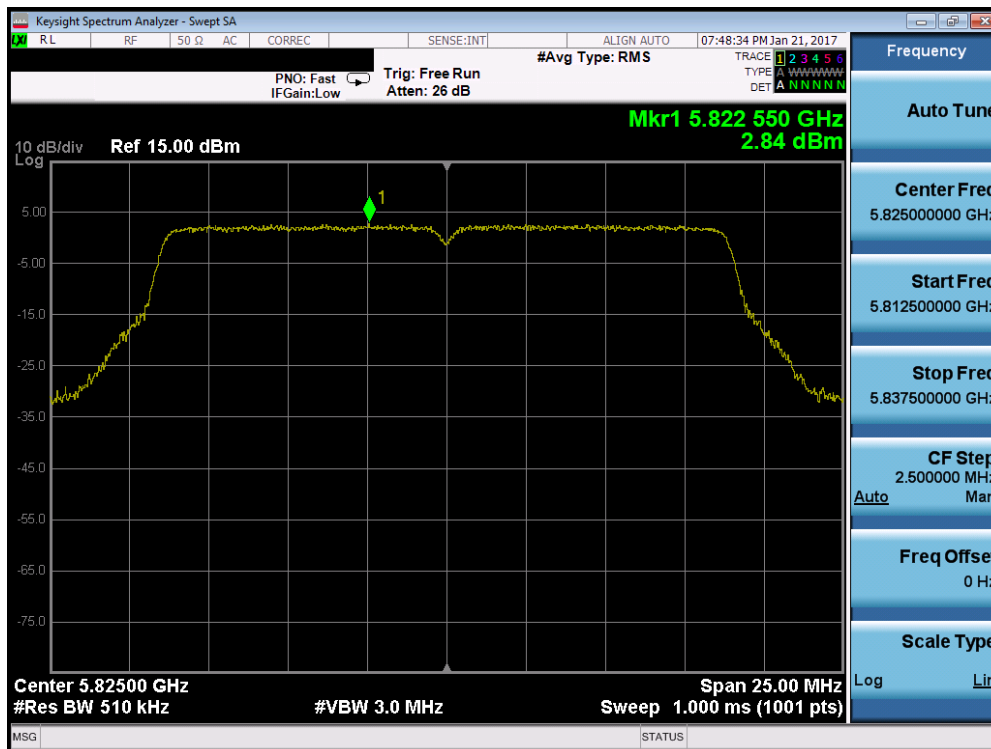


Plot 7-112. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 149)

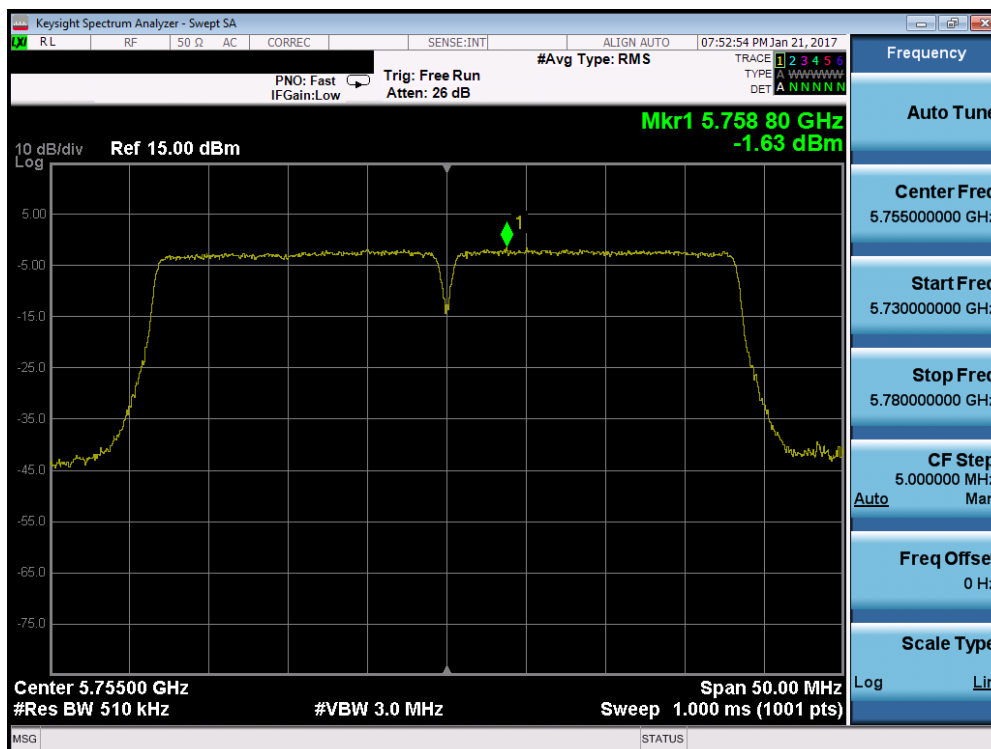


Plot 7-113. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 157)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 85 of 260 |

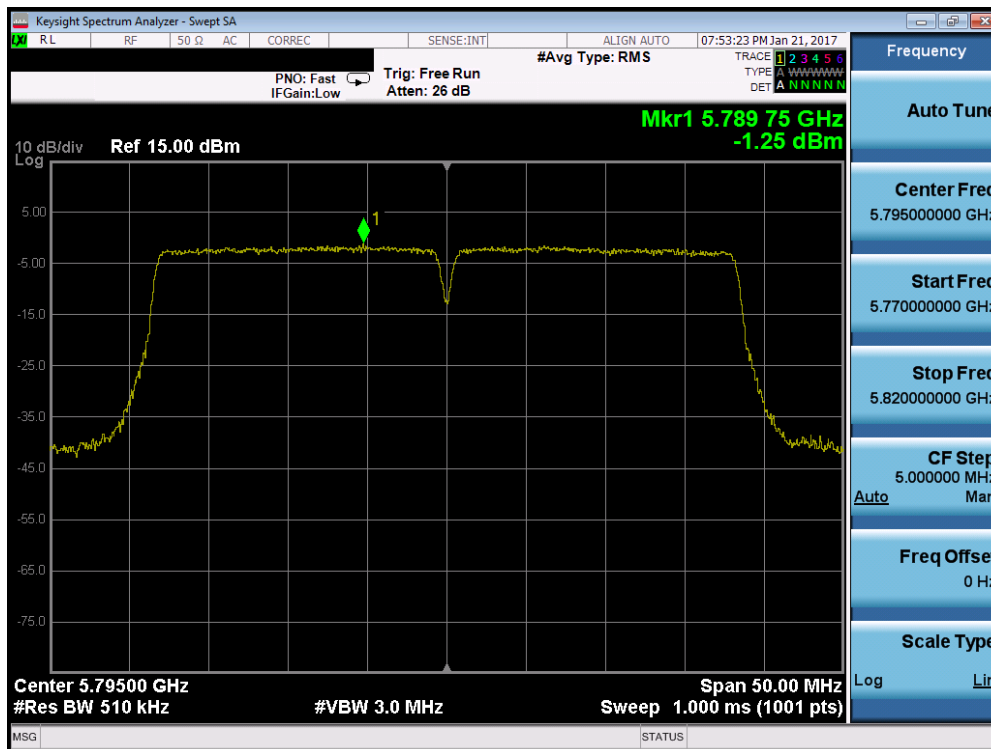


Plot 7-114. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 165)

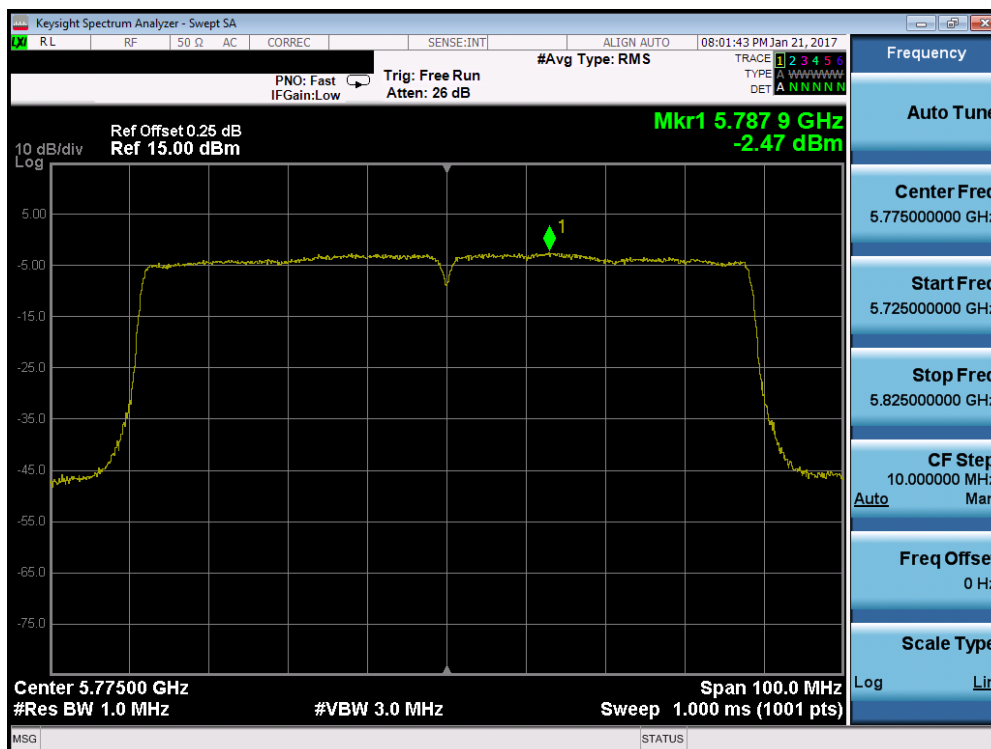


Plot 7-115. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 86 of 260 |



Plot 7-116. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 159)





Plot 7-117. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 87 of 260 |

Antenna-2 Power Spectral Density Measurements

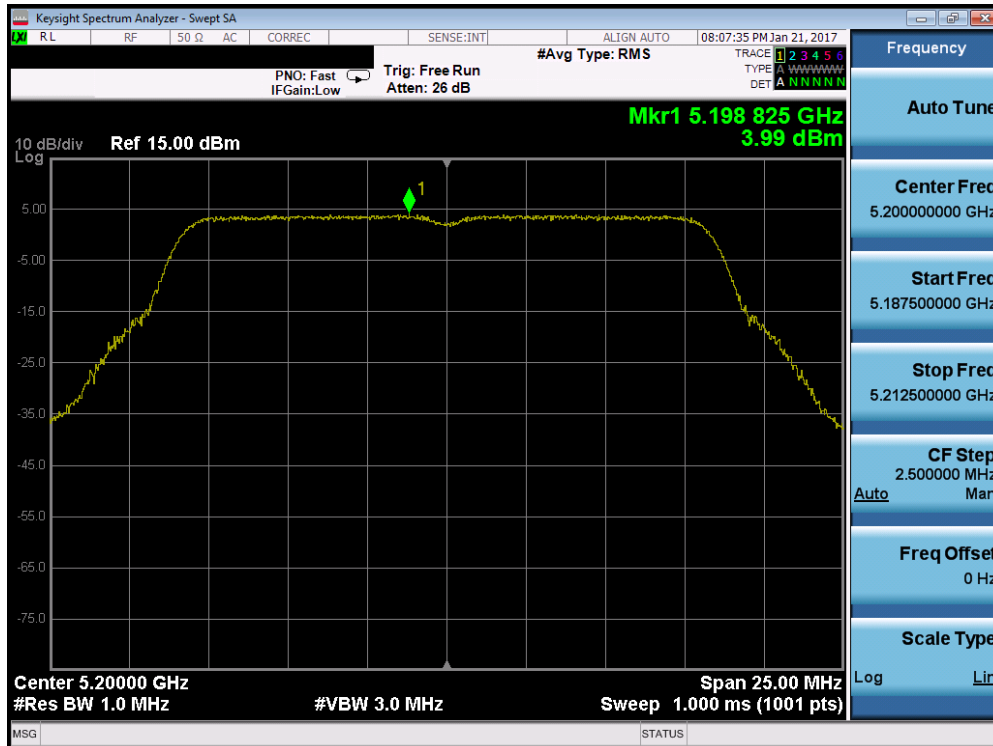
| | Frequency [MHz] | Channel No. | 802.11 Mode | Data Rate [Mbps] | Measured Power Density [dBm] | Max Permissible Power Density [dBm/MHz] | Margin [dB] | Pass / Fail |
|---------|-----------------|-------------|-------------|------------------|------------------------------|---|-------------|-------------|
| Band 1 | 5180 | 36 | a | 6 | 4.26 | 11.0 | -6.74 | Pass |
| | 5200 | 40 | a | 6 | 3.99 | 11.0 | -7.01 | Pass |
| | 5240 | 48 | a | 6 | 3.86 | 11.0 | -7.14 | Pass |
| | 5180 | 36 | n (20MHz) | 6.5/7.2 (MCS0) | 3.82 | 11.0 | -7.18 | Pass |
| | 5200 | 40 | n (20MHz) | 6.5/7.2 (MCS0) | 3.77 | 11.0 | -7.23 | Pass |
| | 5240 | 48 | n (20MHz) | 6.5/7.2 (MCS0) | 3.81 | 11.0 | -7.19 | Pass |
| | 5190 | 38 | n (40MHz) | 13.5/15 (MCS0) | -0.51 | 11.0 | -11.51 | Pass |
| | 5230 | 46 | n (40MHz) | 13.5/15 (MCS0) | -0.49 | 11.0 | -11.49 | Pass |
| | 5210 | 42 | ac (80MHz) | 29.3/32.5 (MCS0) | -4.00 | 11.0 | -15.00 | Pass |
| Band 2A | 5260 | 52 | a | 6 | 6.75 | 11.0 | -4.25 | Pass |
| | 5280 | 56 | a | 6 | 6.35 | 11.0 | -4.65 | Pass |
| | 5320 | 64 | a | 6 | 6.13 | 11.0 | -4.87 | Pass |
| | 5260 | 52 | n (20MHz) | 6.5/7.2 (MCS0) | 6.13 | 11.0 | -4.87 | Pass |
| | 5280 | 56 | n (20MHz) | 6.5/7.2 (MCS0) | 6.20 | 11.0 | -4.80 | Pass |
| | 5320 | 64 | n (20MHz) | 6.5/7.2 (MCS0) | 6.04 | 11.0 | -4.96 | Pass |
| | 5270 | 54 | n (40MHz) | 13.5/15 (MCS0) | -1.25 | 11.0 | -12.25 | Pass |
| | 5310 | 62 | n (40MHz) | 13.5/15 (MCS0) | -1.59 | 11.0 | -12.59 | Pass |
| | 5290 | 58 | ac (80MHz) | 29.3/32.5 (MCS0) | -4.00 | 11.0 | -15.00 | Pass |
| Band 2C | 5500 | 100 | a | 6 | 5.81 | 11.0 | -5.19 | Pass |
| | 5600 | 120 | a | 6 | 5.75 | 11.0 | -5.25 | Pass |
| | 5720 | 144 | a | 6 | 5.68 | 11.0 | -5.32 | Pass |
| | 5500 | 100 | n (20MHz) | 6.5/7.2 (MCS0) | 5.44 | 11.0 | -5.56 | Pass |
| | 5600 | 120 | n (20MHz) | 6.5/7.2 (MCS0) | 5.37 | 11.0 | -5.63 | Pass |
| | 5720 | 144 | n (20MHz) | 6.5/7.2 (MCS0) | 5.36 | 11.0 | -5.64 | Pass |
| | 5510 | 102 | n (40MHz) | 13.5/15 (MCS0) | 0.83 | 11.0 | -10.17 | Pass |
| | 5590 | 118 | n (40MHz) | 13.5/15 (MCS0) | 1.11 | 11.0 | -9.89 | Pass |
| | 5710 | 142 | n (40MHz) | 13.5/15 (MCS0) | 1.19 | 11.0 | -9.81 | Pass |
| | 5530 | 106 | ac (80MHz) | 29.3/32.5 (MCS0) | -2.72 | 11.0 | -13.72 | Pass |
| | 5610 | 122 | ac (80MHz) | 29.3/32.5 (MCS0) | -2.94 | 11.0 | -13.94 | Pass |
| | 5690 | 138 | ac (80MHz) | 29.3/32.5 (MCS0) | -5.54 | 11.0 | -16.54 | Pass |

Table 7-20. Conducted Power Spectral Density Measurements

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 88 of 260 |

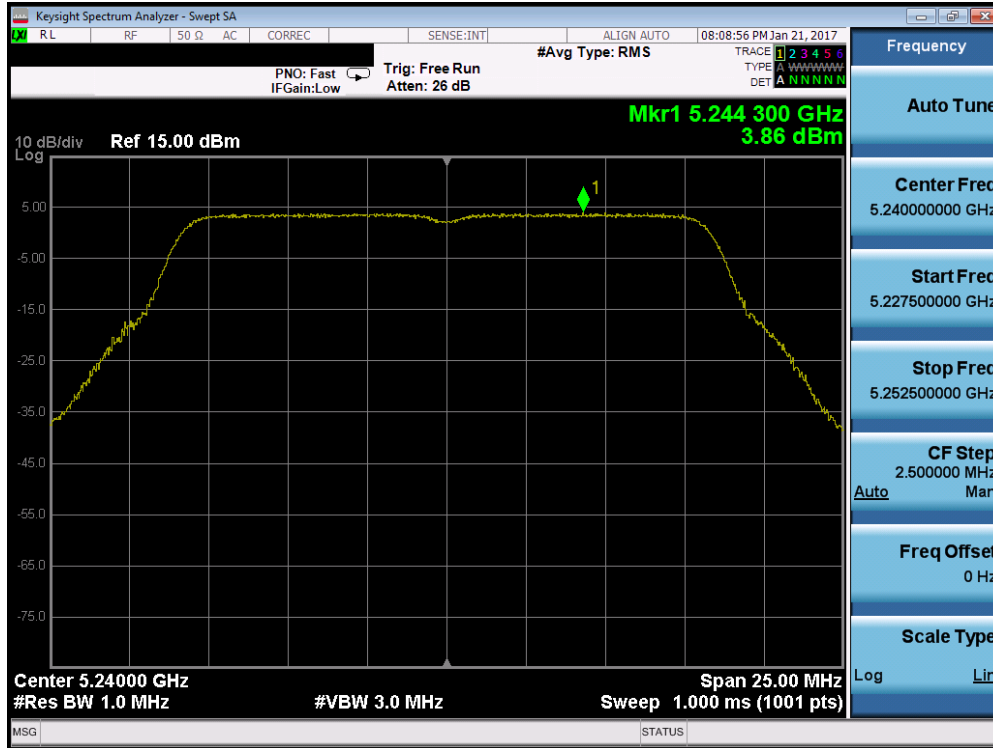


Plot 7-118. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)

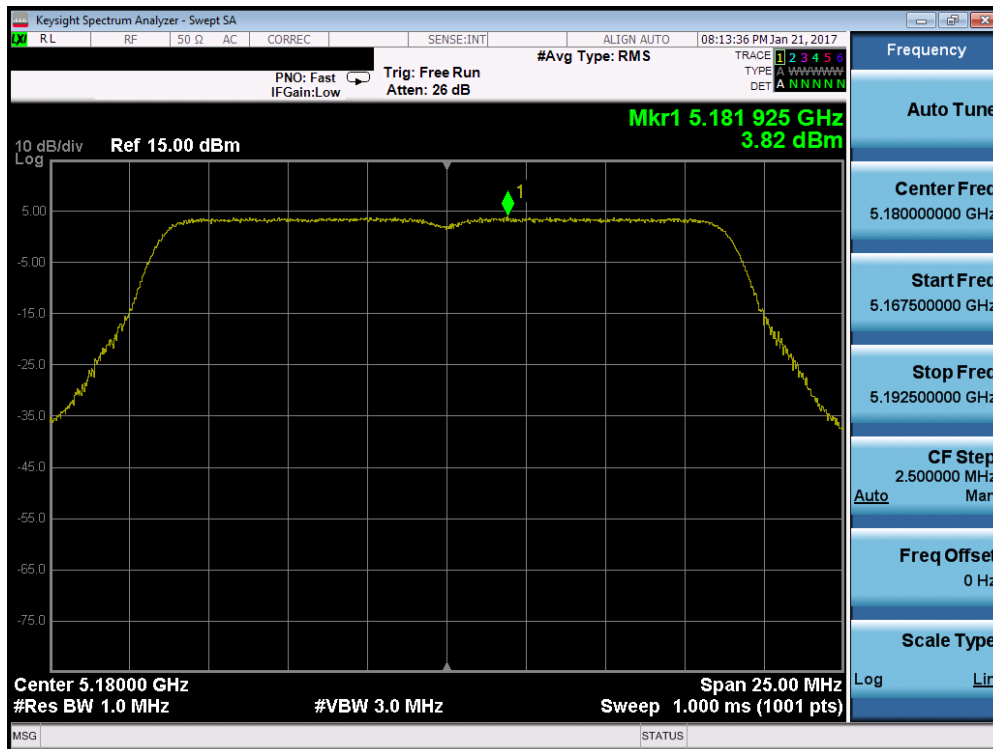


Plot 7-119. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 40)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 89 of 260 |

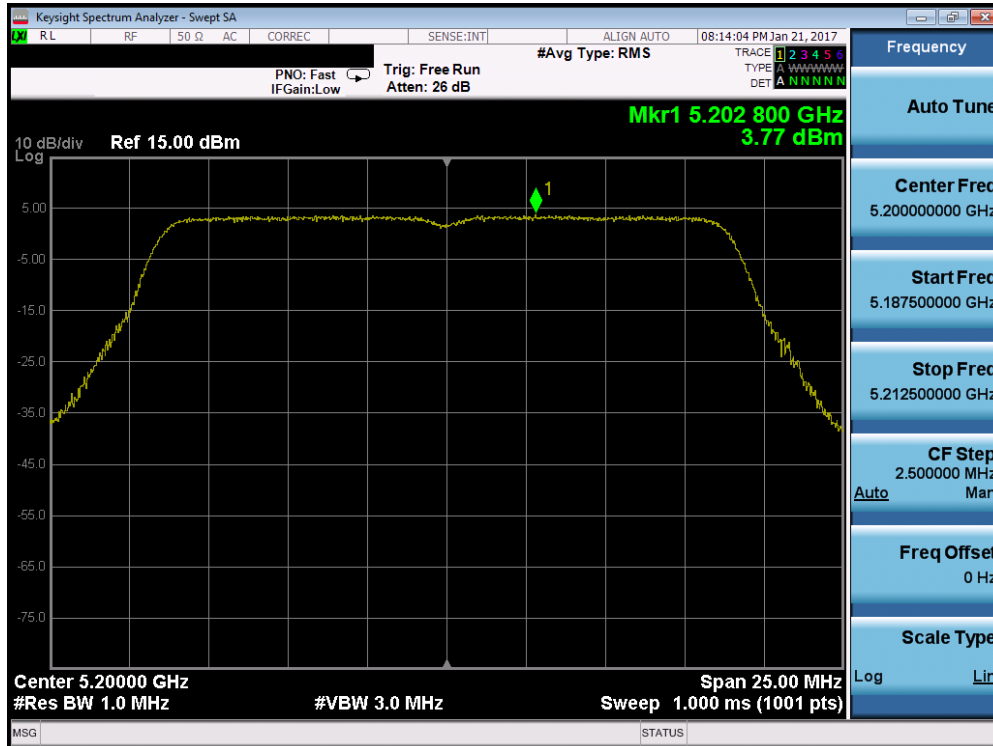


Plot 7-120. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)

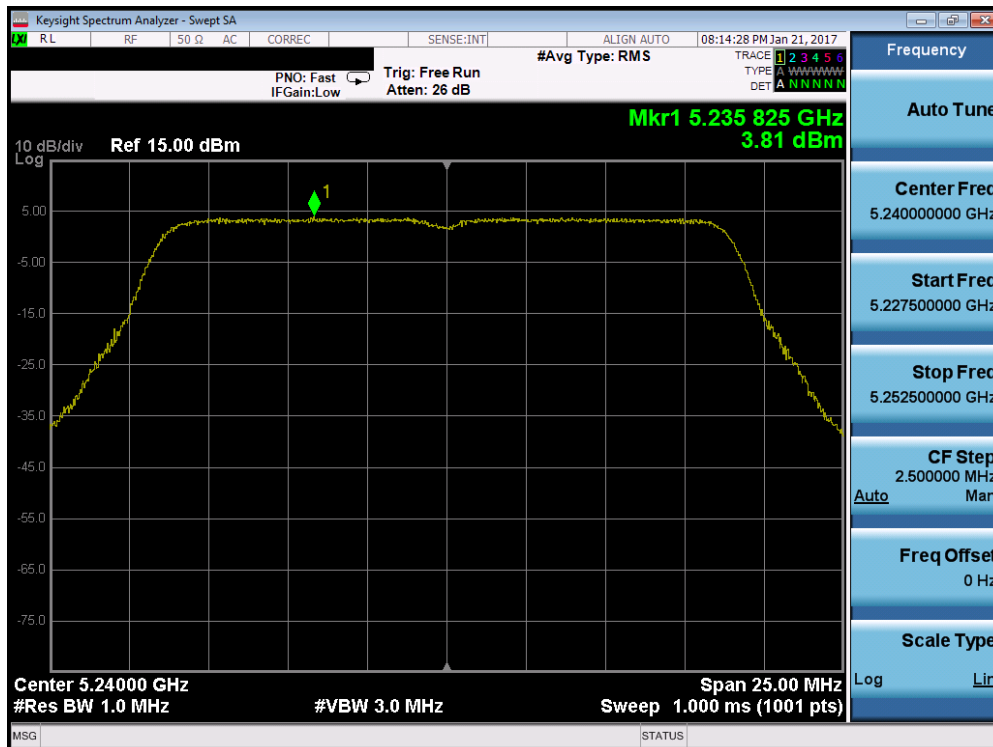


Plot 7-121. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 90 of 260 |

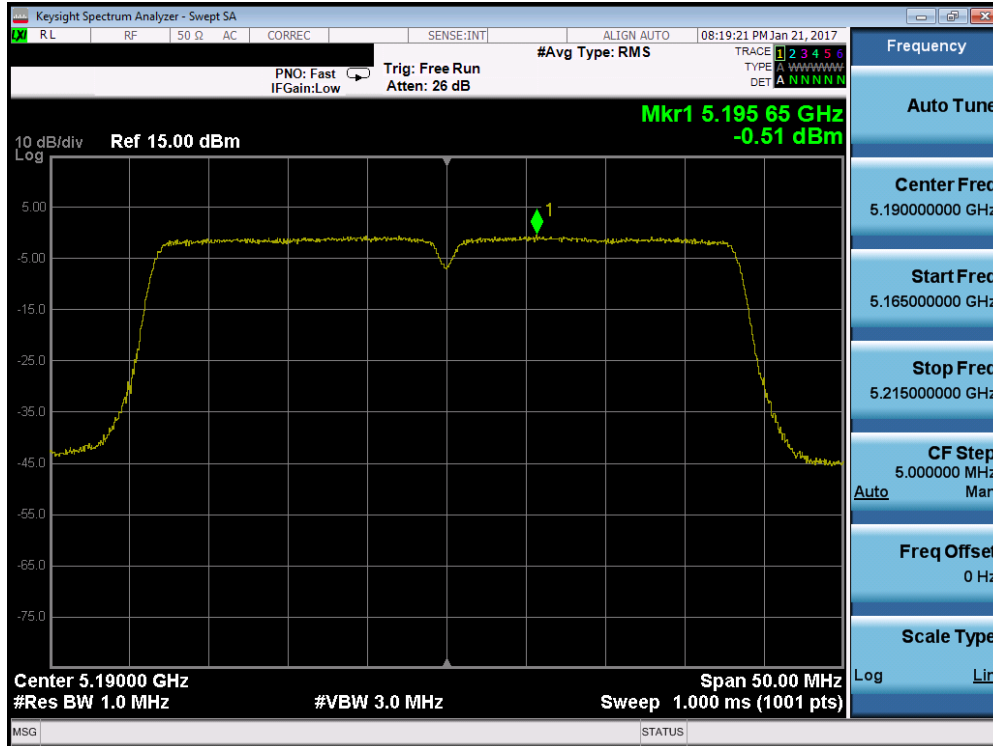


Plot 7-122. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

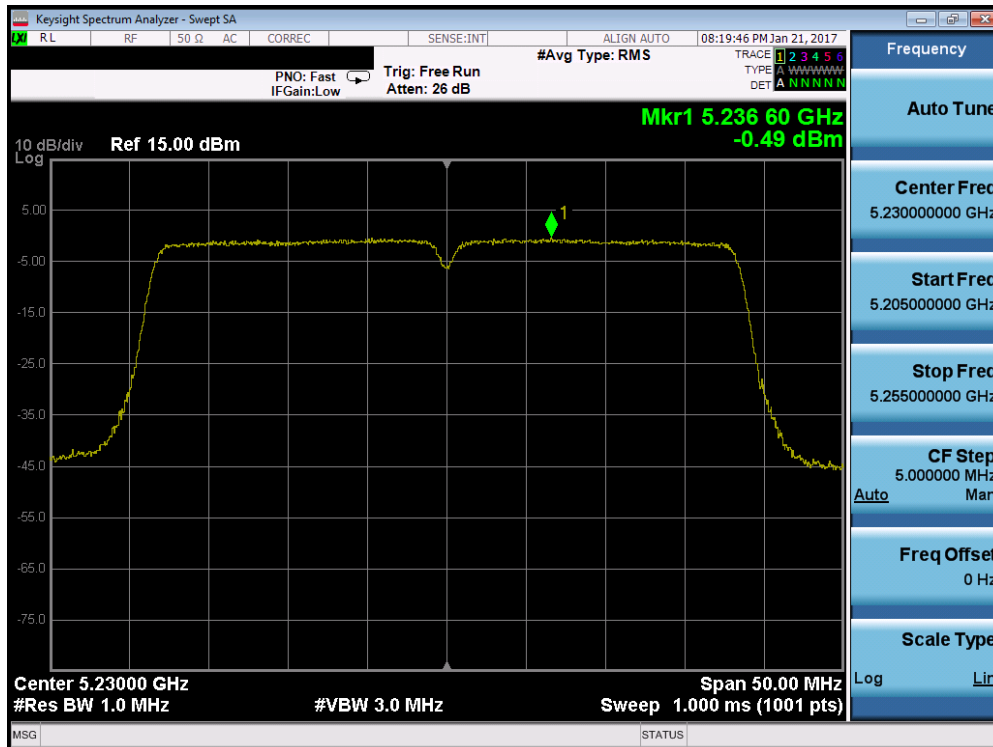


Plot 7-123. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 91 of 260 |

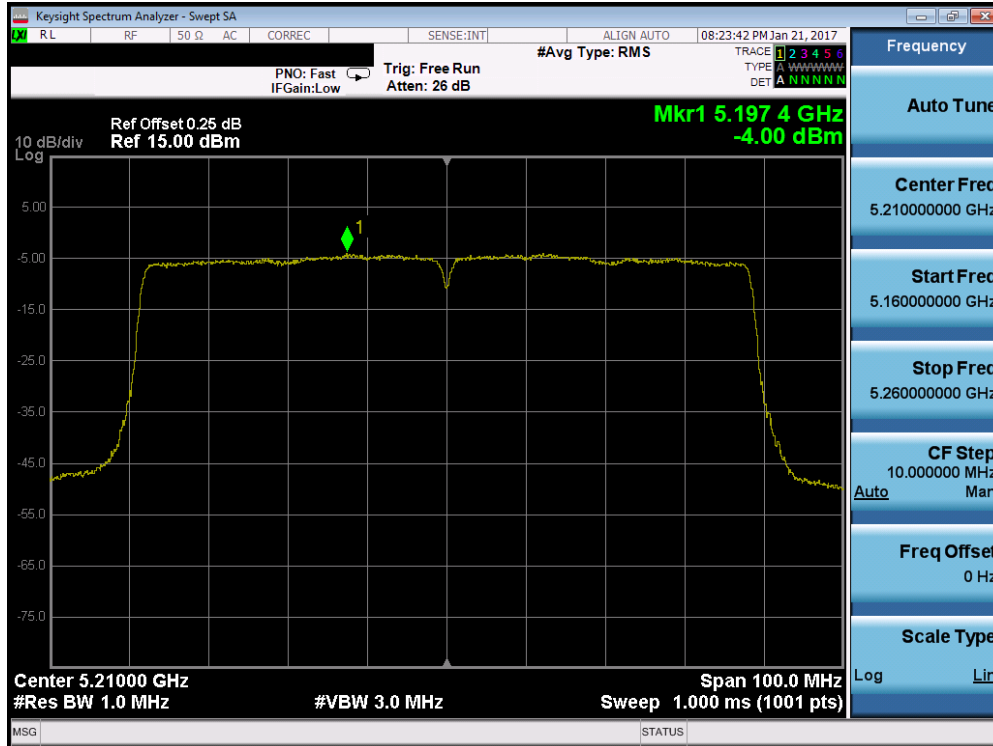


Plot 7-124. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)

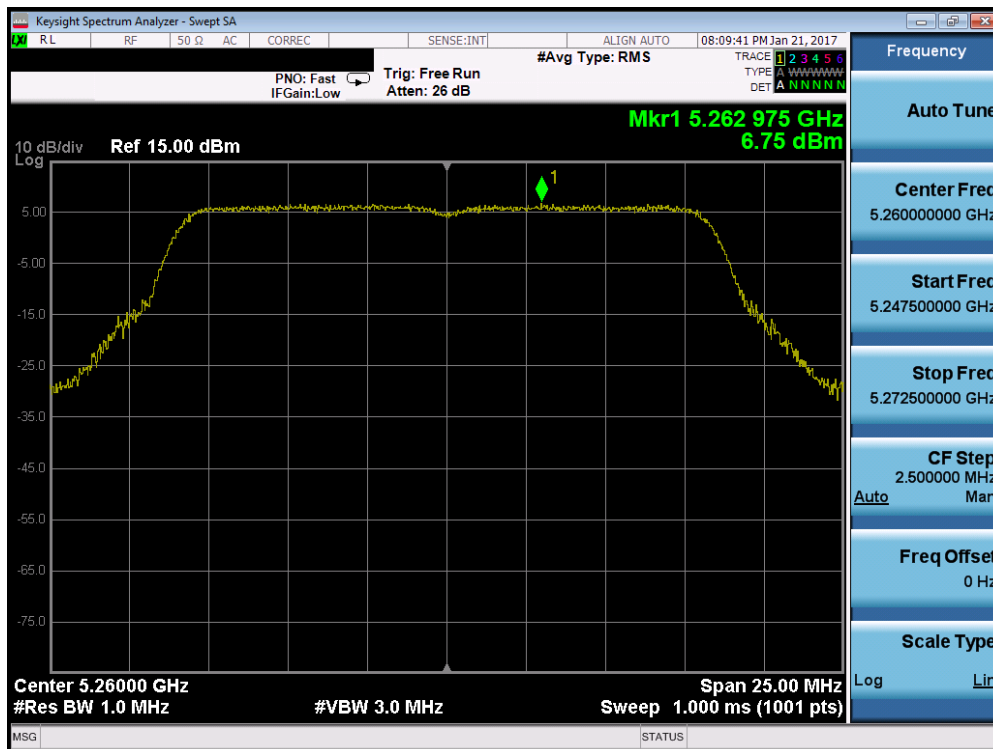


Plot 7-125. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 92 of 260 |

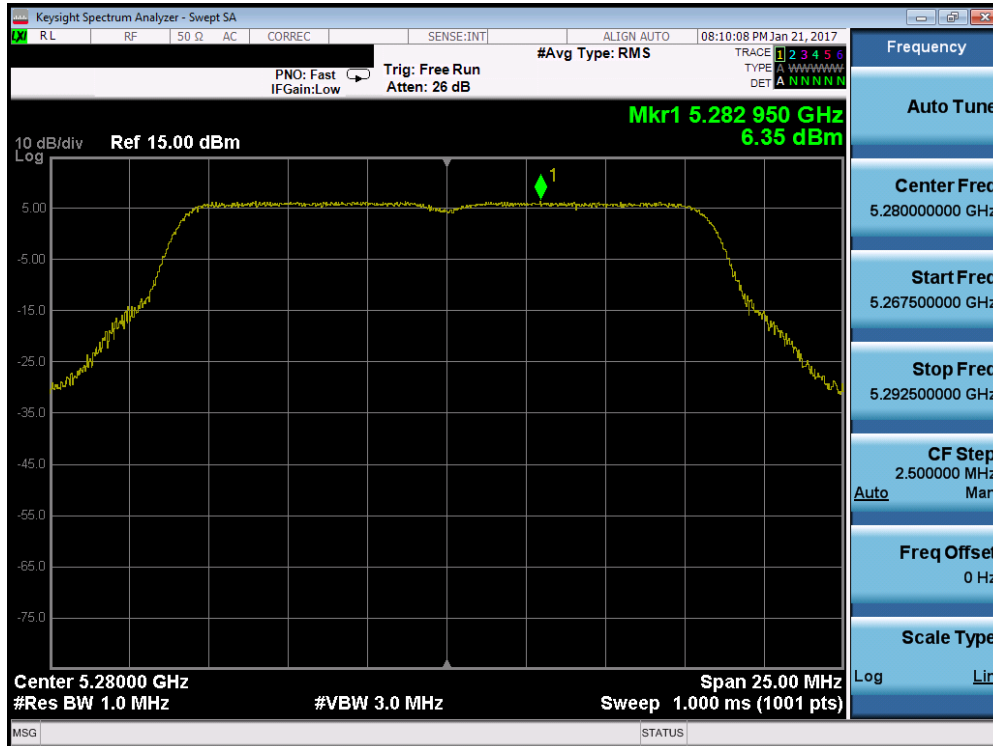


Plot 7-126. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

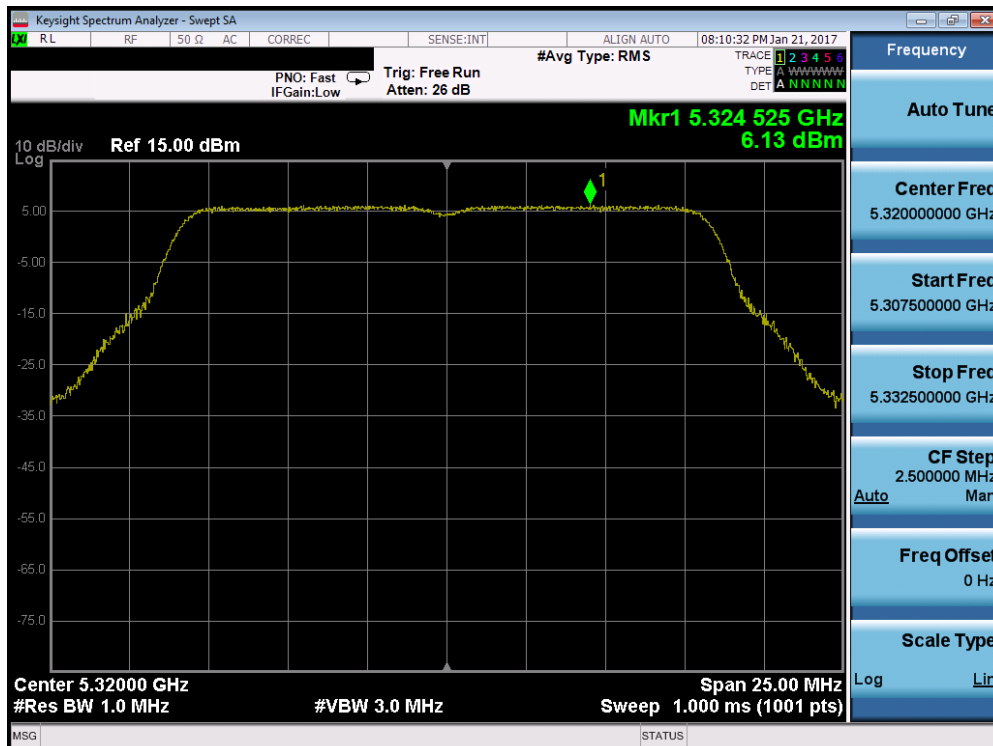


Plot 7-127. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 93 of 260 |

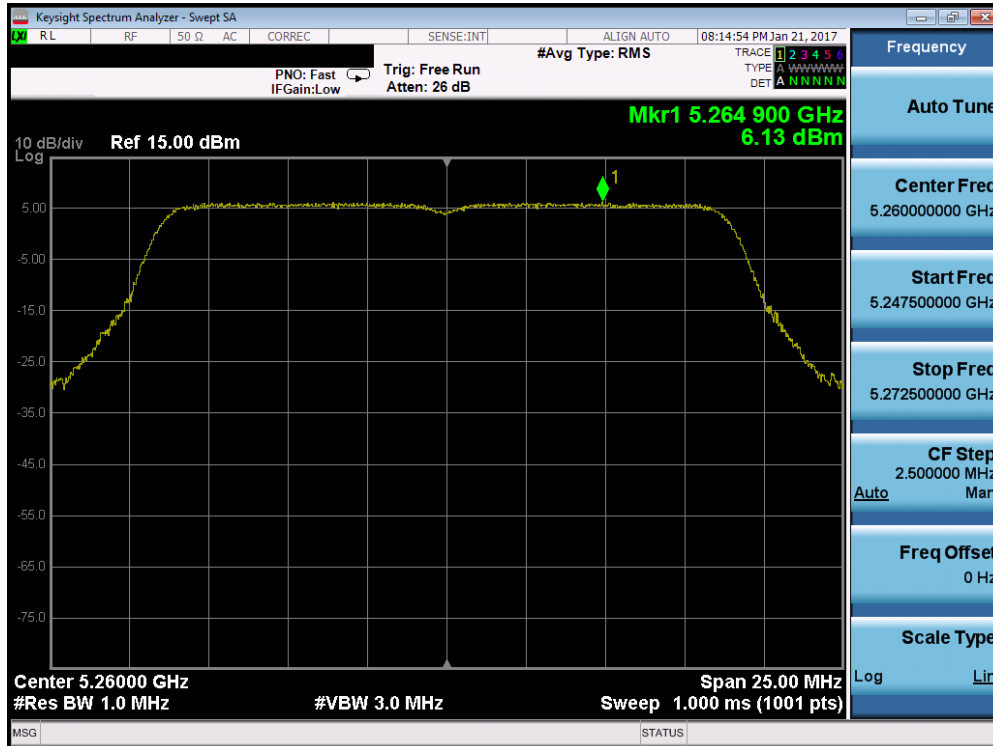


Plot 7-128. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)

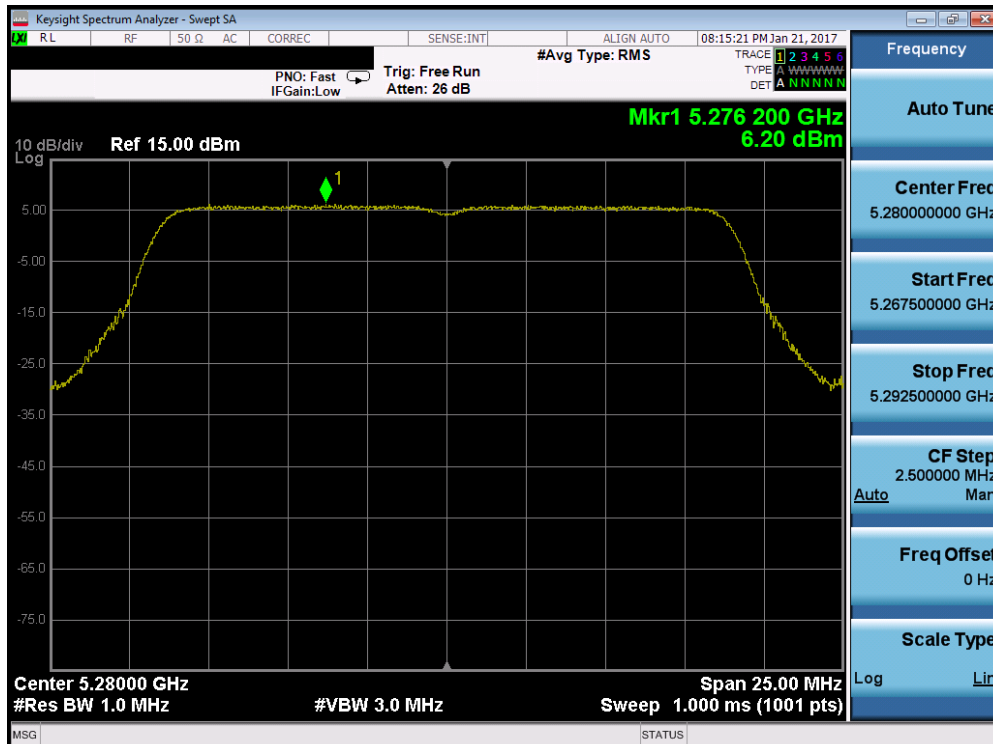


Plot 7-129. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 94 of 260 |

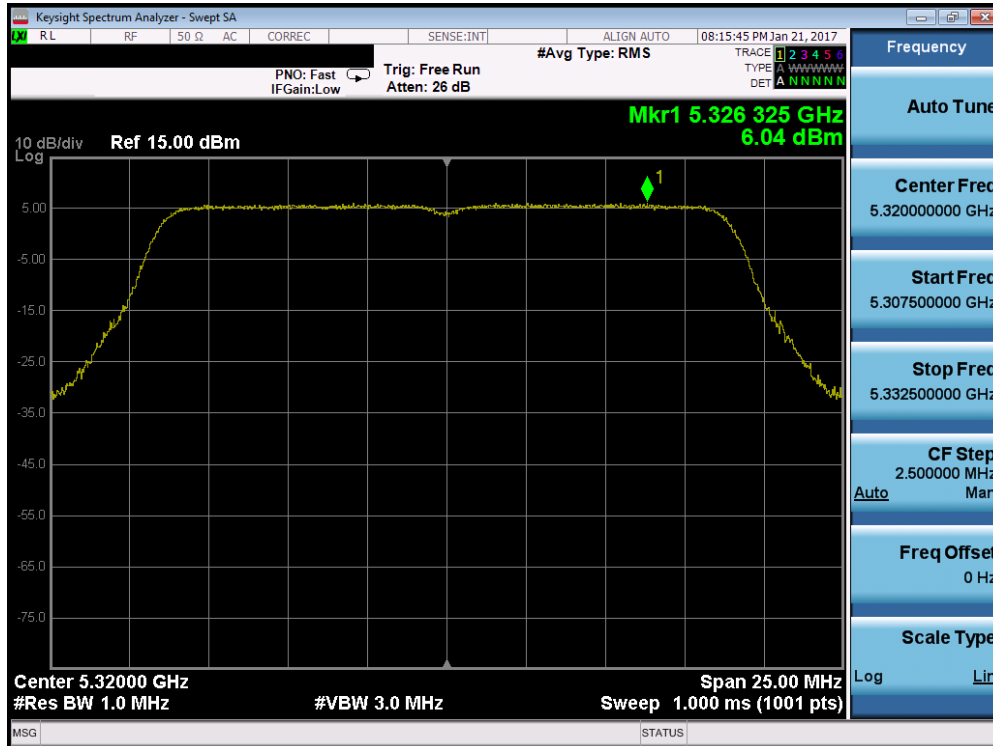


Plot 7-130. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

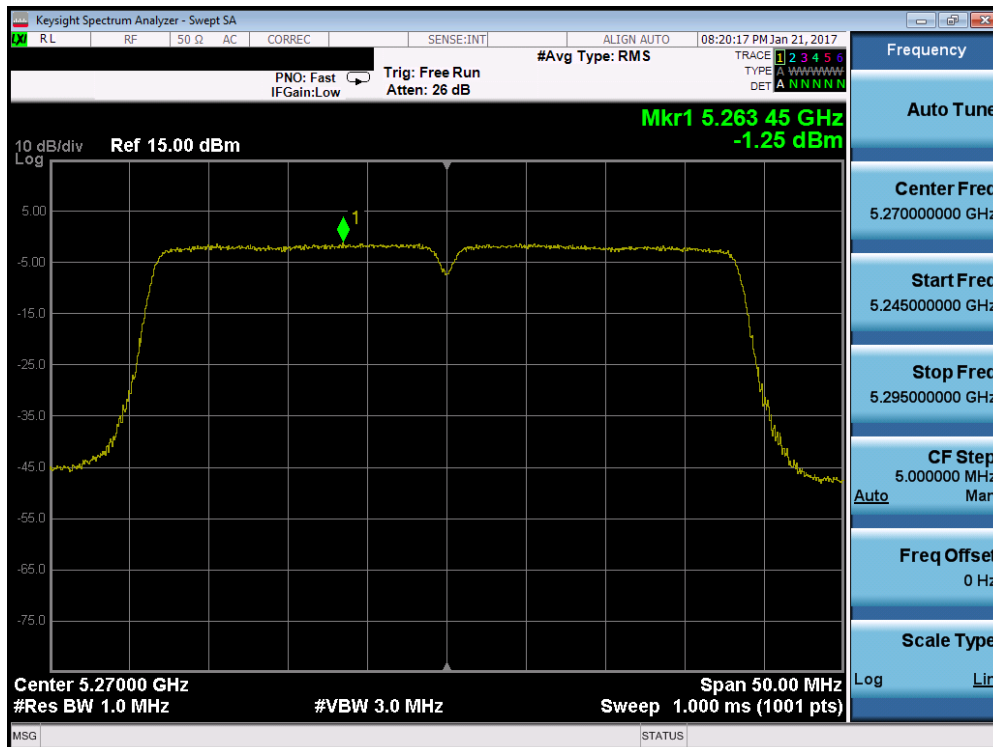


Plot 7-131. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 95 of 260 |

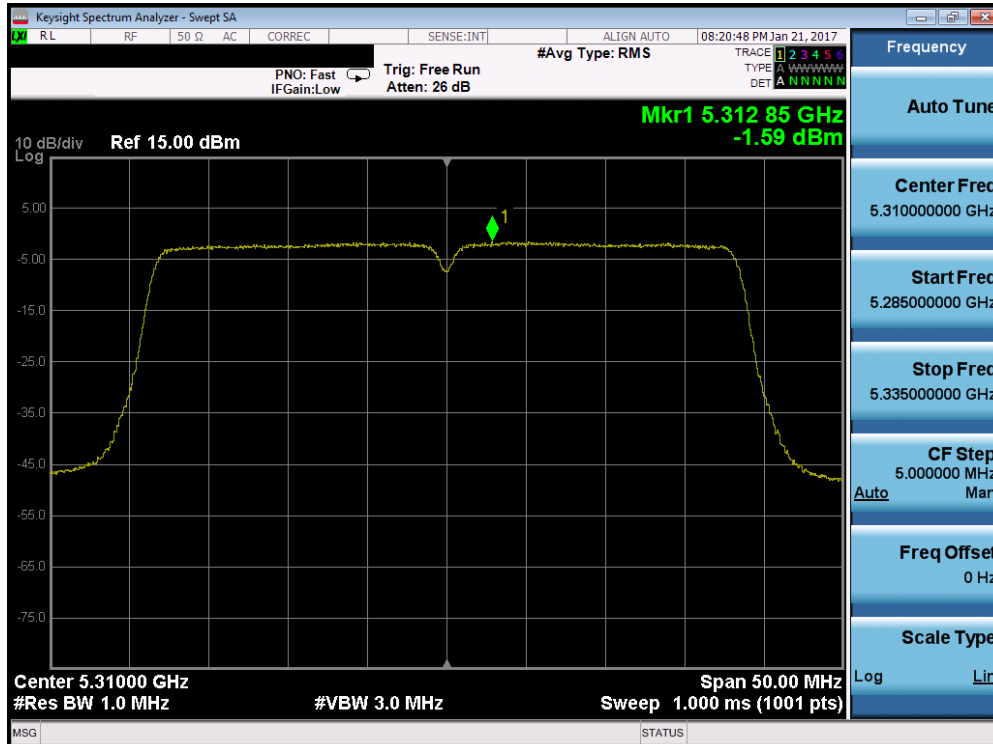


Plot 7-132. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

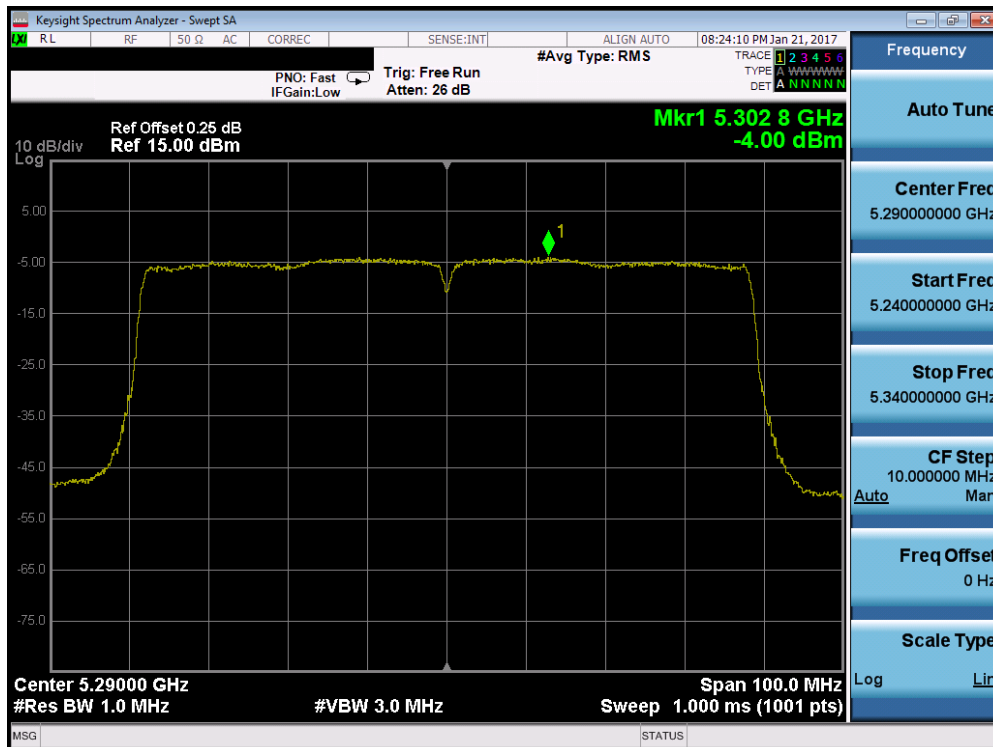


Plot 7-133. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 96 of 260 |

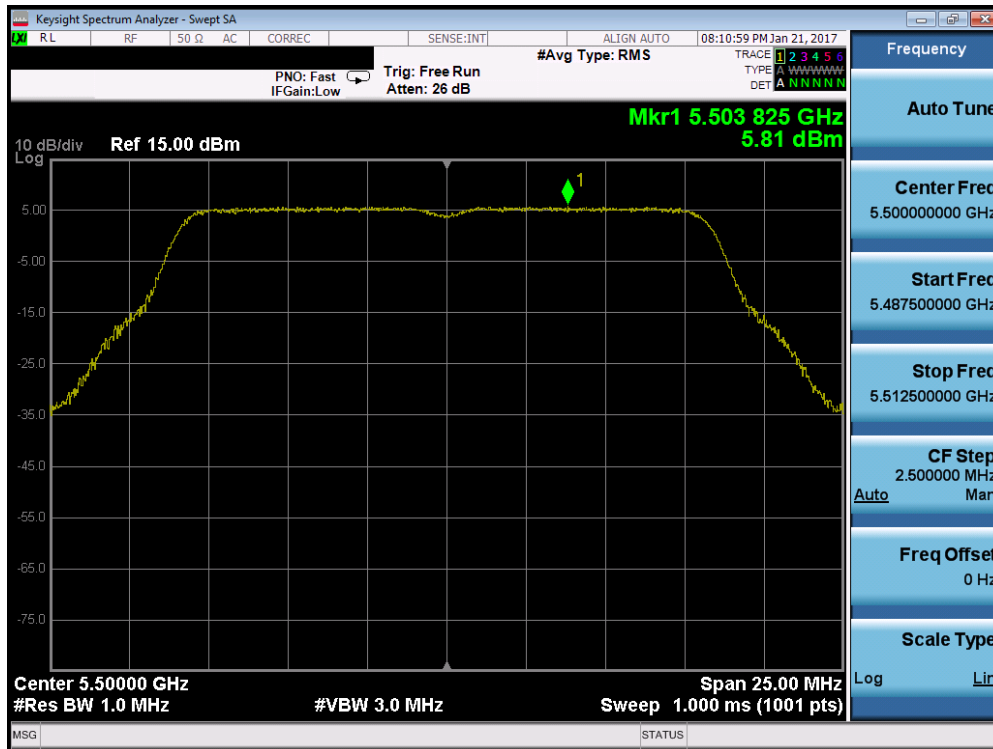


Plot 7-134. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

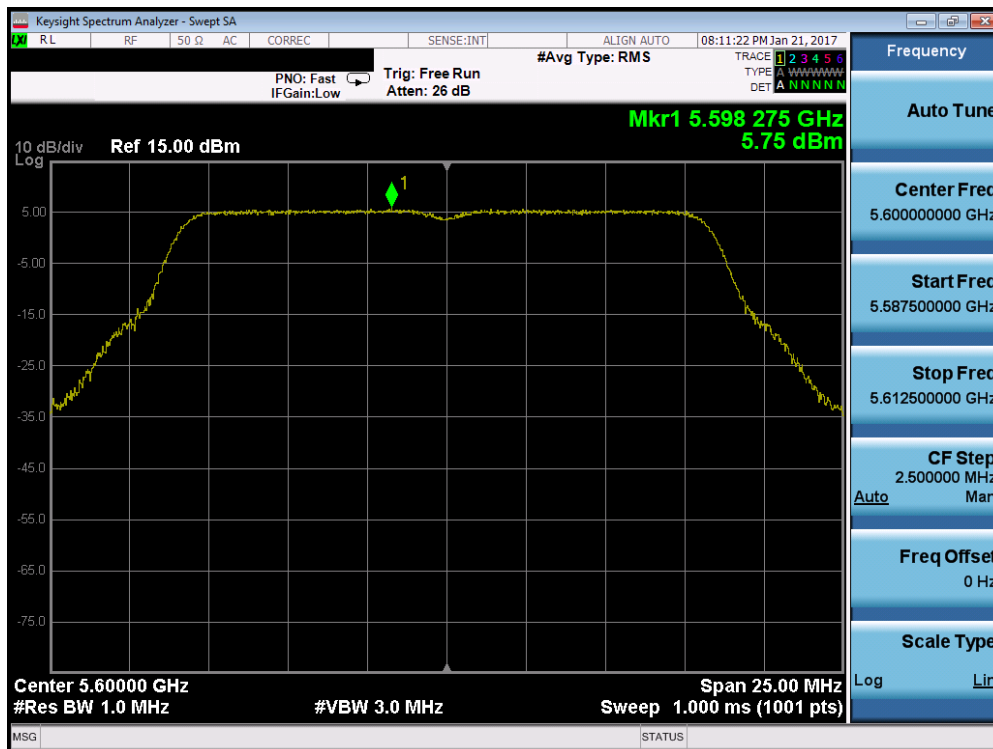


Plot 7-135. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 97 of 260 |

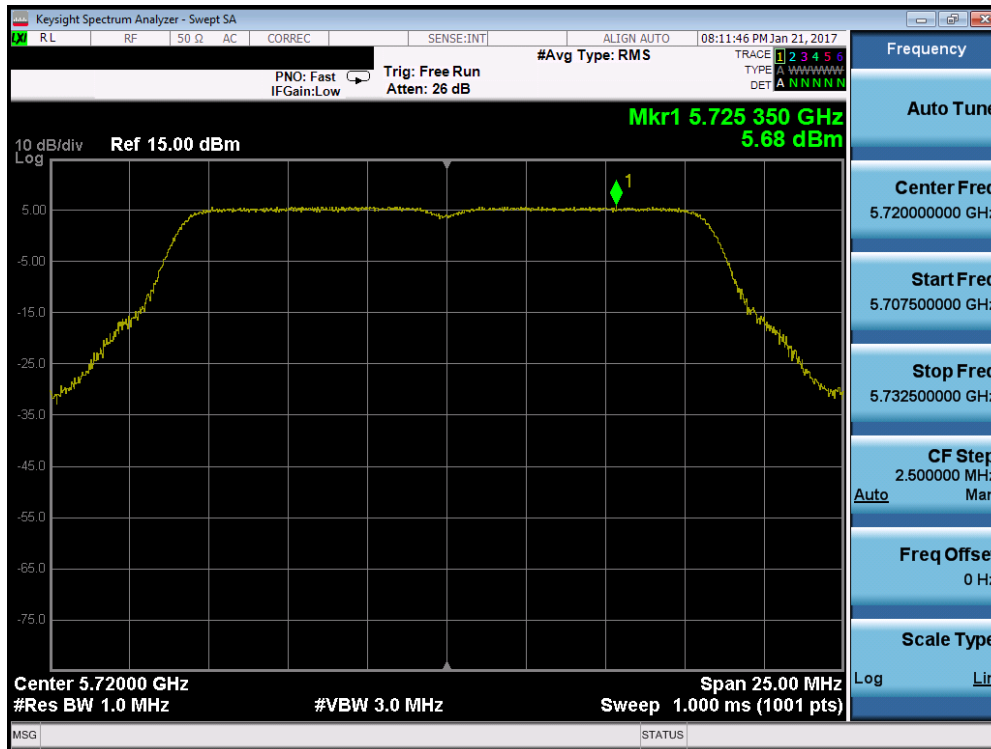


Plot 7-136. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)

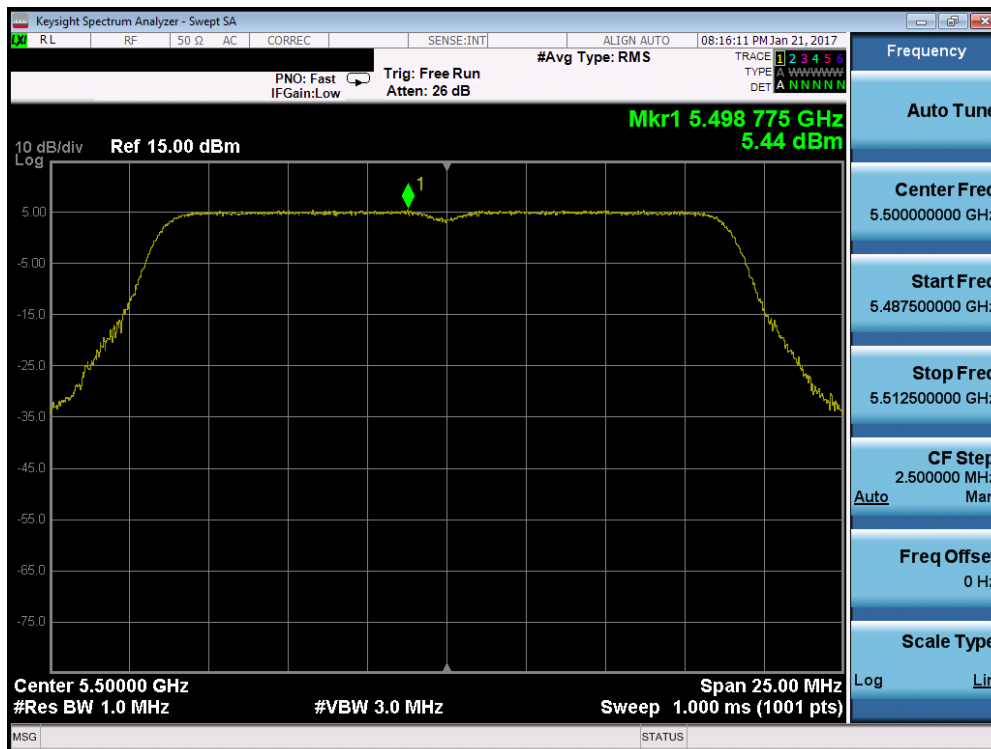


Plot 7-137. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 120)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 98 of 260 |

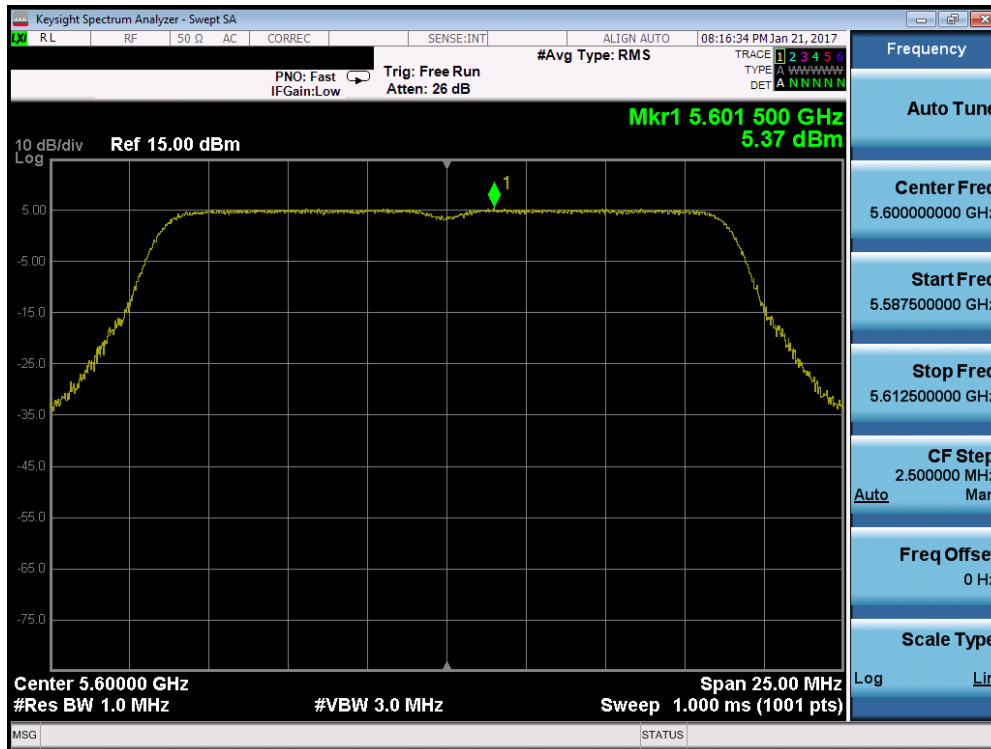


Plot 7-138. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 144)

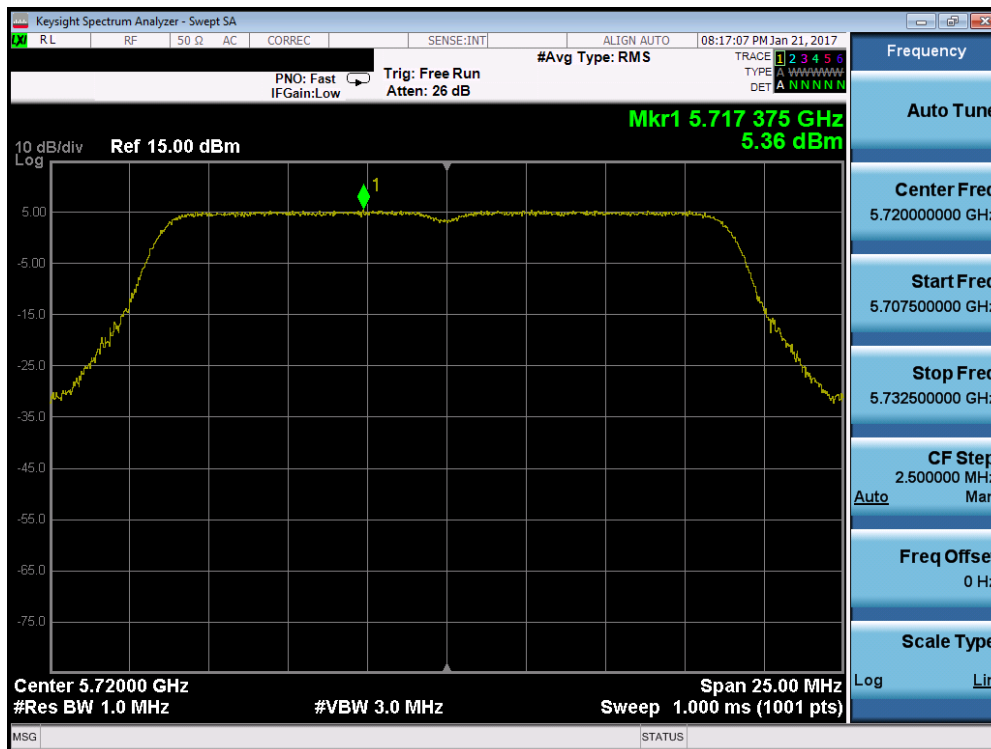


Plot 7-139. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 99 of 260 |

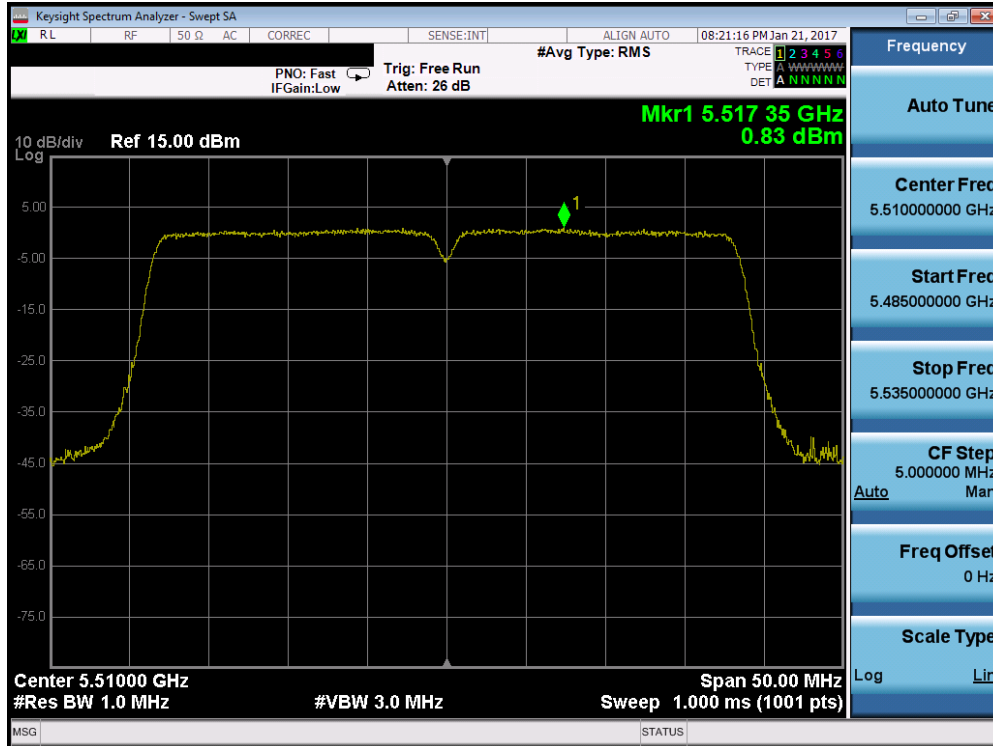


Plot 7-140. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)

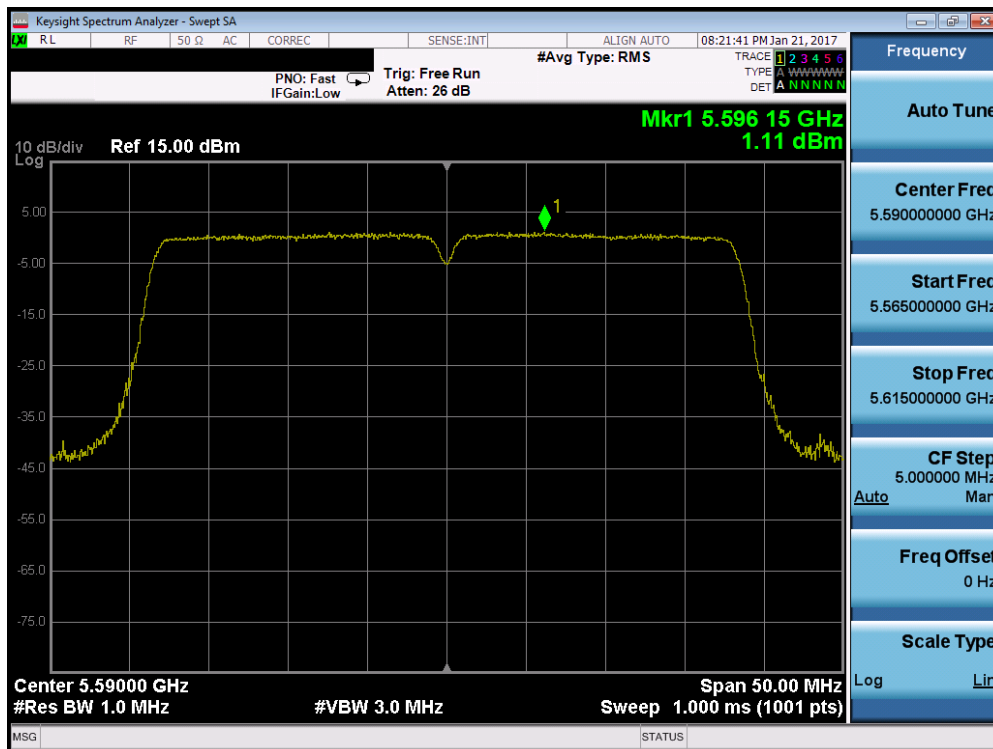


Plot 7-141. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 100 of 260 |

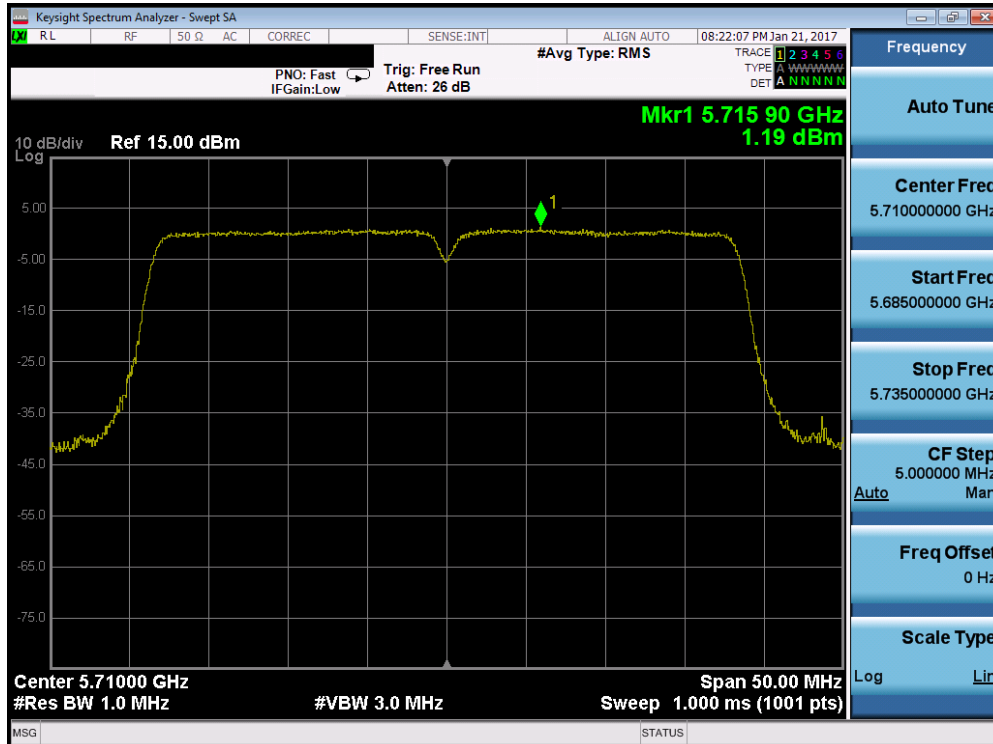


Plot 7-142. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

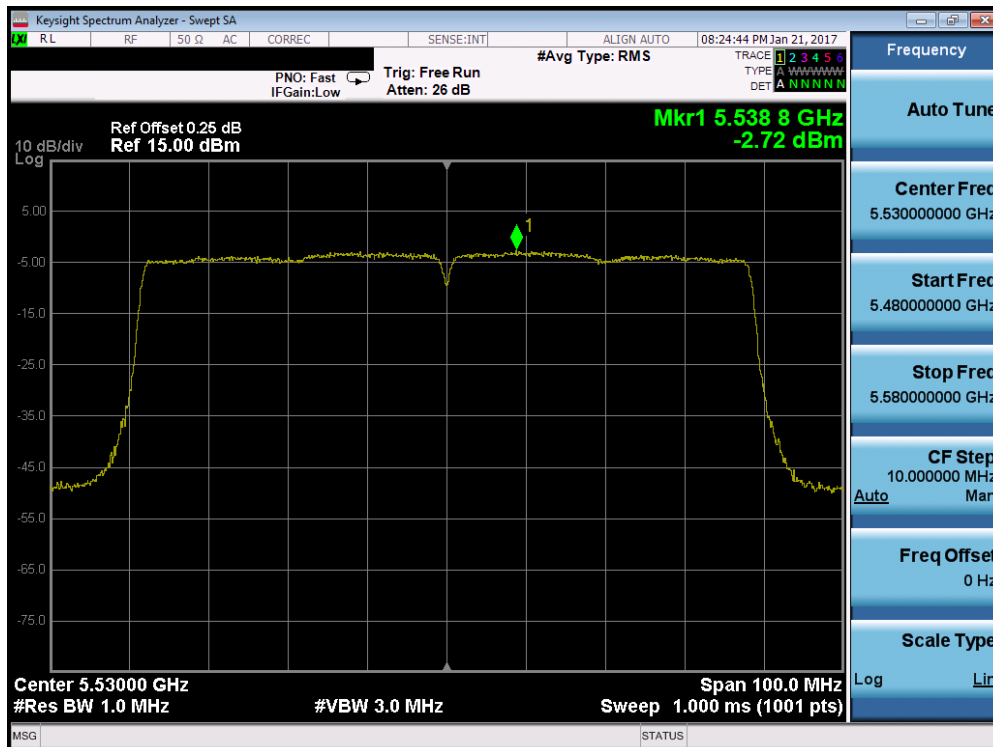


Plot 7-143. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 118)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 101 of 260 |

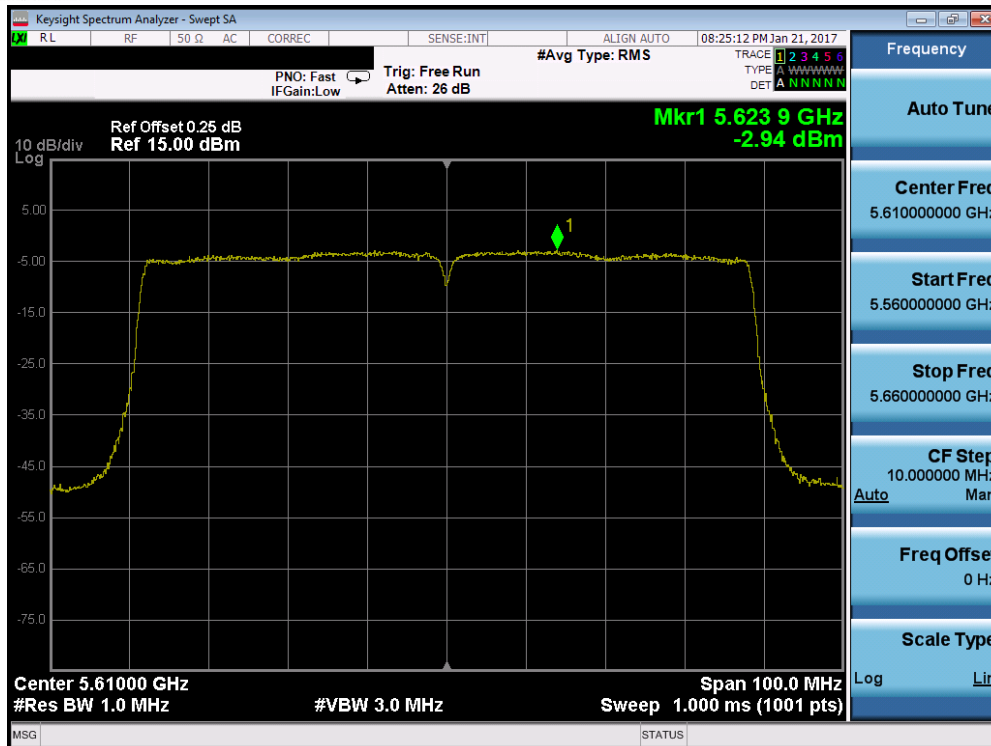


Plot 7-144. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

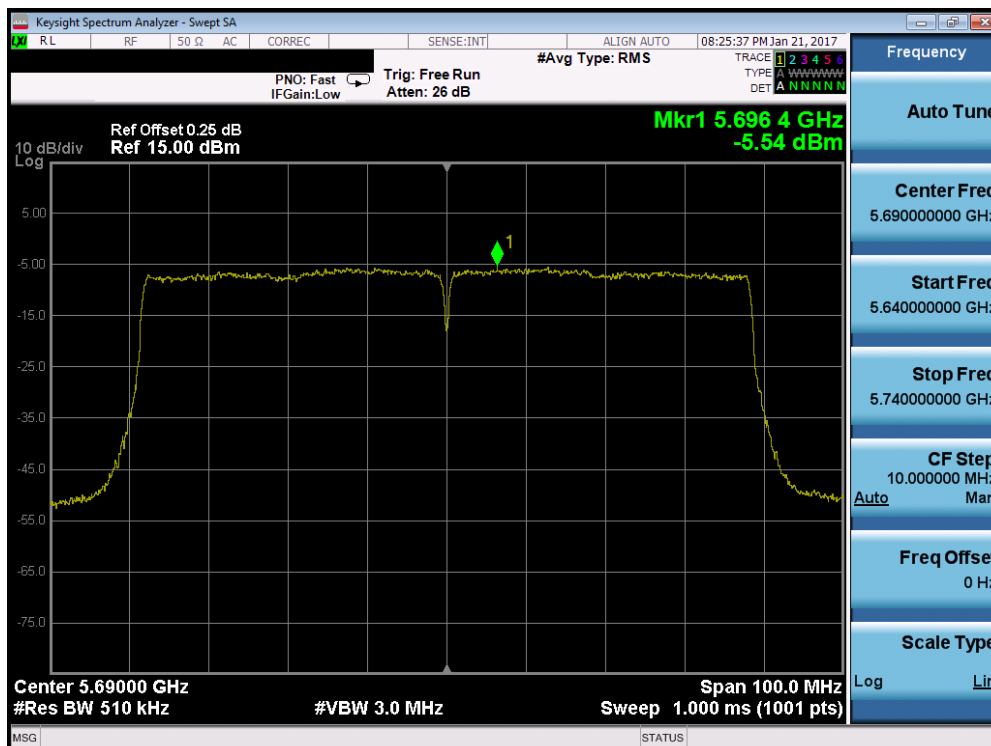


Plot 7-145. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 102 of 260 |



Plot 7-146. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 122)

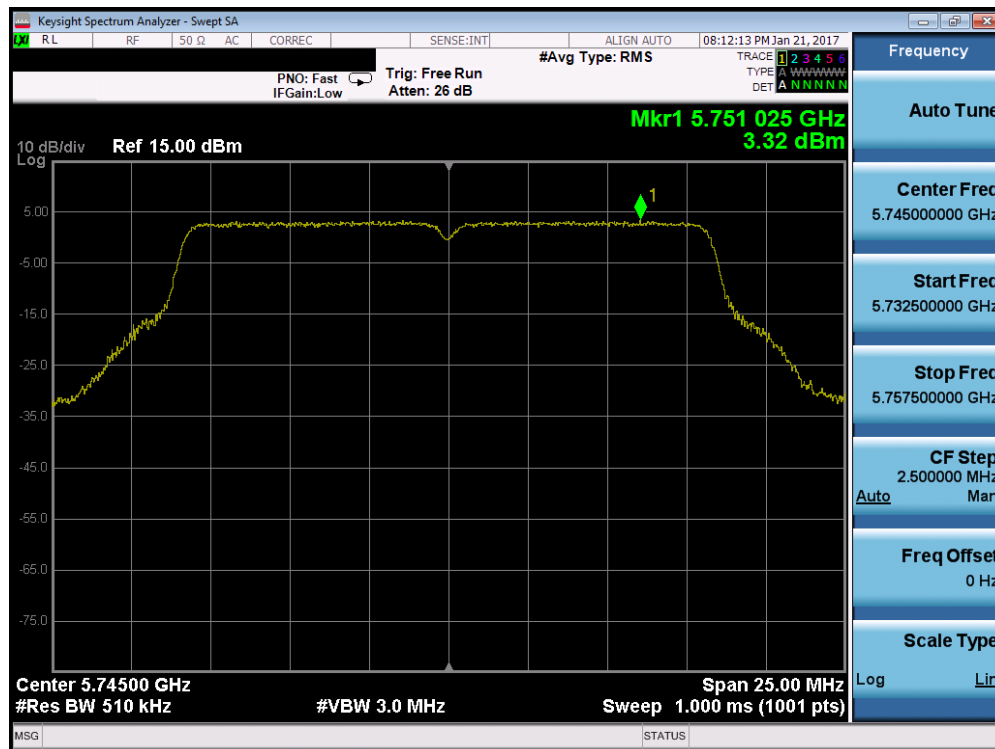


Plot 7-147. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 103 of 260 |

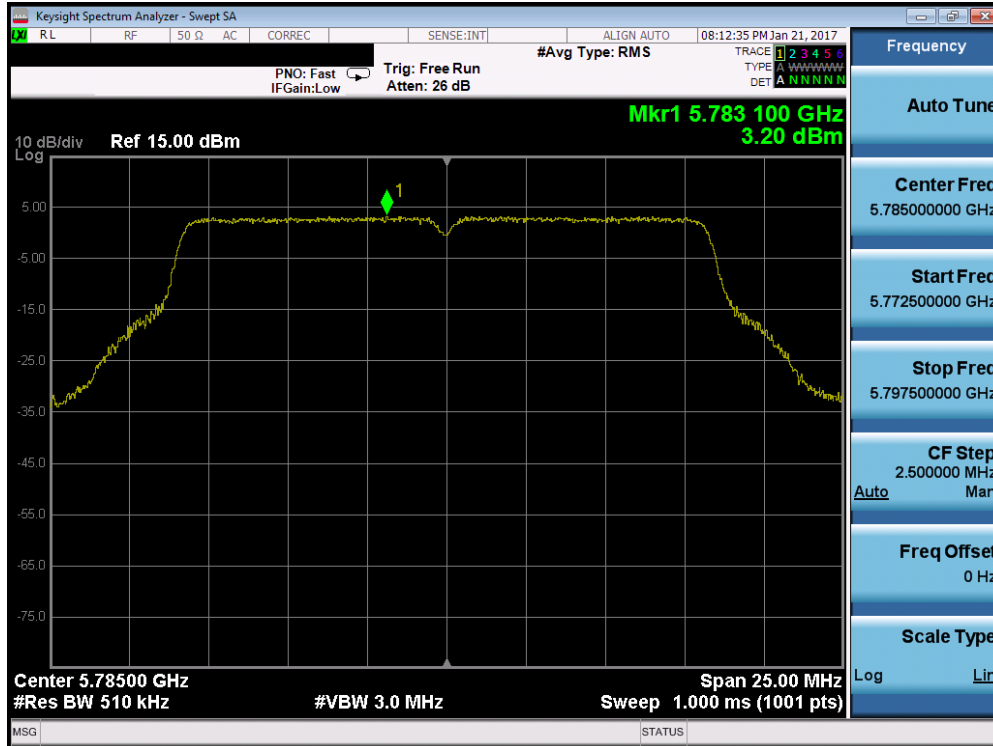
| | Frequency [MHz] | Channel No. | 802.11 Mode | Data Rate [Mbps] | Measured Power Density [dBm] | Max Permissible Power Density [dBm/500kHz] | Margin [dB] | Pass / Fail |
|---------------|-----------------|-------------|-------------|------------------|------------------------------|--|-------------|-------------|
| Band 3 | 5745 | 149 | a | 6 | 3.32 | 30.0 | -26.68 | Pass |
| | 5785 | 157 | a | 6 | 3.20 | 30.0 | -26.80 | Pass |
| | 5825 | 165 | a | 6 | 3.18 | 30.0 | -26.82 | Pass |
| | 5745 | 149 | n (20MHz) | 6.5/7.2 (MCS0) | 3.06 | 30.0 | -26.94 | Pass |
| | 5785 | 157 | n (20MHz) | 6.5/7.2 (MCS0) | 3.17 | 30.0 | -26.83 | Pass |
| | 5825 | 165 | n (20MHz) | 6.5/7.2 (MCS0) | 2.84 | 30.0 | -27.17 | Pass |
| | 5755 | 151 | n (40MHz) | 13.5/15 (MCS0) | -1.20 | 30.0 | -31.20 | Pass |
| | 5795 | 159 | n (40MHz) | 13.5/15 (MCS0) | -2.66 | 30.0 | -32.66 | Pass |
| | 5775 | 155 | ac (80MHz) | 29.3/32.5 (MCS0) | -2.20 | 30.0 | -32.20 | Pass |

Table 7-21. Band 3 Conducted Power Spectral Density Measurements

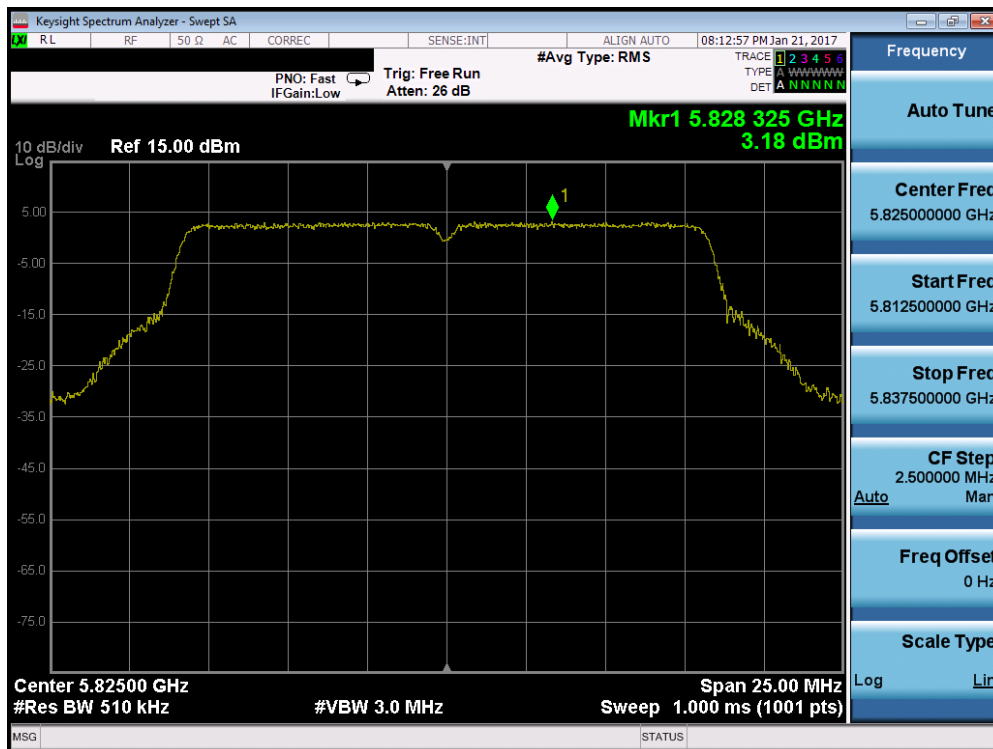


Plot 7-148. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 149)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 104 of 260 |

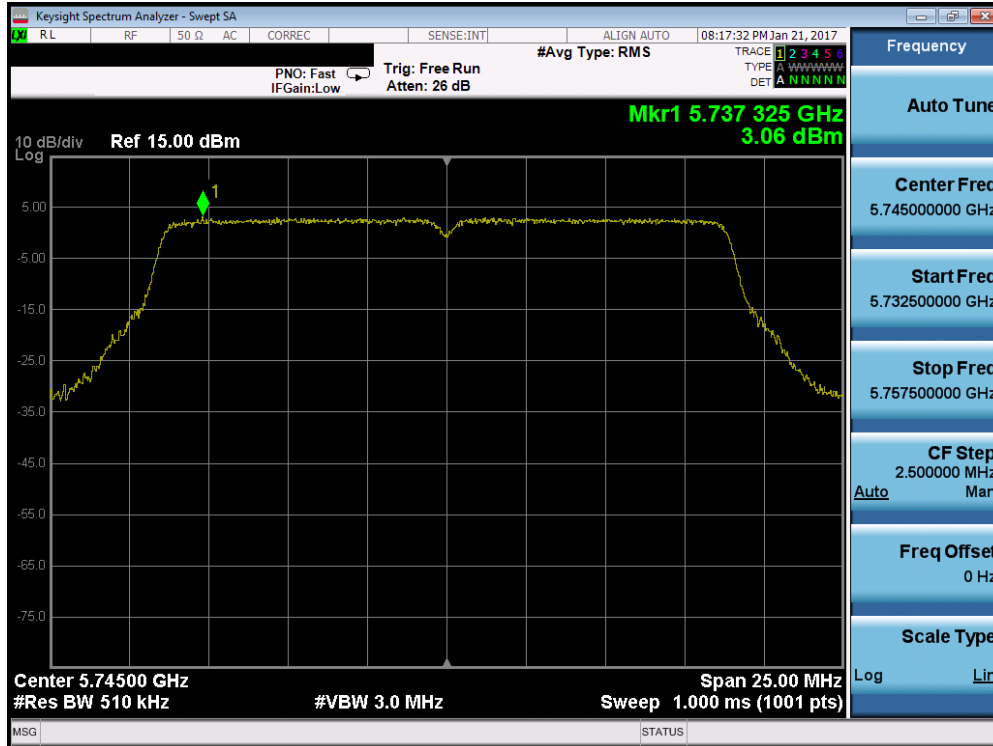


Plot 7-149. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 157)

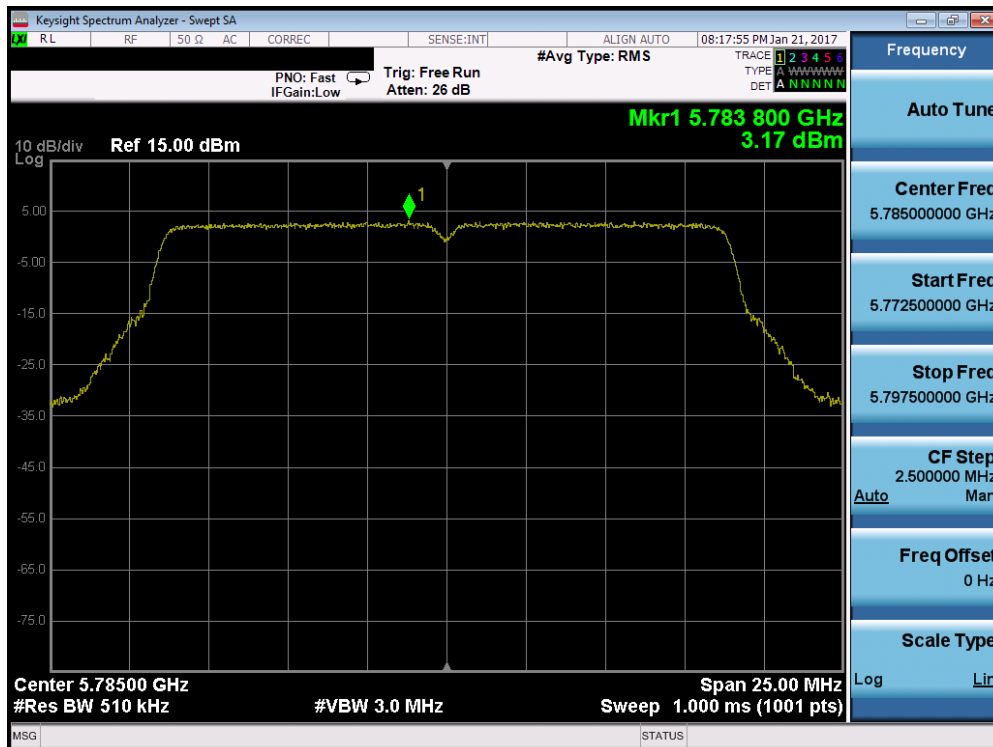


Plot 7-150. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 165)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 105 of 260 |

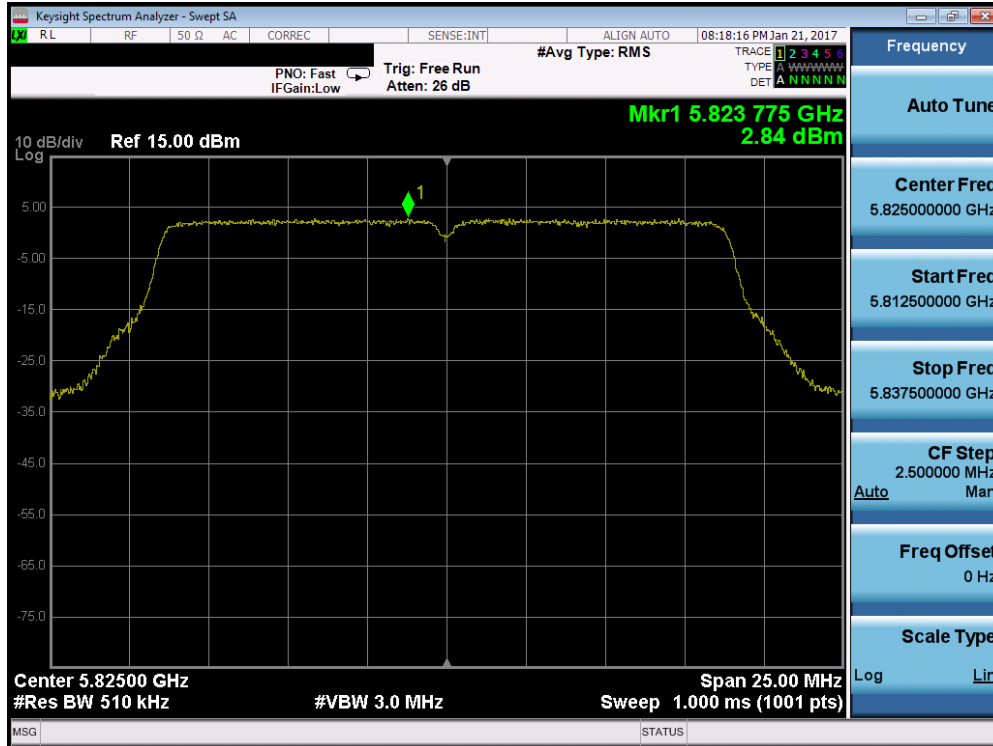


Plot 7-151. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 149)

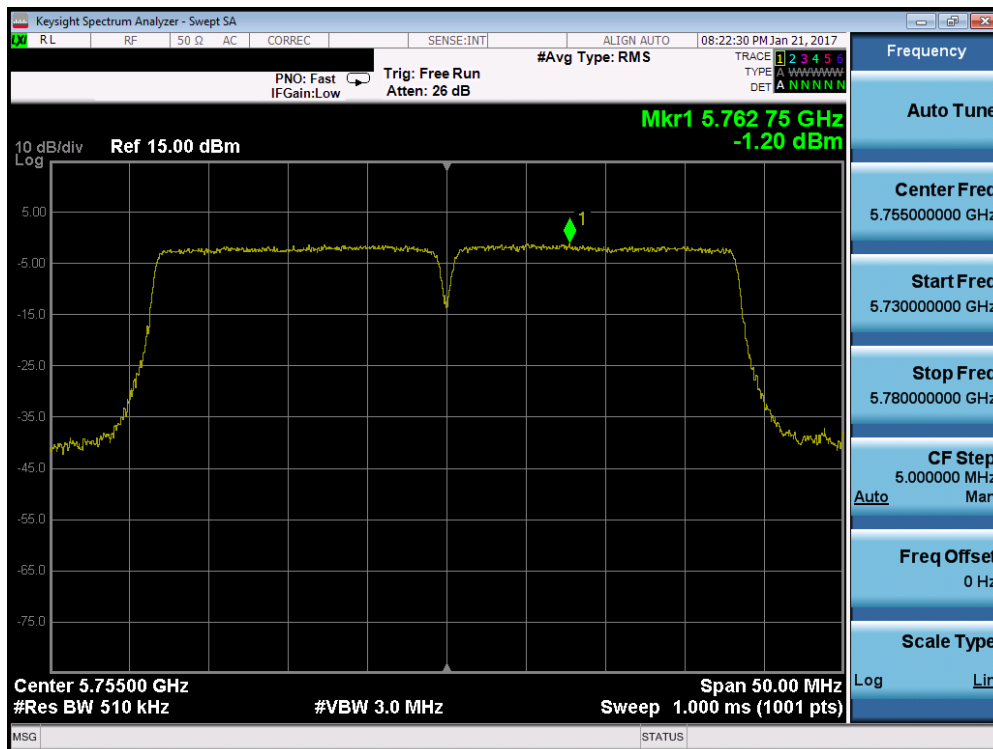


Plot 7-152. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 157)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 106 of 260 |

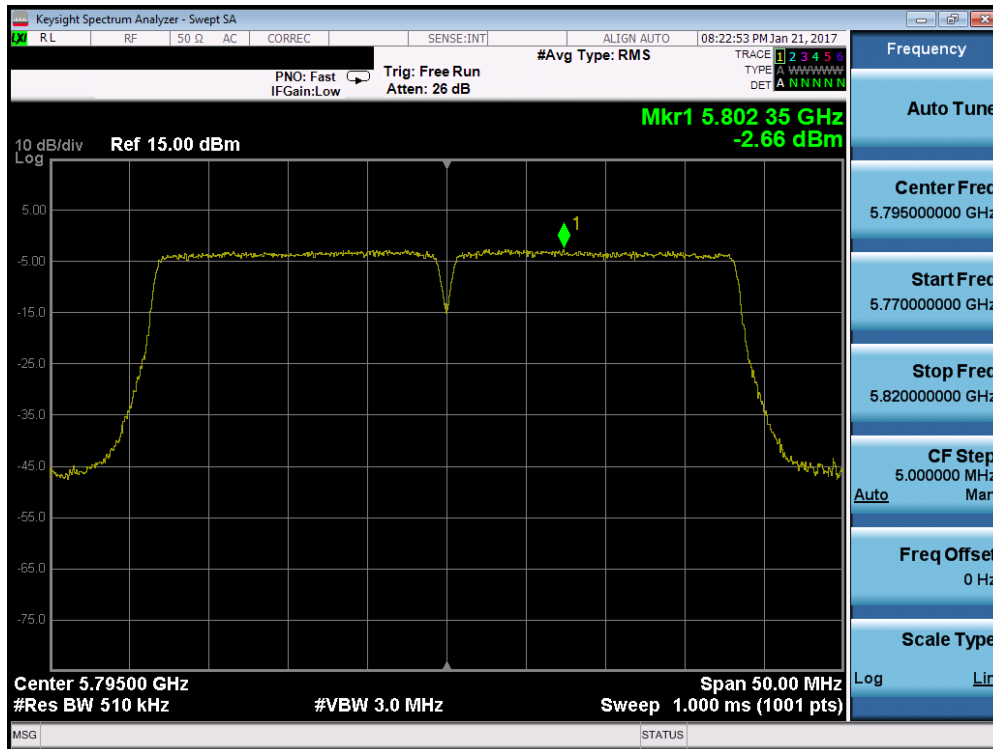


Plot 7-153. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 165)

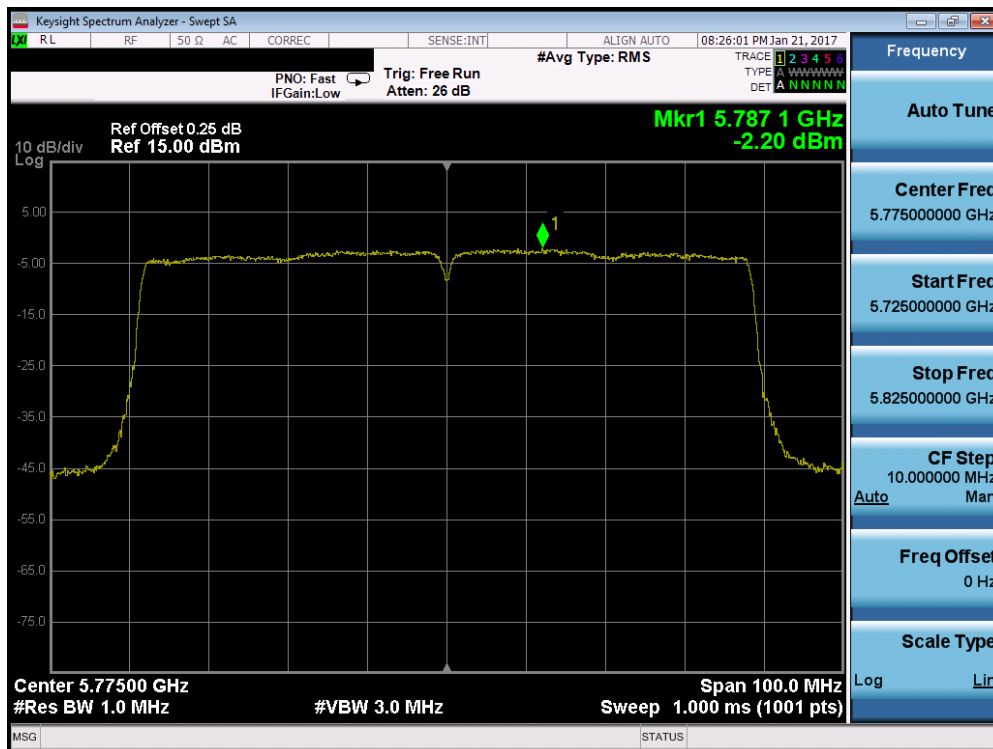


Plot 7-154. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 107 of 260 |



Plot 7-155. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 159)



Plot 7-156. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 108 of 260 |



Summed MIMO Power Spectral Density Measurements

| | Frequency [MHz] | Channel No. | 802.11 Mode | Data Rate [Mbps] | Antenn-1 Power Density [dBm] | Antenn-2 Power Density [dBm] | Summed MIMO Power Density [dBm] | Max Permissible Power Density [dBm/MHz] | Margin [dB] | Pass / Fail |
|---------|-----------------|-------------|-------------|------------------|------------------------------|------------------------------|---------------------------------|---|-------------|-------------|
| Band 1 | 5180 | 36 | a | 6.5/7.2 (MCS0) | 4.23 | 4.26 | 7.25 | 11.0 | -3.75 | Pass |
| | 5200 | 40 | a | 6.5/7.2 (MCS0) | 4.30 | 3.99 | 7.16 | 11.0 | -3.84 | Pass |
| | 5240 | 48 | a | 6.5/7.2 (MCS0) | 4.43 | 3.86 | 7.16 | 11.0 | -3.84 | Pass |
| | 5180 | 36 | n (20MHz) | 6.5/7.2 (MCS0) | 4.06 | 3.82 | 6.95 | 11.0 | -4.05 | Pass |
| | 5200 | 40 | n (20MHz) | 6.5/7.2 (MCS0) | 4.24 | 3.77 | 7.02 | 11.0 | -3.98 | Pass |
| | 5240 | 48 | n (20MHz) | 6.5/7.2 (MCS0) | 4.32 | 3.81 | 7.08 | 11.0 | -3.92 | Pass |
| | 5190 | 38 | n (40MHz) | 13.5/15 (MCS0) | -0.52 | -0.51 | 2.50 | 11.0 | -8.50 | Pass |
| | 5230 | 46 | n (40MHz) | 13.5/15 (MCS0) | -0.42 | -0.49 | 2.55 | 11.0 | -8.45 | Pass |
| Band 2A | 5210 | 42 | ac (80MHz) | 29.3/32.5 (MCS0) | -4.00 | -4.00 | -0.99 | 11.0 | -11.99 | Pass |
| | 5260 | 52 | a | 6.5/7.2 (MCS0) | 6.49 | 6.75 | 9.63 | 11.0 | -1.37 | Pass |
| | 5280 | 56 | a | 6.5/7.2 (MCS0) | 6.41 | 6.35 | 9.39 | 11.0 | -1.61 | Pass |
| | 5320 | 64 | a | 6.5/7.2 (MCS0) | 6.37 | 6.13 | 9.26 | 11.0 | -1.74 | Pass |
| | 5260 | 52 | n (20MHz) | 6.5/7.2 (MCS0) | 6.26 | 6.13 | 9.20 | 11.0 | -1.80 | Pass |
| | 5280 | 56 | n (20MHz) | 6.5/7.2 (MCS0) | 6.17 | 6.20 | 9.20 | 11.0 | -1.80 | Pass |
| | 5320 | 64 | n (20MHz) | 6.5/7.2 (MCS0) | 6.09 | 6.04 | 9.07 | 11.0 | -1.93 | Pass |
| | 5270 | 54 | n (40MHz) | 13.5/15 (MCS0) | -0.98 | -1.25 | 1.90 | 11.0 | -9.10 | Pass |
| Band 2C | 5310 | 62 | n (40MHz) | 13.5/15 (MCS0) | -1.04 | -1.59 | 1.71 | 11.0 | -9.29 | Pass |
| | 5290 | 58 | ac (80MHz) | 29.3/32.5 (MCS0) | -3.50 | -4.00 | -0.73 | 11.0 | -11.73 | Pass |
| | 5500 | 100 | a | 6.5/7.2 (MCS0) | 6.72 | 5.81 | 9.30 | 11.0 | -1.70 | Pass |
| | 5600 | 120 | a | 6.5/7.2 (MCS0) | 6.34 | 5.75 | 9.07 | 11.0 | -1.93 | Pass |
| | 5720 | 144 | a | 6.5/7.2 (MCS0) | 5.94 | 5.68 | 8.82 | 11.0 | -2.18 | Pass |
| | 5500 | 100 | n (20MHz) | 6.5/7.2 (MCS0) | 6.22 | 5.44 | 8.86 | 11.0 | -2.14 | Pass |
| | 5600 | 120 | n (20MHz) | 6.5/7.2 (MCS0) | 6.37 | 5.38 | 8.91 | 11.0 | -2.09 | Pass |
| | 5720 | 144 | n (20MHz) | 6.5/7.2 (MCS0) | 6.10 | 5.36 | 8.76 | 11.0 | -2.24 | Pass |
| | 5510 | 102 | n (40MHz) | 13.5/15 (MCS0) | 1.60 | 0.84 | 4.25 | 11.0 | -6.75 | Pass |
| | 5590 | 118 | n (40MHz) | 13.5/15 (MCS0) | 1.95 | 1.11 | 4.56 | 11.0 | -6.44 | Pass |
| | 5710 | 142 | n (40MHz) | 13.5/15 (MCS0) | 1.47 | 1.19 | 4.34 | 11.0 | -6.66 | Pass |
| | 5530 | 106 | ac (80MHz) | 29.3/32.5 (MCS0) | -2.57 | -2.72 | 0.37 | 11.0 | -10.63 | Pass |
| | 5610 | 122 | ac (80MHz) | 29.3/32.5 (MCS0) | -2.93 | -2.94 | 0.08 | 11.0 | -10.92 | Pass |
| | 5690 | 138 | ac (80MHz) | 29.3/32.5 (MCS0) | -5.34 | -5.54 | -2.43 | 11.0 | -13.43 | Pass |

Table 7-22. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

| | Frequency [MHz] | Channel No. | 802.11 Mode | Data Rate [Mbps] | Antenn-1 Power Density [dBm] | Antenn-2 Power Density [dBm] | Summed MIMO Power Density [dBm] | Max Permissible Power Density [dBm/500kHz] | Margin [dB] | Pass / Fail |
|--------|-----------------|-------------|-------------|------------------|------------------------------|------------------------------|---------------------------------|--|-------------|-------------|
| Band 3 | 5745 | 149 | a | 6.5/7.2 (MCS0) | 2.91 | 3.32 | 6.13 | 30.0 | -23.87 | Pass |
| | 5785 | 157 | a | 6.5/7.2 (MCS0) | 3.39 | 3.20 | 6.31 | 30.0 | -23.69 | Pass |
| | 5825 | 165 | a | 6.5/7.2 (MCS0) | 3.08 | 3.18 | 6.14 | 30.0 | -23.86 | Pass |
| | 5745 | 149 | n (20MHz) | 6.5/7.2 (MCS0) | 2.64 | 3.06 | 5.87 | 30.0 | -24.13 | Pass |
| | 5785 | 157 | n (20MHz) | 6.5/7.2 (MCS0) | 2.95 | 3.17 | 6.07 | 30.0 | -23.93 | Pass |
| | 5825 | 165 | n (20MHz) | 6.5/7.2 (MCS0) | 2.84 | 2.84 | 5.85 | 30.0 | -24.15 | Pass |
| | 5755 | 151 | n (40MHz) | 13.5/15 (MCS0) | -1.63 | -1.20 | 1.60 | 30.0 | -28.40 | Pass |
| | 5795 | 159 | n (40MHz) | 13.5/15 (MCS0) | -1.25 | -2.66 | 1.11 | 30.0 | -28.89 | Pass |
| | 5775 | 155 | ac (80MHz) | 29.3/32.5 (MCS0) | -2.47 | -2.20 | 0.68 | 30.0 | -29.32 | Pass |
| | | | | | | | | | | |

Table 7-23. Band 3 MIMO Conducted Power Spectral Density Measurements

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 109 of 260 |

Note:



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

Sample MIMO Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted power spectral density was measured to be 4.06 dBm for Antenna-1 and 3.82 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

$$(4.06 \text{ dBm} + 3.82 \text{ dBm}) = (2.55 \text{ mW} + 2.41 \text{ mW}) = 4.96 \text{ mW} = 6.95 \text{ dBm}$$

| | | | | |
|--|---|--|---|--|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 110 of 260 | |

7.6 Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.



OPERATING FREQUENCY: 5,180,000,000 Hz
 CHANNEL: 36
 REFERENCE VOLTAGE: 3.80 VDC

| VOLTAGE (%) | POWER (VDC) | TEMP (°C) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|-------------|------------|----------------|-----------------|---------------|
| 100 % | 3.80 | + 20 (Ref) | 5,179,999,903 | -97 | -0.00000187 |
| 100 % | | - 30 | 5,179,999,957 | -43 | -0.00000083 |
| 100 % | | - 20 | 5,179,999,995 | -5 | -0.00000010 |
| 100 % | | - 10 | 5,179,999,997 | -3 | -0.00000006 |
| 100 % | | 0 | 5,179,999,734 | -266 | -0.00000514 |
| 100 % | | + 10 | 5,180,000,158 | 158 | 0.00000305 |
| 100 % | | + 20 | 5,179,999,951 | -49 | -0.00000095 |
| 100 % | | + 30 | 5,180,000,285 | 285 | 0.00000550 |
| 100 % | | + 40 | 5,180,000,302 | 302 | 0.00000583 |
| 100 % | | + 50 | 5,179,999,886 | -114 | -0.00000220 |
| BATT. ENDPOINT | 3.40 | + 20 | 5,180,000,360 | 360 | 0.00000695 |

Table 7-24. Frequency Stability Measurements for UNII Band 1 (Ch. 36)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 111 of 260 |

Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.



OPERATING FREQUENCY: 5,260,000,000 Hz
 CHANNEL: 52
 REFERENCE VOLTAGE: 3.80 VDC

| VOLTAGE (%) | POWER (VDC) | TEMP (°C) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|-------------|------------|----------------|-----------------|---------------|
| 100 % | 3.80 | + 20 (Ref) | 5,260,000,048 | 48 | 0.00000091 |
| 100 % | | - 30 | 5,259,999,654 | -346 | -0.00000658 |
| 100 % | | - 20 | 5,260,000,060 | 60 | 0.00000114 |
| 100 % | | - 10 | 5,260,000,078 | 78 | 0.00000148 |
| 100 % | | 0 | 5,260,000,193 | 193 | 0.00000367 |
| 100 % | | + 10 | 5,260,000,025 | 25 | 0.00000048 |
| 100 % | | + 20 | 5,260,000,198 | 198 | 0.00000376 |
| 100 % | | + 30 | 5,260,000,211 | 211 | 0.00000401 |
| 100 % | | + 40 | 5,259,999,986 | -14 | -0.00000027 |
| 100 % | | + 50 | 5,259,999,938 | -62 | -0.00000118 |
| BATT. ENDPOINT | 3.40 | + 20 | 5,259,999,808 | -192 | -0.00000365 |

Table 7-25. Frequency Stability Measurements for UNII Band 2A (Ch. 52)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 112 of 260 | |

Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.



OPERATING FREQUENCY: 5,500,000,000 Hz
 CHANNEL: 100
 REFERENCE VOLTAGE: 3.80 VDC

| VOLTAGE (%) | POWER (VDC) | TEMP (°C) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|-------------|------------|----------------|-----------------|---------------|
| 100 % | 3.80 | + 20 (Ref) | 5,499,999,748 | -252 | -0.00000458 |
| 100 % | | - 30 | 5,499,999,917 | -83 | -0.00000151 |
| 100 % | | - 20 | 5,499,999,933 | -67 | -0.00000122 |
| 100 % | | - 10 | 5,500,000,173 | 173 | 0.00000315 |
| 100 % | | 0 | 5,499,999,866 | -134 | -0.00000244 |
| 100 % | | + 10 | 5,500,000,024 | 24 | 0.00000044 |
| 100 % | | + 20 | 5,499,999,961 | -39 | -0.00000071 |
| 100 % | | + 30 | 5,500,000,077 | 77 | 0.00000140 |
| 100 % | | + 40 | 5,499,999,915 | -85 | -0.00000155 |
| 100 % | | + 50 | 5,500,000,272 | 272 | 0.00000495 |
| BATT. ENDPOINT | 3.40 | + 20 | 5,499,999,858 | -142 | -0.00000258 |

Table 7-26. Frequency Stability Measurements for UNII Band 2C (Ch. 100)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 113 of 260 | |

Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.



OPERATING FREQUENCY: 5,745,000,000 Hz
 CHANNEL: 149
 REFERENCE VOLTAGE: 3.80 VDC

| VOLTAGE (%) | POWER (VDC) | TEMP (°C) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|-------------|------------|----------------|-----------------|---------------|
| 100 % | 3.80 | + 20 (Ref) | 5,745,000,082 | 82 | 0.00000143 |
| 100 % | | - 30 | 5,745,000,152 | 152 | 0.00000265 |
| 100 % | | - 20 | 5,745,000,107 | 107 | 0.00000186 |
| 100 % | | - 10 | 5,744,999,850 | -150 | -0.00000261 |
| 100 % | | 0 | 5,745,000,141 | 141 | 0.00000245 |
| 100 % | | + 10 | 5,744,999,633 | -367 | -0.00000639 |
| 100 % | | + 20 | 5,745,000,036 | 36 | 0.00000063 |
| 100 % | | + 30 | 5,745,000,111 | 111 | 0.00000193 |
| 100 % | | + 40 | 5,745,000,402 | 402 | 0.00000700 |
| 100 % | | + 50 | 5,745,000,119 | 119 | 0.00000207 |
| BATT. ENDPOINT | 3.40 | + 20 | 5,744,999,857 | -143 | -0.00000249 |

Table 7-27. Frequency Stability Measurements for UNII Band 3 (Ch. 149)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

| | | | | |
|---|---|---|---|---------------------------------|
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| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 114 of 260 | |

7.7 Radiated Spurious Emission Measurements – Above 1GHz

§15.407(b) §15.205 §15.209

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in KDB 789033 D02 v01r03, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11n (40MHz BW), and 802.11ac (80MHz)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

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

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

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

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table 7-28 per Section 15.209.

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

Table 7-28. Radiated Limits



Test Procedures Used

KDB 789033 D02 v01r03 – Section G

Test Settings

Average Measurements above 1GHz (Method AD)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be $\geq 2 \times \text{span/RBW}$)
6. Averaging type = power (RMS)
7. Sweep time = auto couple
8. Trace was averaged over 100 sweeps

| | | | | |
|--|---|--|---|--|
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Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Peak Measurements below 1GHz

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

Test Setup

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

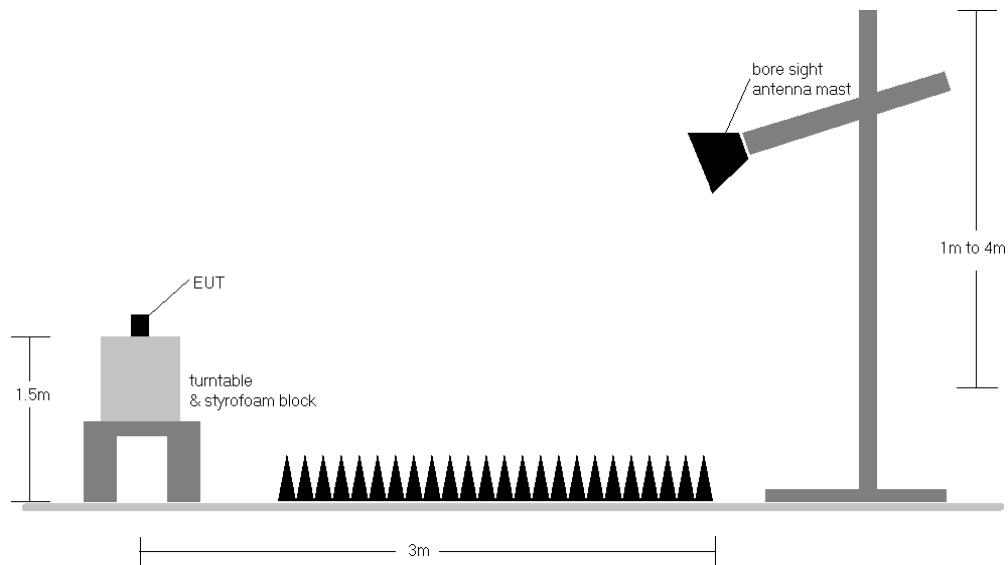




Figure 7-5. Test Instrument & Measurement Setup

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
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Test Notes

1. All radiated spurious emissions levels were measured in a radiated test setup per the guidance of KDB 789033 D02 v01r03 Section G.
2. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 are below the limit shown in Table 7-28.
3. All spurious emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 7-28. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
4. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
5. This unit was tested with its standard battery.
6. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
7. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
8. Radiated spurious emissions were investigated while operating in MIMO mode, however, it was determined that single antenna operation produced the worst case emissions. Since the emissions produced from MIMO operation were found to be more than 20dB below the limit, the MIMO emissions are not reported.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section. Rohde & Schwarz EMC32, Version 9.15.00 automated test software was used to perform the Radiated Spurious Emissions Pre-Scan testing.
10. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

| | | | | |
|---|---|--|---|---------------------------------|
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Sample Calculations



Determining Spurious Emissions Levels

- Field Strength Level $[\text{dB}\mu\text{V}/\text{m}] = \text{Analyzer Level } [\text{dBm}] + 107 + \text{AFCL } [\text{dB}/\text{m}]$
- $\text{AFCL } [\text{dB}/\text{m}] = \text{Antenna Factor } [\text{dB}/\text{m}] + \text{Cable Loss } [\text{dB}]$
- $\text{Margin } [\text{dB}] = \text{Field Strength Level } [\text{dB}\mu\text{V}/\text{m}] - \text{Limit } [\text{dB}\mu\text{V}/\text{m}]$

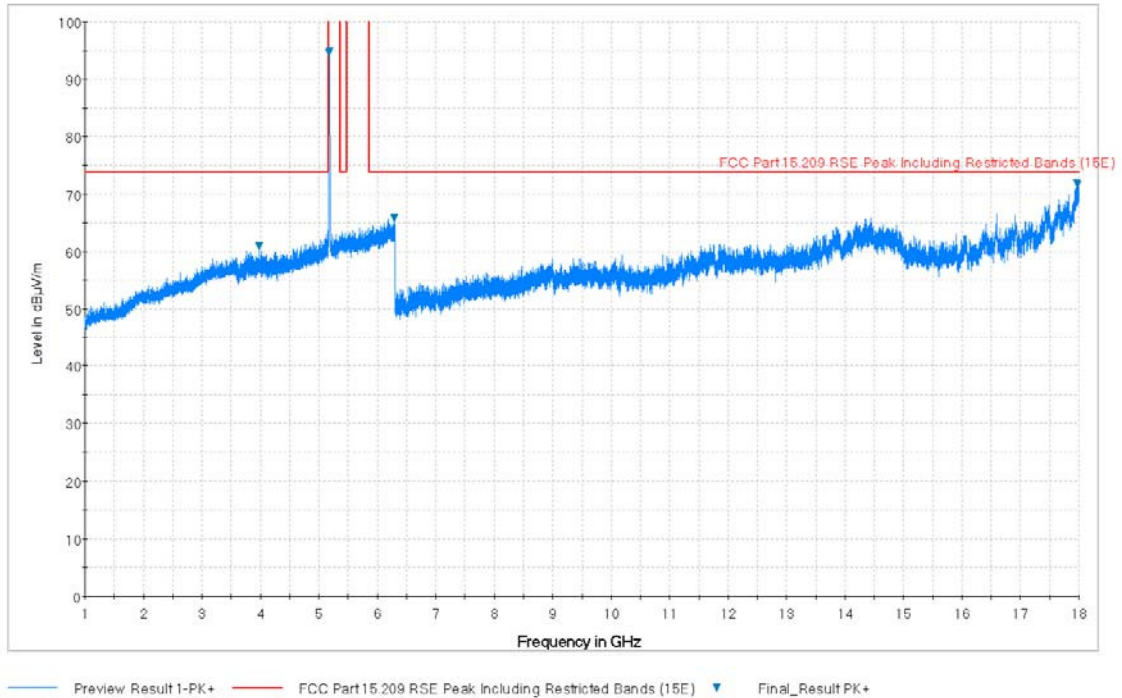
Radiated Band Edge Measurement Offset

- The amplitude offset shown in the radiated restricted band edge plots in Section 7.7 was calculated using the formula:

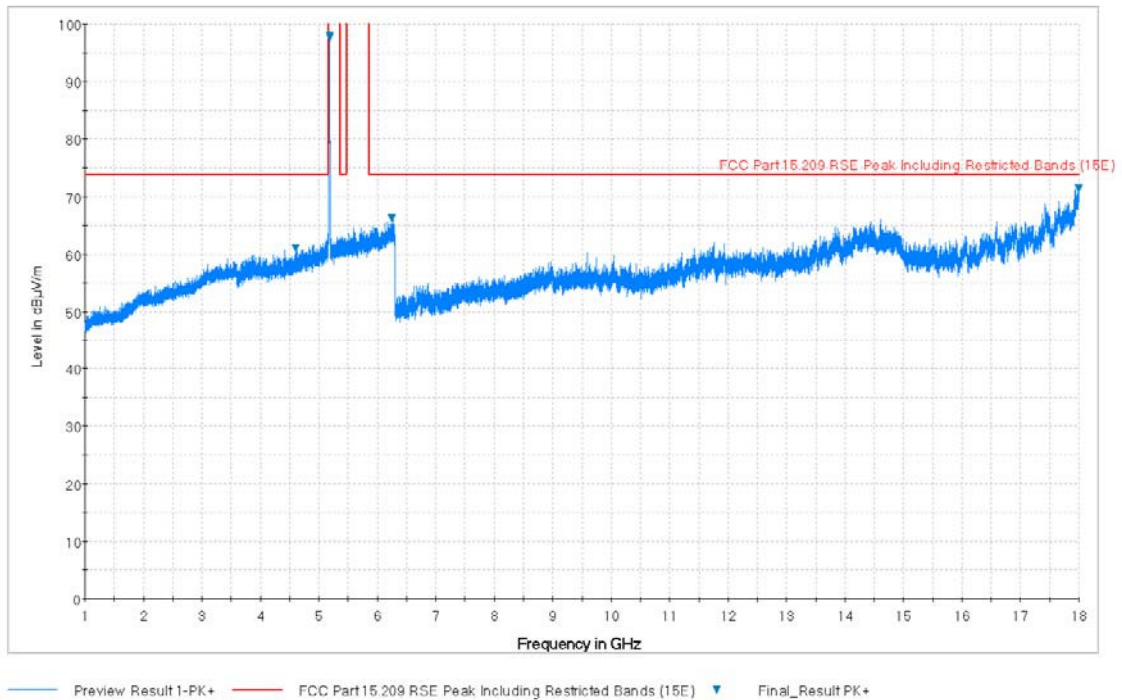
$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

| | | | | |
|--|---|--|---|--|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
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7.7.1 Antenna-1 Radiated Spurious Emission Measurements

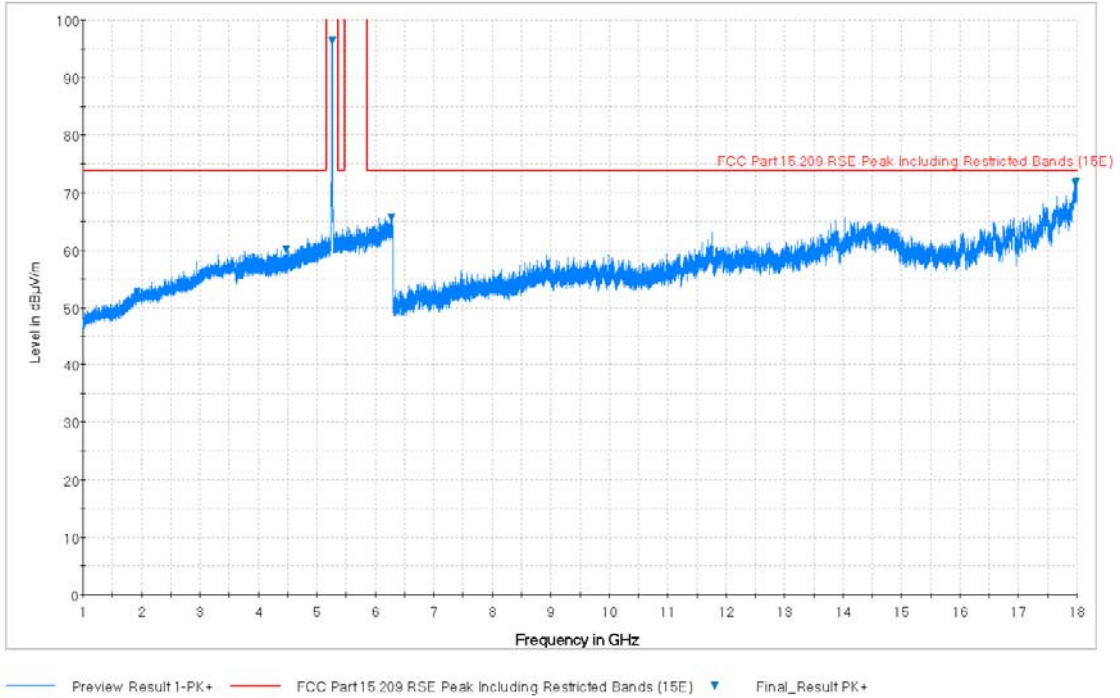


Plot 7-157. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. H)

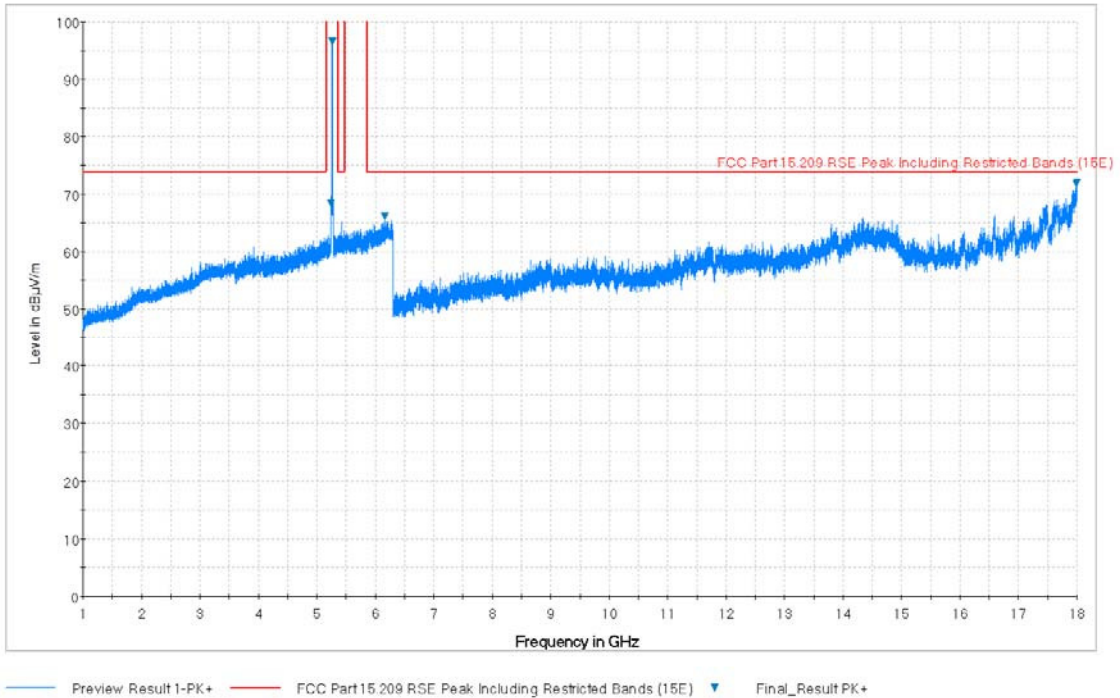


Plot 7-158. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. V)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 119 of 260 |

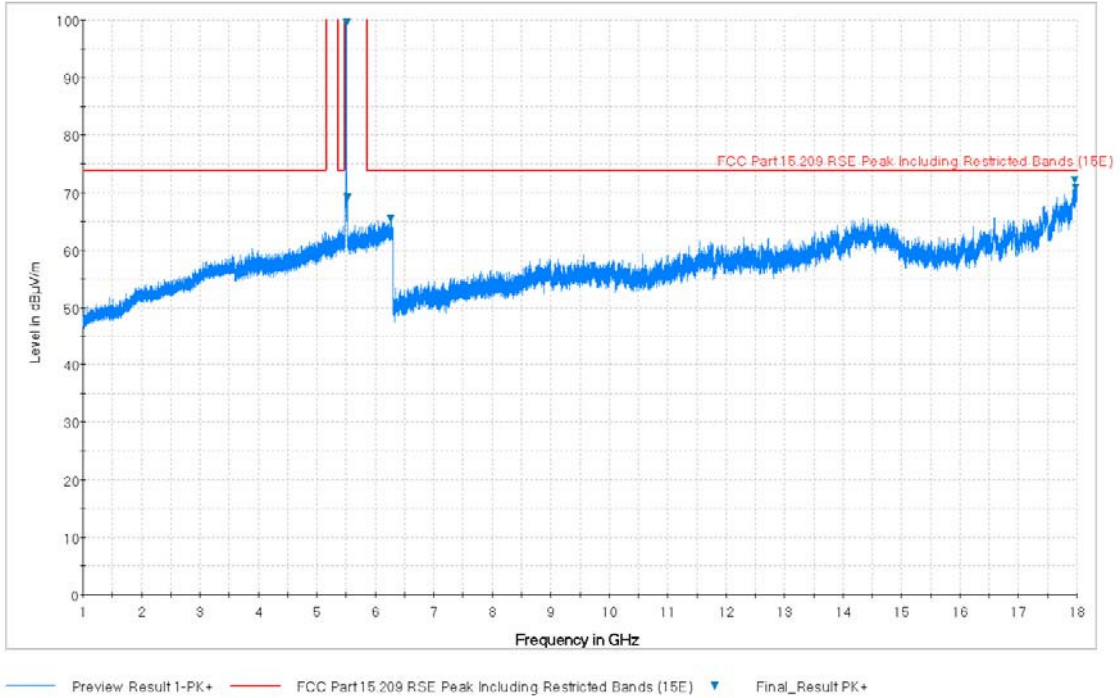


Plot 7-159. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)

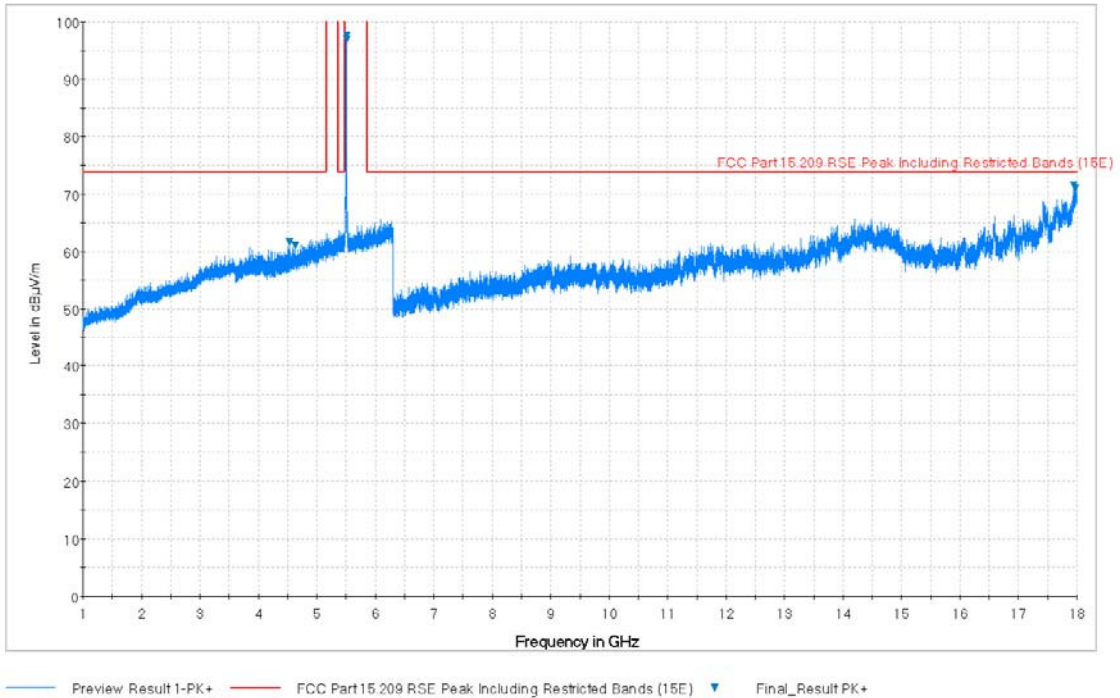


Plot 7-160. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 120 of 260 |

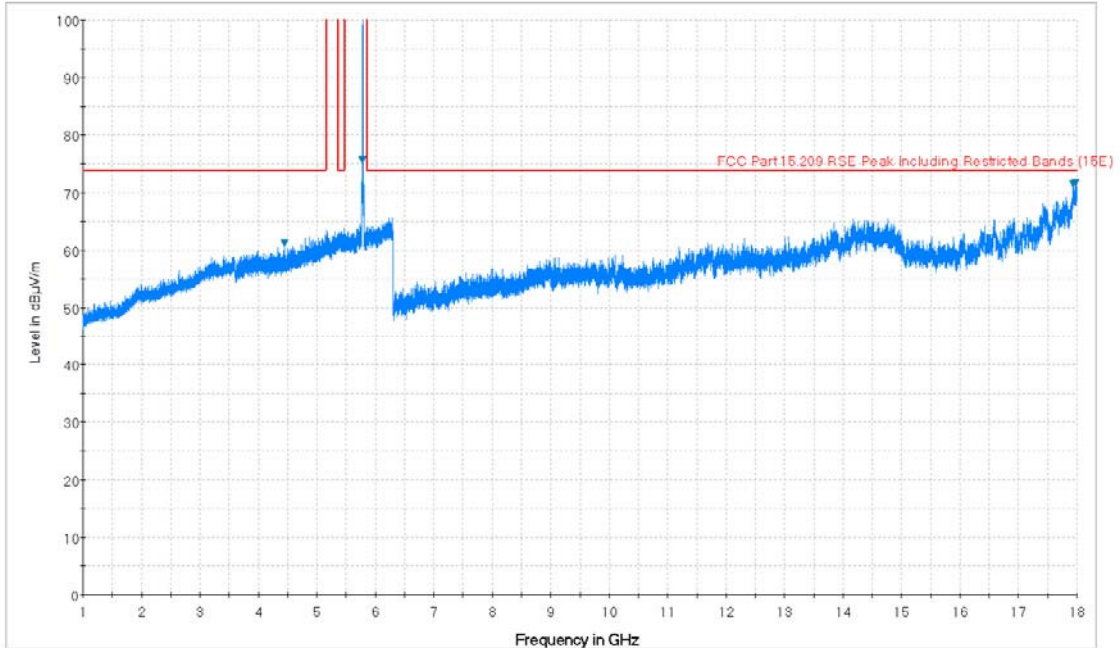


Plot 7-161. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. H)

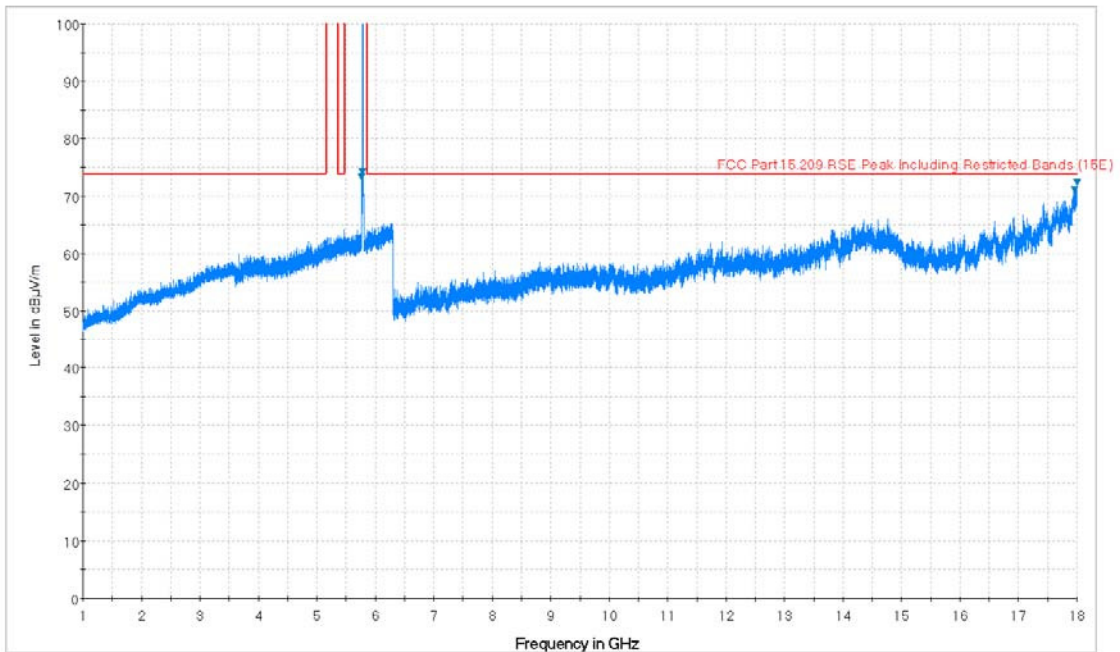


Plot 7-162. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. V)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 121 of 260 |



Plot 7-163. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)

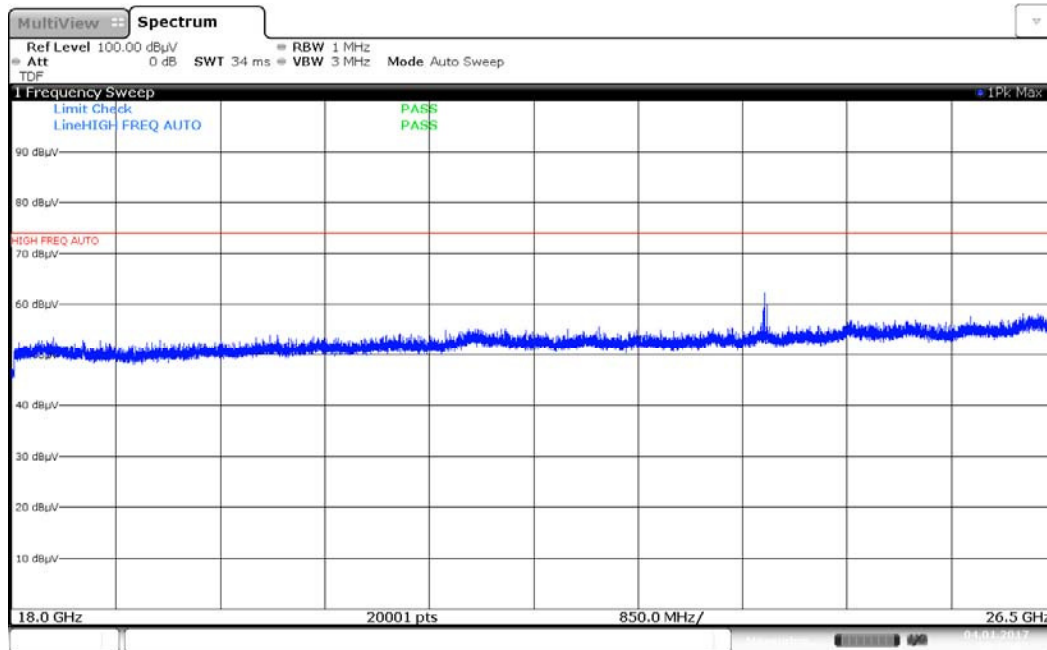


Plot 7-164. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 122 of 260 |

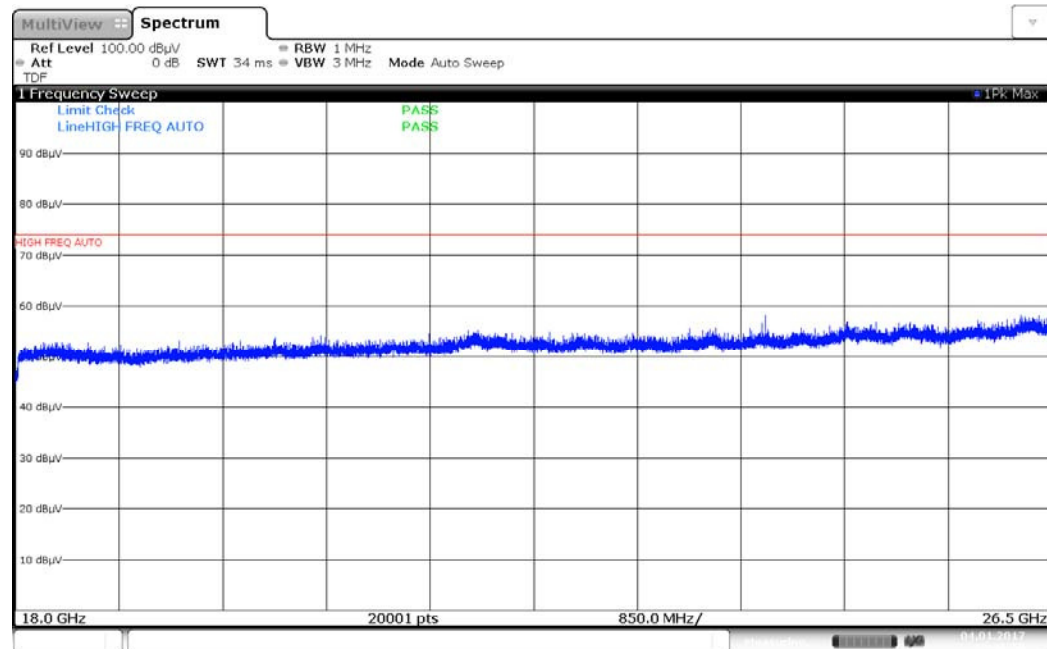
Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)

\$15.209



18:12:03 04.01.2017

Plot 7-165. Radiated Spurious Plot 18GHz - 26.5GHz (802.11a – Ant. Pol. H)



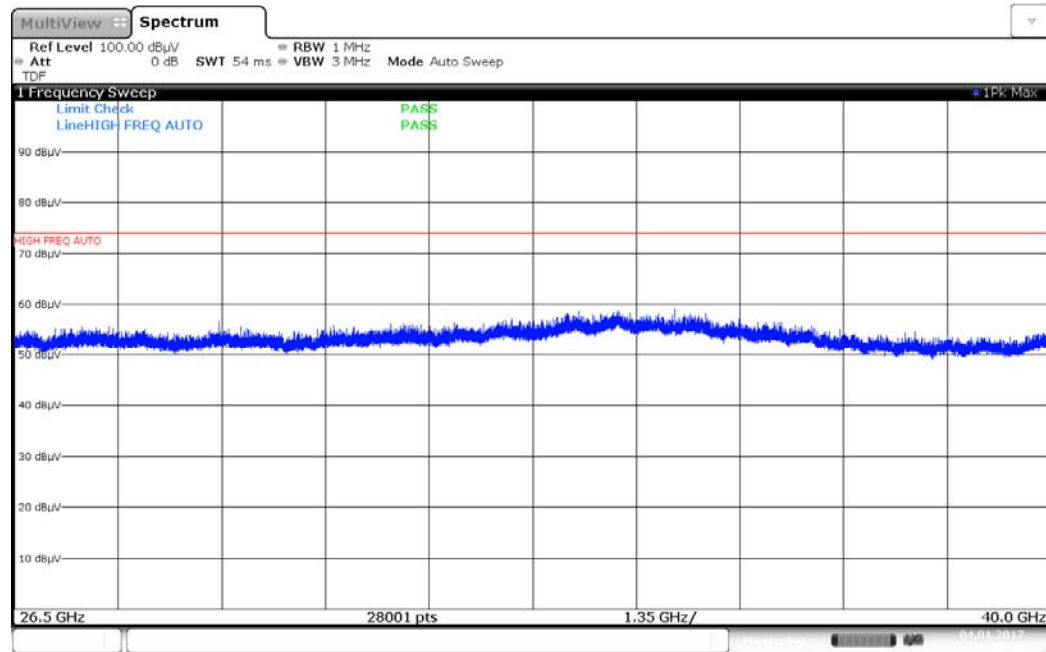
17:46:56 04.01.2017

Plot 7-166. Radiated Spurious Plot above 18GHz - 26.5GHz (802.11a – Ant. Pol. V)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 123 of 260 |

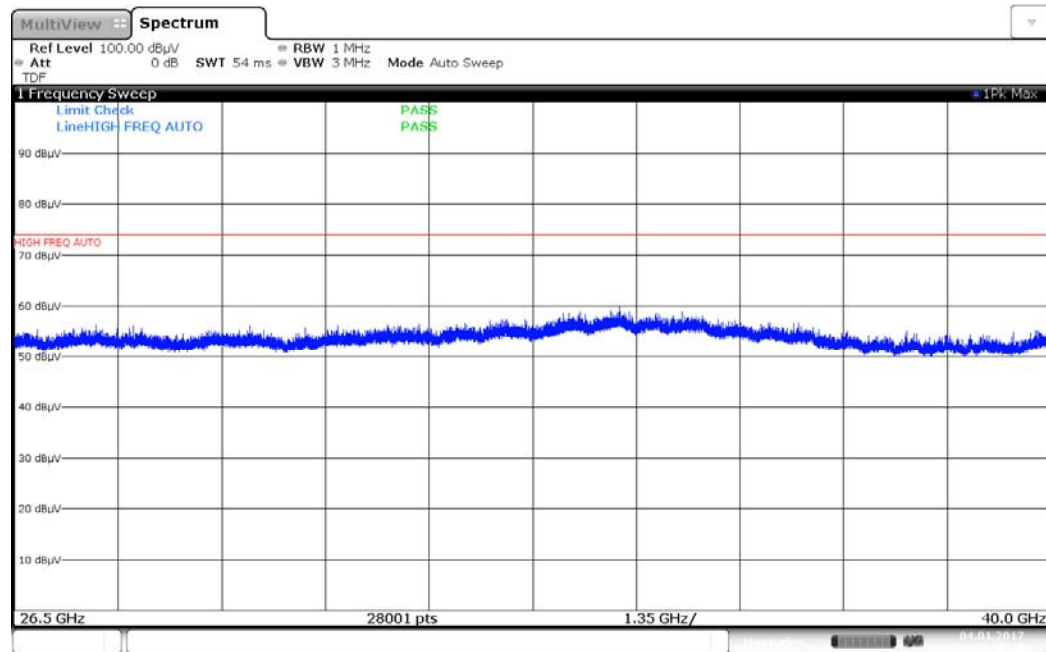
Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)

§15.209



17:23:08 04.01.2017

Plot 7-167. Radiated Spurious Plot 26.5GHz - 40GHz (802.11a – Ant. Pol. H)



17:40:26 04.01.2017

Plot 7-168. Radiated Spurious Plot above 26.5GHz - 40GHz (802.11a – Ant. Pol. V)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
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Antenna-1 Radiated Spurious Emission Measurements

§15.247(d) §15.205 & §15.209

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10360.00 | Peak | H | 110 | 82 | -57.09 | 2.90 | -9.54 | 43.27 | 68.20 | -24.93 |
| * 15540.00 | Average | H | - | - | -75.06 | 12.36 | -9.54 | 34.76 | 53.98 | -19.22 |
| * 15540.00 | Peak | H | - | - | -62.92 | 12.36 | -9.54 | 46.90 | 73.98 | -27.08 |
| * 20720.00 | Average | H | - | - | -71.95 | 8.13 | -9.54 | 33.64 | 53.98 | -20.34 |
| * 20720.00 | Peak | H | - | - | -60.09 | 8.13 | -9.54 | 45.50 | 73.98 | -28.48 |
| 25900.00 | Peak | H | - | - | -56.54 | 8.50 | -9.54 | 49.42 | 68.20 | -18.78 |

Table 7-29. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10400.00 | Peak | H | 110 | 293 | -60.09 | 9.59 | -9.54 | 46.96 | 68.20 | -21.24 |
| * 15600.00 | Average | H | - | - | -80.37 | 12.74 | -9.54 | 29.82 | 53.98 | -24.16 |
| * 15600.00 | Peak | H | - | - | -67.38 | 12.74 | -9.54 | 42.81 | 73.98 | -31.17 |
| * 20800.00 | Average | H | - | - | -81.32 | 8.15 | -9.54 | 24.29 | 53.98 | -29.69 |
| * 20800.00 | Peak | H | - | - | -59.37 | 8.15 | -9.54 | 46.24 | 73.98 | -27.74 |
| 26000.00 | Peak | H | - | - | -57.66 | 8.53 | -9.54 | 48.33 | 68.20 | -19.87 |

Table 7-30. Radiated Measurements

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 Meter
Operating Frequency: 5240MHz
Channel: 48



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10480.00 | Peak | H | 100 | 86 | -60.41 | 9.92 | -9.54 | 46.97 | 68.20 | -21.23 |
| * 15720.00 | Average | H | - | - | -74.77 | 13.10 | -9.54 | 35.78 | 53.98 | -18.19 |
| * 15720.00 | Peak | H | - | - | -63.30 | 13.10 | -9.54 | 47.25 | 73.98 | -26.72 |
| * 20960.00 | Average | H | - | - | -72.24 | 8.12 | -9.54 | 33.34 | 53.98 | -20.64 |
| * 20960.00 | Peak | H | - | - | -59.30 | 8.12 | -9.54 | 46.28 | 73.98 | -27.70 |
| 26200.00 | Peak | H | - | - | -56.36 | 8.62 | -9.54 | 49.72 | 68.20 | -18.48 |

Table 7-31. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10480.00 | Peak | H | 100 | 107 | -62.61 | 9.92 | -9.54 | 44.77 | 68.20 | -23.43 |
| * 15720.00 | Average | H | - | - | -73.79 | 13.10 | -9.54 | 36.76 | 53.98 | -17.21 |
| * 15720.00 | Peak | H | - | - | -63.47 | 13.10 | -9.54 | 47.08 | 73.98 | -26.89 |
| * 20960.00 | Average | H | - | - | -70.97 | 8.12 | -9.54 | 34.61 | 53.98 | -19.37 |
| * 20960.00 | Peak | H | - | - | -60.72 | 8.12 | -9.54 | 44.86 | 73.98 | -29.12 |
| 26200.00 | Peak | H | - | - | -56.86 | 8.62 | -9.54 | 49.22 | 68.20 | -18.98 |

Table 7-32. Radiated Measurements with WCP

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 Meter
Operating Frequency: 5260MHz
Channel: 52



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10520.00 | Peak | H | 100 | 299 | -56.20 | 9.87 | -9.54 | 51.13 | 68.20 | -17.07 |
| * 15780.00 | Average | H | - | - | -74.41 | 13.00 | -9.54 | 36.04 | 53.98 | -17.94 |
| * 15780.00 | Peak | H | - | - | -62.84 | 13.00 | -9.54 | 47.61 | 73.98 | -26.37 |
| * 21040.00 | Average | H | - | - | -72.02 | 8.10 | -9.54 | 33.54 | 53.98 | -20.44 |
| * 21040.00 | Peak | H | - | - | -58.75 | 8.10 | -9.54 | 46.81 | 73.98 | -27.17 |
| 26300.00 | Peak | H | - | - | -55.85 | 8.76 | -9.54 | 50.37 | 68.20 | -17.83 |

Table 7-33. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10560.00 | Peak | H | 100 | 297 | -55.25 | 9.56 | -9.54 | 51.77 | 68.20 | -16.43 |
| * 15840.00 | Average | H | - | - | -74.29 | 12.60 | -9.54 | 35.77 | 53.98 | -18.21 |
| * 15840.00 | Peak | H | - | - | -62.58 | 12.60 | -9.54 | 47.48 | 73.98 | -26.50 |
| * 21120.00 | Average | H | - | - | -71.46 | 8.09 | -9.54 | 34.09 | 53.98 | -19.89 |
| * 21120.00 | Peak | H | - | - | -59.18 | 8.09 | -9.54 | 46.37 | 73.98 | -27.61 |
| 26400.00 | Peak | H | - | - | -56.70 | 9.00 | -9.54 | 49.76 | 68.20 | -18.44 |

Table 7-34. Radiated Measurements

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 127 of 260 |

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 10640.00 | Average | H | 100 | 142 | -69.75 | 9.26 | -9.54 | 36.97 | 53.98 | -17.01 |
| * 10640.00 | Peak | H | 100 | 142 | -55.80 | 9.26 | -9.54 | 50.92 | 73.98 | -23.06 |
| * 15960.00 | Average | H | - | - | -74.02 | 12.16 | -9.54 | 35.59 | 53.98 | -18.39 |
| * 15960.00 | Peak | H | - | - | -62.67 | 12.16 | -9.54 | 46.94 | 73.98 | -27.04 |
| * 21280.00 | Average | H | - | - | -71.03 | 8.07 | -9.54 | 34.50 | 53.98 | -19.48 |
| * 21280.00 | Peak | H | - | - | -58.64 | 8.07 | -9.54 | 46.89 | 73.98 | -27.09 |
| 26600.00 | Peak | H | - | - | -45.70 | -8.30 | -9.54 | 43.46 | 68.20 | -24.74 |

Table 7-35. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10560.00 | Peak | H | 100 | 105 | -57.54 | 9.56 | -9.54 | 49.48 | 68.20 | -18.72 |
| * 15840.00 | Average | H | - | - | -72.65 | 12.60 | -9.54 | 37.41 | 53.98 | -16.57 |
| * 15840.00 | Peak | H | - | - | -62.27 | 12.60 | -9.54 | 47.79 | 73.98 | -26.19 |
| * 21120.00 | Average | H | - | - | -70.57 | 8.09 | -9.54 | 34.98 | 53.98 | -19.00 |
| * 21120.00 | Peak | H | - | - | -59.58 | 8.09 | -9.54 | 45.97 | 73.98 | -28.01 |
| 26400.00 | Peak | H | - | - | -57.01 | 9.00 | -9.54 | 49.45 | 68.20 | -18.75 |

Table 7-36. Radiated Measurements with WCP

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 128 of 260 |

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11000.00 | Average | H | 100 | 69 | -70.85 | 9.46 | -9.54 | 36.07 | 53.98 | -17.91 |
| * 11000.00 | Peak | H | 100 | 69 | -55.42 | 9.46 | -9.54 | 51.50 | 73.98 | -22.48 |
| 16500.00 | Peak | H | - | - | -61.06 | 12.45 | -9.54 | 48.85 | 68.20 | -19.35 |
| 22000.00 | Peak | H | - | - | -57.83 | 8.35 | -9.54 | 47.98 | 68.20 | -20.22 |
| 27500.00 | Peak | H | - | - | -44.90 | -8.93 | -9.54 | 43.63 | 68.20 | -24.57 |

Table 7-37. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11200.00 | Average | H | - | - | -72.31 | 9.47 | -9.54 | 34.62 | 53.98 | -19.36 |
| * 11200.00 | Peak | H | - | - | -57.96 | 9.47 | -9.54 | 48.97 | 73.98 | -25.01 |
| 16800.00 | Peak | H | - | - | -61.79 | 15.99 | -9.54 | 51.65 | 68.20 | -16.55 |
| * 22400.00 | Average | H | - | - | -70.76 | 8.20 | -9.54 | 34.90 | 53.98 | -19.08 |
| * 22400.00 | Peak | H | - | - | -58.03 | 8.20 | -9.54 | 47.63 | 73.98 | -26.35 |
| 28000.00 | Peak | H | - | - | -44.81 | -9.24 | -9.54 | 43.41 | 68.20 | -24.79 |

Table 7-38. Radiated Measurements

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 129 of 260 |

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11440.00 | Average | H | 100 | 80 | -70.79 | 10.05 | -9.54 | 36.72 | 53.98 | -17.26 |
| * 11440.00 | Peak | H | 100 | 80 | -57.10 | 10.05 | -9.54 | 50.41 | 73.98 | -23.57 |
| 17160.00 | Peak | H | - | - | -62.69 | 15.39 | -9.54 | 50.15 | 68.20 | -18.05 |
| * 22880.00 | Average | H | - | - | -71.47 | 8.28 | -9.54 | 34.27 | 53.98 | -19.71 |
| * 22880.00 | Peak | H | - | - | -59.95 | 8.28 | -9.54 | 45.79 | 73.98 | -28.19 |
| 28600.00 | Peak | H | - | - | -44.71 | -9.04 | -9.54 | 43.71 | 68.20 | -24.49 |

Table 7-39. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11440.00 | Average | H | 100 | 117 | -45.05 | -32.57 | -9.54 | 19.83 | 53.98 | -34.15 |
| * 11440.00 | Peak | H | 100 | 117 | -34.85 | -18.88 | -9.54 | 43.72 | 73.98 | -30.26 |
| 17160.00 | Peak | H | - | - | -33.30 | -18.45 | -9.54 | 45.71 | 68.20 | -22.49 |
| * 22880.00 | Average | H | - | - | -70.48 | 8.28 | -9.54 | 35.26 | 53.98 | -18.72 |
| * 22880.00 | Peak | H | - | - | -59.57 | 8.28 | -9.54 | 46.17 | 73.98 | -27.81 |
| 28600.00 | Peak | H | - | - | -44.27 | -9.04 | -9.54 | 44.15 | 68.20 | -24.05 |

Table 7-40. Radiated Measurements with WCP

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 130 of 260 |

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11490.00 | Average | H | 100 | 81 | -69.41 | 10.41 | -9.54 | 38.46 | 53.98 | -15.52 |
| * 11490.00 | Peak | H | 100 | 81 | -54.49 | 10.41 | -9.54 | 53.38 | 73.98 | -20.60 |
| 17235.00 | Peak | H | - | - | -61.76 | 16.57 | -9.54 | 52.27 | 68.20 | -15.93 |
| * 22980.00 | Average | H | - | - | -72.42 | 8.19 | -9.54 | 33.23 | 53.98 | -20.75 |
| * 22980.00 | Peak | H | - | - | -59.94 | 8.19 | -9.54 | 45.71 | 73.98 | -28.27 |
| 28725.00 | Peak | H | - | - | -43.59 | -9.45 | -9.54 | 44.42 | 68.20 | -23.78 |

Table 7-41. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11570.00 | Average | H | 100 | 324 | -74.44 | 10.23 | -9.54 | 33.25 | 53.98 | -20.73 |
| * 11570.00 | Peak | H | 100 | 324 | -63.47 | 10.23 | -9.54 | 44.22 | 73.98 | -29.76 |
| 17355.00 | Peak | H | - | - | -61.01 | 16.12 | -9.54 | 52.57 | 68.20 | -15.63 |
| 23140.00 | Peak | H | - | - | -58.65 | 8.47 | -9.54 | 47.28 | 68.20 | -20.92 |
| 28925.00 | Peak | H | - | - | -43.44 | -9.71 | -9.54 | 44.31 | 68.20 | -23.89 |

Table 7-42. Radiated Measurements

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 131 of 260 |

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11650.00 | Average | H | 100 | 243 | -72.23 | 10.29 | -9.54 | 35.51 | 53.98 | -18.47 |
| * 11650.00 | Peak | H | 100 | 243 | -61.97 | 10.29 | -9.54 | 45.77 | 73.98 | -28.21 |
| 17475.00 | Peak | H | - | - | -61.15 | 15.30 | -9.54 | 51.61 | 68.20 | -16.59 |
| 23300.00 | Peak | H | - | - | -59.67 | 8.61 | -9.54 | 46.40 | 68.20 | -21.80 |
| 29125.00 | Peak | H | - | - | -43.78 | -9.93 | -9.54 | 43.75 | 68.20 | -24.45 |

Table 7-43. Radiated Measurements

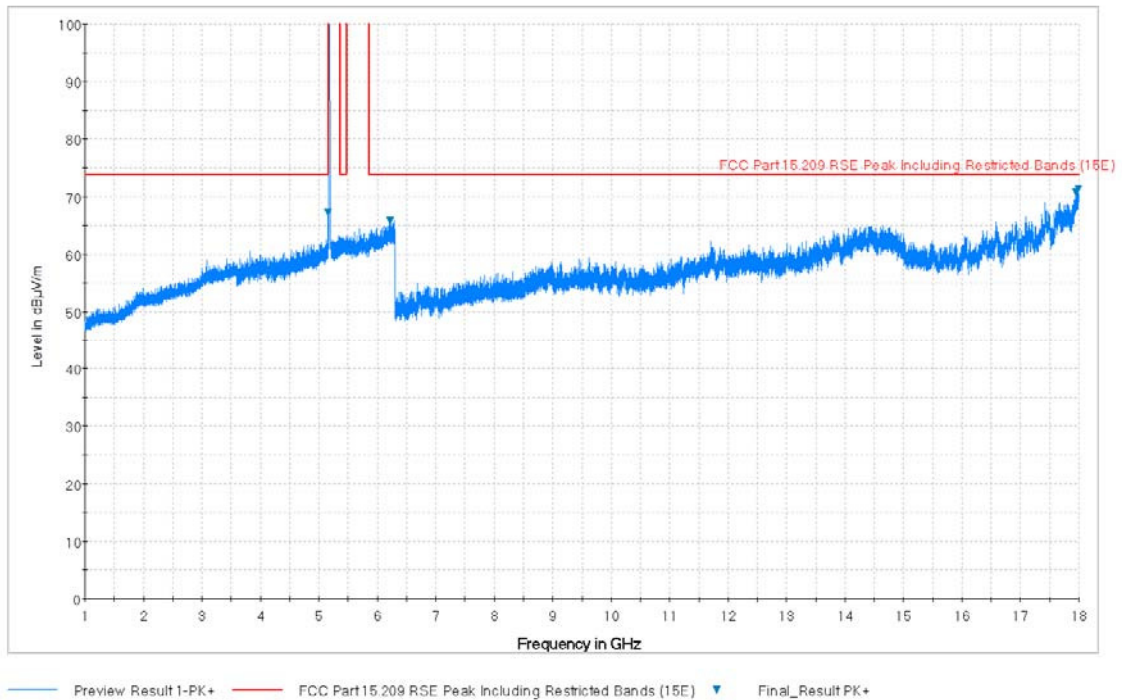
Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 Operating Frequency: 5825MHz
 Channel: 165

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11650.00 | Average | H | 100 | 77 | -67.25 | 10.29 | -9.54 | 40.49 | 53.98 | -13.49 |
| * 11650.00 | Peak | H | 100 | 77 | -54.32 | 10.29 | -9.54 | 53.42 | 73.98 | -20.56 |
| 17475.00 | Peak | H | - | - | -60.99 | 15.30 | -9.54 | 51.77 | 68.20 | -16.43 |
| 23300.00 | Peak | H | - | - | -59.84 | 8.61 | -9.54 | 46.23 | 68.20 | -21.97 |
| 29125.00 | Peak | H | - | - | -45.03 | -9.93 | -9.54 | 42.50 | 68.20 | -25.70 |

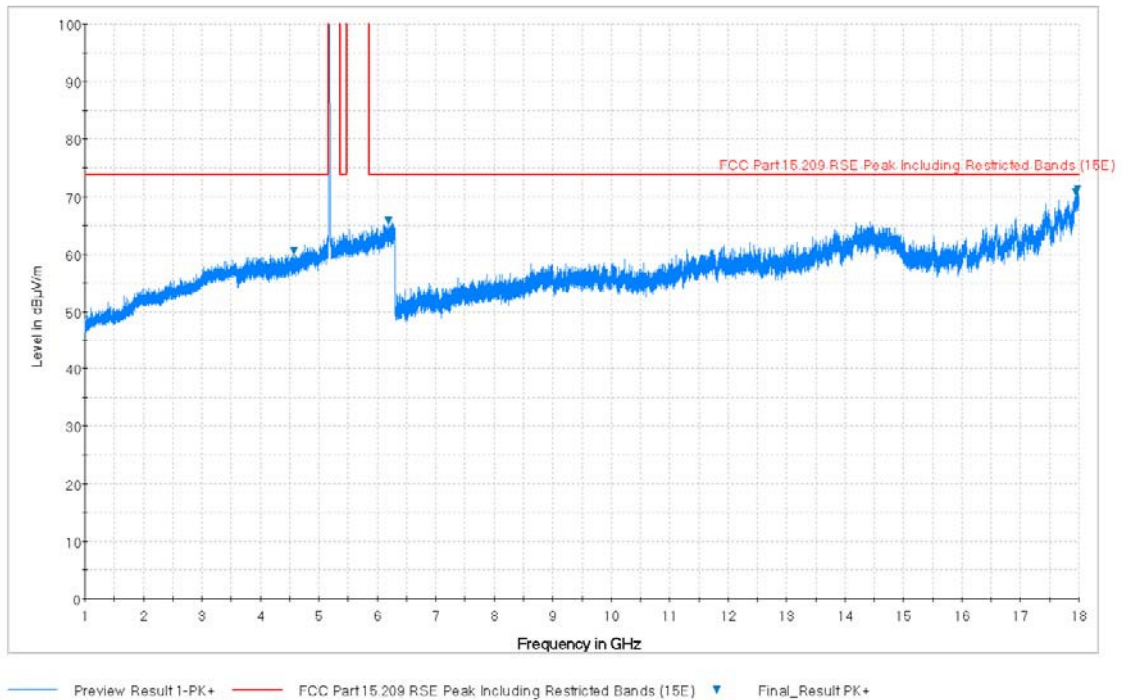
Table 7-44. Radiated Measurements with WCP

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 132 of 260 |

7.7.2 Antenna-2 Radiated Spurious Emission Measurements

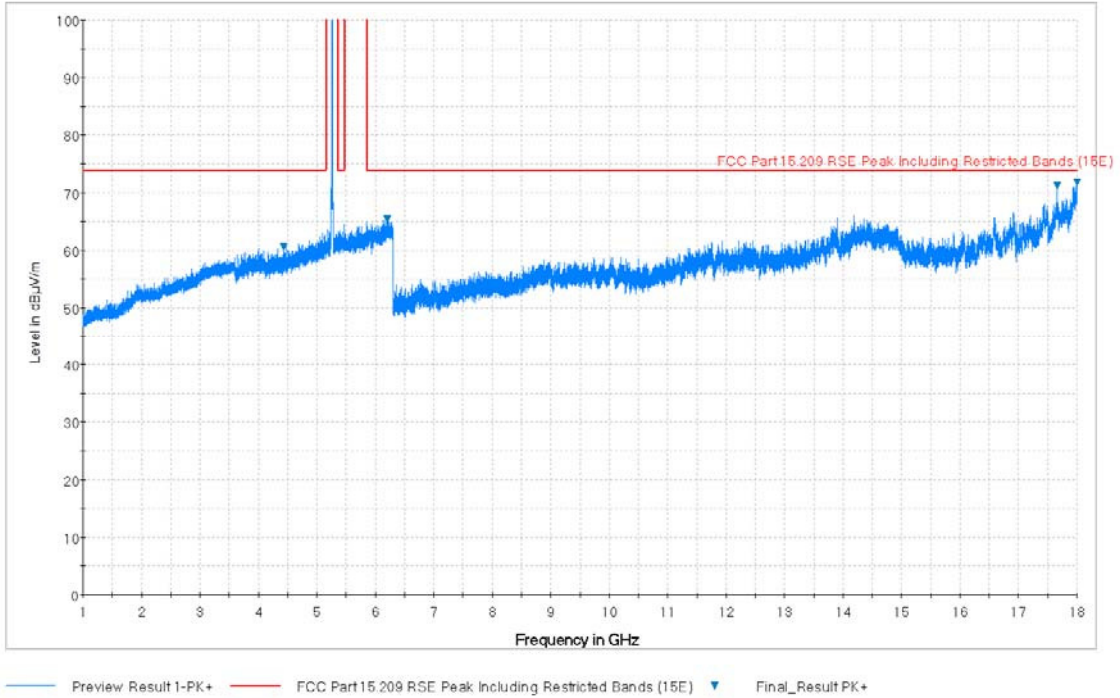


Plot 7-169. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. H)

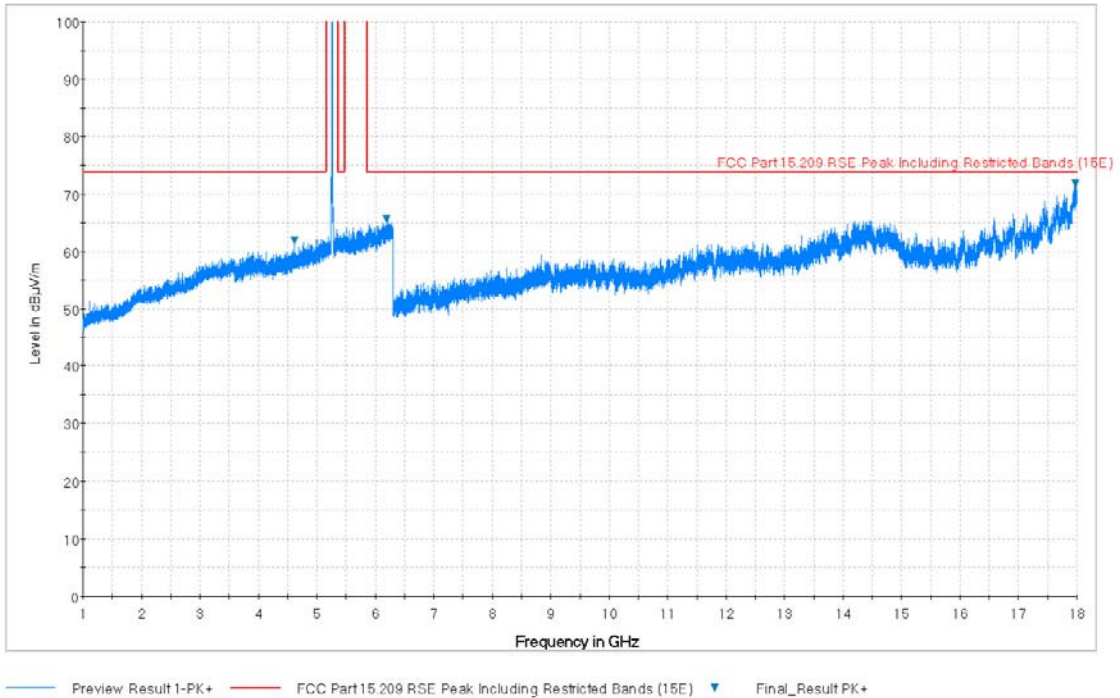


Plot 7-170. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. V)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 133 of 260 |

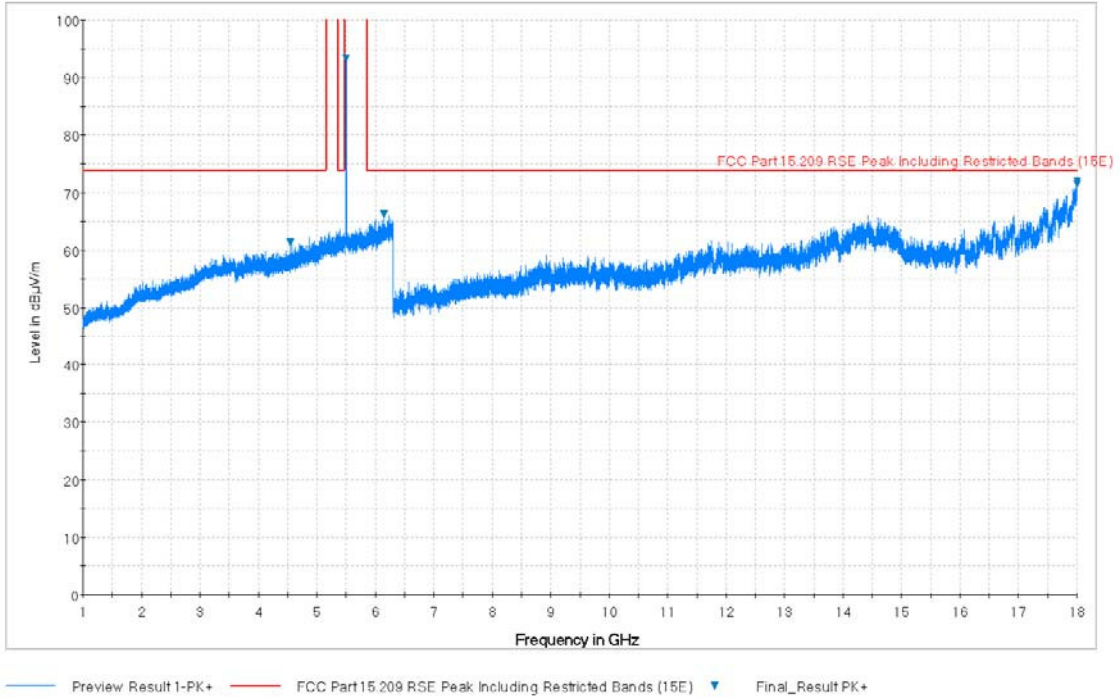


Plot 7-171. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)

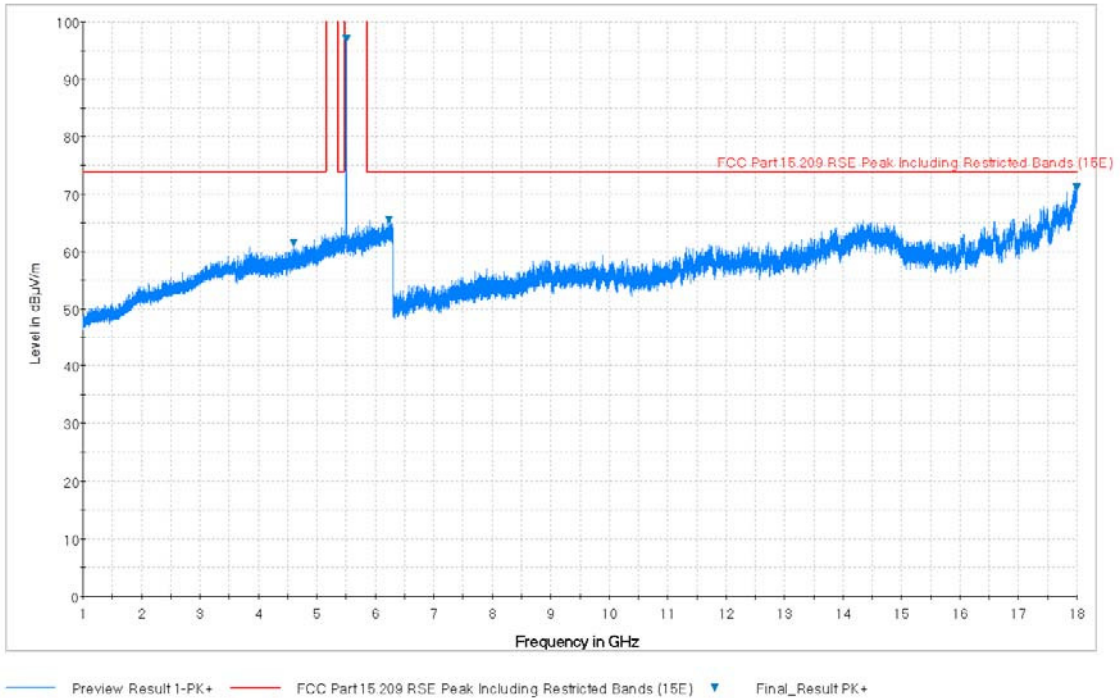


Plot 7-172. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 134 of 260 |

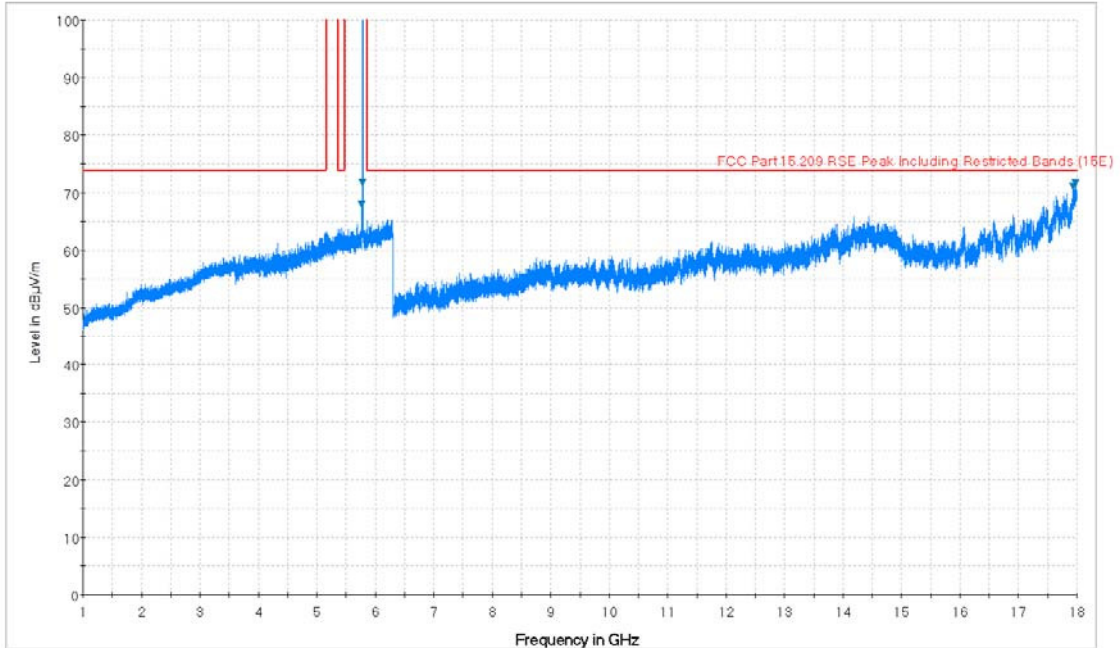


Plot 7-173. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. H)

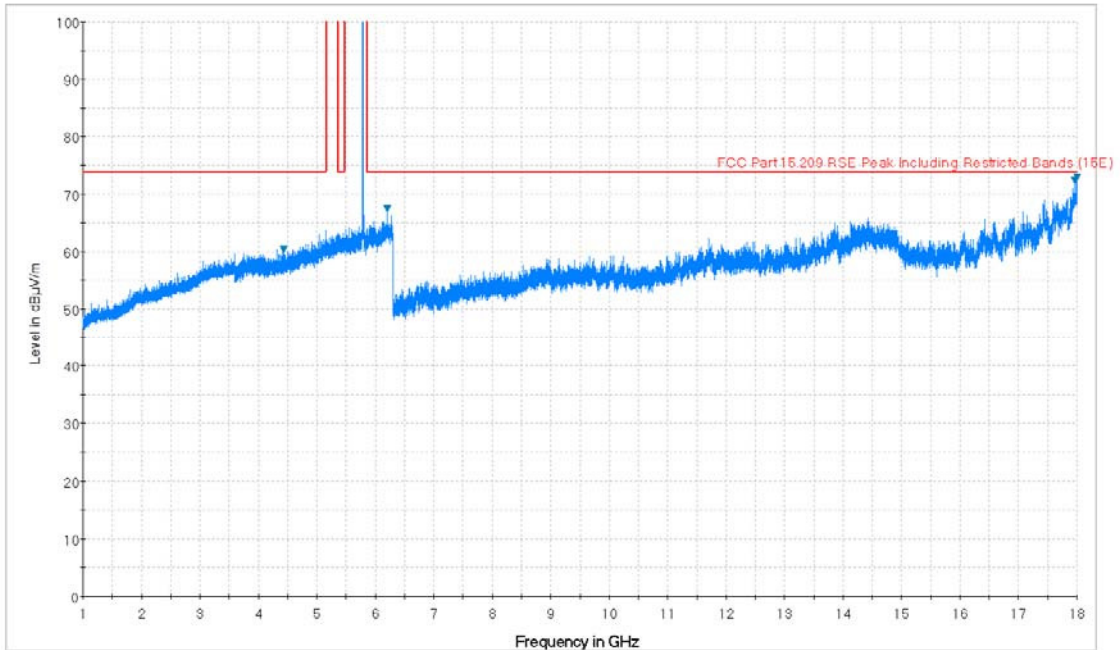


Plot 7-174. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. V)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 135 of 260 |



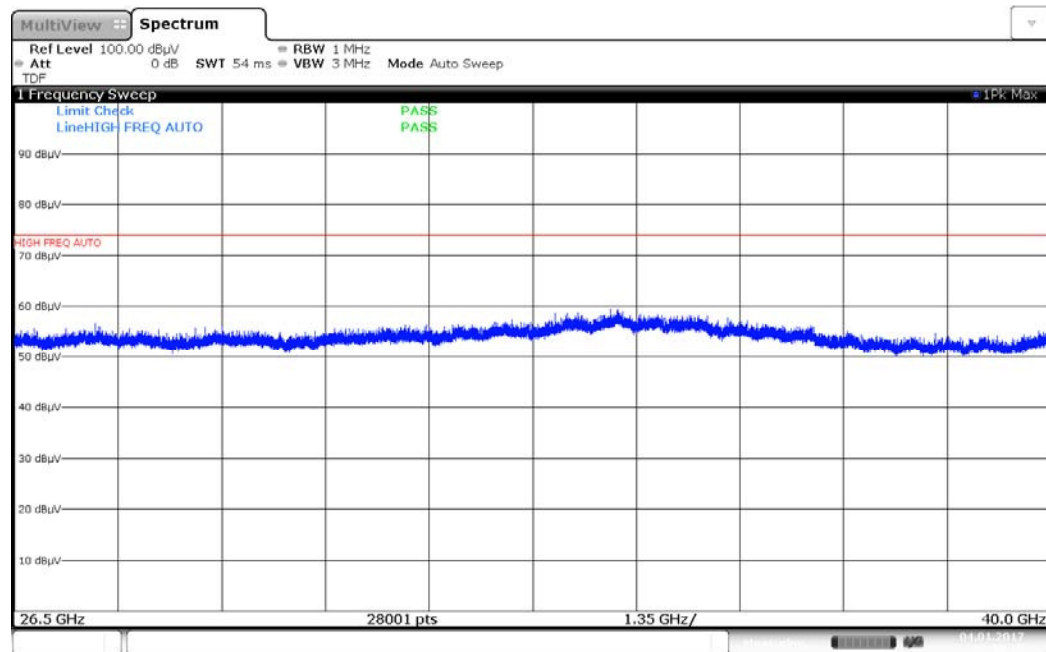
Plot 7-175. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)



Plot 7-176. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

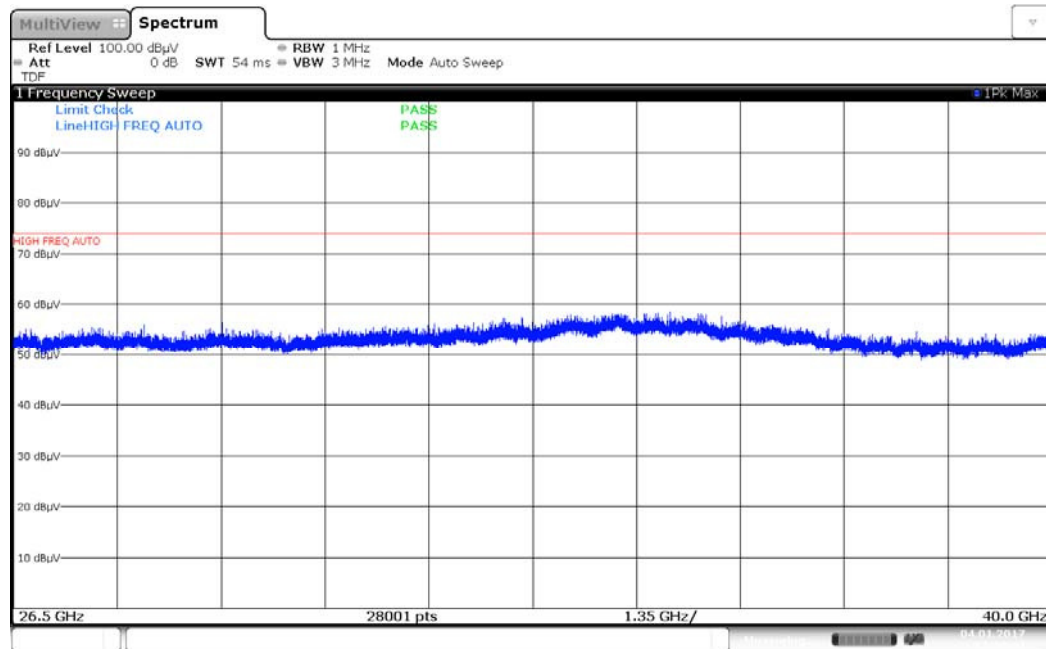
| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 136 of 260 |

Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz) §15.209



17:28:15 04.01.2017

Plot 7-177. Radiated Spurious Plot above 18GHz - 26.5GHz (802.11a – Ant. Pol. H)



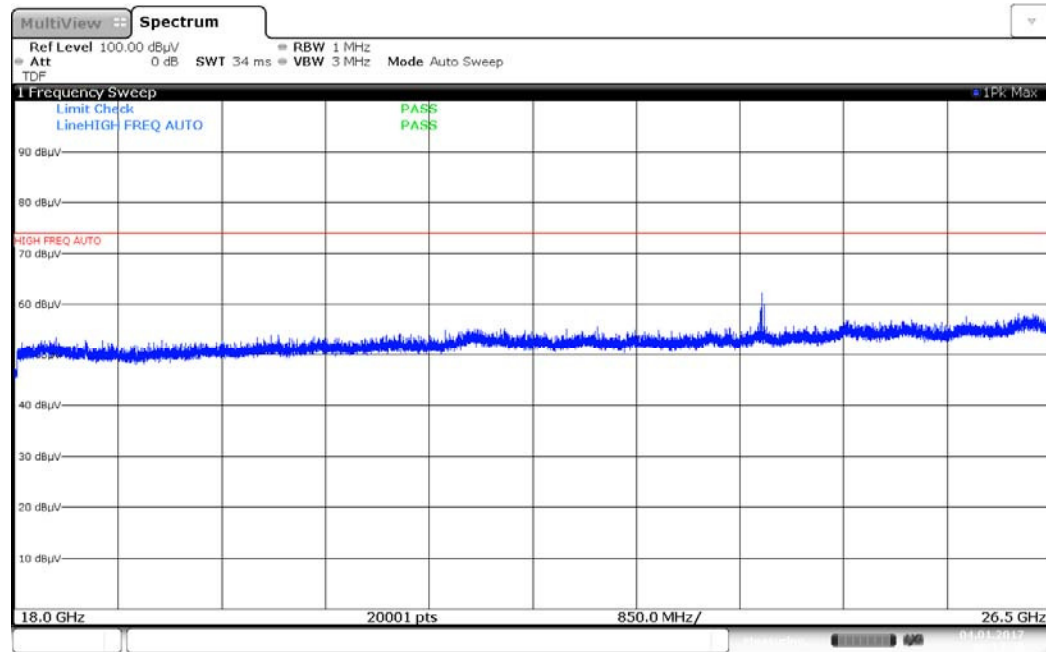
17:34:48 04.01.2017

Plot 7-178. Radiated Spurious Plot above 18GHz - 26.5GHz (802.11a – Ant. Pol. V)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 137 of 260 |

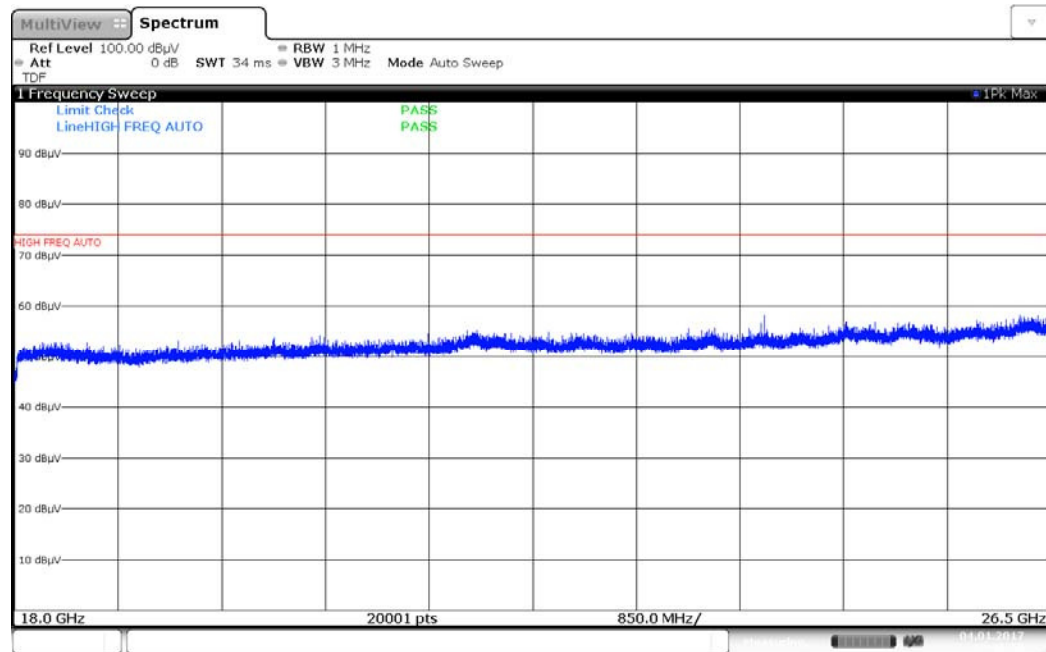
Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)

\$15.209



18:12:03 04.01.2017

Plot 7-179. Radiated Spurious Plot 26.5GHz - 40GHz (802.11a – Ant. Pol. H)



17:46:56 04.01.2017

Plot 7-180. Radiated Spurious Plot above 26.5GHz - 40GHz (802.11a – Ant. Pol. V)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 138 of 260 |

Antenna-2 Radiated Spurious Emission Measurements

§15.247(d) §15.205 & §15.209

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10360.00 | Peak | H | 110 | 79 | -54.43 | 2.90 | -9.54 | 45.93 | 68.20 | -22.27 |
| * 15540.00 | Average | H | - | - | -75.36 | 12.36 | -9.54 | 34.46 | 53.98 | -19.52 |
| * 15540.00 | Peak | H | - | - | -63.91 | 12.36 | -9.54 | 45.91 | 73.98 | -28.07 |
| * 20720.00 | Average | H | - | - | -72.01 | 8.13 | -9.54 | 33.58 | 53.98 | -20.40 |
| * 20720.00 | Peak | H | - | - | -59.30 | 8.13 | -9.54 | 46.29 | 73.98 | -27.69 |
| 25900.00 | Peak | H | - | - | -56.24 | 8.50 | -9.54 | 49.72 | 68.20 | -18.48 |

Table 7-45. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10400.00 | Peak | H | 110 | 58 | -58.88 | 9.59 | -9.54 | 48.17 | 68.20 | -20.03 |
| * 15600.00 | Average | H | - | - | -74.79 | 12.74 | -9.54 | 35.40 | 53.98 | -18.58 |
| * 15600.00 | Peak | H | - | - | -63.19 | 12.74 | -9.54 | 47.00 | 73.98 | -26.98 |
| * 20800.00 | Average | H | - | - | -72.92 | 8.15 | -9.54 | 32.69 | 53.98 | -21.29 |
| * 20800.00 | Peak | H | - | - | -59.98 | 8.15 | -9.54 | 45.63 | 73.98 | -28.35 |
| 26000.00 | Peak | H | - | - | -69.69 | 8.53 | -9.54 | 36.30 | 68.20 | -31.90 |

Table 7-46. Radiated Measurements

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 139 of 260 |

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10480.00 | Peak | H | 100 | 78 | -61.20 | 9.92 | -9.54 | 46.18 | 68.20 | -22.02 |
| * 15720.00 | Average | H | - | - | -74.77 | 13.10 | -9.54 | 35.78 | 53.98 | -18.19 |
| * 15720.00 | Peak | H | - | - | -63.35 | 13.10 | -9.54 | 47.20 | 73.98 | -26.77 |
| * 20960.00 | Average | H | - | - | -72.28 | 8.12 | -9.54 | 33.30 | 53.98 | -20.68 |
| * 20960.00 | Peak | H | - | - | -59.90 | 8.12 | -9.54 | 45.68 | 73.98 | -28.30 |
| 26200.00 | Peak | H | - | - | -56.63 | 8.62 | -9.54 | 49.45 | 68.20 | -18.75 |

Table 7-47. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10400.00 | Peak | H | 100 | 300 | -57.87 | 9.59 | -9.54 | 49.18 | 68.20 | -19.02 |
| * 15600.00 | Average | H | - | - | -74.01 | 12.74 | -9.54 | 36.18 | 53.98 | -17.80 |
| * 15600.00 | Peak | H | - | - | -63.40 | 12.74 | -9.54 | 46.79 | 73.98 | -27.19 |
| * 20800.00 | Average | H | - | - | -70.88 | 8.15 | -9.54 | 34.73 | 53.98 | -19.25 |
| * 20800.00 | Peak | H | - | - | -59.16 | 8.15 | -9.54 | 46.45 | 73.98 | -27.53 |
| 26000.00 | Peak | H | - | - | -58.03 | 8.53 | -9.54 | 47.96 | 68.20 | -20.24 |

Table 7-48. Radiated Measurements with WCP

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 140 of 260 |

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10520.00 | Peak | H | 100 | 59 | -57.78 | 9.87 | -9.54 | 49.55 | 68.20 | -18.65 |
| * 15780.00 | Average | H | - | - | -63.31 | 13.00 | -9.54 | 47.14 | 53.98 | -6.84 |
| * 15780.00 | Peak | H | - | - | -74.85 | 13.00 | -9.54 | 35.60 | 73.98 | -38.38 |
| * 21040.00 | Average | H | - | - | -72.07 | 8.10 | -9.54 | 33.49 | 53.98 | -20.49 |
| * 21040.00 | Peak | H | - | - | -59.82 | 8.10 | -9.54 | 45.74 | 73.98 | -28.24 |
| 26300.00 | Peak | H | - | - | -55.07 | 8.76 | -9.54 | 51.15 | 68.20 | -17.05 |

Table 7-49. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10560.00 | Peak | H | 100 | 89 | -57.89 | 9.56 | -9.54 | 49.13 | 68.20 | -19.07 |
| * 15840.00 | Average | H | - | - | -74.39 | 12.60 | -9.54 | 35.67 | 53.98 | -18.31 |
| * 15840.00 | Peak | H | - | - | -63.30 | 12.60 | -9.54 | 46.76 | 73.98 | -27.22 |
| * 21120.00 | Average | H | - | - | -71.69 | 8.09 | -9.54 | 33.86 | 53.98 | -20.12 |
| * 21120.00 | Peak | H | - | - | -59.19 | 8.09 | -9.54 | 46.36 | 73.98 | -27.62 |
| 26400.00 | Peak | H | - | - | -55.91 | 9.00 | -9.54 | 50.55 | 68.20 | -17.65 |

Table 7-50. Radiated Measurements

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 141 of 260 |

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 10640.00 | Average | H | 100 | 235 | -73.65 | 9.26 | -9.54 | 33.07 | 53.98 | -20.91 |
| * 10640.00 | Peak | H | 100 | 235 | -59.35 | 9.26 | -9.54 | 47.37 | 73.98 | -26.61 |
| * 15960.00 | Average | H | - | - | -74.32 | 12.16 | -9.54 | 35.29 | 53.98 | -18.69 |
| * 15960.00 | Peak | H | - | - | -62.68 | 12.16 | -9.54 | 46.93 | 73.98 | -27.05 |
| * 21280.00 | Average | H | - | - | -71.30 | 8.07 | -9.54 | 34.23 | 53.98 | -19.75 |
| * 21280.00 | Peak | H | - | - | -58.46 | 8.07 | -9.54 | 47.07 | 73.98 | -26.91 |
| 26600.00 | Peak | H | - | - | -46.28 | -8.30 | -9.54 | 42.88 | 68.20 | -25.32 |

Table 7-51. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| 10520.00 | Peak | H | 100 | 304 | -54.38 | 9.87 | -9.54 | 52.95 | 68.20 | -15.25 |
| * 15780.00 | Average | H | - | - | -74.02 | 13.00 | -9.54 | 36.43 | 53.98 | -17.55 |
| * 15780.00 | Peak | H | - | - | -64.02 | 13.00 | -9.54 | 46.43 | 73.98 | -27.55 |
| * 21040.00 | Average | H | - | - | -71.11 | -31.69 | -9.54 | -5.34 | 53.98 | -59.32 |
| * 21040.00 | Peak | H | - | - | -59.93 | -19.44 | -9.54 | 18.09 | 73.98 | -55.89 |
| 26300.00 | Peak | H | - | - | -55.85 | -14.40 | -9.54 | 27.21 | 68.20 | -40.99 |

Table 7-52. Radiated Measurements with WCP

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 142 of 260 |

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11000.00 | Average | H | 100 | 17 | -74.74 | 9.46 | -9.54 | 32.18 | 53.98 | -21.80 |
| * 11000.00 | Peak | H | 100 | 17 | -62.42 | 9.46 | -9.54 | 44.50 | 73.98 | -29.48 |
| 16500.00 | Peak | H | - | - | -61.63 | 12.45 | -9.54 | 48.28 | 68.20 | -19.92 |
| 22000.00 | Peak | H | - | - | -56.83 | 8.35 | -9.54 | 48.98 | 68.20 | -19.22 |
| 27500.00 | Peak | H | - | - | -44.45 | -8.93 | -9.54 | 44.08 | 68.20 | -24.12 |

Table 7-53. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11200.00 | Average | H | 100 | 287 | -74.24 | 9.47 | -9.54 | 32.69 | 53.98 | -21.29 |
| * 11200.00 | Peak | H | 100 | 287 | -62.50 | 9.47 | -9.54 | 44.43 | 73.98 | -29.55 |
| 16800.00 | Peak | H | - | - | -62.22 | 15.99 | -9.54 | 51.22 | 68.20 | -16.98 |
| * 22400.00 | Average | H | - | - | -70.83 | 8.20 | -9.54 | 34.83 | 53.98 | -19.15 |
| * 22400.00 | Peak | H | - | - | -58.28 | 8.20 | -9.54 | 47.38 | 73.98 | -26.60 |
| 28000.00 | Peak | H | - | - | -44.19 | -9.24 | -9.54 | 44.03 | 68.20 | -24.17 |

Table 7-54. Radiated Measurements

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 143 of 260 |

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11440.00 | Average | H | 100 | 357 | -74.84 | 10.05 | -9.54 | 32.67 | 53.98 | -21.31 |
| * 11440.00 | Peak | H | 100 | 357 | -53.62 | 10.05 | -9.54 | 53.89 | 73.98 | -20.09 |
| 17160.00 | Peak | H | - | - | -61.34 | 15.39 | -9.54 | 51.50 | 68.20 | -16.70 |
| * 22880.00 | Average | H | - | - | -71.45 | 8.28 | -9.54 | 34.29 | 53.98 | -19.69 |
| * 22880.00 | Peak | H | - | - | -58.97 | 8.28 | -9.54 | 46.77 | 73.98 | -27.21 |
| 28600.00 | Peak | H | - | - | -45.22 | -9.04 | -9.54 | 43.20 | 68.20 | -25.00 |

Table 7-55. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11440.00 | Average | H | 100 | 301 | -72.30 | 9.47 | -9.54 | 34.63 | 53.98 | -19.35 |
| * 11440.00 | Peak | H | 100 | 301 | -61.08 | 9.47 | -9.54 | 45.85 | 73.98 | -28.13 |
| 17160.00 | Peak | H | - | - | -62.27 | 15.99 | -9.54 | 51.17 | 68.20 | -17.03 |
| * 22880.00 | Average | H | - | - | -70.51 | 8.28 | -9.54 | 35.23 | 53.98 | -18.75 |
| * 22880.00 | Peak | H | - | - | -59.39 | 8.28 | -9.54 | 46.35 | 73.98 | -27.63 |
| 28600.00 | Peak | H | - | - | -44.54 | -9.04 | -9.54 | 43.88 | 68.20 | -24.32 |

Table 7-56. Radiated Measurements with WCP

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 144 of 260 |

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11490.00 | Average | H | 100 | 81 | -69.41 | 10.41 | -9.54 | 38.46 | 53.98 | -15.52 |
| * 11490.00 | Peak | H | 100 | 81 | -54.49 | 10.41 | -9.54 | 53.38 | 73.98 | -20.60 |
| 17235.00 | Peak | H | - | - | -61.76 | 16.57 | -9.54 | 52.27 | 68.20 | -15.93 |
| * 22980.00 | Average | H | - | - | -72.42 | 8.19 | -9.54 | 33.23 | 53.98 | -20.75 |
| * 22980.00 | Peak | H | - | - | -59.94 | 8.19 | -9.54 | 45.71 | 73.98 | -28.27 |
| 28725.00 | Peak | H | - | - | -43.59 | -9.45 | -9.54 | 44.42 | 68.20 | -23.78 |

Table 7-57. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11570.00 | Average | H | 100 | 324 | -74.44 | 10.23 | -9.54 | 33.25 | 53.98 | -20.73 |
| * 11570.00 | Peak | H | 100 | 324 | -63.47 | 10.23 | -9.54 | 44.22 | 73.98 | -29.76 |
| 17355.00 | Peak | H | - | - | -61.01 | 16.12 | -9.54 | 52.57 | 68.20 | -15.63 |
| 23140.00 | Peak | H | - | - | -58.65 | 8.47 | -9.54 | 47.28 | 68.20 | -20.92 |
| 28925.00 | Peak | H | - | - | -43.44 | -9.71 | -9.54 | 44.31 | 68.20 | -23.89 |

Table 7-58. Radiated Measurements

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 145 of 260 |

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



| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11650.00 | Average | H | 100 | 243 | -72.23 | 10.29 | -9.54 | 35.51 | 53.98 | -18.47 |
| * 11650.00 | Peak | H | 100 | 243 | -61.97 | 10.29 | -9.54 | 45.77 | 73.98 | -28.21 |
| 17475.00 | Peak | H | - | - | -61.15 | 15.30 | -9.54 | 51.61 | 68.20 | -16.59 |
| 23300.00 | Peak | H | - | - | -59.67 | 8.61 | -9.54 | 46.40 | 68.20 | -21.80 |
| 29125.00 | Peak | H | - | - | -43.78 | -9.93 | -9.54 | 43.75 | 68.20 | -24.45 |

Table 7-59. Radiated Measurements

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

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|---------------------------------|-------------------------|----------------|-------------|
| * 11650.00 | Average | H | 100 | 77 | -67.25 | 10.29 | -9.54 | 40.49 | 53.98 | -13.49 |
| * 11650.00 | Peak | H | 100 | 77 | -54.32 | 10.29 | -9.54 | 53.42 | 73.98 | -20.56 |
| 17475.00 | Peak | H | - | - | -60.99 | 15.30 | -9.54 | 51.77 | 68.20 | -16.43 |
| 23300.00 | Peak | H | - | - | -59.84 | 8.61 | -9.54 | 46.23 | 68.20 | -21.97 |
| 29125.00 | Peak | H | - | - | -45.03 | -9.93 | -9.54 | 42.50 | 68.20 | -25.70 |

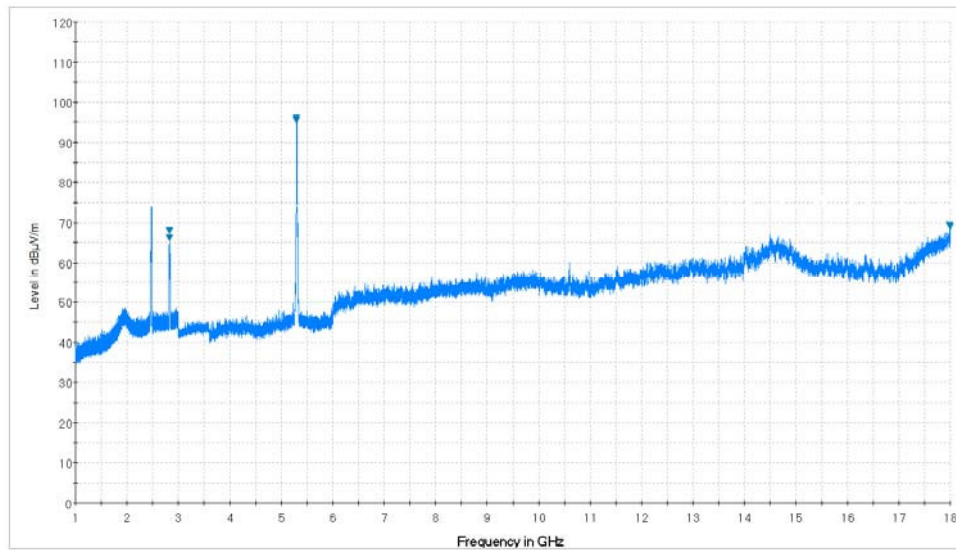
Table 7-60. Radiated Measurements with WCP

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 146 of 260 |

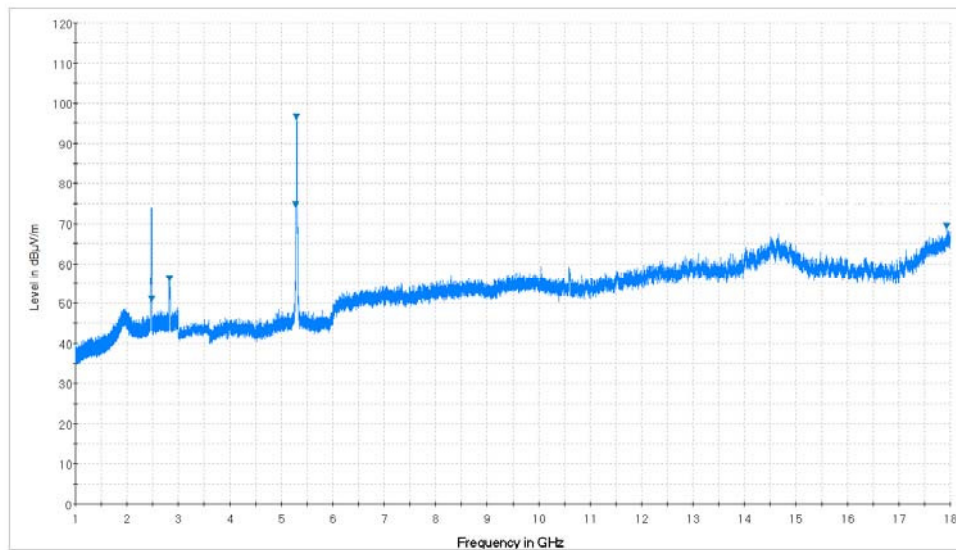
7.7.3 Simultaneous Tx Radiated Spurious Emissions Measurements §15.247(d) §15.205 & §15.209

| Description | 2.4 GHz Tx | 5 GHz Tx |
|--------------------------|------------|----------|
| Antenna | 1 | 2 |
| Channel | 11 | 60 |
| Operating Frequency(MHz) | 2462 | 5300 |
| Data Rate | 1 Mbps | 6 Mbps |
| Mode | 802.11b | 802.11a |

Table 7-61. Simultaneous Transmission Configuration-1

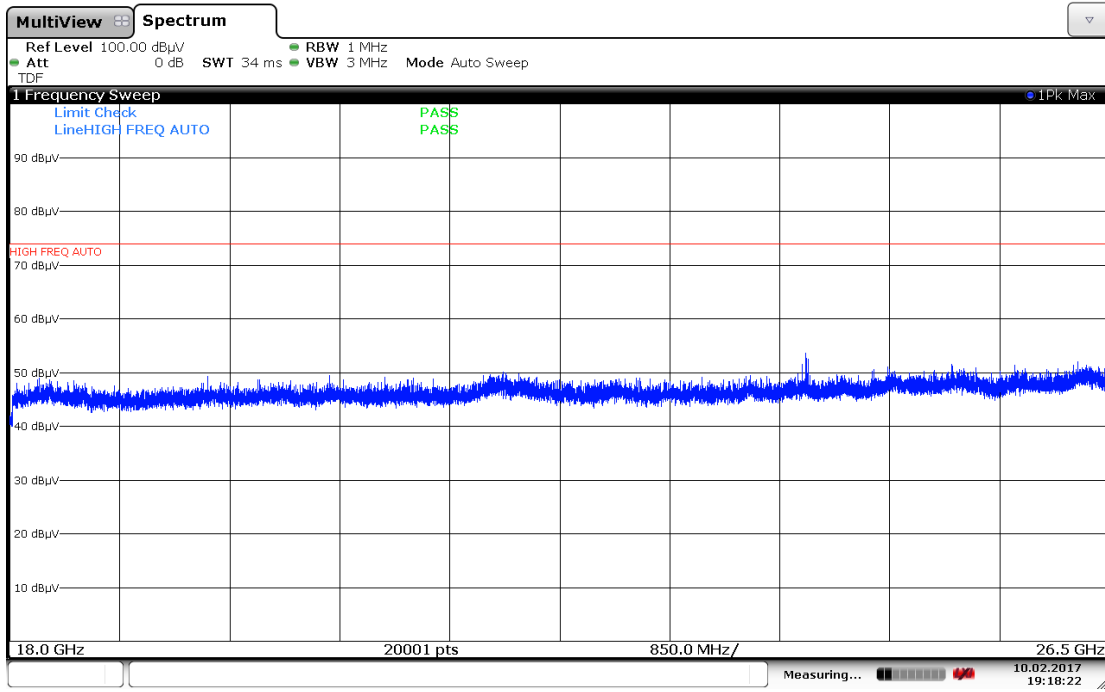


Plot 7-181. Radiated Spurious Plot above 1GHz (2.4GHz – 5GHz, Ant. Pol. H)



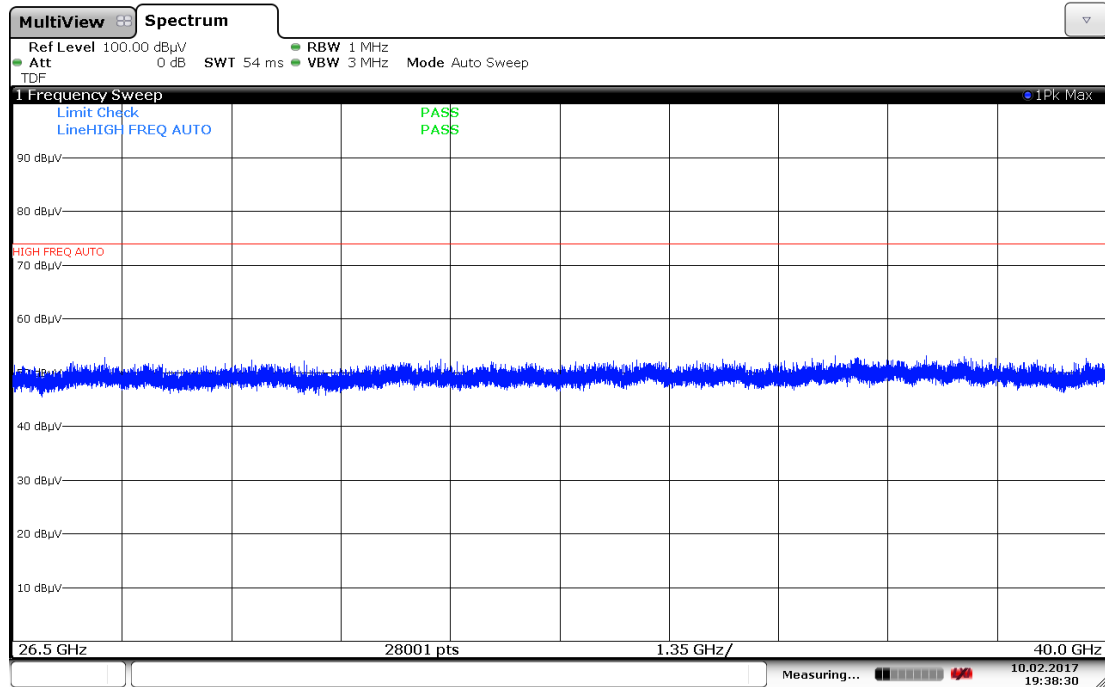
Plot 7-182. Radiated Spurious Plot above 1GHz (2.4GHz – 5GHz, Ant. Pol. V)

| | | | |
|--|--|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 147 of 260 |



19:18:23 10.02.2017

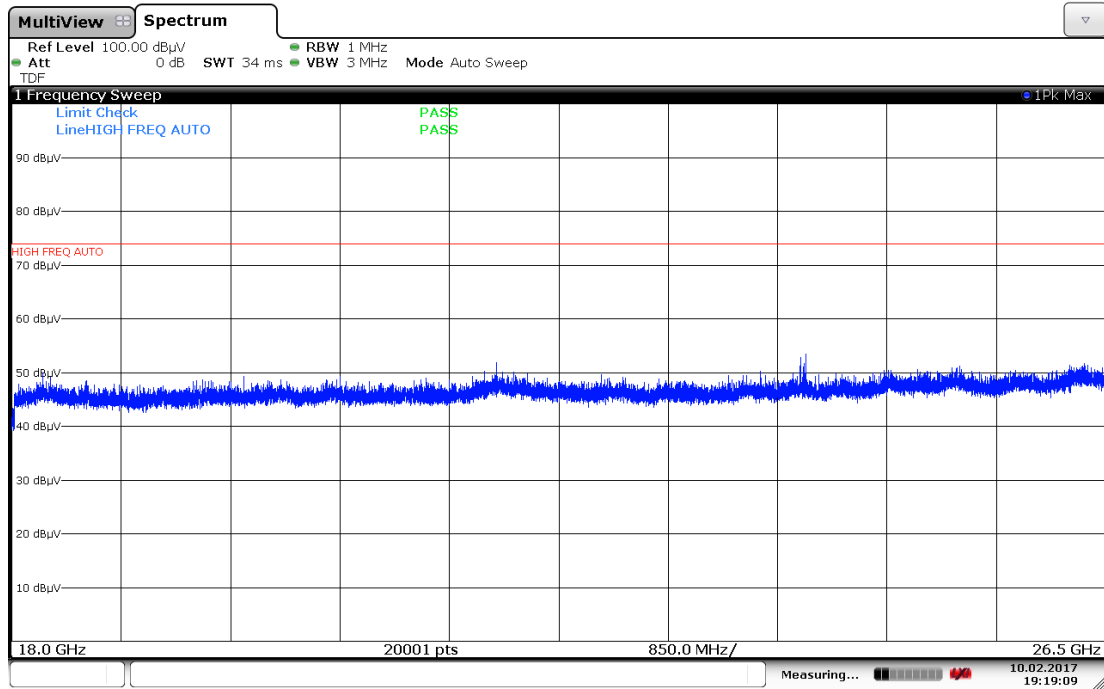
Plot 7-183. Radiated Spurious Plot 18-26.5GHz (2.4GHz - 5GHz, Ant. Pol. H)



19:38:30 10.02.2017

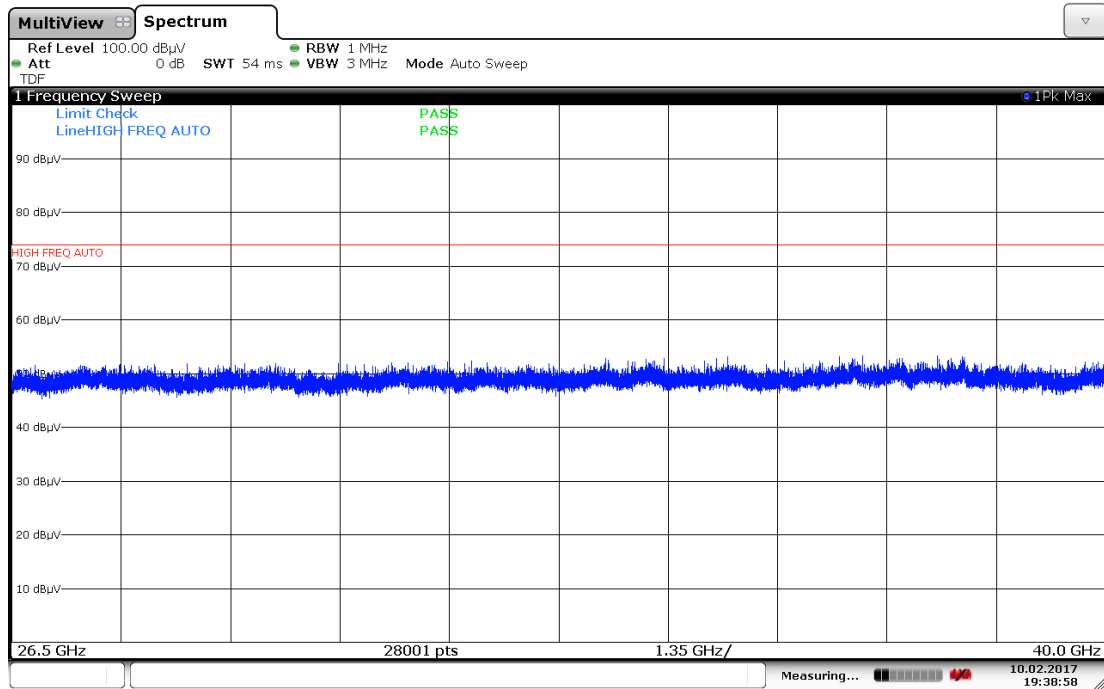
Plot 7-184. Radiated Spurious Plot 26.5-40GHz (2.4GHz – 5GHz, Ant. Pol. H)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 148 of 260 |



19:19:09 10.02.2017

Plot 7-185. Radiated Spurious Plot 18-26.5GHz (2.4GHz - 5GHz, Ant. Pol. V)





19:38:58 10.02.2017

Plot 7-186. Radiated Spurious Plot 26.5-40GHz (2.4GHz – 5GHz, Ant. Pol. V)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 149 of 260 |

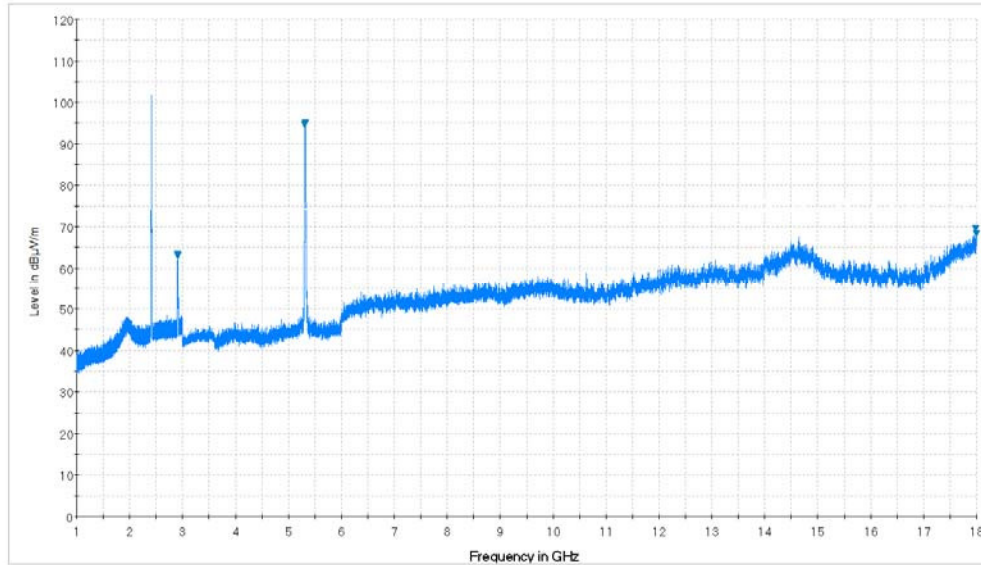
| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|---|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| * | 2830.00 | Average | H | 100 | 180 | -56.83 | 0.47 | 50.64 | 53.98 | -3.34 |
| * | 2830.00 | Peak | H | 100 | 180 | -42.55 | 0.47 | 64.92 | 73.98 | -9.06 |
| * | 4944.00 | Average | H | 100 | 0 | -65.62 | 0.99 | 42.37 | 53.98 | -11.61 |
| * | 4944.00 | Peak | H | 100 | 0 | -54.56 | 0.99 | 53.43 | 73.98 | -20.55 |

Table 7-62. Radiated Measurements (ANT1 2.4GHz – ANT2 5GHz)

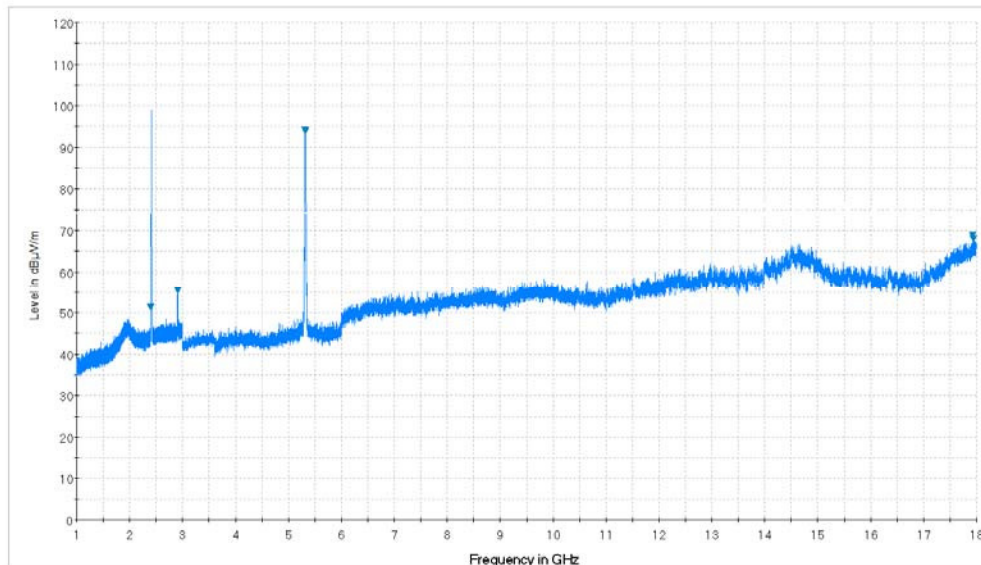
| | | | | |
|--|---|--|---|--|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 150 of 260 |

| Description | 5 GHz Tx | 2.4 GHz Tx |
|--------------------------|----------|------------|
| Antenna | 1 | 2 |
| Channel | 64 | 1 |
| Operating Frequency(MHz) | 5320 | 2412 |
| Data Rate | MCS0 | 1 Mbps |
| Mode | 802.11n | 802.11b |

Table 7-63. Simultaneous Transmission Configuration-2

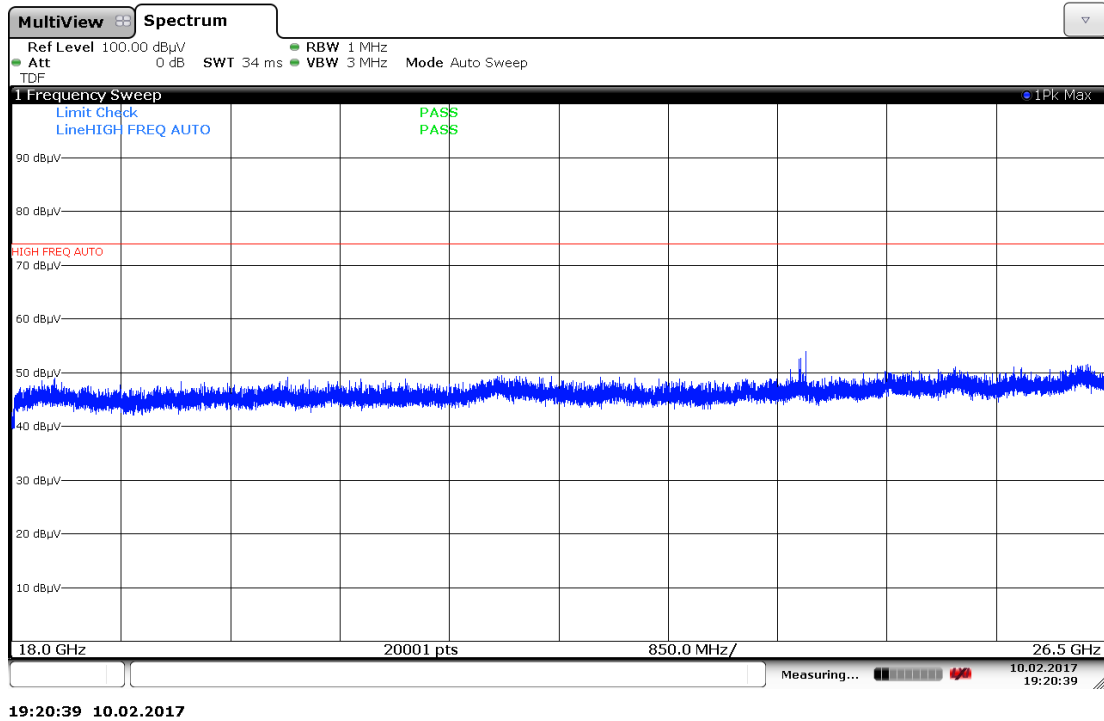


Plot 7-187. Radiated Spurious Plot above 1GHz (5GHz – 2.4 GHz, Ant. Pol. H)

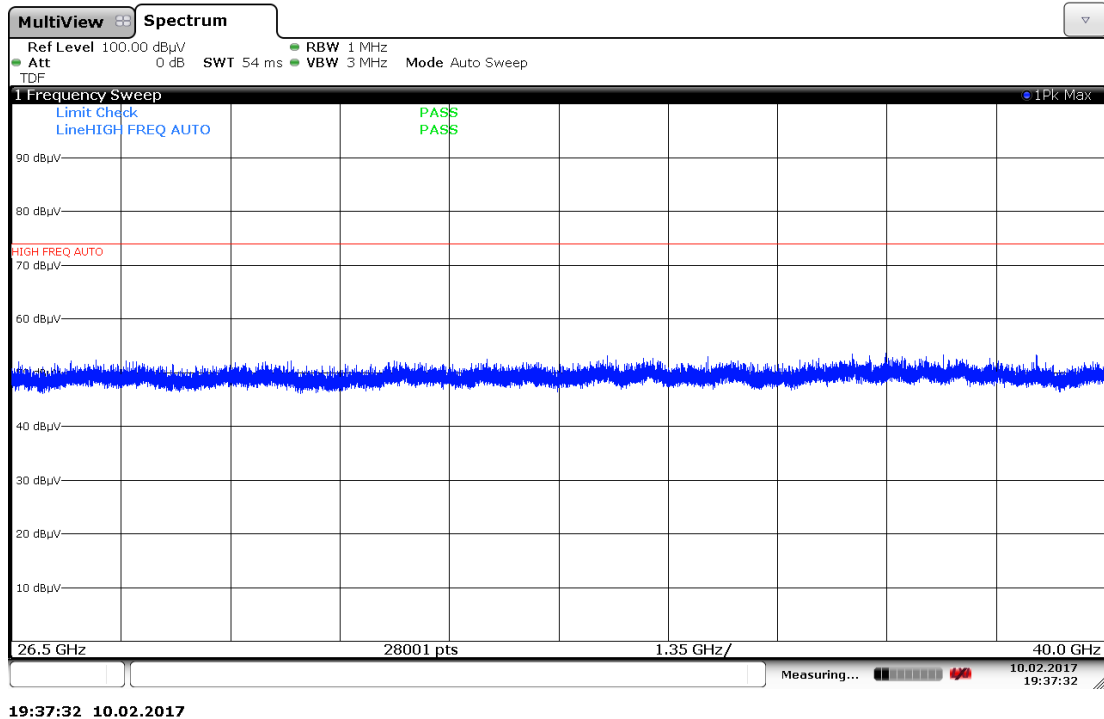


Plot 7-188. Radiated Spurious Plot above 1GHz (5GHz – 2.4 GHz, Ant. Pol. V)

| | | | |
|---|---|--|--|
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| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 151 of 260 |

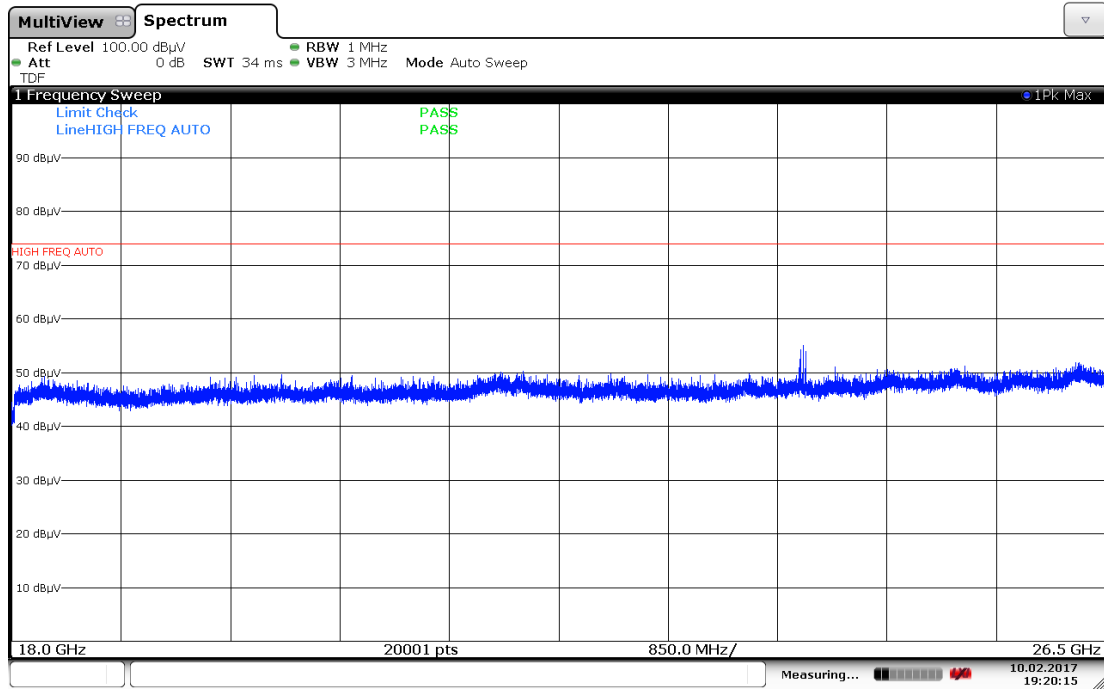


Plot 7-189. Radiated Spurious Plot 18-26.5GHz (5GHz – 2.4 GHz, Ant. Pol. H)



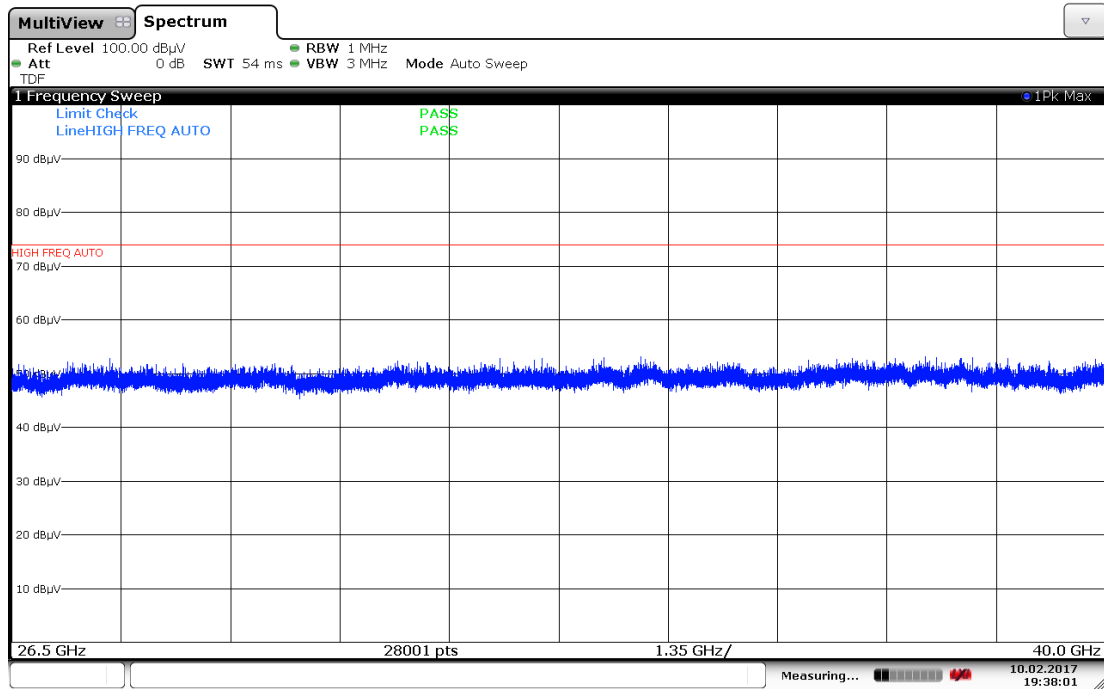
Plot 7-190. Radiated Spurious Plot 26.5-40GHz 5GHz – 2.4 GHz, Ant. Pol. H)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 152 of 260 |



19:20:15 10.02.2017

Plot 7-191. Radiated Spurious Plot 18-26.5GHz (5GHz – 2.4 GHz, Ant. Pol. V)





19:38:02 10.02.2017

Plot 7-192. Radiated Spurious Plot 26.5-40GHz (5GHz – 2.4 GHz, Ant. Pol. V)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 153 of 260 |

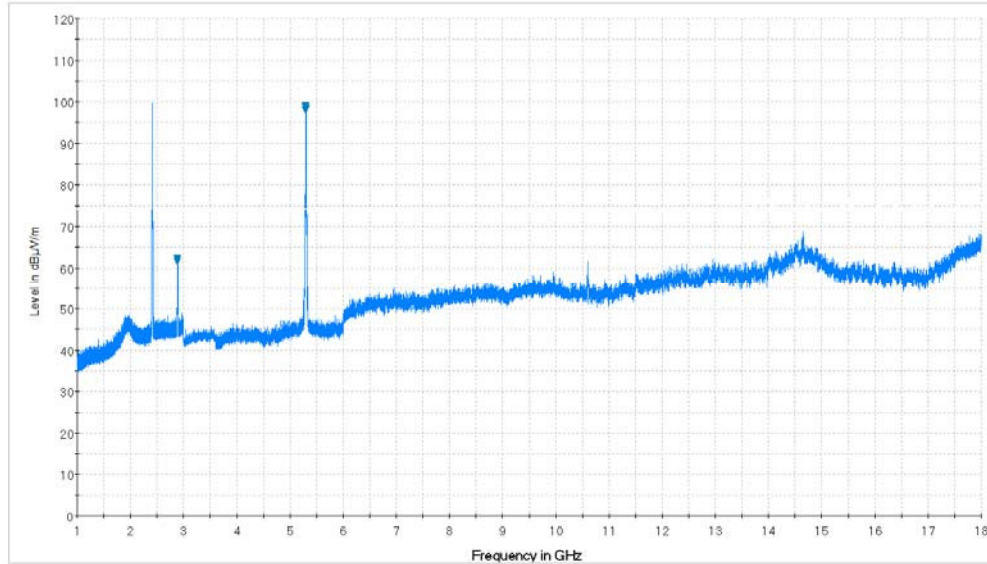
| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|---|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| * | 4824.00 | Average | H | 100 | 165 | -68.22 | 0.62 | 39.40 | 53.98 | -14.58 |
| * | 4824.00 | Peak | H | 100 | 165 | -57.10 | 0.62 | 50.52 | 73.98 | -23.46 |

Table 7-64. Radiated Measurements (ANT1 5GHz – ANT2 2.4GHz)

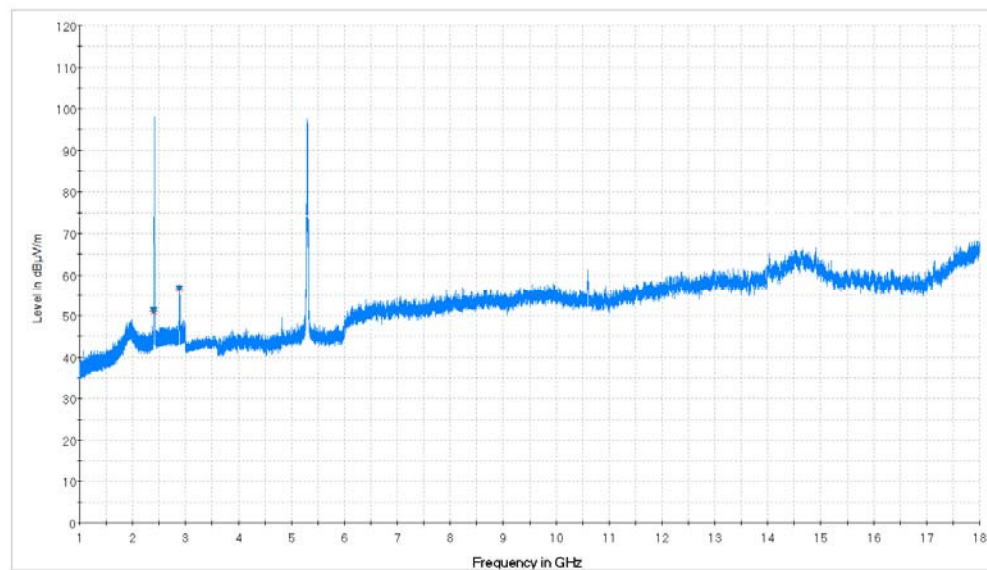
| | | | | |
|--|---|--|---|--|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 154 of 260 |

| Description | 2.4 & 5 GHz Tx | 2.4 & 5 GHz Tx |
|--------------------------|----------------|----------------|
| Antenna | 1 | 2 |
| Channel | 1 & 60 | 1 & 60 |
| Operating Frequency(MHz) | 2412 & 5300 | 2412 & 5300 |
| Data Rate | 1 & 6 Mbps | 1 & 6 Mbps |
| Mode | 802.11g/n/a/ac | 802.11g/n/a/ac |

Table 7-65. Simultaneous Transmission Configuration-3

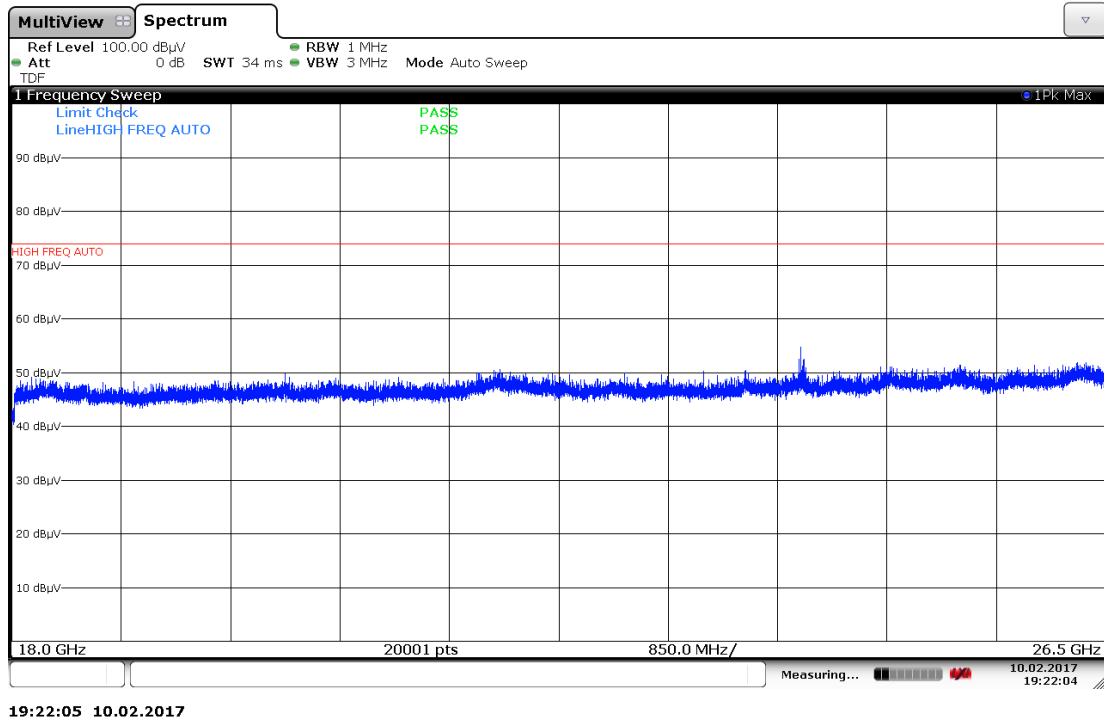


Plot 7-193. Radiated Spurious Plot above 1GHz (Ant1: 2.4 - 5GHz Ant2: 2.4 - 5GHz, Ant. Pol. H)

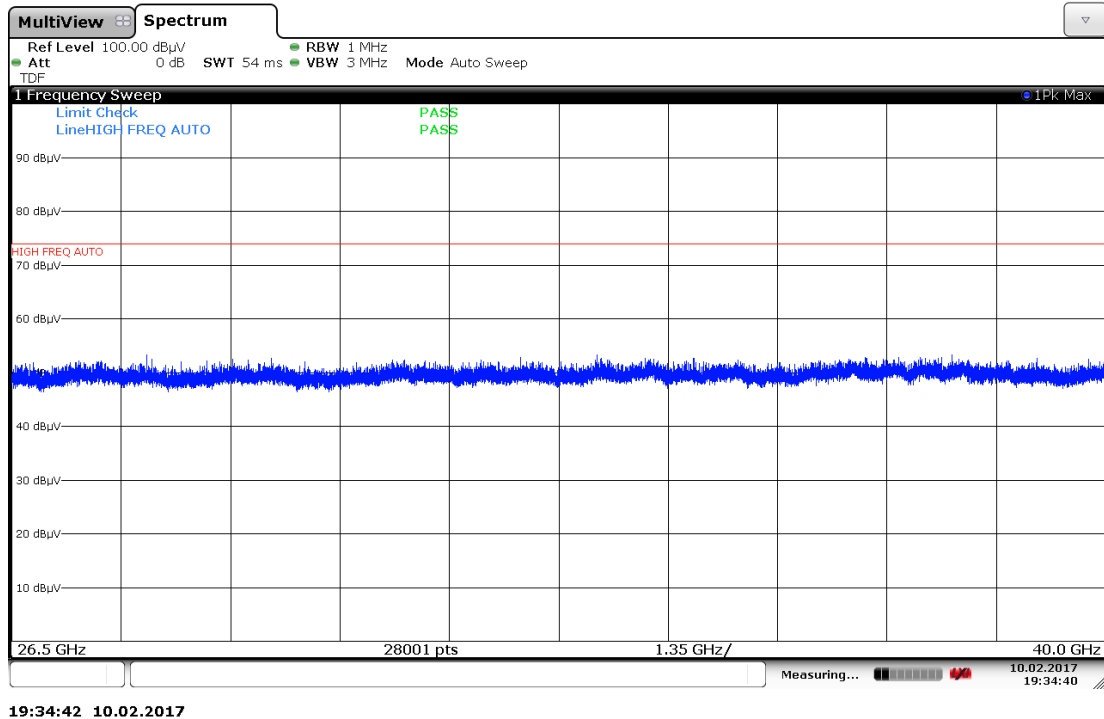


Plot 7-194. Radiated Spurious Plot above 1GHz (Ant1: 2.4 - 5GHz Ant2: 2.4 - 5GHz, Ant. Pol. V)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 155 of 260 |

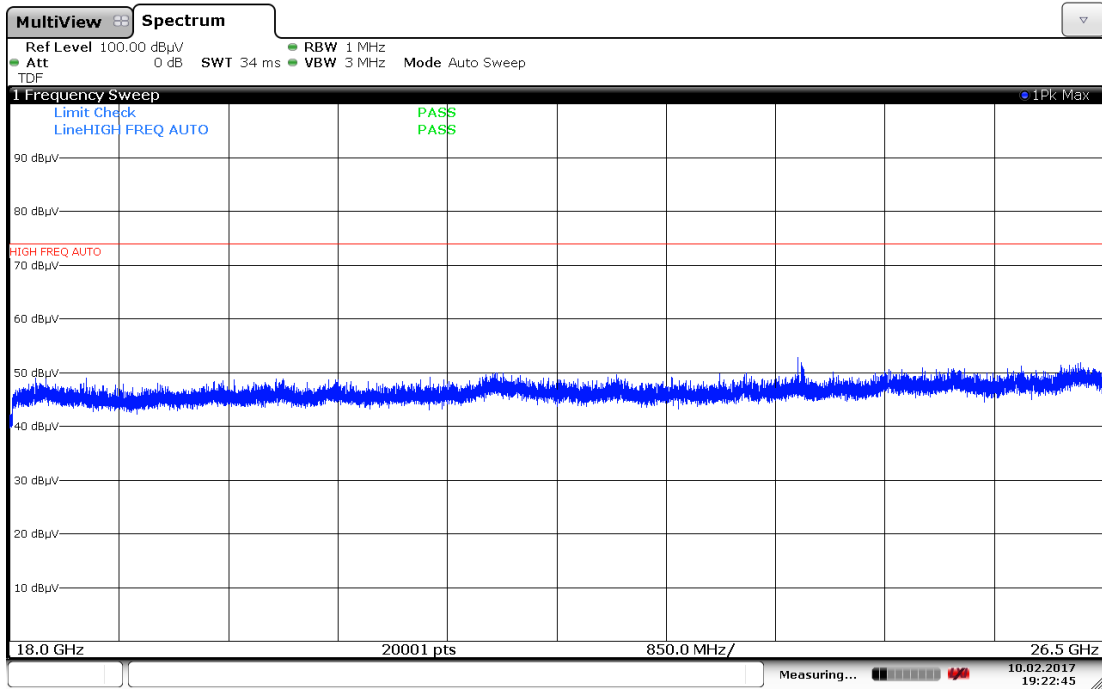


Plot 7-195. Radiated Spurious Plot 18-26.5GHz (Ant1: 2.4 - 5GHz Ant2: 2.4 - 5GHz, Ant. Pol. H)



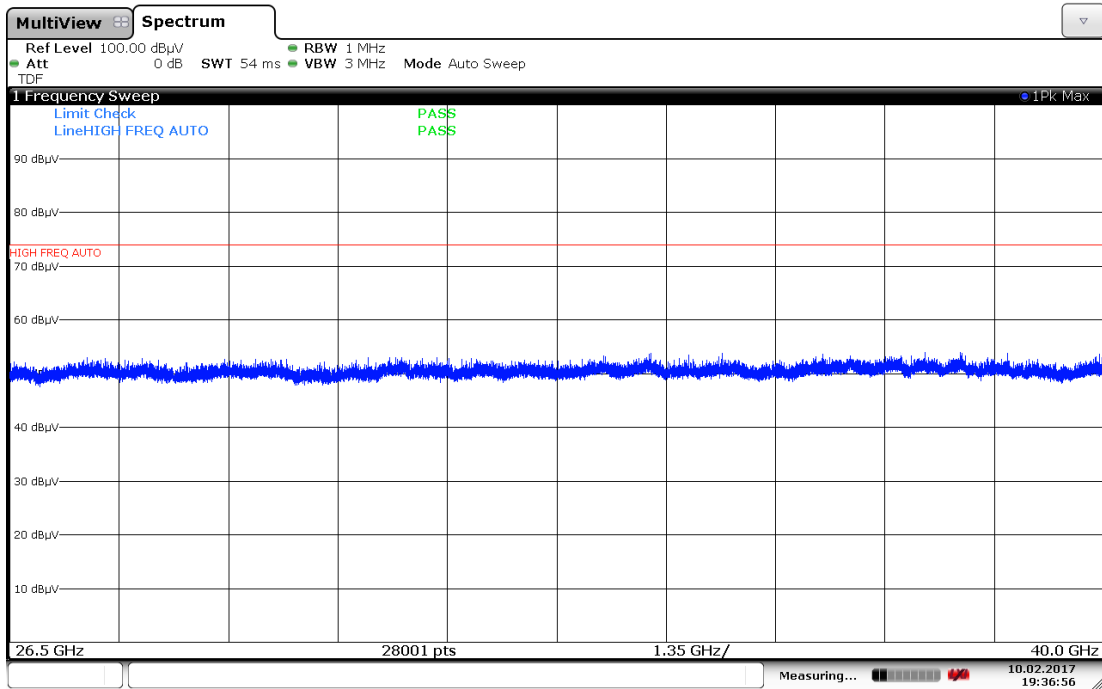
Plot 7-196. Radiated Spurious Plot 26.5-40GHz (Ant1: 2.4 - 5GHz Ant2: 2.4 - 5GHz, Ant. Pol. H)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 156 of 260 |



19:22:46 10.02.2017

Plot 7-197. Radiated Spurious Plot 18-26.5GHz (Ant1: 2.4 - 5GHz Ant2: 2.4 - 5GHz, Ant. Pol. V)



19:36:57 10.02.2017

Plot 7-198. Radiated Spurious Plot 26.5-40GHz (Ant1: 2.4 - 5GHz Ant2: 2.4 - 5GHz, Ant. Pol. V)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 157 of 260 |

7.7.4 Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

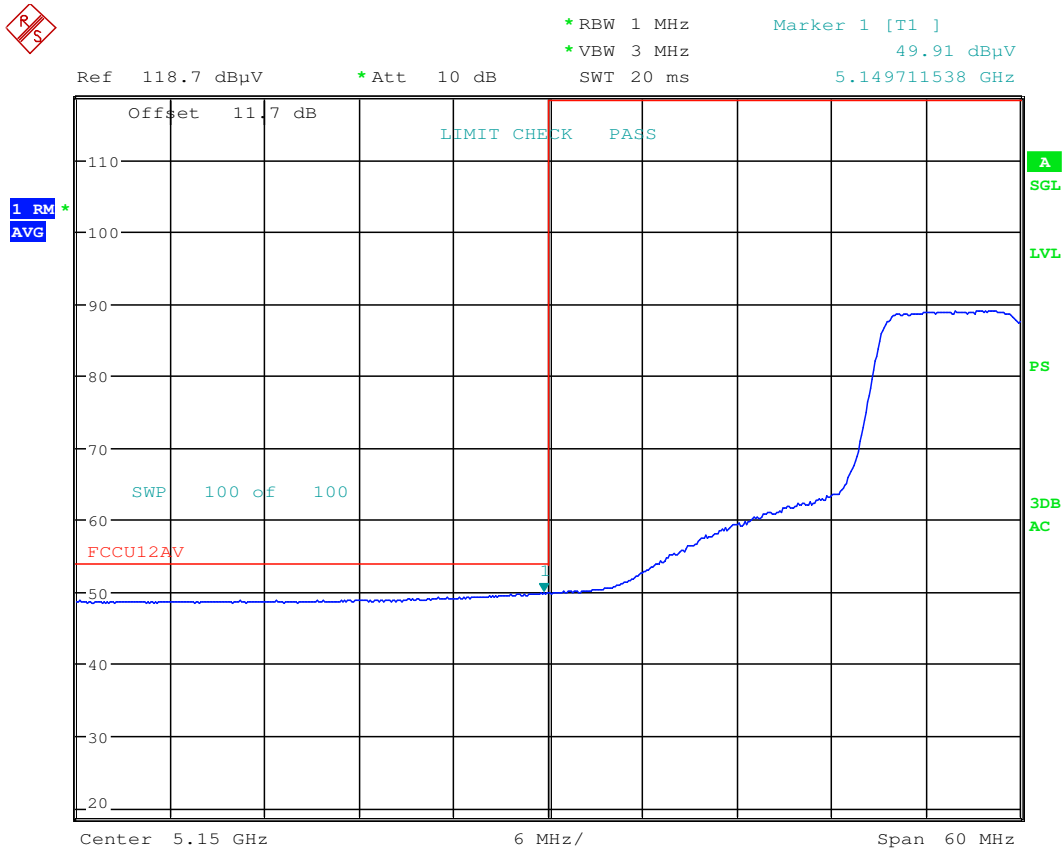
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36



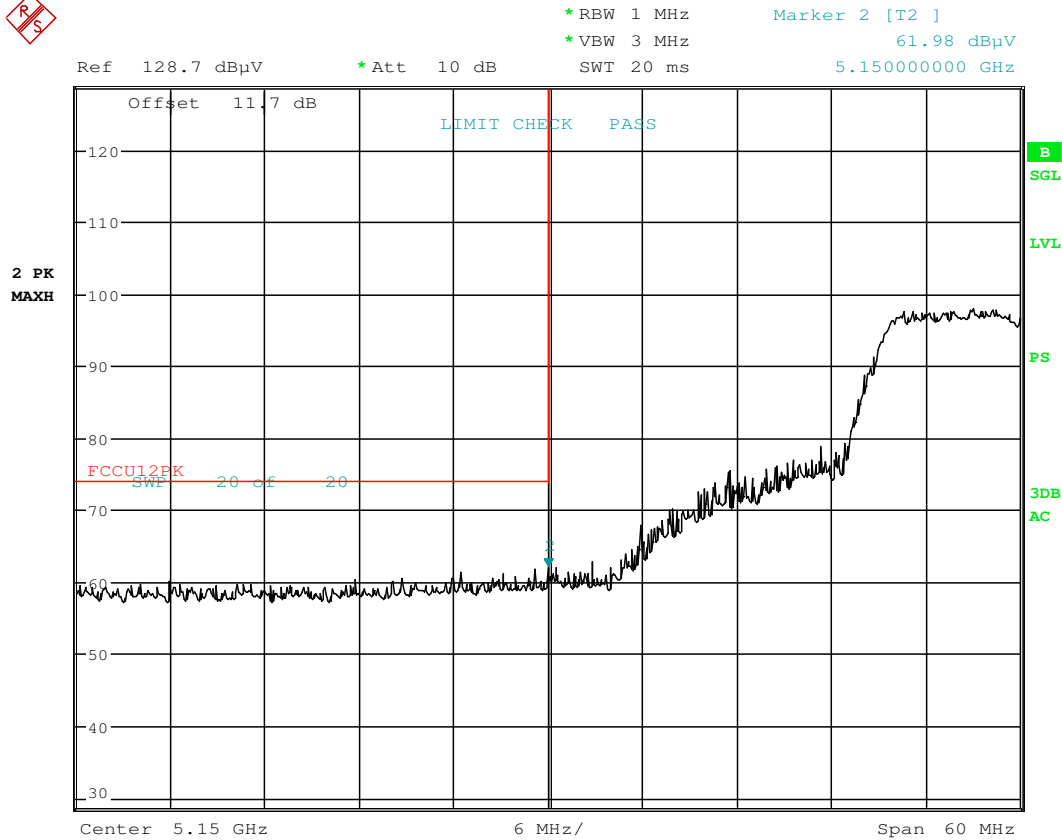
Date: 14.JAN.2017 09:00:37

Plot 7-199. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 158 of 260 |



Antenna-1 Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 14.JAN.2017 09:01:27

Plot 7-200. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 159 of 260 |

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Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

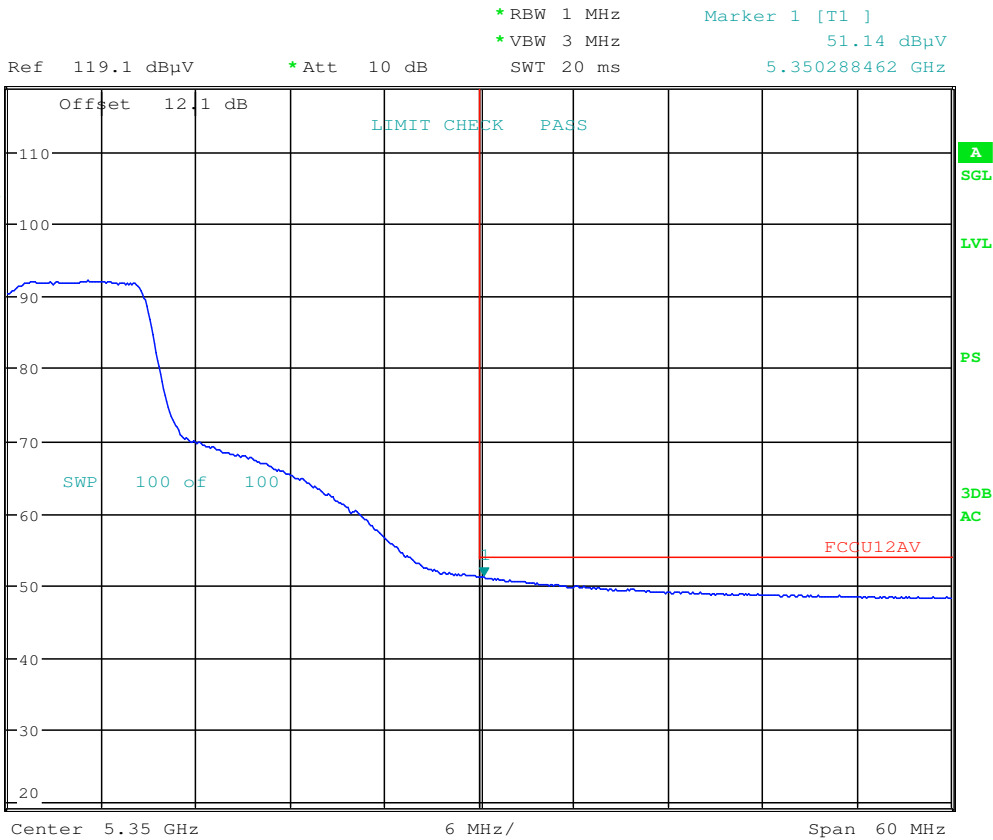
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64



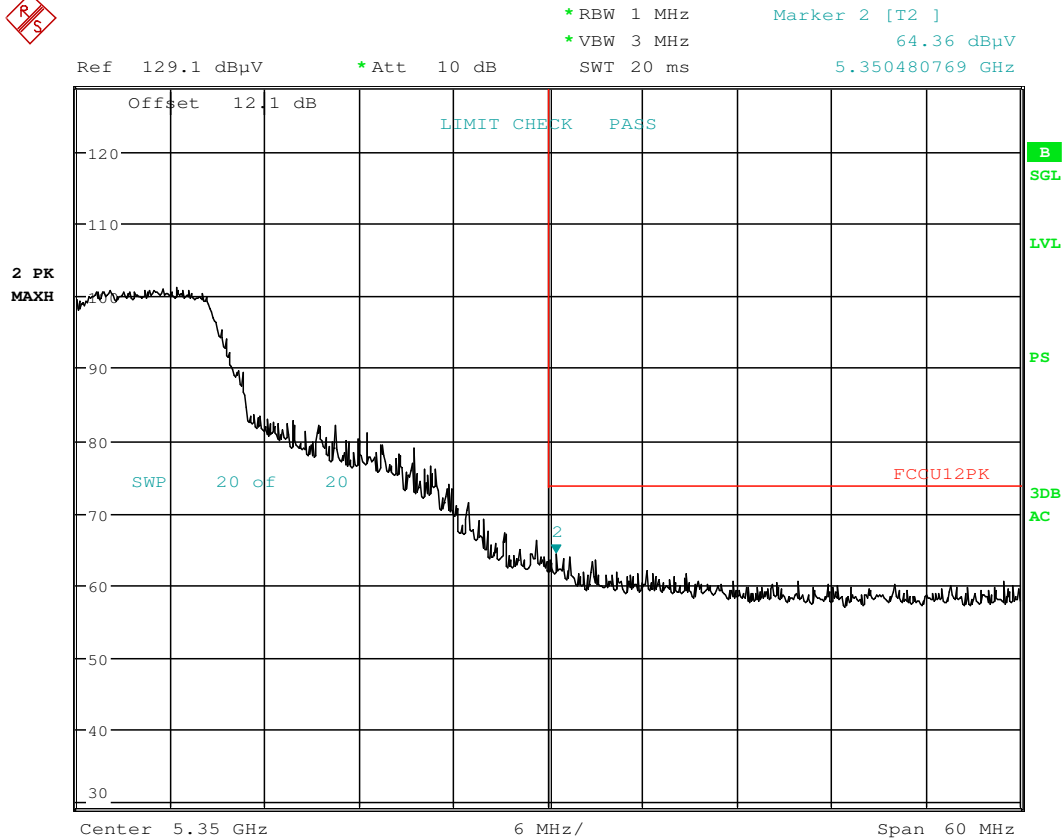
Date: 14.JAN.2017 09:38:26

Plot 7-201. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 160 of 260 |



Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 14.JAN.2017 09:40:02

Plot 7-202. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 161 of 260 |

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Antenna-1 Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

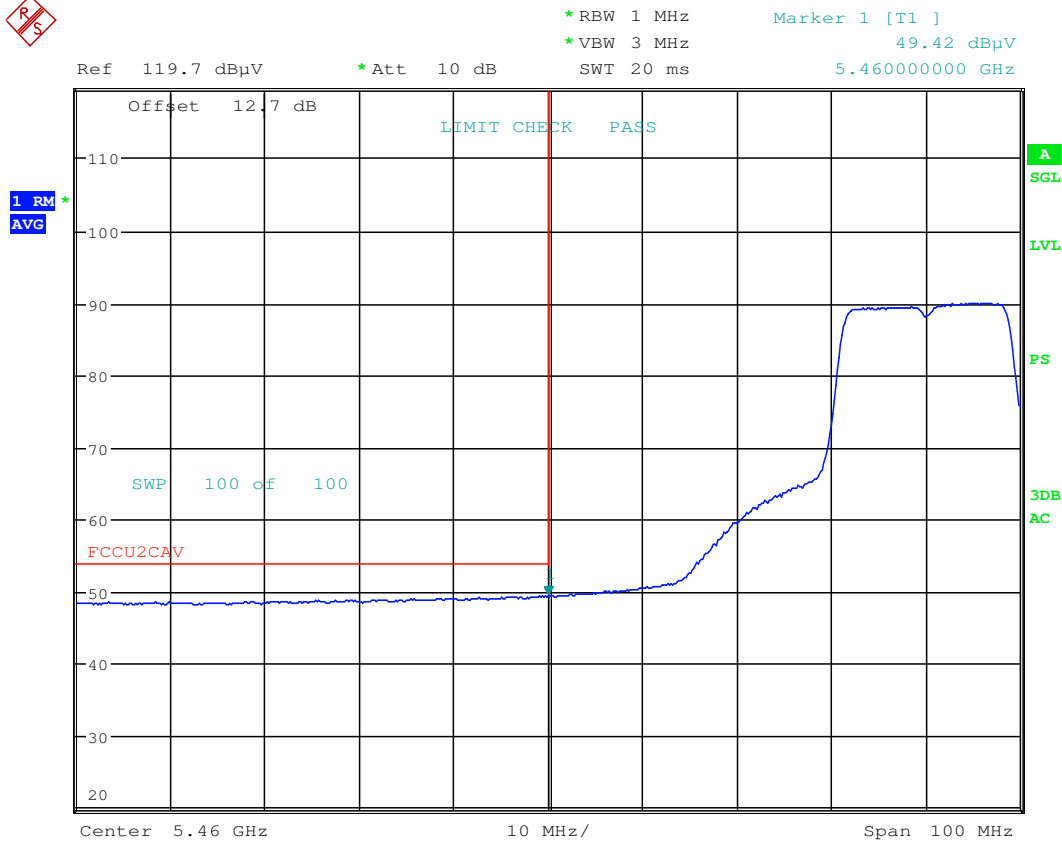
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100



Date: 14.JAN.2017 09:24:59

Plot 7-203. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
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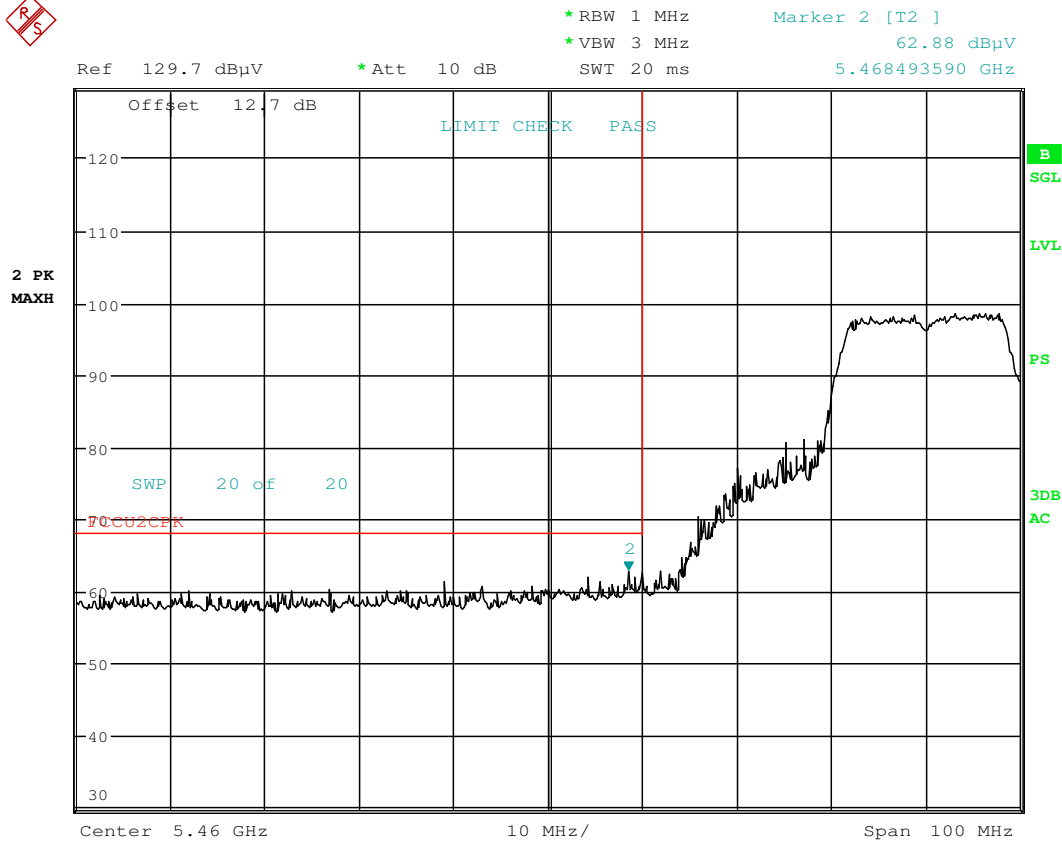
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12/26/2016

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Antenna-1 Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 14.JAN.2017 09:25:28

Plot 7-204. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 163 of 260 |

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Antenna-1 Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209

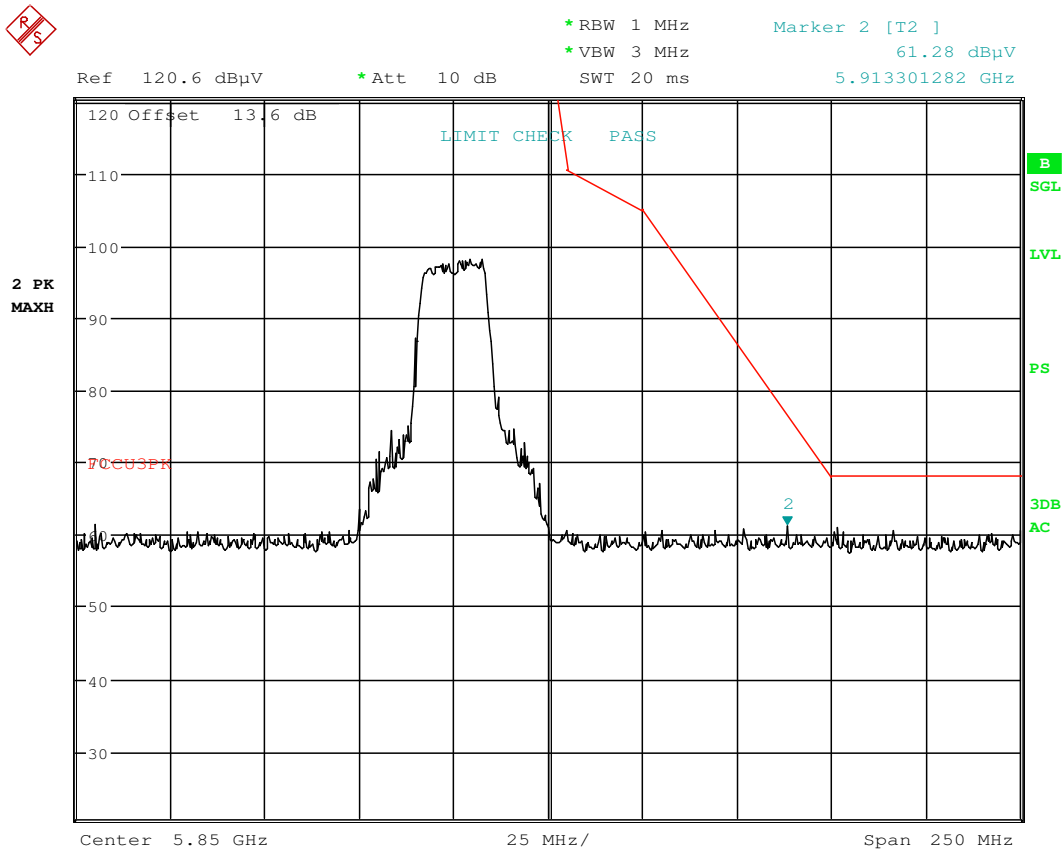
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5825MHz

Channel: 165



Date: 14.JAN.2017 09:29:35

Plot 7-205. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 164 of 260 |

Antenna-1 WCP Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

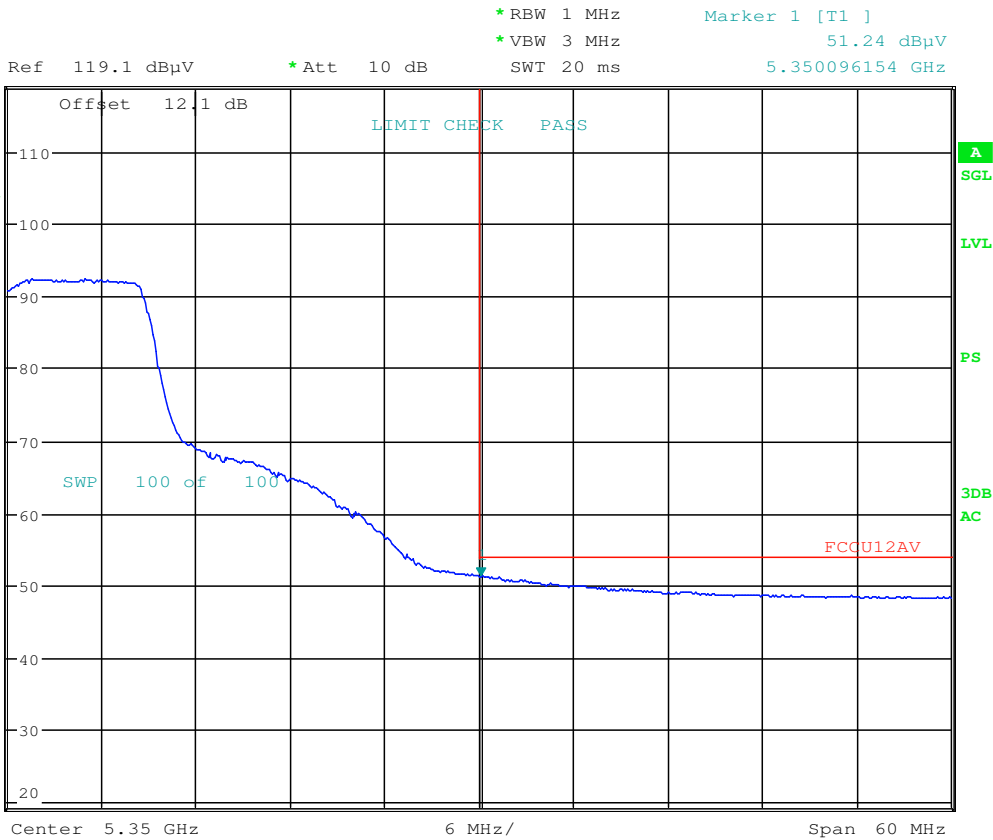
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64



Date: 14.JAN.2017 09:35:42

Plot 7-206. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 165 of 260 |

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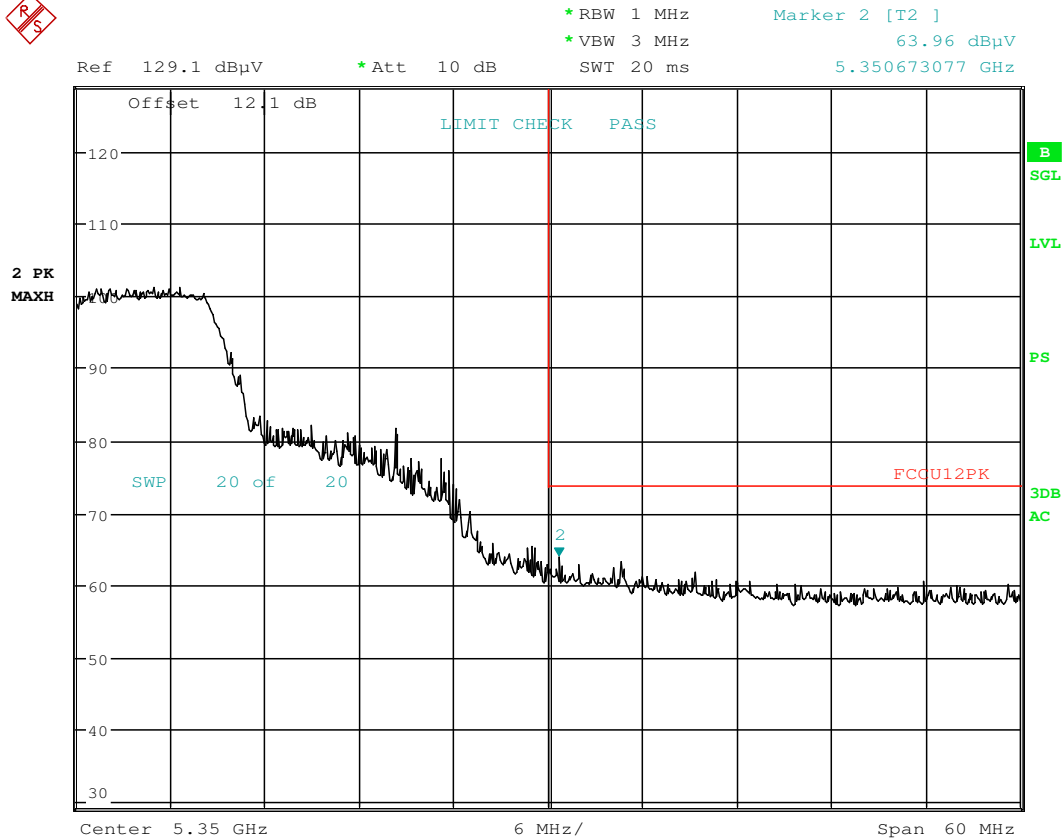
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12/26/2016

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Antenna-1 WCP Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 14.JAN.2017 09:36:15

Plot 7-207. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 166 of 260 |

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7.7.5 Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

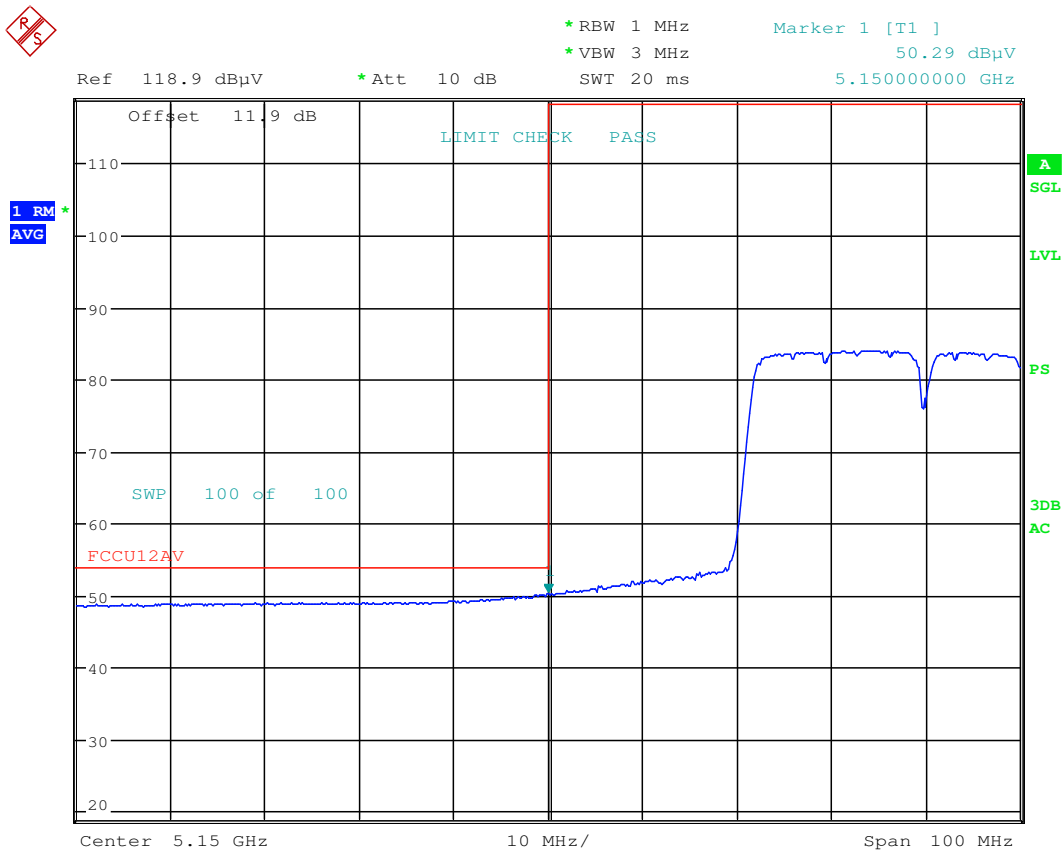
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38



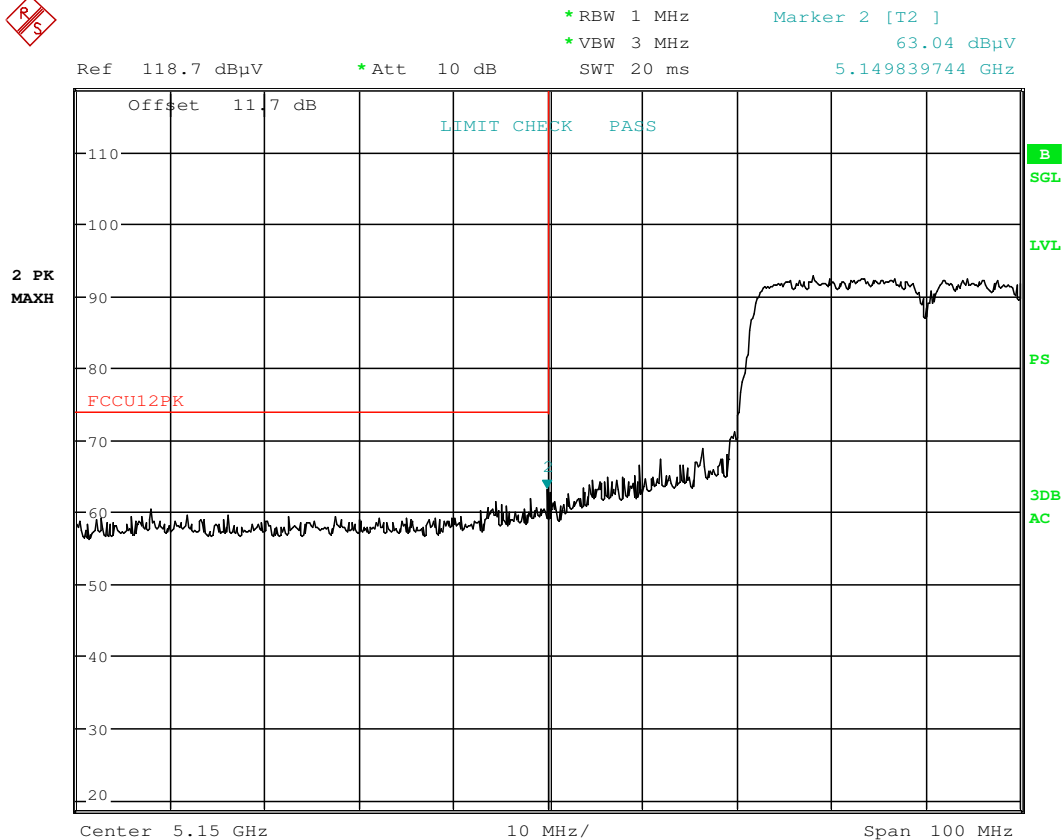
Date: 14.JAN.2017 10:01:27

Plot 7-208. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 167 of 260 |

Antenna-1 Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 14.JAN.2017 10:02:26

Plot 7-209. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

| | | | | |
|---|---|---|--|---------------------------------|
| FCC ID: A3LSMG955F | | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 168 of 260 |

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Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

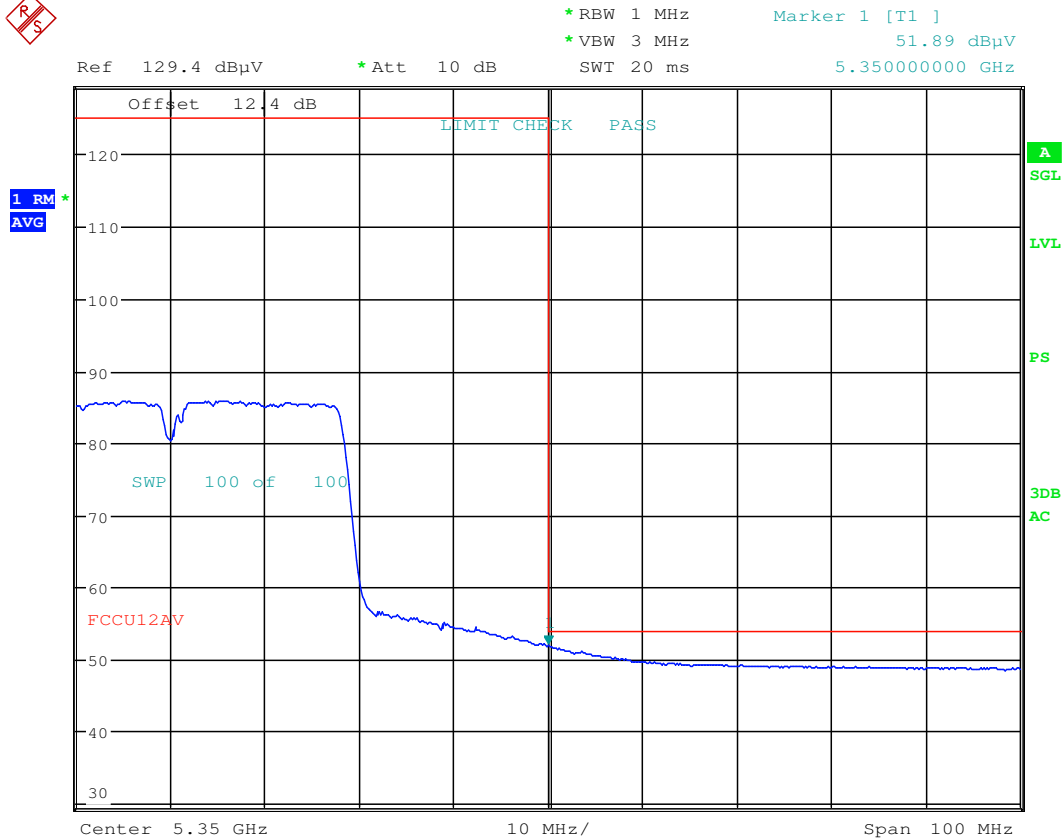
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62



Date: 14.JAN.2017 10:25:45

Plot 7-210. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 169 of 260 |

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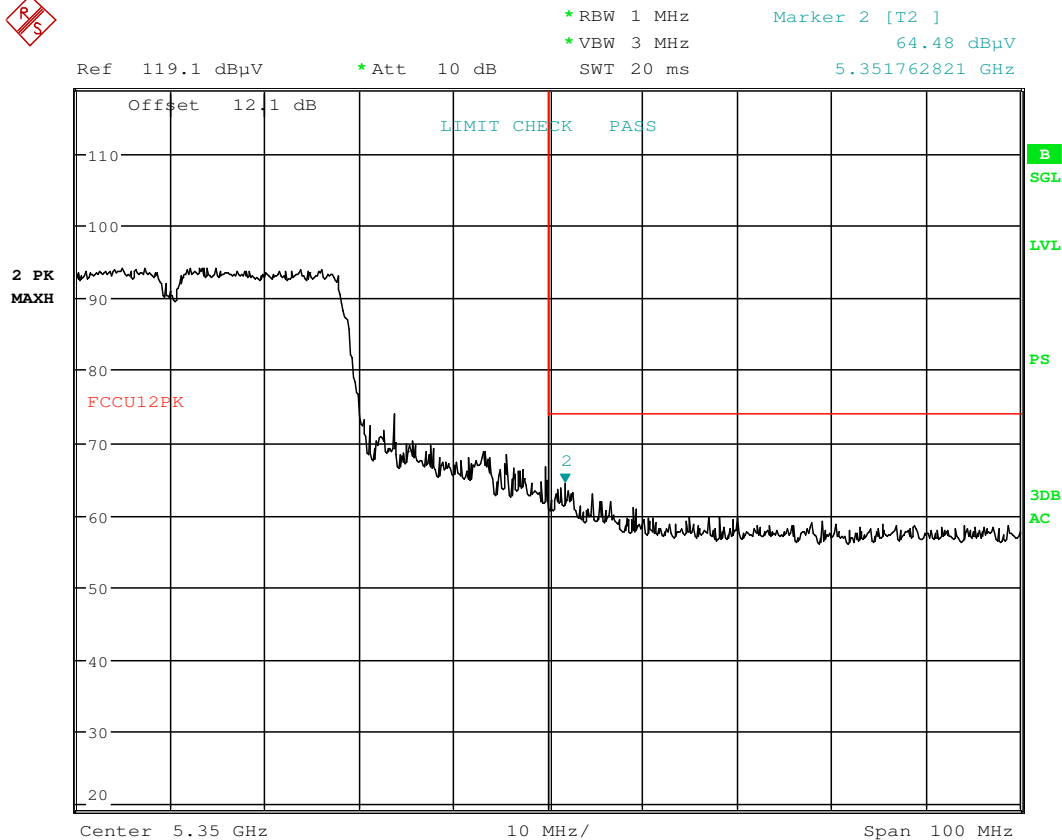
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Antenna-1 Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 14.JAN.2017 10:26:05

Plot 7-211. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 170 of 260 |

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Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

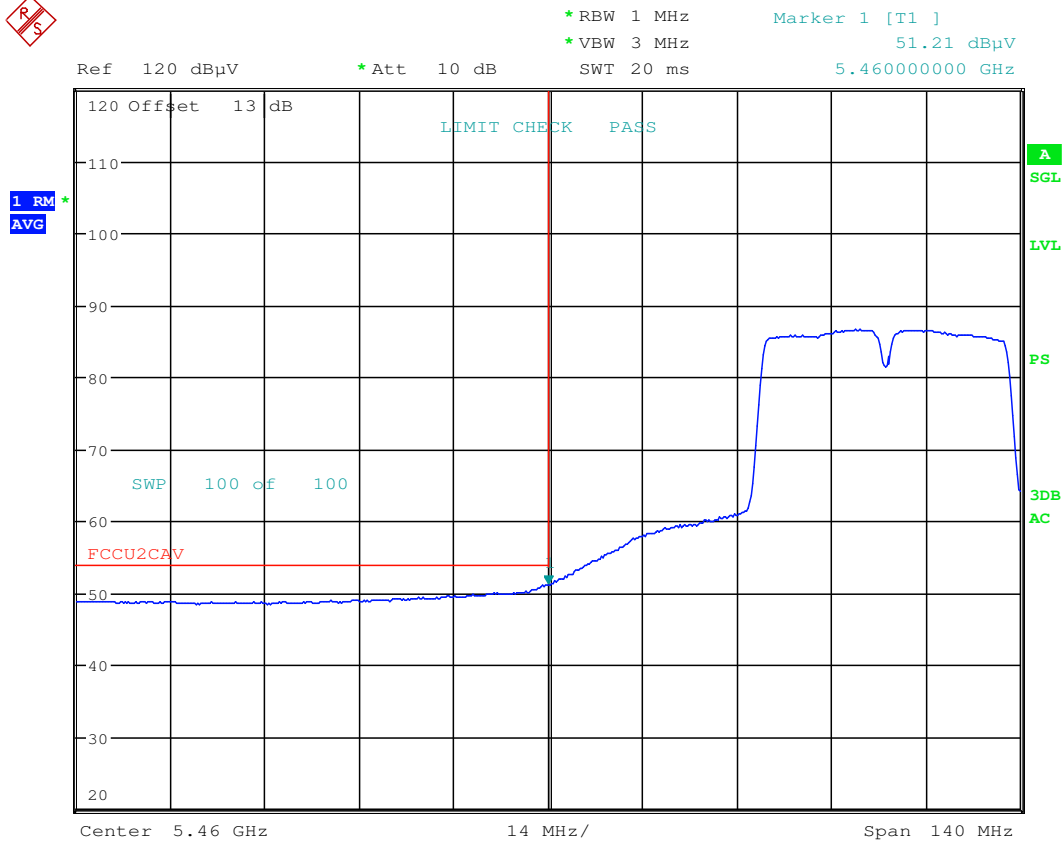
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102



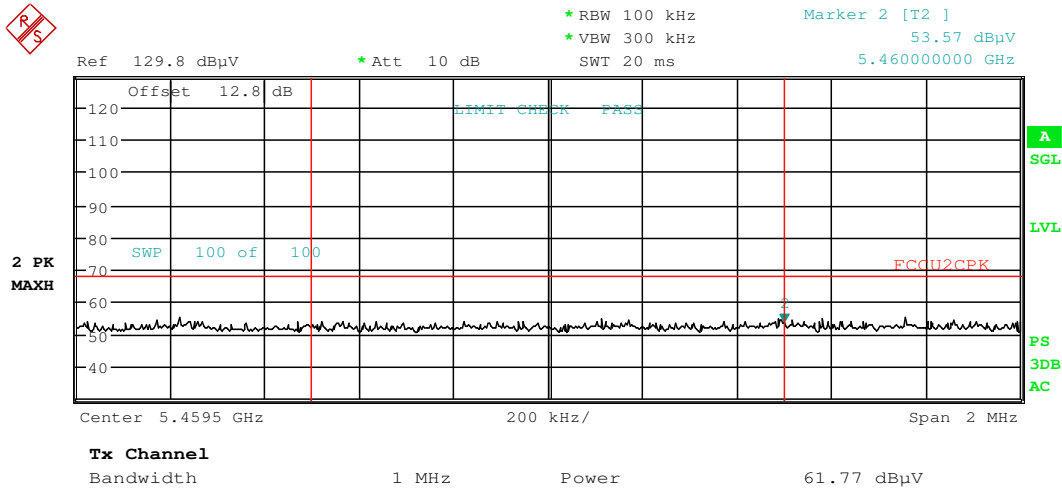
Date: 14.JAN.2017 12:44:49

Plot 7-212. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 171 of 260 |

Antenna-1 Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 14.JAN.2017 12:59:29

Plot 7-213. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

| | | | | |
|---|---|--|--|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 172 of 260 |

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Antenna-1 Radiated Band Edge Measurements (40MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

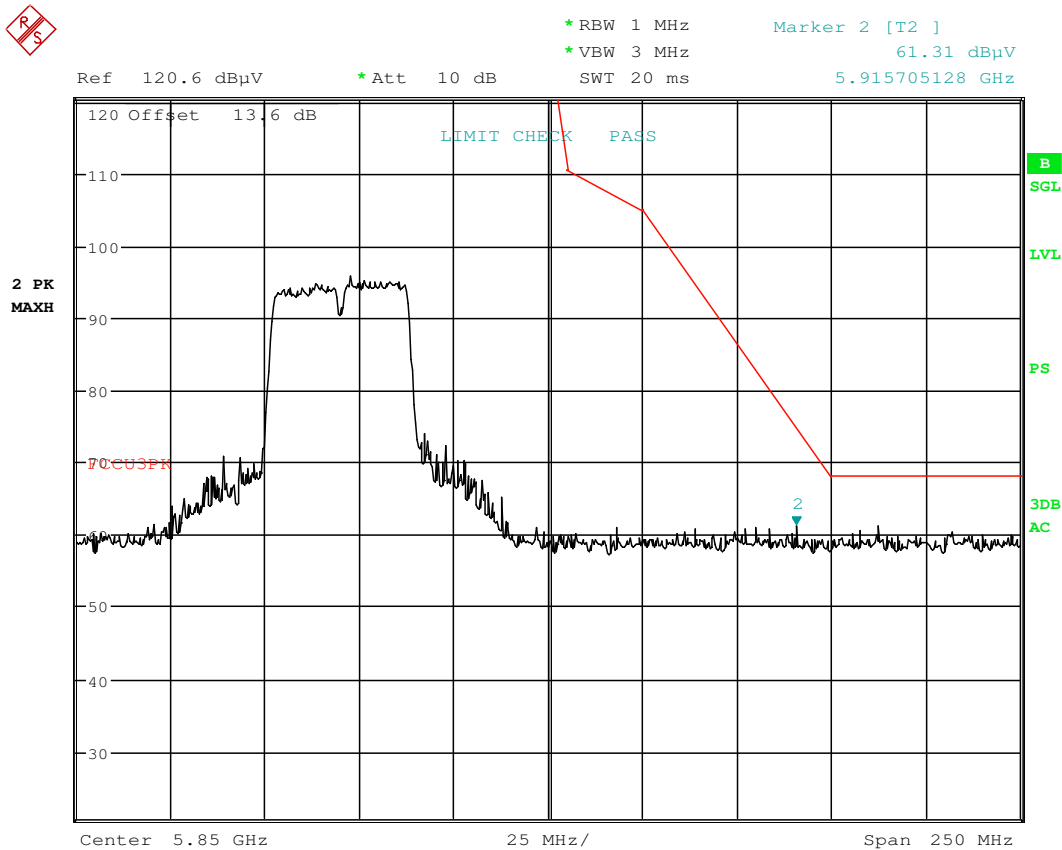
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5795MHz

Channel: 159



Date: 14.JAN.2017 13:06:59

Plot 7-214. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 173 of 260 |

Antenna-1 WCP Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

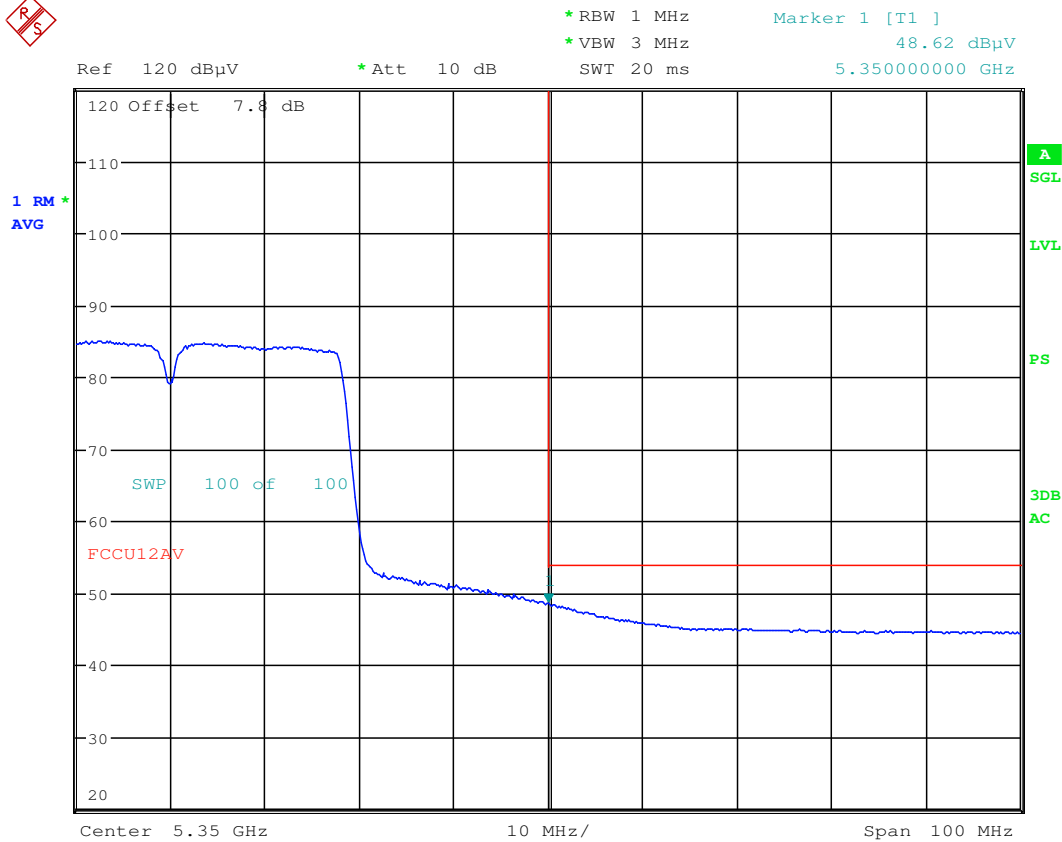
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62



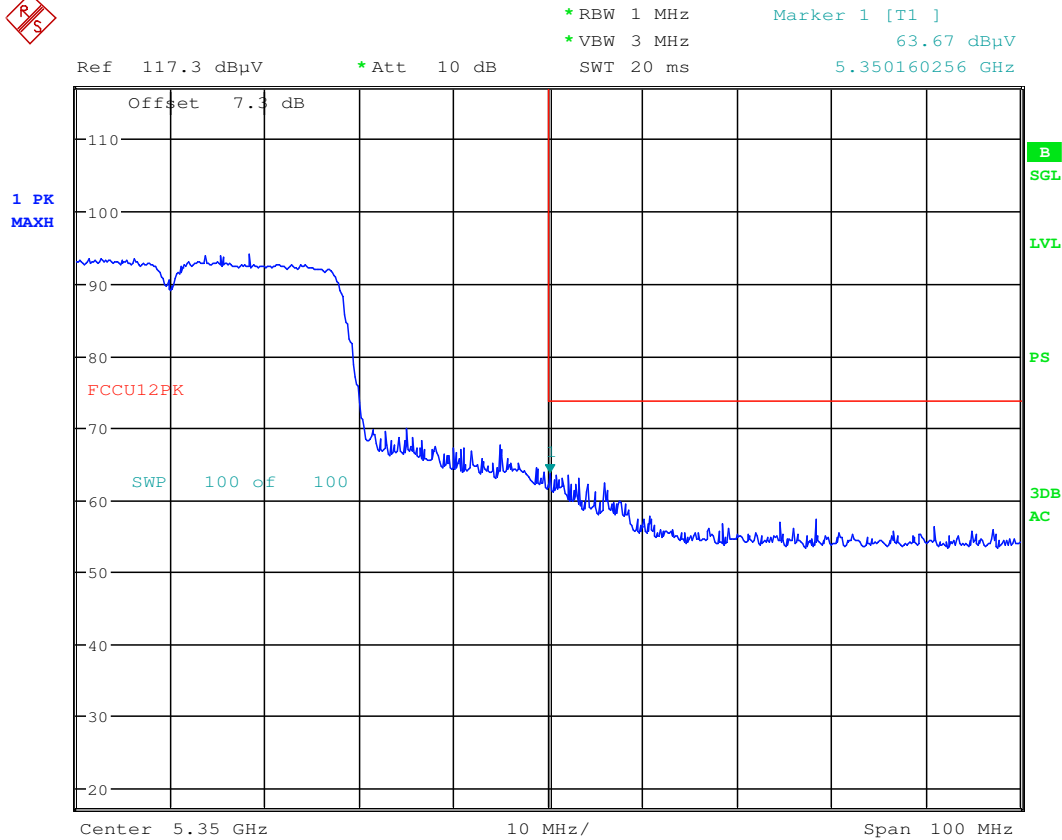
Date: 24.JAN.2017 12:58:19

Plot 7-215. Radiated Restricted Band Edge Plot with WCP

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 174 of 260 |



Antenna-1 WCP Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 24.JAN.2017 13:00:17

Plot 7-216. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 175 of 260 |

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7.7.6 Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

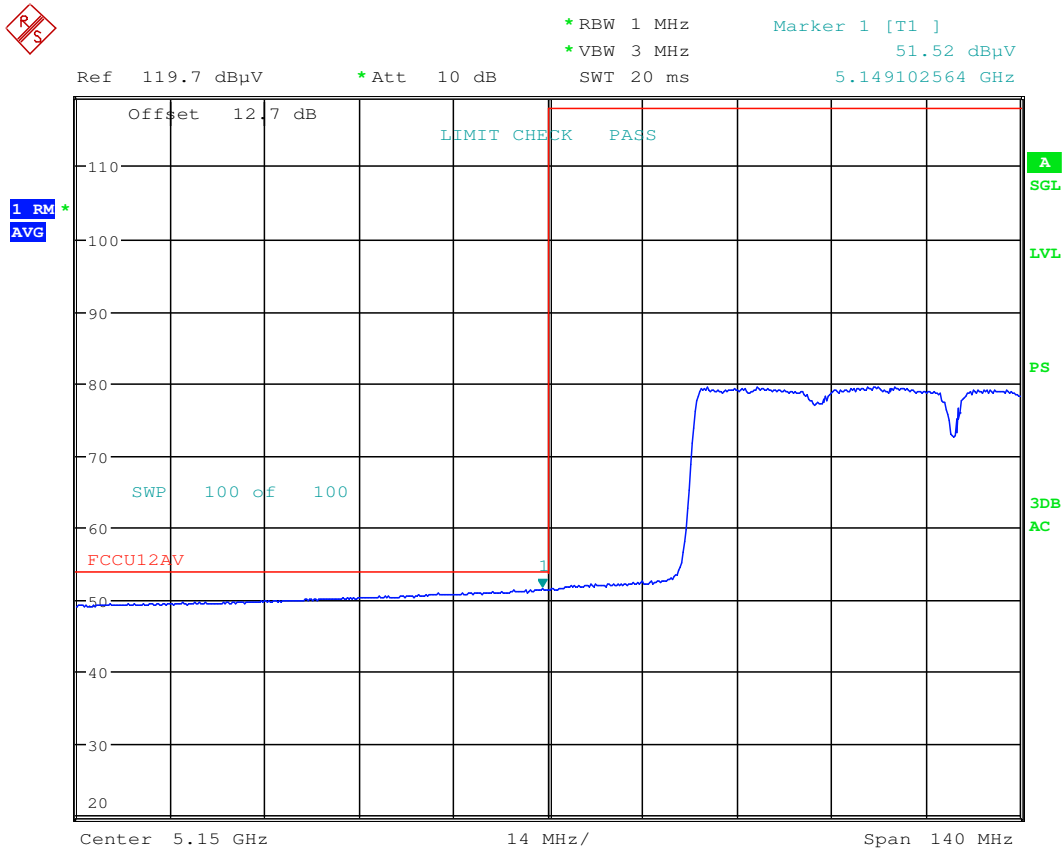
Worst Case Mode: 802.11n (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5210MHz

Channel: 42



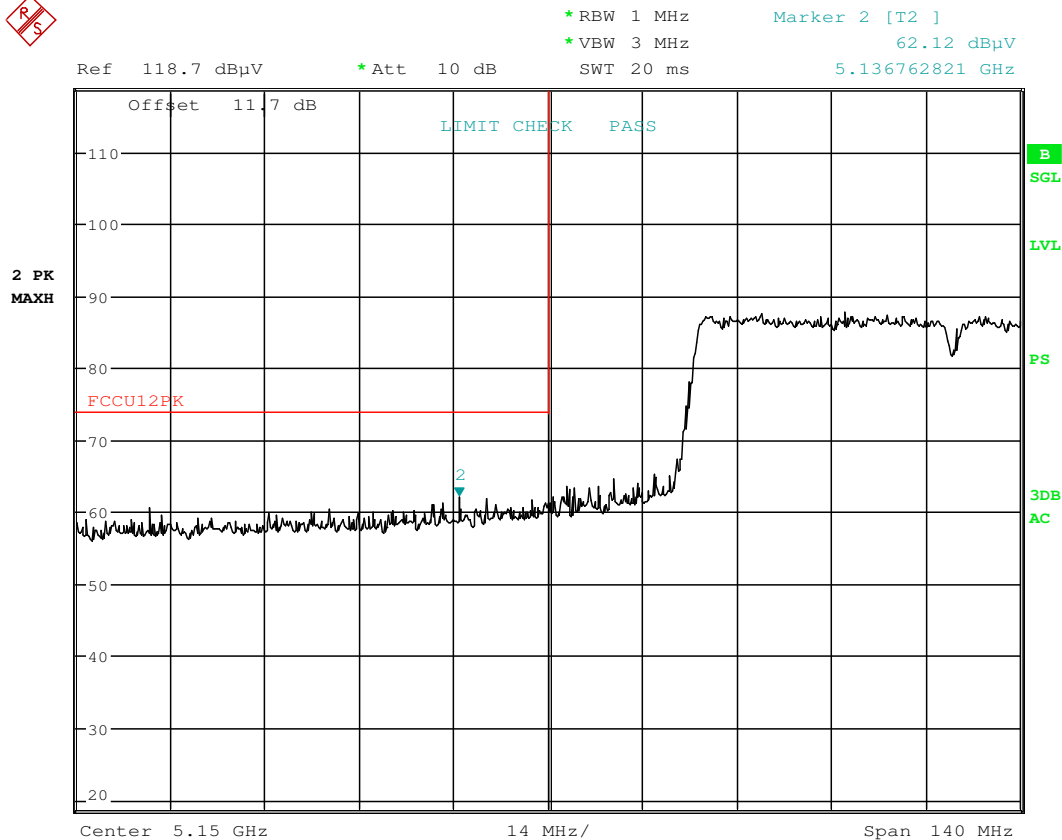
Date: 14.JAN.2017 11:39:38

Plot 7-217. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 176 of 260 |



Antenna-1 Radiated Band Edge Measurements (80MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 14.JAN.2017 11:39:54

Plot 7-218. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 177 of 260 | |

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Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

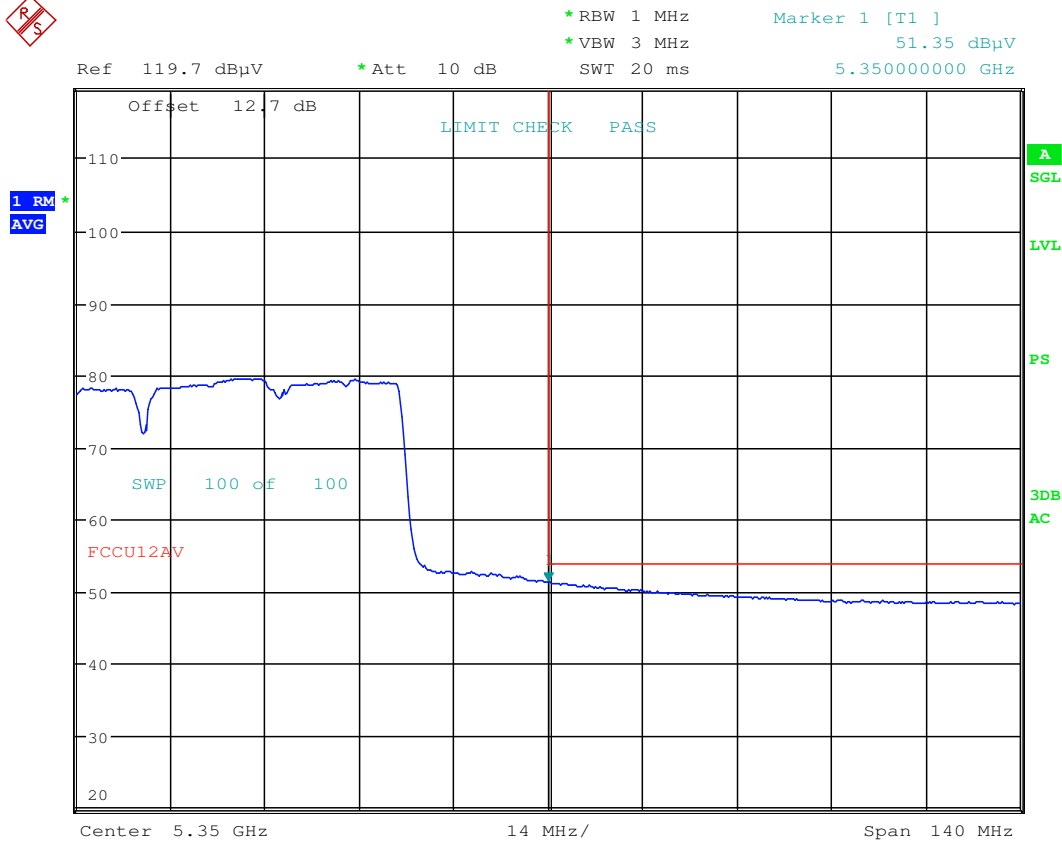
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58



Date: 14.JAN.2017 11:54:40

Plot 7-219. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 178 of 260 |

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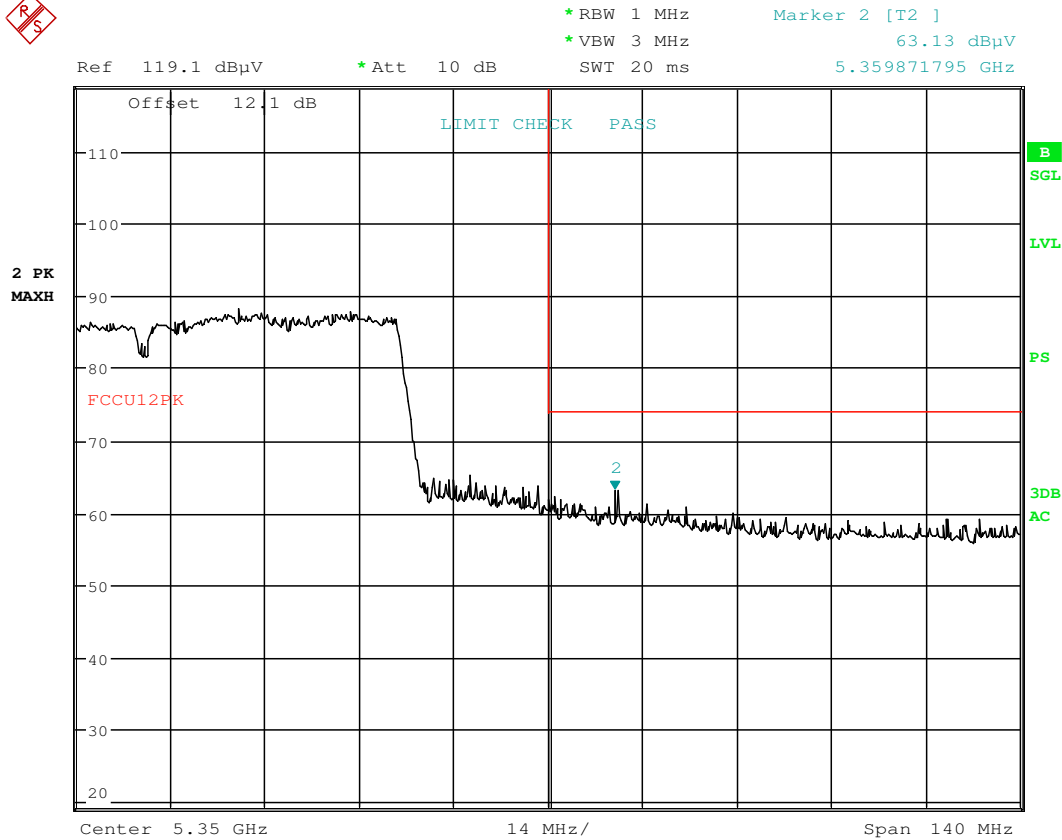
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Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 14.JAN.2017 11:55:56

Plot 7-220. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 179 of 260 |

Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

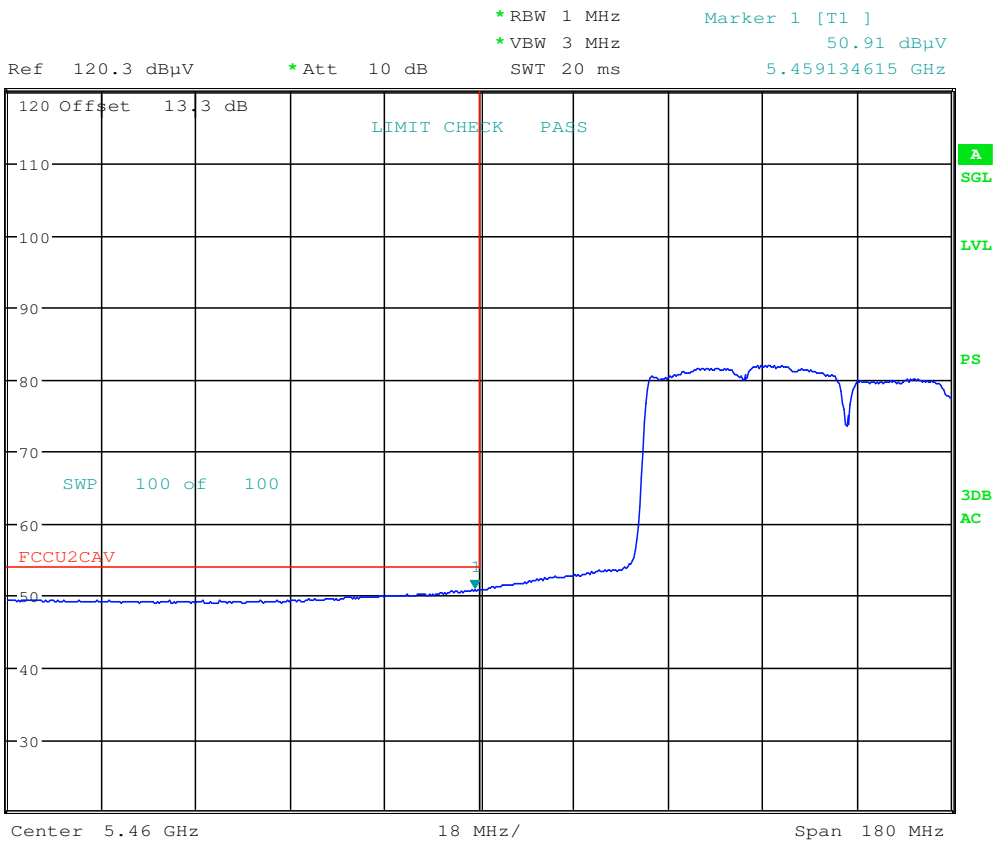
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5530MHz

Channel: 106



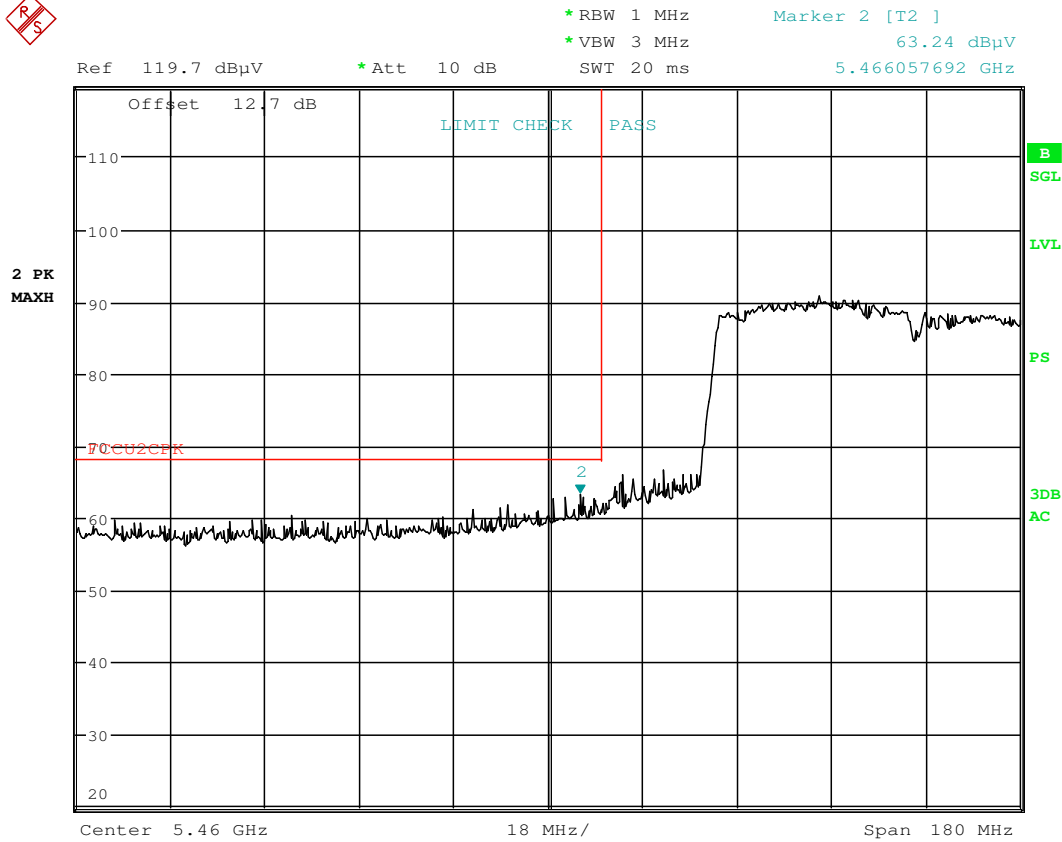
Date: 14.JAN.2017 12:02:23

Plot 7-221. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 180 of 260 |



Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 14.JAN.2017 12:02:45

Plot 7-222. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 181 of 260 |

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Antenna-1 Radiated Band Edge Measurements (80MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

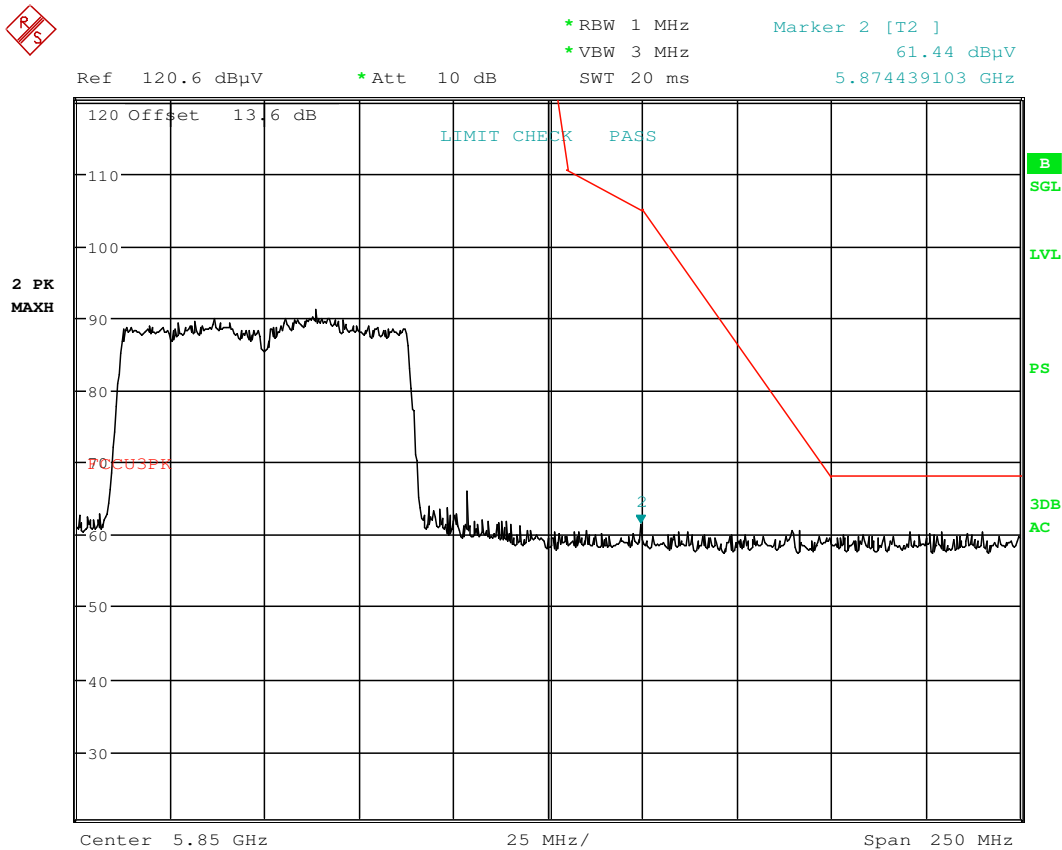
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5775MHz

Channel: 155



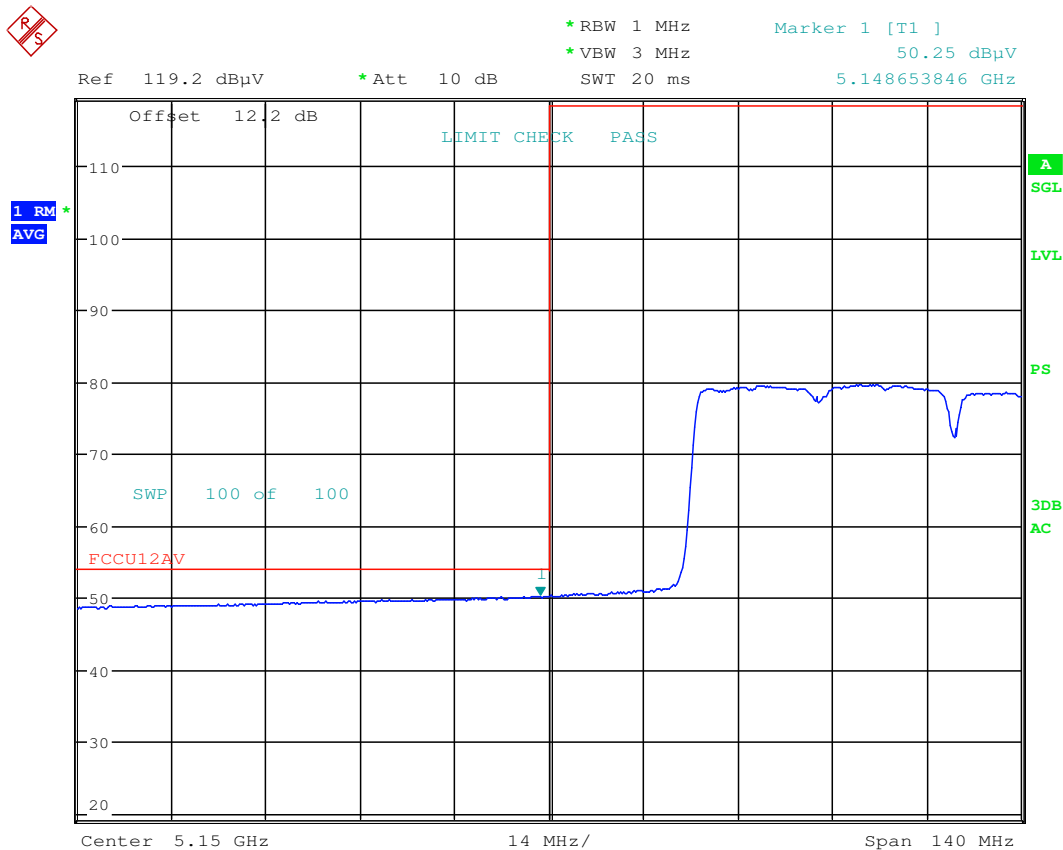
Date: 14.JAN.2017 12:14:57

Plot 7-223. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 182 of 260 |



Antenna-1 WCP Radiated Band Edge Measurements (80MHz BW)
§15.407(b.1)(b.2) §15.205 §15.209

| | |
|---------------------------|-----------------|
| Worst Case Mode: | <u>802.11a</u> |
| Worst Case Transfer Rate: | <u>6 Mbps</u> |
| Distance of Measurements: | <u>3 Meters</u> |
| Operating Frequency: | <u>5210MHz</u> |
| Channel: | <u>42</u> |

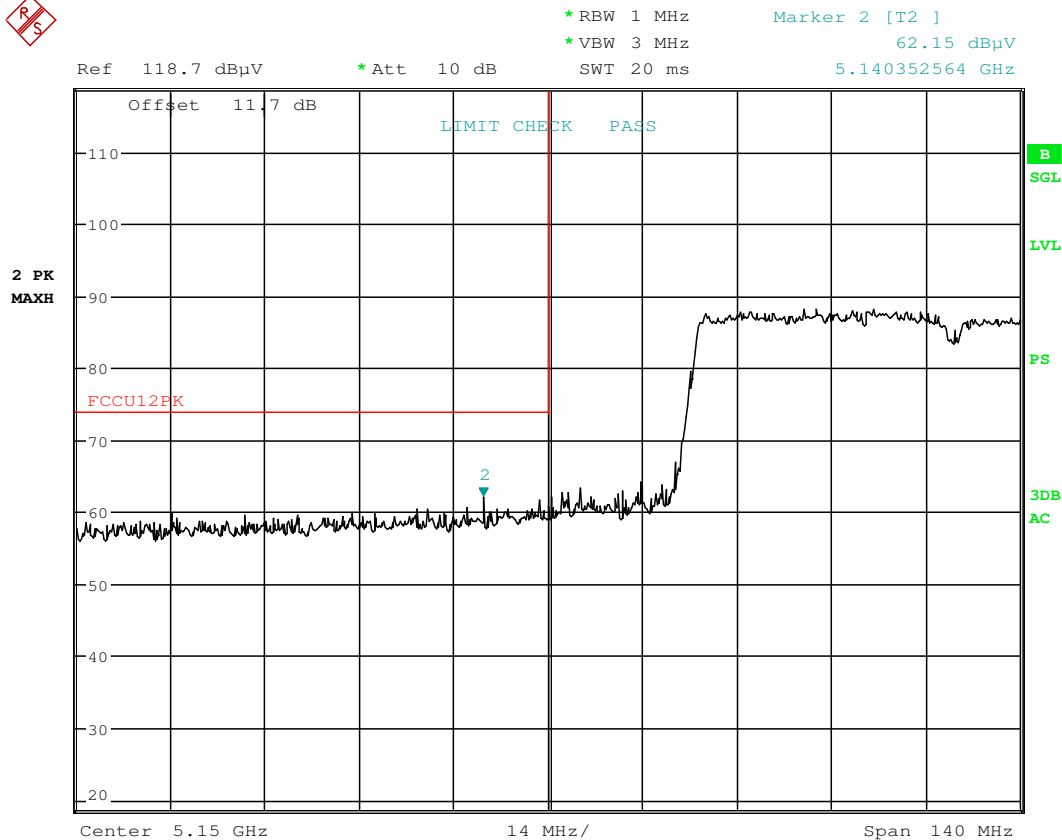


Date: 14.JAN.2017 12:20:05

Plot 7-224. Radiated Restricted Band Edge Plot with WCP



| | | | |
|--|--|--------------------------------------|--|
| FCC ID: A3LSMG955F |  FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)  | | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 183 of 260 |

Antenna-1 WCP Radiated Band Edge Measurements (80MHz BW) §15.407(b.1)(b.2) §15.205 §15.209



Date: 14.JAN.2017 12:20:23

Plot 7-225. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 184 of 260 |

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7.7.7 Antenna-2 Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

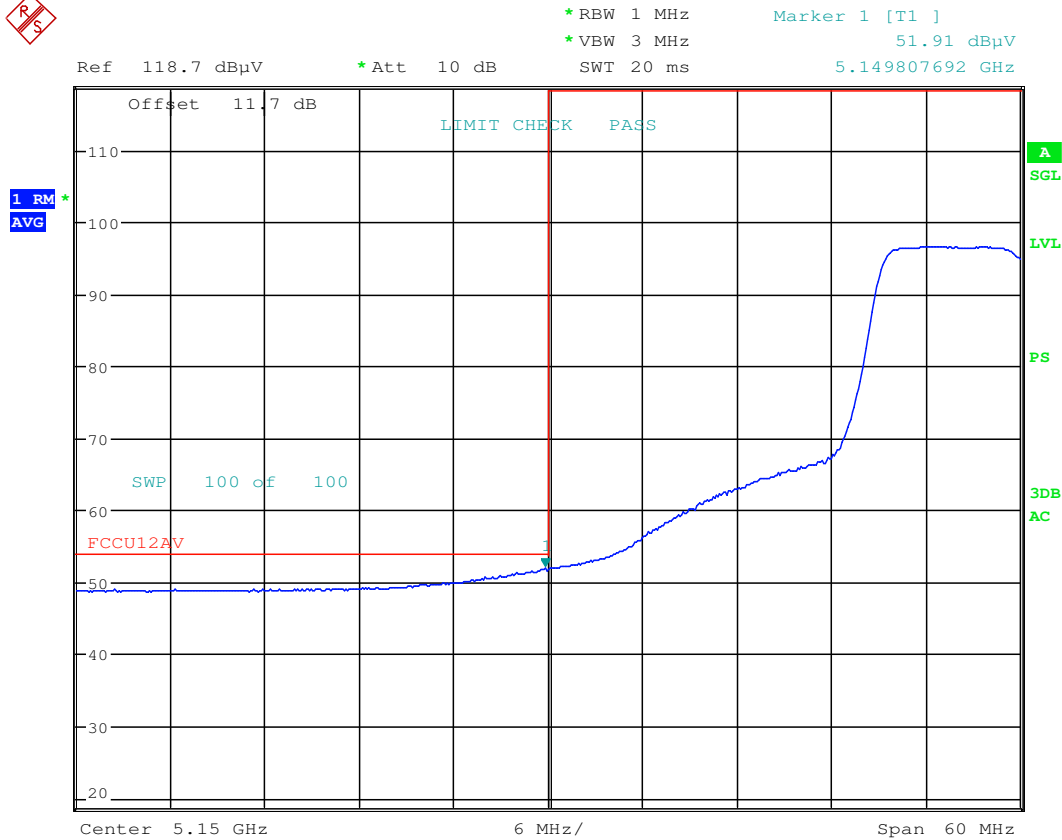
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36



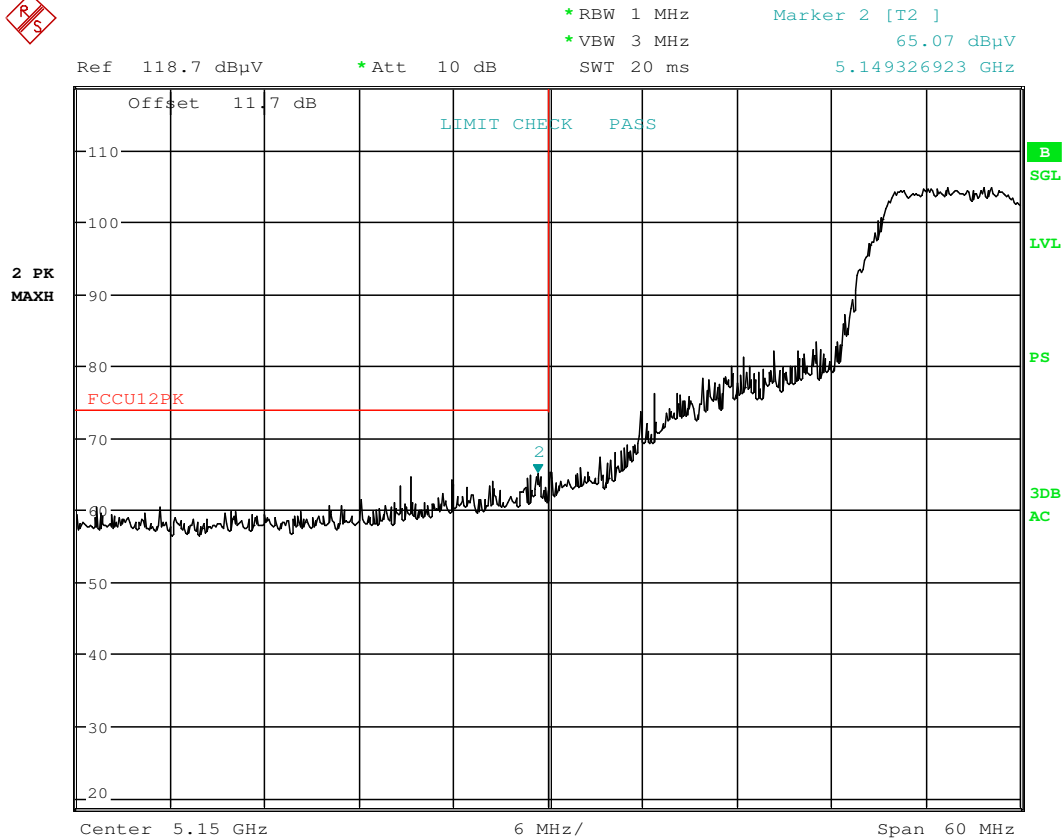
Date: 14.JAN.2017 14:28:24

Plot 7-226. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 185 of 260 |



Antenna-2 Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 14.JAN.2017 14:06:46

Plot 7-227. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 186 of 260 |

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Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

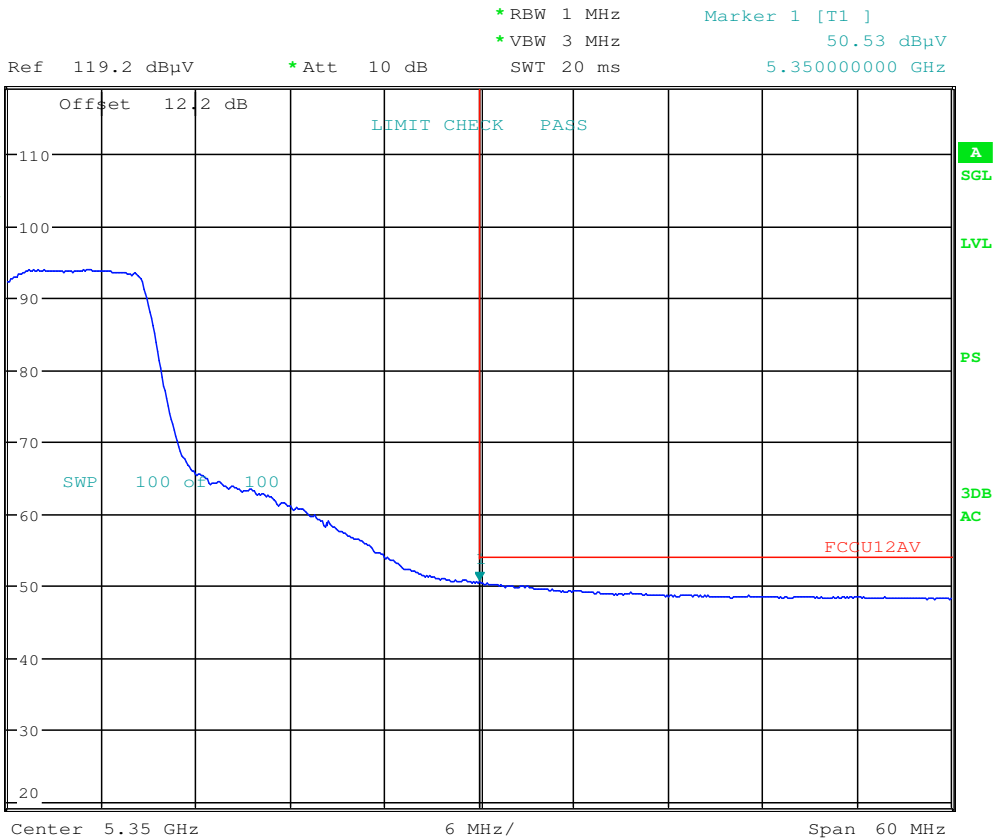
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64



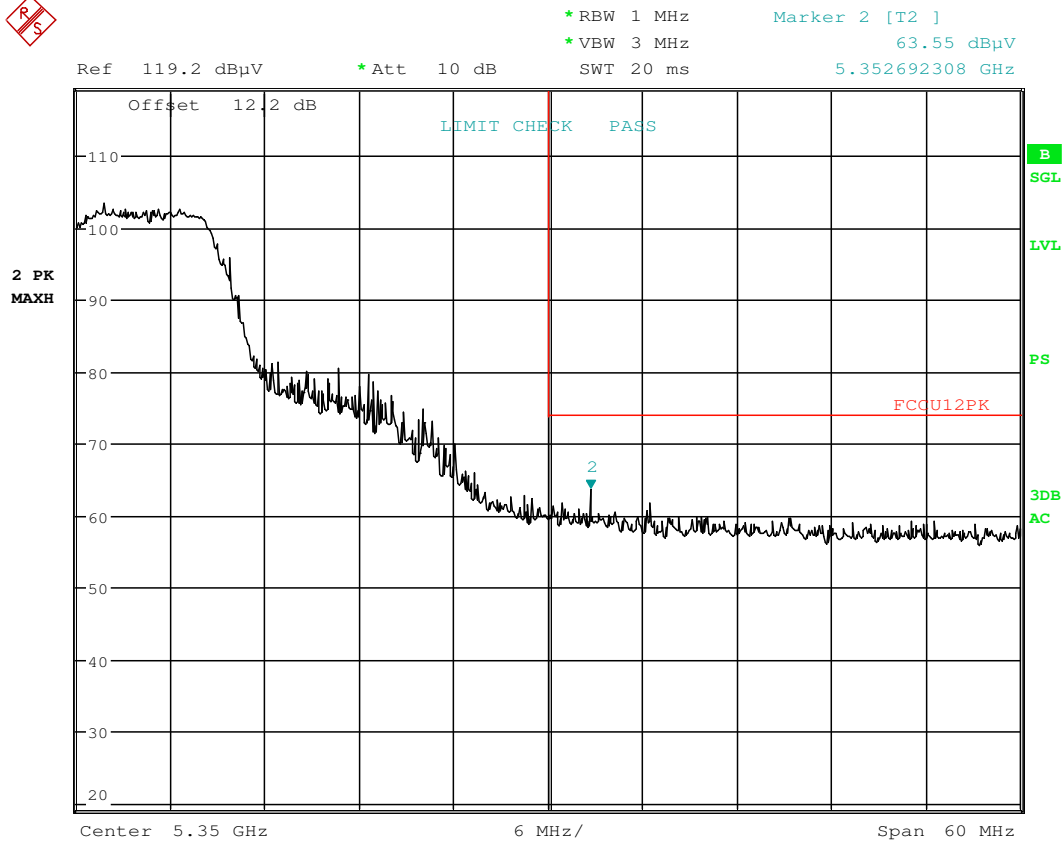
Date: 14.JAN.2017 13:31:35

Plot 7-228. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 187 of 260 |

Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 14.JAN.2017 13:31:47

Plot 7-229. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 188 of 260 |

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Antenna-2 Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

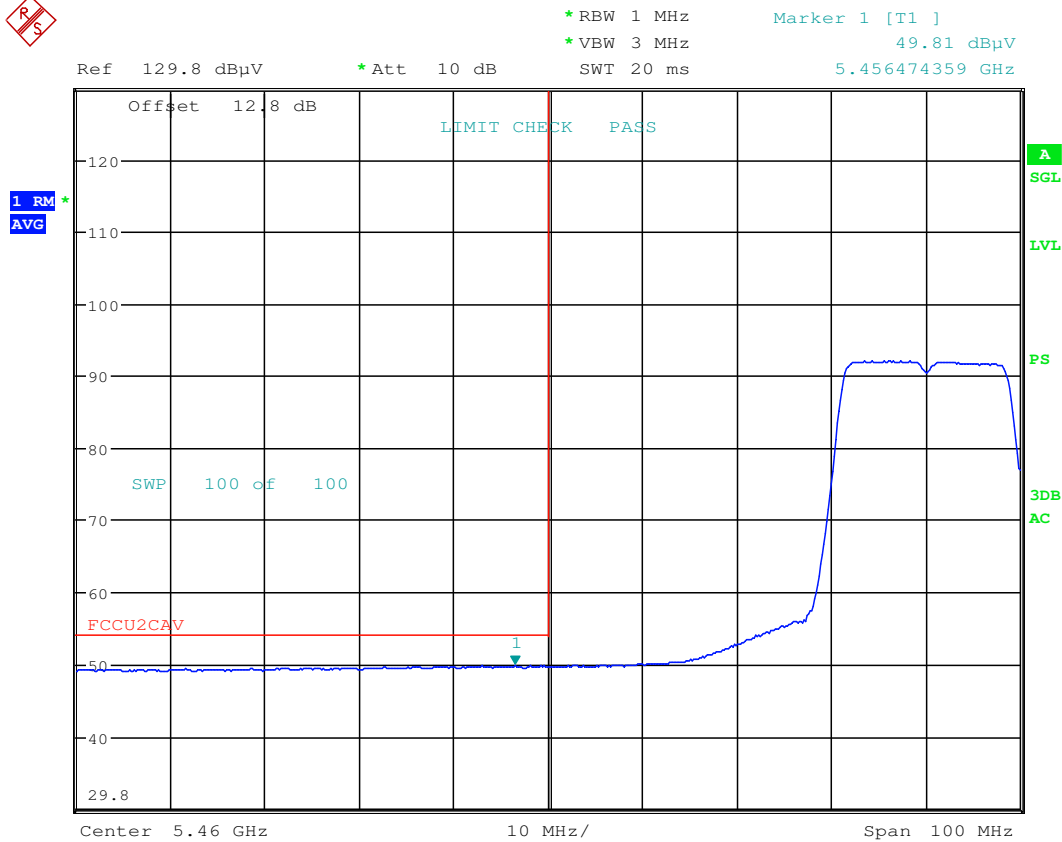
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100



Date: 14.JAN.2017 13:39:29

Plot 7-230. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 189 of 260 |

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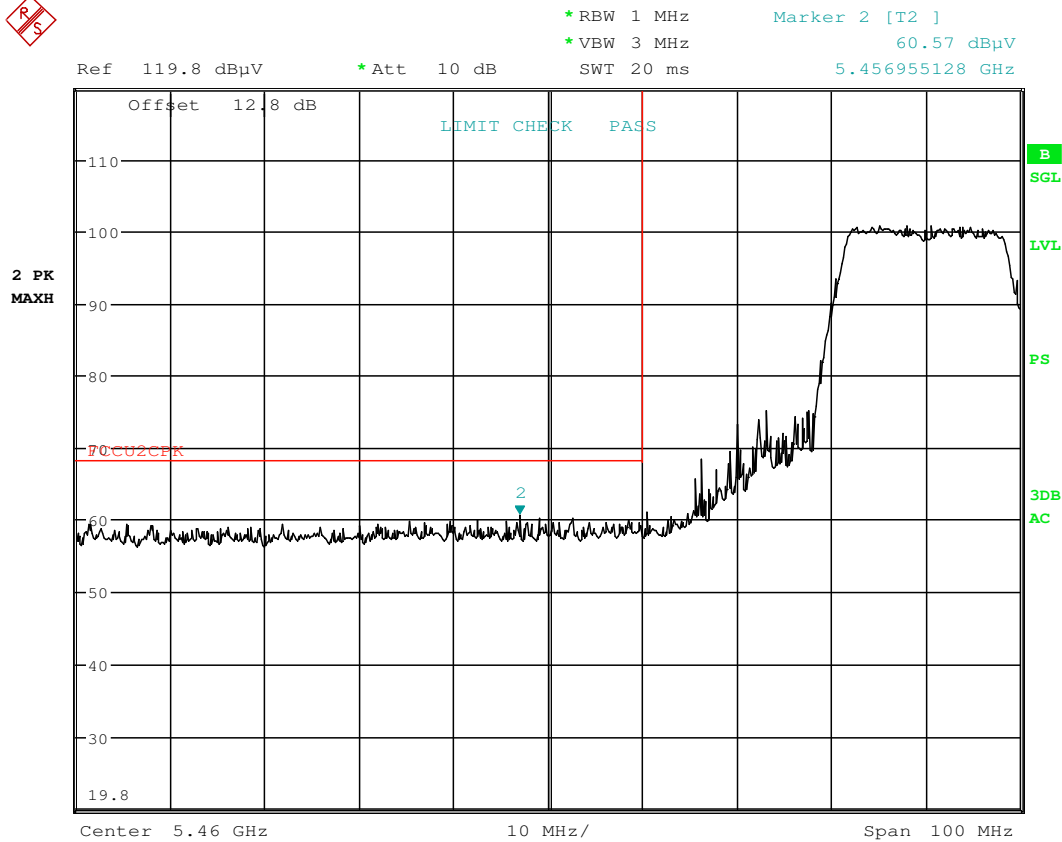
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12/26/2016

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Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 14.JAN.2017 13:39:56

Plot 7-231. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 190 of 260 | |

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Antenna-2 Radiated Band Edge Measurements (20MHz BW) **§15.407(b.1)(b.2) §15.205 §15.209**

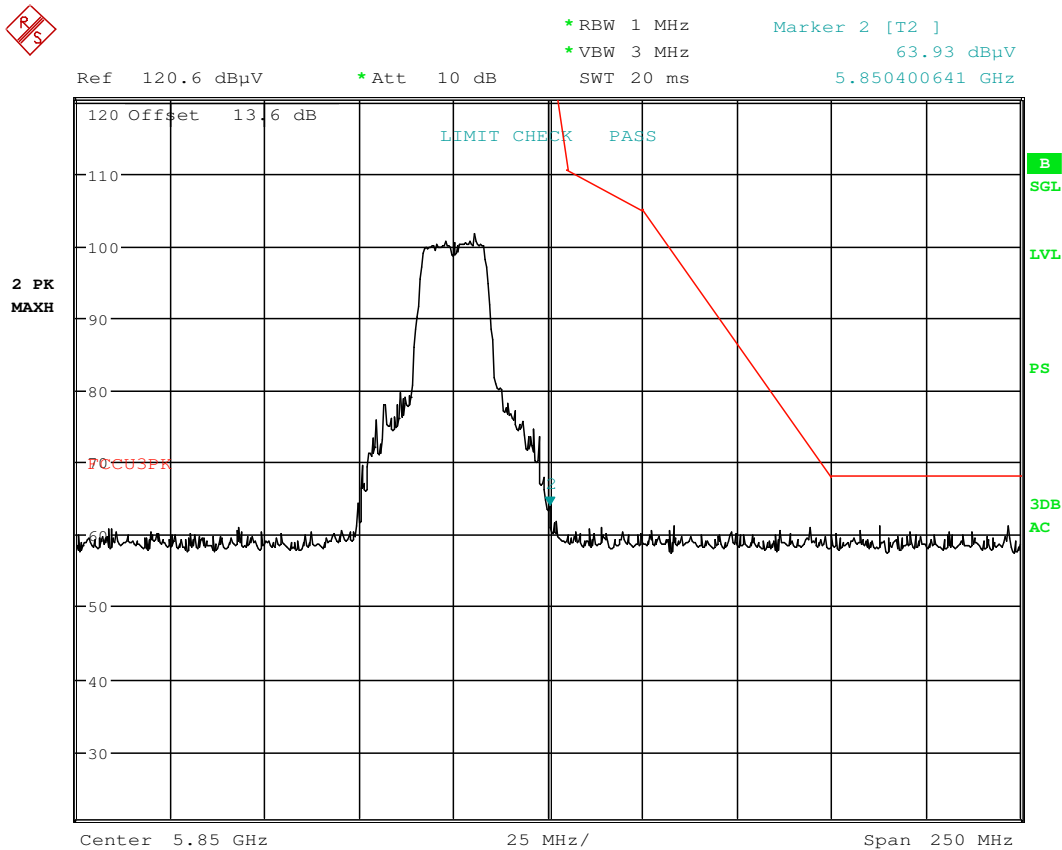
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5825MHz

Channel: 165



Date: 14.JAN.2017 13:44:17

Plot 7-232. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 191 of 260 |

Antenna-2 WCP Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

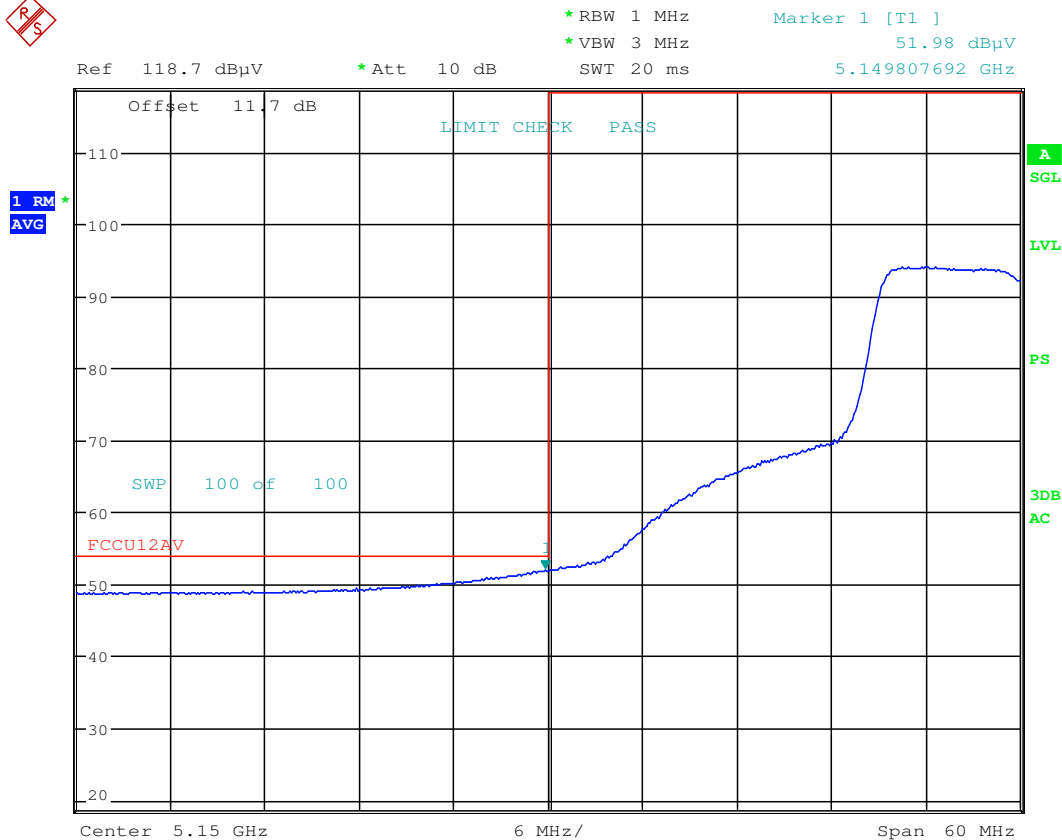
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36



Date: 14.JAN.2017 13:49:32

Plot 7-233. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 192 of 260 |

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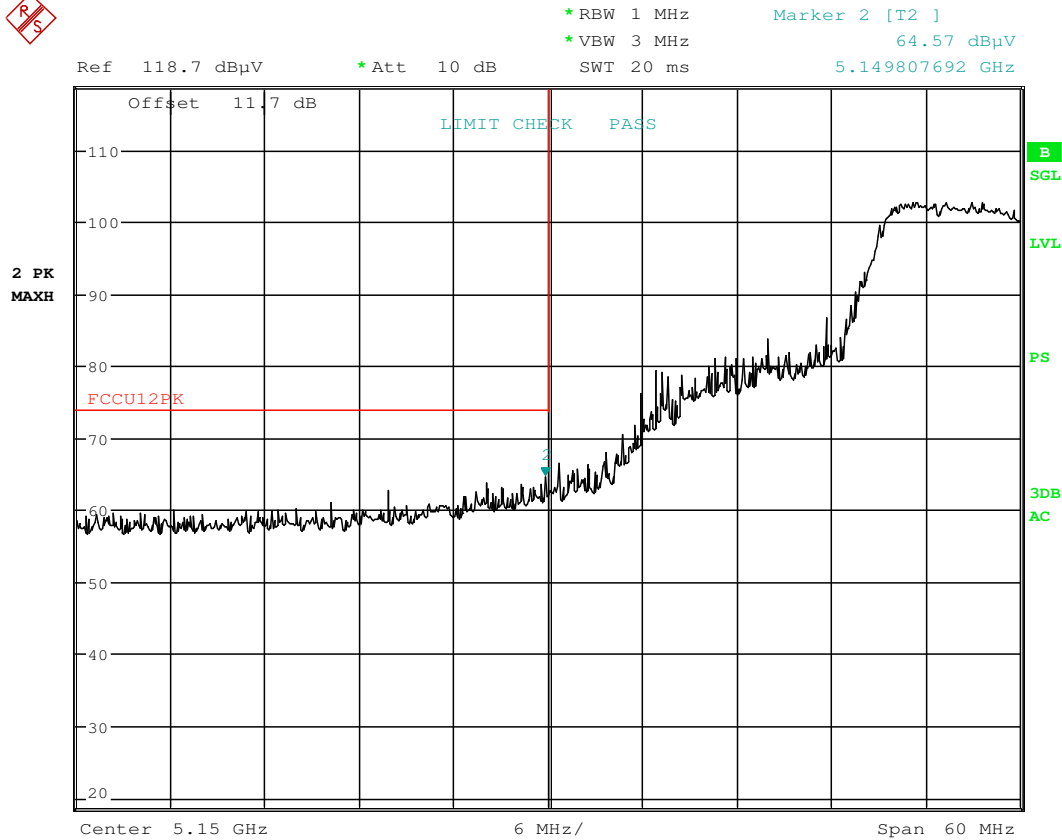
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12/26/2016

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Antenna-2 WCP Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 14.JAN.2017 13:49:49

Plot 7-234. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 193 of 260 |

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7.7.8 Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

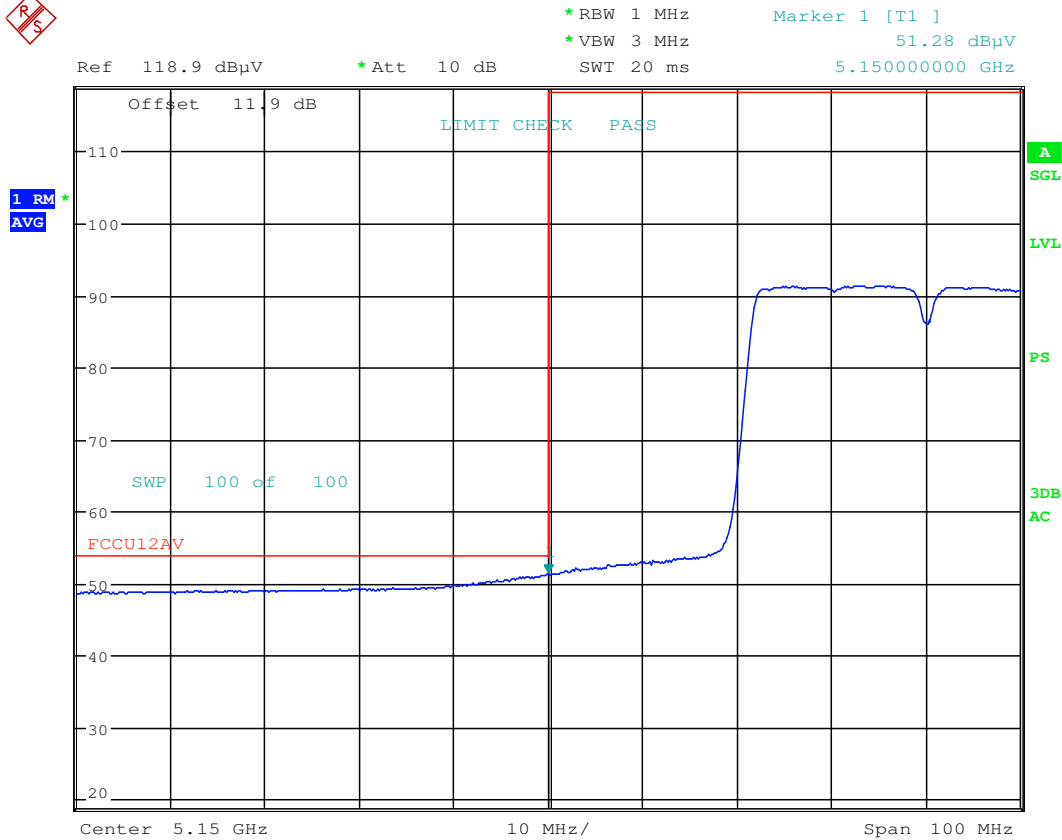
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38



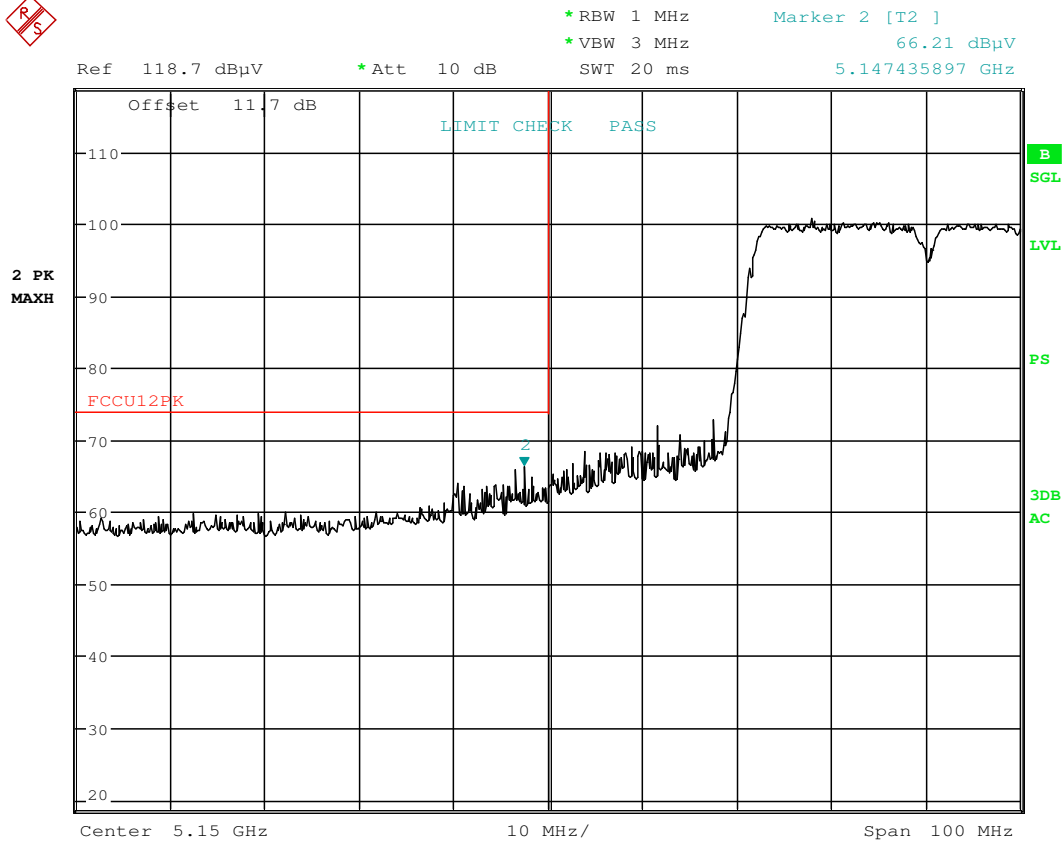
Date: 15.JAN.2017 11:33:08

Plot 7-235. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 194 of 260 |



Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 15.JAN.2017 11:58:10

Plot 7-236. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 195 of 260 |

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Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

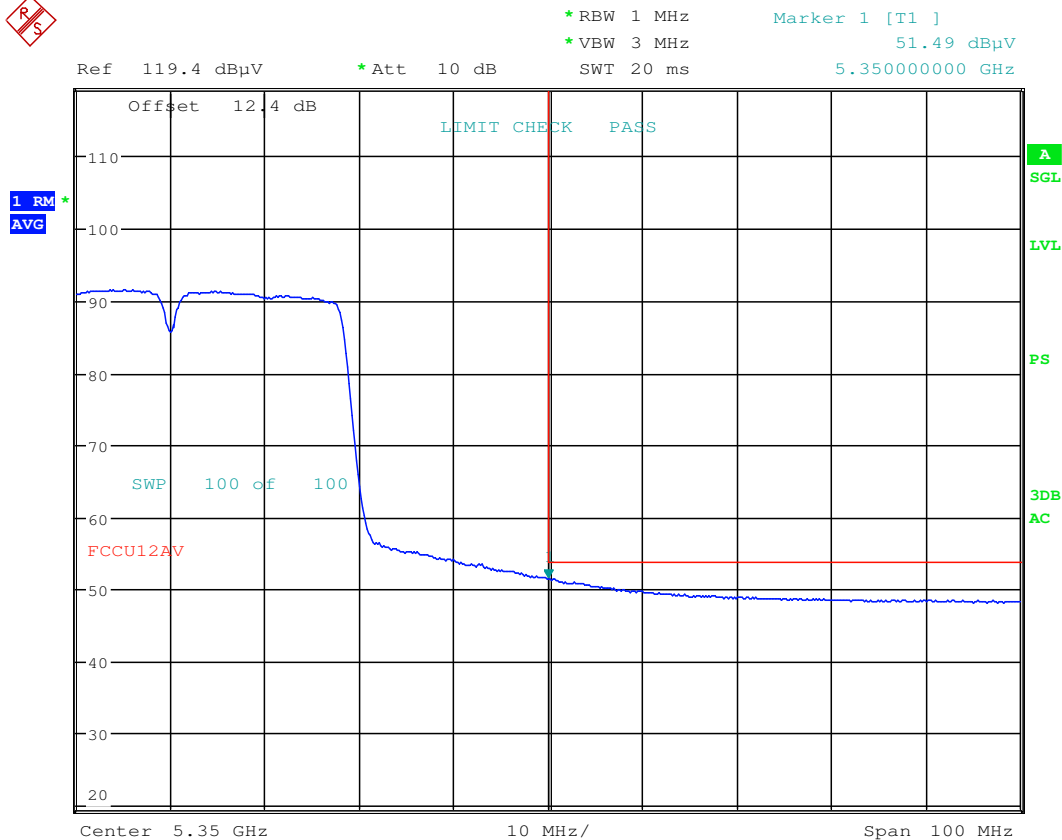
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62



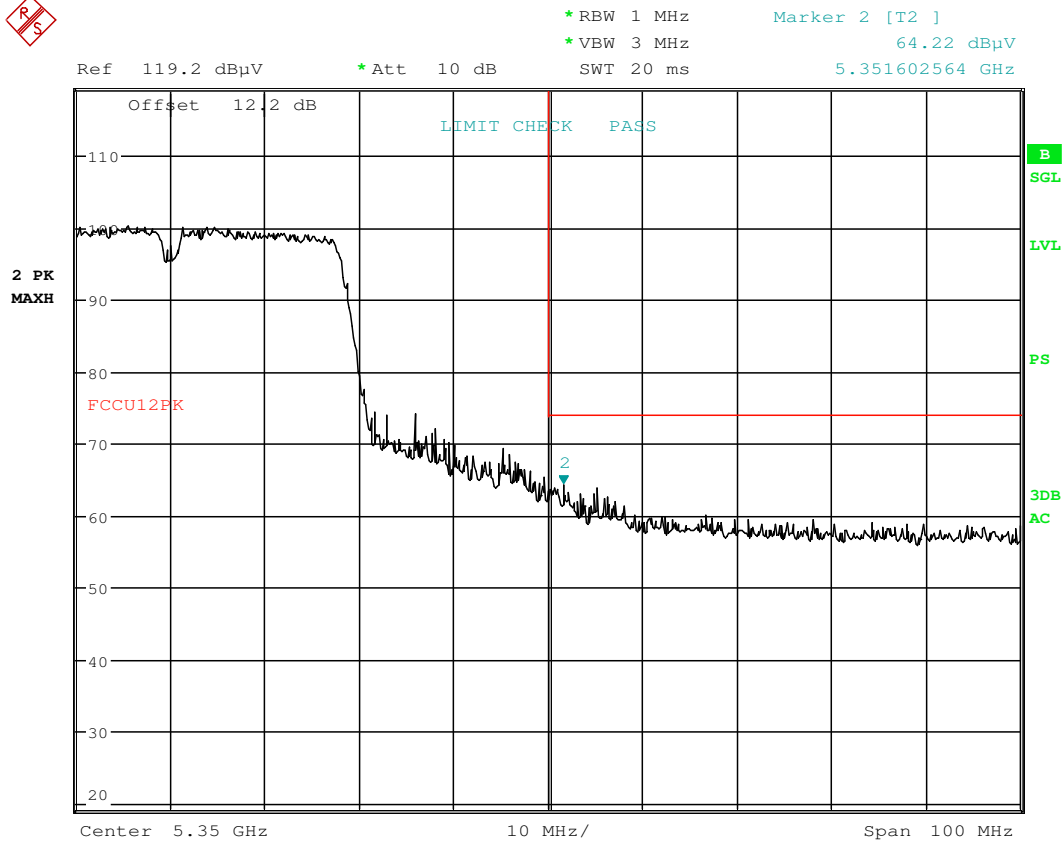
Date: 15.JAN.2017 12:15:57

Plot 7-237. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 196 of 260 |

Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 15.JAN.2017 12:16:12

Plot 7-238. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

| | | | | |
|---|---|--|--|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 197 of 260 |

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Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

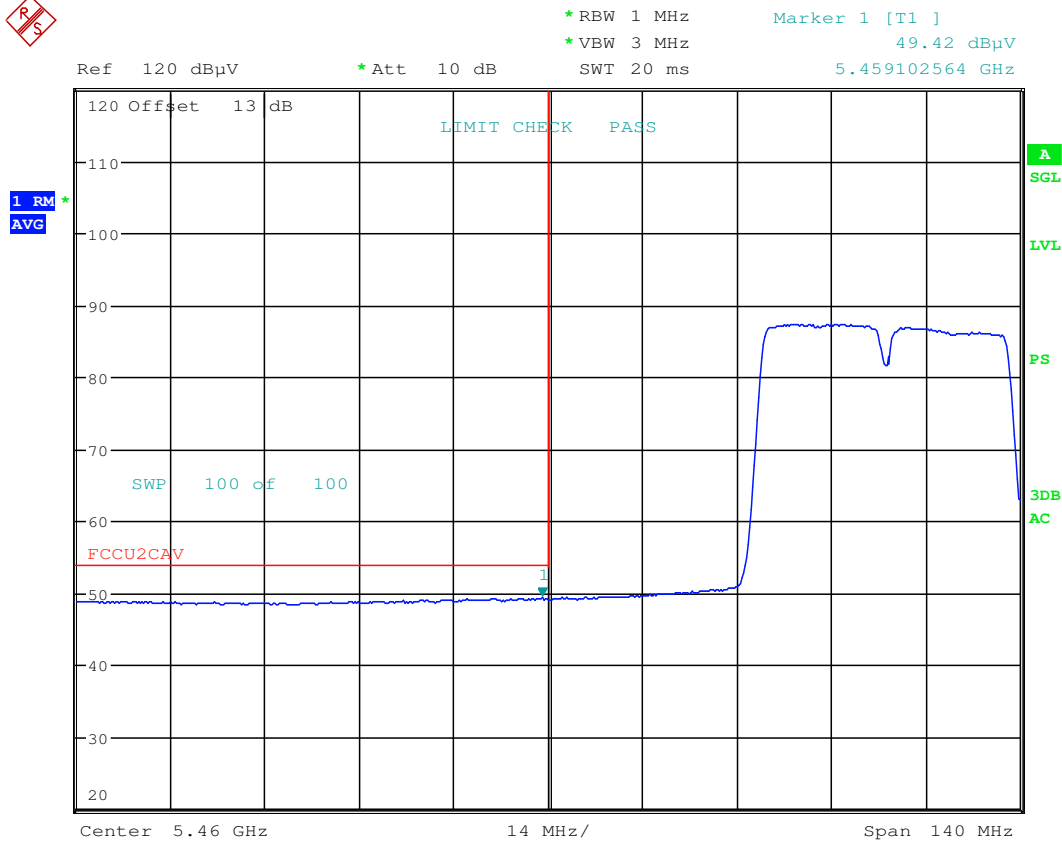
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102



Date: 15.JAN.2017 12:22:49

Plot 7-239. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

| | | | | |
|---|---|--|--|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 198 of 260 |

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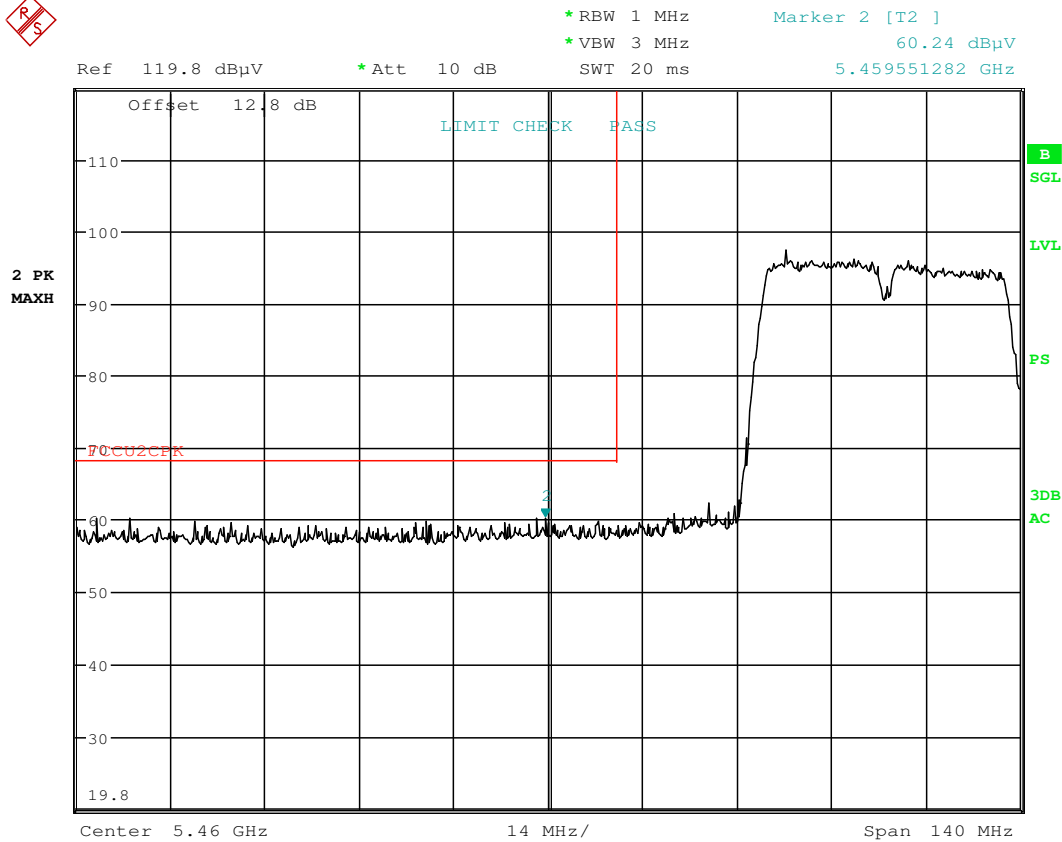
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12/26/2016

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Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 15.JAN.2017 12:23:05

Plot 7-240. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 199 of 260 |

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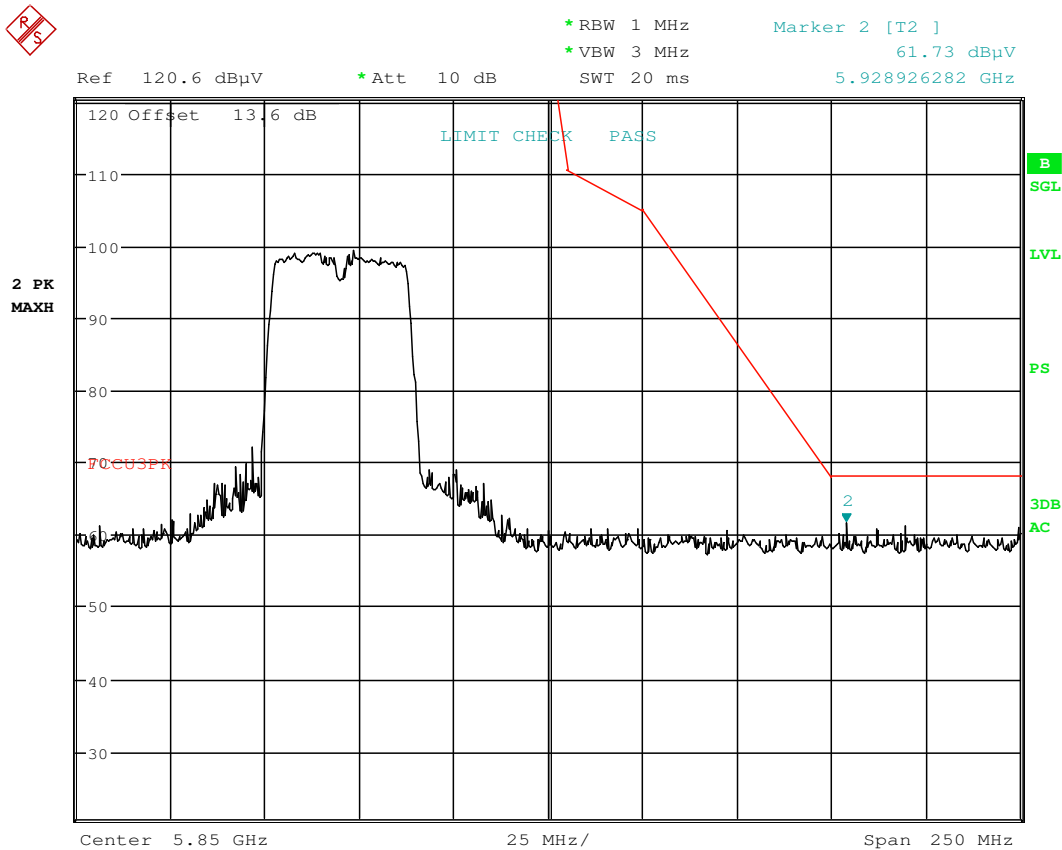
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12/26/2016

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Antenna-2 Radiated Band Edge Measurements (40MHz BW)
§15.407(b.1)(b.2) §15.205 §15.209

| | |
|---------------------------|------------------------|
| Worst Case Mode: | <u>802.11n (40MHz)</u> |
| Worst Case Transfer Rate: | <u>MCS0</u> |
| Distance of Measurements: | <u>3 Meters</u> |
| Operating Frequency: | <u>5795MHz</u> |
| Channel: | <u>159</u> |



Date: 15.JAN.2017 12:27:31

Plot 7-241. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

| | | | | |
|--|--|--|--|--|
| FCC ID: A3LSMG955F | |  FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)  | | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 200 of 260 |

Antenna-2 WCP Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

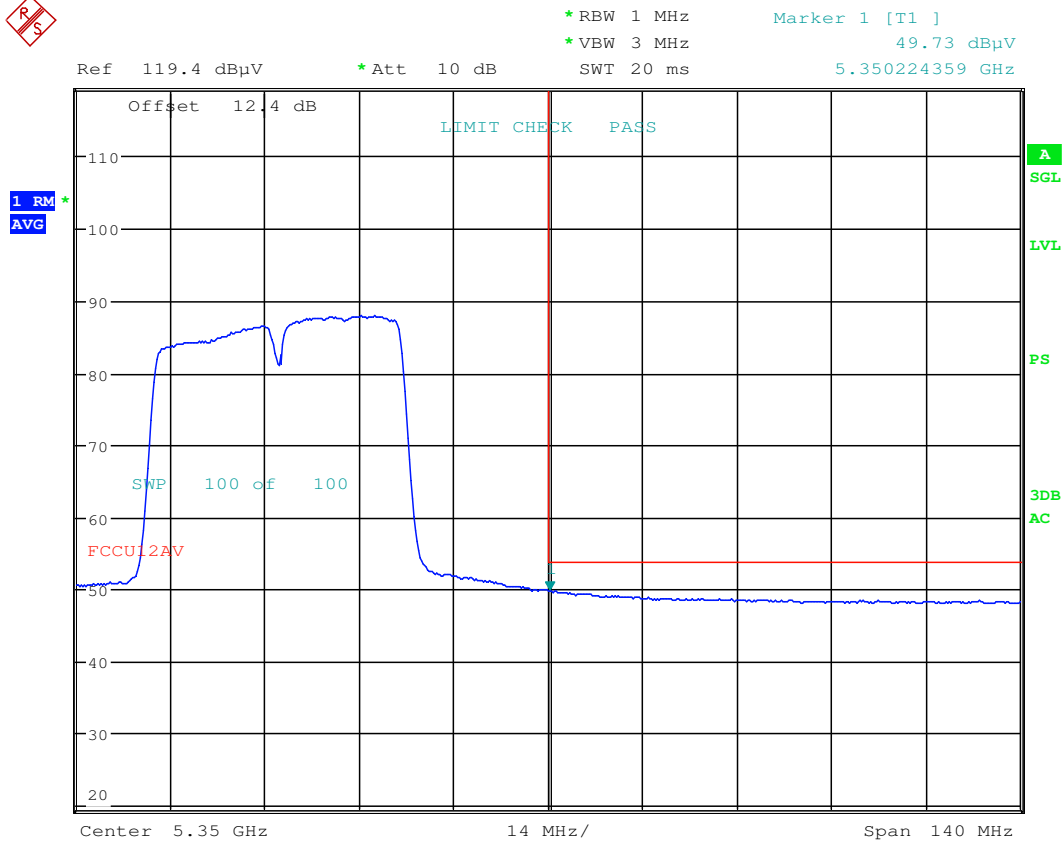
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62



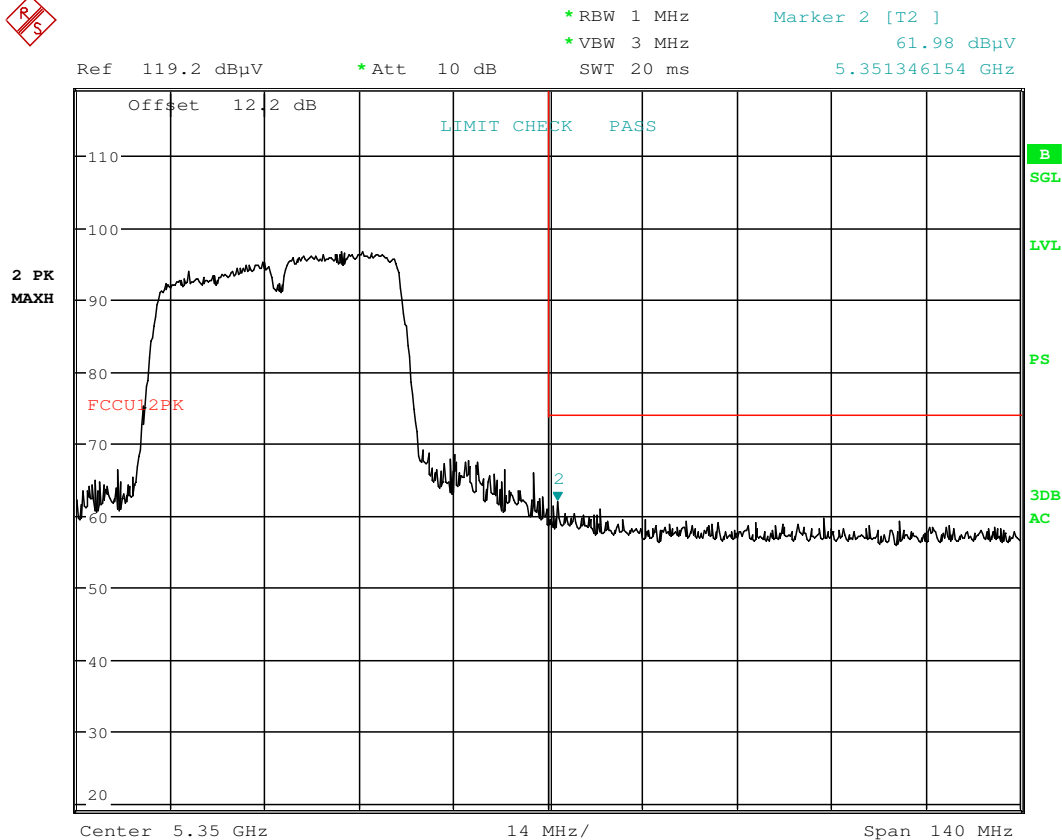
Date: 15.JAN.2017 12:34:47

Plot 7-242. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 201 of 260 |

Antenna-2 WCP Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 15.JAN.2017 12:35:00

Plot 7-243. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 202 of 260 |

7.7.9 Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

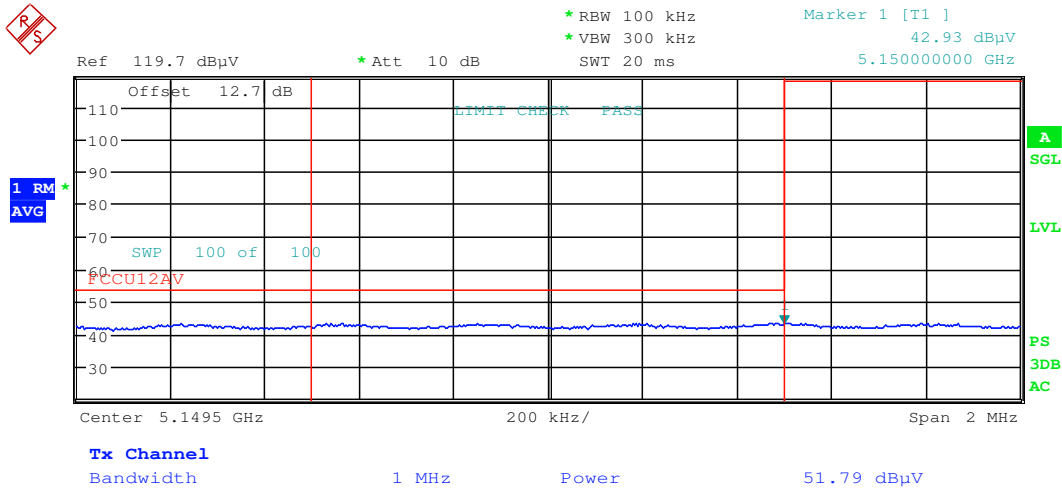
Worst Case Mode: 802.11n (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5210MHz

Channel: 42



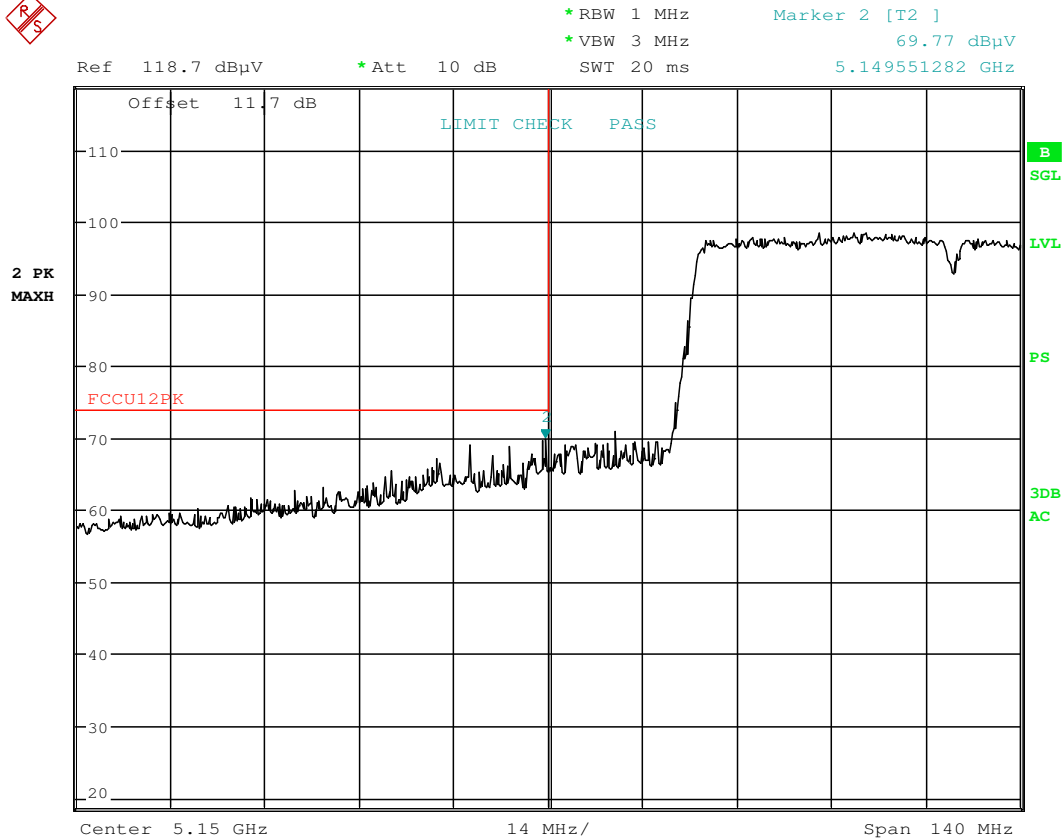
Date: 15.JAN.2017 12:48:02

Plot 7-244. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 203 of 260 |



Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 15.JAN.2017 13:09:00

Plot 7-245. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 204 of 260 |

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Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

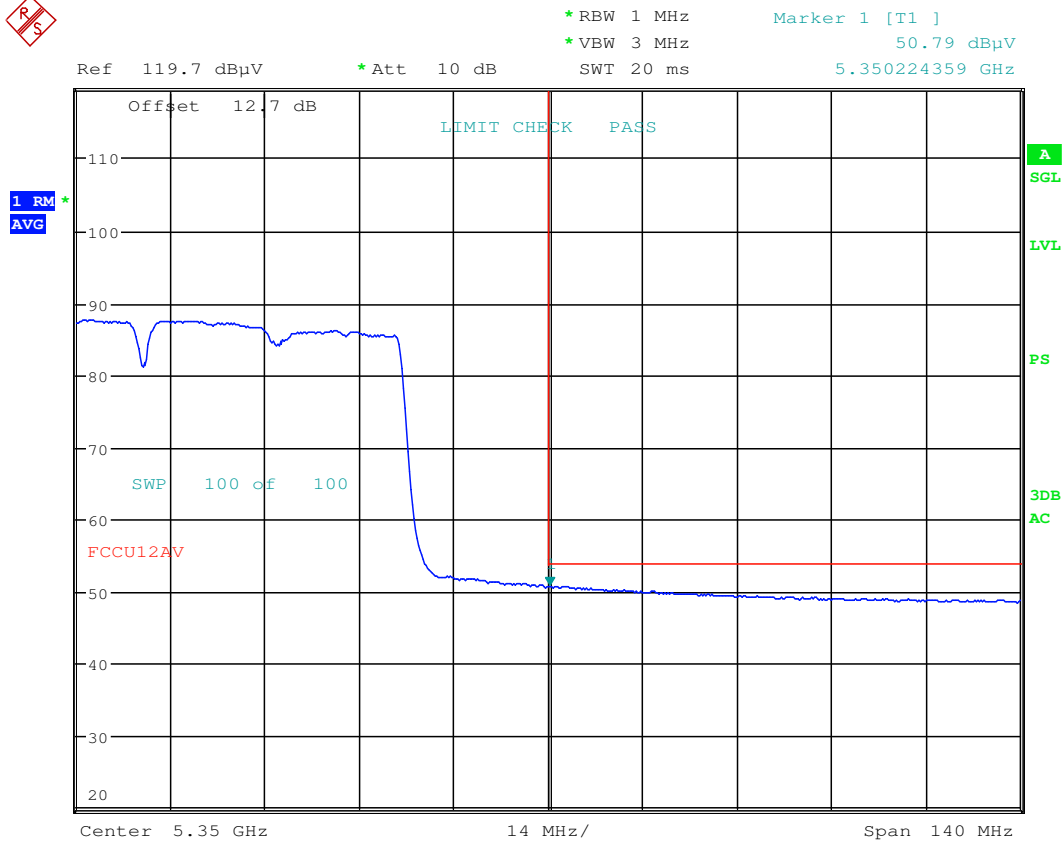
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58



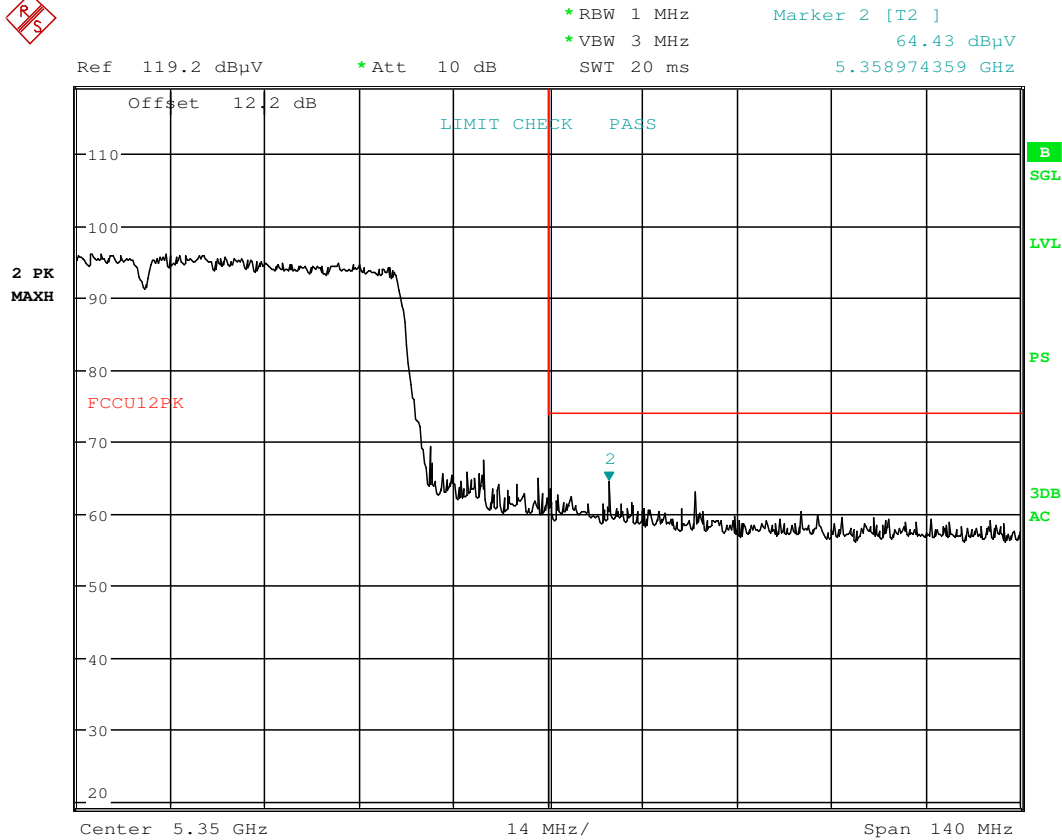
Date: 15.JAN.2017 13:13:35

Plot 7-246. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 205 of 260 |



Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 15.JAN.2017 13:13:46

Plot 7-247. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 206 of 260 |

Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

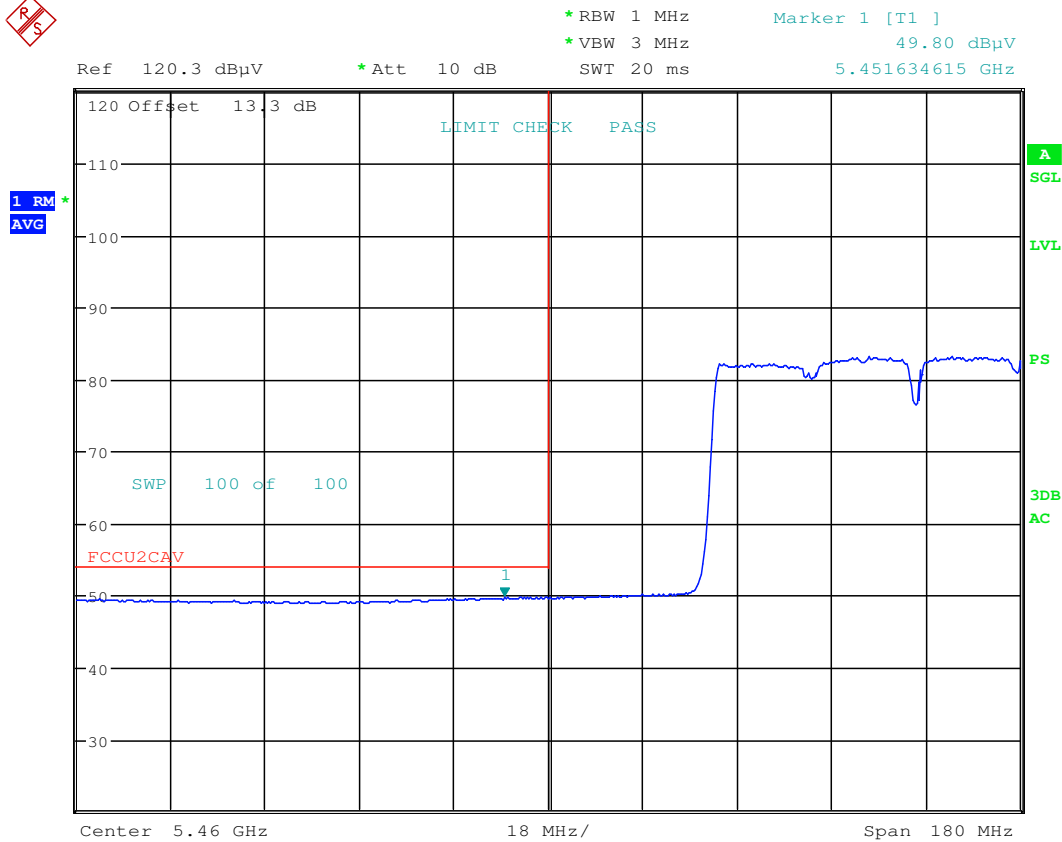
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5530MHz

Channel: 106



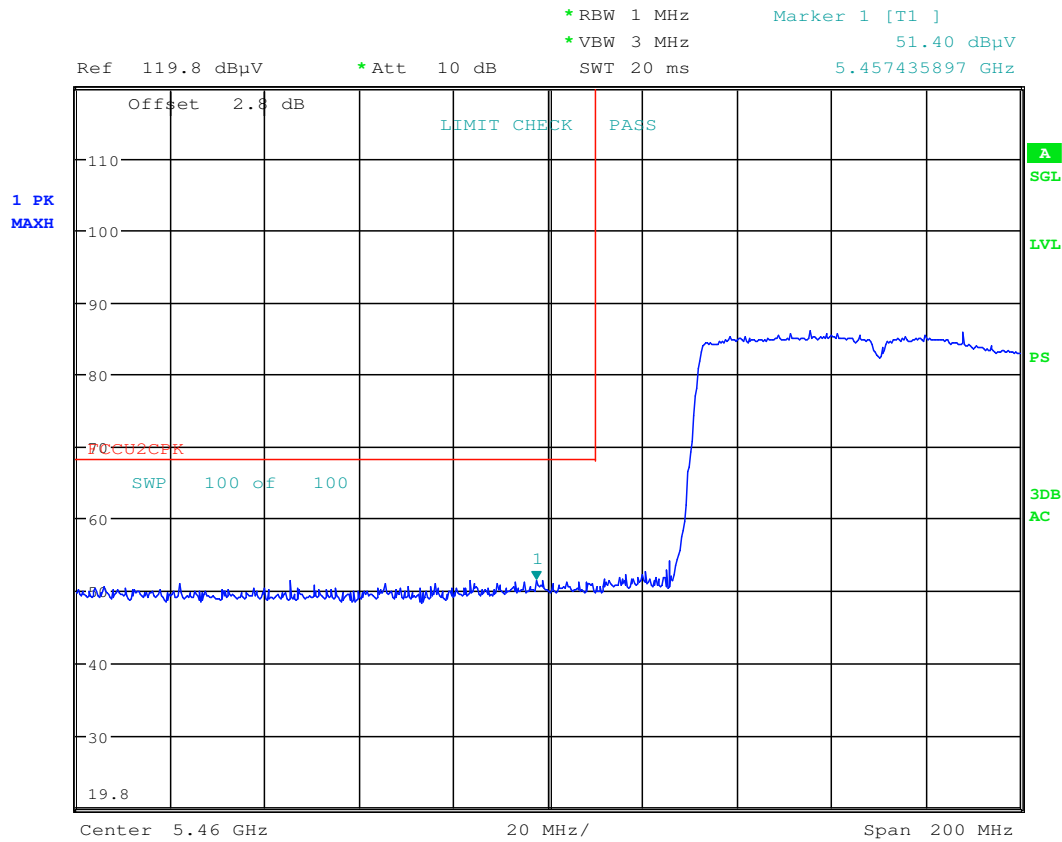
Date: 15.JAN.2017 13:18:07

Plot 7-248. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 207 of 260 |

Antenna-2 Radiated Band Edge Measurements (80MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 22.FEB.2017 10:49:56

Plot 7-249. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 208 of 260 |

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Antenna-2 Radiated Band Edge Measurements (80MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

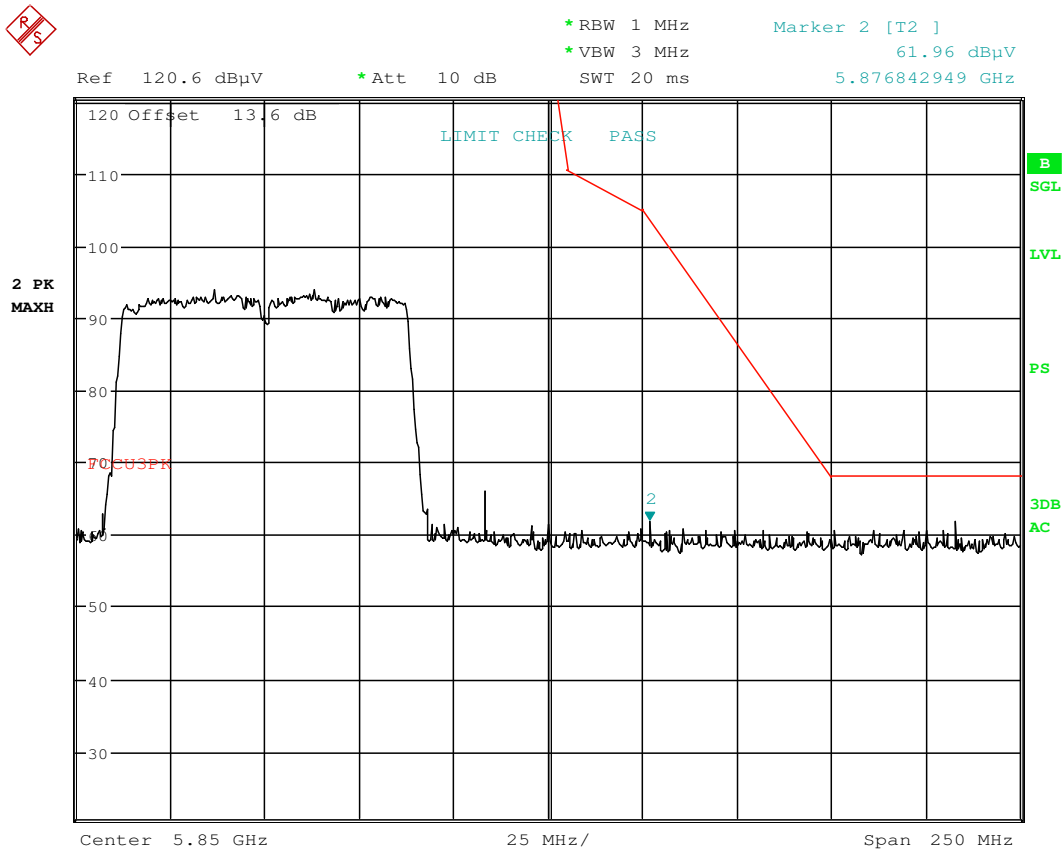
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5775MHz

Channel: 155



Date: 15.JAN.2017 13:23:34

Plot 7-250. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 209 of 260 |

Antenna-2 WCP Radiated Band Edge Measurements (80MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

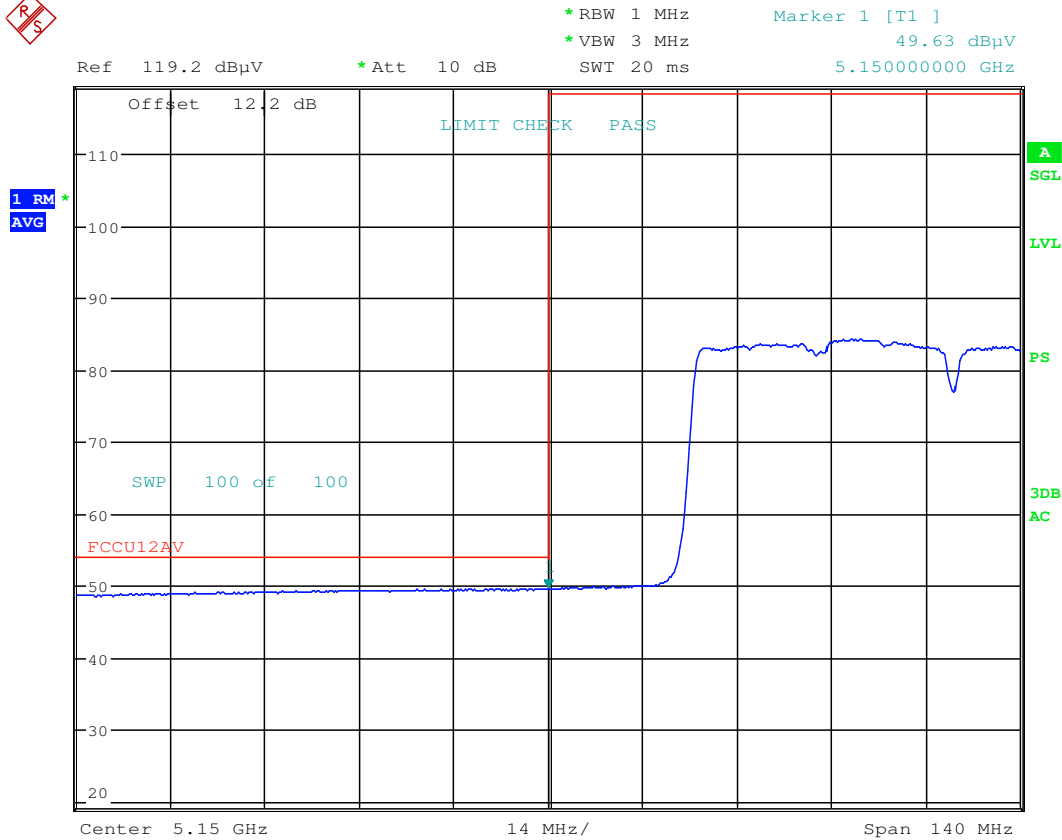
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5210MHz

Channel: 42



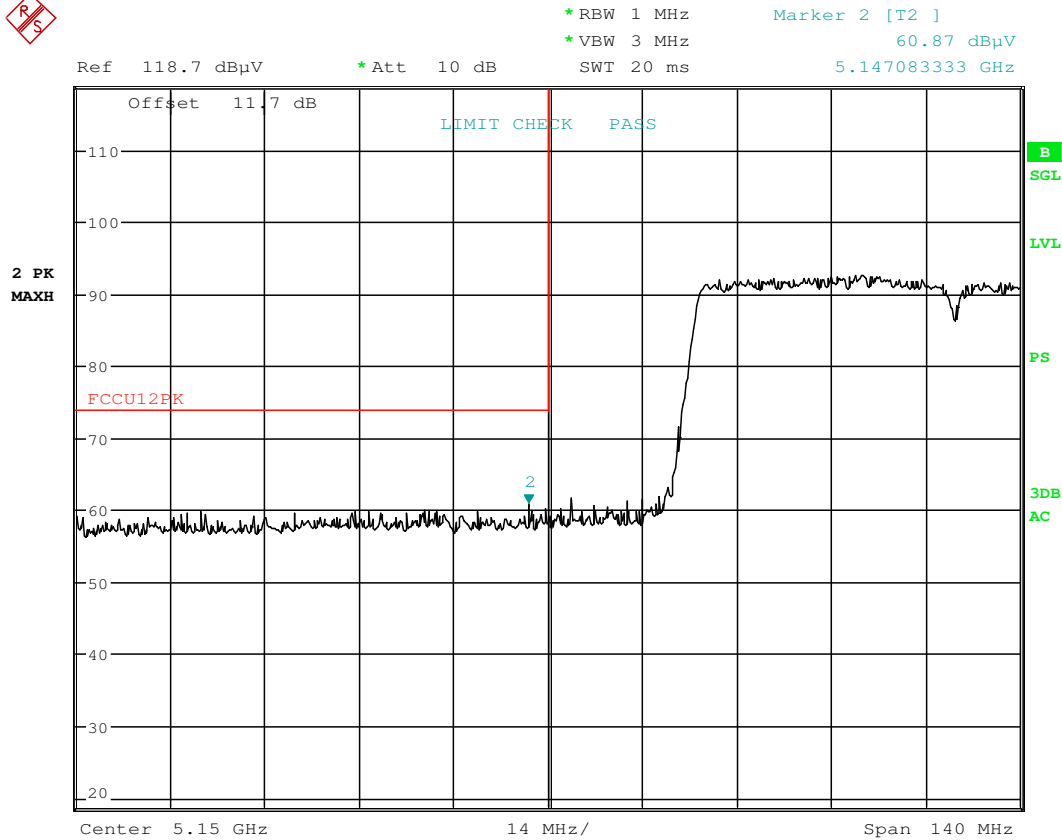
Date: 15.JAN.2017 13:33:56

Plot 7-251. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 210 of 260 |



Antenna-2 WCP Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 15.JAN.2017 13:34:09

Plot 7-252. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 211 of 260 |

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7.7.10 MIMO Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

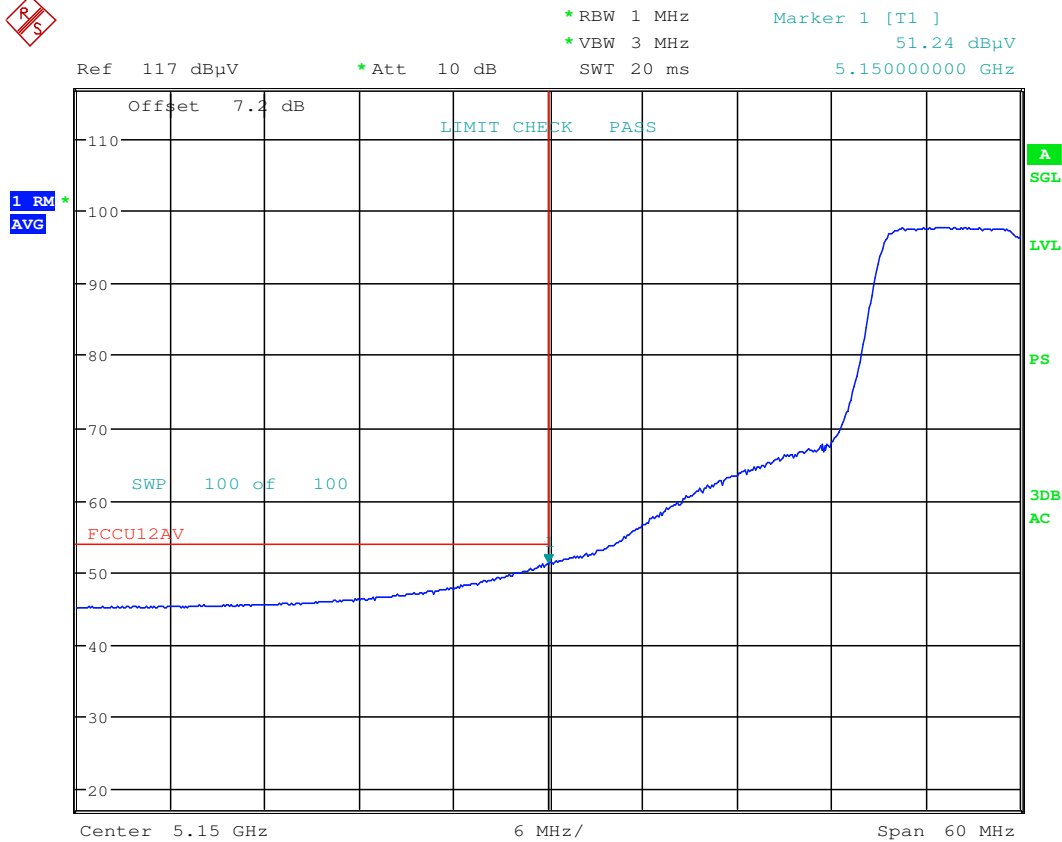
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36



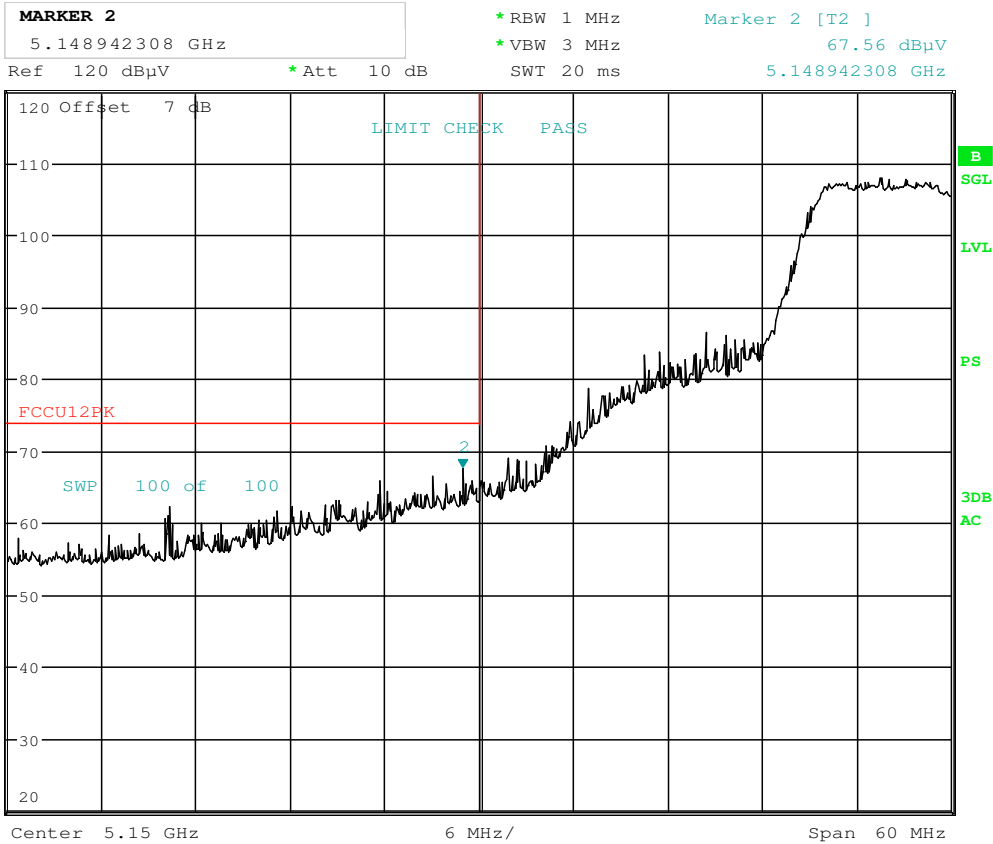
Date: 16.JAN.2017 12:42:38

Plot 7-253. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 212 of 260 |



MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 16.JAN.2017 12:44:05

Plot 7-254. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

| | | | | |
|--|---|--|---|--|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 213 of 260 |

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MIMO Radiated Band Edge Measurements (20MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

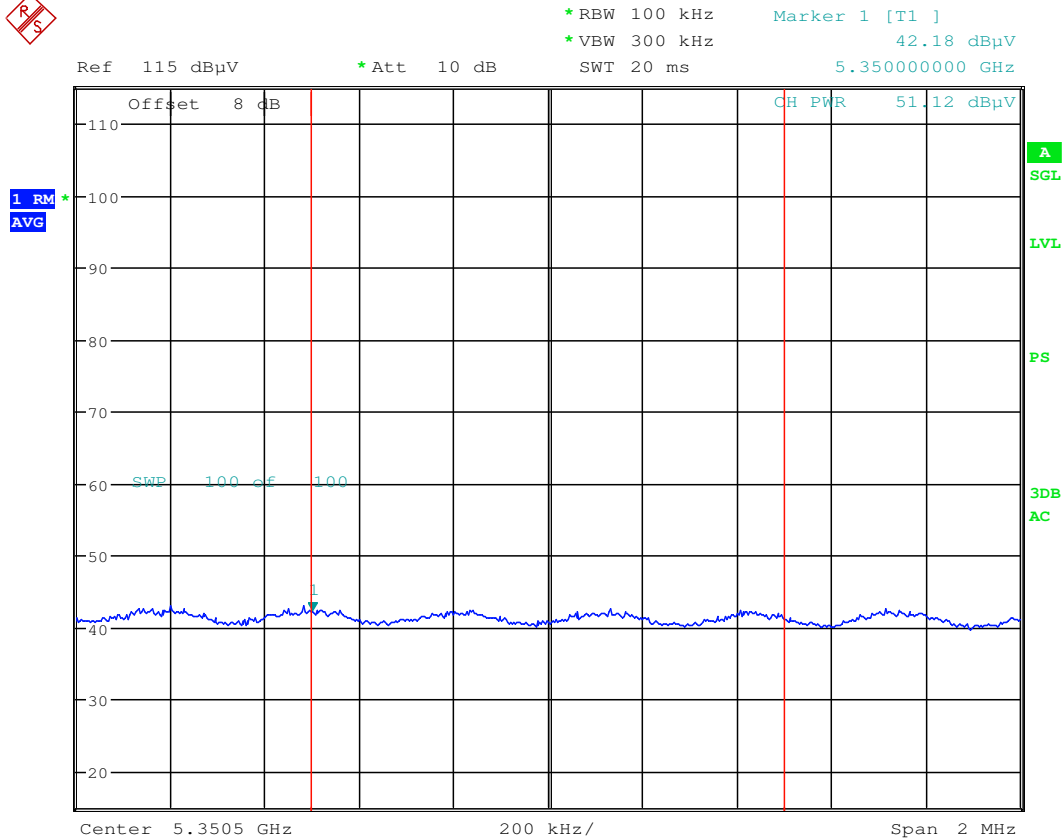
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64



Date: 16.JAN.2017 15:38:38

Plot 7-255. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 214 of 260 |

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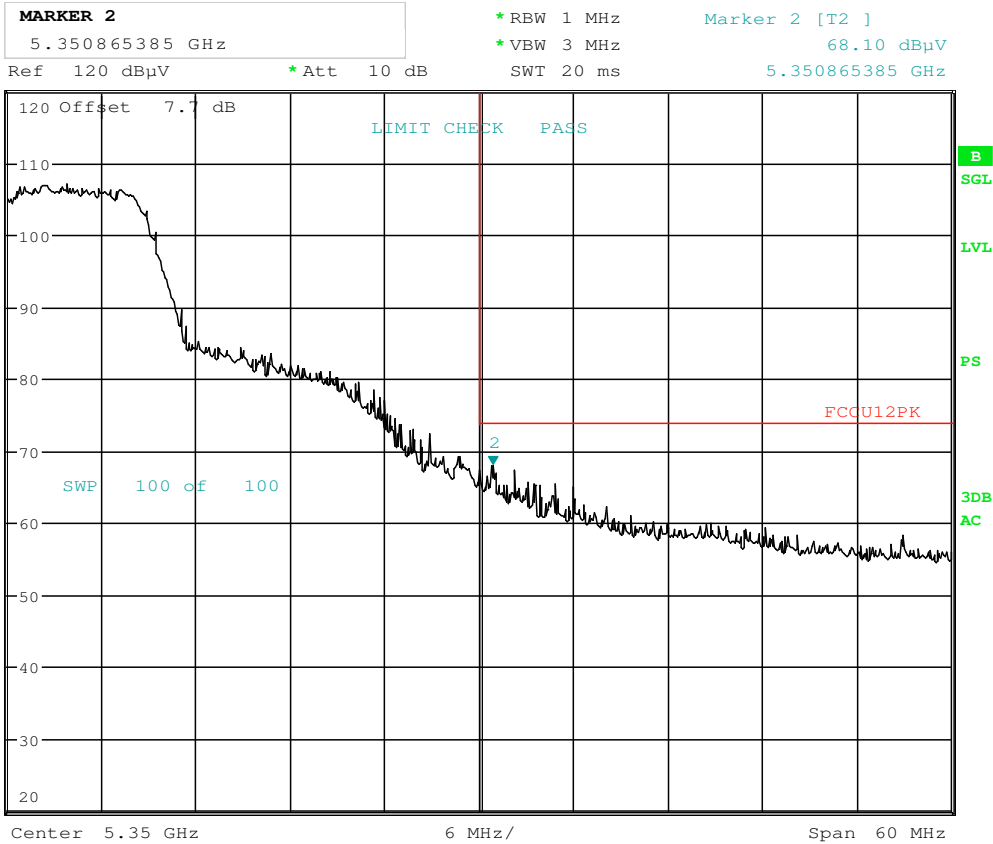
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MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 16.JAN.2017 15:39:17

Plot 7-256. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 215 of 260 |

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MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

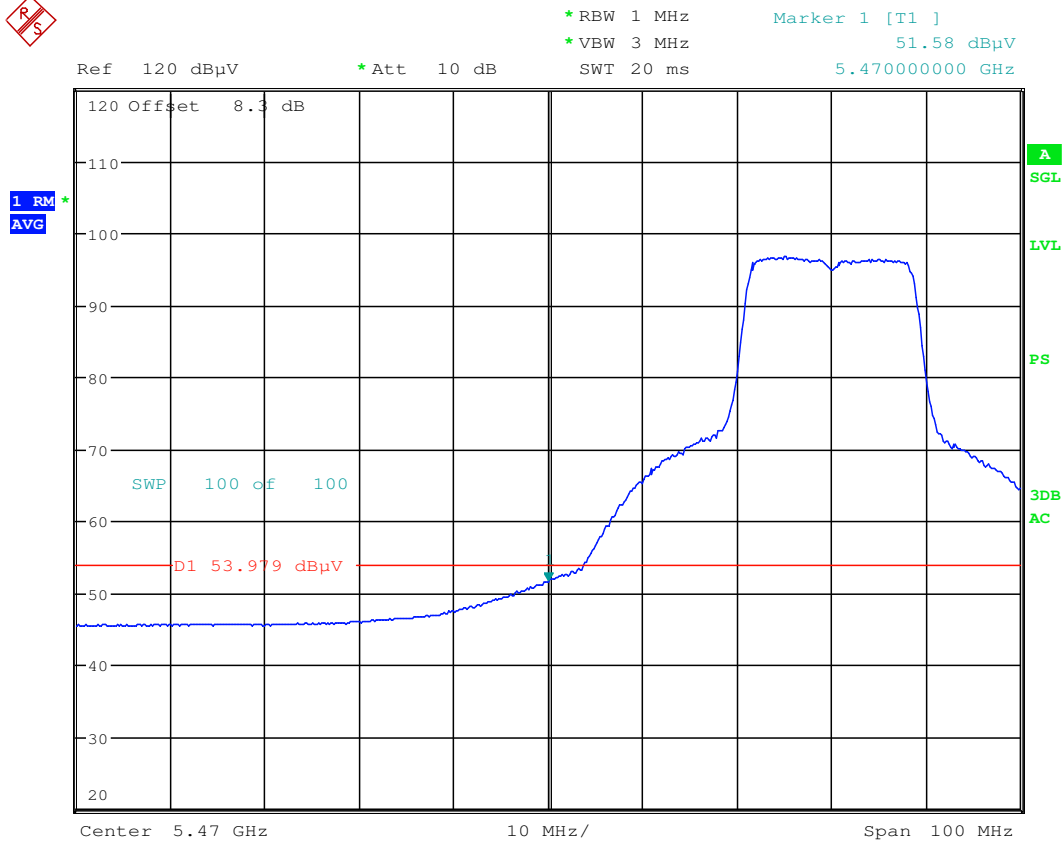
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100



Date: 16.JAN.2017 16:03:39

Plot 7-257. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 216 of 260 |

MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



MARKER 2

5.468717949 GHz

*RBW 1 MHz

Marker 2 [T2]

*VBW 3 MHz

69.14 dBμV

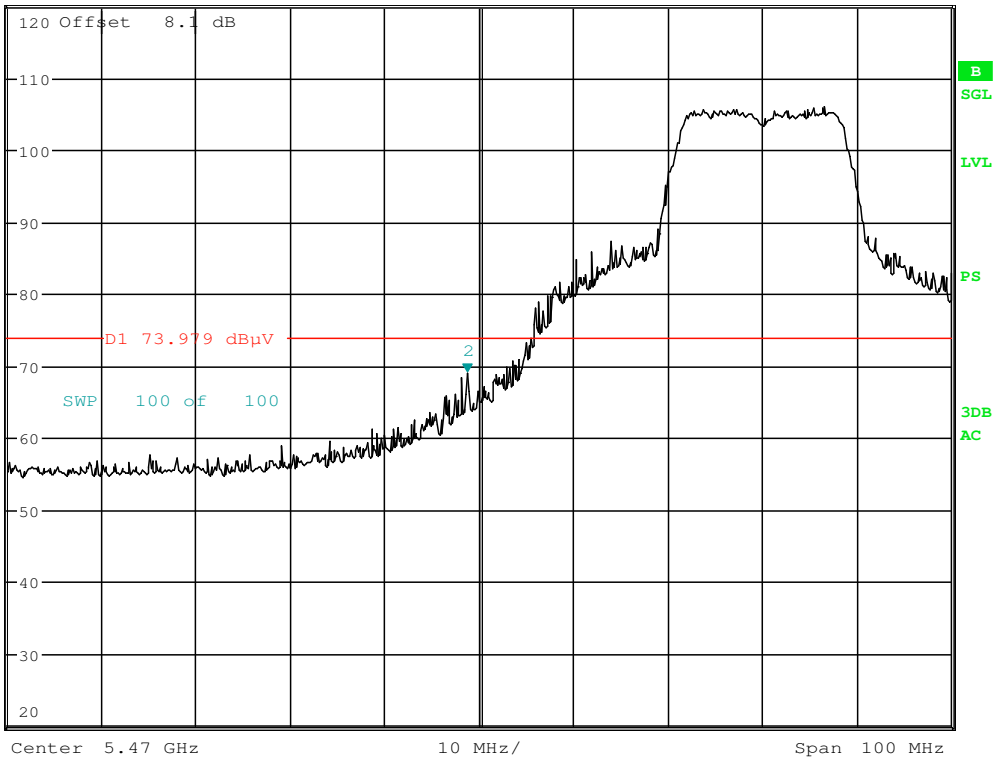
Ref 120 dBμV

*Att 10 dB

SWT 20 ms

5.468717949 GHz

2 PK
MAXH



Date: 16.JAN.2017 16:06:17

Plot 7-258. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 217 of 260 |

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MIMO Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209

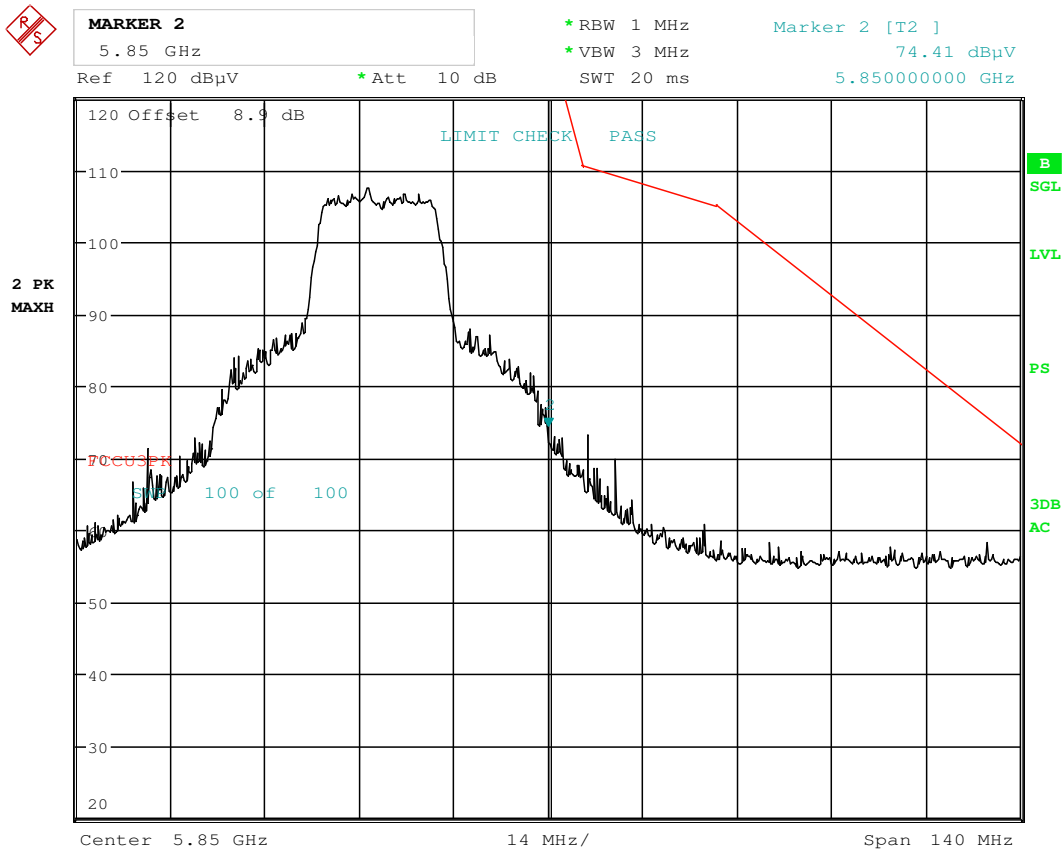
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5825MHz

Channel: 165



Date: 16.JAN.2017 17:13:54

Plot 7-259. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 218 of 260 |

MIMO WCP Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

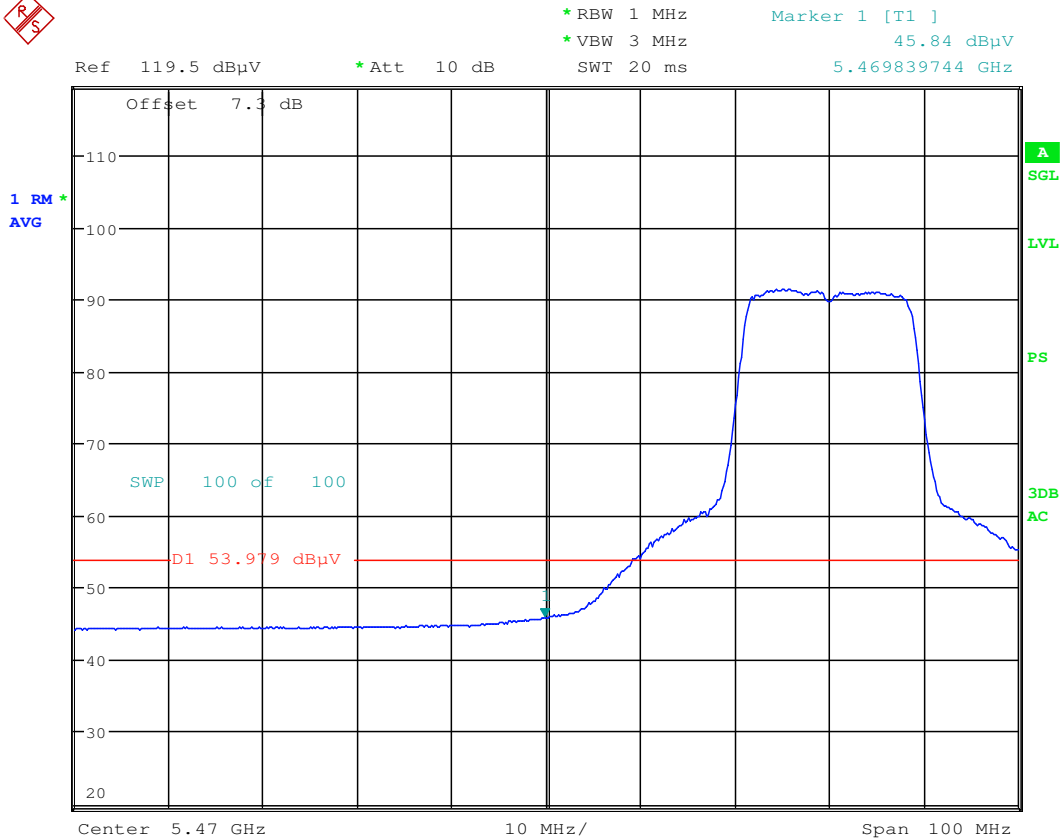
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100



Date: 24.JAN.2017 13:16:01

Plot 7-260. Radiated Restricted Band Edge Plot with WCP

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 219 of 260 |

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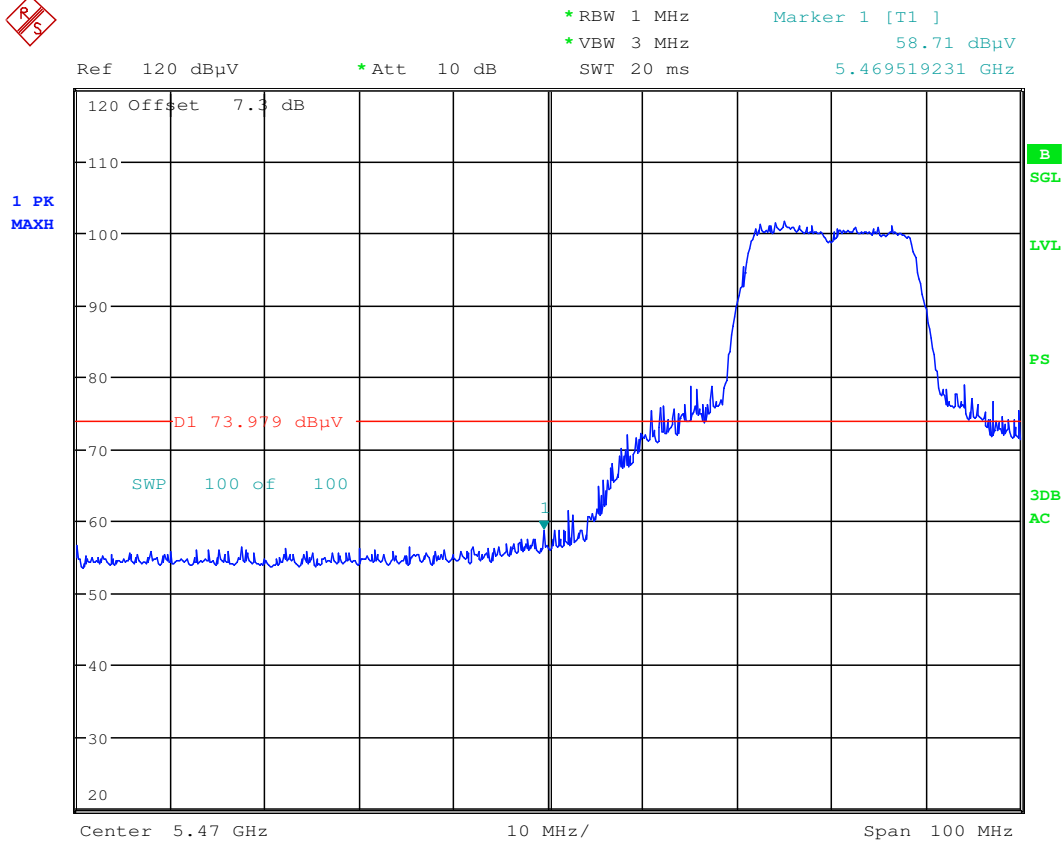
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MIMO WCP Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 24.JAN.2017 13:16:58

Plot 7-261. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 220 of 260 |

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7.7.11 MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

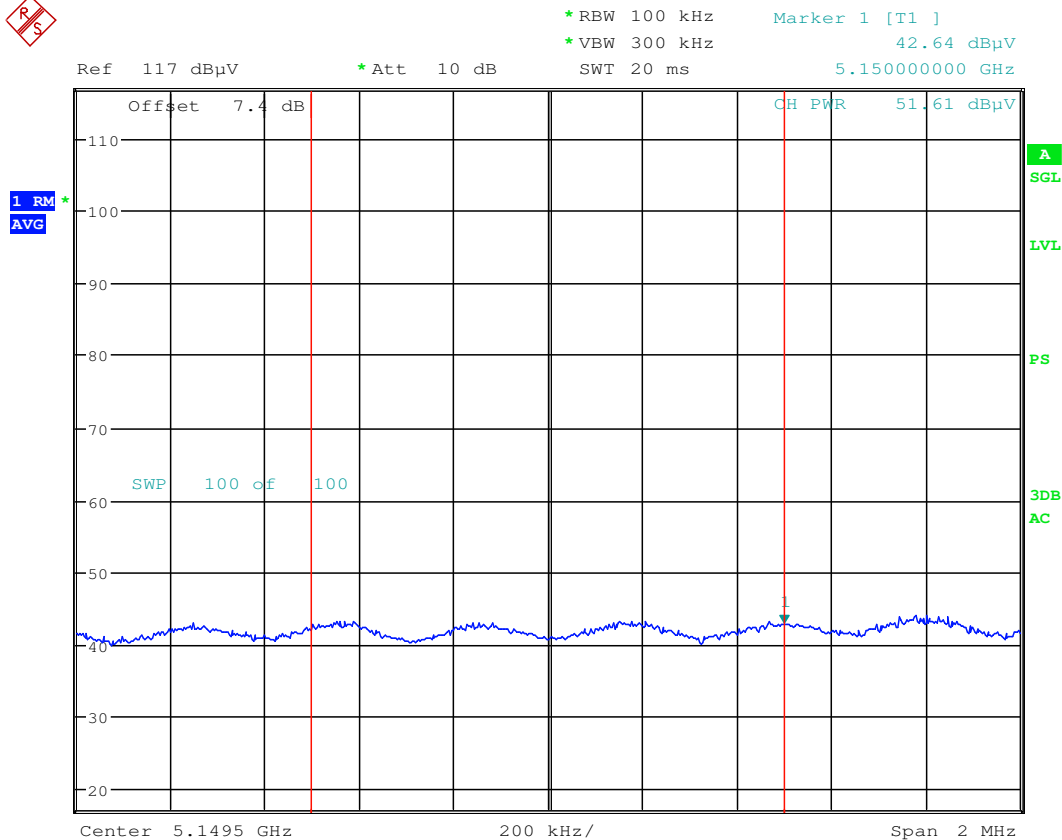
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38



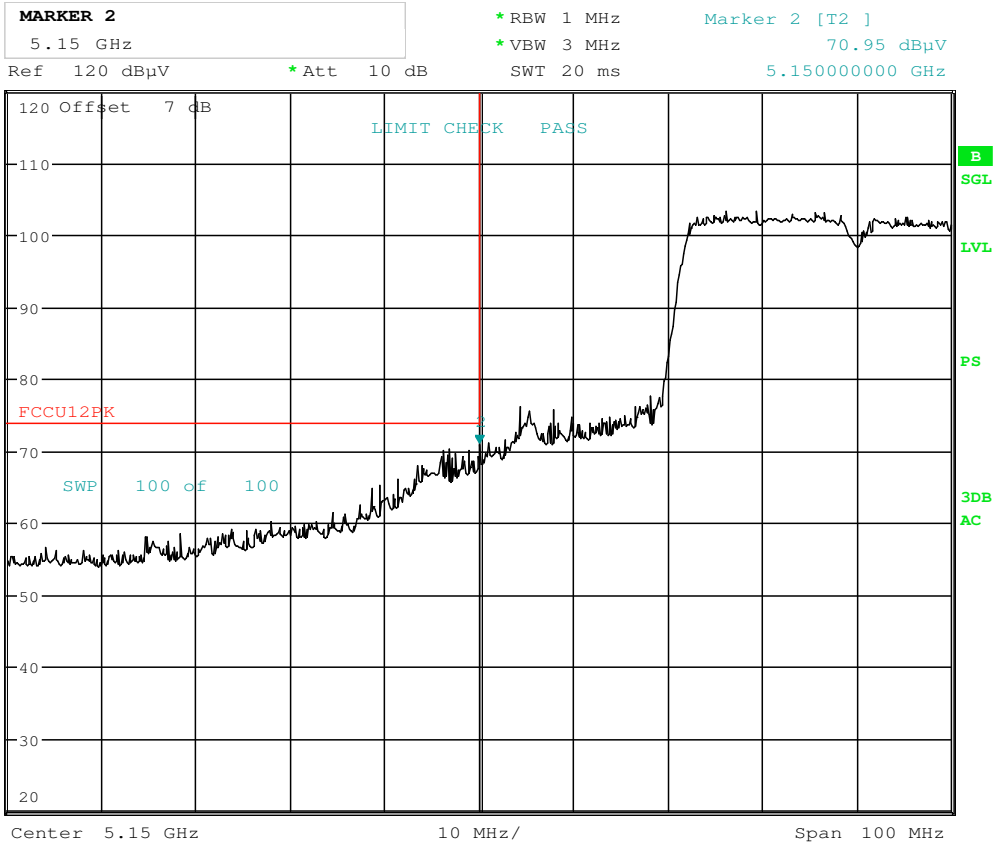
Date: 16.JAN.2017 12:57:56

Plot 7-262. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 221 of 260 |



MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 16.JAN.2017 13:00:51

Plot 7-263. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

| | | | | |
|--|---|--|---|--|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 222 of 260 |

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MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

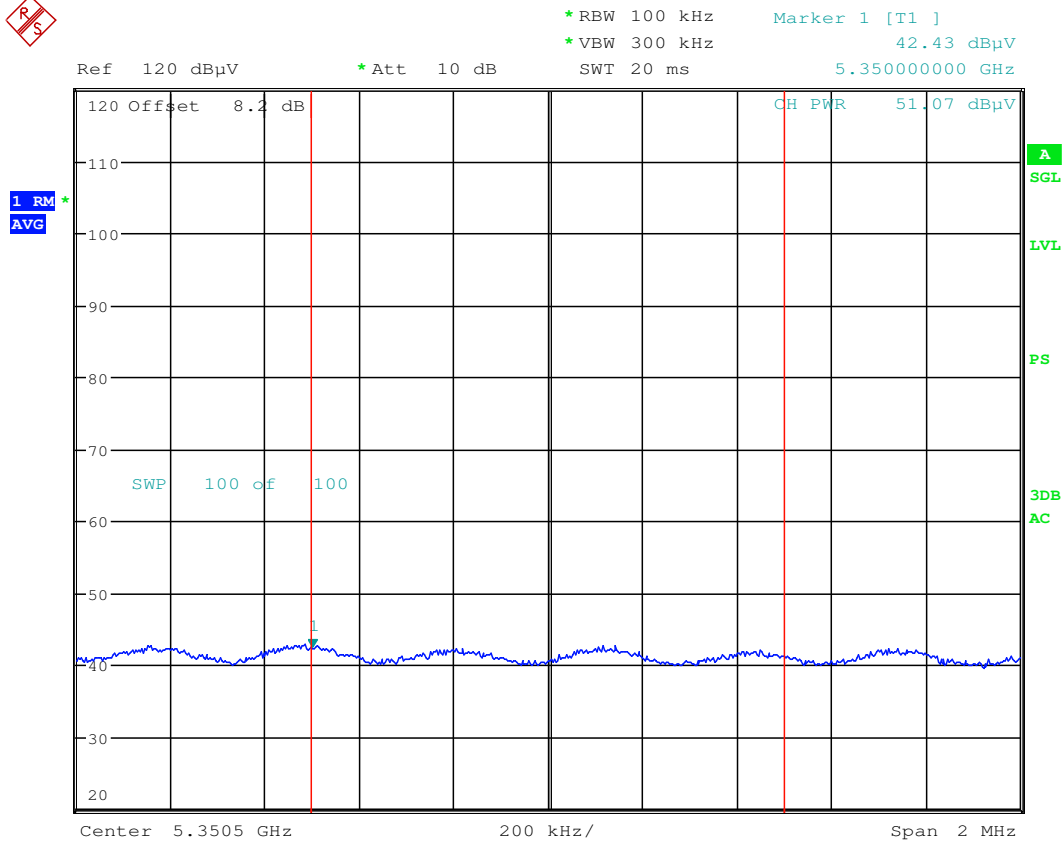
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62



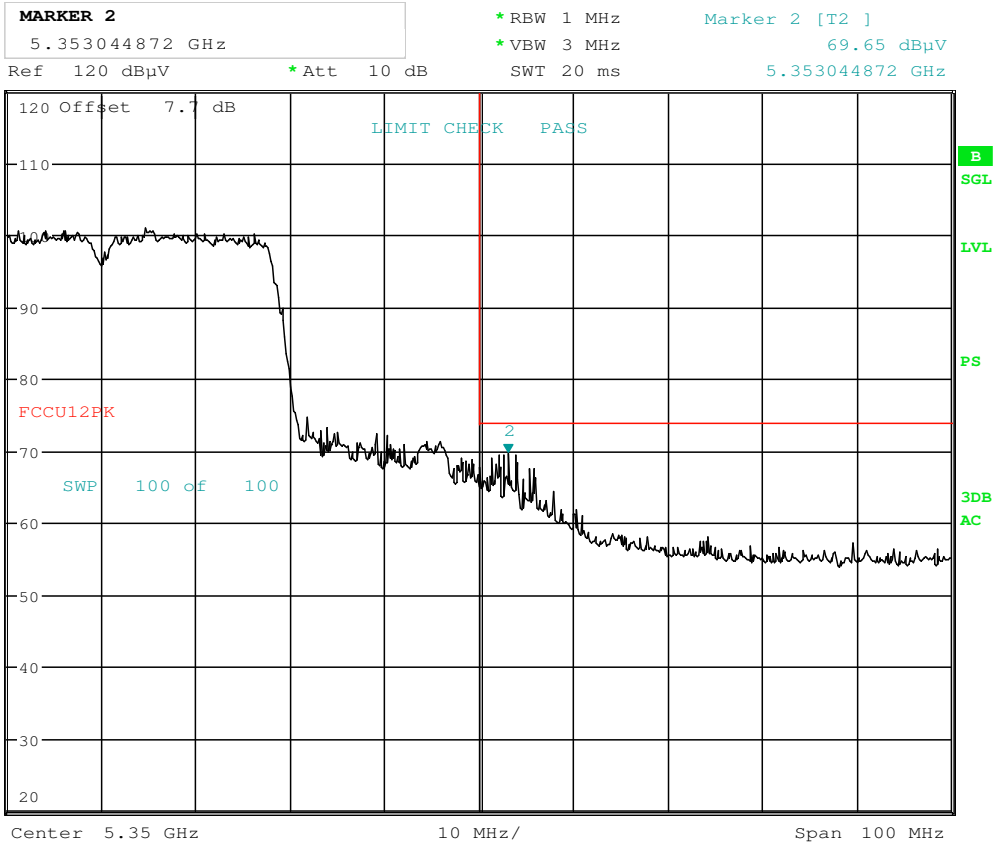
Date: 16.JAN.2017 15:44:12

Plot 7-264. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 223 of 260 |

MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 16.JAN.2017 15:45:21

Plot 7-265. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

| | | | | |
|---|---|--|--|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 224 of 260 |

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MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102



MARKER 1

5.47 GHz

* RBW 1 MHz

Marker 1 [T1]

* VBW 3 MHz

50.75 dBμV

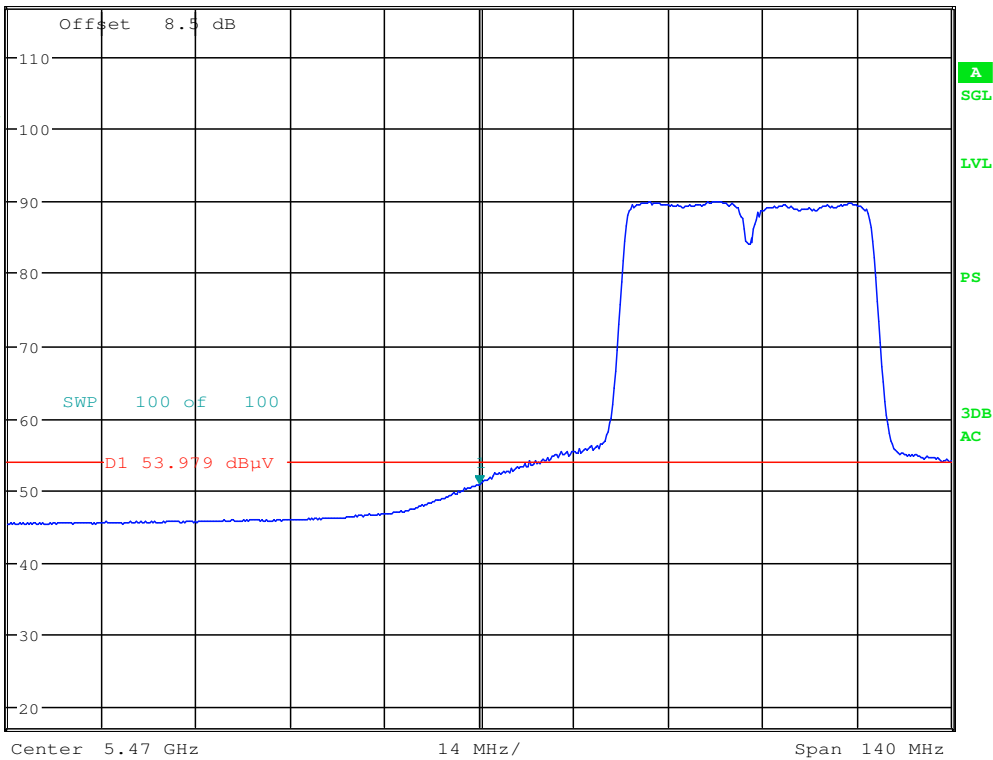
Ref 117 dBμV

* Att 10 dB

SWT 20 ms

5.470000000 GHz

1 RM
AVG



Date: 16.JAN.2017 16:33:14

Plot 7-266. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 225 of 260 |

MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



MARKER 2

5.463942308 GHz

*RBW 1 MHz

Marker 2 [T2]

*VBW 3 MHz

67.73 dBμV

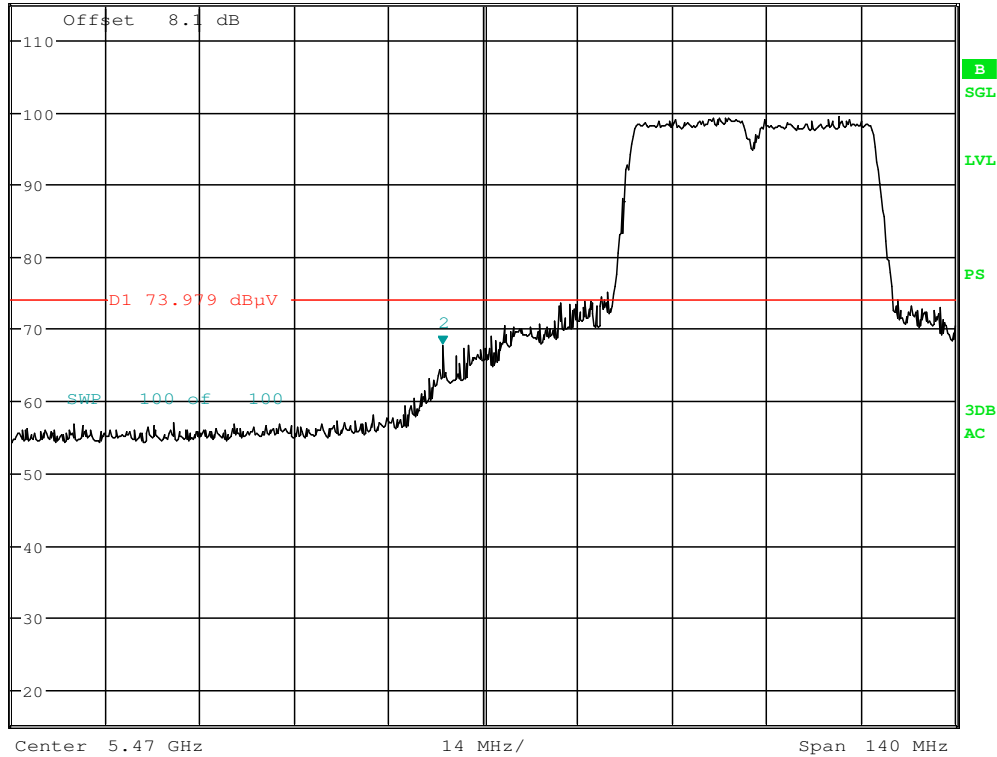
Ref 115.1 dBμV

*Att 10 dB

SWT 20 ms



5.463942308 GHz

2 PK
MAXH



Date: 16.JAN.2017 16:31:19

Plot 7-267. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

| | | | | |
|--|---|--|---|--|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 226 of 260 |

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MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

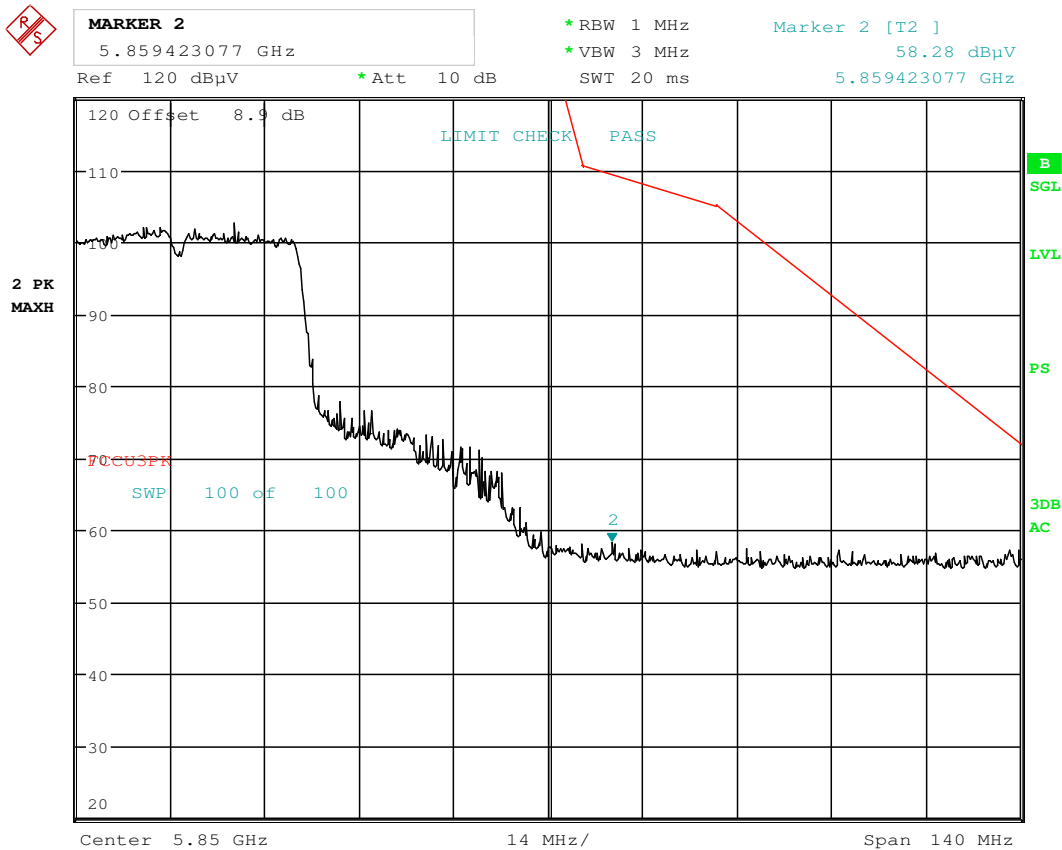
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5795MHz

Channel: 159



Date: 16.JAN.2017 17:17:46

Plot 7-268. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 227 of 260 |

MIMO WCP Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

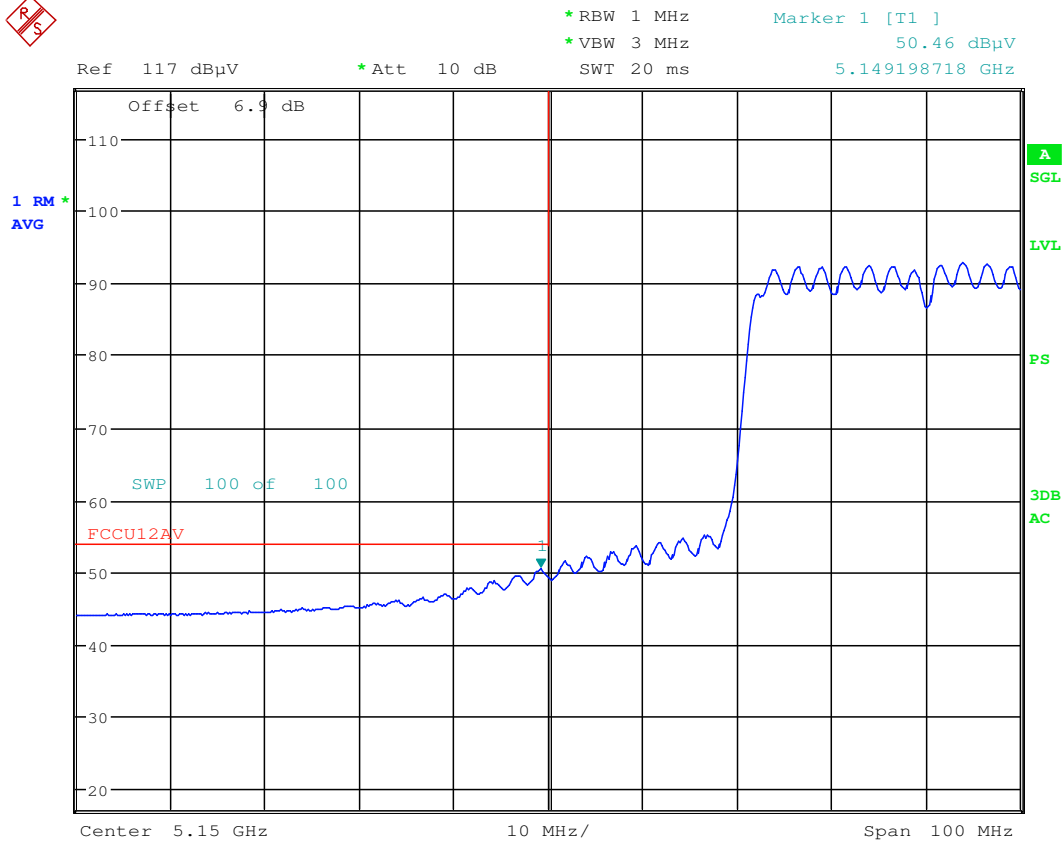
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38



Date: 24.JAN.2017 13:39:32

Plot 7-269. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 228 of 260 |

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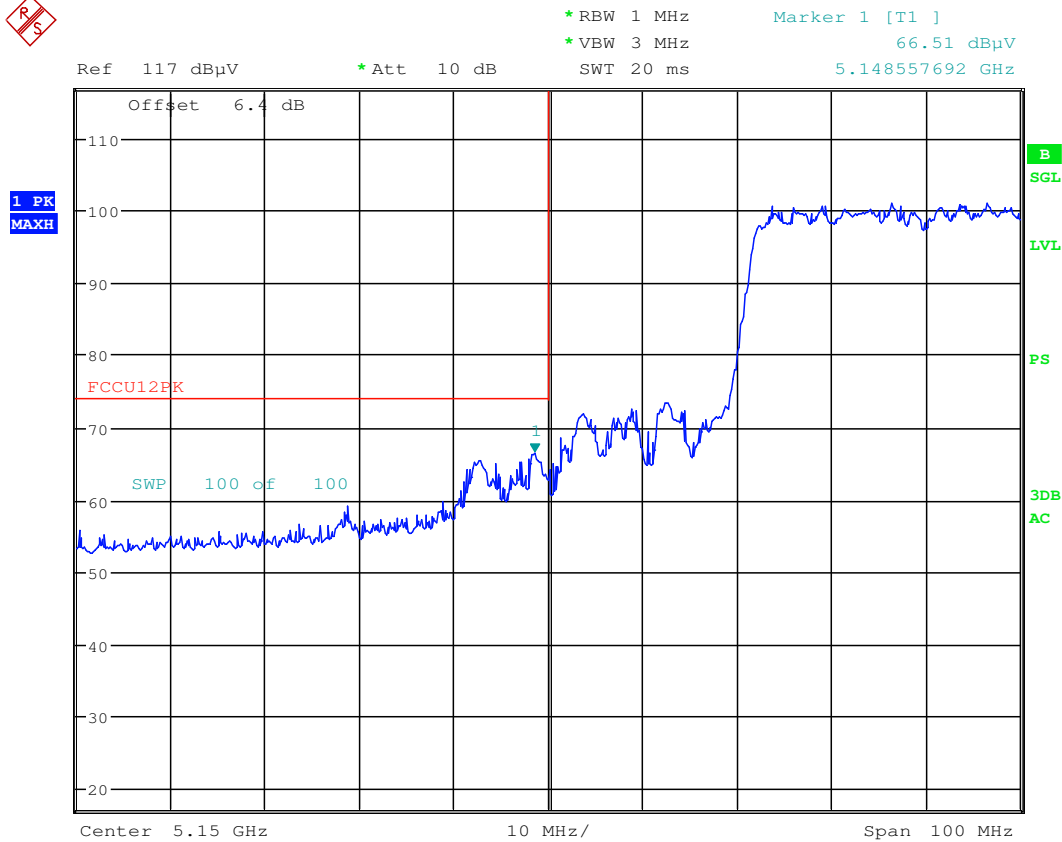
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MIMO WCP Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 24.JAN.2017 13:35:33

Plot 7-270. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 229 of 260 |

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V 6.1

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7.7.12 MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

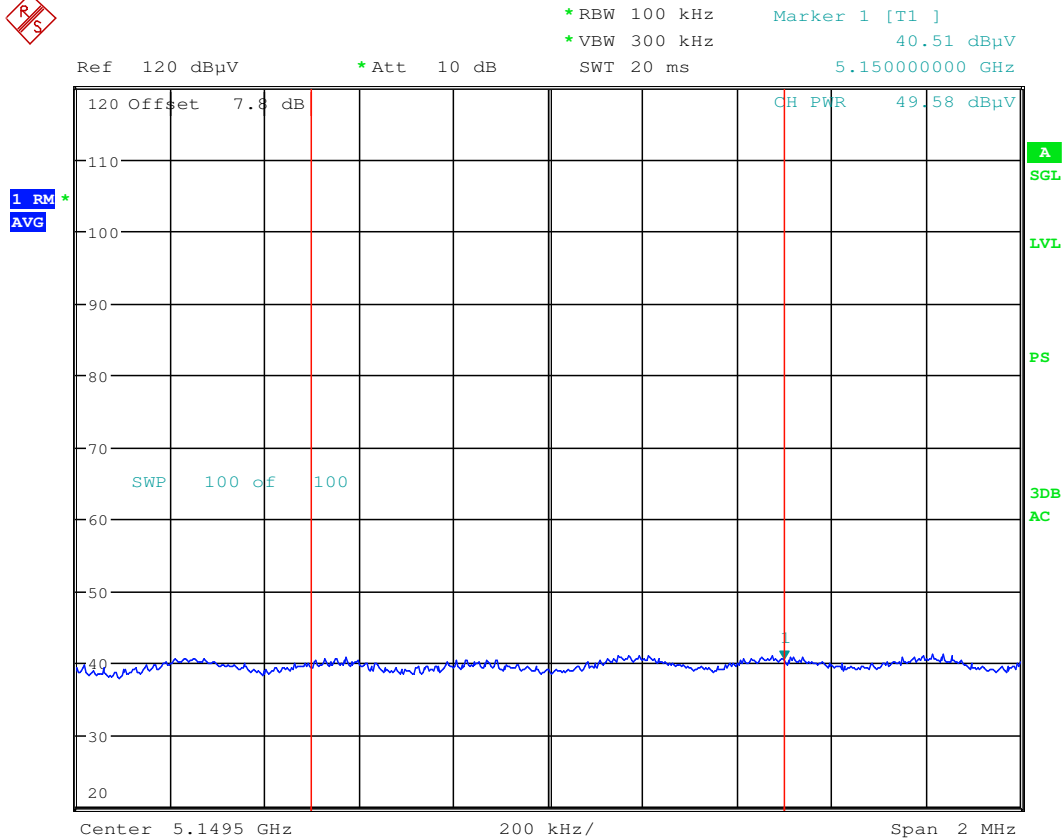
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5210MHz

Channel: 42



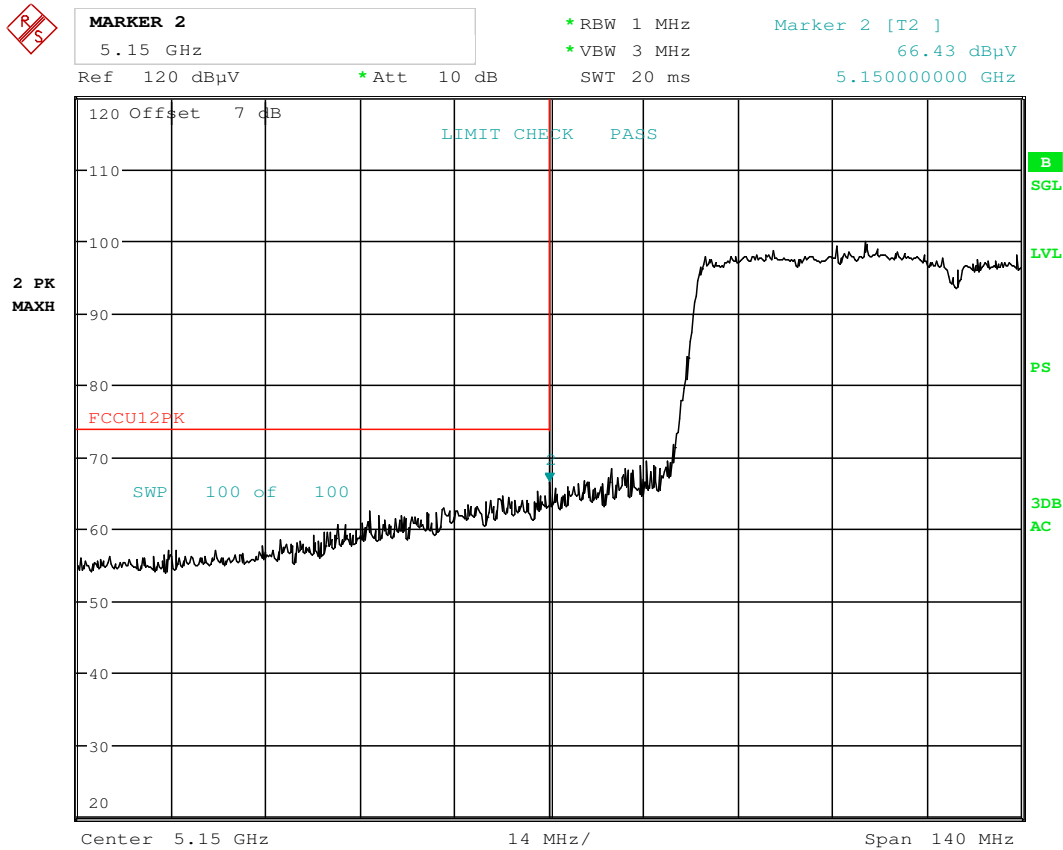
Date: 16.JAN.2017 13:15:14

Plot 7-271. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 230 of 260 |

MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 16.JAN.2017 13:16:44

Plot 7-272. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 231 of 260 |

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MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

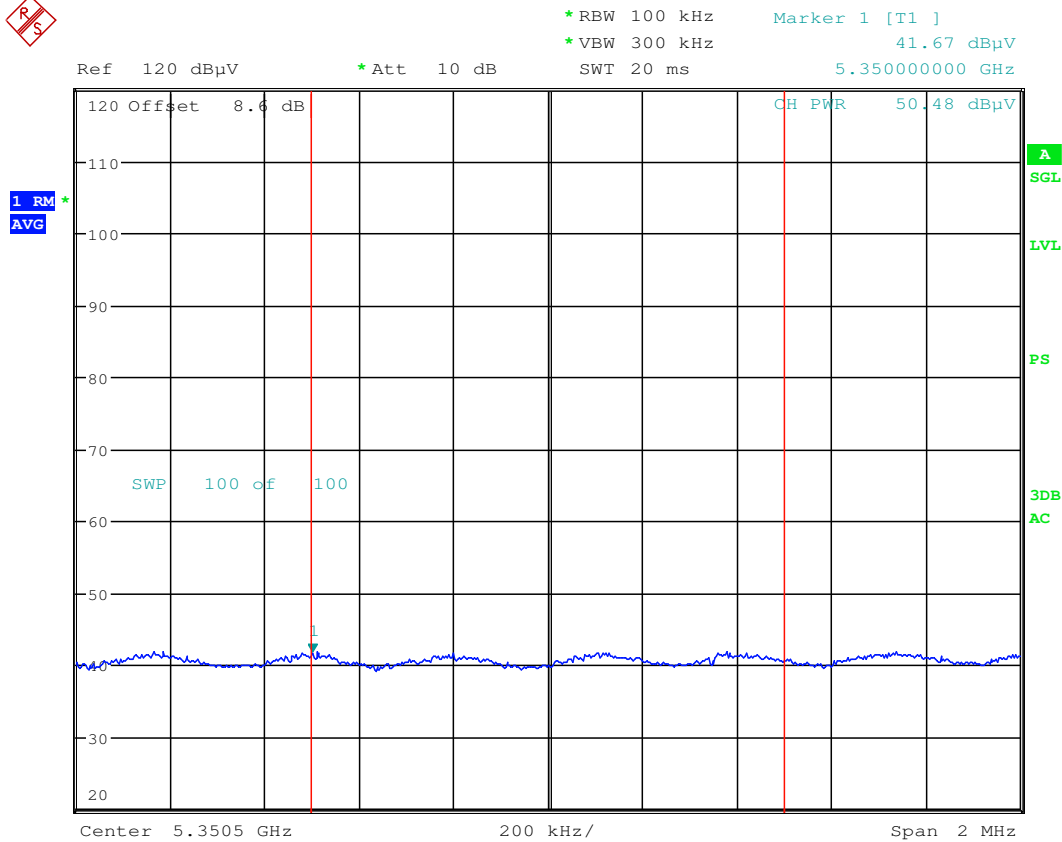
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58



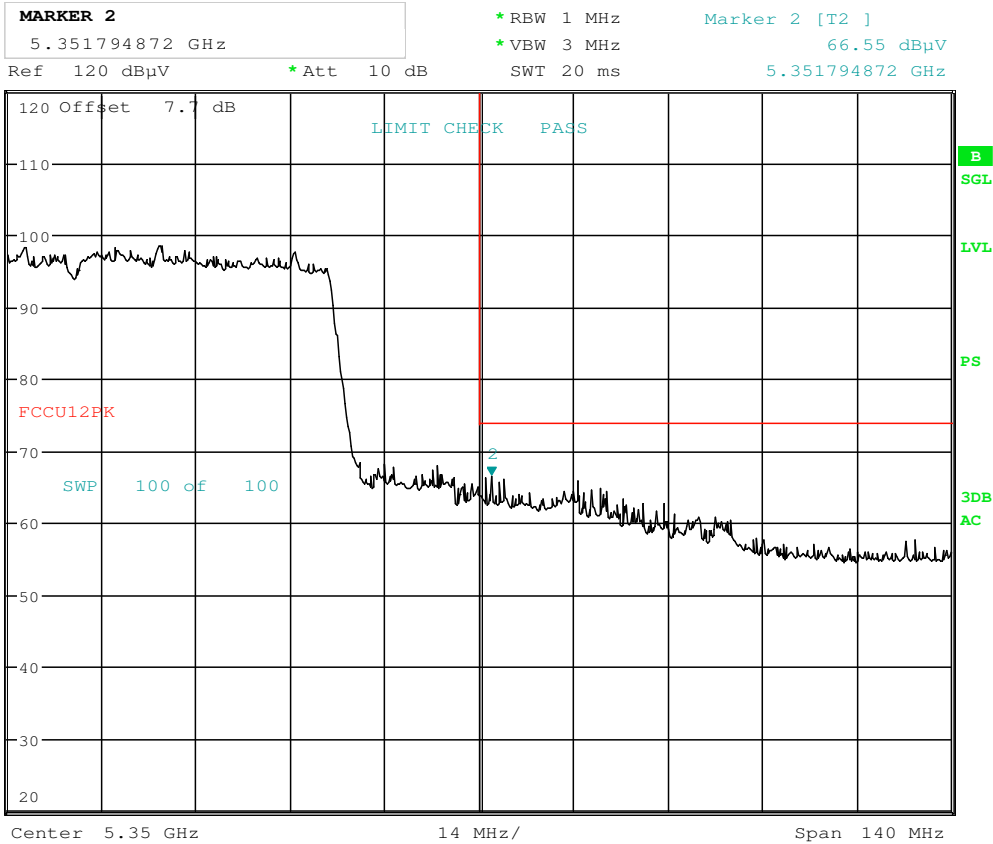
Date: 16.JAN.2017 15:51:26

Plot 7-273. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 232 of 260 |



MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 16.JAN.2017 15:52:25

Plot 7-274. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 233 of 260 |

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MIMO Radiated Band Edge Measurements (80MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

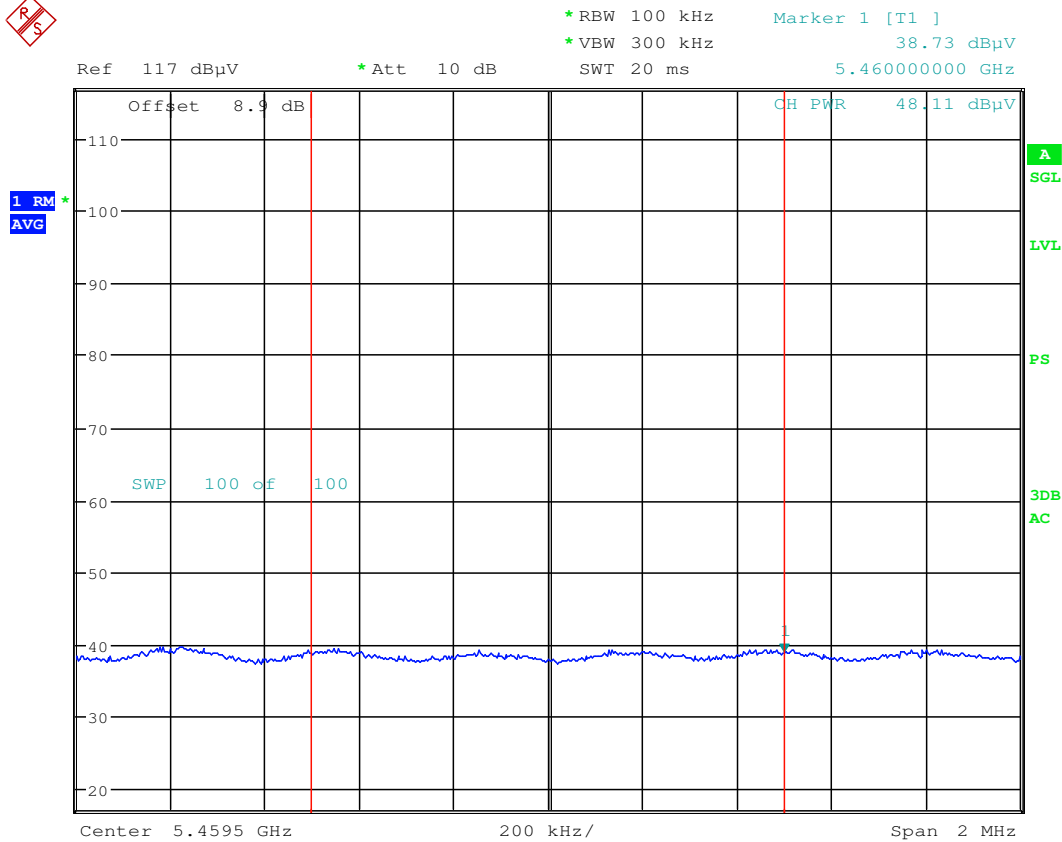
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5530MHz

Channel: 106



Date: 16.JAN.2017 17:10:23

Plot 7-275. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 234 of 260 |

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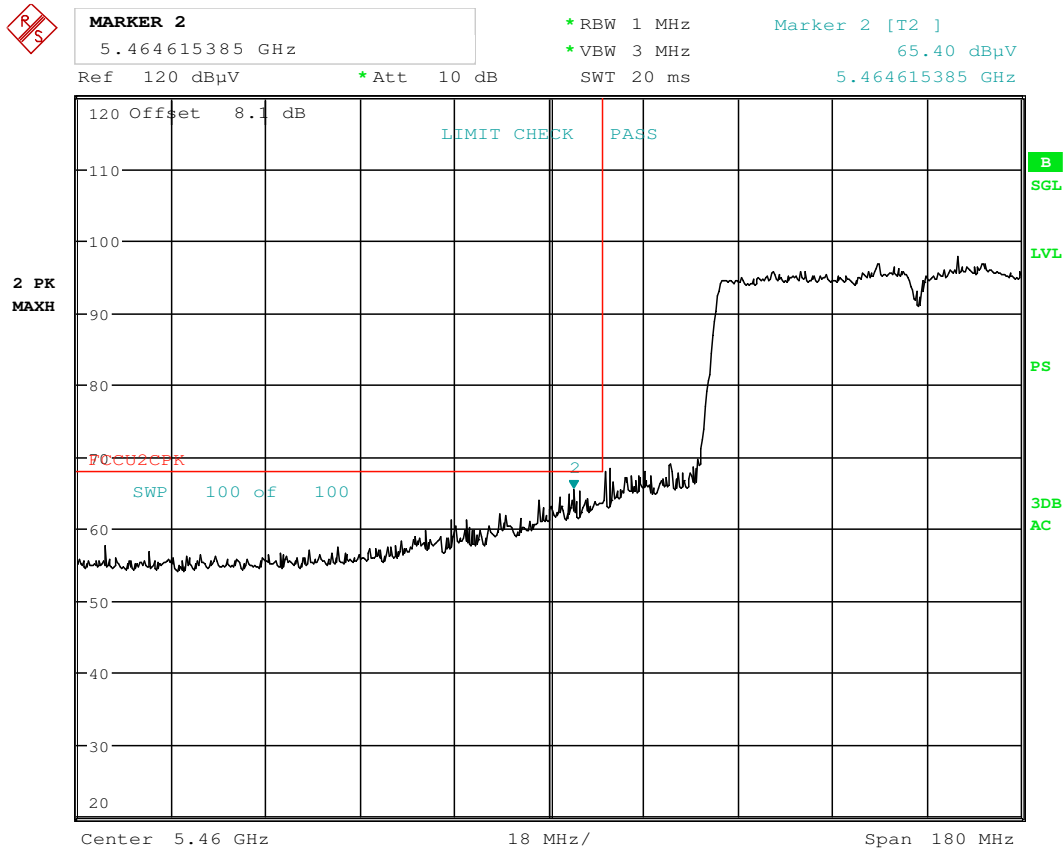
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MIMO Radiated Band Edge Measurements (80MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 16.JAN.2017 17:07:04

Plot 7-276. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 235 of 260 |

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MIMO Radiated Band Edge Measurements (80MHz BW) §15.407(b.1)(b.2) §15.205 §15.209

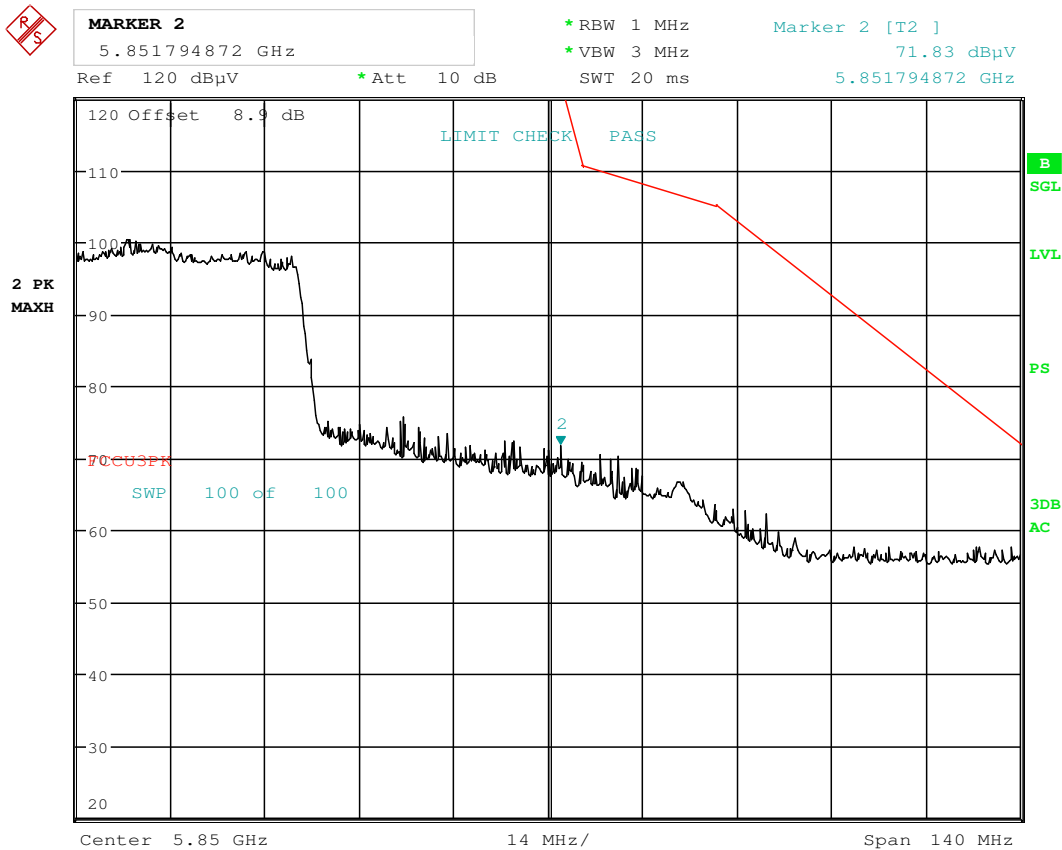
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5775MHz

Channel: 155



Date: 16.JAN.2017 17:19:17

Plot 7-277. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 236 of 260 |

MIMO WCP Radiated Band Edge Measurements (80MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

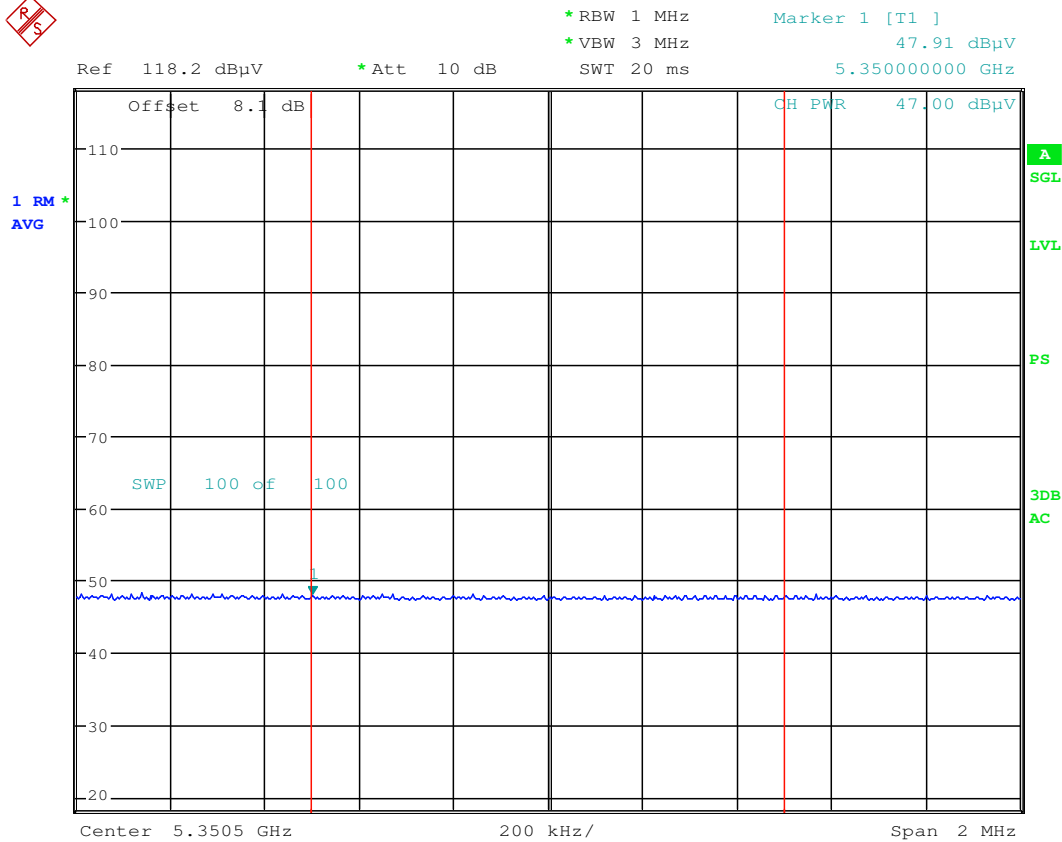
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58



Date: 24.JAN.2017 13:53:45

Plot 7-278. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 237 of 260 |

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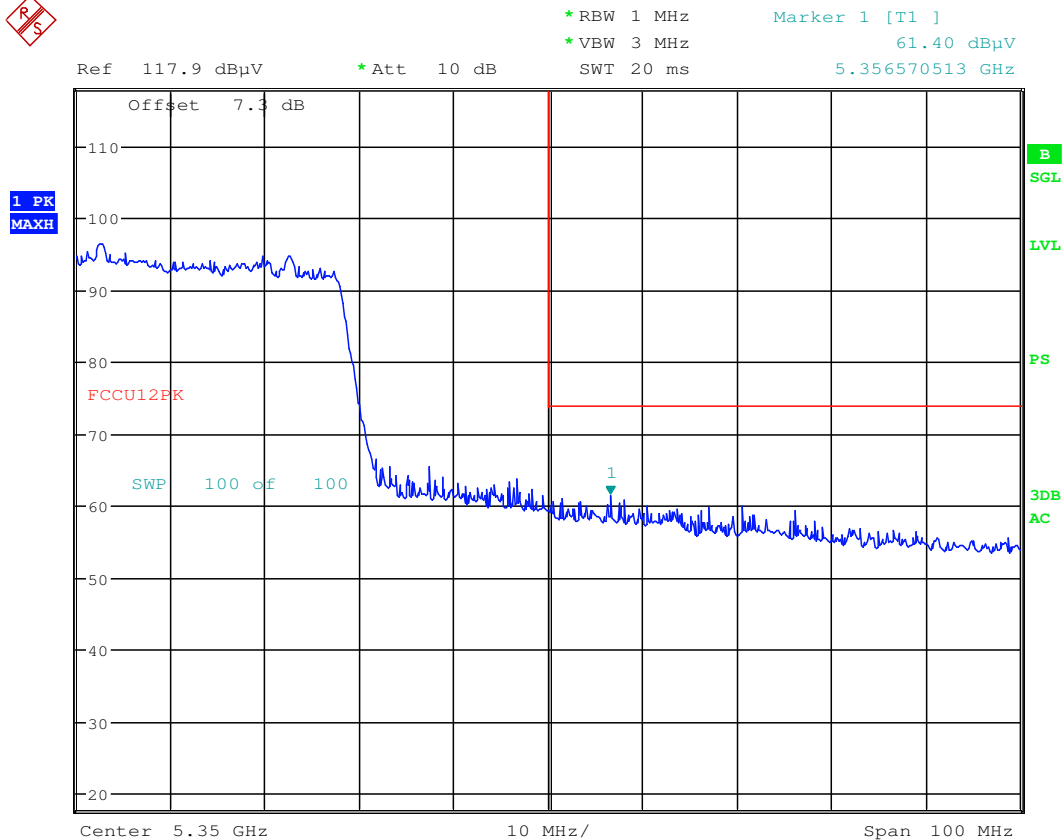
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MIMO WCP Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 24.JAN.2017 13:54:25

Plot 7-279. Radiated Restricted Band Edge Plot with WCP

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 238 of 260 |

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7.8 Radiated Spurious Emissions Measurements – Below 1GHz

§15.209

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table 7-66 per Section 15.209.

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

Table 7-66. Radiated Limits



Test Procedures Used

ANSI C63.10-2013

Test Settings

Quasi-Peak Field Strength Measurements

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

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 239 of 260 |

Test Setup

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

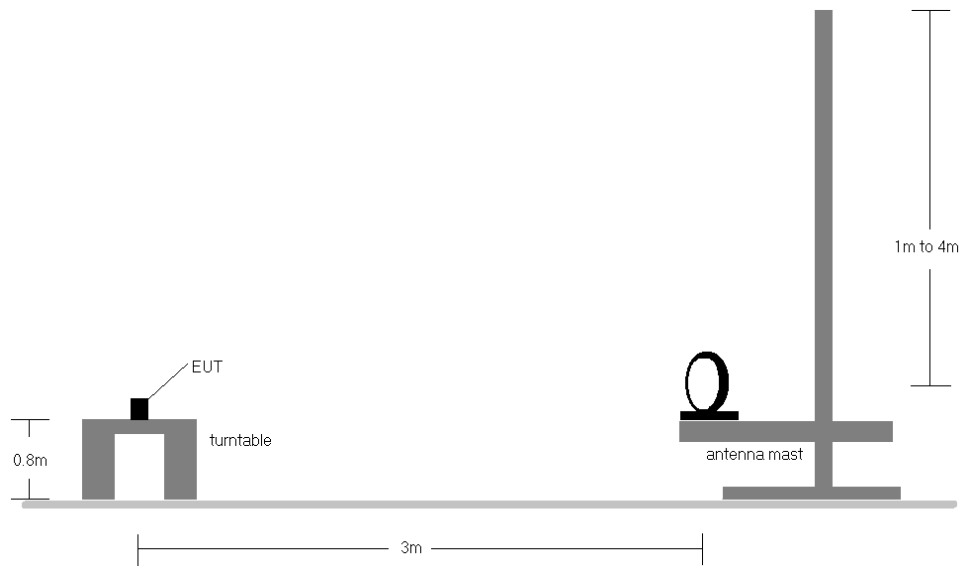


Figure 7-6. Radiated Test Setup < 30MHz

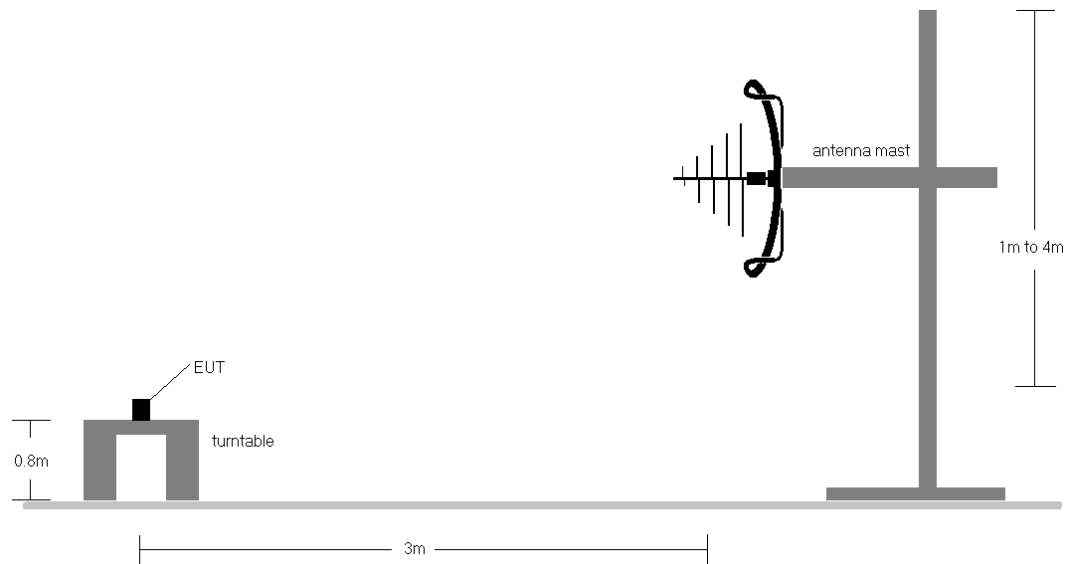




Figure 7-7. Radiated Test Setup < 1GHz

| | | | |
|--|--|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 240 of 260 |

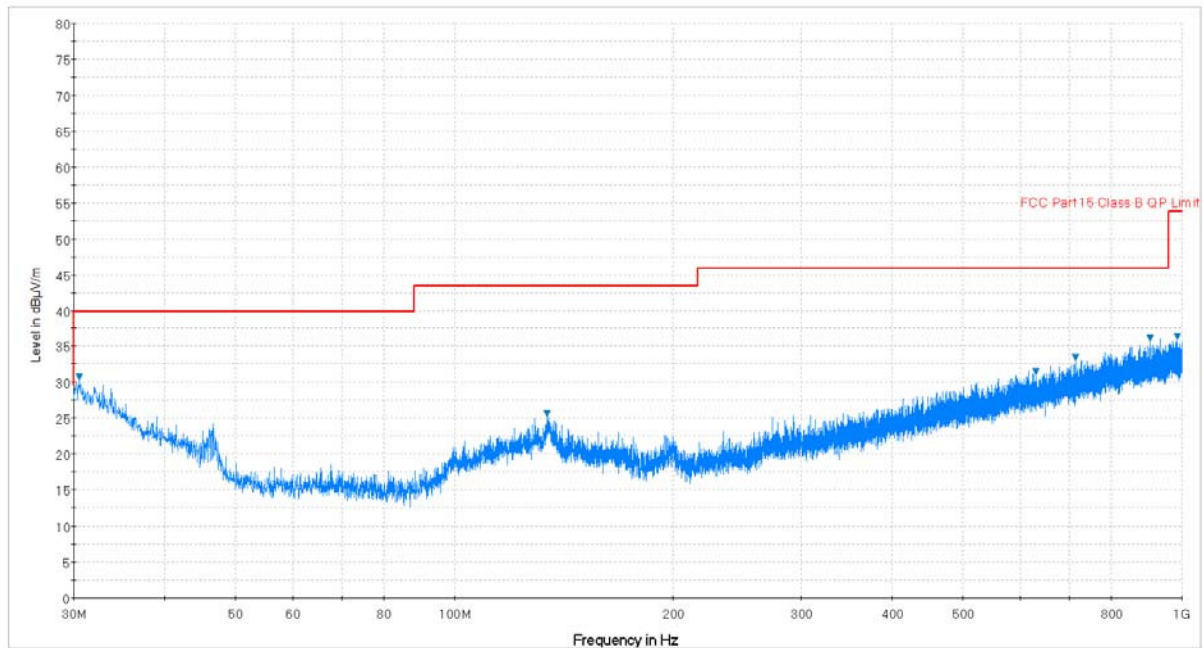
Test Notes

1. All emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 7-66.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
3. This unit was tested with its standard battery.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. The results recorded using the broadband antenna is known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. There were no emissions detected in the 30MHz – 1GHz frequency range, as shown in the subsequent plots.

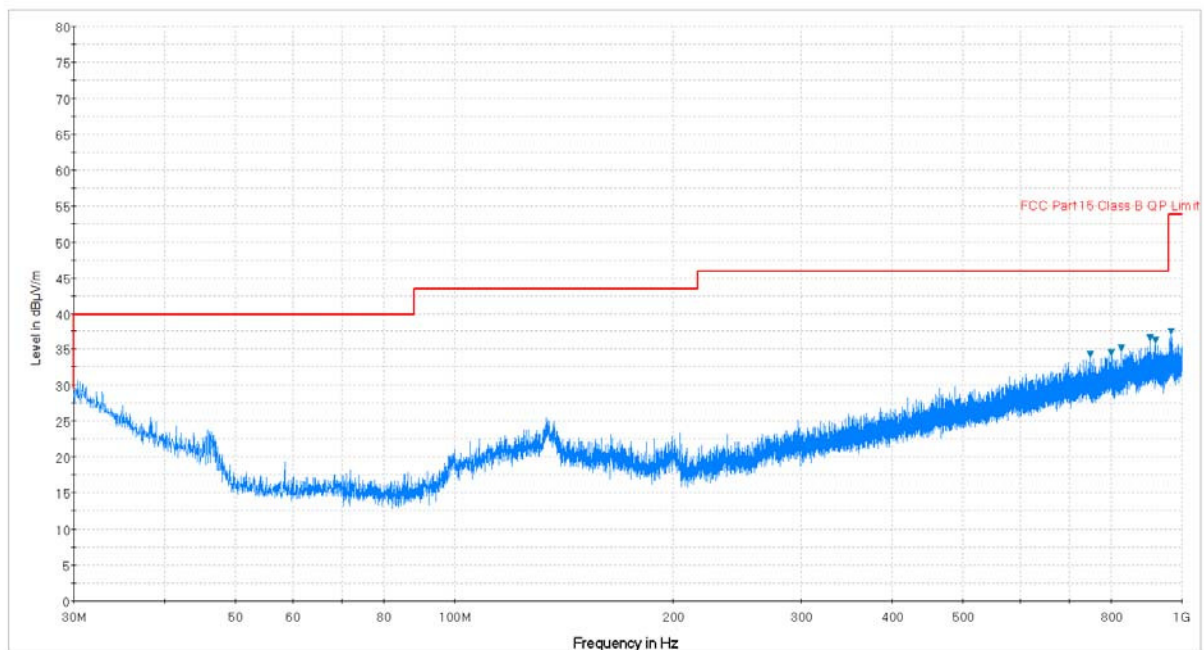
| | | | | |
|--|---|--|---|--|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 241 of 260 |

Antenna-1 Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209



Plot 7-280. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)

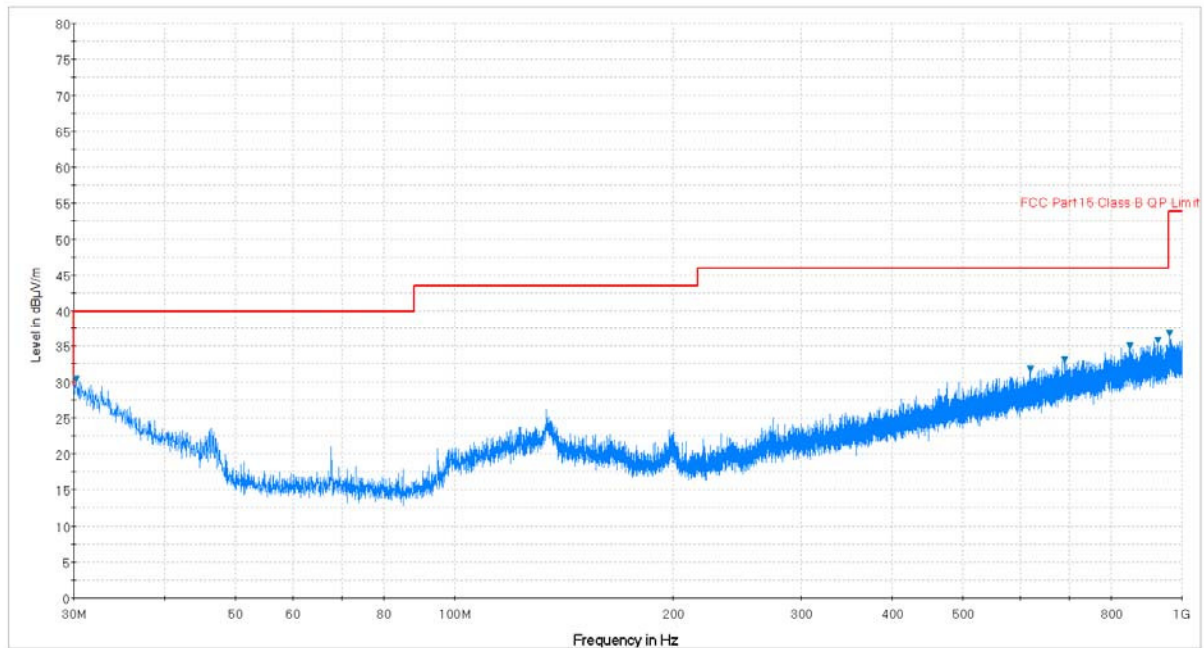


Plot 7-281. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

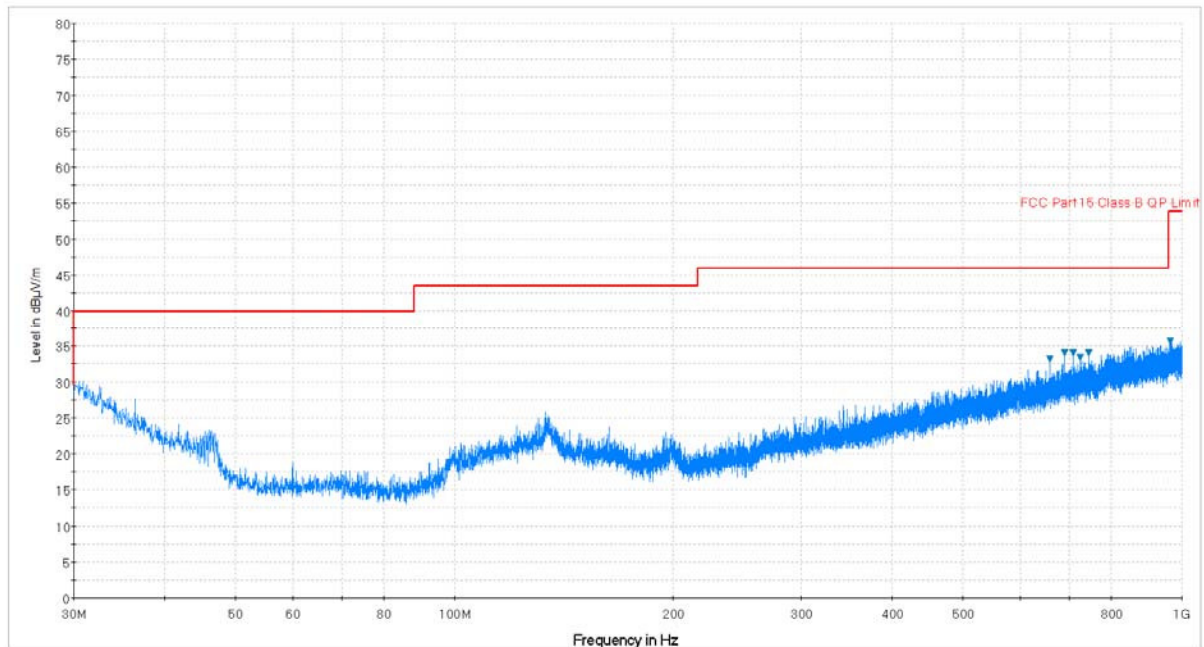
| | | | |
|--|--|---|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 242 of 260 |

Antenna-2 Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209



Plot 7-282. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)



Plot 7-283. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

| | | | |
|--|--|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 243 of 260 |

7.9 Line-Conducted Test Data

§15.407

Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.

All conducted emissions must not exceed the limits shown in the table below, per Section 15.207.

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

Table 7-67. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10-2013, Section 6.2



Test Settings

Quasi-Peak Field Strength Measurements

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

Average Field Strength Measurements

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

| | | | | |
|---|---|---|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 244 of 260 |

Test Setup

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

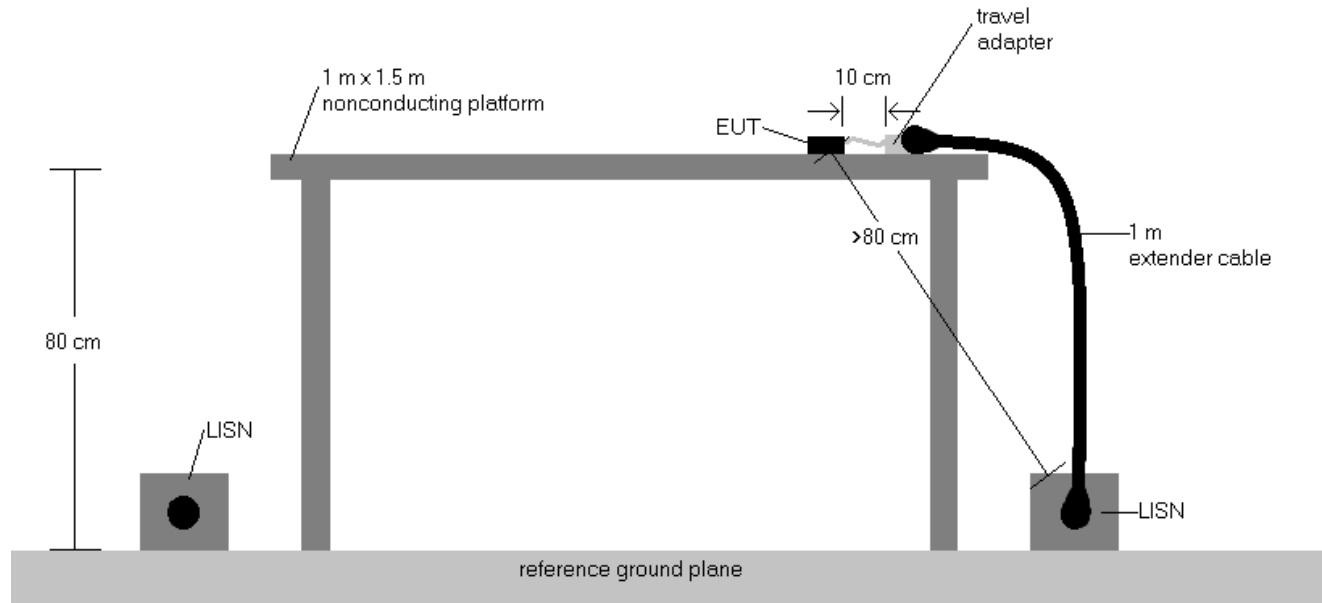


Figure 7-8. Test Instrument & Measurement Setup

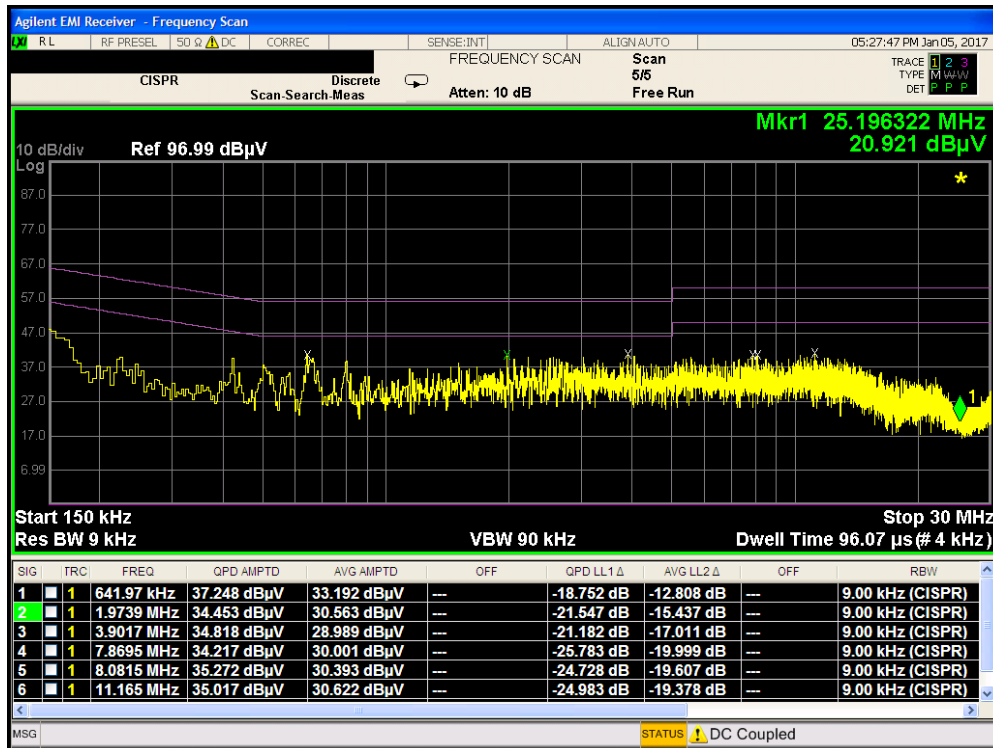
Test Notes

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

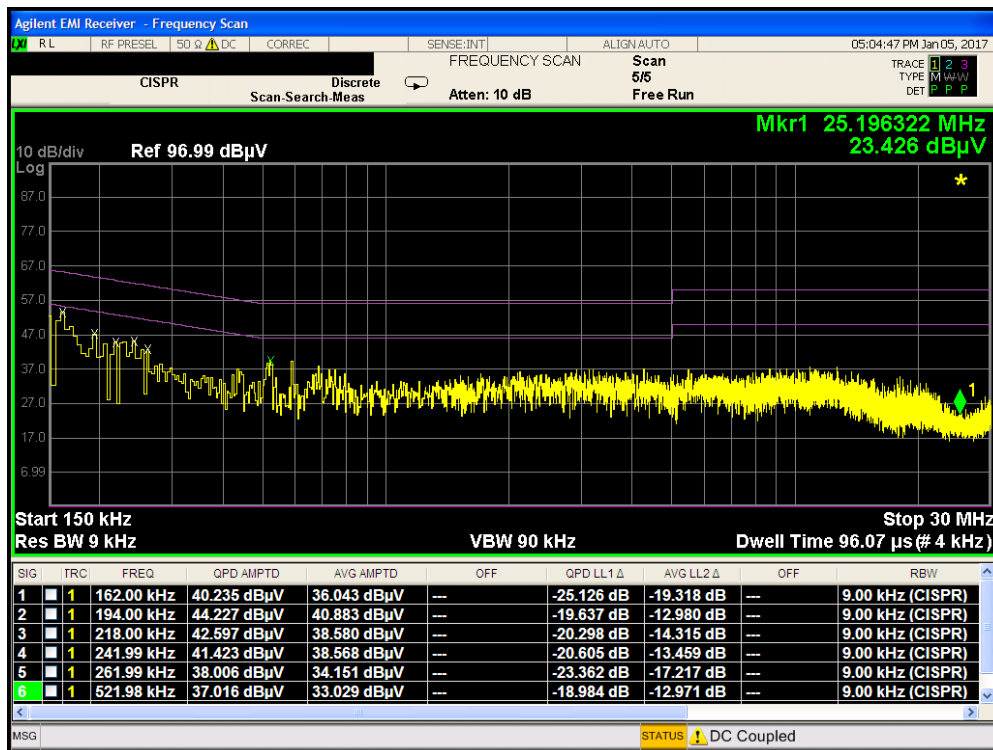
| | | | |
|--|--|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | Page 245 of 260 |

Line-Conducted Test Data

\$15.407



Plot 7-284. Line Conducted Plot with 802.11a UNII Band 1 (L1)

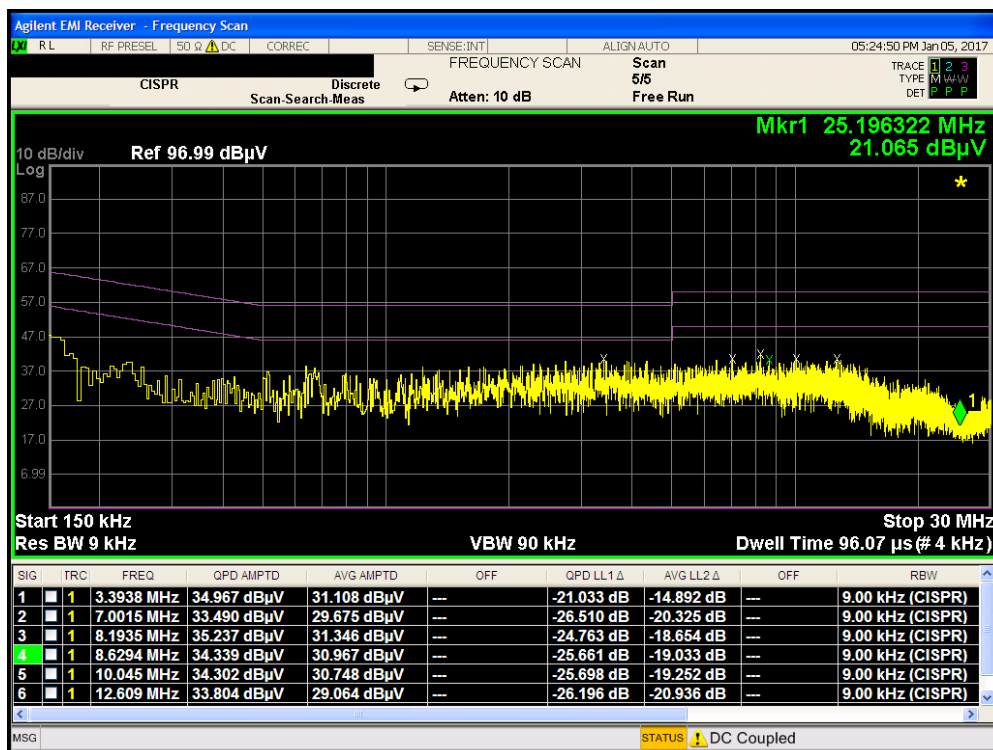


Plot 7-285. Line Conducted Plot with 802.11a UNII Band 1 (N)

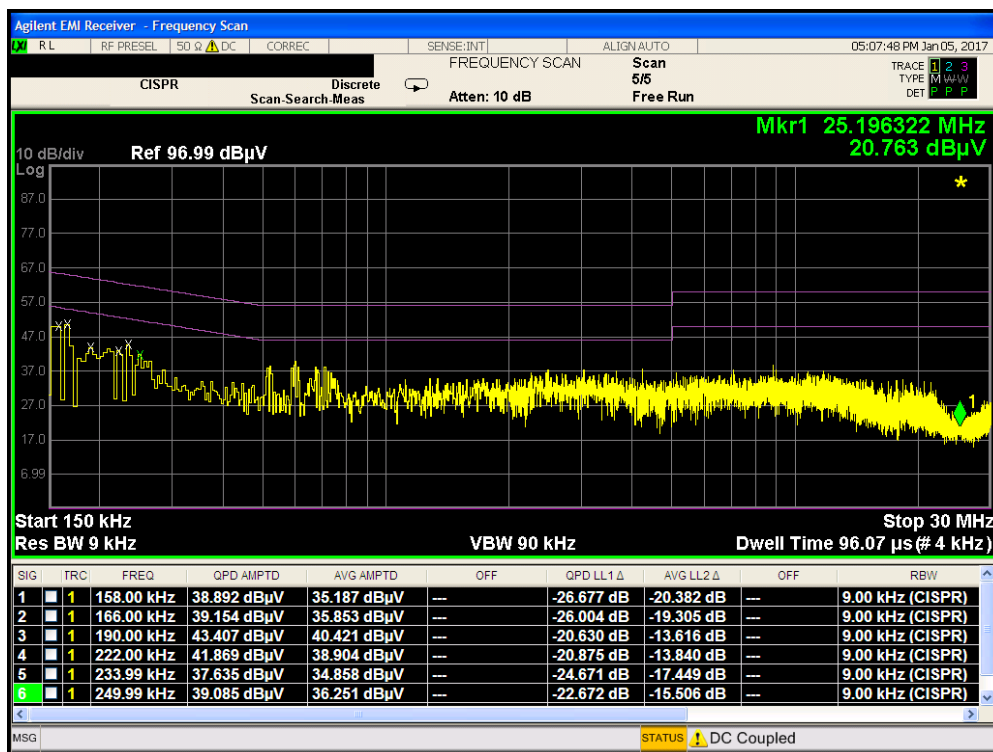
| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 246 of 260 |

Line-Conducted Test Data

\$15.407



Plot 7-286. Line Conducted Plot with 802.11a UNII Band 2A (L1)

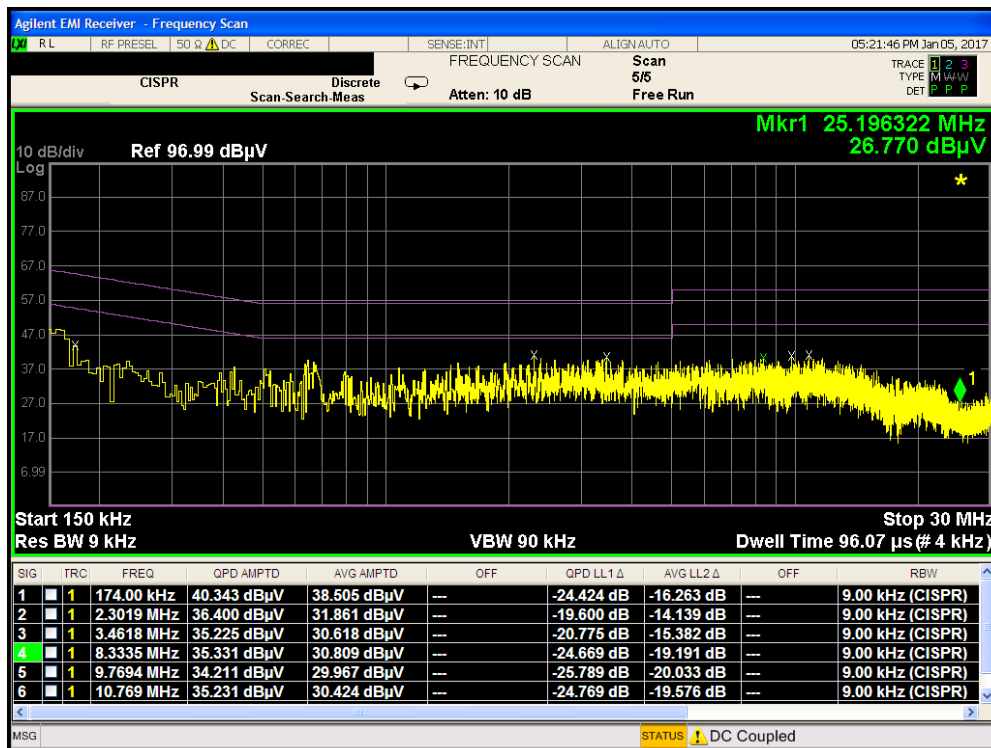


Plot 7-287. Line Conducted Plot with 802.11a UNII Band 2A (N)

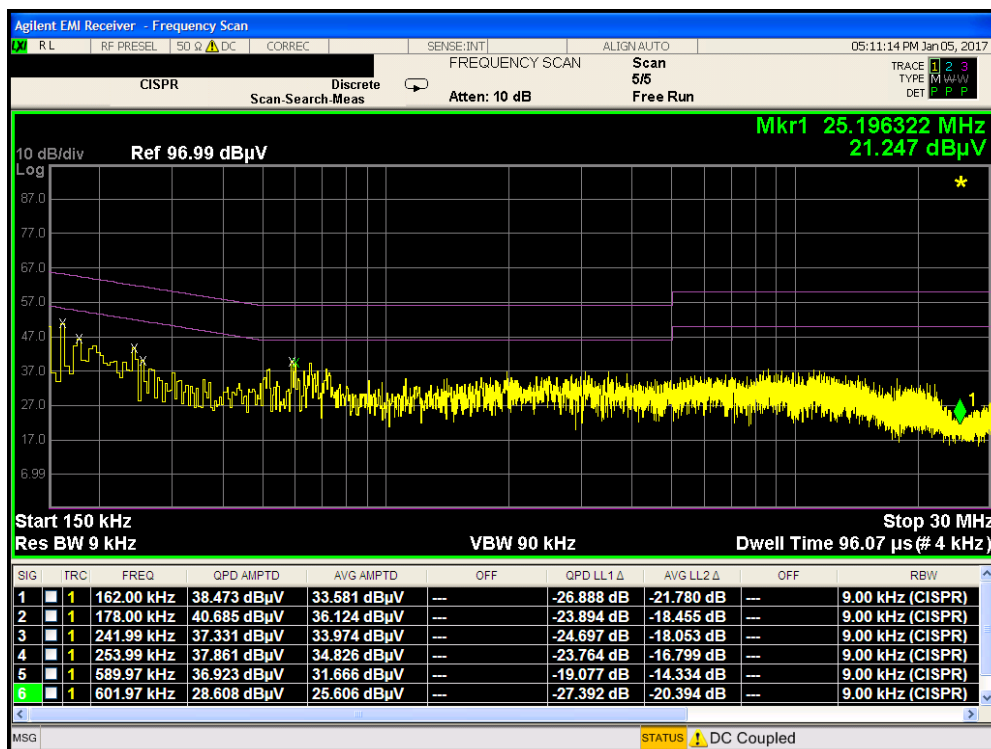
| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 247 of 260 |

Line-Conducted Test Data

\$15.407



Plot 7-288. Line Conducted Plot with 802.11a UNII Band 2C (L1)

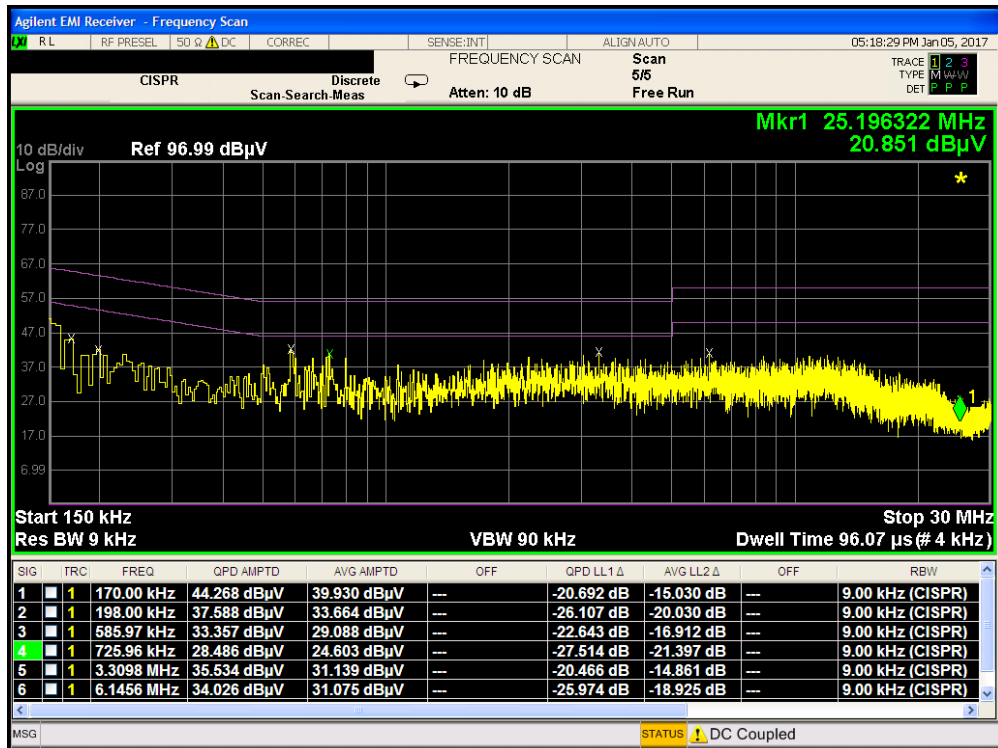


Plot 7-289. Line Conducted Plot with 802.11a UNII Band 2C (N)

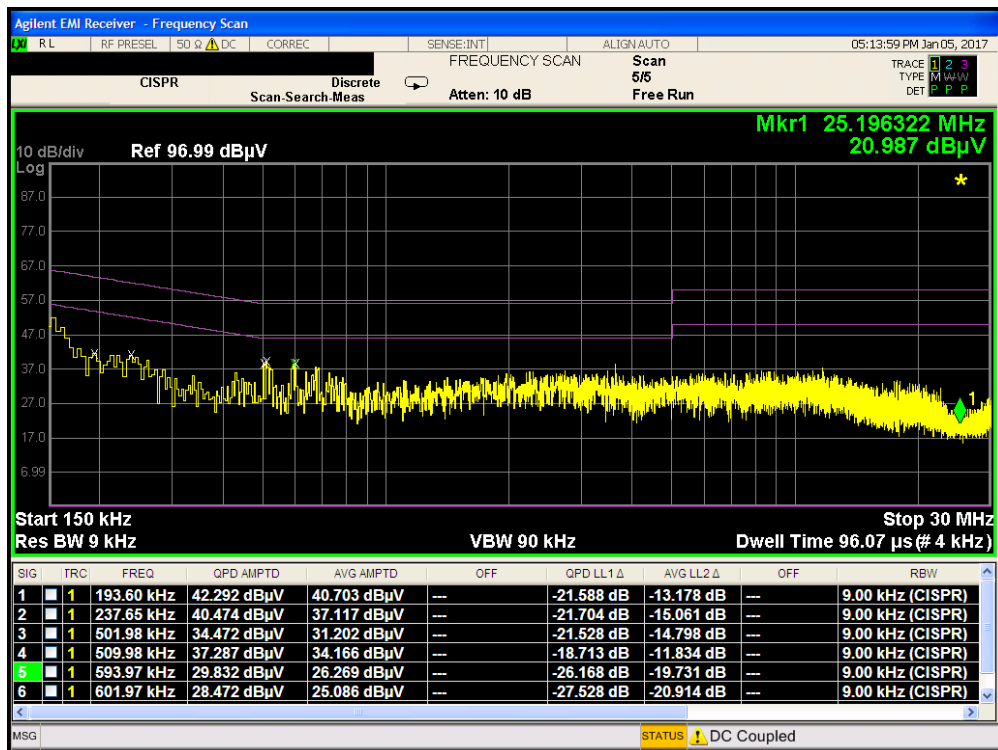
| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
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Line-Conducted Test Data

\$15.407



Plot 7-290. Line Conducted Plot with 802.11a UNII Band 3 (L1)





Plot 7-291. Line Conducted Plot with 802.11a UNII Band 3 (N)

| | | | | |
|---|---|--|----------------|---------------------------------|
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8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMG955F** is in compliance with Part 15E of the FCC Rules.

| | | | | |
|--|---|--|---|--|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 250 of 260 |

APPENDIX A. 802.11A DUAL TX



A.1 Summary

| FCC Part Section(s) | Test Description | Test Limit | Test Condition | Test Result | Reference |
|-------------------------------|---|--|----------------|-------------|-------------|
| TRANSMITTER MODE (TX) | | | | | |
| 15.407 (a.1.iv), (a.2), (a.3) | Maximum Conducted Output Power | Maximum conducted powers must meet the limits detailed in 15.407 (a) | CONDUCTED | PASS | Section A.2 |
| 15.407 (a.1.iv), (a.2), (a.3) | Maximum Power Spectral Density | Maximum power spectral density must meet the limits detailed in 15.407 (a) | | PASS | Section A.3 |
| 15.205, 15.407(b.1),(5),(6) | General Field Strength Limits (Restricted Bands and Radiated Emission Limits) | Emissions in restricted bands must meet the radiated limits detailed in 15.209 | | PASS | Section A.4 |

Table A.1-1. Summary of Test Results

Notes:

- 1) This device employs dual transmission in 802.11a and 802.11g modes using Cyclic Delay Diversity. For all test cases, the device was set to transmit from both antennas simultaneously. The data in this section demonstrates compliance to the dual-transmission requirements specified in KDB 662911 v02r01.
- 2) All data found in this section is compiled from plots found in the main body of this test report.
- 3) Since this device is able to transmit the same data through both of its antennas in a given symbol period, then, by the definition specified in KDB 662911 v02r01 Section F)1), the transmission symbols are correlated.
- 4) Since two antennas are supported in this device and a minimum of $N_{ss} = 1$ antenna can operate at any given time, the maximum array gain for two correlated signals is $10\log_{10}(N_{ant}/N_{ss}) = 3\text{dB}$, where N_{ss} is the number of spatial streams and N_{ant} is the total number of antennas.
- 5) For conducted spurious emissions, per KDB 662911 v02r01 Section E)3)b), the emissions on each individual output complied with its corresponding relative limit for that output, so additional testing was not required for dual transmission operation.

| | | | | |
|---|---|---|---|---------------------------------|
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A.2 Output Power Measurement

§15.247(b.3)

Test Overview

Using the “Measure and Sum” technique, the measured conducted power values were summed in linear power units then converted back to dBm.

| Freq [MHz] | Channel | Detector | 5GHz (20MHz) Conducted Power [dBm] | | |
|------------|---------|----------|------------------------------------|-------|-------|
| | | | IEEE Transmission Mode | | |
| | | | ANT1 | ANT2 | MIMO |
| 5180 | 36 | AVG | 16.23 | 16.17 | 19.21 |
| 5200 | 40 | AVG | 16.18 | 16.06 | 19.13 |
| 5220 | 44 | AVG | 15.90 | 15.97 | 18.95 |
| 5240 | 48 | AVG | 16.26 | 15.94 | 19.11 |
| 5260 | 52 | AVG | 18.08 | 18.27 | 21.19 |
| 5280 | 56 | AVG | 18.02 | 18.31 | 21.18 |
| 5300 | 60 | AVG | 18.02 | 18.42 | 21.23 |
| 5320 | 64 | AVG | 18.08 | 17.86 | 20.98 |
| 5500 | 100 | AVG | 17.96 | 17.95 | 20.97 |
| 5520 | 104 | AVG | 17.89 | 17.98 | 20.95 |
| 5540 | 108 | AVG | 17.94 | 17.82 | 20.89 |
| 5560 | 112 | AVG | 17.90 | 17.89 | 20.91 |
| 5580 | 116 | AVG | 17.90 | 17.79 | 20.86 |
| 5600 | 120 | AVG | 17.93 | 17.95 | 20.95 |
| 5620 | 124 | AVG | 17.87 | 17.92 | 20.91 |
| 5640 | 128 | AVG | 17.79 | 17.91 | 20.86 |
| 5660 | 132 | AVG | 17.79 | 17.95 | 20.88 |
| 5680 | 136 | AVG | 17.62 | 17.91 | 20.78 |
| 5700 | 140 | AVG | 17.57 | 17.81 | 20.70 |
| 5720 | 144 | AVG | 17.85 | 17.94 | 20.91 |
| 5745 | 149 | AVG | 17.82 | 17.12 | 20.49 |
| 5765 | 153 | AVG | 17.77 | 18.21 | 21.01 |
| 5785 | 157 | AVG | 17.54 | 18.20 | 20.89 |
| 5805 | 161 | AVG | 17.61 | 18.18 | 20.91 |
| 5825 | 165 | AVG | 17.64 | 18.20 | 20.94 |

Table A2-1. Dual Tx 802.11a-mode Conducted Output Power Measurements

Note:



Per KDB 662911 D01 v02r01 Section E)1), the conducted powers at Antenna 1 and Antenna 2 were first measured separately as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Sample CDD Calculation:

At 5180MHz the average conducted output power was measured to be 16.23 dBm for Antenna-1 and 16.17 dBm for Antenna-2.

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

$$(16.23 \text{ dBm} + 16.17 \text{ dBm}) = (41.97\text{mW} + 41.39\text{mW}) = 83.36 \text{ mW} = 19.21 \text{ dBm}$$

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: A3LSMG955F |  | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
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A.3 Power Spectral Density

§15.247(e)

Test Overview

Using the “Measure and Sum” technique, the measured conducted power density values were summed in linear power units then converted back to dBm. Original measured values are found in Section 7.5 of this report.

| | Frequency [MHz] | Channel No. | 802.11 Mode | Data Rate [Mbps] | Antenn-1 Power Density [dBm] | Antenn-2 Power Density [dBm] | Summed MIMO Power Density [dBm] | Max Permissible Power Density [dBm/MHz] | Margin [dB] | Pass / Fail |
|---------|-----------------|-------------|-------------|------------------|------------------------------|------------------------------|---------------------------------|---|-------------|-------------|
| Band 1 | 5180 | 36 | a | 6.5/7.2 (MCS0) | 4.23 | 4.26 | 7.25 | 11.0 | -3.75 | Pass |
| | 5200 | 40 | a | 6.5/7.2 (MCS0) | 4.30 | 3.99 | 7.16 | 11.0 | -3.84 | Pass |
| | 5240 | 48 | a | 6.5/7.2 (MCS0) | 4.43 | 3.86 | 7.16 | 11.0 | -3.84 | Pass |
| Band 2A | 5260 | 52 | a | 6.5/7.2 (MCS0) | 6.49 | 6.75 | 9.63 | 11.0 | -1.37 | Pass |
| | 5280 | 56 | a | 6.5/7.2 (MCS0) | 6.41 | 6.35 | 9.39 | 11.0 | -1.61 | Pass |
| | 5320 | 64 | a | 6.5/7.2 (MCS0) | 6.37 | 6.13 | 9.26 | 11.0 | -1.74 | Pass |
| Band 2C | 5500 | 100 | a | 6.5/7.2 (MCS0) | 6.72 | 5.81 | 9.30 | 11.0 | -1.70 | Pass |
| | 5600 | 120 | a | 6.5/7.2 (MCS0) | 6.34 | 5.75 | 9.07 | 11.0 | -1.93 | Pass |
| | 5720 | 144 | a | 6.5/7.2 (MCS0) | 5.93 | 5.68 | 8.82 | 11.0 | -2.18 | Pass |

Table A3-1.802.11a Dual Tx Conducted Power Density Measurements

Note:



Per KDB 662911 D01 v02r01 Section E)2), the power spectral density at Antenna 1 and Antenna 2 were first measured separately as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Sample CDD Calculation:

At 5180MHz the average conducted power spectral density was measured to be 4.23 dBm for Antenna-1 and 4.26 dBm for Antenna-2.

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

$$(4.23 \text{ dBm} + 4.26 \text{ dBm}) = (2.64 \text{ mW} + 2.66 \text{ mW}) = 5.30 \text{ mW} = 7.25 \text{ dBm}$$

| | | | | |
|---|---|---|---|---------------------------------|
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A.4 Dual Tx Radiated Restricted Band Edge Measurements

§15.205 §15.209

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting on both outputs in 802.11a mode.

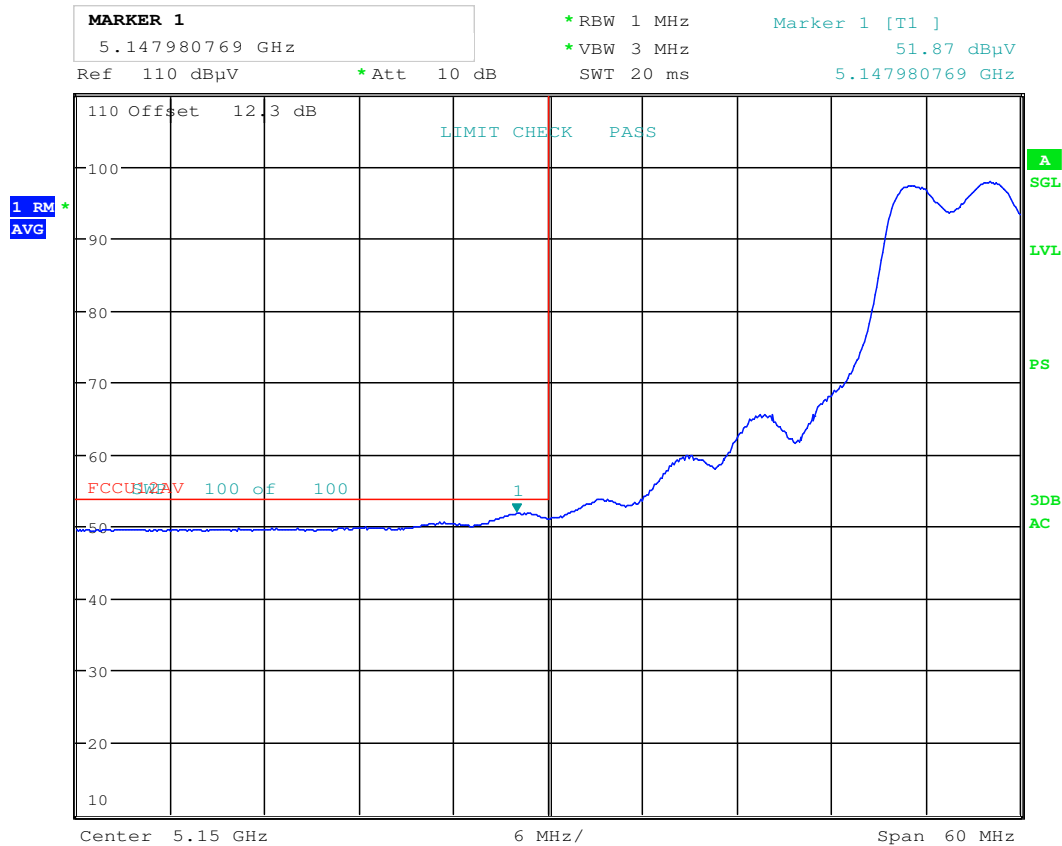
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36



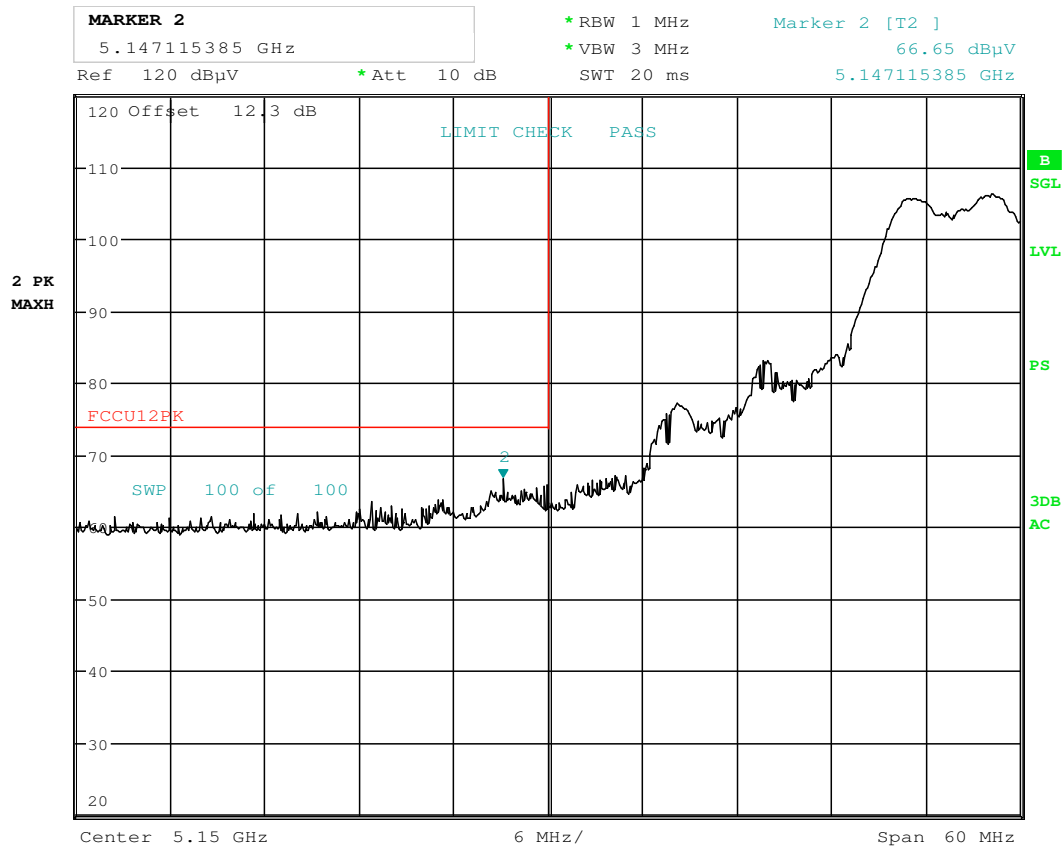
Date: 19.JAN.2017 15:44:09

Plot A.4-1. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
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Dual Tx Radiated Restricted Band Edge Measurements

§15.407(b.1)(b.2) §15.205 §15.209



Date: 19.JAN.2017 15:46:33

Plot A.4-2. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

| | | | | |
|--|--|---|----------------|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
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Dual Tx Radiated Restricted Band Edge Measurements

§15.407(b.1)(b.2) §15.205 §15.209

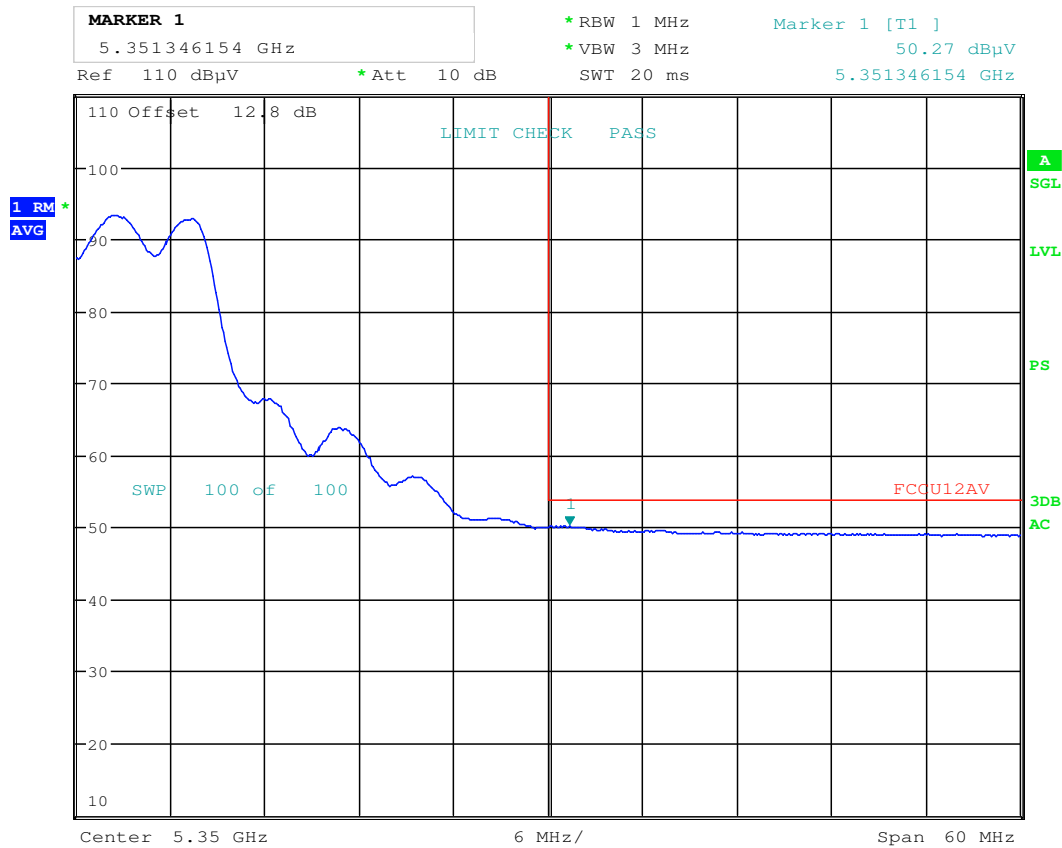
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64



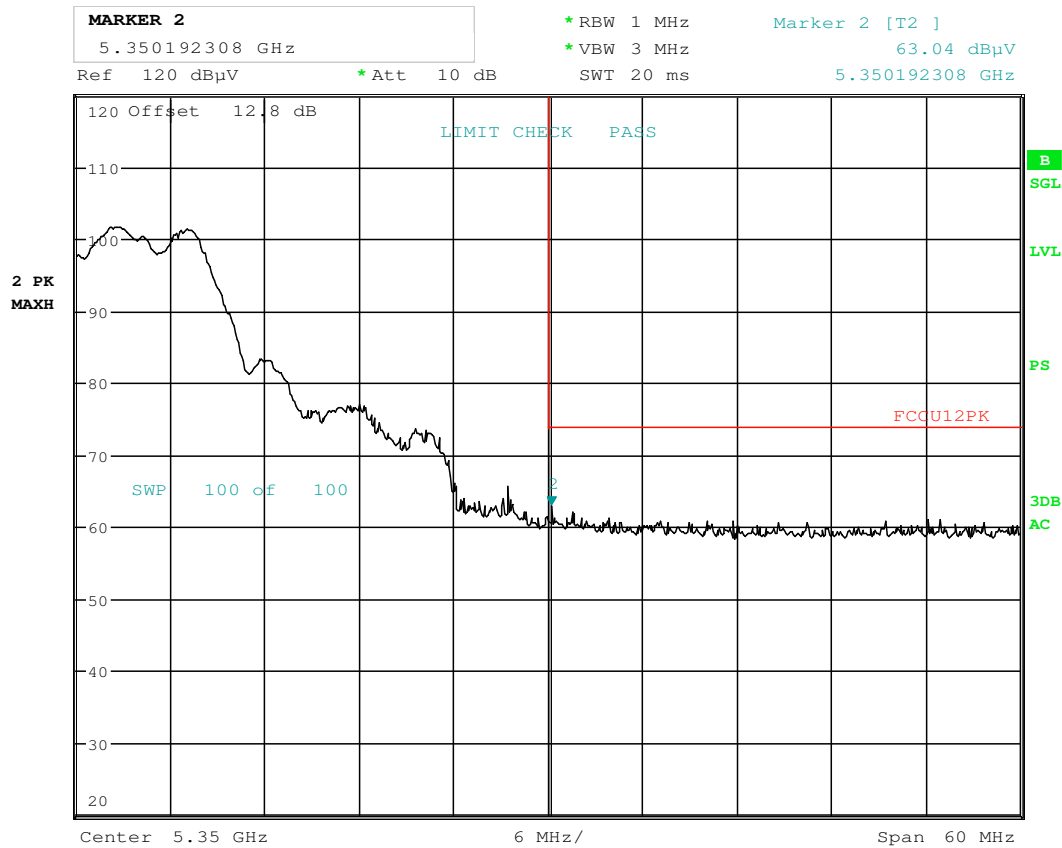
Date: 19.JAN.2017 15:51:37

Plot A.4-3. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
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Dual Tx Radiated Restricted Band Edge Measurements

§15.407(b.1)(b.2) §15.205 §15.209



Date: 19.JAN.2017 15:52:06

Plot A.4-4. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
| Test Report S/N: 1M1701030007-05.A3L | Test Dates: 12/29/2016 - 01/27/2017, 02/22/2017 | EUT Type: Portable Handset | | Page 257 of 260 |

Dual Tx Radiated Restricted Band Edge Measurements

§15.407(b.1)(b.2) §15.205 §15.209

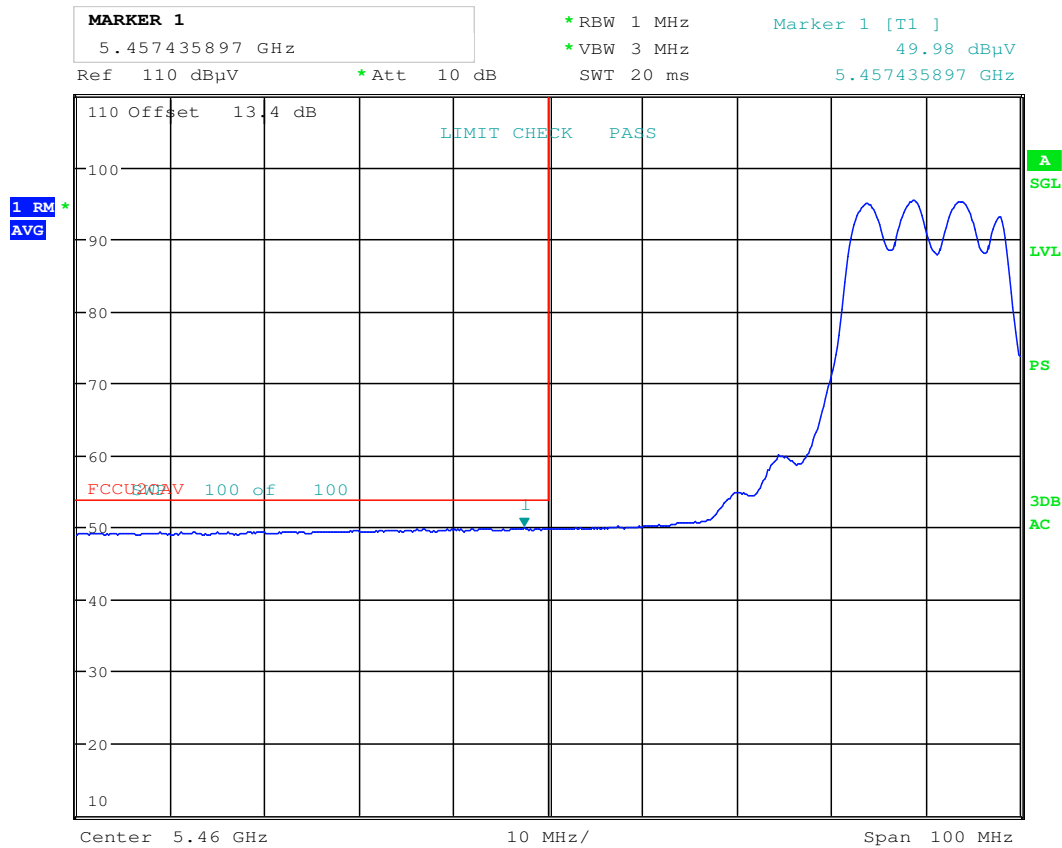
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100



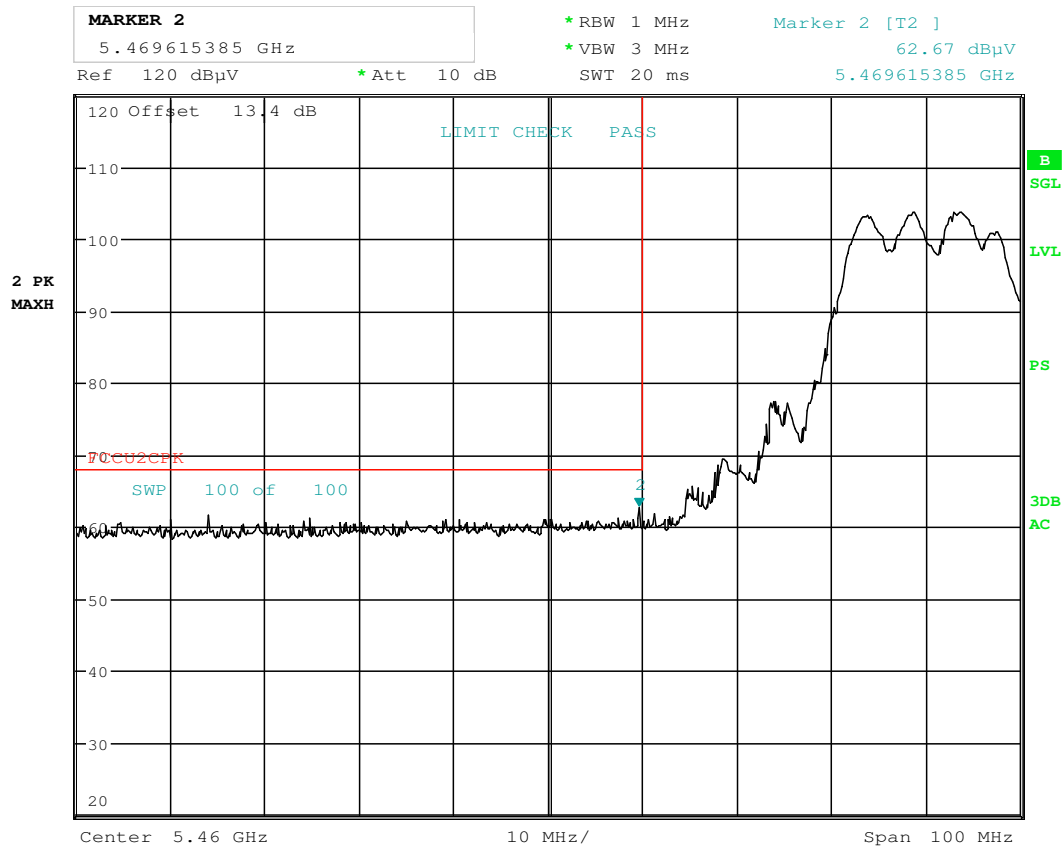
Date: 19.JAN.2017 15:53:26

Plot A.4-5. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

| | | | |
|---|---|--|--|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
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Dual Tx Radiated Restricted Band Edge Measurements

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 19.JAN.2017 15:53:50

Plot A.4-6. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

| | | | | |
|---|---|--|----------------|---------------------------------|
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Dual Tx Radiated Restricted Band Edge Measurements

§15.407(b.1)(b.2) §15.205 §15.209

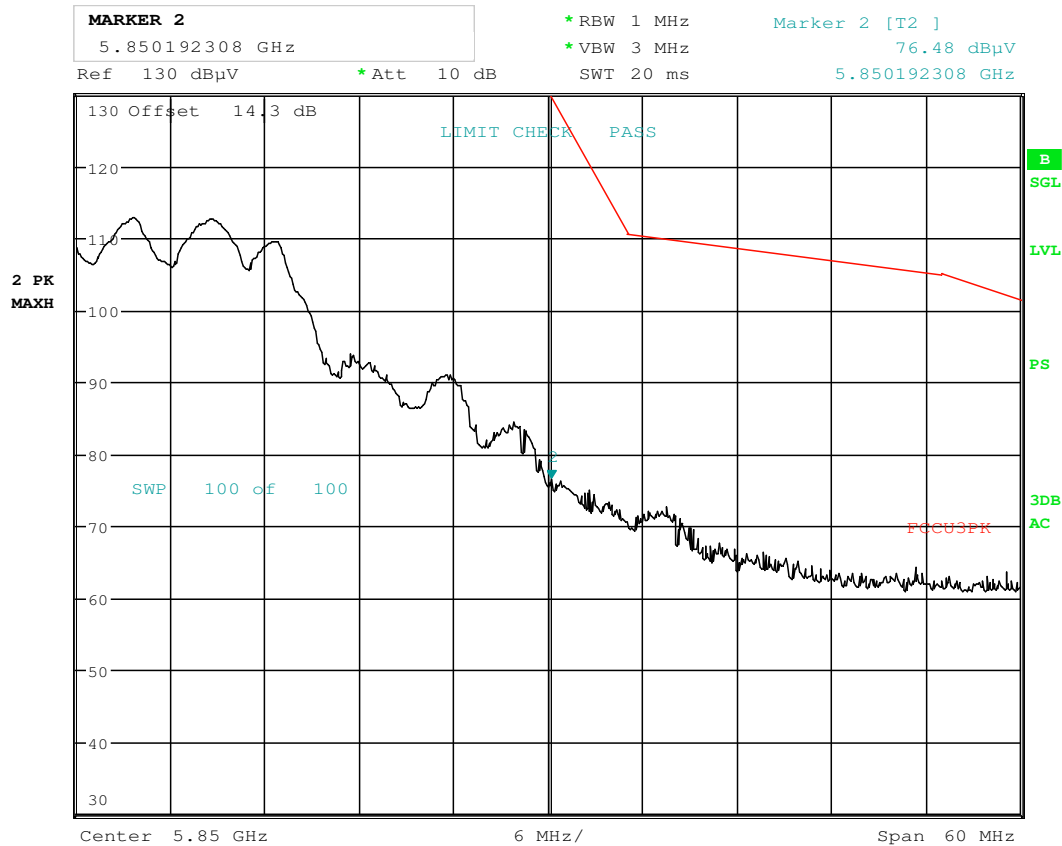
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5825MHz

Channel: 165



Date: 19.JAN.2017 15:55:16

Plot A.4-9. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

| | | | | |
|---|---|--|----------------|---------------------------------|
| FCC ID: A3LSMG955F | PCTEST ENGINEERING LABORATORY, INC. | FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
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