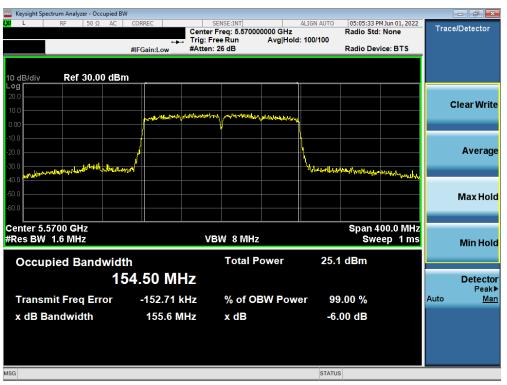


| Keysight Spectrum Analyzer - Occupied BW |                     |                      |          |                |            |              |                |      | - 6 <del>x</del> |
|--|---------------------|----------------------|----------|----------------|------------|--------------|----------------|------|------------------|
| LX/ RL RF 50Ω AC C                       | ORREC               | SENSE<br>Center Freq | INT SOUR |                | ALIGN AUTO | 09:38:52 P   | M Apr 07, 2022 | Trac | e/Detector       |
|  |                     | Trig: Free R         | un       | Avg Hold       | I: 100/100 | Raulo Stu.   | None           |      |                  |
| #  | IFGain:Low          | #Atten: 20 d         | В        |                |            | Radio Dev    | ice: BTS       |      |                  |
|  |                     |                      |          |                |            |              |                |      |                  |
| 10 dB/div Ref 20.00 dBm                  |                     |                      |          |                |            |              |                |      |                  |
| Log                                      |                     |                      |          |                |            |              |                |      |                  |
| 10.0                                     | مراجع المع والمراجع | mpotonether          | www.     | may they whole |            |              |                |      | Clear Write      |
| 0.00                                     |                     |                      |          |                |            |              |                |      |                  |
| -10.0                                    |                     |                      |          |                |            |              |                |      |                  |
| -20.0                                    | 1                   |                      |          |                | <u>ң</u>   |              |                |      |                  |
| -30.0                                    | r                   |                      |          |                | <u>\</u>   |              |                |      | Average          |
| -40.0                                    |                     |                      |          |                | mount      | Martinterner | Las II         | _    |                  |
| -50.0                                    |                     |                      |          |                |            |              | ℠ℿℯ୵ℽ℩ℚ℆℩⅏ℎℊⅉ℔ |      |                  |
| -60.0                                    |                     |                      |          |                |            |              |                |      | Max Hold         |
| -70.0                                    |                     |                      |          |                |            |              |                |      | ινίαχ ποιά       |
|  |                     |                      |          |                |            |              |                |      |                  |
| Center 5.69 GHz                          |                     |                      |          |                |            |              | 200 MHz        |      |                  |
| #Res BW 820 kHz                          |                     | VBW                  | 8 MHz    |                |            | Swe          | ep 1 ms        |      | Min Hold         |
| Occurried Deviduality                    |                     | -                    | otal Po  | owor           | 22.4       | dBm          |                |      |                  |
| Occupied Bandwidth                       |                     |                      |          | UWGI           | 23.4       | UBIII        |                |      |                  |
| 77.                                      | 257 MH              | Z                    |          |                |            |              |                |      | Detector         |
| Transmit Freq Error                      | 209.20 kl           | Ll- 0/               | of OF    | W Pow          | or 00      | .00 %        |                | Auto | Peak▶<br>Man     |
|  |                     |                      |          | W FOW          |            |              |                | Auto | India            |
| x dB Bandwidth                           | 81.15 MI            | Hz x                 | dB       |                | -26.       | 00 dB        |                |      |                  |
|  |                     |                      |          |                |            |              |                |      |                  |
|  |                     |                      |          |                |            |              |                |      |                  |
|  |                     |                      |          |                |            |              |                |      |                  |
| MSG                                      |                     |                      |          |                | STATUS     |              |                |      |                  |

Plot 7-108. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 138)



Plot 7-109. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW 802.11ac (UNII Band 2C) - Ch. 114)

| FCC ID: A3LSMF936JPN |                    | Approved by:<br>Technical Manager |                |
|----------------------|--------------------|-----------------------------------|----------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                         | Dage 72 of 252 |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                  | Page 72 of 253 |
| © 2022 ELEMENT       |                    |                                   | V1.0           |



| 🔤 Kej       | ysight Spe  | ectrum A   | Analyzer - O                          | ccupied   | BW       |         |       |                |                         |            |                     |              |            |  |      |             |
|-------------|-------------|------------|---------------------------------------|-----------|----------|---------|-------|----------------|-------------------------|------------|---------------------|--------------|------------|--|------|-------------|
| L <b>XI</b> | Т           | RF         | 50 9                                  | Ω AC      | COI      | RREC    |       |                | SENSE:INT               |            |                     | ALIGN AUTO   |            | M Apr 07, 2022   | Trac | e/Detector  |
|             |             |            |                                       |           |          |         |       |                | r Freq: 5.5<br>Free Run | 70000      | 000 GHz<br>Avg Hold | · 100/100    | Radio Std  | : None   | mac  | CIDELECTOR  |
|             |             |            |                                       |           | #IF      | Gain:Lo |       |                | : 26 dB                 |            | Avginoid            | . 100/100    | Radio Dev  | vice: BTS  |      |             |
|             |             |            |                                       |           |          | Gamille |       |                |                         |            |                     |              |            |  |      |             |
|             |             |            |                                       |           |          |         |       |                |                         |            |                     |              |            |  |      |             |
| 10 dl       | B/div       | - F        | tef 30.0                              | 00 dE     | 3m       |         |       |                |                         |            |                     | •            |            |  |      |             |
| Log<br>20.0 |             |            |                                       |           |          |         |       |                |                         |            |                     |              |            |  |      |             |
| 20.0        |             |            |                                       |           |          |         |       |                |                         |            |                     |              |            |  |      | Clear Write |
| 10.0        |             |            |                                       |           |          | min     | www   | الجليوالمرابان | 1th mound               | pitter and | Munth Manager       |              |            |  |      | erea mite   |
| 0.00        |             |            |                                       |           |          |         |       |                |                         |            |                     | <u> </u>     |            |  |      |             |
| -10.0       |             |            |                                       |           |          |         |       |                |                         |            |                     |              |            |  |      |             |
|             |             |            |                                       |           |          |         |       |                |                         |            |                     | 11           |            |  |      | Average     |
| -20.0       |             |            | المعرفي المعرب                        | 1. Monard | كالملالك |         |       |                |                         |            |                     | المعين الملأ | yth Marian | and the second sec |      | Average     |
| -30.0       | (appleters) | Wheel June |                                       |           | YF 974   |         |       |                |                         |            |                     | All Western  |            | and the state of the   |      |             |
| -40.0       |             |            |                                       |           |          |         |       |                |                         |            |                     |              |            |  |      |             |
| -50.0       |             |            |                                       |           |          |         |       |                |                         |            |                     |              |            |  |      |             |
|             |             |            |                                       |           |          |         |       |                |                         |            |                     |              |            |  |      | Max Hold    |
| -60.0       |             |            |                                       |           |          |         |       |                |                         |            |                     |              |            |  | _    |             |
| Con         | ter 5.      | 57 C       | <b>U</b> 7                            |           |          |         |       |                |                         |            |                     |              | <br>Snar   | 400 MHz  |      |             |
|             | BW 3        |            |                                       |           |          |         |       | v              | BW 50                   | MHz        |                     |              |            | ep 1 ms  |      |             |
| Res         | Daa         | J IVIII    | 2                                     |           |          |         |       | v              | Daa 20                  | TAULTS     |                     |              | 0 89 1     | seb i illa   |      | Min Hold    |
|             |             | aiad       | Ban                                   | duvie     | dth      |         |       |                | Tota                    | al Po      | ower                | 25           | ) dBm      |  |      |             |
| <u>۲</u>    | CCU         | JIEU       | Dan                                   |           |          |         |       | _              | 101                     |            |                     | 201          |            |  |      |             |
|             |             |            |                                       | 1         | 56.      | 37      | MF    | Z              |                         |            |                     |              |            |  |      | Detector    |
|             |             |            |                                       |           |          |         |       |                |                         |            |                     |              |            |  |      | Peak►       |
|             | ransr       | nit F      | req Ei                                | ror       |          | 452.    | .56 k | Hz             | % of                    | OB         | W Pow               | er 99        | 9.00 %     |  | Auto | Man         |
| x           | dB B        | and        | width                                 |           |          | 166     | .2 M  | Hz             | x dE                    | 3          |                     | -26          | .00 dB     |  |      |             |
| ^           |             | ana        | , , , , , , , , , , , , , , , , , , , |           |          |         |       |                | A                       |            |                     |              |            |  |      |             |
|             |             |            |                                       |           |          |         |       |                |                         |            |                     |              |            |  |      |             |
|             |             |            |                                       |           |          |         |       |                |                         |            |                     |              |            |  |      |             |
|             |             |            |                                       |           |          |         |       |                |                         |            |                     |              |            |  |      |             |
| MSG         |             |            |                                       |           |          |         |       |                |                         |            |                     | STATU        | s          |  |      |             |

Plot 7-110. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW 802.11ax (UNII Band 2C) – Ch. 114)

| FCC ID: A3LSMF936JPN |                    | Approved by:<br>Technical Manager |                |
|----------------------|--------------------|-----------------------------------|----------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                         | Daga 72 of 252 |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                  | Page 73 of 253 |
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# 7.3 6dB Bandwidth Measurement – 802.11a/n/ac/ax §15.407 (e)

### **Test Overview and Limit**

The bandwidth at 6dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal 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. The spectrum analyzer's bandwidth measurement function is configured to measure the 6dB bandwidth.

### In the 5.725 – 5.850GHz band, the 6dB bandwidth must be $\geq$ 500 kHz.

## Test Procedure Used

ANSI C63.10-2013 – Section 6.9.2 KDB 789033 D02 v02r01 – Section C

## **Test Settings**

- The signal analyzers' automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 6. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = 100 kHz
- 3. VBW <u>></u> 3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple

### Test Setup

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



Figure 7-2. Test Instrument & Measurement Setup

### Test Notes

None.

| FCC ID: A3LSMF936JPN |                    | Approved by:<br>Technical Manager |                |
|----------------------|--------------------|-----------------------------------|----------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                         | Daga 74 of 252 |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                  | Page 74 of 253 |
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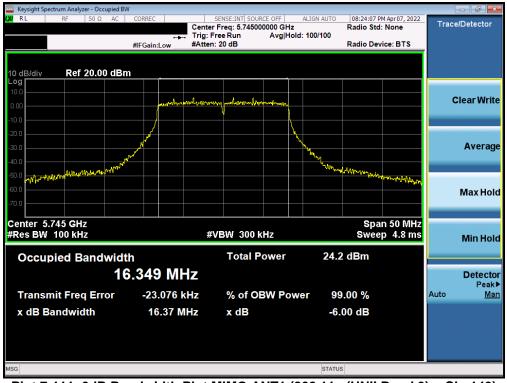
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# MIMO Antenna-1 6 dB Bandwidth Measurements

|        | Frequency<br>[MHz] | Channel<br>No. | 802.11 Mode | Data Rate [Mbps] | Measured 6dB<br>Bandwidth<br>[MHz] |
|--------|--------------------|----------------|-------------|------------------|------------------------------------|
|        | 5745               | 149            | а           | 6                | 16.37                              |
|        | 5785               | 157            | а           | 6                | 16.33                              |
|        | 5825               | 165            | а           | 6                | 16.40                              |
|        | 5745               | 149            | n (20MHz)   | 6.5/7.2 (MCS0)   | 17.26                              |
|        | 5785               | 157            | n (20MHz)   | 6.5/7.2 (MCS0)   | 17.02                              |
|        | 5825               | 165            | n (20MHz)   | 6.5/7.2 (MCS0)   | 17.56                              |
| e<br>S | 5745               | 149            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 18.75                              |
| Band   | 5785               | 157            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 18.49                              |
| ä      | 5825               | 165            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 18.99                              |
|        | 5755               | 151            | n (40MHz)   | 13.5/15 (MCS0)   | 35.44                              |
|        | 5795               | 159            | n (40MHz)   | 13.5/15 (MCS0)   | 36.36                              |
|        | 5755               | 151            | ax (40MHz)  | 13.5/15 (MCS0)   | 38.14                              |
|        | 5795               | 159            | ax (40MHz)  | 13.5/15 (MCS0)   | 37.41                              |
|        | 5775               | 155            | ac (80MHz)  | 29.3/32.5 (MCS0) | 75.56                              |
|        | 5775               | 155            | ax (80MHz)  | 29.3/32.5 (MCS0) | 77.92                              |

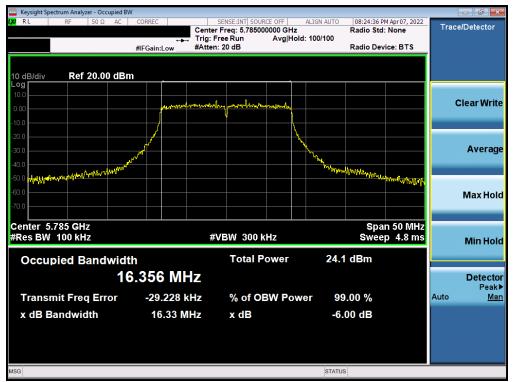
Table 7-4. Conducted Bandwidth Measurements MIMO ANT1



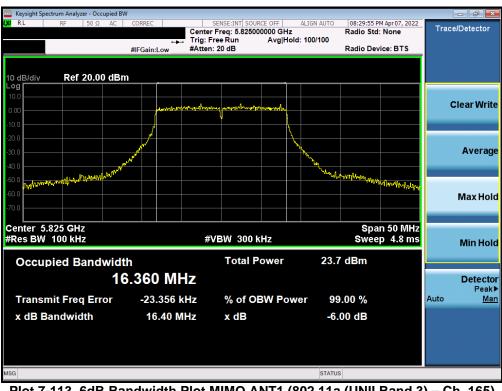
Plot 7-111. 6dB Bandwidth Plot MIMO ANT1 (802.11a (UNII Band 3) - Ch. 149)

| FCC ID: A3LSMF936JPN |                    | Approved by:<br>Technical Manager |                |
|----------------------|--------------------|-----------------------------------|----------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                         | Daga ZE of 252 |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                  | Page 75 of 253 |
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Plot 7-112. 6dB Bandwidth Plot MIMO ANT1 (802.11a (UNII Band 3) - Ch. 157)



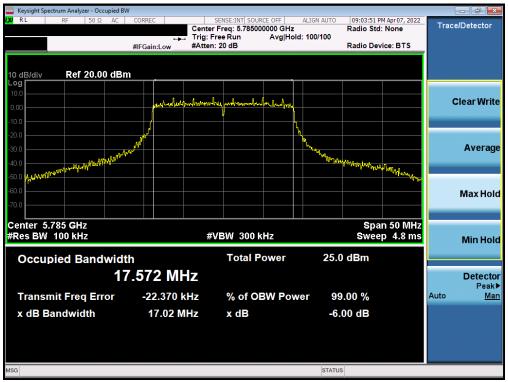
Plot 7-113. 6dB Bandwidth Plot MIMO ANT1 (802.11a (UNII Band 3) - Ch. 165)

| FCC ID: A3LSMF936JPN |                    | Approved by:<br>Technical Manager |                |
|----------------------|--------------------|-----------------------------------|----------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                         | Daga 76 at 252 |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                  | Page 76 of 253 |
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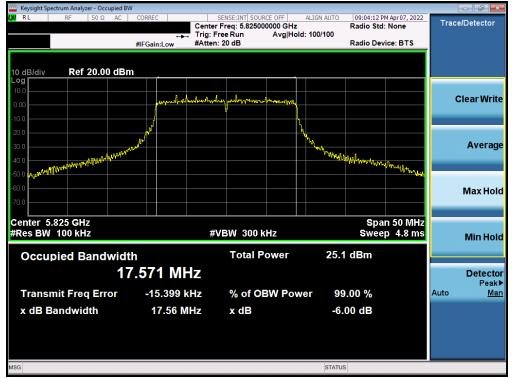
Plot 7-114. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 149)



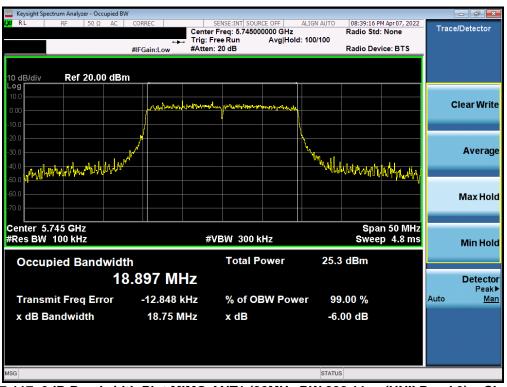
Plot 7-115. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

| FCC ID: A3LSMF936JPN |                    | Approved by:<br>Technical Manager |                |
|----------------------|--------------------|-----------------------------------|----------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                         | Dega 77 of 252 |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                  | Page 77 of 253 |
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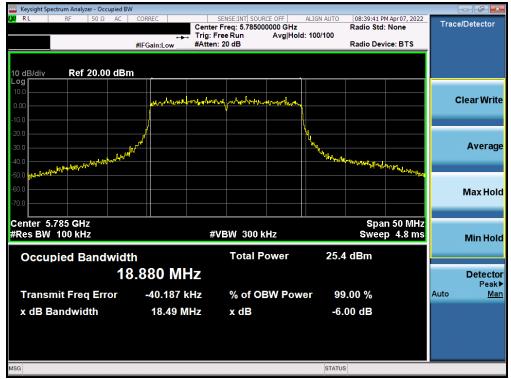
Plot 7-116. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 165)



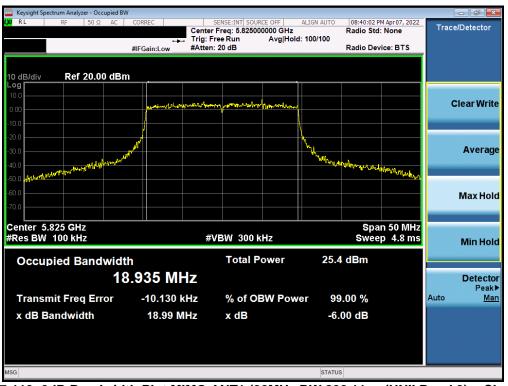
Plot 7-117. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 149)

| FCC ID: A3LSMF936JPN |                    | Approved by:<br>Technical Manager |                |
|----------------------|--------------------|-----------------------------------|----------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                         | Dage 70 of 252 |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                  | Page 78 of 253 |
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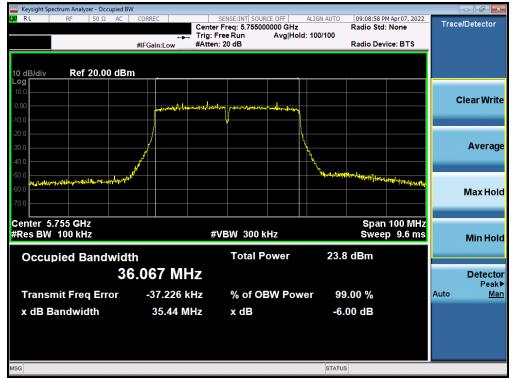
Plot 7-118. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 157)



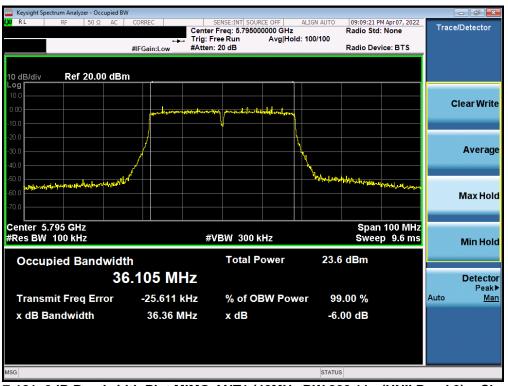
Plot 7-119. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 165)

| FCC ID: A3LSMF936JPN |                    | Approved by:<br>Technical Manager |                |
|----------------------|--------------------|-----------------------------------|----------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                         | Dega 70 of 252 |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                  | Page 79 of 253 |
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Plot 7-120. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 3) – Ch. 151)



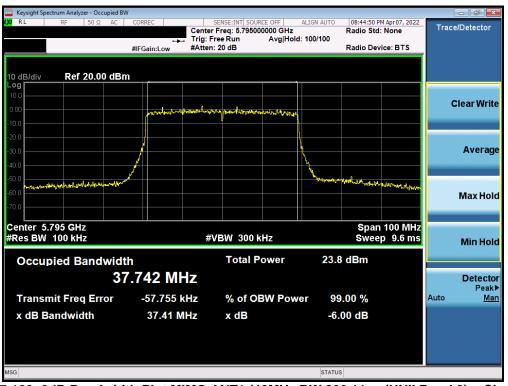
Plot 7-121. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)

| FCC ID: A3LSMF936JPN |                    | Approved by:<br>Technical Manager |                |
|----------------------|--------------------|-----------------------------------|----------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                         |                |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                  | Page 80 of 253 |
| © 2022 ELEMENT       |                    | ·                                 | V1.0           |



| Keysight Spectrum Analyzer - Occupied BW |                      |  |                                |            |   |                        |       | - 6 💌             |
|--|----------------------|--|--------------------------------|------------|---|------------------------|-------|-------------------|
| <b>LXI</b> RL RF 50Ω AC C                |                      | SENSE:INT S<br>Center Freq: 5.75<br>Trig: Free Run | 5000000 GHz                    | ALIGN AUTO | 08:44:24 PI<br>Radio Std:   | M Apr 07, 2022<br>None | Trace | e/Detector        |
| #  | IFGain:Low           | #Atten: 20 dB                                      | Avginor                        | u. 100/100 | Radio Dev   | ice: BTS               |       |                   |
|  |                      |  |                                |            |   |                        |       |                   |
| 10 dB/div Ref 20.00 dBm                  |                      |  |                                |            |   |                        |       |                   |
| Log<br>10.0                              |                      |  |                                |            |   |                        |       |                   |
| 0.00                                     |                      | Andrew warden and                                  | manahlatha                     |            |   |                        | C     | Clear Write       |
| -10.0                                    | Hereiter auf an area |  | . d'a standard fa fallanara bi | 1          |   |                        |       |                   |
| -20.0                                    |                      |  |                                | ļ          |   |                        |       |                   |
| -30.0                                    | 1                    |  |                                | Į          |   |                        |       | Average           |
| -40.0                                    | <i>/</i>             |  |                                |            |   |                        |       | monugo            |
|  |                      |  |                                | and and    |   |                        |       |                   |
| -50.0<br>-60.0                           |                      |  |                                |            | ALCONTROL OF AN AND A CONTROL OF AN AND AND AND AND AND AND AND AND AND | reption for the        |       |                   |
|  |                      |  |                                |            |   |                        |       | Max Hold          |
| -70.0                                    |                      |  |                                |            |   |                        |       | _                 |
| Center 5.755 GHz                         |                      |  |                                |            |   | 100 MHz                |       |                   |
| #Res BW 100 kHz                          |                      | #VBW 30  | 0 kHz                          |            | Swee  | p 9.6 ms               |       | Min Hold          |
| Occupied Bandwidth                       |                      | Tota   | Power                          | 24.4       | dBm   |                        |       |                   |
|  | 709 MH               |  |                                |            |   |                        |       | <b>D</b>          |
| 37.                                      |                      | Z  |                                |            |   |                        |       | Detector<br>Peak▶ |
| Transmit Freq Error                      | -16.310 kł           | Hz % of  | OBW Pow                        | ver 99     | .00 %   |                        | Auto  | Man               |
| x dB Bandwidth                           | 38.14 MH             | Hz x dB  |                                | -6.        | 00 dB   |                        |       |                   |
|  |                      |  |                                |            |   |                        |       |                   |
|  |                      |  |                                |            |   |                        |       |                   |
|  |                      |  |                                |            |   |                        |       |                   |
| MSG                                      |                      |  |                                | STATUS     |   |                        |       |                   |

Plot 7-122. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 3) – Ch. 151)



Plot 7-123. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 3) - Ch. 159)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  |                |  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|----------------|--|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dega 01 of 252 |  |                                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 81 of 253 |  |                                   |
| © 2022 ELEMENT       |                                       | ·                | V1.0           |  |                                   |



| Keysight Spectrum Analyzer - Occupied BW | /                  |                              |                          |  | - 6         | ×                          |
|--|--------------------|------------------------------|--------------------------|--|-------------|----------------------------|
| IXIRL RF 50Ω AC                          | Center             |                              | Radio St<br>d: 100/100   | PM Apr 07, 2022<br>d: None<br>evice: BTS | Trace/Detec | tor                        |
| 10 dB/div Ref 20.00 dBn                  | 1                  |                              |                          |  |             |                            |
| 10.0<br>0.00                             | الماليليليل المالي | he with he had a line of the |                          |  | ClearV      | Vrite                      |
| -10.0                                    |                    |                              |                          |  |             |                            |
| -20.0                                    |                    |                              |                          |  | Ave         | rage                       |
| -50.0<br>-60.0<br>-70.0                  |                    |                              | The second second second | ~#waagentalkeratioge                     | MaxI        | Hold                       |
| Center 5.775 GHz<br>#Res BW 100 kHz      | #\                 | /BW 300 kHz                  |                          | n 200 MHz<br>19.13 ms                    | Min I       | Hold                       |
| Occupied Bandwidt                        | h                  | Total Power                  | 23.9 dBm                 |  |             |                            |
|  | 5.380 MHz          |                              |                          |  |             | ector<br><sup>v</sup> eak▶ |
| Transmit Freq Error                      | -13.638 kHz        | % of OBW Pow                 | ver 99.00 %              |  | Auto        | Man                        |
| x dB Bandwidth                           | 75.56 MHz          | x dB                         | -6.00 dB                 |  |             |                            |
| MSG                                      |                    |                              | STATUS                   |  |             |                            |

Plot 7-124. 6dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)



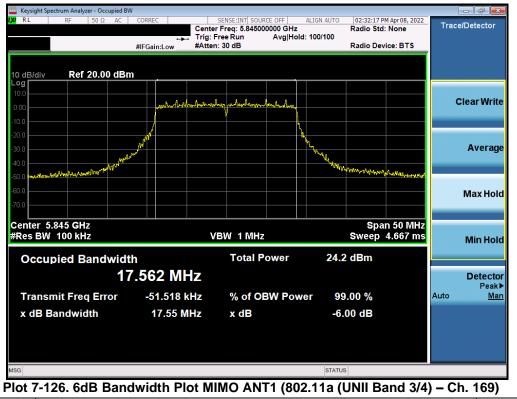
Plot 7-125. 6dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  |                |  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|----------------|--|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dage 02 of 252 |  |                                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 82 of 253 |  |                                   |
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|          | Frequency<br>[MHz] | Channel<br>No. | 802.11 Mode               | Data Rate [Mbps] | Measured<br>6dB Bandwidth<br>[MHz] |
|----------|--------------------|----------------|---------------------------|------------------|------------------------------------|
| Band 3/4 | 5845               | 169            | а                         | 6                | 17.55                              |
| Band 4   | 5865               | 173            | а                         | 6                | 16.86                              |
| Dallu 4  | 5885               | 177            | а                         | 6                | 17.62                              |
| Band 3/4 | 5845               | 169            | n (20MHz)                 | 6.5/7.2 (MCS0)   | 17.52                              |
| Band 4   | 5865               | 173            | n (20MHz)                 | 6.5/7.2 (MCS0)   | 17.54                              |
| Dallu 4  | 5885               | 177            | n (20MHz)                 | 6.5/7.2 (MCS0)   | 16.94                              |
| Band 3/4 | 5845               | 169            | ax (20MHz) 6.5/7.2 (MCS0) |                  | 19.00                              |
| Band 4   | 5865               | 173            | ax (20MHz)                | 6.5/7.2 (MCS0)   | 18.72                              |
| Danu 4   | 5885               | 177            | ax (20MHz)                | 6.5/7.2 (MCS0)   | 17.19                              |
| Band 3/4 | 5835               | 167            | n (40MHz)                 | 13.5/15 (MCS0)   | 36.37                              |
| Band 4   | 5875               | 175            | n (40MHz)                 | 13.5/15 (MCS0)   | 35.87                              |
| Band 3/4 | 5835               | 167            | ax (40MHz)                | 13.5/15 (MCS0)   | 37.82                              |
| Band 4   | 5875               | 175            | ax (40MHz)                | 13.5/15 (MCS0)   | 37.73                              |
|          | 5855               | 171            | ac (80MHz)                | 29.3/32.5 (MCS0) | 75.41                              |
| Band 3/4 | 5855               | 171            | ax (80MHz)                | 29.3/32.5 (MCS0) | 78.12                              |
| Dand 3/4 | 5815               | 163            | ac (160MHz)               | 58.5/65 (MCS0)   | 155.90                             |
|          | 5815               | 163            | ax (160MHz)               | 58.5/65 (MCS0)   | 157.80                             |

Table 7-5. Conducted Bandwidth Measurements Band 4 MIMO ANT1

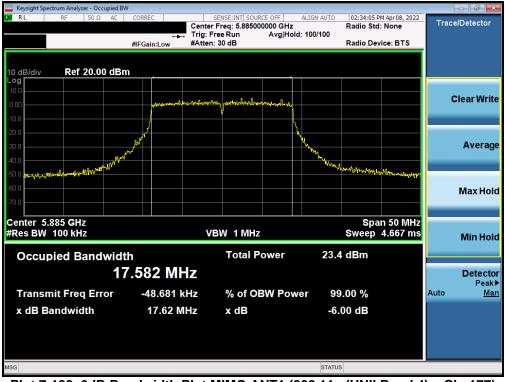


| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
|----------------------|--------------------|---------------------------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dogo 82 of 252                    |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 83 of 253                    |
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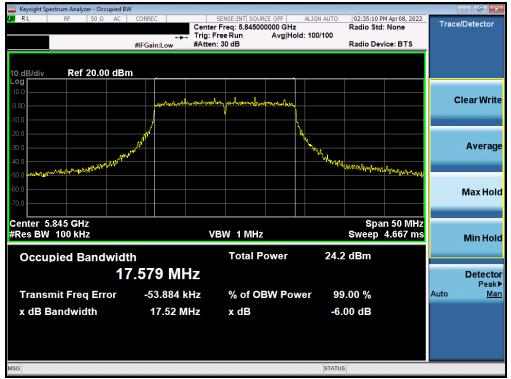
Plot 7-127. 6dB Bandwidth Plot MIMO ANT1 (802.11a (UNII Band 4) - Ch. 173)



Plot 7-128. 6dB Bandwidth Plot MIMO ANT1 (802.11a (UNII Band 4) - Ch. 177)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dage 84 of 252                    |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 84 of 253                    |
| © 2022 ELEMENT       |                                       | ·                | V1.0                              |





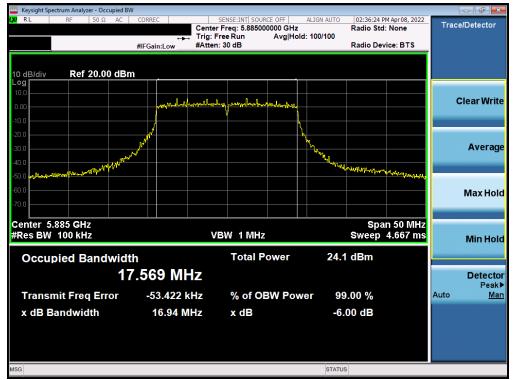
Plot 7-129. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3/4) - Ch. 169)



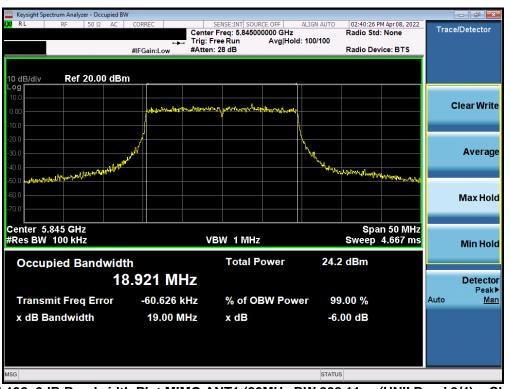
Plot 7-130. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 4) - Ch. 173)

| FCC ID: A3LSMF936JPN |                    |                  | Approved by:<br>Technical Manager |
|----------------------|--------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:        | EUT Type:        | Dage 05 of 252                    |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset | Page 85 of 253                    |
| © 2022 ELEMENT       |                    |                  | V1.0                              |





Plot 7-131. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 4) - Ch. 177)



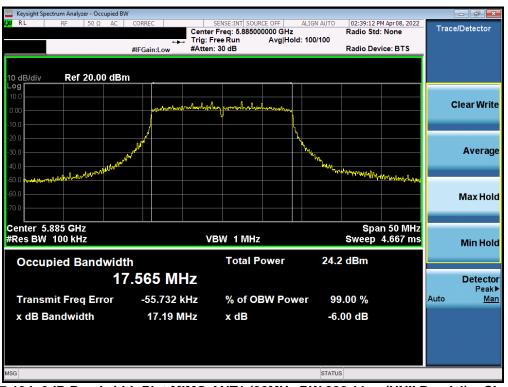
Plot 7-132. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3/4) - Ch. 169)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  |                |  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|----------------|--|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dege 96 of 959 |  |                                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 86 of 253 |  |                                   |
| © 2022 ELEMENT       |                                       |                  | V1.0           |  |                                   |



| Keysight Spectrum Analyzer - Occupied B <sup>1</sup>   | W                        |  |   |   | -       |                   |
|--|--------------------------|--|---|---|---------|-------------------|
| ( <b>χ)</b> RL RF 50Ω AC   | Trig:                    | SENSE:INT SOURCE OFF<br>r Freq: 5.865000000 GHz<br>Free Run Avg Ho<br>n: 30 dB | ALIGN AUTO 02:39:47 F<br>Radio Sto<br>Id: 100/100<br>Radio De |   | Trace/D | )etector          |
| 10 dB/div Ref 20.00 dBr  |                          |  |   |   |         |                   |
| 10.0<br>0.00<br>-10.0  |                          | lang palinterration beautions  |   |   | Cle     | ear Write         |
| -20.0<br>-30.0<br>-40.0<br>-50.0 Marcal Journal Markan Markan  | HAY MARK                 |  | h   |   |         | Average           |
| -50.0 CAREALING CONTRACTOR CONTRA |                          |  |   | and the second | Ν       | /lax Hold         |
| Center 5.865 GHz<br>#Res BW 100 kHz  |                          | /BW 1 MHz<br>Total Power   |   | n 50 MHz<br>4.667 ms  |         | Vin Hold          |
|  | 8.852 MHz                |  |   |   |         | Detector<br>Peak▶ |
| Transmit Freq Error<br>x dB Bandwidth  | -50.504 kHz<br>18.72 MHz | % of OBW Pov<br>x dB   | ver 99.00 %<br>-6.00 dB                                       |   | Auto    | <u>Man</u>        |
| MSG  |                          |  | STATUS  |   |         |                   |

Plot 7-133. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 173)



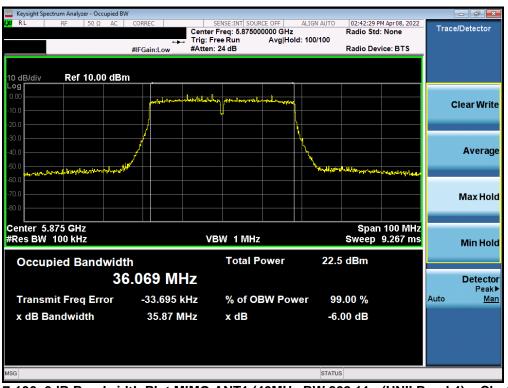
Plot 7-134. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 177)

| FCC ID: A3LSMF936JPN |                    |                  | Approved by:<br>Technical Manager |
|----------------------|--------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:        | EUT Type:        | Dage 07 of 252                    |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset | Page 87 of 253                    |
| © 2022 ELEMENT       |                    |                  | V1.0                              |



| Keysight Spectrum Analyzer - Occupied E | W          |  |          |                               |                   |                 |
|---|------------|--|----------|-------------------------------|-------------------|-----------------|
| <mark>ιχα</mark> RL RF 50Ω AC           |            | SENSE:INT SOURCE C<br>Center Freq: 5.83500000<br>Trig: Free Run A  |          | 02:41:48 PM A<br>Radio Std: N |                   | Trace/Detector  |
|   |            | #Atten: 26 dB  |          | Radio Device                  | e: BTS            |                 |
| 10 dB/div Ref 20.00 dB                  | m          |  |          |                               |                   |                 |
| 10.0                                    |            | underson and and a starting of the start of the |          |                               |                   | Clear Writ      |
| -10.0                                   |            |  |          |                               |                   |                 |
| -30.0                                   |            |  |          |                               |                   | Averag          |
| -50.0                                   |            |  |          | uAhártarpitytonolog           | prof.Philoropean  | Max Hol         |
| -70.0 Center 5.835 GHz                  |            |  |          | 0.000.00                      | 00 8411-          |                 |
| #Res BW 100 kHz                         |            | VBW 1 MHz  |          | Sweep 9.                      | 00 MHz<br>.267 ms | Min Hol         |
| Occupied Bandwid                        | th         | Total Pow  | ver 23.2 | dBm                           |                   |                 |
|   | 6.059 MH   |  |          |                               |                   | Detecto<br>Peak |
| Transmit Freq Error                     | -46.121 kH | Iz % of OBW  | Power 99 | .00 %                         | 4                 | Auto <u>Ma</u>  |
| x dB Bandwidth                          | 36.37 MH   | lz x dB  | -6.      | 00 dB                         |                   |                 |
| MSG                                     |            |  | STATUS   | 5                             |                   |                 |

Plot 7-135. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 3/4) - Ch. 167)



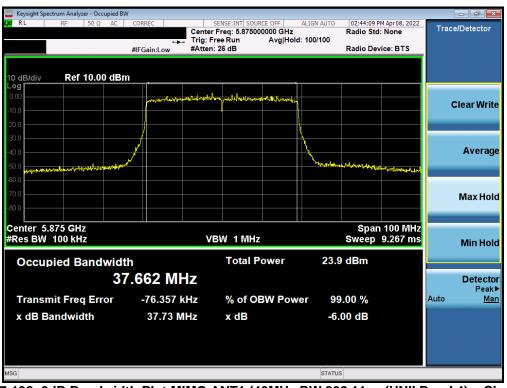
Plot 7-136. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 4) - Ch. 175)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        |                                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 88 of 253                    |
| © 2022 ELEMENT       |                                       |                  | V1.0                              |



| Keysight Spectrum Analyzer - Occupied B\ |   |                                |             |  |           |              |
|--|---|--------------------------------|-------------|--|-----------|--------------|
| LXI RL RF 50Ω AC                         | CORREC  | SENSE:INT SOURCE OFF           |             | 0 PM Apr 08, 2022  | Trace/Det | ector        |
|  | Trig:   | : Free Run Avg Hold            | d:>100/100  |  |           |              |
|  | #IFGain:Low #Atte   | en: 26 dB                      | Radio I     | Device: BTS  |           |              |
|  |   |                                |             |  |           |              |
| 10 dB/div Ref 10.00 dBr                  | n   |                                |             |  |           |              |
| Log<br>0.00                              | suth the anos of the  | tother strath homewood date to |             |  |           |              |
| -10.0                                    |   |                                |             |  | Clear     | r Write      |
| -20.0                                    |   |                                |             |  |           |              |
| -30.0                                    | /   |                                |             |  |           |              |
| -40.0                                    |   |                                | N.          |  | Δ.        | /erage       |
|  | And the second se |                                | hummen best |  | ~         | cruge        |
| -50.0                                    |   |                                |             | the state of the s |           |              |
|  |   |                                |             |  |           |              |
| -70.0                                    |   |                                |             |  | Ма        | x Hold       |
| -80.0                                    |   |                                |             |  | _         | _            |
| Center 5.835 GHz                         |   |                                | Sp          | an 100 MHz   |           |              |
| #Res BW 100 kHz                          |   | VBW 1 MHz                      |             | p 9.267 ms   | Mi        | n Hold       |
|  |   | T-4-1 D                        | 04.4.15     |  |           |              |
| Occupied Bandwidt                        |   | Total Power                    | 24.4 dBm    |  |           |              |
| 37                                       | 7.657 MHz   |                                |             |  | De        | etector      |
| Transmit Freq Error                      | -68.680 kHz   | % of OBW Pow                   | ver 99.00 % |  | Auto      | Peak▶<br>Man |
|  |   |                                |             |  | Auto      | Inan         |
| x dB Bandwidth                           | 37.82 MHz   | x dB                           | -6.00 dB    |  |           |              |
|  |   |                                |             |  |           |              |
|  |   |                                |             |  |           |              |
|  |   |                                |             |  |           |              |
| MSG                                      |   |                                | STATUS      |  |           |              |

Plot 7-137. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 3/4) - Ch. 167)



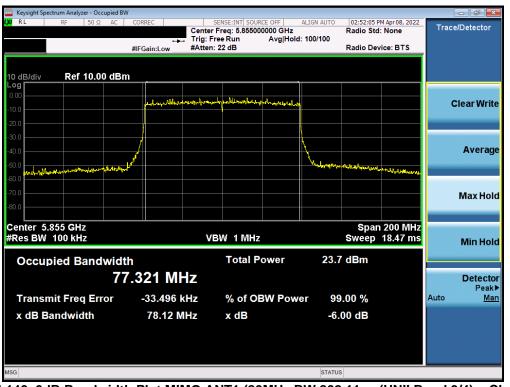
Plot 7-138. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 4) - Ch. 175)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dage 00 of 252                    |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 89 of 253                    |
| © 2022 ELEMENT       |                                       |                  | V1.0                              |



| Keysight Spectrum Analyzer - Occupied B\ | W                    |  |                             |                                 |                   |
|--|----------------------|--|-----------------------------|---------------------------------|-------------------|
| (X) RL RF 50Ω AC                         |                      | SENSE:INT SOURCE OFF<br>r Freq: 5.855000000 GHz<br>Free Run Avg Hole |                             | L6 PM Apr 08, 2022<br>Std: None | Trace/Detector    |
|  |                      | n: 24 dB   |                             | Device: BTS                     |                   |
|  |                      |  |                             |                                 |                   |
| 10 dB/div Ref 10.00 dBr                  | n                    |  |                             |                                 |                   |
| Log<br>0.00                              |                      |  |                             |                                 |                   |
| -10.0                                    | North Ithe proting M | اللع بالاللاطاماله ومساريع الاله                                     |                             |                                 | Clear Write       |
| -20.0                                    |                      |  |                             |                                 |                   |
| -30.0                                    |                      |  |                             |                                 |                   |
| -40.0                                    |                      |  | <b>\</b>                    |                                 | Average           |
|  | A                    |  | Υ.                          |                                 | Average           |
| -50.0 Wolder where the month of the the  |                      |  | Anderly and produced in the | and not set many reported       |                   |
| -60.0                                    |                      |  |                             |                                 |                   |
| -70.0                                    |                      |  |                             |                                 | Max Hold          |
| -80.0                                    |                      |  |                             |                                 |                   |
| Center 5.855 GHz                         |                      |  | Sp                          | an 200 MHz                      |                   |
| #Res BW 100 kHz                          | v                    | 'BW 1 MHz  |                             | p 18.47 ms                      | Min Hold          |
|  |                      | - / 15   |                             |                                 | inititiona        |
| Occupied Bandwidt                        |                      | Total Power  | 23.7 dBm                    |                                 |                   |
| 7  | 5.392 MHz            |  |                             |                                 | Detector          |
| Transmit Freq Error                      | -39.515 kHz          | % of OBW Pow   | ver 99.00 %                 |                                 | Peak▶<br>Auto Man |
|  |                      |  |                             |                                 |                   |
| x dB Bandwidth                           | 75.41 MHz            | x dB   | -6.00 dB                    |                                 |                   |
|  |                      |  |                             |                                 |                   |
|  |                      |  |                             |                                 |                   |
|  |                      |  |                             |                                 |                   |
| MSG                                      |                      |  | STATUS                      |                                 |                   |

Plot 7-139. 6dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 3/4) - Ch. 171)



Plot 7-140. 6dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 3/4) - Ch. 171)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dama 00 of 050                    |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 90 of 253                    |
| © 2022 ELEMENT       |                                       |                  | V1.0                              |





Plot 7-141. 6dB Bandwidth Plot MIMO ANT1 (160MHz BW 802.11ac (UNII Band 3/4) - Ch. 163)



Plot 7-142. 6dB Bandwidth Plot MIMO ANT1 (160MHz BW 802.11ax (UNII Band 3/4) - Ch. 171)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dega 01 of 252                    |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 91 of 253                    |
| © 2022 ELEMENT       |                                       |                  | V1.0                              |



# MIMO Antenna-2 6dB Bandwidth Measurements

|        | Frequency<br>[MHz] | Channel<br>No. | 802.11 Mode | Data Rate [Mbps] | Measured 6dB<br>Bandwidth<br>[MHz] |
|--------|--------------------|----------------|-------------|------------------|------------------------------------|
|        | 5745               | 149            | а           | 6                | 16.34                              |
|        | 5785               | 157            | а           | 6                | 16.35                              |
|        | 5825               | 165            | а           | 6                | 16.37                              |
|        | 5745               | 149            | n (20MHz)   | 6.5/7.2 (MCS0)   | 17.59                              |
|        | 5785               | 157            | n (20MHz)   | 6.5/7.2 (MCS0)   | 17.30                              |
|        | 5825               | 165            | n (20MHz)   | 6.5/7.2 (MCS0)   | 17.60                              |
| e<br>S | 5745               | 149            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 17.57                              |
| Band   | 5785               | 157            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 18.85                              |
| ä      | 5825               | 165            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 18.87                              |
|        | 5755               | 151            | n (40MHz)   | 13.5/15 (MCS0)   | 36.37                              |
|        | 5795               | 159            | n (40MHz)   | 13.5/15 (MCS0)   | 36.35                              |
|        | 5755               | 151            | ax (40MHz)  | 13.5/15 (MCS0)   | 37.86                              |
|        | 5795               | 159            | ax (40MHz)  | 13.5/15 (MCS0)   | 38.00                              |
|        | 5775               | 155            | ac (80MHz)  | 29.3/32.5 (MCS0) | 75.61                              |
|        | 5775               | 155            | ax (80MHz)  | 29.3/32.5 (MCS0) | 77.27                              |

Table 7-6. Conducted Bandwidth Measurements MIMO ANT2



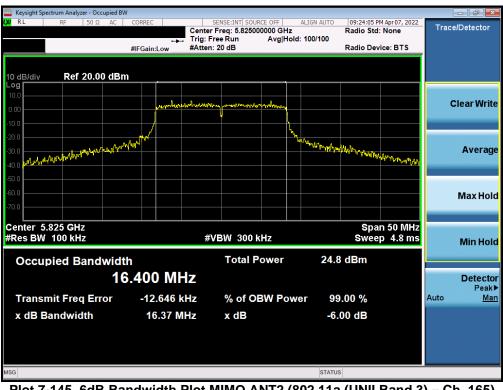
Plot 7-143. 6dB Bandwidth Plot MIMO ANT2 (802.11a (UNII Band 3) - Ch. 149)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        |                                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 92 of 253                    |
| © 2022 ELEMENT       |                                       |                  | V1.0                              |





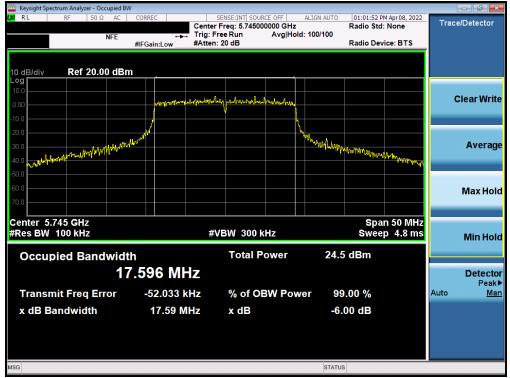
Plot 7-144. 6dB Bandwidth Plot MIMO ANT2 (802.11a (UNII Band 3) - Ch. 157)



Plot 7-145. 6dB Bandwidth Plot MIMO ANT2 (802.11a (UNII Band 3) - Ch. 165)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |  |
|----------------------|---------------------------------------|------------------|-----------------------------------|--|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Daga 02 of 252                    |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 93 of 253                    |  |
| © 2022 ELEMENT       |                                       |                  | V1.0                              |  |





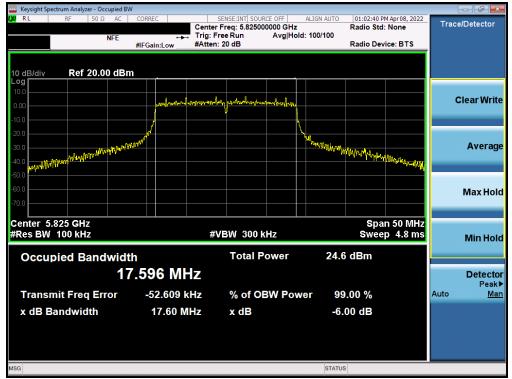
Plot 7-146. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 149)



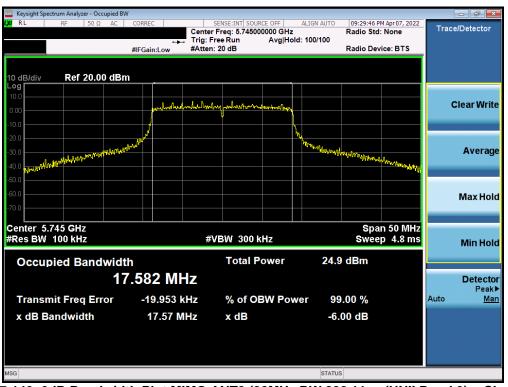
Plot 7-147. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dega 04 of 252                    |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 94 of 253                    |
| © 2022 ELEMENT       |                                       |                  | V1.0                              |





Plot 7-148. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 165)



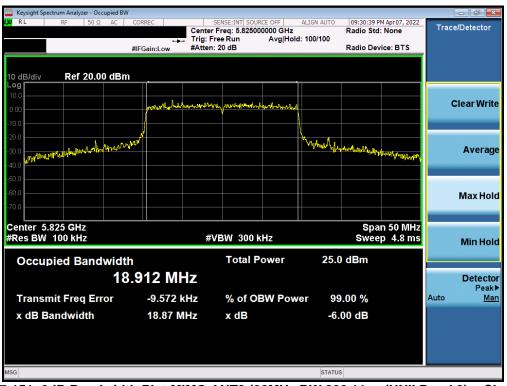
Plot 7-149. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 149)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        |                                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 95 of 253                    |
| © 2022 ELEMENT       |                                       | ·                | V1.0                              |



| 🧱 Keysight Spectrum Analyzer - Occupied BV | V                        |  |                         |                            |                   |
|--|--------------------------|--|-------------------------|----------------------------|-------------------|
| <b>(X)</b> RL RF 50Ω AC                    | Trig: F                  | SENSE:INT SOURCE OFF<br>r Freq: 5.785000000 GHz<br>Free Run Avg Ho<br>h: 20 dB | Radio St<br>Id: 100/100 | PM Apr 07, 2022<br>d: None | Trace/Detector    |
| 10 dB/div Ref 20.00 dBn                    |                          |  |                         |                            |                   |
| Log<br>10.0<br>0.00                        | manufil/manufightransis  | haypohreetomaanstaaanse  | <br>^                   |                            | Clear Write       |
| -100<br>-20.0<br>-30.0<br>-40.0            | hold                     |  | Mr. Mr. mohalt append   | mather                     | Average           |
| -50.0<br>-60.0<br>-70.0                    |                          |  |                         |                            | Max Hold          |
| Center 5.785 GHz<br>#Res BW 100 kHz        |                          | VBW 300 kHz  | Swe                     | an 50 MHz<br>ep   4.8 ms   | Min Hold          |
| Occupied Bandwidt                          | n<br>8.955 MHz           | Total Power  | 24.9 dBm                |                            | Detector<br>Peak▶ |
| Transmit Freq Error<br>x dB Bandwidth      | -19.001 kHz<br>18.85 MHz | % of OBW Pov<br>x dB   | ver 99.00 %<br>-6.00 dB |                            | Auto <u>Man</u>   |
| MSG  |                          |  | STATUS                  |                            |                   |

Plot 7-150. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 157)



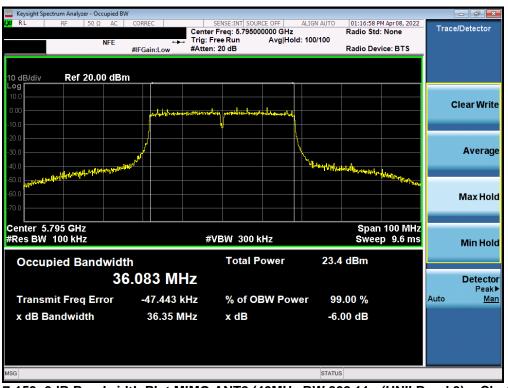
Plot 7-151. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 165)

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) |                |  |
|----------------------|--------------------|---------------------------------------|----------------|--|
| Test Report S/N:     | Test Dates:        | EUT Type:                             |                |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 96 of 253 |  |
| © 2022 ELEMENT       |                    |                                       | V1.0           |  |



| 🔤 Keysight Spectrum Analyzer - Occupied E   | W  |                                  |                    |                           |                   | -     | - 🗗 🔀             |
|---|--|----------------------------------|--------------------|---------------------------|-------------------|-------|-------------------|
| LXV RL RF 50Ω AC  | CORREC   | SENSE:INT SOUR                   |                    | 01:16:36 PM<br>Radio Std: | Apr 08, 2022      | Trace | /Detector         |
| NFE   |  | Trig: Free Run                   | Avg Hold: 100/100  |                           |                   |       |                   |
|   | #IFGain:Low  | #Atten: 20 dB                    |                    | Radio Devi                | ce: BTS           |       |                   |
|   |  |                                  |                    |                           |                   |       |                   |
| 10 dB/div Ref 20.00 dB  | m  |                                  |                    |                           |                   |       |                   |
| Log<br>10.0   |  |                                  |                    |                           |                   |       |                   |
| 0.00  |  | ato instantati an articla lateri |                    |                           |                   | С     | lear Write        |
|   | lan  | armiterentar provertistudated    | Male - Mark        |                           |                   |       |                   |
| -10.0   |  | Y                                |                    |                           |                   |       |                   |
| -20.0   |  |                                  | <u> </u>           |                           |                   |       |                   |
| -30.0   | , and the second |                                  | - Mar              |                           |                   |       | Average           |
| -40.0   | half and the second sec |                                  | The shirt here the | YAMIWAUMANA AN            | Nia J             |       |                   |
| -40.0<br>-50.0 polon plant and a second plant and a se |  |                                  |                    |                           | A LAND MARKEN AND |       |                   |
| -60.0   |  |                                  |                    |                           |                   |       | Max Hold          |
| -70.0   |  |                                  |                    |                           |                   |       |                   |
|   |  |                                  |                    |                           |                   |       |                   |
| Center 5.755 GHz<br>#Res BW 100 kHz   |  | #VBW 300 k                       | H7                 |                           | 100 MHz<br>9.6 ms |       |                   |
| WINCS DW TOO KITZ   |  | #4D44 300 K                      | 112                | Owee                      | 7 <b>3.0</b> ms   |       | Min Hold          |
| Occupied Bandwid  | th   | Total Po                         | ower 23.5          | 5 dBm                     |                   |       |                   |
|   | 6.087 MH   | -                                |                    |                           |                   |       | Detector          |
| 3   |  |                                  |                    |                           |                   |       | Detector<br>Peak▶ |
| Transmit Freq Error   | -41.418 k  | Hz % of OE                       | W Power 99         | 0.00 %                    |                   | Auto  | Man               |
| x dB Bandwidth  | 36.37 MI   | Hz xdB                           | -6                 | 00 dB                     |                   |       |                   |
|   | 50.57 Mi   |                                  | -0.                | oo ab                     |                   |       |                   |
|   |  |                                  |                    |                           |                   |       |                   |
|   |  |                                  |                    |                           |                   |       |                   |
|   |  |                                  | 7                  |                           |                   |       |                   |
| MSG   |  |                                  | STATU              | S                         |                   |       |                   |

Plot 7-152. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)



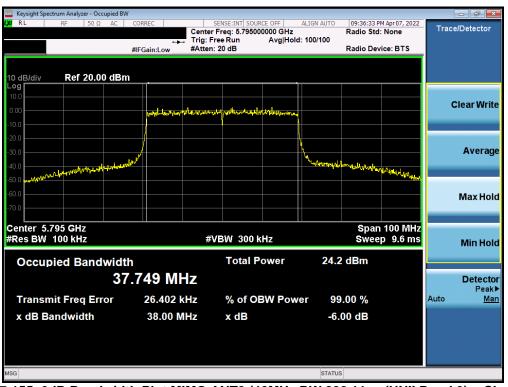
Plot 7-153. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) |                |  |
|----------------------|--------------------|---------------------------------------|----------------|--|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dage 07 of 252 |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 97 of 253 |  |
| © 2022 ELEMENT       |                    |                                       | V1.0           |  |



| Keysight Spectrum Analyzer - Occupied BW |                   |                          |                              |                               | -            | ×              |
|--|-------------------|--------------------------|------------------------------|-------------------------------|--------------|----------------|
|  | Center            |                          | Radio S<br>d: 100/100        | 7 PM Apr 07, 2022<br>td: None | Trace/Detect | tor            |
| #1                                       | FGain:Low #Atten. | . 20 0.5                 | Radio L                      | evice. B13                    |              |                |
| 10 dB/div Ref 20.00 dBm                  |                   |                          |                              |                               |              |                |
| 0.00                                     | menerowerstand    | an population phones and |                              |                               | ClearW       | Vrite          |
| -10.0<br>-20.0<br>-30.0                  | ļ                 |                          | Muntan Mala Call Barrow More |                               | Ave          | rage           |
| -40.0<br>-50.0                           |                   |                          |                              | Handborn, North Nand          | Max          | Hold           |
| Center 5.755 GHz<br>#Res BW 100 kHz      | #\                | /BW 300 kHz              |                              | an 100 MHz<br>eep 9.6 ms      | Minł         | Hold           |
| Occupied Bandwidth                       |                   | Total Power              | 24.3 dBm                     |                               |              | Torta          |
| 37.                                      | 708 MHz           |                          |                              |                               | Dete         | ector<br>eak ▶ |
| Transmit Freq Error                      | -9.483 kHz        | % of OBW Pow             | ver 99.00 %                  |                               | Auto         | Man            |
| x dB Bandwidth                           | 37.86 MHz         | x dB                     | -6.00 dB                     |                               |              |                |
| MSG                                      |                   |                          | STATUS                       |                               |              |                |

Plot 7-154. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 3) - Ch. 151)



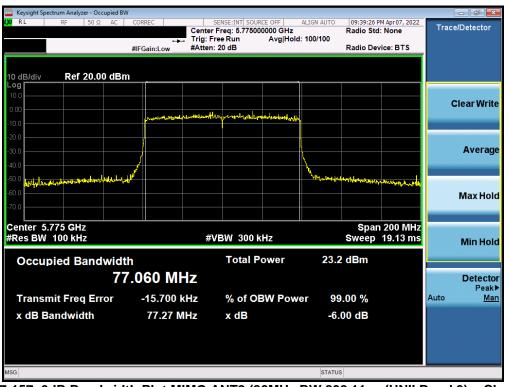
Plot 7-155. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 3) - Ch. 159)

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) |                |  |
|----------------------|--------------------|---------------------------------------|----------------|--|
| Test Report S/N:     | Test Dates:        | EUT Type:                             |                |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 98 of 253 |  |
| © 2022 ELEMENT       |                    | ·                                     | V1.0           |  |



| 🔤 Keysight Sp | ectrum Analyz | zer - Occu        | ipied BW    |          |            |           |              |            |              |                             |                |      |             |
|---------------|---------------|-------------------|-------------|----------|------------|-----------|--------------|------------|--------------|-----------------------------|----------------|------|-------------|
| LXI RL        | RF            | 50 Ω              | AC (        | CORREC   |            |           | NSE:INT      |            | ALIGN AUTO   |                             | M May 03, 2022 | Tro  | e/Detector  |
|               |               |                   |             |          |            |           | req: 5.77500 |            |              | Radio Std                   | : None         | Trac | ce/Detector |
|               |               | N                 | IFE         |          |            | Trig: Fre |              | Avg Hold   | l: 100/100   |                             |                |      |             |
|               |               |                   |             | #FGain:L | ow         | #Atten: 2 | 0 dB         |            |              | Radio Dev                   | /ice: BTS      |      |             |
|               |               |                   |             |          |            |           |              |            |              |                             |                |      |             |
|               |               | ~~ ~~             |             |          |            |           |              |            |              |                             |                |      |             |
| 10 dB/div     | Ret           | 20.00             | aвт         |          |            |           |              |            | _            |                             |                | -    |             |
| Log           |               |                   |             |          |            |           |              |            |              |                             |                |      |             |
| 10.0          |               |                   |             |          |            |           |              |            |              |                             |                |      | Clear Write |
| 0.00          |               |                   |             |          |            |           |              | 4.         |              |                             |                |      | Clear write |
| -10.0         |               |                   |             | յլկվե    | phillipper | ԱներիԱնե  |              | .,ապահակավ |              |                             |                |      |             |
|               |               |                   |             |          |            |           | Ų            |            |              |                             |                |      |             |
| -20.0         |               |                   |             |          |            |           |              |            |              |                             |                |      |             |
| -30.0         |               |                   |             | /        |            |           |              |            | 1            |                             |                |      | Average     |
|               |               |                   |             | A        |            |           |              |            | 1            |                             |                |      | J           |
| -40.0         |               |                   |             | <i>f</i> |            |           |              |            | 1            |                             |                |      |             |
| -50.0         |               |                   | 1 Ib        |          |            |           |              |            | - Wards have | المدانيات وتعاريا وال       |                |      |             |
| -60.0 -60.0   | 10 million    | an and the second | 104/24/24/2 |          |            |           |              |            |              | -monader and a start of the | mynumersure    |      |             |
| -00.0         |               |                   |             |          |            |           |              |            |              |                             |                |      | Max Hold    |
| -70.0         |               |                   |             |          |            |           |              |            |              |                             |                |      |             |
|               |               |                   |             |          |            |           |              |            |              |                             |                |      |             |
| Center 5.     | .7750 GH      | z                 |             |          |            |           |              |            |              | Span 2                      | 200.0 MHz      |      |             |
| #Res BW       | 100 kH        | Z                 |             |          |            | #VE       | 3W 300 k     | Hz         |              | Sweep                       | 19.13 ms       |      | Min Hold    |
|               |               |                   |             |          |            |           |              |            |              |                             |                |      | Winthold    |
| Occu          | pied B        | andy              | width       |          |            |           | Total P      | ower       | 23.0         | ) dBm                       |                |      |             |
| Occu          | pieu D        | anuv              |             |          |            |           | - or all it  |            |              |                             |                |      |             |
|               |               |                   | 75.         | 398      | MH         | 7         |              |            |              |                             |                |      | Detector    |
|               |               |                   |             |          |            |           |              |            |              |                             |                |      | Peak▶       |
| Trans         | mit Fred      | a Erro            | or          | -16.6    | 669 kH     | z         | % of OE      | W Pow      | er 99        | .00 %                       |                | Auto | Man         |
|               |               |                   |             |          |            |           |              |            |              |                             |                |      |             |
| x dB E        | Bandwic       | ith               |             | 75.      | 61 MH      | Z         | x dB         |            | -6.          | 00 dB                       |                |      |             |
|               |               |                   |             |          |            |           |              |            |              |                             |                |      |             |
|               |               |                   |             |          |            |           |              |            |              |                             |                |      |             |
|               |               |                   |             |          |            |           |              |            |              |                             |                |      |             |
|               |               |                   |             |          |            |           |              |            |              |                             |                |      |             |
| Nee.          |               |                   |             |          |            |           |              |            | STATUS       |                             |                |      |             |
| MSG           |               |                   |             |          |            |           |              |            | STATUS       | >                           |                |      |             |

Plot 7-156. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)



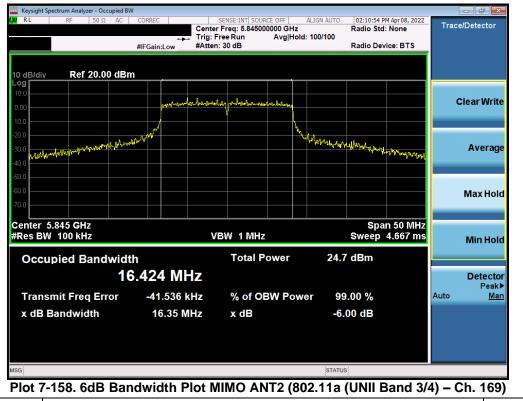
Plot 7-157. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) |                |  |
|----------------------|--------------------|---------------------------------------|----------------|--|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dage 00 of 252 |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 99 of 253 |  |
| © 2022 ELEMENT       |                    |                                       | V1.0           |  |



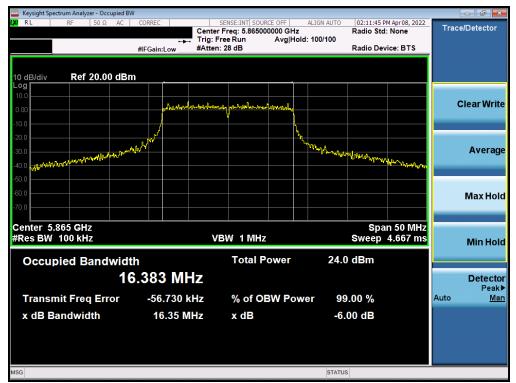
|          | Frequency<br>[MHz] | Channel<br>No. | 802.11 Mode | Data Rate [Mbps] | Measured<br>6dB Bandwidth<br>[MHz] |
|----------|--------------------|----------------|-------------|------------------|------------------------------------|
| Band 3/4 | 5845               | 169            | а           | 6                | 16.35                              |
| Band 4   | 5865               | 173            | а           | 6                | 16.35                              |
| Dallu 4  | 5885               | 177            | а           | 6                | 16.33                              |
| Band 3/4 | 5845               | 169            | n (20MHz)   | 6.5/7.2 (MCS0)   | 17.22                              |
| Band 4   | 5865               | 173            | n (20MHz)   | 6.5/7.2 (MCS0)   | 17.23                              |
| Dallu 4  | 5885               | 177            | n (20MHz)   | 6.5/7.2 (MCS0)   | 17.17                              |
| Band 3/4 | 5845               | 169            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 18.97                              |
| Band 4   | 5865               | 173            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 19.02                              |
| Danu 4   | 5885               | 177            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 17.56                              |
| Band 3/4 | 5835               | 167            | n (40MHz)   | 13.5/15 (MCS0)   | 35.97                              |
| Band 4   | 5875               | 175            | n (40MHz)   | 13.5/15 (MCS0)   | 36.35                              |
| Band 3/4 | 5835               | 167            | ax (40MHz)  | 13.5/15 (MCS0)   | 37.97                              |
| Band 4   | 5875               | 175            | ax (40MHz)  | 13.5/15 (MCS0)   | 38.03                              |
|          | 5855               | 171            | ac (80MHz)  | 29.3/32.5 (MCS0) | 75.33                              |
| Band 3/4 | 5855               | 171            | ax (80MHz)  | 29.3/32.5 (MCS0) | 77.63                              |
| Dand 3/4 | 5815               | 163            | ac (160MHz) | 58.5/65 (MCS0)   | 155.90                             |
|          | 5815               | 163            | ax (160MHz) | 58.5/65 (MCS0)   | 157.60                             |

Table 7-7. Conducted Bandwidth Measurements Band 4 MIMO ANT2

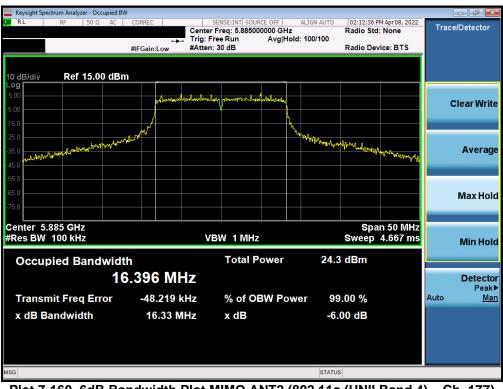


| FCC ID: A3LSMF936JPN |                                     | Approved by:<br>Technical Manager |                 |      |
|----------------------|-------------------------------------|-----------------------------------|-----------------|------|
| Test Report S/N:     | Test Dates:                         | EUT Type:                         | Page 100 of 253 |      |
| 1M2206010070-12.A3L  | 04/11 – 06/18/2022 Portable Handset |                                   | Page 100 01 253 |      |
| © 2022 ELEMENT       |                                     |                                   |                 | V1.0 |





Plot 7-159. 6dB Bandwidth Plot MIMO ANT2 (802.11a (UNII Band 4) - Ch. 173)



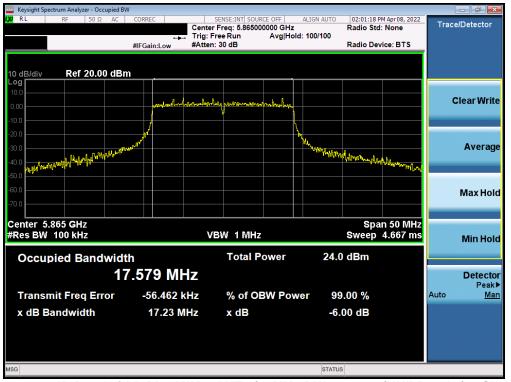
Plot 7-160. 6dB Bandwidth Plot MIMO ANT2 (802.11a (UNII Band 4) - Ch. 177)

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) |                 |  |
|----------------------|--------------------|---------------------------------------|-----------------|--|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dama 404 af 050 |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 101 of 253 |  |
| © 2022 ELEMENT       | •                  |                                       | V1.0            |  |





Plot 7-161. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 3/4) - Ch. 169)



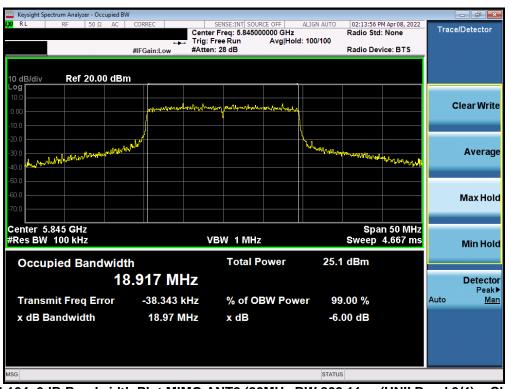
Plot 7-162. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 4) - Ch. 173)

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) |                 |  |
|----------------------|--------------------|---------------------------------------|-----------------|--|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dega 102 of 252 |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 102 of 253 |  |
| © 2022 ELEMENT       | •                  |                                       | V1.0            |  |



| Keysight Spectrum Analyzer - Occupied B | W                  |                   |                       |  |                   |
|---|--------------------|-------------------|-----------------------|--|-------------------|
| (X) RL RF 50 Ω AC                       | Trig: F            |                   | z Rad<br>old: 100/100 | 01:53 PM Apr 08, 2022<br>io Std: None  | Trace/Detector    |
|   | #IFGain:Low #Atter | n: 30 dB          | Rad                   | io Device: BTS   |                   |
| 10 dB/div Ref 20.00 dBr                 | m                  |                   |                       |  |                   |
| 0.00                                    |                    | myoutroomenlander |                       |  | Clear Write       |
| -10.0<br>-20.0<br>-30.0<br>-40.0        | Alerander of       |                   | L.                    | Wheel at a   | Average           |
| -50.0                                   |                    |                   |                       | and a second |                   |
| -70.0                                   |                    |                   |                       |  | Max Hold          |
| Center 5.885 GHz<br>#Res BW 100 kHz     |                    | /BW 1 MHz         |                       | Span 50 MHz<br>eep 4.667 ms  | Min Hold          |
| Occupied Bandwid                        | th                 | Total Power       | 25.0 dB               | m  |                   |
|   | 7.605 MHz          |                   |                       |  | Detector<br>Peak▶ |
| Transmit Freq Error                     | -49.585 kHz        | % of OBW Po       | wer 99.00             | %  | Auto <u>Man</u>   |
| x dB Bandwidth                          | 17.17 MHz          | x dB              | -6.00 d               | В  |                   |
| MSG                                     |                    |                   | STATUS                |  |                   |

Plot 7-163. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 4) - Ch. 177)



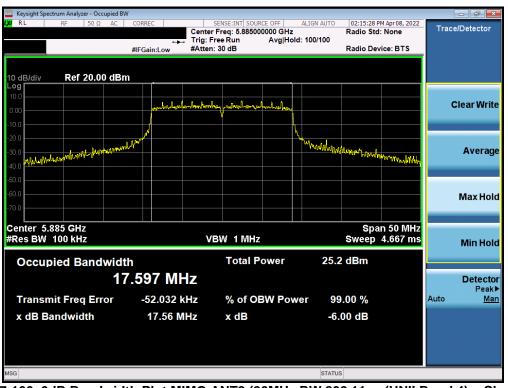
Plot 7-164. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 3/4) - Ch. 169)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | PN Interference of the second s |  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|---|--|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dama 400 at 050   |  |                                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 103 of 253   |  |                                   |
| © 2022 ELEMENT       |                                       |                  | V1.0  |  |                                   |



| Keysight Spectrum Analyzer - Occupied BW     |                        |  |   |                       |                   |
|--|------------------------|--|---|-----------------------|-------------------|
| (X) RL RF 50Ω AC                             | ++++ Trig:             | SENSE:INT SOURCE OFF<br>er Freq: 5.865000000 GHz<br>Free Run Avg Ho<br>n: 28 dB                                  | ALIGN AUTO 02:14:42 I<br>Radio Sto<br>Id: 100/100<br>Radio De   |                       | Trace/Detector    |
|  | #IFGain:Low #Atte      | n: 26 dB   | Radio De  | VICE: DI S            |                   |
| 10 dB/div Ref 20.00 dBm                      |                        |  |   |                       |                   |
| 10.0   | anon land and a staten | and the second | •<br>•  |                       | Clear Write       |
| -10.0  |                        |  |   |                       |                   |
| -30.0<br>-40.0 Myalparaturation provided the |                        |  | Market and a second and a failed and a second and a second and a second a second a second a second a second a s | mannant               | Average           |
| -50.0  |                        |  |   |                       |                   |
| -60.0  |                        |  |   |                       | Max Hold          |
|  |                        |  |   |                       |                   |
| Center 5.865 GHz<br>#Res BW 100 kHz          | V                      | /BW 1 MHz  |   | an 50 MHz<br>4.667 ms | Min Hold          |
| Occupied Bandwidth                           | า                      | Total Power  | 24.6 dBm  |                       |                   |
|  | .935 MHz               |  |   |                       | Detector<br>Peak▶ |
| Transmit Freq Error                          | -69.123 kHz            | % of OBW Pov   | ver 99.00 %   |                       | Auto <u>Man</u>   |
| x dB Bandwidth                               | 19.02 MHz              | x dB   | -6.00 dB  |                       |                   |
| MSG  |                        |  | STATUS  |                       |                   |

Plot 7-165. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 4) - Ch. 173)



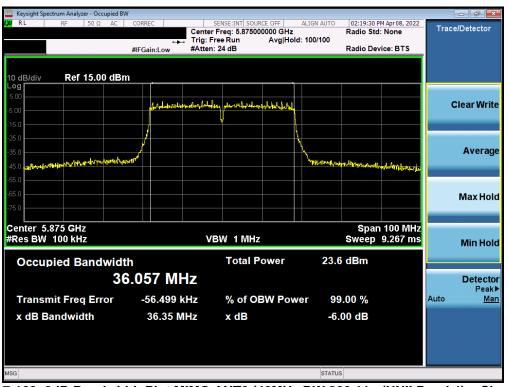
Plot 7-166. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 4) - Ch. 177)

| FCC ID: A3LSMF936JPN |                    | Approved by:<br>Technical Manager |                 |
|----------------------|--------------------|-----------------------------------|-----------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                         | Dega 104 of 252 |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                  | Page 104 of 253 |
| © 2022 ELEMENT       |                    | ·                                 | V1.0            |



| Keysight Spectrum Analyzer - Occupied E | 3W                         |                           |                             |                       |                   |
|---|----------------------------|---------------------------|-----------------------------|-----------------------|-------------------|
| KX RL RF 50Ω AC                         | 🛶 Tri                      |                           | z Radio Sto<br>old: 100/100 |                       | Trace/Detector    |
|   | #IFGain:Low #At            | tten: 24 dB               | Radio De                    | vice: BTS             |                   |
| 10 dB/div <b>Ref 10.00 dB</b>           | m                          |                           | <b>1</b>                    |                       |                   |
| -10.0                                   |                            | heelen powerkerrennendet. | 4                           |                       | Clear Write       |
| -20.0<br>-30.0<br>-40.0<br>-50.0        |                            |                           | mannandana                  | 1/1+8-12-141112       | Average           |
| -60.0<br>-70.0<br>-80.0                 |                            |                           |                             |                       | Max Hold          |
| Center 5.835 GHz<br>#Res BW 100 kHz     |                            | VBW 1 MHz                 | Sweep                       | n 100 MHz<br>9.267 ms | Min Hold          |
| Occupied Bandwid                        | <sup>th</sup><br>6.042 MHz | Total Power               | 23.6 dBm                    |                       | Detector<br>Peak▶ |
| Transmit Freq Error                     | -50.384 kHz                | % of OBW Po               | wer 99.00 %                 |                       | Auto <u>Man</u>   |
| x dB Bandwidth                          | 35.97 MHz                  | x dB                      | -6.00 dB                    |                       |                   |
| MSG                                     |                            |                           | STATUS                      |                       |                   |

Plot 7-167. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 3/4) - Ch. 167)



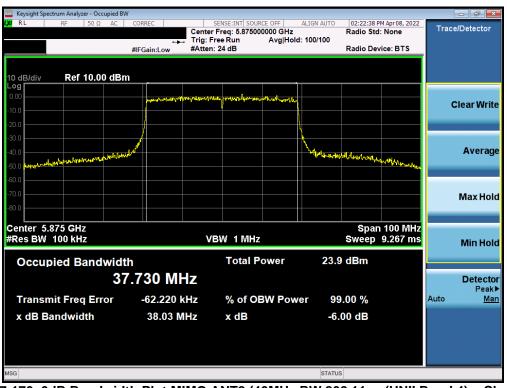
Plot 7-168. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 4) - Ch. 175)

| FCC ID: A3LSMF936JPN |                    | Approved by:<br>Technical Manager |                 |
|----------------------|--------------------|-----------------------------------|-----------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                         | Dega 105 of 252 |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                  | Page 105 of 253 |
| © 2022 ELEMENT       |                    |                                   | V1.0            |



| Keysight Spectrum Analyzer - Occupied E | 3W  |                                  |  |                |                   |
|---|---|----------------------------------|--|----------------|-------------------|
| LXI RL RF 50Ω AC                        | CORREC  | SENSE:INT SOURCE OFF             | ALIGN AUTO 02:21:50 F<br>Radio Sto   | M Apr 08, 2022 | Trace/Detector    |
|   | 🛶 Trig: I   | Free Run Avg Hold:               | : 100/100  |                |                   |
|   | #IFGain:Low #Atter  | n: 26 dB                         | Radio De   | vice: BTS      |                   |
|   |   |                                  |  |                |                   |
| 10 dB/div Ref 10.00 dB                  | m   |                                  |  |                |                   |
|   | Janda Martin Martin Carlora   | Marty shitten boy margan and and |  |                |                   |
| -10.0                                   | Abbaseline in the market a  |                                  |  |                | Clear Write       |
| -20.0                                   | <mark>/</mark>  |                                  |  |                |                   |
| -30.0                                   |   |                                  |  |                |                   |
|   | The second se |                                  | Mad Martin   |                | Average           |
| -50.0 managenerilation and the          | -1 <sup>2</sup> (1 <sup>-1</sup> )  |                                  | and the second s | - Anderstand   | ·····go           |
| -60.0                                   |   |                                  |  |                |                   |
| -70.0                                   |   |                                  |  |                |                   |
|   |   |                                  |  |                | Max Hold          |
| -80.0                                   |   |                                  |  |                |                   |
| Center 5.835 GHz                        |   |                                  |  | n 100 MHz      |                   |
| #Res BW 100 kHz                         | \V  | /BW 1 MHz                        | Sweep  | 9.267 ms       | Min Hold          |
|   | 41-   | Total Power                      | 23.9 dBm   |                |                   |
| Occupied Bandwid                        |   | TOTALLEOWEI                      | 23.9 UBIII   |                |                   |
| 3                                       | 7.732 MHz   |                                  |  |                | Detector          |
| Transmit Freq Error                     | -60.226 kHz   | % of OBW Powe                    | er 99.00 %   |                | Peak▶<br>Auto Man |
| -                                       |   |                                  |  |                |                   |
| x dB Bandwidth                          | 37.97 MHz   | x dB                             | -6.00 dB   |                |                   |
|   |   |                                  |  |                |                   |
|   |   |                                  |  |                |                   |
|   |   |                                  |  |                |                   |
| MSG                                     |   |                                  | STATUS   |                |                   |

Plot 7-169. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 3/4) - Ch. 167)



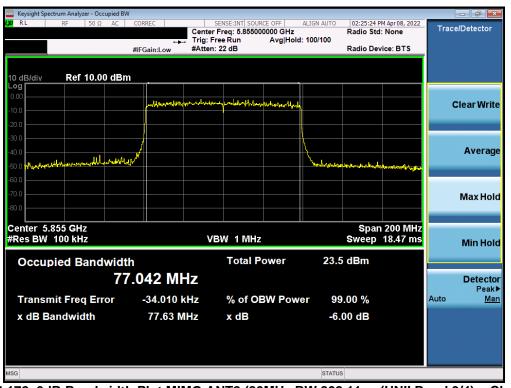
Plot 7-170. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 4) - Ch. 175)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |  |
|----------------------|---------------------------------------|------------------|-----------------------------------|--|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dage 106 of 252                   |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 106 of 253                   |  |
| © 2022 ELEMENT       |                                       |                  | V1.0                              |  |



| 🔤 Keysight Spectrum Analyzer - Occupied BV | N                       |  |  |                            |                   |
|--|-------------------------|--|--|----------------------------|-------------------|
| LX/RL RF 50Ω AC                            |                         | SENSE:INT SOURCE OFF   | Radio Sto                                      | PM Apr 08, 2022<br>d: None | Trace/Detector    |
|  |                         | Free Run Avg Hold<br>n: 22 dB  |  | vice: BTS                  |                   |
|  |                         |  |  |                            |                   |
| 10 dB/div Ref 5.00 dBm                     |                         |  |  |                            |                   |
| -5.00                                      | الالباليل محمول وسيلمان | and and the second of the seco |  |                            |                   |
| -15.0                                      |                         |  |  |                            | Clear Write       |
| -25.0                                      |                         |  |  |                            |                   |
| -35.0                                      |                         |  | ۱<br>۱   |                            |                   |
| -45.0                                      | ad                      |  | Who was a farmer and the farmer and the farmer | is an ed an                | Average           |
| -55.0                                      |                         |  |  | ad also of other proved of |                   |
| -65.0                                      |                         |  |  |                            |                   |
| -75.0                                      |                         |  |  |                            | Max Hold          |
| -85.0                                      |                         |  |  |                            |                   |
| Center 5.855 GHz                           |                         |  | Sna  | n 200 MHz                  |                   |
| #Res BW 100 kHz                            | V                       | /BW 1 MHz  | Sweep  | 18.47 ms                   | Min Hold          |
|  |                         | T-4-1 D  | 00.0 10  |                            | Militiola         |
| Occupied Bandwidt                          |                         | Total Power  | 23.6 dBm                                       |                            |                   |
| 75   | 5.265 MHz               |  |  |                            | Detector<br>Peak▶ |
| Transmit Freq Error                        | -107.72 kHz             | % of OBW Pow   | er 99.00 %                                     |                            | Auto <u>Man</u>   |
| x dB Bandwidth                             | 75.33 MHz               | x dB   | -6.00 dB                                       |                            |                   |
|  |                         |  |  |                            |                   |
|  |                         |  |  |                            |                   |
|  |                         |  |  |                            |                   |
| MSG  |                         |  | STATUS   |                            |                   |

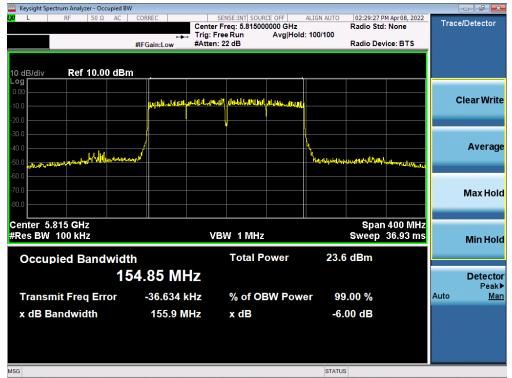
Plot 7-171. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ac (UNII Band 3/4) - Ch. 171)



Plot 7-172. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (UNII Band 3/4) - Ch. 171)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  |                 |  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------|--|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dama 407 - 4050 |  |                                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 107 of 253 |  |                                   |
| © 2022 ELEMENT       |                                       |                  | V1.0            |  |                                   |





Plot 7-173. 6dB Bandwidth Plot MIMO ANT2 (160MHz BW 802.11ac (UNII Band 3/4) - Ch. 163)



Plot 7-174. 6dB Bandwidth Plot MIMO ANT2 (160MHz BW 802.11ax (UNII Band 3/4) - Ch. 163)

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
|----------------------|--------------------|---------------------------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dage 100 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 108 of 253                   |
| © 2022 ELEMENT       |                    |                                       | V1.0                              |



#### 7.4 UNII Output Power Measurement – 802.11a/n/ac/ax §15.407(a.1.iv) §15.407(a.2) §15.407(a.3)

## **Test Overview and Limits**

A transmitter antenna terminal of the EUT is connected to the input of an RF pulse power sensor. Measurement is made using a broadband average power meter 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.

In the 5.15 – 5.25GHz band, the maximum permissible conducted output power is 250mW (23.98dBm). The maximum e.i.r.p. shall not exceed the lesser of 200 mW or 10 + 10 log10B, dBm.

In the 5.25 – 5.35GHz band, the maximum permissible conducted output power is the lesser of 250mW (23.98dBm) or 11 dBm +  $10\log_{10}(26dB BW) = 11 dBm + 10\log_{10}(18.81) = 23.74dBm$ . The maximum e.i.r.p. shall not exceed the lesser of 1.0 W or 17 + 10 log10B, dBm.

In the 5.47 – 5.725GHz band, the maximum permissible conducted output power is the lesser of 250mW (23.98dBm) or 11 dBm +  $10\log_{10}(26dB BW) = 11 dBm + 10\log_{10}(18.74) = 23.73dBm$ . The maximum e.i.r.p. shall not exceed the lesser of 1.0 W or 17 + 10 log10B, dBm.

In the 5.725 – 5.850GHz band, the maximum permissible conducted output power is 1W (30dBm). The maximum e.i.r.p. is 36 dBm.

In the 5.850 – 5.895 GHz band, the maximum permissible e.i.r.p is 30dBm.

### Test Procedure Used

ANSI C63.10-2013 – Section 12.3.3.2 Method PM-G KDB 789033 D02 v02r01 – Section E)3)b) Method PM-G ANSI C63.10-2013 – Section 14.2 Measure-and-Sum Technique KDB 662911 v02r01 – Section E)1) Measure-and-Sum Technique

### Test Settings

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

## Test Setup

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



Figure 7-3. Test Instrument & Measurement Setup

### Test Notes

Per RSS-247 Section 6.2.3, transmission on channels which overlap the 5600-5650 MHz is prohibited. This device operates under these frequencies only under the control of a certified master device and does not support active scanning on these channels. This device does not transmit any beacons or initiate any transmissions in UNII Bands 2A or 2C.

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) |                 |  |  |
|----------------------|--------------------|---------------------------------------|-----------------|--|--|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dage 100 of 252 |  |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 109 of 253 |  |  |
| © 2022 ELEMENT       | •                  | -                                     | V1.0            |  |  |



|           | Freq [MHz] | Channel | Detector | Conducted Power [dBm] |       |       | Conducted<br>Power Limit | Conducted<br>Power | Directional<br>Ant. Gain | Max e.i.r.p.<br>[dBm] | Max e.i.r.p.<br>Limit [dBm] | e.i.r.p.<br>Margin [dB] |
|-----------|------------|---------|----------|-----------------------|-------|-------|--------------------------|--------------------|--------------------------|-----------------------|-----------------------------|-------------------------|
|           |            |         |          | ANT1                  | ANT2  | MIMO  | [dBm]                    | Margin [dB]        | [dBi]                    | Lapuil                | Chine [GDin]                | margin [ab]             |
|           | 5180       | 36      | AVG      | 17.93                 | 17.71 | 20.83 | 23.98                    | -3.15              | -0.96                    | 19.87                 | 23.01                       | -3.14                   |
|           | 5200       | 40      | AVG      | 17.87                 | 17.46 | 20.68 | 23.98                    | -3.30              | -0.96                    | 19.72                 | 23.01                       | -3.29                   |
| <u> </u>  | 5220       | 44      | AVG      | 17.52                 | 17.64 | 20.59 | 23.98                    | -3.39              | -0.96                    | 19.63                 | 23.01                       | -3.38                   |
| d         | 5240       | 48      | AVG      | 17.89                 | 17.61 | 20.76 | 23.98                    | -3.22              | -0.96                    | 19.80                 | 23.01                       | -3.21                   |
| andwidth) | 5260       | 52      | AVG      | 17.55                 | 17.49 | 20.53 | 23.98                    | -3.45              | -0.91                    | 19.62                 | 30.00                       | -10.38                  |
| ק         | 5280       | 56      | AVG      | 17.49                 | 17.47 | 20.49 | 23.98                    | -3.49              | -0.91                    | 19.58                 | 30.00                       | -10.42                  |
|           | 5300       | 60      | AVG      | 17.86                 | 17.62 | 20.75 | 23.98                    | -3.23              | -0.91                    | 19.84                 | 30.00                       | -10.16                  |
| <b>m</b>  | 5320       | 64      | AVG      | 17.81                 | 17.73 | 20.78 | 23.98                    | -3.20              | -0.91                    | 19.87                 | 30.00                       | -10.13                  |
| μz        | 5500       | 100     | AVG      | 17.99                 | 17.64 | 20.83 | 23.98                    | -3.15              | -1.91                    | 18.92                 | 30.00                       | -11.08                  |
| ÷         | 5600       | 120     | AVG      | 17.92                 | 17.65 | 20.80 | 23.98                    | -3.18              | -1.91                    | 18.89                 | -                           | -                       |
| (20M      | 5620       | 124     | AVG      | 17.83                 | 17.74 | 20.80 | 23.98                    | -3.18              | -1.91                    | 18.89                 | -                           | -                       |
| 5         | 5720       | 144     | AVG      | 17.82                 | 17.84 | 20.84 | 23.98                    | -3.14              | -1.91                    | 18.93                 | 30.00                       | -11.07                  |
| Ł         | 5745       | 149     | AVG      | 17.72                 | 17.79 | 20.77 | 30.00                    | -9.23              | -0.75                    | 20.02                 | -                           | -                       |
| 픘         | 5765       | 153     | AVG      | 17.74                 | 17.87 | 20.82 | 30.00                    | -9.18              | -0.75                    | 20.07                 | -                           | -                       |
| 5G        | 5785       | 157     | AVG      | 17.86                 | 17.80 | 20.84 | 30.00                    | -9.16              | -0.75                    | 20.09                 | -                           | -                       |
|           | 5805       | 161     | AVG      | 17.85                 | 17.73 | 20.80 | 30.00                    | -9.20              | -0.75                    | 20.05                 | -                           | -                       |
|           | 5825       | 165     | AVG      | 17.62                 | 17.83 | 20.74 | 30.00                    | -9.26              | -0.75                    | 19.99                 | -                           | -                       |
|           | 5845       | 169     | AVG      | 17.54                 | 17.61 | 20.59 |                          |                    | -0.75                    | 19.84                 | 30.00                       | -10.16                  |
|           | 5865       | 173     | AVG      | 17.82                 | 17.64 | 20.74 |                          |                    | -0.75                    | 19.99                 | 30.00                       | -10.01                  |
|           | 5885       | 177     | AVG      | 17.77                 | 17.47 | 20.63 |                          |                    | -0.75                    | 19.88                 | 30.00                       | -10.12                  |

## **MIMO Maximum Conducted Output Power Measurements**

Table 7-8. MIMO 20MHz BW 802.11a (UNII) Maximum Conducted Output Power

|            | Freq [MHz] | Channel | Detector | Cond  | Conducted Power [dBm] |       |       | Conducted Conducted Power Limit Power |       | Max e.i.r.p.<br>[dBm] | Max e.i.r.p.<br>Limit [dBm] | e.i.r.p.<br>Margin [dB] |
|------------|------------|---------|----------|-------|-----------------------|-------|-------|---------------------------------------|-------|-----------------------|-----------------------------|-------------------------|
|            |            |         |          | ANT1  | ANT2                  | MIMO  | [dBm] | Margin [dB]                           | [dBi] | []                    |                             |                         |
|            | 5180       | 36      | AVG      | 17.63 | 17.56                 | 20.61 | 23.98 | -3.37                                 | -0.96 | 19.65                 | 23.01                       | -3.36                   |
| _          | 5200       | 40      | AVG      | 17.58 | 17.92                 | 20.76 | 23.98 | -3.22                                 | -0.96 | 19.80                 | 23.01                       | -3.21                   |
| Ē          | 5220       | 44      | AVG      | 17.81 | 17.59                 | 20.71 | 23.98 | -3.27                                 | -0.96 | 19.75                 | 23.01                       | -3.26                   |
| idi        | 5240       | 48      | AVG      | 17.71 | 17.67                 | 20.70 | 23.98 | -3.28                                 | -0.96 | 19.74                 | 23.01                       | -3.27                   |
| ž          | 5260       | 52      | AVG      | 17.90 | 17.42                 | 20.68 | 23.98 | -3.30                                 | -0.91 | 19.77                 | 30.00                       | -10.23                  |
| andwidth   | 5280       | 56      | AVG      | 17.84 | 17.44                 | 20.65 | 23.98 | -3.33                                 | -0.91 | 19.74                 | 30.00                       | -10.26                  |
|            | 5300       | 60      | AVG      | 17.71 | 17.68                 | 20.71 | 23.98 | -3.27                                 | -0.91 | 19.80                 | 30.00                       | -10.20                  |
| B          | 5320       | 64      | AVG      | 17.67 | 17.70                 | 20.70 | 23.98 | -3.28                                 | -0.91 | 19.79                 | 30.00                       | -10.21                  |
| (20MHz     | 5500       | 100     | AVG      | 17.85 | 17.99                 | 20.93 | 23.98 | -3.05                                 | -1.91 | 19.02                 | 30.00                       | -10.98                  |
| 1 S        | 5600       | 120     | AVG      | 17.79 | 17.55                 | 20.68 | 23.98 | -3.30                                 | -1.91 | 18.77                 | -                           | -                       |
| 0          | 5620       | 124     | AVG      | 17.69 | 17.54                 | 20.63 | 23.98 | -3.35                                 | -1.91 | 18.72                 | -                           | -                       |
|            | 5720       | 144     | AVG      | 17.68 | 17.76                 | 20.73 | 23.98 | -3.25                                 | -1.91 | 18.82                 | 30.00                       | -11.18                  |
| ΗZ         | 5745       | 149     | AVG      | 17.58 | 17.71                 | 20.66 | 30.00 | -9.34                                 | -0.75 | 19.91                 | -                           | -                       |
| <u>–</u>   | 5765       | 153     | AVG      | 17.82 | 17.81                 | 20.83 | 30.00 | -9.17                                 | -0.75 | 20.08                 | -                           | -                       |
| <b>5</b> G | 5785       | 157     | AVG      | 17.74 | 17.74                 | 20.75 | 30.00 | -9.25                                 | -0.75 | 20.00                 | -                           | -                       |
|            | 5805       | 161     | AVG      | 17.69 | 17.55                 | 20.63 | 30.00 | -9.37                                 | -0.75 | 19.88                 | -                           | -                       |
|            | 5825       | 165     | AVG      | 17.95 | 17.78                 | 20.88 | 30.00 | -9.12                                 | -0.75 | 20.13                 | -                           | -                       |
|            | 5845       | 169     | AVG      | 17.88 | 17.49                 | 20.70 |       |                                       | -0.75 | 19.95                 | 30.00                       | -10.05                  |
|            | 5865       | 173     | AVG      | 17.65 | 17.60                 | 20.64 |       |                                       | -0.75 | 19.89                 | 30.00                       | -10.11                  |
|            | 5885       | 177     | AVG      | 17.43 | 17.38                 | 20.42 |       |                                       | -0.75 | 19.67                 | 30.00                       | -10.33                  |

Table 7-9. MIMO 20MHz BW 802.11n (UNII) Maximum Conducted Output Power

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) |                 |  |  |
|----------------------|--------------------|---------------------------------------|-----------------|--|--|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dega 110 of 252 |  |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 110 of 253 |  |  |
| © 2022 ELEMENT       |                    |                                       | V1.0            |  |  |



|           | Freq [MHz] | Channel | Detector | Conducted Power [dBm] |       |       | Power Limit Por | Conducted<br>Power | Directional<br>Ant. Gain | Max e.i.r.p.<br>[dBm] | Max e.i.r.p.<br>Limit [dBm] | e.i.r.p.<br>Margin [dB] |
|-----------|------------|---------|----------|-----------------------|-------|-------|-----------------|--------------------|--------------------------|-----------------------|-----------------------------|-------------------------|
|           |            |         |          | ANT1                  | ANT2  | MIMO  | [dBm]           | Margin [dB]        | [dBi]                    | Lapud                 | Ennie [GB/1]                | margin [ab]             |
|           | 5180       | 36      | AVG      | 17.63                 | 17.64 | 20.65 | 23.98           | -3.33              | -0.96                    | 19.69                 | 23.01                       | -3.32                   |
| _         | 5200       | 40      | AVG      | 17.59                 | 17.51 | 20.56 | 23.98           | -3.42              | -0.96                    | 19.60                 | 23.01                       | -3.41                   |
| Ē         | 5220       | 44      | AVG      | 17.87                 | 17.65 | 20.77 | 23.98           | -3.21              | -0.96                    | 19.81                 | 23.01                       | -3.20                   |
| <u>d</u>  | 5240       | 48      | AVG      | 17.72                 | 17.67 | 20.71 | 23.98           | -3.27              | -0.96                    | 19.75                 | 23.01                       | -3.26                   |
| ž         | 5260       | 52      | AVG      | 17.91                 | 17.45 | 20.70 | 23.98           | -3.28              | -0.91                    | 19.79                 | 30.00                       | -10.21                  |
| andwidth  | 5280       | 56      | AVG      | 17.86                 | 17.46 | 20.67 | 23.98           | -3.31              | -0.91                    | 19.76                 | 30.00                       | -10.24                  |
|           | 5300       | 60      | AVG      | 17.71                 | 17.52 | 20.63 | 23.98           | -3.35              | -0.91                    | 19.72                 | 30.00                       | -10.28                  |
| ß         | 5320       | 64      | AVG      | 17.68                 | 17.61 | 20.66 | 23.98           | -3.32              | -0.91                    | 19.75                 | 30.00                       | -10.25                  |
| 20MHz     | 5500       | 100     | AVG      | 17.86                 | 17.75 | 20.82 | 23.98           | -3.16              | -1.91                    | 18.91                 | 30.00                       | -11.09                  |
| ⋚         | 5600       | 120     | AVG      | 17.80                 | 17.66 | 20.74 | 23.98           | -3.24              | -1.91                    | 18.83                 | -                           | -                       |
| ō         | 5620       | 124     | AVG      | 17.70                 | 17.55 | 20.64 | 23.98           | -3.34              | -1.91                    | 18.73                 | -                           | -                       |
| 5         | 5720       | 144     | AVG      | 17.70                 | 17.76 | 20.74 | 23.98           | -3.24              | -1.91                    | 18.83                 | 30.00                       | -11.17                  |
| ΗZ        | 5745       | 149     | AVG      | 17.59                 | 17.74 | 20.68 | 30.00           | -9.32              | -0.75                    | 19.93                 | -                           | -                       |
| <u>+</u>  | 5765       | 153     | AVG      | 17.84                 | 17.67 | 20.77 | 30.00           | -9.23              | -0.75                    | 20.02                 | -                           | -                       |
| <b>5G</b> | 5785       | 157     | AVG      | 17.75                 | 17.65 | 20.71 | 30.00           | -9.29              | -0.75                    | 19.96                 | -                           | -                       |
|           | 5805       | 161     | AVG      | 17.71                 | 17.50 | 20.62 | 30.00           | -9.38              | -0.75                    | 19.87                 | -                           | -                       |
|           | 5825       | 165     | AVG      | 17.97                 | 17.61 | 20.80 | 30.00           | -9.20              | -0.75                    | 20.05                 | -                           | -                       |
|           | 5845       | 169     | AVG      | 17.88                 | 17.44 | 20.68 |                 |                    | -0.75                    | 19.93                 | 30.00                       | -10.07                  |
|           | 5865       | 173     | AVG      | 17.68                 | 17.56 | 20.63 |                 |                    | -0.75                    | 19.88                 | 30.00                       | -10.12                  |
|           | 5885       | 177     | AVG      | 17.44                 | 17.24 | 20.35 |                 |                    | -0.75                    | 19.60                 | 30.00                       | -10.40                  |

Table 7-10. MIMO 20MHz BW 802.11ac (UNII) Maximum Conducted Output Power

|          | Freq [MHz] | Channel | Detector | Cond  | Conducted Power [dBm] |       |       | Conducted<br>Power | Directional<br>Ant. Gain | Max e.i.r.p.<br>[dBm] | Max e.i.r.p.<br>Limit [dBm] | e.i.r.p.<br>Margin [dB] |
|----------|------------|---------|----------|-------|-----------------------|-------|-------|--------------------|--------------------------|-----------------------|-----------------------------|-------------------------|
|          |            |         |          | ANT1  | ANT2                  | MIMO  | [dBm] | Margin [dB]        | [dBi]                    | []                    |                             |                         |
|          | 5180       | 36      | AVG      | 16.99 | 16.78                 | 19.90 | 23.98 | -4.08              | -0.96                    | 18.94                 | 23.01                       | -4.07                   |
| _        | 5200       | 40      | AVG      | 16.89 | 16.93                 | 19.92 | 23.98 | -4.06              | -0.96                    | 18.96                 | 23.01                       | -4.05                   |
| Ē        | 5220       | 44      | AVG      | 16.78 | 16.68                 | 19.74 | 23.98 | -4.24              | -0.96                    | 18.78                 | 23.01                       | -4.23                   |
| ē        | 5240       | 48      | AVG      | 16.68 | 16.77                 | 19.74 | 23.98 | -4.24              | -0.96                    | 18.78                 | 23.01                       | -4.23                   |
| andwidth | 5260       | 52      | AVG      | 16.89 | 16.94                 | 19.93 | 23.98 | -4.05              | -0.91                    | 19.02                 | 30.00                       | -10.98                  |
| þ        | 5280       | 56      | AVG      | 16.97 | 16.96                 | 19.98 | 23.98 | -4.00              | -0.91                    | 19.07                 | 30.00                       | -10.93                  |
| a        | 5300       | 60      | AVG      | 16.96 | 16.79                 | 19.89 | 23.98 | -4.09              | -0.91                    | 18.98                 | 30.00                       | -11.02                  |
| 6        | 5320       | 64      | AVG      | 16.89 | 16.81                 | 19.86 | 23.98 | -4.12              | -0.91                    | 18.95                 | 30.00                       | -11.05                  |
| ΗZ       | 5500       | 100     | AVG      | 16.89 | 16.58                 | 19.75 | 23.98 | -4.23              | -1.91                    | 17.84                 | 30.00                       | -12.16                  |
| Ś        | 5600       | 120     | AVG      | 16.99 | 16.43                 | 19.73 | 23.98 | -4.25              | -1.91                    | 17.82                 | -                           | -                       |
| (20MI    | 5620       | 124     | AVG      | 16.88 | 16.97                 | 19.94 | 23.98 | -4.04              | -1.91                    | 18.03                 | -                           | -                       |
| 5        | 5720       | 144     | AVG      | 16.80 | 16.78                 | 19.80 | 23.98 | -4.18              | -1.91                    | 17.89                 | 30.00                       | -12.11                  |
| HZ       | 5745       | 149     | AVG      | 16.63 | 16.84                 | 19.75 | 30.00 | -10.25             | -0.75                    | 19.00                 | -                           | -                       |
| ЧЭ       | 5765       | 153     | AVG      | 16.75 | 16.56                 | 19.67 | 30.00 | -10.33             | -0.75                    | 18.92                 | -                           | -                       |
| 20       | 5785       | 157     | AVG      | 16.92 | 16.84                 | 19.89 | 30.00 | -10.11             | -0.75                    | 19.14                 | -                           | -                       |
|          | 5805       | 161     | AVG      | 16.83 | 16.83                 | 19.84 | 30.00 | -10.16             | -0.75                    | 19.09                 | -                           | -                       |
|          | 5825       | 165     | AVG      | 16.69 | 16.61                 | 19.66 | 30.00 | -10.34             | -0.75                    | 18.91                 | -                           | -                       |
|          | 5845       | 169     | AVG      | 17.65 | 17.65                 | 20.66 |       |                    | -0.75                    | 19.91                 | 30.00                       | -10.09                  |
|          | 5865       | 173     | AVG      | 17.52 | 17.82                 | 20.68 |       |                    | -0.75                    | 19.93                 | 30.00                       | -10.07                  |
|          | 5885       | 177     | AVG      | 17.74 | 17.61                 | 20.69 |       |                    | -0.75                    | 19.94                 | 30.00                       | -10.06                  |

Table 7-11. MIMO 20MHz BW 802.11ax (UNII) Maximum Conducted Output Power

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) |                 |  |  |  |
|----------------------|--------------------|---------------------------------------|-----------------|--|--|--|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Daga 111 of 252 |  |  |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 111 of 253 |  |  |  |
| © 2022 ELEMENT       |                    |                                       | V1.0            |  |  |  |



| th)  | Freq [MHz] | Channel | Detector | Conducted Power [dBm] |       |       | Conducted<br>Power Limit | Conducted<br>Power | Directional<br>Ant. Gain | Max e.i.r.p.<br>[dBm] | Max e.i.r.p.<br>Limit [dBm] | e.i.r.p.<br>Margin [dB] |
|------|------------|---------|----------|-----------------------|-------|-------|--------------------------|--------------------|--------------------------|-----------------------|-----------------------------|-------------------------|
| idtl |            |         |          | ANT1                  | ANT2  | MIMO  | [dBm]                    | Margin [dB]        | [dBi]                    |                       |                             |                         |
| dwi  | 5190       | 38      | AVG      | 14.70                 | 14.72 | 17.72 | 23.98                    | -6.26              | -0.96                    | 16.76                 | 23.01                       | -6.25                   |
| pr   | 5230       | 46      | AVG      | 16.64                 | 16.82 | 19.74 | 23.98                    | -4.24              | -0.96                    | 18.78                 | 23.01                       | -4.23                   |
| an   | 5270       | 54      | AVG      | 16.65                 | 16.90 | 19.79 | 23.98                    | -4.19              | -0.91                    | 18.88                 | 30.00                       | -11.12                  |
| В    | 5310       | 62      | AVG      | 16.45                 | 16.88 | 19.68 | 23.98                    | -4.30              | -0.91                    | 18.77                 | 30.00                       | -11.23                  |
| Ηz   | 5510       | 102     | AVG      | 16.63                 | 16.65 | 19.65 | 23.98                    | -4.33              | -1.91                    | 17.74                 | 30.00                       | -12.26                  |
| ÷.   | 5590       | 118     | AVG      | 16.67                 | 16.71 | 19.70 | 23.98                    | -4.28              | -1.91                    | 17.79                 | -                           | -                       |
| (40M | 5630       | 126     | AVG      | 16.44                 | 16.68 | 19.57 | 23.98                    | -4.41              | -1.91                    | 17.66                 | -                           |                         |
| (4   | 5710       | 142     | AVG      | 16.59                 | 16.57 | 19.59 | 23.98                    | -4.39              | -1.91                    | 17.68                 | 30.00                       | -12.32                  |
| N    | 5755       | 151     | AVG      | 16.77                 | 16.81 | 19.80 | 30.00                    | -10.20             | -0.75                    | 19.05                 | -                           | -                       |
| GH   | 5795       | 159     | AVG      | 16.68                 | 16.40 | 19.55 | 30.00                    | -10.45             | -0.75                    | 18.80                 | -                           | -                       |
| 50   | 5835       | 167     | AVG      | 16.78                 | 16.79 | 19.80 |                          |                    | -0.75                    | 19.05                 | 30.00                       | -10.95                  |
|      | 5875       | 175     | AVG      | 16.70                 | 16.81 | 19.77 |                          |                    | -0.75                    | 19.02                 | 30.00                       | -10.98                  |

Table 7-12. MIMO 40MHz BW 802.11n (UNII) Maximum Conducted Output Power

| th)     | Freq [MHz] | Channel | Detector | Conducted Power [dBm] |       |       | Conducted<br>Power Limit | Conducted<br>Power | Directional<br>Ant. Gain | Max e.i.r.p.<br>[dBm] | Max e.i.r.p.<br>Limit [dBm] | e.i.r.p.<br>Margin [dB] |
|---------|------------|---------|----------|-----------------------|-------|-------|--------------------------|--------------------|--------------------------|-----------------------|-----------------------------|-------------------------|
| Ð       |            |         |          | ANT1                  | ANT2  | MIMO  | [dBm]                    | Margin [dB]        | [dBi]                    |                       |                             |                         |
| Ξ       | 5190       | 38      | AVG      | 14.67                 | 14.91 | 17.80 | 23.98                    | -6.18              | -0.96                    | 16.84                 | 23.01                       | -6.17                   |
| ndwidth | 5230       | 46      | AVG      | 16.56                 | 16.82 | 19.70 | 23.98                    | -4.28              | -0.96                    | 18.74                 | 23.01                       | -4.27                   |
| g       | 5270       | 54      | AVG      | 16.61                 | 16.93 | 19.78 | 23.98                    | -4.20              | -0.91                    | 18.87                 | 30.00                       | -11.13                  |
| Ш       | 5310       | 62      | AVG      | 16.44                 | 16.73 | 19.60 | 23.98                    | -4.38              | -0.91                    | 18.69                 | 30.00                       | -11.31                  |
| F       | 5510       | 102     | AVG      | 16.60                 | 16.50 | 19.56 | 23.98                    | -4.42              | -1.91                    | 17.65                 | 30.00                       | -12.35                  |
| 5       | 5590       | 118     | AVG      | 16.58                 | 16.54 | 19.57 | 23.98                    | -4.41              | -1.91                    | 17.66                 | -                           | -                       |
| (40M    | 5630       | 126     | AVG      | 16.39                 | 16.49 | 19.45 | 23.98                    | -4.53              | -1.91                    | 17.54                 | -                           | -                       |
| 4       | 5710       | 142     | AVG      | 16.47                 | 16.42 | 19.46 | 23.98                    | -4.52              | -1.91                    | 17.55                 | 30.00                       | -12.45                  |
| N       | 5755       | 151     | AVG      | 16.69                 | 16.52 | 19.62 | 30.00                    | -10.38             | -0.75                    | 18.87                 | -                           | -                       |
| ЧD      | 5795       | 159     | AVG      | 16.59                 | 16.28 | 19.45 | 30.00                    | -10.55             | -0.75                    | 18.70                 | -                           | -                       |
| 20      | 5835       | 167     | AVG      | 16.69                 | 16.57 | 19.64 |                          |                    | -0.75                    | 18.89                 | 30.00                       | -11.11                  |
|         | 5875       | 175     | AVG      | 16.62                 | 16.54 | 19.59 |                          |                    | -0.75                    | 18.84                 | 30.00                       | -11.16                  |

Table 7-13. MIMO 40MHz BW 802.11ac (UNII) Maximum Conducted Output Power

| (h)    | Freq [MHz] Channel | Channel Detector |     | Conducted Power [dBm] |       |       | Conducted<br>Power<br>Margin [dB] | Directional<br>Ant. Gain | Max e.i.r.p.<br>[dBm] | Max e.i.r.p.<br>Limit [dBm] | e.i.r.p.<br>Margin [dB] |        |
|--------|--------------------|------------------|-----|-----------------------|-------|-------|-----------------------------------|--------------------------|-----------------------|-----------------------------|-------------------------|--------|
| đ      |                    |                  |     | ANT1                  | ANT2  | MIMO  | [dBm]                             | Margin [dB]              | [dBi]                 | 1                           |                         |        |
| dwidth | 5190               | 38               | AVG | 14.54                 | 14.63 | 17.60 | 23.98                             | -6.38                    | -0.96                 | 16.64                       | 23.01                   | -6.37  |
| þ      | 5230               | 46               | AVG | 16.61                 | 16.65 | 19.64 | 23.98                             | -4.34                    | -0.96                 | 18.68                       | 23.01                   | -4.33  |
| an     | 5270               | 54               | AVG | 16.65                 | 16.86 | 19.77 | 23.98                             | -4.21                    | -0.91                 | 18.86                       | 30.00                   | -11.14 |
| B      | 5310               | 62               | AVG | 16.47                 | 16.71 | 19.60 | 23.98                             | -4.38                    | -0.91                 | 18.69                       | 30.00                   | -11.31 |
| ₽.     | 5510               | 102              | AVG | 16.63                 | 16.61 | 19.63 | 23.98                             | -4.35                    | -1.91                 | 17.72                       | 30.00                   | -12.28 |
| Ŧ      | 5590               | 118              | AVG | 16.62                 | 16.71 | 19.68 | 23.98                             | -4.30                    | -1.91                 | 17.77                       | -                       | -      |
| (40M   | 5630               | 126              | AVG | 16.43                 | 16.72 | 19.59 | 23.98                             | -4.39                    | -1.91                 | 17.68                       | -                       | -      |
| 4      | 5710               | 142              | AVG | 16.49                 | 16.52 | 19.52 | 23.98                             | -4.46                    | -1.91                 | 17.61                       | 30.00                   | -12.39 |
| N      | 5755               | 151              | AVG | 16.73                 | 16.69 | 19.72 | 30.00                             | -10.28                   | -0.75                 | 18.97                       | -                       | -      |
| Т      | 5795               | 159              | AVG | 16.63                 | 16.42 | 19.54 | 30.00                             | -10.46                   | -0.75                 | 18.79                       | -                       | -      |
| 56     | 5835               | 167              | AVG | 16.73                 | 16.75 | 19.75 |                                   |                          | -0.75                 | 19.00                       | 30.00                   | -11.00 |
|        | 5875               | 175              | AVG | 16.64                 | 16.70 | 19.68 |                                   |                          | -0.75                 | 18.93                       | 30.00                   | -11.07 |

Table 7-14. MIMO 40MHz BW 802.11ax (UNII) Maximum Conducted Output Power

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) |                 |  |  |
|----------------------|--------------------|---------------------------------------|-----------------|--|--|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dage 110 of 252 |  |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 112 of 253 |  |  |
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| Bandwidth) | Freq [MHz] | Channel | Detector | Conducted Power [dBm] |       | Conducted<br>Power Limit |       | Directional<br>Ant. Gain | Max e.i.r.p.<br>[dBm] | Max e.i.r.p.<br>Limit [dBm] | e.i.r.p.<br>Margin [dB] |             |
|------------|------------|---------|----------|-----------------------|-------|--------------------------|-------|--------------------------|-----------------------|-----------------------------|-------------------------|-------------|
| ş          |            |         |          | ANT1                  | ANT2  | MIMO                     | [dBm] | Margin [dB]              | [dBi]                 | [ubiii]                     | Ennie [aBin]            | margin [ab] |
| an         | 5210       | 42      | AVG      | 14.31                 | 14.39 | 17.36                    | 23.98 | -6.62                    | -0.96                 | 16.40                       | 23.01                   | -6.61       |
|            | 5290       | 58      | AVG      | 15.53                 | 15.52 | 18.54                    | 23.98 | -5.44                    | -0.91                 | 17.63                       | 30.00                   | -12.37      |
| IHz        | 5530       | 106     | AVG      | 15.51                 | 15.32 | 18.43                    | 23.98 | -5.55                    | -1.91                 | 16.52                       | 30.00                   | -13.48      |
| (80M       | 5610       | 122     | AVG      | 15.37                 | 15.41 | 18.40                    | 23.98 | -5.58                    | -1.91                 | 16.49                       | -                       | -           |
|            | 5690       | 138     | AVG      | 15.28                 | 15.48 | 18.39                    | 23.98 | -5.59                    | -1.91                 | 16.48                       | 30.00                   | -13.52      |
| GHz        | 5775       | 155     | AVG      | 15.46                 | 15.91 | 18.70                    | 30.00 | -11.30                   | -0.75                 | 17.95                       | -                       | -           |
| 5.0        | 5855       | 171     | AVG      | 15.50                 | 15.64 | 18.58                    |       |                          | -0.75                 | 17.83                       | 30.00                   | -12.17      |

Table 7-15. MIMO 80MHz BW 802.11ac (UNII) Maximum Conducted Output Power

| Bandwidth) | Freq [MHz] | Channel | Detector | Conducted Power [dBm] |       |       | Conducted<br>Power Limit | Conducted<br>Power | Directional<br>Ant. Gain | Max e.i.r.p.<br>[dBm] | Max e.i.r.p.<br>Limit [dBm] | e.i.r.p.<br>Margin [dB] |
|------------|------------|---------|----------|-----------------------|-------|-------|--------------------------|--------------------|--------------------------|-----------------------|-----------------------------|-------------------------|
| N N        |            |         |          | ANT1                  | ANT2  | MIMO  | [dBm]                    | Margin [dB]        | [dBi]                    | [0.2.1.]              |                             |                         |
| and        | 5210       | 42      | AVG      | 14.36                 | 14.38 | 17.38 | 23.98                    | -6.60              | -0.96                    | 16.42                 | 23.01                       | -6.59                   |
|            | 5290       | 58      | AVG      | 15.77                 | 15.59 | 18.69 | 23.98                    | -5.29              | -0.91                    | 17.78                 | 30.00                       | -12.22                  |
| TH         | 5530       | 106     | AVG      | 15.75                 | 15.77 | 18.77 | 23.98                    | -5.21              | -1.91                    | 16.86                 | 30.00                       | -13.14                  |
| (80MF      | 5610       | 122     | AVG      | 15.62                 | 15.85 | 18.75 | 23.98                    | -5.23              | -1.91                    | 16.84                 | -                           | -                       |
|            | 5690       | 138     | AVG      | 15.53                 | 15.94 | 18.75 | 23.98                    | -5.23              | -1.91                    | 16.84                 | 30.00                       | -13.16                  |
| GHz        | 5775       | 155     | AVG      | 15.75                 | 15.82 | 18.80 | 30.00                    | -11.20             | -0.75                    | 18.05                 | -                           | -                       |
| 50         | 5855       | 171     | AVG      | 15.53                 | 15.94 | 18.75 |                          |                    | -0.75                    | 18.00                 | 30.00                       | -12.00                  |

Table 7-16. MIMO 80MHz BW 802.11ax (UNII) Maximum Conducted Output Power

| 0MHz<br>dth) | Freq [MHz] | Channel | Detector | Conducted Power [dBm] |       |       | Conducted<br>Power Limit | Conducted<br>Power | Directional<br>Ant. Gain | Max e.i.r.p.<br>[dBm] | Max e.i.r.p.<br>Limit [dBm] | e.i.r.p.<br>Margin [dB] |
|--------------|------------|---------|----------|-----------------------|-------|-------|--------------------------|--------------------|--------------------------|-----------------------|-----------------------------|-------------------------|
| 16(<br>wic   |            |         |          | ANT1                  | ANT2  | MIMO  | [dBm]                    | Margin [dB]        | [dBi]                    |                       |                             | • • • •                 |
| r) z         | 5250       | 50      | AVG      | 15.59                 | 15.62 | 18.62 | 23.98                    | -5.36              | -0.96                    | 17.66                 | 23.01                       | -5.35                   |
| GHB          | 5570       | 114     | AVG      | 15.99                 | 15.49 | 18.76 | 30.00                    | -11.24             | -1.91                    | 16.85                 | -                           | -                       |
| 50           | 5815       | 163     | AVG      | 15.51                 | 15.37 | 18.45 |                          |                    | -0.75                    | 17.70                 | 23.01                       | -5.31                   |

## Table 7-17. MIMO 160MHz BW 802.11ac (UNII) Maximum Conducted Output Power

| GHz (160MHz<br>Bandwidth) | Freq [MHz] | Channel | Detector |       |       |       | Conducted<br>Power Limit<br>[dBm] | Conducted<br>Power<br>Margin [dB] | Directional<br>Ant. Gain<br>[dBi] | Max e.i.r.p.<br>[dBm] | Max e.i.r.p.<br>Limit [dBm] | e.i.r.p.<br>Margin [dB] |
|---------------------------|------------|---------|----------|-------|-------|-------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------|-----------------------------|-------------------------|
|                           |            |         |          | ANT1  | ANT2  | MIMO  | [ubiii]                           | margin [db]                       | [abi]                             |                       |                             |                         |
|                           | 5250       | 50      | AVG      | 15.44 | 15.70 | 18.58 | 23.98                             | -5.40                             | -0.96                             | 17.62                 | 23.01                       | -5.39                   |
|                           | 5570       | 114     | AVG      | 15.85 | 15.56 | 18.72 | 30.00                             | -11.28                            | -1.91                             | 16.81                 | -                           | -                       |
| 50                        | 5815       | 163     | AVG      | 15.45 | 15.53 | 18.50 |                                   |                                   | -0.75                             | 17.75                 | 30.00                       | -12.25                  |

Table 7-18. MIMO 160MHz BW 802.11ax (UNII) Maximum Conducted Output Power

| FCC ID: A3LSMF936JPN |                       | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
|----------------------|-----------------------|---------------------------------------|-----------------------------------|
| Test Report S/N:     | Test Dates: EUT Type: |                                       | Daga 112 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022    | Portable Handset                      | Page 113 of 253                   |
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#### Note:

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

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

Directional gain =  $10 \log[(10^{G_{1/20}} + 10^{G_{2/20}} + ... + 10^{G_{N/20}})^2 / N_{ANT}] dBi$ 

### Sample MIMO Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted output power was measured to be 17.63 dBm for Antenna 1 and 17.56 dBm for Antenna 2.

Antenna 1 + Antenna 2 = MIMO

(17.63 dBm + 17.56 dBm) = (57.94 mW + 57.02 mW) = 114.96 mW = 20.61 dBm

### Sample e.i.r.p. Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average MIMO conducted power was calculated to be 20.61 dBm with directional gain of -0.96 dBi.

e.i.r.p. (dBm) = Conducted Power (dBm) + Ant gain (dBi)

20.96 dBm + -0.96 dBi = 19.65 dBm

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
|----------------------|--------------------|---------------------------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dega 114 of 252                   |
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## 7.5 Maximum Power Spectral Density – 802.11a/n/ac/ax §15.407(a.1.iv) §15.407(a.2) §15.407(a.3);

### **Test Overview and Limit**

The spectrum analyzer was connected to the antenna terminal while the EUT was 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. Method SA-1, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, was used to measure the power spectral density.

# In the 5.15 – 5.25GHz, 5.25 – 5.35GHz, 5.47 – 5.725GHz bands, the maximum permissible power spectral density is 11dBm/MHz.

In the 5.725 – 5.850GHz band, the maximum permissible power spectral density is 30dBm/500kHz.

### Test Procedure Used

ANSI C63.10-2013 – Section 12.3.2.2 KDB 789033 D02 v02r01 – Section F ANSI C63.10-2013 – Section 14.3.2.2 Measure-and-Sum Technique KDB 662911 v02r01 – Section E)2) Measure-and-Sum Technique

#### Test Settings

- 1. Analyzer was set to the center frequency of the UNII channel under investigation
- 2. Span was set to encompass the entire emission bandwidth of the signal
- 3. RBW = 1MHz
- 4. VBW = 3MHz
- 5. Number of sweep points  $\geq 2 \times (\text{span/RBW})$
- 6. Sweep time = auto
- 7. Detector = power averaging (RMS)
- 8. Trigger was set to free run for all modes
- 9. Trace was averaged over 100 sweeps
- 10. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.

#### Test Setup

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



Figure 7-4. Test Instrument & Measurement Setup

#### **Test Notes**

#### None

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |
|----------------------|--------------------|---------------------------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dage 115 of 252                   |
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# **Summed MIMO Power Spectral Density Measurements**

|              | _                  |                |             |                  | Antenna-1 | Antenna-2 | Summed MIMO   | Max Power |        |
|--------------|--------------------|----------------|-------------|------------------|-----------|-----------|---------------|-----------|--------|
|              | Frequency<br>[MHz] | Channel<br>No. | 802.11 Mode | Data Rate [Mbps] |           |           | Power Density | Density   | Margin |
|              | נואורוצן           | NO.            |             |                  | [dBm]     | [dBm]     | [dBm]         | [dBm/MHz] | [dB]   |
|              | 5180               | 36             | а           | 6                | 6.28      | 7.04      | 9.69          | 11.0      | -1.31  |
|              | 5200               | 40             | а           | 6                | 6.05      | 6.85      | 9.48          | 11.0      | -1.52  |
|              | 5240               | 48             | а           | 6                | 6.28      | 7.63      | 10.02         | 11.0      | -0.98  |
|              | 5180               | 36             | n (20MHz)   | 6.5/7.2 (MCS0)   | 6.71      | 7.50      | 10.13         | 11.0      | -0.87  |
|              | 5200               | 40             | n (20MHz)   | 6.5/7.2 (MCS0)   | 6.81      | 7.39      | 10.12         | 11.0      | -0.88  |
|              | 5240               | 48             | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.27      | 7.50      | 10.40         | 11.0      | -0.60  |
| Ξ            | 5180               | 36             | ax (20MHz)  | 6.5/7.2 (MCS0)   | 6.61      | 6.51      | 9.57          | 11.0      | -1.43  |
| Band 1       | 5200               | 40             | ax (20MHz)  | 6.5/7.2 (MCS0)   | 6.53      | 6.66      | 9.61          | 11.0      | -1.39  |
| ä            | 5240               | 48             | ax (20MHz)  | 6.5/7.2 (MCS0)   | 6.73      | 7.34      | 10.06         | 11.0      | -0.94  |
|              | 5190               | 38             | n (40MHz)   | 13.5/15 (MCS0)   | 2.69      | 2.44      | 5.58          | 11.0      | -5.42  |
|              | 5230               | 46             | n (40MHz)   | 13.5/15 (MCS0)   | 2.67      | 2.73      | 5.71          | 11.0      | -5.29  |
|              | 5190               | 38             | ax (40MHz)  | 13.5/15 (MCS0)   | 3.87      | 2.20      | 6.13          | 11.0      | -4.87  |
|              | 5230               | 46             | ax (40MHz)  | 13.5/15 (MCS0)   | 2.48      | 2.90      | 5.71          | 11.0      | -5.29  |
|              | 5210               | 42             | ac (80MHz)  | 29.3/32.5 (MCS0) | -1.52     | -1.56     | 1.47          | 11.0      | -9.53  |
|              | 5210               | 42             | ax (80MHz)  | 29.3/32.5 (MCS0) | -1.17     | -1.29     | 1.78          | 11.0      | -9.22  |
| Band<br>1/2A | 5250               | 50             | ac (160MHz) | 58.5/65 (MCS0)   | -4.33     | -6.32     | -2.20         | 11.0      | -13.20 |
| Ba<br>;;     | 5250               | 50             | ax (160MHz) | 58.5/65 (MCS0)   | -7.39     | -6.43     | -3.88         | 11.0      | -14.88 |
|              | 5260               | 52             | а           | 6                | 6.07      | 7.53      | 9.87          | 11.0      | -1.13  |
|              | 5280               | 56             | а           | 6                | 6.10      | 7.59      | 9.92          | 11.0      | -1.08  |
|              | 5320               | 64             | а           | 6                | 6.40      | 7.90      | 10.23         | 11.0      | -0.77  |
|              | 5260               | 52             | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.02      | 7.23      | 10.14         | 11.0      | -0.86  |
|              | 5280               | 56             | n (20MHz)   | 6.5/7.2 (MCS0)   | 6.89      | 6.63      | 9.77          | 11.0      | -1.23  |
|              | 5320               | 64             | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.12      | 7.07      | 10.11         | 11.0      | -0.89  |
| A            | 5260               | 52             | ax (20MHz)  | 6.5/7.2 (MCS0)   | 6.47      | 7.28      | 9.90          | 11.0      | -1.10  |
| Band 2A      | 5280               | 56             | ax (20MHz)  | 6.5/7.2 (MCS0)   | 6.59      | 7.12      | 9.87          | 11.0      | -1.13  |
| Bar          | 5320               | 64             | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.14      | 7.57      | 10.37         | 11.0      | -0.63  |
|              | 5270               | 54             | n (40MHz)   | 13.5/15 (MCS0)   | 2.81      | 2.56      | 5.70          | 11.0      | -5.30  |
|              | 5310               | 62             | n (40MHz)   | 13.5/15 (MCS0)   | 2.69      | 2.38      | 5.55          | 11.0      | -5.45  |
|              | 5270               | 54             | ax (40MHz)  | 13.5/15 (MCS0)   | 2.65      | 2.85      | 5.76          | 11.0      | -5.24  |
|              | 5310               | 62             | ax (40MHz)  | 13.5/15 (MCS0)   | 2.40      | 2.54      | 5.48          | 11.0      | -5.52  |
|              | 5290               | 58             | ac (80MHz)  | 29.3/32.5 (MCS0) | -1.73     | -1.69     | 1.30          | 11.0      | -9.70  |
|              | 5290               | 58             | ax (80MHz)  | 29.3/32.5 (MCS0) | -1.32     | -1.79     | 1.46          | 11.0      | -9.54  |
|              | 5500               | 100            | a a         | 6                | 6.49      | 7.33      | 9.94          | 11.0      | -1.06  |
|              | 5600               | 120            | a           | 6                | 6.04      | 7.02      | 9.57          | 11.0      | -1.43  |
|              | 5720               | 144            | a           | 6                | 6.26      | 7.37      | 9.86          | 11.0      | -1.14  |
|              | 5500               | 100            | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.38      | 7.13      | 10.27         | 11.0      | -0.73  |
|              | 5600               | 120            | n (20MHz)   | 6.5/7.2 (MCS0)   | 6.73      | 6.88      | 9.82          | 11.0      | -1.18  |
|              | 5720               | 120            | n (20MHz)   | 6.5/7.2 (MCS0)   | 7.24      | 7.15      | 10.21         | 11.0      | -0.79  |
|              | 5500               | 144            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 6.94      | 7.13      | 10.21         | 11.0      | -0.93  |
|              | 5600               | 120            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 6.44      | 6.70      | 9.58          | 11.0      | -0.93  |
|              | 5720               | 120            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 7.00      | 7.11      | 10.07         | 11.0      | -0.93  |
|              |                    |                | · · · ·     | ,                | 2.83      |           |               |           |        |
| 0            | 5510               | 102            | n (40MHz)   | 13.5/15 (MCS0)   |           | 2.39      | 5.63          | 11.0      | -5.37  |
| 4 SC         | 5590               | 118            | n (40MHz)   | 13.5/15 (MCS0)   | 2.64      | 2.18      | 5.43          | 11.0      | -5.57  |
| Band         | 5710               | 142            | n (40MHz)   | 13.5/15 (MCS0)   | 2.72      | 2.62      | 5.68          | 11.0      | -5.32  |
| 6            | 5510               | 102            | ax (40MHz)  | 13.5/15 (MCS0)   | 2.58      | 2.50      | 5.55          | 11.0      | -5.45  |
|              | 5590               | 118            | ax (40MHz)  | 13.5/15 (MCS0)   | 2.50      | 2.45      | 5.49          | 11.0      | -5.51  |
|              | 5710               | 142            | ax (40MHz)  | 13.5/15 (MCS0)   | 2.65      | 2.60      | 5.64          | 11.0      | -5.36  |
|              | 5530               | 106            | ac (80MHz)  | 29.3/32.5 (MCS0) | -1.87     | -2.38     | 0.89          | 11.0      | -10.11 |
|              | 5610               | 122            | ac (80MHz)  | 29.3/32.5 (MCS0) | -1.80     | -1.89     | 1.16          | 11.0      | -9.84  |
|              | 5690               | 138            | ac (80MHz)  | 29.3/32.5 (MCS0) | -2.06     | -2.05     | 0.96          | 11.0      | -10.04 |
|              | 5530               | 106            | ax (80MHz)  | 29.3/32.5 (MCS0) | -1.27     | -1.98     | 1.40          | 11.0      | -9.60  |
|              | 5610               | 122            | ax (80MHz)  | 29.3/32.5 (MCS0) | -1.23     | -1.82     | 1.50          | 11.0      | -9.50  |
|              | 5690               | 138            | ax (80MHz)  | 29.3/32.5 (MCS0) | -1.70     | -2.17     | 1.08          | 11.0      | -9.92  |
|              | 5570               | 114            | ac (160MHz) | 29.3/32.5 (MCS0) | -3.92     | -6.51     | -2.02         | 11.0      | -13.02 |
|              | 5570               | 114            | ax (160MHz) | 29.3/32.5 (MCS0) | -5.42     | -6.86     | -3.07         | 11.0      | -14.07 |

Table 7-19. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) |                 |  |  |
|----------------------|--------------------|---------------------------------------|-----------------|--|--|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dage 116 of 252 |  |  |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 116 of 253 |  |  |
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|      | Frequency<br>[MHz] | Channel<br>No. | 802.11 Mode | Data Rate [Mbps] | Antenn-1<br>Power Density<br>[dBm] |       | Summed MIMO<br>Power Density<br>[dBm] | Max Permissible<br>Power Density<br>[dBm/500kHz] | Margin<br>[dB] |
|------|--------------------|----------------|-------------|------------------|------------------------------------|-------|---------------------------------------|--|----------------|
|      | 5745               | 149            | а           | 6                | 3.49                               | 4.57  | 7.07                                  | 30.0   | -22.93         |
|      | 5785               | 157            | а           | 6                | 3.67                               | 4.40  | 7.06                                  | 30.0   | -22.94         |
|      | 5825               | 165            | а           | 6                | 3.46                               | 4.92  | 7.26                                  | 30.0   | -22.74         |
|      | 5745               | 149            | n (20MHz)   | 6.5/7.2 (MCS0)   | 4.24                               | 4.02  | 7.14                                  | 30.0   | -22.86         |
|      | 5785               | 157            | n (20MHz)   | 6.5/7.2 (MCS0)   | 4.40                               | 3.89  | 7.16                                  | 30.0   | -22.84         |
|      | 5825               | 165            | n (20MHz)   | 6.5/7.2 (MCS0)   | 4.39                               | 3.96  | 7.19                                  | 30.0   | -22.81         |
| e    | 5745               | 149            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 3.99                               | 3.87  | 6.94                                  | 30.0   | -23.06         |
| Band | 5785               | 157            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 4.16                               | 3.90  | 7.04                                  | 30.0   | -22.96         |
| ä    | 5825               | 165            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 4.31                               | 4.00  | 7.17                                  | 30.0   | -22.83         |
|      | 5755               | 151            | n (40MHz)   | 13.5/15 (MCS0)   | 0.24                               | -0.29 | 2.99                                  | 30.0   | -27.01         |
|      | 5795               | 159            | n (40MHz)   | 13.5/15 (MCS0)   | -0.27                              | -0.48 | 2.64                                  | 30.0   | -27.36         |
|      | 5755               | 151            | ax (40MHz)  | 13.5/15 (MCS0)   | 0.08                               | -0.16 | 2.97                                  | 30.0   | -27.03         |
|      | 5795               | 159            | ax (40MHz)  | 13.5/15 (MCS0)   | -0.81                              | -0.08 | 2.58                                  | 30.0   | -27.42         |
|      | 5775               | 155            | ac (80MHz)  | 29.3/32.5 (MCS0) | -4.07                              | -4.25 | -1.15                                 | 30.0   | -31.15         |
|      | 5775               | 155            | ax (80MHz)  | 29.3/32.5 (MCS0) | -3.99                              | -4.34 | -1.15                                 | 30.0   | -31.15         |

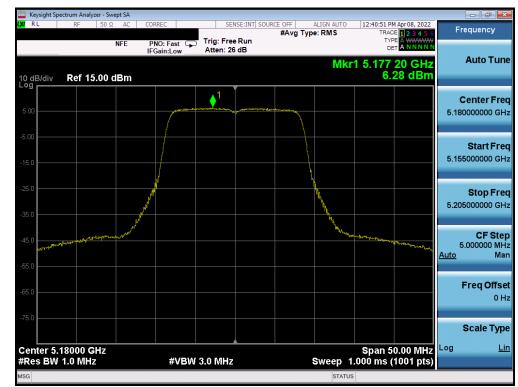
Table 7-20. Band 3 MIMO Conducted Power Spectral Density Measurements

|          | Frequency<br>[MHz] | Channel<br>No. | 802.11 Mode | Data Rate [Mbps] | Antenna-1 Power<br>Density<br>[dBm/MHz] | Antenna-2 Power<br>Density<br>[dBm/MHz] | MIMO Summed<br>Power Density<br>[dBm/MHz] | Directional<br>Antenna Gain<br>[dBi] | EIRP Power<br>Density<br>[dBm/MHz] | Max EIRP<br>Power Density<br>[dBm/MHz] | Margin<br>[dB] |
|----------|--------------------|----------------|-------------|------------------|---|---|---|--------------------------------------|------------------------------------|--|----------------|
| Band 3/4 | 5845               | 169            | а           | 6                | 5.99                                    | 7.05                                    | 9.56                                      | -0.75                                | 8.81                               | 14.00                                  | -5.19          |
| Band 4   | 5865               | 173            | а           | 6                | 6.27                                    | 6.39                                    | 9.34                                      | -0.75                                | 8.59                               | 14.00                                  | -5.41          |
| Dallu 4  | 5885               | 177            | а           | 6                | 5.59                                    | 6.59                                    | 9.13                                      | -0.75                                | 8.38                               | 14.00                                  | -5.62          |
| Band 3/4 | 5845               | 169            | n (20MHz)   | 6.5/7.2 (MCS0)   | 6.32                                    | 5.89                                    | 9.12                                      | -0.75                                | 8.37                               | 14.00                                  | -5.63          |
| Band 4   | 5865               | 173            | n (20MHz)   | 6.5/7.2 (MCS0)   | 6.30                                    | 5.33                                    | 8.85                                      | -0.75                                | 8.10                               | 14.00                                  | -5.90          |
| Dallu 4  | 5885               | 177            | n (20MHz)   | 6.5/7.2 (MCS0)   | 6.00                                    | 5.69                                    | 8.86                                      | -0.75                                | 8.11                               | 14.00                                  | -5.89          |
| Band 3/4 | 5845               | 169            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 5.97                                    | 6.08                                    | 9.04                                      | -0.75                                | 8.29                               | 14.00                                  | -5.71          |
| Band 4   | 5865               | 173            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 6.17                                    | 5.91                                    | 9.05                                      | -0.75                                | 8.30                               | 14.00                                  | -5.70          |
| banu 4   | 5885               | 177            | ax (20MHz)  | 6.5/7.2 (MCS0)   | 6.02                                    | 6.73                                    | 9.40                                      | -0.75                                | 8.65                               | 14.00                                  | -5.35          |
| Band 3/4 | 5835               | 167            | n (40MHz)   | 13.5/15 (MCS0)   | 2.20                                    | 2.38                                    | 5.30                                      | -0.75                                | 4.55                               | 14.00                                  | -9.45          |
| Band 4   | 5875               | 175            | n (40MHz)   | 13.5/15 (MCS0)   | 1.51                                    | 2.21                                    | 4.88                                      | -0.75                                | 4.13                               | 14.00                                  | -9.87          |
| Band 3/4 | 5835               | 167            | ax (40MHz)  | 13.5/15 (MCS0)   | 2.09                                    | 2.49                                    | 5.30                                      | -0.75                                | 4.55                               | 14.00                                  | -9.45          |
| Band 4   | 5875               | 175            | ax (40MHz)  | 13.5/15 (MCS0)   | 2.24                                    | 1.85                                    | 5.06                                      | -0.75                                | 4.31                               | 14.00                                  | -9.69          |
|          | 5855               | 171            | ac (80MHz)  | 29.3/32.5 (MCS0) | -1.70                                   | -1.69                                   | 1.32                                      | -0.75                                | 0.57                               | 14.00                                  | -13.43         |
| Dand 2/4 | 5855               | 171            | ax (80MHz)  | 29.3/32.5 (MCS0) | -1.52                                   | -2.08                                   | 1.22                                      | -0.75                                | 0.47                               | 14.00                                  | -13.53         |
| Band 3/4 | 5815               | 163            | ac (160MHz) | 58.5/65 (MCS0)   | 0.36                                    | -0.90                                   | 2.79                                      | -0.75                                | 2.04                               | 14.00                                  | -11.96         |
|          | 5815               | 163            | ax (160MHz) | 58.5/65 (MCS0)   | -0.07                                   | -0.43                                   | 2.76                                      | -0.75                                | 2.01                               | 14.00                                  | -11.99         |

Table 7-21. Band 4 MIMO e.i.r.p Spectral Density Measurements

| FCC ID: A3LSMF936JPN |                    | MEASUREMENT REPORT<br>(CERTIFICATION) | Approved by:<br>Technical Manager |    |
|----------------------|--------------------|---------------------------------------|-----------------------------------|----|
| Test Report S/N:     | Test Dates:        | EUT Type:                             | Dogo 117 of 252                   |    |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022 | Portable Handset                      | Page 117 of 253                   |    |
| © 2022 ELEMENT       |                    | ·                                     | V1.                               | .0 |





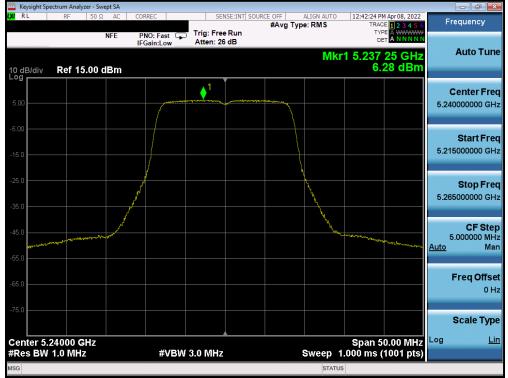
## MIMO Antenna-1 Power Spectral Density Measurements



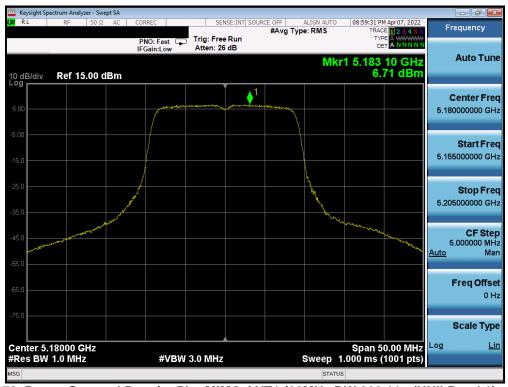


| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dama 440 at 050                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 118 of 253                   |
| © 2022 ELEMENT       |                                       |                  |                                   |





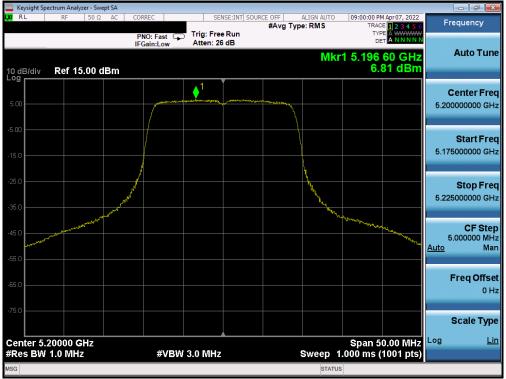
Plot 7-177. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 1) - Ch. 48)



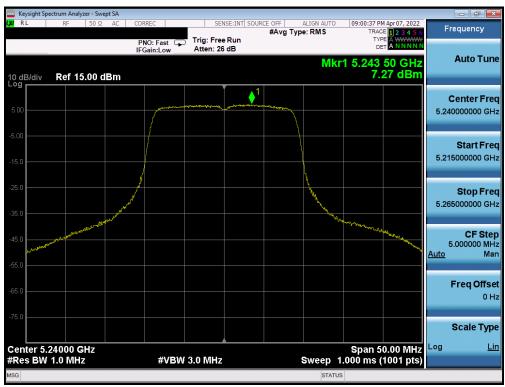
Plot 7-178. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 36)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dage 110 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 119 of 253                   |
| © 2022 ELEMENT       |                                       |                  | V1.0                              |





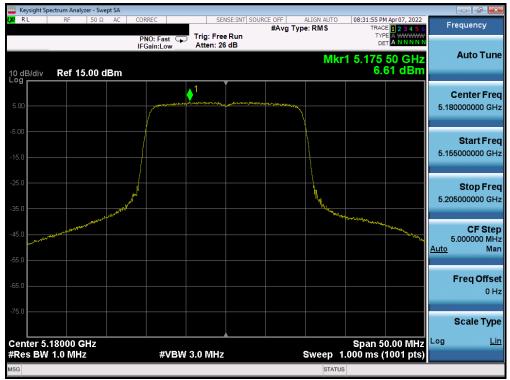
Plot 7-179. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 40)



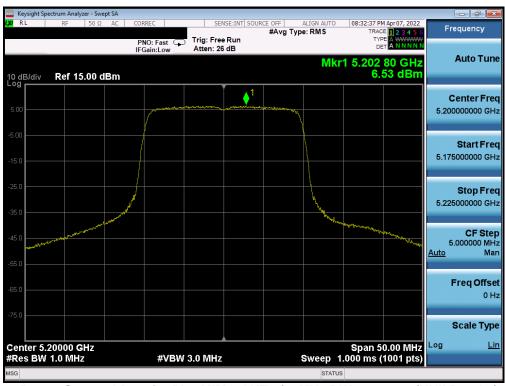
Plot 7-180. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 48)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Degs 100 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 120 of 253                   |
| © 2022 ELEMENT       |                                       |                  | V1.0                              |





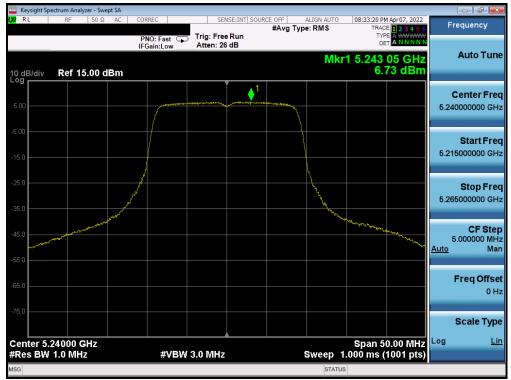
Plot 7-181. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 36)



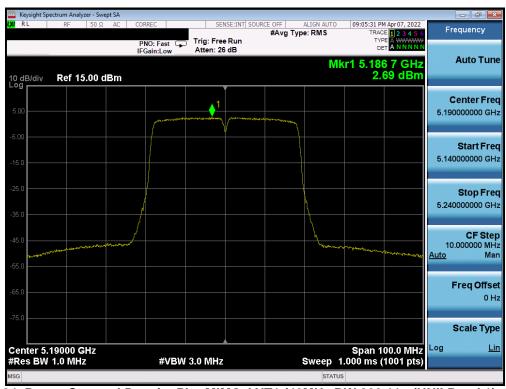
Plot 7-182. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 40)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dega 101 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 121 of 253                   |
| © 2022 ELEMENT       |                                       |                  | V1.0                              |





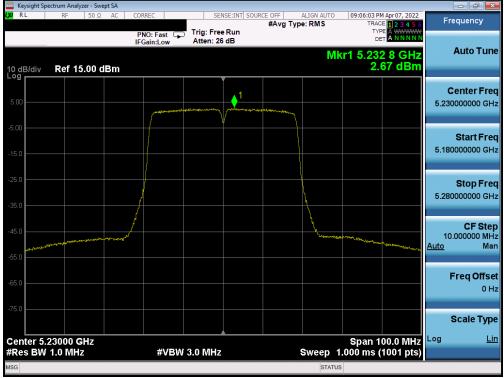
Plot 7-183. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 48)



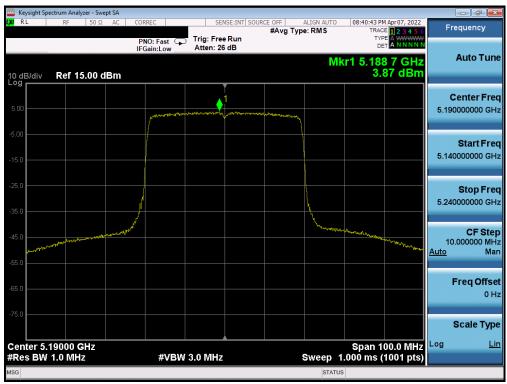
Plot 7-184. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 1) - Ch. 38)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dage 422 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 122 of 253                   |
| © 2022 ELEMENT       |                                       |                  | V1.0                              |





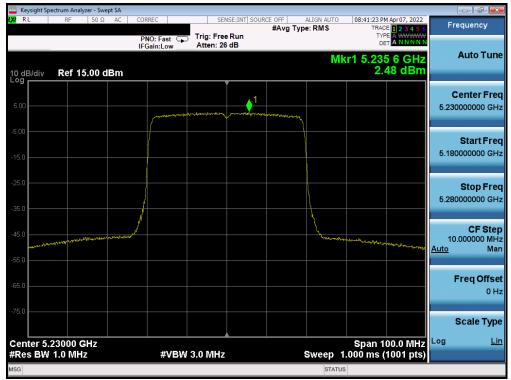
Plot 7-185. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 1) - Ch. 46)



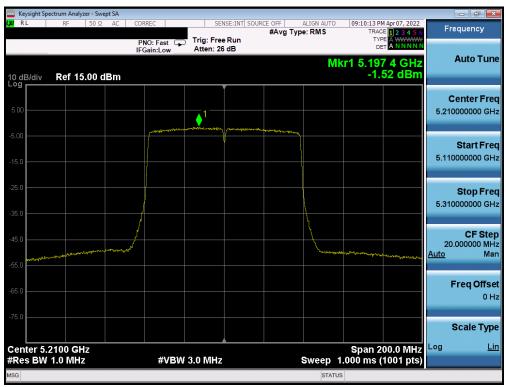
Plot 7-186. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 1) - Ch. 38)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dama 400 af 050                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 123 of 253                   |
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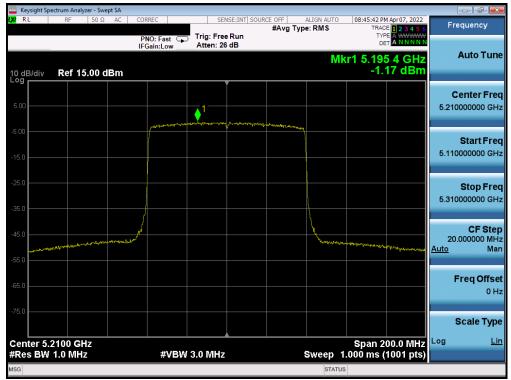
Plot 7-187. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 1) - Ch. 46)



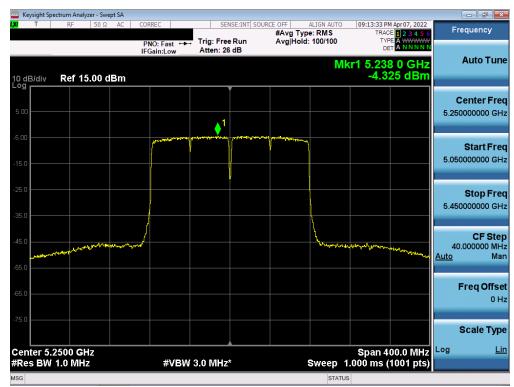
Plot 7-188. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 1) - Ch. 42)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dec. 404 ( 050                    |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 124 of 253                   |
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Plot 7-189. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 1) - Ch. 42)



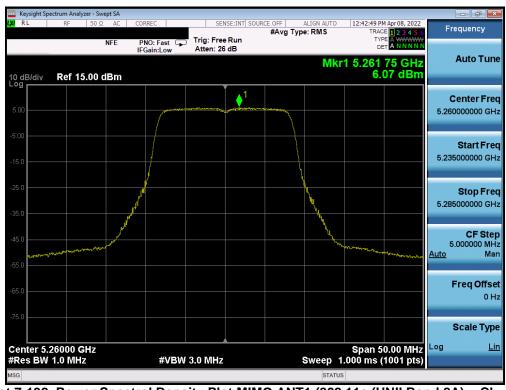
Plot 7-190. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11ac (UNII Band 1) - Ch. 50)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dega 105 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 125 of 253                   |
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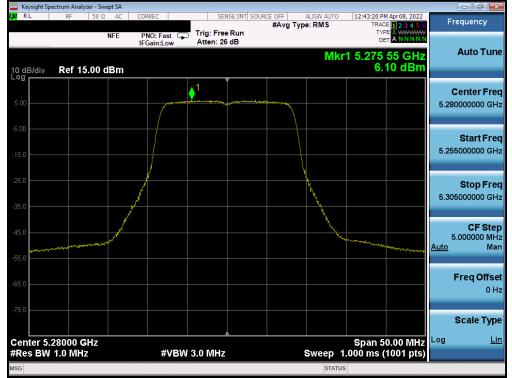
Plot 7-191. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11ax (UNII Band 1) - Ch. 50)



Plot 7-192. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2A) - Ch. 52)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dage 100 of 050                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 126 of 253                   |
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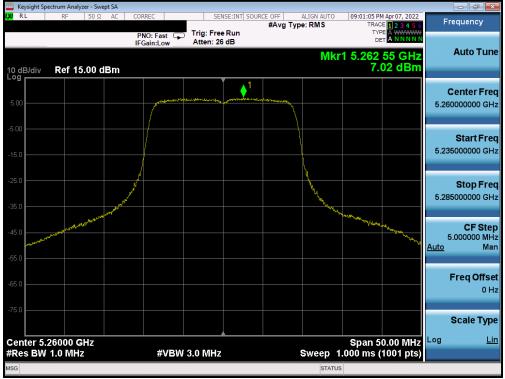
Plot 7-193. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2A) - Ch. 56)



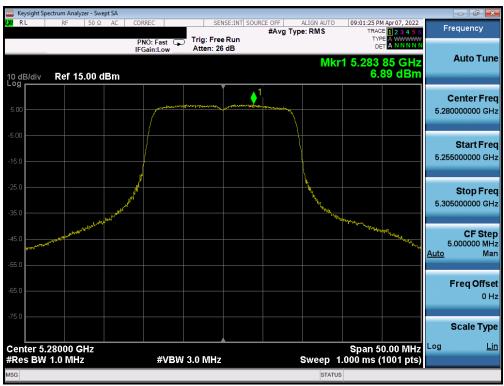
Plot 7-194. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2A) - Ch. 64)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dage 107 of 050                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 127 of 253                   |
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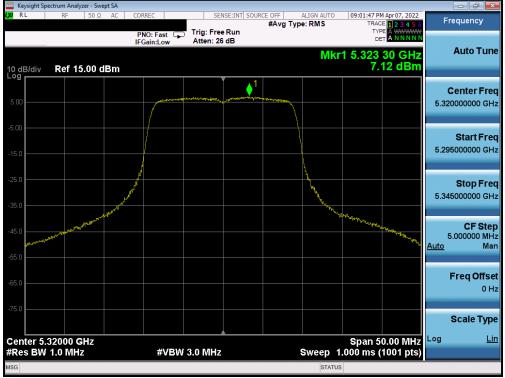
Plot 7-195. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 52)



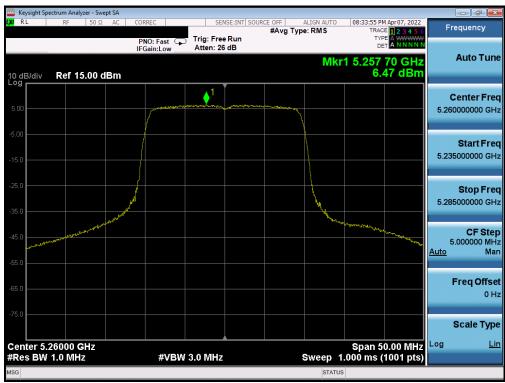
Plot 7-196. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 56)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dega 100 of 050                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 128 of 253                   |
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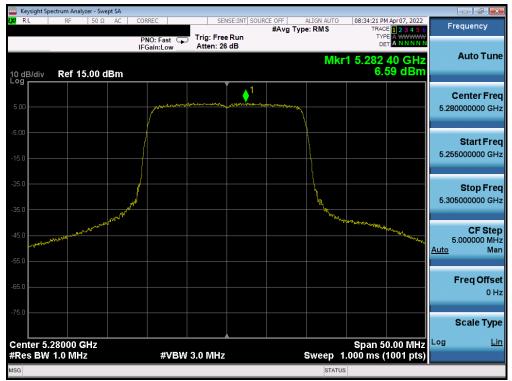
Plot 7-197. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 64)



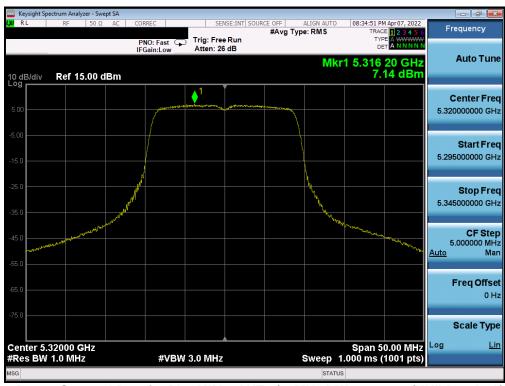
Plot 7-198. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 52)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dega 100 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 129 of 253                   |
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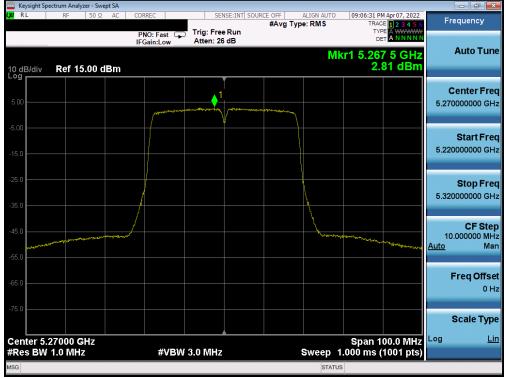
Plot 7-199. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 56)



Plot 7-200. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 64)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dage 120 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 130 of 253                   |
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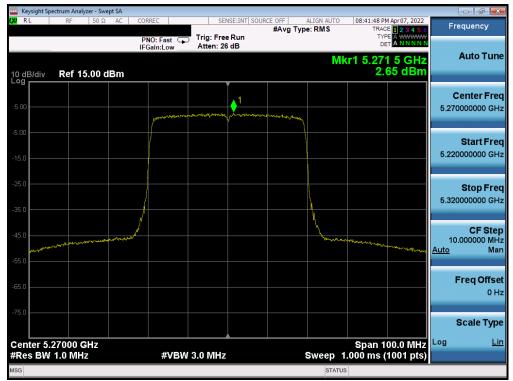
Plot 7-201. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 2A) - Ch. 54)



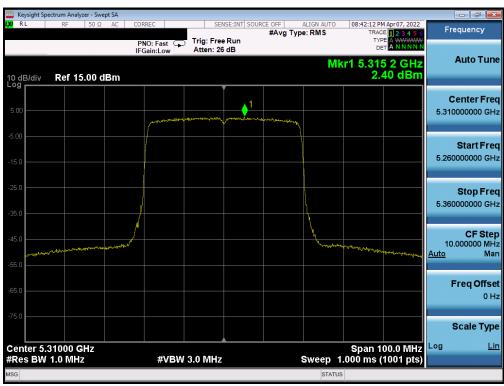
Plot 7-202. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 2A) - Ch. 62)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dage 121 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 131 of 253                   |
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Plot 7-203. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 54)



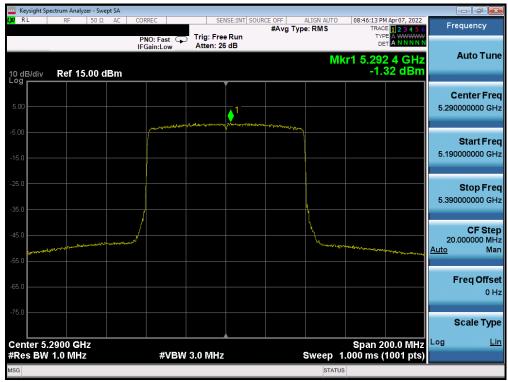
Plot 7-204. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 62)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dage 122 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 132 of 253                   |
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|           | ectrum Analyzer                        |         |   |                                |  |            |   |                              |
|-----------|--|---------|---|--------------------------------|--|------------|---|------------------------------|
| XI RL     | RF                                     | 50 Ω AC | CORREC  | SENSE:INT S                    | SOURCE OFF<br>#Avg Typ   | ALIGN AUTO | 09:10:41 PM Apr 07, 2022<br>TRACE 1 2 3 4 5 6 | Frequency                    |
|           |  |         | PNO: Fast G   | Trig: Free Run<br>Atten: 26 dB |  |            |   | Auto Tun                     |
| 10 dB/div | Ref 15.0                               | 0 dBm   |   |                                |  | IVIE       | r1 5.295 4 GHz<br>-1.73 dBm                   |                              |
| 5.00      |  |         |   |                                |  |            |   | Center Fre<br>5.290000000 GH |
|           |  |         | Personal and a second se |                                | eret the manifestion of the state of the sta |            |   | 5.29000000 GH                |
| 5.00      |  |         | {   | ų.                             |  |            |   | Start Fre<br>5.190000000 GH  |
| 15.0      |  |         |   |                                |  |            |   | 3.19000000 81                |
| -25.0     |  |         |   |                                |  |            |   | Stop Fre<br>5.390000000 GH   |
| 35.0      |  |         | 1   |                                |  |            |   |                              |
| 45.0      |  |         | }   |                                |  |            |   | CF Ste<br>20.000000 MH       |
| 55.0      | ~~~~********************************** |         |   |                                |  |            | and some and a second and a second and        | <u>Auto</u> Ma               |
| 65.0      |  |         |   |                                |  |            |   | Freq Offs                    |
| 75.0      |  |         |   |                                |  |            |   |                              |
|           |  |         |   |                                |  |            |   | Scale Typ                    |
|           | 2900 GHz<br>1.0 MHz                    |         | #VBW  | / 3.0 MHz                      |  | Sweep 1    | Span 200.0 MHz<br>.000 ms (1001 pts)          | Log <u>Li</u>                |
| SG        |  |         |   |                                |  | STATUS     |   |                              |

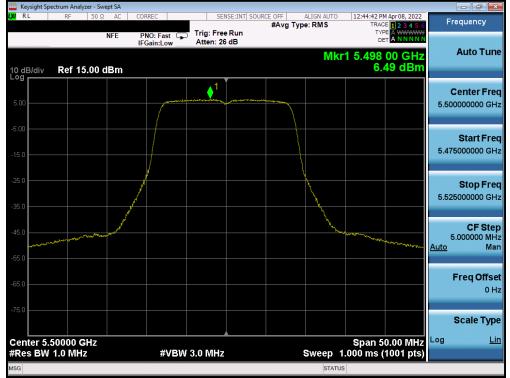
Plot 7-205. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 2A) - Ch. 58)



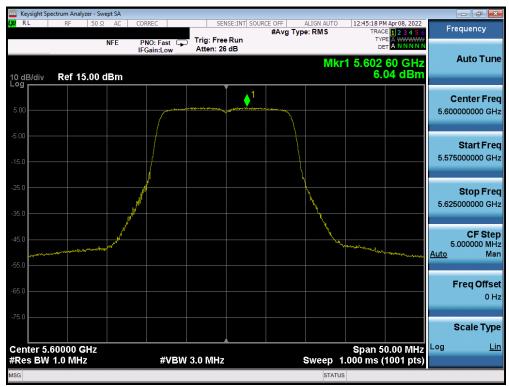
Plot 7-206. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 2A) - Ch. 58)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dogo 122 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 133 of 253                   |
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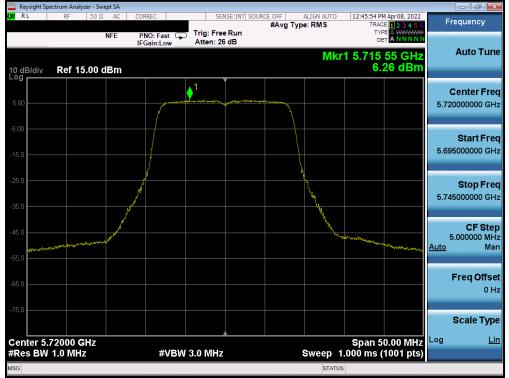
Plot 7-207. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2C) – Ch. 100)



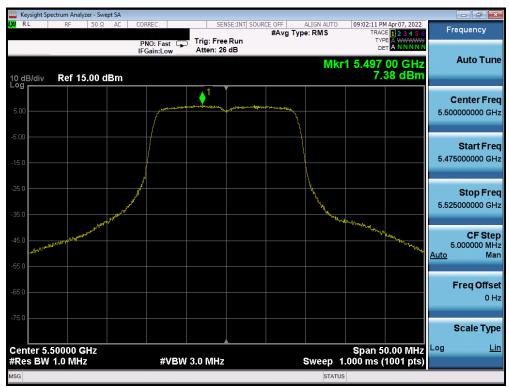
Plot 7-208. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2C) - Ch. 120)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dega 124 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 134 of 253                   |
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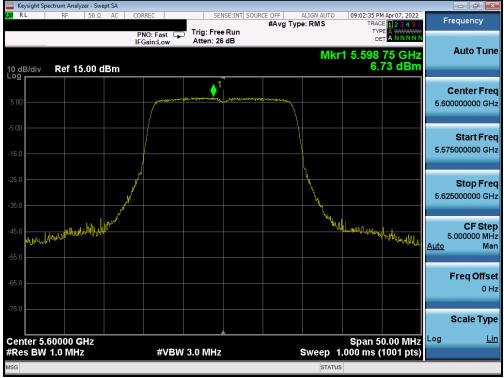
Plot 7-209. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2C) - Ch. 144)



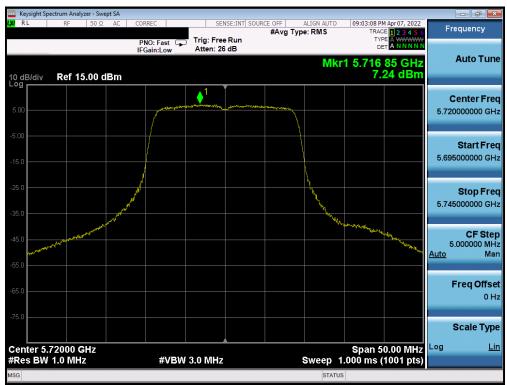
Plot 7-210. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 100)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dega 125 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 135 of 253                   |
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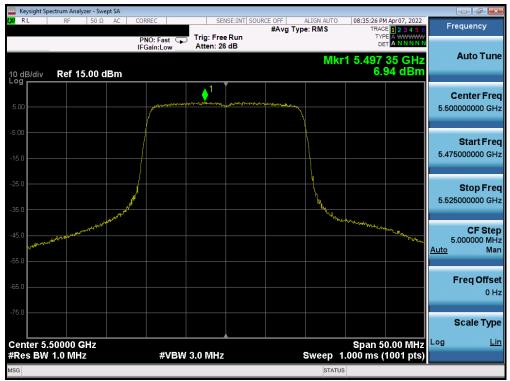
Plot 7-211. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 120)



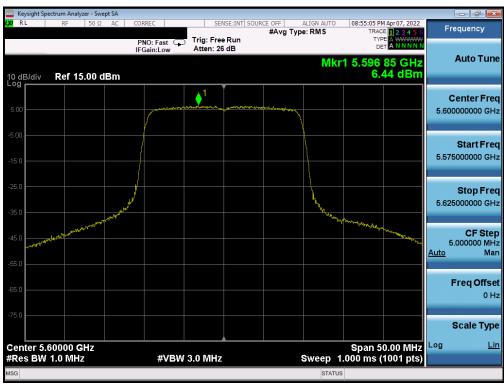
Plot 7-212. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 144)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dage 106 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 136 of 253                   |
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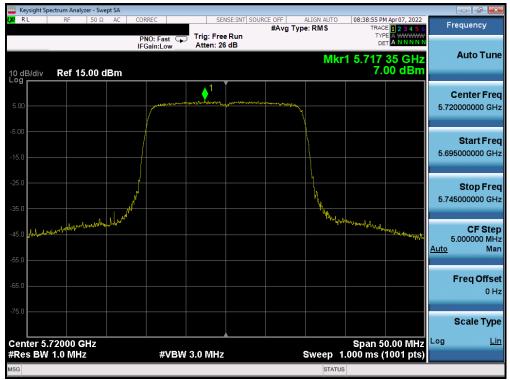
Plot 7-213. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 100)



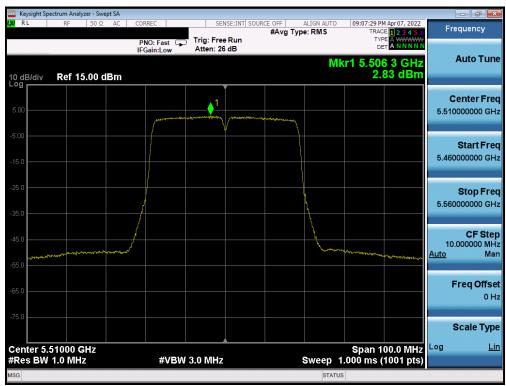
Plot 7-214. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 120)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dega 107 of 050                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 137 of 253                   |
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Plot 7-215. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 144)



Plot 7-216. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 102)

| FCC ID: A3LSMF936JPN | MEASUREMENT REPORT<br>(CERTIFICATION) |                  | Approved by:<br>Technical Manager |
|----------------------|---------------------------------------|------------------|-----------------------------------|
| Test Report S/N:     | Test Dates:                           | EUT Type:        | Dega 120 of 252                   |
| 1M2206010070-12.A3L  | 04/11 - 06/18/2022                    | Portable Handset | Page 138 of 253                   |
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