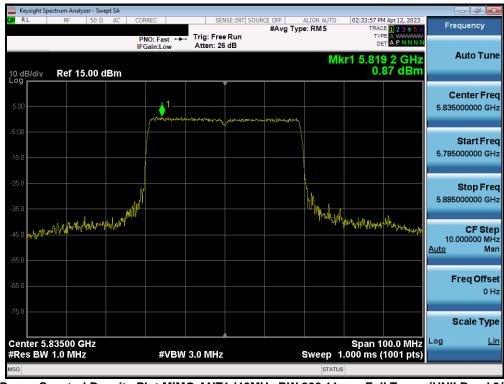


Plot 7-105. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 4) - Ch. 173)



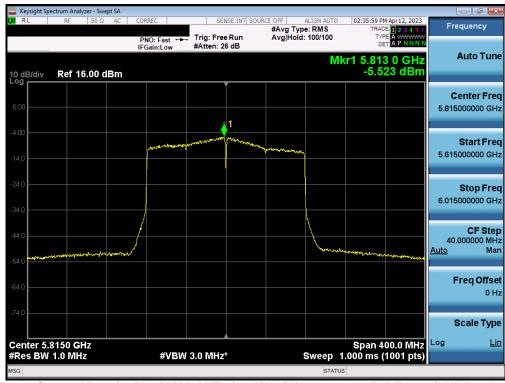
Plot 7-106. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 3/4) - Ch. 167)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dama 98 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 88 of 159
© 2023 ELEMENT			V 9.0 02/01/2019



	ht Spectru	um Analyzer - Sw									
<b>lxi</b> rl		RF 50 Ω	AC CC	ORREC		NSE:INT SOU	RCE OFF	ALIGN AUTO	TRAC	4 Apr 12, 2023	Frequency
10 dB/d	liv P	Ref 15.00 (	IF	PNO: Fast 🔸 Gain:Low	<ul> <li>Trig: Free Atten: 26</li> </ul>			Mk	r1 5.81	7 8 GHz 89 dBm	Auto Tune
5.00				€ <sup>1</sup>							Center Freq 5.855000000 GHz
-5.00						handretter	l <mark>e</mark> been wond the statements				Start Freq 5.755000000 GHz
-25.0								VI.			<b>Stop Freq</b> 5.955000000 GHz
-45.0	Montalium		han on the second s					<sup>ry</sup> hyhyhydyd	dynah habraniaga	Herte with with	CF Step 20.000000 MHz <u>Auto</u> Man
-65.0											<b>Freq Offset</b> 0 Hz
-75.0											Scale Type
Center #Res E	r 5.85 3W 1.	50 GHz 0 MHz		#VBW	/ 3.0 MHz			Sweep 1	2 Span .000 ms (	00.0 MHz 1001 pts)	
MSG								STATUS			

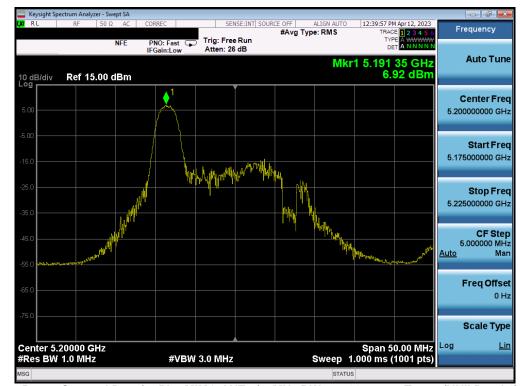
Plot 7-107. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 3/4) - Ch. 171)



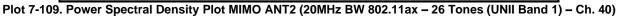
Plot 7-108. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11ax – Full Tones (UNII Band 3/4) – Ch. 163)

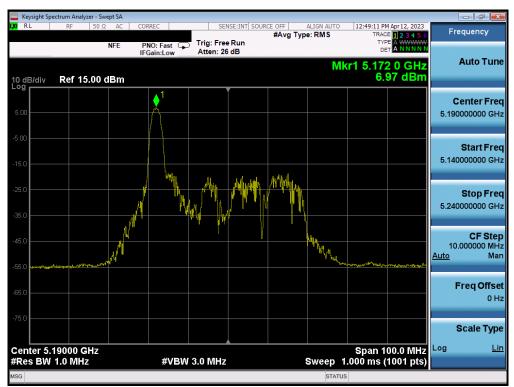
FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 20 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 89 of 159
© 2023 ELEMENT			V 9.0 02/01/2019





# 7.5.2 MIMO Antenna-2 Power Spectral Density Measurements





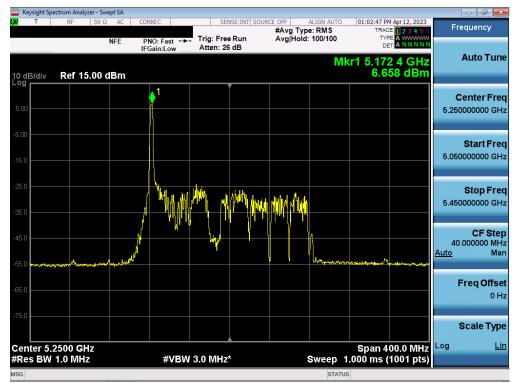
Plot 7-110. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dage 00 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 90 of 159
© 2023 ELEMENT			V 9.0 02/01/2019





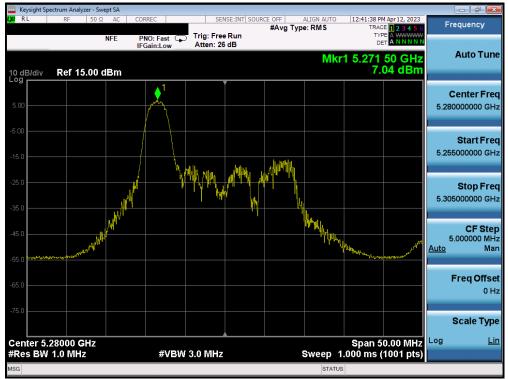
Plot 7-111. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 42)



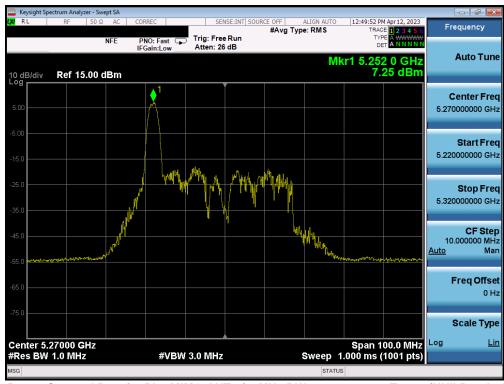
Plot 7-112. Power Spectral Density Plot MIMO ANT2 (160MHz BW 802.11ax - 26 Tones (UNII Band 1/2A) - Ch. 50)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 91 of 159
© 2023 ELEMENT		·	V 9.0 02/01/2019





Plot 7-113. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 56)



Plot 7-114. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Daga 02 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 92 of 159
© 2023 ELEMENT		·	V 9.0 02/01/2019





Plot 7-115. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 58)



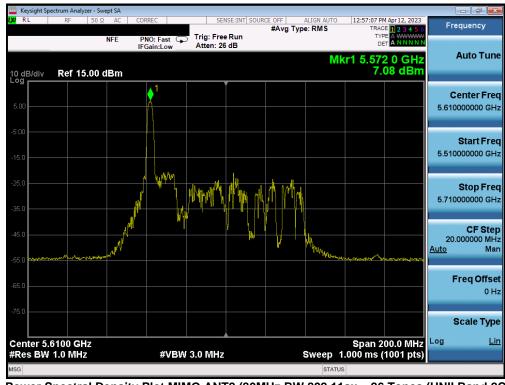
Plot 7-116. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dage 02 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 93 of 159
© 2023 ELEMENT	·		V 9.0 02/01/2019





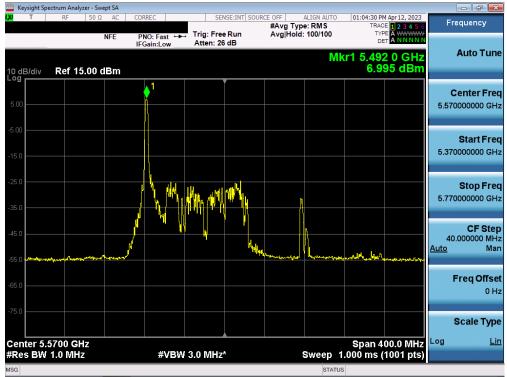
Plot 7-117. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 118)



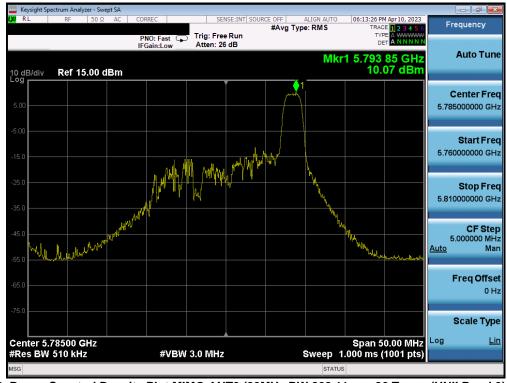
Plot 7-118. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 04 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 94 of 159
© 2023 ELEMENT			V 9.0 02/01/2019





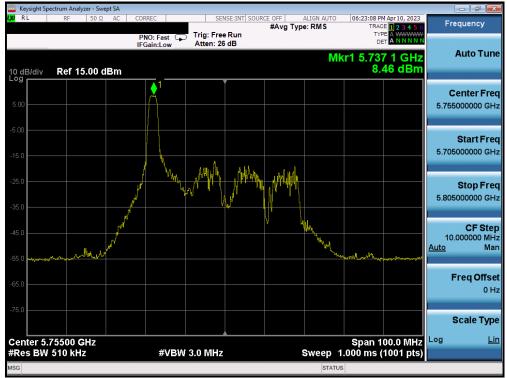
Plot 7-119. Power Spectral Density Plot MIMO ANT2 (160MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 114)



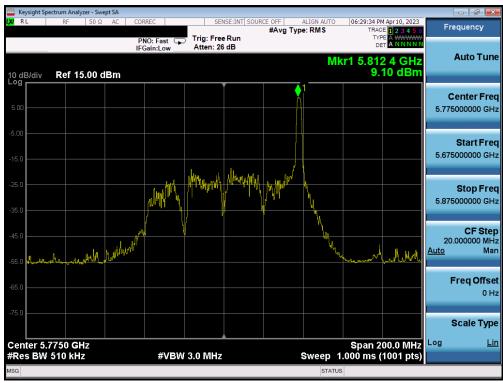
Plot 7-120. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 157)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dage 05 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 95 of 159
© 2023 ELEMENT	·		V 9.0 02/01/2019





Plot 7-121. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 151)



Plot 7-122. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 96 of 159
© 2023 ELEMENT	•		V 9.0 02/01/2019





Plot 7-123. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 4) - Ch. 173)



Plot 7-124. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 167)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 07 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 97 of 159
© 2023 ELEMENT			V 9.0 02/01/2019





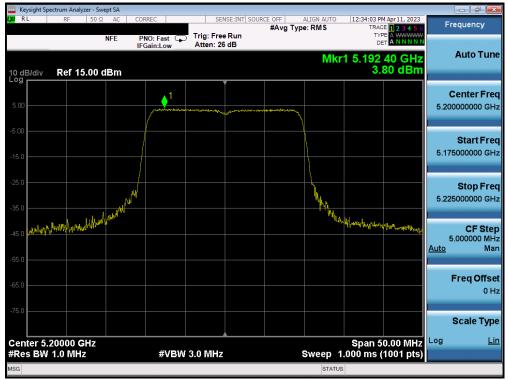
Plot 7-125. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 3/4) - Ch. 171)



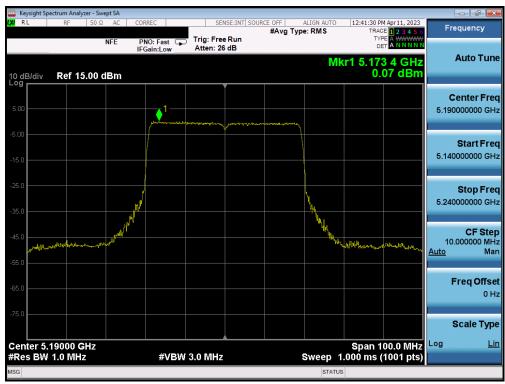
Plot 7-126. Power Spectral Density Plot MIMO ANT2 (160MHz BW 802.11ax - 26 Tones (UNII Band 3/4) - Ch. 163)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dage 09 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 98 of 159
© 2023 ELEMENT		·	V 9.0 02/01/2019





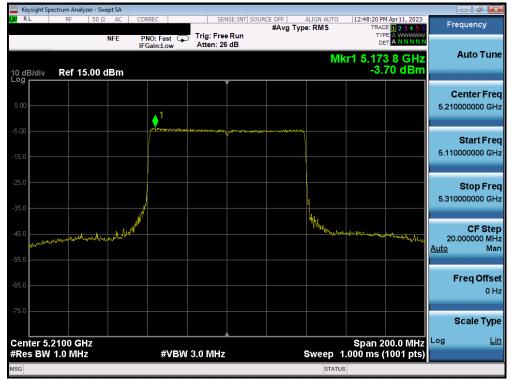
Plot 7-127. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 40)



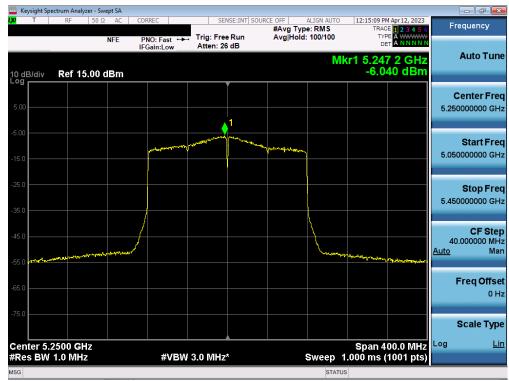
Plot 7-128. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 99 of 159
© 2023 ELEMENT			V 9.0 02/01/2019





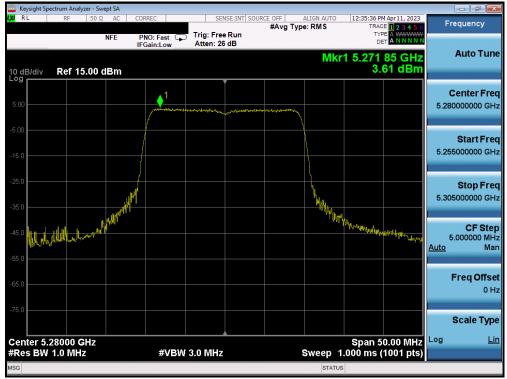
Plot 7-129. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 42)



Plot 7-130. Power Spectral Density Plot MIMO ANT2 (160MHz BW 802.11ax - Full Tones (UNII Band 1/2A) - Ch. 50)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 100 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 100 of 159
© 2023 ELEMENT	•		V 9.0 02/01/2019





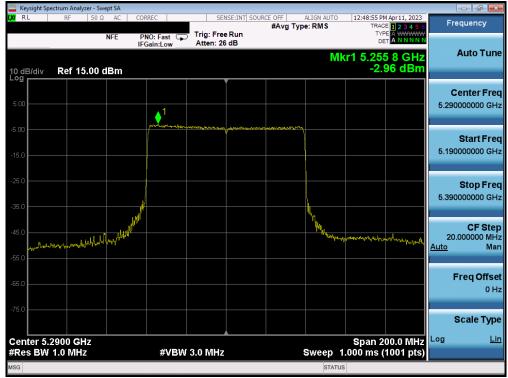
Plot 7-131. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 56)



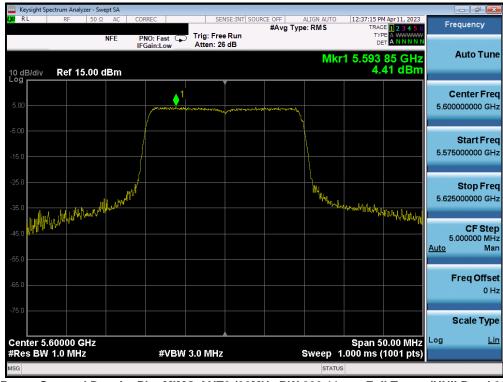
Plot 7-132. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 101 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 101 of 159
© 2023 ELEMENT	•	· · · · · · · · · · · · · · · · · · ·	V 9.0 02/01/2019





Plot 7-133. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 58)



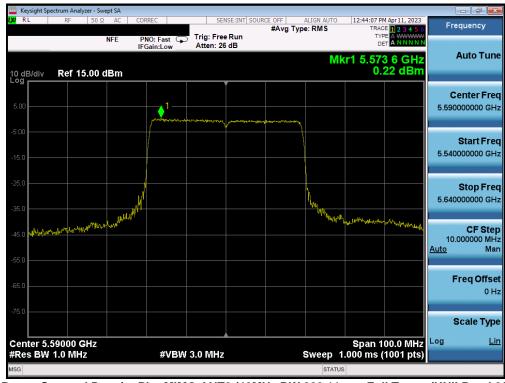
Plot 7-134. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 102 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 102 of 159
© 2023 ELEMENT	·	·	V 9.0 02/01/2019





Plot 7-135. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 102)



Plot 7-136. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 118)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 102 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 103 of 159
© 2023 ELEMENT		·	V 9.0 02/01/2019



	ectrum Analyze							
LXI RL	RF	50 Ω AC	CORREC		SOURCE OFF	ALIGN AUTO pe: RMS	12:49:57 PM Apr 11, 2023 TRACE 1 2 3 4 5	Frequency
10 dB/div	Ref 15.	NFE 00 dBm	PNO: Fast IFGain:Low	Atten: 26 dB		M	type A NNNN Det A NNNN (r1 5.573 0 GH) -3.66 dBn	Auto Tune
5.00			↓1					Center Freq 5.610000000 GHz
-5.00				n dan se di se ga angan yang mengenang mengenang mengenang mengenang mengenang mengenang mengenang mengenang me	afrirogyadasa paging ng hyndyddae ar if			Start Fred 5.510000000 GHz
-25.0			A					<b>Stop Fred</b> 5.710000000 GH;
-45.0	mouth	tympt grandy				"Mumu	aser when a second and a second	CF Step 20.000000 MH: <u>Auto</u> Mar
-65.0								Freq Offse 0 Ha
								Scale Type
Center 5. #Res BW		2	#VBW	3.0 MHz		Sweep 1	Span 200.0 MH .000 ms (1001 pts	z Log <u>Lin</u> )
MSG						STATUS	5	

Plot 7-137. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 122)



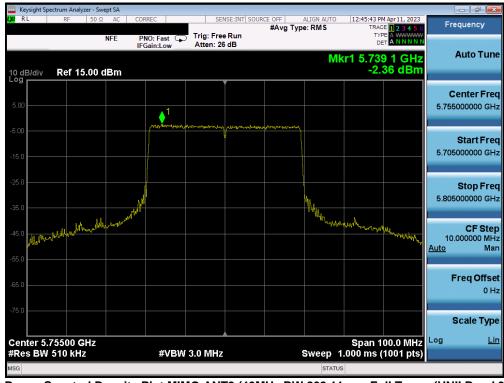
Plot 7-138. Power Spectral Density Plot MIMO ANT2 (160MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 114)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 104 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 104 of 159
© 2023 ELEMENT			V 9.0 02/01/2019





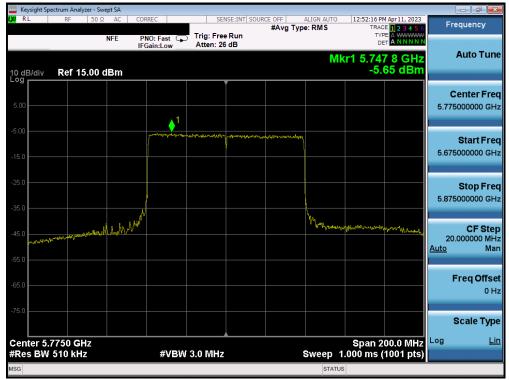
Plot 7-139. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 157)



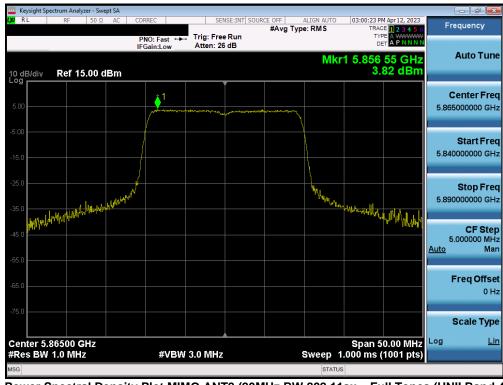
Plot 7-140. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 151)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 105 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 105 of 159
© 2023 ELEMENT	·		V 9.0 02/01/2019





Plot 7-141. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 155)



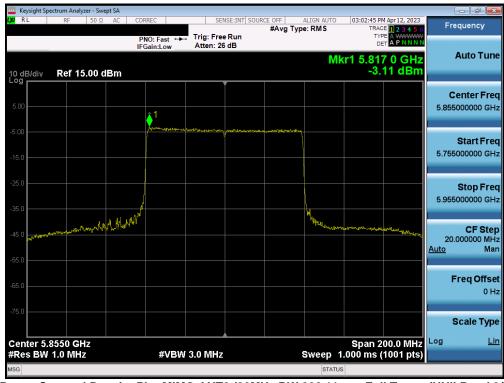
Plot 7-142. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 4) - Ch. 173)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 106 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 106 of 159
© 2023 ELEMENT	·		V 9.0 02/01/2019





Plot 7-143. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 3/4) - Ch. 167)



Plot 7-144. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 3/4) - Ch. 171)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 107 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 107 of 159
© 2023 ELEMENT			V 9.0 02/01/2019





Plot 7-145. Power Spectral Density Plot MIMO ANT2 (160MHz BW 802.11ax - Full Tones (UNII Band 3/4) - Ch. 163)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dama 108 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 108 of 159
© 2023 ELEMENT			V 9.0 02/01/2019



#### Note:

Per ANSI C63.10-2013 Section 14.3.2.2 and KDB 662911 v02r01 Section E)2), the power spectral density at Antenna-1 and Antenna-2 were first measured separately with reduced Antenna-1 and Antenna-2 powers per manufacture's tune-up document. The measured values were then summed in linear power units then converted back to dBm.

#### Sample Directional Gain Calculation:

Assuming the antenna gain is -4.49 dBi for Antenna-1 and -6.34 dBi for Antenna-2.

Directional gain = 
$$10 \log[(10^{G_{1/20}} + 10^{G_{2/20}} + ... + 10^{G_{N/20}})^2 / N_{ANT}] dBi$$
  
=  $10 \log[(10^{-4.49/20} + 10^{-6.34/20} / 2] dBi$   
= (-2.36) dBi

#### Sample MIMO Calculation:

Assuming the average conducted power spectral density was measured to be 6.74 dBm for Antenna-1 and 6.70 dBm for Antenna-2.

Antenna-1 + Antenna-2 = MIMO

(6.74 dBm + 6.70 dBm) = (4.72 mW + 4.68 mW) = 9.40mW = 9.73 dBm

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

At 5845 MHz in 802.11ax (20MHz BW – 26T) mode, the average MIMO power spectral density was calculated to be 13.91 dBm with directional gain of -2.36 dBi.

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

13.91 dBm + -3.43 dBi = 10.48 dBm

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dage 100 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 109 of 159
© 2023 ELEMENT			V 9.0 02/01/2019



# 7.6 Radiated Emission Measurements

### Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. All channels, modes, and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst-case emissions are reported in this section.

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

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

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

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

All out of band emissions appearing in a restricted band as specified in FCC §15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in the table below per FCC §15.209 and RSS-Gen (8.9).

Frequency	Field Strength [μV/m]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400\F (kHz)	300
0.490 – 1.705 MHz	24000\F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 7-42. Radiated Limits

#### **Test Procedures Used**

ANSI C63.10-2013 – Sections 12.7.7.2, 12.7.6, 12.7.5 (Radiated Spurious Emissions) ANSI C63.10-2013 – Section 12.7.4.4 (Band Edge Measurements)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 110 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 110 of 159
© 2023 ELEMENT			V 9.0 02/01/2019



### Test Settings – Above 1GHz

#### Average Field Strength Measurements (Method AD - Average Detection)

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest.
- 2. RBW = 1MHz
- 3. VBW = 3MHz
- 4. Detector = power average (RMS)
- 5. Number of measurement points = 1001 (Number of points must be  $\geq 2 \times \text{span}$ )
- 6. Sweep time = auto
- 7. Trace (RMS) averaging was performed over at least 100 traces.

#### Peak Field Strength Measurements

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

### Test Settings – Below 1GHz

## **Quasi-Peak Field Strength Measurements**

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

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 111 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 111 of 159
© 2023 ELEMENT	-		V 9.0 02/01/2019

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

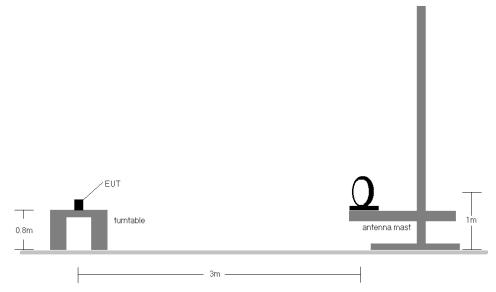
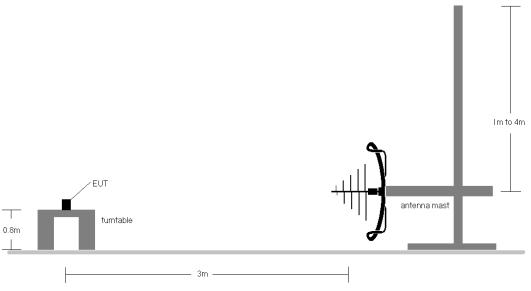
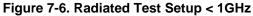


Figure 7-5. Radiated Test Setup < 30MHz





FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 112 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 112 of 159
© 2023 ELEMENT			V 9.0 02/01/2019



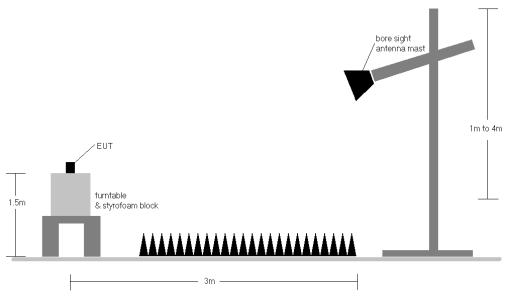


Figure 7-7. Radiated Test Setup > 1GHz

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dage 112 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 113 of 159
© 2023 ELEMENT		· ·	V 9.0 02/01/2019



#### Test Notes

- All spurious emissions lying in restricted bands specified in §15.205 are below the limit shown in §15.209. All spurious emissions that do not lie in a restricted band are subject to an average limit of -27dBm/MHz. At 3 meters, the field strength limit in dBµV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBµV/m.
- All spurious emissions that do not lie in a restricted band are subject to a peak limit not to exceed 20dB of the average limit [68.2dBµV/m]. If a peak measurement passes the average limit, it was determined no further investigation is necessary.
- 3. The antenna is manipulated through typical positions, polarity, and length during the tests. The EUT is manipulated through three orthogonal planes.
- 4. This unit was tested with its standard battery.
- 5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported, however emissions whose levels were not within 20dB of the respective limits were not reported.
- 6. Emissions below 18GHz were measured at a 3-meter test distance while emissions above 18GHz were measured at a 1-meter test distance with the application of a distance correction factor.
- 7. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
- 8. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 9. In the case where a peak-detector measurement passed the given RMS limit it was determined sufficient to demonstrate compliance.
- 10. The results recorded using the broadband antenna are known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
- 11. For radiated measurements, emissions were investigated for the fully-loaded RU configuration and for all of the partially-loaded RU configurations. Among all of the available partially-loaded RU configurations, only the configuration with the worst case emissions is reported.

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dage 114 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 114 of 159
© 2023 ELEMENT	•	·	V 9.0 02/01/2019



## **Sample Calculations**

## **Determining Spurious Emissions Levels**

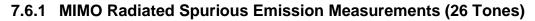
- Field Strength Level [dBµV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB]
- Margin [dB] = Field Strength Level [dBμV/m] Limit [dBμV/m]

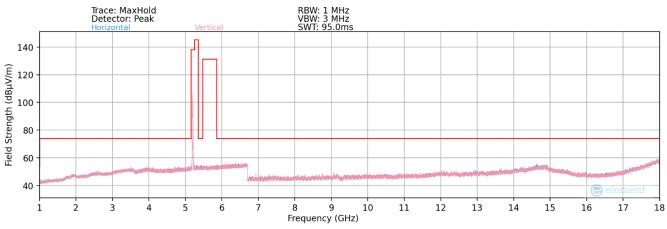
### Radiated Band Edge Measurement Offset

 The amplitude offset shown in the radiated restricted band edge plots in Section Radiated Spurious Emission Measurements – Above 1GHz was calculated using the formula:
 Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

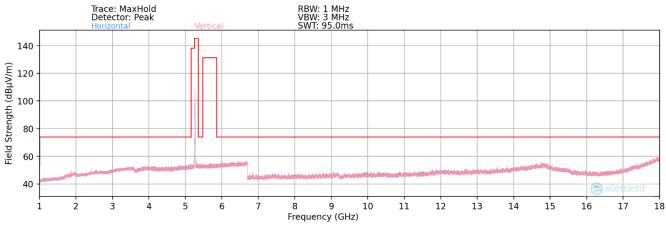
FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 115 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 115 of 159
© 2023 ELEMENT			V 9.0 02/01/2019



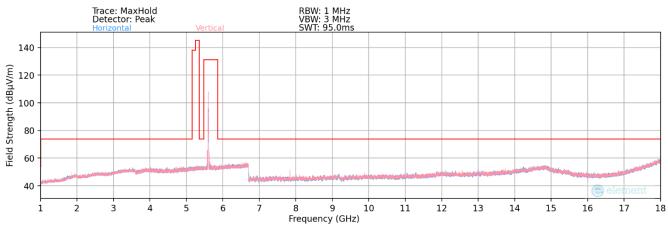








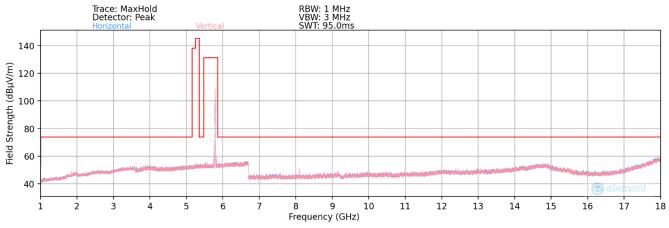




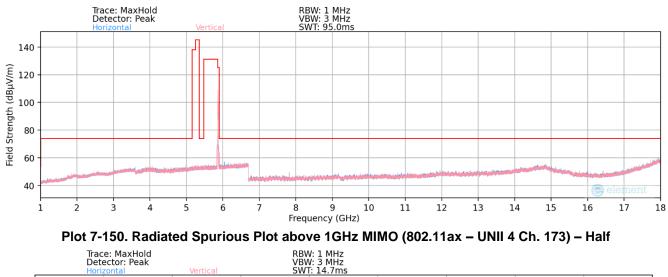
Plot 7-148. Radiated Spurious Plot above 1GHz MIMO (802.11ax - UNII 2C Ch. 120) - Half

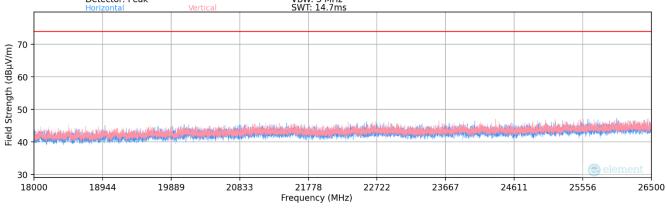
FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 116 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 116 of 159
© 2023 ELEMENT		· ·	V 9.0 02/01/2019







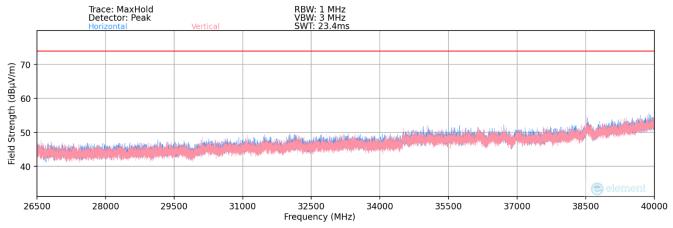


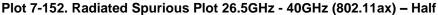


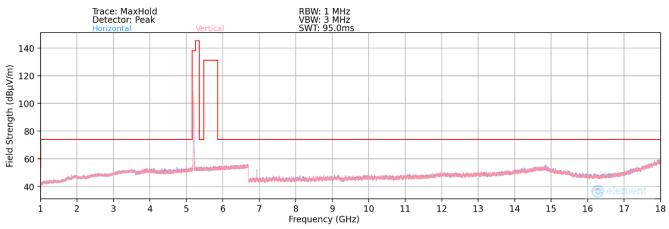
Plot 7-151. Radiated Spurious Plot 18GHz - 26.5GHz (802.11ax) - Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dama 117 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 117 of 159
© 2023 ELEMENT	•	· ·	V 9.0 02/01/2019

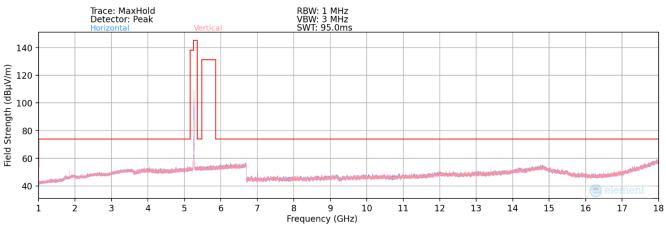








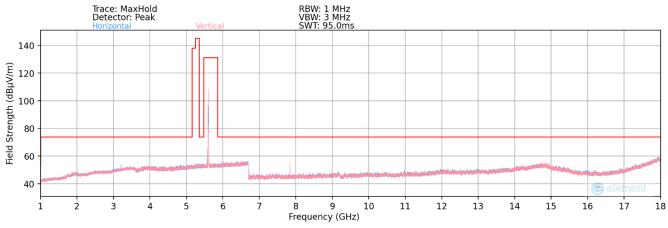




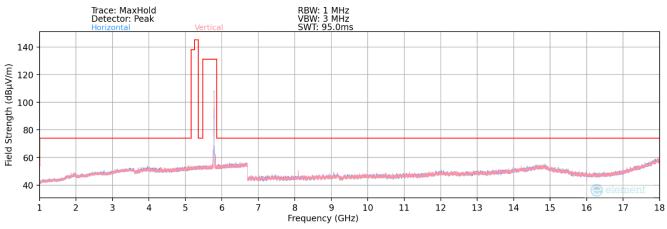


FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 119 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 118 of 159
© 2023 ELEMENT		·	V 9.0 02/01/2019

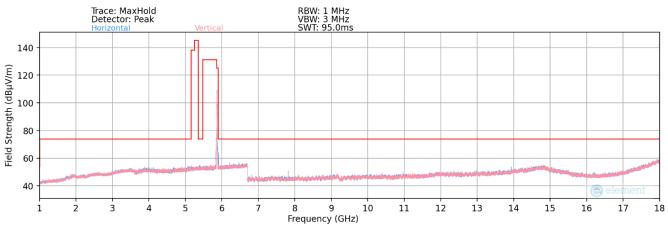




Plot 7-155. Radiated Spurious Plot above 1GHz MIMO (802.11ax - UNII 2C Ch. 120) - Open







Plot 7-157. Radiated Spurious Plot above 1GHz MIMO (802.11ax - UNII 4 Ch. 173) - Open

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dage 110 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 119 of 159
© 2023 ELEMENT	· ·		V 9.0 02/01/2019



# MIMO Radiated Spurious Emission Measurements (26 Tones) – UNII 1

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5180MHz
Channel:	36

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10360.00	Peak	н	-	-	-68.30	10.56	0.00	49.26	68.20	-18.94
*	15540.00	Average	Н	-	-	-80.51	16.45	0.00	42.94	53.98	-11.04
*	15540.00	Peak	Н	-	-	-68.69	16.45	0.00	54.76	73.98	-19.22
*	20720.00	Average	н	-	-	-67.60	3.50	-9.54	33.36	53.98	-20.62
*	20720.00	Peak	Н	-	-	-56.90	3.50	-9.54	44.06	73.98	-29.92
	25900.00	Peak	Н	-	-	-57.52	4.57	-9.54	44.51	68.20	-23.69

Table 7-43. Radiated Measurements MIMO (26 Tones) – Half

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5200MHz
Channel:	40

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	Н	-	-	-67.93	10.60	0.00	49.67	68.20	-18.53
*	15600.00	Average	Н	-	-	-80.52	16.45	0.00	42.93	53.98	-11.04
*	15600.00	Peak	н	-	-	-68.89	16.45	0.00	54.56	73.98	-19.41
*	20800.00	Average	н	-	-	-66.92	3.60	-9.54	34.14	53.98	-19.84
*	20800.00	Peak	Н	-	-	-56.72	3.60	-9.54	44.33	73.98	-29.65
	26000.00	Peak	Н	-	-	-56.69	4.60	-9.54	45.36	68.20	-22.84

Table 7-44. Radiated Measurements MIMO (26 Tones) - Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dage 100 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 120 of 159		
© 2023 ELEMENT			V 9.0 02/01/2019		



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5240MHz
Channel:	48

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	Peak	Н	-	-	-68.70	11.17	0.00	49.47	68.20	-18.73
*	15720.00	Average	Н	-	-	-80.74	16.72	0.00	42.98	53.98	-11.00
*	15720.00	Peak	н	-	-	-68.23	16.72	0.00	55.49	73.98	-18.49
*	20960.00	Average	н	-	-	-67.88	3.61	-9.54	33.19	53.98	-20.79
*	20960.00	Peak	Н	-	-	-57.66	3.61	-9.54	43.40	73.98	-30.58
	26200.00	Peak	Н	-	-	-56.94	4.72	-9.54	45.24	68.20	-22.96

Table 7-45. Radiated Measurements MIMO (26 Tones) – Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dage 121 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 121 of 159		
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# MIMO Radiated Spurious Emission Measurements (26 Tones) - UNII 2A

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5260MHz
Channel:	52

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	Н	-	-	-69.21	11.63	0.00	49.42	68.20	-18.78
*	15780.00	Average	Н	-	-	-80.54	17.07	0.00	43.53	53.98	-10.45
*	15780.00	Peak	Н	-	-	-68.65	17.07	0.00	55.42	73.98	-18.56
*	21040.00	Average	н	-	-	-67.58	3.71	-9.54	33.59	53.98	-20.39
*	21040.00	Peak	Н	-	-	-57.37	3.71	-9.54	43.80	73.98	-30.18
	26300.00	Peak	Н	-	-	-56.90	4.64	-9.54	45.19	68.20	-23.01

Table 7-46. Radiated Measurements MIMO (26 Tones) – Half

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5280MHz
Channel:	56

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10560.00	Peak	Н	-	-	-69.17	11.20	0.00	49.03	68.20	-19.17
*	15840.00	Average	Н	-	-	-80.55	16.62	0.00	43.07	53.98	-10.91
*	15840.00	Peak	Н	-	-	-68.36	16.62	0.00	55.26	73.98	-18.72
*	21120.00	Average	н	-	-	-67.22	3.83	-9.54	34.07	53.98	-19.91
*	21120.00	Peak	Н	-	-	-56.56	3.83	-9.54	44.73	73.98	-29.25
	26400.00	Peak	Н	-	-	-57.40	4.68	-9.54	44.74	68.20	-23.46

Table 7-47. Radiated Measurements MIMO (26 Tones) - Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dogo 100 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 122 of 159		
© 2023 ELEMENT			V 9.0 02/01/2019		



802.11ax (20MHz BW)
MCS0
4
1 & 3 Meters
5320MHz
64

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	10640.00	Average	Н	-	-	-80.29	11.00	0.00	37.71	53.98	-16.27
*	10640.00	Peak	Н	-	-	-68.44	11.00	0.00	49.56	73.98	-24.42
*	15960.00	Average	н	-	-	-80.79	18.02	0.00	44.23	53.98	-9.75
*	15960.00	Peak	н	-	-	-68.68	18.02	0.00	56.34	73.98	-17.64
*	21280.00	Average	Н	-	-	-67.64	3.95	-9.54	33.77	53.98	-20.21
*	21280.00	Peak	Н	-	-	-57.14	3.95	-9.54	44.28	73.98	-29.70
	26600.00	Peak	Н	-	-	-57.97	4.51	-9.54	44.00	68.20	-24.20

Table 7-48. Radiated Measurements MIMO (26 Tones) - Half

FCC ID: A3LSMF731JPN		Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Page 123 of 159	
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset		
© 2023 ELEMENT			V 9.0 02/01/2019	



### MIMO Radiated Spurious Emission Measurements (26 Tones) – UNII 2C

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5500MHz
Channel:	100

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	Н	-	-	-79.51	11.49	0.00	38.98	53.98	-15.00
*	11000.00	Peak	Н	-	-	-67.86	11.49	0.00	50.63	73.98	-23.35
	16500.00	Peak	Н	-	-	-69.19	17.69	0.00	55.50	68.20	-12.70
	22000.00	Peak	н	-	-	-57.04	3.86	-9.54	44.28	68.20	-23.92
	27500.00	Peak	Н	-	-	-55.73	4.54	-9.54	46.27	68.20	-21.93

Table 7-49. Radiated Measurements MIMO (26 Tones) – Half

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5600MHz
Channel:	120

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11200.00	Average	Н	-	-	-80.05	11.66	0.00	38.61	53.98	-15.37
*	11200.00	Peak	Н	-	-	-67.62	11.66	0.00	51.04	73.98	-22.94
	16800.00	Peak	н	-	-	-68.75	18.19	0.00	56.44	68.20	-11.76
*	22400.00	Average	н	-	-	-66.93	3.86	-9.54	34.38	53.98	-19.60
*	22400.00	Peak	Н	-	-	-56.73	3.86	-9.54	44.58	73.98	-29.40
	28000.00	Peak	Н	-	-	-56.93	4.90	-9.54	45.43	68.20	-22.77

Table 7-50. Radiated Measurements MIMO (26 Tones) – Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dogo 104 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 124 of 159		
© 2023 ELEMENT			V 9.0 02/01/2019		



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5720MHz
Channel:	144

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	Н	-	-	-80.87	12.27	0.00	38.40	53.98	-15.58
*	11440.00	Peak	Н	-	-	-69.52	12.27	0.00	49.75	73.98	-24.23
	17160.00	Peak	Н	179	216	-68.67	17.32	0.00	55.65	68.20	-12.55
*	22880.00	Average	н	-	-	-67.15	4.09	-9.54	34.40	53.98	-19.58
*	22880.00	Peak	Н	-	-	-56.23	4.09	-9.54	45.32	73.98	-28.66
	28600.00	Peak	Н	-	-	-57.49	5.30	-9.54	45.27	68.20	-22.93

Table 7-51. Radiated Measurements MIMO (26 Tones) – Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dage 125 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 125 of 159		
© 2023 ELEMENT			V 9.0 02/01/2019		



#### MIMO Radiated Spurious Emission Measurements (26 Tones) – UNII 3

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5745MHz
Channel:	149

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Azimuth	Analyzer Level [dBm]	AFCL [dB/m]	Correction	Field Strength [dBuV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	Н	-	-	-80.60	12.25	0.00	38.65	53.98	-15.33
*	11490.00	Peak	Н	-	-	-69.21	12.25	0.00	50.04	73.98	-23.94
	17235.00	Peak	н	186	219	-67.67	17.29	0.00	56.62	68.20	-11.58
*	22980.00	Average	Н	-	-	-67.61	4.00	-9.54	33.85	53.98	-20.13
*	22980.00	Peak	Н	-	-	-55.60	4.00	-9.54	45.86	73.98	-28.12
	28725.00	Peak	н	-	-	-57.55	5.36	-9.54	45.28	68.20	-22.92

Table 7-52. Radiated Measurements MIMO (26 Tones) - Half

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5785MHz
Channel:	157

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	Average	Н	-	-	-80.47	12.14	0.00	38.67	53.98	-15.31
*	11570.00	Peak	Н	-	-	-69.02	12.14	0.00	50.12	73.98	-23.86
	17355.00	Peak	Н	179	223	-66.89	17.66	0.00	57.77	68.20	-10.43
	23140.00	Peak	н	-	-	-56.49	3.94	-9.54	44.90	68.20	-23.30
	28925.00	Peak	н	-	-	-57.64	5.33	-9.54	45.15	68.20	-23.05

Table 7-53. Radiated Measurements MIMO (26 Tones) – Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 126 of 159
© 2023 ELEMENT	<b>.</b>		V 9.0 02/01/2019



W	orst Case	Mode:		802.11ax	(20MHz B\	N)
W	orst Case	Transfer F	Rate:	MCS0		
R	U Index:			4		
D	istance of	Measurem	nents:	1 & 3 Mete	ers	
0	perating F	requency:		5825MHz		
С	hannel:			165		
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	
11650.00	Average	Н	-	-	-80.65	12.81
44050.00	Deals				00.44	40.04

				[degree]			Factor [dB]	[dBµV/m]		
11650.00	Average	Н	-	-	-80.65	12.81	0.00	39.16	53.98	-14.82
11650.00	Peak	Н	-	-	-68.14	12.81	0.00	51.67	73.98	-22.31
17475.00	Peak	н	187	221	-65.24	17.23	0.00	58.99	68.20	-9.21
23300.00	Peak	н	-	-	-56.40	4.04	-9.54	45.10	68.20	-23.10
29125.00	Peak	н	-	-	-57.06	5.36	-9.54	45.76	68.20	-22.44

Distance

Correction

Field

Strength

Limit

[dBµV/m]

Margin [dB]

 Table 7-54. Radiated Measurements MIMO (26 Tones) – Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dage 107 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 127 of 159		
© 2023 ELEMENT			V 9.0 02/01/2019		



### MIMO Radiated Spurious Emission Measurements (26 Tones) – UNII 4

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5845MHz
Channel:	169

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11690.00	Average	Н	-	-	-80.96	12.89	0.00	38.93	53.98	-15.05
*	11690.00	Peak	Н	-	-	-69.05	12.89	0.00	50.84	73.98	-23.14
	17535.00	Peak	н	178	217	-62.47	17.47	0.00	62.00	68.20	-6.20
	23380.00	Peak	н	-	-	-57.22	3.89	-9.54	44.14	68.20	-24.06
	29225.00	Peak	Н	-	-	-57.23	5.50	-9.54	45.73	68.20	-22.47

Table 7-55. Radiated Measurements MIMO (26 Tones) – Half

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5865MHz
Channel:	173

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11730.00	Average	н	-	-	-80.79	13.54	0.00	39.75	53.98	-14.23
*	11730.00	Peak	н	-	-	-68.90	13.54	0.00	51.64	73.98	-22.34
	17595.00	Peak	н	190	214	-61.93	17.74	0.00	62.81	68.20	-5.39
	23460.00	Peak	н	-	-	-56.61	4.00	-9.54	44.85	68.20	-23.35
	29325.00	Peak	Н	-	-	-57.50	5.64	-9.54	45.60	68.20	-22.60

Table 7-56. Radiated Measurements MIMO (26 Tones) – Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 129 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 128 of 159
© 2023 ELEMENT	-		V 9.0 02/01/2019



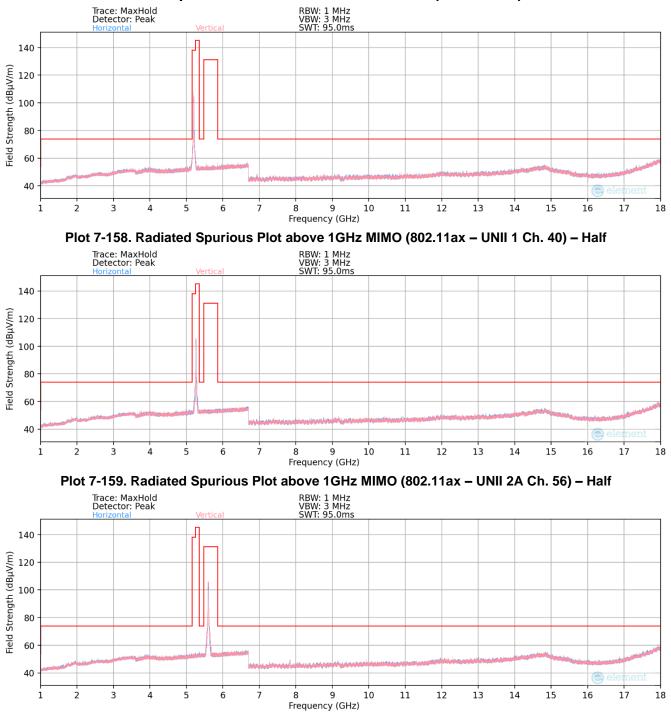
Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5885MHz
Channel:	177

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11770.00	Average	Н	-	-	-80.76	13.54	0.00	39.78	53.98	-14.20
*	11770.00	Peak	Н	-	-	-68.96	13.54	0.00	51.58	73.98	-22.40
	17655.00	Peak	Н	180	220	-60.41	17.44	0.00	64.03	68.20	-4.17
	23540.00	Peak	Н	-	-	-57.78	4.00	-9.54	43.69	68.20	-24.51
	29425.00	Peak	н	-	+	-57.78	5.71	-9.54	45.38	68.20	-22.82

Table 7-57. Radiated Measurements MIMO (26 Tones) – Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 100 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 129 of 159
© 2023 ELEMENT			V 9.0 02/01/2019



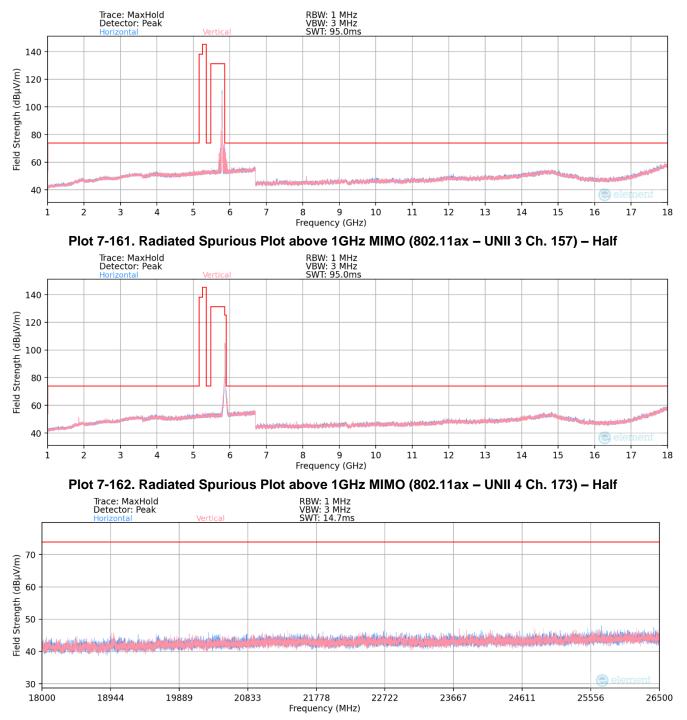


## 7.6.2 MIMO Radiated Spurious Emission Measurements (242 Tones)



FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 130 of 159		
© 2023 ELEMENT	-		V 9.0 02/01/2019		

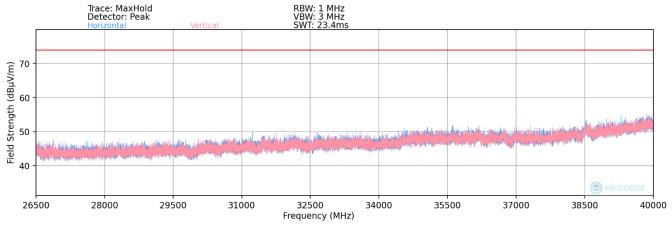


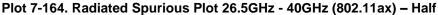


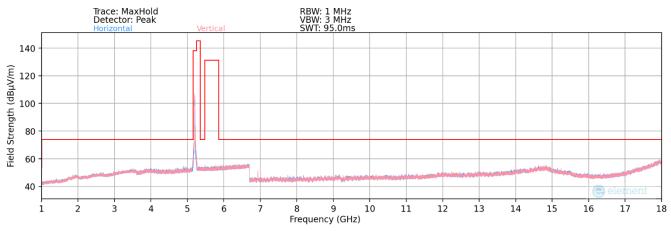
Plot 7-163. Radiated Spurious Plot 18GHz - 26.5GHz (802.11ax) - Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Page 121 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 131 of 159		
© 2023 ELEMENT	-		V 9.0 02/01/2019		

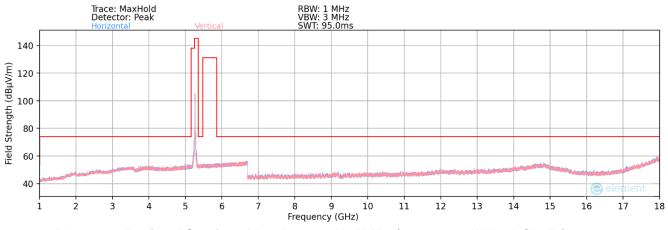








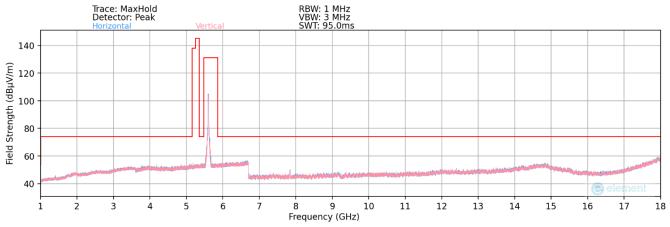




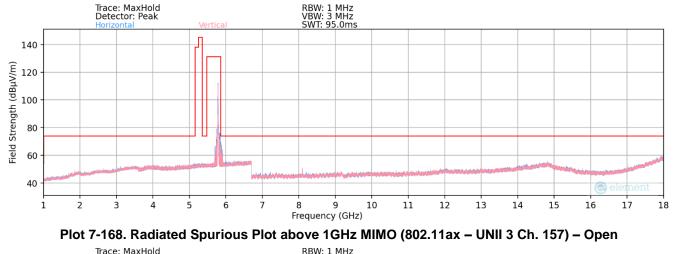
Plot 7-166. Radiated Spurious Plot above 1GHz MIMO (802.11ax - UNII 2A Ch. 56) - Open

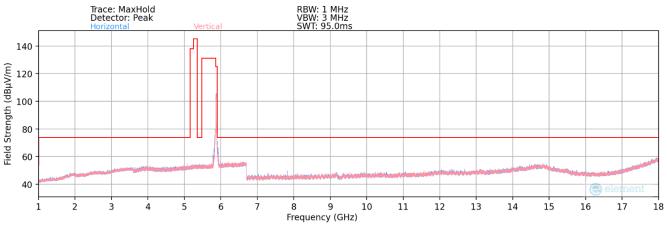
FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dage 122 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 132 of 159		
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Plot 7-169. Radiated Spurious Plot above 1GHz MIMO (802.11ax - UNII 4 Ch. 173) - Open

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dens 400 -6450	
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 133 of 159	
© 2023 ELEMENT	-		V 9.0 02/01/2019	



#### MIMO Radiated Spurious Emission Measurements (242 Tones) – UNII 1

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5180MHz
Channel:	36

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10360.00	Peak	Н	-	-	-69.91	10.56	0.00	47.65	68.20	-20.55
*	15540.00	Average	Н	-	-	-82.06	16.45	0.00	41.39	53.98	-12.59
*	15540.00	Peak	Н	-	-	-72.19	16.45	0.00	51.26	73.98	-22.72
*	20720.00	Average	Н	-	-	-67.23	3.50	-9.54	33.73	53.98	-20.25
*	20720.00	Peak	Н	-	-	-56.50	3.50	-9.54	44.47	73.98	-29.51
	25900.00	Peak	Н	-	-	-56.31	4.57	-9.54	45.72	68.20	-22.48

Table 7-58. Radiated Measurements MIMO (242 Tones) – Half

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5200MHz
Channel:	40

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	Н	-	-	-69.69	10.60	0.00	47.91	68.20	-20.29
*	15600.00	Average	Н	-	-	-81.83	16.45	0.00	41.62	53.98	-12.35
*	15600.00	Peak	н	-	-	-69.90	16.45	0.00	53.55	73.98	-20.42
*	20800.00	Average	н	-	-	-66.47	3.60	-9.54	34.59	53.98	-19.39
*	20800.00	Peak	Н	-	-	-57.06	3.60	-9.54	43.99	73.98	-29.99
	26000.00	Peak	Н	-	-	-57.16	4.60	-9.54	44.90	68.20	-23.30

Table 7-59. Radiated Measurements MIMO (242 Tones) - Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dega 124 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 134 of 159		
© 2023 ELEMENT			V 9.0 02/01/2019		



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5240MHz
Channel:	48

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	Peak	Н	-	-	-69.86	11.17	0.00	48.31	68.20	-19.89
*	15720.00	Average	Н	-	-	-82.14	16.72	0.00	41.58	53.98	-12.40
*	15720.00	Peak	н	-	-	-70.20	16.72	0.00	53.52	73.98	-20.46
*	20960.00	Average	н	-	-	-67.77	3.61	-9.54	33.29	53.98	-20.69
*	20960.00	Peak	Н	-	-	-57.47	3.61	-9.54	43.59	73.98	-30.39
	26200.00	Peak	Н	-	-	-56.76	4.72	-9.54	45.42	68.20	-22.78

Table 7-60. Radiated Measurements MIMO (242 Tones) - Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dega 125 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 135 of 159		
© 2023 ELEMENT			V 9.0 02/01/2019		



### MIMO Radiated Spurious Emission Measurements (242 Tones) - UNII 2A

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	Н	-	-	-70.54	11.63	0.00	48.09	68.20	-20.11
*	15780.00	Average	Н	-	-	-82.21	17.07	0.00	41.86	53.98	-12.12
*	15780.00	Peak	н	-	-	-70.51	17.07	0.00	53.56	73.98	-20.42
*	21040.00	Average	н	-	-	-67.28	3.71	-9.54	33.88	53.98	-20.09
*	21040.00	Peak	Н	-	-	-56.54	3.71	-9.54	44.63	73.98	-29.35
	26300.00	Peak	Н	-	-	-56.41	4.64	-9.54	45.69	68.20	-22.51

Table 7-61. Radiated Measurements MIMO (242 Tones) - Half

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5280MHz
Channel:	56

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10560.00	Peak	Н	-	-	-70.08	11.20	0.00	48.12	68.20	-20.08
*	15840.00	Average	Н	-	-	-81.80	16.62	0.00	41.82	53.98	-12.16
*	15840.00	Peak	н	-	-	-69.65	16.62	0.00	53.97	73.98	-20.01
*	21120.00	Average	н	-	-	-67.13	3.83	-9.54	34.16	53.98	-19.82
*	21120.00	Peak	Н	-	-	-56.90	3.83	-9.54	44.39	73.98	-29.59
	26400.00	Peak	Н	-	-	-57.29	4.68	-9.54	44.85	68.20	-23.35

Table 7-62. Radiated Measurements MIMO (242 Tones) - Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 136 of 159
© 2023 ELEMENT	V 9.0 02/01/2019		



802.11ax (20MHz BW)			
MCS0			
61			
1 & 3 Meters			
5320MHz			
64			

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	10640.00	Average	Н	-	-	-81.50	11.00	0.00	36.50	53.98	-17.48
*	10640.00	Peak	Н	-	-	-70.15	11.00	0.00	47.85	73.98	-26.13
*	15960.00	Average	н	-	-	-81.45	18.02	0.00	43.57	53.98	-10.41
*	15960.00	Peak	н	-	-	-69.79	18.02	0.00	55.23	73.98	-18.75
*	21280.00	Average	н	-	-	-67.47	3.95	-9.54	33.94	53.98	-20.04
*	21280.00	Peak	Н	-	-	-57.03	3.95	-9.54	44.38	73.98	-29.59
	26600.00	Peak	Н	-	-	-57.75	4.51	-9.54	44.22	68.20	-23.98

Table 7-63. Radiated Measurements MIMO (242 Tones) - Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 127 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 137 of 159
© 2023 ELEMENT		V 9.0 02/01/2019	



### MIMO Radiated Spurious Emission Measurements (242 Tones) - UNII 2C

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5500MHz
Channel:	100

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	Н	-	-	-80.81	11.49	0.00	37.68	53.98	-16.30
*	11000.00	Peak	Н	-	-	-69.49	11.49	0.00	49.00	73.98	-24.98
	16500.00	Peak	Н	-	-	-70.38	17.69	0.00	54.31	68.20	-13.89
	22000.00	Peak	н	-	-	-57.71	3.86	-9.54	43.60	68.20	-24.60
	27500.00	Peak	Н	-	-	-66.09	4.54	-9.54	35.91	68.20	-32.29

Table 7-64. Radiated Measurements MIMO (242 Tones) – Half

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11200.00	Average	Н	-	-	-81.43	11.66	0.00	37.23	53.98	-16.75
*	11200.00	Peak	Н	-	-	-69.61	11.66	0.00	49.05	73.98	-24.93
	16800.00	Peak	Н	-	-	-69.79	18.19	0.00	55.40	68.20	-12.80
*	22400.00	Average	н	-	-	-66.80	3.86	-9.54	34.51	53.98	-19.47
*	22400.00	Peak	Н	-	-	-56.73	3.86	-9.54	44.58	73.98	-29.39
	28000.00	Peak	Н	-	-	-57.70	4.90	-9.54	44.66	68.20	-23.54

Table 7-65. Radiated Measurements MIMO (242 Tones) – Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dogo 129 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 138 of 159		
© 2023 ELEMENT		·	V 9.0 02/01/2019		



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5720MHz
Channel:	144

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	Н	-	-	-82.40	12.27	0.00	36.87	53.98	-17.11
*	11440.00	Peak	Н	-	-	-70.12	12.27	0.00	49.15	73.98	-24.83
	17160.00	Peak	Н	191	221	-67.50	17.32	0.00	56.82	68.20	-11.38
*	22880.00	Average	н	-	-	-67.08	4.09	-9.54	34.47	53.98	-19.51
*	22880.00	Peak	Н	-	-	-56.77	4.09	-9.54	44.78	73.98	-29.20
	28600.00	Peak	Н	-	-	-59.09	5.30	-9.54	43.67	68.20	-24.53

Table 7-66. Radiated Measurements MIMO (242 Tones) - Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 139 of 159
© 2023 ELEMENT	·	·	V 9.0 02/01/2019



#### MIMO Radiated Spurious Emission Measurements (242 Tones) – UNII 3

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	Н	-	-	-82.16	12.25	0.00	37.09	53.98	-16.89
*	11490.00	Peak	Н	-	-	-69.98	12.25	0.00	49.27	73.98	-24.71
	17235.00	Peak	Н	185	221	-66.48	17.29	0.00	57.81	68.20	-10.39
*	22980.00	Average	Н	-	-	-67.47	4.00	-9.54	33.99	53.98	-19.99
*	22980.00	Peak	Н	-	-	-57.58	4.00	-9.54	43.88	73.98	-30.10
	28725.00	Peak	Н	-	-	-56.55	5.36	-9.54	46.27	68.20	-21.93

Table 7-67. Radiated Measurements MIMO (242 Tones) - Half

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5785MHz
Channel:	157

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	Average	Н	-	-	-80.45	12.14	0.00	38.69	53.98	-15.29
*	11570.00	Peak	Н	-	-	-68.96	12.14	0.00	50.18	73.98	-23.80
	17355.00	Peak	Н	185	219	-64.23	17.66	0.00	60.43	68.20	-7.77
	23140.00	Peak	н	-	-	-57.01	3.94	-9.54	44.39	68.20	-23.81
	28925.00	Peak	Н	-	-	-58.05	5.33	-9.54	44.74	68.20	-23.46

Table 7-68. Radiated Measurements MIMO (242 Tones) – Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dage 140 of 150		
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 140 of 159		
© 2023 ELEMENT	-		V 9.0 02/01/2019		



802.11ax (20MHz BW)
MCS0
61
1 & 3 Meters
5825MHz
165

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	Average	Н	-	-	-80.60	12.81	0.00	39.21	53.98	-14.77
*	11650.00	Peak	Н	-	-	-68.92	12.81	0.00	50.89	73.98	-23.09
	17475.00	Peak	Н	186	217	-60.74	17.23	0.00	63.49	68.20	-4.71
	23300.00	Peak	н	-	-	-57.36	4.04	-9.54	44.13	68.20	-24.07
	29125.00	Peak	Н	-	-	-57.98	5.36	-9.54	44.84	68.20	-23.36

Table 7-69. Radiated Measurements MIMO (242 Tones) - Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 141 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 141 of 159
© 2023 ELEMENT			V 9.0 02/01/2019



#### MIMO Radiated Spurious Emission Measurements (242 Tones) – UNII 4

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5845MHz
Channel:	169

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11690.00	Average	Н	-	-	-80.93	12.89	0.00	38.96	53.98	-15.02
*	11690.00	Peak	Н	-	-	-68.93	12.89	0.00	50.96	73.98	-23.02
	17535.00	Peak	Н	183	217	-61.31	17.47	0.00	63.16	68.20	-5.04
	23380.00	Peak	Н	-	-	-57.05	3.89	-9.54	44.31	68.20	-23.89
	29225.00	Peak	Н	-	-	-58.30	5.50	-9.54	44.66	68.20	-23.54

Table 7-70. Radiated Measurements MIMO (242 Tones) - Half

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5865MHz
Channel:	173

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11730.00	Average	н	-	-	-80.84	13.54	0.00	39.70	53.98	-14.28
*	11730.00	Peak	н	-	-	-69.07	13.54	0.00	51.47	73.98	-22.51
	17595.00	Peak	н	192	219	-59.70	17.74	0.00	65.04	68.20	-3.16
	23460.00	Peak	н	-	-	-56.74	4.00	-9.54	44.72	68.20	-23.48
	29325.00	Peak	н	-	-	-56.50	5.64	-9.54	46.59	68.20	-21.61

Table 7-71. Radiated Measurements MIMO (242 Tones) - Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 142 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 142 of 159
© 2023 ELEMENT	· ·		V 9.0 02/01/2019



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5885MHz
Channel:	177

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11770.00	Average	Н	-	-	-80.77	13.54	0.00	39.77	53.98	-14.21
*	11770.00	Peak	Н	-	-	-68.48	13.54	0.00	52.06	73.98	-21.92
	17655.00	Peak	Н	181	213	-67.33	22.24	0.00	61.91	68.20	-6.29
	23540.00	Peak	Н	-	-	-57.63	4.00	-9.54	43.83	68.20	-24.37
	29425.00	Peak	Н	-	-	-58.74	5.71	-9.54	44.42	68.20	-23.78

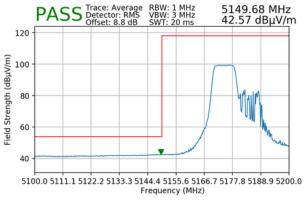
Table 7-72. Radiated Measurements MIMO (242 Tones) - Half

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 142 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 143 of 159
© 2023 ELEMENT			V 9.0 02/01/2019

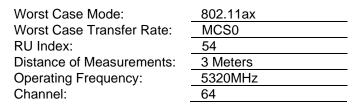


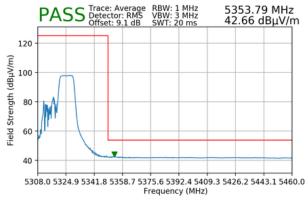
# 7.6.3 MIMO Radiated Band Edge Measurements (20MHz BW – Partial Tone – 106T)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	53
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

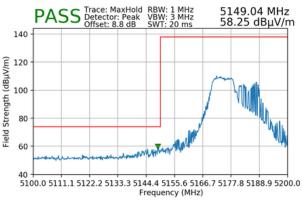


Plot 7-170. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1 – 106 Tones)

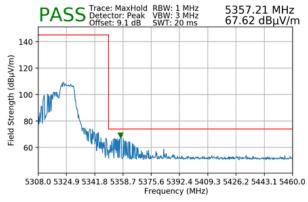








Plot 7-171. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1 – 106 Tones)

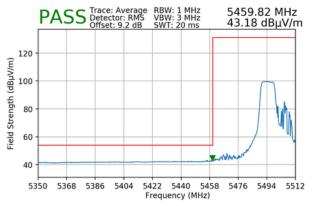


Plot 7-173. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A – 106 Tones)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	D 444
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 144 of 159
© 2023 ELEMENT			V 9.0 02/01/2019



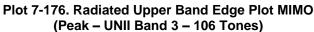
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	53
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

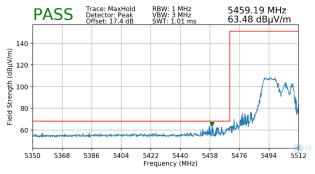


Plot 7-174. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C – 106 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165





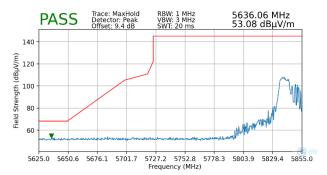


Plot 7-175. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C – 106 Tones)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 145 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 145 of 159
© 2023 ELEMENT	•	·	V 9.0 02/01/2019

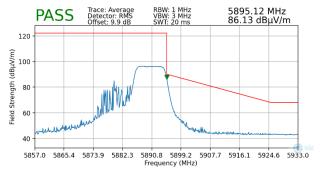


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	53
Distance of Measurements:	3 Meters
Operating Frequency:	5845MHz
Channel:	169



Plot 7-177. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 4 – 106 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	3 Meters
Operating Frequency:	5885MHz
Channel:	177





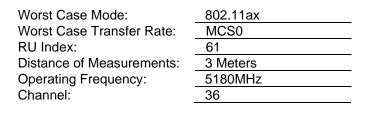


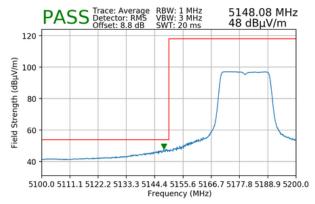
Plot 7-179. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 4 – 106 Tones)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dama 146 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 146 of 159
© 2023 ELEMENT	•		V 9.0 02/01/2019

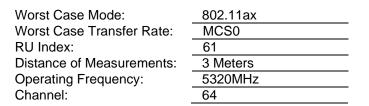


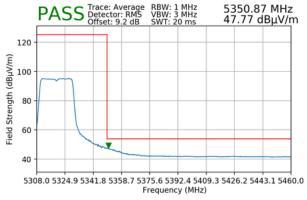
## 7.6.4 MIMO Radiated Band Edge Measurements (20MHz BW – Full Tone – 242T)



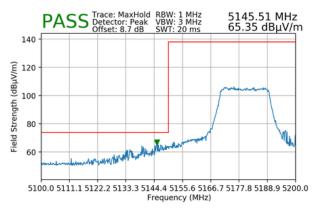


#### Plot 7-180. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1 – 242 Tones)

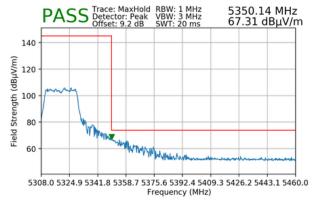








Plot 7-181. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1 – 242 Tones)

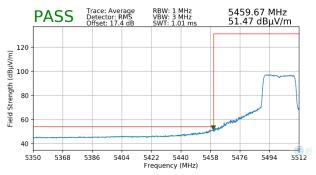


Plot 7-183. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A – 242 Tones)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dama 447 -6450
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 147 of 159
© 2023 ELEMENT	•		V 9.0 02/01/2019



Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

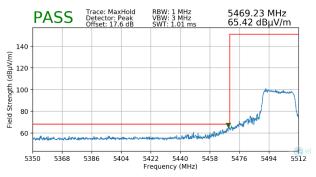


Plot 7-184. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C – 242 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165





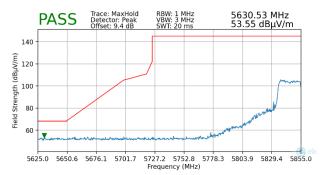


Plot 7-185. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C – 242 Tones)

FCC ID: A3LSMF731JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 149 of 150
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 148 of 159
© 2023 ELEMENT	•	·	V 9.0 02/01/2019

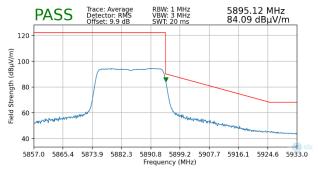


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5845MHz
Channel:	169



Plot 7-187. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 4 – 242 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5885MHz
Channel:	177



Plot 7-188. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 4 – 242 Tones)



Plot 7-189. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 4 – 242 Tones)

FCC ID: A3LSMF731JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dana 440 -6450
1M2304260059-13-R2.A3L	3/4-5/30/2023	Portable Handset	Page 149 of 159
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