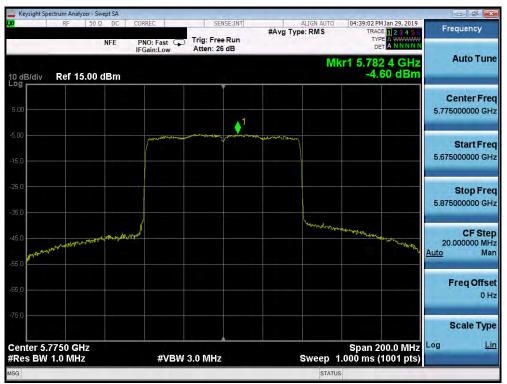


	The second s				ectrum Analyzer - Swept SA	Keysight Spe
Frequency	04:37:58 PM Jan 29, 2019 TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A N N N N N	ALIGN AUTO #Avg Type: RMS	SENSE:INT	PNO: Fast	RF 50 Ω DC	XI
Auto Tune	r1 5.787 6 GHz -1.62 dBm	MI	Attent 20 dB	IFGam.Low	Ref 15.00 dBm	10 dB/div
Center Fred 5.775000000 GH						_og 5.00
Start Free 5.675000000 GH						5.00
Stop Fre 5.875000000 GH	white work was a strate of a	bhing		~~~	proving rapid about the second second	35.0
CF Stej 20.000000 MH <u>Auto</u> Ma						45.0
Freq Offse 0 H						65.0
Scale Type Log <u>Li</u> i	Span 200.0 MHz .000 ms (1001 pts)	Sweep 1	3.0 MHz	#VBW :	7750 GHz 1.0 MHz	2enter 5.7
		STATUS				ISG

Plot 7-197. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)



Plot 7-198. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 122 of 250
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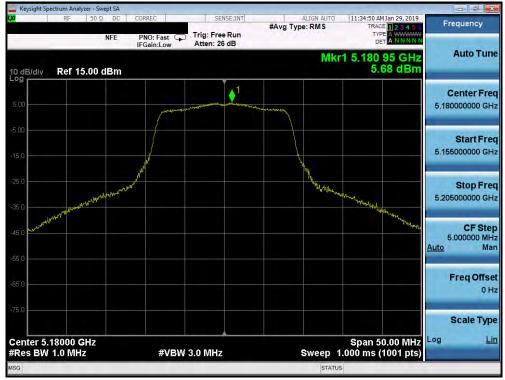
## SISO Antenna-2 Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
	5180	36	а	6	5.68	11.0	-5.32
	5200	40	а	6	4.74	11.0	-6.26
	5240	48	а	6	5.20	11.0	-5.80
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	5.82	11.0	-5.18
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	4.87	11.0	-6.13
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	5.77	11.0	-5.23
<del></del>	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	2.37	11.0	-8.63
Band 1	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	2.52	11.0	-8.48
ä	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	3.41	11.0	-7.59
	5190	38	n (40MHz)	13.5/15 (MCS0)	2.81	11.0	-8.19
	5230	46	n (40MHz)	13.5/15 (MCS0)	2.46	11.0	-8.54
	5190	38	ax (40MHz)	13.5/15 (MCS0)	-1.57	11.0	-12.57
	5230	46	ax (40MHz)	13.5/15 (MCS0)	-0.76	11.0	-11.76
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-1.15	11.0	-12.15
	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	-4.79	11.0	-15.79
	5260	52	а	6	5.44	11.0	-5.56
	5280	56	а	6	5.61	11.0	-5.39
	5320	64	а	6	6.28	11.0	-4.72
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	5.65	11.0	-5.35
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	5.81	11.0	-5.19
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	6.88	11.0	-4.12
A	5260	52	ax (20MHz)	6.5/7.2 (MCS0)	3.49	11.0	-7.51
Band 2A	5280	56	ax (20MHz)	6.5/7.2 (MCS0)	3.16	11.0	-7.84
Bar	5320	64	ax (20MHz)	6.5/7.2 (MCS0)	3.29	11.0	-7.71
	5270	54	n (40MHz)	13.5/15 (MCS0)	2.08	11.0	-8.92
	5310	62	n (40MHz)	13.5/15 (MCS0)	2.93	11.0	-8.07
	5270	54	ax (40MHz)	13.5/15 (MCS0)	-1.07	11.0	-12.07
	5310	62	ax (40MHz)	13.5/15 (MCS0)	-1.33	11.0	-12.33
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-0.57	11.0	-11.57
	5290	58	ax (80MHz)	29.3/32.5 (MCS0)	-4.64	11.0	-15.64
	5500	100	a	6	6.86	11.0	-4.14
	5600	120	а	6	5.04	11.0	-5.96
	5720	144	а	6	5.44	11.0	-5.56
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	7.25	11.0	-3.75
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	5.38	11.0	-5.62
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	5.13	11.0	-5.87
	5500	100	ax (20MHz)	6.5/7.2 (MCS0)	4.02	11.0	-6.98
	5600	120	ax (20MHz)	6.5/7.2 (MCS0)	3.06	11.0	-7.94
	5720	144	ax (20MHz)	6.5/7.2 (MCS0)	3.76	11.0	-7.24
ပ္ပ	5510	102	n (40MHz)	13.5/15 (MCS0)	4.07	11.0	-6.93
Band 2C	5590	118	n (40MHz)	13.5/15 (MCS0)	2.11	11.0	-8.89
Bar	5710	142	n (40MHz)	13.5/15 (MCS0)	1.91	11.0	-9.09
	5510	102	ax (40MHz)	13.5/15 (MCS0)	-0.54	11.0	-11.54
	5590	118	ax (40MHz)	13.5/15 (MCS0)	-1.03	11.0	-12.03
	5710	142	ax (40MHz)	13.5/15 (MCS0)	-1.04	11.0	-12.04
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-0.26	11.0	-11.26
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-2.26	11.0	-13.26
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-1.58	11.0	-12.58
	5530	106	ax (80MHz)	29.3/32.5 (MCS0)	-4.68	11.0	-15.68
	5610	122	ax (80MHz)	29.3/32.5 (MCS0)	-5.07	11.0	-16.07
	5690	138	ax (80MHz)	29.3/32.5 (MCS0)	-4.89	11.0	-15.89
			, , ,	Spectral Dens			

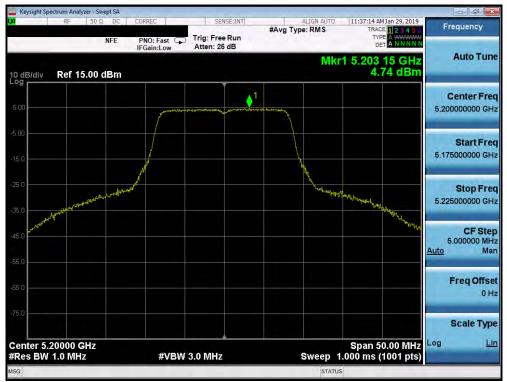
## Table 7-23. Conducted Power Spectral Density Measurements SISO ANT2

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 124 of 250
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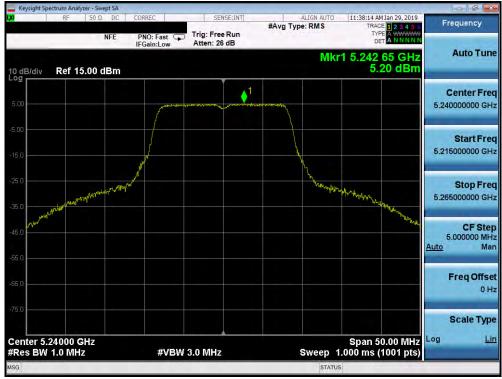




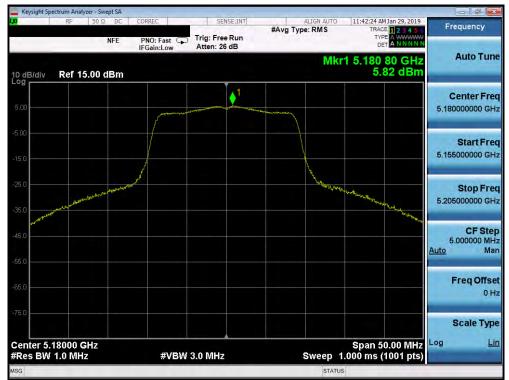
Plot 7-200. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 1) - Ch. 40)

FCC ID: A3LSMG977T	There beer there a	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Degre 125 of 250
1M1903060032-08.A3L	01/22 - 05/08/2019	Portable Handset		Page 135 of 259
© 2019 PCTEST Engineering Labo	V 9.0 02/01/2019			





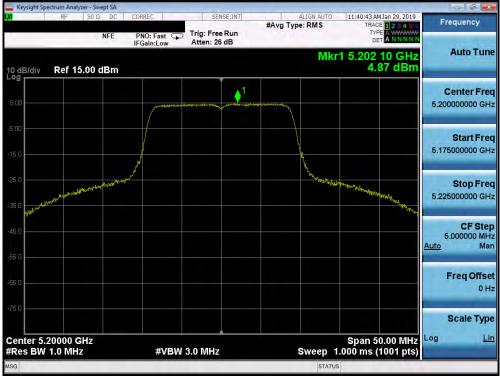
Plot 7-201. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 1) - Ch. 48)



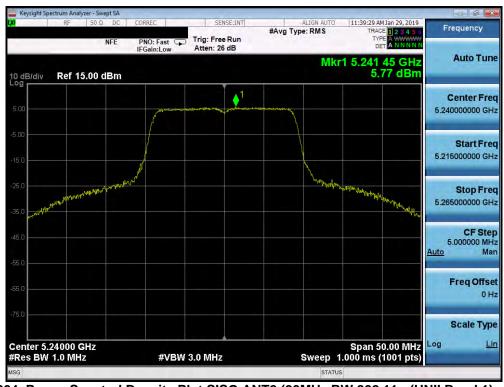
Plot 7-202. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 1) - Ch. 36)

FCC ID: A3LSMG977T	INVESTORATION, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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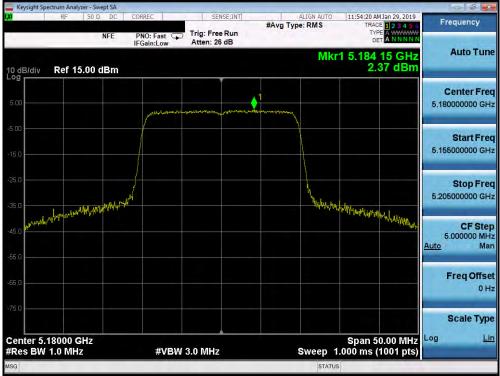
Plot 7-203. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 1) - Ch. 40)



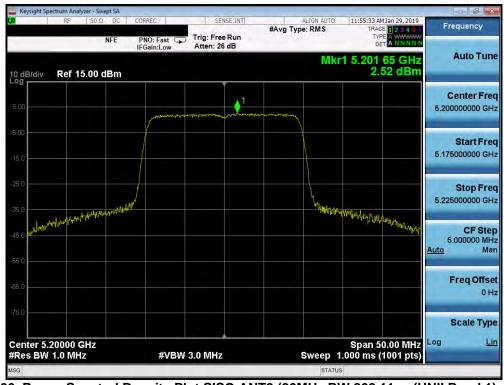
Plot 7-204. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 1) - Ch. 48)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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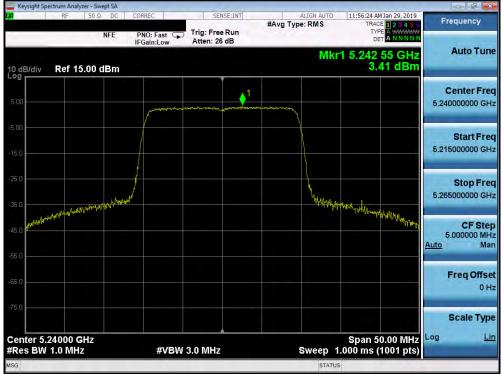
Plot 7-205. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 1) - Ch. 36)



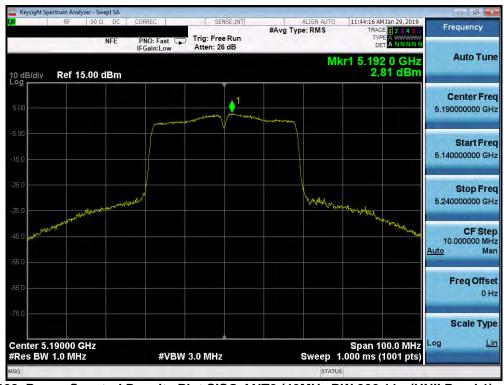
Plot 7-206. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 1) - Ch. 40)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 129 of 250
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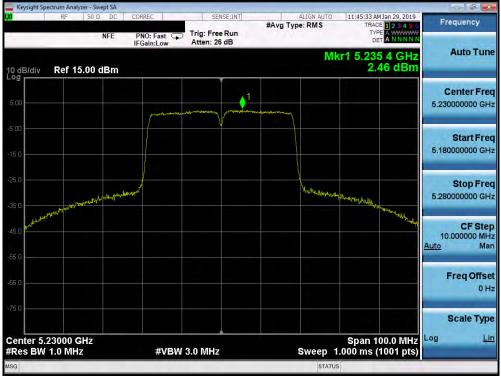
Plot 7-207. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 1) - Ch. 48)



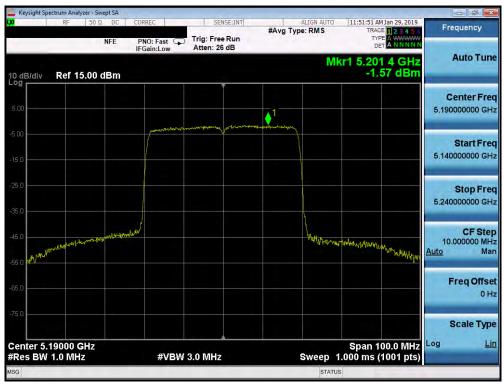
Plot 7-208. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 1) - Ch. 38)

FCC ID: A3LSMG977T	Inside Marca Department	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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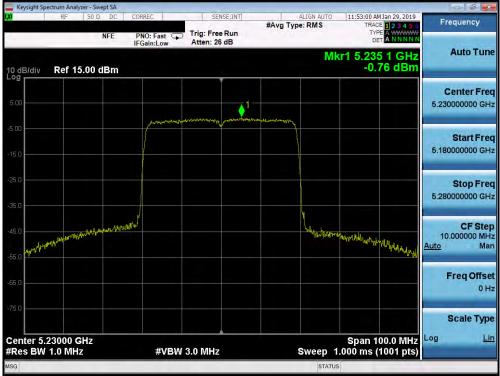
Plot 7-209. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 1) - Ch. 46)



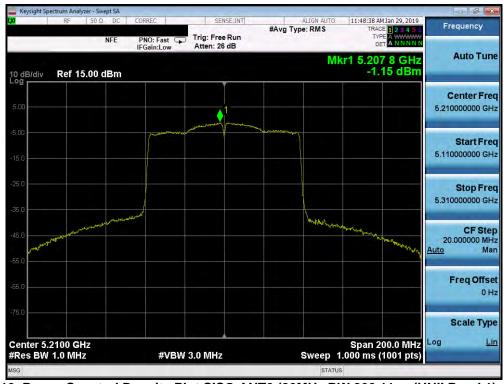
Plot 7-210. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 1) - Ch. 38)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 140 of 250
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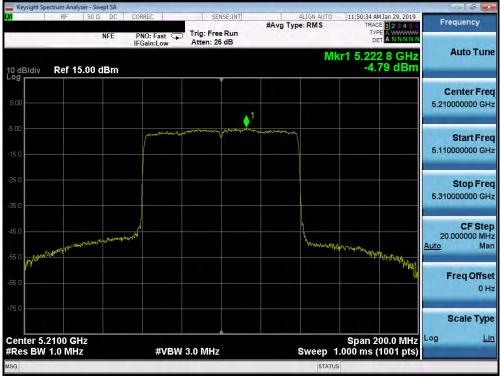
Plot 7-211. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 1) - Ch. 46)



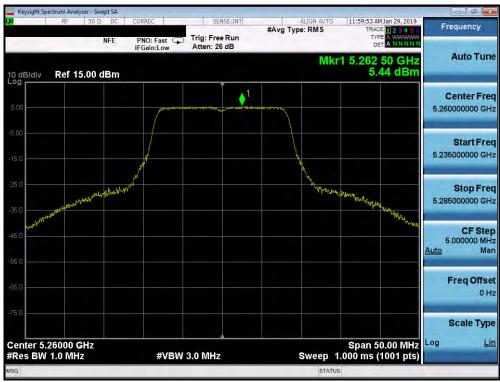
Plot 7-212. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 1) - Ch. 42)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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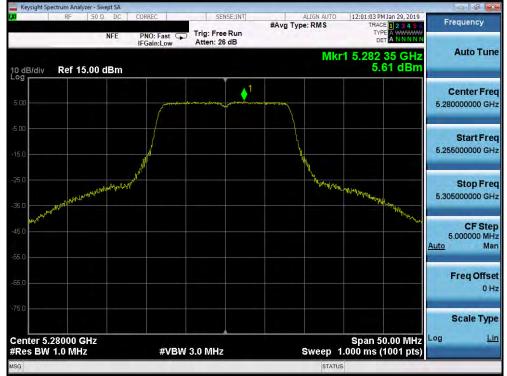
Plot 7-213. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 1) - Ch. 42)



Plot 7-214. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMG977T	INVIAINAL DADATATATA	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 142 of 250
1M1903060032-08.A3L	01/22 - 05/08/2019	Portable Handset		Page 142 of 259
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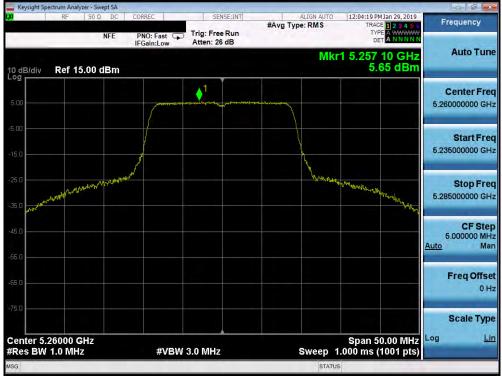
Plot 7-215. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2A) - Ch. 56)



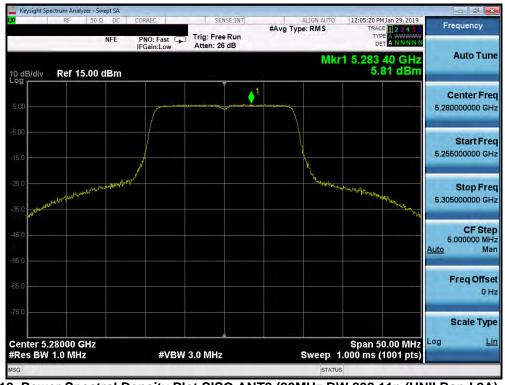
Plot 7-216. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 142 of 250
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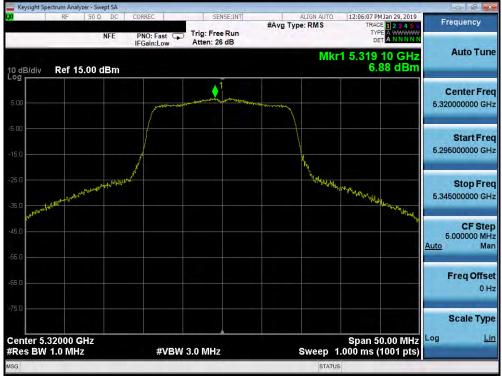
Plot 7-217. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2A) - Ch. 52)



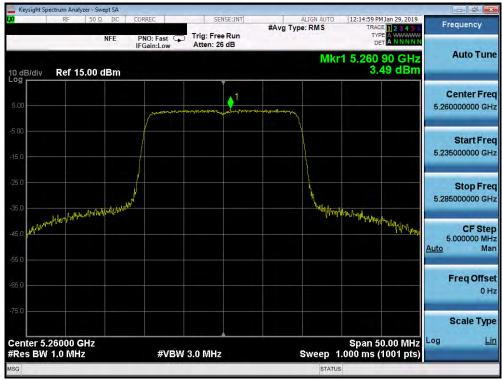
Plot 7-218. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dago 111 of 250
1M1903060032-08.A3L	01/22 - 05/08/2019	Portable Handset		Page 144 of 259
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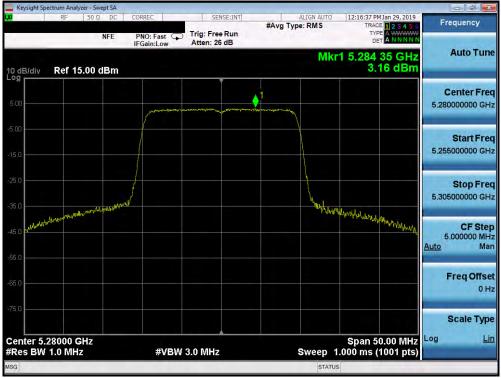
Plot 7-219. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2A) - Ch. 64)



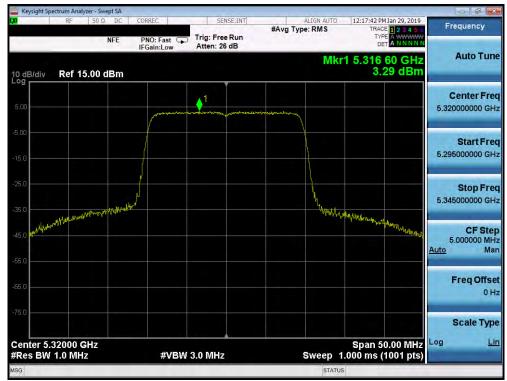
Plot 7-220. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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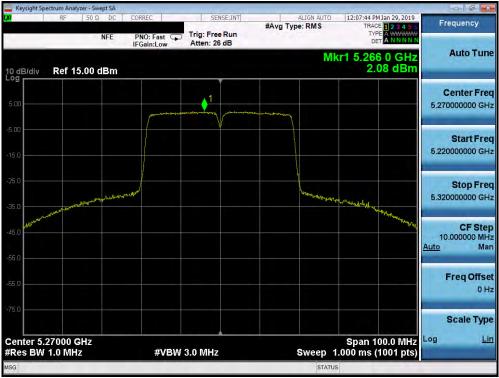
Plot 7-221. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 56)



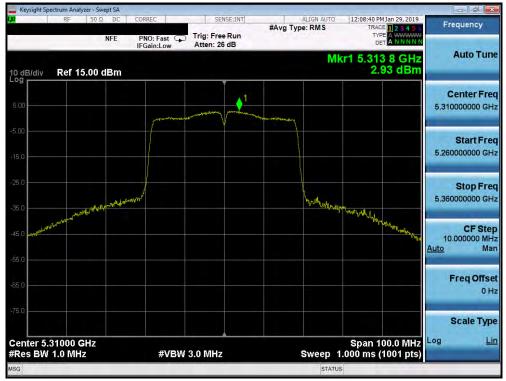
Plot 7-222. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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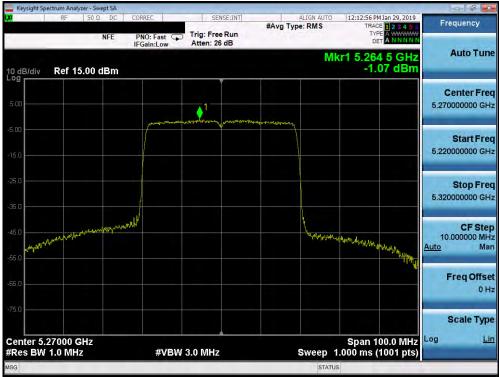
Plot 7-223. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2A) - Ch. 54)



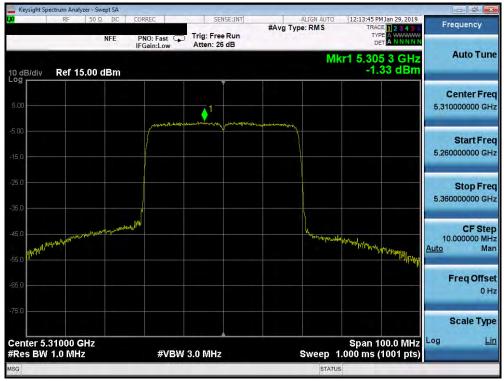
Plot 7-224. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMG977T	Invidenties Debendration, las	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 147 of 250
1M1903060032-08.A3L	01/22 - 05/08/2019	Portable Handset		Page 147 of 259
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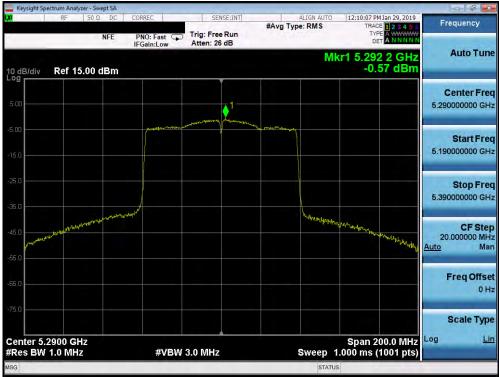
Plot 7-225. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 54)



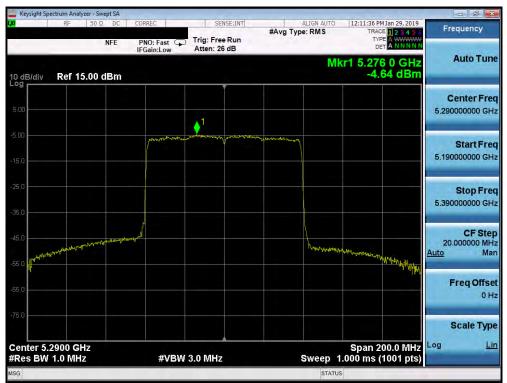
Plot 7-226. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMG977T	INVIAINE LANGATINE IA	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 149 of 250
1M1903060032-08.A3L	01/22 - 05/08/2019	Portable Handset		Page 148 of 259
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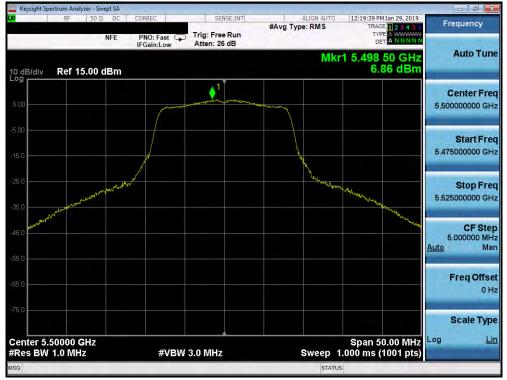
Plot 7-227. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2A) - Ch. 58)



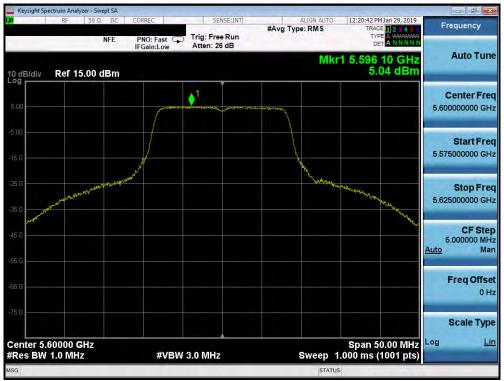
Plot 7-228. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-229. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2C) - Ch. 100)

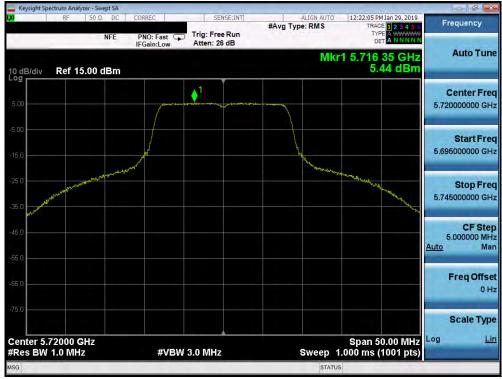


Plot 7-230. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2C) - Ch. 120)

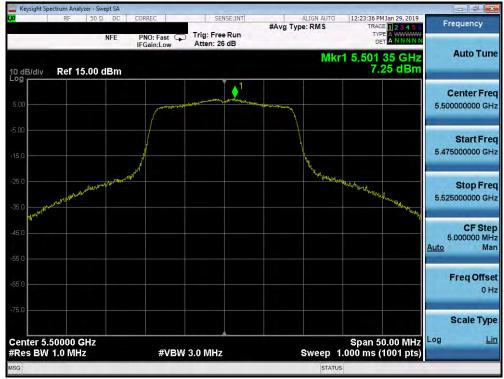
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 150 of 250
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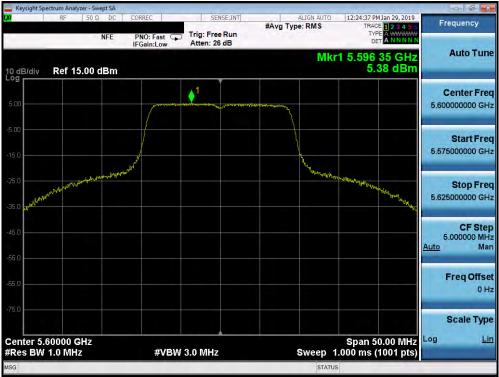
Plot 7-231. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2C) - Ch. 144)



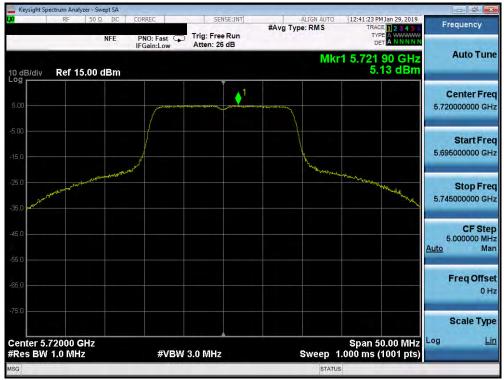
Plot 7-232. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2C) - Ch. 100)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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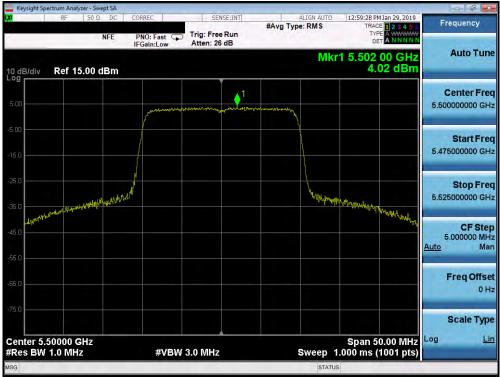
Plot 7-233. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2C) - Ch. 120)



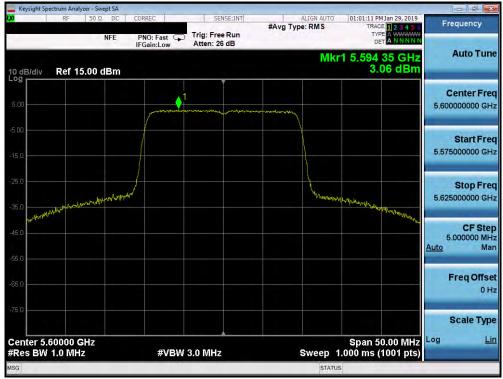
Plot 7-234. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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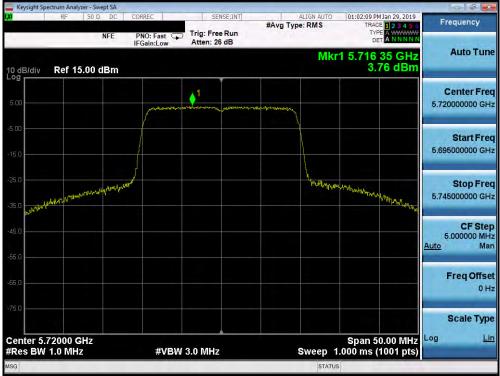
Plot 7-235. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 100)



Plot 7-236. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMG977T	Inside Laborations, Inc.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 152 of 250
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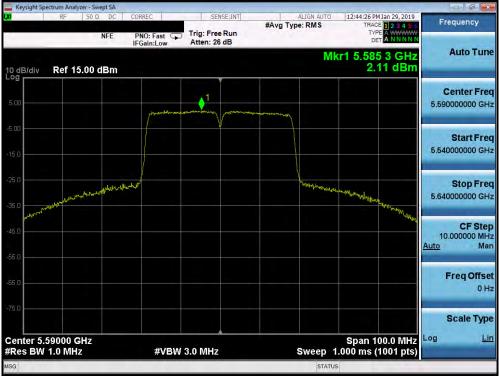
Plot 7-237. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2C) - Ch. 144)



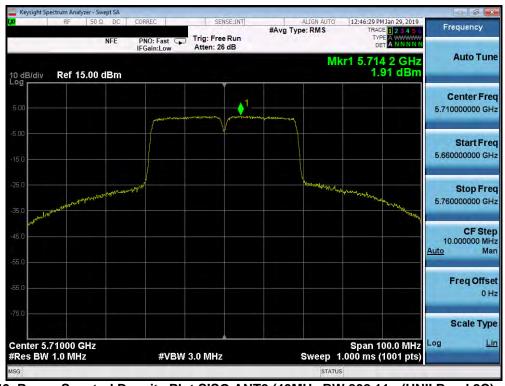
Plot 7-238. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-239. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2C) - Ch. 118)



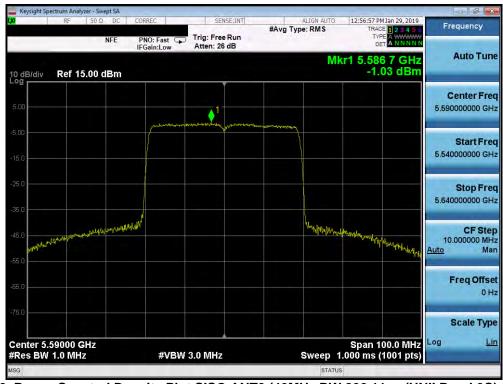
Plot 7-240. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Keysight Spectrum Analyzer - Swept SA	Charles and the second second			- 5 -
NFE	PNO: Fast	#Avg Type: RMS	12:55:48 PM Jan 29, 2019 TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A N N N N N	Frequency
10 dB/div Ref 15.00 dBm	IFGain:Low Atten: 26 dB	М	kr1 5.513 1 GHz -0.54 dBm	Auto Tune
5.00	مى مەر يېرى مەر يېرى مەر يېرى مەر يېرى	1		Center Freq 5.510000000 GHz
15.0				Start Fred 5.460000000 GH2
35.0				Stop Free 5.560000000 GH;
45.0	<i></i>	kynolun	Harpen verdente visioner den skrive versityte	CF Step 10.000000 MH <u>Auto</u> Ma
86.0				Freq Offse 0 H
750 Center 5.51000 GHz	#\/D\\\/ 2.0 MIL			Scale Type Log <u>Lir</u>
#Res BW 1.0 MHz	#VBW 3.0 MHz	Sweep	1.000 ms (1001 pts) Js	

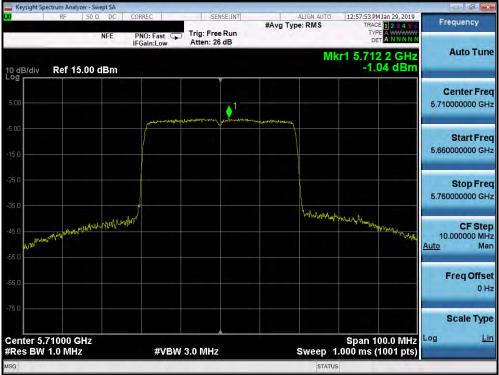
Plot 7-241. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 102)



Plot 7-242. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 118)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-243. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2C) - Ch. 142)



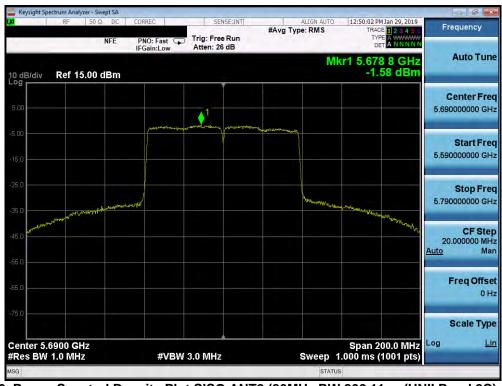
Plot 7-244. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 106)

FCC ID: A3LSMG977T	Inside Marca Department	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 157 of 250
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Keysight Spectrum Analyzer - Swept SA	and the second second	Contraction of the second states of the	
NFE	PNO: Fast +++ Trig: Free Run	ALIGN AUTO 06:05:32 PM Feb 25, 2019 #Avg Type: RMS TRACE 12 3 4 5 TYPE A WWWW Det A NNNN	
10 dB/div Ref 15.00 dBm	IFGain:Low Atten: 26 dB	Mkr1 5.585 2 GHz -2.26 dBm	Auto Tune
5.00	1 1		Center Fred 5.610000000 GHz
15.0			Start Free 5.510000000 GH:
25.0 35.0			Stop Free 5.710000000 GH;
35.0 46.0 Analyse of a start of the start of		freedown water and weld many	CF Step 20.000000 MH <u>Auto</u> Mar
65.0			Freq Offse 0 H
750 Center 5.6100 GHz		Span 200.0 MHz	Scale Type Log <u>Li</u> i
#Res BW 1.0 MHz	#VBW 3.0 MHz	Sweep 1.000 ms (1001 pts	

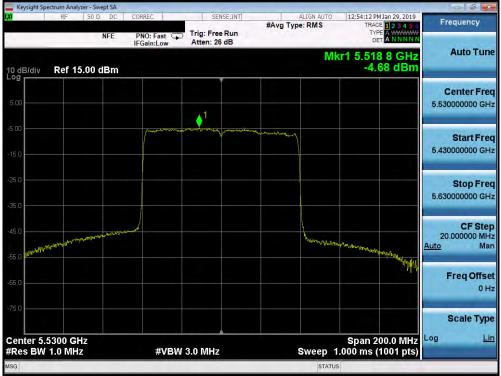
Plot 7-245. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 122)



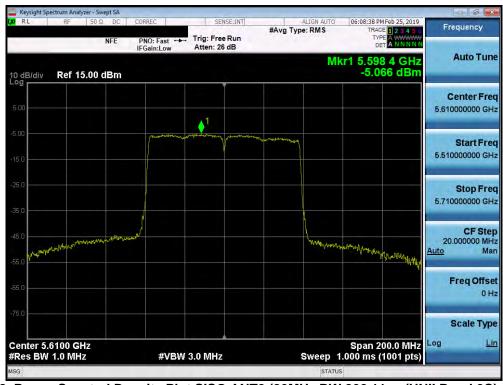
Plot 7-246. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 159 of 250
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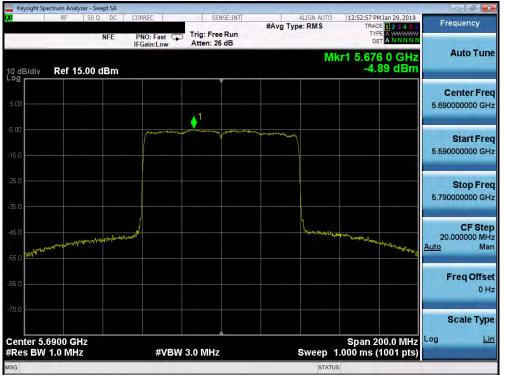
Plot 7-247. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 106)



Plot 7-248. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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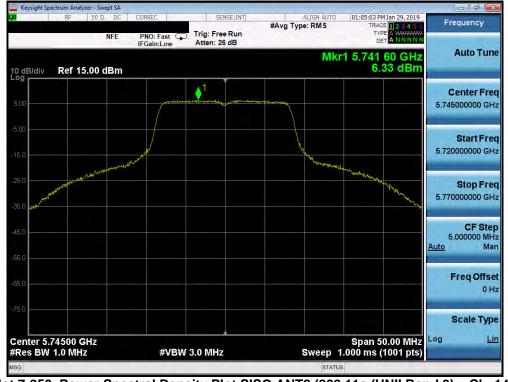
Plot 7-249. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMG977T	INVIAINE LANGATINE IA	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 160 of 250
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	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
	5745	149	а	6	6.33	30.0	-23.67
	5785	157	а	6	6.47	30.0	-23.53
	5825	165	а	6	3.91	30.0	-26.09
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	6.00	30.0	-24.00
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	6.16	30.0	-23.84
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	6.12	30.0	-23.88
3	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	4.54	30.0	-25.46
Band	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	4.33	30.0	-25.67
ä	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	3.78	30.0	-26.22
	5755	151	n (40MHz)	13.5/15 (MCS0)	2.81	30.0	-27.19
	5795	159	n (40MHz)	13.5/15 (MCS0)	2.37	30.0	-27.63
	5755	151	ax (40MHz)	13.5/15 (MCS0)	-0.44	30.0	-30.44
	5795	159	ax (40MHz)	13.5/15 (MCS0)	-0.80	30.0	-30.80
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-1.29	30.0	-31.29
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	-4.31	30.0	-34.31

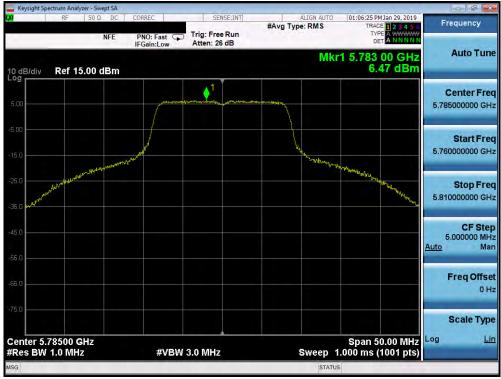
 Table 7-24. Band 3 Conducted Power Spectral Density Measurements SISO ANT2



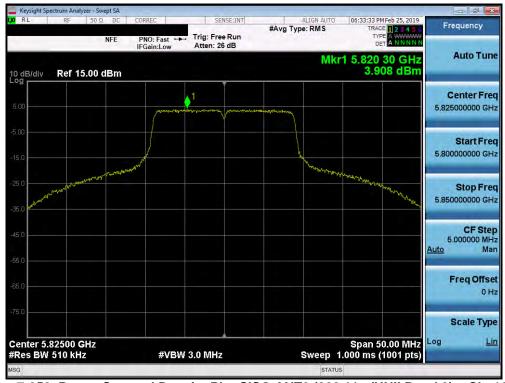
Plot 7-250. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3) - Ch. 149)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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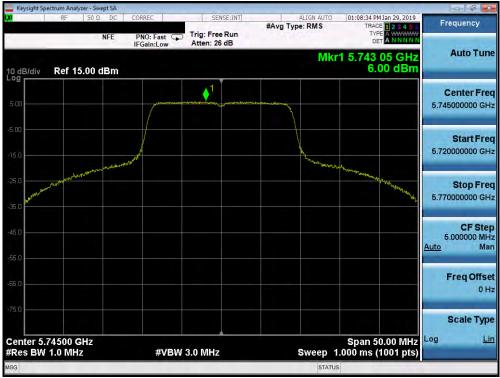
Plot 7-251. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3) – Ch. 157)



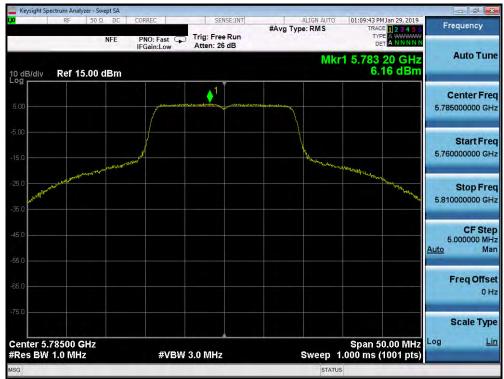
Plot 7-252. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3) - Ch. 165)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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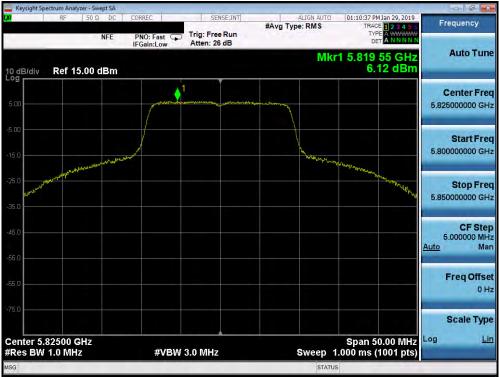
Plot 7-253. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 149)



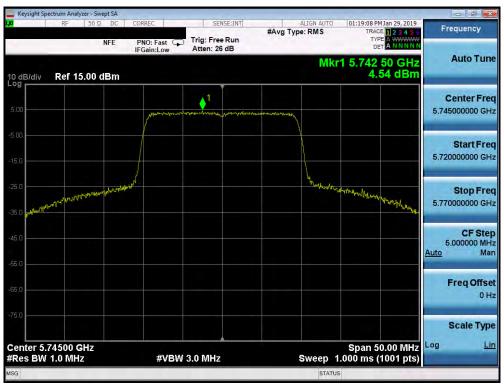
Plot 7-254. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 157)

FCC ID: A3LSMG977T	INVESTORATION, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-255. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) - Ch. 165)

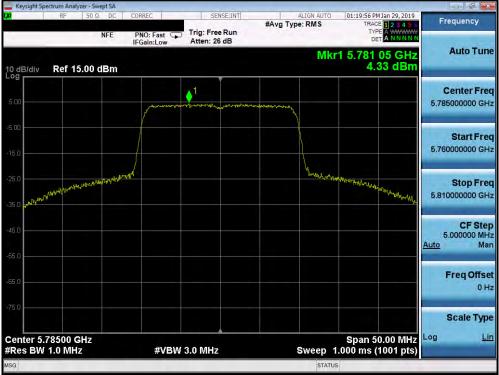


Plot 7-256. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 149)

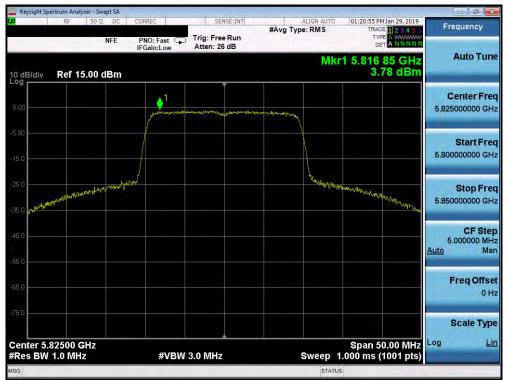
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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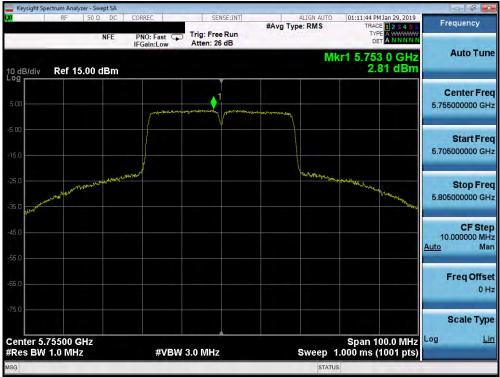
Plot 7-257. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 157)



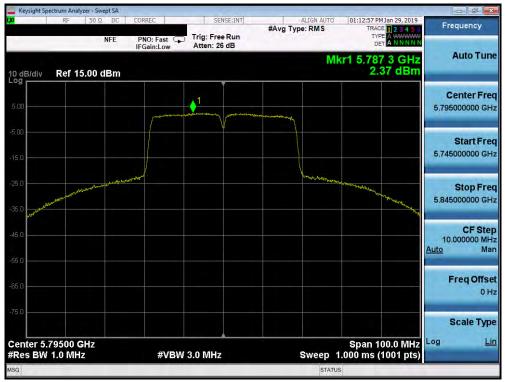
Plot 7-258. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 3) - Ch. 165)

FCC ID: A3LSMG977T	INVESTOR DEPENDENCE	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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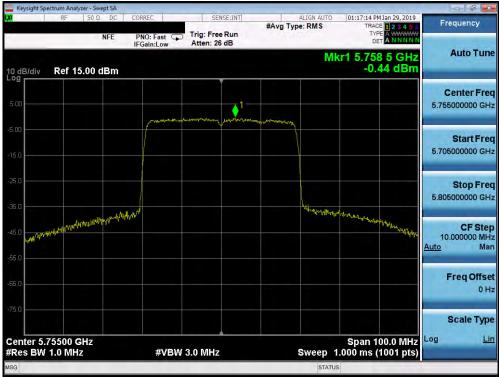
Plot 7-259. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) - Ch. 151)



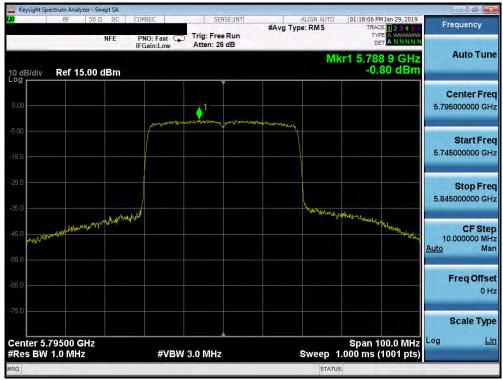
Plot 7-260. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) - Ch. 159)

FCC ID: A3LSMG977T	INVITING LANDON IN	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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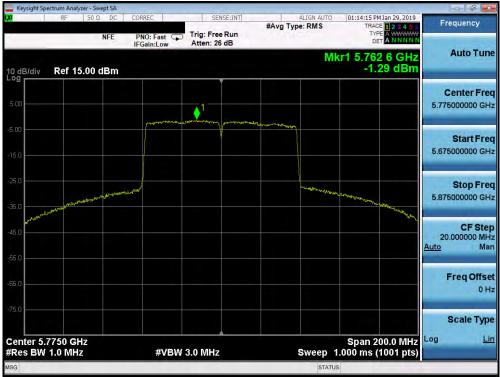
Plot 7-261. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) - Ch. 151)



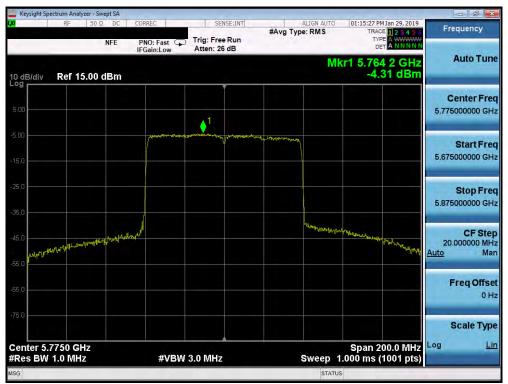
Plot 7-262. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) - Ch. 159)

FCC ID: A3LSMG977T	Invidenties Debendration, las	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-263. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 3) - Ch. 155)



Plot 7-264. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 3) - Ch. 155)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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## **Summed MIMO Power Spectral Density Measurements**

	Frequency	Channel			Antenna-1	Antenna-2	Summed MIMO	Max Power	Margin
	[MHz]	No.	802.11 Mode	Data Rate [Mbps]	-		-	Density	[dB]
	5180	36	а	6.5/7.2 (MCS0)	[dBm] 6.35	[dBm] 5.68	[ <b>dBm]</b> 9.04	[dBm/MHz] 11.0	-1.96
	5200	40	a	6.5/7.2 (MCS0)	5.30	4.74	8.04	11.0	-2.96
	5240	48	a	6.5/7.2 (MCS0)	5.80	5.20	8.52	11.0	-2.48
	5180	36	a n (20MHz)	6.5/7.2 (MCS0)	6.40	5.82	9.13	11.0	-1.87
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	4.87	4.87	7.88	11.0	-3.12
	5240	40	n (20MHz)	6.5/7.2 (MCS0)	5.48	5.77	8.64	11.0	-2.36
_	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	2.89	2.37	5.65	11.0	-5.35
l h	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	3.11	2.57	5.84	11.0	-5.16
Band	5200	40	ax (2010Hz)	, ,	3.37	3.41	6.40	11.0	-4.60
		40 38	n (40MHz)	6.5/7.2 (MCS0)					
	5190		, ,	13.5/15 (MCS0)	3.29 2.57	2.81	6.07	11.0 11.0	-4.93
	5230		n (40MHz)	13.5/15 (MCS0)		2.46	5.53		-5.47
	5190	38	ax (40MHz)	13.5/15 (MCS0)	-1.21	-1.57	1.62	11.0	-9.38
	5230	46	ax (40MHz)	13.5/15 (MCS0)	-0.86	-0.76	2.20	11.0	-8.80
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-0.56	-1.15	2.17	11.0	-8.83
	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	-4.63	-4.79	-1.70	11.0	-12.70
	5260	52	а	6.5/7.2 (MCS0)	5.97	5.44	8.72	11.0	-2.28
	5280	56	а	6.5/7.2 (MCS0)	5.91	5.61	8.77	11.0	-2.23
	5320	64	а	6.5/7.2 (MCS0)	6.44	6.28	9.37	11.0	-1.63
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	5.56	5.65	8.62	11.0	-2.38
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	5.50	5.81	8.67	11.0	-2.33
_	5320	64	n (20MHz)	6.5/7.2 (MCS0)	7.01	6.88	9.96	11.0	-1.04
Band 2A	5260	52	ax (20MHz)	6.5/7.2 (MCS0)	3.48	3.49	6.50	11.0	-4.50
pue	5280	56	ax (20MHz)	6.5/7.2 (MCS0)	3.35	3.16	6.27	11.0	-4.73
ä	5320	64	ax (20MHz)	6.5/7.2 (MCS0)	3.57	3.29	6.44	11.0	-4.56
	5270	54	n (40MHz)	13.5/15 (MCS0)	2.13	2.08	5.12	11.0	-5.88
	5310	62	n (40MHz)	13.5/15 (MCS0)	3.85	2.93	6.42	11.0	-4.58
	5270	54	ax (40MHz)	13.5/15 (MCS0)	-0.40	-1.07	2.29	11.0	-8.71
	5310	62	ax (40MHz)	13.5/15 (MCS0)	-1.10	-1.33	1.80	11.0	-9.20
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-0.51	-0.57	2.47	11.0	-8.53
	5290	58	ax (80MHz)	29.3/32.5 (MCS0)	-4.98	-4.64	-1.80	11.0	-12.80
	5500	100	а	6.5/7.2 (MCS0)	6.90	6.86	9.89	11.0	-1.11
	5600	120	а	6.5/7.2 (MCS0)	5.59	5.04	8.33	11.0	-2.67
	5720	144	а	6.5/7.2 (MCS0)	5.49	5.44	8.48	11.0	-2.52
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	6.68	7.25	9.98	11.0	-1.02
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	5.29	5.38	8.35	11.0	-2.65
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	5.27	5.13	8.21	11.0	-2.79
	5500	100	ax (20MHz)	6.5/7.2 (MCS0)	3.48	4.02	6.77	11.0	-4.23
	5600	120	ax (20MHz)	6.5/7.2 (MCS0)	2.89	3.06	5.99	11.0	-5.01
	5720	144	ax (20MHz)	6.5/7.2 (MCS0)	3.20	3.76	6.50	11.0	-4.50
g	5510	102	n (40MHz)	13.5/15 (MCS0)	3.51	4.07	6.81	11.0	-4.19
Band 2C	5590	118	n (40MHz)	13.5/15 (MCS0)	1.49	2.11	4.82	11.0	-6.18
Ba	5710	142	n (40MHz)	13.5/15 (MCS0)	2.19	1.91	5.06	11.0	-5.94
	5510	102	ax (40MHz)	13.5/15 (MCS0)	-0.64	-0.54	2.42	11.0	-8.58
	5590	118	ax (40MHz)	13.5/15 (MCS0)	-1.04	-1.03	1.98	11.0	-9.02
	5710	142	ax (40MHz)	13.5/15 (MCS0)	-1.17	-1.04	1.91	11.0	-9.09
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-0.29	-0.26	2.74	11.0	-8.26
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-2.18	-2.26	0.79	11.0	-10.21
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-2.07	-1.58	1.19	11.0	-9.81
	5530	106	ax (80MHz)	29.3/32.5 (MCS0)	-4.92	-4.68	-1.79	11.0	-12.79
	5610	122	ax (80MHz)	29.3/32.5 (MCS0)	-5.01	-5.07	-2.03	11.0	-13.03
	5690	138	ax (80MHz)	29.3/32.5 (MCS0)	-4.65	-4.89	-1.76	11.0	-12.76
	<b>T</b> - 1, 1 - 1	7 05 0-	, <i>,</i>	2C MIMO Cor					

Table 7-25. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenn-1 Power Density [dBm]	Antenn-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
	5745	149	а	6.5/7.2 (MCS0)	5.84	6.33	9.10	30.0	-20.90
	5785	157	а	6.5/7.2 (MCS0)	6.14	6.47	9.32	30.0	-20.68
	5825	165	а	6.5/7.2 (MCS0)	6.15	3.91	8.18	30.0	-21.82
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	6.01	6.00	9.02	30.0	-20.98
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	6.25	6.16	9.22	30.0	-20.78
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	5.73	6.12	8.94	30.0	-21.06
e	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	3.70	4.54	7.15	30.0	-22.85
Band	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	4.08	4.33	7.22	30.0	-22.78
ä	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	3.34	3.78	6.58	30.0	-23.42
	5755	151	n (40MHz)	13.5/15 (MCS0)	2.15	2.81	5.50	30.0	-24.50
	5795	159	n (40MHz)	13.5/15 (MCS0)	2.20	2.37	5.30	30.0	-24.70
	5755	151	ax (40MHz)	13.5/15 (MCS0)	-0.80	-0.44	2.39	30.0	-27.61
	5795	159	ax (40MHz)	13.5/15 (MCS0)	-0.71	-0.80	2.26	30.0	-27.74
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-1.62	-1.29	1.56	30.0	-28.44
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	-4.60	-4.31	-1.44	30.0	-31.44

Table 7-26. Band 3 MIMO Conducted Power Spectral Density Measurements

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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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:

Assuming the average conducted power spectral density for Antenna 1 is measured to be 6.40 dBm and the average conducted power spectral density for Antenna 2 is 5.82 dBm.

Antenna 1 + Antenna 2 = MIMO

(6.40dBm + 5.82 dBm) = (4.37 mW + 3.82 mW) = 8.18 mW = 9.13 dBm

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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 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 27 dBm/MHz at 5 MHz above or below 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 7-27 per Section 15.209 and RSS-Gen (8.9).

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

Table 7-27. 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.

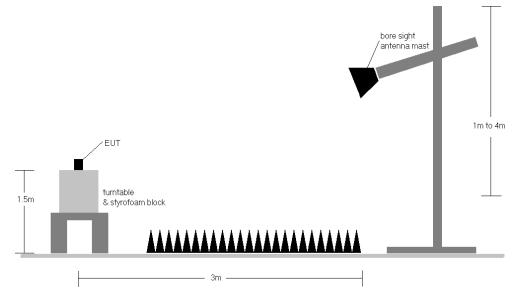


Figure 7-5. Test Instrument & Measurement Setup

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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 7-27.
- 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.

## Sample Calculations

## **Determining Spurious Emissions Levels**

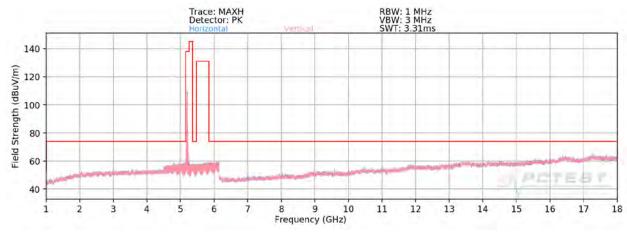
- ο Field Strength Level [dBµV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB]
- Margin [dB] = Field Strength Level  $[dB\mu V/m]$  Limit  $[dB\mu V/m]$

## Radiated Band Edge Measurement Offset

 The amplitude offset shown in the radiated restricted band edge plots in Section Radiated Spurious Emission Measurements – Above 1GHz was calculated using the formula:
 Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

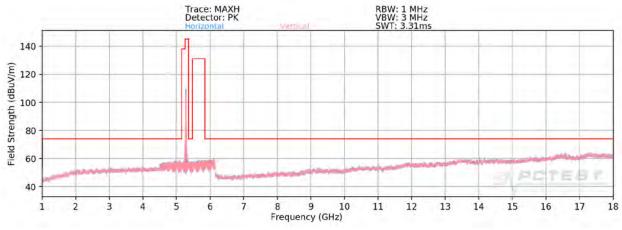
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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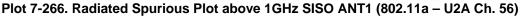


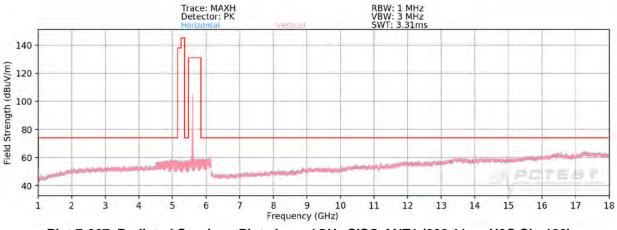


## 7.6.1 SISO Antenna-1 Radiated Spurious Emission Measurements





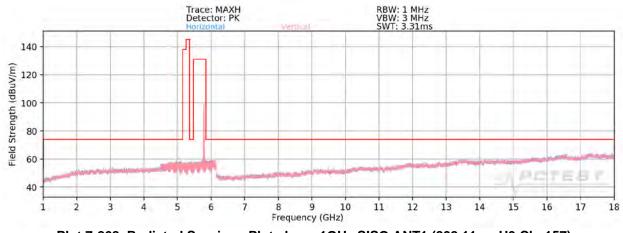




Plot 7-267. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U2C Ch. 120)

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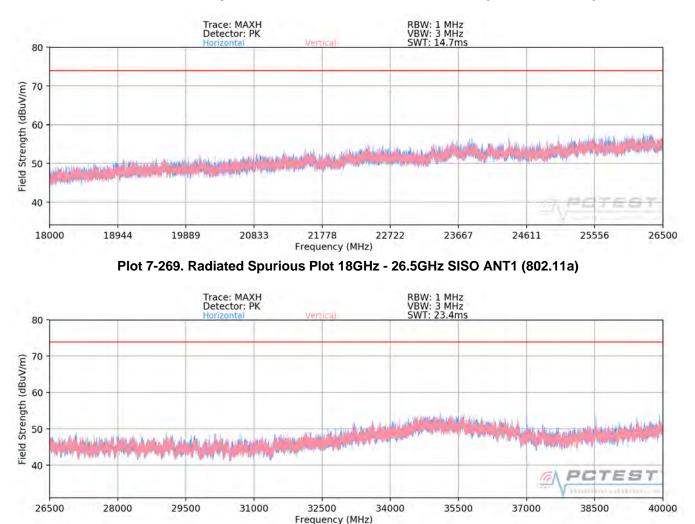




Plot 7-268. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a - U3 Ch. 157)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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# SISO Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)

Plot 7-270. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11a)

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# SISO Antenna-1 Radiated Spurious Emission Measurements §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	V	125	6	-70.81	18.99	0.00	55.18	68.20	-13.02
*	15540.00	Average	V	-	-	-85.10	27.73	0.00	49.63	53.98	-4.35
*	15540.00	Peak	V	-	-	-70.36	27.73	0.00	64.37	73.98	-9.61
*	20720.00	Average	V	-	-	-81.02	17.17	-9.54	33.60	53.98	-20.38
*	20720.00	Peak	V	-	-	-67.85	17.17	-9.54	46.77	73.98	-27.21
	25900.00	Peak	V	-	-	-67.35	19.93	-9.54	50.03	68.20	-18.17

Table 7-28. 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	V	161	352	-70.90	19.36	0.00	55.46	68.20	-12.74
*	15600.00	Average	V	-	-	-85.04	27.61	0.00	49.57	53.98	-4.41
*	15600.00	Peak	V	-	-	-73.36	27.61	0.00	61.25	73.98	-12.73
*	20800.00	Average	V	-	-	-79.59	17.65	-9.54	35.52	53.98	-18.46
*	20800.00	Peak	V	-	-	-68.56	17.65	-9.54	46.55	73.98	-27.43
	26000.00	Peak	V	-	-	-67.50	20.68	-9.54	50.64	68.20	-17.56

Table 7-29. Radiated Measurements SISO ANT1

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality 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	V	-	-	-72.70	19.72	0.00	54.02	68.20	-14.18
*	15720.00	Average	V	-	-	-84.84	27.41	0.00	49.57	53.98	-4.41
*	15720.00	Peak	V	-	-	-73.75	27.41	0.00	60.66	73.98	-13.32
*	20960.00	Average	V	-	-	-80.19	17.53	-9.54	34.80	53.98	-19.18
*	20960.00	Peak	V	-	-	-69.05	17.53	-9.54	45.94	73.98	-28.04
	26200.00	Peak	V	-	-	-67.85	20.23	-9.54	49.84	68.20	-18.36

Table 7-30. 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]
	10360.00	Peak	V	-	-	-71.55	18.99	0.00	54.44	68.20	-13.76
*	15540.00	Average	V	-	-	-85.34	27.73	0.00	49.39	53.98	-4.59
*	15540.00	Peak	V	-	-	-70.48	27.73	0.00	64.25	73.98	-9.73
*	20720.00	Average	V	-	-	-80.98	17.17	-9.54	33.64	53.98	-20.34
*	20720.00	Peak	V	-	-	-67.99	17.17	-9.54	46.63	73.98	-27.35
	25900.00	Peak	V	-	-	-67.51	19.93	-9.54	49.87	68.20	-18.33

Table 7-31. Radiated Measurements SISO ANT1 with WCP

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode:	802.11a				
Worst Case Transfer Rate:	6Mbps				
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	V	-	-	-72.71	19.44	0.00	53.73	68.20	-14.47
*	15780.00	Average	V	-	-	-84.95	27.10	0.00	49.15	53.98	-4.83
*	15780.00	Peak	V	-	-	-74.03	27.10	0.00	60.07	73.98	-13.91
*	21040.00	Average	V	-	-	-79.70	17.48	-9.54	35.23	53.98	-18.75
*	21040.00	Peak	V	-	-	-68.89	17.48	-9.54	46.04	73.98	-27.94
	26300.00	Peak	V	-	-	-66.03	20.33	-9.54	51.76	68.20	-16.44

Table 7-32. Radiated Measurements SISO ANT1

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

802.11a 6Mbps 1 & 3 Meters 5280MHz 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	V	-	-	-72.10	19.62	0.00	54.52	68.20	-13.68
*	15840.00	Average	V	-	-	-84.63	27.05	0.00	49.42	53.98	-4.56
*	15840.00	Peak	V	-	-	-73.50	27.05	0.00	60.55	73.98	-13.43
*	21120.00	Average	V	-	-	-79.45	17.27	-9.54	35.27	53.98	-18.70
*	21120.00	Peak	V	-	-	-68.27	17.27	-9.54	46.45	73.98	-27.52
	26400.00	Peak	V	-	-	-66.86	20.27	-9.54	50.87	68.20	-17.33

Table 7-33. Radiated Measurements SISO ANT1

FCC ID: A3LSMG977T	INVIGIAL DEPOSITION INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 190 of 250	
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Worst Case Mode:	802.11a			
Worst Case Transfer Rate:	6Mbps			
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	V	-	-	-83.03	19.97	0.00	43.94	53.98	-10.04
*	10640.00	Peak	V	-	-	-71.52	19.97	0.00	55.45	73.98	-18.53
*	15960.00	Average	V	-	-	-85.00	27.35	0.00	49.35	53.98	-4.63
*	15960.00	Peak	V	-	-	-73.87	27.35	0.00	60.48	73.98	-13.50
*	21280.00	Average	V	-	-	-78.59	17.58	-9.54	36.45	53.98	-17.53
*	21280.00	Peak	V	-	-	-67.50	17.58	-9.54	47.54	73.98	-26.44
	26600.00	Peak	V	-	-	-59.29	3.11	-9.54	41.28	68.20	-26.92

Table 7-34. 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	V	-	-	-82.88	19.97	0.00	44.09	53.98	-9.89
*	10640.00	Peak	V	-	-	-71.66	19.97	0.00	55.31	73.98	-18.67
*	15960.00	Average	V	-	-	-84.91	27.35	0.00	49.44	53.98	-4.54
*	15960.00	Peak	V	-	-	-73.65	27.35	0.00	60.70	73.98	-13.28
*	21280.00	Average	V	-	-	-78.87	17.58	-9.54	36.17	53.98	-17.81
*	21280.00	Peak	V	-	-	-67.13	17.58	-9.54	47.91	73.98	-26.07
	26600.00	Peak	V	-	-	-59.01	3.11	-9.54	41.56	68.20	-26.64

Table 7-35. Radiated Measurements SISO ANT1 with WCP

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 191 of 250
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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
Distance of Measurements: Operating Frequency:	1 & 3 Meters 5500MHz

	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	V	148	7	-81.91	20.31	0.00	45.40	53.98	-8.58
*	11000.00	Peak	V	148	7	-70.41	20.31	0.00	56.90	73.98	-17.08
	16500.00	Peak	V	-	-	-73.14	28.49	0.00	62.35	68.20	-5.85
	22000.00	Peak	V	-	-	-67.43	18.05	-9.54	48.08	68.20	-20.12
	27500.00	Peak	V	-	-	-64.83	2.08	-9.54	34.71	68.20	-33.49

Table 7-36. 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	V	102	3	-81.12	19.97	0.00	45.85	53.98	-8.13
*	11200.00	Peak	V	102	3	-69.78	19.97	0.00	57.19	73.98	-16.79
	16800.00	Peak	V	-	-	-73.24	28.82	0.00	62.58	68.20	-5.62
*	22400.00	Average	V	-	-	-78.89	19.11	-9.54	37.67	53.98	-16.30
*	22400.00	Peak	V	-	-	-67.93	19.11	-9.54	48.63	73.98	-25.34
	28000.00	Peak	V	-	-	-65.95	3.37	-9.54	34.88	68.20	-33.32

Table 7-37. Radiated Measurements SISO ANT1

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 100 of 250
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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	V	-	-	-82.96	20.26	0.00	44.30	53.98	-9.68
*	11440.00	Peak	V	-	-	-70.81	20.26	0.00	56.45	73.98	-17.53
	17160.00	Peak	V	-	-	-73.58	29.62	0.00	63.04	68.20	-5.16
*	22880.00	Average	V	-	-	-80.09	18.60	-9.54	35.96	53.98	-18.02
*	22880.00	Peak	V	-	-	-69.06	18.60	-9.54	46.99	73.98	-26.99
	28600.00	Peak	V	-	-	-59.85	1.74	-9.54	39.34	68.20	-28.86

Table 7-38. Radiated Measurements SISO ANT1

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

802.11a 6Mbps 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]
*	11200.00	Average	V	-	-	-80.98	19.97	0.00	45.99	53.98	-7.99
*	11200.00	Peak	V	-	-	-69.99	19.97	0.00	56.98	73.98	-17.00
	16800.00	Peak	V	-	-	-72.58	28.82	0.00	63.24	68.20	-4.96
*	22400.00	Average	V	-	-	-78.53	19.11	-9.54	38.03	53.98	-15.94
*	22400.00	Peak	V	-	-	-67.47	19.11	-9.54	49.09	73.98	-24.88
	28000.00	Peak	V	-	-	-65.85	3.37	-9.54	34.98	68.20	-33.22

Table 7-39. Radiated Measurements SISO ANT1 with WCP

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 102 of 250	
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Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
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]		Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	V	-	-	-83.75	20.36	0.00	43.61	53.98	-10.37
*	11490.00	Peak	V	-	-	-72.36	20.36	0.00	55.00	73.98	-18.98
	17235.00	Peak	V	-	-	-73.37	29.51	0.00	63.14	68.20	-5.06
*	22980.00	Average	V	-	-	-79.99	18.46	-9.54	35.93	53.98	-18.05
*	22980.00	Peak	V	-	-	-69.15	18.46	-9.54	46.77	73.98	-27.21
	28725.00	Peak	V	-	-	-60.01	2.47	-9.54	39.92	68.20	-28.28

Table 7-40. Radiated Measurements SISO ANT1

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

802.11a 6Mbps 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	V	-	-	-83.57	21.02	0.00	44.45	53.98	-9.53
*	11570.00	Peak	V	-	-	-72.52	21.02	0.00	55.50	73.98	-18.48
	17355.00	Peak	V	-	-	-73.22	29.63	0.00	63.41	68.20	-4.79
	23140.00	Peak	V	-	-	-68.88	18.84	-9.54	47.42	68.20	-20.78
	28925.00	Peak	V	-	-	-57.64	2.80	-9.54	42.62	68.20	-25.58

Table 7-41. Radiated Measurements SISO ANT1

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 104 of 250	
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Worst Case Mode:	802.11a		
Worst Case Transfer Rate:	6Mbps		
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	V	-	-	-82.41	21.21	0.00	45.80	53.98	-8.18
*	11650.00	Peak	V	-	-	-71.00	21.21	0.00	57.21	73.98	-16.77
	17475.00	Peak	V	-	-	-73.25	29.76	0.00	63.51	68.20	-4.69
	23300.00	Peak	V	-	-	-69.15	19.55	-9.54	47.85	68.20	-20.35
	29125.00	Peak	V	-	-	-56.54	1.07	-9.54	41.99	68.20	-26.21

## Table 7-42. Radiated Measurements SISO ANT1

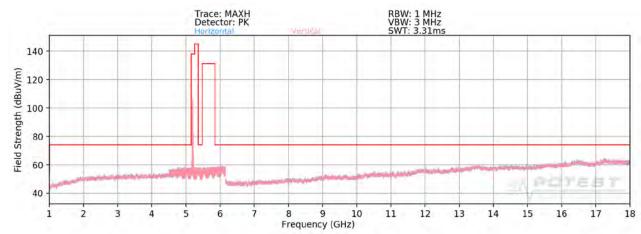
Worst Case Mode: Worst Case Transfer Rate: Distance of Measurements: Operating Frequency: Channel: 802.11a 6Mbps 1 & 3 Meters 5785MHz 157

	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	V	-	-	-83.25	21.02	0.00	44.77	53.98	-9.21
*	11570.00	Peak	V	-	-	-72.11	21.02	0.00	55.91	73.98	-18.07
	17355.00	Peak	V	-	-	-72.86	29.63	0.00	63.77	68.20	-4.43
	23140.00	Peak	V	-	-	-68.99	18.84	-9.54	47.31	68.20	-20.89
	28925.00	Peak	V	-	-	-58.01	2.80	-9.54	42.25	68.20	-25.95

Table 7-43. Radiated Measurements SISO ANT1 with WCP

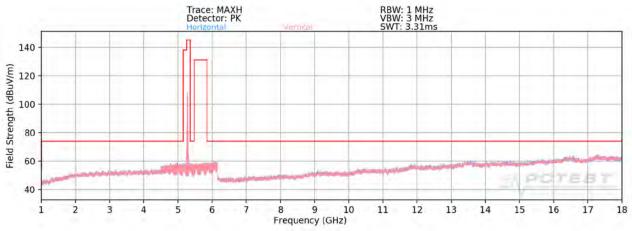
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 195 of 250
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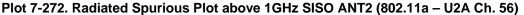


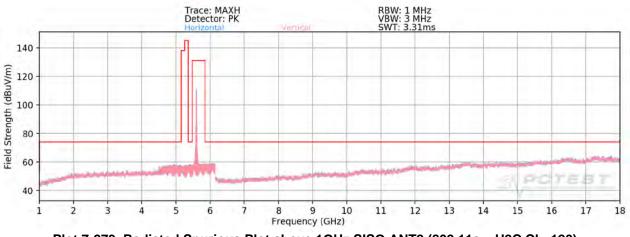


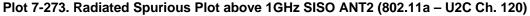
## 7.6.2 SISO Antenna-2 Radiated Spurious Emission Measurements





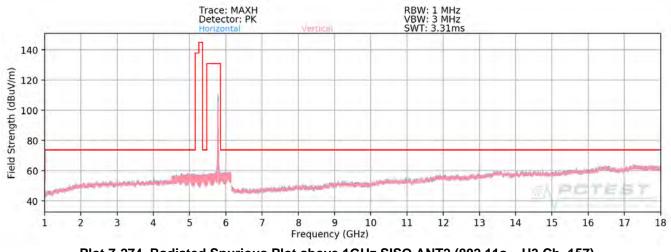






FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:		Dogo 196 of 250
1M1903060032-08.A3L	01/22 - 05/08/2019	Portable Handset		Page 186 of 259
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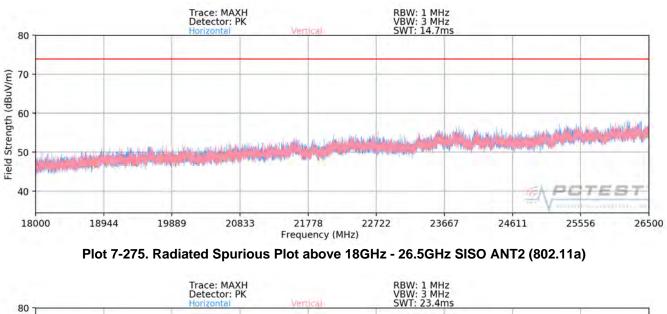




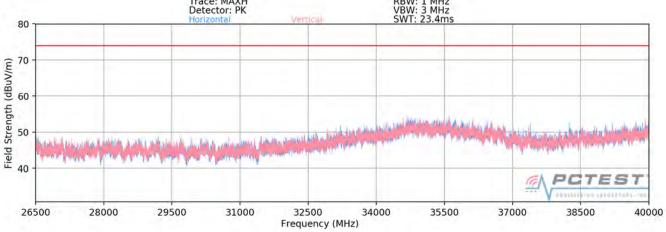
Plot 7-274. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a - U3 Ch. 157)

FCC ID: A3LSMG977T	INVITING LANDALING	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N: Test Dates:		EUT Type:		Dage 107 of 250	
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# SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-276. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11a)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 100 of 250
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# SISO Antenna-2 Radiated Spurious Emission Measurements §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	V	-	-	-71.03	18.82	0.00	54.79	68.20	-13.41
*	15540.00	Average	V	-	-	-85.02	28.27	0.00	50.25	53.98	-3.73
*	15540.00	Peak	V	-	-	-74.26	28.27	0.00	61.01	73.98	-12.97
*	20720.00	Average	V	-	-	-79.22	17.17	-9.54	35.41	53.98	-18.57
*	20720.00	Peak	V	-	-	-67.53	17.17	-9.54	47.10	73.98	-26.88
	25900.00	Peak	V	-	-	-67.39	19.34	-9.54	49.40	68.20	-18.80

Table 7-44. Radiated Measurements SISO ANT2

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	V	-	-	-71.64	18.78	0.00	54.14	68.20	-14.06
*	15600.00	Average	V	-	-	-85.31	27.80	0.00	49.49	53.98	-4.49
*	15600.00	Peak	V	-	-	-73.99	27.80	0.00	60.81	73.98	-13.17
*	20800.00	Average	V	-	-	-78.79	17.31	-9.54	35.98	53.98	-18.00
*	20800.00	Peak	V	-	-	-68.91	17.31	-9.54	45.85	73.98	-28.13
	26000.00	Peak	V	-	-	-67.54	19.60	-9.54	49.52	68.20	-18.68

## Table 7-45. Radiated Measurements SISO ANT2

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager					
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 250					
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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	V	-	-	-72.55	20.06	0.00	54.51	68.20	-13.69
*	15720.00	Average	V	-	-	-84.94	27.64	0.00	49.70	53.98	-4.28
*	15720.00	Peak	V	-	-	-73.76	27.64	0.00	60.88	73.98	-13.10
*	20960.00	Average	V	-	-	-78.89	17.60	-9.54	36.16	53.98	-17.82
*	20960.00	Peak	V	-	-	-69.38	17.60	-9.54	45.67	73.98	-28.31
	26200.00	Peak	V	-	-	-67.84	19.73	-9.54	49.34	68.20	-18.86

Table 7-46. Radiated Measurements SISO ANT2

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

802.11a 6Mbps 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	V	-	-	-71.25	18.82	0.00	54.57	68.20	-13.63
*	15540.00	Average	V	-	-	-85.79	28.27	0.00	49.48	53.98	-4.50
*	15540.00	Peak	V	-	-	-73.99	28.27	0.00	61.28	73.98	-12.70
*	20720.00	Average	V	-	-	-78.87	17.17	-9.54	35.76	53.98	-18.22
*	20720.00	Peak	V	-	-	-67.86	17.17	-9.54	46.77	73.98	-27.21
	25900.00	Peak	V	-	-	-67.44	19.34	-9.54	49.35	68.20	-18.85

Table 7-47. Radiated Measurements SISO ANT2 with WCP

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager					
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 250					
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Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
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	V	-	-	-72.56	19.70	0.00	54.14	68.20	-14.06
*	15780.00	Average	V	-	-	-84.96	27.31	0.00	49.35	53.98	-4.63
*	15780.00	Peak	V	-	-	-73.35	27.31	0.00	60.96	73.98	-13.02
*	21040.00	Average	V	-	-	-79.08	17.67	-9.54	36.05	53.98	-17.93
*	21040.00	Peak	V	-	-	-68.56	17.67	-9.54	46.57	73.98	-27.41
	26300.00	Peak	V	-	-	-67.58	20.29	-9.54	50.16	68.20	-18.04

Table 7-48. Radiated Measurements SISO ANT2

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

802.11a 6Mbps 1 & 3 Meters 5280MHz 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	V	-	-	-72.20	19.86	0.00	54.66	68.20	-13.54
*	15840.00	Average	V	-	-	-84.71	27.54	0.00	49.83	53.98	-4.15
*	15840.00	Peak	V	-	-	-73.75	27.54	0.00	60.79	73.98	-13.19
*	21120.00	Average	V	-	-	-79.42	17.83	-9.54	35.87	53.98	-18.11
*	21120.00	Peak	V	-	-	-68.45	17.83	-9.54	46.84	73.98	-27.14
	26400.00	Peak	V	-	-	-67.09	20.07	-9.54	50.44	68.20	-17.76

Table 7-49. Radiated Measurements SISO ANT2

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 101 of 250
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Worst Case Mode:	802.11a		
Worst Case Transfer Rate:	6Mbps		
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	V	-	-	-83.14	19.52	0.00	43.38	53.98	-10.60
*	10640.00	Peak	V	-	-	-71.69	19.52	0.00	54.83	73.98	-19.15
*	15960.00	Average	V	-	-	-85.12	27.84	0.00	49.72	53.98	-4.26
*	15960.00	Peak	V	-	-	-74.23	27.84	0.00	60.61	73.98	-13.37
*	21280.00	Average	V	-	-	-78.84	17.98	-9.54	36.59	53.98	-17.39
*	21280.00	Peak	V	-	-	-69.14	17.98	-9.54	46.30	73.98	-27.68
	26600.00	Peak	V	-	-	-53.86	4.42	-9.54	48.02	68.20	-20.18

Table 7-50. Radiated Measurements SISO ANT2

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	V	-	-	-83.33	19.52	0.00	43.19	53.98	-10.79
*	10640.00	Peak	V	-	-	-71.79	19.52	0.00	54.73	73.98	-19.25
*	15960.00	Average	V	-	-	-85.34	27.84	0.00	49.50	53.98	-4.48
*	15960.00	Peak	V	-	-	-74.53	27.84	0.00	60.31	73.98	-13.67
*	21280.00	Average	V	-	-	-78.79	17.98	-9.54	36.64	53.98	-17.33
*	21280.00	Peak	V	-	-	-68.99	17.98	-9.54	46.44	73.98	-27.53
	26600.00	Peak	V	-	-	-53.56	4.42	-9.54	48.32	68.20	-19.88

Table 7-51. Radiated Measurements SISO ANT2 with WCP

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 102 of 250
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802.11a
6Mbps
1 & 3 Meters
5500MHz
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	V	-	-	-83.52	20.35	0.00	43.83	53.98	-10.15
*	11000.00	Peak	V	-	-	-72.37	20.35	0.00	54.98	73.98	-19.00
	16500.00	Peak	V	-	-	-73.41	28.54	0.00	62.13	68.20	-6.07
	22000.00	Peak	V	-	-	-69.48	18.43	-9.54	46.41	68.20	-21.79
	27500.00	Peak	V	-	-	-44.01	3.16	-9.54	56.60	68.20	-11.60

Table 7-52. Radiated Measurements SISO ANT2

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	V	-	-	-83.35	20.31	0.00	43.96	53.98	-10.02
*	11200.00	Peak	V	-	-	-71.58	20.31	0.00	55.73	73.98	-18.25
	16800.00	Peak	V	-	-	-73.99	28.88	0.00	61.89	68.20	-6.31
*	22400.00	Average	V	-	-	-78.87	19.18	-9.54	37.77	53.98	-16.21
*	22400.00	Peak	V	-	-	-69.27	19.18	-9.54	47.37	73.98	-26.61
	28000.00	Peak	V	-	-	-53.69	4.80	-9.54	48.56	68.20	-19.64

Table 7-53. Radiated Measurements SISO ANT2

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:		Dogo 102 of 250			
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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	V	-	-	-83.20	20.11	0.00	43.91	53.98	-10.07
*	11440.00	Peak	V	-	-	-72.17	20.11	0.00	54.94	73.98	-19.04
	17160.00	Peak	V	-	-	-74.09	29.40	0.00	62.31	68.20	-5.89
*	22880.00	Average	V	-	-	-78.79	18.88	-9.54	37.55	53.98	-16.43
*	22880.00	Peak	V	-	-	-69.55	18.88	-9.54	46.79	73.98	-27.19
	28600.00	Peak	V	-	-	-53.48	3.32	-9.54	47.30	68.20	-20.90

Table 7-54. Radiated Measurements SISO ANT2

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

802.11a 6Mbps : 1 & 3 Meters 5500MHz 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]
*	11440.00	Average	V	-	-	-83.36	20.11	0.00	43.75	53.98	-10.23
*	11440.00	Peak	V	-	-	-72.14	20.11	0.00	54.97	73.98	-19.01
	17160.00	Peak	V	-	-	-74.29	29.40	0.00	62.11	68.20	-6.09
*	22880.00	Average	V	-	-	-78.64	18.88	-9.54	37.70	53.98	-16.28
*	22880.00	Peak	V	-	-	-68.58	18.88	-9.54	47.76	73.98	-26.22
	28600.00	Peak	V	-	-	-53.66	3.32	-9.54	47.11	68.20	-21.09

Table 7-55. Radiated Measurements SISO ANT2 with WCP

FCC ID: A3LSMG977T	THENRIFE LANGATINATION	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 104 of 250
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Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
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	V	-	-	-83.43	20.55	0.00	44.12	53.98	-9.85
*	11490.00	Peak	V	-	-	-71.76	20.55	0.00	55.79	73.98	-18.18
	17235.00	Peak	V	-	-	-73.19	29.71	0.00	63.52	68.20	-4.68
*	22980.00	Average	V	-	-	-78.91	19.03	-9.54	37.58	53.98	-16.40
*	22980.00	Peak	V	-	-	-68.70	19.03	-9.54	47.79	73.98	-26.19
	28725.00	Peak	V	-	-	-51.33	3.65	-9.54	49.78	68.20	-18.42

Table 7-56. Radiated Measurements SISO ANT2

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

802.11a 6Mbps 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	V	-	-	-83.87	21.44	0.00	44.57	53.98	-9.41
*	11570.00	Peak	V	-	-	-74.18	21.44	0.00	54.26	73.98	-19.72
	17355.00	Peak	V	-	-	-72.61	29.55	0.00	63.94	68.20	-4.26
	23140.00	Peak	V	-	-	-69.47	18.82	-9.54	46.81	68.20	-21.39
	28925.00	Peak	V	-	-	-51.77	4.50	-9.54	50.19	68.20	-18.01

Table 7-57. Radiated Measurements SISO ANT2

FCC ID: A3LSMG977T	INVIAINAL DADATATATA	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 105 of 250
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Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
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	V	-	-	-82.87	20.88	0.00	45.01	53.98	-8.96
*	11650.00	Peak	V	-	-	-70.80	20.88	0.00	57.08	73.98	-16.89
	17475.00	Peak	V	-	-	-74.00	30.26	0.00	63.26	68.20	-4.94
	23300.00	Peak	V	-	-	-67.37	18.40	-9.54	48.49	68.20	-19.71
	29125.00	Peak	V	-	-	-51.50	2.23	-9.54	48.19	68.20	-20.01

## Table 7-58. Radiated Measurements SISO ANT2

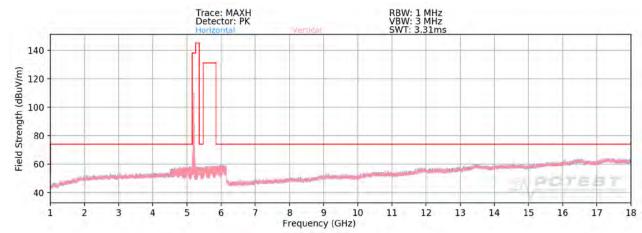
Worst Case Mode: Worst Case Transfer Rate: Distance of Measurements: Operating Frequency: Channel: 802.11a 6Mbps 1 & 3 Meters 5785MHz 1

	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	V	-	-	-83.65	21.44	0.00	44.79	53.98	-9.19
*	11570.00	Peak	V	-	-	-73.99	21.44	0.00	54.45	73.98	-19.53
	17355.00	Peak	V	-	-	-72.99	29.55	0.00	63.56	68.20	-4.64
	23140.00	Peak	V	-	-	-69.11	18.82	-9.54	47.17	68.20	-21.03
	28925.00	Peak	V	-	-	-51.42	4.50	-9.54	50.54	68.20	-17.66

Table 7-59. Radiated Measurements SISO ANT2 with WCP

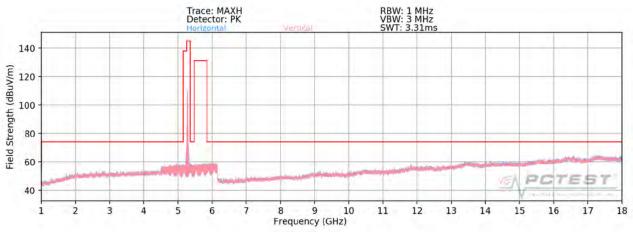
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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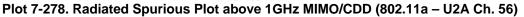


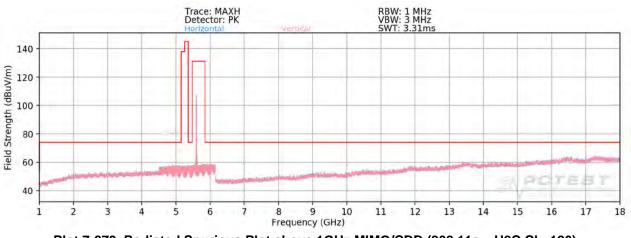


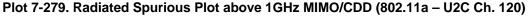
## 7.6.3 MIMO/CDD Radiated Spurious Emission Measurements





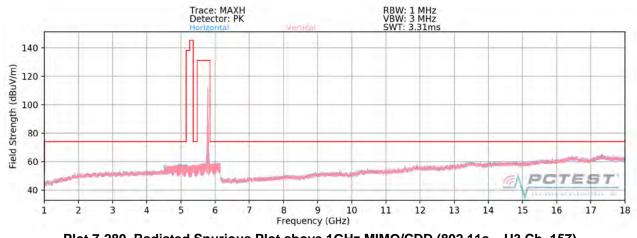


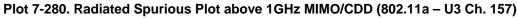




FCC ID: A3LSMG977T	Thereast	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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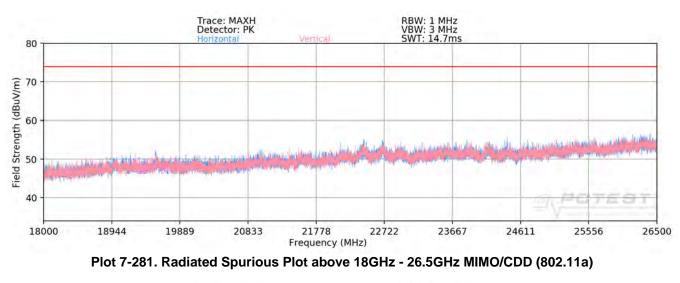




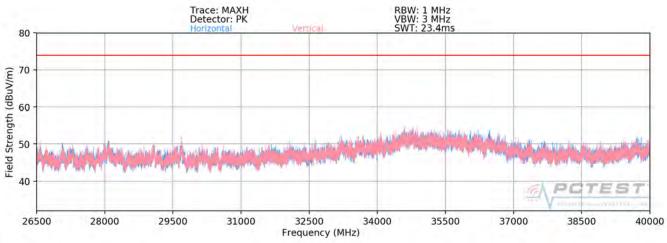


FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 250
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# MIMO/CDD Radiated Spurious Emissions Measurements (Above 18GHz)



## Plot 7-282. Radiated Spurious Plot 26.5GHz - 40GHz MIMO/CDD (802.11a)

FCC ID: A3LSMG977T	Their Internation las	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 250
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## MIMO/CDD Radiated Spurious Emission Measurements §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	V	396	7	-68.17	12.12	0.00	50.95	68.20	-17.25
*	15540.00	Average	V	-	-	-83.15	14.49	0.00	38.34	53.98	-15.64
*	15540.00	Peak	V	-	-	-85.24	14.49	0.00	36.25	73.98	-37.73
*	20720.00	Average	V	-	-	-81.31	17.17	-9.54	33.32	53.98	-20.66
*	20720.00	Peak	V	-	-	-69.70	17.17	-9.54	44.93	73.98	-29.05
	25900.00	Peak	V	-	-	-68.30	19.34	-9.54	48.50	68.20	-19.70

Table 7-60. Radiated Measurements MIMO/CDD

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	V	394	367	-67.76	11.93	0.00	51.17	68.20	-17.03
*	15600.00	Average	V	263	2	-84.29	14.48	0.00	37.19	53.98	-16.79
*	15600.00	Peak	V	263	2	-68.70	14.48	0.00	52.78	73.98	-21.20
*	20800.00	Average	V	-	-	-80.02	17.31	-9.54	34.75	53.98	-19.23
*	20800.00	Peak	V	-	-	-68.27	17.31	-9.54	46.49	73.98	-27.49
	26000.00	Peak	V	-	-	-67.74	19.60	-9.54	49.32	68.20	-18.88

## Table 7-61. Radiated Measurements MIMO/CDD

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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802.11a
6Mbps
1 & 3 Meters
5240MHz
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	V	358	350	-67.96	12.15	0.00	51.19	68.20	-17.01
*	15720.00	Average	V	-	-	-85.74	15.97	0.00	37.23	53.98	-16.75
*	15720.00	Peak	V	-	-	-69.93	15.97	0.00	53.04	73.98	-20.94
*	20960.00	Average	V	-	-	-79.82	17.60	-9.54	35.23	53.98	-18.75
*	20960.00	Peak	V	-	-	-67.22	17.60	-9.54	47.84	73.98	-26.14
	26200.00	Peak	V	-	-	-68.71	19.73	-9.54	48.47	68.20	-19.73

Table 7-62. Radiated Measurements MIMO/CDD

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	V	-	-	-68.59	11.93	0.00	50.34	68.20	-17.86
*	15600.00	Average	V	-	-	-84.01	14.48	0.00	37.47	53.98	-16.51
*	15600.00	Peak	V	-	-	-67.65	14.48	0.00	53.83	73.98	-20.15
*	20800.00	Average	V	-	-	-80.02	17.31	-9.54	34.75	53.98	-19.23
*	20800.00	Peak	V	-	-	-68.59	17.31	-9.54	46.17	73.98	-27.81
	26000.00	Peak	V	-	-	-67.11	19.60	-9.54	49.95	68.20	-18.25

Table 7-63. Radiated Measurements MIMO/CDD with WCP

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 201 of 250
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Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
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	V	-	-	-69.24	12.84	0.00	50.60	68.20	-17.60
*	15780.00	Average	V	-	-	-86.07	15.71	0.00	36.64	53.98	-17.34
*	15780.00	Peak	V	-	-	-70.34	15.71	0.00	52.37	73.98	-21.61
*	21040.00	Average	V	-	-	-79.63	17.67	-9.54	35.50	53.98	-18.48
*	21040.00	Peak	V	-	-	-68.75	17.67	-9.54	46.38	73.98	-27.60
	26300.00	Peak	V	-	-	-69.21	20.29	-9.54	48.53	68.20	-19.67

Table 7-64. Radiated Measurements MIMO/CDD

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

802.11a 6Mbps 1 & 3 Meters 5280MHz 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	V	-	-	-69.38	13.25	0.00	50.87	68.20	-17.33
*	15840.00	Average	V	-	-	-85.28	14.86	0.00	36.58	53.98	-17.40
*	15840.00	Peak	V	-	-	-69.93	14.86	0.00	51.93	73.98	-22.05
*	21120.00	Average	V	-	-	-80.25	17.83	-9.54	35.04	53.98	-18.94
*	21120.00	Peak	V	-	-	-67.30	17.83	-9.54	47.99	73.98	-25.99
	26400.00	Peak	V	-	-	-68.05	20.07	-9.54	49.48	68.20	-18.72

Table 7-65. Radiated Measurements MIMO/CDD

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	Test Dates: EUT Type:		Daga 202 of 250
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Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
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	V	-	-	-85.06	14.05	0.00	35.99	53.98	-17.99
*	10640.00	Peak	V	-	-	-69.56	14.05	0.00	51.49	73.98	-22.49
*	15960.00	Average	V	-	-	-85.45	14.67	0.00	36.22	53.98	-17.76
*	15960.00	Peak	V	-	-	-70.41	14.67	0.00	51.26	73.98	-22.72
*	21280.00	Average	V	-	-	-81.26	17.98	-9.54	34.17	53.98	-19.81
*	21280.00	Peak	V	-	-	-69.89	17.98	-9.54	45.55	73.98	-28.43
	26600.00	Peak	V	-	-	-54.21	4.42	-9.54	47.67	68.20	-20.53

Table 7-66. Radiated Measurements MIMO/CDD

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	V	-	-	-84.88	14.05	0.00	36.17	53.98	-17.81
*	10640.00	Peak	V	-	-	-68.35	14.05	0.00	52.70	73.98	-21.28
*	15960.00	Average	V	-	-	-85.11	14.67	0.00	36.56	53.98	-17.42
*	15960.00	Peak	V	-	-	-69.99	14.67	0.00	51.68	73.98	-22.30
*	21280.00	Average	V	-	-	-80.88	17.98	-9.54	34.55	53.98	-19.42
*	21280.00	Peak	V	-	-	-69.57	17.98	-9.54	45.86	73.98	-28.11
	26600.00	Peak	V	-	-	-54.31	4.42	-9.54	47.57	68.20	-20.63

Table 7-67. Radiated Measurements MIMO/CDD with WCP

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 202 of 250	
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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	V	400	333	-81.95	13.68	0.00	38.73	53.98	-15.25
*	11000.00	Peak	V	400	333	-67.26	13.68	0.00	53.42	73.98	-20.56
	16500.00	Peak	V	256	346	-65.46	15.70	0.00	57.24	68.20	-10.96
	22000.00	Peak	V	-	-	-69.83	18.43	-9.54	46.06	68.20	-22.14
	27500.00	Peak	V	150	291	-47.64	3.16	-9.54	52.97	68.20	-15.23

 Table 7-68. Radiated Measurements MIMO/CDD

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	V	398	339	-81.16	13.68	0.00	39.52	53.98	-14.46
*	11200.00	Peak	V	398	339	-66.85	13.68	0.00	53.83	73.98	-20.15
	16800.00	Peak	V	359	361	-65.19	16.64	0.00	58.45	68.20	-9.75
*	22400.00	Average	V	-	-	-81.24	19.18	-9.54	35.40	53.98	-18.58
*	22400.00	Peak	V	-	-	-69.34	19.18	-9.54	47.30	73.98	-26.68
	28000.00	Peak	V	150	230	-49.08	4.80	-9.54	53.18	68.20	-15.02

Table 7-69. Radiated Measurements MIMO/CDD

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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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	V	329	340	-80.79	14.36	0.00	40.57	53.98	-13.41
*	11440.00	Peak	V	329	340	-65.89	14.36	0.00	55.47	73.98	-18.51
	17160.00	Peak	V	247	356	-64.24	18.30	0.00	61.06	68.20	-7.14
*	22880.00	Average	V	-	-	-80.06	18.88	-9.54	36.27	53.98	-17.71
*	22880.00	Peak	V	-	-	-69.42	18.88	-9.54	46.92	73.98	-27.06
	28600.00	Peak	V	150	227	-50.51	3.32	-9.54	50.26	68.20	-17.94

Table 7-70. Radiated Measurements MIMO/CDD

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]
*	11440.00	Average	V	-	-	-81.34	14.36	0.00	40.02	53.98	-13.96
*	11440.00	Peak	V	-	-	-66.85	14.36	0.00	54.51	73.98	-19.47
	17160.00	Peak	V	-	-	-65.11	18.30	0.00	60.19	68.20	-8.01
	22880.00	Average	V	-	-	-81.25	18.88	-9.54	35.09	53.98	-18.89
	22880.00	Peak	V	-	-	-69.35	18.88	-9.54	46.99	73.98	-26.99
	28600.00	Peak	V	-	-	-50.21	3.32	-9.54	50.57	68.20	-17.63

Table 7-71. Radiated Measurements MIMO/CDD with WCP

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 205 of 250
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Worst Case Mode:	802.11a			
Worst Case Transfer Rate:	6Mbps			
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	V	353	346	-80.25	14.31	0.00	41.06	53.98	-12.92
*	11490.00	Peak	V	353	346	-65.62	14.31	0.00	55.69	73.98	-18.29
	17235.00	Peak	V	235	359	-64.53	18.97	0.00	61.44	68.20	-6.76
*	22980.00	Average	V	-	-	-80.41	19.03	-9.54	36.08	53.98	-17.90
*	22980.00	Peak	V	-	-	-68.34	19.03	-9.54	48.15	73.98	-25.83
	28725.00	Peak	V	150	227	-48.04	3.65	-9.54	53.07	69.20	-16.13

Table 7-72. Radiated Measurements MIMO/CDD

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

	802.11a
	6Mbps
	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	V	398	347	-80.02	14.29	0.00	41.27	53.98	-12.71
*	11570.00	Peak	V	398	347	-65.69	14.29	0.00	55.60	73.98	-18.38
	17355.00	Peak	V	189	358	-68.79	22.89	0.00	61.10	68.20	-7.10
	23140.00	Peak	V	-	-	-69.82	18.82	-9.54	46.46	68.20	-21.74
	28925.00	Peak	V	150	227	-47.74	4.50	-9.54	54.22	68.20	-13.98

Table 7-73. Radiated Measurements MIMO/CDD

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager						
Test Report S/N:	Test Dates:	EUT Type:		Dage 206 of 250						
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Worst Case Mode:	802.11a			
Worst Case Transfer Rate:	6Mbps			
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	V	255	345	-81.11	14.60	0.00	40.49	53.98	-13.49
*	11650.00	Peak	V	255	345	-66.86	14.60	0.00	54.74	73.98	-19.24
	17475.00	Peak	V	234	1	-66.73	21.63	0.00	61.90	68.20	-6.30
	23300.00	Peak	V	-	-	-68.62	18.40	-9.54	47.24	68.20	-20.96
	29125.00	Peak	V	150	227	-46.81	2.23	-9.54	52.88	68.20	-15.32

 Table 7-74. Radiated Measurements MIMO/CDD

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	V	-	-	-81.39	14.60	0.00	40.21	53.98	-13.77
*	11650.00	Peak	V	-	-	-67.01	14.60	0.00	54.59	73.98	-19.39
	17475.00	Peak	V	-	-	-67.11	21.63	0.00	61.52	68.20	-6.68
	23300.00	Peak	V	-	-	-70.33	18.40	-9.54	45.53	68.20	-22.67
	29125.00	Peak	V	-	-	-50.11	2.23	-9.54	49.58	68.20	-18.62

Table 7-75. Radiated Measurements MIMO/CDD with WCP

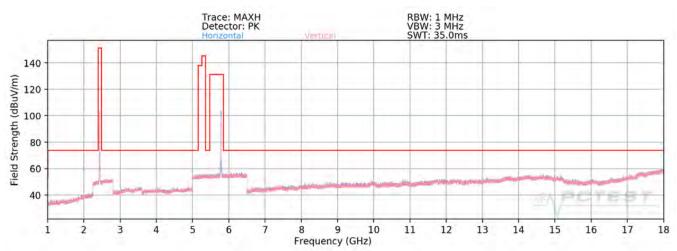
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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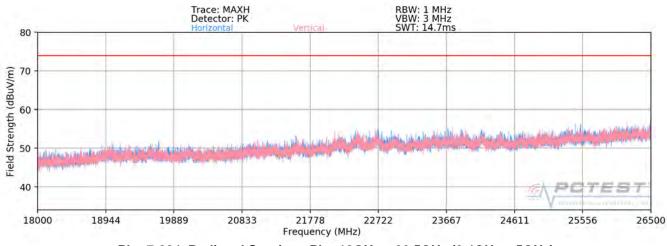
# 7.6.4 Simultaneous Tx Radiated Spurious Emissions Measurements §15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Description	2.4 GHz Emission	5 GHz Emission
Antenna	1	2
Channel	6	157
Operating Frequency (MHz)	2437	5785
Data Rate (Mbps)	1	6
Mode	802.11b	802.11a

Table 7-76. Simultaneous Transmission Config-1



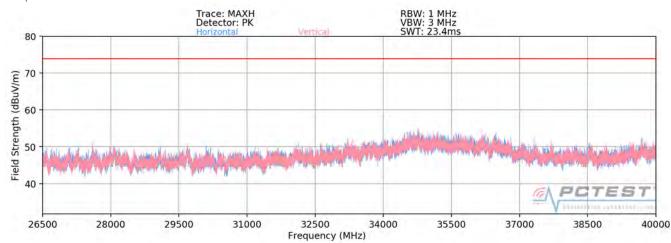
Plot 7-283. Radiated Spurious Plot above 1GHz (2.4GHz – 5GHz)



Plot 7-284. Radiated Spurious Plot 18GHz – 26.5GHz (2.4GHz – 5GHz)

FCC ID: A3LSMG977T	INVESTOR DEPENDENCE	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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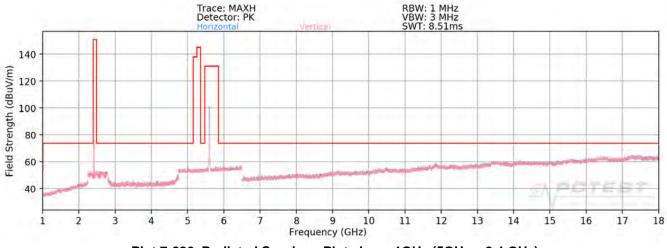
Plot 7-285. Radiated Spurious Plot above 26.5GHz (2.4GHz - 5GHz)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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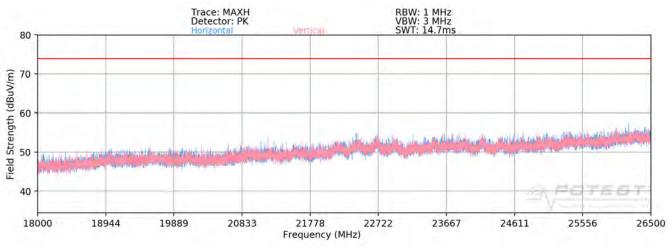


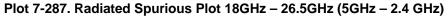
Description	2.4 GHz Emission	5 GHz Emission
Antenna	2	1
Channel	1	120
Operating Frequency (MHz)	2412	5600
Data Rate (Mbps)	1	6
Mode	802.11b	802.11a

Table 7-77. Simultaneous Transmission Config-2



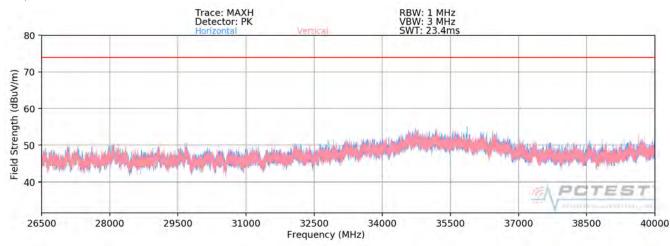






FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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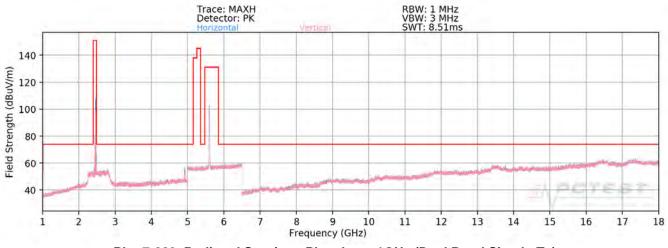
Plot 7-288. Radiated Spurious Plot above 26.5GHz (5GHz - 2.4 GHz)

FCC ID: A3LSMG977T	INVESTIGATION IN	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 211 of 250
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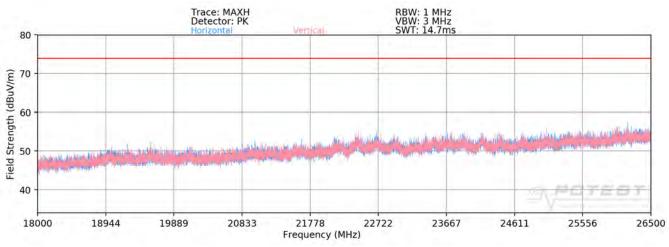


Description	2.4 GHz Emission	5 GHz Emission
Antenna	1, 2	1, 2
Channel	11	120
Operating Frequency (MHz)	2462	5600
Data Rate (Mbps)	6	6
Mode	802.11g	802.11a

Table 7-78. Dual Band Simultaneous Transmission



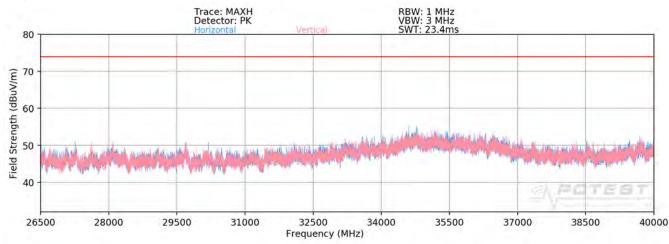
Plot 7-289. Radiated Spurious Plot above 1GHz (Dual Band Simult. Tx)



Plot 7-290. Radiated Spurious Plot 18GHz – 26.5GHz (Dual Band Simult. Tx)

FCC ID: A3LSMG977T	Inside Laborations, lac	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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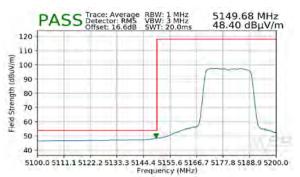
Plot 7-291. Radiated Spurious Plot above 26.5GHz (Dual Band Simult. Tx)

FCC ID: A3LSMG977T	INVESTOR DEPENDENCE	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 212 of 250
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#### 7.6.5 SISO Antenna-1 Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]; RSS-Gen [8.9]

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36
Operating Frequency:	5180MHz

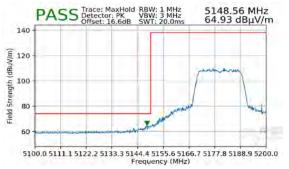


Plot 7-292. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1)

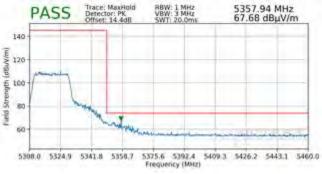
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



Plot 7-294. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A)



Plot 7-293. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 1)



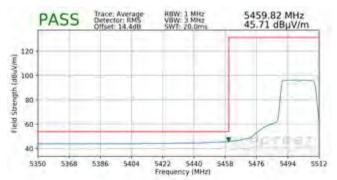
Plot 7-295. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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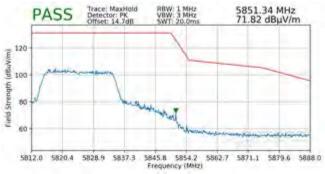


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

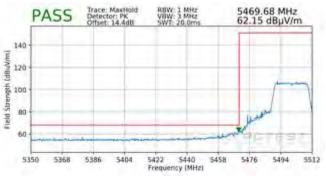


Plot 7-296. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165



Plot 7-298. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3)



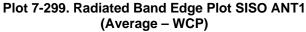
Plot 7-297. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C)

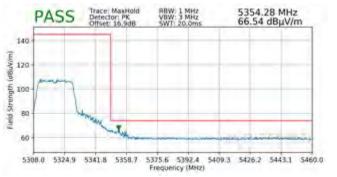
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 245 of 250
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Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64







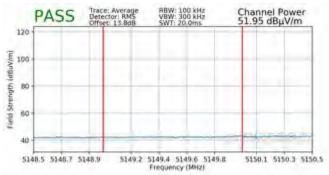


FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 216 of 250
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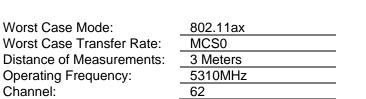


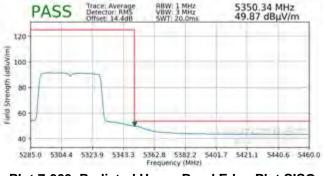
## 7.6.6 SISO Antenna-1 Radiated Band Edge Measurements (40MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

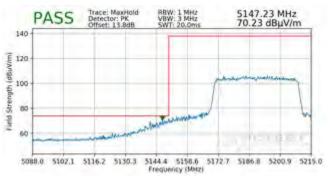


Plot 7-301. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1)

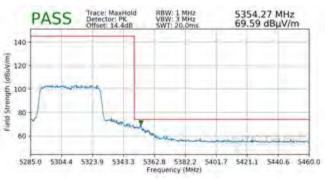




Plot 7-303. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A)



Plot 7-302. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 1)



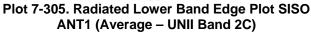
Plot 7-304. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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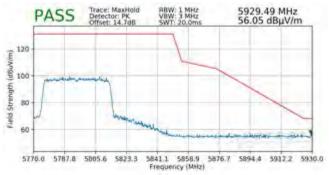


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5510MHz
Channel:	102

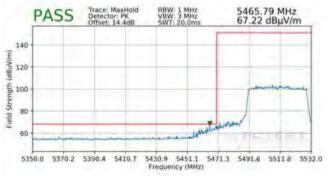




Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5795MHz
Channel:	159



Plot 7-307. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3)

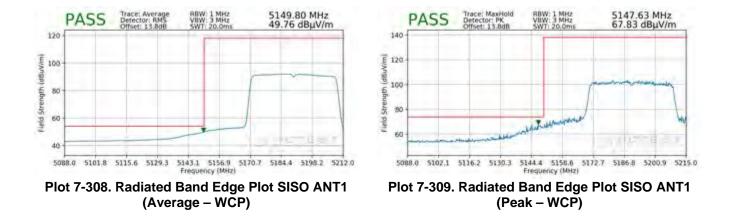


Plot 7-306. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Degree 249 of 250
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Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

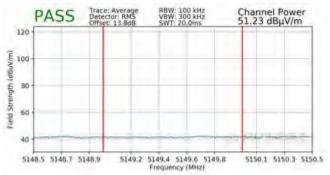


FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 210 of 250
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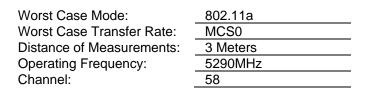


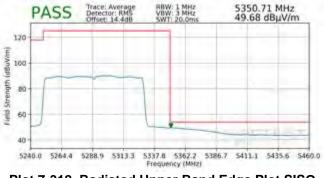
## 7.6.7 SISO Antenna-1 Radiated Band Edge Measurements (80MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

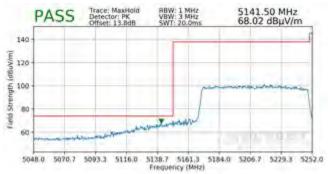


Plot 7-310. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1)

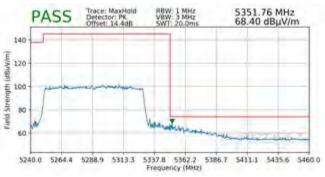




Plot 7-312. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A)



Plot 7-311. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 1)



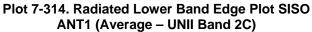
Plot 7-313. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A)

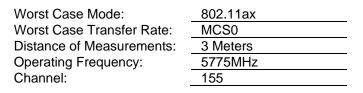
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 220 of 250
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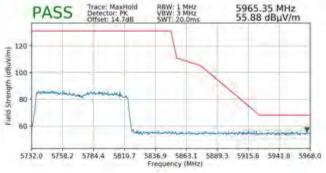


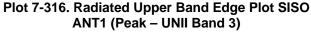
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106

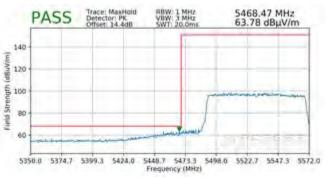










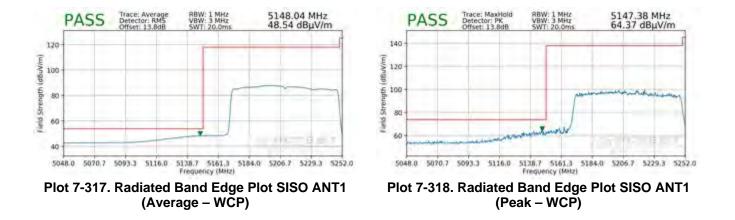


Plot 7-315. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 221 of 250
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Worst Case Mode:802.11axWorst Case Transfer Rate:MCS0Distance of Measurements:3 MetersOperating Frequency:5210MHzChannel:42

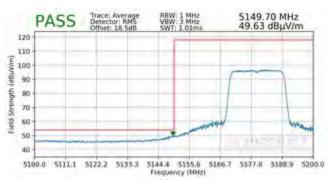


FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 000 of 050
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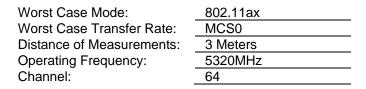


## 7.6.8 SISO Antenna-2 Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36
Distance of Measurements: Operating Frequency:	3 Meters 5180MHz

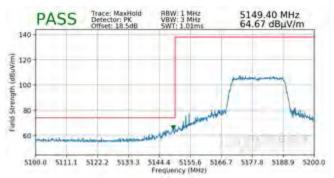


Plot 7-319. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1)

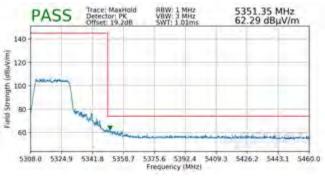




Plot 7-321. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A)



Plot 7-320. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1)



Plot 7-322. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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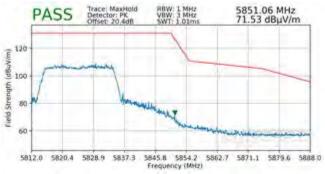


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

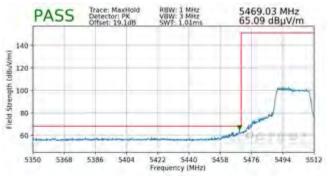


Plot 7-323. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C)

802.11ac
MCS0
3 Meters
5825MHz
165



Plot 7-325. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3)



Plot 7-324. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C)

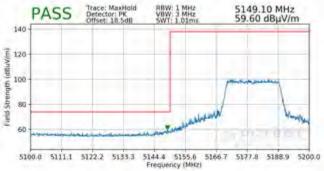
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 224 of 250
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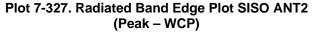


Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36



Plot 7-326. Radiated Band Edge Plot SISO ANT2 (Average – WCP)



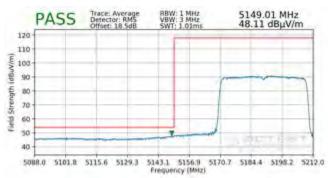


FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 225 of 250
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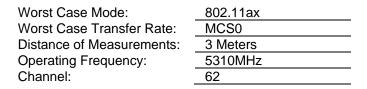


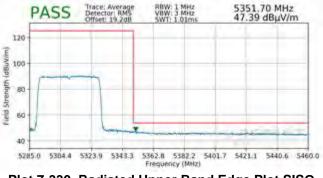
## 7.6.9 SISO Antenna-2 Radiated Band Edge Measurements (40MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38
Distance of Measurements: Operating Frequency:	3 Meters 5190MHz

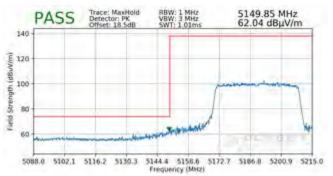


Plot 7-328. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1)

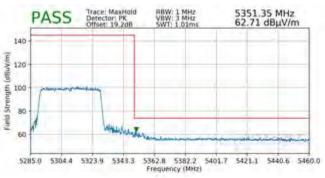




Plot 7-330. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A)



Plot 7-329. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1)



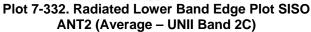
Plot 7-331. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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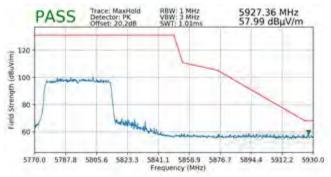


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5510MHz
Channel:	102

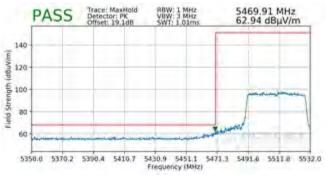




802.11ax
MCS0
3 Meters
5795MHz
159



Plot 7-334. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3)

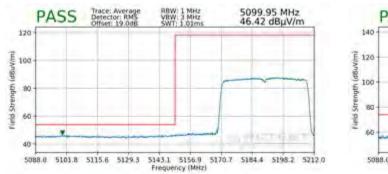


Plot 7-333. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C)

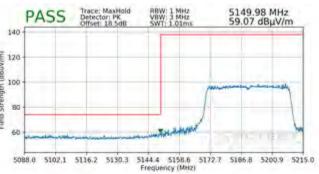
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 227 of 250
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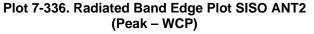


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38



Plot 7-335. Radiated Band Edge Plot SISO ANT2 (Average – WCP)



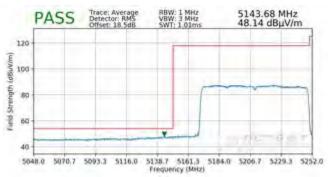


FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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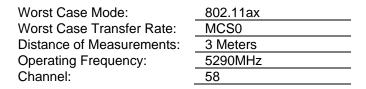


## 7.6.10 SISO Antenna-2 Radiated Band Edge Measurements (80MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

802.11ax
MCS0
3 Meters
5210MHz
42

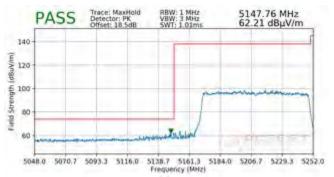


Plot 7-337. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1)

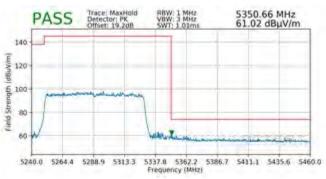




Plot 7-339. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A)



Plot 7-338. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1)



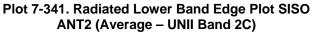
Plot 7-340. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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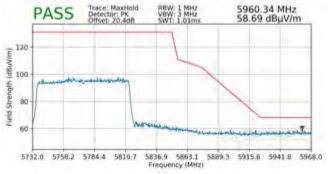


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106

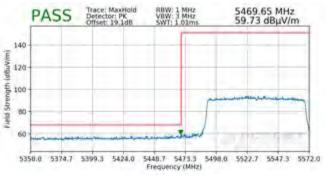




802.11ax
MCS0
3 Meters
5775MHz
155



Plot 7-343. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3)

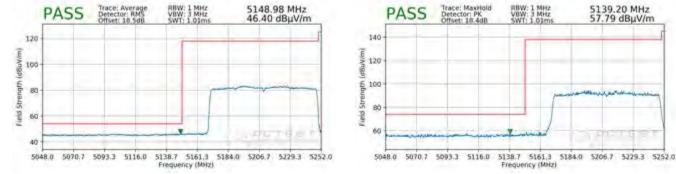


Plot 7-342. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C)

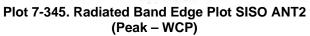
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Degr. 220 of 250
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Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106



Plot 7-344. Radiated Band Edge Plot SISO ANT2 (Average – WCP)



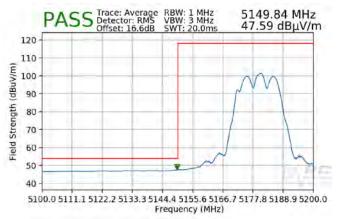
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 024 of 050
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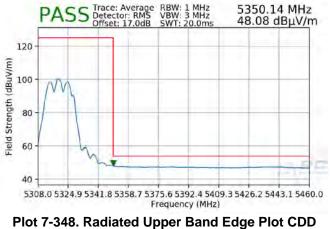
#### 7.6.11 CDD Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

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

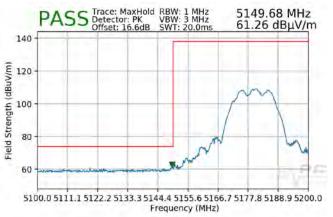


Plot 7-346. Radiated Lower Band Edge Plot CDD (Average – UNII Band 1)

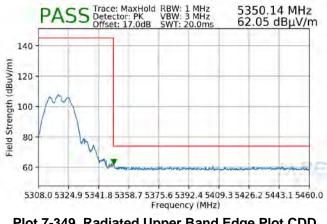
802.11a
6Mbps
3 Meters
5320MHz
64



(Average – UNII Band 2A)



Plot 7-347. Radiated Lower Band Edge Plot CDD (Peak – UNII Band 1)



Plot 7-349. Radiated Upper Band Edge Plot CDD (Peak – UNII Band 2A)

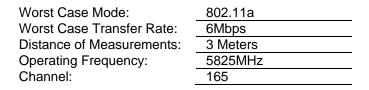
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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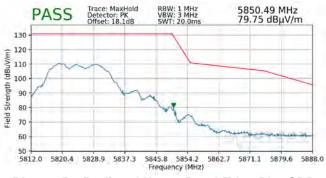


Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

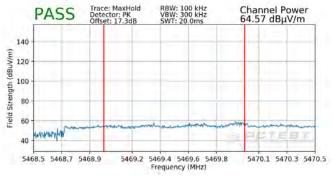


Plot 7-350. Radiated Lower Band Edge Plot CDD (Average – UNII Band 2C)





Plot 7-352. Radiated Upper Band Edge Plot CDD (Peak – UNII Band 3)



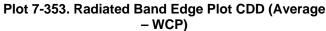


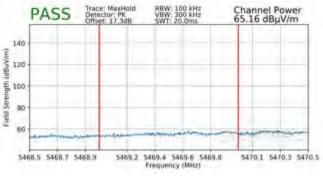
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100







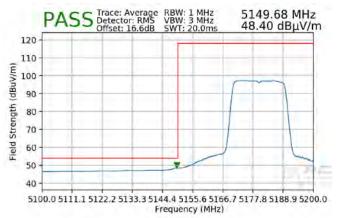


FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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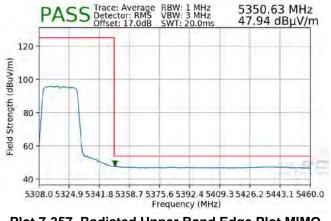
#### 7.6.12 MIMO Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

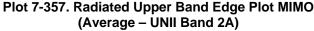
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

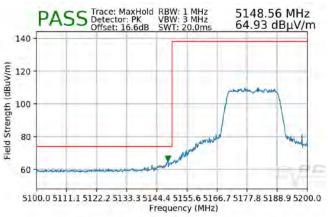


Plot 7-355. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)

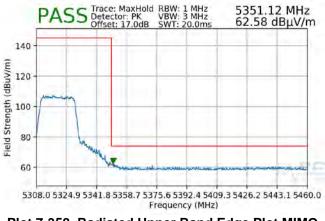
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64







Plot 7-356. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)



Plot 7-358. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

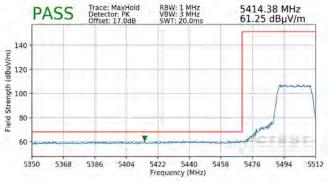


Plot 7-359. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165



Plot 7-361. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3)

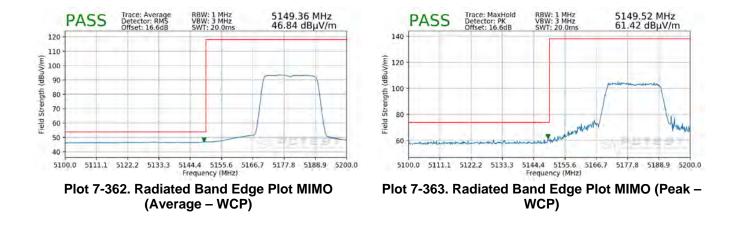


Plot 7-360. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

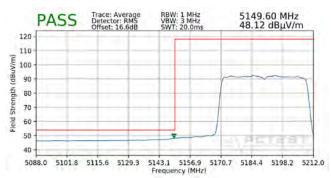


FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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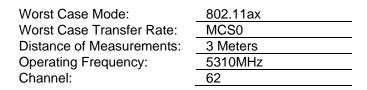


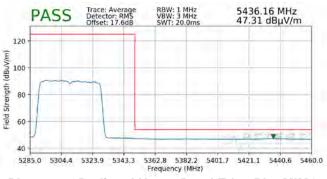
#### 7.6.13 MIMO Radiated Band Edge Measurements (40MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

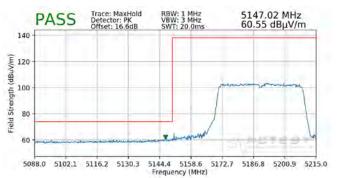


Plot 7-364. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)

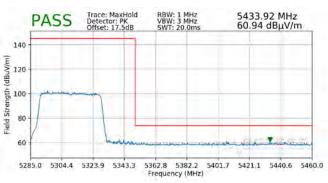




Plot 7-366. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A)



Plot 7-365. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)





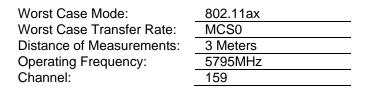
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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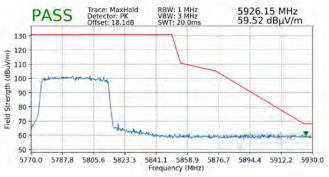


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5510MHz
Channel:	102

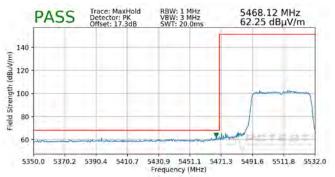


Plot 7-368. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)





Plot 7-370. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3)

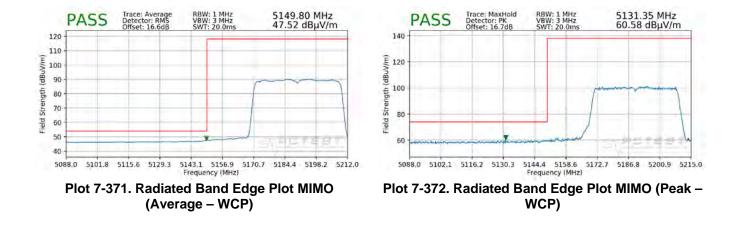


Plot 7-369. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38



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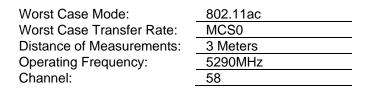


# 7.6.14 MIMO Radiated Band Edge Measurements (80MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

802.11ac
MCS0
3 Meters
5210MHz
42

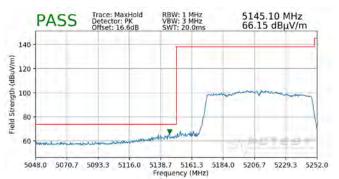


Plot 7-373. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1)

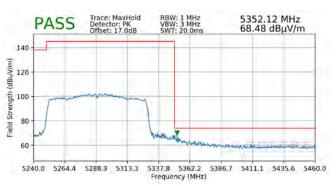




Plot 7-375. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A)



Plot 7-374. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1)



Plot 7-376. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A)

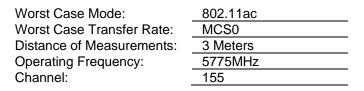
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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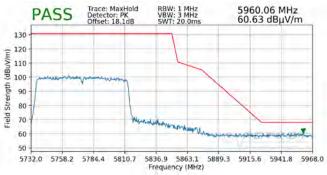


Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106

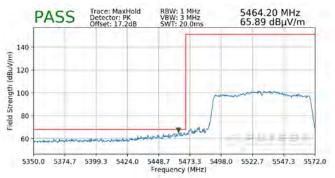


Plot 7-377. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 2C)





Plot 7-379. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3)

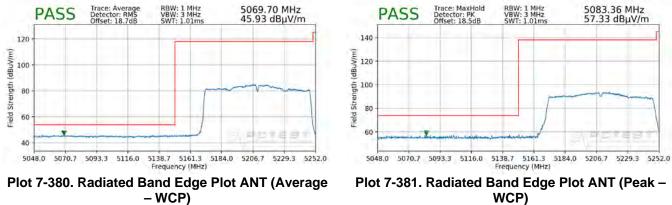


Plot 7-378. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C)

FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Worst Case Mode:	802.11ac
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42



- WCP)

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# 7.7 Radiated Spurious Emissions Measurements – Below 1GHz §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 maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

# 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 7-79 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [μV/m]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 7-79. Radiated Limits

#### **Test Procedures Used**

ANSI C63.10-2013

#### **Test Settings**

#### **Quasi-Peak Field Strength Measurements**

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 120kHz (for emissions from 30MHz 1GHz)
- 3. Detector = quasi-peak
- 4. Sweep time = auto couple
- 5. Trace mode = max hold
- 6. Trace was allowed to stabilize

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# Test Setup

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

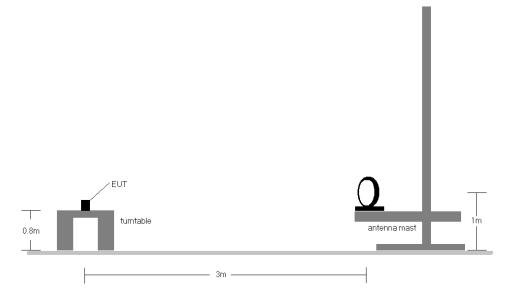
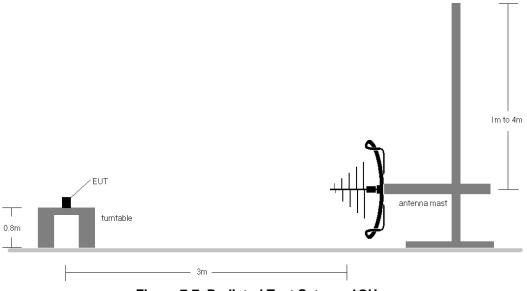
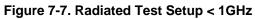


Figure 7-6. Radiated Test Setup < 30MHz





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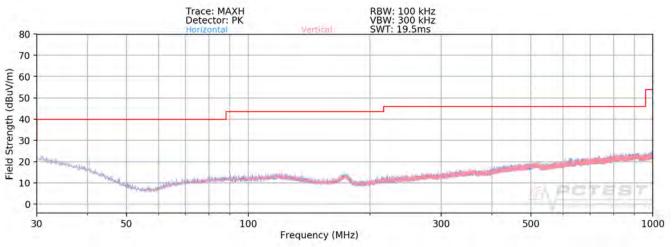


- 1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen (8.10) are below the limit shown in Table 7-79.
- 2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
- 3. This unit was tested with its standard battery.
- 4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
- 5. Emissions were measured at a 3 meter test distance.
- 6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
- 7. No spurious emissions were detected within 20dB of the limit below 30MHz.
- 8. The results recorded using the broadband antenna is known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
- The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. There were no emissions detected in the 30MHz – 1GHz frequency range, as shown in the subsequent plots.

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# MIMO Radiated Spurious Emissions Measurements (Below 1GHz) §15.209; RSS-Gen [8.9]

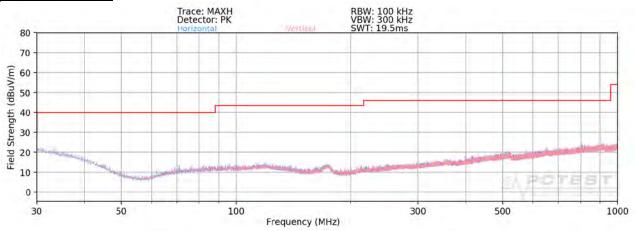


Plot 7-382. Radiated Spurious Plot below 1GHz MIMO (802.11a – U3 Ch. 157)

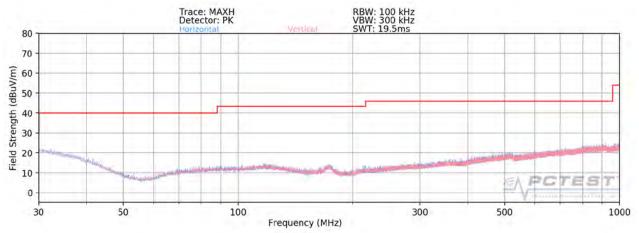
FCC ID: A3LSMG977T		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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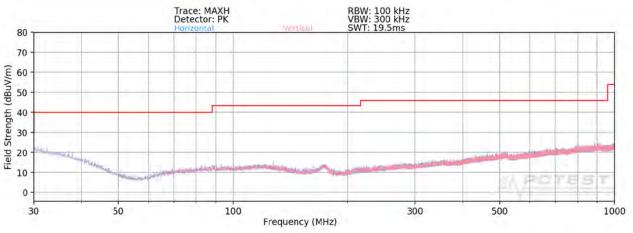
# Simultaneous Tx Radiated Spurious Emissions Measurements (Below 1GHz) §15.209; RSS-Gen [8.9]











Plot 7-385. Radiated Spurious Plot below 1GHz (Dual Band Simult. Tx)

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### 7.8 Line-Conducted Test Data §15.407; RSS-Gen [8.8]

## Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.

# All conducted emissions must not exceed the limits shown in the table below, per Section 15.207 and RSS-Gen (8.8).

Frequency of emission (MHz)	Conducted	Limit (dBµV)
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 7-80. Conducted Limits

\*Decreases with the logarithm of the frequency.

#### **Test Procedures Used**

ANSI C63.10-2013, Section 6.2

#### **Test Settings**

#### **Quasi-Peak Field Strength Measurements**

- 1. Analyzer center frequency was set to the frequency of the spurious emission of interest
- 2. RBW = 9kHz (for emissions from 150kHz 30MHz)
- 3. Detector = quasi-peak
- 4. Sweep time = auto couple
- 5. Trace mode = max hold
- 6. Trace was allowed to stabilize

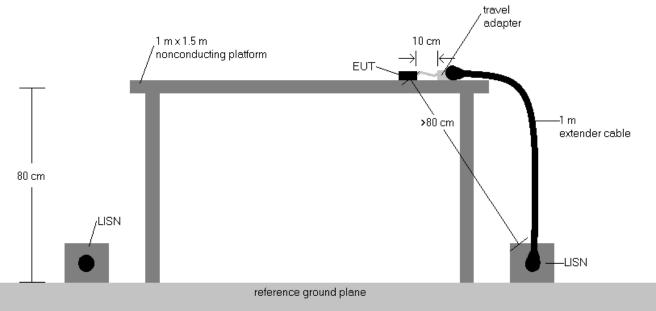
#### Average Field Strength Measurements

- 1. Analyzer center frequency was set to the frequency of the spurious emission of interest
- 2. RBW = 9kHz (for emissions from 150kHz 30MHz)
- 3. Detector = RMS
- 4. Sweep time = auto couple
- 5. Trace mode = max hold
- 6. Trace was allowed to stabilize

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



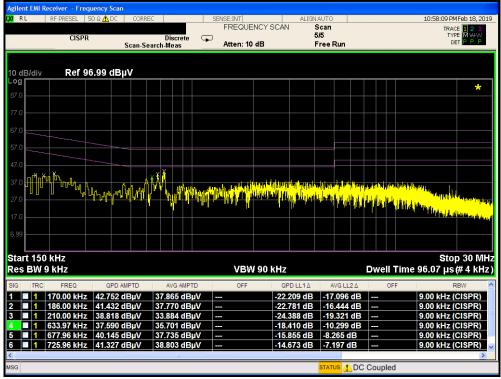


# Test Notes

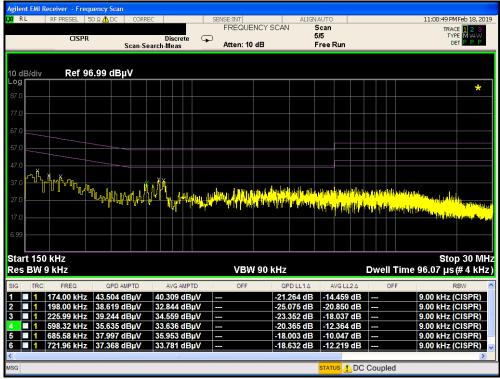
- All modes of operation were investigated and the worst-case emissions are reported using mid channel. The emissions found were not affected by the choice of channel used during testing.
- 2. The limit for an intentional radiator from 150kHz to 30MHz are specified in 15.207 and RSS-Gen (8.8).
- 3. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- 4. QP/AV Level (dB $\mu$ V) = QP/AV Analyzer/Receiver Level (dB $\mu$ V) + Corr. (dB)
- 5. Margin (dB) = QP/AV Limit (dB $\mu$ V) QP/AV Level (dB $\mu$ V)
- 6. Traces shown in plot are made using a peak detector.
- 7. Deviations to the Specifications: None.

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Plot 7-386. Line Conducted Plot with 802.11a UNII Band 1 (L1) with Travel Adapter



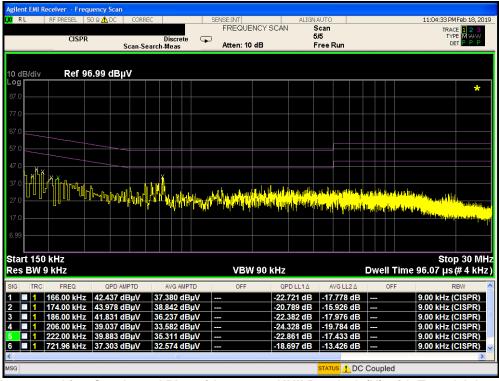
Plot 7-387. Line Conducted Plot with 802.11a UNII Band 1 (N) with Travel Adapter

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99 tart 150 es BW	9 kHz FREQ 178.00 kHz	44.371	l dBµV		9.594	dBµ\	V		-2	OPD LL1A	-14	.985 d	∆ JB ∳	wel	I Tir	me 90	S 6.07   .00 kH	top 30 JS (# 4 RBW z (CISF	) M kH
7.0 99 tart 150 es BW G TRC 1	9 kHz FREQ 178.00 kHz 186.00 kHz	44.371	IdBµV 3dBµV	3	9.594 6.987	dBµ\ dBµ\	V V		-2 -2	DPD LL1A 0.208 dE 1.775 dE	-14 -17	.985 d .227 d	∆ dB dB	)wel	I Tir	me 90 9. 9.	S 6.07 µ .00 kH .00 kH	top 30 Is (# 4 RBW z (CISF z (CISF	0 M kH PR) PR)
99 tart 150 es BW	9 kHz FREQ 178.00 kHz 186.00 kHz 210.00 kHz	44.371 42.438 40.243	IdBµV 3dBµV 3dBµV	3	9.594 6.987 5.425	dBµ\ dBµ\ dBµ\	V V V		-2 -2 -2	0.208 dB 1.775 dB 2.962 dB	-14 -17 -17	.985 d .227 d .781 d	∆ iB iB	)wel	I Tir	me 90 9. 9. 9.	S 6.07   .00 kH .00 kH .00 kH	top 3( JS (# 4 RBW z (CISF z (CISF z (CISF	0 M kH PR) PR) PR)
99 tart 150 es BW	9 kHz FREQ 178.00 kHz 186.00 kHz 210.00 kHz 641.97 kHz	44.371 42.438 40.243 39.061	IdBµV 3dBµV 3dBµV IdBµV	3( 3) 34	9.594 6.987 5.425 4.959	dBµ\ dBµ\ dBµ\ dBµ\	V V V V		-2 -2 -2 -2	2PD LL1A 0.208 dE 1.775 dE 2.962 dE 5.939 dE	-14 -17 -17 -17	.985 d .227 d .781 d .041 d	∆ iB iB iB	)wel	I Tir	me 90 9. 9. 9. 9. 9.	S 6.07   00 kH 00 kH 00 kH	top 3( Is (# 4 RBW z (CISF z (CISF z (CISF z (CISF	0 M kH PR) PR) PR) PR)
art 150 s BW	9 kHz FREQ 178.00 kHz 186.00 kHz 210.00 kHz	44.371 42.438 40.243 39.061 40.165	IdBµV 3dBµV 3dBµV	3( 3) 3/ 3/	9.594 6.987 5.425	dBµ\ dBµ\ dBµ\ dBµ\ dBµ\	V V V V V		-2 -2 -2 -2 -1 -1	0.208 dB 1.775 dB 2.962 dB	-14 -17 -17 -11 -7.8	.985 d .227 d .781 d	∆ iB iB iB iB iB	)wel	I Tir	me 91 9. 9. 9. 9. 9. 9.	S 6.07   .00 kH .00 kH .00 kH .00 kH	top 3( JS (# 4 RBW z (CISF z (CISF z (CISF	0 M kH PR) PR) PR) PR)
99 tart 150 es BW	9 kHz FREQ 178.00 kHz 186.00 kHz 210.00 kHz 641.97 kHz 677.96 kHz	44.371 42.438 40.243 39.061 40.165	I dBµV 3 dBµV 3 dBµV 1 dBµV 5 dBµV	3( 3) 3/ 3/	9.594 6.987 5.425 4.959 8.163	dBµ\ dBµ\ dBµ\ dBµ\ dBµ\	V V V V V		-2 -2 -2 -2 -1 -1	0PD LL1A 0.208 dB 1.775 dB 2.962 dB 6.939 dB 5.835 dB	-14 -17 -17 -11 -7.8	.985 d .227 d .781 d .041 d 337 dE	∆ iB iB iB iB iB	)wel	I Tir	me 91 9. 9. 9. 9. 9. 9.	S 6.07   .00 kH .00 kH .00 kH .00 kH	top 3( Is (# 4 RBW z (CISF z (CISF z (CISF z (CISF z (CISF z (CISF	0 M kH PR) PR) PR) PR) PR)

Plot 7-388. Line Conducted Plot with 802.11a UNII Band 2A (L1) with Travel Adapter



Plot 7-389. Line Conducted Plot with 802.11a UNII Band 2A (N) with Travel Adapter

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