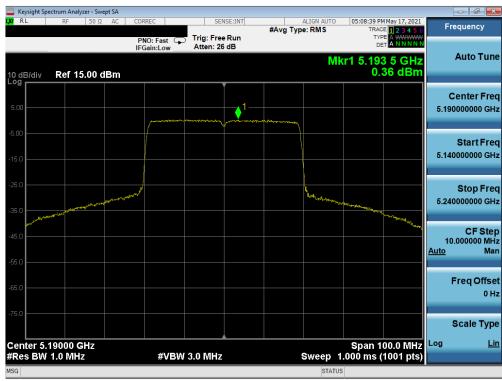




Plot 7-489. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 48)



Plot 7-490. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 38)

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Technical Manager | |
|---------------------|-----------------------------|---------------------------------------|--|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dama 040 of 440 | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | ortable Handset | | Page 319 of 413 | |
| © 2021 PCTEST | | | | V 9.0 02/01/2019 | |



| | Spectrum Analyzer - Swept SA | | | | | | |
|----------------------|---|---------------------------|-----------------------------|--------------------------|-------------|--|----------------------------------|
| L <mark>XI</mark> RL | RF 50 Ω AC | CORREC | SENS | E:INT #Avg Typ | ALIGN AUTO | 05:10:34 PM May 17 TRACE 123 | |
| | _ | PNO: Fast 📮 IFGain:Low | Trig: Free F Atten: 26 d | | N AL | | |
| 10 dB/div Log | Ref 15.00 dBm | | | | | r1 5.223 6 0 1.49 d | Bm |
| | | | . 1 | | | | Center Freq |
| 5.00 | | pour | | man war war and a second | | | 5.230000000 GHz |
| -5.00 | | | | Y | | | Start Freq |
| -15.0 | | | | | | | 5.180000000 GHz |
| -25.0 | where a | annal | | | have | | Stop Freq |
| -35.0 | and when and and and and and and and and and an | | | | | and the state of t | 5.280000000 GHz |
| | | | | | | | CF Step |
| -45.0 | | | | | | | 10.000000 MHz <u>Auto</u> Man |
| -35.0 | | | | | | | Ener Offerst |
| -65.0 | | | | | | | Freq Offset 0 Hz |
| -75.0 | | | | | | | |
| | | | | | | | Scale Type |
| | 5.23000 GHz | | | | | Span 100.0 | MHz ^{Log <u>Lin</u>} |
| | V 1.0 MHz | #VBW | 3.0 MHz | | | .000 ms (1001 | pts) |
| MSG | | | | | STATUS | | |

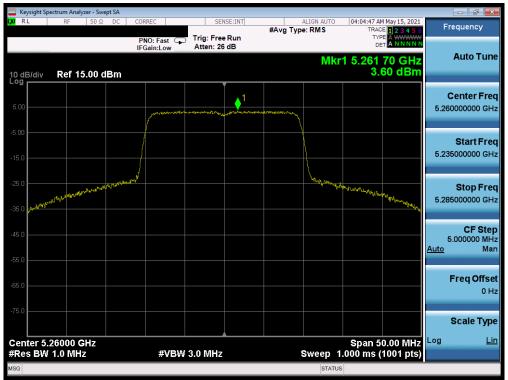
Plot 7-491. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 46)



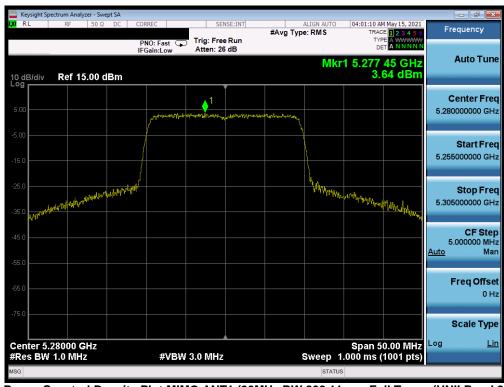
Plot 7-492. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 42)

| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Technical Manager | |
|---------------------|--|---------------------------------------|--|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 220 of 412 | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | ortable Handset | | Page 320 of 413 | |
| © 2021 PCTEST | | | | V 9.0 02/01/2019 | |





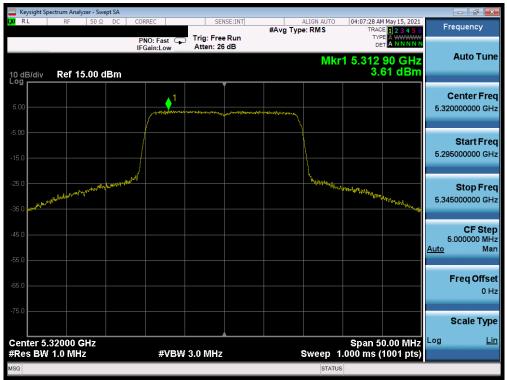
Plot 7-493. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 52)



Plot 7-494. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 56)

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Technical Manager |
|---------------------|-----------------------------|---------------------------------------|--|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: Portable Handset | | Dogo 201 of 112 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | | | Page 321 of 413 |
| © 2021 PCTEST | | | | V 9.0 02/01/2019 |





Plot 7-495. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 64)



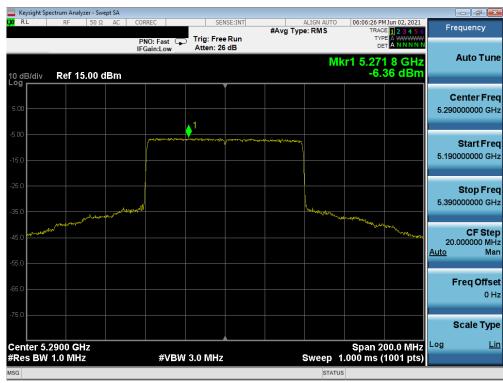
Plot 7-496. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 54)

| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Technical Manager | |
|---------------------|--|---------------------------------------|--|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dogo 222 of 442 | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | | Page 322 of 413 | |
| © 2021 PCTEST | | | | V 9.0 02/01/2019 | |



| | ectrum Analyzer - Swept SA | | | | | | |
|------------------|------------------------------------|--|-----------------------------|---|--|--|--|
| LXIRL | RF 50 Ω AC | CORREC | SENSE | E:INT #Avg Typ | | 45:41 PM Jun 02, 2021 TRACE 1 2 3 4 5 6 | Frequency |
| | | PNO: Fast 🕞 IFGain:Low | Trig: Free R Atten: 26 d | Run | | TYPE A WWWWW DET A NNNN | Auto Turo |
| 10 dB/div Log | Ref 15.00 dBm | | | | Mkr1 { | 5.305 5 GHz -1.22 dBm | Auto Tune |
| 5.00 | | للاسيديكرين المريس الاسيديكرين المريس | 1 | an to an March and an and an and an and an and an | | | Center Freq 5.310000000 GHz |
| -5.00 | | | | | | | Start Freq 5.260000000 GHz |
| -25.0 | water and the second second second | neta de la constante de la const | | | C & Contraction of Co | and the second second second second | Stop Freq 5.36000000 GHz |
| -45.0 | | | | | | | CF Step 10.000000 MHz <u>Auto</u> Man |
| -65.0 | | | | | | | Freq Offset 0 Hz |
| -75.0 | | | | | | | Scale Type |
| | 31000 GHz | | | | Sp | an 100.0 MHz | Log <u>Lin</u> |
| #Res BW | 1.0 MHz | #VBW | 3.0 MHz | | | ms (1001 pts) | |
| MSG | | | | | STATUS | | |

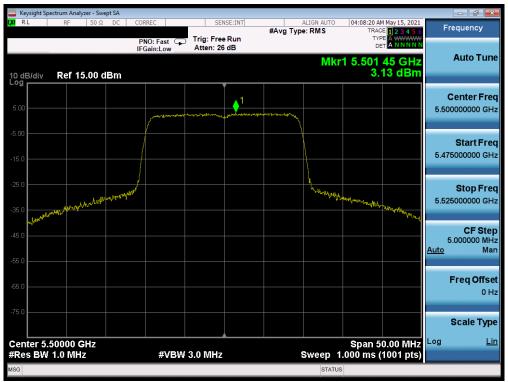
Plot 7-497. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 62)



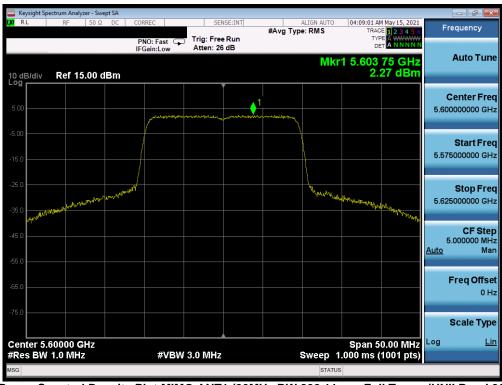
Plot 7-498. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 58)

| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | | | |
|---------------------|--|---------------------------------------|-----------------------------------|--|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 222 of 442 | | | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 323 of 413 | | | |
| V 9.0 02/01/2019 | | | | | | |





Plot 7-499. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 100)



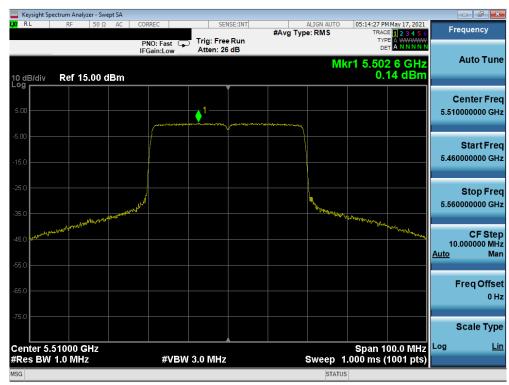
Plot 7-500. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 120)

| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | | Approved by: Technical Manager |
|---------------------|--|---------------------------------------|--|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: Portable Handset | | Dama 201 of 112 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | | | Page 324 of 413 |
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Plot 7-501. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 144)



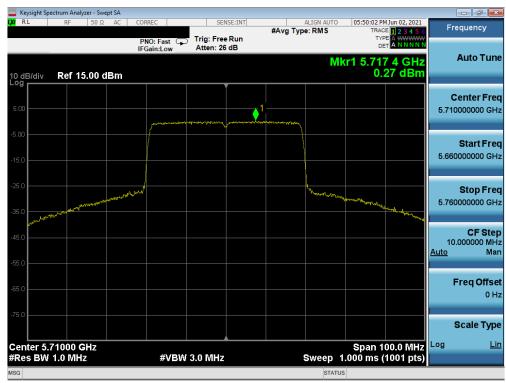
Plot 7-502. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 102)

| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | | | |
|--------------------------------|--|---------------------------------------|-----------------------------------|--|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | Daga 205 of 412 | | | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 325 of 413 | | | |
| © 2021 PCTEST V 9.0 02/01/2019 | | | | | | |



| | Spectrum Analyzer - Swep | it SA | | | | | | | | |
|------------------|---------------------------|--|--|---|----------|----------------------|----------------------|-----------------------|-------------------|------------------------------|
| LXU RL | RF 50 Ω | AC CORREC | SEN | SE:INT | #Avg Typ | ALIGN AUTO e: RMS | | May 17, 2021 | Fre | equency |
| | _ | PNO: Fast C IFGain:Low | Trig: Free Atten: 26 | | | | DE | | | Auto Tune |
| 10 dB/div Log | Ref 15.00 di | Зm | | | | Mł | (r1 5.60 0. | 1 7 GHz 79 dBm | | Auto Tune |
| 5.00 | | Junearen | | jan and the second s | 1 | | | | | enter Freq 000000 GHz |
| -5.00 | | | | | | | | | 5.540 | Start Freq 0000000 GHz |
| -25.0 | way way to be a strain of | and the state of t | | | | Mannam m | Maryun Maryun Maryon | ormalipericity | 5.640 | Stop Freq 0000000 GHz |
| -45.0 | Carry Marine . | | | | | | | | 10 <u>Auto</u> | CF Step 000000 MHz Man |
| -65.0 | | | | | | | | | F | Freq Offset 0 Hz |
| -75.0 | | | | | | | | | | Scale Type |
| | 5.59000 GHz V 1.0 MHz | #\/P | W 3.0 MHz | | | Swoon_4 | Span 1 | 00.0 MHz 1001 pts) | Log | <u>Lin</u> |
| #Res DV | | #VD | W 3.0 MHZ | | | sweep | | roor pis) | | |
| Mod | | | | | | STATUS | 2 | | | |

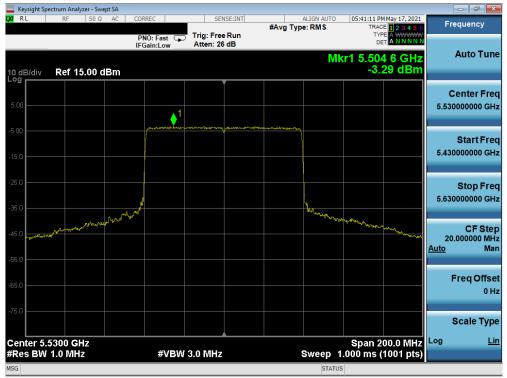
Plot 7-503. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 118)



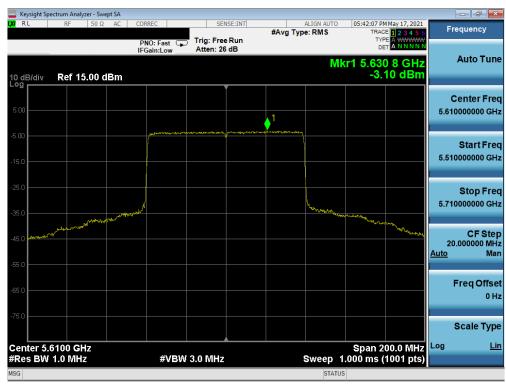
Plot 7-504. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 142)

| FCC ID: A3LSMF711B | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|---|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dega 206 of 442 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 326 of 413 |
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Plot 7-505. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 106)



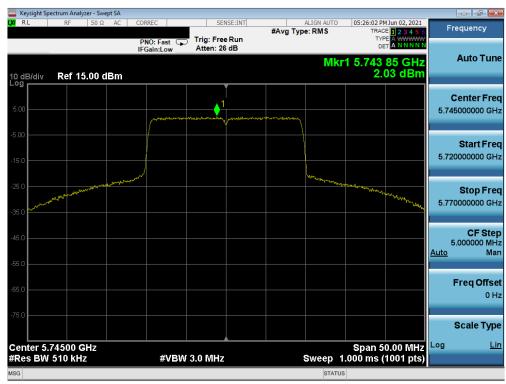
Plot 7-506. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 122)

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | |
|---------------------|-------------------------------|---------------------------------------|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 227 of 412 | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 327 of 413 | |
| © 2021 PCTEST | | | V 9.0 02/01/2019 | |



| 🔤 Keysight Spectrum Analyzer - Swep | ot SA | | | |
|--------------------------------------|--|--------------------|--|--|
| LXI RL RF 50 Ω | | #Avg Type | LIGN AUTO 06:11:02 PM J RMS TRACE | 1 2 3 4 5 6 Frequency |
| 10 dB/div Ref 15.00 dB | PNO: Fast 🆵 Trig: Fre IFGain:Low Atten: 26 | e Run 6 dB | DET Mkr1 5.718 | A NNNNN 8 GHz 2 dBm |
| 5.00 | و و و و و و و و و و و و و و و و و و و | June Market Market | | Center Freq 5.690000000 GHz |
| -15.0 | | | | Start Freq 5.590000000 GHz |
| -25.0 -35.0 | 2500 A 100 A | | and any the second of the seco | 5.790000000 GHz |
| -45.0 | | | | CF Step 20.000000 MHz <u>Auto</u> Man |
| -65.0 | | | | Freq Offset 0 Hz |
| 40.0 | | | | Scale Type |
| Center 5.6900 GHz #Res BW 1.0 MHz | #VBW 3.0 MHz | | Span 20 weep 1.000 ms (10 | 0.0 MHz ^{Log <u>Lin</u> 001 pts)} |
| MSG | | | STATUS | |

Plot 7-507. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 138)



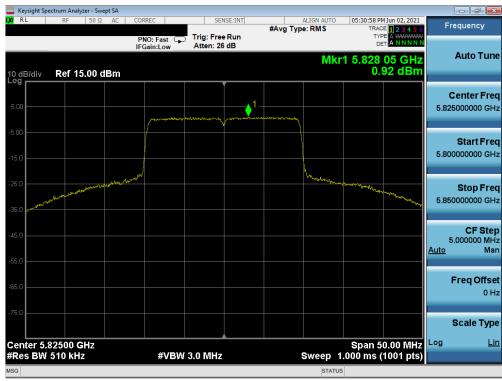
Plot 7-508. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 149)

| FCC ID: A3LSMF711B | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|---|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 220 of 442 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 328 of 413 |
| © 2021 PCTEST | | | V 9.0 02/01/2019 |



| | ectrum Analyzer - Swe | | | | | | | | | |
|------------------|---|-----------|-----------------------|-------------------------|--------------|----------|----------------|----------------|--|--|
| LXVI RL | RF 50 Ω | AC COF | REC | | ISE:INT | #Avg Typ | ALIGN AUTO | TRAC | 1 Jun 02, 2021 E 1 2 3 4 5 6 | Frequency |
| | | PI IFC | NO:Fast 🕞 Gain:Low | Trig: Free Atten: 26 | | | | | | |
| 10 dB/div Log | Ref 15.00 c | IBm | | | | | Mkı | 1 5.789 0.(| 85 GHz 60 dBm | Auto Tune |
| 5.00 | | | prosent | ومربعة المعارب مرافع | par-Monorana | 1 | | | | Center Freq 5.785000000 GHz |
| -5.00 | | | | | | | | | | Start Freq 5.76000000 GHz |
| -25.0 | an Maria Maria and and and and and and and and and an | warman | | | | | herstyleworker | wand the way | W/Manaharakana | Stop Freq 5.810000000 GHz |
| -45.0 | | | | | | | | | | CF Step 5.000000 MHz <u>Auto</u> Man |
| -65.0 | | | | | | | | | | Freq Offset 0 Hz |
| -75.0 | | | | | | | | | | Scale Type |
| | 78500 GHz | | 41/D14 | 3.0 MHz | | | Oween | Span 5 | 0.00 MHz | Log <u>Lin</u> |
| #Res BW | STU KHZ | | #VBW | 3.0 WIHZ | | | | 1.000 ms (| roor pts) | |
| MSG | | | | | | | STATU | S | | |

Plot 7-509. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 157)



Plot 7-510. Power Spectral Density Plot MIMO ANT1 (20 MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 165)

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|-------------------------------|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 220 of 412 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 329 of 413 |
| © 2021 PCTEST | | | V 9.0 02/01/2019 |



| | | ctrum Analyz | | 4 | | | | | | | | |
|---------------------|---------|-----------------------|---------|--|------------------------|-------------------------------|---------|----------|------------|----------------------|---------------------------------|---|
| L <mark>XI</mark> R | L | RF | 50 Ω AC | C COR | REC | SEN | ISE:INT | #Avg Typ | ALIGN AUTO | | 1 Jun 02, 2021 E 1 2 3 4 5 6 | Frequency |
| | | | | PN IFG | IO: Fast 📮 jain:Low | Trig: Free Atten: 26 | | | | TYF De | | Auto Tune |
| 10 dE Log | 3/div | Ref 15. | 00 dBn | n | | | | | MI | kr1 5.76 -1. | l 8 GHz 87 dBm | Auto Tune |
| 5.00 | | | | | | | 1 | | | | | Center Freq 5.755000000 GHz |
| -5.00 -15.0 | | | | | | and and a second and a second | | | | | | Start Freq 5.705000000 GHz |
| -25.0 -35.0 | | waterward | warnen | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | | | man | hourseher | Margarete. | Stop Freq 5.805000000 GHz |
| -45.0 -55.0 | man | water a second second | | | | | | | | | | CF Step 10.000000 MHz <u>Auto</u> Man |
| -65.0 | | | | | | | | | | | | Freq Offset 0 Hz |
| -75.0 | | | | | | | | | | | | Scale Type |
| | | 5500 GI 510 kHz | | | #\/R\A | 3.0 MHz | | | Sween | Span 1 1.000 ms (| 00.0 MHz | Log <u>Lin</u> |
| MSG | 5 6 9 9 | | | | <i></i> | 5.0 10112 | | | STATU | _ | roor pisj | |
| | | | | | | | | | UIAIO | | | |

Plot 7-511. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 151)



Plot 7-512. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 159)

| FCC ID: A3LSMF711B | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|---|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dega 220 of 442 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 330 of 413 |
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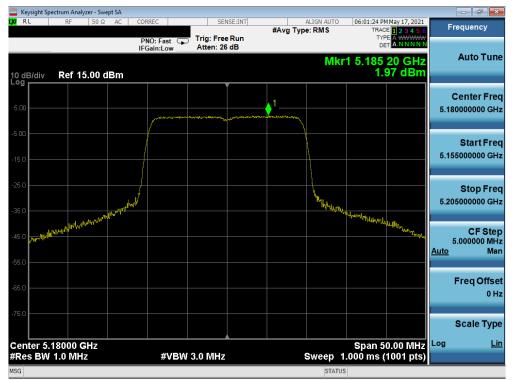
| 🔤 Keysight Spectrum An | | | | | | | | | - 5 - |
|------------------------|--------------------|-------------------------|---------------------------|-------|-----------------------|-----------------------|-----------|---|--|
| LXIRL RF | 50 Ω AC | CORREC | SENS | E:INT | #Avg Typ | ALIGN AUTO | | Jun 02, 2021 | Frequency |
| 10 dB/div Ref | 15.00 dBm | PNO: Fast IFGain:Low | Trig: Free Atten: 26 o | | *~~vg iyp | | TYP | | Auto Tun |
| 5.00 | | | | | ↓ ¹ | | | | Center Fre 5.775000000 GH |
| -5.00 | | | <u></u> | | vn | | | | Start Fre 5.675000000 GH |
| -25.0 | p. M. Maran Marana | | | | | and the second second | and when | afal and a second an | Stop Fre 5.875000000 GH |
| -45.0 | | | | | | | | | CF Ste 20.000000 MH <u>Auto</u> Ma |
| -65.0 | | | | | | | | | Freq Offse 0 H |
| -75.0 | | | | | | | | | Scale Typ |
| Center 5.7750 C | | 40 (D) M | 2.0 MH- | | | Succes d | Span 2 | 20.0 191112 | Log <u>Li</u> |
| #Res BW 510 k | 112 | #vBW | 3.0 MHz | | | | .000 ms (| roo r pts) | |
| MSG | | | | | | STATUS | 5 | | |

Plot 7-513. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 155)

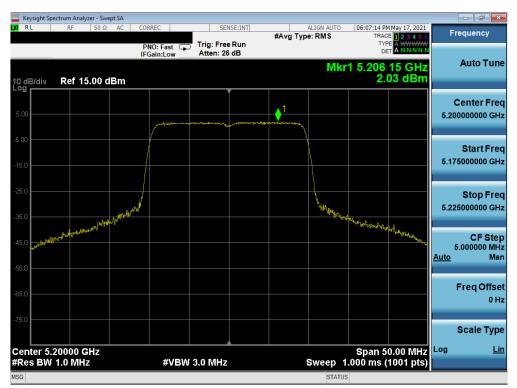
| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager | |
|---------------------|--|---------------------------------------|---------|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Page 331 of 413 | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | | Page 331 01 413 | |
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MIMO Antenna-2 Power Spectral Density Measurements (Full Tones) – Q



Plot 7-514. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 36)



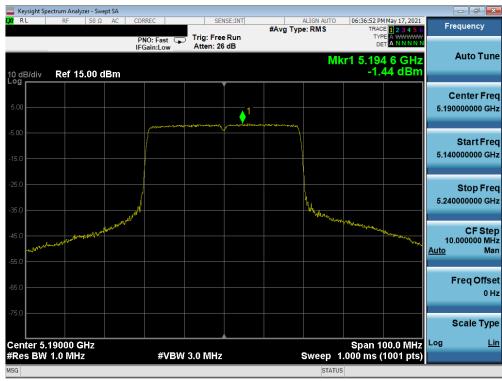
Plot 7-515. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 40)

| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager | |
|---------------------|--|---------------------------------------|---------|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dogo 222 of 412 | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | | Page 332 of 413 | |
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Plot 7-516. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 48)



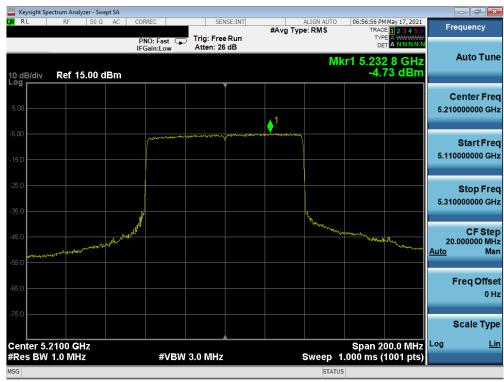
Plot 7-517. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 38)

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager | |
|---|-----------------------------|---------------------------------------|---------|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dama 000 of 440 | |
| 1M2104130035-13.A3L 04/12/2021 – 06/04/2021 | | Portable Handset | | Page 333 of 413 | |
| © 2021 PCTEST | | | | V 9.0 02/01/2019 | |



| | ectrum Analyzer - Swept SA | | | | | | |
|------------------|---|---|--------------------------------|---------------------|---|--|----------------------------------|
| LXIRL | RF 50 Ω AC | CORREC | SENSE:IN | ALI #Avg Type: I | | May 17, 2021 | Frequency |
| | | PNO: Fast 🕞 IFGain:Low | Trig: Free Run Atten: 26 dB | | TYF De | | Auto Tune |
| 10 dB/div Log | Ref 15.00 dBm | | | | Mkr1 5.22 -0. | 3 5 GHz 63 dBm | AutoTune |
| 5.00 | | | 1 | | | | Center Freq 5.23000000 GHz |
| -5.00 | | man | | manning | | | 5.230000000 GH2 |
| -15.0 | | | | | | | Start Freq 5.180000000 GHz |
| | | | | | | | |
| -25.0 | | - A | | h | Wux | | Stop Freq 5.28000000 GHz |
| -35.0 | and all the second and the second | and the second | | | W Mather of When Well and the work of the second | and a start of the | CF Step |
| -45.0 | adard and a second s | | | | | Marker . | 10.000000 MHz <u>Auto</u> Man |
| -55.0 | | | | | | | |
| -65.0 | | | | | | | Freq Offset 0 Hz |
| -75.0 | | | | | | | |
| | | | | | | | Scale Type |
| | 23000 GHz | 43 (D)A | 0.0.000 | | Span 1 | 00.0 MHz | Log <u>Lin</u> |
| #Res BW | 1.0 MH2 | #VBW | 3.0 MHz | sv | weep 1.000 ms(| TUUT pts) | |
| MSG | | | | | STATUS | | |

Plot 7-518. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 46)



Plot 7-519. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 42)

| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager | |
|---|--|---------------------------------------|---------|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dama 004 of 440 | |
| 1M2104130035-13.A3L 04/12/2021 – 06/04/2021 | | Portable Handset | | Page 334 of 413 | |
| © 2021 PCTEST | | | | V 9.0 02/01/2019 | |





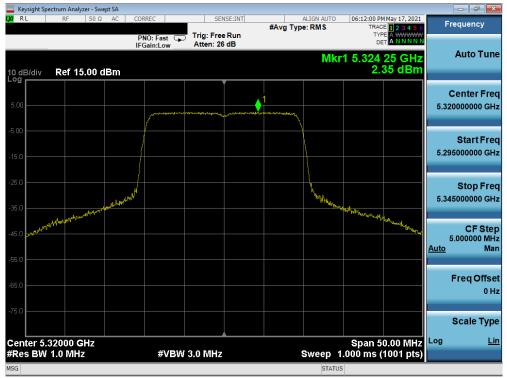
Plot 7-520. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 52)



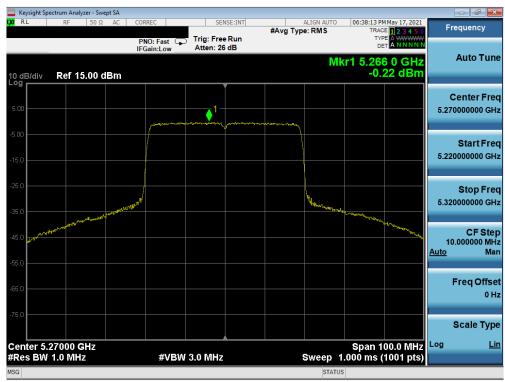
Plot 7-521. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 56)

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | | |
|--------------------------------|-------------------------------|---------------------------------------|-----------------------------------|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 225 of 412 | | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 335 of 413 | | |
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Plot 7-522. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 64)



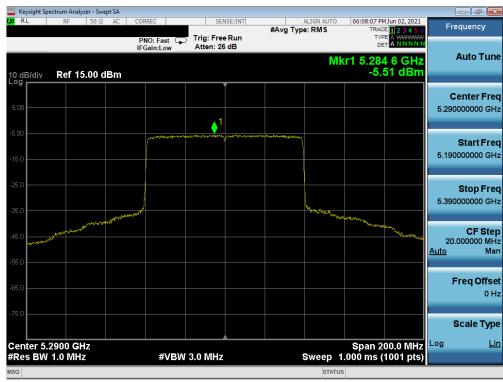
Plot 7-523. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 54)

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | | |
|--------------------------------|-------------------------------|---------------------------------------|-----------------------------------|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 226 of 442 | | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 336 of 413 | | |
| 2 2021 PCTEST V 9.0 02/01/2019 | | | | | |



| Keysight Spectrum Analyzer - Swept SA | | | | - P |
|--|--|-----------|--|--------------------------------------|
| ΙΧ RL RF 50 Ω AC | | #Avg Type | RMS TRAC | MJun 02, 2021 Frequency Frequency |
| | PNO: Fast Free IFGain:Low Atten: 26 | | | |
| 10 dB/div Ref 15.00 dBm | | | -1 | 59 dBm |
| | | | | Center Fr |
| 5.00 | | | | 5.310000000 G |
| -5.00 | | | | Start Fr |
| -15.0 | | | | 5.26000000 G |
| -25.0 | | | | Stop Fr |
| -35.0 | wat | | how was well and the second | 5.36000000 G |
| - and the stand of | | | مر میں اور | CF St |
| -45.0 | | | | 10.000000 M Auto M |
| -55.0 | | | | |
| -65.0 | | | | Freq Offs |
| -75.0 | | | | |
| | | | | Scale Ty |
| Center 5.31000 GHz #Res BW 1.0 MHz | #VBW 3.0 MHz | | Span 1 Sweep 1.000 ms (| 00.0 MHz |
| MSG | ** B* * 5.6 WH12 | | STATUS | |

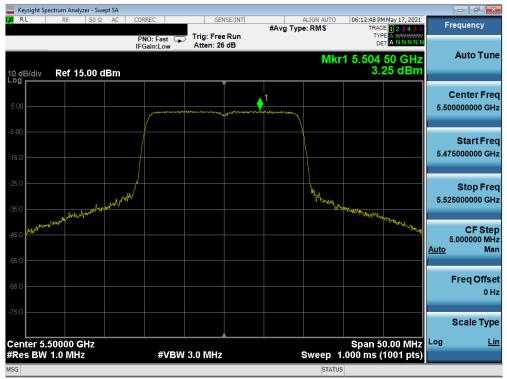
Plot 7-524. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 62)



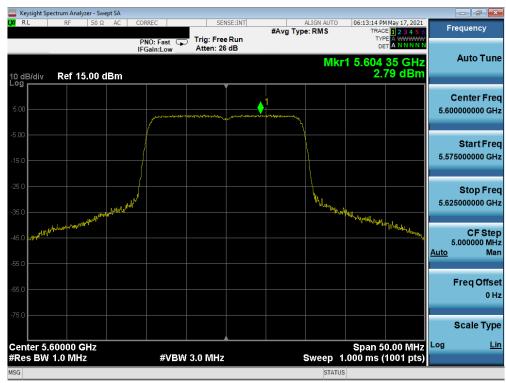
Plot 7-525. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 58)

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | | |
|------------------------------|-------------------------------|---------------------------------------|-----------------------------------|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dega 227 of 442 | | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 337 of 413 | | |
| 2021 PCTEST V 9.0 02/01/2019 | | | | | |





Plot 7-526. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 100)



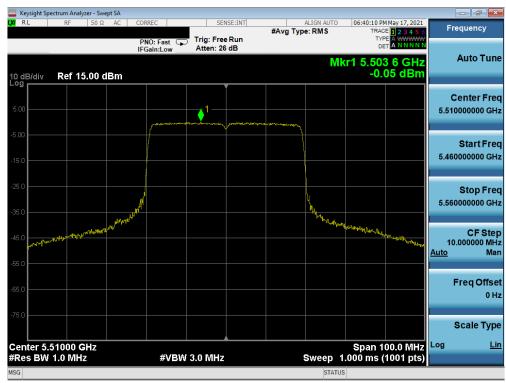
Plot 7-527. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 120)

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | | |
|--------------------------------|-----------------------------|---------------------------------------|-----------------------------------|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dega 220 of 442 | | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 338 of 413 | | |
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Plot 7-528. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 144)



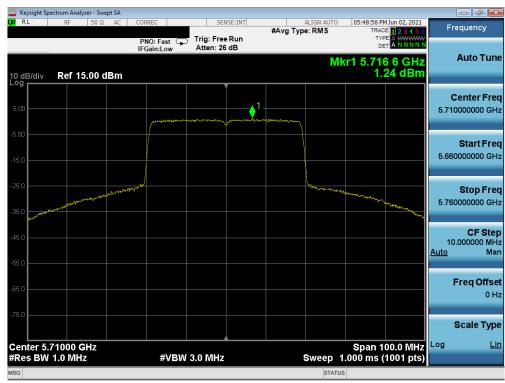
Plot 7-529. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 102)

| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | | |
|--------------------------------|--|---------------------------------------|-----------------------------------|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dogo 220 of 442 | | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 339 of 413 | | |
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Plot 7-530. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 118)



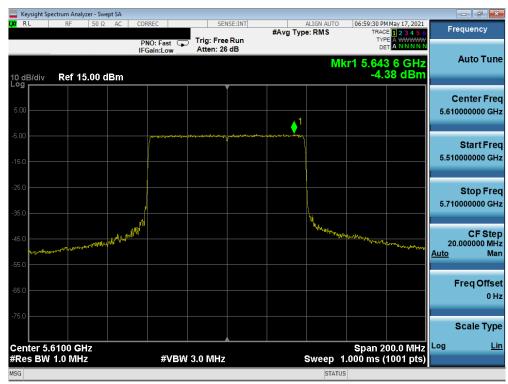
Plot 7-531. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 142)

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | | |
|--------------------------------|-------------------------------|---------------------------------------|-----------------------------------|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 240 of 412 | | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 340 of 413 | | |
| © 2021 PCTEST V 9.0 02/01/2019 | | | | | |



| PNO: Fast IFGainLow Trig: Free Run Atten: 28 dB #Avg Type: RMS Trace IP 84 450 (Preductor) Frequency 0 dB/div Ref 15.00 dBm 3.79 dBm Center Freq 5.53000000 GHz 500 1 1 1 1 1 1 5.53000000 GHz 500 1 1 1 1 1 1 5.53000000 GHz 500 1 1 1 1 1 1 1 5.53000000 GHz 500 1 1 1 1 1 1 1 1 5.53000000 GHz 500 1 <td< th=""><th></th><th>ectrum Analyzer - Sw</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>×</th></td<> | | ectrum Analyzer - Sw | | | | | | | | | | × |
|--|----------------------|---|------------|------------------------|---------|-----|------------------------------------|--|--|---------------|-------------|------|
| Auto Tune Mkr1 5.537 6 GHz -3.79 dBm Center Freq 5.53000000 GHz Start Freq 5.63000000 GHz CF Step 20.00000 MHz 5.63000000 GHz Center Start Freq 5.63000000 GHz Center Start Freq 5.63000000 GHz Center Step 20.00000 MHz Start Freq 5.63000000 Hz Center Step 20.00000 MHz Start Start Step Center Step 20.00000 MHz Start Step Start Start Step Start Step Start Start Step Start Start Step Start Start Start Step Start Start Star | L <mark>XI</mark> RL | RF 50 Ω | AC CO | RREC | | | | | TRAC | E 1 2 3 4 5 6 | Frequency | |
| 0 dBd/w Ref 15.00 dBm -3.79 dBm 0 dBd/w Ref 15.00 dBm -3.79 dBm 0 dBd/w 1 -4.17 dBm 0 dB/w 1 -4.17 dBm | | | P IF | NO: Fast 😱 Gain:Low | | | | M | DE | ANNNN | Auto Tu | une |
| 500 1 Center Freq 500 1 1 1 500 1 1 1 150 1 1 1 150 1 1 1 150 1 1 1 150 1 1 1 150 1 1 1 150 1 1 1 150 1 1 1 150 1 1 1 150 1 1 1 1 150 1 1 1 1 150 1 1 1 1 1 150 1 1 1 1 1 1 150 1 1 1 1 1 1 1 1 150 1 | 10 dB/div | Ref 15.00 | dBm | | | | | | -3. | 79 dBm | | |
| 5.00 CF Step 5.00 CHz 5.00 CHZ | 209 | | | | Ì | | | | | | Center F | req |
| 150 Start Freq 5.43000000 GHz 250 Stop Freq 5.63000000 GHz 50 Stop Freq 5.6300 GHz 50 Stop Freq 5.6300 GHz 50 Stop Freq 5.6300 GHz 50 Stop Freq 6.6300 GHz <td>5.00</td> <td></td> <td></td> <td></td> <td></td> <td>. 1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | 5.00 | | | | | . 1 | | | | | | |
| 150 Start Freq 5.43000000 GHz 250 Stop Freq 5.63000000 GHz 20.00000 GHz Stop Freq 5.63000000 GHz 20.00000 GHz Stop Freq 5.63000000 GHz 20.00000 GHz Stop Freq 5.63000000 GHz 20.0000 GHz Stop Freq 5.63000000 GHz 20.0000 GHz Stop Freq 5.6300 GHz 20.0000 GHz Stop Freq 6.6300 GHz 20.0000 GHz Stop Freq 0 Hz 20.00000 GHz Stop Freq 0 Hz 20 | 5.00 | | | Margallen | | | And some way for the second second | | | | | |
| Stop Freq 50 Stop Freq 5.63000000 GHz 50 Stop Freq 5.63000000 GHz 50 Stop Freq 5.63000000 MHz 50 Stop Freq 5.6300 Mz 50 Stop Freq 5.6300 Mz 50 Stop Freq 5.6300 Mz 50 Stop Freq 5.6300 Mz 50 <td>-3.00</td> <td></td> <td></td> <td></td> <td></td> <td>,</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> | -3.00 | | | | | , | | | | | | |
| 50 CF Step Pred 5.630000000 GHz 20.00000 MHz Auto Man Freq Offset 0 Hz Senter 5.5300 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts) | -15.0 | | | | | | | | | | 5.430000000 | GHz |
| 550 550 550 550 550 550 550 550 | 25.0 | | | | | | | | | | | |
| 350 CF Step 450 CF Step 560 CF Step 56 | -23.0 | | | | | | | | | | - | |
| 550 20.00000 MHz 550 Auto 550 Man 550 Freq Offset 750 Scale Type Center 5.5300 GHz Span 200.0 MHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts) | -35.0 | | | | | | | \ | | | 0.000000000 | 3112 |
| 550 20.00000 MHz 550 Auto 550 Man 550 Freq Offset 750 Scale Type Center 5.5300 GHz Span 200.0 MHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts) | 45.0 | | 1 MANNAN M | | | | | Top of the states of the state | Wither . | | | |
| 550 Standard Standard </td <td></td> <td>AND AND AND AND AND AND AND AND AND AND</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>and the second sec</td> <td>Anne marche</td> <td></td> <td></td> | | AND | | | | | | | and the second sec | Anne marche | | |
| 550 Image: Constraint of the second | -55.0 | | | | | | | | | | | |
| 75.0 Center 5.5300 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts) | 65.0 | | | | | | | | | | Freq Off | set |
| Center 5.5300 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts) | -05.0 | | | | | | | | | | 0 |) Hz |
| enter 5.5300 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts) | -75.0 | | | | | | | | | | O colo T | |
| Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts) | | | | | | | | | | | - | |
| | | | | #\(B)A | 20 MU- | | | Swoon / | Span 2 | 00.0 MHz | Log | Lin |
| SG | #Res BW | | | #VBW | 5.0 WHZ | | | | _ | roo r pisj | | |

Plot 7-532. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 106)



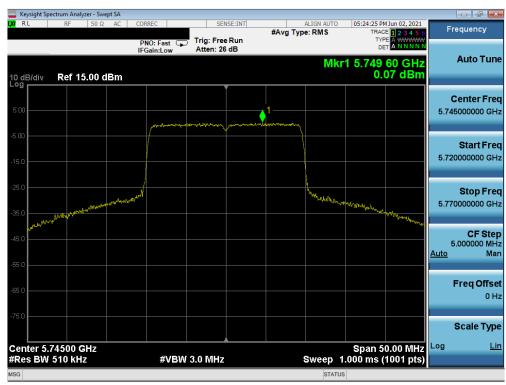
Plot 7-533. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 122)

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | | |
|--------------------------------|-------------------------------|---------------------------------------|-----------------------------------|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dega 244 of 442 | | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 341 of 413 | | |
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Plot 7-534. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 138)



Plot 7-535. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 149)

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | | |
|--------------------------------|-------------------------------|---------------------------------------|-----------------------------------|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 242 of 442 | | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 342 of 413 | | |
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| 🔤 Keysight Spectrum Analyzer - Swept SA | | | | | |
|---|--|----------------|---------------------------------------|--------------------------------------|-----------------------------------|
| 🗶 RL RF 50Ω AC | | #Avg Type | E: RMS TRAC | - 1 2 3 4 3 0 | equency |
| | PNO: Fast Trig: Free IFGain:Low Atten: 26 | | DE | A WWWWW A N N N N N | |
| 10 dB/div Ref 15.00 dBm | | | Mkr1 5.780 0.0 | 00 GHz 69 dBm | Auto Tune |
| 5.00 | | personal manuf | | | Center Freq 5000000 GHz |
| -15.0 | | | | 5.76 | Start Freq 0000000 GHz |
| -25.0 | over the second se | | hanger fill warre and my more deliver | 5.81 | Stop Freq 0000000 GHz |
| -45.0 | | | | Auto 5 | CF Step .000000 MHz Man |
| -65.0 | | | | | Freq Offset 0 Hz |
| -75.0 | | | | | Scale Type |
| Center 5.78500 GHz #Res BW 510 kHz | #VBW 3.0 MHz | | Span 5 Sweep 1.000 ms (| 0.00 MHz ^{Log} 1001 pts) | <u>Lin</u> |
| MSG | | | STATUS | | |

Plot 7-536. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 157)



Plot 7-537. Power Spectral Density Plot MIMO ANT2 (20 MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 165)

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | | |
|------------------------------|-------------------------------|---------------------------------------|-----------------------------------|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 242 of 442 | | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 343 of 413 | | |
| 2021 PCTEST V 9.0 02/01/2019 | | | | | |



| | Spectrum Analyzer - Swept SA | | | | | | |
|----------------------|------------------------------|---------------------------|---|--------|----------------------|---|---|
| L <mark>XI</mark> RL | RF 50 Ω AC | CORREC | SENSE:I | | ALIGN AUTO e: RMS | 06:00:56 PM Jun 02, 2021 TRACE 1 2 3 4 5 | Frequency |
| | | PNO: Fast 😱 IFGain:Low | Trig: Free Ru Atten: 26 dB | in C , | | TYPE A WWWWW DET A NNNN | |
| 10 dB/div Log | Ref 15.00 dBm | | | | Mkr | 1 5.745 2 GHz 0.29 dBm | Auto Tune |
| 5.00 | | persona | 1 | - | | | Center Freq 5.755000000 GHz |
| -5.00 | | | in the second | | | | Start Freq 5.705000000 GHz |
| -25.0 | Marine Marine Marine | | | | Manager Contraction | and a second and a s | Stop Freq 5.805000000 GHz |
| -45.0 | | | | | | | CF Step 10.000000 MHz <u>Auto</u> Man |
| -65.0 | | | | | | | Freq Offset 0 Hz |
| -75.0 | | | | | | | Scale Type |
| | 5.75500 GHz | | 0.0.0411- | | | Span 100.0 MHz | Log <u>Lin</u> |
| | W 510 kHz | #VBW | 3.0 MHz | | | 00 ms (1001 pts | |
| MSG | | | | | STATUS | | |

Plot 7-538. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 151)



Plot 7-539. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 159)

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | |
|------------------------------|-------------------------------|---------------------------------------|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 244 of 412 | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 344 of 413 | |
| 2021 PCTEST V 9.0 02/01/2019 | | | | |



| Keysight Spectrum Analyzer - Swept SA | | | | | |
|---------------------------------------|-------------|--------------------------|-----------------------------|---|---------------------------|
| LXU RL RF 50Ω AC | CORREC | SENSE:INT | #Avg Type: RMS | 06:14:28 PM Jun 02, 2021 TRACE 1 2 3 4 5 6 | Frequency |
| | | ree Run : 26 dB | • // | TYPE A WWWW DET ANNNNN | Auto Tune |
| 10 dB/div Ref 15.00 dBm | | | | -3.50 dBm | |
| | | | | | Center Freq |
| -5.00 | 1 | mon por out game to read | beyester, gitter 1 year-mag | | 5.775000000 GHz |
| -3.00 | | , | | | Start Freq |
| -15.0 | | | | | 5.675000000 GHz |
| -25.0 | أيحطيكم | | have my | www.men | Stop Freq |
| -35.0 | | | | and the second | 5.875000000 GHz |
| -45.0 | | | | | CF Step |
| -43.0 | | | | | 20.000000 MHz Auto Man |
| -55.0 | | | | | |
| -65.0 | | | | | Freq Offset |
| | | | | | 0 Hz |
| -75.0 | | | | | Scale Type |
| | | | | | |
| Center 5.7750 GHz #Res BW 510 kHz | #VBW 3.0 MI | Hz | Sweep 1 | Span 200.0 MHz .000 ms (1001 pts) | |
| MSG | | | STATUS | | |

Plot 7-540. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 155)

| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
|---------------------|--|---------------------------------------|---------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Page 345 of 413 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | | Page 345 01 413 |
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7.6 Radiated Spurious Emission Measurements – Above 1GHz §15.407(b) §15.205 §15.209; RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. All channels, modes (e.g. 26 Tones, 52 Tones, 106 Tones, 242 Tones, 484 Tones and 996 Tones), 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 and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-94 per Section 15.209 and RSS-Gen (8.9).

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

Table 7-94. Radiated Limits

Test Procedures Used

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

Test Settings

Average Measurements above 1GHz (Method AD)

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW = 3MHz
- 4. Detector = power average (RMS)
- 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

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
|---------------------|-----------------------------|---------------------------------------|---------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 246 of 412 |
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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.

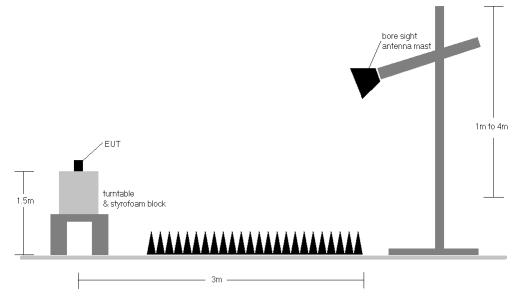


Figure 7-5. Test Instrument & Measurement Setup

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|-----------------------------|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 247 of 442 |
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Test Notes

- 1. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-94.
- 2. All spurious emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-94. 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.
- 3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
- 4. This unit was tested with its standard battery.
- 5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
- 6. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 7. 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.
- 8. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 9. For radiated measurements, emissions were investigated for the fully-loaded RU configuration and for all of the partially-loaded RU configurations. Among all of the available partially-loaded RU configurations, only the configuration with the worst case emissions is reported.

Sample Calculations

Determining Spurious Emissions Levels

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

Radiated Band Edge Measurement Offset

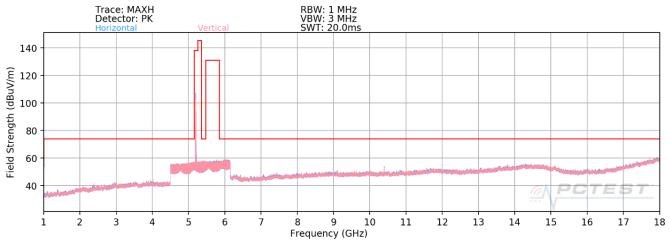
• The amplitude offset shown in the radiated restricted band edge plots in Section 7.6 was calculated using the formula:

Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

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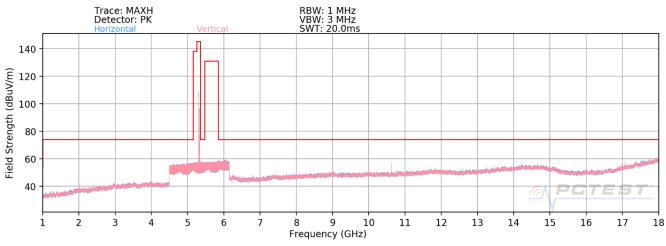


7.6.1 MIMO Radiated Spurious Emission Measurements



26 Tones – N

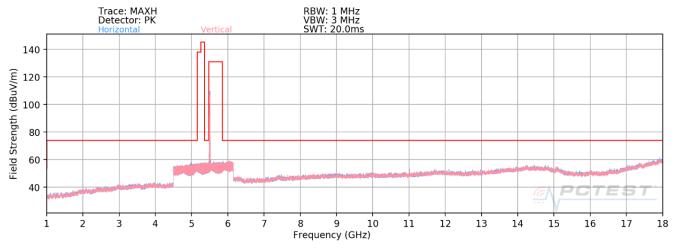




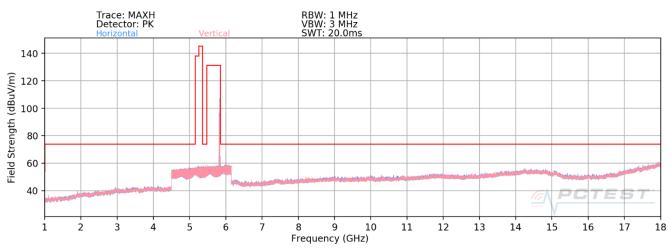
Plot 7-542. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U2A Ch. 56 - 26 Tones) - Open

| FCC ID: A3LSMF711B | PCTEST [®] Proud to be part of [®] element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|---|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Daga 240 of 412 |
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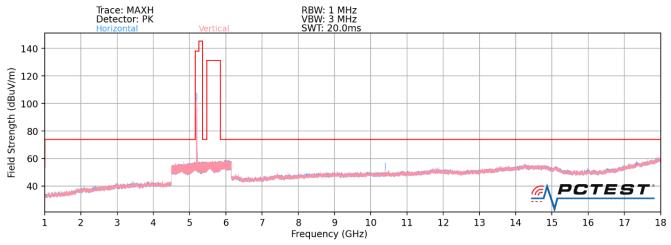




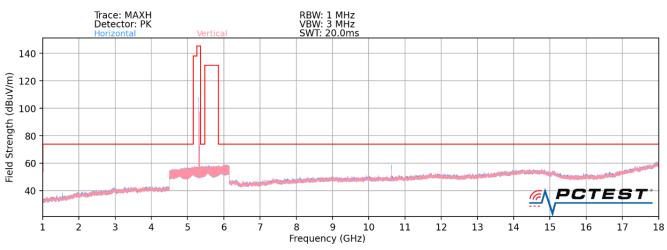
Plot 7-544. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 26 Tones) - Open

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|------------------------------|-----------------------------|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dogo 250 of 412 |
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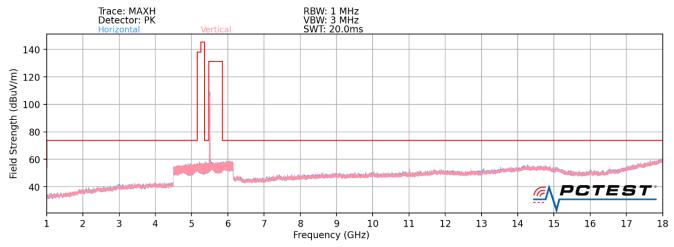




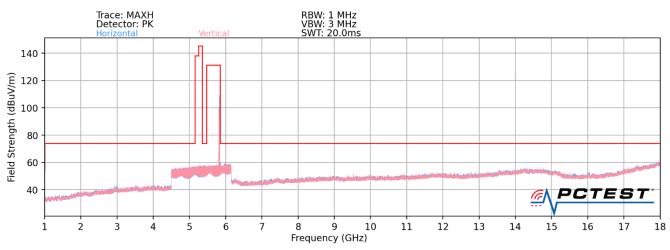
Plot 7-546. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U2A Ch. 56 - 26 Tones) - Closed

| FCC ID: A3LSMF711B | PCTEST [®] Proud to be part of ® element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|------------------------------|---|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | De 054 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 351 of 413 |
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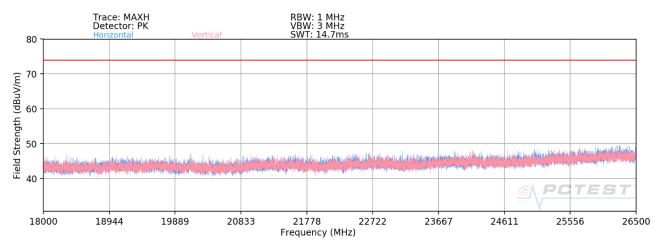




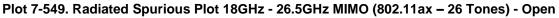
Plot 7-548. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 26 Tones) - Closed

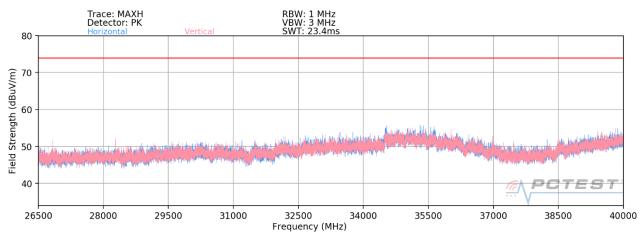
| FCC ID: A3LSMF711B | PCTEST* Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|--|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dogo 252 of 412 |
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MIMO Radiated Spurious Emissions Measurements (Above 18GHz) – N

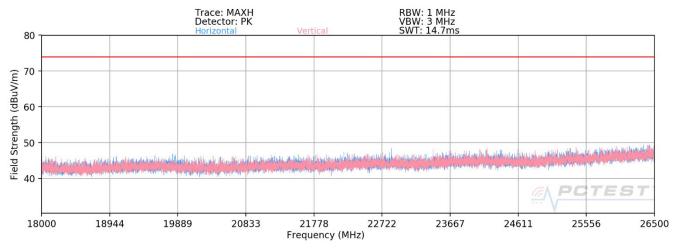


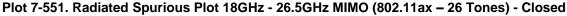


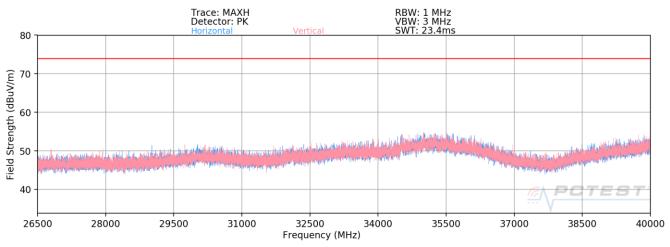
Plot 7-550. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax - 26 Tones) - Open

| FCC ID: A3LSMF711B | PCTEST* Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | |
|--------------------------------|--|---------------------------------------|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | Page 353 of 413 | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | | |
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Plot 7-552. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax - 26 Tones) - Closed

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|-----------------------------|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dogo 254 of 412 |
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MIMO Radiated Spurious Emission Measurements (26 Tones) – N §15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

| 802.11ax (20MHz BW) |
|---------------------|
| MCS0 |
| 54 |
| 1 & 3 Meters |
| 5180MHz |
| 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 | Н | 122 | 158 | -69.47 | 15.50 | 0.00 | 53.03 | 68.20 | -15.17 |
| * | 15540.00 | Average | Н | - | - | -82.52 | 22.68 | 0.00 | 47.16 | 53.98 | -6.82 |
| * | 15540.00 | Peak | Н | - | - | -71.59 | 22.68 | 0.00 | 58.09 | 73.98 | -15.89 |
| * | 20720.00 | Average | Н | - | - | -66.76 | 4.48 | -9.54 | 35.18 | 53.98 | -18.80 |
| * | 20720.00 | Peak | Н | - | - | -56.70 | 4.48 | -9.54 | 45.24 | 73.98 | -28.74 |
| | 25900.00 | Peak | Н | - | - | -55.99 | 6.92 | -9.54 | 48.38 | 68.20 | -19.82 |

Table 7-95. Radiated Measurements MIMO (26 Tones) – Open

| Worst Case Mode: | 8 |
|---------------------------|---|
| Worst Case Transfer Rate: | |
| RU Index: | |
| Distance of Measurements: | 1 |
| Operating Frequency: | 5 |
| Channel: | 4 |
| | |

| 802.11ax (20MHz BW) |
|---------------------|
| MCS0 |
| 54 |
| 1 & 3 Meters |
| 5200MHz |
| 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 | н | 232 | 238 | -68.09 | 15.52 | 0.00 | 54.43 | 68.20 | -13.77 |
| * | 15600.00 | Average | н | - | - | -82.20 | 22.76 | 0.00 | 47.56 | 53.98 | -6.42 |
| * | 15600.00 | Peak | н | - | - | -71.31 | 22.76 | 0.00 | 58.45 | 73.98 | -15.53 |
| * | 20800.00 | Average | н | - | - | -66.60 | 4.88 | -9.54 | 35.74 | 53.98 | -18.24 |
| * | 20800.00 | Peak | н | - | - | -55.99 | 4.88 | -9.54 | 46.35 | 73.98 | -27.63 |
| | 26000.00 | Peak | Н | - | - | -56.06 | 7.10 | -9.54 | 48.50 | 68.20 | -19.70 |

Table 7-96. Radiated Measurements MIMO (26 Tones) – Open

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
|---------------------|-------------------------------|---------------------------------------|---------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 255 of 412 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | | Page 355 of 413 |
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| Worst Case Mode: | 802.11ax (20MHz BW) |
|---------------------------|---------------------|
| Worst Case Transfer Rate: | MCS0 |
| RU Index: | 54 |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5240MHz |
| Channel: | 48 |
| 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] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| | 10480.00 | Peak | Н | 109 | 283 | -66.30 | 15.44 | 0.00 | 56.14 | 68.20 | -12.06 |
| * | 15720.00 | Average | Н | - | - | -82.85 | 22.76 | 0.00 | 46.91 | 53.98 | -7.07 |
| * | 15720.00 | Peak | Н | - | - | -71.06 | 22.76 | 0.00 | 58.70 | 73.98 | -15.28 |
| * | 20960.00 | Average | Н | - | - | -67.37 | 5.01 | -9.54 | 35.09 | 53.98 | -18.89 |
| * | 20960.00 | Peak | Н | - | - | -57.09 | 5.01 | -9.54 | 45.38 | 73.98 | -28.60 |
| | 26200.00 | Peak | Н | - | - | -56.34 | 6.99 | -9.54 | 48.11 | 68.20 | -20.09 |

Table 7-97. Radiated Measurements MIMO (26 Tones) – Open

| Worst Case Mode: | 802.11ax (20MHz BW) |
|---------------------------|---------------------|
| Worst Case Transfer Rate: | MCS0 |
| RU Index: | 54 |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5260MHz |
| Channel: | 52 |
| | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| | 10520.00 | Peak | Н | 101 | 287 | -63.23 | 15.76 | 0.00 | 59.53 | 68.20 | -8.67 |
| * | 15780.00 | Average | Н | - | - | -82.10 | 22.90 | 0.00 | 47.80 | 53.98 | -6.18 |
| * | 15780.00 | Peak | Н | - | - | -71.64 | 22.90 | 0.00 | 58.26 | 73.98 | -15.72 |
| * | 21040.00 | Average | Н | - | - | -66.80 | 4.89 | -9.54 | 35.55 | 53.98 | -18.43 |
| * | 21040.00 | Peak | Н | - | - | -56.06 | 4.89 | -9.54 | 46.28 | 73.98 | -27.70 |
| | 26300.00 | Peak | Н | - | - | -55.98 | 7.06 | -9.54 | 48.54 | 68.20 | -19.66 |

Table 7-98. Radiated Measurements MIMO (26 Tones) – Open

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | | |
|--------------------------------|-------------------------------|---------------------------------------|-----------------------------------|--|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dega 256 of 442 | | |
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| Worst Case Mode: | 802.11ax (20MHz BW) |
|---------------------------|---------------------|
| Worst Case Transfer Rate: | MCS0 |
| RU Index: | 54 |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5280MHz |
| Channel: | 56 |
| | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| | 10560.00 | Peak | Н | 104 | 280 | -64.10 | 16.13 | 0.00 | 59.03 | 68.20 | -9.17 |
| * | 15840.00 | Average | Н | - | - | -82.09 | 23.17 | 0.00 | 48.08 | 53.98 | -5.90 |
| * | 15840.00 | Peak | Н | - | - | -71.19 | 23.17 | 0.00 | 58.98 | 73.98 | -15.00 |
| * | 21120.00 | Average | Н | - | - | -66.91 | 5.08 | -9.54 | 35.63 | 53.98 | -18.35 |
| * | 21120.00 | Peak | Н | - | - | -56.65 | 5.08 | -9.54 | 45.90 | 73.98 | -28.08 |
| | 26400.00 | Peak | Н | - | - | -56.42 | 7.43 | -9.54 | 48.47 | 68.20 | -19.73 |

Table 7-99. Radiated Measurements MIMO (26 Tones) – Open

| Worst Case Mode: | 802.11ax (20MHz BW) |
|---------------------------|---------------------|
| Worst Case Transfer Rate: | MCS0 |
| RU Index: | 54 |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5320MHz |
| Channel: | 64 |
| 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 | н | 100 | 287 | -75.36 | 16.06 | 0.00 | 47.70 | 53.98 | -6.28 |
| * | 10640.00 | Peak | н | 100 | 287 | -62.97 | 16.06 | 0.00 | 60.09 | 73.98 | -13.89 |
| * | 15960.00 | Average | н | - | - | -82.55 | 23.29 | 0.00 | 47.74 | 53.98 | -6.24 |
| * | 15960.00 | Peak | н | - | - | -70.84 | 23.29 | 0.00 | 59.45 | 73.98 | -14.53 |
| * | 21280.00 | Average | н | - | - | -66.75 | 5.14 | -9.54 | 35.85 | 53.98 | -18.13 |
| * | 21280.00 | Peak | н | - | - | -56.68 | 5.14 | -9.54 | 45.92 | 73.98 | -28.06 |
| | 26600.00 | Peak | н | - | - | -56.14 | 7.21 | -9.54 | 48.53 | 68.20 | -19.67 |
| | | | | | | | | | | | |

Table 7-100. Radiated Measurements MIMO (26 Tones) - Open

| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|--|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 257 of 442 |
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| Worst Case Mode: | 802.11ax (20MHz BW) |
|---------------------------|---------------------|
| Worst Case Transfer Rate: | MCS0 |
| RU Index: | 54 |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5500MHz |
| Channel: | 100 |
| | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| * | 11000.00 | Average | Н | 131 | 13 | -78.57 | 16.78 | 0.00 | 45.21 | 53.98 | -8.77 |
| * | 11000.00 | Peak | Н | 131 | 13 | -66.57 | 24.50 | 0.00 | 64.93 | 73.98 | -9.05 |
| | 16500.00 | Peak | Н | - | - | -71.69 | 24.50 | 0.00 | 59.81 | 68.20 | -8.39 |
| | 22000.00 | Peak | Н | - | - | -56.91 | 5.16 | -9.54 | 45.71 | 68.20 | -22.49 |
| | 27500.00 | Peak | Н | - | - | -56.27 | 7.69 | -9.54 | 48.88 | 68.20 | -19.32 |

Table 7-101. Radiated Measurements MIMO (26 Tones) – Open

| Worst Case Mode: | 802.11ax (20MHz BW) |
|---------------------------|---------------------|
| Worst Case Transfer Rate: | MCS0 |
| RU Index: | 54 |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5600MHz |
| Channel: | 120 |
| | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| * | 11200.00 | Average | Н | 289 | 45 | -80.92 | 17.10 | 0.00 | 43.18 | 53.98 | -10.80 |
| * | 11200.00 | Peak | Н | 289 | 45 | -70.19 | 24.47 | 0.00 | 61.28 | 73.98 | -12.70 |
| | 16800.00 | Peak | Н | - | - | -71.71 | 24.47 | 0.00 | 59.76 | 68.20 | -8.44 |
| * | 22400.00 | Average | Н | - | - | -66.77 | 5.45 | -9.54 | 36.13 | 53.98 | -17.85 |
| * | 22400.00 | Peak | Н | - | - | -57.04 | 5.45 | -9.54 | 45.86 | 73.98 | -28.12 |
| | 28000.00 | Peak | Н | - | - | -55.83 | 7.97 | -9.54 | 49.60 | 68.20 | -18.60 |

Table 7-102. Radiated Measurements MIMO (26 Tones) – Open

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|-------------------------------|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dega 250 of 412 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 358 of 413 |
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| 802.11ax (20MHz BW) |
|---------------------|
| MCS0 |
| 54 |
| 1 & 3 Meters |
| 5720MHz |
| 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 | Н | - | - | -82.28 | 17.95 | 0.00 | 42.67 | 53.98 | -11.31 |
| * | 11440.00 | Peak | Н | - | - | -71.41 | 24.77 | 0.00 | 60.36 | 73.98 | -13.62 |
| | 17160.00 | Peak | н | - | - | -72.15 | 24.77 | 0.00 | 59.62 | 68.20 | -8.58 |
| * | 22880.00 | Average | н | - | - | -66.54 | 5.43 | -9.54 | 36.35 | 53.98 | -17.63 |
| * | 22880.00 | Peak | н | - | - | -56.63 | 5.43 | -9.54 | 46.25 | 73.98 | -27.73 |
| | 28600.00 | Peak | Н | - | - | -57.06 | 8.29 | -9.54 | 48.69 | 68.20 | -19.51 |

Table 7-103. Radiated Measurements MIMO (26 Tones) – Open

| Worst Case Mode: | 802.11ax (20MHz BW) |
|---------------------------|---------------------|
| Worst Case Transfer Rate: | MCS0 |
| RU Index: | 54 |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5745MHz |
| Channel: | 149 |
| | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| * | 11490.00 | Average | Н | - | - | -82.27 | 17.83 | 0.00 | 42.56 | 53.98 | -11.42 |
| * | 11490.00 | Peak | Н | - | - | -71.10 | 25.21 | 0.00 | 61.11 | 73.98 | -12.87 |
| | 17235.00 | Peak | Н | - | - | -72.61 | 25.21 | 0.00 | 59.60 | 68.20 | -8.60 |
| * | 22980.00 | Average | Н | - | - | -66.57 | 5.29 | -9.54 | 36.18 | 53.98 | -17.80 |
| * | 22980.00 | Peak | Н | - | - | -55.67 | 5.29 | -9.54 | 47.08 | 73.98 | -26.90 |
| | 28725.00 | Peak | Н | - | - | -56.27 | 8.24 | -9.54 | 49.42 | 68.20 | -18.78 |

Table 7-104. Radiated Measurements MIMO (26 Tones) – Open

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
|---------------------|-----------------------------|---------------------------------------|---------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 250 of 442 |
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| 802.11ax (20MHz BW) |
|---------------------|
| MCS0 |
| 54 |
| 1 & 3 Meters |
| 5785MHz |
| 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 | Н | - | - | -81.71 | 17.79 | 0.00 | 43.08 | 53.98 | -10.90 |
| * | 11570.00 | Peak | Н | - | - | -70.99 | 17.79 | 0.00 | 53.80 | 73.98 | -20.18 |
| | 17355.00 | Peak | Н | - | - | -72.27 | 26.23 | 0.00 | 60.96 | 68.20 | -7.24 |
| | 23140.00 | Peak | Н | - | - | -56.56 | 5.34 | -9.54 | 46.24 | 68.20 | -21.96 |
| | 28925.00 | Peak | Н | - | - | -56.05 | 8.48 | -9.54 | 49.89 | 68.20 | -18.31 |

Table 7-105. Radiated Measurements MIMO (26 Tones) – Open

| Worst Case Mode: | 802.11ax (20MHz BW) |
|---------------------------|---------------------|
| Worst Case Transfer Rate: | MCS0 |
| RU Index: | 54 |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5825MHz |
| Channel: | 165 |
| | |

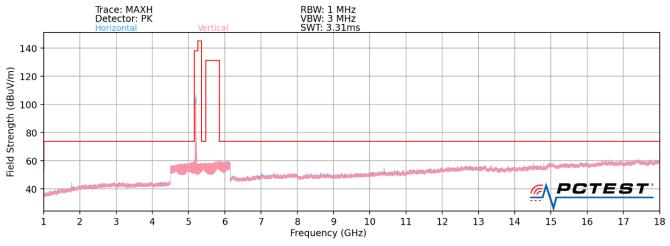
| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| * | 11650.00 | Average | Н | - | - | -81.84 | 18.05 | 0.00 | 43.21 | 53.98 | -10.77 |
| * | 11650.00 | Peak | Н | - | - | -70.61 | 18.05 | 0.00 | 54.44 | 73.98 | -19.54 |
| | 17475.00 | Peak | Н | - | - | -72.26 | 25.87 | 0.00 | 60.61 | 68.20 | -7.59 |
| | 23300.00 | Peak | Н | - | - | -56.05 | 5.29 | -9.54 | 46.70 | 68.20 | -21.50 |
| | 29125.00 | Peak | Н | - | - | -56.12 | 8.49 | -9.54 | 49.83 | 68.20 | -18.37 |

Table 7-106. Radiated Measurements MIMO (26 Tones) – Open

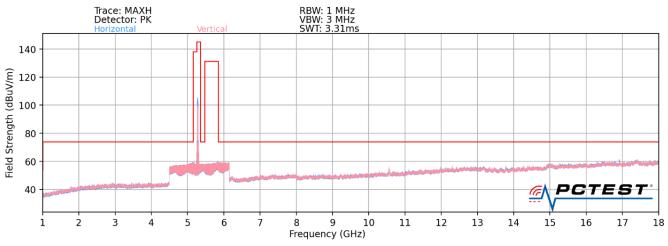
| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | |
|------------------------------|-------------------------------|---------------------------------------|-----------------------------------|--|
| Test Report S/N: Test Dates: | | EUT Type: | Dega 260 of 442 | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 360 of 413 | |
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242 Tones – N



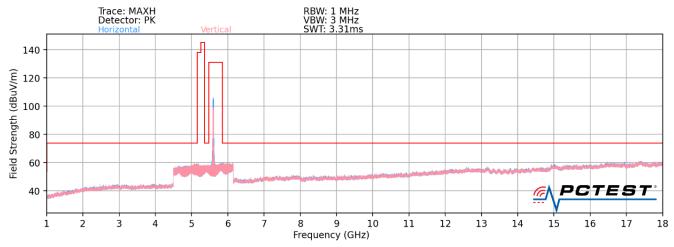
Plot 7-553. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U1 Ch. 40 - 242 Tones) - Open



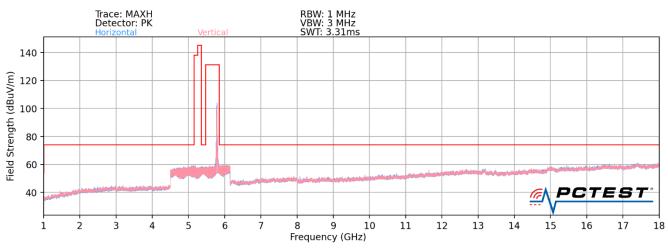
Plot 7-554. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U2A Ch. 56 - 242 Tones) - Open

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | |
|---------------------|-------------------------------|---------------------------------------|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dega 261 of 112 | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 361 of 413 | |
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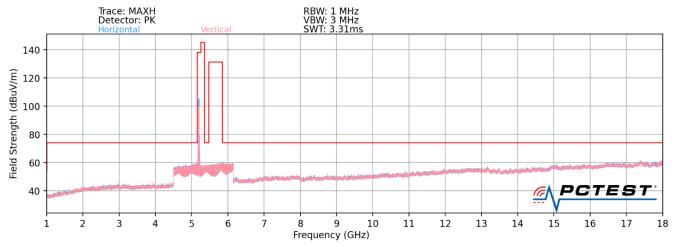




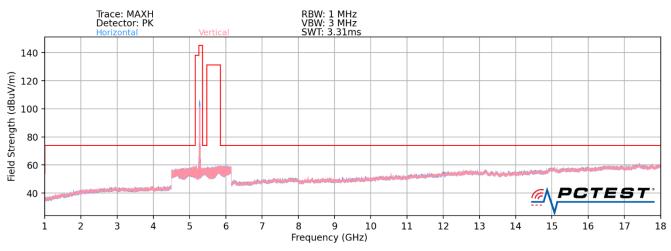
Plot 7-556. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 242 Tones) - Open

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|-----------------------------|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 262 of 412 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 362 of 413 |
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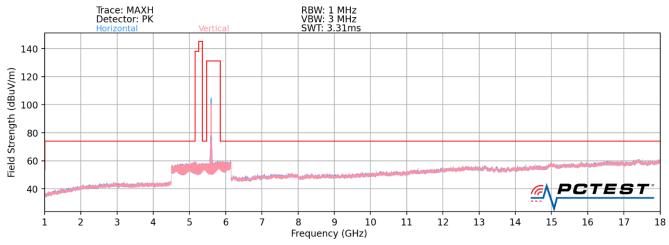




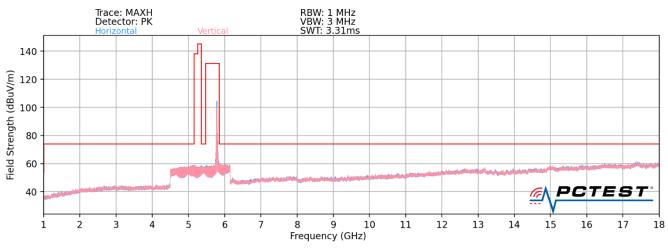
Plot 7-558. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2A Ch. 56 – 242 Tones) – Closed

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | UNG | Approved by: Technical Manager | | | |
|------------------------------|-----------------------------|---------------------------------------|-----|-----------------------------------|--|--|--|
| Test Report S/N: Test Dates: | | EUT Type: | | Dega 262 of 442 | | | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | | Page 363 of 413 | | | |
| 2021 PCTEST V 9.0 02/01/2019 | | | | | | | |







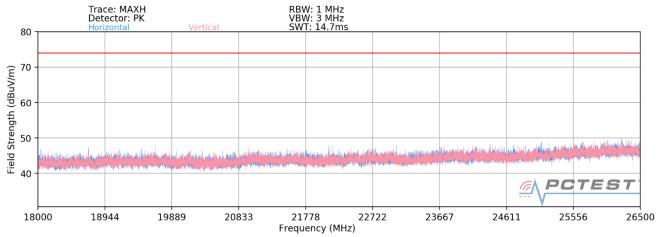


Plot 7-560. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 242 Tones) - Closed

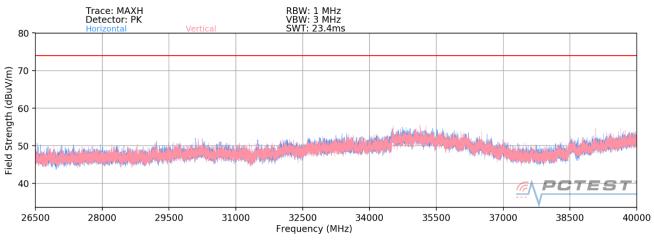
| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|-----------------------------|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Daga 264 of 412 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 364 of 413 |
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MIMO Radiated Spurious Emissions Measurements (Above 18GHz) – N



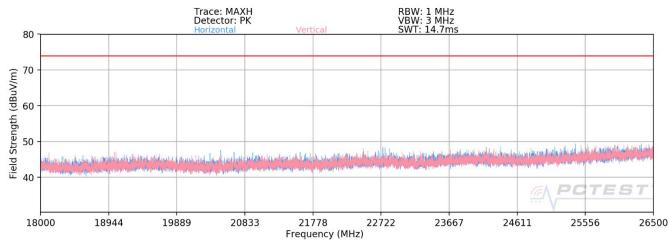


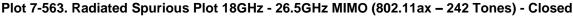


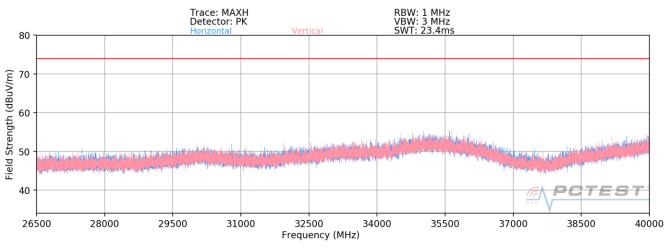
Plot 7-562. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax - 242 Tones) - Open

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
|---|-----------------------------|---------------------------------------|---------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dawa 005 at 440 |
| 1M2104130035-13.A3L 04/12/2021 – 06/04/2021 | | 1 Portable Handset | | Page 365 of 413 |
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Plot 7-564. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax - 242 Tones) - Closed

| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|--|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 266 of 442 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 366 of 413 |
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MIMO Radiated Spurious Emission Measurements (242 Tones) – N §15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

| 802.11ax (20MHz BW) |
|---------------------|
| MCS0 |
| 61 |
| 1 & 3 Meters |
| 5180MHz |
| 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 | Н | 379 | 42 | -65.08 | 15.50 | 0.00 | 57.42 | 68.20 | -10.78 |
| * | 15540.00 | Average | Н | - | - | -82.57 | 22.68 | 0.00 | 47.11 | 53.98 | -6.87 |
| * | 15540.00 | Peak | Н | - | - | -71.68 | 22.68 | 0.00 | 58.00 | 73.98 | -15.98 |
| * | 20720.00 | Average | Н | - | - | -67.33 | 4.48 | -9.54 | 34.60 | 53.98 | -19.38 |
| * | 20720.00 | Peak | Н | - | - | -57.41 | 4.48 | -9.54 | 44.52 | 73.98 | -29.46 |
| | 25900.00 | Peak | Н | - | - | -55.70 | 6.92 | -9.54 | 48.67 | 68.20 | -19.53 |

Table 7-107. Radiated Measurements MIMO (242 Tones) - Open

Worst Case Mode: Worst Case Transfer Rate: RU Index: Distance of Measurements: Operating Frequency: Channel: 802.11ax (20MHz BW) MCS0 61 1 & 3 Meters 5200MHz 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 | Н | 367 | 36 | -65.20 | 15.52 | 0.00 | 57.32 | 68.20 | -10.88 |
| * | 15600.00 | Average | Н | - | - | -82.31 | 22.76 | 0.00 | 47.45 | 53.98 | -6.53 |
| * | 15600.00 | Peak | Н | - | - | -71.24 | 22.76 | 0.00 | 58.52 | 73.98 | -15.46 |
| * | 20800.00 | Average | Н | - | - | -66.51 | 4.88 | -9.54 | 35.83 | 53.98 | -18.14 |
| * | 20800.00 | Peak | Н | - | - | -55.58 | 4.88 | -9.54 | 46.76 | 73.98 | -27.22 |
| | 26000.00 | Peak | Н | - | - | -56.04 | 7.10 | -9.54 | 48.52 | 68.20 | -19.68 |

Table 7-108. Radiated Measurements MIMO (242 Tones) - Open

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|-------------------------------|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 267 of 412 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 367 of 413 |
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| Worst Case Mode: | 802.11ax (20MHz BW) | | | | |
|---------------------------|---------------------|--|--|--|--|
| Worst Case Transfer Rate: | MCS0 | | | | |
| RU Index: | 61 | | | | |
| Distance of Measurements: | 1 & 3 Meters | | | | |
| Operating Frequency: | 5240MHz | | | | |
| Channel: | 48 | | | | |
| | | | | | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| | 10480.00 | Peak | Н | 285 | 39 | -65.07 | 15.44 | 0.00 | 57.37 | 68.20 | -10.83 |
| * | 15720.00 | Average | Н | - | - | -82.79 | 22.76 | 0.00 | 46.97 | 53.98 | -7.01 |
| * | 15720.00 | Peak | Н | - | - | -71.61 | 22.76 | 0.00 | 58.15 | 73.98 | -15.83 |
| * | 20960.00 | Average | Н | - | - | -67.56 | 5.01 | -9.54 | 34.91 | 53.98 | -19.07 |
| * | 20960.00 | Peak | Н | - | - | -57.10 | 5.01 | -9.54 | 45.36 | 73.98 | -28.62 |
| | 26200.00 | Peak | Н | - | - | -56.46 | 6.99 | -9.54 | 47.99 | 68.20 | -20.21 |

Table 7-109. Radiated Measurements MIMO (242 Tones) – Open

| Worst Case Mode: | 802.11ax (20MHz BW) |
|---------------------------|---------------------|
| Worst Case Transfer Rate: | MCS0 |
| RU Index: | 61 |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5260MHz |
| Channel: | 52 |
| | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| | 10520.00 | Peak | Н | 308 | 36 | -64.49 | 15.76 | 0.00 | 58.27 | 68.20 | -9.93 |
| * | 15780.00 | Average | Н | - | - | -82.35 | 22.90 | 0.00 | 47.55 | 53.98 | -6.43 |
| * | 15780.00 | Peak | Н | - | - | -71.26 | 22.90 | 0.00 | 58.64 | 73.98 | -15.34 |
| * | 21040.00 | Average | Н | - | - | -66.79 | 4.89 | -9.54 | 35.55 | 53.98 | -18.43 |
| * | 21040.00 | Peak | Н | - | - | -56.57 | 4.89 | -9.54 | 45.77 | 73.98 | -28.21 |
| | 26300.00 | Peak | Н | - | - | -56.09 | 7.06 | -9.54 | 48.43 | 68.20 | -19.77 |

Table 7-110. Radiated Measurements MIMO (242 Tones) – Open

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager | |
|---------------------|-----------------------------|---------------------------------------|---------|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 269 of 442 | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | | Page 368 of 413 | |
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| Worst Case Mode: | 802.11ax (20MHz BW) | | | | |
|---------------------------|---------------------|--|--|--|--|
| Worst Case Transfer Rate: | MCS0 | | | | |
| RU Index: | 61 | | | | |
| Distance of Measurements: | 1 & 3 Meters | | | | |
| Operating Frequency: | 5280MHz | | | | |
| Channel: | 56 | | | | |
| | | | | | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| | 10560.00 | Peak | Н | 383 | 39 | -66.69 | 16.13 | 0.00 | 56.44 | 68.20 | -11.76 |
| * | 15840.00 | Average | Н | - | - | -82.09 | 23.17 | 0.00 | 48.08 | 53.98 | -5.90 |
| * | 15840.00 | Peak | Н | - | - | -70.92 | 23.17 | 0.00 | 59.25 | 73.98 | -14.73 |
| * | 21120.00 | Average | Н | - | - | -67.32 | 5.08 | -9.54 | 35.22 | 53.98 | -18.76 |
| * | 21120.00 | Peak | Н | - | - | -56.83 | 5.08 | -9.54 | 45.72 | 73.98 | -28.26 |
| | 26400.00 | Peak | Н | - | - | -55.97 | 7.43 | -9.54 | 48.92 | 68.20 | -19.28 |

Table 7-111. Radiated Measurements MIMO (242 Tones) – Open

| Worst Case Mode: | 802.11ax (20MHz BW) | | | | |
|---------------------------|---------------------|--|--|--|--|
| Worst Case Transfer Rate: | MCS0 | | | | |
| RU Index: | 61 | | | | |
| Distance of Measurements: | 1 & 3 Meters | | | | |
| Operating Frequency: | 5320MHz | | | | |
| Channel: | 64 | | | | |
| | | | | | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| * | 10640.00 | Average | Н | 109 | 41 | -78.01 | 16.06 | 0.00 | 45.05 | 53.98 | -8.93 |
| * | 10640.00 | Peak | Н | 109 | 41 | -66.81 | 16.06 | 0.00 | 56.25 | 73.98 | -17.73 |
| * | 15960.00 | Average | Н | - | - | -82.57 | 23.29 | 0.00 | 47.72 | 53.98 | -6.26 |
| * | 15960.00 | Peak | Н | - | - | -71.97 | 23.29 | 0.00 | 58.32 | 73.98 | -15.66 |
| * | 21280.00 | Average | Н | - | - | -66.91 | 5.14 | -9.54 | 35.69 | 53.98 | -18.29 |
| * | 21280.00 | Peak | Н | - | - | -56.60 | 5.14 | -9.54 | 46.00 | 73.98 | -27.98 |
| | 26600.00 | Peak | Н | - | - | -56.04 | 7.21 | -9.54 | 48.63 | 68.20 | -19.57 |

Table 7-112. Radiated Measurements MIMO (242 Tones) – Open

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|-------------------------------|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dega 200 of 442 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 369 of 413 |
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| Worst Case Mode: | 802.11ax (20MHz BW) |
|---------------------------|---------------------|
| Worst Case Transfer Rate: | MCS0 |
| RU Index: | 61 |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5500MHz |
| Channel: | 100 |
| | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| * | 11000.00 | Average | Н | - | - | -81.29 | 16.78 | 0.00 | 42.49 | 53.98 | -11.49 |
| * | 11000.00 | Peak | Н | - | - | -70.08 | 24.50 | 0.00 | 61.42 | 73.98 | -12.56 |
| | 16500.00 | Peak | Н | - | - | -71.75 | 24.50 | 0.00 | 59.75 | 68.20 | -8.45 |
| | 22000.00 | Peak | Н | - | - | -55.79 | 5.16 | -9.54 | 46.83 | 68.20 | -21.37 |
| | 27500.00 | Peak | Н | - | - | -56.42 | 7.69 | -9.54 | 48.73 | 68.20 | -19.47 |

Table 7-113. Radiated Measurements MIMO (242 Tones) – Open

| Worst Case Mode: | 802.11ax (20MHz BW) | | | | |
|---------------------------|---------------------|--|--|--|--|
| Worst Case Transfer Rate: | MCS0 | | | | |
| RU Index: | 61 | | | | |
| Distance of Measurements: | 1 & 3 Meters | | | | |
| Operating Frequency: | 5600MHz | | | | |
| Channel: | 120 | | | | |
| | | | | | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| * | 11200.00 | Average | Н | - | - | -81.45 | 17.10 | 0.00 | 42.65 | 53.98 | -11.33 |
| * | 11200.00 | Peak | Н | - | - | -70.21 | 24.47 | 0.00 | 61.26 | 73.98 | -12.72 |
| | 16800.00 | Peak | Н | - | - | -72.24 | 24.47 | 0.00 | 59.23 | 68.20 | -8.97 |
| * | 22400.00 | Average | Н | - | - | -66.45 | 5.45 | -9.54 | 36.46 | 53.98 | -17.52 |
| * | 22400.00 | Peak | Н | - | - | -56.39 | 5.45 | -9.54 | 46.52 | 73.98 | -27.46 |
| | 28000.00 | Peak | Н | - | - | -56.83 | 7.97 | -9.54 | 48.59 | 68.20 | -19.61 |

Table 7-114. Radiated Measurements MIMO (242 Tones) – Open

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
|---------------------|-----------------------------|---------------------------------------|---------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 270 of 412 |
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| Worst Case Mode: | 802.11ax (20MHz BW) | | | | |
|---------------------------|---------------------|--|--|--|--|
| Worst Case Transfer Rate: | MCS0 | | | | |
| RU Index: | 61 | | | | |
| Distance of Measurements: | 1 & 3 Meters | | | | |
| Operating Frequency: | 5720MHz | | | | |
| Channel: | 144 | | | | |
| | | | | | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| * | 11440.00 | Average | Н | - | - | -81.22 | 17.95 | 0.00 | 43.73 | 53.98 | -10.25 |
| * | 11440.00 | Peak | Н | - | - | -71.55 | 24.77 | 0.00 | 60.22 | 73.98 | -13.76 |
| | 17160.00 | Peak | Н | - | - | -71.57 | 24.77 | 0.00 | 60.20 | 68.20 | -8.00 |
| * | 22880.00 | Average | Н | - | - | -66.63 | 5.43 | -9.54 | 36.26 | 53.98 | -17.72 |
| * | 22880.00 | Peak | Н | - | - | -56.41 | 5.43 | -9.54 | 46.47 | 73.98 | -27.51 |
| | 28600.00 | Peak | Н | - | - | -56.96 | 8.29 | -9.54 | 48.78 | 68.20 | -19.42 |

Table 7-115. Radiated Measurements MIMO (242 Tones) – Open

| Worst Case Mode: | 802.11ax (20MHz BW) | | | |
|---------------------------|---------------------|--|--|--|
| Worst Case Transfer Rate: | MCS0 | | | |
| RU Index: | 61 | | | |
| Distance of Measurements: | 1 & 3 Meters | | | |
| Operating Frequency: | 5745MHz | | | |
| Channel: | 149 | | | |
| | | | | |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|--------------------|---|--|--|--|--|--|---|--|---|--|
| 11490.00 | Average | Н | - | - | -82.30 | 17.83 | 0.00 | 42.53 | 53.98 | -11.45 |
| 11490.00 | Peak | Н | - | - | -71.09 | 25.21 | 0.00 | 61.12 | 73.98 | -12.86 |
| 17235.00 | Peak | Н | - | - | -71.79 | 25.21 | 0.00 | 60.42 | 68.20 | -7.78 |
| 22980.00 | Average | Н | - | - | -66.87 | 5.29 | -9.54 | 35.88 | 53.98 | -18.10 |
| 22980.00 | Peak | Н | - | - | -56.74 | 5.29 | -9.54 | 46.01 | 73.98 | -27.97 |
| 28725.00 | Peak | Н | - | - | -56.73 | 8.24 | -9.54 | 48.97 | 68.20 | -19.23 |
| | [MHz] 11490.00 11490.00 17235.00 22980.00 22980.00 | [MHz] Detector 11490.00 Average 11490.00 Peak 17235.00 Peak 22980.00 Average 22980.00 Peak | [MHz] Detector [H/V] 11490.00 Average H 11490.00 Peak H 17235.00 Peak H 22980.00 Average H 22980.00 Peak H | [MHz] Detector [H/V] Height [cm] 11490.00 Average H - 11490.00 Peak H - 11490.00 Peak H - 17235.00 Peak H - 22980.00 Average H - 22980.00 Peak H - | Frequency [MHz]DetectorAnt. Pol. [H/V]Antenna Height [cm]Azimuth [degree]11490.00AverageH11490.00PeakH11490.00PeakH17235.00PeakH22980.00AverageH22980.00PeakH22980.00PeakH | Frequency [MHz]DetectorAnt. Pol. [H/V]Antenna Height [cm]Azimuth [degree]Analyzer Level [dBm]11490.00AverageH82.3011490.00PeakH71.0917235.00PeakH71.7922980.00AverageH66.8722980.00PeakH66.74 | Frequency [MHz] Detector Ant. Pol. [H/V] Antenna Height [cm] Azimuth (degree) Analyzer Level [dBm] AFCL [dB/m] 11490.00 Average H - -82.30 17.83 11490.00 Peak H - -71.09 25.21 17235.00 Peak H - -71.79 25.21 22980.00 Average H - -66.87 5.29 22980.00 Peak H - - -66.87 5.29 | Frequency [MHz] Detector Ant. Pol. [H/V] Antenna Height [cm] Azimuth [degree] Analyzer Level [dBm] AFCL [dB/m] Correction Factor [dB] 11490.00 Average H - -82.30 17.83 0.00 11490.00 Peak H - -71.09 25.21 0.00 17235.00 Peak H - -71.79 25.21 0.00 22980.00 Average H - - -66.87 5.29 -9.54 22980.00 Peak H - - -56.74 5.29 -9.54 | Frequency [MHz] Detector Ant. Pol. [H/V] Antenna Height [cm] Azimuth [degree] Analyzer Level [dBm] AFCL [dB/m] Correction Factor [dB] Strength [dBµV/m] 11490.00 Average H - -82.30 17.83 0.00 42.53 11490.00 Peak H - -71.09 25.21 0.00 61.12 17235.00 Peak H - -71.79 25.21 0.00 60.42 22980.00 Average H - -66.87 5.29 -9.54 35.88 22980.00 Peak H - - -66.87 5.29 -9.54 46.01 | Frequency [MHz] Detector Ant. Pol. [H/V] Antenna Height [cm] Azimuth (degree) Analyzer Level [dBm] AFCL [dBm] Correction Factor [dB] Strength [dBµV/m] Limit [dBµV/m] 11490.00 Average H - -82.30 17.83 0.00 42.53 53.98 11490.00 Peak H - -71.09 25.21 0.00 61.12 73.98 17235.00 Peak H - -71.79 25.21 0.00 60.42 68.20 22980.00 Average H - - -66.87 5.29 -9.54 35.88 53.98 22980.00 Peak H - - -66.87 5.29 -9.54 35.88 53.98 22980.00 Peak H - - -66.87 5.29 -9.54 36.01 73.98 |

Table 7-116. Radiated Measurements MIMO (242 Tones) – Open

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
|---------------------|-----------------------------|---------------------------------------|---------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 271 of 412 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | | Page 371 of 413 |
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| Worst Case Mode: | 802.11ax (20MHz BW) |
|---------------------------|---------------------|
| Worst Case Transfer Rate: | MCS0 |
| RU Index: | 61 |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5785MHz |
| Channel: | 157 |
| | |

| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| * | 11570.00 | Average | Н | - | - | -82.01 | 17.79 | 0.00 | 42.78 | 53.98 | -11.20 |
| * | 11570.00 | Peak | Н | - | - | -70.92 | 17.79 | 0.00 | 53.87 | 73.98 | -20.11 |
| | 17355.00 | Peak | Н | - | - | -71.54 | 26.23 | 0.00 | 61.69 | 68.20 | -6.51 |
| | 23140.00 | Peak | Н | - | - | -56.15 | 5.34 | -9.54 | 46.64 | 68.20 | -21.56 |
| | 28925.00 | Peak | Н | - | - | -56.88 | 8.48 | -9.54 | 49.05 | 68.20 | -19.15 |

Table 7-117. Radiated Measurements MIMO (242 Tones) – Open

| Worst Case Mode: | 802.11ax (20MHz BW) |
|---------------------------|---------------------|
| Worst Case Transfer Rate: | MCS0 |
| RU Index: | 61 |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5825MHz |
| Channel: | 165 |
| | |

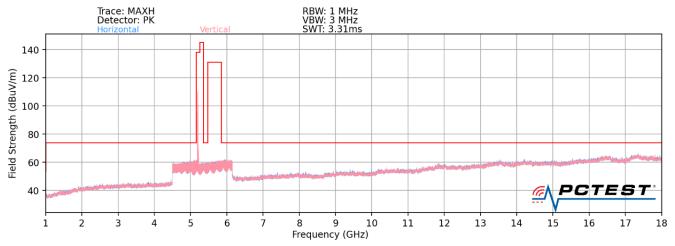
| | Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|--------------------|----------|--------------------|------------------------|----------------------------------|-------------------------|----------------|---------------------------------------|-------------------------------|-------------------|-------------|
| * | 11650.00 | Average | Н | - | - | -82.19 | 18.05 | 0.00 | 42.86 | 53.98 | -11.12 |
| * | 11650.00 | Peak | Н | - | - | -71.23 | 18.05 | 0.00 | 53.82 | 73.98 | -20.16 |
| | 17475.00 | Peak | Н | - | - | -71.37 | 25.87 | 0.00 | 61.50 | 68.20 | -6.70 |
| | 23300.00 | Peak | Н | - | - | -56.01 | 5.29 | -9.54 | 46.73 | 68.20 | -21.47 |
| | 29125.00 | Peak | Н | - | - | -56.72 | 8.49 | -9.54 | 49.23 | 68.20 | -18.97 |

Table 7-118. Radiated Measurements MIMO (242 Tones) – Open

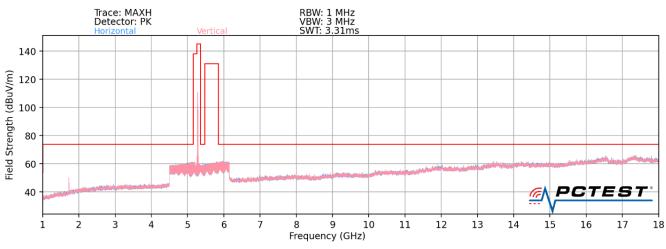
| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Technical Manager |
|---------------------|-----------------------------|---------------------------------------|---------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 272 of 412 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | | Page 372 of 413 |
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26 Tones – Q



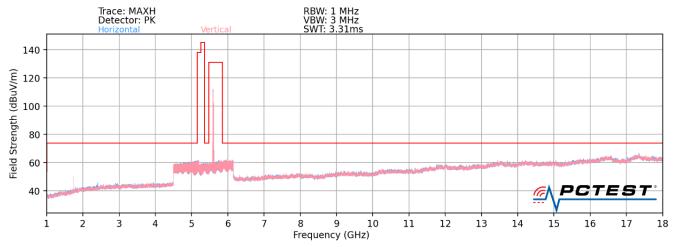
Plot 7-565. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U1 Ch. 40 - 26 Tones) - Open



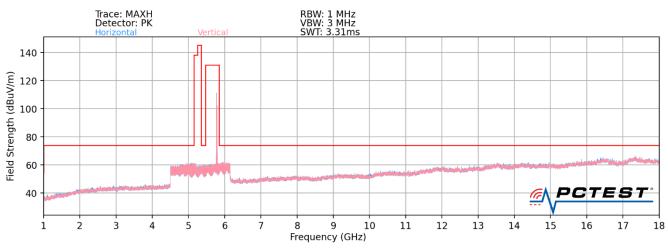
Plot 7-566. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U2A Ch. 56 - 26 Tones) - Open

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|-------------------------------|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dega 272 of 412 |
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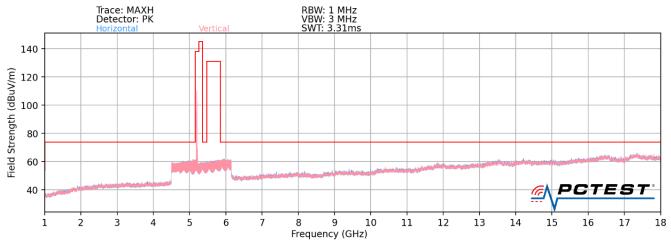




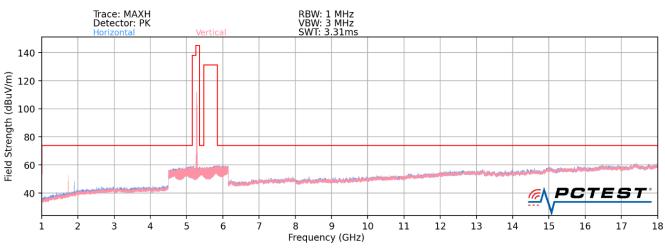
Plot 7-568. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 26 Tones) - Open

| FCC ID: A3LSMF711B | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|-------------------------------|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dega 274 of 442 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 374 of 413 |
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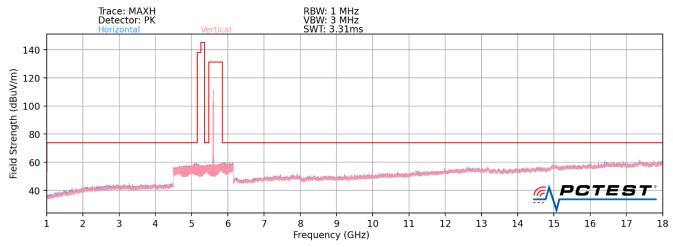




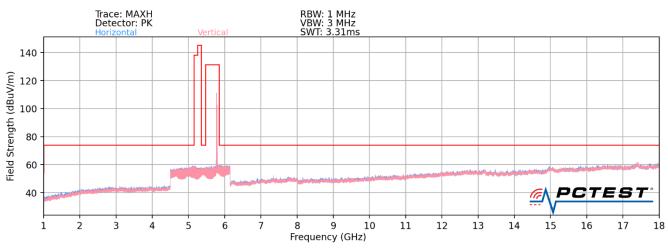
Plot 7-570. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U2A Ch. 56 - 26 Tones) - Closed

| FCC ID: A3LSMF711B | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager | |
|--------------------------------|-----------------------------|---------------------------------------|-----------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | Dama 075 of 140 | |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 375 of 413 | |
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Plot 7-572. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 26 Tones) - Closed

| FCC ID: A3LSMF711B | PCTEST° Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Technical Manager |
|---------------------|--|---------------------------------------|-----------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Daga 276 at 412 |
| 1M2104130035-13.A3L | 04/12/2021 - 06/04/2021 | Portable Handset | Page 376 of 413 |
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