

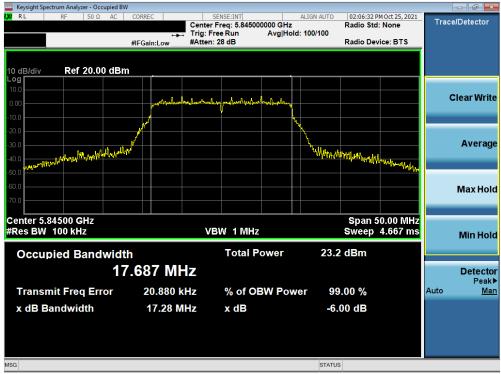
Plot 7-127. 6dB Bandwidth Plot MIMO ANT1 (802.11a (UNII Band 4) - Ch. 173)



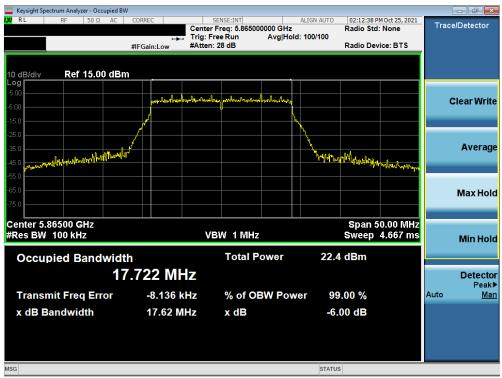
Plot 7-128. 6dB Bandwidth Plot MIMO ANT1 (802.11a (UNII Band 4) – Ch. 177)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 04 af 054
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 84 of 254
© 2021 PCTEST			V 9.0 02/01/2019





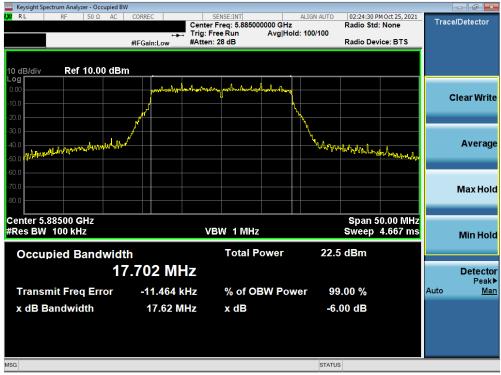
Plot 7-129. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3/4) - Ch. 169)



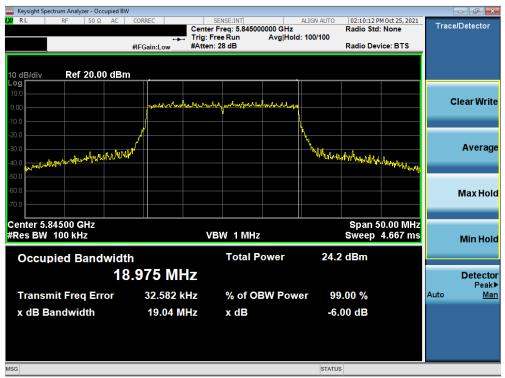
Plot 7-130. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 4) - Ch. 173)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dara 05 at 054
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 85 of 254
© 2021 PCTEST		· · · · · · · · · · · · · · · · · · ·	V 9.0 02/01/2019





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



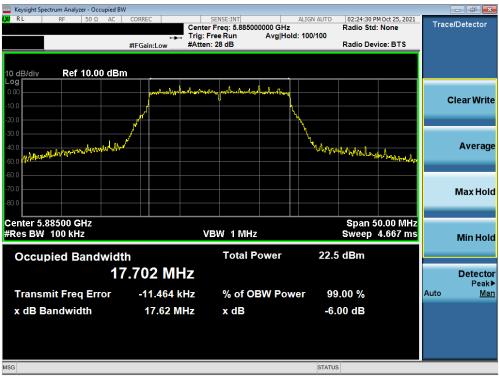
Plot 7-132. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3/4) - Ch. 169)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 86 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 86 of 254
© 2021 PCTEST	·		V 9.0 02/01/2019





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



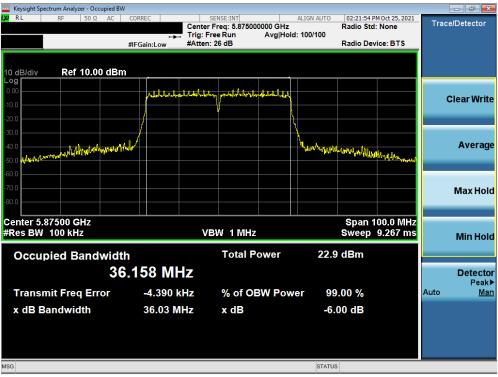
Plot 7-134. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 97 of 254	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 87 of 254	
© 2021 PCTEST		· · · · · · · · · · · · · · · · · · ·	V 9.0 02/01/2019	



Keysight Spectrum Analyzer - Occupied BW							[
💢 RL RF 50Ω AC	CORREC	SENSE:INT		ALIGN AUTO		M Oct 25, 2021	Trace	e/Detector
		enter Freq: 5.83500 rig: Free Run	Avg Hold:		Radio Std	: None		
		Atten: 10 dB			Radio Dev	ice: BTS		
10 dB/div Ref 10.00 dBm								
	A designed and the second s	tollar washburt						
	And a balled a barrentering the	following prevally subjecting	to the long in the set				C	Clear Write
-10.0		v.						
-20.0								
-30.0	_ /		\vdash					
-40.0	/			V				Average
-40.0 -50.0 Jahon - 10.0 Jan - 10				Mahariwaharya	หนายใน เค	Mylian		_
						and the second		
-60.0								
-70.0								Max Hold
-80.0								
Center 5.83500 GHz						00.0 MHz		
#Res BW 100 kHz		VBW 1 MHz			Sweep	9.267 ms		Min Hold
Occupied Bandwidth		Total P	ower	22.8	dBm			
36	192 MHz							Detector
								Peak►
Transmit Freq Error	8.149 kHz	% of O	3W Powe	er 99.	00 %		Auto	Man
x dB Bandwidth	36.27 MHz	x dB		-6 0	0 dB			
x db bundwiddi	00.21 11112			0.0	U UB			
MSG				STATUS				

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



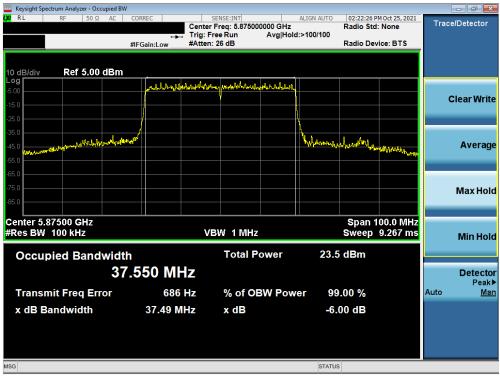
Plot 7-136. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 4) - Ch. 175)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 99 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 88 of 254
© 2021 PCTEST			V 9.0 02/01/2019



	sight Spectrum	n Analyzer - Oc	cupied BW									
L <mark>XI</mark> RI	- R	F 50 Ω	AC COR	REC		NSE:INT	0000 011-	ALIGN AUTO	02:18:35	PM Oct 25, 2021	Trac	e/Detector
						req: 5.83500 e Run		i: 100/100	Radio Sto	1: None		
			#IFG	ain:Low	#Atten: 2		, ang in the second		Radio De	vice: BTS		
10 dE Log	3/div	Ref 10.0	0 dBm	·			· · · ·					
0.00					ويعتقد المركز المعقول							
				Ada Nerinstantin		And	and the second second					Clear Write
-10.0												
-20.0												
-30.0								\				
-40.0								Y				Average
	managering	JUNE DE CONTRACTORIO	Petron and					WWWW Phone	hour man plan	Land welling and		
-50.0										- Trappo		
-60.0												
-70.0												Max Hold
-80.0												Max Holu
-00.0												
Cen	ter 5.835	00 GHz							Span '	100.0 MHz		
	s BW 10				VB	N 1 MHz				9.267 ms		Min Hold
									· ·			
0	ccupie	d Band	width			Total P	ower	23.8	dBm			
				70 141	-							
			37.4	78 MI	1Z							Detector
—				40.050.1	-11-	0/ -5 01			00.0/		Auto	Peak▶ Man
	ransmit	Freq Er	-	18.059 I		% of O	3W Pow	er 99	.00 %		Auto	Ivian
x	dB Band	dwidth		37.20 N	IHz	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)



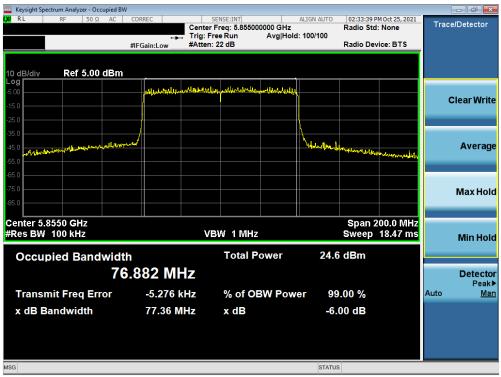
Plot 7-138. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 4) - Ch. 175)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 90 of 254	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 89 of 254	
© 2021 PCTEST		· · · · · · · · · · · · · · · · · · ·	V 9.0 02/01/2019	



	/sight Spectrum	Analyzer - Oce	cupied BW									
L <mark>XI</mark> RI	L RF	- 50 Ω	AC COR	REC		NSE:INT eq: 5.85500	0000 011-	ALIGN AUTO	02:34:07 F	M Oct 25, 2021	Trac	e/Detector
								d: 100/100	Radio Sto	: None		
			#IFO	ain:Low	#Atten: 2				Radio Dev	vice: BTS		
	_											
10 di		Ref 5.00	dBm									
Log		Kel J.00	ubili									
-5.00				Mulmu	MUMMAN	Mundulu	<u>իկիսե</u> յուներ					
-15.0												Clear Write
-25.0								l				
-35.0			5									
-45.0	- Harrison and and an	1 Million Street	and an an and a start					AL INA MAL	Meriliansky			Average
-55.0	or the state of th							te nd deb	alkinder and the marked	month lay		
-65.0												
-75.0												Max Hold
-85.0												
Con	ter 5.8550								- Enon í			
	s BW 100				VBI	V 1 MHz				200.0 MHz 18.47 ms		
#RC	S DVV TOU				V D1				Sweep	10.47 1115		Min Hold
0	ccupied	d Band	width			Total P	ower	23.1	dBm			
Ľ	ocupied											
			/5.5	32 MI	ΠZ							Detector
Т	ransmit F	Fred En	or	26.225	(Hz	% of O	3W Pow	er 00	.00 %		Auto	Peak▶ Man
							511101					
X	dB Band	width		75.55 N	IHz	x dB		-6.	00 dB			
MSG								STATUS	5			

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



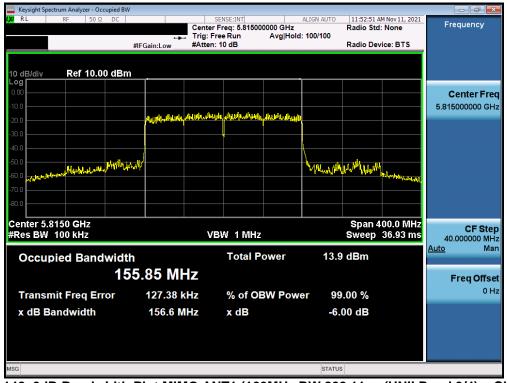
Plot 7-140. 6dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 3/4) - Ch. 171)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 00 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 90 of 254
© 2021 PCTEST			V 9.0 02/01/2019



Keysight Spectrum Analyzer - Occup	ied BW								
μ χα RL RF 50 Ω	DC #IFGain:L	🛶 Trig	SENSE:INT nter Freq: 5.8150 g: Free Run ten: 10 dB	00000 GHz Avg Hold	ALIGN AUTO	11:56:31 A Radio Std: Radio Dev		Trac	e/Detector
10 dB/div Ref 10.00	dBm			_					
Log 0.00 -10.0								c	Clear Write
-20.0	Andorik	, aliai yeye, aliya yeke.	dhawlo, dhawlo, dhaw	h, dhunin ahamp					
-40.0									Average
-50.0	14'YWN JAV				ware weller	un hand and a state of the stat	A A Wildow day		
-70.0							11 ⁴⁴⁻⁴		Max Hold
Center 5.8150 GHz						Span 4	00.0 MHz		
#Res BW 100 kHz			VBW 1 MH	2		Sweep	36.93 ms		Min Hold
Occupied Bandw			Total F	Power	13.5	dBm			
	154.68								Detector Peak▶
Transmit Freq Erro	r 149	.13 kHz	% of O	BW Pow	er 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth	15	5.8 MHz	x dB		-6.	00 dB			
MSG					STATUS				

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



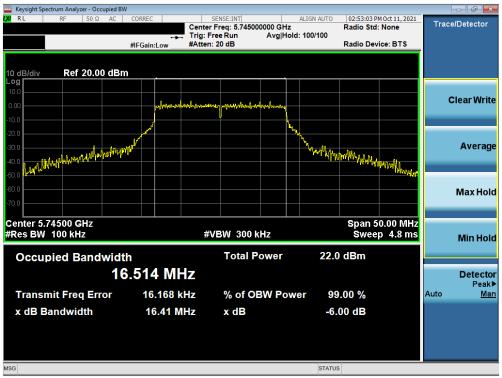
Plot 7-142. 6dB Bandwidth Plot MIMO ANT1 (160MHz BW 802.11ax (UNII Band 3/4) - Ch. 171)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 01 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 91 of 254
© 2021 PCTEST			V 9.0 02/01/2019



	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
	5745	149	а	6	16.41
	5785	157	а	6	16.42
	5825	165	а	6	16.42
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	17.63
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	17.63
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	17.64
e	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	19.02
Band	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	18.91
ä	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	18.96
	5755	151	n (40MHz)	13.5/15 (MCS0)	36.42
	5795	159	n (40MHz)	13.5/15 (MCS0)	36.50
	5755	151	ax (40MHz)	13.5/15 (MCS0)	37.39
	5795	159	ax (40MHz)	13.5/15 (MCS0)	37.44
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	76.17
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	77.31
	Table 7-6	. Conducte	ed Bandwidth	Measurements MIM	O ANT2

MIMO Antenna-2 6dB Bandwidth Measurements



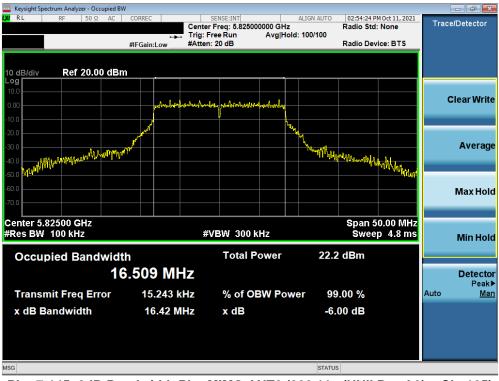
Plot 7-143. 6dB Bandwidth Plot MIMO ANT2 (802.11a (UNII Band 3) – Ch. 149)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 02 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 92 of 254
© 2021 PCTEST	-		V 9.0 02/01/2019





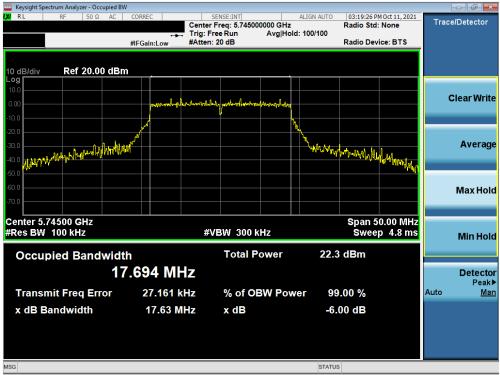
Plot 7-144. 6dB Bandwidth Plot MIMO ANT2 (802.11a (UNII Band 3) - Ch. 157)



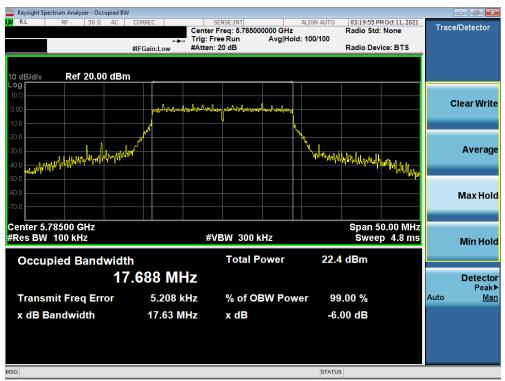
Plot 7-145. 6dB Bandwidth Plot MIMO ANT2 (802.11a (UNII Band 3) - Ch. 165)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dago 02 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 93 of 254
© 2021 PCTEST			V 9.0 02/01/2019





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



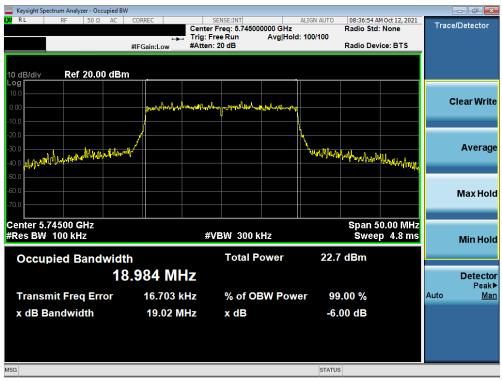
Plot 7-147. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

FCC ID: A3LSMS906E	PCTEST [®] Proud to be part of [®] element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 04 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 94 of 254
© 2021 PCTEST	•	•	V 9.0 02/01/2019





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



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

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dogo OF of 254		
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 95 of 254		
© 2021 PCTEST V 9.0 02/01/2019					



Keysight Spectrum Analyzer - Occupied BW					
LXI RL RF 50Ω AC		SENSE:INT Freq: 5.785000000 GHz	ALIGN AUTO 08:37:49 A Radio Std	M Oct 12, 2021	Trace/Detector
			d: 100/100	: None	
	IFGain:Low #Atten	: 20 dB	Radio Dev	/ice: BTS	
10 dB/div Ref 20.00 dBm					
Log 10.0					
0.00		1. roland b. A. Maluda ver			Clear Write
	MARIN Provided to Carlos A	And a fact of the second s			
-10.0					
-20.0	~		1		
-30.0 -40.0 matrially and welly through the start of the			mun phyladrad yway	1	Average
-40.0 Condital (Martine Conditation of the Condita			1. Labout tropping	W Rule will and	
-50.0				170	
-60.0					Max Hold
-70.0					Max Holu
Center 5.78500 GHz				0.00 MHz	
#Res BW 100 kHz	#\	/BW 300 kHz	Swee	p 4.8 ms	Min Hold
		Total Power	22.8 dBm		
Occupied Bandwidth		Total Fower	22.0 UBIII		
18.	988 MHz				Detector
Transmit Freq Error	23.572 kHz	% of OBW Pow	ver 99.00 %		Peak▶ Auto Man
					Man
x dB Bandwidth	18.91 MHz	x dB	-6.00 dB		
MSG			STATUS		

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



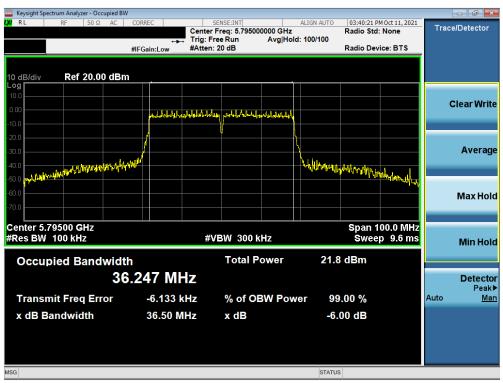
Plot 7-151. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 165)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 00 -4 05 4
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 96 of 254
© 2021 PCTEST		A second second second second Research Second se	V 9.0 02/01/2019



IXI RE RF 50 Ω AC	CORREC	SENSE:INT r Freq: 5.755000000 GHz	ALIGN AUTO 03:39:33 P Radio Std	M Oct 11, 2021	Trace/Detector
			d: 100/100	: None	
	#IFGain:Low #Atten	n: 20 dB	Radio Dev	vice: BTS	
10 dB/div Ref 20.00 dBm					
Log 10.0					
					Clear Write
0.00	John plotoplander	hay portalistativeshermentationly			
-10.0					
-20.0			\		
-30.0			¥		Average
-40.0	hat		Mandurania		
-50.0 unvltflighter part will approve and			hundrenth	MAL AND	
-60.0					Max Hold
-70.0					wax noiu
Center 5.75500 GHz				00.0 MHz	
#Res BW 100 kHz	#	VBW 300 kHz	Swee	p 9.6 ms	Min Hold
		Total Power	21.6 dBm		
Occupied Bandwidth		Total Power	21.0 uBm		
36.	176 MHz				Detector Peak▶
Transmit Freq Error	9.844 kHz	% of OBW Pov	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	36.42 MHz	x dB	-6.00 dB		
	00. 12 MIL		0.00 0D		
			, ,		
MSG			STATUS		

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



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

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dege 07 of 254		
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 97 of 254		
© 2021 PCTEST V 9.0 02/01/2019					



🔤 Keysight Spectrum Analyzer - Occupied BW						
IXI RE RF 50 Ω AC	CORREC	SENSE:INT er Freq: 5.755000000 GHz	ALIGN AUTO 08:43:45 A Radio Std	M Oct 12, 2021	Trace/Detector	
			d: 100/100	None		
		en: 20 dB	Radio Dev	rice: BTS		
10 dB/div Ref 20.00 dBm						
Log						
0.00					Clear Write	
	prist-haledraham-haledra	lestern prostylesterke. He wash lested above				
-10.0						
-20.0	<mark>/</mark>					
-30.0					Average	
-30.0	MV		webrotalizer Alexander Willing			
-50.0 -50.0				the shall have be		
-60.0						
					Max Hold	
-70.0						
Center 5.75500 GHz			Span 1	00.0 MHz		
#Res BW 100 kHz	-	#VBW 300 kHz		p 9.6 ms	Min Hold	
				<u> </u>	MILLHOID	
Occupied Bandwidth		Total Power	22.8 dBm			
	443 MHz				Detector	
57.					Detector Peak►	
Transmit Freq Error	-30.827 kHz	% of OBW Pow	ver 99.00 %		Auto <u>Man</u>	
x dB Bandwidth	37.39 MHz	x dB	-6.00 dB			
MSG			STATUS			

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



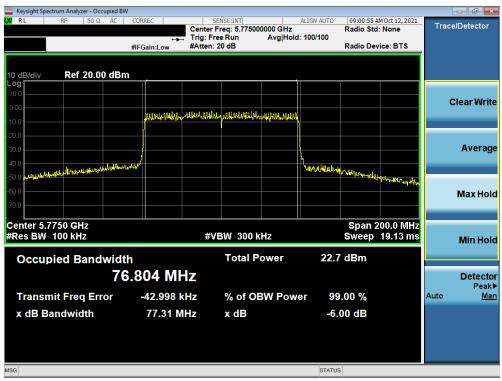
Plot 7-155. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 3) - Ch. 159)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 00 at 054
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 98 of 254
© 2021 PCTEST			V 9.0 02/01/2019



www.www.com analyzer - Occupied BW					
IXI RE RF 50 Ω AC	CORREC	SENSE:INT r Freq: 5.775000000 GHz	ALIGN AUTO 03:45:20 F Radio Std	M Oct 11, 2021	Trace/Detector
			d: 100/100	: None	
	#IFGain:Low #Atter	n: 20 dB	Radio Dev	/ice: BTS	
10 dB/div Ref 20.00 dBm					
Log 10.0					
					Clear Write
0.00	الاليلاف الطلبا معد الملك المالي	վե <mark>հ_{ոլ}բնեկ</mark> ութեկներութելեն			
-10.0					
-20.0					
-30.0					Average
-40.0	A ⁴⁷		Un the Mary of The Mary and a		
-50.0 44409-100-0-1				www.hauplan	
-60.0					Max Hold
-70.0					Muxitold
Center 5.7750 GHz				200.0 MHz	
#Res BW 100 kHz	#	VBW 300 kHz	Sweep	19.13 ms	Min Hold
Occupied Bandwidth		Total Power	23.5 dBm		
/ 5.	562 MHz				Detector Peak►
Transmit Freq Error	35.368 kHz	% of OBW Pow	er 99.00 %		Auto <u>Man</u>
x dB Bandwidth	76.17 MHz	x dB	-6.00 dB		
MSG			STATUS		

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



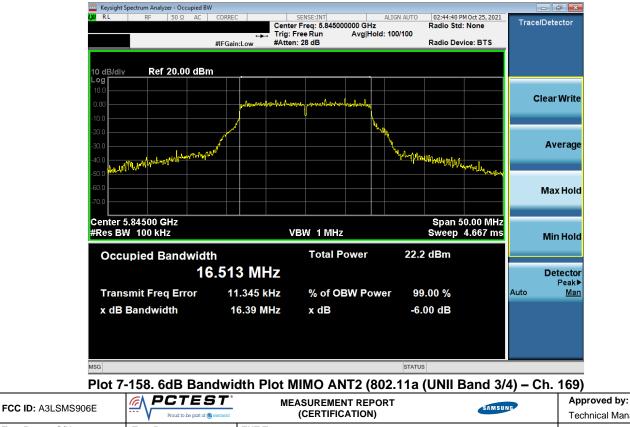
Plot 7-157. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 00 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 99 of 254
© 2021 PCTEST			V 9.0 02/01/2019



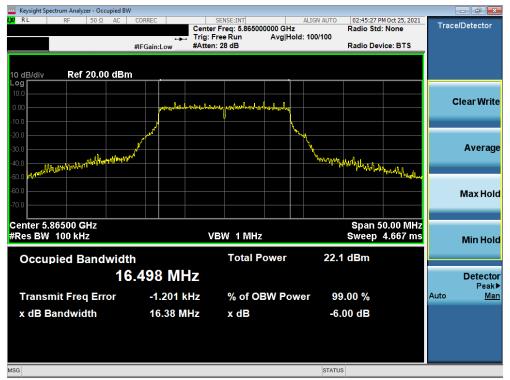
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3/4	5845	169	а	6	16.39
Band 4	5865	173	а	6	16.38
Dallu 4	5885	177	а	6	16.40
Band 3/4	5845	169	n (20MHz)	6.5/7.2 (MCS0)	17.65
Band 4	5865	173	n (20MHz)	6.5/7.2 (MCS0)	17.64
Danu 4	5885	177	n (20MHz)	6.5/7.2 (MCS0)	17.65
Band 3/4	5845	169	ax (20MHz)	6.5/7.2 (MCS0)	19.03
Band 4	5865	173	ax (20MHz)	6.5/7.2 (MCS0)	19.08
Dallu 4	5885	177	ax (20MHz)	6.5/7.2 (MCS0)	19.02
Band 3/4	5835	167	n (40MHz)	13.5/15 (MCS0)	36.40
Band 4	5875	175	n (40MHz)	13.5/15 (MCS0)	36.43
Band 3/4	5835	167	ax (40MHz)	13.5/15 (MCS0)	37.39
Band 4	5875	175	ax (40MHz)	13.5/15 (MCS0)	37.67
	5855	171	ac (80MHz)	29.3/32.5 (MCS0)	76.41
Band 3/4	5855	171	ax (80MHz)	29.3/32.5 (MCS0)	77.24
Danu 5/4	5815	163	ac (160MHz)	58.5/65 (MCS0)	155.90
	5815	163	ax (160MHz)	58.5/65 (MCS0)	156.90

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

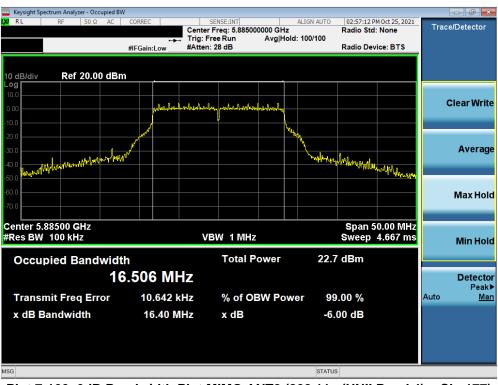


FCC ID: A3LSMS906E	Proud to be part of element	(CERTIFICATION)	Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 100 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Fage 100 01 254
© 2021 PCTEST			V 9.0 02/01/2019





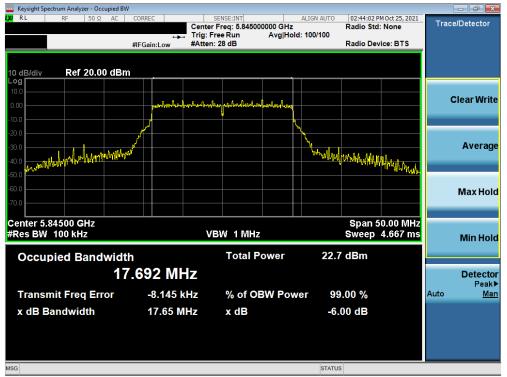
Plot 7-159. 6dB Bandwidth Plot MIMO ANT2 (802.11a (UNII Band 4) - Ch. 173)



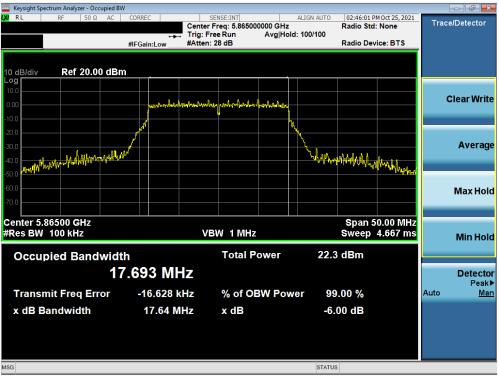
Plot 7-160. 6dB Bandwidth Plot MIMO ANT2 (802.11a (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dage 101 of 254		
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 101 of 254		
© 2021 PCTEST V 9.0 02/01/2019					





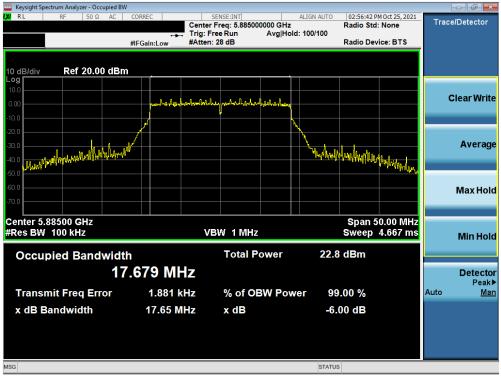
Plot 7-161. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 3/4) - Ch. 169)



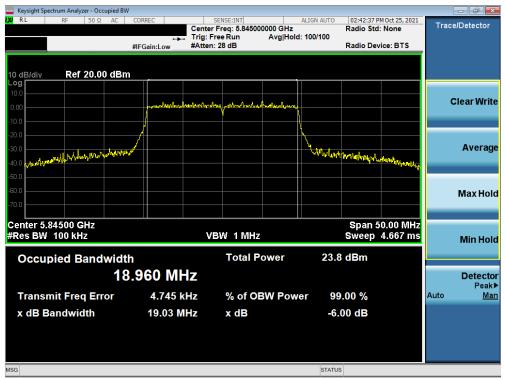
Plot 7-162. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 4) - Ch. 173)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 102 of 254	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 102 of 254	
© 2021 PCTEST V 9.0 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: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 102 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset		Page 103 of 254
© 2021 PCTEST				V 9.0 02/01/2019



🔤 Keysight Spectrum Analyzer - Occupied BW					- ē x
🗶 RL RF 50Ω AC (SENSE:INT Freq: 5.865000000 GHz	ALIGN AUTO 02:47:48 Radio Sto	PM Oct 25, 2021	Trace/Detector
			d: 100/100	: None	
#	IFGain:Low #Atten	: 28 dB	Radio De	vice: BTS	
10 dB/div Ref 10.00 dBm					
Log 0.00	moulinhalaman	my momenta have along			
-10.0		Y Y			Clear Write
	4				
-20.0					
-30.0			Martemary we many here	. 1 7.4.	
-40.0 and the second of the second se				wi upu _{kal} meni	Average
-50.0					
-60.0					
-70.0					Max Hold
-80.0					
Center 5.86500 GHz				50.00 MHz	
#Res BW 100 kHz	V	BW 1 MHz	Sweep	4.667 ms	Min Hold
		Total Damas	24.2 dDm		
Occupied Bandwidth		Total Power	24.3 dBm		
18.	974 MHz				Detector
	0.007.111		00.00.0/		Peak►
Transmit Freq Error	-6.067 kHz	% of OBW Pow	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	19.08 MHz	x dB	-6.00 dB		
100			074710		
MSG			STATUS		

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



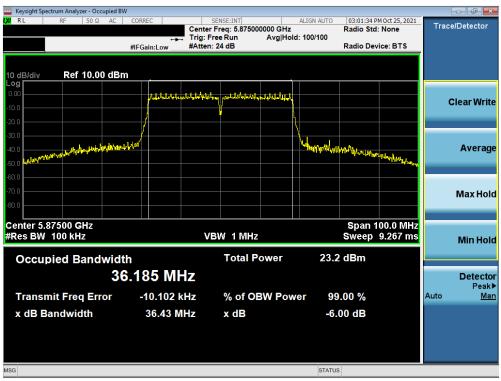
Plot 7-166. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 404 af 054
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 104 of 254
© 2021 PCTEST			V 9.0 02/01/2019



Keysight Spectrum Analyzer - Occupied BW					
💢 RL RF 50Ω AC	CORREC	SENSE:INT		00:27 PM Oct 25, 2021	Trace/Detector
		enter Freq: 5.835000000 (rig: Free Run Avg	Hz Rad	io Std: None	
		Atten: 24 dB		io Device: BTS	
,					
10 dB/div Ref 10.00 dBm					
0.00	المراجع حاليه المحالي المراجع	والمراجعة المراجعة والمراجعة والمراجعة			
-10.0	Particular Advertises	an she da bina sa sina sina si sa si s	****		Clear Write
		V			
-20.0	1		L L		
-30.0					
-40.0 -50.0 antering the transferred to the state of the	vr'		Malphalophyphyp	Mathatian	Average
-50.0 Material and a second se				and the second states of the s	
-60.0					
-70.0					Max Hold
-80.0					
Center 5.83500 GHz				on 100 0 MHz	
#Res BW 100 kHz		VBW 1 MHz		oan 100.0 MHz eep 9.267 ms	
WRCes Bay Too Ritz				eep 9.207 ms	Min Hold
Occupied Bandwidth		Total Powe	r 22.9 dB	m	
36	163 MHz				Detector
Tronomit From Freeze	5 500 kU		00.00	0/	Peak▶ Auto Man
Transmit Freq Error	-5.592 kHz	% of OBW F	ower 99.00	70	Auto <u>Man</u>
x dB Bandwidth	36.40 MHz	x dB	-6.00 d	B	
MSG			STATUS		

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



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

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 105 of 254
© 2021 PCTEST		A new barran data data difina di sana and fann an barran ana ana ata data ina ana data data di sana ata data d	V 9.0 02/01/2019



Keysight Spectrum Analyzer - Occupied BW								
LX/ RL RF 50Ω AC CO	ORREC	SENSE:INT		ALIGN AUTO		M Oct 25, 2021	Trac	e/Detector
		nter Freq: 5.83500 g: Free Run	Avg Hold:	100/100	Radio Std	: None		
#1		tten: 26 dB			Radio Dev	vice: BTS		
10 dB/div Ref 10.00 dBm								
0.00	h L. kt. d. kr. dak ti	Jupplan and With the						
-10.0	Participation of the	a contractive and the state of the second	gelyvil					Clear Write
-20.0	//							
-30.0	/			M				
-40.0	¢			hornitrense	white the second	m MPAL.		Average
-50.0						N WAY WAY AND		
-60.0								
-70.0								Max Hold
-80.0						<u> </u>		
Center 5.83500 GHz						00.0 MHz		
#Res BW/100 kHz		VBW 1 MHz			Sweep	9.267 ms		Min Hold
		Total P		22.4	dBm			
Occupied Bandwidth		lotal P	ower	23.4	aBm			
37.4	192 MHz							Detector
								Peak▶
Transmit Freq Error	-15.815 kHz	% of O	3W Powe	er 99	.00 %		Auto	<u>Man</u>
x dB Bandwidth	37.39 MHz	x dB		-6 ()0 dB			
	57.55 MITZ	A UD		-0.0				
MSG				STATUS				

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



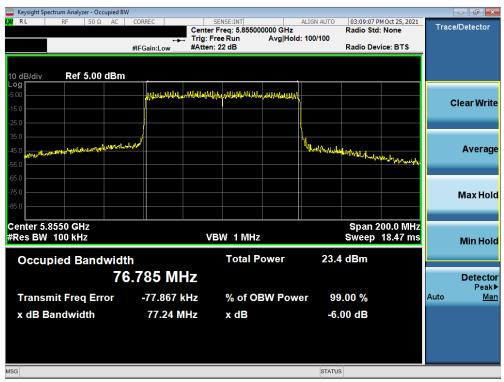
Plot 7-170. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 4) - Ch. 175)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 100 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 106 of 254
© 2021 PCTEST			V 9.0 02/01/2019



Keysight Spectrum Analyzer - Occupied BW	1				_	
X RL RF 50Ω AC	CORREC	SENSE:INT Freq: 5.855000000 GHz	ALIGN AUTO 03:09:40 F Radio Sto	PM Oct 25, 2021	Tracel	Detector
			d: 100/100	1: None		
		n: 20 dB	Radio De	vice: BTS		
10 dB/div Ref 5.00 dBm						
Log						
-5.00	Multillin	hlade, which have been and a stated of			-	
-15.0					CI	ear Write
-25.0						
-35.0						
	How		WILMER .			Average
M VIN MARKAGE K			Welley whether whether whether the start whether	Ander B. d.		Average
-55.0				Contract and the second		
-65.0						
-75.0						Max Hold
-85.0						nux noru
Center 5.8550 GHz				200.0 MHz		
#Res BW 100 kHz	\ \	/BW 1 MHz	Sweep	18.47 ms		Min Hold
			00.0.15			
Occupied Bandwidt	h	Total Power	23.2 dBm			
75	5.539 MHz					Detector
						Peak▶
Transmit Freq Error	-65.583 kHz	% of OBW Pow	er 99.00 %		Auto	<u>Man</u>
x dB Bandwidth	76.41 MHz	x dB	-6.00 dB			
MSG			STATUS			

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



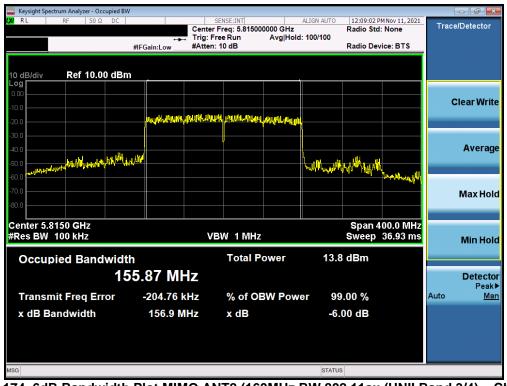
Plot 7-172. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax (UNII Band 3/4) - Ch. 171)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 107 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 107 of 254
© 2021 PCTEST	in a second state of the second		V 9.0 02/01/2019



🔤 Keysight Spectrum Analyzer - Occupied E	W				
KX RL RF 50Ω DC	Trig:	SENSE:INT er Freq: 5.815000000 GHz Free Run Avg Hold	Radio Std		Trace/Detector
	#IFGain:Low #Atte	n: 10 dB	Radio Dev	/ice: BTS	
10 dB/div Ref 10.00 dB	m				
-10.0					Clear Write
-20.0	na n	and many many horid the			
-30.0	and mark		how any shall a shall be shall		Average
-60.0				harten anter anter and a state	Max Hold
Center 5.8150 GHz #Res BW 100 kHz		/BW 1 MHz		00.0 MHz 36.93 ms	Min Hold
Occupied Bandwid	th	Total Power	13.6 dBm		
1	54.92 MHz				Detector Peak▶
Transmit Freq Error	-61.821 kHz	% of OBW Pow	er 99.00 %		Auto <u>Man</u>
x dB Bandwidth	155.9 MHz	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: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dage 109 of 254			
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 108 of 254			
© 2021 PCTEST V 9.0 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 + $10\log_{10}(26dB BW) = 11 dBm + 10\log_{10}(19.36) = 23.87dBm$. The maximum e.i.r.p. shall not exceed the lesser of 1.0 W or 17 + 10 log10B, dBm.

In the 5.47 – 5.725GHz band, the maximum permissible conducted output power is the lesser of 250mW (23.98dBm) or 11 dBm + $10\log_{10}(26dB BW) = 11 dBm + 10\log_{10}(19.58) = 23.92dBm$. The maximum e.i.r.p. shall not exceed the lesser of 1.0 W or 17 + 10 log10B, dBm.

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

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

Test Procedure Used

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

Test Settings

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

Test Setup

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



Figure 7-3. Test Instrument & Measurement Setup

Test Notes

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

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 100 of 251	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 109 of 254	
© 2021 PCTEST	•		V 9.0 02/01/2019	



	Freq [MHz]	Channel	Detector	Conducted Power [dBm]		dBm]	Conducted Power Limit	Conducted Power	
2				ANT1	ANT2	MIMO	[dBm]	Margin [dB]	
E E	5180	36	AVG	16.46	16.71	19.60	23.98	-4.38	
i i i i i i i i i i i i i i i i i i i	5200	40	AVG	16.32	16.45	19.40	23.98	-4.58	
5	5220	44	AVG	16.44	16.43	19.45	23.98	-4.53	
andwidth	5240	48	AVG	16.45	16.56	19.52	23.98	-4.46	
Ba	5260	52	AVG	16.48	16.45	19.48	23.98	-4.50	
	5280	56	AVG	16.39	16.38	19.40	23.98	-4.58	
Hz	5300	60	AVG	16.18	16.38	19.29	23.98	-4.69	
(20MI	5320	64	AVG	16.02	16.14	19.09	23.98	-4.89	
50	5500	100	AVG	16.81	17.02	19.93	23.98	-4.05	
	5600	120	AVG	17.01	16.83	19.93	23.98	-4.05	
Hz	5620	124	AVG	16.83	16.72	19.79	23.98	-4.19	
5G	5720	144	AVG	16.35	15.73	19.06	23.98	-4.92	
LO .	5745	149	AVG	16.87	16.70	19.80	30.00	-10.20	
	5785	157	AVG	16.97	16.45	19.73	30.00	-10.27	
	5825	165	AVG	17.23	16.56	19.92	30.00	-10.08	

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

	Freq [MHz]	Channel	Detector	Conducted Power [dBm]		Conducted Power Limit	Conducted Power	
2				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
主	5180	36	AVG	16.47	16.51	19.50	23.98	-4.48
j;	5200	40	AVG	16.67	16.63	19.66	23.98	-4.32
5	5220	44	AVG	16.40	16.45	19.44	23.98	-4.54
Bandwidth)	5240	48	AVG	16.77	16.82	19.81	23.98	-4.17
a Ma	5260	52	AVG	16.07	16.14	19.12	23.98	-4.86
	5280	56	AVG	16.19	16.20	19.21	23.98	-4.77
Î	5300	60	AVG	16.84	16.85	19.86	23.98	-4.12
(20MHz	5320	64	AVG	16.34	16.39	19.37	23.98	-4.61
50	5500	100	AVG	16.67	16.82	19.76	23.98	-4.22
	5600	120	AVG	16.77	16.90	19.85	23.98	-4.13
ΗZ	5620	124	AVG	16.24	15.93	19.10	23.98	-4.88
5G	5720	144	AVG	16.27	16.01	19.15	23.98	-4.83
LC	5745	149	AVG	16.93	16.63	19.79	30.00	-10.21
	5785	157	AVG	16.18	15.83	19.02	30.00	-10.98
	5825	165	AVG	16.95	16.44	19.71	30.00	-10.29

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

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dogo 110 of 254	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	21 Portable Handset		Page 110 of 254	
© 2021 PCTEST	•			V 9.0 02/01/2019	



	Freq [MHz]	Channel	Detector	Conducted Power [dBm]		dBm]	Conducted Power Limit	Conducted Power
~				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
E	5180	36	AVG	16.78	16.82	19.81	23.98	-4.17
÷	5200	40	AVG	16.33	16.39	19.37	23.98	-4.61
	5220	44	AVG	16.37	16.28	19.34	23.98	-4.64
Bandwidth)	5240	48	AVG	16.39	16.44	19.43	23.98	-4.55
m	5260	52	AVG	16.73	16.85	19.80	23.98	-4.18
N	5280	56	AVG	16.09	16.10	19.11	23.98	-4.87
	5300	60	AVG	16.91	16.99	19.96	23.98	-4.02
(20M	5320	64	AVG	16.76	16.78	19.78	23.98	-4.20
50	5500	100	AVG	16.63	16.73	19.69	23.98	-4.29
	5600	120	AVG	16.85	16.92	19.90	23.98	-4.08
Hz	5620	124	AVG	16.10	16.13	19.13	23.98	-4.85
Ċ	5720	144	AVG	17.05	16.82	19.95	23.98	-4.03
Ū.	5745	149	AVG	17.15	16.80	19.99	30.00	-10.01
	5785	157	AVG	17.07	16.52	19.81	30.00	-10.19
	5825	165	AVG	17.18	16.46	19.85	30.00	-10.15

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

	Freq [MHz]	Channel	Detector	Conducted Power [dBm]		Conducted Power Limit	Conducted Power	
2				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
· · · · ·	5180	36	AVG	16.50	16.45	19.49	23.98	-4.49
i i i	5200	40	AVG	16.63	16.50	19.58	23.98	-4.40
5	5220	44	AVG	16.84	16.77	19.82	23.98	-4.16
Bandwidth)	5240	48	AVG	16.63	16.54	19.60	23.98	-4.38
a Ma	5260	52	AVG	16.16	16.08	19.13	23.98	-4.85
	5280	56	AVG	16.42	16.39	19.42	23.98	-4.56
Î	5300	60	AVG	16.59	16.54	19.58	23.98	-4.40
(20MHz	5320	64	AVG	16.51	16.27	19.40	23.98	-4.58
50	5500	100	AVG	16.15	16.38	19.28	23.98	-4.70
	5600	120	AVG	16.34	16.42	19.39	23.98	-4.59
Hz	5620	124	AVG	16.37	16.28	19.34	23.98	-4.64
5G	5720	144	AVG	16.84	16.51	19.69	23.98	-4.29
Ω.	5745	149	AVG	16.25	16.27	19.27	30.00	-10.73
	5785	157	AVG	16.15	15.93	19.05	30.00	-10.95
	5825	165	AVG	16.50	16.00	19.27	30.00	-10.73

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

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 111 of 251	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 111 of 254	
© 2021 PCTEST	•		V 9.0 02/01/2019	



	Freq [MHz]	Channel	Detector	Conc	lucted Power [Conducted Power Limit	Conducted Power	
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
(40MHz width)	5190	38	AVG	16.94	16.80	19.88	23.98	-4.10
	5230	46	AVG	16.12	16.13	19.14	23.98	-4.84
	5270	54	AVG	16.65	16.86	19.77	23.98	-4.21
<u>4</u>	5310	62	AVG	16.23	15.98	19.12	23.98	-4.86
hd	5510	102	AVG	16.73	16.65	19.70	23.98	-4.28
Ba Ba	5590	118	AVG	16.43	16.36	19.41	23.98	-4.57
22 Ш	5630	126	AVG	16.76	16.35	19.57	23.98	-4.41
	5710	142	AVG	16.95	16.91	19.94	23.98	-4.04
	5755	151	AVG	16.85	16.51	19.69	30.00	-10.31
	5795	159	AVG	16.65	16.10	19.39	30.00	-10.61

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

	Freq [MHz]	Channel	Detector	Cond	lucted Power [dBm]	Conducted Power Limit	Conducted Power
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
P C	5190	38	AVG	16.58	16.29	19.45	23.98	-4.53
0MH; idth)	5230	46	AVG	16.05	16.07	19.07	23.98	-4.91
(40MH) (width)	5270	54	AVG	16.55	16.75	19.66	23.98	-4.32
łz (4 ndw	5310	62	AVG	16.62	16.81	19.73	23.98	-4.25
Hzanc	5510	102	AVG	16.23	15.77	19.02	23.98	-4.96
Ва Ва	5590	118	AVG	16.76	16.65	19.72	23.98	-4.26
5C	5630	126	AVG	16.59	16.23	19.42	23.98	-4.56
	5710	142	AVG	16.65	16.38	19.53	23.98	-4.45
	5755	151	AVG	16.42	16.04	19.24	30.00	-10.76
	5795	159	AVG	16.33	15.88	19.12	30.00	-10.88

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

	Freq [MHz]	Channel	Detector	Cond	lucted Power [dBm]	Conducted Power Limit	Conducted Power
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
P C	5190	38	AVG	16.28	16.23	19.27	23.98	-4.71
łz (40M⊢ ndwidth	5230	46	AVG	16.24	16.15	19.21	23.98	-4.77
	5270	54	AVG	16.29	16.38	19.35	23.98	-4.63
	5310	62	AVG	16.25	16.45	19.36	23.98	-4.62
Hz anc	5510	102	AVG	16.53	16.42	19.49	23.98	-4.49
Ba Ba	5590	118	AVG	17.02	16.76	19.90	23.98	-4.08
- 2C	5630	126	AVG	17.00	16.72	19.87	23.98	-4.11
	5710	142	AVG	16.14	16.22	19.19	23.98	-4.79
	5755	151	AVG	16.15	15.84	19.01	30.00	-10.99
	5795	159	AVG	16.91	16.38	19.66	30.00	-10.34

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

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 112 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 112 of 254
© 2021 PCTEST	•		V 9.0 02/01/2019



	Freq [MHz]	Channel	Detector	Conc	lucted Power [dBm]	Conducted Power Limit	Conducted Power
F (c				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
GHz (80MH; Bandwidth)	5210	42	AVG	16.35	16.13	19.25	23.98	-4.73
	5290	58	AVG	15.95	15.80	18.89	23.98	-5.09
Hz anc	5530	106	AVG	16.40	16.23	19.33	23.98	-4.65
5GI Ba	5610	122	AVG	16.75	16.14	19.47	23.98	-4.51
	5690	138	AVG	16.00	15.40	18.72	23.98	-5.26
	5775	155	AVG	15.95	15.40	18.69	30.00	-11.31

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

	Freq [MHz]	Channel	Detector	Cond	lucted Power [dBm]	Conducted Power Limit	Conducted Power
łz (80MHz ndwidth)				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
	5210	42	AVG	16.00	15.83	18.93	23.98	-5.05
	5290	58	AVG	16.50	16.34	19.43	23.98	-4.55
	5530	106	AVG	15.84	15.90	18.88	23.98	-5.10
5GI Ba	5610	122	AVG	16.16	15.71	18.95	23.98	-5.03
	5690	138	AVG	16.40	15.94	19.19	23.98	-4.79
	5775	155	AVG	15.90	15.60	18.76	30.00	-11.24

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

GHz 0MHz 1width)	Freq [MHz] Channel		Detector	Conc	Conducted Power [dBm]		Conducted Power Limit	Conducted Power
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
5((16 anc	5250	50	AVG	15.95	15.56	18.77	23.98	-5.21
ä	5570	114	AVG	15.68	15.47	18.59	30.00	-11.41

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

GHz 0MHz dwidth)	Freq [MHz]	Channel	Detector	Conc	lucted Power [dBm]	Conducted Power Limit	Conducted Power
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
5((16 anc	5250	50	AVG	15.92	15.52	18.73	23.98	-5.25
Ä	5570	114	AVG	15.64	15.42	18.54	30.00	-11.46

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

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 113 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 113 01 254
© 2021 PCTEST	•		V 9.0 02/01/2019



IIN	Freq [MHz] BW [MHz]	Channel	Detector	с	onducted Pow	er	Directional Gain	Max e.i.r.p [dBm]	Max e.i.r.p Limit (dBm)	e.i.r.p Margin [dB]	
_ ت ج				Ant1	Ant2	Mimo	Cam	[abiii]	Ennie [aBin]	[0.5]	
44	5845		169	AVG	17.22	16.71	19.98	-4.29	12.93	30.00	-17.07
Ū	5865	20	173	AVG	17.26	16.60	19.95	-4.29	12.97	30.00	-17.03
ũ	5885		177	AVG	17.19	16.42	19.83	-4.29	12.90	30.00	-17.10

Table 7-19. MIMO 802.11a (UNII 4) Maximum Conducted Output Power and e.i.r.p.

Freq [MHz]	BW [MHz]	Channel	Detector	с	onducted Powe	er	Directional	rectional Max e.i.r.p Gain [dBm]	Max e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]	
Ę					Ant1	Ant2	Mimo	Gain	[abilit		[ub]
Ð	5845		169	AVG	17.12	16.38	19.78	-4.29	12.83	30.00	-17.17
) z	5865	20	173	AVG	16.90	16.23	19.59	-4.29	12.61	30.00	-17.39
	5885		177	AVG	17.06	16.28	19.70	-4.29	12.77	30.00	-17.23
56	5835	40 -	167	AVG	16.55	15.84	19.22	-4.29	12.26	30.00	-17.74
	5875		175	AVG	16.93	16.50	19.73	-4.29	12.64	30.00	-17.36

Table 7-20. MIMO 802.11n (UNII 4) Maximum Conducted Output Power and e.i.r.p.

4)	Freq [MHz] BW	BW [MHz] Channel		Detector	Conducted Power			Directional Gain	Max e.i.r.p [dBm]	Max e.i.r.p	e.i.r.p Margin [dB]
					Ant1	Ant2	Mimo	Gain	[ubiii]	Limit [dBm] 30.00 30.00 30.00 30.00 30.00 30.00	[ub]
Ī	5845		169	AVG	17.19	16.74	19.98	-4.29	12.90	30.00	-17.10
Ð	5865	20	173	AVG	17.20	16.32	19.79	-4.29	12.91	30.00	-17.09
) 2	5885		177	AVG	17.10	16.32	19.74	-4.29	12.81	30.00	-17.19
	5835	40	167	AVG	16.99	16.29	19.66	-4.29	12.70	30.00	-17.30
5GF	5875	40	175	AVG	17.00	16.37	19.71	-4.29	12.71	30.00	-17.29
	5855	80	171	AVG	16.69	15.83	19.29	-4.29	12.40	30.00	-17.60
	5815	160	163	AVG	15.69	15.15	18.44	-4.29	11.40	36.00	-24.60

Table 7-21. MIMO 802.11ac (UNII 4) Maximum Conducted Output Power and e.i.r.p.

	Freq [MHz]	BW [MHz]	BW [MHz]	(Hz] Channel	Channel	[MHz] Channel	Detector	с	onducted Pow	er	Directional Gain	Max e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
4					Ant1	Ant2	Mimo	Gain	[ubiii]	Linik [GBin]	[ab]			
₹	5845	20	169	AVG	17.10	16.44	19.79	-4.29	12.81	30.00	-17.19			
5	5865		173	AVG	17.24	16.51	19.90	-4.29	12.95	30.00	-17.05			
) и	5885		177	AVG	17.28	16.54	19.94	-4.29	12.99	30.00	-17.01			
	5835	40	167	AVG	17.18	16.76	19.99	-4.29	12.89	30.00	-17.11			
2 G	5875	40	175	AVG	17.34	16.58	19.99	-4.29	13.05	30.00	-16.95			
	5855 80	171	AVG	16.59	16.12	19.37	-4.29	12.30	30.00	-17.70				
	5815	160	163	AVG	15.94	15.73	18.85	-4.29	11.65	36.00	-24.35			

Table 7-22. MIMO 802.11ax (UNII 4) Maximum Conducted Output Power and e.i.r.p.

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 114 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 114 of 254
© 2021 PCTEST			V 9.0 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 16.89 dBm for Antenna-1 and 16.69 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

(16.89 dBm + 16.69 dBm) = (48.87 mW + 46.67 mW) = 95.53 mW = 19.80 dBm

Sample e.i.r.p. Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average MIMO conducted power was calculated to be 19.80 dBm with directional gain of -3.72 dBi.

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

19.80 dBm + -3.72 dBi = 16.08 dBm

FCC ID: A3LSMS906E	PCTEST [®] Proud to be part of [®] element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 115 of 254	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset		Page 115 of 254	
© 2021 PCTEST	•			V 9.0 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, 5.25 – 5.35GHz, 5.47 – 5.725GHz bands, the maximum permissible power spectral density is 11dBm/MHz.

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

In the 5.850 – 5.855, 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: A3LSMS906E	PCTEST [®] Proud to be part of [®] element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 116 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset		Page 116 of 254
© 2021 PCTEST	•	·		V 9.0 02/01/2019



Summed MIMO Power Spectral Density Measurements

	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	а	6	3.61	4.13	6.89	11.0	-4.11
	5200	40	а	6	4.15	4.79	7.49	11.0	-3.51
	5240	48	а	6	4.55	4.82	7.70	11.0	-3.30
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	3.88	3.62	6.76	11.0	-4.24
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	4.00	4.01	7.02	11.0	-3.98
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	4.24	4.29	7.28	11.0	-3.72
-	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	3.38	3.51	6.46	11.0	-4.54
Band 1	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	3.95	3.98	6.97	11.0	-4.03
B	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	4.16	4.36	7.27	11.0	-3.73
	5190	38	n (40MHz)	13.5/15 (MCS0)	-0.81	-0.78	2.22	11.0	-8.78
	5230	46	n (40MHz)	13.5/15 (MCS0)	-0.16	-0.37	2.74	11.0	-8.26
	5190	38	ax (40MHz)	13.5/15 (MCS0)	1.84	2.00	4.93	11.0	-6.07
	5230	46	ax (40MHz)	13.5/15 (MCS0)	1.91	2.02	4.98	11.0	-6.02
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-2.92	-2.13	0.50	11.0	-10.50
	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	-3.47	-3.53	-0.49	11.0	-11.49
Pd A	5250	50	ac (160MHz)	58.5/65 (MCS0)	-5.41	-6.05	-2.71	11.0	-13.71
Band 1/2A	5250	50	ax (160MHz)	58.5/65 (MCS0)	-6.07	-6.21	-3.13	11.0	-14.13
_	5260	52	a	6	4.20	4.38	7.30	11.0	-3.70
	5280	56	a	6	4.69	5.05	7.88	11.0	-3.12
	5320	64	a	6	4.22	4.39	7.32	11.0	-3.68
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	3.69	3.62	6.67	11.0	-4.33
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	3.43	3.68	6.57	11.0	-4.43
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	3.80	4.24	7.04	11.0	-3.96
∢	5260	52	ax (20MHz)	6.5/7.2 (MCS0)	3.40	3.75	6.59	11.0	-4.41
d 2	5280	56	ax (20MHz)	6.5/7.2 (MCS0)	3.11	3.63	6.39	11.0	-4.61
Band 2A	5320	64	ax (20MHz)	6.5/7.2 (MCS0)	3.67	3.81	6.75	11.0	-4.25
	5270	54	n (40MHz)		0.23	0.35	3.30	11.0	-4.25
	5270	54 62	n (40MHz)	13.5/15 (MCS0) 13.5/15 (MCS0)	-0.28	0.33	3.05	11.0	-7.95
		54	ax (40MHz)	. ,	-0.20		4.02	11.0	
	5270		,	13.5/15 (MCS0)	0.30	0.76			-6.98
	5310	62	ax (40MHz)	13.5/15 (MCS0)			3.68	11.0	-7.32
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-3.02	-2.57	0.22	11.0	-10.78
	5290	58	ax (80MHz)	29.3/32.5 (MCS0)	-3.06	-2.89	0.04	11.0	-10.96
	5500	100	а	6	4.61	4.70	7.66	11.0	-3.34
	5600	120	а	6	4.99	5.27	8.14	11.0	-2.86
	5720	144	а	6	5.19	4.99	8.10	11.0	-2.90
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	4.58	4.36	7.48	11.0	-3.52
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	4.71	4.66	7.70	11.0	-3.30
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	4.86	5.12	8.00	11.0	-3.00
	5500	100	ax (20MHz)	6.5/7.2 (MCS0)	3.59	4.47	7.06	11.0	-3.94
	5600	120	ax (20MHz)	6.5/7.2 (MCS0)	4.33	4.84	7.60	11.0	-3.40
	5720	144	ax (20MHz)	6.5/7.2 (MCS0)	4.56	4.71	7.65	11.0	-3.35
	5510	102	n (40MHz)	13.5/15 (MCS0)	0.12	-0.33	2.91	11.0	-8.09
2C	5590	118	n (40MHz)	13.5/15 (MCS0)	0.39	-0.14	3.15	11.0	-7.85
Band	5710	142	n (40MHz)	13.5/15 (MCS0)	0.64	-0.52	3.11	11.0	-7.89
B	5510	102	ax (40MHz)	13.5/15 (MCS0)	1.36	0.98	4.18	11.0	-6.82
	5590	118	ax (40MHz)	13.5/15 (MCS0)	1.31	1.17	4.25	11.0	-6.75
	5710	142	ax (40MHz)	13.5/15 (MCS0)	1.60	1.33	4.48	11.0	-6.52
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-2.52	-1.67	0.94	11.0	-10.06
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-1.91	-1.97	1.07	11.0	-9.93
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-4.49	-4.71	-1.59	11.0	-12.59
	5530	106	ax (80MHz)	29.3/32.5 (MCS0)	-3.23	-2.98	-0.09	11.0	-11.09
	5610	122	ax (80MHz)	29.3/32.5 (MCS0)	-2.87	-3.16	0.00	11.0	-11.00
	5690	138	ax (80MHz)	29.3/32.5 (MCS0)	-5.25	-5.44	-2.33	11.0	-13.33
	5570	114	ac (160MHz)	58.5/65 (MCS0)	-7.55	-6.51	-3.99	11.0	-14.99
	5570	114	ax (160MHz)	58.5/65 (MCS0)	-6.88	-7.24	-4.05	11.0	-15.05
	ablo 7-2		, ,	C MIMO Con					

 Table 7-23. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 117 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 117 of 254
© 2021 PCTEST			V 9.0 02/01/2019



	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 Permissible Power Density [dBm/500kHz]	Margin [dB]
	5745	149	а	6	1.96	1.89	4.93	30.0	-25.07
	5785	157	а	6	2.10	1.73	4.93	30.0	-25.07
	5825	165	а	6	2.40	1.88	5.16	30.0	-24.84
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	2.15	1.58	4.88	30.0	-25.12
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	1.78	1.45	4.63	30.0	-25.37
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	2.40	1.44	4.96	30.0	-25.04
e	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	1.40	1.42	4.42	30.0	-25.58
Band	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	1.91	1.49	4.72	30.0	-25.28
ä	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	2.04	1.47	4.77	30.0	-25.23
	5755	151	n (40MHz)	13.5/15 (MCS0)	-2.48	-2.67	0.44	30.0	-29.56
	5795	159	n (40MHz)	13.5/15 (MCS0)	-2.28	-2.45	0.65	30.0	-29.35
	5755	151	ax (40MHz)	13.5/15 (MCS0)	-1.61	-1.68	1.37	30.0	-28.63
	5795	159	ax (40MHz)	13.5/15 (MCS0)	-1.61	-1.84	1.29	30.0	-28.71
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-3.02	-2.11	0.47	30.0	-29.53
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	-2.94	-2.88	0.10	30.0	-29.90

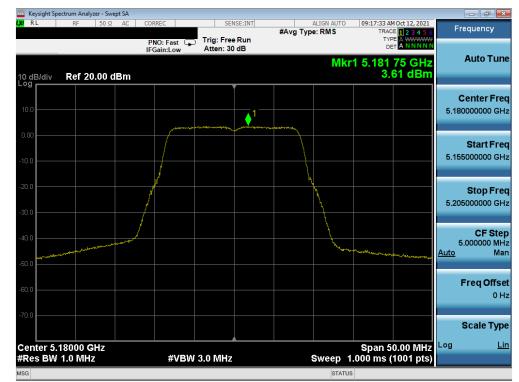
Table 7-24. Band 3 MIMO Conducted Power Spectral Density Measurements

	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	5.38	4.18	7.83	-4.29	3.54	14.00	-10.46
Band 4	5865	173	а	6	4.93	4.59	7.77	-4.29	3.48	14.00	-10.52
Dallu 4	5885	177	а	6	4.95	4.61	7.79	-4.29	3.50	14.00	-10.50
Band 3/4	5845	169	n (20MHz)	6.5/7.2 (MCS0)	4.97	3.81	7.44	-4.29	3.15	14.00	-10.85
Band 4	5865	173	n (20MHz)	6.5/7.2 (MCS0)	3.74	4.06	6.91	-4.29	2.62	14.00	-11.38
Dallu 4	5885	177	n (20MHz)	6.5/7.2 (MCS0)	4.08	4.32	7.21	-4.29	2.92	14.00	-11.08
Band 3/4	5845	169	ax (20MHz)	6.5/7.2 (MCS0)	4.80	3.92	7.39	-4.29	3.10	14.00	-10.90
David 4	5865	173	ax (20MHz)	6.5/7.2 (MCS0)	3.84	4.02	6.94	-4.29	2.65	14.00	-11.35
Band 4	5885	177	ax (20MHz)	6.5/7.2 (MCS0)	3.83	4.19	7.02	-4.29	2.73	14.00	-11.27
Band 3/4	5835	167	n (40MHz)	13.5/15 (MCS0)	-0.14	1.02	3.49	-4.29	-0.80	14.00	-14.80
Band 4	5875	175	n (40MHz)	13.5/15 (MCS0)	0.32	1.32	3.86	-4.29	-0.43	14.00	-14.43
Band 3/4	5835	167	ax (40MHz)	13.5/15 (MCS0)	0.61	0.87	3.75	-4.29	-0.54	14.00	-14.54
Band 4	5875	175	ax (40MHz)	13.5/15 (MCS0)	0.27	0.88	3.60	-4.29	-0.69	14.00	-14.69
	5855	171	ac (80MHz)	29.3/32.5 (MCS0)	-3.52	-2.27	0.16	-4.29	-4.13	14.00	-18.13
Band 2/4	5855	171	ax (80MHz)	29.3/32.5 (MCS0)	-3.32	-3.89	-0.59	-4.29	-4.87	14.00	-18.87
Band 3/4	5815	163	ac (160MHz)	58.5/65 (MCS0)	-5.26	-5.41	-2.32	-4.29	-6.61	14.00	-20.61
	5815	163	ax (160MHz)	58.5/65 (MCS0)	-4.89	-5.26	-2.06	-4.29	-6.35	14.00	-20.35

Table 7-25. Band 4 MIMO e.i.r.p Spectral Density Measurements

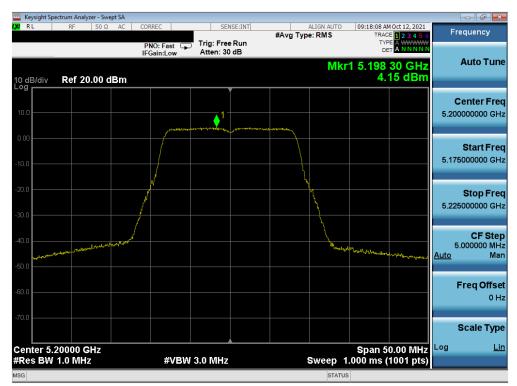
FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 119 of 254	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 118 of 254	
© 2021 PCTEST			V 9.0 02/01/2019	





MIMO Antenna-1 Power Spectral Density Measurements

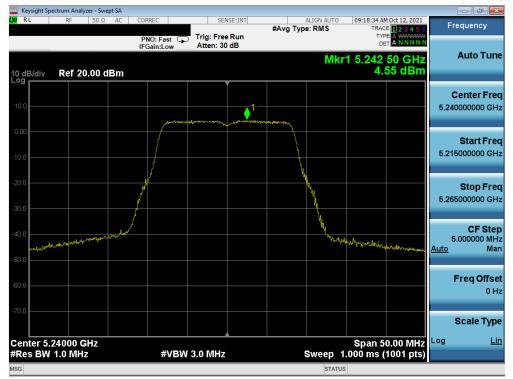




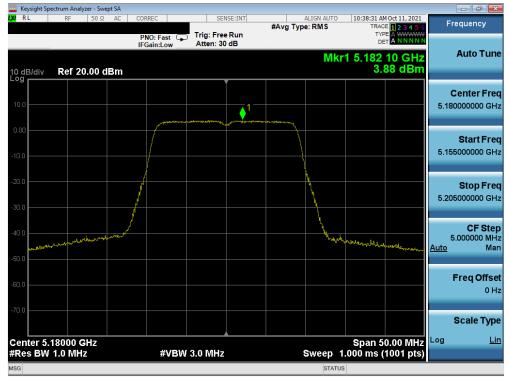
Plot 7-176. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 1) - Ch. 40)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 110 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset		Page 119 of 254
© 2021 PCTEST	•	•		V 9.0 02/01/2019





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



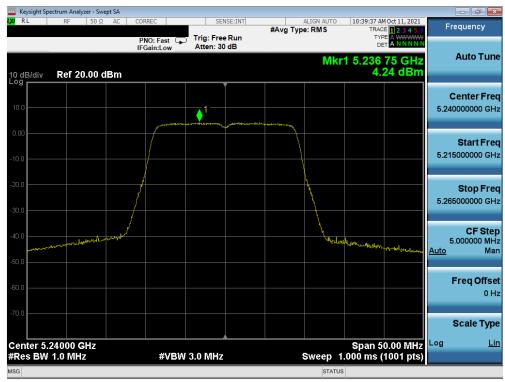
Plot 7-178. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 36)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 251
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 120 of 254
© 2021 PCTEST			V 9.0 02/01/2019





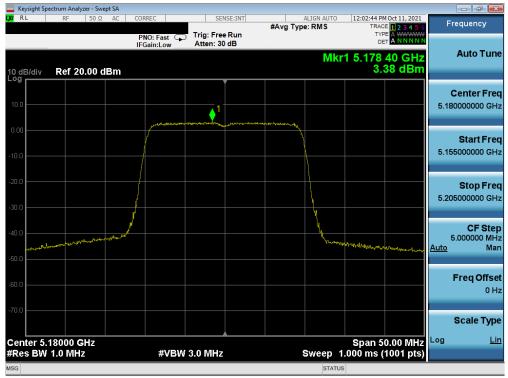
Plot 7-179. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 40)



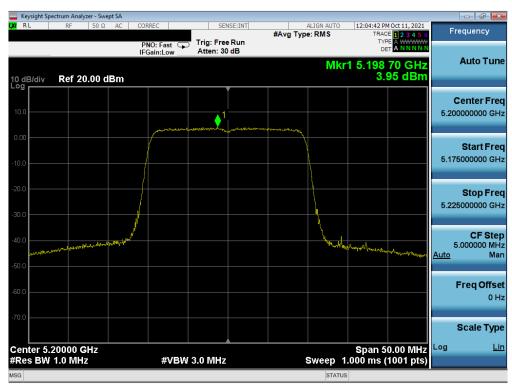
Plot 7-180. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 48)

FCC ID: A3LSMS906E	PCTEST [®] Proud to be part of [®] element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 121 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 121 of 254
© 2021 PCTEST	•	•	V 9.0 02/01/2019





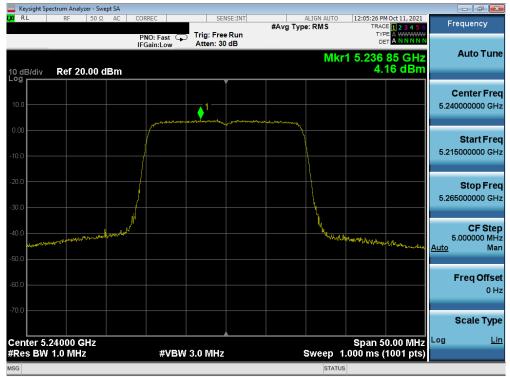
Plot 7-181. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 36)



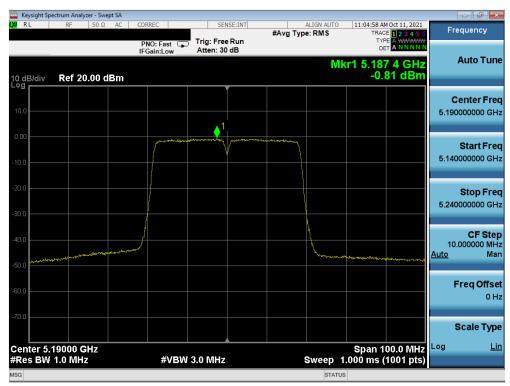
Plot 7-182. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 40)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 100 of 054	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 122 of 254	
© 2021 PCTEST V 9.0 02/01/2019				





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



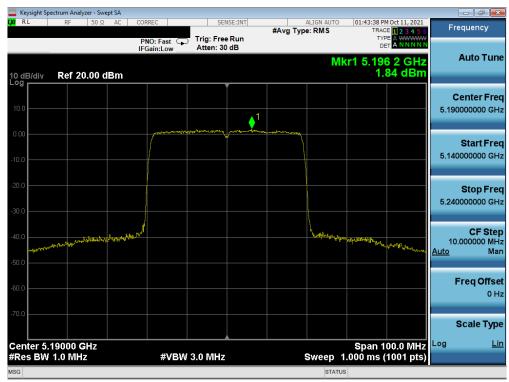
Plot 7-184. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 1) - Ch. 38)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 102 of 254	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 123 of 254	
© 2021 PCTEST V 9.0 02/01/2019				



Keysight Spectrum Analyzer - Swept SA					
LX RL RF 50Ω AC	CORREC SE	NSE:INT #Avg Typ	e: RMS T	0 AM Oct 11, 2021 RACE 1 2 3 4 5 6	Frequency
	PNO: Fast Trig: Fre IFGain:Low Atten: 30				
10 dB/div Ref 20.00 dBm			Mkr1 5.2	23 6 GHz 0.16 dBm	Auto Tune
10.0	1				Center Freq 5.230000000 GHz
-10.0					Start Freq 5.180000000 GHz
-20.0					Stop Freq 5.280000000 GHz
-40.0	June -		Most was a second	hoper and a strategy of the	CF Step 10.000000 MHz Auto Man
-60.0					Freq Offset 0 Hz
-70.0					Scale Type
Center 5.23000 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz		Spar Sweep 1.000 m	100.0 10112	
MSG			STATUS		

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



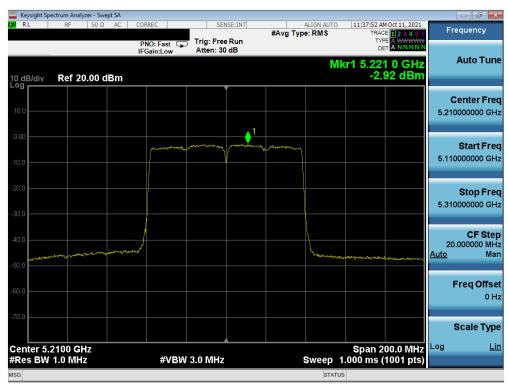
Plot 7-186. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 1) - Ch. 38)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 124 of 254	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 124 of 254	
© 2021 PCTEST V 9.0 02/01/2019				





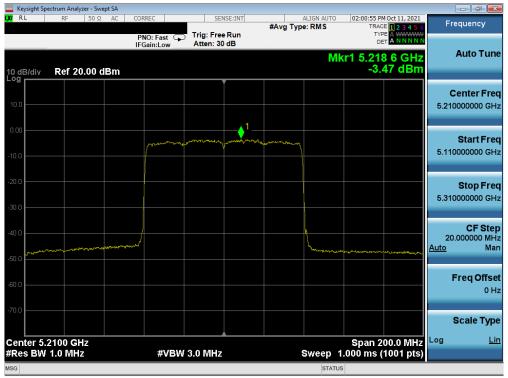
Plot 7-187. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 1) - Ch. 46)



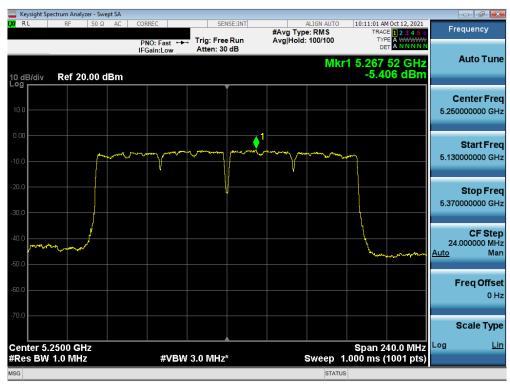
Plot 7-188. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 1) - Ch. 42)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 125 of 254	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 125 of 254	
© 2021 PCTEST V 9.0 02/01/2019				





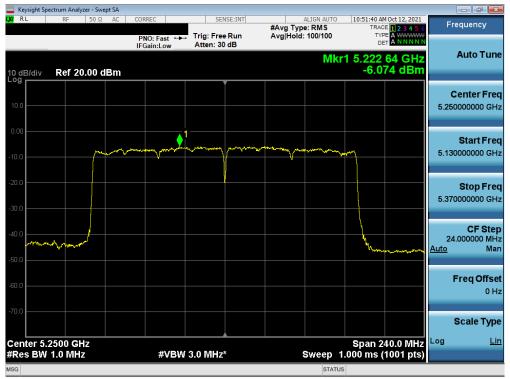
Plot 7-189. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 1) - Ch. 42)



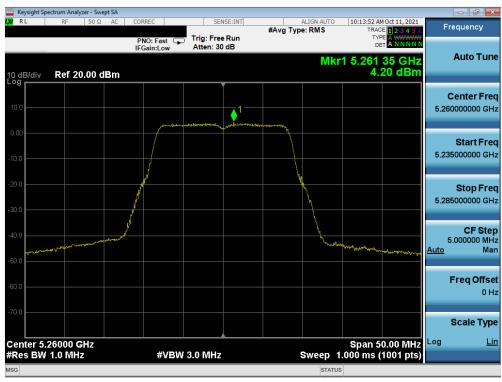
Plot 7-190. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11ac (UNII Band 1) - Ch. 50)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Degs 100 of 051	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 126 of 254	
© 2021 PCTEST V 9.0 02/01/2019				





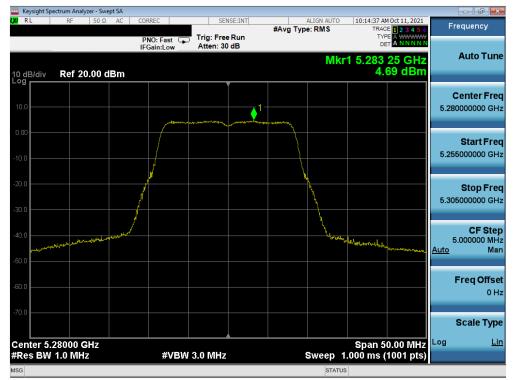
Plot 7-191. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11ax (UNII Band 1) - Ch. 50)



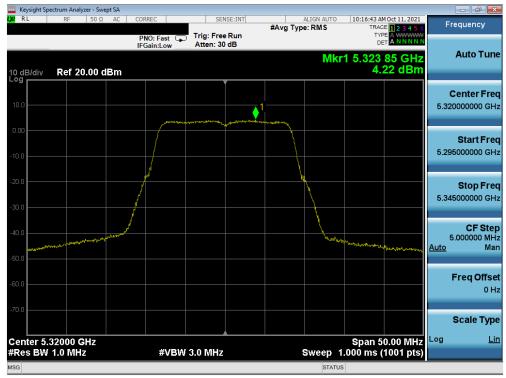
Plot 7-192. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 107 of 054
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset		Page 127 of 254
© 2021 PCTEST	·			V 9.0 02/01/2019





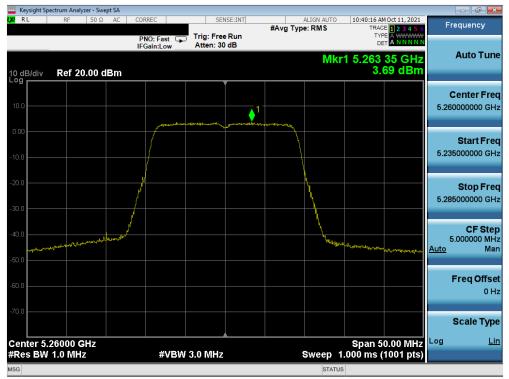
Plot 7-193. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2A) - Ch. 56)



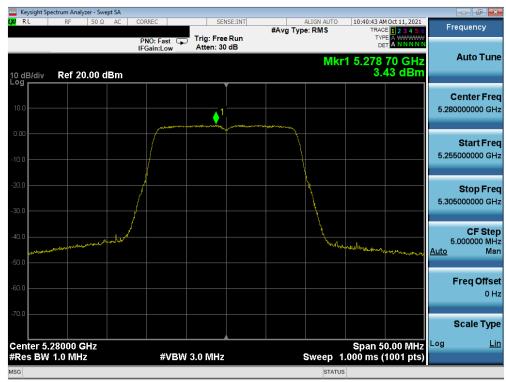
Plot 7-194. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 129 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 128 of 254
© 2021 PCTEST	-		V 9.0 02/01/2019





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



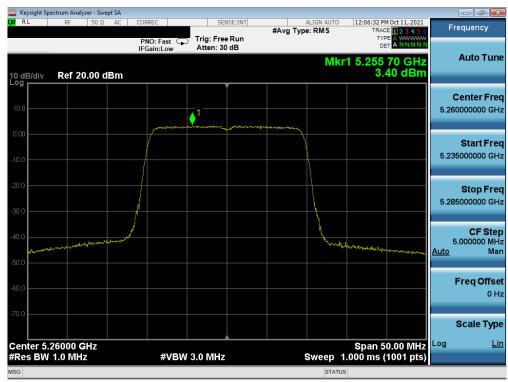
Plot 7-196. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMS906E	PCTEST [®] Proud to be part of [®] element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 129 of 254
© 2021 PCTEST	•		V 9.0 02/01/2019



	Analyzer - Swept SA					
L <mark>XV</mark> RL RF	F 50 Ω AC	CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	10:41:08 AM Oct 11, 2021 TRACE 1 2 3 4 5 6	Frequency
		PNO: Fast IFGain:Low	Trig: Free Run Atten: 30 dB	• 11	DET A WWWW	
10 dB/div Re	f 20.00 dBm			Mki	r1 5.316 55 GHz 3.80 dBm	Auto Tune
10.0		والاستياريني	1 Jackson Jackson			Center Freq 5.320000000 GHz
-10.0						Start Freq 5.295000000 GHz
-20.0		/				Stop Freq 5.345000000 GHz
-40.0	ad a for the second				Marin marine and and a start	CF Step 5.000000 MHz <u>Auto</u> Man
-60.0						Freq Offset 0 Hz
-70.0 Center 5.3200	0.00				Span 50.00 MHz	Scale Type
#Res BW 1.0		#VBW	3.0 MHz	Sweep	1.000 ms (1001 pts)	
MSG				STATU	s	

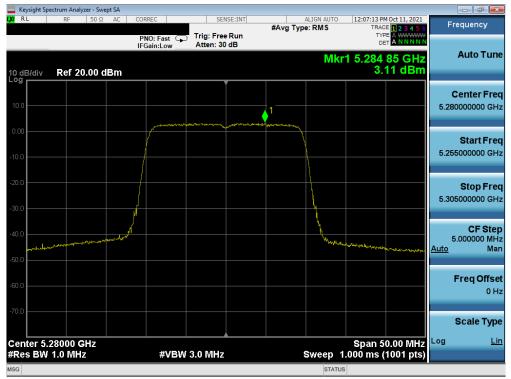
Plot 7-197. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 64)



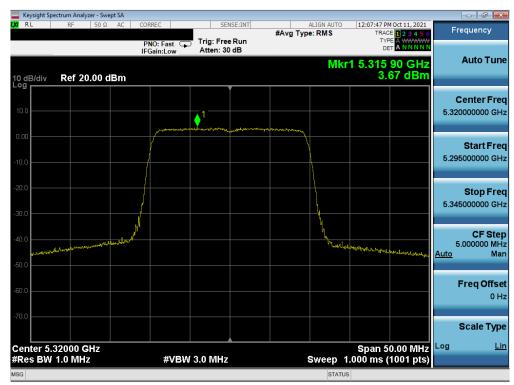
Plot 7-198. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dogo 120 of 254		
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 130 of 254		
© 2021 PCTEST	© 2021 PCTEST V 9.0 02/01/2019				





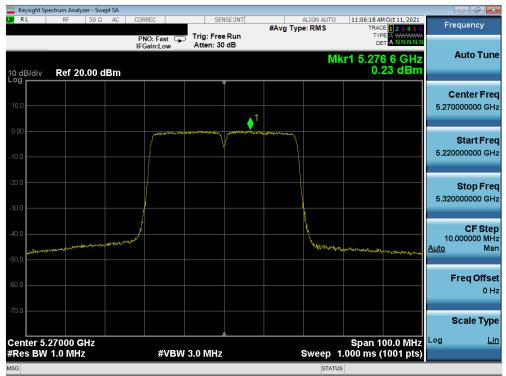
Plot 7-199. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 56)



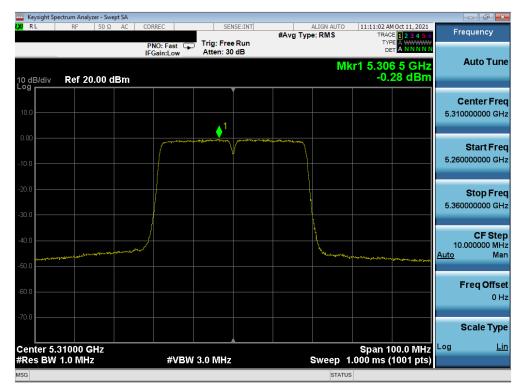
Plot 7-200. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dega 121 of 254		
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 131 of 254		
© 2021 PCTEST	© 2021 PCTEST V 9.0 02/01/2019				





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



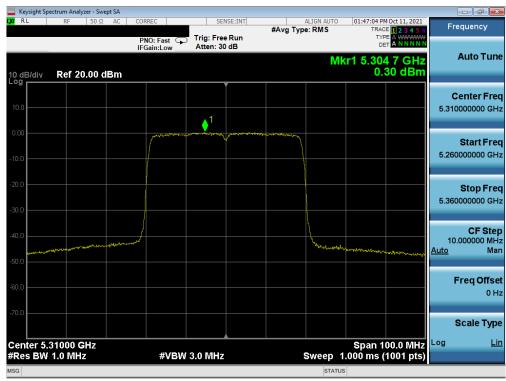
Plot 7-202. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 422 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 132 of 254
© 2021 PCTEST			V 9.0 02/01/2019



PNO: Fast Trig: Free Run IFGain.Low Trig: Free Run Atten: 30 dB Mkr1 5.277 4 GHz 1.25 dBm Auto Tune 0 dB/div Ref 20.00 dBm 0		ctrum Analyzer - Swe									×
Atten: 30 dB Mkr1 5.277 4 GHz 1.25 dBm Center Freq 5.27000000 GHz Start Freq 5.2200000 GHz Center 5.27000 GHz Freq Offset Center 5.27000 GHz Freq Start Span 100.0 MHz Sweep 1.000 ms (1001 pts)	X/RL	RF 50 Ω	AC CO	RREC				TRAC	E 1 2 3 4 5 6	Frequency	/
Center Freq 5.27000000 GHz The set of the s	10 dB(div	Pef 20.00 d	IF				Mł	or 1 5.27	⁴ GHz	Auto T	'une
100 Start Freq 200 Start Freq 200 Stop Freq 300 Stop Freq 400 Stop Freq 500 Stop Freq 600 Stop Freq 600 Stop Freq 700 Stop Freq 600 Stop Freq <											
30.0 40.0 50.0 60.0 70.0 CF Step 10.000000 MHz Auto Man Freq Offset 0 Hz Scale Type Center 5.27000 GHz #VBW 3.0 MHz \$\$2000000 GHz \$\$2000000 GHz \$\$200000 GHz \$\$2000000 GHz \$\$2000000 GHz \$\$2000000 GHz \$\$2000000 GHz \$\$2000000 GHz \$\$2000000 GHz \$\$2000000 GHz \$\$2000000 GHz \$\$2000000 GHz \$\$200000 GHz \$\$2000000 GHz \$\$200000 GHz \$\$2000000 GHz \$\$200000 GHz \$\$2000000 GHz \$\$200000 GHz \$\$200000 GHz \$\$200000 GHz \$\$200000 GHz \$\$200000 GHz \$\$200000 GHz \$\$20000 GHz \$\$200000 GHz \$\$20000 GHz \$\$200000 GHz \$\$2000000 GHz \$\$20000000000000 GHz \$\$200000000000	-10.0					~					
Auto Man 600 700 Center 5.27000 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts)	-20.0			f 						-	
6000 60000 6000	-40.0	hater they want and the fact of the factor o	add for the second s				Walderta	he personality and the second	unter muy	10.000000	MHz
Center 5.27000 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts)	-60.0										f fset 0 Hz
	Center 5.2							Span 1	00.0 MHz		
	#Res BW	T.U WIHZ		#VBW	J.U WIHZ				1001 pts)		

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



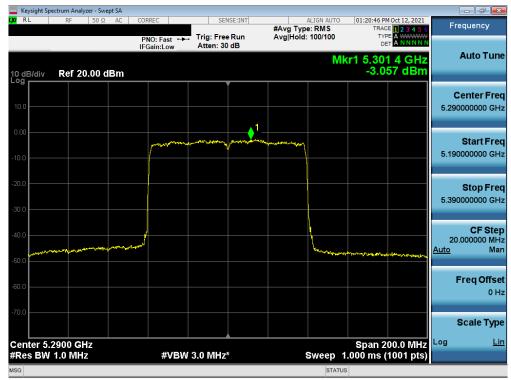
Plot 7-204. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 122 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 133 of 254
© 2021 PCTEST	V 9.0 02/01/2019		





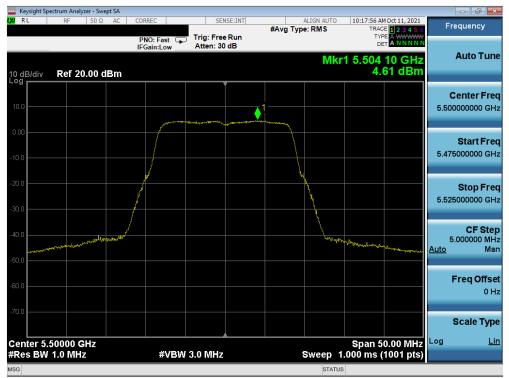
Plot 7-205. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 2A) - Ch. 58)



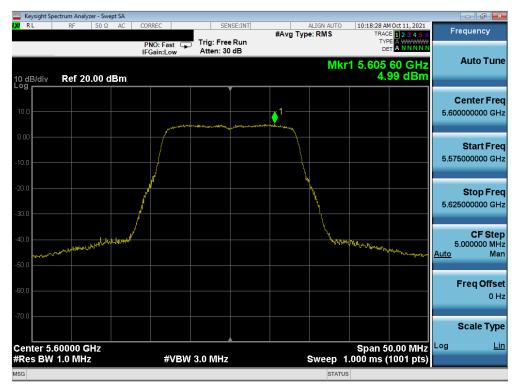
Plot 7-206. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dogo 124 of 254		
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 134 of 254		
© 2021 PCTEST	© 2021 PCTEST V 9.0 02/01/2019				





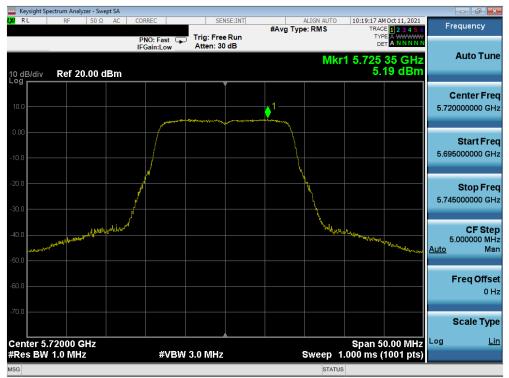
Plot 7-207. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2C) – Ch. 100)



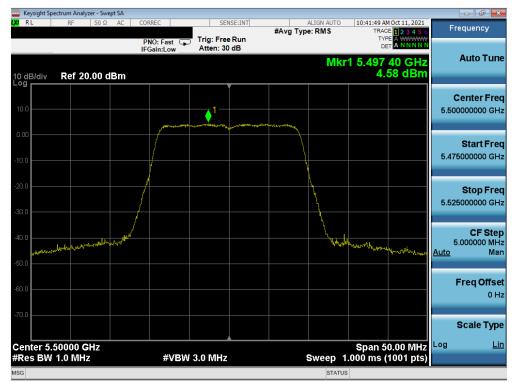
Plot 7-208. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 125 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 135 of 254
© 2021 PCTEST			V 9.0 02/01/2019





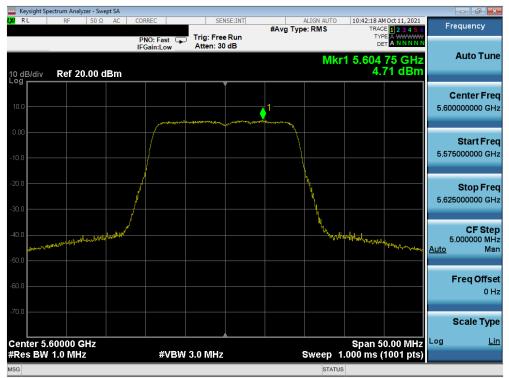
Plot 7-209. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2C) – Ch. 144)



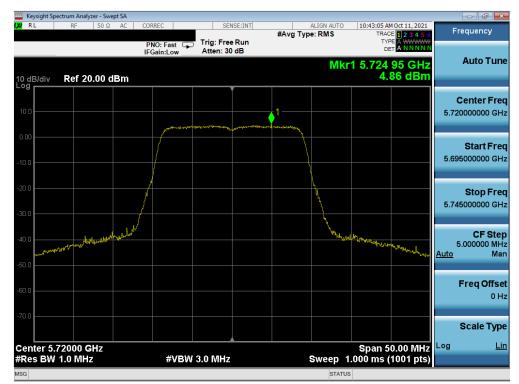
Plot 7-210. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 100)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 126 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 136 of 254
© 2021 PCTEST	•		V 9.0 02/01/2019





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



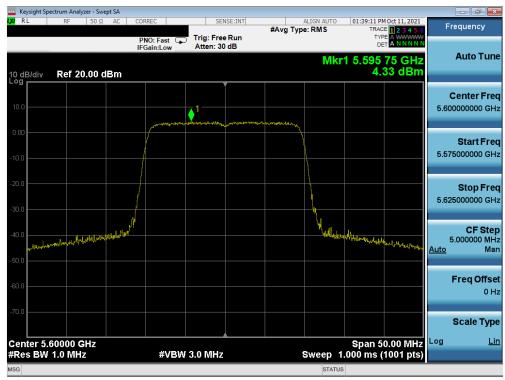
Plot 7-212. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 127 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 137 of 254
© 2021 PCTEST	•		V 9.0 02/01/2019



Keysight Spectrum Analyzer - Swept SA					
XI RL RF 50Ω AC	CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	01:38:35 PM Oct 11, 2021 TRACE 1 2 3 4 5 6	Frequency
	PNO: Fast 😱 IFGain:Low	Trig: Free Run Atten: 30 dB			
10 dB/div Ref 20.00 dBm	1		Mkr	1 5.502 45 GHz 3.59 dBm	Auto Tune
10.0	ر میروند. مربوم میسین میروند	1			Center Freq 5.50000000 GHz
10.00					Start Freq 5.475000000 GHz
30.0					Stop Fred 5.525000000 GHz
40.0			- Vo	Waly months of your promising	CF Step 5.000000 MHz <u>Auto</u> Mar
60.0					Freq Offse 0 H:
-70.0 Center 5.50000 GHz				Span 50.00 MHz	Scale Type
Res BW 1.0 MHz	#VBW	3.0 MHz	Sweep 1	.000 ms (1001 pts)	
ISG			STATUS	3	

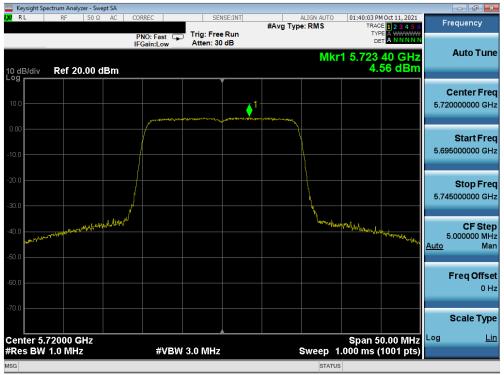
Plot 7-213. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 100)



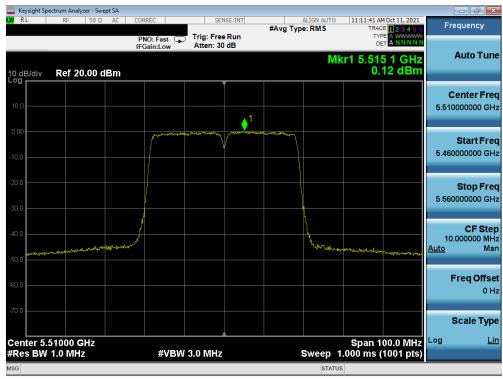
Plot 7-214. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dogo 120 of 254		
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 138 of 254		
© 2021 PCTEST	© 2021 PCTEST V 9.0 02/01/2019				





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



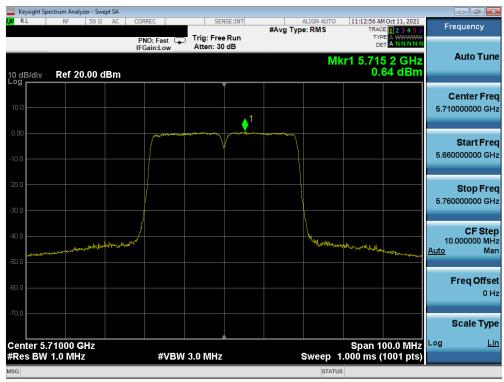
Plot 7-216. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dega 120 of 254		
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 139 of 254		
© 2021 PCTEST	© 2021 PCTEST V 9.0 02/01/2019				



🔤 Keysight Spectrum Analyzer - Swept					
ΙΧΙ RF 50 Ω	AC CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	11:12:13 AM Oct 11, 2021 TRACE 1 2 3 4 5 6	Frequency
	PNO: Fast 🖵	Trig: Free Run Atten: 30 dB			
10 dB/div Ref 20.00 dE	3m		MI	(r1 5.595 1 GHz 0.39 dBm	Auto Tune
10.0		1			Center Freq 5.59000000 GHz
-10.0					Start Freq 5.540000000 GHz
-20.0					Stop Freq 5.640000000 GHz
-40.0	uha_mer at		hughlans	and an and the second of the second second	CF Step 10.000000 MHz <u>Auto</u> Man
-60.0					Freq Offset 0 Hz
-70.0					Scale Type
Center 5.59000 GHz #Res BW 1.0 MHz	#VBW	3.0 MHz	Sweep 1	Span 100.0 MHz .000 ms (1001 pts)	
MSG			STATU		

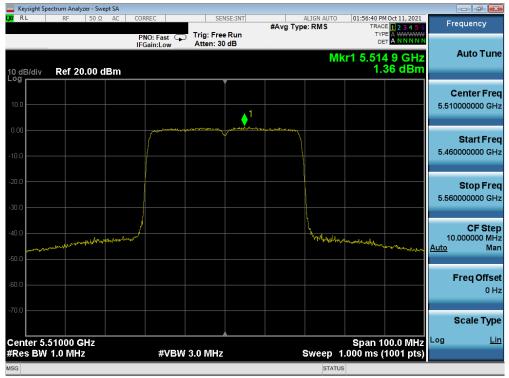
Plot 7-217. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 118)



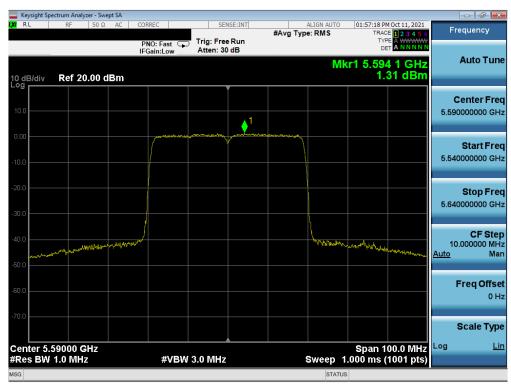
Plot 7-218. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 140 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 140 of 254
© 2021 PCTEST V 9.0 02/01/2019			





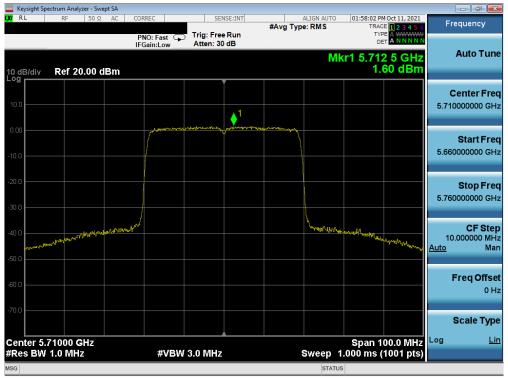
Plot 7-219. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 102)



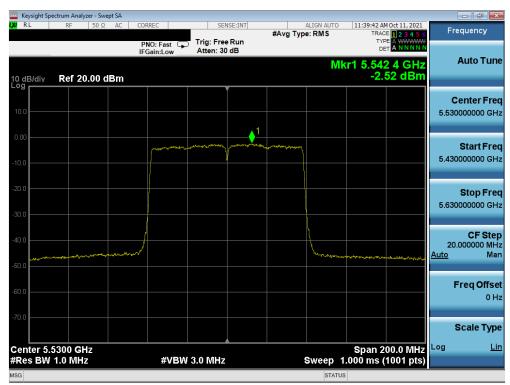
Plot 7-220. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 118)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Degs 141 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 141 of 254
© 2021 PCTEST V 9.0 02/01/2019			





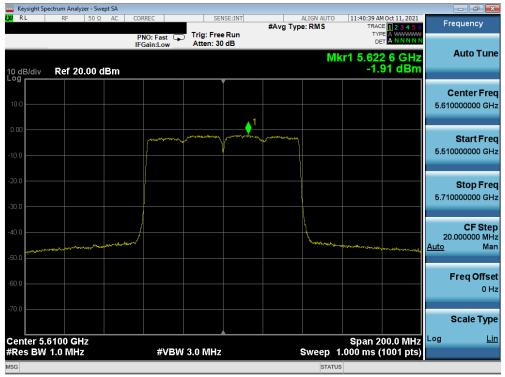
Plot 7-221. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 142)



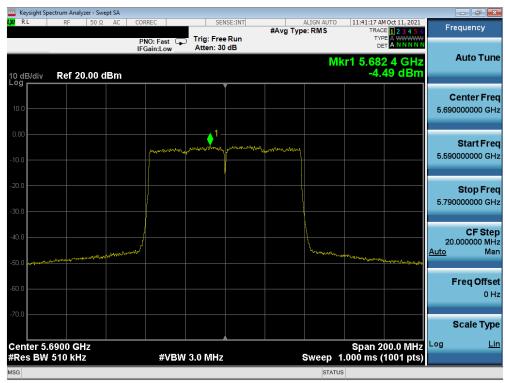
Plot 7-222. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 106)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 142 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 142 of 254
© 2021 PCTEST			V 9.0 02/01/2019





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



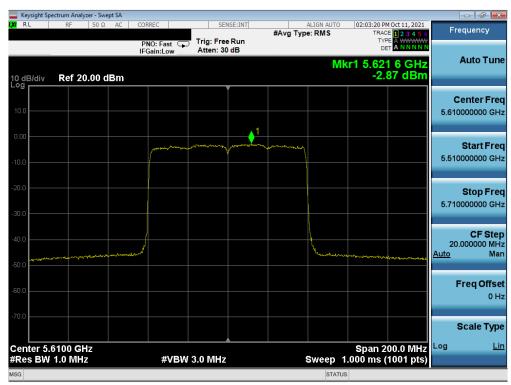
Plot 7-224. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 142 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 143 of 254
© 2021 PCTEST V 9.0 02/01/2019			





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



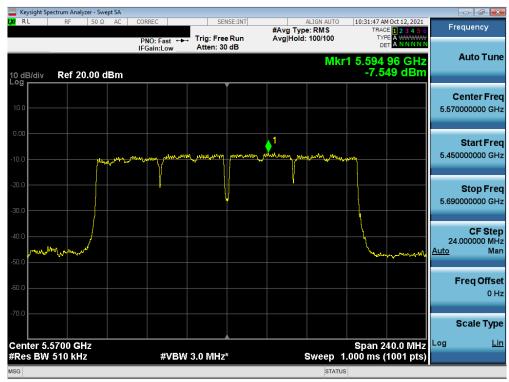
Plot 7-226. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 111 of 251
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 144 of 254
© 2021 PCTEST V 9.0 02/01/2019			



Keysight Spectrum Analyzer - Swept SA					
LXX RL RF 50Ω AC	CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	02:04:18 PM Oct 11, 2021 TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 20.00 dBm	PNO: Fast 😱 IFGain:Low	Γrig: Free Run Atten: 30 dΒ	M	r1 5.706 2 GHz -5.25 dBm	Auto Tune
					Center Freq 5.69000000 GHz
-10.0	formerellinger	would arrented	1 		Start Freq 5.59000000 GHz
-20.0					Stop Freq 5.79000000 GHz
-40.0				Sumative and some to be for any standard standard	CF Step 20.000000 MHz <u>Auto</u> Man
-60.0					Freq Offset 0 Hz
Center 5.6900 GHz #Res BW 510 kHz	#VBW 3.	0 MHz	Sween 1	Span 200.0 MHz .000 ms (1001 pts)	Scale Type Log <u>Lin</u>
MSG	# *D** :		STATUS		

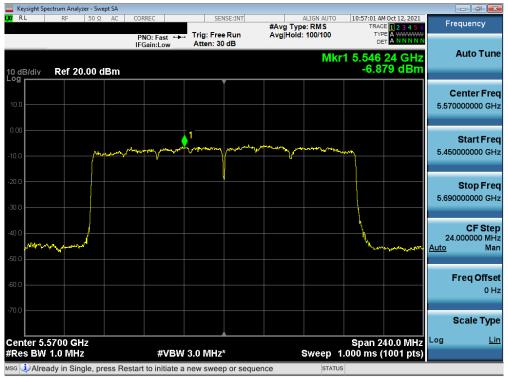
Plot 7-227. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 138)



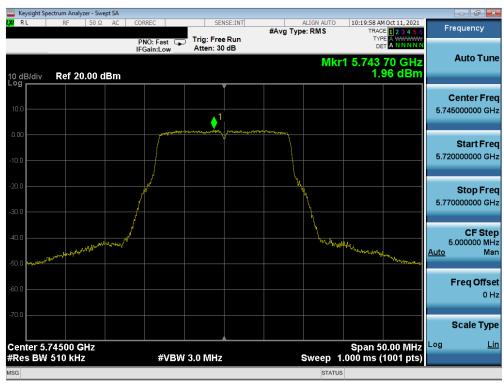
Plot 7-228. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11ac (UNII Band 2C) - Ch. 114)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 145 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset		Page 145 of 254
© 2021 PCTEST				V 9.0 02/01/2019





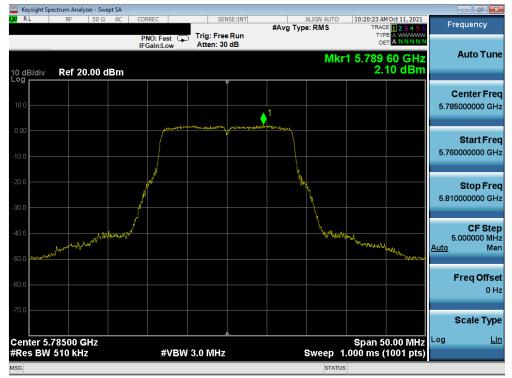
Plot 7-229. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11ax (UNII Band 2C) - Ch. 114)



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

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 146 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 146 of 254
© 2021 PCTEST			V 9.0 02/01/2019





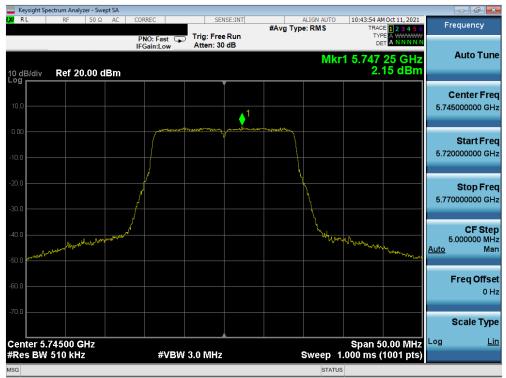
Plot 7-231. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 3) - Ch. 157)



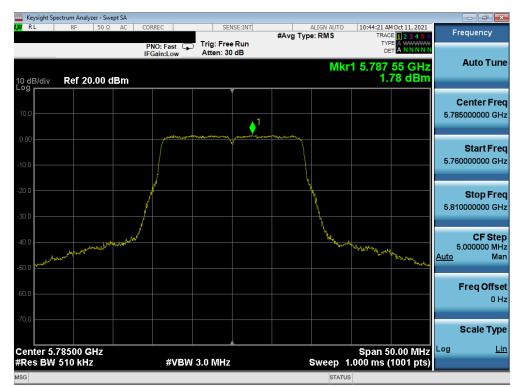
Plot 7-232. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 3) - Ch. 165)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 147 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 147 of 254
© 2021 PCTEST	•		V 9.0 02/01/2019





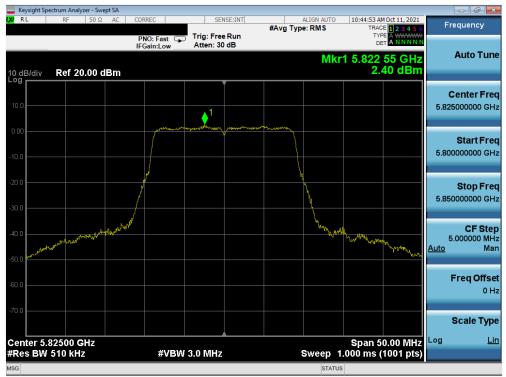
Plot 7-233. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 149)



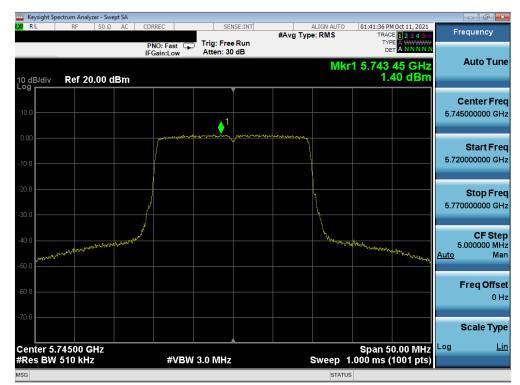
Plot 7-234. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 149 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 148 of 254
© 2021 PCTEST	•		V 9.0 02/01/2019





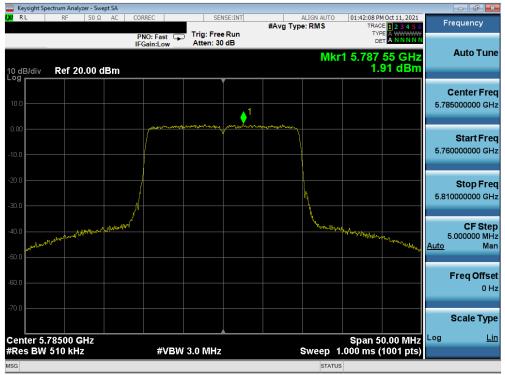
Plot 7-235. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 165)



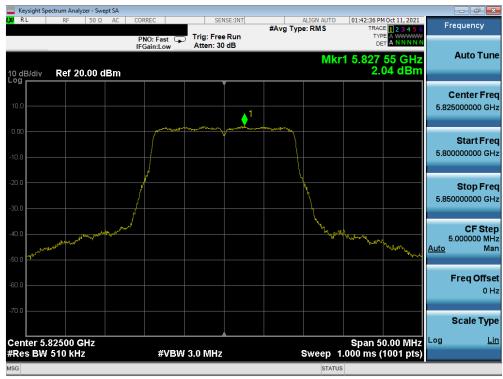
Plot 7-236. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 149)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 140 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 149 of 254
© 2021 PCTEST	•		V 9.0 02/01/2019





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



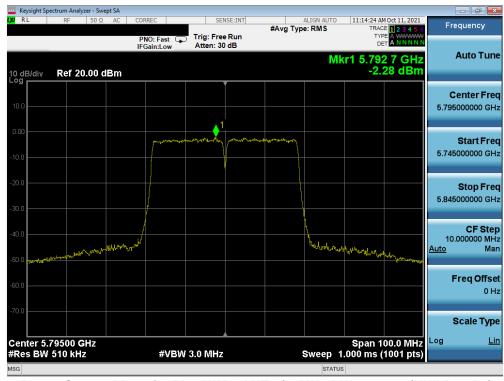
Plot 7-238. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 165)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 150 of 054
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 150 of 254
© 2021 PCTEST V 9.0 02/01/2019			



	trum Analyzer - Swept SA						
LXI RL	RF 50 Ω AC	CORREC	SENSE:II	#Avg Typ	ALIGN AUTO	11:13:50 AM Oct 11, TRACE 1 2 3	
10 dB/div	Ref 20.00 dBm	PNO: Fast 🕞 IFGain:Low	Trig: Free Ru Atten: 30 dB	n	Mk	r1 5.749 9 0 -2.48 d	Hz Auto Tune
10.0							Center Freq 5.755000000 GHz
-10.0		friend Wester					Start Freq 5.705000000 GHz
-20.0							Stop Freq 5.805000000 GHz
-40.0	particular and the prove of the start of the				Linderson	Whiteman	CF Step 10.000000 MHz <u>Auto</u> Man
-60.0							Freq Offset 0 Hz
-70.0 Center 5.7:		<i>4</i> 1 (D) 141				Span 100.0 I	MHz Log <u>Lin</u>
#Res BW 5	DTU KHZ	#VBW	3.0 MHz		Sweep 1.	000 ms (1001	ptsj
100					514105		

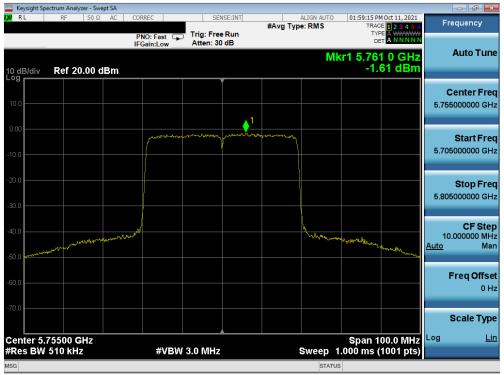
Plot 7-239. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)



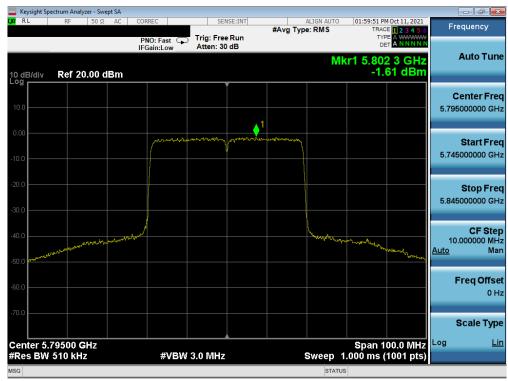
Plot 7-240. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 151 of 251
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 151 of 254
© 2021 PCTEST			V 9.0 02/01/2019





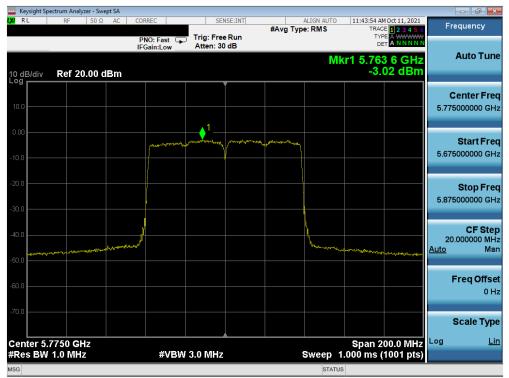
Plot 7-241. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 3) - Ch. 151)



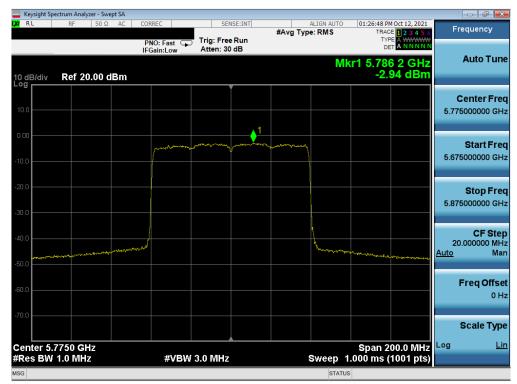
Plot 7-242. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 3) - Ch. 159)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 152 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 152 of 254
© 2021 PCTEST V 9.0 02/01/2019			





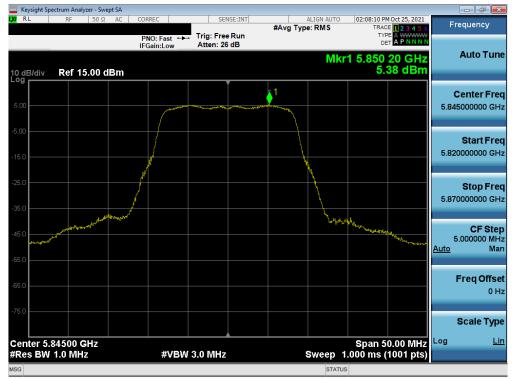
Plot 7-243. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)



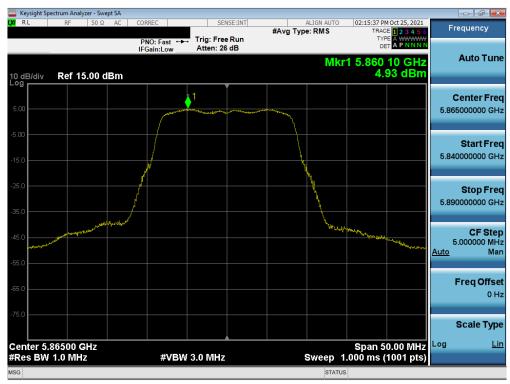
Plot 7-244. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dago 152 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 153 of 254
© 2021 PCTEST	•		V 9.0 02/01/2019





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



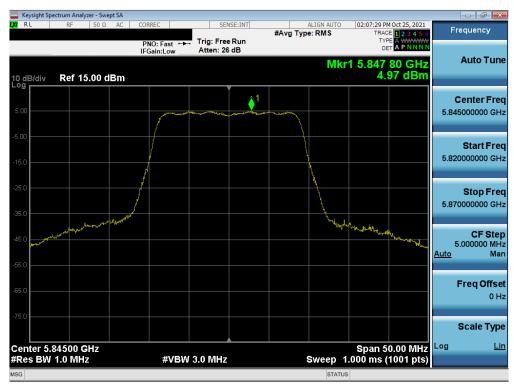
Plot 7-246. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 4) - Ch. 173)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 454 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 154 of 254
© 2021 PCTEST			V 9.0 02/01/2019





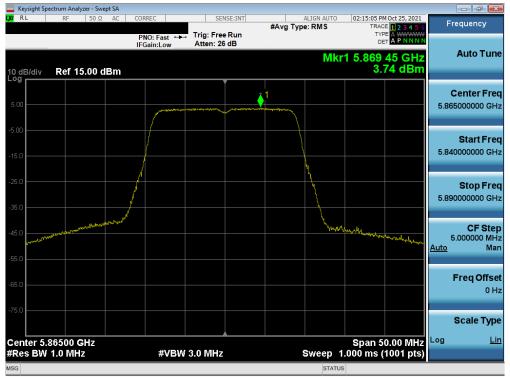
Plot 7-247. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 4) - Ch. 177)



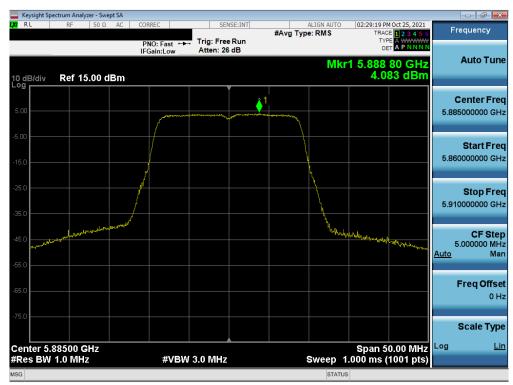
Plot 7-248. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3/4) - Ch. 169)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 155 of 254	
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 155 of 254	
© 2021 PCTEST V 9.0 02/01/2019				





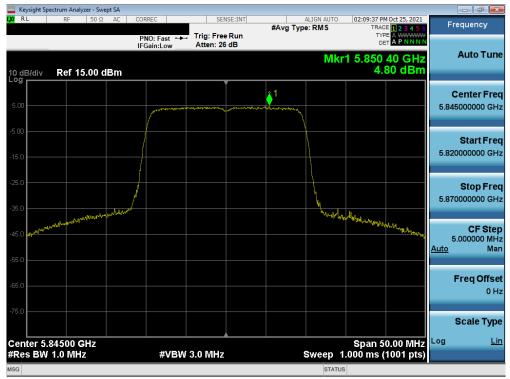
Plot 7-249. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 4) - Ch. 173)



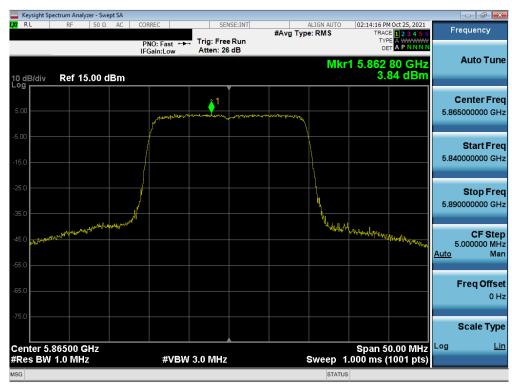
Plot 7-250. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 156 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 156 of 254
© 2021 PCTEST V 9.0 02/01/2019			





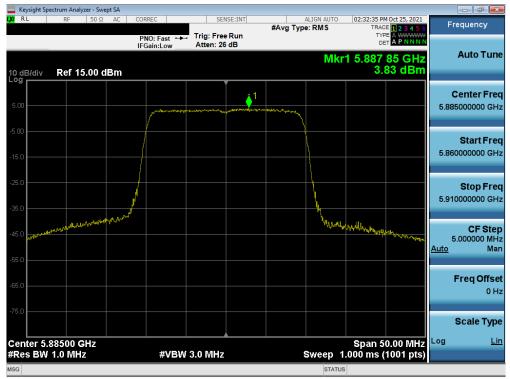
Plot 7-251. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3/4) - Ch. 169)



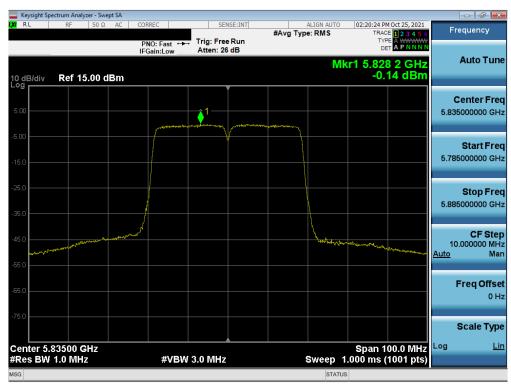
Plot 7-252. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 173)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dego 457 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 157 of 254
© 2021 PCTEST			V 9.0 02/01/2019





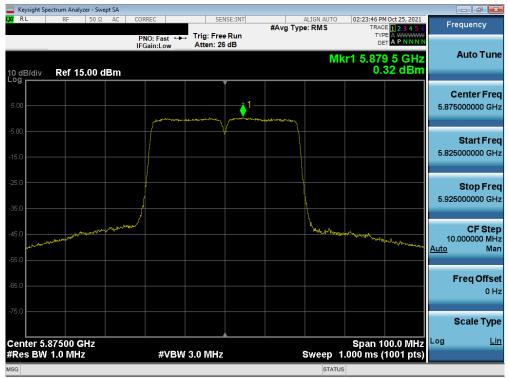
Plot 7-253. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 177)



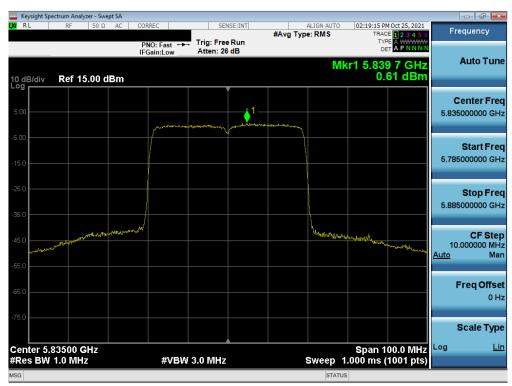
Plot 7-254. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 3/4) - Ch. 167)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 150 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 158 of 254
© 2021 PCTEST V 9.0 02/01/2019			





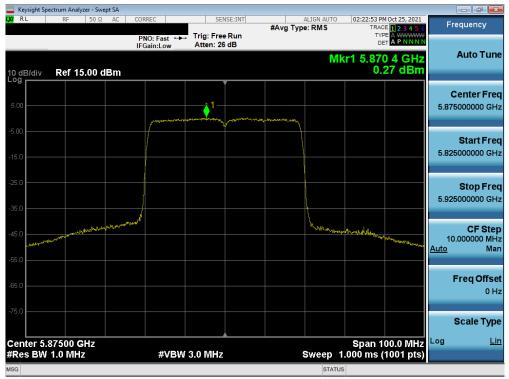
Plot 7-255. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 4) - Ch. 175)



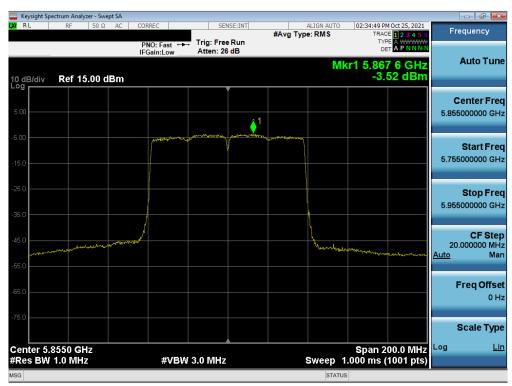
Plot 7-256. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 3/4) - Ch. 167)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 150 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 159 of 254
© 2021 PCTEST V 9.0 02/01/2019			





Plot 7-257. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 4) - Ch. 175)



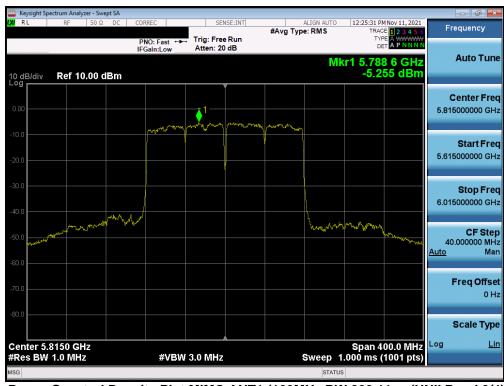
Plot 7-258. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 3/4) - Ch. 171)

FCC ID: A3LSMS906E	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 160 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 160 of 254
© 2021 PCTEST V 9.0 02/01/2019			



	ectrum Analyzer - Swept SA						- 7
L <mark>XI</mark> RL	RF 50 Ω AC	CORREC	SENSE:I	#Avg Typ		02:35:11 PM Oct 25, 2021 TRACE 1 2 3 4 5 6	Frequency
		PNO: Fast ↔ IFGain:Low	. Trig: Free Ru Atten: 26 dB		Mkr1		Auto Tune
10 dB/div Log	Ref 15.00 dBm	1				-3.32 dBm	
							Center Freq
5.00			1				5.855000000 GHz
-5.00		The second secon		And the second sec			Start Freq
-15.0							5.755000000 GHz
-25.0							Stop Freq
-35.0							5.955000000 GHz
-45.0]			l l		CF Step
m	on the set of the set of the set of	ليستخيرهم			Umen martin	and a stand of the second s	20.000000 MHz <u>Auto</u> Man
-55.0							
-65.0							Freq Offset 0 Hz
-75.0							
							Scale Type
Center 5.8		#\{ D \}	2.0 MH-		Swoon 1-0	opan 200.0 Minz	Log <u>Lin</u>
#Res BW	T.U WIHZ	#VBW	3.0 MHz		SWEED 1.U	00 ms (1001 pts)	
woo	SIATUS						

Plot 7-259. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 3/4) – Ch. 171)



Plot 7-260. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11ac (UNII Band 3/4) - Ch. 163)

FCC ID: A3LSMS906E	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 161 of 254
1M2110010116-09.A3L	09/09/2021 - 12/06/2021	Portable Handset	Page 161 of 254
© 2021 PCTEST			V 9.0 02/01/2019