

Plot 7-104. 6dB Bandwidth Plot SISO ANT1 (802.11a (UNII Band 3) - Ch. 157)



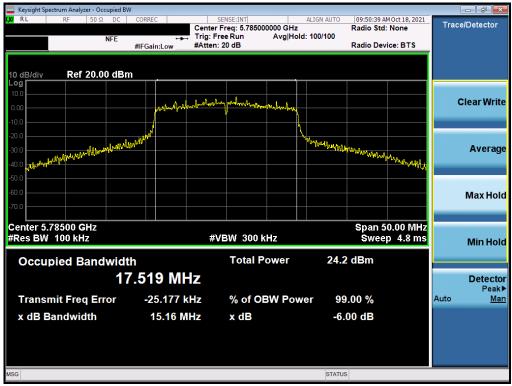
Plot 7-105. 6dB Bandwidth Plot SISO ANT1 (802.11a (UNII Band 3) - Ch. 165)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 72 of 205
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Plot 7-106. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 149)



Plot 7-107. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

FCC ID: A3LSMS901JPN	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 70 at 005
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Plot 7-108. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 165)



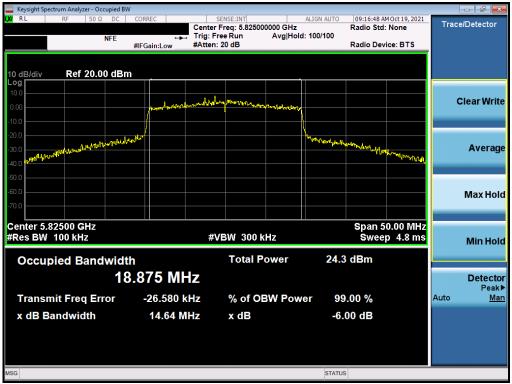
Plot 7-109. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 149)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Keysight Spectrum Analyzer - Occupied BW					
NFE			Radio St d: 100/100	AM Oct 19, 2021 d: None vice: BTS	Trace/Detector
	iPoant.cow writeen.		rtualo De		
10 dB/div Ref 20.00 dBm					
Log 10.0 0.00	Month and Marine and M	hymathan later when a some			Clear Write
-10.0					
-20.0 -30.0 -40.0			Long of the start	whether when	Average
-50.0					
-60.0					Max Hold
Center 5.78500 GHz			Span	50.00 MHz	
#Res BW 100 kHz	#\	/BW 300 kHz	Swe	ep 4.8 ms	Min Hold
Occupied Bandwidth		Total Power	24.0 dBm		
18.	907 MHz				Detector Peak▶
Transmit Freq Error	-44.583 kHz	% of OBW Pow	ver 99.00 %		Auto <u>Man</u>
x dB Bandwidth	15.49 MHz	x dB	-6.00 dB		
MSG			STATUS		

Plot 7-110. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 157)



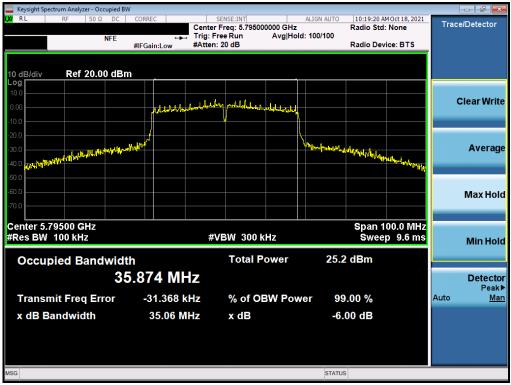
Plot 7-111. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 165)

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Keysight Spectrum Analyzer - Occupied I	BW				
IX RL RF 50Ω DC	Trig	SENSE:INT ter Freq: 5.755000000 GH: : Free Run Avg H en: 20 dB	z Radio St old: 100/100	AM Oct 18, 2021 cd: None evice: BTS	Trace/Detector
10 dB/div Ref 20.00 dB	m				
0.00	ellestration of the states	hellog modulation and and and and and and and and and an	4		Clear Write
-10.0 -20.0 -30.0	- alk with a		Have Madau		Average
-30.0 -40.0 0000000000000000000000000000000000			Warrington and the start of the of the	halfalalled for balling	Average
-60.0					Max Hold
Center 5.75500 GHz #Res BW 100 kHz		#VBW 300 kHz		100.0 MHz ep 9.6 ms	Min Hold
Occupied Bandwid		Total Power	25.1 dBm		
ں Transmit Freq Error	5.912 MHz -52.405 kHz	% of OBW Po	wer 99.00 %		Detector Peak► Auto <u>Man</u>
x dB Bandwidth	33.93 MHz	x dB	-6.00 dB		
MSG			STATUS		

Plot 7-112. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)



Plot 7-113. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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🔤 Keysight Spectrum Analyzer - O	ccupied BW				
(X) RL RF 50 S	Ω DC CORREC NFE ↔	SENSE:INT Center Freq: 5.75500 Trig: Free Run #Atten: 20 dB	ALIGN AUTO 00000 GHz Avg Hold: 100/100	08:36:44 AM Oct 19, 202 Radio Std: None Radio Device: BTS	Trace/Detector
	#IFGain:Low	#Atten: 20 db		Radio Device: B13	_
10 dB/div Ref 20.0	00 dBm				
10.0		appendrand maps and mary and			Clear Wri
0.00	pradvasiew	and the second	Thomas and a start of the start		
-10.0					
-20.0	and whowever		Hantellander Starting	and the to the man of the second	Avera
-30.0				and to the who are never with the	Avera
-50.0					** -
-50.0					
-70.0					Max Ho
Center 5.75500 GHz		40/DW/ 200 L	- 1 1	Span 100.0 MH	
#Res BW 100 kHz		#VBW 300 k		Sweep 9.6 m	S Min Ho
Occupied Ban	dwidth	Total P	ower 25.	0 dBm	
	37.677 MI	Hz			Detect
Transmit Freq Er	rror -23.236	kHz % of Ol	BW Power 99	9.00 %	Peal Auto <u>M</u> a
x dB Bandwidth	23.10 N	NHz xdB	-6	.00 dB	
MSG			STATU	s	

Plot 7-114. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 3) - Ch. 151)



Plot 7-115. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 3) - Ch. 159)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dawa 77 at 005
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Keysight Spectrum Analyzer - Occu	upied BW				
<mark>()XI</mark> RL RF 50Ω	NFE ++-		Hz Radio Ste Hold: 100/100		Trace/Detector
	#IFGain:Low	#Atten: 20 dB	Radio De	vice: BTS	
10 dB/div Ref 20.00	dBm				
10.0					
0.00	L. Links and Links	RUUMALIN MUMANALIA MUMALA	10.4		Clear Write
-10.0		area and a second a			
-20.0					Average
	and the state of the second		March and March and Jack		Average
-40.0	Andrean		Needwood white the had not as	wood and a state	
-60.0					Max Hold
-70.0					
Center 5.7750 GHz			Span :	200.0 MHz	
#Res BW 100 kHz		#VBW 300 kHz	Sweep	19.13 ms	Min Hold
Occupied Bandy	width	Total Power	24.7 dBm		
	75.072 MH	Z			Detector Peak▶
Transmit Freq Erro	or -31.978 kl	Hz % of OBW P	ower 99.00 %		Auto <u>Man</u>
x dB Bandwidth	71.32 MI	lz x dB	-6.00 dB		
MSG			STATUS		

Plot 7-116. 6dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)



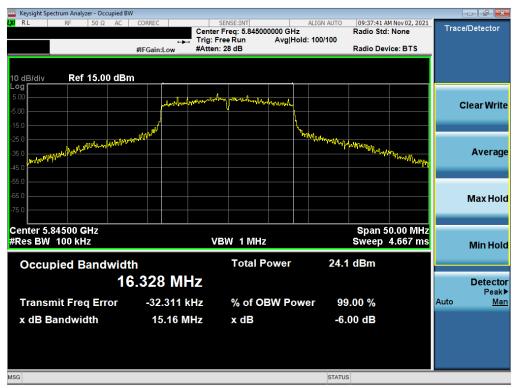
Plot 7-117. 6dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 70 af 005
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	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3/4	5845	169	а	6	15.16
Band 4	5865	173	а	6	15.10
Dallu 4	5885	177	а	6	15.11
Band 3/4	5845	169	n (20MHz)	6.5/7.2 (MCS0)	15.17
Band 4	5865	173	n (20MHz)	6.5/7.2 (MCS0)	15.03
Dallu 4	5885	177	n (20MHz)	6.5/7.2 (MCS0)	15.17
Band 3/4	5845	169	ax (20MHz)	6.5/7.2 (MCS0)	15.13
Band 4	5865	173	ax (20MHz)	6.5/7.2 (MCS0)	15.15
Dallu 4	5885	177	ax (20MHz)	6.5/7.2 (MCS0)	15.45
Band 3/4	5835	167	n (40MHz)	13.5/15 (MCS0)	35.10
Band 4	5875	175	n (40MHz)	13.5/15 (MCS0)	35.18
Band 3/4	5835	167	ax (40MHz)	13.5/15 (MCS0)	35.22
Band 4	5875	175	ax (40MHz)	13.5/15 (MCS0)	35.17
Band 3/4	5855	171	ax (80MHz)	29.3/32.5 (MCS0)	72.45

Table 7-5. Conducted Bandwidth Measurements UNII 4 SISO ANT1



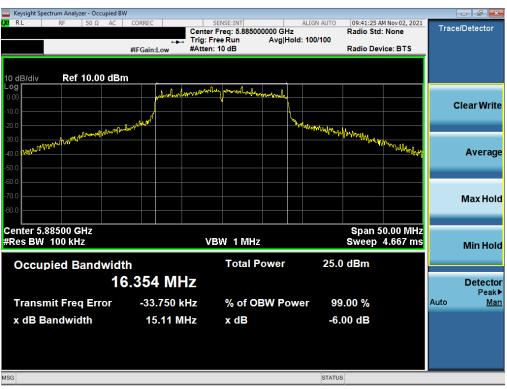
Plot 7-118. 6dB Bandwidth Plot SISO ANT1 (802.11a (UNII Band 3/4) - Ch. 169)

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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Plot 7-119. 6dB Bandwidth Plot SISO ANT1 (802.11a (UNII Band 4) - Ch. 173)



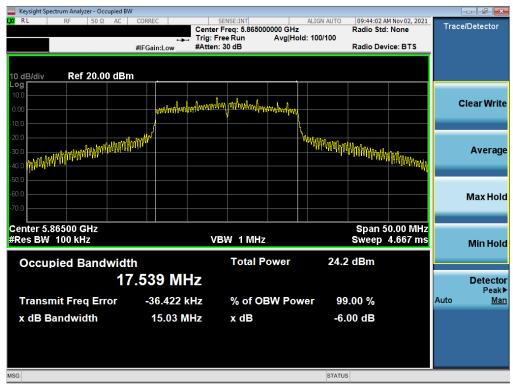
Plot 7-120. 6dB Bandwidth Plot SISO ANT1 (802.11a (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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🔤 Keysight Spectrum Analyzer - Occupied BW	1					[
LX/ RL RF 50 Ω AC	CORREC	SENSE:INT er Freg: 5.845000000 GH	ALIGN AUTO	09:42:41 A	M Nov 02, 2021	Trace	e/Detector
	🛶 Trig:	:FreeRun Avg ⊦	lold: 100/100				
	#IFGain:Low #Atte	en: 10 dB		Radio Dev	ice: BTS		
10 dB/div Ref 10.00 dBm	<u> </u>		_				
Log 0.00	maharlastona	when month and marging					
-10.0	distract of the		vu			c	lear Write
	n take		4.000				
-20.0 -30.0 -40.0 10000000000000000000000000000000000	WALL		""" "" "" "" "" "" "" "" "" "" "" "" ""	with which the			
				ALL AND	ANY MANA MALANA		Average
-40.0							Average
-60.0							
-70.0							Max Hold
-80.0							
Center 5.84500 GHz				Span 5	0.00 MHz		
#Res BW 100 kHz		VBW 1 MHz			4.667 ms		Min Hold
							Millinoid
Occupied Bandwidt	h	Total Power	24.4	dBm			
17	.537 MHz						Detector
Tana anit Cara Cara	20 427 111-			00.0/		Auto	Peak▶ Man
Transmit Freq Error	-38.437 kHz	% of OBW Po		.00 %		Auto	IVIAII
x dB Bandwidth	15.17 MHz	x dB	-6.	00 dB			
MSG			STATUS				

Plot 7-121. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3/4) - Ch. 169)



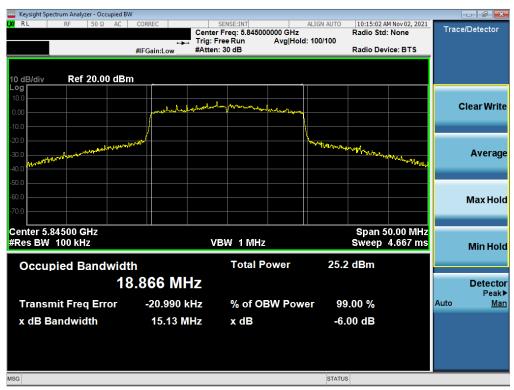
Plot 7-122. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 4) - Ch. 173)

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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	ysight Spectrum		cupied BW									
l xi R	L R	F 50 Ω	AC COF	RREC		NSE:INT reg: 5.88500	0000 GH-	ALIGN AUTO	09:44:52 A	M Nov 02, 2021	Trac	e/Detector
				4	📑 Trig: Fre	e Run		d: 100/100	Radio Stu	. None		
			#IF(Gain:Low	#Atten: 3	0 dB			Radio Dev	/ice: BTS		
		Ref 15.0	0 dBm	_								
Log 5.00					n .fl.							
-5.00				winiw	V MULANA BAAR PART	Lan Mahanghu	montra					Clear Write
				4								
-15.0			KANNAN AND AND AND AND AND AND AND AND AN	M				, MIMUUUUUMMMM				
-25.0	n. atank/	ANNAYAYAAAAA	ANNAN ANA ANA .						i Winny Williams	ullabarra -		_
-35.0	WWWYYYYY Y								1.01.61	AND		Average
-45.0	<u> </u>											
-55.0												
-65.0												Max Hold
-75.0												mannora
	iter 5.885					42 4 BALL-				0.00 MHz		
#Re	s BW 10	U KHZ			VB	N 1 MHz			sweep	4.667 ms		Min Hold
C	Occupie	d Band	width			Total P	ower	24 9	dBm			
	Couple	u Danu				1 otur 1	01101	2.110				
			17.5	56 M	HZ							Detector Peak▶
Т	ransmit	Frea Eri	ror ·	-38.163	kHz	% of O	3W Pow	ver 99	.00 %		Auto	Man
X	dB Band	awiath		15.17	VIHZ	x dB		-0.	00 dB			
MSG								STATUS				

Plot 7-123. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 4) - Ch. 177)



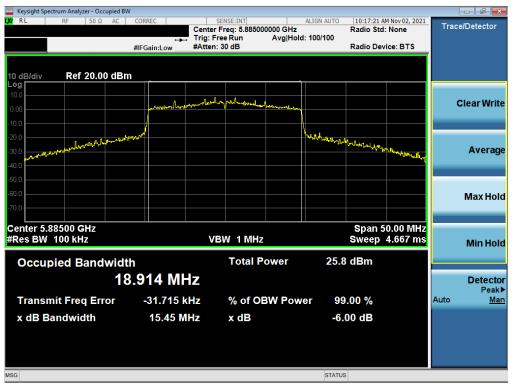
Plot 7-124. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 3/4) - Ch. 169)

FCC ID: A3LSMS901JPN	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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Keysight Spectrum Analyzer - Occupied B	W				
LXI R L RF 50 Ω AC	CORREC	SENSE:INT		AM Nov 02, 2021	Trace/Detector
		nter Freq: 5.865000000 GHz g: Free Run Avg Ho		d: None	Trace/Delector
		ten: 30 dB	old: 100/100 Radio De	vice: BTS	
	#IFGallLOW #/1		rtuaro Be	HOC: DITO	
10 dB/div Ref 20.00 dB	m				
Log					
10.0		utralizer a			
0.00	when the stranger of the	mm when and all a			Clear Write
-10.0					
	ł		۲.		
-20.0	when		Monoral Contractions		
-30.0			and a start of the second s	Mar	Average
-30.0				Manu Manu Lake	
-50.0					
-60.0					Max Hold
-70.0					
Center 5.86500 GHz			Span	50.00 MHz	
#Res BW 100 kHz		VBW 1 MHz		4.667 ms	Min Hold
					MITHOU
Occupied Bandwid	th	Total Power	24.9 dBm		
1	8.862 MHz				Detector
					Peak►
Transmit Freq Error	-30.674 kHz	% of OBW Pov	wer 99.00 %		Auto <u>Man</u>
x dB Bandwidth	15.15 MHz	x dB	-6.00 dB		
	10.10 11112	A dB	-0.00 48		
100			OTATIC		
MSG			STATUS		

Plot 7-125. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 173)



Plot 7-126. 6dB Bandwidth Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS901JPN	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Keysight Spectrum Analyzer - Occupied BW						l.	
<mark>μα</mark> RL RF 50Ω AC COR		SENSE:INT	ALIGN AUTO	10:18:49 A	M Nov 02, 2021	Trace	Detector
		r Freq: 5.835000000 G Free Run Avg	1z Hold: 100/100	Radio Sto	I: None		
#IFG		n: 26 dB		Radio Dev	vice: BTS		
10 dB/div Ref 30.00 dBm							
20.0							
						c	lear Write
10.0							
0.00	Interpretering	ling development mouth and	to l				
-10.0							
	, M		h				Average
-20.0	/*		Na.				Average
-30.0			marthough	when hall when			
-30.0 -40.0 <mark>Junipproductional Notional Hadisological Andrewsky (</mark>				a. ni chill	Warden ter		
-50.0					a nation		
							Max Hold
-60.0							
Center 5.83500 GHz				A			
					00.0 MHz		
#Res BW 100 kHz	v	/BW 1 MHz		Sweep	9.267 ms		Min Hold
		Total Power	25.0) dBm			
Occupied Bandwidth		Total Power	20.	a a B m			
35.8	97 MHz						Detector
00:01							Peak►
Transmit Freq Error -	18.358 kHz	% of OBW P	ower 99	9.00 %		Auto	Man
x dB Bandwidth	35.10 MHz	x dB	-6	00 dB		_	
x de Banaman	oon on the						
						_	
MSG			STATU	\$			

Plot 7-127. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3/4) - Ch. 167)



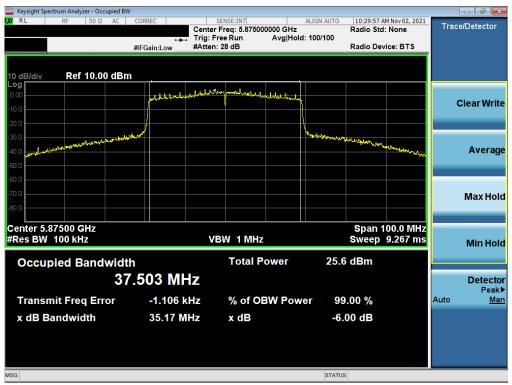
Plot 7-128. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 4) - Ch. 175)

FCC ID: A3LSMS901JPN	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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🔤 Keysight Spectrum Analyzer - Occupi	ied BW								- 0
L <mark>X/</mark> RL RF 50Ω /	AC CORREC	SENS Center Fre	E:INT	000 CH-	ALIGN AUTO	10:27:56 A Radio Std	M Nov 02, 2021	Trac	e/Detector
		Trig: Free			d: 100/100	Radio Stu	. None		
	#IFGain:Low	#Atten: 26		0.		Radio Dev	ice: BTS		
10 dB/div Ref 10.00 d	dBm								
Log			1						
0.00	Julana	water from a second of	When all and the second	malabria					Clear Write
-10.0		+							
-20.0									
-30.0	booking				multhingun				
-30.0 -40.0						analy www.lali	walking .		Average
-50.0							Contraction of the second		
-60.0									
-70.0									Max Hold
-80.0									
Center 5.83500 GHz						Cnop (00.0 MHz		
#Res BW 100 kHz		VBM	1 MHz				9.267 ms		
WIGS DW TOO KIIZ		4 0 44	1 1911 12			Oweep	3.207 1113		Min Hold
Occupied Bandw	idth		Total Po	ower	24.6	dBm			
	37.576 M	ΠZ							Detector Peak▶
Transmit Freq Error	-24.385	kHz	% of OE	W Pow	er 99	.00 %		Auto	Man
x dB Bandwidth	35.22	MHz	x dB		-6.	00 dB			
MSG					STATUS				

Plot 7-129. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 3/4) - Ch. 167)



Plot 7-130. 6dB Bandwidth Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 4) - Ch. 175)

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Test Report S/N:	Test Dates:	EUT Type:	Dage 05 of 205				
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Plot 7-131. 6dB Bandwidth Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 3/4) - Ch. 171)

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SISO Antenna-2 6dB Bandwidth Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
	5745	149	а	6	14.24
	5785	157	а	6	15.10
	5825	165	а	6	16.04
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	13.94
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	15.16
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	15.93
ო	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	13.77
Band	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	15.49
ä	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	14.64
	5755	151	n (40MHz)	13.5/15 (MCS0)	33.93
	5795	159	n (40MHz)	13.5/15 (MCS0)	35.06
	5755	151	ax (40MHz)	13.5/15 (MCS0)	23.10
	5795	159	ax (40MHz)	13.5/15 (MCS0)	30.34
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	71.32
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	70.07

Table 7-6. Conducted Bandwidth Measurements UNII 3 SISO ANT2



Plot 7-132. 6dB Bandwidth Plot SISO ANT2 (802.11a (UNII Band 3) - Ch. 149)

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 07 of 205
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Plot 7-133. 6dB Bandwidth Plot SISO ANT2 (802.11a (UNII Band 3) - Ch. 157)



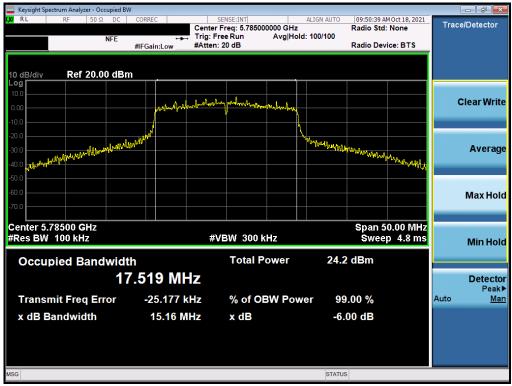
Plot 7-134. 6dB Bandwidth Plot SISO ANT2 (802.11a (UNII Band 3) - Ch. 165)

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 99 of 205
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Plot 7-135. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 149)



Plot 7-136. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	
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Plot 7-137. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 165)



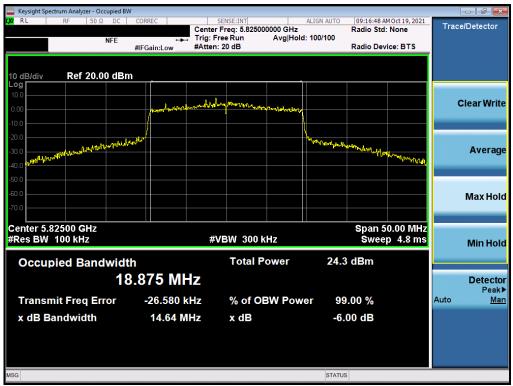
Plot 7-138. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 3) – Ch. 149)

FCC ID: A3LSMS901JPN	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 005
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🔤 Keysight Spectrum Analyzer - Occ	upied BW					
LXI R L RF 50 Ω	DC CORREC	SENSE:INT Center Freq: 5.785000 , Trig: Free Run #Atten: 20 dB	ALIGN AUTO 0000 GHz Avg Hold: 100/100	09:15:56 AM Oct 19, 2021 Radio Std: None Radio Device: BTS	Trace/Detec	ctor
10 dB/div Ref 20.00						
10.0 0.00	www.laulow	novenenentry matrix light you	whist an approximately a second se		Clear	Write
-10.0 -20.0 -30.0 -40.0	Lunnin and		moun	Maphalonylersigner Jon Markan Levre	Ave	erage
-50.0 -60.0 -70.0					Мах	Hold
Center 5.78500 GHz #Res BW 100 kHz		#VBW 300 k		Span 50.00 MHz Sweep 4.8 ms		Hold
Occupied Band	width 18.907 MI	Total Po HZ	ower 24.0) dBm		ector [⊳] eak►
Transmit Freq Err	or -44.583	kHz % of OE	3W Power 99	9.00 %	Auto	<u>Man</u>
x dB Bandwidth	15.49 N	IHz x dB	-6.	00 dB		
MSG			STATUS	S		

Plot 7-139. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 157)



Plot 7-140. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 165)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 04 -4 005
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Keysight Spectrum Analyzer - Occupied I	BW				
IX RL RF 50Ω DC	Trig	SENSE:INT ter Freq: 5.755000000 GH: : Free Run Avg H en: 20 dB	z Radio St old: 100/100	AM Oct 18, 2021 cd: None evice: BTS	Trace/Detector
10 dB/div Ref 20.00 dB	m				
0.00	ellestration of the states	hellog modulation and and and and and and and and and an	4 4		Clear Write
-10.0 -20.0 -30.0	- alk with a		Have Madau		Average
-30.0 -40.0 0000000000000000000000000000000000			Warrington and the start of the of the	halfalathathanthanthan	Average
-60.0					Max Hold
Center 5.75500 GHz #Res BW 100 kHz		#VBW 300 kHz		100.0 MHz ep 9.6 ms	Min Hold
Occupied Bandwid		Total Power	25.1 dBm		
ں Transmit Freq Error	5.912 MHz -52.405 kHz	% of OBW Po	wer 99.00 %		Detector Peak► Auto <u>Man</u>
x dB Bandwidth	33.93 MHz	x dB	-6.00 dB		
MSG			STATUS		

Plot 7-141. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)



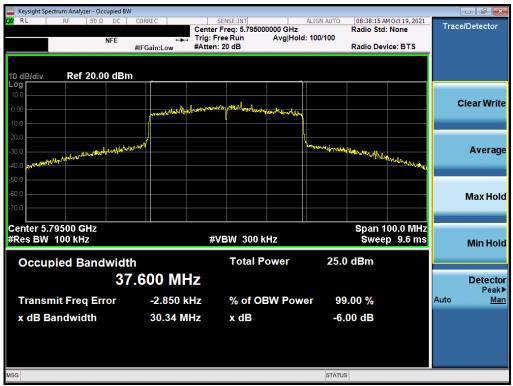
Plot 7-142. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)

FCC ID: A3LSMS901JPN	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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🔤 Keysight Spectrum Analyzer - Oc	cupied BW				
LXI R L RF 50 Ω	DC CORREC NFE #IFGain:Low	SENSE:INT Center Freq: 5.755000000 GHz Trig: Free Run Avg Ho #Atten: 20 dB	ALIGN AUTO 08:36:44 AM Radio Std: I Id: 100/100 Radio Devic	None	Trace/Detector
10 dB/div Ref 20.0	0 dBm				
0.00	Jaro Avander wie	allow bould any second source for the source of	u		Clear Write
-10.0 -20.0 -30.0	and warman		muled worth gote the the to the		Average
-50.0				and hall have been a	
-70.0					Max Hold
Center 5.75500 GHz #Res BW 100 kHz		#VBW 300 kHz	Sweep	0.0 MHz 9.6 ms	Min Hold
Occupied Band	37.677 MF	Total Power	25.0 dBm		Detector Peak▶
Transmit Freq Er	ror -23.236 k	Hz % of OBW Pov	ver 99.00 %	1	Auto <u>Man</u>
x dB Bandwidth	23.10 M		-6.00 dB		
MSG			STATUS		

Plot 7-143. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) - Ch. 151)



Plot 7-144. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) - Ch. 159)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dogo 02 of 205	
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🔤 Keysight Spectrum Analyzer - O										
LXI RL RF 50 \$	Ω DC C	ORREC		NSE:INT reg: 5.77500	0000 GHz	ALIGN AUTO	10:47:22 A Radio Std	M Oct 18, 2021	Trac	e/Detector
	NFE	↔	Trig: Free	e Run		d: 100/100				
	#	IFGain:Low	#Atten: 2	0 dB			Radio Dev	/ice: BTS		
10 dB/div Ref 20.0	00 dBm									
Log 10.0										
0.00				Marton Inc.						Clear Write
-10.0		Mundufi	- Hill When		_ՠ ությու <mark>ն էլ</mark> էլ					
-20.0										
-30.0						\				Average
		y l				March March Law				Average
-40.0	helph the building					Mark W Wester	Color Manual Aller	Wendows J .		
								1 - HARRING		
-60.0										Max Hold
-70.0									_	
Center 5.7750 GHz							Span 2	200.0 MHz		
#Res BW 100 kHz			#VE	300 k	Hz			19.13 ms		Min Hold
						0.1.7				
Occupied Bane				Total P	ower	24./	′ dBm			
	75.	072 MI	Ηz							Detector
Tronomit Erer E		24 070		% of O	3W Pow	00	.00 %		Auto	Peak▶ Man
Transmit Freq Er		-31.978			SW FOW				Auto	IVIAII
x dB Bandwidth		71.32 N	IHz	x dB		-6.	00 dB			
MSG						STATUS	6			

Plot 7-145. 6dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)



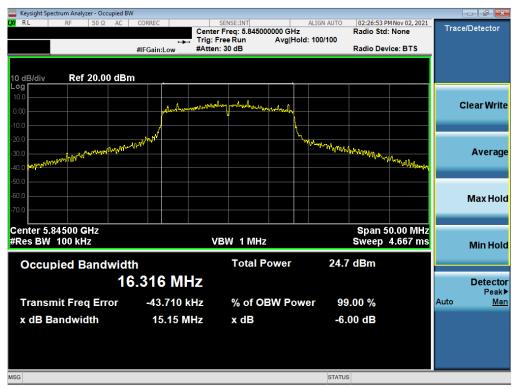
Plot 7-146. 6dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]	
Band 3/4	5845	169	а	6	15.15	
Band 4	5865 173		а	6	15.16	
Dallu 4	5885	177	а	6	15.08	
Band 3/4	5845	169	n (20MHz)	6.5/7.2 (MCS0)	15.12	
Band 4	5865	173	n (20MHz)	6.5/7.2 (MCS0)	15.06	
Dallu 4	5885	177	n (20MHz)	6.5/7.2 (MCS0)	15.06	
Band 3/4	5845	169	ax (20MHz)	6.5/7.2 (MCS0)	15.12	
Band 4	5865	173	ax (20MHz)	6.5/7.2 (MCS0)	15.21	
Dallu 4	5885	177	ax (20MHz)	6.5/7.2 (MCS0)	15.23	
Band 3/4	5835	167	n (40MHz)	13.5/15 (MCS0)	35.40	
Band 4	5875	175	n (40MHz)	13.5/15 (MCS0)	35.17	
Band 3/4	5835	167	ax (40MHz)	13.5/15 (MCS0)	35.40	
Band 4	5875	175	ax (40MHz)	13.5/15 (MCS0)	34.79	
Band 3/4	5855	171	ax (80MHz)	29.3/32.5 (MCS0)	72.15	

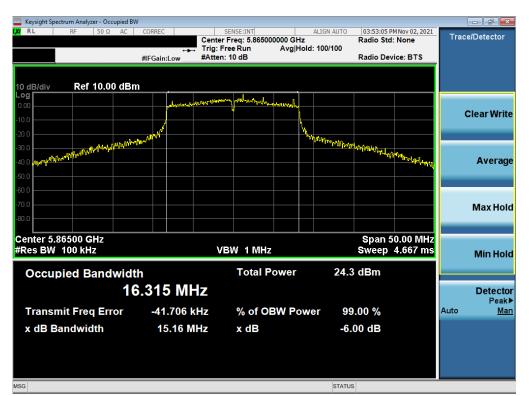
Table 7-7. Conducted Bandwidth Measurements UNII 4 SISO ANT2



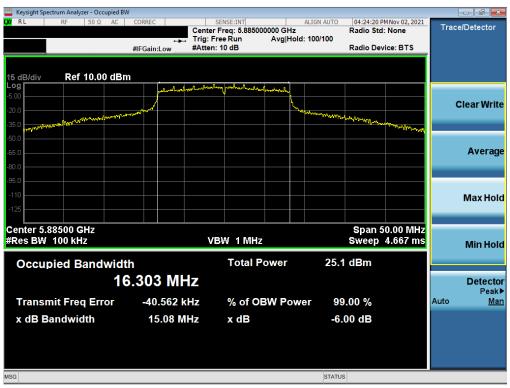
Plot 7-147. 6dB Bandwidth Plot SISO ANT2 (802.11a (UNII Band 3/4) - Ch. 169)

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-148. 6dB Bandwidth Plot SISO ANT2 (802.11a (UNII Band 4) - Ch. 173)



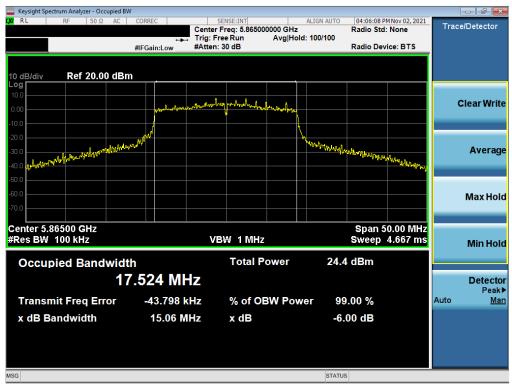
Plot 7-149. 6dB Bandwidth Plot SISO ANT2 (802.11a (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-150. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3/4) - Ch. 169)



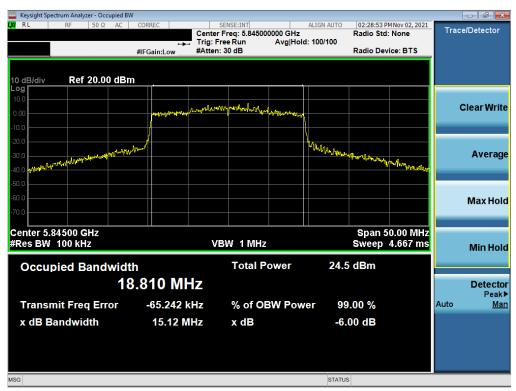
Plot 7-151. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 4) - Ch. 173)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-152. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 4) - Ch. 177)



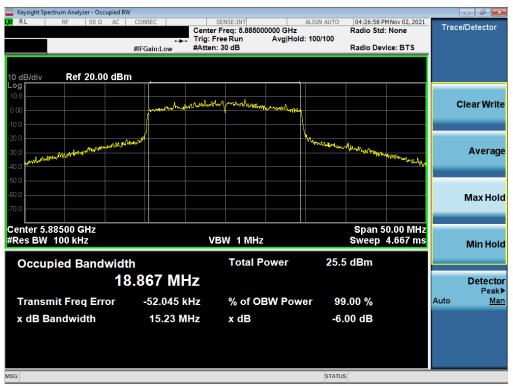
Plot 7-153. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 3/4) - Ch. 169)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 09 of 205
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Keysight Spectrum Analyzer - Occu	upied BW						- 0
LXI RL RF 50 Ω	AC CORREC	SENSE:INT			MNov 02, 2021	Trace	/Detector
		Center Freq: 5.86500 Trig: Free Run		Radio Std:	None	Hace	Delector
	++- #IFGain:Low	#Atten: 30 dB	Avg Hold: 10	Radio Dev	ice: BTS		
	#IFGall.LOW	witten: oo ub		rtudio Der			
10 dB/div Ref 20.00	dBm						
Log							
10.0							
0.00		yend world maken and	www.llynn			C	lear Write
-10.0						_	
	,		N N				
-20.0	1 1 1 A 199		hu.				
-30.0	Happy and the		· · · · · · · · · · · · · · · · · · ·	many prove the low on the second	al		Average
-40.0 MARTING MARTING				· •µ	ull market willow		
-50.0							
-60.0							Max Hold
-70.0							
Center 5.86500 GHz				Span 5	0.00 MHz		
#Res BW 100 kHz		VBW 1 MHz			4.667 ms		Min Hold
							Min Hold
Occupied Bandy	width	Total P	ower	24.6 dBm			
Occupied Balla							
	18.814 MI	-IZ					Detector
							Peak►
Transmit Freq Erro	or -52.040 k	(Hz % of O	BW Power	99.00 %		Auto	Man
x dB Bandwidth	15.21 M	IHz x dB		-6.00 dB			
	13.21 W			-0.00 uB			
MSG				STATUS			

Plot 7-154. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 4) - Ch. 173)



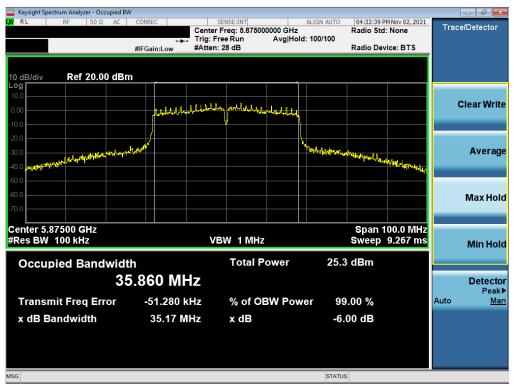
Plot 7-155. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS901JPN	PCTEST [®] Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Keysight Spectrum	Analyzer - Occ	upied BW									
L <mark>XI</mark> RL RF	F 50 Ω	AC COR	REC		NSE:INT		ALIGN AUTO		PM Nov 02, 2021	Trac	e/Detector
					req: 5.83500		d: 100/100	Radio St	d: None	TTac	CIDelector
		#IEG	⊶ ain:Low	#Atten: 2		Avginon	u. 100/100	Radio De	vice: BTS		
		#11 0									
	Ref 20.00	0 dBm									
Log											
10.0											Clear Write
0.00			Largeraland	all and the second	the had the stage of the	and the street of the second					
-10.0							Ì			_	
							1				
-20.0		أبدر									
-30.0	ton you to make	and the second					War and Hill have	Edward Martin			Average
-40.0 mungarly	AND I								with man and place		
-50.0											
-60.0											Max Hold
-70.0											
Center 5.8350	00 GHz							Span	100.0 MHz		
#Res BW 100) kHz			٧B١	N 1 MHz				9.267 ms		Min Hold
											Minitiona
Occupied	d Band	width			Total P	ower	25.5	dBm			
Coouplet											
		37.5	25 MI	ΤZ							Detector
											Peak►
Transmit F	Freq Err	or -	59.653 I	(Hz	% of O	BW Pow	/er 99	.00 %		Auto	Man
x dB Band	width		35.40 N	H7	x dB		-6	00 dB			
	wiath		55.40 W	11 12	A UD		-0.				
MSG							STATUS	5			

Plot 7-156. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3/4) - Ch. 167)



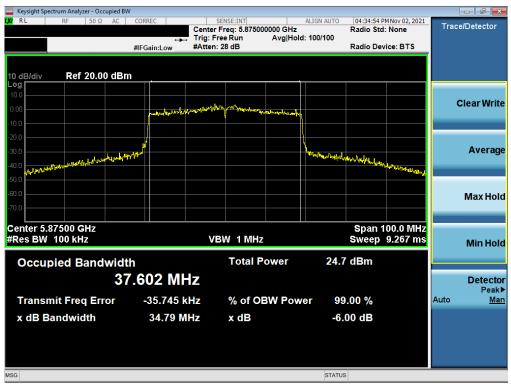
Plot 7-157. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 4) - Ch. 175)

FCC ID: A3LSMS901JPN	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 205
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👞 Key	sight Spectrum /	Analyzer - Oce	cupied BW									
L <mark>XI</mark> RL	. RF	50 Ω	AC CORI	REC		NSE:INT		ALIGN AUTO		PM Nov 02, 2021	Trac	e/Detector
						eq: 5.83500		d: 100/100	Radio Sto	d: None	mac	CIDELECTOI
			#IEG	⊶ ain:Low	#Atten: 2		Avginon	4. 100/100	Radio De	vice: BTS		
				unicow								
10 dE	3/div	Ref 20.0	0 dBm									
Log 10.0												
					1	444.4						Clear Write
0.00				Antelerslerve	all a survey of the second	the hand way and						oroan minto
-10.0												
-20.0												
-30.0			at male water					have and with the	ad a di			Average
	When the work	you frank marker with							And Street	amonadore Mar		Average
-40.0	What was a									Ann		
-50.0												
-60.0												Max Hold
-70.0												
-70.0												
Cent	ter 5.8350	0 GHz							Snan	100.0 MHz	-	
	s BW 100				VBU	V 1 MHz				9.267 ms		
									CHECK			Min Hold
0	ccupied	Band	width			Total P	ower	25.5	dBm			
ľ	ooupioo	Bana										
			37.5	25 MI	TZ							Detector
_									00.0/		Auto	Peak►
	ansmit F	req Err	ror -	59.653 I	(HZ	% of O	BW Pow	er 99	.00 %		Auto	<u>Man</u>
x	dB Band	width		35.40 N	Hz	x dB		-6.	00 dB			
MSG								STATUS	5			

Plot 7-158. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3/4) - Ch. 167)



Plot 7-159. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 4) - Ch. 175)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 404 at 005
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	ectrum Analyze												
RL	RF	50 Ω	AC	CORREC			NSE:INT	000000 GHz	ALIGN AUTO	02:24:11 P Radio Std	MNov 02, 2021	Trac	e/Detector
					. + .		e Run	Avg Hold	I: 100/100	Radio Dev			
				#IFGain	:Low	#Atten.	20 0.0			Radio Dev	ice. BTS		
0 dB/div	B of 1	0.00) dBrr										
-og	Rei	10.00	, adli							1			
0.00					مريليمة. مريليمة	all agent work	and the second second	monthe					Clear Write
10.0				-									
20.0													
30.0			الرادينين	notated					wetwo logher line	ntak furtier the			
40.0 مريد الم	with the second	and a state									when when the		Average
50.0													
60.0													
70.0													Max Hold
80.0													
Center 5.	8550 GH	z								Span 2	00.0 MHz		
¢Res BW	100 kHz					VB	W 1 MH	z			18.47 ms		Min Hold
000	pied Ba	nd	widt	b			Total	Power	25 3	3 dBm			
Occu		and				-	lotai		2010				
			16	6.720		ΠZ							Detector Peak
Transi	mit Freq	Erro	or	-25	.683	κHz	% of C	BW Pow	er 99	0.00 %		Auto	Mar
x dB E	Bandwid	th		72	2.15 N	IHz	x dB		-6	00 dB			
									STATU				

Plot 7-160. 6dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 3/4) – Ch. 171)

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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.

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	Freq [MHz]	Channel	Detector		IEEE Transm	ission Mode		Conducted Power Limit	Conducted Power
<u>(</u> ч				802.11a	802.11n	802.11ac	802.11ax	[dBm]	Margin [dB]
dt	5180	36	AVG	17.95	16.89	16.87	16.91	23.98	-6.03
- -	5200	40	AVG	17.96	17.85	17.85	17.81	23.98	-6.02
q	5220	44	AVG	17.98	17.84	17.86	17.85	23.98	-6.00
<u> </u>	5240	48	AVG	17.97	17.82	17.81	17.81	23.98	-6.01
Bandwidth)	5260	52	AVG	17.98	17.83	17.80	17.87	23.98	-6.00
N	5280	56	AVG	17.96	17.79	17.79	17.74	23.98	-6.02
T	5300	60	AVG	17.92	17.78	17.78	17.77	23.98	-6.06
(20M	5320	64	AVG	17.71	17.99	17.94	17.51	23.98	-5.99
20	5500	100	AVG	17.72	17.97	17.55	17.97	23.98	-6.01
	5600	120	AVG	17.96	17.87	17.87	17.84	23.98	-6.02
Hz	5620	124	AVG	17.96	17.91	17.91	17.91	23.98	-6.02
Ċ Ū	5720	144	AVG	17.85	17.96	17.77	17.95	23.98	-6.02
2	5745	149	AVG	17.63	17.71	17.89	17.78	30.00	-12.11
	5785	157	AVG	17.91	17.98	17.79	17.74	30.00	-12.02
	5825	165	AVG	17.57	17.96	17.89	17.81	30.00	-12.04

SISO Antenna-1 Conducted Output Power Measurements

Table 7-8. SISO ANT1 20MHz BW (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	IEEE	Transmission	Conducted Power Limit	Conducted Power	
				802.11n	802.11ac	802.11ax	[dBm]	Margin [dB]
H C	5190	38	AVG	17.23	17.24	17.29	23.98	-6.74
(40MH) width)	5230	46	AVG	17.74	17.77	17.62	23.98	-6.21
id to	5270	54	AVG	17.65	17.96	17.81	23.98	-6.02
4 (4	5310	62	AVG	17.44	17.44	17.51	23.98	-6.54
4z nd	5510	102	AVG	17.62	17.96	17.89	23.98	-6.02
a T	5590	118	AVG	17.86	17.88	17.98	23.98	-6.10
5 9 8	5630	126	AVG	17.79	17.86	17.74	23.98	-6.12
	5710	142	AVG	17.66	17.69	17.58	23.98	-6.29
	5755	151	AVG	17.85	17.89	17.68	30.00	-12.11
	5795	159	AVG	17.74	17.67	17.58	30.00	-12.26

Table 7-9. SISO ANT1 40MHz BW (UNII) Maximum Conducted Output Power

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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	Freq [MHz]	Channel	Detector	IEEE Transm	ission Mode	Conducted Power Limit	Conducted Power	
z (80MHz dwidth)				802.11ac	802.11ax	[dBm]	Margin [dB]	
OM	5210	42	AVG	16.93	16.65	23.98	-7.05	
(8) dv	5290	58	AVG	17.66	17.52	23.98	-6.32	
GHz Bano	5530	106	AVG	17.62	17.13	23.98	-6.36	
B C	5610	122	AVG	17.93	17.83	23.98	-6.05	
	5690	138	AVG	17.75	17.74	23.98	-6.23	
	5775	155	AVG	17.76	17.83	30.00	-12.24	

Table 7-10. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power

4)	Freq BW G	BW MHz] Channel		IE	EE Transm	ission Mo	de	Ant. Gain [dBi]	Max e.i.r.p.	Max e.i.r.p. Limit	e.i.r.p. Margin	
	[802.11a	802.11n	802.11ac	802.11ax	[abi]	[dBm]	[dBm]	[dB]	
Z	5845		169	AVG	17.69	17.92	17.89	17.70	-6.20	11.72	30.00	-18.28
L L	5865	20	173	AVG	17.76	17.95	17.93	17.71	-6.20	11.75	30.00	-18.25
N	5885		177	AVG	17.92	17.69	17.70	17.86	-6.20	11.72	30.00	-18.28
T.	5835	40	167	AVG		17.74	17.71	17.76	-6.20	11.54	30.00	-18.46
5G	5875	40	175	AVG		17.64	17.61	17.62	-6.20	11.44	30.00	-18.56
~	5855	80	171	AVG			17.51	17.71	-6.20	11.51	30.00	-18.49

Table 7-11. SISO ANT1 UNII 4 Maximum Conducted Output Power and e.i.r.p.

FCC ID: A3LSMS901JPN	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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	Freq [MHz]	Channel	Detector		IEEE Transm	ission Mode		Conducted Power Limit	Conducted Power
(ч				802.11a	802.11n	802.11ac	802.11ax	[dBm]	Margin [dB]
dt	5180	36	AVG	17.85	16.69	16.59	16.83	23.98	-6.13
- -	5200	40	AVG	17.85	17.65	17.90	17.77	23.98	-6.08
q	5220	44	AVG	17.75	17.60	17.85	17.73	23.98	-6.13
Bandwidth)	5240	48	AVG	17.79	17.55	17.84	17.68	23.98	-6.14
â	5260	52	AVG	17.95	17.72	17.84	17.75	23.98	-6.03
N	5280	56	AVG	17.89	17.69	17.86	17.69	23.98	-6.09
T	5300	60	AVG	17.83	17.67	17.72	17.74	23.98	-6.15
(20M	5320	64	AVG	17.81	17.65	17.73	17.59	23.98	-6.17
20	5500	100	AVG	17.81	17.91	17.75	17.79	23.98	-6.07
	5600	120	AVG	17.94	17.79	17.63	17.85	23.98	-6.04
Hz	5620	124	AVG	17.88	17.70	17.59	17.90	23.98	-6.10
Ū	5720	144	AVG	17.60	17.76	17.72	17.55	23.98	-6.22
2	5745	149	AVG	17.94	17.83	17.64	17.96	30.00	-12.06
	5785	157	AVG	17.86	17.71	17.69	17.55	30.00	-12.14
	5825	165	AVG	17.89	17.75	17.77	17.69	30.00	-12.11

SISO Antenna-2 Conducted Output Power Measurements

Table 7-12. SISO ANT2 20MHz BW (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	IEEE	Transmission	Conducted Power Limit	Conducted Power	
				802.11n	802.11ac	802.11ax	[dBm]	Margin [dB]
HZ HZ	5190	38	AVG	17.65	17.67	17.63	23.98	-6.31
0MH idth)	5230	46	AVG	17.95	17.64	17.95	23.98	-6.03
(40M widt	5270	54	AVG	17.96	17.55	17.92	23.98	-6.02
	5310	62	AVG	17.94	17.95	17.79	23.98	-6.03
4z nd	5510	102	AVG	17.84	17.94	17.59	23.98	-6.04
a T	5590	118	AVG	17.83	17.82	17.72	23.98	-6.15
<u>5</u> С	5630	126	AVG	17.62	17.62	17.49	23.98	-6.36
	5710	142	AVG	17.95	17.99	17.89	23.98	-5.99
	5755	151	AVG	17.70	17.82	17.72	30.00	-12.18
	5795	159	AVG	17.73	17.84	17.72	30.00	-12.16

Table 7-13. SISO ANT2 40MHz BW (UNII) Maximum Conducted Output Power

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager	
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	Freq [MHz]	Channel	Detector	IEEE Transm	ission Mode	Conducted Power Limit	Conducted Power	
E E				802.11ac	802.11ax	[dBm]	Margin [dB]	
5GHz (80MHz Bandwidth)	5210	42	AVG	16.91	16.50	23.98	-7.07	
	5290	58	AVG	17.67	17.91	23.98	-6.31	
	5530	106	AVG	17.7	17.96	23.98	-6.28	
	5610	122	AVG	17.95	17.79	23.98	-6.03	
	5690	138	AVG	17.66	17.66	23.98	-6.32	
	5775	155	AVG	17.96	17.47	30.00	-12.04	

Table 7-14. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power

4)	Freq [MHz]	' Channe		Detector	IEEE Transmission Mode				Ant. Gain [dBi]	Max e.i.r.p.	Max e.i.r.p. Limit	e.i.r.p. Margin
	[10112]			802.11a	802.11n	802.11ac	802.11ax	[abi]	[dBm]	[dBm]	[dB]	
Z	5845		169	AVG	17.95	17.46	17.78	17.57	-7.80	10.15	30.00	-19.85
L L	5865	20	173	AVG	17.95	17.79	17.80	17.60	-7.80	10.15	30.00	-19.85
N	5885		177	AVG	17.85	17.81	17.81	17.58	-7.80	10.05	30.00	-19.95
T	5835	- 40	167	AVG		17.98	17.56	17.65	-7.80	10.18	30.00	-19.82
5G	5875		175	AVG		17.87	17.81	17.68	-7.80	10.07	30.00	-19.93
	5855	80	171	AVG			17.69	17.85	-7.80	10.05	30.00	-19.95

Table 7-15. SISO ANT2 UNII 4 Maximum Conducted Output Power and e.i.r.p.

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MIMO Maximum Conducted Output Power Measurements

	Freq [MHz]	Channel	Detector	Cond	lucted Power [Conducted Power Limit	Conducted Power	
ч				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
dt	5180	36	AVG	17.95	17.85	20.91	23.98	-3.07
- Š	5200	40	AVG	17.96	17.85	20.92	23.98	-3.06
q	5220	44	AVG	17.98	17.75	20.88	23.98	-3.10
andwidth)	5240	48	AVG	17.97	17.79	20.89	23.98	-3.09
Ba	5260	52	AVG	17.98	17.95	20.98	23.98	-3.00
N	5280	56	AVG	17.96	17.89	20.94	23.98	-3.04
T	5300	60	AVG	17.92	17.83	20.89	23.98	-3.09
(20M	5320	64	AVG	17.71	17.81	20.77	23.98	-3.21
20	5500	100	AVG	17.72	17.81	20.78	23.98	-3.20
	5600	120	AVG	17.96	17.94	20.96	23.98	-3.02
Hz	5620	124	AVG	17.96	17.88	20.93	23.98	-3.05
Ū.	5720	144	AVG	17.85	17.60	20.74	23.98	-3.24
2	5745	149	AVG	17.63	17.94	20.80	30.00	-9.20
	5785	157	AVG	17.91	17.86	20.90	30.00	-9.10
	5825	165	AVG	17.57	17.89	20.74	30.00	-9.26

Table 7-16. MIMO 20MHz BW 802.11a (UNII) Maximum Conducted Output Power

	Freq [MHz] Channel		Detector	Cond	Conducted Power [dBm]			Conducted Power
Ē				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
d d	5180	36	AVG	16.89	16.69	19.80	23.98	-4.18
Š	5200	40	AVG	17.85	17.65	20.76	23.98	-3.22
<u>5</u>	5220	44	AVG	17.84	17.60	20.73	23.98	-3.25
andwidth	5240	48	AVG	17.82	17.55	20.70	23.98	-3.28
B	5260	52	AVG	17.83	17.72	20.79	23.98	-3.19
N	5280	56	AVG	17.79	17.69	20.75	23.98	-3.23
T	5300	60	AVG	17.78	17.67	20.74	23.98	-3.24
(20M	5320	64	AVG	17.99	17.65	20.83	23.98	-3.15
50	5500	100	AVG	17.97	17.91	20.95	23.98	-3.03
	5600	120	AVG	17.87	17.79	20.84	23.98	-3.14
ΗZ	5620	124	AVG	17.91	17.70	20.82	23.98	-3.16
Ū	5720	144	AVG	17.96	17.76	20.87	23.98	-3.11
2	5745	149	AVG	17.71	17.83	20.78	30.00	-9.22
	5785	157	AVG	17.98	17.71	20.86	30.00	-9.14
	5825	165	AVG	17.96	17.75 aximum Cor	20.87	30.00	-9.13

 Table 7-17. MIMO 20MHz BW 802.11n (UNII) Maximum Conducted Output Power

FCC ID: A3LSMS901JPN	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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	Freq [MHz]	Channel	Detector	Cond	Conducted Power [dBm]			Conducted Power
- Ч				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
dt	5180	36	AVG	16.87	16.59	19.74	23.98	-4.24
<u><</u> i	5200	40	AVG	17.85	17.90	20.89	23.98	-3.09
ndwidth)	5220	44	AVG	17.86	17.85	20.87	23.98	-3.11
Ĕ	5240	48	AVG	17.81	17.84	20.84	23.98	-3.14
Ba	5260	52	AVG	17.80	17.84	20.83	23.98	-3.15
	5280	56	AVG	17.79	17.86	20.84	23.98	-3.14
Hz	5300	60	AVG	17.78	17.72	20.76	23.98	-3.22
(20MI	5320	64	AVG	17.94	17.73	20.85	23.98	-3.13
20	5500	100	AVG	17.55	17.75	20.66	23.98	-3.32
	5600	120	AVG	17.87	17.63	20.76	23.98	-3.22
Hz	5620	124	AVG	17.91	17.59	20.76	23.98	-3.22
Ū.	5720	144	AVG	17.77	17.72	20.76	23.98	-3.22
5	5745	149	AVG	17.89	17.64	20.78	30.00	-9.22
	5785	157	AVG	17.79	17.69	20.75	30.00	-9.25
	5825	165	AVG	17.89	17.77	20.84	30.00	-9.16

Table 7-18. MIMO 20MHz 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]
dt	5180	36	AVG	16.91	16.83	19.88	23.98	-4.10
- -	5200	40	AVG	17.81	17.77	20.80	23.98	-3.18
2	5220	44	AVG	17.85	17.73	20.80	23.98	-3.18
andwidth	5240	48	AVG	17.81	17.68	20.76	23.98	-3.22
Ba	5260	52	AVG	17.87	17.75	20.82	23.98	-3.16
	5280	56	AVG	17.74	17.69	20.73	23.98	-3.25
Hz	5300	60	AVG	17.77	17.74	20.77	23.98	-3.21
(20M	5320	64	AVG	17.51	17.59	20.56	23.98	-3.42
50	5500	100	AVG	17.97	17.79	20.89	23.98	-3.09
	5600	120	AVG	17.84	17.85	20.86	23.98	-3.12
Hz	5620	124	AVG	17.91	17.90	20.92	23.98	-3.06
Ċ	5720	144	AVG	17.95	17.55	20.76	23.98	-3.22
5G	5745	149	AVG	17.78	17.96	20.88	30.00	-9.12
	5785	157	AVG	17.74	17.55	20.66	30.00	-9.34
	5825	165	AVG	17.81	17.69	20.76	30.00	-9.24

Table 7-19. MIMO 20MHz BW 802.11ax (UNII) Maximum Conducted Output Power

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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	Freq [MHz] Channel	Channel	Detector	Conducted Power [dBm]			Conducted Power Limit	Conducted Power
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
PH (5190	38	AVG	17.23	17.65	20.46	23.98	-3.52
0MH; idth)	5230	46	AVG	17.74	17.95	20.86	23.98	-3.12
(40MH width)	5270	54	AVG	17.65	17.96	20.82	23.98	-3.16
<u>4</u> 3	5310	62	AVG	17.44	17.94	20.71	23.98	-3.27
łz nd	5510	102	AVG	17.62	17.84	20.74	23.98	-3.24
a T	5590	118	AVG	17.86	17.83	20.86	23.98	-3.12
D 20	5630	126	AVG	17.79	17.62	20.72	23.98	-3.26
	5710	142	AVG	17.66	17.95	20.82	23.98	-3.16
	5755	151	AVG	17.85	17.70	20.79	30.00	-9.21
	5795	159	AVG	17.74	17.73	20.75	30.00	-9.25

Table 7-20. MIMO 40MHz BW 802.11n (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	Conducted Power [dBm]			Conducted Power Limit	Conducted Power
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
HZ HZ	5190	38	AVG	17.24	17.67	20.47	23.98	-3.51
(40MH) width)	5230	46	AVG	17.77	17.64	20.72	23.98	-3.26
id id	5270	54	AVG	17.96	17.55	20.77	23.98	-3.21
	5310	62	AVG	17.44	17.95	20.71	23.98	-3.27
łz nd	5510	102	AVG	17.96	17.94	20.96	23.98	-3.02
a T	5590	118	AVG	17.88	17.82	20.86	23.98	-3.12
B SG	5630	126	AVG	17.86	17.62	20.75	23.98	-3.23
	5710	142	AVG	17.69	17.99	20.85	23.98	-3.13
	5755	151	AVG	17.89	17.82	20.87	30.00	-9.13
	5795	159	AVG	17.67	17.84	20.77	30.00	-9.23

Table 7-21. MIMO 40MHz BW 802.11ac (UNII) Maximum Conducted Output Power

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	Freq [MHz]	Channel	Detector	Conducted Power [dBm]			Conducted Power Limit	Conducted Power
				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
PH (5190	38	AVG	17.29	17.63	20.47	23.98	-3.51
0MH idth)	5230	46	AVG	17.62	17.95	20.80	23.98	-3.18
(40M widtl	5270	54	AVG	17.81	17.92	20.88	23.98	-3.10
4	5310	62	AVG	17.51	17.79	20.66	23.98	-3.32
łz nd	5510	102	AVG	17.89	17.59	20.75	23.98	-3.23
a T	5590	118	AVG	17.98	17.72	20.86	23.98	-3.12
D 20	5630	126	AVG	17.74	17.49	20.63	23.98	-3.35
	5710	142	AVG	17.58	17.89	20.75	23.98	-3.23
	5755	151	AVG	17.68	17.72	20.71	30.00	-9.29
	5795	159	AVG	17.58	17.72	20.66	30.00	-9.34

Table 7-22. MIMO 40MHz BW 802.11ax (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	Conducted Power [dBm]			Conducted Power Limit	Conducted Power
0MHz dth)				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
(80MHz Iwidth)	5210	42	AVG	16.93	16.91	19.93	23.98	-4.05
. 0	5290	58	AVG	17.66	17.67	20.68	23.98	-3.30
GHz Banc	5530	106	AVG	17.62	17.70	20.67	23.98	-3.31
B G	5610	122	AVG	17.93	17.95	20.95	23.98	-3.03
	5690	138	AVG	17.75	17.66	20.72	23.98	-3.26
	5775	155	AVG	17.76	17.96	20.87	30.00	-9.13

Table 7-23. MIMO 80MHz BW 802.11ac (UNII) Maximum Conducted Output Power

	Freq [MHz]	Channel	Detector	Cond	lucted Power [Conducted Power Limit	Conducted Power	
HZ HZ				ANT1	ANT2	MIMO	[dBm]	Margin [dB]
z (80MHz dwidth)	5210	42	AVG	16.65	16.50	19.59	23.98	-4.39
(8) M	5290	58	AVG	17.52	17.91	20.73	23.98	-3.25
L H H	5530	106	AVG	17.13	17.96	20.58	23.98	-3.40
5G B	5610	122	AVG	17.83	17.79	20.82	23.98	-3.16
	5690	138	AVG	17.74	17.66	20.71	23.98	-3.27
	5775	155	AVG	17.83	17.47	20.66	30.00	-9.34

Table 7-24. MIMO 80MHz BW 802.11ax (UNII) Maximum Conducted Output Power

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Freq [MHz]		BW [MHz]		Channel	Detector	Conduc	ted Powe	r [dBm]	Directional Gain [dBm]	Max e.i.r.p.	Max e.i.r.p. Limit	e.i.r.p. Margin
$\mathbf{T} = \mathbf{I}$	[]					ANT1	ANT2	MIMO	oun [ubn]	[dBm]	[dBm]	[dB]
UZ	5845		169	AVG	17.69	17.95	20.83	-3.95	16.88	30.00	-13.12	
5 (C	5865	20	173	AVG	17.76	17.95	20.87	-3.95	16.92	30.00	-13.08	
	5885		177	AVG	17.92	17.85	20.90	-3.95	16.95	30.00	-13.05	

Table 7-25. MIMO 802.11a (UNII 4) Maximum Conducted Output Power and e.i.r.p.

II 4)	Freq [MHz]	BW [MHz]	Channel	Detector	Conduc	ted Powe	r [dBm]	Directional Gain [dBm]	Max e.i.r.p.	Max e.i.r.p. Limit	e.i.r.p. Margin	
Z	[[1411 12]	[101112]			ANT1	ANT2	MIMO		[dBm]	[dBm]	[dB]
D)	5845		169	AVG	17.92	17.46	20.71	-3.95	16.76	30.00	-13.24	
	5865	20	173	AVG	17.95	17.79	20.88	-3.95	16.93	30.00	-13.07	
Hz	5885		177	AVG	17.69	17.81	20.76	-3.95	16.81	30.00	-13.19	
C	5835	40	167	AVG	17.74	17.98	20.87	-3.95	16.92	30.00	-13.08	
S	5875	40	175	AVG	17.64	17.87	20.77	-3.95	16.82	30.00	-13.18	

Table 7-26. MIMO 802.11n (UNII 4) Maximum Conducted Output Power and e.i.r.p.

4)	Freq [MHz]	BW [MHz]	Channel	Detector	Conduc	ted Powe	r [dBm]	Directional Gain [dBm]	Max e.i.r.p.	Max e.i.r.p. Limit	e.i.r.p. Margin
Ξ	[ANT1	ANT2	MIMO		[dBm]	[dBm]	[dB]
N	5845		169	AVG	17.89	17.78	20.85	-3.95	16.90	30.00	-13.10
L L	5865	20	173	AVG	17.93	17.80	20.88	-3.95	16.93	30.00	-13.07
N	5885		177	AVG	17.70	17.81	20.77	-3.95	16.82	30.00	-13.18
T.	5835	40	167	AVG	17.71	17.56	20.65	-3.95	16.70	30.00	-13.30
5G	5875	875 40	175	AVG	17.61	17.81	20.72	-3.95	16.77	30.00	-13.23
	5855	80	171	AVG	17.51	17.69	20.61	-3.95	16.66	30.00	-13.34

Table 7-27. MIMO 802.11ac (UNII 4) Maximum Conducted Output Power and e.i.r.p.

4)	Freq [MHz]	BW [MHz]	Channel	Detector	Conduc	ted Powe	r [dBm]	Directional Gain [dBm]	Max e.i.r.p.	Max e.i.r.p. Limit	e.i.r.p. Margin
Ξ	[[101112]			ANT1	ANT2	MIMO		[dBm]	[dBm]
Z	5845		169	AVG	17.70	17.57	20.65	-3.95	16.70	30.00	-13.30
5	5865	20	173	AVG	17.71	17.60	20.67	-3.95	16.72	30.00	-13.28
N	5885		177	AVG	17.86	17.58	20.73	-3.95	16.78	30.00	-13.22
Т.	5835	40	167	AVG	17.76	17.65	20.72	-3.95	16.77	30.00	-13.23
5G	5875	40	175	AVG	17.62	17.68	20.66	-3.95	16.71	30.00	-13.29
	5855	80	171	AVG	17.71	17.85	20.79	-3.95	16.84	30.00	-13.16

Table 7-28. MIMO 802.11ax (UNII 4) Maximum Conducted Output Power and e.i.r.p.

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Note:

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

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

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

Sample MIMO Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted output power was measured to be 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 N/A 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

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7.5 Maximum Power Spectral Density – 802.11a/n/ac/ax §15.407(a.1.iv) §15.407(a.2) §15.407(a.3); 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

Test Notes

None

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SISO Antenna-1 Power Spectral Density Measurements

	Frequency	Channel			Measured	Max Power	Margin
	[MHz]	No.	802.11 Mode	Data Rate [Mbps]	-	Density	[dB]
		-		-	[dBm]	[dBm/MHz]	
	5180	36	а	6	7.93	11.0	-3.07
	5200	40	а	6	8.01	11.0	-2.99
	5240	48	а	6	7.85	11.0	-3.15
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	7.77	11.0	-3.23
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	7.42	11.0	-3.58
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	7.36	11.0	-3.64
-	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	7.93	11.0	-3.07
Band	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	8.01	11.0	-2.99
ш	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	7.85	11.0	-3.15
	5190	38	n (40MHz)	13.5/15 (MCS0)	4.38	11.0	-6.62
	5230	46	n (40MHz)	13.5/15 (MCS0)	4.29	11.0	-6.71
	5190	38	ax (40MHz)	13.5/15 (MCS0)	5.05	11.0	-5.95
	5230	46	ax (40MHz)	13.5/15 (MCS0)	4.64	11.0	-6.36
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	0.50	11.0	-10.50
	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	2.16	11.0	-8.84
	5260	52	а	6	8.00	11.0	-3.00
	5280	56	а	6	7.93	11.0	-3.07
	5320	64	а	6	7.35	11.0	-3.65
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	7.12	11.0	-3.88
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	7.99	11.0	-3.01
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	7.15	11.0	-3.85
A2	5260	52	ax (20MHz)	6.5/7.2 (MCS0)	7.29	11.0	-3.71
Band 2A	5280	56	ax (20MHz)	6.5/7.2 (MCS0)	7.56	11.0	-3.44
Bar	5320	64	ax (20MHz)	6.5/7.2 (MCS0)	7.70	11.0	-3.30
	5270	54	n (40MHz)	13.5/15 (MCS0)	4.02	11.0	-6.98
	5310	62	n (40MHz)	13.5/15 (MCS0)	3.84	11.0	-7.16
	5270	54	ax (40MHz)	13.5/15 (MCS0)	4.99	11.0	-6.01
	5310	62	ax (40MHz)	13.5/15 (MCS0)	4.50	11.0	-6.50
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	0.82	11.0	-10.18
	5290	58	ax (80MHz)	29.3/32.5 (MCS0)	2.17	11.0	-8.83
	5500	100	a a	6	7.60	11.0	-3.40
	5600	120	a	6	7.52	11.0	-3.48
	5720	144	a	6	8.11	11.0	-2.89
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	7.42	11.0	-3.58
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	7.28	11.0	-3.72
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	7.96	11.0	-3.04
	5500	100	ax (20MHz)	6.5/7.2 (MCS0)	7.79	11.0	-3.21
	5600	120	ax (20MHz)	6.5/7.2 (MCS0)	8.24	11.0	-2.76
	5720	144	ax (20MHz)	6.5/7.2 (MCS0)	8.03	11.0	-2.97
с		102	n (40MHz)		4.03	11.0	
Band 2C	5510 5590	102		13.5/15 (MCS0) 13.5/15 (MCS0)	4.03		-6.97
Ban	5590 5710	142	n (40MHz)		4.03	11.0	-6.37
	5710 5510		n (40MHz)	13.5/15 (MCS0)		11.0	-6.77 -5.44
	5510 5590	102 118	ax (40MHz)	13.5/15 (MCS0) 13.5/15 (MCS0)	5.56	11.0	-5.44
	5590 5710		ax (40MHz)	, ,	5.33	11.0	
	5710	142	ax (40MHz)	13.5/15 (MCS0)	5.92	11.0	-5.08
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	0.56	11.0	-10.44
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	0.85	11.0	-10.15
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	2.60	11.0	-8.40
	5530	106	ax (80MHz)	29.3/32.5 (MCS0)	2.45	11.0	-8.55
	5610	122	ax (80MHz)	29.3/32.5 (MCS0)	2.72	11.0	-8.28
	5690	138	ax (80MHz)	29.3/32.5 (MCS0)	1.67	11.0	-9.33

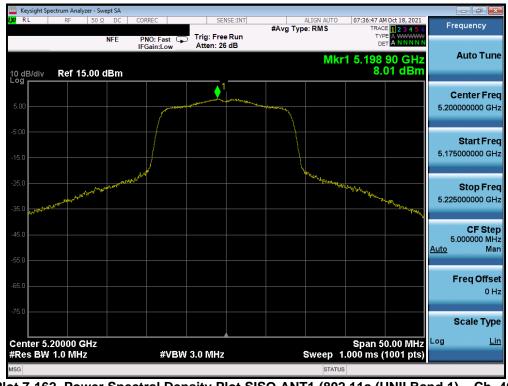
Table 7-29. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements SISO ANT1

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Plot 7-161. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 1) - Ch. 36)



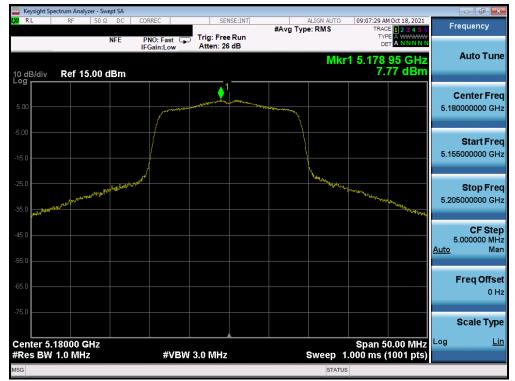
Plot 7-162. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 1) - Ch. 40)

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RL	Spectrum Analyze	50 Ω DC	CORREC	SENSE:INT	ALIGN AUTO	07:42:51 AM Oct 18, 2021	
KL.	N	NFE	PNO: Fast G		#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A NNNNN	Frequency
0 dB/div	Ref 15.	00 dBm	IT Gall.LOW		Mkı	1 5.239 05 GHz 7.85 dBm	Auto Tur
5.00							Center Fre 5.240000000 GH
15.0							Start Fre 5.215000000 GH
25.0	and a start of the second	polyan and a start			Wether and the second	Marther Martin Carlon Connorma	Stop Fro 5.265000000 GI
i5.0							CF Ste 5.000000 MI <u>Auto</u> M
i5.0							Freq Offs 0
75.0							Scale Ty
	5.24000 GH V 1.0 MHz	lz	#VB\	V 3.0 MHz	Sweep 7	Span 50.00 MHz I.000 ms (1001 pts)	Log <u>L</u>
SG					STATU	s	

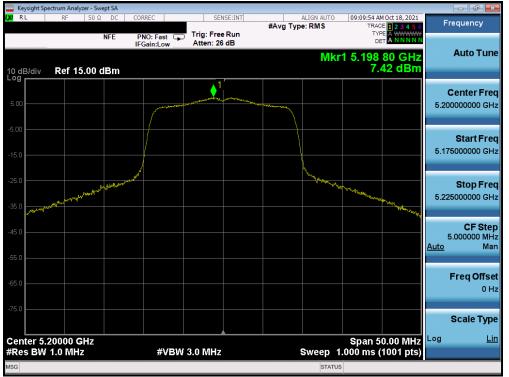
Plot 7-163. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 1) - Ch. 48)



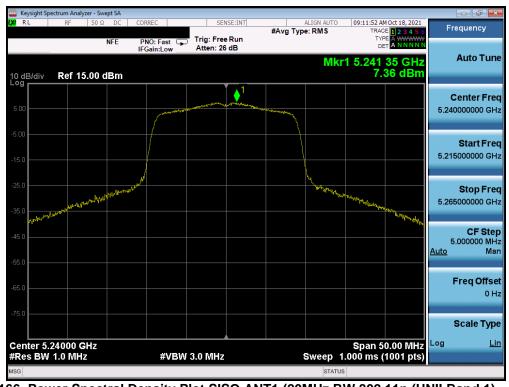
Plot 7-164. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 36)

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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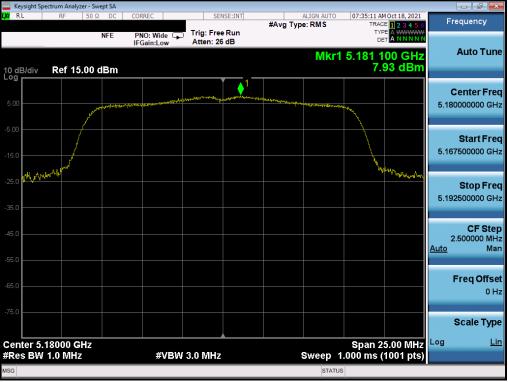
Plot 7-165. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 40)



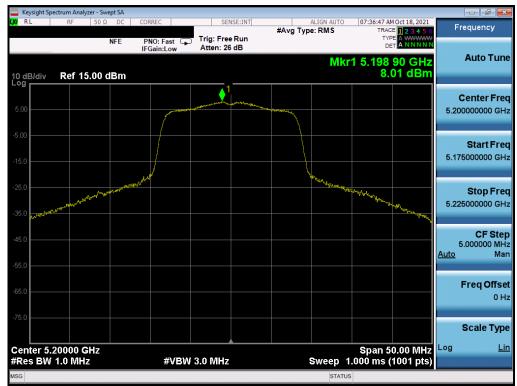
Plot 7-166. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 1) - Ch. 48)

FCC ID: A3LSMS901JPN	PCTEST [•] Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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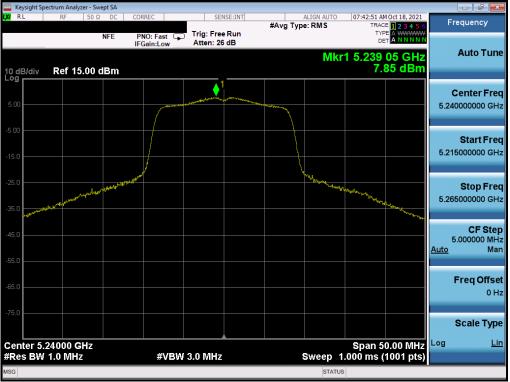
Plot 7-167. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 36)



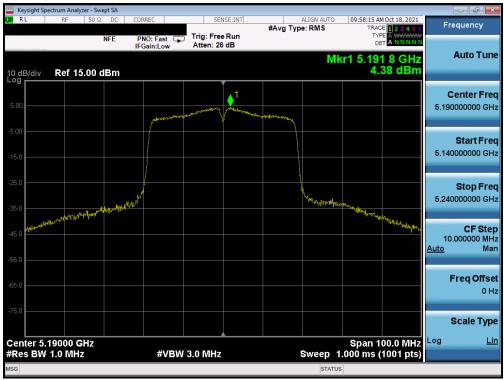
Plot 7-168. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 40)

FCC ID: A3LSMS901JPN	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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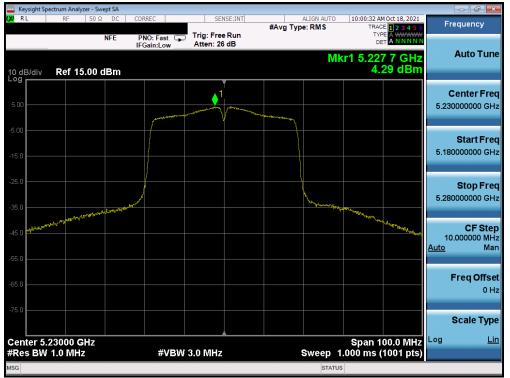
Plot 7-169. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 1) - Ch. 48)



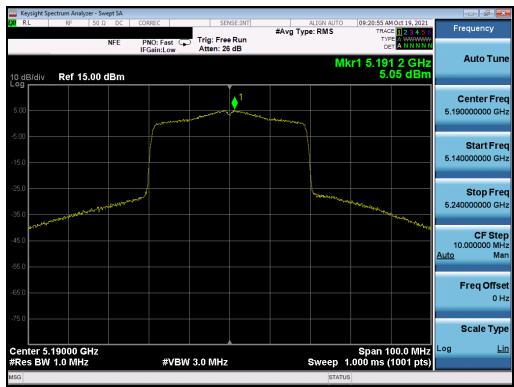
Plot 7-170. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 1) - Ch. 38)

FCC ID: A3LSMS901JPN	PCTEST [®] Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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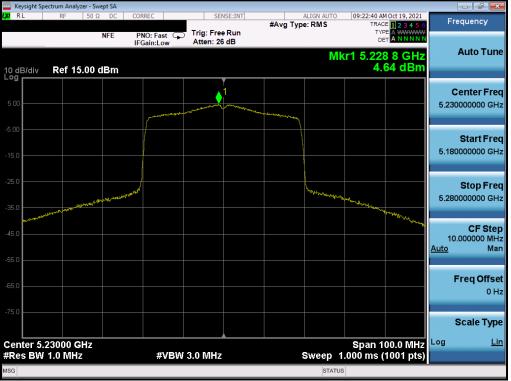
Plot 7-171. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 1) - Ch. 46)



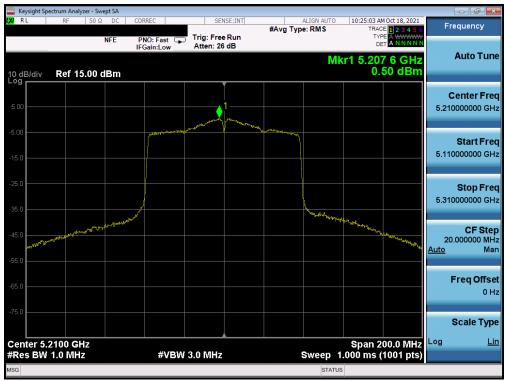
Plot 7-172. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 1) - Ch. 38)

FCC ID: A3LSMS901JPN	PCTEST [®] Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 101 of 205
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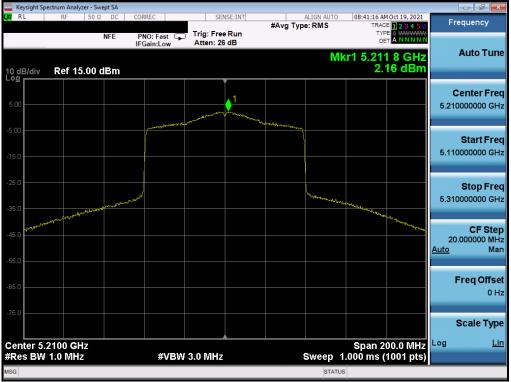
Plot 7-173. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 1) - Ch. 46)



Plot 7-174. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 1) - Ch. 42)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	MSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 205
1M2112090153-11.A3L	09/22 - 12/22/2021	Portable Handset		Page 122 of 295
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Plot 7-175. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 1) - Ch. 42)



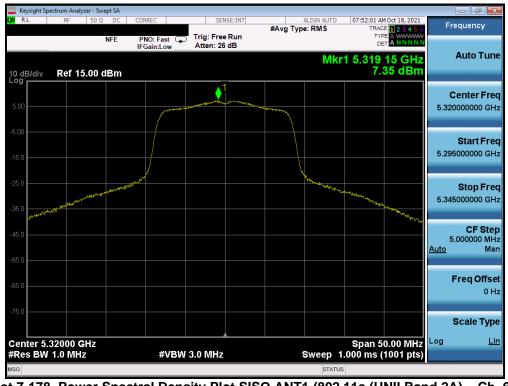
Plot 7-176. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMS901JPN	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 122 of 205
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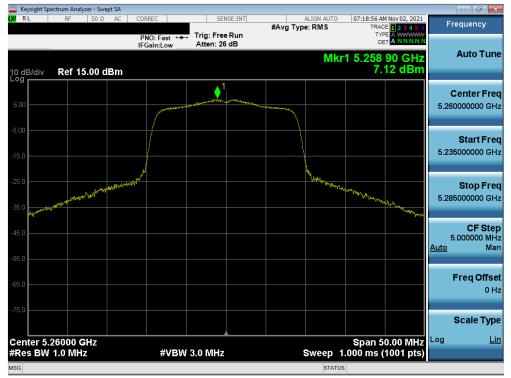
Plot 7-177. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 2A) - Ch. 56)



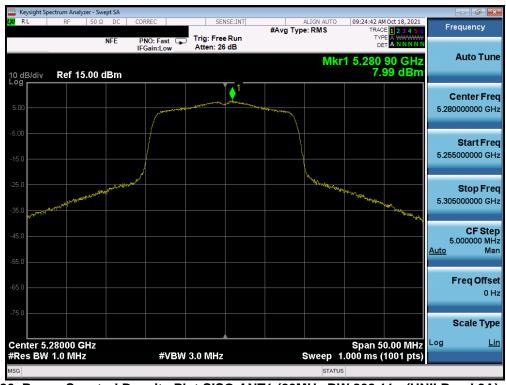
Plot 7-178. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMS901JPN	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 124 of 205
1M2112090153-11.A3L	09/22 - 12/22/2021	Portable Handset	Page 124 of 295
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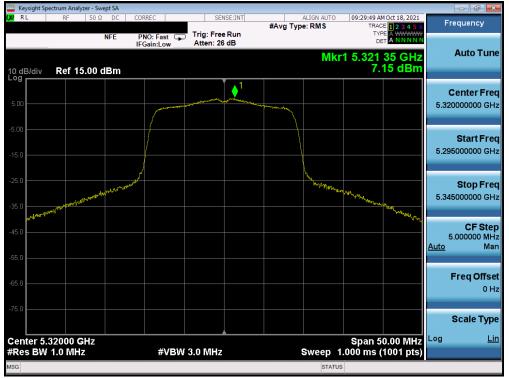
Plot 7-179. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 52)



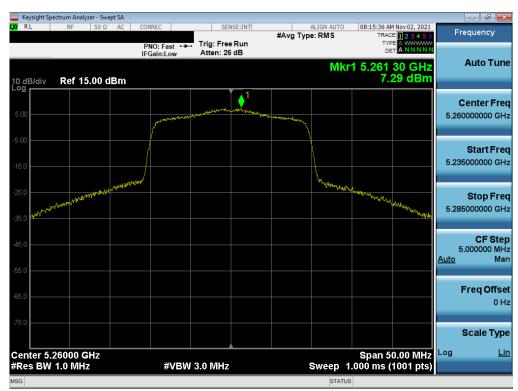
Plot 7-180. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMS901JPN	PCTEST [•] Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 405 at 005
1M2112090153-11.A3L	09/22 - 12/22/2021	Portable Handset		Page 125 of 295
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Plot 7-181. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 2A) - Ch. 64)



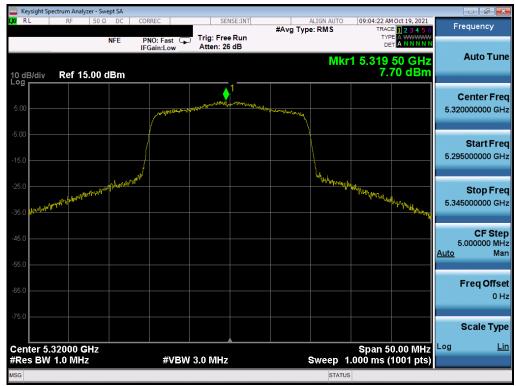
Plot 7-182. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMS901JPN	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 205
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Plot 7-183. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 56)



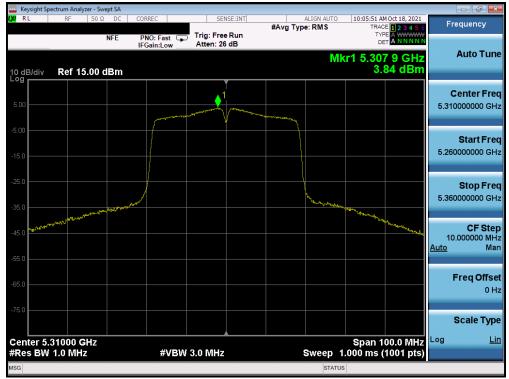
Plot 7-184. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMS901JPN	D1JPN Provid to be part of @ element (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 127 of 205
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	pectrum Analyz						
XI RL	RF	50 Ω DC	PNO: Fast	SENSE:INT Trig: Free Run Atten: 26 dB	#Avg Type: RMS	10:02:29 AM Oct 18, 2021 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A N N N N N	Frequency
10 dB/div	Ref 15	.00 dBm	IFGain:Low	Atten: 26 dB	М	kr1 5.272 1 GHz 4.02 dBm	Auto Tune
5.00			pure the second	1			Center Free 5.270000000 GH:
-5.00							Start Free 5.220000000 GH
-25.0	-der Maerika	Harrow Mary and Carl	- starter			when we have a second with a second sec	Stop Free 5.320000000 GH
45.0 	and and a grant of the second second					and water and a set	CF Ste 10.000000 MH <u>Auto</u> Ma
65.0							Freq Offse 0 H
75.0							Scale Typ
#Res BW	.27000 G / 1.0 MHz		#VBW	3.0 MHz		Span 100.0 MHz 1.000 ms (1001 pts)	Log <u>Li</u>
ISG					STATU	S	

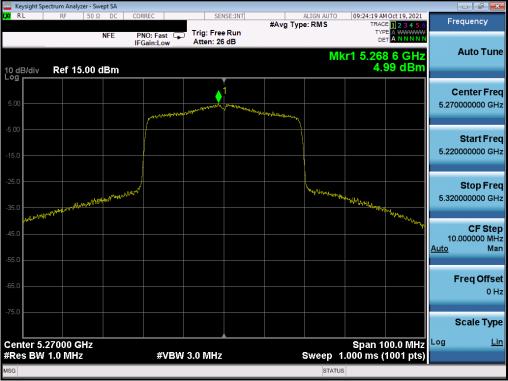
Plot 7-185. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 2A) - Ch. 54)



Plot 7-186. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 100 of 005
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Plot 7-187. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 54)



Plot 7-188. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 120 of 205
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	ectrum Analyzer	- Swept SA								_	
LXU RL	RF 5	NFE	CORREC	Trig: Free		#Avg Typ	ALIGN AUTO e: RMS	TRAC	M Oct 18, 2021 DE 1 2 3 4 5 6 DE A WWWWW A N N N N N	Freq	uency
10 dB/div	Ref 15.0	0 dBm	IFGain:Low	Atten: 26	dB		Μ	kr1 5.28		A	uto Tune
5.00					1						nter Freq 00000 GHz
-5.00											Start Freq 00000 GHz
-25.0		ALD ART DATA	www.				Monenton	and any Mandal Manager			Stop Freq 00000 GHz
-45.0 *****	and the second second							10 10 10 10 10 10 10 10 10 10 10 10 10 1	And and the state of the state	20.0 <u>Auto</u>	CF Step 00000 MHz Man
-65.0										Fr	eq Offset 0 Hz
-75.0											cale Type
Center 5. #Res BW	2900 GHz 1.0 MHz		#VBV	/ 3.0 MHz			Sweep	Span 2 1.000 ms (VV.V 10112	Log	Lin
MSG							STATU	JS			

Plot 7-189. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 2A) - Ch. 58)



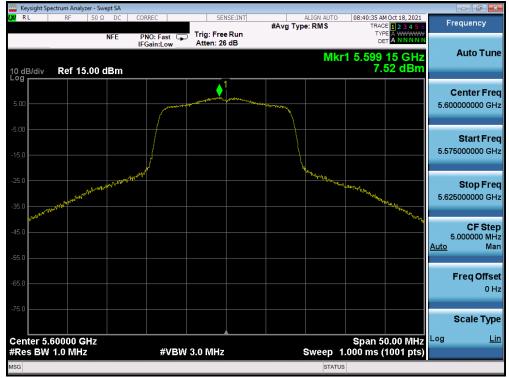
Plot 7-190. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 120 of 205
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Keysight Spectrum An	50 Ω DC	CORREC	SENSE:INT	ALIGN AUTO	07:54:58 AM Oct 18, 2021	
	NFE	PNO: Fast	Trig: Free Run	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A N N N N N	Frequency
		IFGain:Low	Atten: 26 dB			Auto Tun
10 dB/div Ref	15.00 dBm			Mki	1 5.501 15 GHz 7.60 dBm	Auto Tui
-09			1			Center Fre
5.00		مىلىدىنى مەلىرىدىنى	- have all a company and the second	- Land La Contraction		5.50000000 GH
-5.00						
.3.00						Start Fre
-15.0						5.475000000 GH
		/		L L		
-25.0		and a start of the				Stop Fre
-35.0	and the second second			المهرسية	Westerner Har	5.525000000 GI
Jon Market					and show when a	
-45.0					· · · · · · · · · · · · · · · · · · ·	CF Ste
						5.000000 Mi Auto Ma
-55.0						
						Freq Offs
-65.0						01
-75.0						
-75.0						Scale Typ
Center 5.50000 #Res BW 1.0 M		#\/BM	3.0 MHz	Swoon	Span 50.00 MHz I.000 ms (1001 pts)	Log <u>L</u>
FRES DW 1.0 WI	12	#4044	5.0 WHZ	statu		

Plot 7-191. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 2C) – Ch. 100)



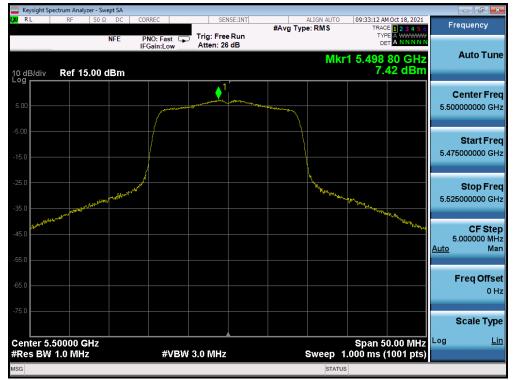
Plot 7-192. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 121 of 205
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Keysight Spectrum Analyz RL RF	50 Ω DC	CORREC	SENSE:INT	ALIGN AUTO	08:43:36 AM Oct 18, 2021	
				#Avg Type: RMS	TRACE 1 2 3 4 5 6	Frequency
	NFE	PNO: Fast IFGain:Low	Atten: 26 dB		DETANNNN	• • • •
IO dB/div Ref 15.	.00 dBm			Mkı	1 5.719 15 GHz 8.11 dBm	Auto Tur
- ^{og}			▲ 1			Center Fre
5.00			- James - Marries - Brandon - Marries - Marrie	the street of th		5.720000000 GH
5.00						
5.00						Start Fre
15.0						5.695000000 GH
		and a		l W		
25.0	an all and the	un ver		Market and States	Morten Veral	Stop Fre
35.0 	- Al-PAR				- and any man	5.745000000 GI
Margareter Jack					and show a constraints	
45.0						CF Ste
						5.000000 MI Auto M
55.0						
						Freq Offs
65.0						01
75.0						
75.0						Scale Typ
Center 5.72000 G		(D) (T) (A)			Span 50.00 MHz	Log <u>L</u>
Res BW 1.0 MHz		#VBW	3.0 MHz	Sweep 1	.000 ms (1001 pts)	

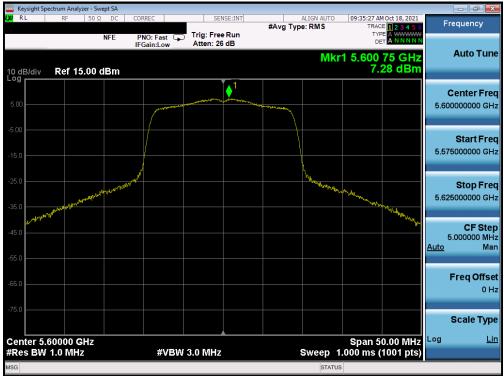
Plot 7-193. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 2C) - Ch. 144)



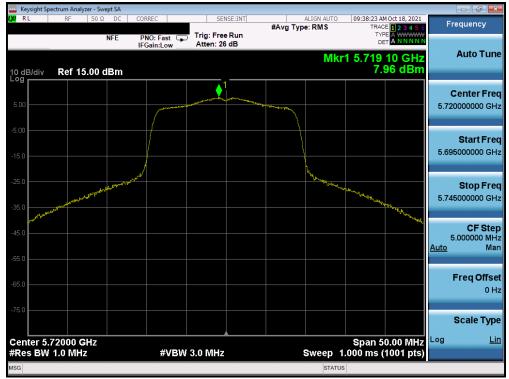
Plot 7-194. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 100)

FCC ID: A3LSMS901JPN	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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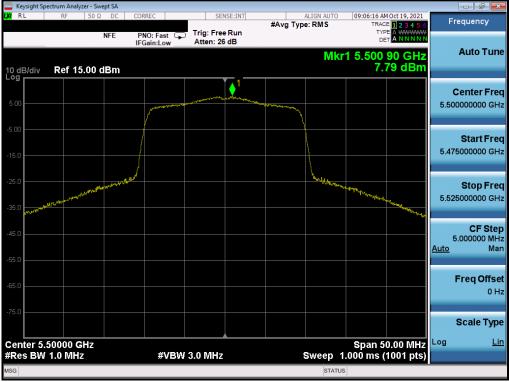
Plot 7-195. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 120)



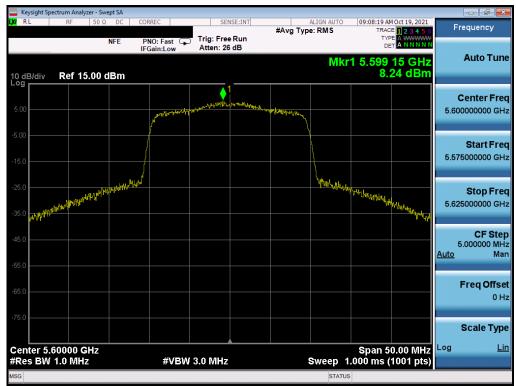
Plot 7-196. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMS901JPN	PCTEST [®] Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 122 of 205
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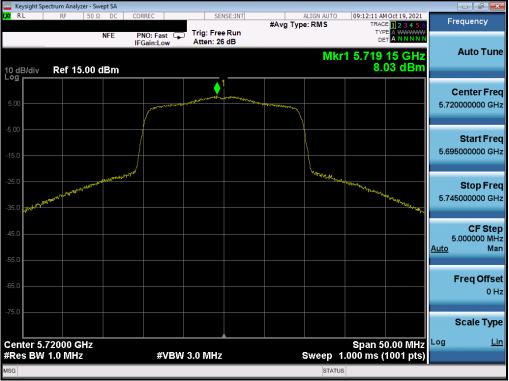
Plot 7-197. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 100)



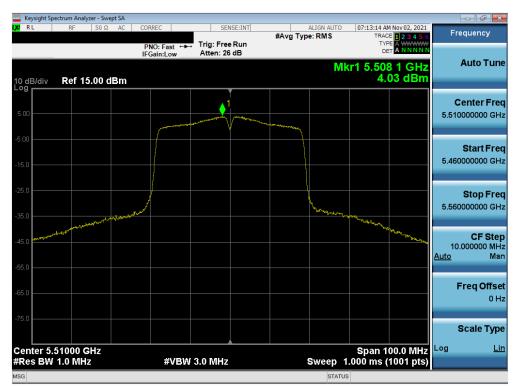
Plot 7-198. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMS901JPN	PCTEST [®] Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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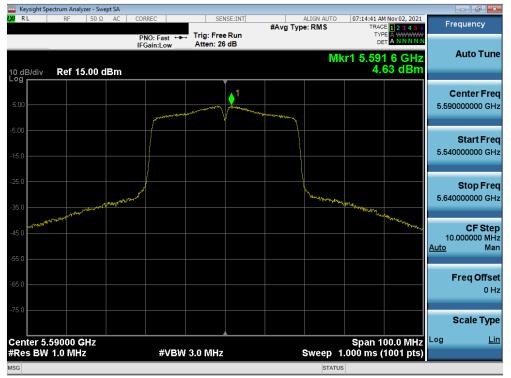
Plot 7-199. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 144)



Plot 7-200. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
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1M2112090153-11.A3L	09/22 - 12/22/2021	Portable Handset	Page 135 of 295		
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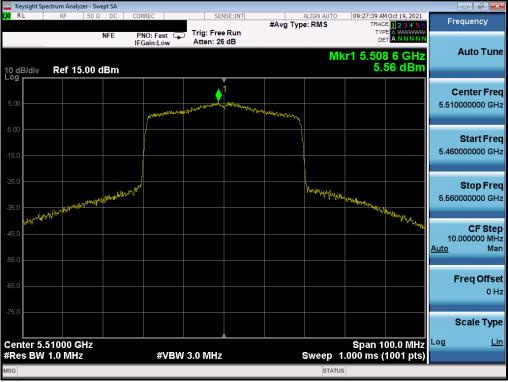
Plot 7-201. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 118)



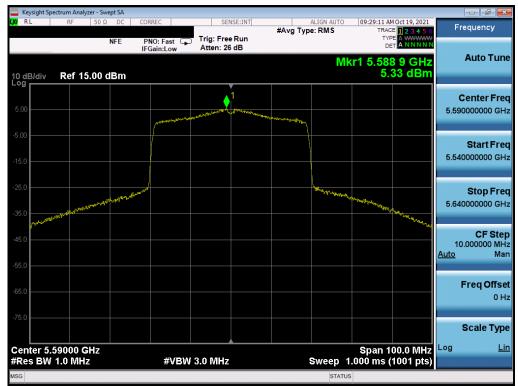
Plot 7-202. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMS901JPN	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 126 of 205
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Plot 7-203. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 102)



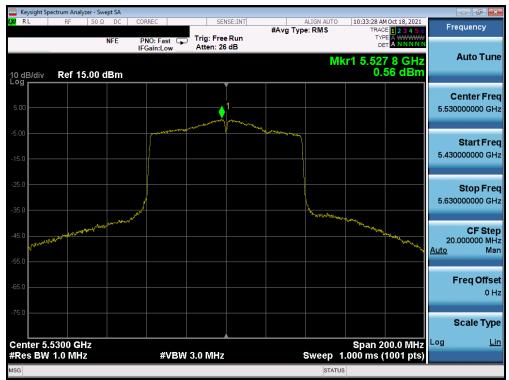
Plot 7-204. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 118)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager			
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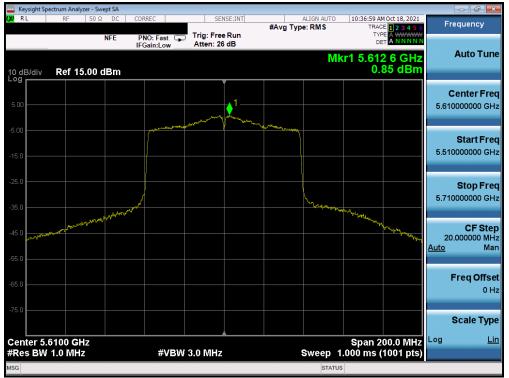
Plot 7-205. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 142)



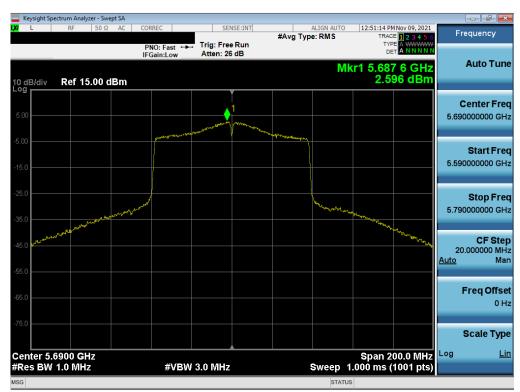
Plot 7-206. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 106)

FCC ID: A3LSMS901JPN	PCTEST [®] Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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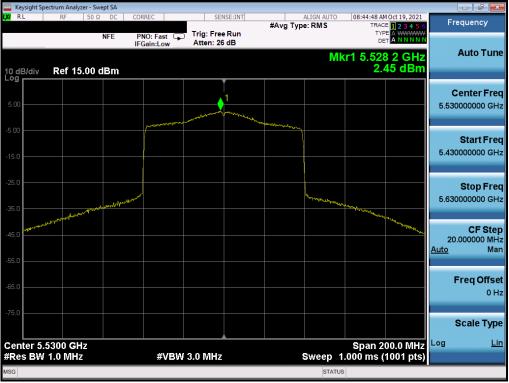
Plot 7-207. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 122)



Plot 7-208. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMS901JPN	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 400 af 005
1M2112090153-11.A3L	09/22 - 12/22/2021	Portable Handset		Page 139 of 295
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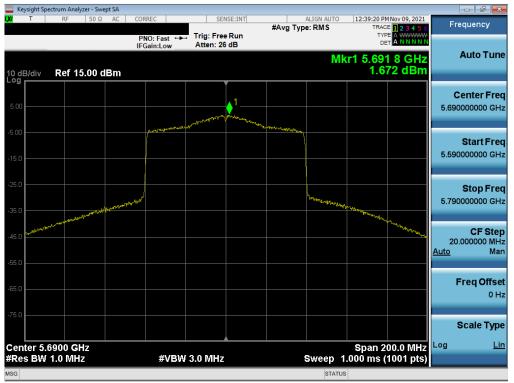
Plot 7-209. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 106)



Plot 7-210. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMS901JPN	PCTEST [®] Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-211. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMS901JPN	PCTEST [®] Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
	5745	149	а	6	5.32	30.0	-24.69
	5785	157	а	6	5.17	30.0	-24.83
	5825	165	а	6	5.37	30.0	-24.63
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	5.39	30.0	-24.61
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	4.81	30.0	-25.19
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	5.06	30.0	-24.94
3	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	5.06	30.0	-24.94
Band	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	5.37	30.0	-24.63
ä	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	5.07	30.0	-24.93
	5755	151	n (40MHz)	13.5/15 (MCS0)	2.21	30.0	-27.79
	5795	159	n (40MHz)	13.5/15 (MCS0)	1.73	30.0	-28.27
	5755	151	ax (40MHz)	13.5/15 (MCS0)	2.79	30.0	-27.21
	5795	159	ax (40MHz)	13.5/15 (MCS0)	2.52	30.0	-27.48
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-0.71	30.0	-30.71
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	-0.37	30.0	-30.37

Table 7-30. Band 3 Conducted Power Spectral Density Measurements UNII 3 SISO ANT1



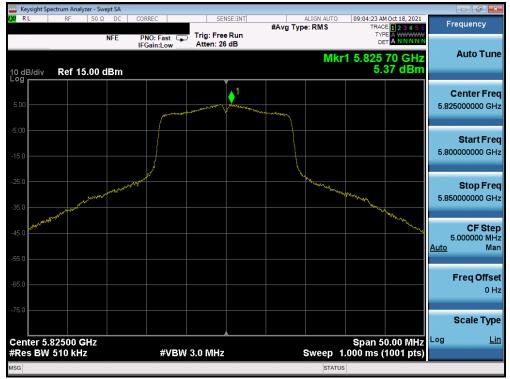
Plot 7-212. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 3) – Ch. 149)

FCC ID: A3LSMS901JPN	PCTEST [®] Proud to be part of [®] element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dama 440 at 205		
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Keysight Spectrum Analyze R L RF	50 Ω DC	CORREC	SENSE:INT	ALIGN A		Oct 18, 2021	
			Tain: Free Door	#Avg Type: RMS	TRACE	1 2 3 4 5 6 A WWWWW	Frequency
	NFE	PNO: Fast 🖵 IFGain:Low	Trig: Free Run Atten: 26 dB		DET	ANNNN	
					Mkr1 5.784 2	20 GHz	Auto Tur
0 dB/div Ref 15.	00 dBm				5.1	7 dBm	
°g							Center Fre
5.00							5.785000000 GI
			A man				0.700000000000
.00							Start Fr
							5.760000000 G
5.0							3.700000000
		and the second		June 1			
25.0	www.ww	how		- Ann	man and a second		Stop Fr
35.0	and all and a				a contraction of the second		5.81000000 G
all						WWW.	
15.0						Mayne.	CF Ste
							5.000000 M Auto M
5.0							<u>Auto</u> M
6.0							Freq Offs
							0
5.0							
							Scale Ty
enter 5.78500 GI	17				Spap 50	.00 MHz	Log <u>L</u>
Res BW 510 kHz		#VBW	3.0 MHz	Swee	ep 1.000 ms (1	001 pts)	
G					STATUS		

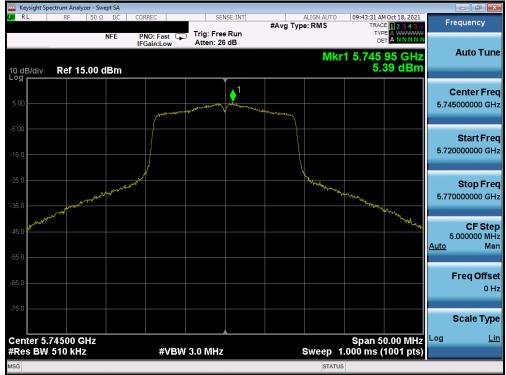
Plot 7-213. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 3) – Ch. 157)



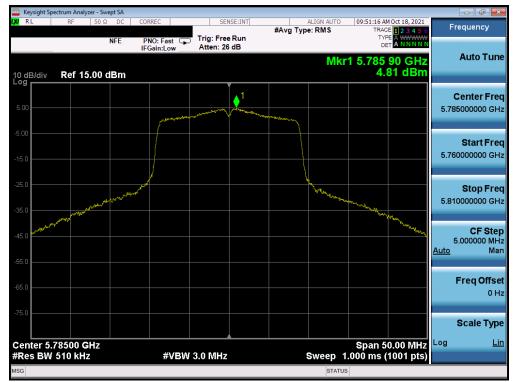
Plot 7-214. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 3) - Ch. 165)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 142 of 205
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Plot 7-215. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 149)



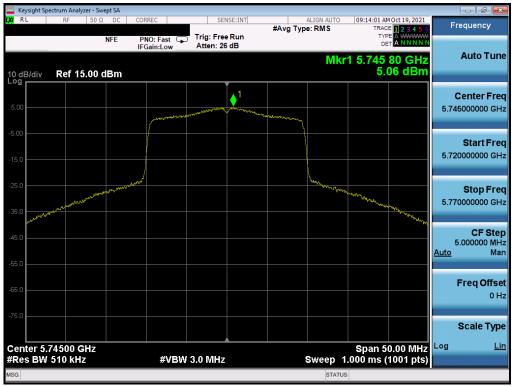
Plot 7-216. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

FCC ID: A3LSMS901JPN	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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	Spectrum Analy	/zer - Swept SA						
XI RL	RF	50 Ω DC	PNO: Fast (IFGain:Low	Trig: Free F Atten: 26 c	#Avg Run	ALIGN AUTO	09:53:35 AM Oct 18, 202 TRACE 1 2 3 4 5 TYPE A WWWW DET A N N N	6 Frequency
10 dB/div Log	Ref 1	5.00 dBm				Mki	r1 5.823 95 GH 5.06 dBn	z Auto Tun h
5.00				anandra and a start of the star	and a start of the	~		Center Fre 5.825000000 GH
15.00								Start Fre 5.800000000 GH
25.0	and a strange	person way and	~~~~			hand mar mar	With Mary and Mary an	Stop Fre 5.850000000 G⊦
45.0							and the second s	CF Ste 5.000000 MH <u>Auto</u> Ma
65.0								Freq Offs 0 H
Center :	5.82500 0	SH7					Span 50.00 MH	Scale Typ
	W 510 kH		#VB	W 3.0 MHz		Sweep	1.000 ms (1001 pts	5)
SG						STATU	S	

Plot 7-217. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 165)



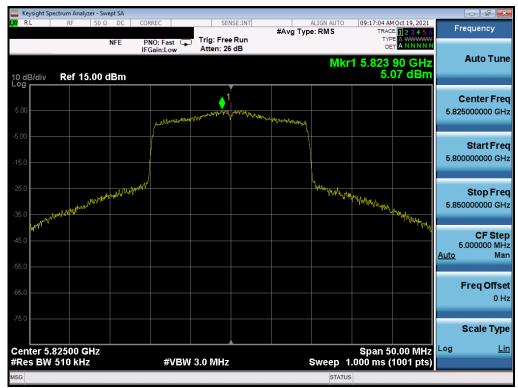
Plot 7-218. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 149)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 145 of 205
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Plot 7-219. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 157)



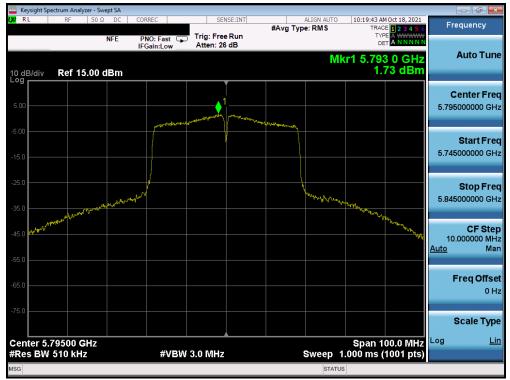
Plot 7-220. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 165)

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 146 of 205
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🔤 Keysight S	Spectrum Analyz	zer - Swept SA					
XVI RL	RF	50 Ω DC	PNO: Fast	Trig: Free Run	ALIGN AUTO #Avg Type: RMS	10:18:31 AM Oct 18, 2021 TRACE 1 2 3 4 5 6 TYPE A WWWW DET A NNNNN	Frequency
10 dB/div Log	Ref 15	.00 dBm	IFGain:Low	Atten: 26 dB	Μ	kr1 5.753 3 GHz 2.21 dBm	Auto Tune
5.00			and the owner water		mar and a second		Center Free 5.755000000 GH:
-5.00				¥			Start Free 5.705000000 GH
-25.0		an man and) saman		manny		Stop Fre 5.805000000 GH
-45.0							CF Ste 10.000000 MH <u>Auto</u> Ma
65.0							Freq Offse 0 ⊢
-75.0							Scale Typ
	5.75500 G V 510 kHz		#VBW	/ 3.0 MHz	Sweep	Span 100.0 MHz 1.000 ms (1001 pts)	Log <u>Li</u>
MSG					STAT	US	

Plot 7-221. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)



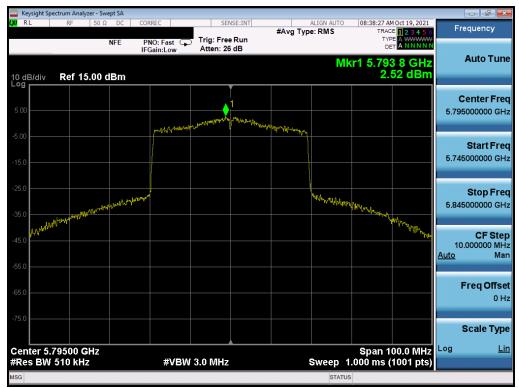
Plot 7-222. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)

FCC ID: A3LSMS901JPN	PCTEST*	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-223. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)



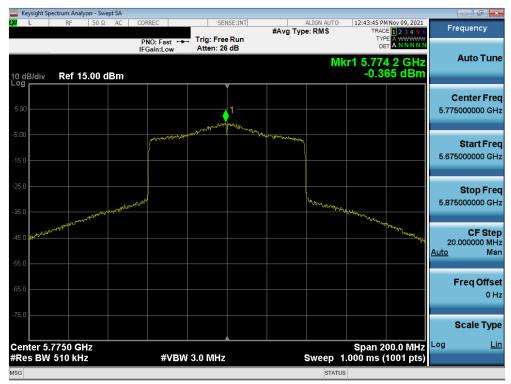
Plot 7-224. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)

FCC ID: A3LSMS901JPN	PCTEST [®] Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Keysight Spe	ectrum Analyze	r - Swep	ot SA										×
U L	RF	50 Ω	AC	CORREC			ISE:INT	#Avg Typ	ALIGN AUTO	TRAC	M Nov 09, 2021	Frequency	
I0 dB/div	Ref 15.0	00 di	Bm	PNO: Fa IFGain:L	ast ⊶⊶ .ow	Trig: Free Atten: 26			M		6 4 GHz 14 dBm	Auto Ti	un
5.00						معيدهم وروا	1-					Center F 5.775000000	
15.0					-fransfrank	- untre		and				Start F 5.675000000	
25.0 <u> </u>		Mour	ومسركعهم	کسر					- Tonton hard an la frage	TRAN LUNC		Stop F 5.875000000	
45.0 	Manyampone	49							Contendentellore		Vintr Websterer Brook	CF S 20.000000 f <u>Auto</u> I	
65.0												Freq Off (fs(0 ⊦
75.0												Scale T	yp
Center 5.7 Res BW	7750 GHz 510 kHz			#	¢νΒ₩	3.0 MHz			Sweep 1	Span 2 .000 ms (00.0 MHz (1001 pts)	Log	Li
ISG									STATUS	3			

Plot 7-225. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)



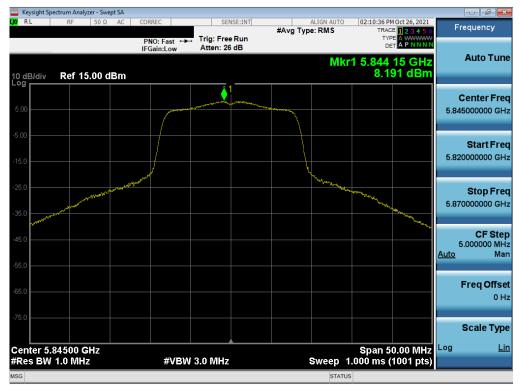
Plot 7-226. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm/MHz]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Antenna Gain [dBi]	EIRP Power Density [dBm/MHz]	Max EIRP Power Density [dBm/MHz]	Margin [dB]
Band 3/4	5845	169	а	6	8.19	30.00	-21.81	-6.20	1.99	14.00	-12.01
Band 4	5865	173	а	6	8.16			-6.20	1.96	14.00	-12.04
Dallu 4	5885	177	а	6	8.61			-6.20	2.41	14.00	-11.59
Band 3/4	5845	169	n (20MHz)	6.5/7.2 (MCS0)	8.71	30.00	-21.29	-6.20	2.51	14.00	-11.49
Band 4	5865	173	n (20MHz)	6.5/7.2 (MCS0)	8.92			-6.20	2.72	14.00	-11.28
Dallu 4	5885	177	n (20MHz)	6.5/7.2 (MCS0)	8.56			-6.20	2.36	14.00	-11.64
Band 3/4	5845	169	ax (20MHz)	6.5/7.2 (MCS0)	7.85	30.00	-22.15	-6.20	1.65	14.00	-12.35
Band 4	5865	173	ax (20MHz)	6.5/7.2 (MCS0)	8.00			-6.20	1.80	14.00	-12.20
Dallu 4	5885	177	ax (20MHz)	6.5/7.2 (MCS0)	7.68			-6.20	1.48	14.00	-12.52
Band 3/4	5835	167	n (40MHz)	13.5/15 (MCS0)	4.32	30.00	-25.68	-6.20	-1.88	14.00	-15.88
Band 4	5875	175	n (40MHz)	13.5/15 (MCS0)	4.49			-6.20	-1.71	14.00	-15.71
Band 3/4	5835	167	ax (40MHz)	13.5/15 (MCS0)	5.27	30.00	-24.73	-6.20	-0.93	14.00	-14.93
Band 4	5875	175	ax (40MHz)	13.5/15 (MCS0)	5.21			-6.20	-0.99	14.00	-14.99
Band 3/4	5855	171	ax (80MHz)	29.3/32.5 (MCS0)	2.68	30.00	-27.32	-6.20	-3.52	14.00	-19.12

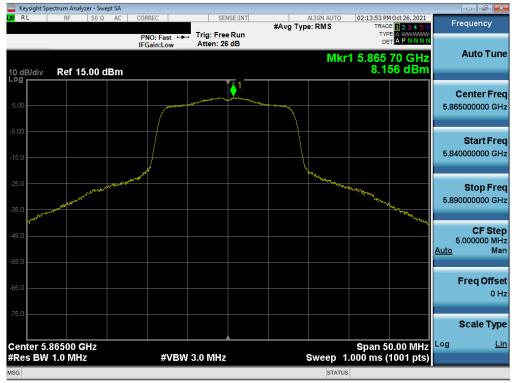
Table 7-31. Band 4 e.i.r.p. Spectral Density Measurements UNII 4 SISO ANT1



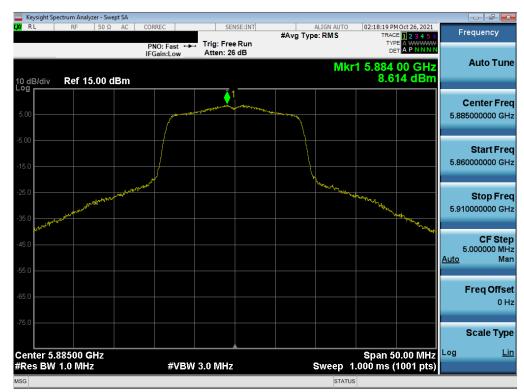
Plot 7-227. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 3/4) - Ch. 169)

FCC ID: A3LSMS901JPN	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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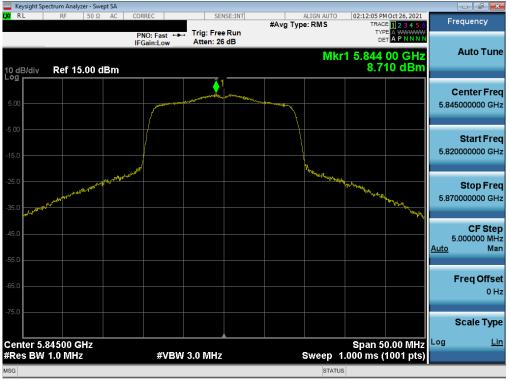
Plot 7-228. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 4) - Ch. 173)



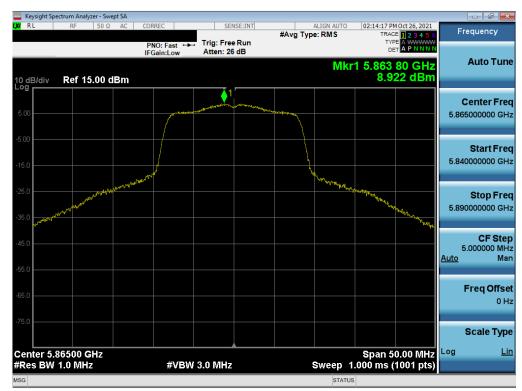
Plot 7-229. Power Spectral Density Plot SISO ANT1 (802.11a (UNII Band 4) – Ch. 177)

FCC ID: A3LSMS901JPN	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-230. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 3/4) - Ch. 169)



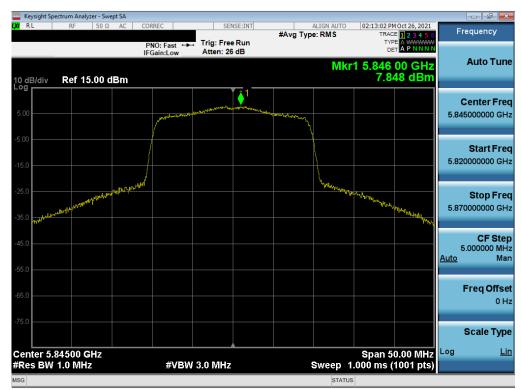
Plot 7-231. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 4) - Ch. 173)

FCC ID: A3LSMS901JPN	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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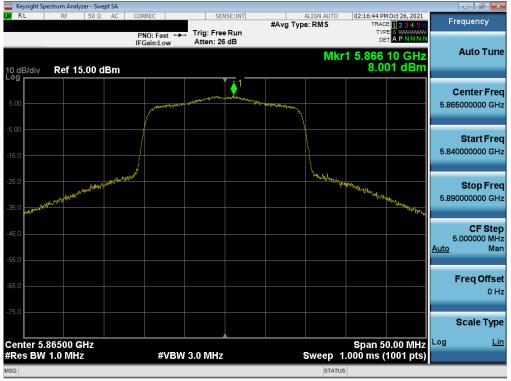
Plot 7-232. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11n (UNII Band 4) - Ch. 177)



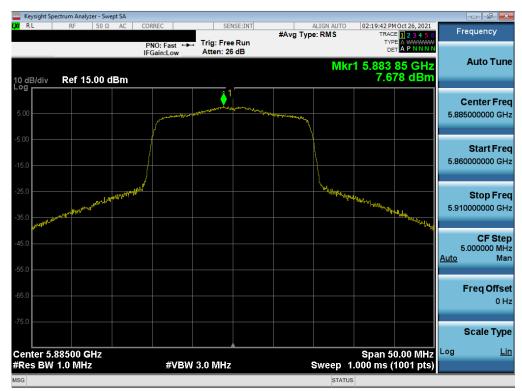
Plot 7-233. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 3/4) - Ch. 169)

FCC ID: A3LSMS901JPN	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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Plot 7-234. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 173)



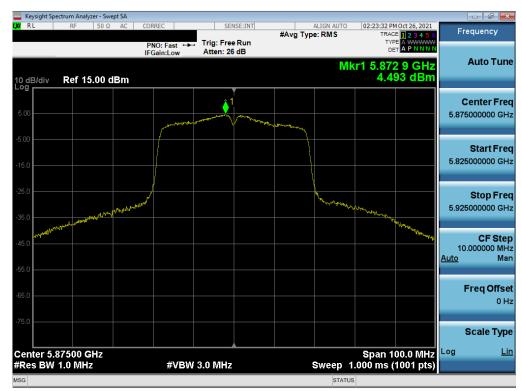
Plot 7-235. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax (UNII Band 4) - Ch. 177)

FCC ID: A3LSMS901JPN	PCTEST [®] Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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Plot 7-236. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 3/4) - Ch. 167)



Plot 7-237. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11n (UNII Band 4) - Ch. 175)

FCC ID: A3LSMS901JPN	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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