



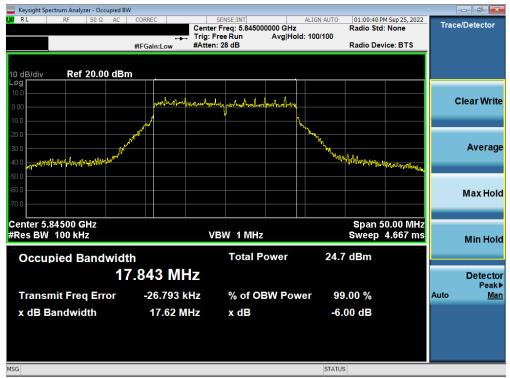
Plot 7-127. 6dB Bandwidth Plot MIMO ANT1 (802.11a (UNII Band 4) - Ch. 173)



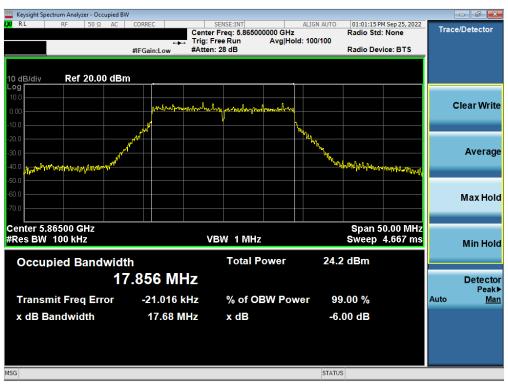
Plot 7-128. 6dB Bandwidth Plot MIMO ANT1 (802.11a (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 04 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 84 of 257
© 2023 ELEMENT			V9.0 02/01/2019





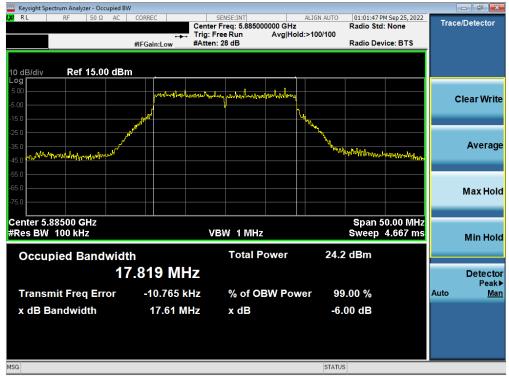
Plot 7-129. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3/4) - Ch. 169)



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

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 85 of 257
© 2023 ELEMENT	•	·	V9.0 02/01/2019





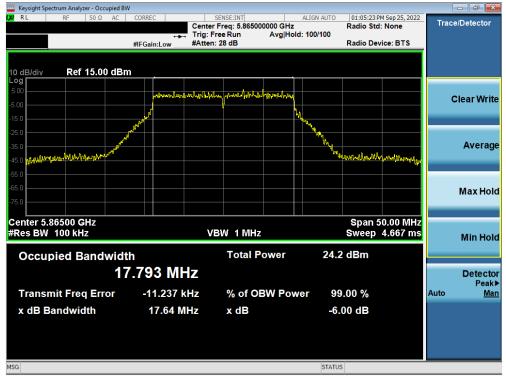
Plot 7-131. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 4) - Ch. 177)



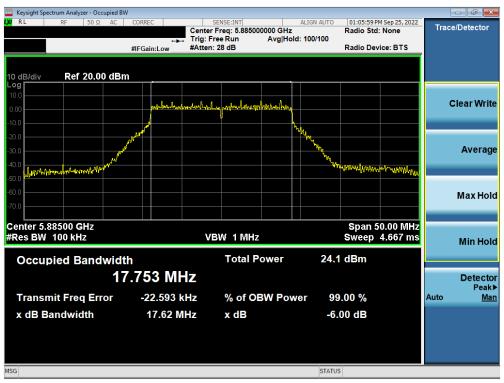
Plot 7-132. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3/4) - Ch. 169)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Da a 20 at 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 86 of 257
© 2023 ELEMENT	•	•	V9.0 02/01/2019





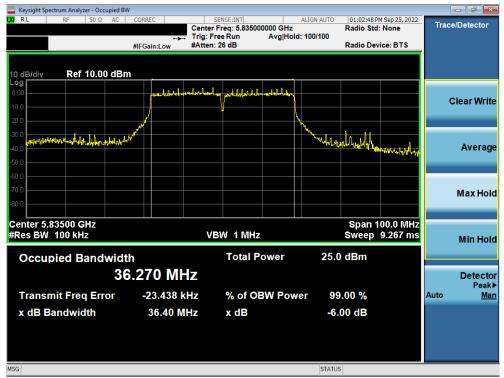
Plot 7-133. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 173)



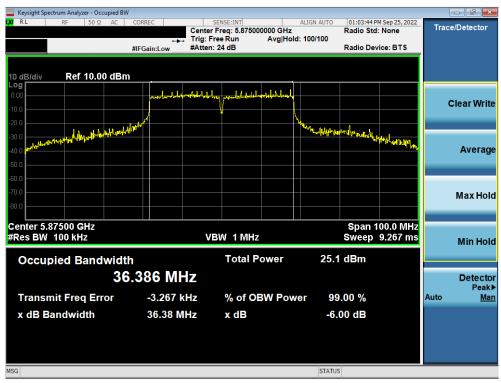
Plot 7-134. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dama 07 at 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 87 of 257
© 2023 ELEMENT	•	•	V9.0 02/01/2019





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



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

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 89 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 88 of 257
© 2023 ELEMENT		·	V9.0 02/01/2019



🔤 Keysight Spectrum Analyzer - Occupied E	BW				
LXI RE 50Ω AC		SENSE:INT SOURCE OFF		AM Sep 16, 2022	Trace/Detector
		r Freq: 5.835000000 GHz Free Run Avg Holo	Radio Sto d: 100/100	1: None	11400120100101
		n: 24 dB	Radio De	vice: BTS	
10 dB/div Ref 10.00 dB	m				
0.00	anddameter	AND MALANARATINA MARKANA			
-10.0					Clear Write
-20.0					
-30.0			Μ.		
أمأسه البنا منا ما الما	all and		Work wald water	is to ful	Average
-40.0				NYSKAMAPAT JUN	Average
-50.0					
-60.0					
-70.0					Max Hold
-80.0					Maxilola
Center 5.835 GHz				n 100 MHz	
#Res BW 100 kHz	V	'BW 1 MHz	Sweep	9.267 ms	Min Hold
Occupied Bandwid	lth	Total Power	24.5 dBm		
3	7.921 MHz				Detector
					Peak▶
Transmit Freq Error	-37.899 kHz	% of OBW Pow	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	38.24 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)



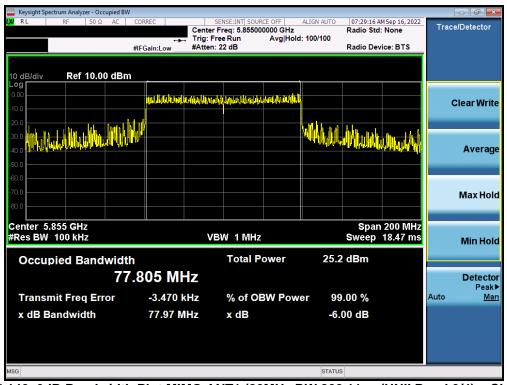
Plot 7-138. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 4) - Ch. 175)

FCC ID: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)		
Test Report S/N:	Test Dates:	EUT Type:	Dama 00 at 057	
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 89 of 257	
© 2023 ELEMENT	•		V9.0 02/01/2019	



🔤 Keysight Spectrum Analyze	er - Occupied BW									
LXIRL RF	50 Ω AC COR	REC		NSE:INT		ALIGN AUTO		M Sep 25, 2022	Trac	e/Detector
				req: 5.855000		d: 100/100	Radio Sto	i: None		
	#IFC	→ Gain:Low	#Atten: 2		Avginon	4. 100/100	Radio De	vice: BTS		
	5.00 dBm									
-5.00		diati.stitut.	ALLANUS.	ماليلا الدامان	สมเสษาย์เป็น					
			de las under reserve							Clear Write
-15.0										eloui mito
-25.0	<i>f</i>	/				<b>h</b> .				
-35.0	and all and					Why Arghanne	addates to a col			
1 and a lader of the Work	ALANNAY LUCATY &						<sup>a</sup> whitenanylewilligh	ANTHANK LOUIS		Average
										Average
-55.0										
-65.0										
-75.0										
										Max Hold
-85.0									_	
Center 5.8550 GH	7						Snan '	200.0 MHz		
#Res BW 100 kHz			VBI	N/1 MHz				18.47 ms		
#Res DW TOO KIIZ			407				Sweep	10.47 1115		Min Hold
Occupied Bo	un du vi d t h			Total Po	wer	25.0	dBm			
Occupied Ba				Totarry	JWCI	20.0	ubiii			
	75.9	36 MI	z							Detector
										Peak▶
Transmit Freq	Error	106	Hz	% of OE	W Pow	ver 99	.00 %		Auto	<u>Man</u>
x dB Bandwid	th	76.55 M		x dB		-6	00 dB			
	ui	70.55 W	1112			-0.				
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: A3LSMS918JPN		Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dama 00 af 057	
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 90 of 257	
© 2023 ELEMENT V9.0 02/01/2019				





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. 163)

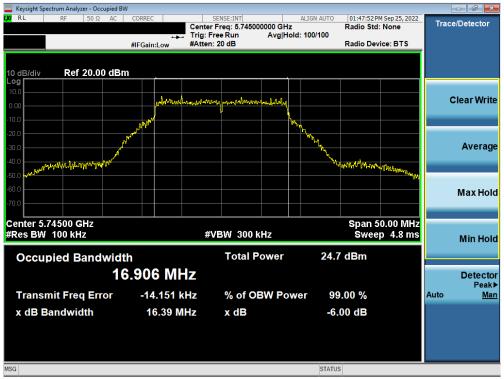
FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 01 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 91 of 257
© 2023 ELEMENT		·	V9.0 02/01/2019



### MIMO Antenna-2 6dB Bandwidth Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
	5745	149	а	6	16.39
	5785	157	а	6	16.39
	5825	165	а	6	16.38
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	17.61
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	17.63
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	17.63
e	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	19.07
Band	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	19.10
ä	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	18.97
	5755	151	n (40MHz)	13.5/15 (MCS0)	36.38
	5795	159	n (40MHz)	13.5/15 (MCS0)	38.21
	5755	151	ax (40MHz)	13.5/15 (MCS0)	38.18
	5795	159	ax (40MHz)	13.5/15 (MCS0)	38.21
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	76.57
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	89.01

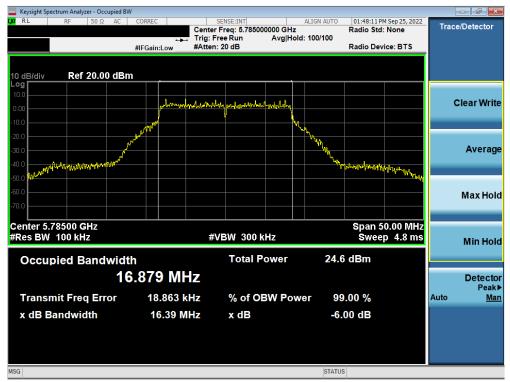
Table 7-6. Conducted Bandwidth Measurements MIMO ANT2



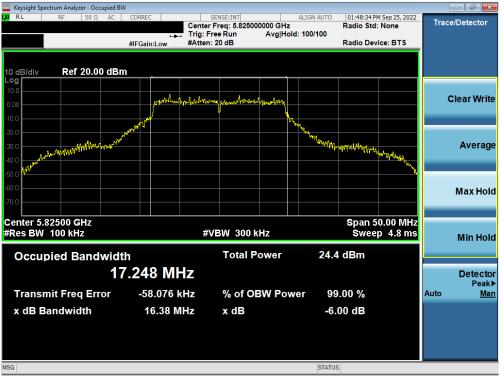
Plot 7-143. 6dB Bandwidth Plot ANT2 (802.11a (UNII Band 3) - Ch. 149)

FCC ID: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)		
Test Report S/N:	Test Dates:	EUT Type:	Dage 02 of 257	
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 92 of 257	
© 2023 ELEMENT		· · · · · · · · · · · · · · · · · · ·	V9.0 02/01/2019	





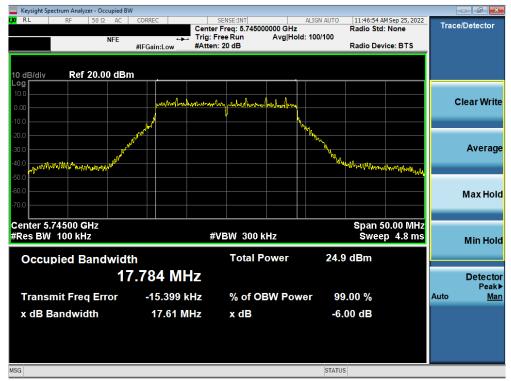




Plot 7-145. 6dB Bandwidth Plot ANT1 (802.11a (UNII Band 3) – Ch. 165)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 02 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 93 of 257
© 2023 ELEMENT	•	·	V9.0 02/01/2019





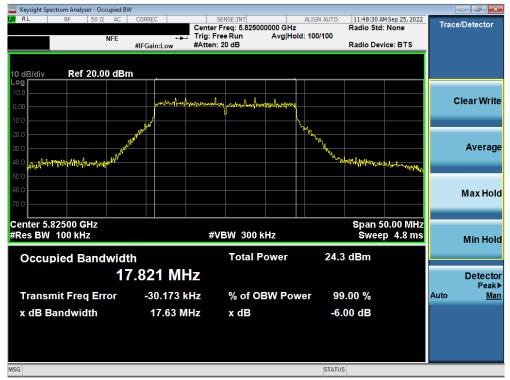
Plot 7-146. 6dB Bandwidth Plot ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 149)



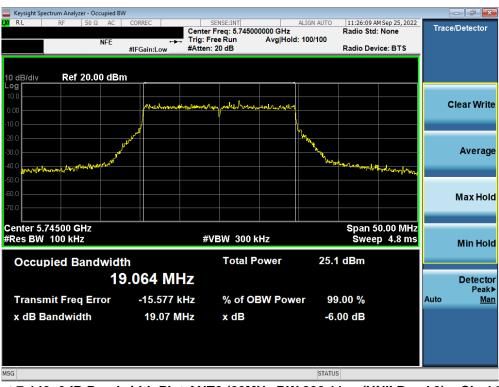
Plot 7-147. 6dB Bandwidth Plot ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 04 af 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 94 of 257
© 2023 ELEMENT	·		V9.0 02/01/2019





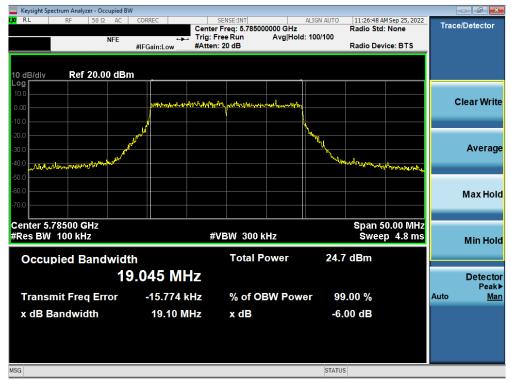
Plot 7-148. 6dB Bandwidth Plot ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 165)



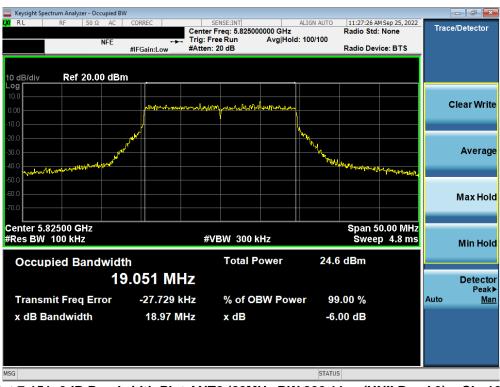
Plot 7-149. 6dB Bandwidth Plot ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 149)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 95 of 257
© 2023 ELEMENT	•	•	V9.0 02/01/2019





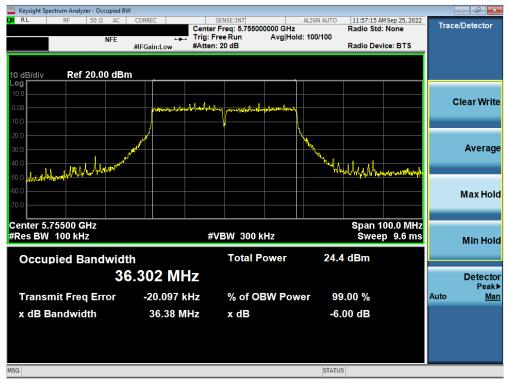
Plot 7-150. 6dB Bandwidth Plot ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 157)



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

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dara 00 af 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 96 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019





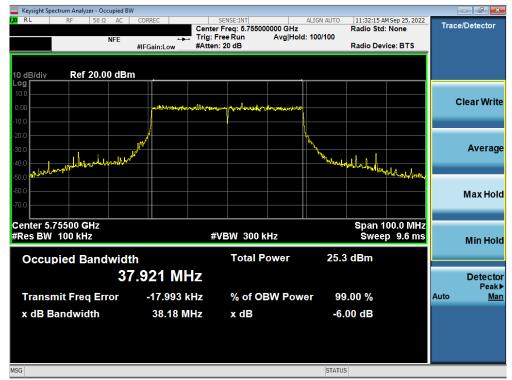
Plot 7-152. 6dB Bandwidth Plot ANT2 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)



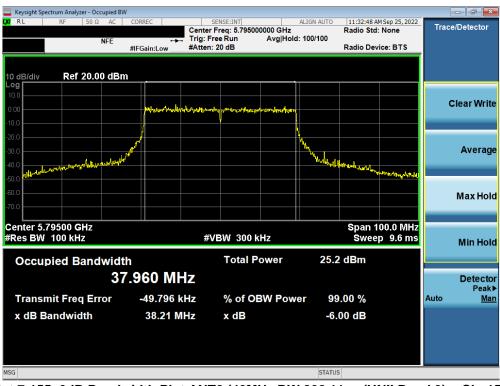
Plot 7-153. 6dB Bandwidth Plot ANT2 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 07 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 97 of 257
© 2023 ELEMENT		·	V9.0 02/01/2019





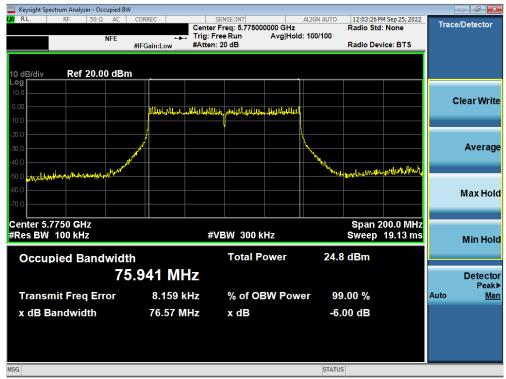
Plot 7-154. 6dB Bandwidth Plot ANT2 (40MHz BW 802.11ax (UNII Band 3) - Ch. 151)



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

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 00 at 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 98 of 257
© 2023 ELEMENT	•	·	V9.0 02/01/2019





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



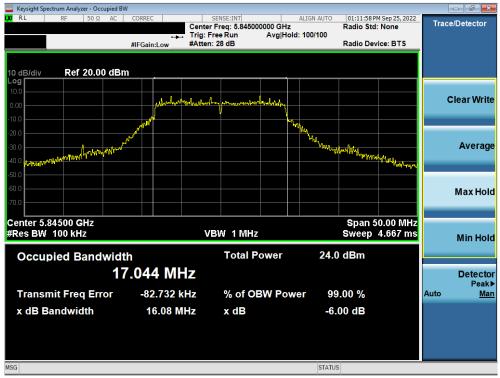
Plot 7-157. 6dB Bandwidth Plot ANT2 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 00 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 99 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019



	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3/4	5845	169	а	6	16.08
Band 4	5865	173	а	6	16.29
Dallu 4	5885	177	а	6	16.33
Band 3/4	5845	169	n (20MHz)	6.5/7.2 (MCS0)	17.21
Band 4	5865	173	n (20MHz)	6.5/7.2 (MCS0)	17.23
Dallu 4	5885	177	n (20MHz)	6.5/7.2 (MCS0)	17.34
Band 3/4	5845	169	ax (20MHz)	6.5/7.2 (MCS0)	17.59
Dand 4	5865	173	ax (20MHz)	6.5/7.2 (MCS0)	17.58
Band 4	5885	177	ax (20MHz)	6.5/7.2 (MCS0)	17.34
Band 3/4	5835	167	n (40MHz)	13.5/15 (MCS0)	36.34
Band 4	5875	175	n (40MHz)	13.5/15 (MCS0)	36.39
Band 3/4	5835	167	ax (40MHz)	13.5/15 (MCS0)	36.36
Band 4	5875	175	ax (40MHz)	13.5/15 (MCS0)	36.33
	5855	171	ac (80MHz)	29.3/32.5 (MCS0)	75.76
Pand 2/4	5855	171	ax (80MHz)	29.3/32.5 (MCS0)	77.56
Band 3/4	5815	163	ac (160MHz)	58.5/65 (MCS0)	156.00
	5815	163	ax (160MHz)	58.5/65 (MCS0)	158.50

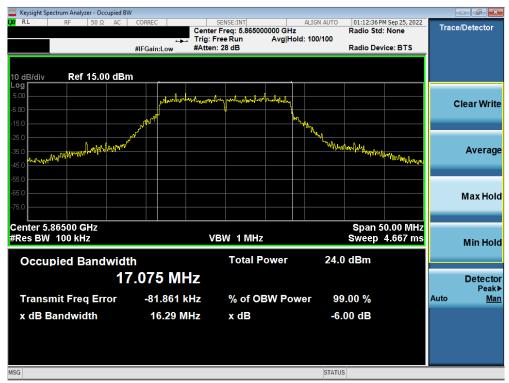
Table 7-7. Conducted Bandwidth Measurements Band 4 MIMO ANT2



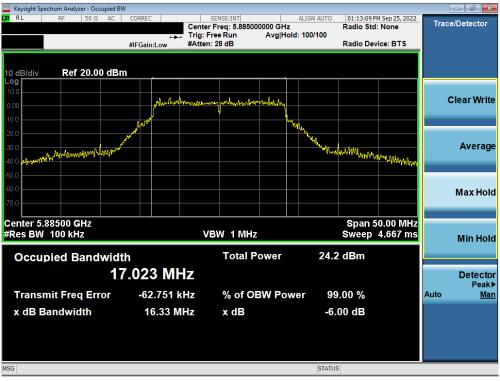
Plot 7-158. 6dB Bandwidth Plot MIMO ANT2 (802.11a (UNII Band 3/4) - Ch. 169)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 100 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 100 01 257
© 2023 ELEMENT	•	•	V9.0 02/01/2019





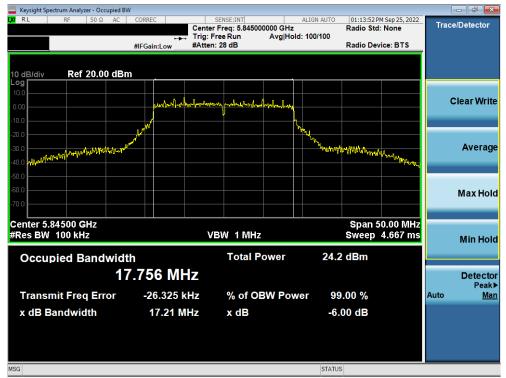




Plot 7-160. 6dB Bandwidth Plot MIMO ANT2 (802.11a (UNII Band 4) – Ch. 177)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 101 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 101 of 257
© 2023 ELEMENT	•	·	V9.0 02/01/2019





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: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 400 at 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 102 of 257
© 2023 ELEMENT	-		V9.0 02/01/2019





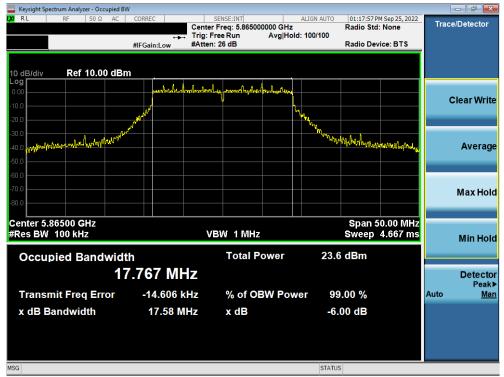
Plot 7-163. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 4) – Ch. 177)



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

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 102 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 103 of 257
© 2023 ELEMENT			V9.0 02/01/2019





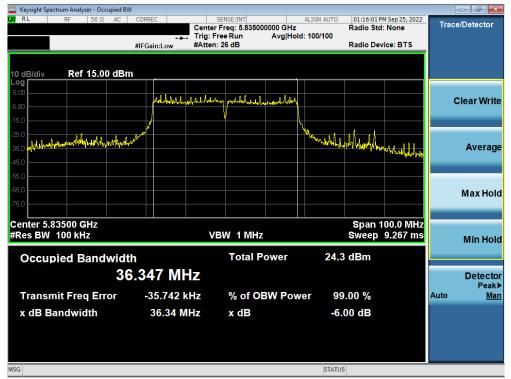
Plot 7-165. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 4) - Ch. 173)



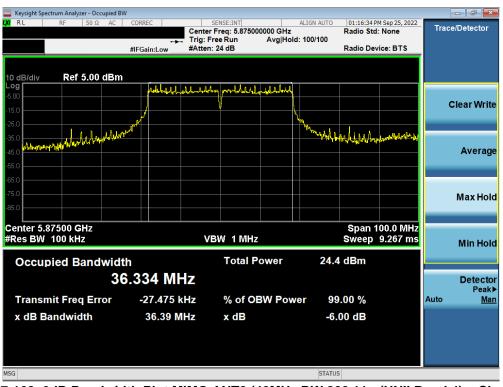
Plot 7-166. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)			
Test Report S/N:	Test Dates:	EUT Type:	Dama 404 af 057		
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 104 of 257		
© 2023 ELEMENT	•		V9.0 02/01/2019		





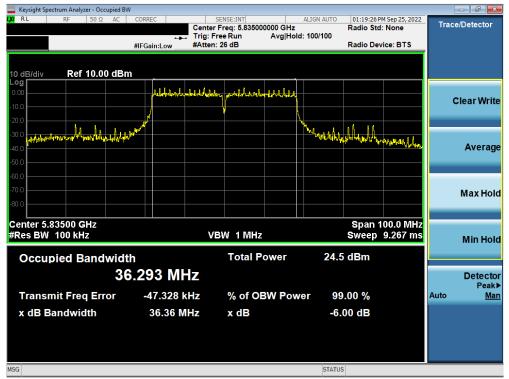
Plot 7-167. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 3/4) - Ch. 167)



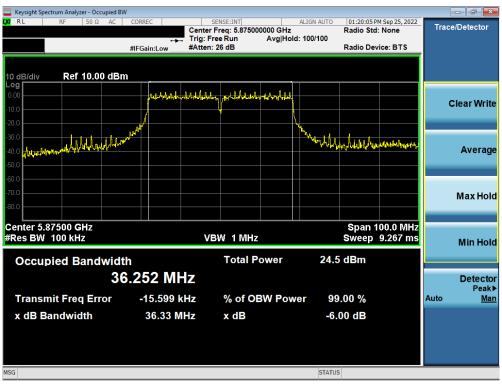
Plot 7-168. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 4) - Ch. 175)

FCC ID: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)			
Test Report S/N:	Test Dates:	EUT Type:	Dama 405 af 057		
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 105 of 257		
© 2023 ELEMENT	•		V9.0 02/01/2019		





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



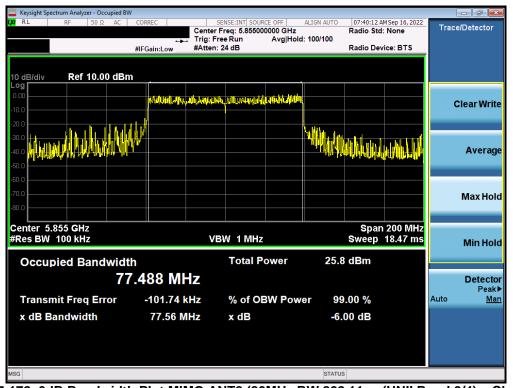
Plot 7-170. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 4) - Ch. 175)

FCC ID: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)			
Test Report S/N:	Test Dates:	EUT Type:	Dama 400 at 057		
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 106 of 257		
© 2023 ELEMENT	·		V9.0 02/01/2019		



Keysight Spectrum Analyzer - Occupied BW								
KL RF 50Ω AC	CORREC	SENSE:INT		ALIGN AUTO		M Sep 25, 2022	Trac	e/Detector
		Center Freq: 5.8550 Trig: Free Run	Avg Hold	· 100/100	Radio Std	: None	inac	
	#IFGain:Low	#Atten: 22 dB			Radio Dev	rice: BTS		
10 dB/div Ref 10.00 dBm								
0.00	Mater Jultre	للمسلما ومعاليه والمسللة	, alstantii					
-10.0	the balance of the balance	And the second second second second	and the second					Clear Write
-20.0	<i>,</i>							
-30.0	anna			hold you have	Mulanan	Mark		
								Average
-40.0								Average
-50.0								
-60.0								
-70.0								Max Hold
-80.0								maxitola
Center 5.8550 GHz						00.0 MHz		
#Res BW 100 kHz		VBW 1 MH	z		Sweep	18.47 ms		Min Hold
				05.0				
Occupied Bandwidth	ו	Total	Power	25.2	dBm			
76	.386 MH	Z						Detector
								Peak▶
Transmit Freq Error	31.074 k	Hz % of C	BW Pow	er 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth	75.76 M	Hz xdB		-6.0	00 dB			
MSG				STATUS				

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



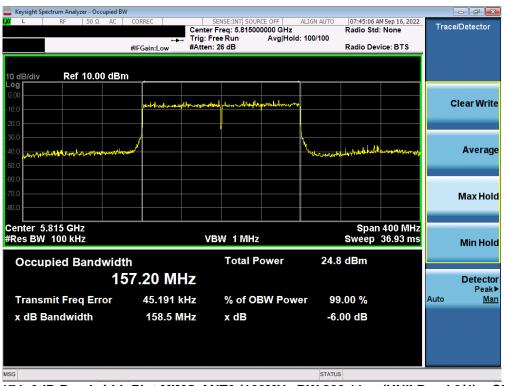
Plot 7-172. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (UNII Band 3/4) - Ch. 171)

FCC ID: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)			
Test Report S/N:	Test Dates:	EUT Type:	Dana 407 at 057		
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 107 of 257		
© 2023 ELEMENT	•	•	V9.0 02/01/2019		



Keysight Spectrum Analyzer - Occupied			1				
L RF 50Ω AC	CORREC	SENSE:INT Center Freq: 5.81500		AUTO 01:24:29 P Radio Std	M Sep 25, 2022 : None	Trace/	Detector
	↔ #IFGain:Low	Trig: Free Run #Atten: 26 dB	Avg Hold: 100/	100 Radio Dev	rice: BTS		
	#IFGall.LOW	Witten 20 db		riddio Der			
10 dB/div Ref 10.00 dE	3m						
-10.0	والبادار والالبار	aled are a close and all all the all the second	بالبستياك خاصيتاني			CI	ear Write
-20.0							
to the	etty Margh		W <sub>Mer</sub>	Mundallational (11)	Hummen .		
-30.0					and soft		Average
-50.0							-
-60.0							
-70.0							Max Hold
-80.0							nuxnoru
Center 5.8150 GHz				Span 4	00.0 MHz		
#Res BW 100 kHz		VBW 1 MHz		Sweep		Min Hold	
Occupied Bandwic		Total P	ower	26.2 dBm			
1	73.48 MI	Hz					Detector
Transmit Freq Error	8.6328 N	IHz % of OE	BW Power	99.00 %		Auto	Peak▶ <u>Man</u>
x dB Bandwidth	156.0 N	lHz x dB		-6.00 dB			
MSG				STATUS			

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: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)					
Test Report S/N:	Test Dates:	EUT Type:	Dama 400 at 057				
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 108 of 257				
© 2023 ELEMENT			V9.0 02/01/2019				



# 7.4 UNII Output Power Measurement – 802.11a/n/ac/ax §15.407(a.1.iv) §15.407(a.2) §15.407(a.3); RSS-247 [6.2]

### **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 + 10log10(26dB BW) = 11 dBm + 10log10(22.09) = 24.44dBm. 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 + 10log10(26dB BW) = 11 dBm + 10log10(22.35) = 24.49dBm. 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

FCC ID: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)			
Test Report S/N:	Test Dates:	EUT Type:	Dage 100 of 257		
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 109 of 257		
© 2023 ELEMENT	•		V9.0 02/01/2019		



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

	Freq [MHz] Cha		Channel Detector		Conducted Power [dBm]			Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[]		
	5180	36	AVG	17.27	17.23	20.26	23.98	-3.72	0.10	20.36	23.01	-2.65
Ē	5200	40	AVG	17.33	17.42	20.39	23.98	-3.59	0.10	20.49	23.01	-2.52
đ	5220	44	AVG	17.40	17.56	20.49	23.98	-3.49	0.10	20.59	23.01	-2.42
andwidth	5240	48	AVG	17.21	17.19	20.21	23.98	-3.77	0.10	20.31	23.01	-2.70
þ	5260	52	AVG	17.24	17.17	20.22	23.98	-3.76	0.33	20.55	30.00	-9.45
a	5280	56	AVG	17.60	17.04	20.34	23.98	-3.64	0.33	20.67	30.00	-9.33
<b>D</b>	5300	60	AVG	17.67	17.00	20.36	23.98	-3.62	0.33	20.69	30.00	-9.31
부	5320	64	AVG	17.53	17.10	20.33	23.98	-3.65	0.33	20.66	30.00	-9.34
(20MHz	5500	100	AVG	17.83	17.02	20.45	23.98	-3.53	-1.61	18.84	30.00	-11.16
ō	5600	120	AVG	17.89	17.03	20.49	23.98	-3.49	-1.61	18.88	-	-
2	5620	124	AVG	17.78	17.01	20.42	23.98	-3.56	-1.61	18.81	-	-
문	5720	144	AVG	17.28	17.14	20.22	23.98	-3.76	-1.61	18.61	30.00	-11.39
<u></u>	5745	149	AVG	16.89	17.01	19.96	30.00	-10.04	-1.95	18.01	-	-
5G	5785	157	AVG	16.92	16.98	19.96	30.00	-10.04	-1.95	18.01	-	-
	5825	165	AVG	17.01	17.22	20.13	30.00	-9.87	-1.95	18.18	-	-
	5845	169	AVG	17.41	17.00	20.22			-2.23	17.99	30.00	-12.01
	5865	173	AVG	17.38	17.03	20.22			-2.23	17.99	30.00	-12.01
	5885	177	AVG	17.80	17.01	20.43			-2.23	18.20	30.00	-11.80

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

	Freq [MHz] Cha		Channel Detector		Conducted Power [dBm]			Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[]		
_	5180	36	AVG	17.36	17.23	20.31	23.98	-3.67	0.10	20.41	23.01	-2.60
Ē	5200	40	AVG	17.27	17.18	20.23	23.98	-3.75	0.10	20.33	23.01	-2.68
<u>d</u>	5220	44	AVG	17.37	17.41	20.40	23.98	-3.58	0.10	20.50	23.01	-2.51
andwidth	5240	48	AVG	17.43	17.04	20.25	23.98	-3.73	0.10	20.35	23.01	-2.66
p	5260	52	AVG	17.49	17.00	20.26	23.98	-3.72	0.33	20.59	30.00	-9.41
ar	5280	56	AVG	17.38	17.31	20.35	23.98	-3.63	0.33	20.68	30.00	-9.32
B	5300	60	AVG	17.37	17.30	20.35	23.98	-3.63	0.33	20.68	30.00	-9.32
<b>₽</b>	5320	64	AVG	17.49	17.11	20.31	23.98	-3.67	0.33	20.64	30.00	-9.36
OMHz	5500	100	AVG	17.47	17.27	20.38	23.98	-3.60	-1.61	18.77	30.00	-11.23
Ō	5600	120	AVG	17.39	17.09	20.25	23.98	-3.73	-1.61	18.64	-	-
5	5620	124	AVG	17.37	16.78	20.10	23.98	-3.88	-1.61	18.49	-	-
5GHz	5720	144	AVG	17.49	17.02	20.27	23.98	-3.71	-1.61	18.66	30.00	-11.34
<u></u>	5745	149	AVG	17.47	17.08	20.29	30.00	-9.71	-1.95	18.34	-	
20	5785	157	AVG	17.48	17.09	20.30	30.00	-9.70	-1.95	18.35	-	-
	5825	165	AVG	17.42	17.14	20.29	30.00	-9.71	-1.95	18.34	-	-
	5845	169	AVG	17.47	17.11	20.30			-2.23	18.07	30.00	-11.93
	5865	173	AVG	17.49	17.22	20.37			-2.23	18.14	30.00	-11.86
	5885	177	AVG	17.41	17.00	20.22			-2.23	17.99	30.00	-12.01

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

FCC ID: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)				
Test Report S/N:	Test Dates:	EUT Type:	Dage 110 of 257			
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 110 of 257			
© 2023 ELEMENT			V9.0 02/01/2019			



	Freq [MHz]	Channel	Detector	Cond	Conducted Power [dBm]			Conducted Conducted Power Limit Power		Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]			5 1 1
~	5180	36	AVG	17.15	17.00	20.09	23.98	-3.89	0.10	20.19	23.01	-2.82
Ē	5200	40	AVG	17.46	17.18	20.33	23.98	-3.65	0.10	20.43	23.01	-2.58
<b>b</b>	5220	44	AVG	17.68	17.15	20.43	23.98	-3.55	0.10	20.53	23.01	-2.48
andwidth	5240	48	AVG	17.57	17.12	20.36	23.98	-3.62	0.10	20.46	23.01	-2.55
ğ	5260	52	AVG	17.70	17.04	20.39	23.98	-3.59	0.33	20.72	30.00	-9.28
	5280	56	AVG	17.21	17.36	20.29	23.98	-3.69	0.33	20.62	30.00	-9.38
6	5300	60	AVG	17.68	17.27	20.49	23.98	-3.49	0.33	20.82	30.00	-9.18
Ŧ	5320	64	AVG	17.61	17.21	20.43	23.98	-3.55	0.33	20.76	30.00	-9.24
Ś	5500	100	AVG	17.72	17.21	20.48	23.98	-3.50	-1.61	18.87	30.00	-11.13
Mo	5600	120	AVG	17.45	17.00	20.24	23.98	-3.74	-1.61	18.63	-	-
5	5620	124	AVG	17.67	16.82	20.27	23.98	-3.71	-1.61	18.66	-	-
N	5720	144	AVG	17.82	17.02	20.45	23.98	-3.53	-1.61	18.84	30.00	-11.16
Ξ.	5745	149	AVG	17.73	17.11	20.44	30.00	-9.56	-1.95	18.49	-	-
5G	5785	157	AVG	17.76	17.11	20.46	30.00	-9.54	-1.95	18.51	-	-
	5825	165	AVG	17.81	17.11	20.48	30.00	-9.52	-1.95	18.53	-	-
	5845	169	AVG	17.70	17.21	20.47			-2.23	18.24	30.00	-11.76
	5865	173	AVG	17.69	17.24	20.48			-2.23	18.25	30.00	-11.75
	5885	177	AVG	17.58	17.01	20.31			-2.23	18.08	30.00	-11.92

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

	Freq [MHz]	Channel	Detector	Conc	lucted Power [	dBm]	Conducted Power Limit	Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[ubiii]	Ennic [GDin]	maigin [ab]
	5180	36	AVG	17.23	17.09	20.17	23.98	-3.81	0.10	20.27	23.01	-2.74
Ē	5200	40	AVG	16.99	17.24	20.12	23.98	-3.86	0.10	20.22	23.01	-2.79
ē	5220	44	AVG	17.20	17.40	20.31	23.98	-3.67	0.10	20.41	23.01	-2.60
andwidth)	5240	48	AVG	17.57	17.05	20.33	23.98	-3.65	0.10	20.43	23.01	-2.58
<u>d</u>	5260	52	AVG	17.56	16.94	20.27	23.98	-3.71	0.33	20.60	30.00	-9.40
ar	5280	56	AVG	17.38	16.82	20.12	23.98	-3.86	0.33	20.45	30.00	-9.55
8	5300	60	AVG	17.45	16.78	20.14	23.98	-3.84	0.33	20.47	30.00	-9.53
Ŧ	5320	64	AVG	17.31	16.88	20.11	23.98	-3.87	0.33	20.44	30.00	-9.56
ŧ	5500	100	AVG	17.56	16.80	20.21	23.98	-3.77	-1.61	18.60	30.00	-11.40
(20M	5600	120	AVG	17.57	16.81	20.22	23.98	-3.76	-1.61	18.61	-	-
<u>S</u>	5620	124	AVG	17.47	16.79	20.15	23.98	-3.83	-1.61	18.54	-	-
Hz	5720	144	AVG	17.47	16.92	20.21	23.98	-3.77	-1.61	18.60	30.00	-11.40
L L	5745	149	AVG	17.54	17.09	20.33	30.00	-9.67	-1.95	18.38	-	-
<b>5</b> G	5785	157	AVG	17.57	17.03	20.32	30.00	-9.68	-1.95	18.37	-	-
	5825	165	AVG	17.42	17.12	20.28	30.00	-9.72	-1.95	18.33	-	-
	5845	169	AVG	17.47	16.83	20.17			-2.23	17.94	30.00	-12.06
	5865	173	AVG	17.52	16.81	20.19			-2.23	17.96	30.00	-12.04
	5885	177	AVG	17.57	16.79	20.21			-2.23	17.98	30.00	-12.02
	Tab	le 7-11.	<b>MIMO 20</b>	MHz BW	802.11	ax (UNII)	Maximu	m Cond	ucted O	utput Po	wer	

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

FCC ID: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Degs 111 of 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 111 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019



th)	Freq [MHz] Channel Detector		Conducted Power [dBm]			Conducted Power Limit	Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]	
ġ				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]			- <b>5</b> 1 - 1
Ξ	5190	38	AVG	16.28	16.01	19.16	23.98	-4.82	0.10	19.26	23.01	-3.75
andwid	5230	46	AVG	16.39	16.18	19.29	23.98	-4.69	0.10	19.39	23.01	-3.62
	5270	54	AVG	16.58	16.11	19.36	23.98	-4.62	0.33	19.69	30.00	-10.31
B	5310	62	AVG	16.56	16.15	19.37	23.98	-4.61	0.33	19.70	30.00	-10.30
F	5510	102	AVG	16.61	16.00	19.33	23.98	-4.65	-1.61	17.72	30.00	-12.28
÷.	5590	118	AVG	16.87	16.21	19.56	23.98	-4.42	-1.61	17.95	-	-
(40M	5630	126	AVG	16.88	16.14	19.54	23.98	-4.44	-1.61	17.93	-	-
4	5710	142	AVG	16.83	16.01	19.45	23.98	-4.53	-1.61	17.84	30.00	-12.16
<u>N</u>	5755	151	AVG	16.64	16.10	19.39	30.00	-10.61	-1.95	17.44	-	-
В	5795	159	AVG	16.82	16.17	19.52	30.00	-10.48	-1.95	17.57	-	-
50	5835	167	AVG	16.97	16.27	19.65			-2.23	17.42	30.00	-12.58
	5875	175	AVG	16.93	16.22	19.60			-2.23	17.37	30.00	-12.63

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

width)	Freq [MHz] Channel Detector		Cond	Conducted Power [dBm]			ed Conducted nit Power Margin [dB]	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]	
Ð				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[]		
Ξ	5190	38	AVG	16.16	16.08	19.13	23.98	-4.85	0.10	19.23	23.01	-3.78
	5230	46	AVG	16.37	16.19	19.29	23.98	-4.69	0.10	19.39	23.01	-3.62
an	5270	54	AVG	16.57	16.10	19.35	23.98	-4.63	0.33	19.68	30.00	-10.32
B	5310	62	AVG	16.53	16.16	19.36	23.98	-4.62	0.33	19.69	30.00	-10.31
£	5510	102	AVG	16.99	16.31	19.67	23.98	-4.31	-1.61	18.06	30.00	-11.94
÷.	5590	118	AVG	16.99	16.43	19.73	23.98	-4.25	-1.61	18.12	-	-
(40M	5630	126	AVG	16.99	16.17	19.61	23.98	-4.37	-1.61	18.00	-	-
4	5710	142	AVG	16.79	16.01	19.43	23.98	-4.55	-1.61	17.82	30.00	-12.18
N	5755	151	AVG	16.65	16.11	19.40	30.00	-10.60	-1.95	17.45	-	-
НS	5795	159	AVG	16.81	16.16	19.51	30.00	-10.49	-1.95	17.56	-	-
50	5835	167	AVG	16.99	16.25	19.64			-2.23	17.41	30.00	-12.59
	5875	175	AVG	16.92	16.28	19.62			-2.23	17.39	30.00	-12.61

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

Freq [MHz]	Channel	Detector	Conducted Power [dBm]			Conducted Power Limit		Directional Ant. Gain	Max e.i.r.p. [dBm]	. Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
			ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	Lapud	Ennie [GB/1]	
5190	38	AVG	16.72	16.54	19.64	23.98	-4.34	0.10	19.74	23.01	-3.27
5230	46	AVG	16.98	16.70	19.85	23.98	-4.13	0.10	19.95	23.01	-3.06
5270	54	AVG	16.65	16.05	19.37	23.98	-4.61	0.33	19.70	30.00	-10.30
5310	62	AVG	16.70	16.43	19.58	23.98	-4.40	0.33	19.91	30.00	-10.09
5510	102	AVG	16.99	16.30	19.67	23.98	-4.31	-1.61	18.06	30.00	-11.94
5590	118	AVG	17.00	16.33	19.69	23.98	-4.29	-1.61	18.08	-	-
5630	126	AVG	16.94	16.21	19.60	23.98	-4.38	-1.61	17.99	-	-
5710	142	AVG	16.90	16.38	19.66	23.98	-4.32	-1.61	18.05	30.00	-11.95
5755	151	AVG	16.98	16.62	19.81	30.00	-10.19	-1.95	17.86	-	-
5795	159	AVG	16.89	16.72	19.82	30.00	-10.18	-1.95	17.87	-	-
5835	167	AVG	16.99	16.56	19.79			-2.23	17.56	30.00	-12.44
5875	175	AVG	16.99	16.74	19.88			-2.23	17.65	30.00	-12.35

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

FCC ID: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dege 110 of 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 112 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019



	Freq [MHz]	Channel Dete	Detector	Conducted Power [dBm]			Conducted Power Limit		Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
Ť e				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[]		
(80M width	5210	42	AVG	14.59	15.49	18.07	23.98	-5.91	0.10	18.17	23.01	-4.84
	5290	58	AVG	15.01	15.47	18.26	23.98	-5.72	0.33	18.59	30.00	-11.41
5GHz Band	5530	106	AVG	15.12	15.53	18.34	23.98	-5.64	-1.61	16.73	30.00	-13.27
B, 5G	5690	138	AVG	15.21	15.57	18.40	23.98	-5.58	-1.61	16.79	30.00	-13.21
	5775	155	AVG	15.30	15.60	18.46			-1.95	16.51	30.00	-13.49
	5855	171	AVG	15.60	15.72	18.67	23.98	-5.31	-2.23	16.44	-	-

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

	Freq [MHz] Channel Detect		Detector	Conducted Power [dBm]			Conducted Power Limit	Conducted Power Margin [dB]	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
ΞĘ				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]	[]		
(80MH width)	5210	42	AVG	15.44	15.99	18.73	23.98	-5.25	0.10	18.83	23.01	-4.18
	5290	58	AVG	15.23	15.56	18.41	23.98	-5.57	0.33	18.74	30.00	-11.26
5GHz Band	5530	106	AVG	15.61	15.99	18.82	23.98	-5.16	-1.61	17.21	30.00	-12.79
B S	5690	138	AVG	15.64	15.92	18.79	23.98	-5.19	-1.61	17.18	30.00	-12.82
	5775	155	AVG	15.68	15.99	18.85			-1.95	16.90	30.00	-13.10
	5855	171	AVG	15.45	15.81	18.64	23.98	-5.34	-2.23	16.41	-	-

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

MHz (th)	Freq [MHz]	Channel	Detector	Cond	lucted Power [	dBm]	Conducted Power Limit	Conducted Power	Directional Ant. Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
l 60N vidt				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	[dBi]			
z (1 ndv	5250	50	AVG	15.12	15.41	18.28	23.98	-5.70	0.10	18.38	23.01	-4.63
GHB	5570	114	AVG	15.21	15.69	18.47	30.00	-11.53	-1.61	16.86	-	-
- 20	5815	163	AVG	15.53	15.77	18.66			-2.23	16.43	30.00	-13.57

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

0MHz ith)	Freq [MHz]	Channel	Detector	Conc	lucted Power [	dBm]	Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
vid vid				ANT1	ANT2	MIMO	Lapuil	wargin [ub]	lapi			
z (1 ndw	5250	50	AVG	15.77	15.82	18.80	23.98	-5.18	0.10	18.90	23.01	-4.11
<b>GH</b> Bai	5570	114	AVG	15.52	15.99	18.77	30.00	-11.23	-1.61	17.16	-	-
50	5815	163	AVG	15.62	15.74	18.69			-2.23	16.46	30.00	-13.54

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

FCC ID: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 112 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 113 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019



### 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 17.36 dBm for Antenna 1 and 17.23 dBm for Antenna 2.

Antenna 1 + Antenna 2 = MIMO

(17.36 dBm + 17.23 dBm) = (54.40 mW + 52.89 mW) = 107.29 mW = 20.31 dBm

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

At 5180MHz in 802.11n (20MHz BW) mode, the average MIMO conducted power was calculated to be 20.31 dBm with directional gain of 0.10 dBi.

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

20.31 dBm + 0.10 dBi = 20.41 dBm

FCC ID: A3LSMS918JPN		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 114 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 114 of 257
© 2023 ELEMENT	•	•	V9.0 02/01/2019



# 7.5 Maximum Power Spectral Density – 802.11a/n/ac/ax §15.407(a.1.iv) §15.407(a.2) §15.407(a.3); RSS-247 [6.2]

### **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 band, the maximum permissible power spectral density is 11dBm/MHz.

In the 5.25 – 5.35GHz and 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.

### In the 5.850 – 5.895 GHz, the maximum power spectral density must not exceed 14dBm/MHz e.i.r.p.

### 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

FCC ID: A3LSMS918JPN		Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dogo 115 of 257	
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 115 of 257	
© 2022 ELEMENT			\/0.0.02/01/2010	



## **Summed MIMO Power Spectral Density Measurements**

		01101	opeend						r
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
	5180	36	2	6	6.50	6.73	9.63	11.0	-1.37
			a						-
	5200	40	a	6	6.40	7.23	9.85	11.0	-1.15
	5240	48	a (001411-)	-	6.48	7.38	9.96	11.0	-1.04
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	5.60	6.63	9.15	11.0	-1.85
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	5.78	7.14	9.52	11.0	-1.48
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	6.11	6.88	9.52	11.0	-1.48
Ξ	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	5.51	6.34	8.96	11.0	-2.04
Band	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	5.86	7.04	9.50	11.0	-1.50
8	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	5.70	6.62	9.19	11.0	-1.81
	5190	38	n (40MHz)	13.5/15 (MCS0)	2.97	3.47	6.24	11.0	-4.76
	5230	46	n (40MHz)	13.5/15 (MCS0)	3.16	3.92	6.57	11.0	-4.43
	5190	38	ax (40MHz)	13.5/15 (MCS0)	2.93	3.48	6.22	11.0	-4.78
	5230	46	ax (40MHz)	13.5/15 (MCS0)	3.13	3.79	6.48	11.0	-4.52
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-2.32	-0.48	1.71	11.0	-9.29
	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	-1.46	-0.09	2.29	11.0	-8.71
P N	5250	50	ac (160MHz)	58.5/65 (MCS0)	-4.29	-3.18	-0.69	11.0	-11.69
Band 1/2	5250	50	ac (160MHz)	58.5/65 (MCS0)	-6.01	-5.76	-2.87	11.0	-13.87
-	5260	52	a (10011112)	6	6.78	6.69	9.75	11.0	-1.25
	5280	56	a	6	6.57	7.51	10.08	11.0	-0.92
	5320	64		6	7.00	7.04	10.03	11.0	-0.92
			a	-					-
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	6.41	6.26	9.35	11.0	-1.65
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	5.87	6.19	9.04	11.0	-1.96
_	5320	64	n (20MHz)	6.5/7.2 (MCS0)	5.44	6.02	8.75	11.0	-2.25
Band 2A	5260	52	ax (20MHz)	6.5/7.2 (MCS0)	5.45	5.77	8.62	11.0	-2.38
	5280	56	ax (20MHz)	6.5/7.2 (MCS0)	5.34	5.88	8.63	11.0	-2.37
	5320	64	ax (20MHz)	6.5/7.2 (MCS0)	4.95	5.73	8.37	11.0	-2.63
	5270	54	n (40MHz)	13.5/15 (MCS0)	3.16	3.56	6.37	11.0	-4.63
	5310	62	n (40MHz)	13.5/15 (MCS0)	2.79	2.98	5.89	11.0	-5.11
	5270	54	ax (40MHz)	13.5/15 (MCS0)	3.25	3.44	6.36	11.0	-4.64
	5310	62	ax (40MHz)	13.5/15 (MCS0)	3.17	3.27	6.23	11.0	-4.77
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-2.09	-0.71	1.66	11.0	-9.34
	5290	58	ax (80MHz)	29.3/32.5 (MCS0)	2.38	-0.71	4.11	11.0	-6.89
	5500	100	а	6	6.19	6.49	9.36	11.0	-1.64
	5600	120	а	6	6.04	6.26	9.16	11.0	-1.84
	5720	144	а	6	7.01	7.30	10.17	11.0	-0.83
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	6.18	6.76	9.49	11.0	-1.51
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	5.78	6.33	9.07	11.0	-1.93
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	6.27	7.09	9.71	11.0	-1.29
	5500	100	ax (20MHz)	6.5/7.2 (MCS0)	5.13	5.67	8.42	11.0	-2.58
	5600	120	ax (20MHz)		5.67	6.18	8.94	11.0	-2.06
	5720	120	, ,	6.5/7.2 (MCS0) 6.5/7.2 (MCS0)	5.99	6.60	9.32	11.0	-2.00
			ax (20MHz)						
0	5510	102	n (40MHz)	13.5/15 (MCS0)	2.49	2.92	5.72	11.0	-5.28
Band 2C	5590	118	n (40MHz)	13.5/15 (MCS0)	1.87	2.57	5.25	11.0	-5.75
and	5710	142	n (40MHz)	13.5/15 (MCS0)	3.20	3.14	6.18	11.0	-4.82
8	5510	102	ax (40MHz)	13.5/15 (MCS0)	3.24	3.33	6.30	11.0	-4.70
	5590	118	ax (40MHz)	13.5/15 (MCS0)	2.90	3.02	5.97	11.0	-5.03
	5710	142	ax (40MHz)	13.5/15 (MCS0)	3.94	3.80	6.88	11.0	-4.12
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-2.41	-1.28	1.20	11.0	-9.80
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-2.37	-1.37	1.17	11.0	-9.83
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-1.98	-3.57	0.31	11.0	-10.69
	5530	106	ax (80MHz)	29.3/32.5 (MCS0)	-1.83	-1.07	1.58	11.0	-9.42
	5610	122	ax (80MHz)	29.3/32.5 (MCS0)	-1.91	-1.26	1.44	11.0	-9.56
	5690	138	ax (80MHz)	29.3/32.5 (MCS0)	-1.12	-0.64	2.14	11.0	-8.86
	5570	114	ax (160MHz)	58.5/65 (MCS0)	-4.94	-5.76	-2.32	11.0	-13.32
	5570	114	ax (160MHz)	58.5/65 (MCS0)	-3.99	-5.65	-1.73	11.0	-12.73
				2C MIMO Cor					

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Page 116 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 116 01 257
© 2023 ELEMENT			V9.0.02/01/2019



	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenn-1 Power Density [dBm]	Antenn-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
	5745	149	а	6	4.04	4.37	7.21	30.0	-22.79
	5785	157	а	6	3.81	4.38	7.11	30.0	-22.89
	5825	165	а	6	3.66	4.28	6.99	30.0	-23.01
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	3.52	4.04	6.80	30.0	-23.20
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	3.42	3.89	6.67	30.0	-23.33
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	3.30	3.72	6.52	30.0	-23.48
e	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	3.34	4.12	6.76	30.0	-23.24
Band	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	3.23	3.58	6.42	30.0	-23.58
ä	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	3.41	3.44	6.44	30.0	-23.56
	5755	151	n (40MHz)	13.5/15 (MCS0)	0.00	0.58	3.31	30.0	-26.69
	5795	159	n (40MHz)	13.5/15 (MCS0)	-0.36	0.38	3.04	30.0	-26.96
	5755	151	ax (40MHz)	13.5/15 (MCS0)	0.42	0.55	3.50	30.0	-26.50
	5795	159	ax (40MHz)	13.5/15 (MCS0)	0.55	0.61	3.59	30.0	-26.41
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-1.74	-4.44	0.13	30.0	-29.87
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	-1.26	-1.26	1.75	30.0	-28.25

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

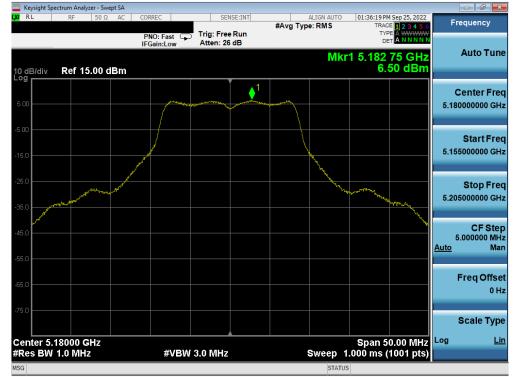
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenna-1 Power Density [dBm/MHz]	Antenna-2 Power Density [dBm/MHz]	MIMO Summed Power Density [dBm/MHz]	Directional Antenna Gain [dBi]	EIRP Power Density [dBm/MHz]	Max EIRP Power Density [dBm/MHz]	Margin [dB]
Band 3/4	5845	169	а	6	6.70	6.54	9.63	-2.23	7.40	14.00	-6.60
Band 4	5865	173	а	6	6.82	5.96	9.42	-2.23	7.19	14.00	-6.81
Danu 4	5885	177	а	6	6.54	6.66	9.61	-2.23	7.38	14.00	-6.62
Band 3/4	5845	169	n (20MHz)	6.5/7.2 (MCS0)	6.79	6.05	9.45	-2.23	7.22	14.00	-6.78
Band 4	5865	173	n (20MHz)	6.5/7.2 (MCS0)	6.61	6.12	9.38	-2.23	7.15	14.00	-6.85
Danu 4	5885	177	n (20MHz)	6.5/7.2 (MCS0)	6.19	6.30	9.26	-2.23	7.03	14.00	-6.97
Band 3/4	5845	169	ax (20MHz)	6.5/7.2 (MCS0)	5.66	5.19	8.44	-2.23	6.21	14.00	-7.79
Band 4	5865	173	ax (20MHz)	6.5/7.2 (MCS0)	5.61	5.00	8.33	-2.23	6.10	14.00	-7.90
Dallu 4	5885	177	ax (20MHz)	6.5/7.2 (MCS0)	5.24	5.22	8.24	-2.23	6.01	14.00	-7.99
Band 3/4	5835	167	n (40MHz)	13.5/15 (MCS0)	3.34	2.01	5.74	-2.23	3.51	14.00	-10.49
Band 4	5875	175	n (40MHz)	13.5/15 (MCS0)	3.31	2.21	5.81	-2.23	3.58	14.00	-10.42
Band 3/4	5835	167	ax (40MHz)	13.5/15 (MCS0)	1.65	2.24	4.97	-2.23	2.74	14.00	-11.26
Band 4	5875	175	ax (40MHz)	13.5/15 (MCS0)	1.63	2.11	4.89	-2.23	2.66	14.00	-11.34
	5855	171	ac (80MHz)	29.3/32.5 (MCS0)	-1.72	-0.88	1.73	-2.23	-0.50	14.00	-14.50
Band 3/4	5855	171	ax (80MHz)	29.3/32.5 (MCS0)	-1.28	-0.60	2.08	-2.23	-0.15	14.00	-14.15
Dari0 3/4	5815	163	ac (160MHz)	58.5/65 (MCS0)	-4.17	-3.28	-0.70	-2.23	-2.93	14.00	-16.93
	5815	163	ax (160MHz)	58.5/65 (MCS0)	-3.63	-3.49	-0.55	-2.23	-2.78	14.00	-16.78

Table 7-21. Band 3/4 MIMO Conducted Power Spectral Density Measurements

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 117 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 117 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019



### MIMO Antenna-1 Power Spectral Density Measurements



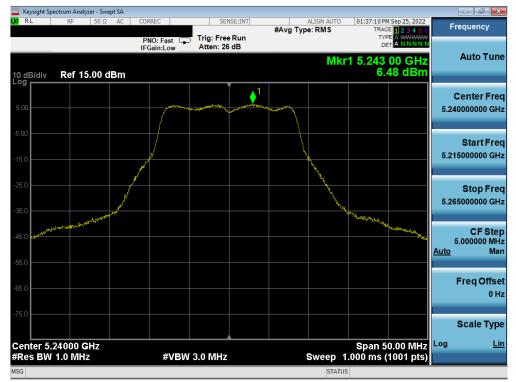




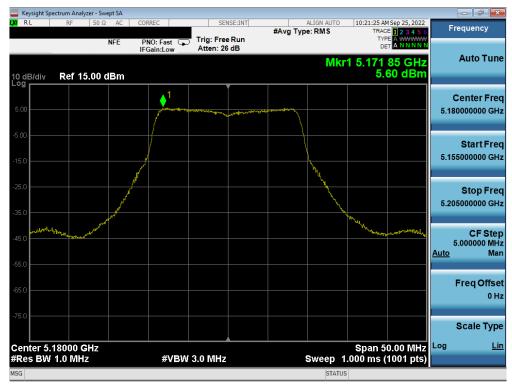
Plot 7-176. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 1) - Ch. 40)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dama 440 at 057	
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 118 of 257	
© 2023 ELEMENT	•	·	V9.0 02/01/2019	





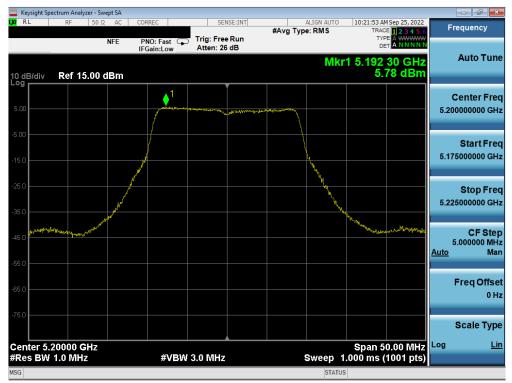
Plot 7-177. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 1) - Ch. 48)



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

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 110 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 119 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019





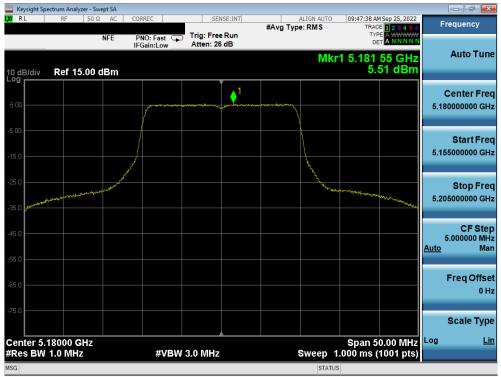
Plot 7-179. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 40)



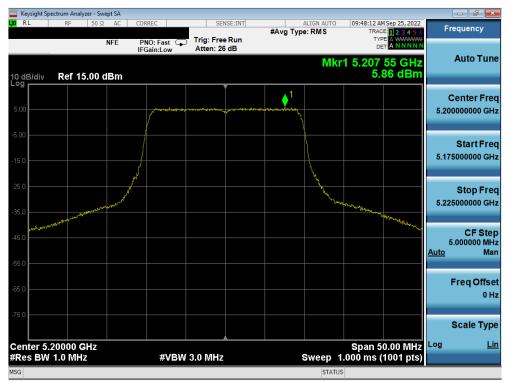
Plot 7-180. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 48)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 120 of 257
© 2023 ELEMENT		•	V9.0 02/01/2019





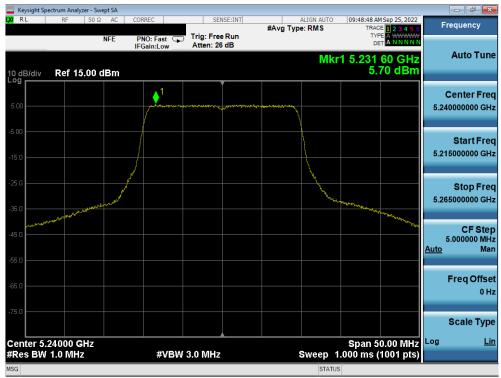
Plot 7-181. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 36)



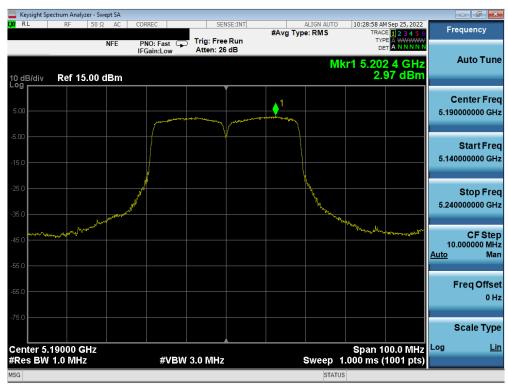
Plot 7-182. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 40)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 101 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 121 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019





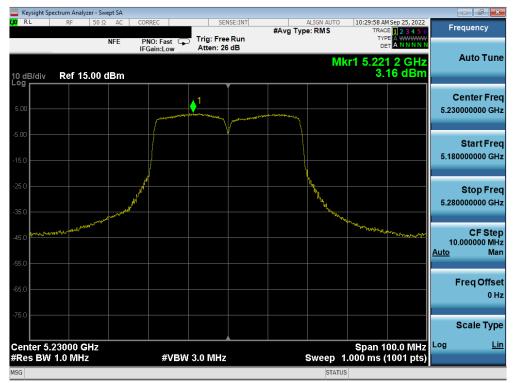
Plot 7-183. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 48)



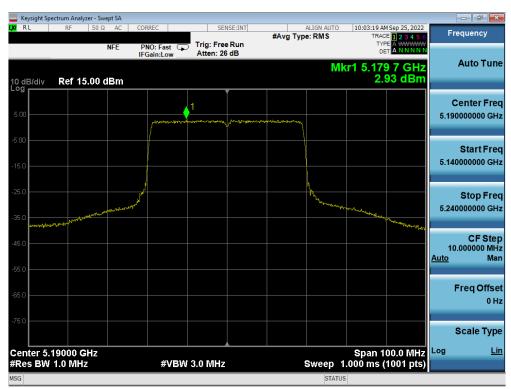
Plot 7-184. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 1) - Ch. 38)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 100 of 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 122 of 257
© 2023 ELEMENT	•	·	V9.0 02/01/2019





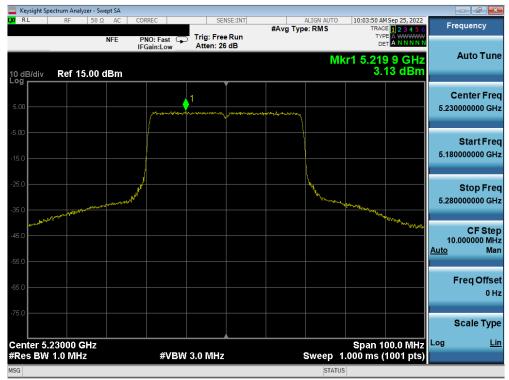
Plot 7-185. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 1) - Ch. 46)



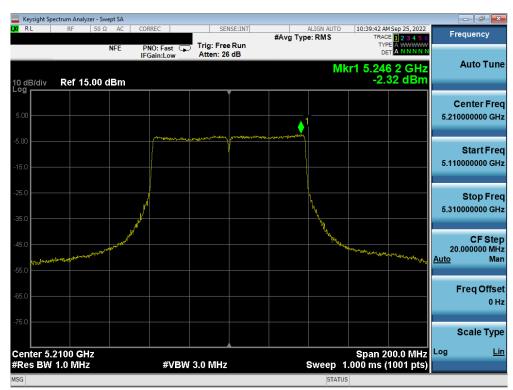
Plot 7-186. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 1) - Ch. 38)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 102 of 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 123 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019





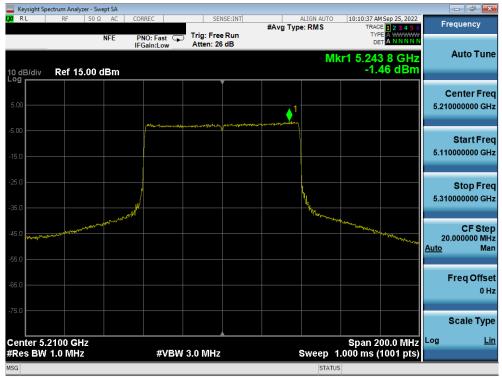
Plot 7-187. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 1) - Ch. 46)



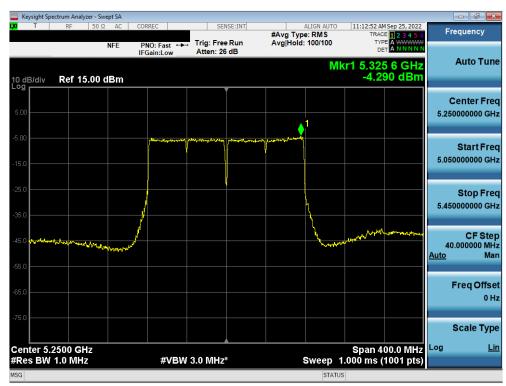
Plot 7-188. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 1) - Ch. 42)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 104 of 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 124 of 257
© 2023 ELEMENT		·	V9.0 02/01/2019





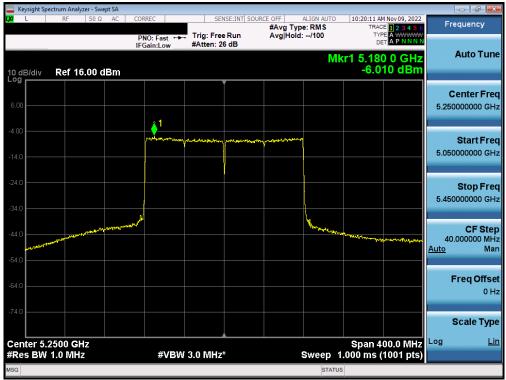
Plot 7-189. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 1) - Ch. 42)



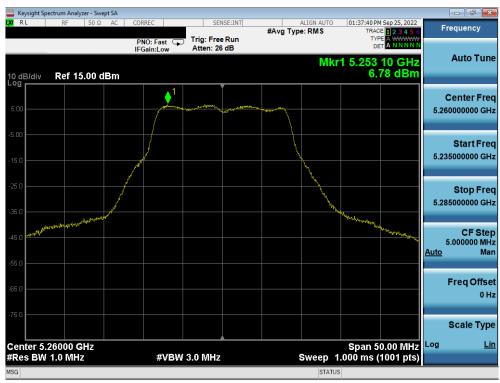
Plot 7-190. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11ac (UNII Band 1/2A) - Ch. 50)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 105 of 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 125 of 257
© 2023 ELEMENT			V9.0 02/01/2019





Plot 7-191. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11ax (UNII Band ½A) – Ch. 50)



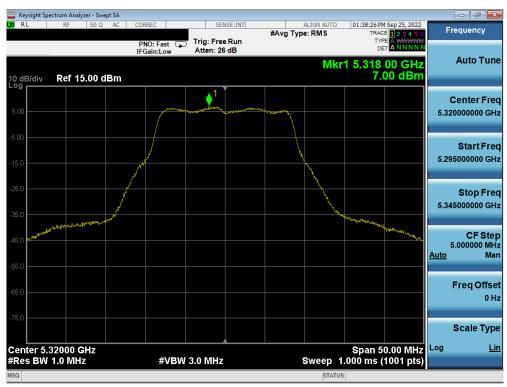
Plot 7-192. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 106 of 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 126 of 257
© 2023 ELEMENT			V9.0 02/01/2019





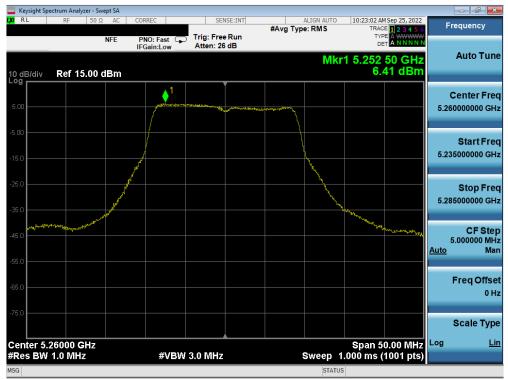
Plot 7-193. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2A) – Ch. 56)



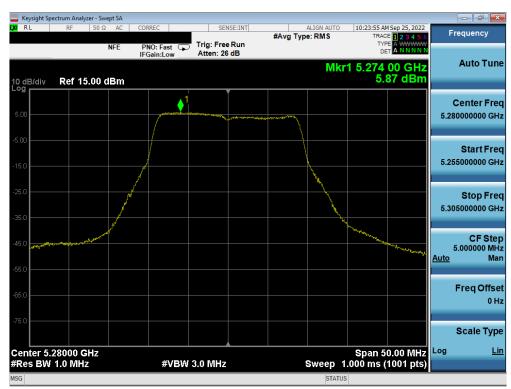
Plot 7-194. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 407 of 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 127 of 257
© 2023 ELEMENT	•	·	V9.0 02/01/2019





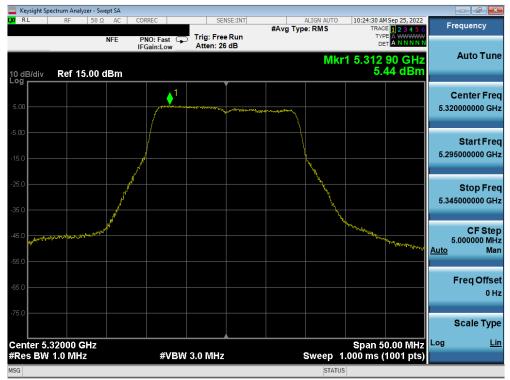
Plot 7-195. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 52)



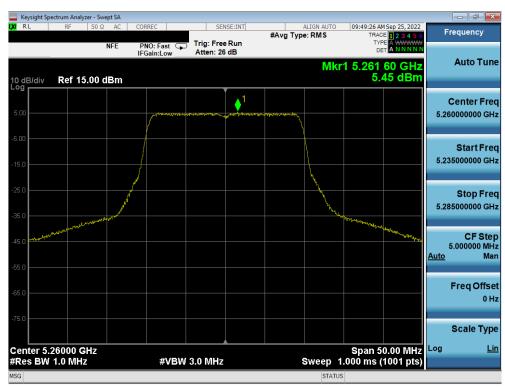
Plot 7-196. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 128 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019





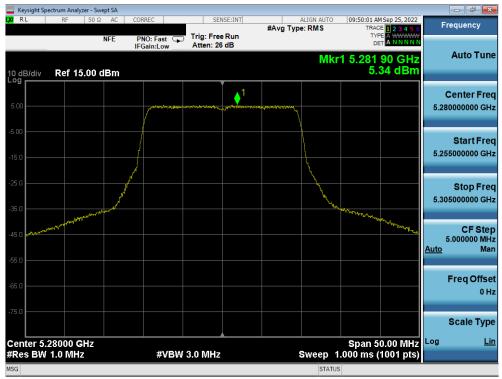
Plot 7-197. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 64)



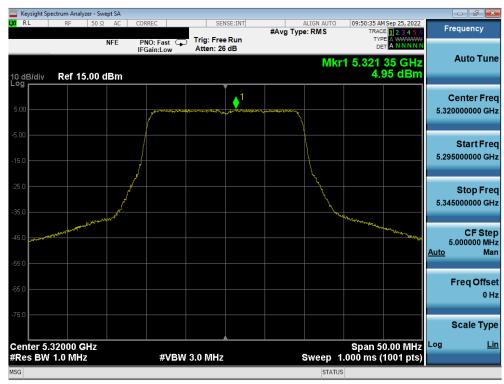
Plot 7-198. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 129 of 257
© 2023 ELEMENT			V9.0 02/01/2019





Plot 7-199. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 56)



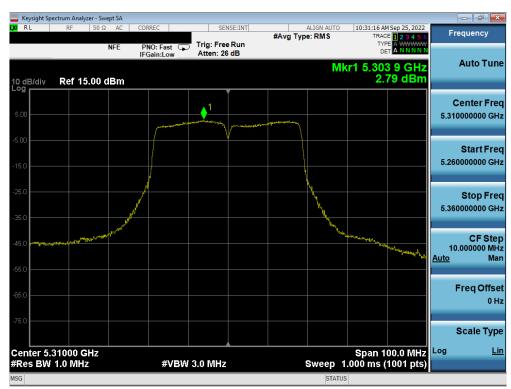
Plot 7-200. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 130 of 257
© 2023 ELEMENT			V9.0 02/01/2019





Plot 7-201. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 2A) - Ch. 54)



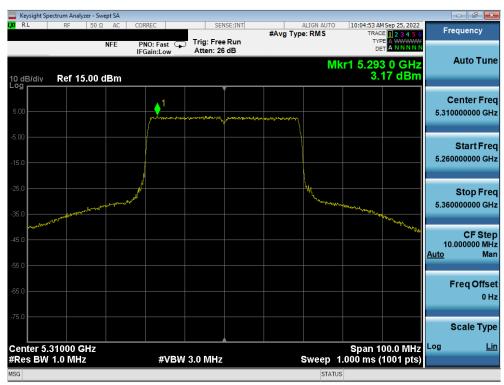
Plot 7-202. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 121 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 131 of 257
© 2023 ELEMENT		·	V9.0 02/01/2019





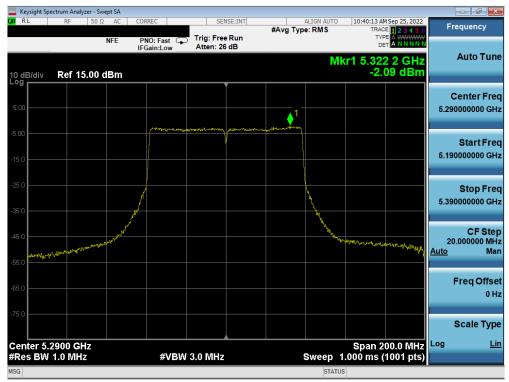
Plot 7-203. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 54)



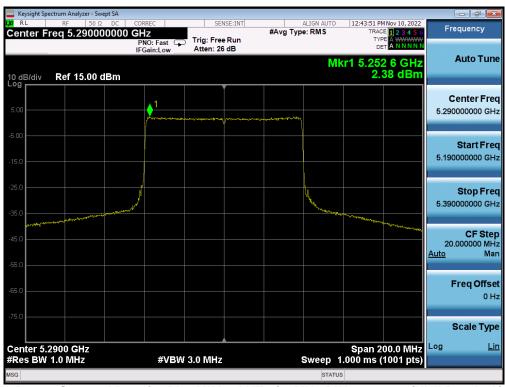
Plot 7-204. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dega 122 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 132 of 257
© 2023 ELEMENT	•	•	V9.0 02/01/2019





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



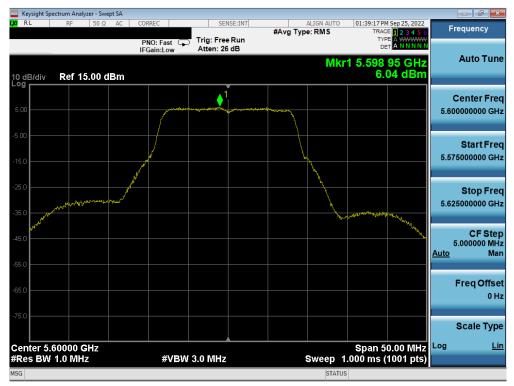
Plot 7-206. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 122 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 133 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019





Plot 7-207. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2C) – Ch. 100)



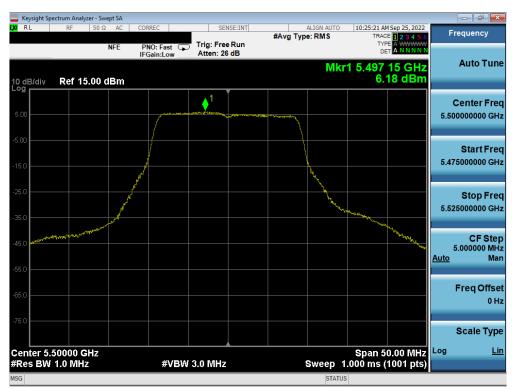
Plot 7-208. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 124 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 134 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019





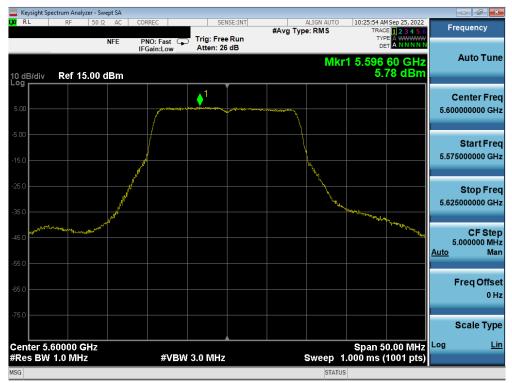
Plot 7-209. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2C) – Ch. 144)



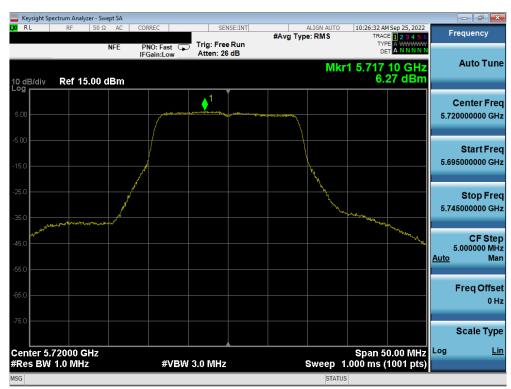
Plot 7-210. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 100)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 125 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 135 of 257
© 2023 ELEMENT			V9.0 02/01/2019





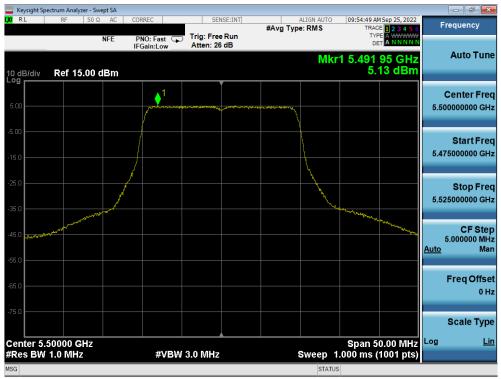
Plot 7-211. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 120)



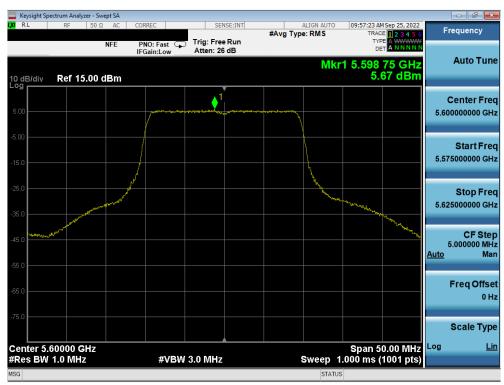
Plot 7-212. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 126 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 136 of 257
© 2023 ELEMENT			V9.0 02/01/2019





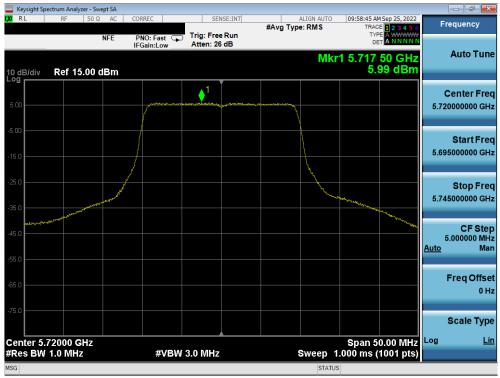
Plot 7-213. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 100)



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

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dega 107 of 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 137 of 257
© 2023 ELEMENT			V9.0 02/01/2019





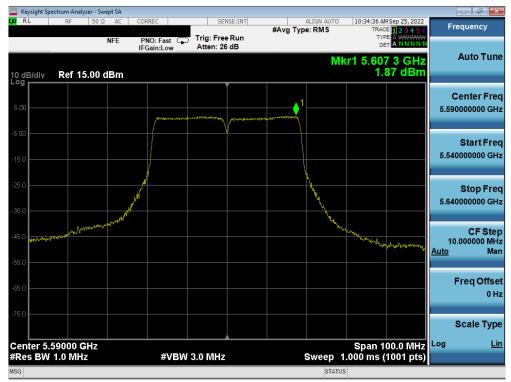
Plot 7-215. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 144)



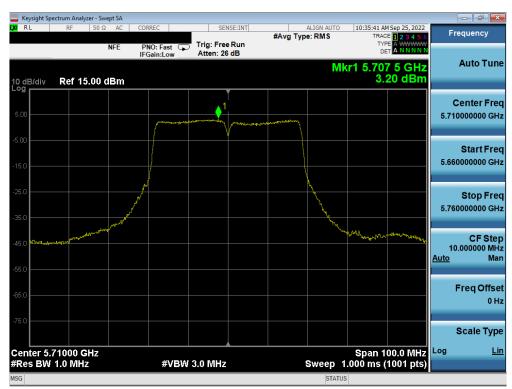
Plot 7-216. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 138 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019





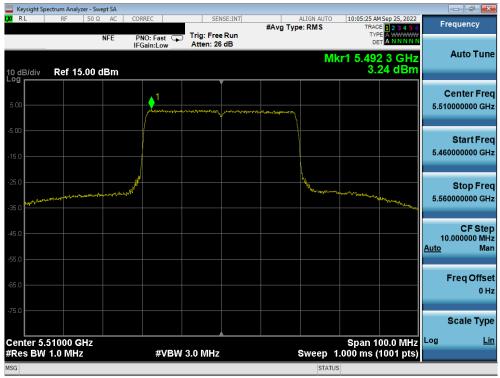
Plot 7-217. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 118)



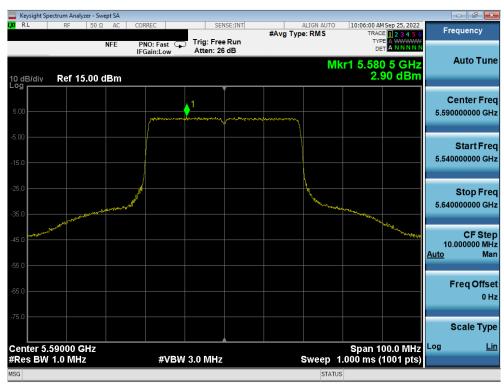
Plot 7-218. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 139 of 257
© 2023 ELEMENT			V9.0 02/01/2019





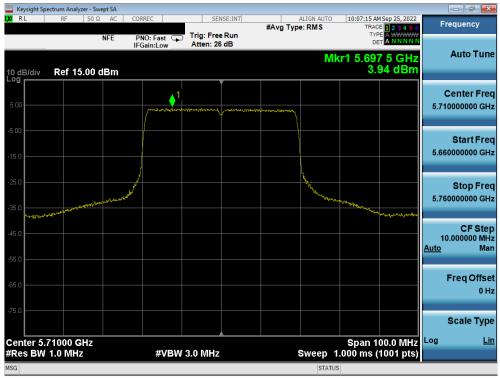
Plot 7-219. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 102)



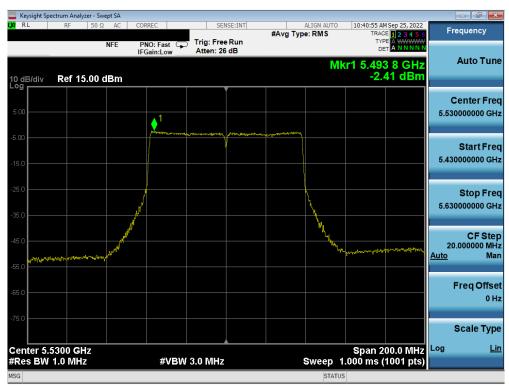
Plot 7-220. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 118)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 140 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 140 of 257
© 2023 ELEMENT			V9.0 02/01/2019





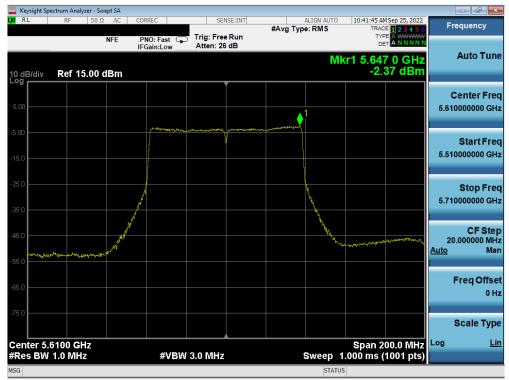
Plot 7-221. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 142)



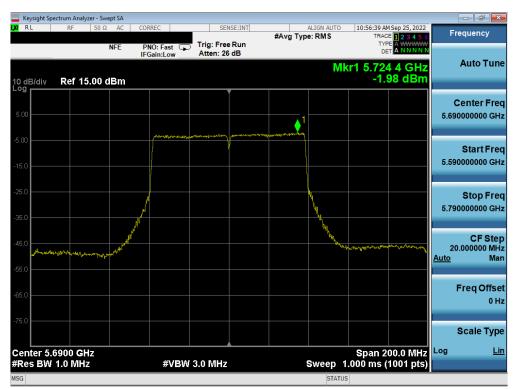
Plot 7-222. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 106)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Degs 111 of 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 141 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019





Plot 7-223. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 122)



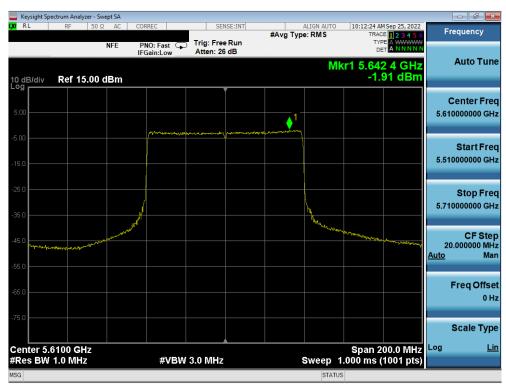
Plot 7-224. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMS918JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 142 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 142 of 257
© 2023 ELEMENT			V9.0 02/01/2019



	trum Analyzer - Sv									
LXI RL	RF 50 9	AC	CORREC	SEN	ISE:INT	#Avg Typ	ALIGN AUTO		M Sep 25, 2022	Frequency
		NFE	PNO: Fast IFGain:Low	Trig: Free Atten: 26	Run dB	#Avg typ	e. Rivis	TYP		
10 dB/div Log	Ref 15.00	dBm					M	lkr1 5.56 -1.	7 2 GHz 83 dBm	Auto Tune
5.00			production and an an	a second as a second poly. Just	an 1944 An 1946 and	- Humeneurgennet	 1 			Center Freq 5.530000000 GHz
-5.00										Start Freq 5.430000000 GHz
-25.0										Stop Freq 5.630000000 GHz
-45.0	har-songederenerenerete	and the second second					Brown Brown	en an	and an approximation of the second	CF Step 20.000000 MHz <u>Auto</u> Man
-65.0										Freq Offset 0 Hz
-75.0										Scale Type
Center 5.5 #Res BW	300 GHz		#\/B\M	3.0 MHz			Swoon	Span 2 1.000 ms (	VVIV 1911 12	Log <u>Lin</u>
#Res DW	no ivinz		#VDVV	5.0 WHZ			sweep		iou i prs)	
mod							STAT	03		

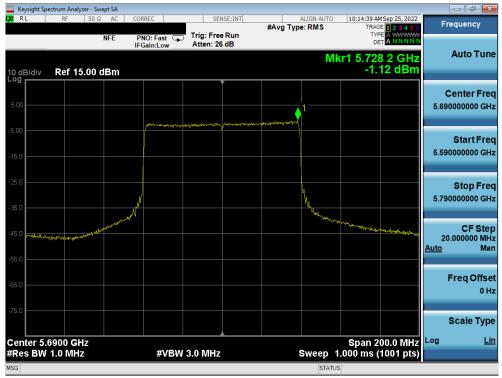
Plot 7-225. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 106)



Plot 7-226. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 142 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 143 of 257
© 2023 ELEMENT			V9.0 02/01/2019





Plot 7-227. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 138)



Plot 7-228. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11ax (UNII Band 2C) - Ch. 114)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 111 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 144 of 257
© 2023 ELEMENT			V9.0 02/01/2019





Plot 7-229. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11ax (UNII Band 2C) - Ch. 114)



Plot 7-230. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 3) - Ch. 149)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 145 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 145 of 257
© 2023 ELEMENT			V9.0 02/01/2019





Plot 7-231. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 3) – Ch. 157)



Plot 7-232. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 3) - Ch. 165)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 146 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 146 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019





Plot 7-233. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 149)



Plot 7-234. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 147 of 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 147 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019





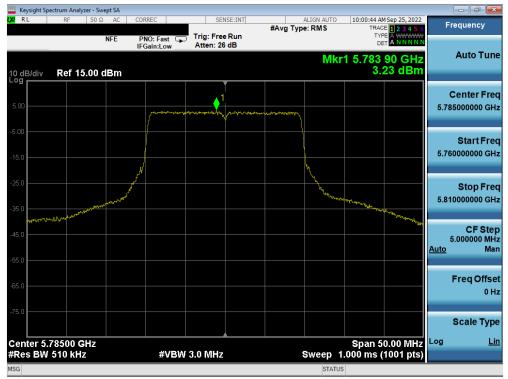
Plot 7-235. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 165)



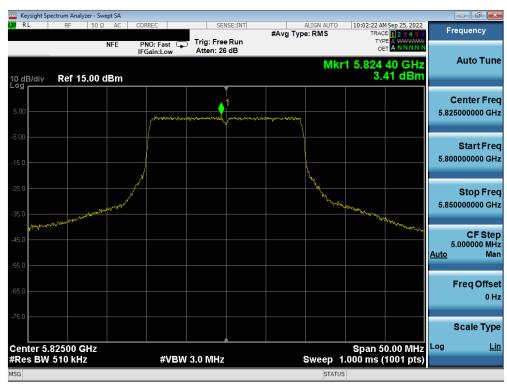
Plot 7-236. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 149)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 149 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 148 of 257
© 2023 ELEMENT			V9.0 02/01/2019





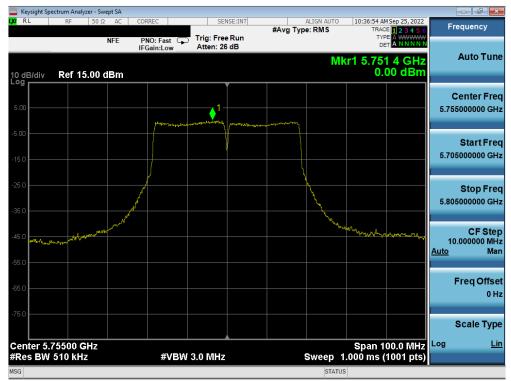
Plot 7-237. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 157)



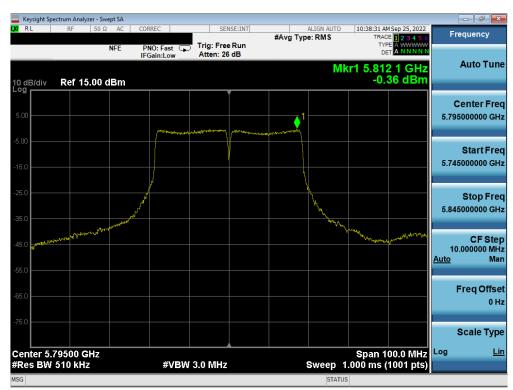
Plot 7-238. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 165)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 140 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 149 of 257
© 2023 ELEMENT			V9.0 02/01/2019





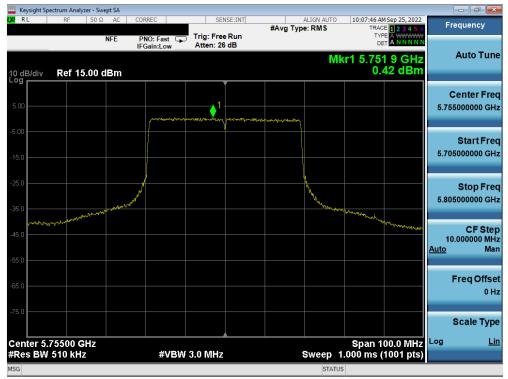
Plot 7-239. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)



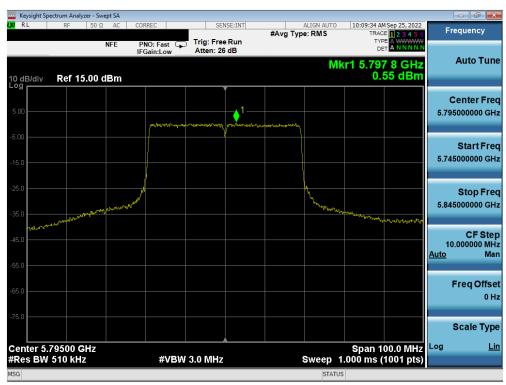
Plot 7-240. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 150 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 150 of 257
© 2023 ELEMENT		•	V9.0 02/01/2019





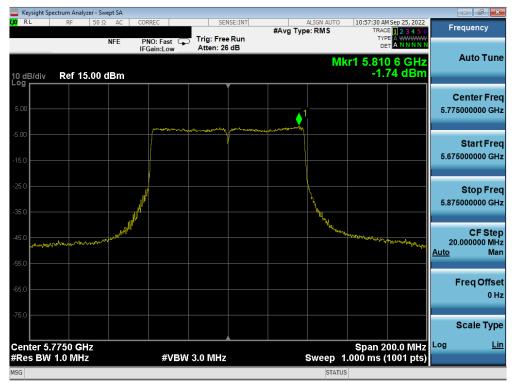
Plot 7-241. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 3) - Ch. 151)



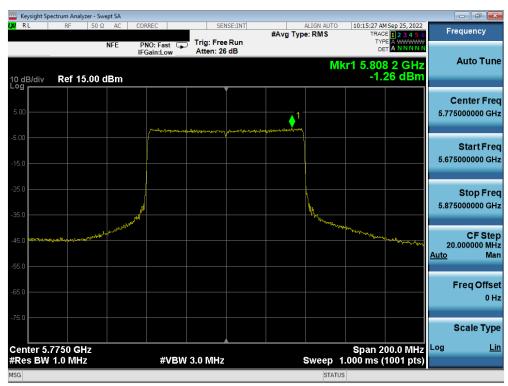
Plot 7-242. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 3) - Ch. 159)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 451 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 151 of 257
© 2023 ELEMENT			V9.0 02/01/2019





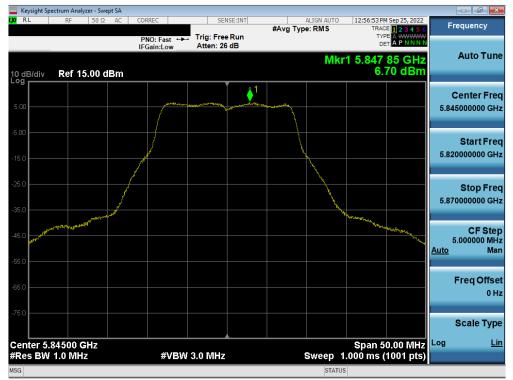
Plot 7-243. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)



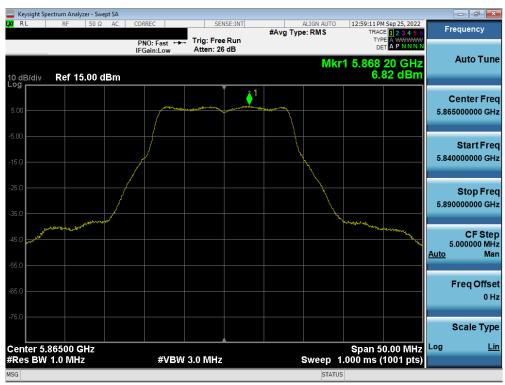
Plot 7-244. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 450 of 057
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 152 of 257
© 2023 ELEMENT	•		V9.0 02/01/2019





Plot 7-245. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 3/4) – Ch. 169)



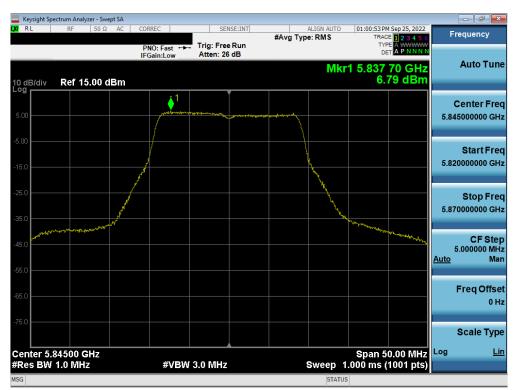
Plot 7-246. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 4) - Ch. 173)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 152 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 153 of 257
© 2023 ELEMENT		•	V9.0 02/01/2019





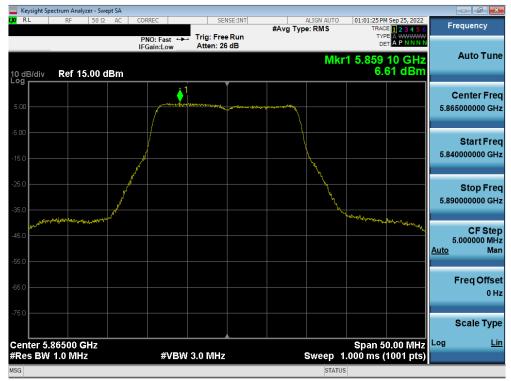
Plot 7-247. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 4) – Ch. 177)



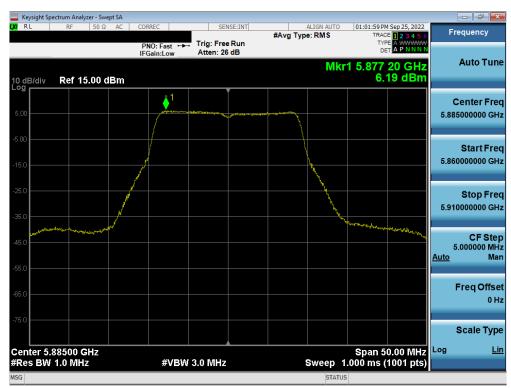
Plot 7-248. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3/4) - Ch. 169)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 454 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 154 of 257
© 2023 ELEMENT			V9.0 02/01/2019





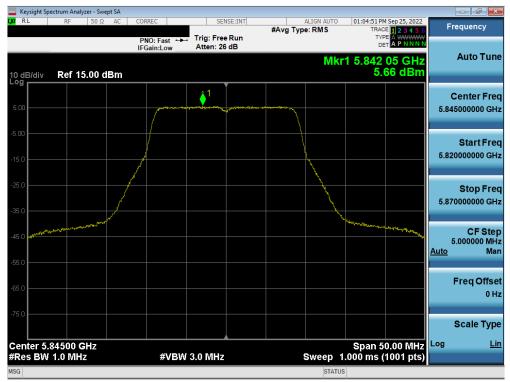
Plot 7-249. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 4) - Ch. 173)



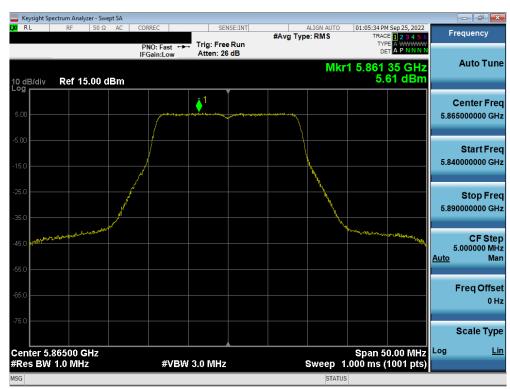
Plot 7-250. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 155 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 155 of 257
© 2023 ELEMENT			V9.0 02/01/2019





Plot 7-251. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3/4) - Ch. 169)



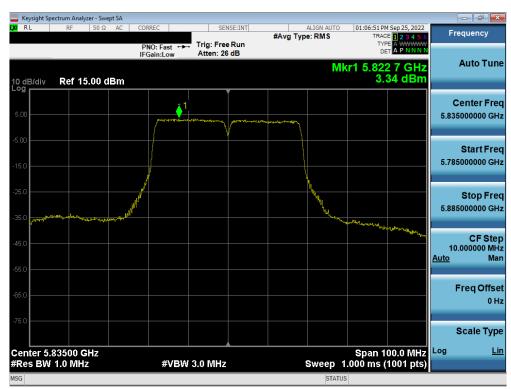
Plot 7-252. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 173)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 456 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 156 of 257
© 2023 ELEMENT			V9.0 02/01/2019





Plot 7-253. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 177)



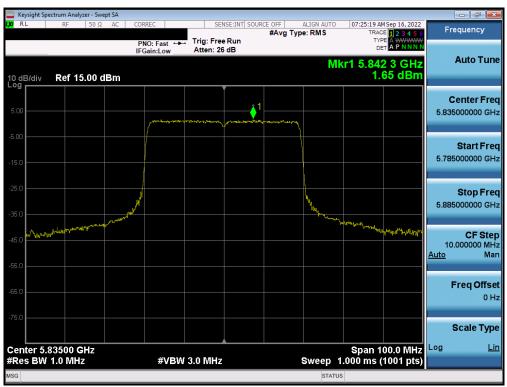
Plot 7-254. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 3/4) - Ch. 167)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 457 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 157 of 257
© 2023 ELEMENT			V9.0 02/01/2019





Plot 7-255. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 4) - Ch. 175)



Plot 7-256. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 3/4) - Ch. 167)

FCC ID: A3LSMS918JPN	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 150 of 257
1M2212080137-11-R1.A3L	09/08 - 11/08/2022	Portable Handset	Page 158 of 257
© 2023 ELEMENT	-	·	V9.0 02/01/2019