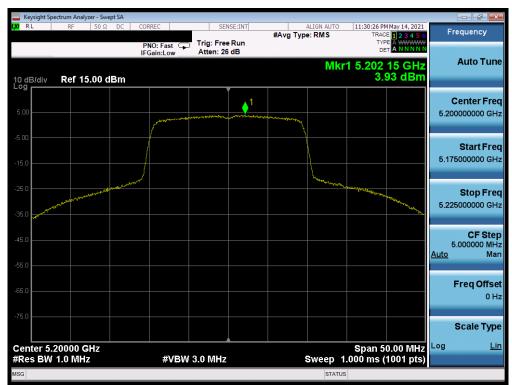


	ectrum Analyz										×
LXI RL	RF	50 Ω DC	CORREC			#Avg Type	ALIGN AUTO : RMS	TRAC	May 14, 2021	Frequency	У
10 dB/div	Ref 15.	.00 dBm	PNO: Fast C IFGain:Low _	Trig: Free Atten: 26 d			Mkr	□ 1 5.181	70 GHz 03 dBm	Auto T	Гune
5.00			provide-w	and along the start of the star	1	many				Center   5.180000000	
-5.00						`				Start I 5.155000000	
-25.0	North Barrison	and the second					and the second	Alle and the second second	Maraalon with Walard	Stop I 5.20500000	
-45.0										CF \$ 5.000000 <u>Auto</u>	Step MHz Man
-65.0										Freq O	o <b>ffset</b> 0 Hz
-75.0										Scale 1	
Center 5. #Res BW			#VB	W 3.0 MHz		ę	Sweep <u>1</u> .	Span 5 .000 m <u>s (</u>	0.00 MHz 1001 pts)	Log	Lin
MSG							STATUS				

Plot 7-586. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 1) - Ch. 36)



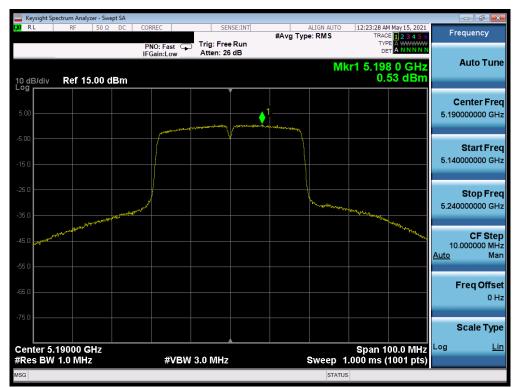
Plot 7-587. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 1) - Ch. 40)

FCC ID: A3LSMF711B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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	ctrum Analyze									- 6	
L <mark>XI</mark> RL	RF	50 Ω DC	CORREC	SI	ENSE:INT	#Avg Typ	ALIGN AUTO		May 14, 2021	Frequenc	y
			PNO: F	ast Trig: Fre				TYP			
			IFGain:L	_owAtten: 2	0 0D		Mice			Auto <sup>-</sup>	Tune
10 dB/div	Ref 15.	00 dBm	Ì				WIKI	4.	40 GHz 42 dBm		
Log				. 1	Ĭ					Center	Erog
5.00				<b></b> '						5.240000000	
			and the second	Marcun Color Color		- and a second second				0.24000000	J OTTE
-5.00										Start	Fred
-15.0										5.215000000	
-15.0											
-25.0			Wallow've				and a farmer	Mary Mary Mary		Stop	Erog
	www.exercon.exer							- 104	and and and when	Stop 5.26500000	
-35.0											
-45.0											Step
10.0										5.000000 Auto	MHz Man
-55.0										Auto	man
										Freq O	ffset
-65.0										riequ	0 Hz
-75.0										Scale	Type
Center 5.2							a	Span 5	0.00 MHz	Log	Lin
#Res BW	1.U WIHZ		7	#VBW 3.0 MH:	4				1001 pts)		
MSG							STATUS				

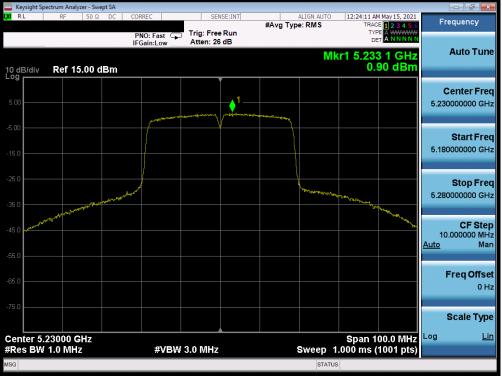
Plot 7-588. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 1) - Ch. 48)



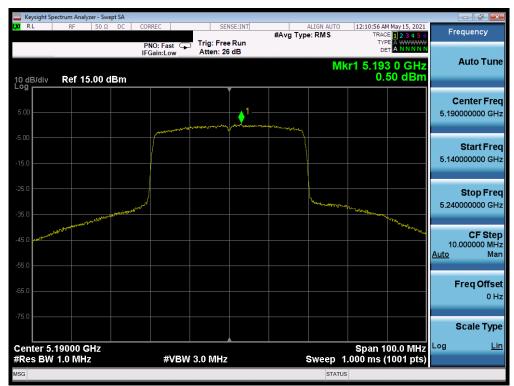
Plot 7-589. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 1) - Ch. 38)

FCC ID: A3LSMF711B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 242 of 509
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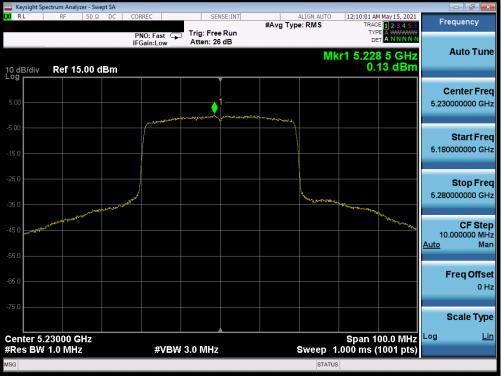
Plot 7-590. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 1) - Ch. 46)



Plot 7-591. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 1) - Ch. 38)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 242 of 509	
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Plot 7-592. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 1) - Ch. 46)

PNO: Fast IFGain:Low   Trig: Free Run Atten: 26 dB   #Avg Type: RMS   TRACE I2.34 St TYPE D2.34 St DET   Auto Ture Auto Ture 0.47 dBm     000000000000000000000000000000000000		rum Analyzer - Swept SA						- 6
Mkr1 5.212 0 GHz Mkr1 5.212 0 GHz Auto Tur 0.47 dBm Center Fre 5.21000000 G Start Fre 5.21000000 G Start Fre 5.1000000 G Start Fre 5.1000000 G CF Ste 20.00000 MH Auto Mathematical Start Fre 5.1000000 G Start Fre Start Fre	RL	RF 50 Ω A0	PNO: Fast				TYPE A WWWWW	Frequency
Center Fre Center Fre Cather Fre Center Fre Cather	) dB/div	Ref 15.00 dBn				Mk	r1 5.212 0 GHz 0.47 dBm	Auto Tur
Start Fr 50 50 50 50 50 50 50 50 50 50	5.00 <b></b>		an Andrew States	1	NG bernard - grant Array			
Stop Fr       50     CF St       50     CF St       50     Stop Fr       50     CF St       50     Stop Fr       Stop Fr     Stop Fr	5.0							
20.00000 M Auto M 50 50 50 50 50 50 50 50 50 50 50 50 50	5.0	or water and the second					and a second and a second as a second a	
50 Freq Offs 50 Scale Ty enter 5.2100 GHz Span 200.0 MHz Log	5.0							20.000000 N
enter 5.2100 GHz Scale Ty								•
Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts)	5.0						Spap 200 0 MHz	
			#VB\	V 3.0 MHz		Sweep 1	.000 ms (1001 pts)	

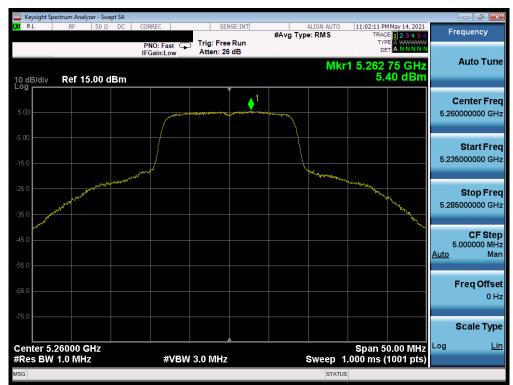
Plot 7-593. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ac (UNII Band 1) - Ch. 42)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 244 of 509
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	trum Analyzer - Swep	t SA									
LXIRL	RF 50 Ω	AC COR	REC		ISE:INT	#Avg Typ	ALIGN AUTO e: RMS	TRAC	4 Jun 01, 2021 E <b>1 2 3 4 5</b> 6	Frequ	iency
10 dB/div	Ref 15.00 dE	IFG	0: Fast 😱 ain:Low	Trig: Free Atten: 26			M	ort 5.21	2 0 GHz 37 dBm	AL	ito Tune
5.00			- Marine Marine		1	and manufacture and					i <b>ter Freq</b> 0000 GHz
-5.00											a <b>rt Freq</b> 0000 GHz
-25.0	and the second	and the second second					hater and the state of the second sec	a who we have	and front man port		t <b>op Freq</b> 0000 GHz
-45.0											<b>CF Step</b> 0000 MHz Man
-65.0										Fre	<b>q Offset</b> 0 Hz
-75.0											ale Type
Center 5.2 #Res BW 1			#VBW	3.0 MHz			Sweep 1	Span 2 .000 ms (	00.0 MHz 1001 pts)	Log	<u>Lin</u>
MSG							STATUS	3			

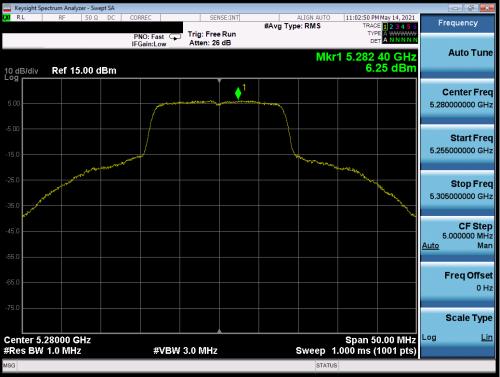
Plot 7-594. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax (UNII Band 1) - Ch. 42)



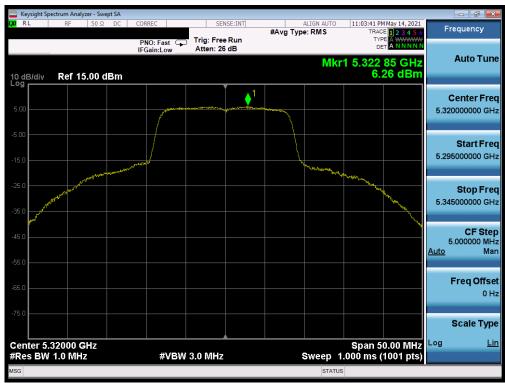
Plot 7-595. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11a (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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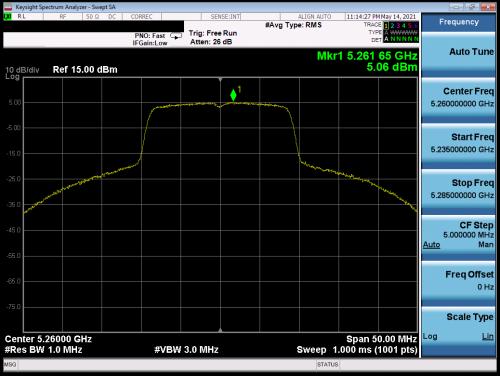
Plot 7-596. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11a (UNII Band 2A) - Ch. 56)



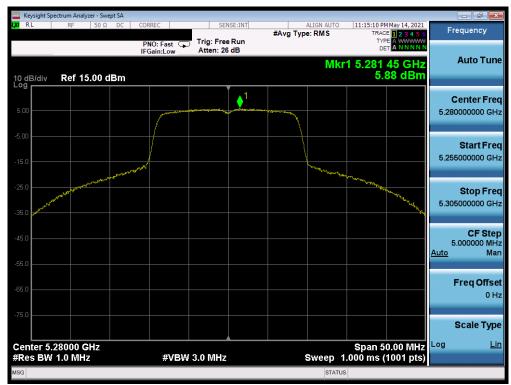
Plot 7-597. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11a (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMF711B	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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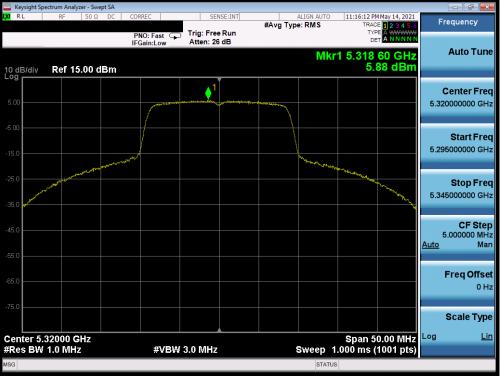
Plot 7-598. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 2A) - Ch. 52)



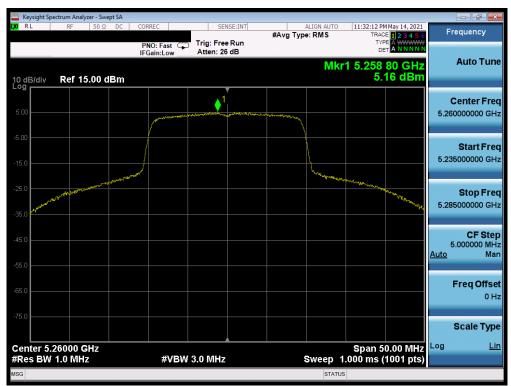
Plot 7-599. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMF711B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 247 of 500
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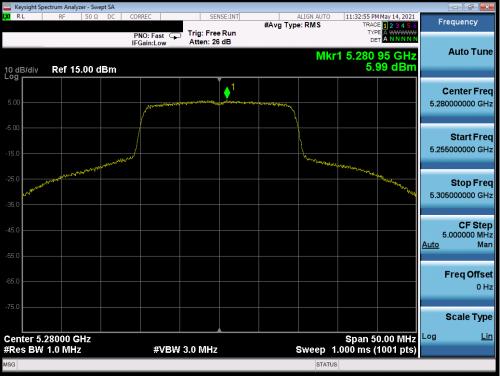
Plot 7-600. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 2A) - Ch. 64)



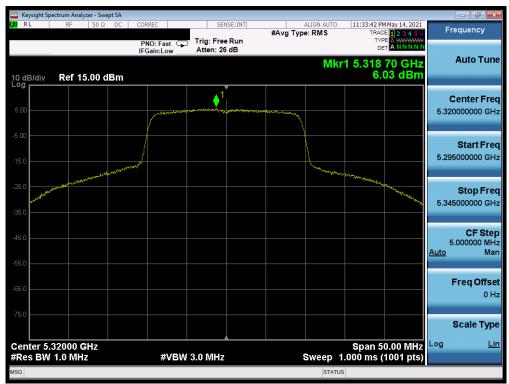
Plot 7-601. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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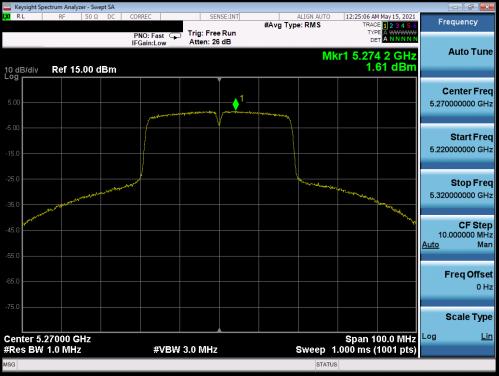
Plot 7-602. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 56)



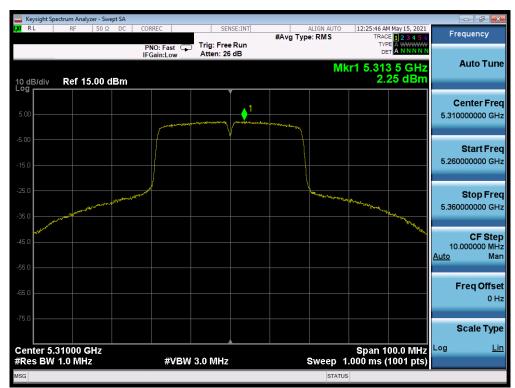
Plot 7-603. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager	
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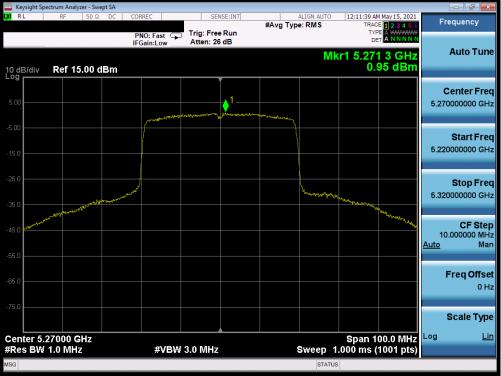
Plot 7-604. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 2A) - Ch. 54)



Plot 7-605. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMF711B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
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Plot 7-606. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 54)



Plot 7-607. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SUNG	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 251 of 500	
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	trum Analyzer - Swep	ot SA									
LXI RL	RF 50 Ω		RREC		ISE:INT	#Avg Typ	ALIGN AUTO e: RMS	TRAC	4 Jun 01, 2021 E 1 2 3 4 5 6 E A WWWWW	Frequenc	у
10 dB/div Log	Ref 15.00 dl	IF	NO: Fast 🕞 Gain:Low	Atten: 26			MI	or 1 5.28	7 6 GHz 06 dBm	Auto <sup>-</sup>	Tune
5.00					1	- Reprisedure				Center 5.29000000	
-5.00										Start 5.190000000	
-25.0	North State of the	and the second second second second					hand the second se	and the second	mand when when	<b>Stop</b> 5.39000000	
-45.0										CF 20.000000 <u>Auto</u>	Step 0 MHz Man
-65.0										Freq O	<b>)ffset</b> 0 Hz
-75.0										Scale	<b>Type</b> Lin
Center 5.2 #Res BW 1			#VBW	3.0 MHz			Sweep 1	Span 2 .000 ms (	00.0 MHz 1001 pts)	LUg	
MSG							STATU	5			

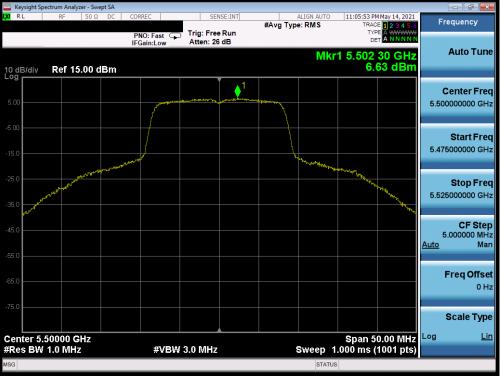
Plot 7-608. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ac (UNII Band 2A) - Ch. 58)



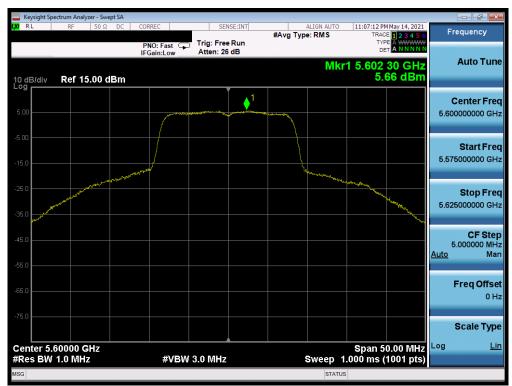
Plot 7-609. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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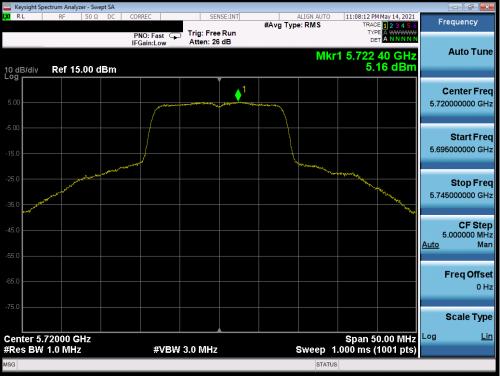
Plot 7-610. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11a (UNII Band 2C) - Ch. 100)



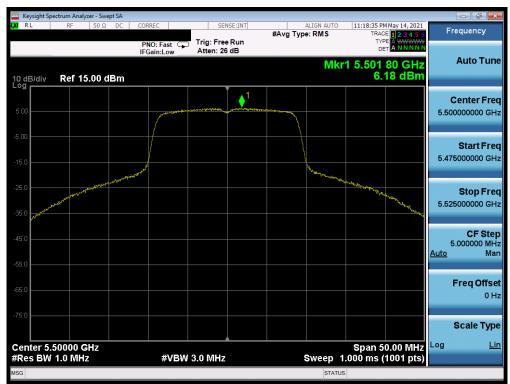
Plot 7-611. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11a (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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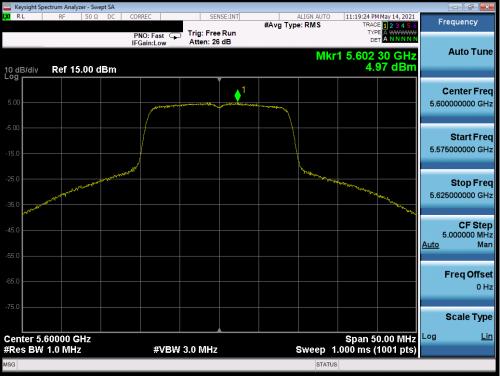
Plot 7-612. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11a (UNII Band 2C) - Ch. 144)



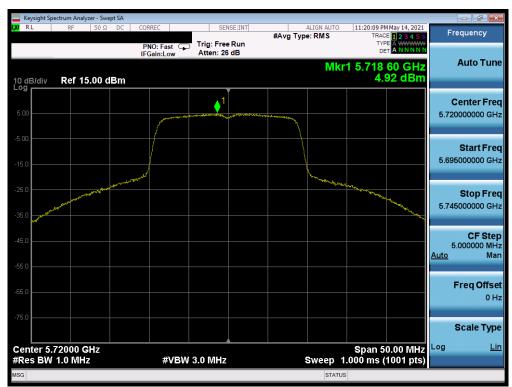
Plot 7-613. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 2C) - Ch. 100)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Daga 254 of 500	
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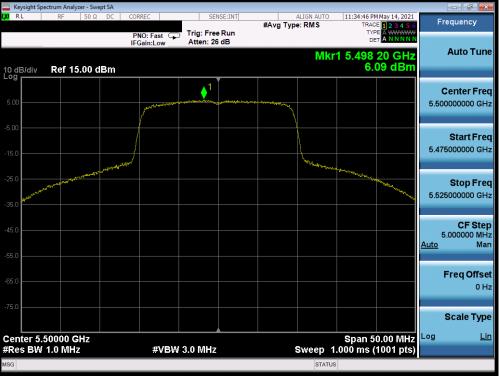
Plot 7-614. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 2C) - Ch. 120)



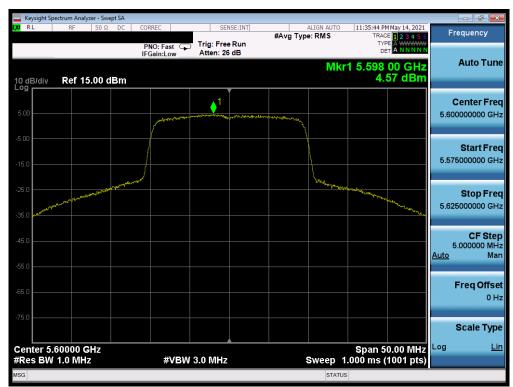
Plot 7-615. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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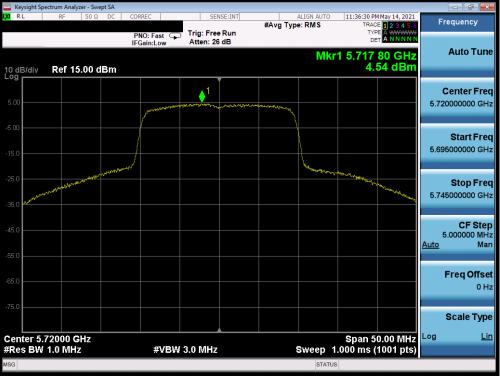
Plot 7-616. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 100)



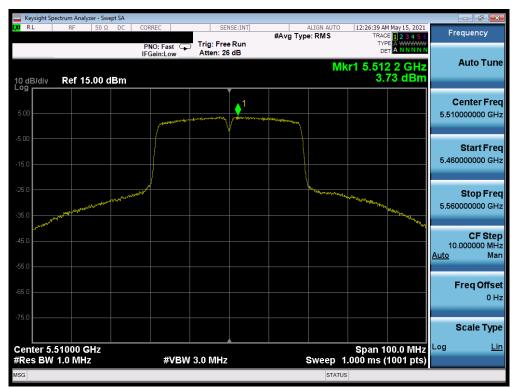
Plot 7-617. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 256 of 500	
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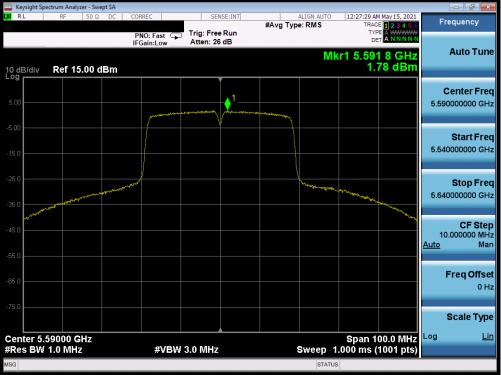
Plot 7-618. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 144)



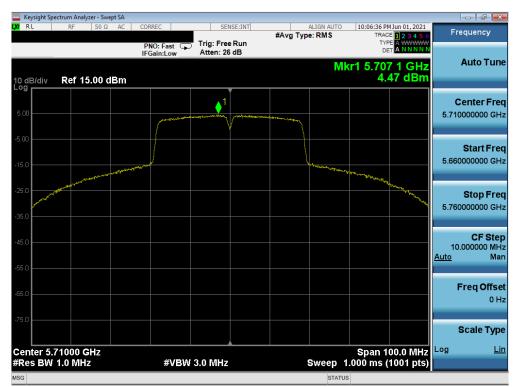
Plot 7-619. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Daga 257 of 500	
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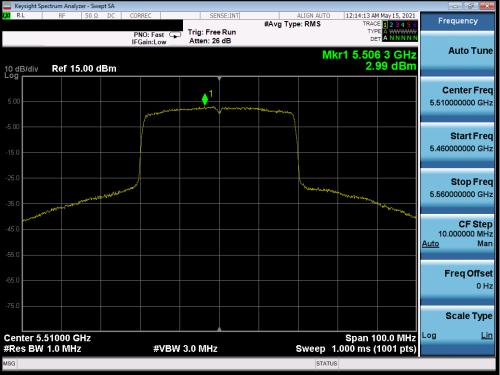
Plot 7-620. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 2C) - Ch. 118)



Plot 7-621. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMF711B	PCTEST <sup>®</sup> Proud to be part of <b>@</b> element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 259 of 509
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Plot 7-622. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 102)



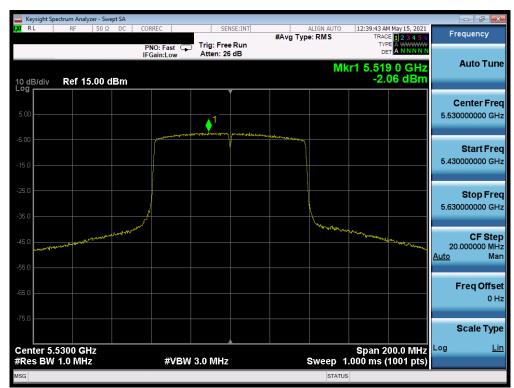
Plot 7-623. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 118)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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	trum Analyzer - Swe	pt SA									- 6 ×
LXU RL	RF 50 Ω	1	RREC		ISE:INT	#Avg Typ	ALIGN AUTO e: RMS	TRAC	1 Jun 01, 2021 E 1 2 3 4 5 6 E A WWWWW	Fre	quency
10 dB/div	Ref 15.00 d	IF	NO: Fast 🕞 Gain:Low	Atten: 26			Mk	□ 1 5.71	4 6 GHz 12 dBm		Auto Tune
5.00			~~~~~	and the second second	1 production and and						e <b>nter Freq</b> 000000 GHz
-5.00	- and the second	un terration of the second					and proprocessing	- Allen -			<b>Start Freq</b> 000000 GHz
-25.0									and a start of the		<b>Stop Freq</b> 000000 GHz
-45.0										10.0 <u>Auto</u>	<b>CF Step</b> 000000 MHz Man
-65.0										F	req Offset 0 Hz
Center 5.7	1000 CH2							Snan 1	00.0 MHz	S Log	cale Type Lin
#Res BW 1			#VBW	3.0 MHz				.000 ms (	1001 pts)		
MSG							STATUS				

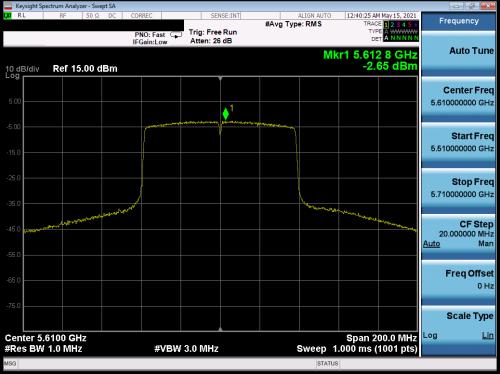
Plot 7-624. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 142)



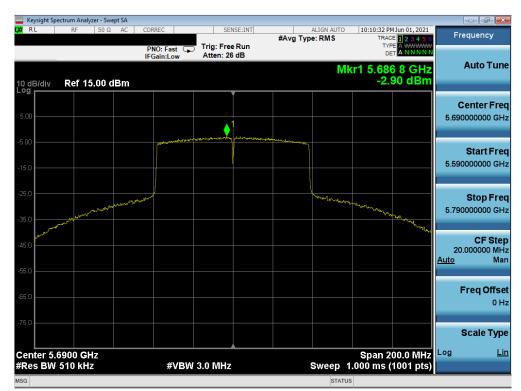
Plot 7-625. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 106)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager			
Test Report S/N:	Test Dates:	EUT Type:	Baga 260 of 508			
1M2104130035-12.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 360 of 508			
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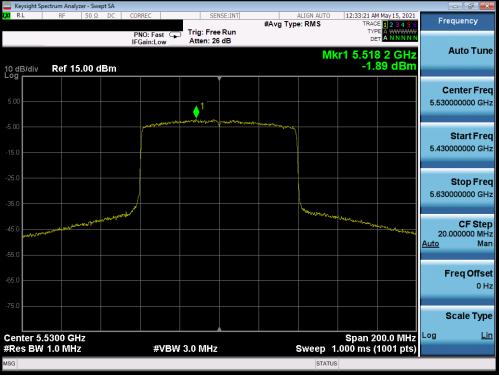
Plot 7-626. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 122)



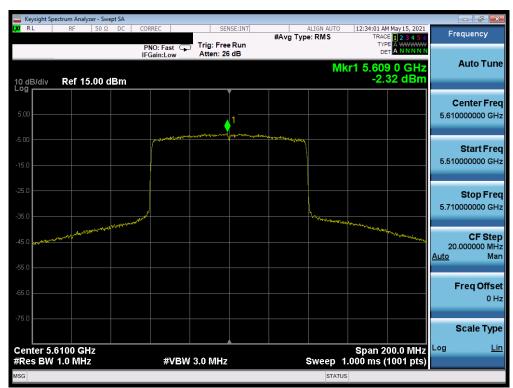
Plot 7-627. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMF711B	PCTEST <sup>®</sup> Proud to be part of <b>@</b> element			Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 261 of 500
1M2104130035-12.A3L	04/12/2021 - 06/04/2021	Portable Handset		Page 361 of 508
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Plot 7-628. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 106)



Plot 7-629. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dage 262 of 509			
1M2104130035-12.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 362 of 508			
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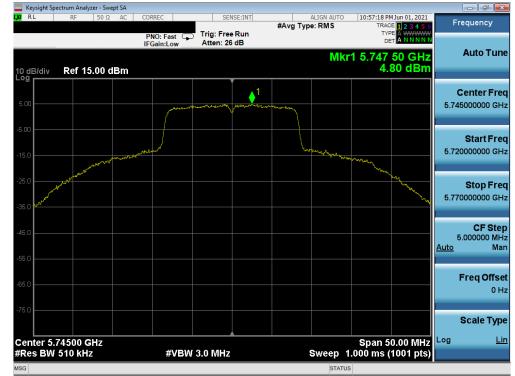


Keysight S	pectrum Analy	zer - Swept S/	A									
L <mark>XI</mark> RL	RF	50 Ω D					#Avg Typ	ALIGN AUTO e: RMS	TRA	M May 15, 2021	Fr	equency
10 dB/div	Ref 15	i.00 dBr	IFG	IO: Fast Gain:Low	Atten: 26			Μ	kr1 5.69	8 0 GHz 56 dBm		Auto Tune
5.00						<u> </u>						<b>Center Freq</b>
-5.00				paretteration	anger and a support	protone	- marine and a second				5.59	Start Freq
-25.0											5.79	<b>Stop Freq</b> 0000000 GHz
-45.0	Mary Mary South	Alger and a start	american					how was and	aller and the constraints	Windon and	20 <u>Auto</u>	<b>CF Step</b> .000000 MHz Man
-65.0												Freq Offset 0 Hz
-75.0												Scale Type
Center 5 #Res BW				#VBN	/ 3.0 MHz			Sweep	Span 2 1.000 ms (	200.0 MHz (1001 pts)	Log	<u>Lin</u>
MSG								STATU	IS			

Plot 7-630. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	AMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 262 of 509
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## MIMO Antenna-1 Band 3 Power Spectral Density Measurements – Q





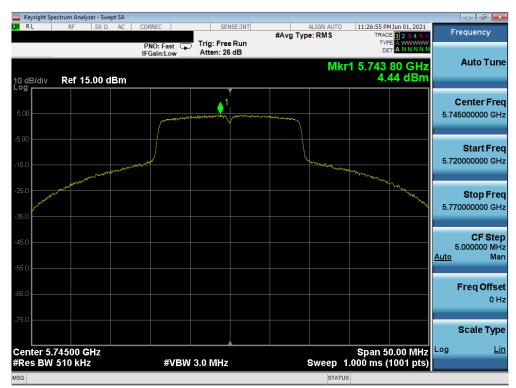
Plot 7-632. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11a (UNII Band 3) - Ch. 157)

FCC ID: A3LSMF711B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 264 of 509
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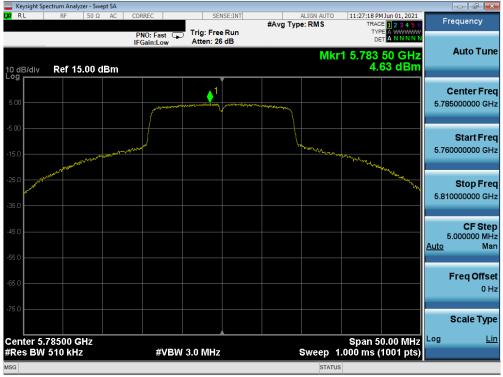
Plot 7-633. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11a (UNII Band 3) - Ch. 165)



Plot 7-634. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 149)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dogo 205 of 500		
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Plot 7-635. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)



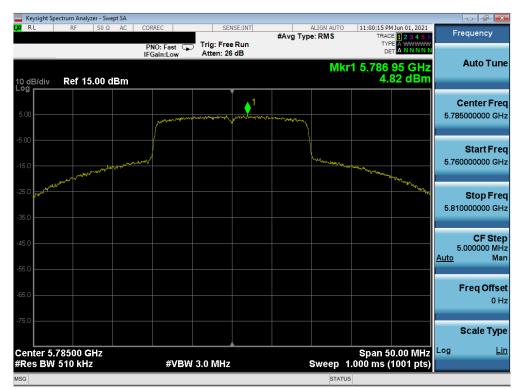
Plot 7-636. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 3) - Ch. 165)

FCC ID: A3LSMF711B	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 200 of 500
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LX/ RL RF 50Ω AC	CORREC SEM	ANSE:INT A		IJun 01, 2021 E 1 2 3 4 5 6 Frequency
10 dB/div <b>Ref 15.00 dBm</b>	PNO: Fast Trig: Free IFGain:Low Atten: 26	e Run	TYP DE Mkr1 5.749	
5.00		1 marine		Center Freq 5.745000000 GHz
-5.00 -15.0			Anton - Ingenerate and make make provide the	Start Freq 5.720000000 GHz
-25.0				5.770000000 GHz
-45.0				CF Step 5.00000 MHz <u>Auto</u> Man
-65.0				Freq Offset 0 Hz
Center 5.74500 GHz #Res BW 510 kHz	#VBW 3.0 MHz	s	Span 50 Sweep 1.000 ms (*	0.00 MHz Log <u>Lin</u> 1001 pts)
MSG			STATUS	

Plot 7-637. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 149)



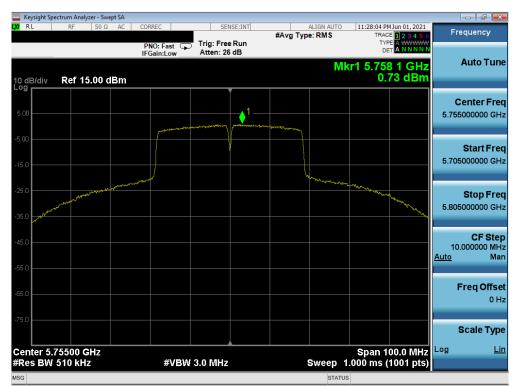
Plot 7-638. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 157)

FCC ID: A3LSMF711B		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dama 207 of 500		
1M2104130035-12.A3L	04/12/2021 - 06/04/2021	Portable Handset		Page 367 of 508		
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	trum Analyzer - Swept S	SA				
LXI RL	RF 50 Ω 4	AC CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	11:00:36 PM Jun 01, 2021 TRACE 1 2 3 4 5 6 TYPE A WWWWW	Frequency
10 dB/div	Ref 15.00 dB	PNO: Fast 🖵 IFGain:Low	Atten: 26 dB	Mkr	1 5.822 40 GHz 4.89 dBm	Auto Tune
5.00		manner	1	manner		Center Freq 5.825000000 GHz
-5.00 -15.0	and gulfer and and and	normal surger		mannegun	and and a second a	<b>Start Freq</b> 5.800000000 GHz
-25.0						<b>Stop Freq</b> 5.85000000 GHz
-45.0						<b>CF Step</b> 5.000000 MHz <u>Auto</u> Man
-65.0						<b>Freq Offset</b> 0 Hz
-75.0						Scale Type
Center 5.8 #Res BW 5		#VBW	3.0 MHz	Sweep 1	Span 50.00 MHz .000 ms (1001 pts)	
MSG				STATUS	\$	

Plot 7-639. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 3) - Ch. 165)



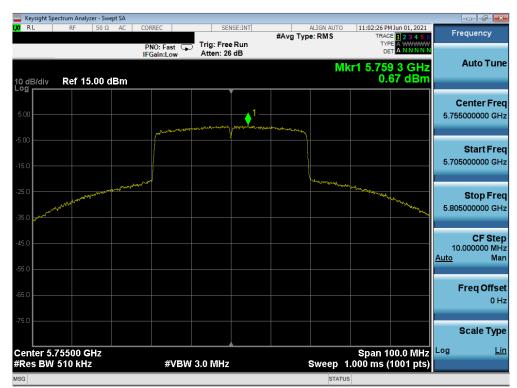
Plot 7-640. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)

FCC ID: A3LSMF711B	PCTEST <sup>®</sup> Proud to be part of <b>@</b> element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: Test Dates:		EUT Type:		Dega 269 of 509
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Plot 7-641. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)



Plot 7-642. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 3) - Ch. 151)

FCC ID: A3LSMF711B	PCTEST <sup>®</sup> Proud to be part of <b>@</b> element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: Test Dates:		EUT Type:		Dage 200 of 500
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Plot 7-643. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax (UNII Band 3) - Ch. 159)



Plot 7-644. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 270 of 509
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Plot 7-645. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 271 of 509
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Center 5.74500 GHz #Res BW 510 kHz



#VBW 3.0 MHz

## MIMO Antenna-2 Band 3 Power Spectral Density Measurements - Q



**Stop Freq** 5.77000000 GHz

> CF Step 5.000000 MHz

Freq Offset 0 Hz

Scale Type

Mar

Lin

<u>Auto</u>

Span 50.00 MHz Log

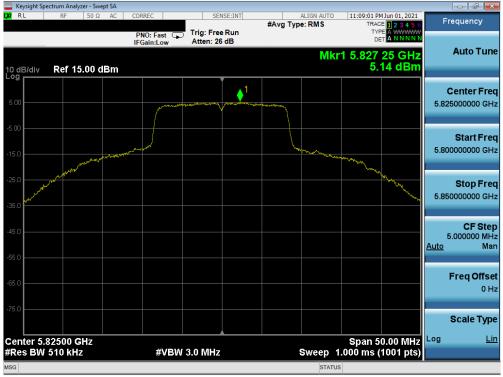
Sweep 1.000 ms (1001 pts)



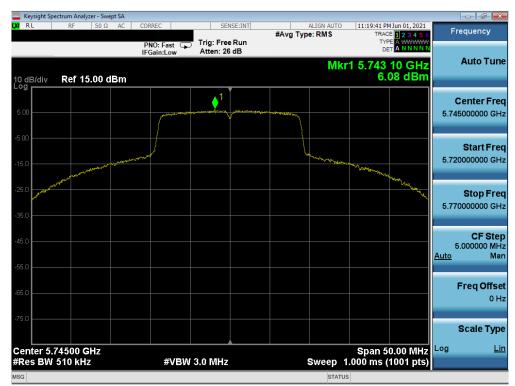
Plot 7-647. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11a (UNII Band 3) - Ch. 157)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: Test Dates:		EUT Type:	Daga 272 of 508
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Plot 7-648. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11a (UNII Band 3) - Ch. 165)



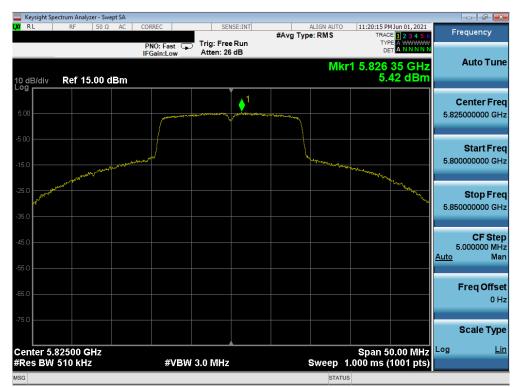
Plot 7-649. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 149)

FCC ID: A3LSMF711B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: Test Dates:		EUT Type:		Dawa 070 of 500
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	trum Analyzer - Swept SA						
L <b>XI</b> RL	RF 50 Ω AC	CORREC	SENSE:INT	ALIG #Avg Type: R	MS TRAC	4Jun 01, 2021 E 1 2 3 4 5 6 E A WWWWW	Frequency
10 dB/div	Ref 15.00 dBm	PNO: Fast 😱 IFGain:Low	Atten: 26 dB		Mkr1 5.782		Auto Tune
5.00		( manner		May Man and Willing			Center Freq 5.785000000 GHz
-5.00	مريد المريد ا			- Andrew	and the and the second and the secon		Start Freq 5.760000000 GHz
-25.0						a de de la construcción de la const La construcción de la construcción d	<b>Stop Freq</b> 5.810000000 GHz
-45.0							<b>CF Step</b> 5.000000 MHz <u>Auto</u> Man
-65.0							<b>Freq Offset</b> 0 Hz
-75.0							Scale Type
Center 5.73 #Res BW 5		#VBW	3.0 MHz	Sw	eep 1.000 ms (	0.00 MHz 1001 pts)	Log <u>Lin</u>
MSG					STATUS		

Plot 7-650. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)



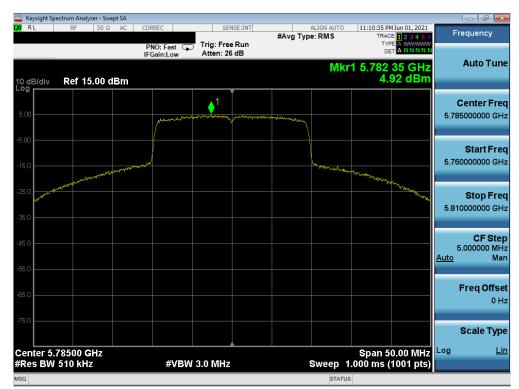
Plot 7-651. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 165)

FCC ID: A3LSMF711B	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Domo 274 of 500
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🔤 Keysight Spectrum Analyzer - Swept SA					
<b>LX/</b> RL RF 50 Ω AC		SENSE:INT	ALIGN AUTO #Avg Type: RMS	11:10:16 PM Jun 01, 2021 TRACE 1 2 3 4 5 6 TYPE A WWWWW	Frequency
10 dB/div Ref 15.00 dBm	IFGain:Low	Atten: 26 dB	Mkr	1 5.743 70 GHz 5.71 dBm	Auto Tune
5.00	for an and the second	and the second sec	hannes		Center Freq 5.745000000 GHz
-5.00 -15.0	man			With Maring Monthly and Marilen	Start Freq 5.720000000 GHz
-25.0				^^	<b>Stop Freq</b> 5.770000000 GHz
-45.0					<b>CF Step</b> 5.000000 MHz <u>Auto</u> Man
-66.0					<b>Freq Offset</b> 0 Hz
-75.0 Center 5.74500 GHz					Scale Type
#Res BW 510 kHz	#VBW 3	.0 MHz	Sweep 1	.000 ms (1001 pts)	

Plot 7-652. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 149)



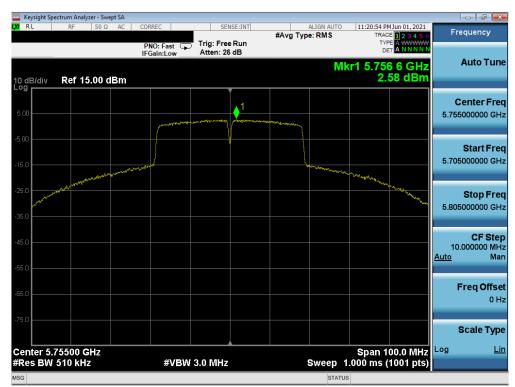
Plot 7-653. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 157)

FCC ID: A3LSMF711B	PCTEST <sup>®</sup> Proud to be part of <b>@</b> element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: Test Dates:		EUT Type:		Dama 075 of 500
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	ctrum Analyzer - Swept S					- <b></b>
L <mark>XI</mark> RL	RF 50 Ω A	AC CORREC	SENSE:INT	ALIGN AUTO #Avg Type: RMS	11:10:57 PM Jun 01, 2021 TRACE 1 2 3 4 5 6	Frequency
		PNO: Fast 🖵 IFGain:Low	Trig: Free Run Atten: 26 dB		TYPE A WWWWW DET A NNNN N 1 5.827 50 GHz	Auto Tune
10 dB/div Log	Ref 15.00 dB	m	•		5.05 dBm	
5.00			<b>↓</b> <sup>1</sup>			Center Freq 5.825000000 GHz
		Contraction and the second				5.82500000 GHZ
-5.00		Ner l				<b>Start Freq</b> 5.80000000 GHz
-15.0	and the second and the second se	nt Martin Mar		and a second	and when have have a fear	5.80000000 GHZ
-25.0						Stop Freq
-35.0						5.850000000 GHz
-45.0						CF Step 5.000000 MHz
-55.0						<u>Auto</u> Man
-65.0						Freq Offset
						0 Hz
-75.0						Scale Type
	32500 GHz	#\/B\M	2.0.844-		Span 50.00 MHz	Log <u>Lin</u>
#Res BW	510 KHZ	#VBW	3.0 MHz	Sweep	.000 ms (1001 pts)	
mod				STATU		

Plot 7-654. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 165)



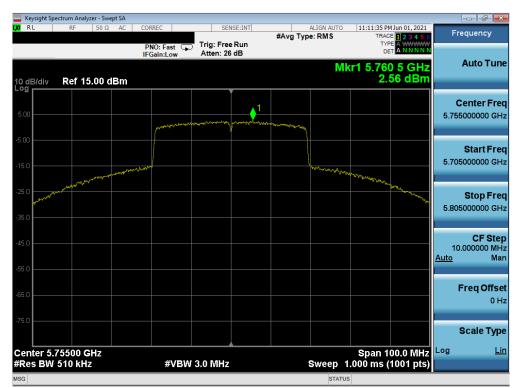
Plot 7-655. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)

FCC ID: A3LSMF711B	PCTEST <sup>®</sup> Proud to be part of <b>@</b> element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: Test Dates:		EUT Type:		Dega 276 of 509
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🔤 Keysight Spectrum Analyzer - Swept SA					
LXURL RF 50Ω AC	CORREC Tria	SENSE:INT	ALIGN AUTO #Avg Type: RMS	11:21:16 PM Jun 01, 2021 TRACE 1 2 3 4 5 6 TYPE A WWWWW	Frequency
10 dB/div Ref 15.00 dBm		en: 26 dB	MI	cr1 5.798 0 GHz 1.96 dBm	Auto Tune
5.00		1			Center Freq 5.795000000 GHz
-5.00	nanavier	¥	an free freeze	Ny day any production	<b>Start Freq</b> 5.745000000 GHz
-25.0				- Weter to de antes antes	<b>Stop Freq</b> 5.845000000 GHz
-45.0					CF Step 10.000000 MHz <u>Auto</u> Man
-65.0					<b>Freq Offset</b> 0 Hz
Center 5.79500 GHz				Span 100.0 MHz	Scale Type
#Res BW 510 kHz	#VBW 3.0 M	MHz	Sweep 1	l.000 ms (1001 pts)	

Plot 7-656. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)



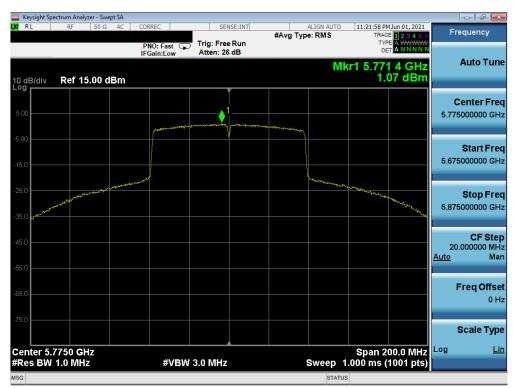
Plot 7-657. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 3) - Ch. 151)

FCC ID: A3LSMF711B	PCTEST <sup>®</sup> Proud to be part of <b>@</b> element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 277 of 500
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	trum Analyzer - Swept SA	A				
LXI RL	RF 50 Ω A0		SENSE:INT	ALIGN AUTO #Avg Type: RMS	11:11:55 PM Jun 01, 2021 TRACE 1 2 3 4 5 6 TYPE A WWWWW	Frequency
10 dB/div	Ref 15.00 dBn	PNO: Fast 🖵 IFGain:Low	Atten: 26 dB	MI	r1 5.790 6 GHz 1.93 dBm	Auto Tune
5.00			1	the manual second		Center Freq 5.795000000 GHz
-5.00		runa stanova		mannen		Start Freq 5.745000000 GHz
-25.0 -35.0						<b>Stop Freq</b> 5.845000000 GHz
-45.0						CF Step 10.000000 MHz <u>Auto</u> Man
-65.0						<b>Freq Offset</b> 0 Hz
Center 5.79					Span 100.0 MHz	Scale Type
#Res BW 5	10 KHZ	#VBW	3.0 MHz	Sweep 1	.000 ms (1001 pts)	

Plot 7-658. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (UNII Band 3) - Ch. 159)



Plot 7-659. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: Test Dates:		EUT Type:	Dage 279 of 509
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	Analyzer - Swept SA								- 6
XIRL RF	F 50 Ω AC	CORREC		SE:INT	#Avg Typ	ALIGN AUTO e: RMS	TRAC	I Jun 01, 2021 E 1 2 3 4 5 6 E A WWWWW	Frequency
10 dB/div Re	f 15.00 dBm	PNO: Fast 🖵 IFGain:Low	Atten: 26			MI	₀ <b>(r1 5.77</b> 1	ANNNN	Auto Tune
5.00		manna	1		www.washing				Center Freq 5.775000000 GHz
-5.00									<b>Start Freq</b> 5.675000000 GHz
25.0 35.0	Anender Marine California						and a free and a free of the second	Marrie Married	<b>Stop Freq</b> 5.875000000 GHz
45.0									CF Step 20.000000 MHz <u>Auto</u> Mar
65.0									Freq Offsel 0 Hz
<sup>75.0</sup>							Enon 2		Scale Type
#Res BW 1.01		#VBW	3.0 MHz			Sweep 1	span 20 1.000 ms (1	00.0 191112	
ISG						STATU			

Plot 7-660. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

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#### Note:

Per ANSI C63.10-2013 Section 14.3.2.2 and KDB 662911 v02r01 Section E)2), the power spectral density at Antenna 1 and Antenna 2 were first measured separately as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

#### Sample MIMO Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted power spectral density was measured to be 6.61 dBm for Antenna-1 and 6.77 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

(6.61 dBm + 6.77 dBm) = (4.58 mW + 4.75 mW) = 9.33 mW = 9.70 dBm

#### Sample e.i.r.p Power Spectral Density Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average MIMO power density was calculated to be 9.70 dBm with directional gain of -3.64 dBi.

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

9.70 dBm + -3.64 dBi = 6.06 dBm

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Test Report S/N:	Test Dates:	EUT Type:		Dage 200 of 500
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## 7.6 Radiated Spurious Emission Measurements – Above 1GHz §15.407(b) §15.205 §15.209; RSS-Gen [8.9]

#### Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11ax (40MHz BW), and 802.11ac (80MHz)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

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

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

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

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-45 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [μV/m]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-42. Radiated Limits

#### **Test Procedures Used**

ANSI C63.10-2013 – Sections 12.7.7.2, 12.7.6, 12.7.5 KDB 789033 D02 v02r01 – Section G

#### **Test Settings**

#### Average Measurements above 1GHz (Method AD)

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

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#### Peak Measurements above 1GHz

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

#### Peak Measurements below 1GHz

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. Span was set greater than 1MHz
- 3. RBW = 120kHz
- 4. Detector = CISPR quasi-peak
- 5. Sweep time = auto couple
- 6. Trace was allowed to stabilize

#### Test Setup

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

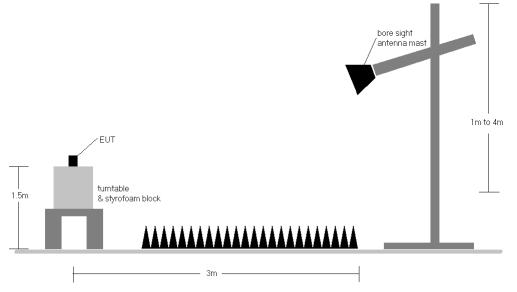


Figure 7-5. Test Instrument & Measurement Setup

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#### Test Notes

- 1. All emissions that lie in the restricted bands (denoted by a \* next to the frequency) specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-45.
- 2. All spurious emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-45. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBµV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBµV/m.
- 3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
- 4. This unit was tested with its standard battery.
- 5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
- 6. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 7. Radiated spurious emissions were investigated while operating in MIMO mode, however, it was determined that single antenna operation produced the worst case emissions. Since the emissions produced from MIMO operation were found to be more than 20dB below the limit, the MIMO emissions are not reported.
- 8. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
- 9. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

#### Sample Calculations

#### **Determining Spurious Emissions Levels**

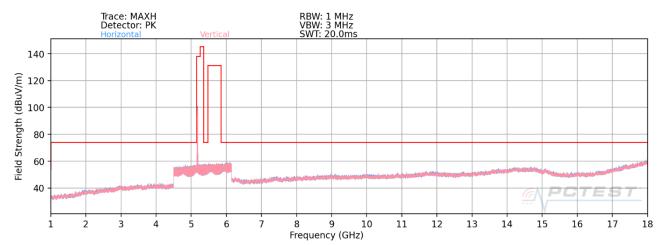
- Field Strength Level [dBμV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB]
- Margin [dB] = Field Strength Level  $[dB_{\mu}V/m]$  Limit  $[dB_{\mu}V/m]$

#### Radiated Band Edge Measurement Offset

The amplitude offset shown in the radiated restricted band edge plots was calculated using the formula:
Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

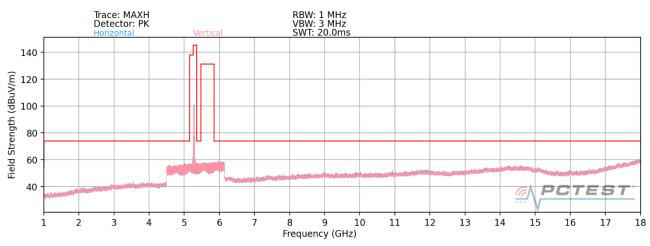
FCC ID: A3LSMF711B	PCTEST <sup>®</sup> Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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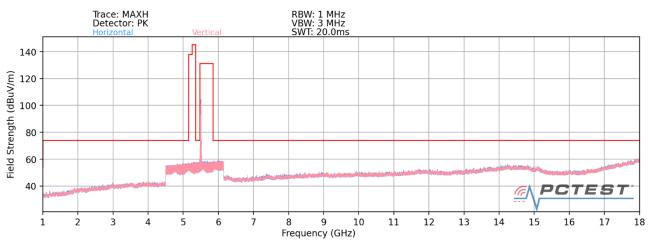


## 7.6.1 SISO Antenna-1 Radiated Spurious Emission Measurements – N





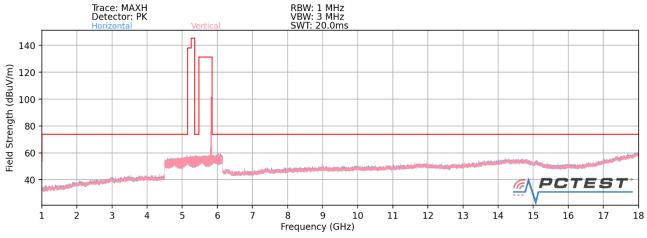




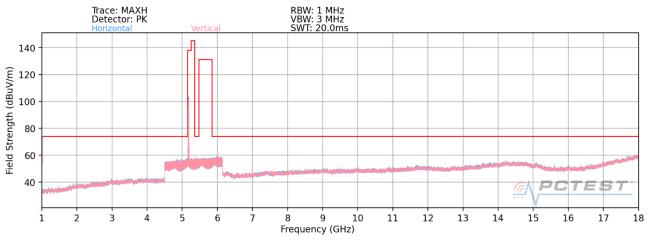
#### Plot 7-663. Radiated Spurious Plot above 1GHz SISO ANT1 - Open (802.11a – U2C Ch. 120)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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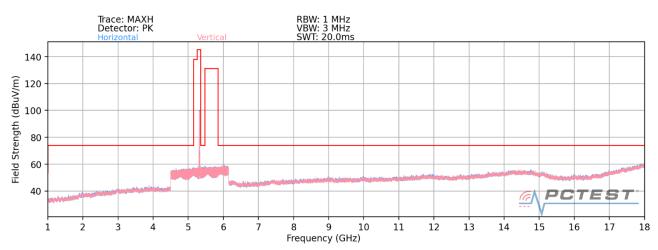




Plot 7-664. Radiated Spurious Plot above 1GHz SISO ANT1- Open (802.11a - U3 Ch. 157)



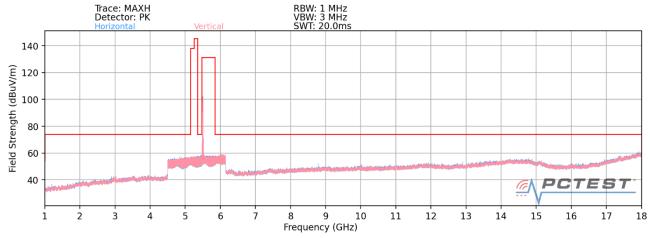
Plot 7-665. Radiated Spurious Plot above 1GHz SISO ANT1 - Closed (802.11a - U1 Ch. 40)



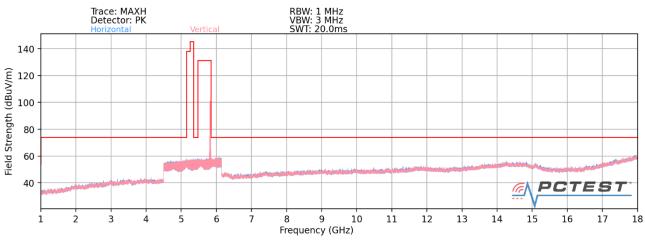
Plot 7-666. Radiated Spurious Plot above 1GHz SISO ANT1 - Closed (802.11a – U2A Ch. 56)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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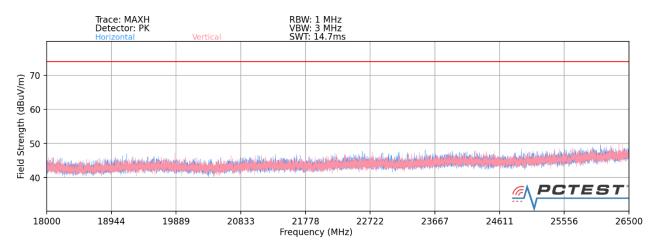




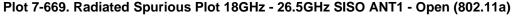
Plot 7-668. Radiated Spurious Plot above 1GHz SISO ANT1- Closed (802.11a - U3 Ch. 157)

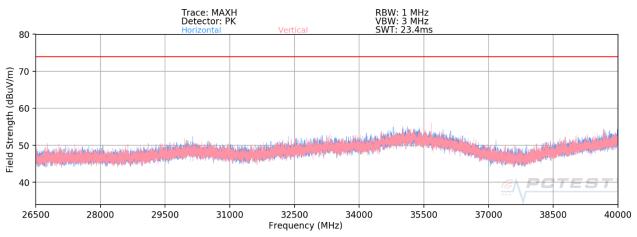
FCC ID: A3LSMF711B	PCTEST <sup>®</sup> Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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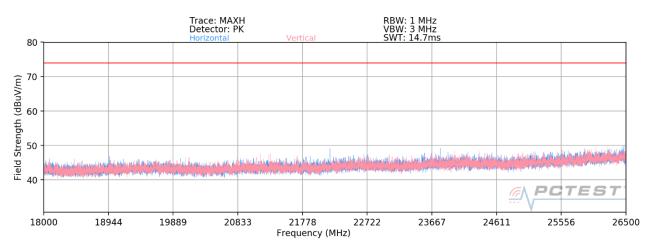


### SISO Antenna-1 Radiated Spurious Emission Measurements (Above 18GHz) – N





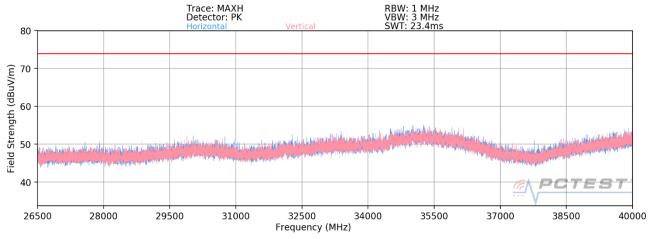
Plot 7-670. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1- Open (802.11a)



#### Plot 7-671. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 - Closed (802.11a)

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Plot 7-672. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 - Closed (802.11a)

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# SISO Antenna-1 Radiated Spurious Emission Measurements - N §15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5180MHz
Channel:	36

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10360.00	Peak	н	-	-	-63.81	12.12	0.00	55.31	68.20	-12.89
*	15540.00	Average	Н	-	-	-81.75	13.39	0.00	38.64	53.98	-15.34
*	15540.00	Peak	Н	-	-	-69.76	13.39	0.00	50.63	73.98	-23.35
*	20720.00	Average	Н	-	-	-66.33	-5.06	-9.54	26.07	53.98	-27.91
*	20720.00	Peak	Н	-	-	-56.36	-5.06	-9.54	36.04	73.98	-37.94
	25900.00	Peak	Н	-	-	-55.32	-2.62	-9.54	39.51	68.20	-28.69

Table 7-43. Radiated Measurements SISO ANT1

Worst Case Mode: Worst Case Transfer Rate: **Distance of Measurements: Operating Frequency:** Channel:

802.11a	
6Mbps	
1 & 3 Meters	
5200MHz	
40	

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	Н	-	-	-64.19	11.58	0.00	54.39	68.20	-13.81
*	15600.00	Average	Н	-	-	-81.87	14.08	0.00	39.21	53.98	-14.77
*	15600.00	Peak	н	-	-	-70.19	14.08	0.00	50.89	73.98	-23.09
*	20800.00	Average	н	-	-	-65.66	-4.66	-9.54	27.14	53.98	-26.84
*	20800.00	Peak	Н	-	-	-55.16	-4.66	-9.54	37.64	73.98	-36.34
	26000.00	Peak	Н	-	-	-55.29	-2.44	-9.54	39.73	68.20	-28.47

#### Table 7-44. Radiated Measurements SISO ANT1

FCC ID: A3LSMF711B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5240MHz
Channel:	48

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	Peak	н	-	-	-64.11	12.38	0.00	55.27	68.20	-12.93
*	15720.00	Average	Н	-	-	-81.68	13.91	0.00	39.23	53.98	-14.75
*	15720.00	Peak	Н	-	-	-69.13	13.91	0.00	51.78	73.98	-22.20
*	20960.00	Average	Н	-	-	-66.71	-4.53	-9.54	26.21	53.98	-27.77
*	20960.00	Peak	Н	-	-	-56.17	-4.53	-9.54	36.75	73.98	-37.23
	26200.00	Peak	Н	-	-	-54.98	-2.55	-9.54	39.92	68.20	-28.28

Table 7-45. Radiated Measurements SISO ANT1

Worst Case Mode: Worst Case Transfer Rate: Distance of Measurements: Operating Frequency: Channel: 802.11a 6Mbps 1 & 3 Meters 5260MHz 52

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	н	-	-	-64.32	12.34	0.00	55.02	68.20	-13.18
*	15780.00	Average	Н	-	-	-81.62	13.58	0.00	38.96	53.98	-15.02
*	15780.00	Peak	Н	-	-	-69.95	13.58	0.00	50.63	73.98	-23.35
*	21040.00	Average	Н	-	-	-66.26	-4.65	-9.54	26.54	53.98	-27.44
*	21040.00	Peak	Н	-	-	-56.53	-4.65	-9.54	36.27	73.98	-37.71
	26300.00	Peak	Н	-	-	-54.95	-2.48	-9.54	40.03	68.20	-28.17

Table 7-46. Radiated Measurements SISO ANT1

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Worst Case Mode:	802.11a				
Worst Case Transfer Rate:	6Mbps				
Distance of Measurements:	1 & 3 Meters				
Operating Frequency:	5280MHz				
Channel:	56				

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10560.00	Peak	н	-	-	-66.06	12.03	0.00	52.97	68.20	-15.23
*	15840.00	Average	н	-	-	-81.71	13.60	0.00	38.89	53.98	-15.09
*	15840.00	Peak	н	-	-	-69.73	13.60	0.00	50.87	73.98	-23.11
*	21120.00	Average	н	-	-	-66.58	-4.46	-9.54	26.42	53.98	-27.56
*	21120.00	Peak	Н	-	-	-55.77	-4.46	-9.54	37.23	73.98	-36.75
	26400.00	Peak	Н	-	-	-55.21	-2.11	-9.54	40.14	68.20	-28.06

Table 7-47. Radiated Measurements SISO ANT1

Worst Case Mode: Worst Case Transfer Rate: Distance of Measurements: Operating Frequency: Channel: 802.11a 6Mbps 1 & 3 Meters 5320MHz 64

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	10640.00	Average	Н	-	-	-78.68	12.39	0.00	40.71	53.98	-13.27
*	10640.00	Peak	Н	-	-	-65.44	12.39	0.00	53.95	73.98	-20.03
*	15960.00	Average	Н	-	-	-78.60	14.52	0.00	42.92	53.98	-11.06
*	15960.00	Peak	Н	-	-	-65.61	14.52	0.00	55.91	73.98	-18.07
*	21280.00	Average	Н	-	-	-66.45	-4.40	-9.54	26.60	53.98	-27.38
*	21280.00	Peak	Н	-	-	-56.00	-4.40	-9.54	37.05	73.98	-36.93
	26600.00	Peak	Н	-	-	-55.88	-2.33	-9.54	39.25	68.20	-28.95

Table 7-48. Radiated Measurements SISO ANT1

FCC ID: A3LSMF711B	PCTEST <sup>®</sup> Proud to be part of <b>@</b> element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
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Worst Case Mode:	802.11a				
Worst Case Transfer Rate:	6Mbps				
Distance of Measurements:	1 & 3 Meters				
Operating Frequency:	5500MHz				
Channel:	100				

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	Н	-	-	-78.65	12.79	0.00	41.14	53.98	-12.83
*	11000.00	Peak	Н	-	-	-66.24	12.79	0.00	53.55	73.98	-20.42
	16500.00	Peak	Н	-	-	-69.85	15.02	0.00	52.17	68.20	-16.03
	22000.00	Peak	Н	-	-	-55.49	-4.38	-9.54	37.58	68.20	-30.62
	27500.00	Peak	Н	-	-	-55.13	-1.85	-9.54	40.48	68.20	-27.72

Table 7-49. Radiated Measurements SISO ANT1

Worst Case Mode: Worst Case Transfer Rate: Distance of Measurements: Operating Frequency: Channel: 802.11a 6Mbps 1 & 3 Meters 5600MHz 120

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11200.00	Average	н	-	-	-79.44	12.86	0.00	40.42	53.98	-13.56
*	11200.00	Peak	н	-	-	-67.30	12.86	0.00	52.56	73.98	-21.42
	16800.00	Peak	н	-	-	-70.33	15.52	0.00	52.19	68.20	-16.01
*	22400.00	Average	н	-	-	-66.34	-4.09	-9.54	27.02	53.98	-26.96
*	22400.00	Peak	Н	-	-	-55.31	-4.09	-9.54	38.05	73.98	-35.93
	28000.00	Peak	Н	-	-	-55.38	-1.57	-9.54	40.51	68.20	-27.69

Table 7-50. Radiated Measurements SISO ANT1

FCC ID: A3LSMF711B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 202 of 509
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Worst Case Mode:	802.11a				
Worst Case Transfer Rate:	6Mbps				
Distance of Measurements:	1 & 3 Meters				
Operating Frequency:	5720MHz				
Channel:	144				

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	Н	-	-	-79.39	13.08	0.00	40.69	53.98	-13.29
*	11440.00	Peak	Н	-	-	-67.38	13.08	0.00	52.70	73.98	-21.28
	17160.00	Peak	Н	-	-	-69.20	17.81	0.00	55.61	68.20	-12.59
*	22880.00	Average	Н	-	-	-65.93	-4.11	-9.54	27.41	53.98	-26.57
*	22880.00	Peak	Н	-	-	-55.42	-4.11	-9.54	37.92	73.98	-36.06
	28600.00	Peak	Н	-	-	-56.53	-1.25	-9.54	39.68	68.20	-28.52

Table 7-51. Radiated Measurements SISO ANT1

Worst Case Mode: Worst Case Transfer Rate: Distance of Measurements: Operating Frequency: Channel: 802.11a 6Mbps 1 & 3 Meters 5745MHz 149

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	н	-	-	-79.66	13.64	0.00	40.98	53.98	-13.00
*	11490.00	Peak	Н	-	-	-67.67	13.64	0.00	52.97	73.98	-21.01
	17235.00	Peak	Н	-	-	-69.49	17.96	0.00	55.47	68.20	-12.73
*	22980.00	Average	Н	-	-	-66.15	-4.25	-9.54	27.06	53.98	-26.92
*	22980.00	Peak	Н	-	-	-54.83	-4.25	-9.54	38.38	73.98	-35.60
	28725.00	Peak	Н	-	-	-55.92	-1.30	-9.54	40.24	68.20	-27.96

Table 7-52. Radiated Measurements SISO ANT1

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 202 of 509
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Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5785MHz
Channel:	157

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	Average	Н	-	-	-79.86	13.36	0.00	40.50	53.98	-13.48
*	11570.00	Peak	Н	-	-	-67.41	13.36	0.00	52.95	73.98	-21.03
	17355.00	Peak	Н	-	-	-69.36	20.01	0.00	57.65	68.20	-10.55
	23140.00	Peak	Н	-	-	-54.65	-4.20	-9.54	38.60	68.20	-29.60
	28925.00	Peak	Н	-	-	-55.73	-1.06	-9.54	40.66	68.20	-27.54

Table 7-53. Radiated Measurements SISO ANT1

Worst Case Mode: Worst Case Transfer Rate: Distance of Measurements: Operating Frequency: Channel:

802.11a 6Mbps 1 & 3 Meters 5825MHz 165

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	Average	Н	-	-	-79.86	14.11	0.00	41.25	53.98	-12.73
*	11650.00	Peak	Н	-	-	-67.37	14.11	0.00	53.74	73.98	-20.24
	17475.00	Peak	Н	-	-	-69.34	18.91	0.00	56.57	68.20	-11.63
	23300.00	Peak	Н	-	-	-56.19	-4.25	-9.54	37.01	68.20	-31.19
	29125.00	Peak	Н	-	-	-56.19	-1.05	-9.54	40.22	68.20	-27.98

Table 7-54. Radiated Measurements SISO ANT1

FCC ID: A3LSMF711B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 204 of 509
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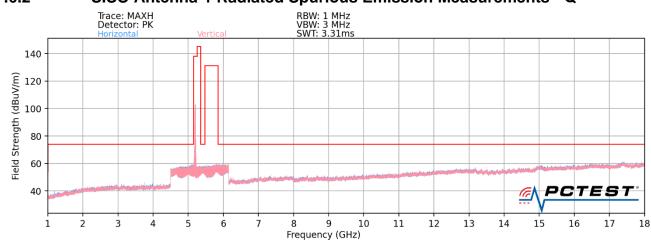
Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5500MHz
Channel:	100
Channel.	100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11000.00	Average	Н	-	-	-80.93	12.79	0.00	38.86	53.98	-15.12
11000.00	Peak	Н	-	-	-68.95	12.79	0.00	50.84	73.98	-23.13
16500.00	Peak	н	-	-	-70.27	15.02	0.00	51.75	68.20	-16.45
22000.00	Peak	Н	-	-	-58.52	-4.38	-9.54	34.56	68.20	-33.64
27500.00	Peak	Н	-	-	-57.40	-1.85	-9.54	38.22	68.20	-29.98

Table 7-55. Radiated Measurements SISO ANT1 with WCP

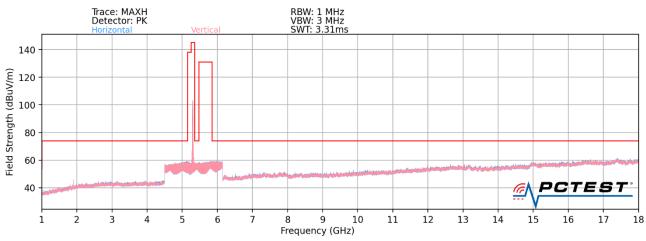
FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 205 of 500
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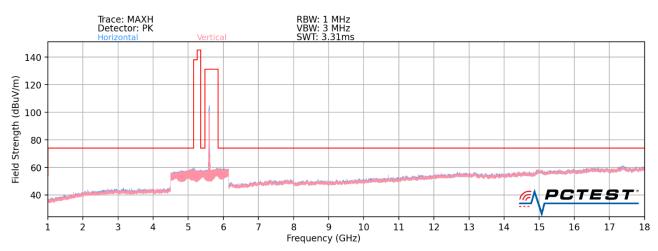


## 7.6.2 SISO Antenna-1 Radiated Spurious Emission Measurements - Q





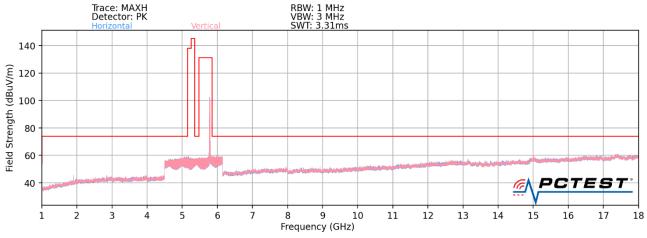
Plot 7-674. Radiated Spurious Plot above 1GHz SISO Ant1 Open (802.11a - U2A Ch. 56)



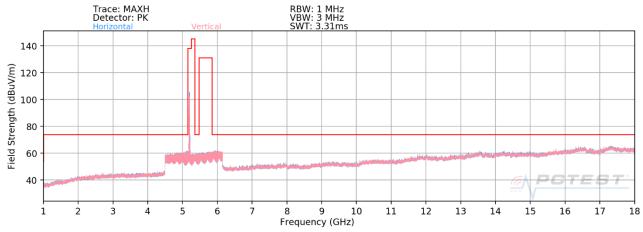
Plot 7-675. Radiated Spurious Plot above 1GHz SISO Ant1 Open (802.11a – U2C Ch. 120)

FCC ID: A3LSMF711B	PCTEST Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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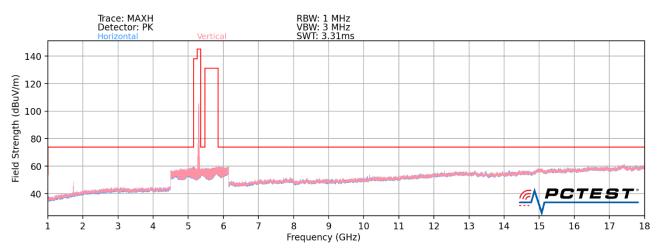




Plot 7-676. Radiated Spurious Plot above 1GHz SISO Ant1 Open (802.11a - U3 Ch. 157)



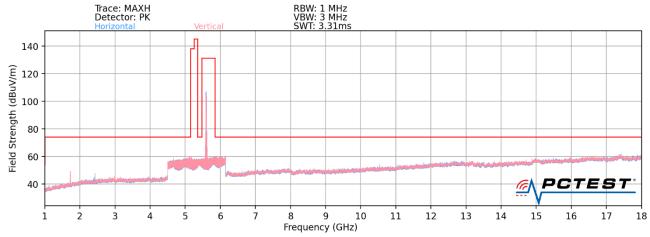




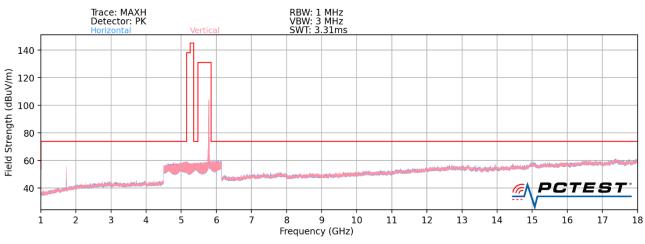
Plot 7-678. Radiated Spurious Plot above 1GHz SISO Ant1 Closed (802.11a - U2A Ch. 56)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-680. Radiated Spurious Plot above 1GHz SISO Ant1 Closed (802.11a - U3 Ch. 157)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager			
Test Report S/N:	Test Dates:	EUT Type:	Dage 200 of 500			
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