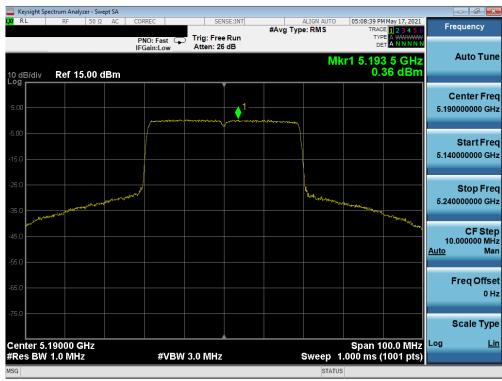




Plot 7-489. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 48)



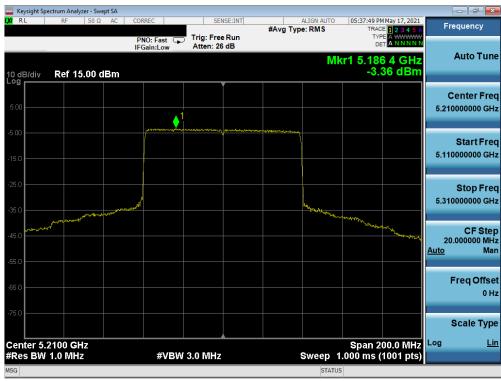
Plot 7-490. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dama 040 of 440	
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	ortable Handset		Page 319 of 413	
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	Spectrum Analyzer - Swept SA						
L <mark>XI</mark> RL	RF 50 Ω AC	CORREC	SENS	E:INT #Avg Typ	ALIGN AUTO	05:10:34 PM May 17 TRACE 123	
	_	PNO: Fast 📮 IFGain:Low	Trig: Free F Atten: 26 d		<b>N</b> AL		
10 dB/div Log	Ref 15.00 dBm					r1 5.223 6 0 1.49 d	Bm
			. 1				Center Freq
5.00		pour		man war war and a second			5.230000000 GHz
-5.00				Y			Start Freq
-15.0							5.180000000 GHz
-25.0	where a	annal			have		Stop Freq
-35.0	and when and and and and and and and and and an					and the state of t	5.280000000 GHz
							CF Step
-45.0							10.000000 MHz <u>Auto</u> Man
-35.0							Ener Offerst
-65.0							Freq Offset 0 Hz
-75.0							
							Scale Type
	5.23000 GHz					Span 100.0	MHz <sup>Log <u>Lin</u></sup>
	V 1.0 MHz	#VBW	3.0 MHz			.000 ms (1001	pts)
MSG					STATUS		

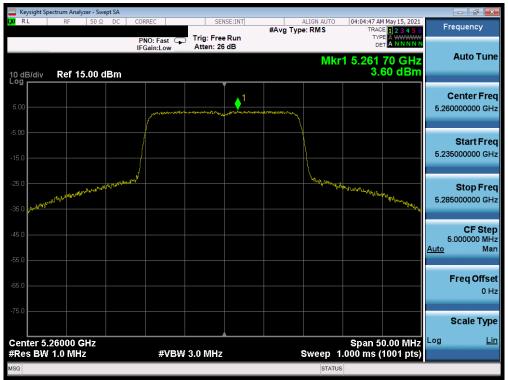
Plot 7-491. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 46)



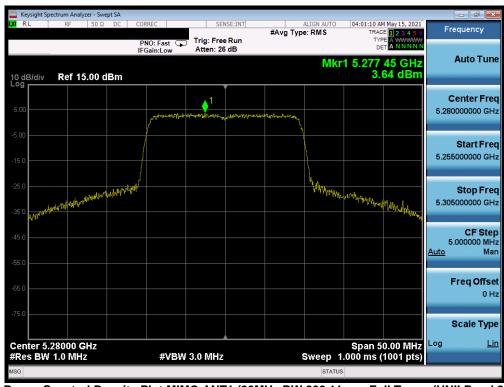
Plot 7-492. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 42)

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:		Dega 220 of 412	
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Plot 7-493. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 52)



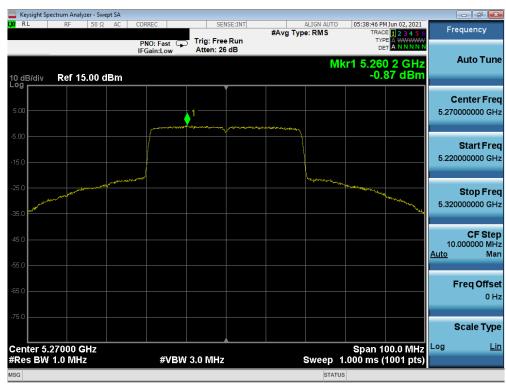
Plot 7-494. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type: Portable Handset		Dogo 201 of 112
1M2104130035-13.A3L	04/12/2021 - 06/04/2021			Page 321 of 413
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Plot 7-495. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 64)



Plot 7-496. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 54)

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:		Dogo 222 of 442	
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset		Page 322 of 413	
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	ectrum Analyzer - Swept SA						
LXIRL	RF 50 Ω AC	CORREC	SENSE	E:INT #Avg Typ		45:41 PM Jun 02, 2021 TRACE 1 2 3 4 5 6	Frequency
		PNO: Fast 🕞 IFGain:Low	Trig: Free R Atten: 26 d	Run		TYPE A WWWWW DET A NNNN	Auto Turo
10 dB/div Log	Ref 15.00 dBm				Mkr1 {	5.305 5 GHz -1.22 dBm	Auto Tune
5.00		للاسيديكرين المريس الاسيديكرين المريس	1	an to an March and an and an and an and an and an			Center Freq 5.310000000 GHz
-5.00							<b>Start Freq</b> 5.260000000 GHz
-25.0	water and the second second second	neta de la constante de la const			C & Contraction of Co	and the second second second second	<b>Stop Freq</b> 5.36000000 GHz
-45.0							<b>CF Step</b> 10.000000 MHz <u>Auto</u> Man
-65.0							<b>Freq Offset</b> 0 Hz
-75.0							Scale Type
	31000 GHz				Sp	an 100.0 MHz	Log <u>Lin</u>
#Res BW	1.0 MHz	#VBW	3.0 MHz			ms (1001 pts)	
MSG					STATUS		

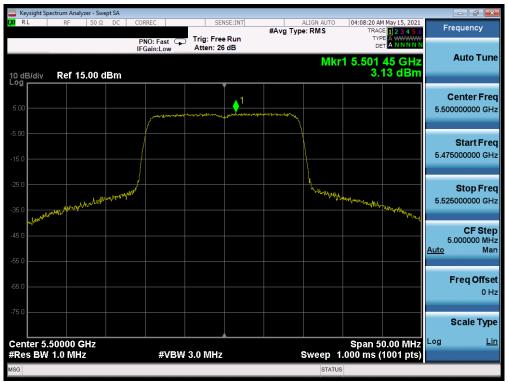
Plot 7-497. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 62)



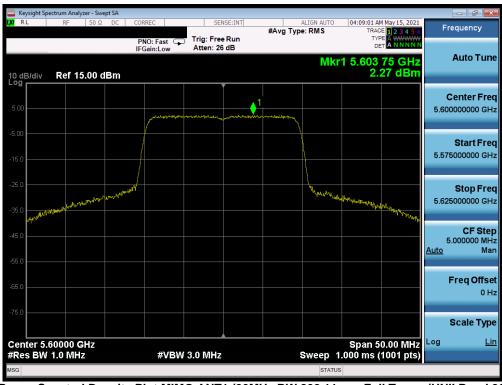
Plot 7-498. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 58)

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 222 of 442			
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 323 of 413			
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Plot 7-499. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 100)



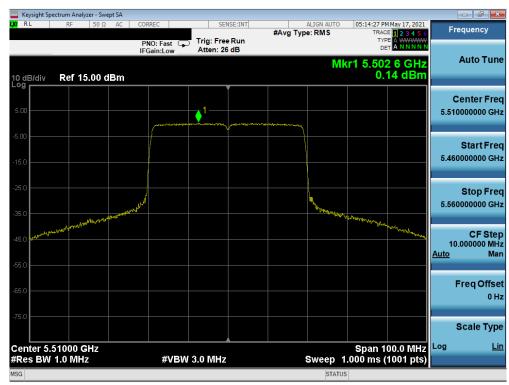
Plot 7-500. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 120)

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: Portable Handset		Dama 201 of 112
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Plot 7-501. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 144)



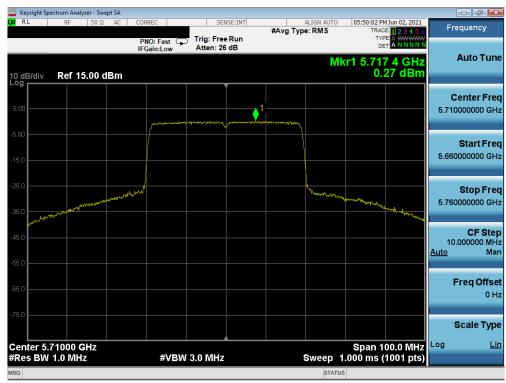
Plot 7-502. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 102)

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 205 of 412			
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 325 of 413			
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	Spectrum Analyzer - Swep	it SA								
LXU RL	RF 50 Ω	AC CORREC	SEN	SE:INT	#Avg Typ	ALIGN AUTO e: RMS		May 17, 2021	Fre	equency
	_	PNO: Fast C IFGain:Low	<ul> <li>Trig: Free Atten: 26</li> </ul>				DE			Auto Tune
10 dB/div Log	Ref 15.00 di	Зm				Mł	(r1 5.60 0.	1 7 GHz 79 dBm		Auto Tune
5.00		Junearen		jan and the second s	1					enter Freq 000000 GHz
-5.00									5.540	Start Freq 0000000 GHz
-25.0	way way to be a strain of	and the state of t				Mannam m	Maryun Maryun Maryon	ormalipericity	5.640	Stop Freq 0000000 GHz
-45.0	Carry Marine .								10 <u>Auto</u>	CF Step 000000 MHz Man
-65.0									F	Freq Offset 0 Hz
-75.0										Scale Type
	5.59000 GHz V 1.0 MHz	#\/P	W 3.0 MHz			Swoon_4	Span 1	00.0 MHz 1001 pts)	Log	<u>Lin</u>
#Res DV		#VD	W 3.0 MHZ			sweep		roor pis)		
Mod						STATUS	2			

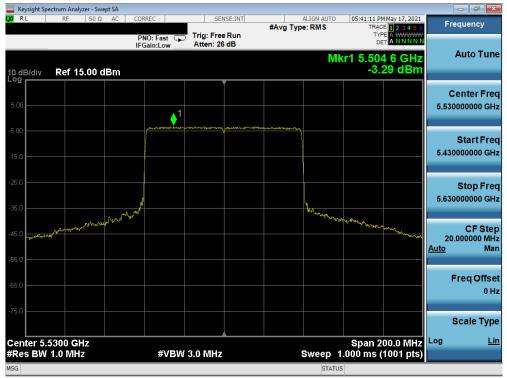
Plot 7-503. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 118)



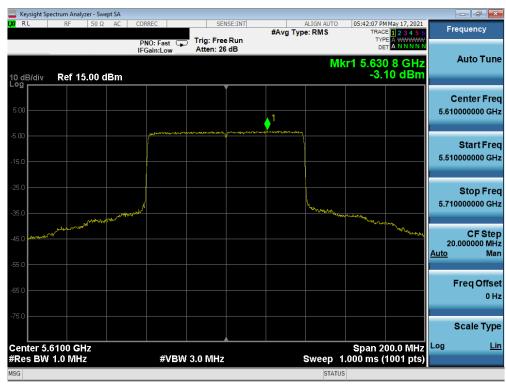
Plot 7-504. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 142)

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:	Dega 206 of 442
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 326 of 413
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Plot 7-505. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 106)



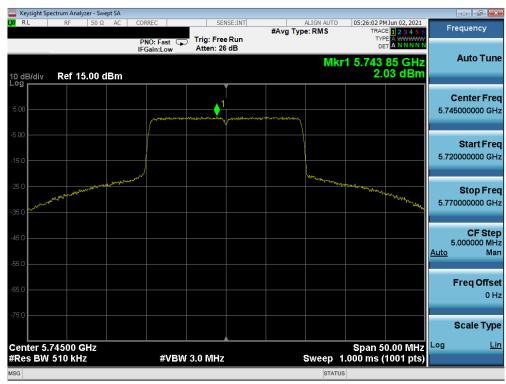
Plot 7-506. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 122)

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 227 of 412	
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 327 of 413	
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🔤 Keysight Spectrum Analyzer - Swep	ot SA			
<b>LXI</b> RL RF 50 Ω		#Avg Type	LIGN AUTO 06:11:02 PM J RMS TRACE	1 2 3 4 5 6 Frequency
10 dB/div Ref 15.00 dB	PNO: Fast 🆵 Trig: Fre IFGain:Low Atten: 26	e Run 6 dB	DET Mkr1 5.718	A NNNNN 8 GHz 2 dBm
5.00	و و و و و و و و و و و و و و و و و و و	June Market Market		Center Freq 5.690000000 GHz
-15.0				Start Freq 5.590000000 GHz
-25.0 -35.0	2500 A 100 A		and any the second of the seco	5.790000000 GHz
-45.0				CF Step 20.000000 MHz <u>Auto</u> Man
-65.0				Freq Offset 0 Hz
40.0				Scale Type
Center 5.6900 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz		Span 20 weep 1.000 ms (10	0.0 MHz <sup>Log <u>Lin</u> 001 pts)</sup>
MSG			STATUS	

Plot 7-507. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 138)



Plot 7-508. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 149)

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 220 of 442
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	ectrum Analyzer - Swe									
LXVI RL	RF 50 Ω	AC COF	REC		ISE:INT	#Avg Typ	ALIGN AUTO	TRAC	1 Jun 02, 2021 E <b>1 2 3 4 5</b> 6	Frequency
		PI IFC	NO:Fast 🕞 Gain:Low	Trig: Free Atten: 26						
10 dB/div Log	Ref 15.00 c	IBm					Mkı	1 5.789 0.(	85 GHz 60 dBm	Auto Tune
5.00			prosent	ومربعة المعارب مرافع	par-Monorana	1				Center Freq 5.785000000 GHz
-5.00										Start Freq 5.76000000 GHz
-25.0	an Maria Maria and and and and and and and and and an	warman					herstyleworker	wand the way	W/Manaharakana	<b>Stop Freq</b> 5.810000000 GHz
-45.0										CF Step 5.000000 MHz <u>Auto</u> Man
-65.0										Freq Offset 0 Hz
-75.0										Scale Type
	78500 GHz		41/D14	3.0 MHz			Oween	Span 5	0.00 MHz	Log <u>Lin</u>
#Res BW	STU KHZ		#VBW	3.0 WIHZ				1.000 ms (	roor pts)	
MSG							STATU	S		

Plot 7-509. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 157)



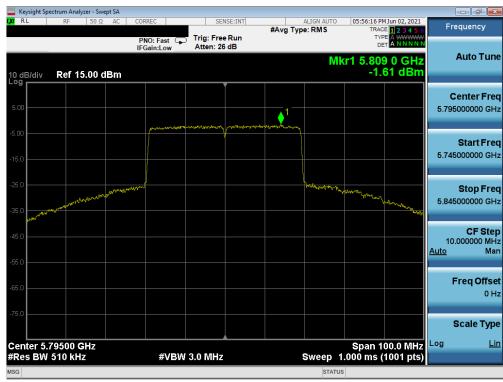
Plot 7-510. Power Spectral Density Plot MIMO ANT1 (20 MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 165)

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 220 of 412
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		ctrum Analyz		4								
L <mark>XI</mark> R	L	RF	50 Ω AC	C COR	REC	SEN	ISE:INT	#Avg Typ	ALIGN AUTO		1 Jun 02, 2021 E 1 2 3 4 5 6	Frequency
				PN IFG	IO: Fast 📮 jain:Low	Trig: Free Atten: 26				TYF De		Auto Tune
10 dE Log	3/div	Ref 15.	00 dBn	n					MI	kr1 5.76 -1.	l 8 GHz 87 dBm	Auto Tune
5.00							1					Center Freq 5.755000000 GHz
-5.00 -15.0						and and a second and a second						Start Freq 5.705000000 GHz
-25.0 -35.0		waterward	warnen	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					man	hourseher	Margarete.	<b>Stop Freq</b> 5.805000000 GHz
-45.0 -55.0	man	water a second second										CF Step 10.000000 MHz <u>Auto</u> Man
-65.0												<b>Freq Offset</b> 0 Hz
-75.0												Scale Type
		5500 GI 510 kHz			#\/R\A	3.0 MHz			Sween	Span 1 1.000 ms (	00.0 MHz	Log <u>Lin</u>
MSG	5 6 9 9				<i></i>	5.0 10112			STATU	_	roor pisj	
									UIAIO			

Plot 7-511. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 151)



Plot 7-512. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 159)

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:	Dega 220 of 442
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 330 of 413
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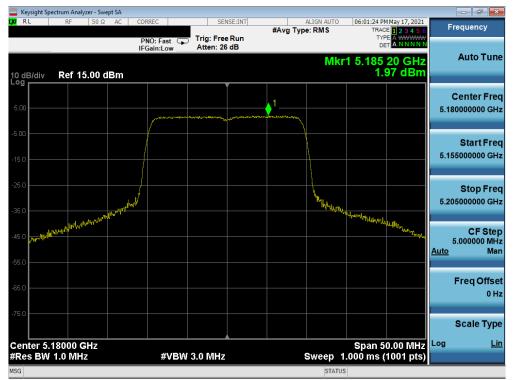
🔤 Keysight Spectrum An									- 5 -
LXIRL RF	50 Ω AC	CORREC	SENS	E:INT	#Avg Typ	ALIGN AUTO		Jun 02, 2021	Frequency
10 dB/div Ref	15.00 dBm	PNO: Fast IFGain:Low	Trig: Free Atten: 26 o		*~~vg iyp		TYP		Auto Tun
5.00					<b>↓</b> <sup>1</sup>				Center Fre 5.775000000 GH
-5.00			<u></u>		vn				<b>Start Fre</b> 5.675000000 GH
-25.0	p. M. Maran Marana					and the second second	and when	afal and a second an	<b>Stop Fre</b> 5.875000000 GH
-45.0									CF Ste 20.000000 MH <u>Auto</u> Ma
-65.0									Freq Offse 0 H
-75.0									Scale Typ
Center 5.7750 C		40 (D) M	2.0 MH-			Succes d	Span 2	20.0 191112	Log <u>Li</u>
#Res BW 510 k	112	#vBW	3.0 MHz				.000 ms (	roo r pts)	
MSG						STATUS	5		

Plot 7-513. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 155)

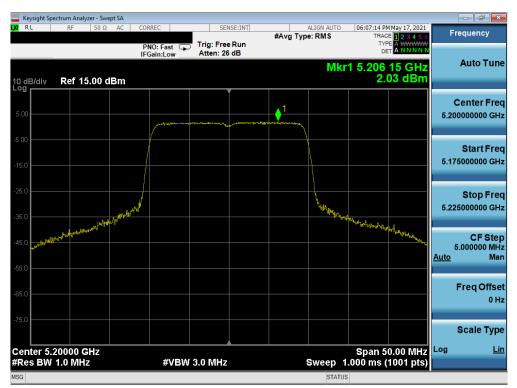
FCC ID: A3LSMF711B	PCTEST° Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 331 of 413	
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# MIMO Antenna-2 Power Spectral Density Measurements (Full Tones) – Q



Plot 7-514. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 36)



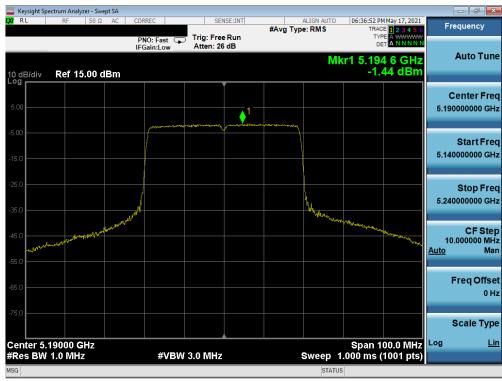
Plot 7-515. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 40)

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:		Dogo 222 of 412	
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Plot 7-516. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 48)



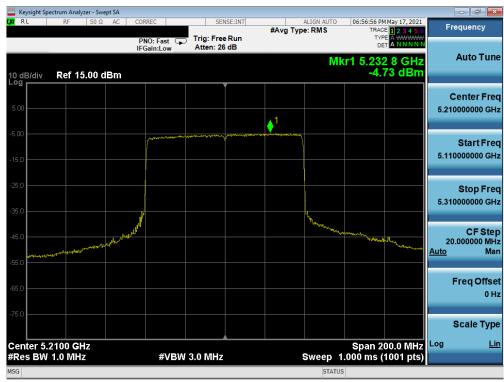
Plot 7-517. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dama 000 of 440	
1M2104130035-13.A3L 04/12/2021 – 06/04/2021		Portable Handset		Page 333 of 413	
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	ectrum Analyzer - Swept SA						
LXIRL	RF 50 Ω AC	CORREC	SENSE:IN	ALI #Avg Type: I		May 17, 2021	Frequency
		PNO: Fast 🕞 IFGain:Low	Trig: Free Run Atten: 26 dB		TYF De		Auto Tune
10 dB/div Log	Ref 15.00 dBm				Mkr1 5.22 -0.	3 5 GHz 63 dBm	AutoTune
5.00			<b>1</b>				Center Freq 5.23000000 GHz
-5.00		man		manning			5.230000000 GH2
-15.0							Start Freq 5.180000000 GHz
-25.0		- A		h	Wux		Stop Freq 5.28000000 GHz
-35.0	and all the second and the second	and the second			W Mather of When Well and the work of the second	and a start of the	CF Step
-45.0	adard and a second s					Marker .	10.000000 MHz <u>Auto</u> Man
-55.0							
-65.0							Freq Offset 0 Hz
-75.0							
							Scale Type
	23000 GHz	43 (D)A	0.0.000		Span 1	00.0 MHz	Log <u>Lin</u>
#Res BW	1.0 MH2	#VBW	3.0 MHz	sv	weep 1.000 ms(	TUUT pts)	
MSG					STATUS		

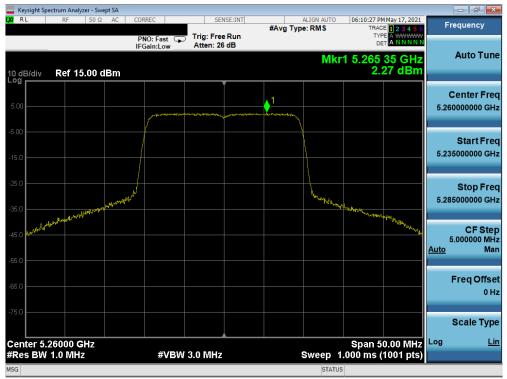
Plot 7-518. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 46)



Plot 7-519. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 42)

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:		Dama 004 of 440	
1M2104130035-13.A3L 04/12/2021 – 06/04/2021		Portable Handset		Page 334 of 413	
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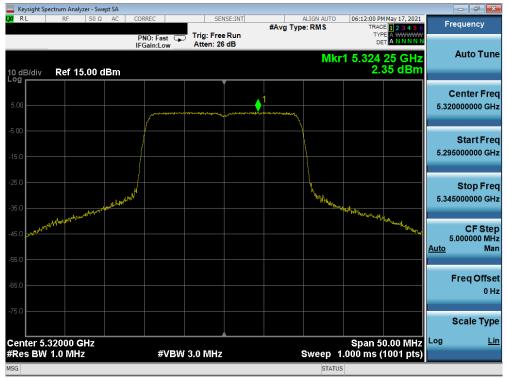
Plot 7-520. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 52)



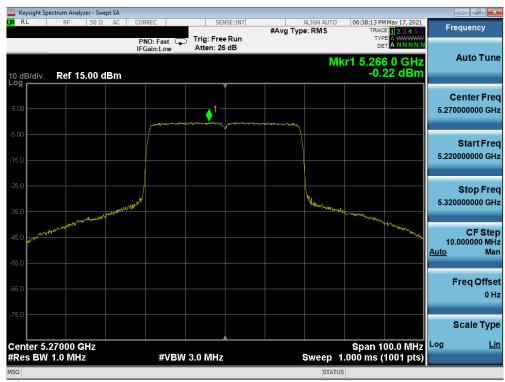
Plot 7-521. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 56)

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 225 of 412		
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Plot 7-522. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 64)



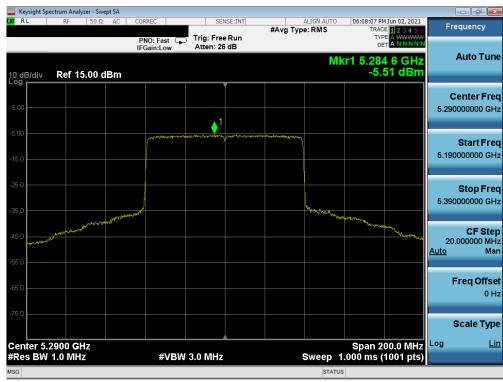
Plot 7-523. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 54)

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 226 of 442		
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Keysight Spectrum Analyzer - Swept SA				- P
<b>ΙΧ</b> RL RF 50 Ω AC		#Avg Type	RMS TRAC	MJun 02, 2021 Frequency Frequency
	PNO: Fast Free IFGain:Low Atten: 26			
10 dB/div Ref 15.00 dBm			-1	59 dBm
				Center Fr
5.00				5.310000000 G
-5.00				Start Fr
-15.0				5.26000000 G
-25.0				Stop Fr
-35.0	wat		how was well and the second	5.36000000 G
- and the stand of			مر میں اور	CF St
-45.0				10.000000 M Auto M
-55.0				
-65.0				Freq Offs
-75.0				
				Scale Ty
Center 5.31000 GHz #Res BW 1.0 MHz	#VBW 3.0 MHz		Span 1 Sweep 1.000 ms (	00.0 MHz
MSG	<b>** B*</b> * <b>5.6</b> WH12		STATUS	

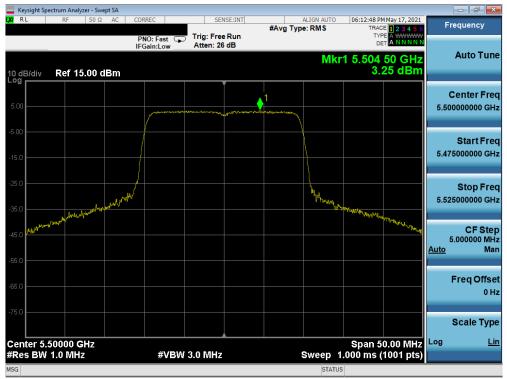
Plot 7-524. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 62)



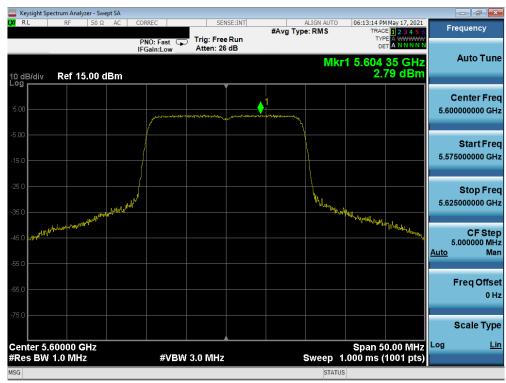
Plot 7-525. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dega 227 of 442		
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Plot 7-526. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 100)



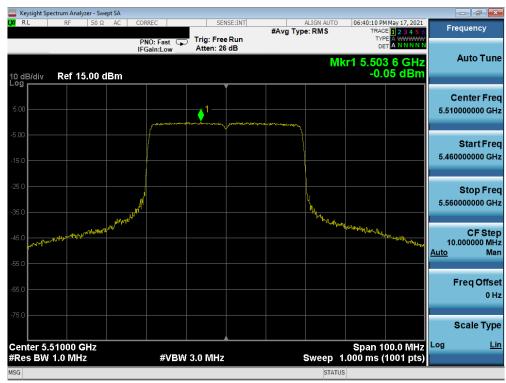
Plot 7-527. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dega 220 of 442		
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Plot 7-528. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 144)



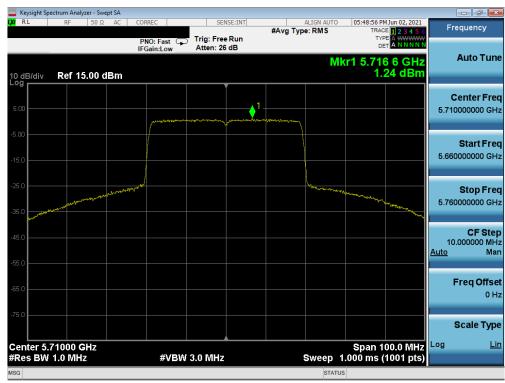
Plot 7-529. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 102)

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:	Dogo 220 of 442		
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Plot 7-530. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 118)



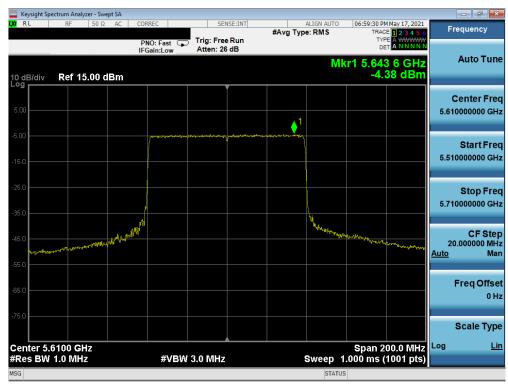
Plot 7-531. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 142)

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 240 of 412		
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PNO: Fast IFGainLow       Trig: Free Run Atten: 28 dB       #Avg Type: RMS       Trace IP 84 450 (Preductor)       Frequency         0 dB/div       Ref 15.00 dBm       3.79 dBm       Center Freq 5.53000000 GHz         500       1       1       1       1       1       1       5.53000000 GHz         500       1       1       1       1       1       1       5.53000000 GHz         500       1       1       1       1       1       1       1       5.53000000 GHz         500       1       1       1       1       1       1       1       1       5.53000000 GHz         500       1 <td< th=""><th></th><th>ectrum Analyzer - Sw</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>×</th></td<>		ectrum Analyzer - Sw										×
Auto Tune Mkr1 5.537 6 GHz -3.79 dBm Center Freq 5.53000000 GHz Start Freq 5.63000000 GHz CF Step 20.00000 MHz 5.63000000 GHz Center Start Freq 5.63000000 GHz Center Start Freq 5.63000000 GHz Center Step 20.00000 MHz Start Freq 5.63000000 Hz Center Step 20.00000 MHz Start Start Step Center Step 20.00000 MHz Start Step Start Start Step Start Step Start Start Step Start Start Step Start Start Start Step Start Start Star	L <mark>XI</mark> RL	RF 50 Ω	AC CO	RREC					TRAC	E 1 2 3 4 5 6	Frequency	
0 dBd/w       Ref 15.00 dBm       -3.79 dBm         0 dBd/w       Ref 15.00 dBm       -3.79 dBm         0 dBd/w       1       -4.17 dBm         0 dB/w       1       -4.17 dBm			P IF	NO: Fast 😱 Gain:Low				M	DE	ANNNN	Auto Tu	une
500       1       Center Freq         500       1       1       1         500       1       1       1         150       1       1       1         150       1       1       1         150       1       1       1         150       1       1       1         150       1       1       1         150       1       1       1         150       1       1       1         150       1       1       1         150       1       1       1       1         150       1       1       1       1         150       1       1       1       1       1         150       1       1       1       1       1       1         150       1       1       1       1       1       1       1       1         150       1	10 dB/div	Ref 15.00	dBm						-3.	79 dBm		
5.00 CF Step 5.00 CHz 5.00 CHZ	209				Ì						Center F	req
150       Start Freq 5.43000000 GHz         250       Stop Freq 5.63000000 GHz         50       Stop Freq 5.6300 GHz         50       Stop Freq 5.6300 GHz         50       Stop Freq 5.6300 GHz         50       Stop Freq 6.6300 GHz <td>5.00</td> <td></td> <td></td> <td></td> <td></td> <td>. 1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	5.00					. 1						
150       Start Freq 5.43000000 GHz         250       Stop Freq 5.63000000 GHz         20.00000 GHz       Stop Freq 5.63000000 GHz         20.00000 GHz       Stop Freq 5.63000000 GHz         20.00000 GHz       Stop Freq 5.63000000 GHz         20.0000 GHz       Stop Freq 5.63000000 GHz         20.0000 GHz       Stop Freq 5.6300 GHz         20.0000 GHz       Stop Freq 6.6300 GHz         20.0000 GHz       Stop Freq 0 Hz         20.00000 GHz       Stop Freq 0 Hz         20	5.00			Margallen			And some way for the second second					
Stop Freq 50       Stop Freq 5.63000000 GHz         50       Stop Freq 5.63000000 GHz         50       Stop Freq 5.63000000 MHz         50       Stop Freq 5.6300 Mz         50       Stop Freq 5.6300 Mz         50       Stop Freq 5.6300 Mz         50       Stop Freq 5.6300 Mz         50 <td>-3.00</td> <td></td> <td></td> <td></td> <td></td> <td>,</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	-3.00					,						
50 CF Step Pred 5.630000000 GHz 20.00000 MHz Auto Man Freq Offset 0 Hz Senter 5.5300 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts)	-15.0										5.430000000	GHz
550 550 550 550 550 550 550 550	25.0											
350       CF Step         450       CF Step         560       CF Step         56	-23.0										-	
550     20.00000 MHz       550     Auto       550     Man       550     Freq Offset       750     Scale Type       Center 5.5300 GHz     Span 200.0 MHz       Res BW 1.0 MHz     #VBW 3.0 MHz       Sweep 1.000 ms (1001 pts)	-35.0							<b>\</b>			0.000000000	3112
550     20.00000 MHz       550     Auto       550     Man       550     Freq Offset       750     Scale Type       Center 5.5300 GHz     Span 200.0 MHz       Res BW 1.0 MHz     #VBW 3.0 MHz       Sweep 1.000 ms (1001 pts)	45.0		1 MANNAN M					Top of the states of the state	Wither .			
550     Standard     Standard </td <td></td> <td>AND AND AND AND AND AND AND AND AND AND</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>and the second sec</td> <td>Anne marche</td> <td></td> <td></td>		AND							and the second sec	Anne marche		
550     Image: Constraint of the second	-55.0											
75.0 Center 5.5300 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts)	65.0										Freq Off	set
Center 5.5300 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts)	-05.0										0	) Hz
enter 5.5300 GHz Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts)	-75.0										O colo T	
Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.000 ms (1001 pts)											-	
				#\(B)A	20 MU-			Swoon /	Span 2	00.0 MHz	Log	Lin
SG	#Res BW			#VBW	5.0 WHZ				_	roo r pisj		

Plot 7-532. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 106)



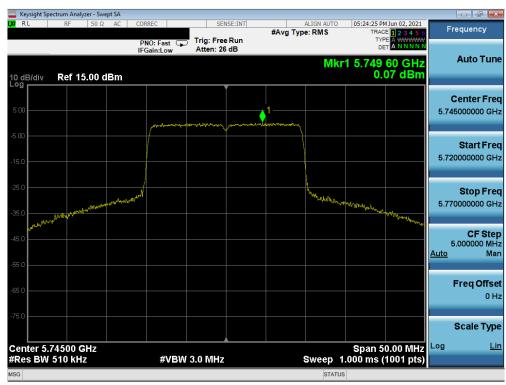
Plot 7-533. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
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Plot 7-534. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 138)



Plot 7-535. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 149)

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 442		
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🔤 Keysight Spectrum Analyzer - Swept SA					
🗶 RL RF 50Ω AC		#Avg Type	E: RMS TRAC	- 1 2 3 4 3 0	equency
	PNO: Fast Trig: Free IFGain:Low Atten: 26		DE	A WWWWW A N N N N N	
10 dB/div Ref 15.00 dBm			Mkr1 5.780 0.0	00 GHz 69 dBm	Auto Tune
5.00		personal manuf			<b>Center Freq</b> 5000000 GHz
-15.0				5.76	Start Freq 0000000 GHz
-25.0	over the second se		hanger fill warre and my more deliver	5.81	<b>Stop Freq</b> 0000000 GHz
-45.0				Auto 5	CF Step .000000 MHz Man
-65.0					Freq Offset 0 Hz
-75.0					Scale Type
Center 5.78500 GHz #Res BW 510 kHz	#VBW 3.0 MHz		Span 5 Sweep 1.000 ms (	0.00 MHz <sup>Log</sup> 1001 pts)	<u>Lin</u>
MSG			STATUS		

Plot 7-536. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 157)



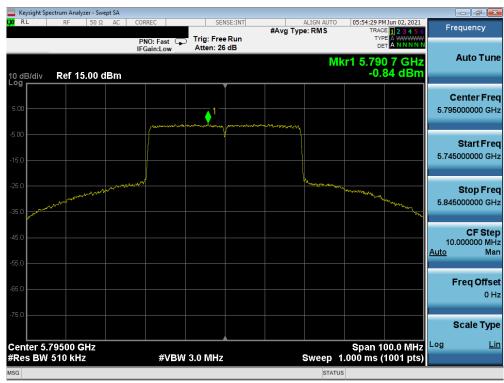
Plot 7-537. Power Spectral Density Plot MIMO ANT2 (20 MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 165)

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 442		
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	Spectrum Analyzer - Swept SA						
L <mark>XI</mark> RL	RF 50 Ω AC	CORREC	SENSE:I		ALIGN AUTO e: RMS	06:00:56 PM Jun 02, 2021 TRACE 1 2 3 4 5	Frequency
		PNO: Fast 😱 IFGain:Low	Trig: Free Ru Atten: 26 dB	in C ,		TYPE A WWWWW DET A NNNN	
10 dB/div Log	Ref 15.00 dBm				Mkr	1 5.745 2 GHz 0.29 dBm	Auto Tune
5.00		persona	1	-			Center Freq 5.755000000 GHz
-5.00			in the second				<b>Start Freq</b> 5.705000000 GHz
-25.0	Marine Marine Marine				Manager Contraction	and a second and a s	<b>Stop Freq</b> 5.805000000 GHz
-45.0							CF Step 10.000000 MHz <u>Auto</u> Man
-65.0							<b>Freq Offset</b> 0 Hz
-75.0							Scale Type
	5.75500 GHz		0.0.0411-			Span 100.0 MHz	Log <u>Lin</u>
	W 510 kHz	#VBW	3.0 MHz			00 ms (1001 pts	
MSG					STATUS		

Plot 7-538. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 151)



Plot 7-539. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 159)

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
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Keysight Spectrum Analyzer - Swept SA					
LXU RL RF 50Ω AC	CORREC	SENSE:INT	#Avg Type: RMS	06:14:28 PM Jun 02, 2021 TRACE 1 2 3 4 5 6	Frequency
		ree Run : 26 dB	• //	TYPE A WWWW DET ANNNNN	Auto Tune
10 dB/div Ref 15.00 dBm				-3.50 dBm	
					Center Freq
-5.00	1	mon por out game to read	beyester, gitter 1 year-mag		5.775000000 GHz
-3.00		,			Start Freq
-15.0					5.675000000 GHz
-25.0	أيحطيكم		have my	www.men	Stop Freq
-35.0				and the second	5.875000000 GHz
-45.0					CF Step
-43.0					20.000000 MHz Auto Man
-55.0					
-65.0					Freq Offset
					0 Hz
-75.0					Scale Type
Center 5.7750 GHz #Res BW 510 kHz	#VBW 3.0 MI	Hz	Sweep 1	Span 200.0 MHz .000 ms (1001 pts)	
MSG			STATUS		

Plot 7-540. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 155)

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:		Page 345 of 413
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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. 26 Tones, 52 Tones, 106 Tones, 242 Tones, 484 Tones and 996 Tones), 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 7-94 per Section 15.209 and RSS-Gen (8.9).

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

Table 7-94. 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.

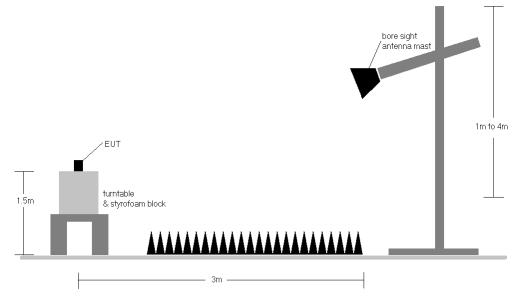


Figure 7-5. Test Instrument & Measurement Setup

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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 7-94.
- 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 7-94. 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. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
- 8. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 9. For radiated measurements, emissions were investigated for the fully-loaded RU configuration and for all of the partially-loaded RU configurations. Among all of the available partially-loaded RU configurations, only the configuration with the worst case emissions is reported.

## Sample Calculations

## **Determining Spurious Emissions Levels**

- $\circ$  Field Strength Level [dB<sub>µ</sub>V/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

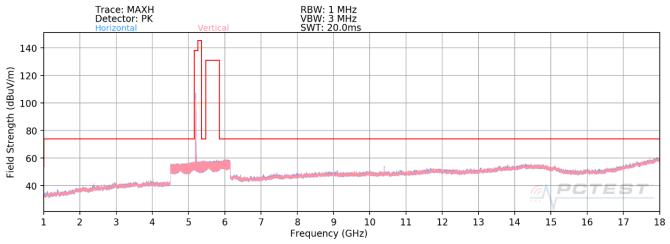
• The amplitude offset shown in the radiated restricted band edge plots in Section 7.6 was calculated using the formula:

Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

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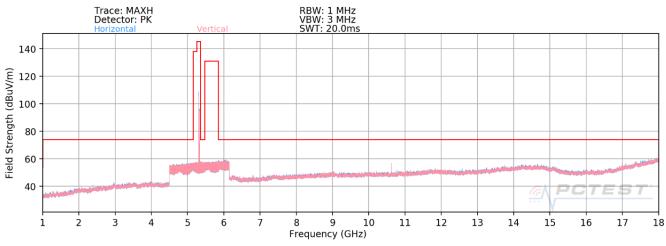


# 7.6.1 MIMO Radiated Spurious Emission Measurements



# 26 Tones – N

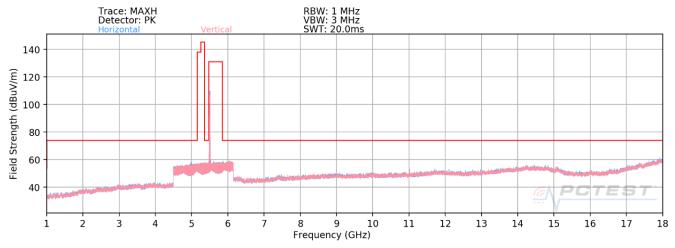




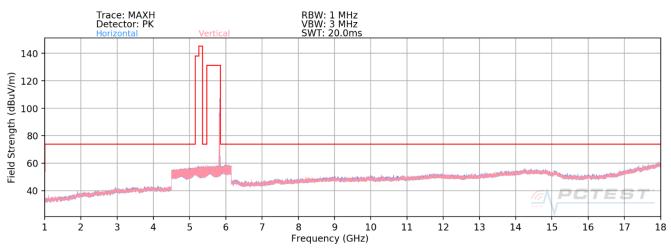
Plot 7-542. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U2A Ch. 56 - 26 Tones) - Open

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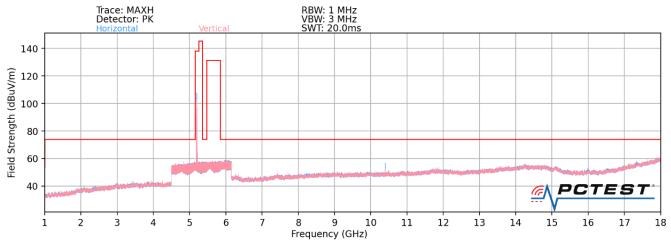




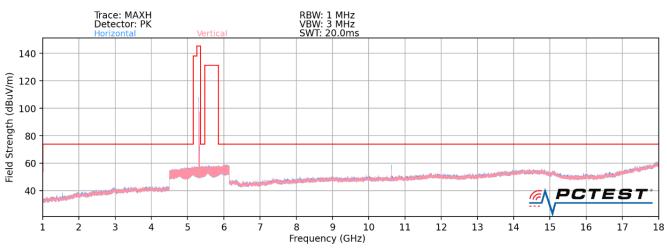
Plot 7-544. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 26 Tones) - Open

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 250 of 412
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 350 of 413
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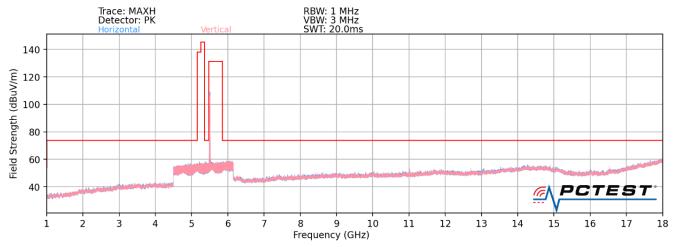




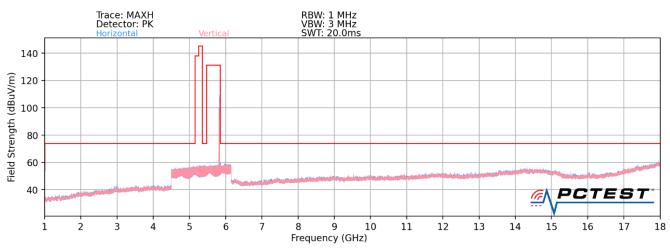
Plot 7-546. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U2A Ch. 56 - 26 Tones) - Closed

FCC ID: A3LSMF711B	PCTEST <sup>®</sup> Proud to be part of <b>®</b> element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	De 054
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 351 of 413
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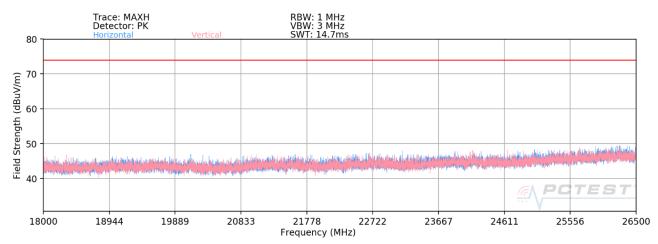




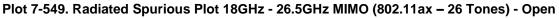
Plot 7-548. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 26 Tones) - Closed

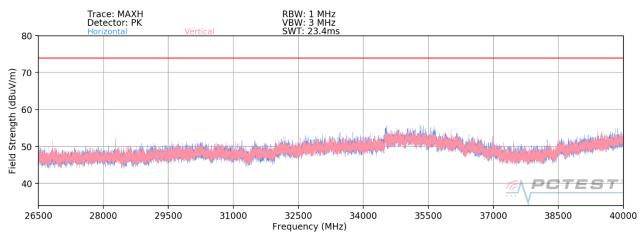
FCC ID: A3LSMF711B	PCTEST* Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 252 of 412
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# MIMO Radiated Spurious Emissions Measurements (Above 18GHz) – N

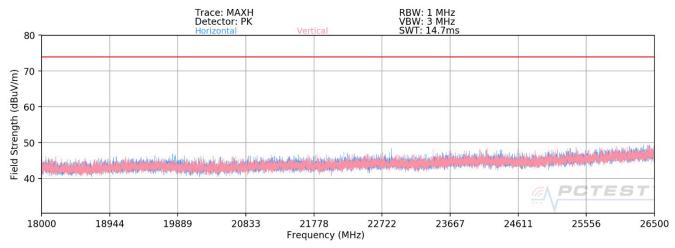


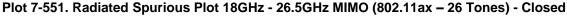


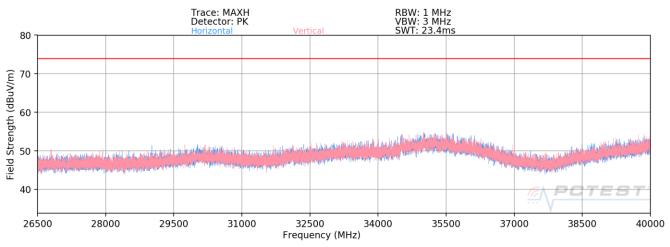
Plot 7-550. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax - 26 Tones) - Open

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:	Page 353 of 413	
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Plot 7-552. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax - 26 Tones) - Closed

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 254 of 412
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## MIMO Radiated Spurious Emission Measurements (26 Tones) – N §15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

802.11ax (20MHz BW)
MCS0
54
1 & 3 Meters
5180MHz
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	122	158	-69.47	15.50	0.00	53.03	68.20	-15.17
*	15540.00	Average	Н	-	-	-82.52	22.68	0.00	47.16	53.98	-6.82
*	15540.00	Peak	Н	-	-	-71.59	22.68	0.00	58.09	73.98	-15.89
*	20720.00	Average	Н	-	-	-66.76	4.48	-9.54	35.18	53.98	-18.80
*	20720.00	Peak	Н	-	-	-56.70	4.48	-9.54	45.24	73.98	-28.74
	25900.00	Peak	Н	-	-	-55.99	6.92	-9.54	48.38	68.20	-19.82

Table 7-95. Radiated Measurements MIMO (26 Tones) – Open

Worst Case Mode:	8
Worst Case Transfer Rate:	
RU Index:	
Distance of Measurements:	1
Operating Frequency:	5
Channel:	4

802.11ax (20MHz BW)
MCS0
54
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	232	238	-68.09	15.52	0.00	54.43	68.20	-13.77
*	15600.00	Average	н	-	-	-82.20	22.76	0.00	47.56	53.98	-6.42
*	15600.00	Peak	н	-	-	-71.31	22.76	0.00	58.45	73.98	-15.53
*	20800.00	Average	н	-	-	-66.60	4.88	-9.54	35.74	53.98	-18.24
*	20800.00	Peak	н	-	-	-55.99	4.88	-9.54	46.35	73.98	-27.63
	26000.00	Peak	Н	-	-	-56.06	7.10	-9.54	48.50	68.20	-19.70

Table 7-96. Radiated Measurements MIMO (26 Tones) – Open

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 255 of 412
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset		Page 355 of 413
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Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5240MHz
Channel:	48
Channel.	40

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	Peak	Н	109	283	-66.30	15.44	0.00	56.14	68.20	-12.06
*	15720.00	Average	Н	-	-	-82.85	22.76	0.00	46.91	53.98	-7.07
*	15720.00	Peak	Н	-	-	-71.06	22.76	0.00	58.70	73.98	-15.28
*	20960.00	Average	Н	-	-	-67.37	5.01	-9.54	35.09	53.98	-18.89
*	20960.00	Peak	Н	-	-	-57.09	5.01	-9.54	45.38	73.98	-28.60
	26200.00	Peak	Н	-	-	-56.34	6.99	-9.54	48.11	68.20	-20.09

Table 7-97. Radiated Measurements MIMO (26 Tones) – Open

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5260MHz
Channel:	52

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	Н	101	287	-63.23	15.76	0.00	59.53	68.20	-8.67
*	15780.00	Average	Н	-	-	-82.10	22.90	0.00	47.80	53.98	-6.18
*	15780.00	Peak	Н	-	-	-71.64	22.90	0.00	58.26	73.98	-15.72
*	21040.00	Average	Н	-	-	-66.80	4.89	-9.54	35.55	53.98	-18.43
*	21040.00	Peak	Н	-	-	-56.06	4.89	-9.54	46.28	73.98	-27.70
	26300.00	Peak	Н	-	-	-55.98	7.06	-9.54	48.54	68.20	-19.66

Table 7-98. Radiated Measurements MIMO (26 Tones) – Open

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager		
Test Report S/N:	Test Dates:	EUT Type:	Dega 256 of 442		
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Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
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	104	280	-64.10	16.13	0.00	59.03	68.20	-9.17
*	15840.00	Average	Н	-	-	-82.09	23.17	0.00	48.08	53.98	-5.90
*	15840.00	Peak	Н	-	-	-71.19	23.17	0.00	58.98	73.98	-15.00
*	21120.00	Average	Н	-	-	-66.91	5.08	-9.54	35.63	53.98	-18.35
*	21120.00	Peak	Н	-	-	-56.65	5.08	-9.54	45.90	73.98	-28.08
	26400.00	Peak	Н	-	-	-56.42	7.43	-9.54	48.47	68.20	-19.73

Table 7-99. Radiated Measurements MIMO (26 Tones) – Open

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5320MHz
Channel:	64
Channel:	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	100	287	-75.36	16.06	0.00	47.70	53.98	-6.28
*	10640.00	Peak	н	100	287	-62.97	16.06	0.00	60.09	73.98	-13.89
*	15960.00	Average	н	-	-	-82.55	23.29	0.00	47.74	53.98	-6.24
*	15960.00	Peak	н	-	-	-70.84	23.29	0.00	59.45	73.98	-14.53
*	21280.00	Average	н	-	-	-66.75	5.14	-9.54	35.85	53.98	-18.13
*	21280.00	Peak	н	-	-	-56.68	5.14	-9.54	45.92	73.98	-28.06
	26600.00	Peak	н	-	-	-56.14	7.21	-9.54	48.53	68.20	-19.67

Table 7-100. Radiated Measurements MIMO (26 Tones) - Open

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 257 of 442
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Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
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	131	13	-78.57	16.78	0.00	45.21	53.98	-8.77
*	11000.00	Peak	Н	131	13	-66.57	24.50	0.00	64.93	73.98	-9.05
	16500.00	Peak	Н	-	-	-71.69	24.50	0.00	59.81	68.20	-8.39
	22000.00	Peak	Н	-	-	-56.91	5.16	-9.54	45.71	68.20	-22.49
	27500.00	Peak	Н	-	-	-56.27	7.69	-9.54	48.88	68.20	-19.32

### Table 7-101. Radiated Measurements MIMO (26 Tones) – Open

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5600MHz
Channel:	120

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11200.00	Average	Н	289	45	-80.92	17.10	0.00	43.18	53.98	-10.80
*	11200.00	Peak	Н	289	45	-70.19	24.47	0.00	61.28	73.98	-12.70
	16800.00	Peak	Н	-	-	-71.71	24.47	0.00	59.76	68.20	-8.44
*	22400.00	Average	Н	-	-	-66.77	5.45	-9.54	36.13	53.98	-17.85
*	22400.00	Peak	Н	-	-	-57.04	5.45	-9.54	45.86	73.98	-28.12
	28000.00	Peak	Н	-	-	-55.83	7.97	-9.54	49.60	68.20	-18.60

Table 7-102. Radiated Measurements MIMO (26 Tones) – Open

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 250 of 412
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802.11ax (20MHz BW)
MCS0
54
1 & 3 Meters
5720MHz
144

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	Н	-	-	-82.28	17.95	0.00	42.67	53.98	-11.31
*	11440.00	Peak	Н	-	-	-71.41	24.77	0.00	60.36	73.98	-13.62
	17160.00	Peak	н	-	-	-72.15	24.77	0.00	59.62	68.20	-8.58
*	22880.00	Average	н	-	-	-66.54	5.43	-9.54	36.35	53.98	-17.63
*	22880.00	Peak	н	-	-	-56.63	5.43	-9.54	46.25	73.98	-27.73
	28600.00	Peak	Н	-	-	-57.06	8.29	-9.54	48.69	68.20	-19.51

Table 7-103. Radiated Measurements MIMO (26 Tones) – Open

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5745MHz
Channel:	149

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	Н	-	-	-82.27	17.83	0.00	42.56	53.98	-11.42
*	11490.00	Peak	Н	-	-	-71.10	25.21	0.00	61.11	73.98	-12.87
	17235.00	Peak	Н	-	-	-72.61	25.21	0.00	59.60	68.20	-8.60
*	22980.00	Average	Н	-	-	-66.57	5.29	-9.54	36.18	53.98	-17.80
*	22980.00	Peak	Н	-	-	-55.67	5.29	-9.54	47.08	73.98	-26.90
	28725.00	Peak	Н	-	-	-56.27	8.24	-9.54	49.42	68.20	-18.78

Table 7-104. Radiated Measurements MIMO (26 Tones) – Open

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 250 of 442
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802.11ax (20MHz BW)
MCS0
54
1 & 3 Meters
5785MHz
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	-	-	-81.71	17.79	0.00	43.08	53.98	-10.90
*	11570.00	Peak	Н	-	-	-70.99	17.79	0.00	53.80	73.98	-20.18
	17355.00	Peak	Н	-	-	-72.27	26.23	0.00	60.96	68.20	-7.24
	23140.00	Peak	Н	-	-	-56.56	5.34	-9.54	46.24	68.20	-21.96
	28925.00	Peak	Н	-	-	-56.05	8.48	-9.54	49.89	68.20	-18.31

#### Table 7-105. Radiated Measurements MIMO (26 Tones) – Open

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5825MHz
Channel:	165

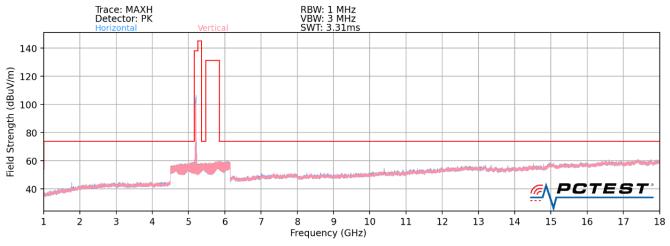
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	Average	Н	-	-	-81.84	18.05	0.00	43.21	53.98	-10.77
*	11650.00	Peak	Н	-	-	-70.61	18.05	0.00	54.44	73.98	-19.54
	17475.00	Peak	Н	-	-	-72.26	25.87	0.00	60.61	68.20	-7.59
	23300.00	Peak	Н	-	-	-56.05	5.29	-9.54	46.70	68.20	-21.50
	29125.00	Peak	Н	-	-	-56.12	8.49	-9.54	49.83	68.20	-18.37

Table 7-106. Radiated Measurements MIMO (26 Tones) – Open

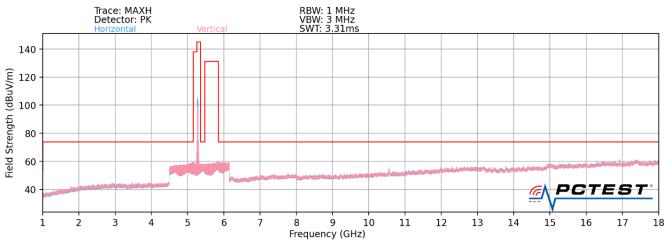
FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N: Test Dates:		EUT Type:	Dega 260 of 442	
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### 242 Tones – N



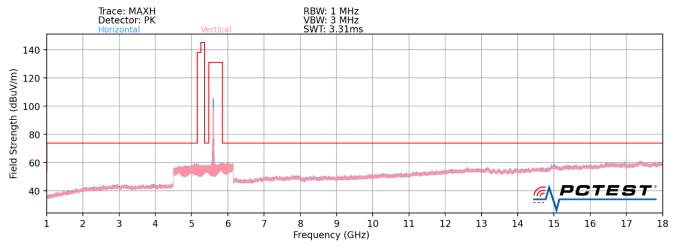
Plot 7-553. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U1 Ch. 40 - 242 Tones) - Open



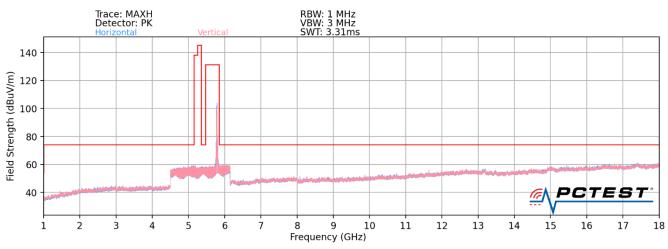
Plot 7-554. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U2A Ch. 56 - 242 Tones) - Open

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dega 261 of 112	
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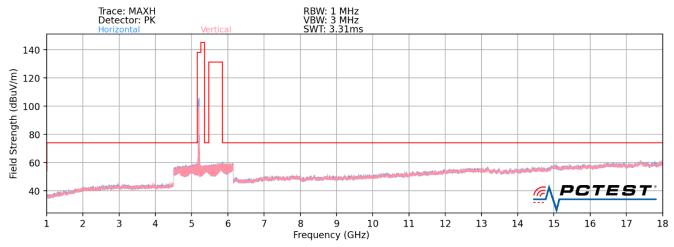




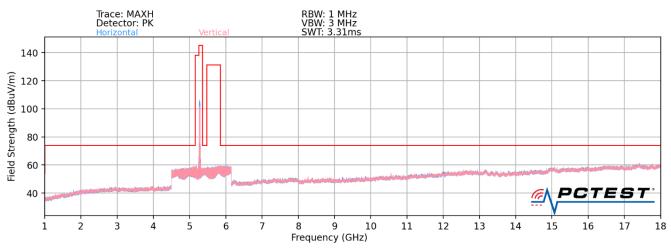
Plot 7-556. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 242 Tones) - Open

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 412
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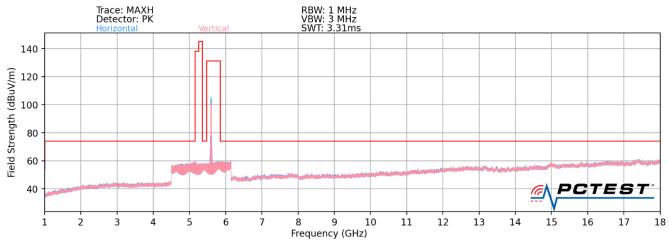




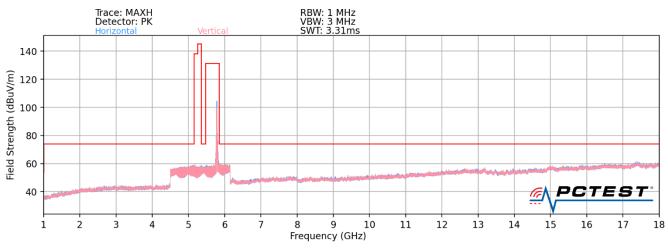
Plot 7-558. Radiated Spurious Plot above 1GHz MIMO (802.11ax – U2A Ch. 56 – 242 Tones) – Closed

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	UNG	Approved by: Technical Manager			
Test Report S/N: Test Dates:		EUT Type:		Dega 262 of 442			
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset		Page 363 of 413			
2021 PCTEST V 9.0 02/01/2019							







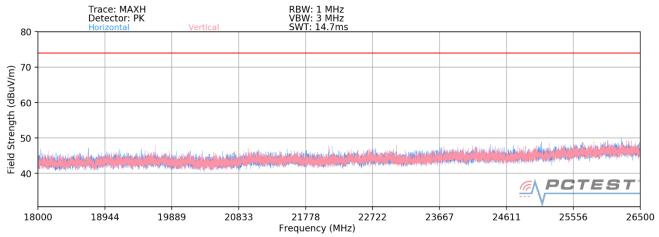


Plot 7-560. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 242 Tones) - Closed

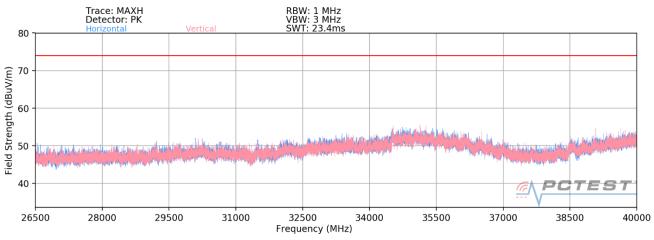
FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 264 of 412
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# MIMO Radiated Spurious Emissions Measurements (Above 18GHz) – N



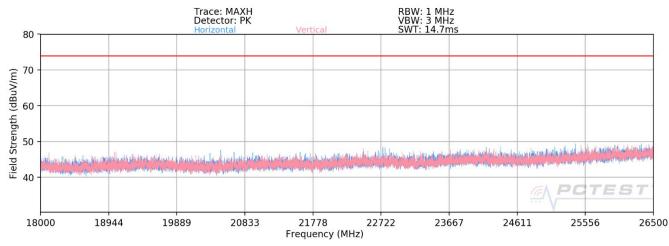


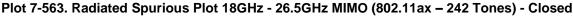


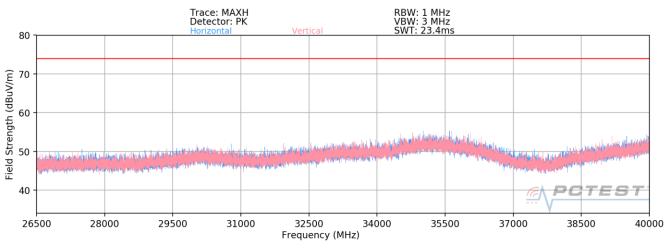
Plot 7-562. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax - 242 Tones) - Open

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dawa 005 at 440
1M2104130035-13.A3L 04/12/2021 – 06/04/2021		1 Portable Handset		Page 365 of 413
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Plot 7-564. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax - 242 Tones) - Closed

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 266 of 442
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### MIMO Radiated Spurious Emission Measurements (242 Tones) – N §15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

802.11ax (20MHz BW)
MCS0
61
1 & 3 Meters
5180MHz
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	379	42	-65.08	15.50	0.00	57.42	68.20	-10.78
*	15540.00	Average	Н	-	-	-82.57	22.68	0.00	47.11	53.98	-6.87
*	15540.00	Peak	Н	-	-	-71.68	22.68	0.00	58.00	73.98	-15.98
*	20720.00	Average	Н	-	-	-67.33	4.48	-9.54	34.60	53.98	-19.38
*	20720.00	Peak	Н	-	-	-57.41	4.48	-9.54	44.52	73.98	-29.46
	25900.00	Peak	Н	-	-	-55.70	6.92	-9.54	48.67	68.20	-19.53

Table 7-107. Radiated Measurements MIMO (242 Tones) - Open

Worst Case Mode: Worst Case Transfer Rate: RU Index: Distance of Measurements: Operating Frequency: Channel: 802.11ax (20MHz BW) MCS0 61 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	367	36	-65.20	15.52	0.00	57.32	68.20	-10.88
*	15600.00	Average	Н	-	-	-82.31	22.76	0.00	47.45	53.98	-6.53
*	15600.00	Peak	Н	-	-	-71.24	22.76	0.00	58.52	73.98	-15.46
*	20800.00	Average	Н	-	-	-66.51	4.88	-9.54	35.83	53.98	-18.14
*	20800.00	Peak	Н	-	-	-55.58	4.88	-9.54	46.76	73.98	-27.22
	26000.00	Peak	Н	-	-	-56.04	7.10	-9.54	48.52	68.20	-19.68

Table 7-108. Radiated Measurements MIMO (242 Tones) - Open

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 267 of 412
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Worst Case Mode:	802.11ax (20MHz BW)				
Worst Case Transfer Rate:	MCS0				
RU Index:	61				
Distance of Measurements:	1 & 3 Meters				
Operating Frequency:	5240MHz				
Channel:	48				

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	Peak	Н	285	39	-65.07	15.44	0.00	57.37	68.20	-10.83
*	15720.00	Average	Н	-	-	-82.79	22.76	0.00	46.97	53.98	-7.01
*	15720.00	Peak	Н	-	-	-71.61	22.76	0.00	58.15	73.98	-15.83
*	20960.00	Average	Н	-	-	-67.56	5.01	-9.54	34.91	53.98	-19.07
*	20960.00	Peak	Н	-	-	-57.10	5.01	-9.54	45.36	73.98	-28.62
	26200.00	Peak	Н	-	-	-56.46	6.99	-9.54	47.99	68.20	-20.21

Table 7-109. Radiated Measurements MIMO (242 Tones) – Open

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	Н	308	36	-64.49	15.76	0.00	58.27	68.20	-9.93
*	15780.00	Average	Н	-	-	-82.35	22.90	0.00	47.55	53.98	-6.43
*	15780.00	Peak	Н	-	-	-71.26	22.90	0.00	58.64	73.98	-15.34
*	21040.00	Average	Н	-	-	-66.79	4.89	-9.54	35.55	53.98	-18.43
*	21040.00	Peak	Н	-	-	-56.57	4.89	-9.54	45.77	73.98	-28.21
	26300.00	Peak	Н	-	-	-56.09	7.06	-9.54	48.43	68.20	-19.77

Table 7-110. Radiated Measurements MIMO (242 Tones) – Open

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 269 of 442	
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Worst Case Mode:	802.11ax (20MHz BW)				
Worst Case Transfer Rate:	MCS0				
RU Index:	61				
Distance of Measurements:	1 & 3 Meters				
Operating Frequency:	5280MHz				
Channel:	56				

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10560.00	Peak	Н	383	39	-66.69	16.13	0.00	56.44	68.20	-11.76
*	15840.00	Average	Н	-	-	-82.09	23.17	0.00	48.08	53.98	-5.90
*	15840.00	Peak	Н	-	-	-70.92	23.17	0.00	59.25	73.98	-14.73
*	21120.00	Average	Н	-	-	-67.32	5.08	-9.54	35.22	53.98	-18.76
*	21120.00	Peak	Н	-	-	-56.83	5.08	-9.54	45.72	73.98	-28.26
	26400.00	Peak	Н	-	-	-55.97	7.43	-9.54	48.92	68.20	-19.28

Table 7-111. Radiated Measurements MIMO (242 Tones) – Open

Worst Case Mode:	802.11ax (20MHz BW)				
Worst Case Transfer Rate:	MCS0				
RU Index:	61				
Distance of Measurements:	1 & 3 Meters				
Operating Frequency:	5320MHz				
Channel:	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	109	41	-78.01	16.06	0.00	45.05	53.98	-8.93
*	10640.00	Peak	Н	109	41	-66.81	16.06	0.00	56.25	73.98	-17.73
*	15960.00	Average	Н	-	-	-82.57	23.29	0.00	47.72	53.98	-6.26
*	15960.00	Peak	Н	-	-	-71.97	23.29	0.00	58.32	73.98	-15.66
*	21280.00	Average	Н	-	-	-66.91	5.14	-9.54	35.69	53.98	-18.29
*	21280.00	Peak	Н	-	-	-56.60	5.14	-9.54	46.00	73.98	-27.98
	26600.00	Peak	Н	-	-	-56.04	7.21	-9.54	48.63	68.20	-19.57

Table 7-112. Radiated Measurements MIMO (242 Tones) – Open

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 200 of 442
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Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5500MHz
Channel:	100

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	Н	-	-	-81.29	16.78	0.00	42.49	53.98	-11.49
*	11000.00	Peak	Н	-	-	-70.08	24.50	0.00	61.42	73.98	-12.56
	16500.00	Peak	Н	-	-	-71.75	24.50	0.00	59.75	68.20	-8.45
	22000.00	Peak	Н	-	-	-55.79	5.16	-9.54	46.83	68.20	-21.37
	27500.00	Peak	Н	-	-	-56.42	7.69	-9.54	48.73	68.20	-19.47

### Table 7-113. Radiated Measurements MIMO (242 Tones) – Open

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11200.00	Average	Н	-	-	-81.45	17.10	0.00	42.65	53.98	-11.33
*	11200.00	Peak	Н	-	-	-70.21	24.47	0.00	61.26	73.98	-12.72
	16800.00	Peak	Н	-	-	-72.24	24.47	0.00	59.23	68.20	-8.97
*	22400.00	Average	Н	-	-	-66.45	5.45	-9.54	36.46	53.98	-17.52
*	22400.00	Peak	Н	-	-	-56.39	5.45	-9.54	46.52	73.98	-27.46
	28000.00	Peak	Н	-	-	-56.83	7.97	-9.54	48.59	68.20	-19.61

Table 7-114. Radiated Measurements MIMO (242 Tones) – Open

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 270 of 412
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Worst Case Mode:	802.11ax (20MHz BW)				
Worst Case Transfer Rate:	MCS0				
RU Index:	61				
Distance of Measurements:	1 & 3 Meters				
Operating Frequency:	5720MHz				
Channel:	144				

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	Н	-	-	-81.22	17.95	0.00	43.73	53.98	-10.25
*	11440.00	Peak	Н	-	-	-71.55	24.77	0.00	60.22	73.98	-13.76
	17160.00	Peak	Н	-	-	-71.57	24.77	0.00	60.20	68.20	-8.00
*	22880.00	Average	Н	-	-	-66.63	5.43	-9.54	36.26	53.98	-17.72
*	22880.00	Peak	Н	-	-	-56.41	5.43	-9.54	46.47	73.98	-27.51
	28600.00	Peak	Н	-	-	-56.96	8.29	-9.54	48.78	68.20	-19.42

Table 7-115. Radiated Measurements MIMO (242 Tones) – Open

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11490.00	Average	Н	-	-	-82.30	17.83	0.00	42.53	53.98	-11.45
11490.00	Peak	Н	-	-	-71.09	25.21	0.00	61.12	73.98	-12.86
17235.00	Peak	Н	-	-	-71.79	25.21	0.00	60.42	68.20	-7.78
22980.00	Average	Н	-	-	-66.87	5.29	-9.54	35.88	53.98	-18.10
22980.00	Peak	Н	-	-	-56.74	5.29	-9.54	46.01	73.98	-27.97
28725.00	Peak	Н	-	-	-56.73	8.24	-9.54	48.97	68.20	-19.23
	[MHz] 11490.00 11490.00 17235.00 22980.00 22980.00	[MHz]         Detector           11490.00         Average           11490.00         Peak           17235.00         Peak           22980.00         Average           22980.00         Peak	[MHz]         Detector         [H/V]           11490.00         Average         H           11490.00         Peak         H           17235.00         Peak         H           22980.00         Average         H           22980.00         Peak         H	[MHz]         Detector         [H/V]         Height [cm]           11490.00         Average         H         -           11490.00         Peak         H         -           11490.00         Peak         H         -           17235.00         Peak         H         -           22980.00         Average         H         -           22980.00         Peak         H         -	Frequency [MHz]DetectorAnt. Pol. [H/V]Antenna Height [cm]Azimuth [degree]11490.00AverageH11490.00PeakH11490.00PeakH17235.00PeakH22980.00AverageH22980.00PeakH22980.00PeakH	Frequency [MHz]DetectorAnt. Pol. [H/V]Antenna Height [cm]Azimuth [degree]Analyzer Level [dBm]11490.00AverageH82.3011490.00PeakH71.0917235.00PeakH71.7922980.00AverageH66.8722980.00PeakH66.74	Frequency [MHz]         Detector         Ant. Pol. [H/V]         Antenna Height [cm]         Azimuth (degree)         Analyzer Level [dBm]         AFCL [dB/m]           11490.00         Average         H         -         -82.30         17.83           11490.00         Peak         H         -         -71.09         25.21           17235.00         Peak         H         -         -71.79         25.21           22980.00         Average         H         -         -66.87         5.29           22980.00         Peak         H         -         -         -66.87         5.29	Frequency [MHz]         Detector         Ant. Pol. [H/V]         Antenna Height [cm]         Azimuth [degree]         Analyzer Level [dBm]         AFCL [dB/m]         Correction Factor [dB]           11490.00         Average         H         -         -82.30         17.83         0.00           11490.00         Peak         H         -         -71.09         25.21         0.00           17235.00         Peak         H         -         -71.79         25.21         0.00           22980.00         Average         H         -         -         -66.87         5.29         -9.54           22980.00         Peak         H         -         -         -56.74         5.29         -9.54	Frequency [MHz]         Detector         Ant. Pol. [H/V]         Antenna Height [cm]         Azimuth [degree]         Analyzer Level [dBm]         AFCL [dB/m]         Correction Factor [dB]         Strength [dBµV/m]           11490.00         Average         H         -         -82.30         17.83         0.00         42.53           11490.00         Peak         H         -         -71.09         25.21         0.00         61.12           17235.00         Peak         H         -         -71.79         25.21         0.00         60.42           22980.00         Average         H         -         -66.87         5.29         -9.54         35.88           22980.00         Peak         H         -         -         -66.87         5.29         -9.54         46.01	Frequency [MHz]         Detector         Ant. Pol. [H/V]         Antenna Height [cm]         Azimuth (degree)         Analyzer Level [dBm]         AFCL [dBm]         Correction Factor [dB]         Strength [dBµV/m]         Limit [dBµV/m]           11490.00         Average         H         -         -82.30         17.83         0.00         42.53         53.98           11490.00         Peak         H         -         -71.09         25.21         0.00         61.12         73.98           17235.00         Peak         H         -         -71.79         25.21         0.00         60.42         68.20           22980.00         Average         H         -         -         -66.87         5.29         -9.54         35.88         53.98           22980.00         Peak         H         -         -         -66.87         5.29         -9.54         35.88         53.98           22980.00         Peak         H         -         -         -66.87         5.29         -9.54         36.01         73.98

Table 7-116. Radiated Measurements MIMO (242 Tones) – Open

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 271 of 412
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Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5785MHz
Channel:	157

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	Average	Н	-	-	-82.01	17.79	0.00	42.78	53.98	-11.20
*	11570.00	Peak	Н	-	-	-70.92	17.79	0.00	53.87	73.98	-20.11
	17355.00	Peak	Н	-	-	-71.54	26.23	0.00	61.69	68.20	-6.51
	23140.00	Peak	Н	-	-	-56.15	5.34	-9.54	46.64	68.20	-21.56
	28925.00	Peak	Н	-	-	-56.88	8.48	-9.54	49.05	68.20	-19.15

### Table 7-117. Radiated Measurements MIMO (242 Tones) – Open

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5825MHz
Channel:	165

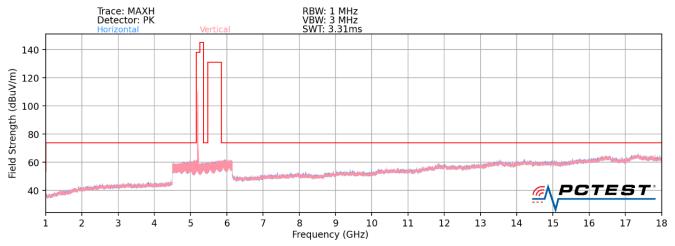
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	Average	Н	-	-	-82.19	18.05	0.00	42.86	53.98	-11.12
*	11650.00	Peak	Н	-	-	-71.23	18.05	0.00	53.82	73.98	-20.16
	17475.00	Peak	Н	-	-	-71.37	25.87	0.00	61.50	68.20	-6.70
	23300.00	Peak	Н	-	-	-56.01	5.29	-9.54	46.73	68.20	-21.47
	29125.00	Peak	Н	-	-	-56.72	8.49	-9.54	49.23	68.20	-18.97

Table 7-118. Radiated Measurements MIMO (242 Tones) – Open

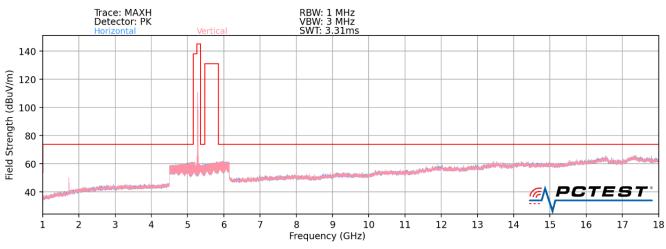
FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 272 of 412
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset		Page 372 of 413
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## 26 Tones – Q



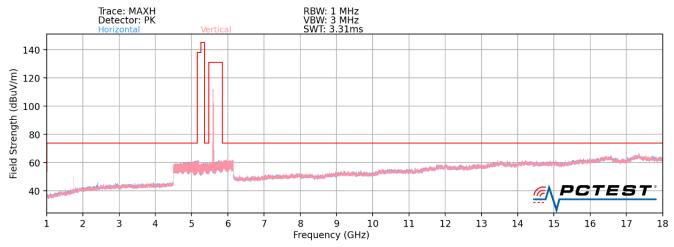
Plot 7-565. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U1 Ch. 40 - 26 Tones) - Open



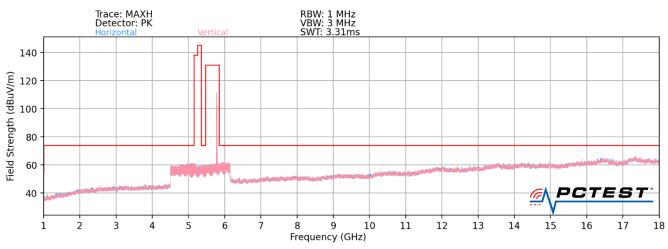
Plot 7-566. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U2A Ch. 56 - 26 Tones) - Open

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 272 of 412
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 373 of 413
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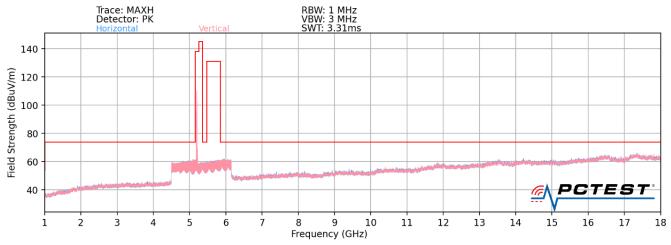




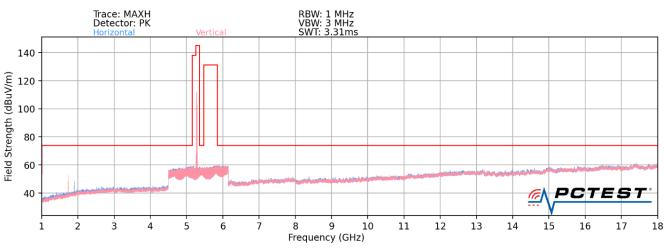
Plot 7-568. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 26 Tones) - Open

FCC ID: A3LSMF711B	Proud to be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 274 of 442
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 374 of 413
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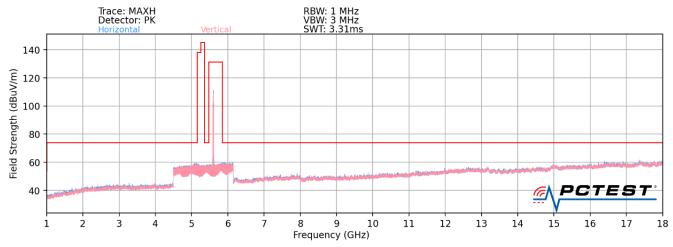




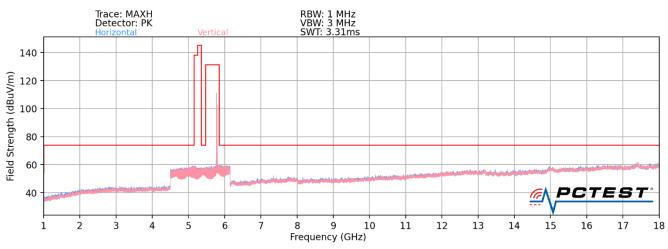
Plot 7-570. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U2A Ch. 56 - 26 Tones) - Closed

FCC ID: A3LSMF711B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dama 075 of 140	
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 375 of 413	
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Plot 7-572. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 26 Tones) - Closed

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 276 at 412
1M2104130035-13.A3L	04/12/2021 - 06/04/2021	Portable Handset	Page 376 of 413
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