



Plot 7-169. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 52)



Plot 7-170. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMN986JPN	75kd 5 he part of @ demonstration	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 127 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 137 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-171. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 64)



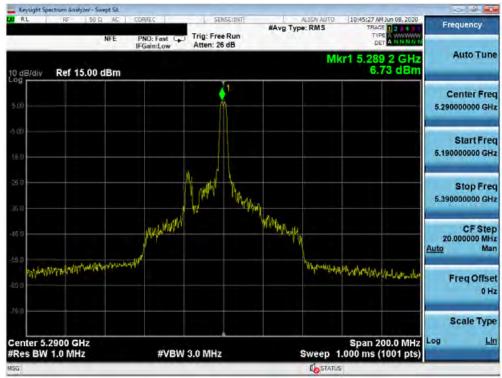
Plot 7-172. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMN986JPN	75kt 6 be gat d @ commerce	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 128 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 138 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-173. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 62)



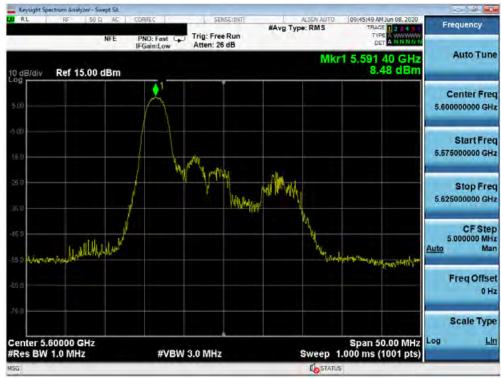
Plot 7-174. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 120 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 139 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-175. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 100)



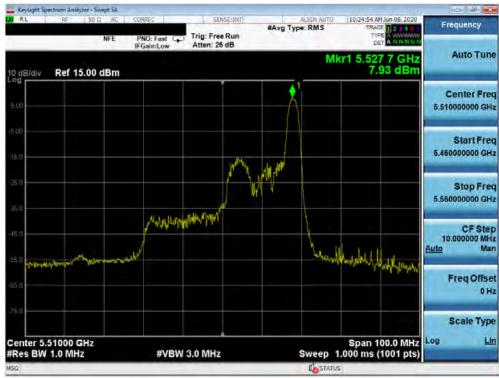
Plot 7-176. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 140 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 140 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-177. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 144)



Plot 7-178. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMN986JPN	75kt 6 be gat d @ commerce	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 111 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 141 of 292
© 2020 PCTEST				V 9.0 02/01/2019





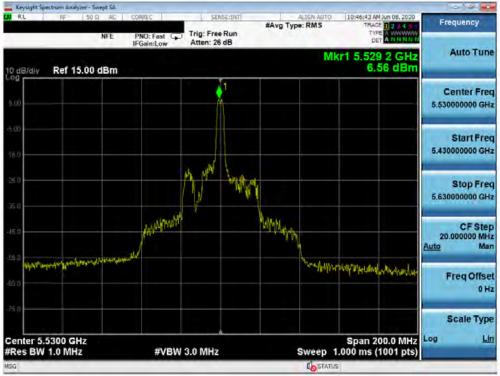
Plot 7-179. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 118)



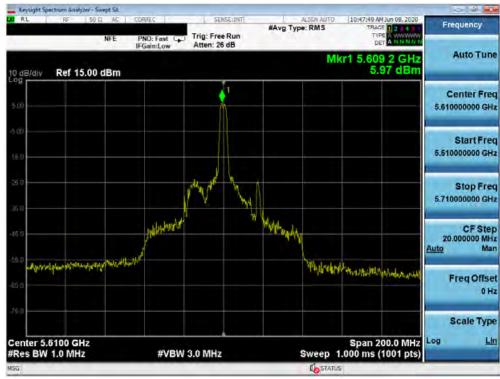
Plot 7-180. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 142 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 142 of 292
© 2020 PCTEST		•		V 9.0 02/01/2019





Plot 7-181. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 106)



Plot 7-182. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 142 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 143 of 292
© 2020 PCTEST	-	·		V 9.0 02/01/2019





Plot 7-183. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 144 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 144 of 292
© 2020 PCTEST				V 9.0 02/01/2019



	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density	Margin [dB]
	5745 149	149	ax (20MHz)	26T	MCS0	6.26	30.00	-23.74
e	5785	157	ax (20MHz)	26T	MCS0	6.24	30.00	-23.76
	5825	165	ax (20MHz)	26T	MCS0	6.10	30.00	-23.90
Band	5755	151	ax (40MHz)	26T	MCS0	6.19	30.00	-23.81
	5795	159	ax (40MHz)	26T	MCS0	6.67	30.00	-23.33
	5775	155	ax (80MHz)	26T	MCS0	7.99	30.00	-22.01

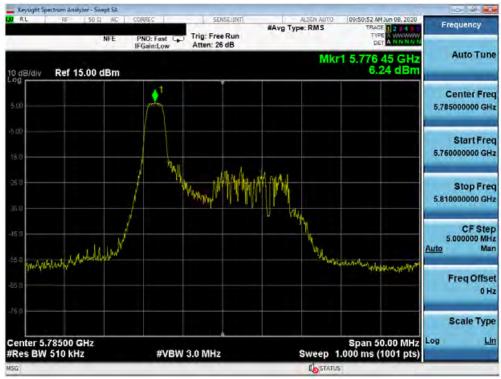
Table 7-60. Band 3 Conducted Power Spectral Density Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 145 of 292
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 145 01 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-184. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 149)



Plot 7-185. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 157)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 146 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 146 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-186. Power Spectral Density Plot SISO ANT2 (20 MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 165)



Plot 7-187. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 151)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 117 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 147 of 292
© 2020 PCTEST	-			V 9.0 02/01/2019





Plot 7-188. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 159)



Plot 7-189. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 155)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 149 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 148 of 292
© 2020 PCTEST				V 9.0 02/01/2019



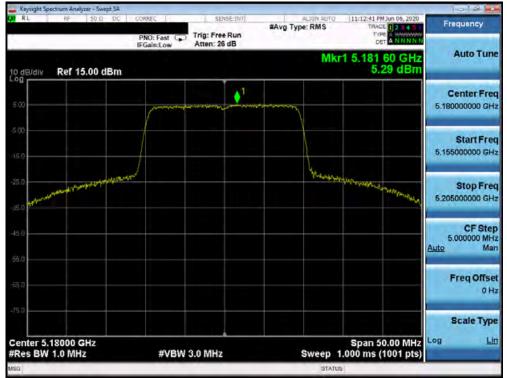
# SISO Antenna-2 Power Spectral Density Measurements (Full Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
	5180	36	ax (20MHz)	242T	MCS0	5.29	11.0	-5.71
	5200	40	ax (20MHz)	242T	MCS0	6.03	11.0	-4.97
Band 1	5240	48	ax (20MHz)	242T	MCS0	5.87	11.0	-5.13
Bar	5190	38	ax (40MHz)	484T	MCS0	2.11	11.0	-8.89
	5230	46	ax (40MHz)	484T	MCS0	2.14	11.0	-8.86
	5210	42	ax (80MHz)	996T	MCS0	-1.43	11.0	-12.43
	5260	52	ax (20MHz)	242T	MCS0	6.33	11.0	-4.67
	5280	56	ax (20MHz)	242T	MCS0	6.35	11.0	-4.65
Band 2A	5320	64	ax (20MHz)	242T	MCS0	5.38	11.0	-5.62
Bane	5270	54	ax (40MHz)	484T	MCS0	2.64	11.0	-8.36
	5310	62	ax (40MHz)	484T	MCS0	1.56	11.0	-9.44
	5290	58	ax (80MHz)	996T	MCS0	-2.44	11.0	-13.44
	5500	100	ax (20MHz)	242T	MCS0	5.45	11.0	-5.55
	5580	116	ax (20MHz)	242T	MCS0	4.63	11.0	-6.37
	5700	140	ax (20MHz)	242T	MCS0	5.91	11.0	-5.09
ပ္မ	5510	102	ax (40MHz)	484T	MCS0	2.37	11.0	-8.63
Band 2C	5590	118	ax (40MHz)	484T	MCS0	1.47	11.0	-9.53
Ba	5710	142	ax (40MHz)	484T	MCS0	2.05	11.0	-8.95
	5530	106	ax (80MHz)	996T	MCS0	-1.74	11.0	-12.74
	5610	122	ax (80MHz)	996T	MCS0	-1.88	11.0	-12.88
	5690	138	ax (80MHz)	996T	MCS0	-4.32	11.0	-15.32

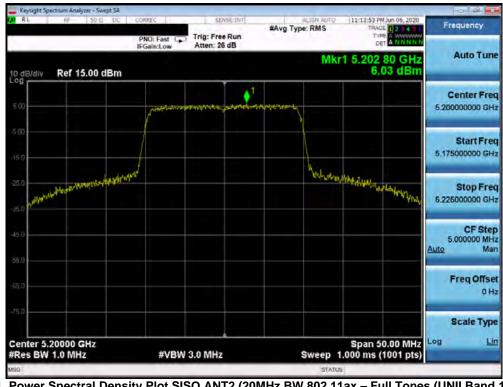
Table 7-61. Conducted Power Spectral Density Measurements SISO ANT2 (Full Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 149 of 292
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 149 01 292
© 2020 PCTEST				V 9.0 02/01/2019





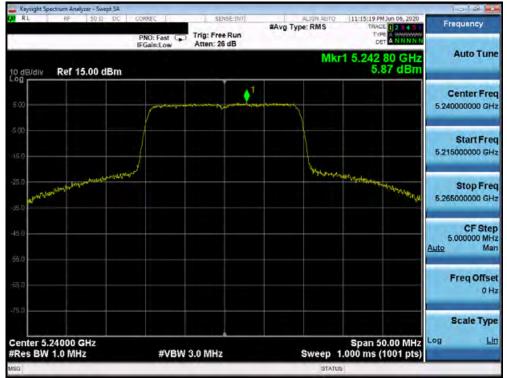
Plot 7-190. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 36)



Plot 7-191. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 40)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 150 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 150 of 292
© 2020 PCTEST				V 9.0 02/01/2019





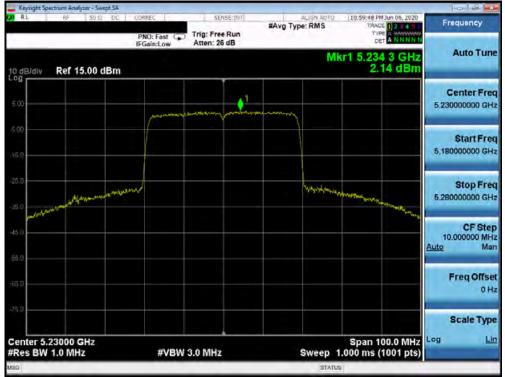
Plot 7-192. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 48)



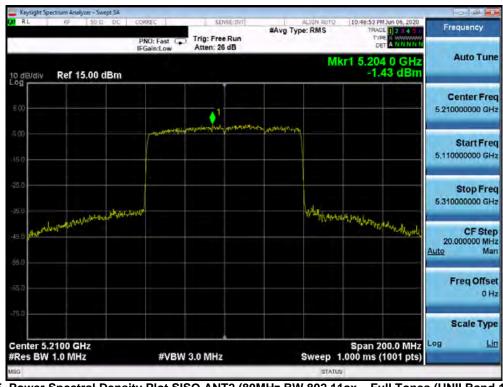
Plot 7-193. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 151 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 151 of 292
© 2020 PCTEST				V 9.0 02/01/2019





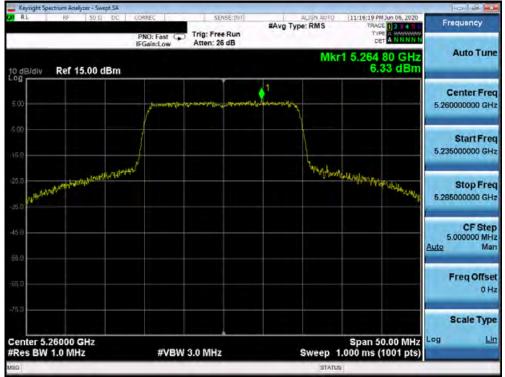
Plot 7-194. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 46)



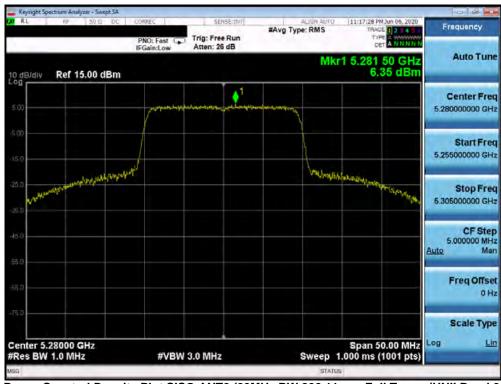
Plot 7-195. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 42)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 152 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 152 of 292
© 2020 PCTEST				V 9.0 02/01/2019





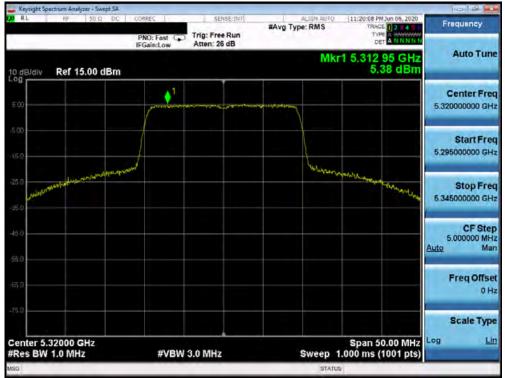
Plot 7-196. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 52)



Plot 7-197. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 152 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset	Page 153 of 292
© 2020 PCTEST			V 9.0 02/01/2019





Plot 7-198. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 64)



Plot 7-199. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 154 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset	Page 154 of 292
© 2020 PCTEST			V 9.0 02/01/2019





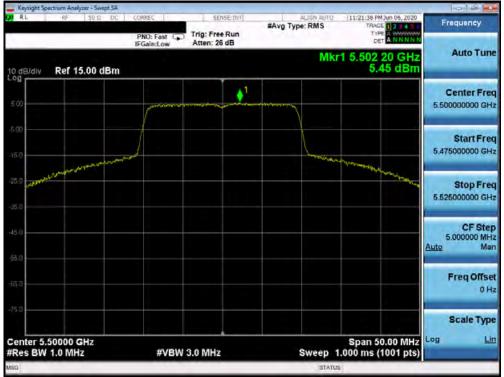
Plot 7-200. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 62)



Plot 7-201. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMN986JPN	Triket & Die gert of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 155 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 155 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-202. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 100)



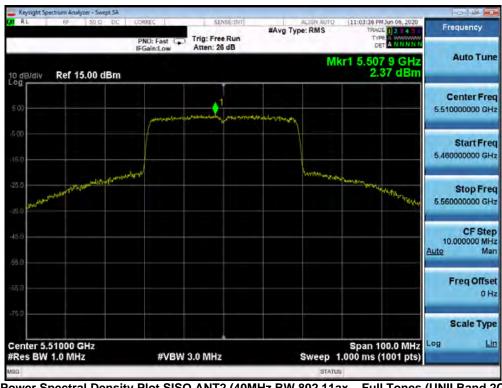
Plot 7-203. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 450 at 000
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 156 of 292
© 2020 PCTEST				V 9.0 02/01/2019





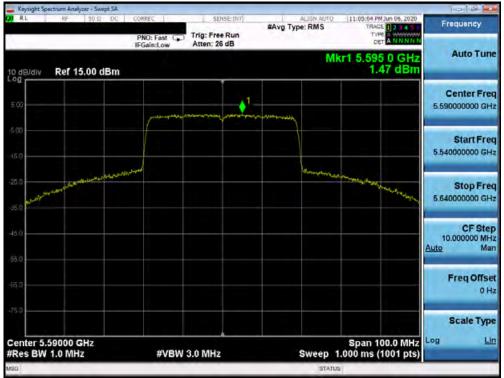
Plot 7-204. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 144)



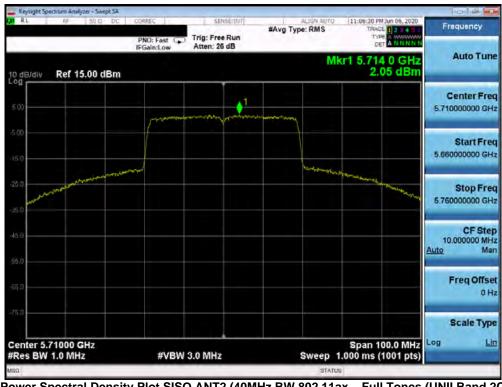
Plot 7-205. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 457 of 000
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 157 of 292
© 2020 PCTEST	·	•		V 9.0 02/01/2019





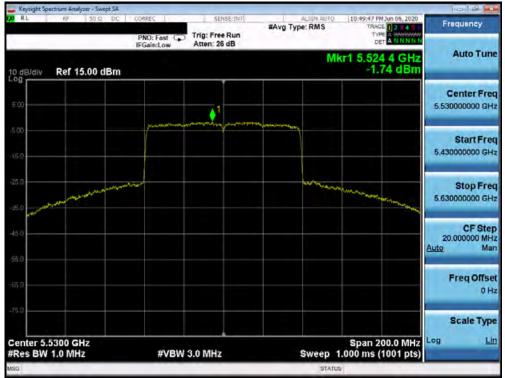
Plot 7-206. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 118)



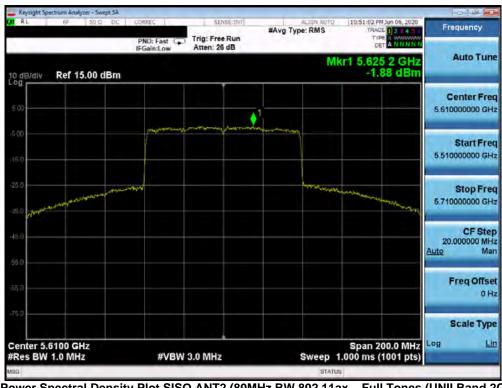
Plot 7-207. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 450 at 000
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 158 of 292
© 2020 PCTEST		•		V 9.0 02/01/2019





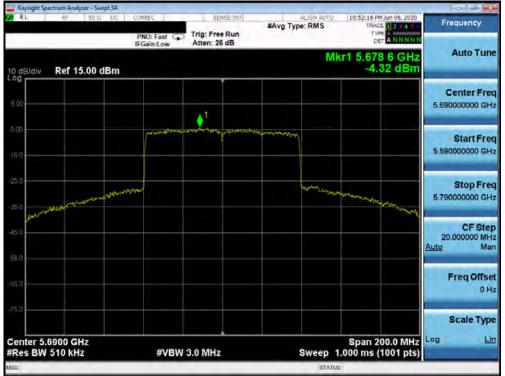
Plot 7-208. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 106)



Plot 7-209. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 450 of 200
1M2006240100-06.A3L	04/17 - 06/12/2020	04/17 - 06/12/2020 Portable Handset		Page 159 of 292
© 2020 PCTEST		•		V 9.0 02/01/2019





Plot 7-210. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	AMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 160 of 292	
1M2006240100-06.A3L	04/17 - 06/12/2020	17 - 06/12/2020 Portable Handset			
© 2020 PCTEST				V 9.0 02/01/2019	



		Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density	Margin [dB]
		5745	149	ax (20MHz)	242T	MCS0	3.22	30.00	-26.78
		5785	157	ax (20MHz)	242T	MCS0	3.37	30.00	-26.63
	d 3	5825	165	ax (20MHz)	242T	MCS0	2.93	30.00	-27.07
	Band	5755	151	ax (40MHz)	484T	MCS0	-0.28	30.00	-30.28
		5795	159	ax (40MHz)	484T	MCS0	-0.24	30.00	-30.24
		5775	155	ax (80MHz)	996T	MCS0	-1.64	30.00	-31.64

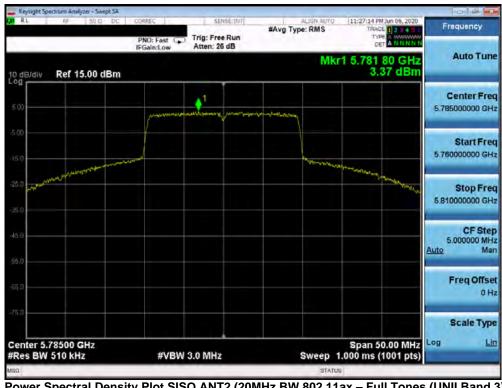
Table 7-62. Band 3 Conducted Power Spectral Density Measurements SISO ANT2 (Full Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	UNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 161 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 161 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-211. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 149)



Plot 7-212. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 157)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	MSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 162 of 202	
1M2006240100-06.A3L 04/17 - 06/12/2020		Portable Handset		Page 162 of 292	
© 2020 PCTEST				V 9.0 02/01/2019	





Plot 7-213. Power Spectral Density Plot SISO ANT2 (20 MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 165)



Plot 7-214. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 151)

FCC ID: A3LSMN986JPN	75kd 6 he part of @ comment	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Daga 162 at 202
1M2006240100-06.A3L 04/17 - 06/12/2020		Portable Handset	Page 163 of 292
© 2020 PCTEST			V 9.0 02/01/2019





Plot 7-215. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 159)



Plot 7-216. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 155)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 164 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 164 of 292
© 2020 PCTEST		•		V 9.0 02/01/2019



## Summed MIMO Power Spectral Density Measurements (26 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
	5180	36	ax (20MHz)	26T	MCS0	4.19	5.01	7.63	11.00	-3.37
	5200	40	ax (20MHz)	26T	MCS0	4.33	5.17	7.78	11.00	-3.22
1 pr	5240	48	ax (20MHz)	26T	MCS0	4.61	5.23	7.94	11.00	-3.06
Band	5190	38	ax (40MHz)	26T	MCS0	4.56	5.21	7.91	11.00	-3.09
	5230	46	ax (40MHz)	26T	MCS0	5.18	5.55	8.38	11.00	-2.62
	5210	42	ax (80MHz)	26T	MCS0	3.89	4.48	7.21	11.00	-3.79
	5260	52	ax (20MHz)	26T	MCS0	4.57	5.13	7.87	11.00	-3.13
∢	5280	56	ax (20MHz)	26T	MCS0	4.31	4.83	7.59	11.00	-3.41
Band 2A	5320	64	ax (20MHz)	26T	MCS0	4.45	4.44	7.46	11.00	-3.54
gan	5270	54	ax (40MHz)	26T	MCS0	4.50	4.86	7.69	11.00	-3.31
	5310	62	ax (40MHz)	26T	MCS0	4.56	4.62	7.60	11.00	-3.40
	5290	58	ax (80MHz)	26T	MCS0	3.43	3.78	6.62	11.00	-4.38
	5500	100	ax (20MHz)	26T	MCS0	5.03	4.69	7.87	11.00	-3.13
	5600	120	ax (20MHz)	26T	MCS0	5.13	4.51	7.84	11.00	-3.16
	5720	144	ax (20MHz)	26T	MCS0	5.10	5.45	8.29	11.00	-2.71
2C	5510	102	ax (40MHz)	26T	MCS0	5.38	4.35	7.91	11.00	-3.09
Band	5590	118	ax (40MHz)	26T	MCS0	5.10	4.73	7.93	11.00	-3.07
Ba	5710	142	ax (40MHz)	26T	MCS0	4.86	4.90	7.89	11.00	-3.11
	5530	106	ax (80MHz)	26T	MCS0	4.27	3.95	7.12	11.00	-3.88
	5610	122	ax (80MHz)	26T	MCS0	4.84	4.11	7.50	11.00	-3.50
	5690	138	ax (80MHz)	26T	MCS0	-10.45	-9.87	-7.14	11.00	-18.14

Table 7-63. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

_		Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density	Margin [dB]
		5745	149	ax (20MHz)	26T	MCS0	3.29	3.50	6.41	30.00	-23.59
	e	5785	157	ax (20MHz)	26T	MCS0	3.14	4.11	6.66	30.00	-23.34
		5825	165	ax (20MHz)	26T	MCS0	2.86	3.69	6.31	30.00	-23.69
	Band	5755	151	ax (40MHz)	26T	MCS0	2.51	2.99	5.77	30.00	-24.23
		5795	159	ax (40MHz)	26T	MCS0	3.51	4.30	6.93	30.00	-23.07
		5775	155	ax (80MHz)	26T	MCS0	4.53	5.21	7.89	30.00	-22.11

Table 7-64. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 165 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 165 of 292	
© 2020 PCTEST				V 9.0 02/01/2019	



	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
	5180	36	ax (20MHz)	242T	MCS0	1.65	1.69	4.68	11.00	-6.32
	5200	40	ax (20MHz)	242T	MCS0	2.70	2.66	5.69	11.00	-5.31
Band 1	5240	48	ax (20MHz)	242T	MCS0	2.58	3.21	5.92	11.00	-5.08
Bar	5190	38	ax (40MHz)	484T	MCS0	-2.90	-2.52	0.30	11.00	-10.70
	5230	46	ax (40MHz)	484T	MCS0	-2.48	-2.56	0.49	11.00	-10.51
	5210	42	ax (80MHz)	996T	MCS0	-7.68	-7.44	-4.55	11.00	-15.55
	5260	52	ax (20MHz)	242T	MCS0	2.48	2.69	5.60	11.00	-5.40
	5280	56	ax (20MHz)	242T	MCS0	2.52	2.68	5.61	11.00	-5.39
Band 2A	5320	64	ax (20MHz)	242T	MCS0	2.66	2.29	5.49	11.00	-5.51
Banc	5270	54	ax (40MHz)	484T	MCS0	-3.00	-2.62	0.20	11.00	-10.80
_	5310	62	ax (40MHz)	484T	MCS0	-4.03	-4.17	-1.09	11.00	-12.09
	5290	58	ax (80MHz)	996T	MCS0	-7.74	-8.00	-4.86	11.00	-15.86
	5500	100	ax (20MHz)	242T	MCS0	2.75	2.53	5.65	11.00	-5.35
	5580	116	ax (20MHz)	242T	MCS0	2.89	2.12	5.53	11.00	-5.47
	5700	140	ax (20MHz)	242T	MCS0	2.83	2.67	5.76	11.00	-5.24
ပ္ရ	5510	102	ax (40MHz)	484T	MCS0	-1.78	-1.93	1.16	11.00	-9.84
Band 2C	5590	118	ax (40MHz)	484T	MCS0	-1.98	-2.53	0.76	11.00	-10.24
ä	5710	142	ax (40MHz)	484T	MCS0	-1.82	-1.51	1.35	11.00	-9.65
	5530	106	ax (80MHz)	996T	MCS0	-7.94	-6.94	-4.40	11.00	-15.40
	5610	122	ax (80MHz)	996T	MCS0	-8.05	-7.56	-4.79	11.00	-15.79
	5690	138	ax (80MHz)	996T	MCS0	-9.42	-9.76	-6.58	11.00	-17.58

Table 7-65. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density	Margin [dB]
	5745	149	ax (20MHz)	242T	MCS0	0.33	-0.12	3.12	30.00	-26.88
	5785	157	ax (20MHz)	242T	MCS0	-0.07	0.04	3.00	30.00	-27.00
od 3	5825	165	ax (20MHz)	242T	MCS0	-0.62	-0.20	2.61	30.00	-27.39
Band	5755	151	ax (40MHz)	484T	MCS0	-3.99	-3.89	-0.93	30.00	-30.93
	5795	159	ax (40MHz)	484T	MCS0	-4.28	-3.72	-0.98	30.00	-30.98
	5775	155	ax (80MHz)	996T	MCS0	-6.33	-6.17	-3.24	30.00	-33.24

Table 7-66. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)

FCC ID: A3LSMN986JPN	PETEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dogo 166 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 166 of 292	
© 2020 PCTEST	•	•		V 9.0 02/01/2019	



#### Note:

Per ANSI C63.10-2013 Section 14.3.2.2 and KDB 662911 v02r01 Section E)2), the power spectral density at Antenna 1 and Antenna 2 were first measured separately with reduced Antenna 1 and Antenna 2 powers per manufacture's tune-up document. 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 was measured to be 5.88 dBm for Antenna-1 and 6.27 dBm for Antenna-2.

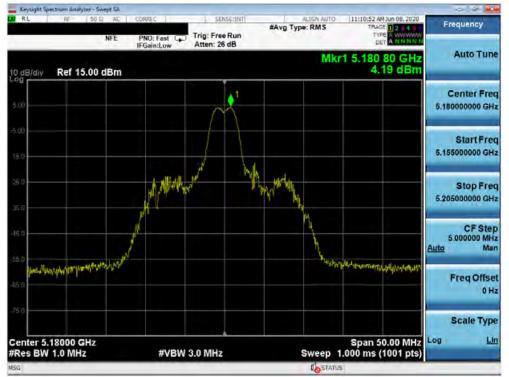
Antenna 1 + Antenna 2 = MIMO

(5.88 dBm + 6.27 dBm) = (3.87 mW + 4.24 mW) = 8.11mW = 9.09 dBm

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 167 of 292
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 167 01 292
© 2020 PCTEST				V 9.0 02/01/2019



### MIMO Antenna-1 Power Spectral Density Measurements (26 Tones)



Plot 7-217. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 36)



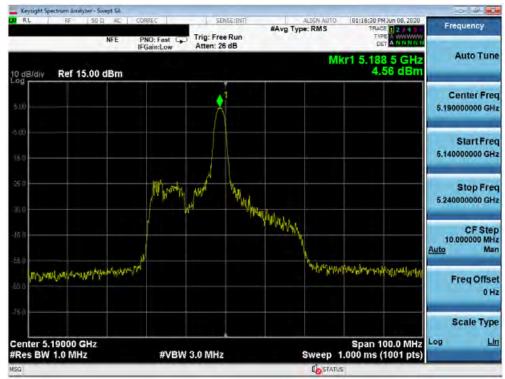
Plot 7-218. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 40)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 169 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 168 of 292
© 2020 PCTEST				V 9 0 02/01/2019





Plot 7-219. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 48)



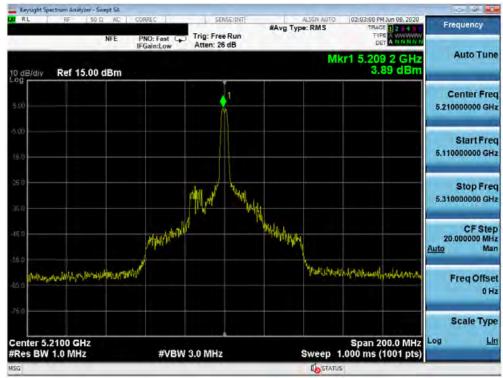
Plot 7-220. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMN986JPN	75kd 6 he part of @ comment	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 160 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset	Page 169 of 292
© 2020 PCTEST			V 9.0 02/01/2019





Plot 7-221. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 46)



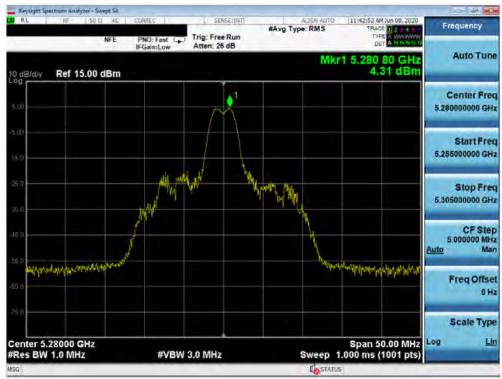
Plot 7-222. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 42)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 170 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 170 of 292	
© 2020 PCTEST				V 9.0 02/01/2019	





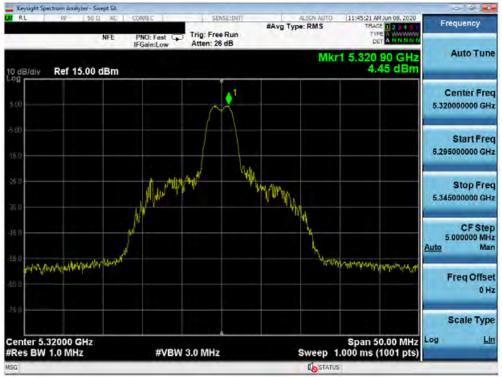
Plot 7-223. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 52)



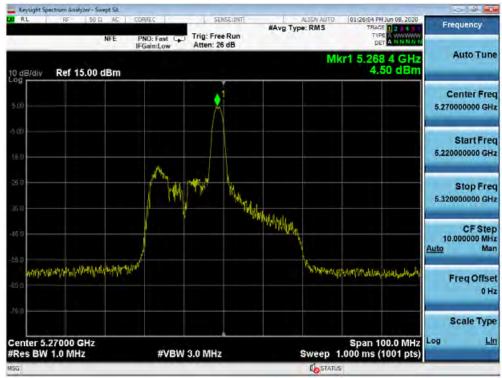
Plot 7-224. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 171 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 171 of 292
© 2020 PCTEST				V 9.0 02/01/2019





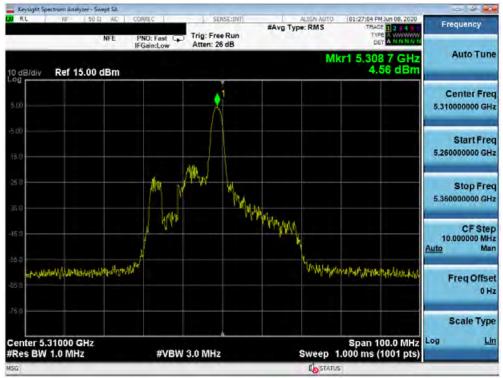
Plot 7-225. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 64)



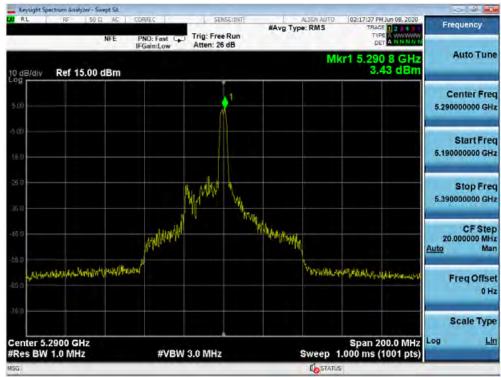
Plot 7-226. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMN986JPN	Triket & Die gert of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 172 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 172 of 292	
© 2020 PCTEST				V 9.0 02/01/2019	





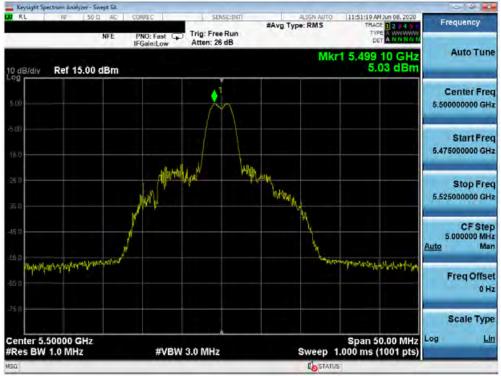
Plot 7-227. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 62)



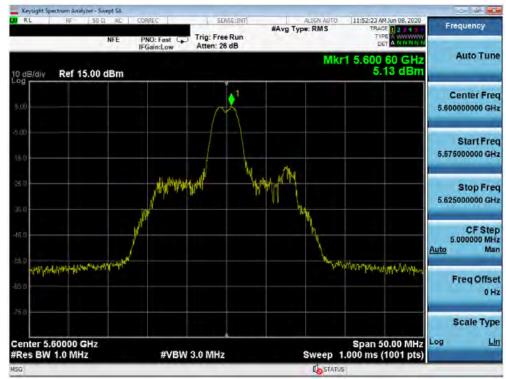
Plot 7-228. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMN986JPN	-75kut 6 be per al @ demore	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 172 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 173 of 292
© 2020 PCTEST		•		V 9.0 02/01/2019





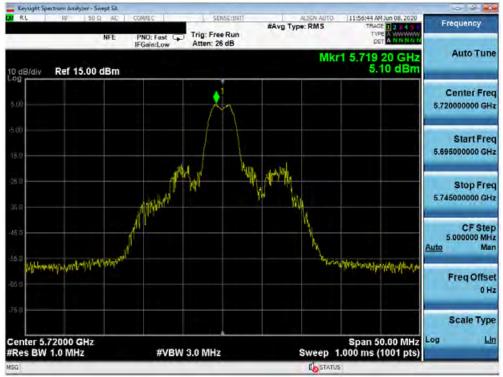
Plot 7-229. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 100)



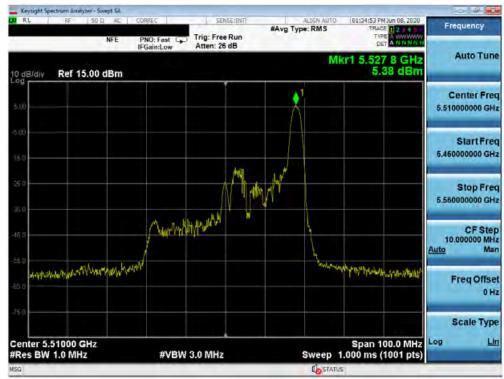
Plot 7-230. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 174 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 174 of 292
© 2020 PCTEST	-	•		V 9.0 02/01/2019





Plot 7-231. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 144)



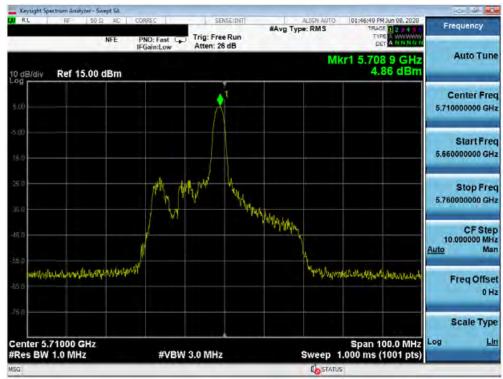
Plot 7-232. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 175 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 175 of 292
© 2020 PCTEST				V 9.0 02/01/2019





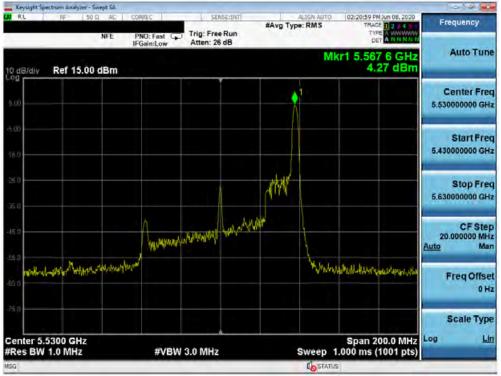
Plot 7-233. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 118)



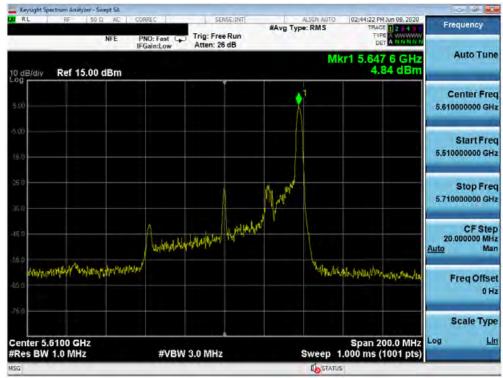
Plot 7-234. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMN986JPN	75kd 6 be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 176 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 176 of 292
© 2020 PCTEST	*	•		V 9.0 02/01/2019





Plot 7-235. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 106)



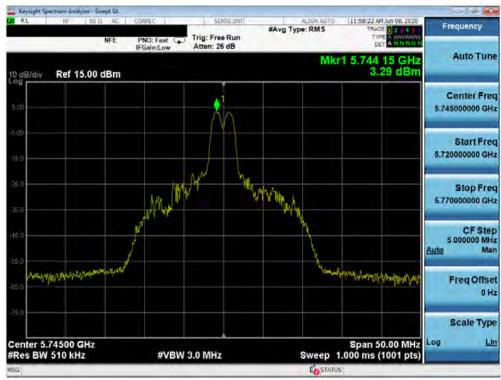
Plot 7-236. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 177 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 177 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-237. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 138)



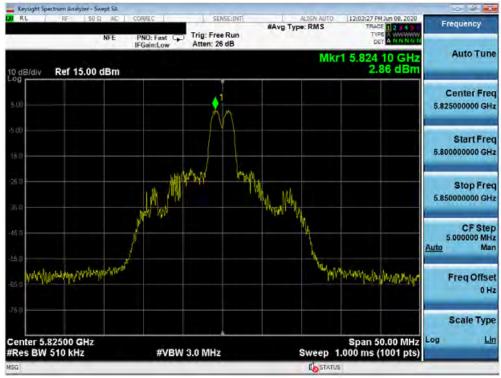
Plot 7-238. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 149)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 179 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 178 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-239. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 157)



Plot 7-240. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 165)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 170 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 179 of 292
© 2020 PCTEST				V 9.0 02/01/2019





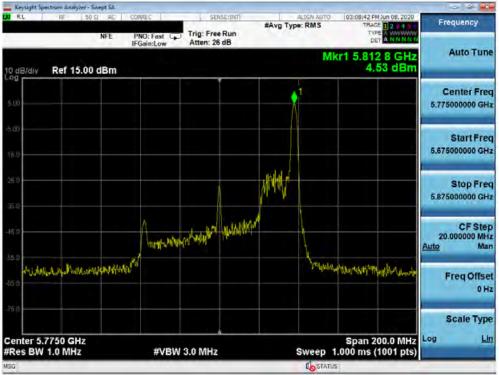
Plot 7-241. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 151)



Plot 7-242. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 159)

FCC ID: A3LSMN986JPN	75kd 6 he part of @ comment	MEASUREMENT REPORT (CERTIFICATION)	NG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 180 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 180 of 292
© 2020 PCTEST				V 9.0 02/01/2019





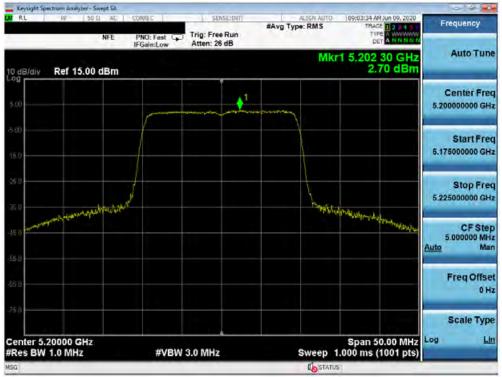
Plot 7-243. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 155)



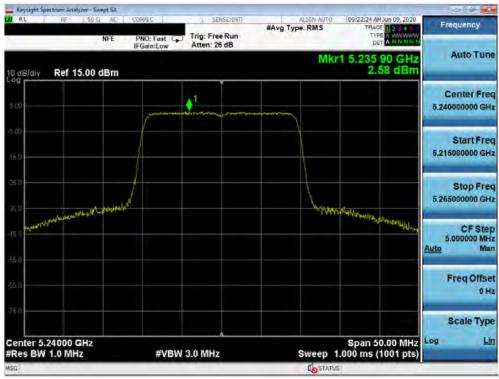
Plot 7-244. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 36)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 191 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 181 of 292
© 2020 PCTEST				V 9.0 02/01/2019





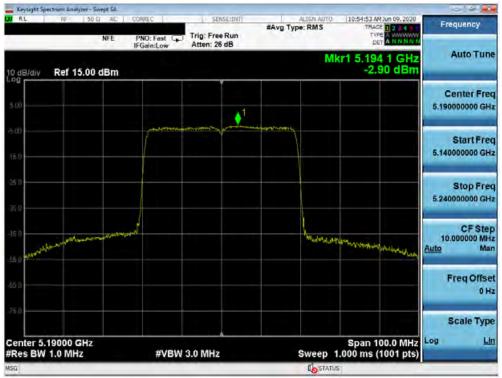
Plot 7-245. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 40)



Plot 7-246. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 48)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 182 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 182 of 292
© 2020 PCTEST	-			V 9.0 02/01/2019





Plot 7-247. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 38)



Plot 7-248. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 46)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 192 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 183 of 292
© 2020 PCTEST	•	•		V 9.0 02/01/2019





Plot 7-249. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 42)



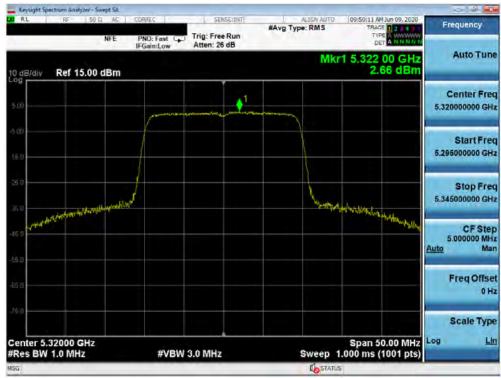
Plot 7-250. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMN986JPN	75kd 6 be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 194 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 184 of 292
© 2020 PCTEST	*	•		V 9.0 02/01/2019





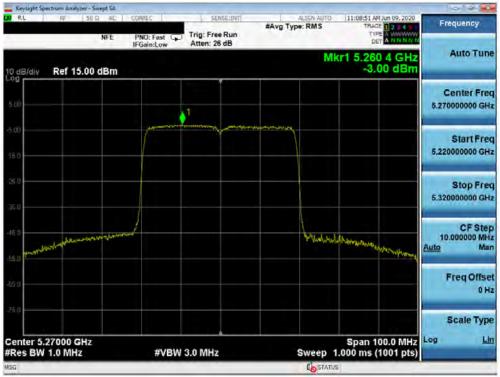
Plot 7-251. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 56)



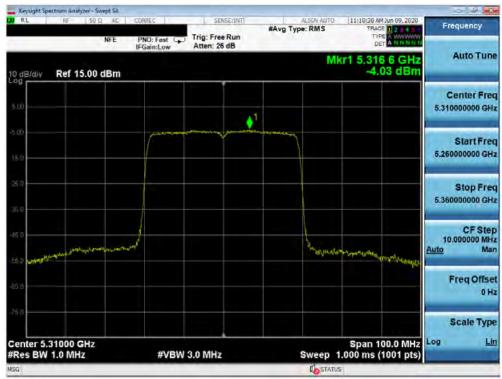
Plot 7-252. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMN986JPN	75kd 6 be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 195 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 185 of 292
© 2020 PCTEST	*	•		V 9.0 02/01/2019





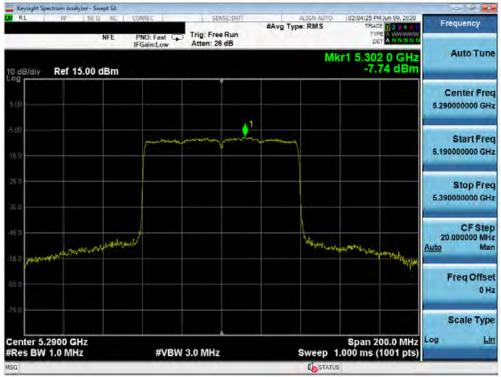
Plot 7-253. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 54)



Plot 7-254. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 196 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 186 of 292
© 2020 PCTEST		·		V 9.0 02/01/2019





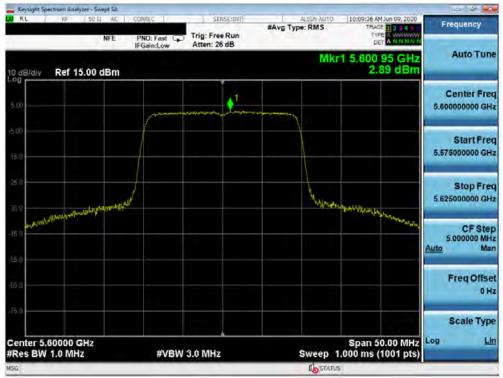
Plot 7-255. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 58)



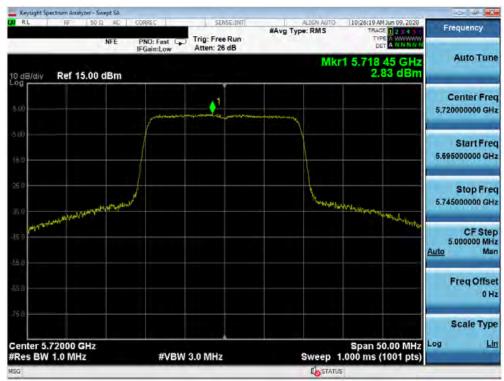
Plot 7-256. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 100)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 197 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 187 of 292
© 2020 PCTEST		·		V 9.0 02/01/2019





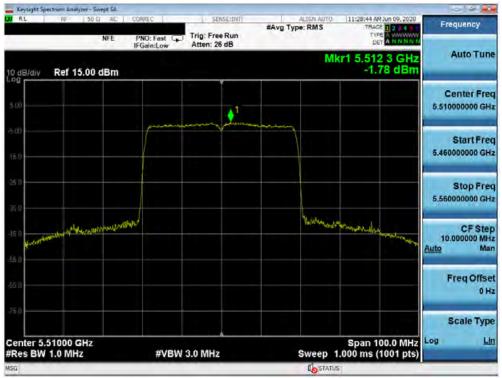
Plot 7-257. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 120)



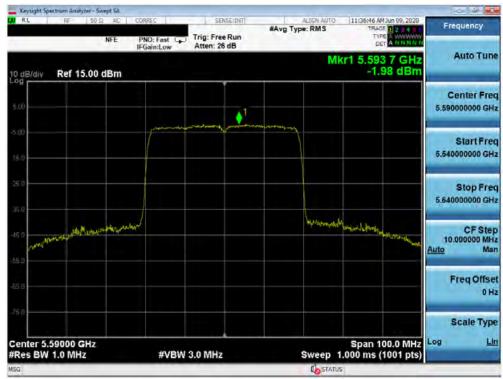
Plot 7-258. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMN986JPN	75kd 6 be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 199 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 188 of 292
© 2020 PCTEST	•	•		V 9.0 02/01/2019





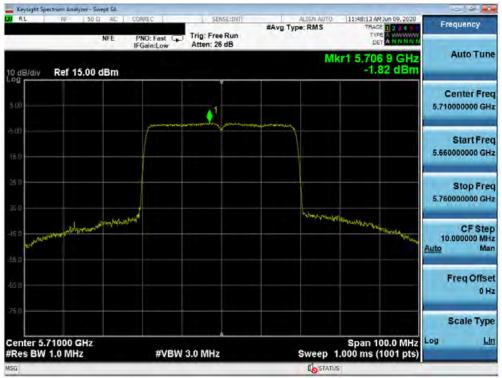
Plot 7-259. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 102)



Plot 7-260. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 118)

FCC ID: A3LSMN986JPN	75kd 6 be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 100 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 189 of 292
© 2020 PCTEST	•	•		V 9.0 02/01/2019





Plot 7-261. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 142)



Plot 7-262. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 106)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 190 of 292
© 2020 PCTEST	-	·		V 9.0 02/01/2019





Plot 7-263. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 122)



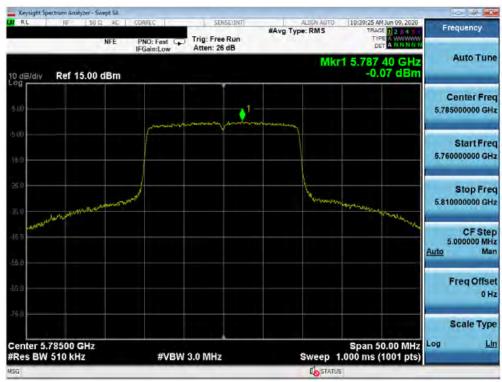
Plot 7-264. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Da za 404 af 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset	Page 191 of 292
© 2020 PCTEST			V 9.0 02/01/2019





Plot 7-265. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 149)



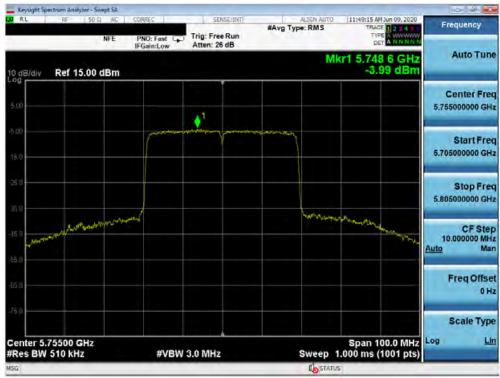
Plot 7-266. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 157)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 102 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 192 of 292
© 2020 PCTEST				V 9.0 02/01/2019





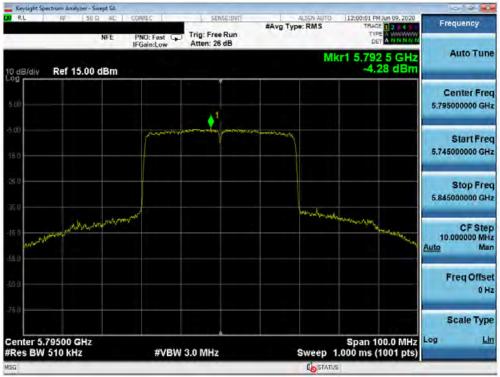
Plot 7-267. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 165)



Plot 7-268. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 151)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 102 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 193 of 292
© 2020 PCTEST	-			V 9.0 02/01/2019





Plot 7-269. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 159)

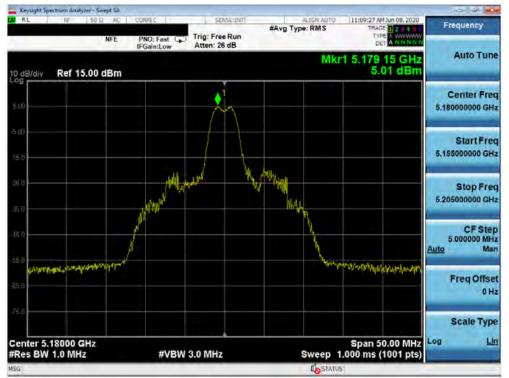


Plot 7-270. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 155)

FCC ID: A3LSMN986JPN	75kt 6 be gat d @ commerce	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 104 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 194 of 292
© 2020 PCTEST				V 9.0 02/01/2019



## MIMO Antenna-2 Power Spectral Density Measurements (26 Tones)



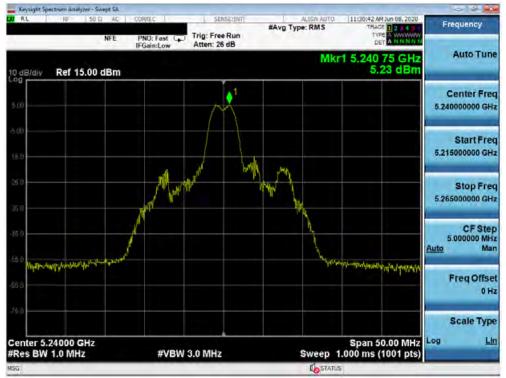
Plot 7-271. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 36)



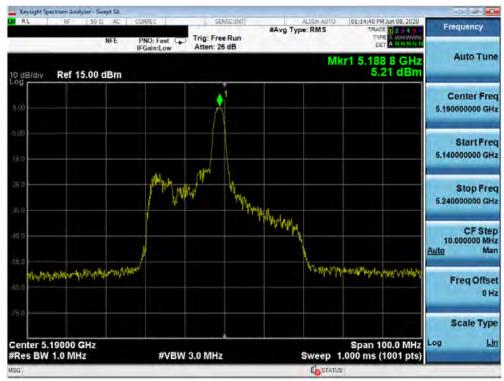
Plot 7-272. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 40)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 105 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 195 of 292
© 2020 PCTEST				V 9 0 02/01/2019





Plot 7-273. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 48)



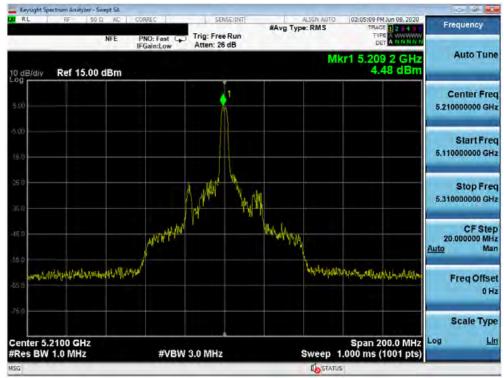
Plot 7-274. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMN986JPN	Tribut to be part of @ eveneer	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 106 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 196 of 292
© 2020 PCTEST				V 9.0 02/01/2019





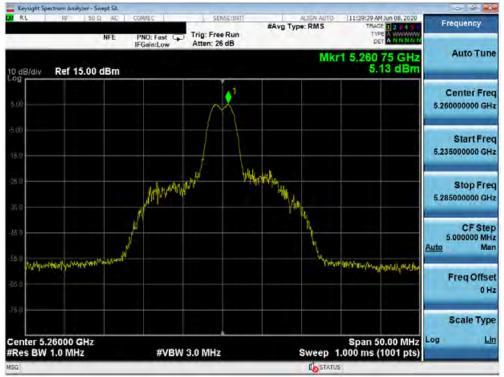
Plot 7-275. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 46)



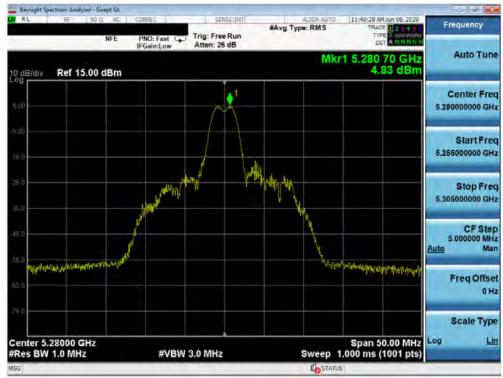
Plot 7-276. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 42)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 107 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 197 of 292
© 2020 PCTEST				V 9.0 02/01/2019





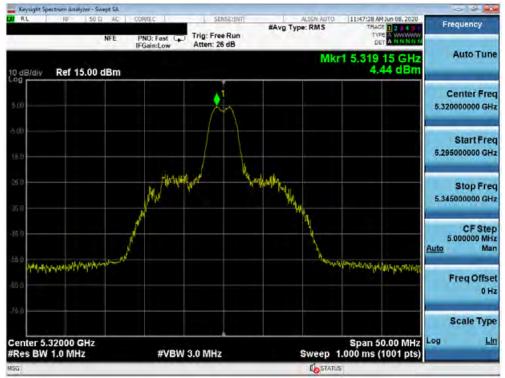
Plot 7-277. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 52)



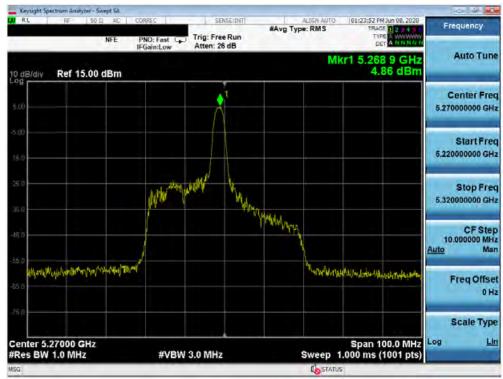
Plot 7-278. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 198 of 292
© 2020 PCTEST	-	•		V 9.0 02/01/2019





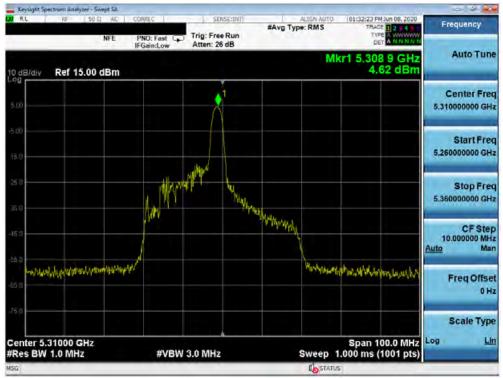
Plot 7-279. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 64)



Plot 7-280. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 100 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 199 of 292
© 2020 PCTEST				V 9.0 02/01/2019





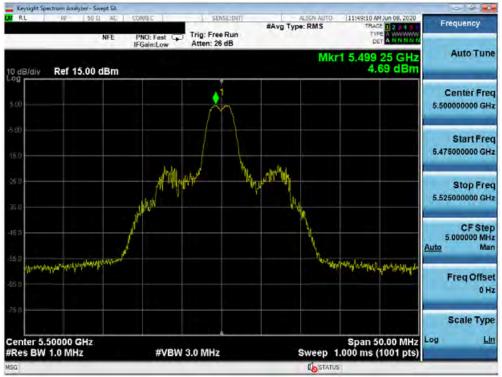
Plot 7-281. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 62)



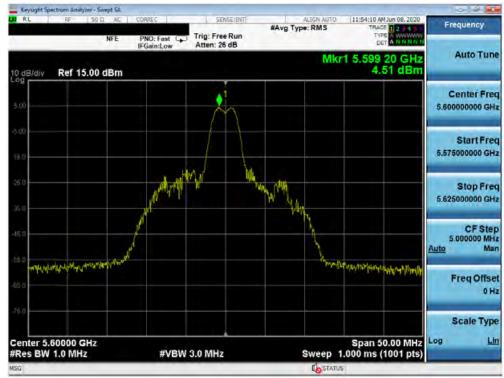
Plot 7-282. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMN986JPN	Triket & Die gert of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 200 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 200 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-283. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 100)



Plot 7-284. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 201 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 201 of 292
© 2020 PCTEST				V 9.0 02/01/2019





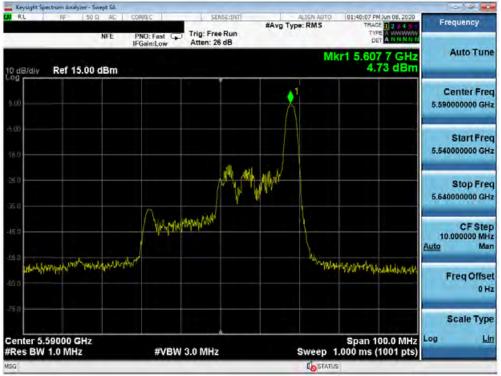
Plot 7-285. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 144)



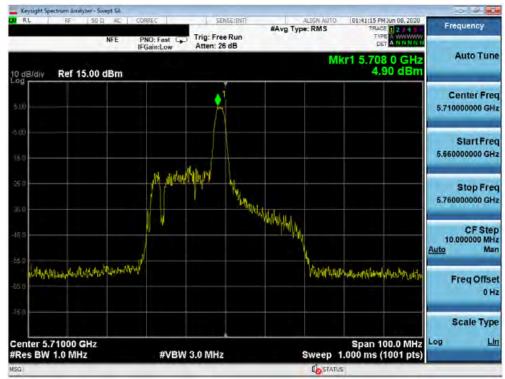
Plot 7-286. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 202 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 202 of 292
© 2020 PCTEST				V 9.0 02/01/2019





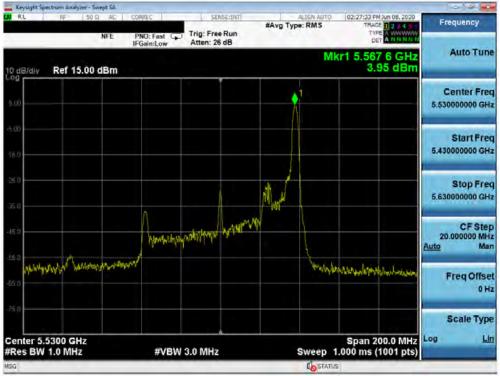
Plot 7-287. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 118)



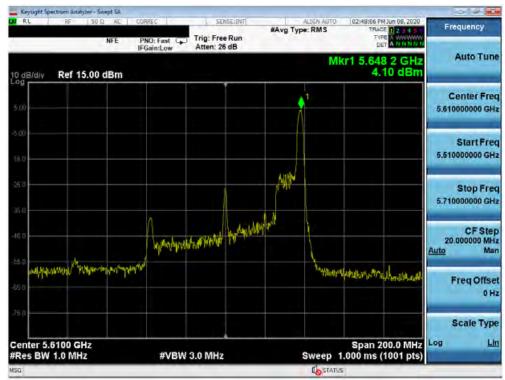
Plot 7-288. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMN986JPN	75kt 6 be gat d @ commerce	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 202 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 203 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-289. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 106)



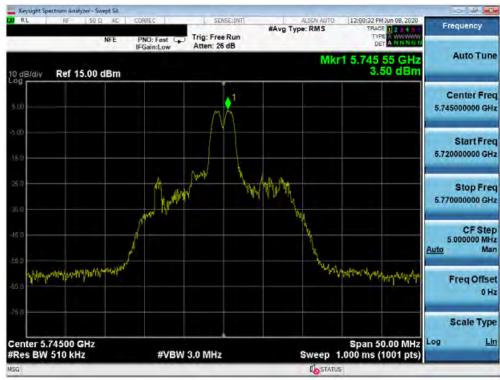
Plot 7-290. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMN986JPN	75kt 6 be gat d @ commerce	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 204 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 204 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-291. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 138)



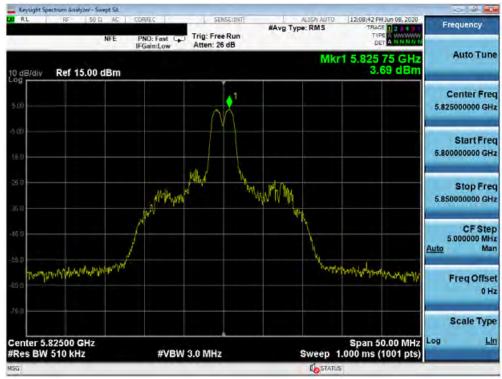
Plot 7-292. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 149)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 205 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 205 of 292
© 2020 PCTEST				V 9.0 02/01/2019





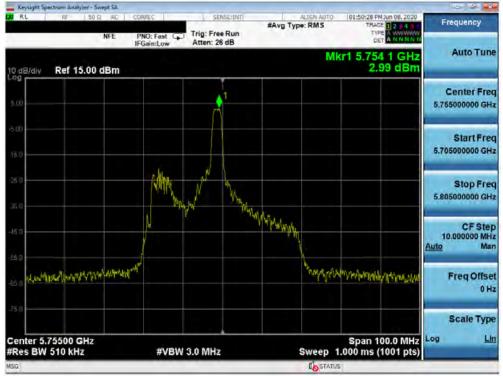
Plot 7-293. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 157)



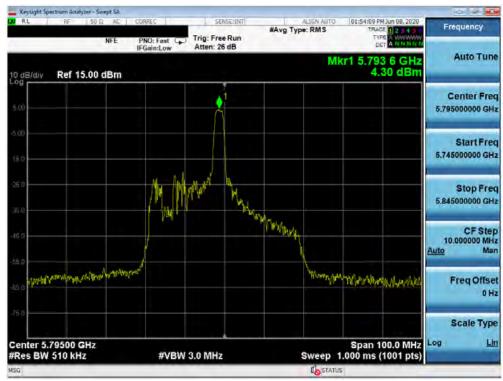
Plot 7-294. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 165)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 206 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 206 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-295. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 151)



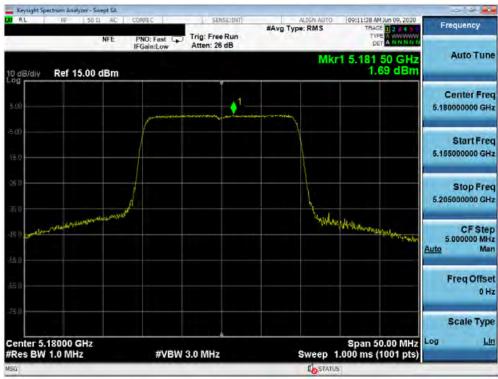
Plot 7-296. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 159)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 207 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 207 of 292
© 2020 PCTEST				V 9.0 02/01/2019





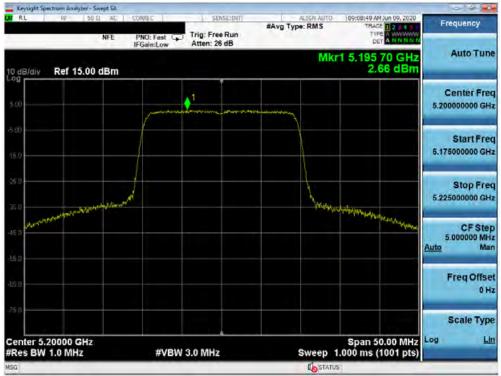
Plot 7-297. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 155)



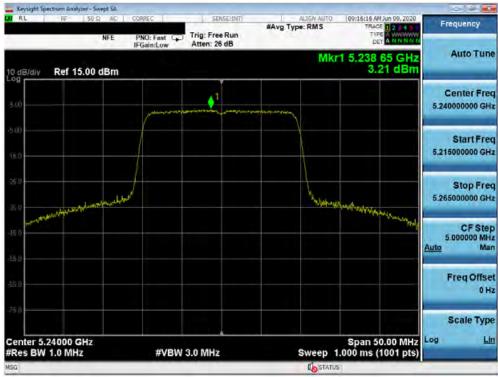
Plot 7-298. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 36)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 200 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 208 of 292	
© 2020 PCTEST	•			V 9.0 02/01/2019	





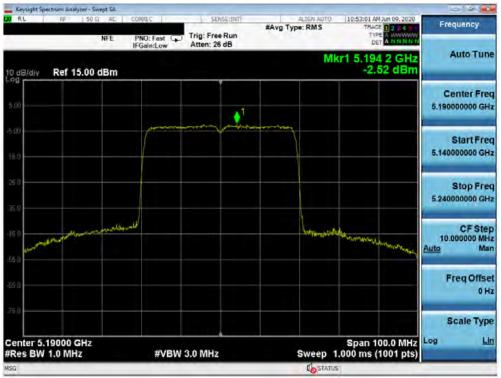
Plot 7-299. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 40)



Plot 7-300. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 48)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 200 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 209 of 292
© 2020 PCTEST		•		V 9.0 02/01/2019





Plot 7-301. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 38)



Plot 7-302. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 46)

FCC ID: A3LSMN986JPN	75kt 6 be gat d @ commerce	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 210 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 210 of 292
© 2020 PCTEST				V 9.0 02/01/2019





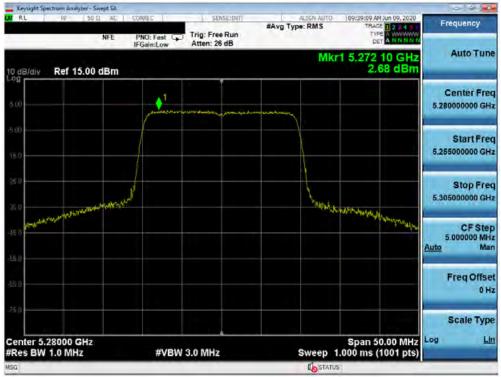
Plot 7-303. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 42)



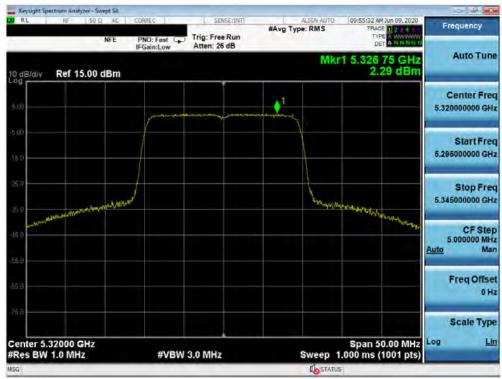
Plot 7-304. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dama 011 at 000
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 211 of 292
© 2020 PCTEST		·		V 9.0 02/01/2019





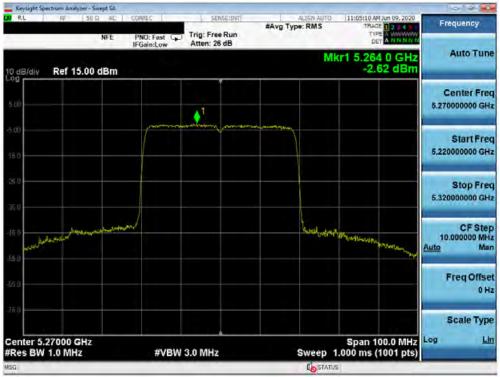
Plot 7-305. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 56)



Plot 7-306. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 212 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 212 of 292
© 2020 PCTEST	·	·		V 9.0 02/01/2019





Plot 7-307. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 54)



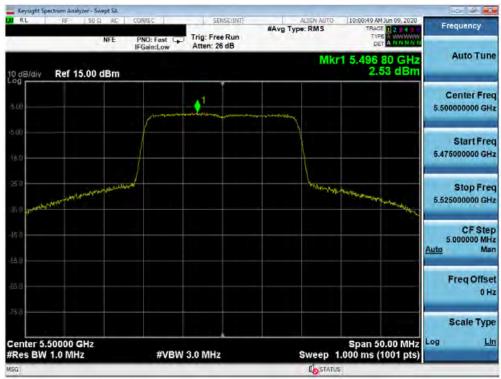
Plot 7-308. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMN986JPN	Triket & Die gert of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 212 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 213 of 292
© 2020 PCTEST				V 9.0 02/01/2019





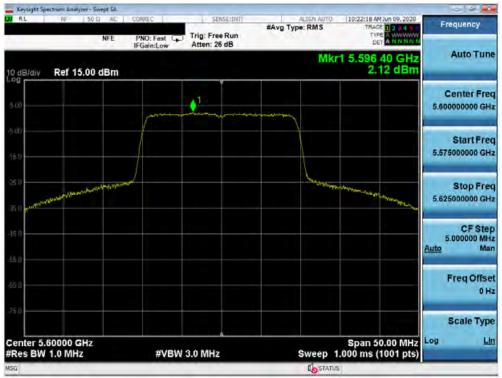
Plot 7-309. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 58)



Plot 7-310. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 100)

FCC ID: A3LSMN986JPN	7564 5 be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 214 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 214 of 292
© 2020 PCTEST	•	·		V 9.0 02/01/2019





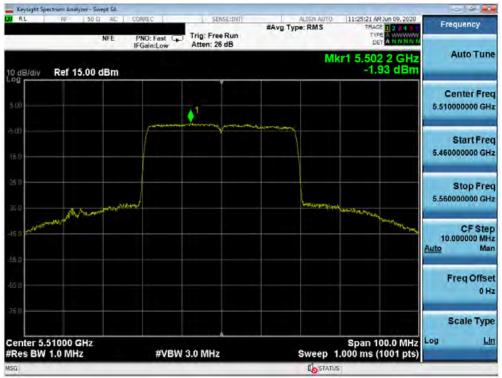
Plot 7-311. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 120)



Plot 7-312. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMN986JPN	75kd 6 he part of @ comment	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 215 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 215 of 292
© 2020 PCTEST				V 9.0 02/01/2019





Plot 7-313. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 102)



Plot 7-314. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 118)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 246 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 216 of 292
© 2020 PCTEST	*	•		V 9.0 02/01/2019





Plot 7-315. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 142)



Plot 7-316. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 106)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 217 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 217 of 292
© 2020 PCTEST				V 9.0 02/01/2019





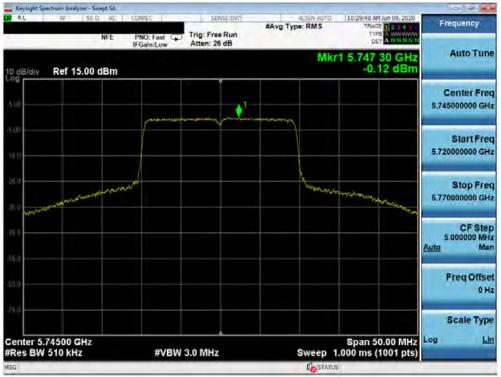
Plot 7-317. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 122)



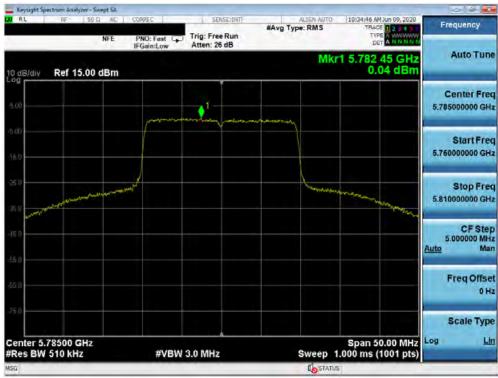
Plot 7-318. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 219 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset	Page 218 of 292
© 2020 PCTEST		·	V 9.0 02/01/2019





Plot 7-319. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 149)



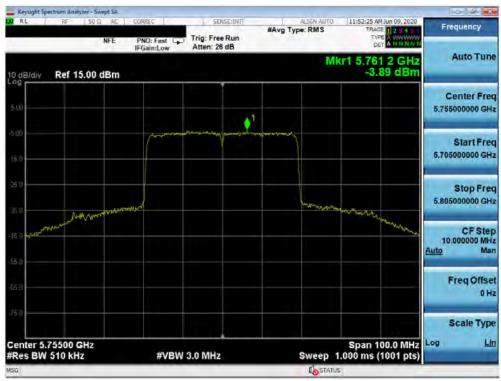
Plot 7-320. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 157)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 210 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 219 of 292
© 2020 PCTEST		·		V 9.0 02/01/2019





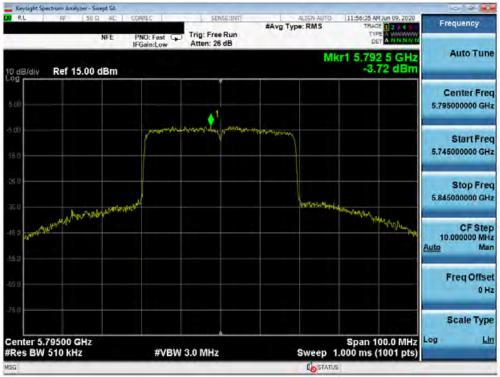
Plot 7-321. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 165)



Plot 7-322. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 151)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 220 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 220 of 292
© 2020 PCTEST	·	·		V 9.0 02/01/2019





Plot 7-323. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 159)



Plot 7-324. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 155)

FCC ID: A3LSMN986JPN	Titled & Das part of Section	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 221 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset	Page 221 of 292
© 2020 PCTEST			V 9.0 02/01/2019



# 7.6 Radiated Spurious Emission Measurements – Above 1GHz §15.407(b) §15.205 §15.209; RSS-Gen [8.9]

#### **Test Overview and Limit**

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. All channels, modes (e.g. 26 Tones, 52 Tones, 106 Tones, 242 Tones, 484 Tones and 996 Tones), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

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

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

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

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-67 per Section 15.209 and RSS-Gen (8.9).

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

Table 7-67. 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

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 222 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 222 of 292	
© 2020 PCTEST				V 9.0 02/01/2019	



#### 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.

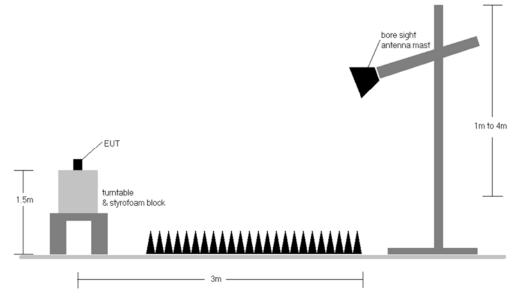


Figure 7-5. Test Instrument & Measurement Setup

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Da ra 000 at 000
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 223 of 292
© 2020 PCTEST	•			V 9.0 02/01/2019



#### 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 7-67.
- 2. All spurious emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-67. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBµV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBµV/m.
- 3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
- 4. This unit was tested with its standard battery.
- 5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
- 6. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 7. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
- 8. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 9. For radiated measurements, emissions were investigated for the fully-loaded RU configuration and for all of the partially-loaded RU configurations. Among all of the available partially-loaded RU configurations, only the configuration with the worst case emissions is reported.

#### Sample Calculations

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

- 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 7.6 was calculated using the formula:

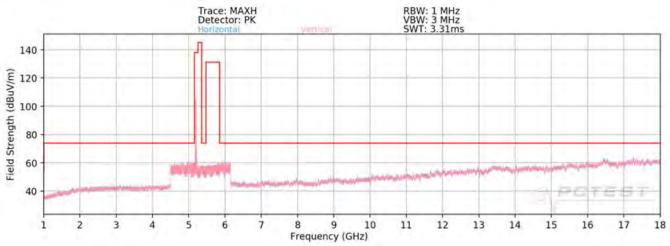
Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

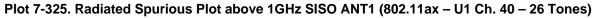
FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 224 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 224 of 292
© 2020 PCTEST	-	•		V 9.0 02/01/2019

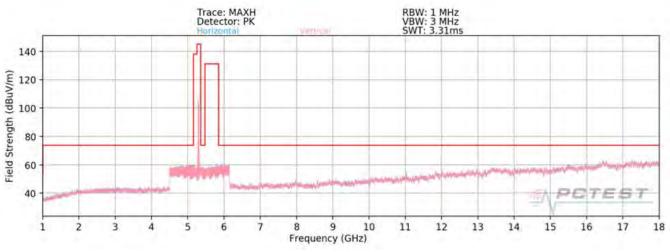


# 7.6.1 SISO Antenna-1 Radiated Spurious Emission Measurements





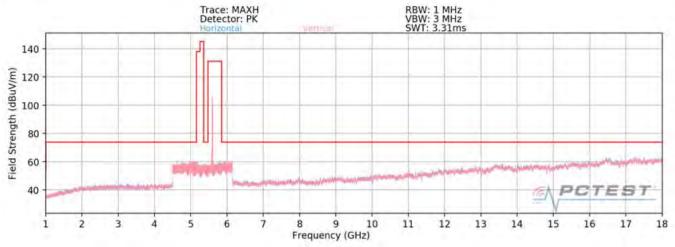




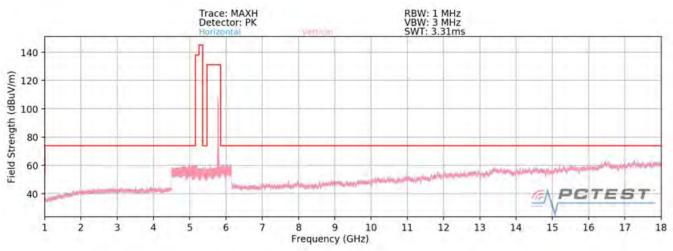
Plot 7-326. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax - U2A Ch. 56 - 26 Tones)

FCC ID: A3LSMN986JPN	754d fb be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 225 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 225 of 292	
© 2020 PCTEST		·		V 9.0 02/01/2019	





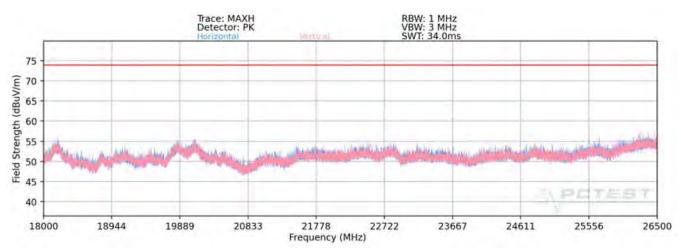




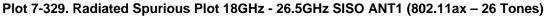
Plot 7-328. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax - U3 Ch. 157 - 26 Tones)

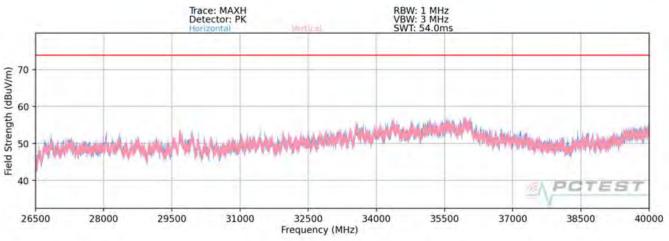
FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 226 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 226 of 292
© 2020 PCTEST				V 9.0 02/01/2019





## SISO Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)





Plot 7-330. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11ax - 26 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 227 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 227 of 292	
© 2020 PCTEST	·	·		V 9.0 02/01/2019	



#### SISO Antenna-1 Radiated Spurious Emission Measurements (26 Tones) §15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
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]
ſ	10360.00	Peak	V	-	-	-70.21	14.45	0.00	51.24	68.20	-16.96
*	15540.00	Average	V	175	45	-82.01	21.74	0.00	46.73	53.98	-7.25
*	15540.00	Peak	V	175	45	-70.22	21.74	0.00	58.52	73.98	-15.46
*	20720.00	Average	V	-	-	-75.24	17.88	-9.54	40.10	53.98	-13.88
*	20720.00	Peak	V	-	-	-65.30	17.88	-9.54	50.04	73.98	-23.94
Ī	25900.00	Peak	V	-	-	-64.18	20.40	-9.54	53.68	68.20	-14.52

Table 7-68. Radiated Measurements SISO ANT1 (26 Tones)

Worst Case Mode: Worst Case Transfer Rate: RU Index: Distance of Measurements: Operating Frequency: Channel: 802.11ax (20MHz BW) MCS0 54 1 & 3 Meters 5200MHz 40

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	V	-	-	-70.01	14.60	0.00	51.59	68.20	-16.61
*	15600.00	Average	V	166	51	-81.54	21.90	0.00	47.36	53.98	-6.62
*	15600.00	Peak	V	166	51	-69.82	21.90	0.00	59.08	73.98	-14.90
*	20800.00	Average	V	-	-	-76.28	18.08	-9.54	39.26	53.98	-14.72
*	20800.00	Peak	V	-	-	-69.85	18.08	-9.54	45.69	73.98	-28.29
	26000.00	Peak	V	-	-	-63.83	20.68	-9.54	54.30	68.20	-13.90

Table 7-69. Radiated Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 228 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 228 of 292
© 2020 PCTEST	-			V 9.0 02/01/2019



802.11ax (20MHz BW)
MCS0
54
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]
ſ	10480.00	Peak	V	-	-	-71.01	14.57	0.00	50.56	68.20	-17.64
*	15720.00	Average	V	-	-	-80.11	22.17	0.00	49.06	53.98	-4.92
*	15720.00	Peak	V	-	-	-70.00	22.17	0.00	59.17	73.98	-14.81
*	20960.00	Average	V	-	-	-74.88	18.46	-9.54	41.04	53.98	-12.94
*	20960.00	Peak	V	-	-	-66.18	18.46	-9.54	49.74	73.98	-24.24
Ī	26200.00	Peak	V	-	-	-63.99	20.96	-9.54	54.43	68.20	-13.77

#### Table 7-70. Radiated Measurements SISO ANT1 (26 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	V	-	-	-70.25	15.10	0.00	51.85	68.20	-16.35
*	15780.00	Average	V	-	-	-88.21	21.87	0.00	40.66	53.98	-13.32
*	15780.00	Peak	V	-	-	-69.87	21.87	0.00	59.00	73.98	-14.98
*	21040.00	Average	V	-	-	-74.54	18.64	-9.54	41.55	53.98	-12.43
*	21040.00	Peak	V	-	-	-64.30	18.64	-9.54	51.79	73.98	-22.19
	26300.00	Peak	V	-	-	-63.46	21.23	-9.54	55.23	68.20	-12.97

Table 7-71. Radiated Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	16	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 220 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset	F	Page 229 of 292
© 2020 PCTEST				V 9.0 02/01/2019



z BW)

	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	-	-	-69.88	14.95	0.00	52.07	68.20	-16.13
*	15840.00	Average	V	-	-	-87.22	22.33	0.00	42.11	53.98	-11.87
*	15840.00	Peak	V	-	-	-68.95	22.33	0.00	60.38	73.98	-13.60
*	21120.00	Average	V	-	-	-73.63	18.80	-9.54	42.63	53.98	-11.35
*	21120.00	Peak	V	-	-	-66.09	18.80	-9.54	50.17	73.98	-23.81
	26400.00	Peak	V	-	-	-62.47	21.49	-9.54	56.47	68.20	-11.73

#### Table 7-72. Radiated Measurements SISO ANT1 (26 Tones)

802.11ax (20MHz BW)
MCS0
54
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	-	-	-82.33	15.37	0.00	40.04	53.98	-13.94
*	10640.00	Peak	V	-	-	-69.32	15.37	0.00	53.05	73.98	-20.93
*	15960.00	Average	V	-	-	-83.01	22.27	0.00	46.26	53.98	-7.72
*	15960.00	Peak	V	-	-	-69.99	22.27	0.00	59.28	73.98	-14.70
*	21280.00	Average	V	-	-	-75.62	18.76	-9.54	40.60	53.98	-13.38
*	21280.00	Peak	V	-	-	-65.53	18.76	-9.54	50.69	73.98	-23.29
	26600.00	Peak	V	-	-	-64.96	6.35	-9.54	38.84	68.20	-29.36

Table 7-73. Radiated Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	UNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 230 of 292
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 230 01 292
© 2020 PCTEST				V 9.0 02/01/2019



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5500MHz
Channel:	100

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	V	-	-	-83.21	16.28	0.00	40.07	53.98	-13.91
*	11000.00	Peak	V	-	-	-70.11	16.28	0.00	53.17	73.98	-20.81
	16500.00	Peak	V	-	-	-68.21	23.88	0.00	62.67	68.20	-5.53
	22000.00	Peak	V	-	-	-64.92	19.37	-9.54	51.91	68.20	-16.29
	27500.00	Peak	V	-	-	-54.34	5.07	-9.54	48.19	68.20	-20.01

## Table 7-74. Radiated Measurements SISO ANT1 (26 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11200.00	Average	V	-	-	-81.05	16.05	0.00	42.00	53.98	-11.98
*	11200.00	Peak	V	-	-	-67.54	16.05	0.00	55.51	73.98	-18.47
	16800.00	Peak	V	-	-	-71.22	24.05	0.00	59.83	68.20	-8.37
*	22400.00	Average	V	-	-	-74.10	20.25	-9.54	43.60	53.98	-10.38
*	22400.00	Peak	V	-	-	-65.33	20.25	-9.54	52.37	73.98	-21.61
	28000.00	Peak	V	-	-	-56.38	6.42	-9.54	47.50	68.20	-20.70

Table 7-75. Radiated Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	AMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 221 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 231 of 292
© 2020 PCTEST				V 9.0 02/01/2019



802.11ax (20MHz BW)
MCS0
54
1 & 3 Meters
5720MHz
144

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	V	-	-	-81.24	17.03	0.00	42.79	53.98	-11.19
*	11440.00	Peak	V	-	-	-70.09	17.03	0.00	53.94	73.98	-20.04
	17160.00	Peak	V	-	-	-68.86	23.47	0.00	61.61	68.20	-6.59
*	22880.00	Average	V	-	-	-73.64	19.64	-9.54	43.46	53.98	-10.52
*	22880.00	Peak	V	-	-	-65.04	19.64	-9.54	52.06	73.98	-21.92
	28600.00	Peak	V	-	-	-54.72	5.12	-9.54	47.85	68.20	-20.35

#### Table 7-76. Radiated Measurements SISO ANT1 (26 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	V	-	-	-80.29	16.80	0.00	43.51	53.98	-10.47
*	11490.00	Peak	V	-	-	-67.58	16.80	0.00	56.22	73.98	-17.76
	17235.00	Peak	V	-	-	-70.65	24.70	0.00	61.05	68.20	-7.15
*	22980.00	Average	V	-	-	-75.08	19.39	-9.54	41.77	53.98	-12.21
*	22980.00	Peak	V	-	-	-65.25	19.39	-9.54	51.60	73.98	-22.38
	28725.00	Peak	V	-	-	-55.69	6.24	-9.54	48.01	68.20	-20.19

Table 7-77. Radiated Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	N G	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 222 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset	, r	Page 232 of 292
© 2020 PCTEST				V 9.0 02/01/2019



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5785MHz
Channel:	157

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	Average	V	-	-	-80.65	16.48	0.00	42.83	53.98	-11.15
*	11570.00	Peak	V	-	-	-65.32	16.48	0.00	58.16	73.98	-15.82
	17355.00	Peak	V	-	-	-69.87	25.37	0.00	62.50	68.20	-5.70
	23140.00	Peak	V	-	-	-62.45	19.78	-9.54	54.78	68.20	-13.42
	28925.00	Peak	V	-	-	-54.29	5.18	-9.54	48.35	68.20	-19.85

## Table 7-78. Radiated Measurements SISO ANT1 (26 Tones)

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

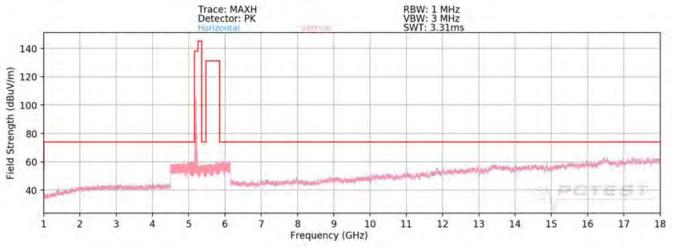
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	Average	V	-	-	-80.69	16.99	0.00	43.30	53.98	-10.67
*	11650.00	Peak	V	-	-	-67.20	16.99	0.00	56.79	73.98	-17.18
	17475.00	Peak	V	-	-	-71.04	25.73	0.00	61.69	68.20	-6.51
	23300.00	Peak	V	-	-	-63.23	20.06	-9.54	54.29	68.20	-13.91
	29125.00	Peak	V	-	-	-53.25	4.94	-9.54	49.15	68.20	-19.05

Table 7-79. Radiated Measurements SISO ANT1 (26 Tones)

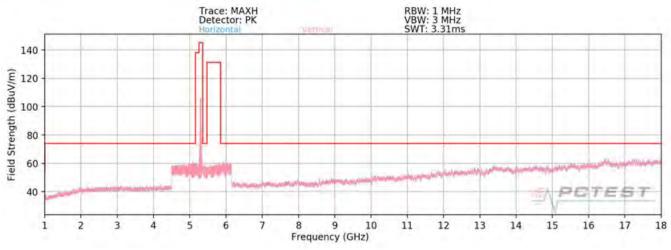
FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 222 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 233 of 292
© 2020 PCTEST				V 9.0 02/01/2019



# 242 Tones



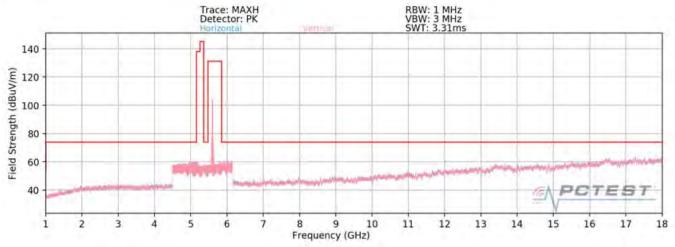
Plot 7-331. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax - U1 Ch. 40 - 242 Tones)



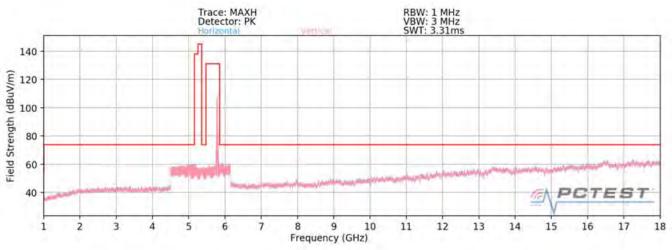
Plot 7-332. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax - U2A Ch. 56 - 242 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 224 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 234 of 292
© 2020 PCTEST				V 9.0 02/01/2019





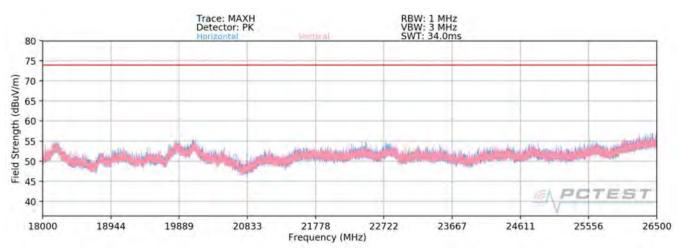




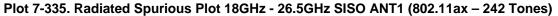
Plot 7-334. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax - U3 Ch. 157 - 242 Tones)

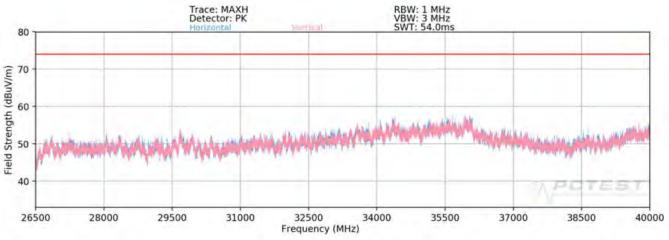
FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 225 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 235 of 292
© 2020 PCTEST				V 9.0 02/01/2019





# SISO Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)





Plot 7-336. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11ax - 242 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 226 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 236 of 292
© 2020 PCTEST				V 9.0 02/01/2019



#### SISO Antenna-1 Radiated Spurious Emission Measurements (242 Tones) §15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
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	-	-	-69.36	14.45	0.00	52.09	68.20	-16.11
15540.00	Average	V	179	45	-80.86	21.74	0.00	47.88	53.98	-6.10
15540.00	Peak	V	179	45	-69.59	21.74	0.00	59.15	73.98	-14.83
20720.00	Average	V	-	-	-74.52	17.88	-9.54	40.82	53.98	-13.16
20720.00	Peak	V	-	-	-65.52	17.88	-9.54	49.82	73.98	-24.16
25900.00	Peak	V	-	-	-63.67	20.40	-9.54	54.19	68.20	-14.01
	[MHz] 10360.00 15540.00 15540.00 20720.00 20720.00	[MHz]         Detector           10360.00         Peak           15540.00         Average           15540.00         Peak           20720.00         Average           20720.00         Peak	[MHz]         Detector         [H/V]           10360.00         Peak         V           15540.00         Average         V           15540.00         Peak         V           20720.00         Average         V           20720.00         Peak         V	[MHz]         Detector         [H/V]         Height [cm]           10360.00         Peak         V         -           15540.00         Average         V         179           15540.00         Peak         V         179           15540.00         Peak         V         179           20720.00         Average         V         -           20720.00         Peak         V         -	Frequency [MHz]DetectorAnt. Pol. [H/V]Antenna Height [cm]Azimuth [degree]10360.00PeakV15540.00AverageV1794515540.00PeakV1794520720.00AverageV20720.00PeakV20720.00PeakV	Frequency [MHz]DetectorAnt. Pol. [H/V]Antenna Height [cm]Azimuth [degree]Analyzer Level [dBm]10360.00PeakV69.3615540.00AverageV17945-69.5815540.00PeakV17945-69.5920720.00AverageV74.5220720.00PeakV65.52	Frequency [MHz]DetectorAnt. Pol. [H/V]Antenna Height [cm]Azimuth [degree]Analyzer Level [dBm]AFCL [dB/m]10360.00PeakV69.3614.4515540.00AverageV17945-80.8621.7415540.00PeakV17945-69.5921.7415540.00PeakV17945-69.5921.7420720.00AverageV74.5217.8820720.00PeakV65.5217.88	Frequency [MHz]         Detector         Ant. Pol. [H/V]         Antenna Height [cm]         Azimuth [degree]         Analyzer Level [dBm]         AFCL [dB/m]         Correction Factor [dB]           10360.00         Peak         V         -         -69.36         14.45         0.00           15540.00         Average         V         179         45         -80.86         21.74         0.00           15540.00         Peak         V         179         45         -69.59         21.74         0.00           15540.00         Peak         V         179         45         -69.59         21.74         0.00           15540.00         Average         V         179         45         -69.59         21.74         0.00           20720.00         Average         V         -         -         -74.52         17.88         -9.54           20720.00         Peak         V         -         -         -65.52         17.88         -9.54	Frequency [MHz]         Detector         Ant. Pol. [H/V]         Antenna Height [cm]         Azimuth Idegree]         Analyzer Level [dBm]         AFCL [dB/m]         Correction Factor [dB]         Strength [dBµV/m]           10360.00         Peak         V         -         -69.36         14.45         0.00         52.09           15540.00         Average         V         179         45         -80.86         21.74         0.00         47.88           15540.00         Peak         V         179         45         -69.59         21.74         0.00         59.15           20720.00         Average         V         179         45         -69.59         21.74         0.00         59.15           20720.00         Average         V         -         -         -74.52         17.88         -9.54         40.82           20720.00         Peak         V         -         -         -         17.88         -9.54         49.82	Frequency [MHz]         Detector         Ant. Pol. [H/V]         Antenna Height [cm]         Azimuth [degree]         Analyzer Level [dBm]         AFCL [dB/m]         Correction Factor [dB]         Strength [dBµV/m]         Limit [dBµV/m]           10360.00         Peak         V         -         -69.36         14.45         0.00         52.09         68.20           15540.00         Average         V         179         45         -80.86         21.74         0.00         47.88         53.98           15540.00         Peak         V         179         45         -69.59         21.74         0.00         59.15         73.98           15540.00         Average         V         179         45         -69.59         21.74         0.00         59.15         73.98           20720.00         Average         V         -         -         -74.52         17.88         -9.54         40.82         53.98           20720.00         Peak         V         -         -         -74.52         17.88         -9.54         40.82         73.98

Table 7-80. Radiated Measurements SISO ANT1 (242 Tones)

Worst Case Mode: Worst Case Transfer Rate: RU Index: Distance of Measurements: Operating Frequency: Channel: 802.11ax (20MHz BW) MCS0 61 1 & 3 Meters 5200MHz 40

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	V	-	-	-69.56	14.60	0.00	52.04	68.20	-16.16
*	15600.00	Average	V	167	25	-80.14	21.90	0.00	48.76	53.98	-5.22
*	15600.00	Peak	V	167	25	-68.18	21.90	0.00	60.72	73.98	-13.26
*	20800.00	Average	V	-	-	-75.93	18.08	-9.54	39.61	53.98	-14.37
*	20800.00	Peak	V	-	-	-66.90	18.08	-9.54	48.64	73.98	-25.34
	26000.00	Peak	V	-	-	-63.68	20.68	-9.54	54.45	68.20	-13.75

Table 7-81. Radiated Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMN986JPN	PETEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 227 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 237 of 292
© 2020 PCTEST	-			V 9.0 02/01/2019



802.11ax (20MHz BW)
MCS0
61
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	-	-	-69.48	14.57	0.00	52.09	68.20	-16.11
*	15720.00	Average	V	307	309	-80.52	22.17	0.00	48.65	53.98	-5.33
*	15720.00	Peak	V	307	309	-68.99	22.17	0.00	60.18	73.98	-13.80
*	20960.00	Average	V	-	-	-75.20	18.46	-9.54	40.72	53.98	-13.26
*	20960.00	Peak	V	-	-	-66.94	18.46	-9.54	48.98	73.98	-25.00
	26200.00	Peak	V	-	-	-63.96	20.96	-9.54	54.46	68.20	-13.74

#### Table 7-82. Radiated Measurements SISO ANT1 (242 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	V	-	-	-69.84	15.10	0.00	52.26	68.20	-15.94
*	15780.00	Average	V	351	327	-80.10	21.87	0.00	48.77	53.98	-5.21
*	15780.00	Peak	V	351	327	-69.43	21.87	0.00	59.44	73.98	-14.54
*	21040.00	Average	V	-	-	-74.65	18.64	-9.54	41.44	53.98	-12.54
*	21040.00	Peak	V	-	-	-65.75	18.64	-9.54	50.34	73.98	-23.64
	26300.00	Peak	V	-	-	-64.14	21.23	-9.54	54.55	68.20	-13.65

Table 7-83. Radiated Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 228 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 238 of 292	
© 2020 PCTEST				V 9.0 02/01/2019	



802.11ax (20MHz BW)
MCS0
61
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	-	-	-69.53	14.95	0.00	52.42	68.20	-15.78
*	15840.00	Average	V	362	341	-81.19	22.33	0.00	48.14	53.98	-5.84
*	15840.00	Peak	V	362	341	-69.55	22.33	0.00	59.78	73.98	-14.20
*	21120.00	Average	V	-	-	-74.86	18.80	-9.54	41.40	53.98	-12.58
*	21120.00	Peak	V	-	-	-65.77	18.80	-9.54	50.49	73.98	-23.49
	26400.00	Peak	V	-	-	-62.17	21.49	-9.54	56.77	68.20	-11.43

#### Table 7-84. Radiated Measurements SISO ANT1 (242 Tones)

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5320MHz
Channel:	64

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	10640.00	Average	V	-	-	-81.04	15.37	0.00	41.33	53.98	-12.65
*	10640.00	Peak	V	-	-	-70.03	15.37	0.00	52.34	73.98	-21.64
*	15960.00	Average	V	376	345	-81.62	22.27	0.00	47.65	53.98	-6.33
*	15960.00	Peak	V	376	345	-69.46	22.27	0.00	59.81	73.98	-14.17
*	21280.00	Average	V	-	-	-74.80	18.76	-9.54	41.42	53.98	-12.56
*	21280.00	Peak	V	-	-	-66.01	18.76	-9.54	50.21	73.98	-23.77
	26600.00	Peak	V	-	-	-64.25	6.35	-9.54	39.55	68.20	-28.65

Table 7-85. Radiated Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	AMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 220 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 239 of 292	
© 2020 PCTEST				V 9.0 02/01/2019	



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5500MHz
Channel:	100

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	V	202	363	-80.08	16.28	0.00	43.20	53.98	-10.78
*	11000.00	Peak	V	202	363	-68.82	16.28	0.00	54.46	73.98	-19.52
	16500.00	Peak	V	-	-	-70.00	23.88	0.00	60.88	68.20	-7.32
	22000.00	Peak	V	-	-	-66.09	19.37	-9.54	50.74	68.20	-17.46
	27500.00	Peak	V	-	-	-52.41	5.07	-9.54	50.12	68.20	-18.08

## Table 7-86. Radiated Measurements SISO ANT1 (242 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11200.00	Average	V	188	349	-79.84	16.05	0.00	43.21	53.98	-10.77
*	11200.00	Peak	V	188	349	-68.34	16.05	0.00	54.71	73.98	-19.27
	16800.00	Peak	V	-	-	-70.19	24.05	0.00	60.86	68.20	-7.34
*	22400.00	Average	V	-	-	-74.43	20.25	-9.54	43.27	53.98	-10.71
*	22400.00	Peak	V	-	-	-65.12	20.25	-9.54	52.58	73.98	-21.40
	28000.00	Peak	V	-	-	-54.41	6.42	-9.54	49.47	68.20	-18.73

Table 7-87. Radiated Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	<b>Approved by:</b> Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 240 of 292
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset	Page 240 01 292
© 2020 PCTEST			V 9.0 02/01/2019



802.11ax (20MHz BW)
MCS0
61
1 & 3 Meters
5720MHz
144

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	V	188	359	-78.70	17.03	0.00	45.33	53.98	-8.65
*	11440.00	Peak	V	188	359	-64.43	17.03	0.00	59.60	73.98	-14.38
	17160.00	Peak	V	-	-	-69.29	23.47	0.00	61.18	68.20	-7.02
*	22880.00	Average	V	-	-	-73.44	19.64	-9.54	43.66	53.98	-10.32
*	22880.00	Peak	V	-	-	-64.70	19.64	-9.54	52.40	73.98	-21.58
	28600.00	Peak	V	-	-	-54.25	5.12	-9.54	48.32	68.20	-19.88

#### Table 7-88. Radiated Measurements SISO ANT1 (242 Tones)

802.11ax (20MHz BW)
MCS0
61
1 & 3 Meters
5745MHz
149

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	V	176	6	-78.08	16.80	0.00	45.72	53.98	-8.26
*	11490.00	Peak	V	176	6	-64.00	16.80	0.00	59.80	73.98	-14.18
	17235.00	Peak	V	-	-	-70.41	24.70	0.00	61.29	68.20	-6.91
*	22980.00	Average	V	-	-	-75.63	19.39	-9.54	41.22	53.98	-12.76
*	22980.00	Peak	V	-	-	-66.38	19.39	-9.54	50.47	73.98	-23.51
	28725.00	Peak	V	-	-	-53.43	6.24	-9.54	50.27	68.20	-17.93

Table 7-89. Radiated Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 244 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 241 of 292	
© 2020 PCTEST				V 9.0 02/01/2019	



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5785MHz
Channel:	157

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	Average	V	176	356	-76.79	16.48	0.00	46.69	53.98	-7.29
*	11570.00	Peak	V	176	356	-62.92	16.48	0.00	60.56	73.98	-13.42
	17355.00	Peak	V	-	-	-70.79	25.37	0.00	61.58	68.20	-6.62
	23140.00	Peak	V	-	-	-65.43	19.78	-9.54	51.80	68.20	-16.40
	28925.00	Peak	V	-	-	-54.50	5.18	-9.54	48.14	68.20	-20.06

## Table 7-90. Radiated Measurements SISO ANT1 (242 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	Average	V	184	3	-76.61	16.99	0.00	47.38	53.98	-6.59
*	11650.00	Peak	V	184	3	-62.94	16.99	0.00	61.05	73.98	-12.92
	17475.00	Peak	V	-	-	-70.53	25.73	0.00	62.20	68.20	-6.00
	23300.00	Peak	V	-	-	-64.77	20.06	-9.54	52.75	68.20	-15.45
	29125.00	Peak	V	-	-	-52.70	4.94	-9.54	49.70	68.20	-18.50

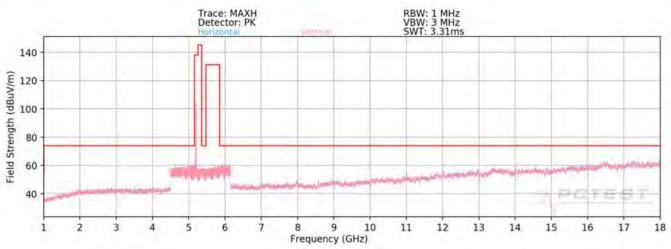
Table 7-91. Radiated Measurements SISO ANT1 (242 Tones)

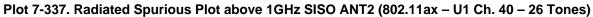
FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 040 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020 Portable Handset			Page 242 of 292
© 2020 PCTEST				V 9.0 02/01/2019

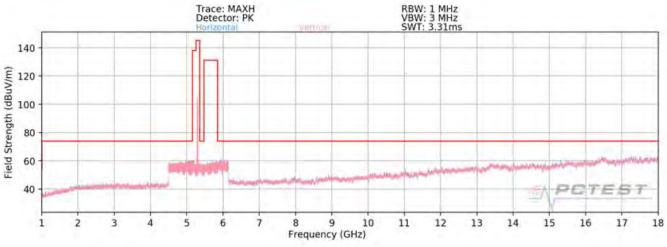


# 7.6.2 SISO Antenna-2 Radiated Spurious Emission Measurements

### 26 Tones



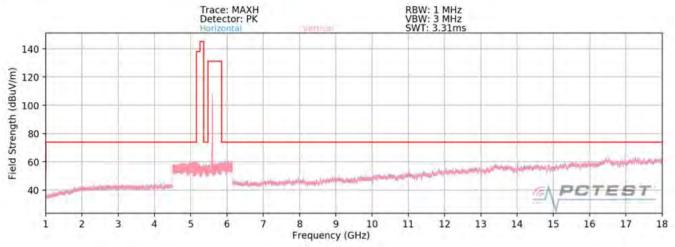




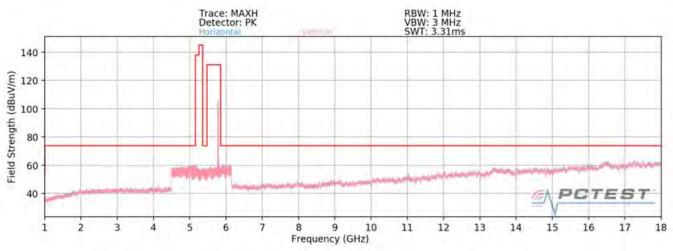
Plot 7-338. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U2A Ch. 56 - 26 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 042 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 243 of 292	
© 2020 PCTEST				V 9.0 02/01/2019	





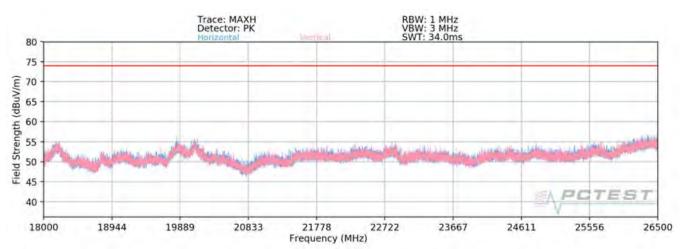




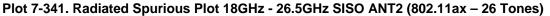
Plot 7-340. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U3 Ch. 157 - 26 Tones)

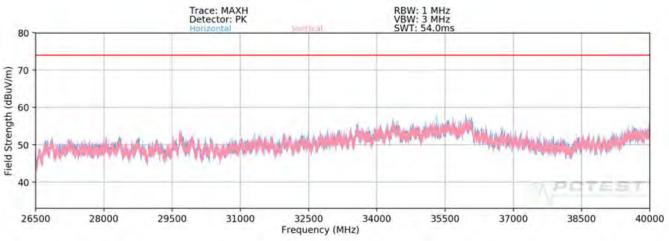
FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dogo 244 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 244 of 292	
© 2020 PCTEST				V 9.0 02/01/2019	





# SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)





Plot 7-342. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax - 26 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 245 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 245 of 292
© 2020 PCTEST				V 9.0 02/01/2019



#### SISO Antenna-2 Radiated Spurious Emission Measurements §15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
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	-	-	-69.35	14.45	0.00	52.10	68.20	-16.10
15540.00	Average	V	187	329	-80.51	21.74	0.00	48.23	53.98	-5.75
15540.00	Peak	V	187	329	-63.63	21.74	0.00	65.11	73.98	-8.87
20720.00	Average	V	-	-	-74.84	17.88	-9.54	40.50	53.98	-13.48
20720.00	Peak	V	-	-	-65.97	17.88	-9.54	49.37	73.98	-24.61
25900.00	Peak	V	-	-	-63.60	20.40	-9.54	54.26	68.20	-13.94
	[MHz] 10360.00 15540.00 15540.00 20720.00 20720.00	[MHz]         Detector           10360.00         Peak           15540.00         Average           15540.00         Peak           20720.00         Average           20720.00         Peak	[MHz]         Detector         [H/V]           10360.00         Peak         V           15540.00         Average         V           15540.00         Peak         V           20720.00         Average         V           20720.00         Peak         V	[MHz]         Detector         [H/V]         Height [cm]           10360.00         Peak         V         -           15540.00         Average         V         187           15540.00         Peak         V         187           20720.00         Average         V         -           20720.00         Peak         V         -	Frequency [MHz]DetectorAnt. Pol. [H/V]Antenna Height [cm]Azimuth [degree]10360.00PeakV15540.00AverageV18732915540.00PeakV18732920720.00AverageV20720.00PeakV20720.00PeakV	Frequency [MHz]DetectorAnt. Pol. [H/V]Antenna Height [cm]Azimuth [degree]Analyzer Level [dBm]10360.00PeakV69.3515540.00AverageV187329-80.5115540.00PeakV187329-63.6320720.00AverageV74.8420720.00PeakV65.97	Frequency [MHz]         Detector         Ant. Pol. [H/V]         Antenna Height [cm]         Azimuth (degree)         Analyzer Level [dBm]         AFCL [dB/m]           10360.00         Peak         V         -         -         -69.35         14.45           15540.00         Average         V         187         329         -80.51         21.74           15540.00         Peak         V         187         329         -63.63         21.74           15540.00         Peak         V         187         329         -63.63         21.74           20720.00         Average         V         187         329         -63.63         21.74           20720.00         Average         V         -         -         -74.84         17.88           20720.00         Peak         V         -         -         -         9.97         17.88	Frequency [MHz]         Detector         Ant. Pol. [H/V]         Antenna Height [cm]         Azimuth [degree]         Analyzer Level [dBm]         AFCL [dB/m]         Correction Factor [dB]           10360.00         Peak         V         -         -         -69.35         14.45         0.00           15540.00         Average         V         187         329         -80.51         21.74         0.00           15540.00         Peak         V         187         329         -63.63         21.74         0.00           15540.00         Peak         V         187         329         -63.63         21.74         0.00           20720.00         Average         V         187         329         -63.63         21.74         0.00           20720.00         Average         V         -         -         -74.84         17.88         -9.54           20720.00         Peak         V         -         -         -65.97         17.88         -9.54	Frequency [MHz]         Detector         Ant. Pol. [H/V]         Antenna Height [cm]         Azimuth [degree]         Analyzer Level [dBm]         AFCL [dB/m]         Correction Factor [dB]         Strength [dBµV/m]           10360.00         Peak         V         -         -         -69.35         14.45         0.00         52.10           15540.00         Average         V         187         329         -80.51         21.74         0.00         48.23           15540.00         Peak         V         187         329         -63.63         21.74         0.00         65.11           20720.00         Average         V         187         329         -63.63         21.74         0.00         65.11           20720.00         Average         V         187         329         -63.63         21.74         0.00         65.11           20720.00         Average         V         -         -         -74.84         17.88         -9.54         40.50           20720.00         Peak         V         -         -         -65.97         17.88         -9.54         49.37	Frequency [MHz]         Detector         Ant. Pol. [H/V]         Antenna Height [cm]         Azimuth (degree)         Analyzer Level [dBm]         AFCL [dB/M]         Correction Factor [dB]         Strength [dBµV/m]         Limit [dBµ/m]           10360.00         Peak         V         -         -69.35         14.45         0.00         52.10         68.20           15540.00         Average         V         187         329         -80.51         21.74         0.00         48.23         53.98           15540.00         Peak         V         187         329         -63.63         21.74         0.00         65.11         73.98           20720.00         Average         V         -         -         -74.84         17.88         -9.54         40.50         53.98           20720.00         Peak         V         -         -         -74.84         17.88         -9.54         40.50         53.98

Table 7-92. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode: Worst Case Transfer Rate: RU Index: Distance of Measurements: Operating Frequency: Channel: 802.11ax (20MHz BW) MCS0 54 1 & 3 Meters 5200MHz 40

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	V	-	-	-69.06	14.60	0.00	52.54	68.20	-15.66
*	15600.00	Average	V	191	321	-78.39	21.90	0.00	50.51	53.98	-3.47
*	15600.00	Peak	V	191	321	-61.06	21.90	0.00	67.84	73.98	-6.14
*	20800.00	Average	V	-	-	-76.36	18.08	-9.54	39.18	53.98	-14.80
*	20800.00	Peak	V	-	-	-66.38	18.08	-9.54	49.16	73.98	-24.82
	26000.00	Peak	V	-	-	-63.99	20.68	-9.54	54.14	68.20	-14.06

Table 7-93. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 246 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 246 of 292
© 2020 PCTEST	•	•		V 9.0 02/01/2019



802.11ax (20MHz BW)				
MCS0				
54				
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	-	-	-69.61	14.57	0.00	51.96	68.20	-16.24
*	15720.00	Average	V	188	329	-78.60	22.17	0.00	50.57	53.98	-3.41
*	15720.00	Peak	V	188	329	-63.48	22.17	0.00	65.69	73.98	-8.29
*	20960.00	Average	V	-	-	-75.08	18.46	-9.54	40.84	53.98	-13.14
*	20960.00	Peak	V	-	-	-65.32	18.46	-9.54	50.60	73.98	-23.38
	26200.00	Peak	V	-	-	-64.07	20.96	-9.54	54.35	68.20	-13.85

#### Table 7-94. Radiated Measurements SISO ANT2 (26 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	V	-	-	-68.60	15.10	0.00	53.50	68.20	-14.70
*	15780.00	Average	V	264	341	-78.83	21.87	0.00	50.04	53.98	-3.94
*	15780.00	Peak	V	264	341	-62.12	21.87	0.00	66.75	73.98	-7.23
*	21040.00	Average	V	-	-	-74.73	18.64	-9.54	41.36	53.98	-12.62
*	21040.00	Peak	V	-	-	-65.22	18.64	-9.54	50.87	73.98	-23.11
	26300.00	Peak	V	-	-	-62.73	21.23	-9.54	55.96	68.20	-12.24

Table 7-95. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	Approved by Quality Mana		
Test Report S/N:	Test Dates:	EUT Type:	Daga 247 of	202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset	Page 247 Of	Page 247 of 292	
© 2020 PCTEST			V 9.	.0 02/01/2019	



802.11ax (20MHz BW)				

	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]
ſ	10560.00	Peak	V	-	-	-69.60	14.95	0.00	52.35	68.20	-15.85
*	15840.00	Average	V	191	317	-80.05	22.33	0.00	49.28	53.98	-4.70
*	15840.00	Peak	V	191	317	-66.28	22.33	0.00	63.05	73.98	-10.93
*	21120.00	Average	V	-	-	-75.09	18.80	-9.54	41.17	53.98	-12.81
*	21120.00	Peak	V	-	-	-65.43	18.80	-9.54	50.83	73.98	-23.15
[	26400.00	Peak	V	-	-	-63.51	21.49	-9.54	55.43	68.20	-12.77

#### Table 7-96. Radiated Measurements SISO ANT2 (26 Tones)

802.11ax (20MHz BW)
MCS0
54
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	-	-	-81.05	15.37	0.00	41.32	53.98	-12.66
*	10640.00	Peak	V	-	-	-69.28	15.37	0.00	53.09	73.98	-20.89
*	15960.00	Average	V	261	331	-79.76	22.27	0.00	49.51	53.98	-4.47
*	15960.00	Peak	V	261	331	-64.18	22.27	0.00	65.09	73.98	-8.89
*	21280.00	Average	V	-	-	-75.75	18.76	-9.54	40.47	53.98	-13.51
*	21280.00	Peak	V	-	-	-65.38	18.76	-9.54	50.84	73.98	-23.14
	26600.00	Peak	V	-	-	-64.62	6.35	-9.54	39.18	68.20	-29.02

Table 7-97. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	UNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 248 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 248 of 292
© 2020 PCTEST				V 9.0 02/01/2019



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5500MHz
Channel:	100

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	V	-	-	-80.19	16.28	0.00	43.09	53.98	-10.89
*	11000.00	Peak	V	-	-	-68.04	16.28	0.00	55.24	73.98	-18.74
	16500.00	Peak	V	183	325	-68.10	23.88	0.00	62.78	68.20	-5.42
	22000.00	Peak	V	-	-	-64.47	19.37	-9.54	52.36	68.20	-15.84
	27500.00	Peak	V	-	-	-53.04	5.07	-9.54	49.49	68.20	-18.71

## Table 7-98. Radiated Measurements SISO ANT2 (26 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11200.00	Average	V	293	291	-80.08	16.05	0.00	42.97	53.98	-11.01
*	11200.00	Peak	V	293	291	-66.96	16.05	0.00	56.09	73.98	-17.89
	16800.00	Peak	V	-	-	-70.16	24.05	0.00	60.89	68.20	-7.31
*	22400.00	Average	V	-	-	-73.99	20.25	-9.54	43.71	53.98	-10.27
*	22400.00	Peak	V	-	-	-65.07	20.25	-9.54	52.63	73.98	-21.35
	28000.00	Peak	V	-	-	-55.50	6.42	-9.54	48.38	68.20	-19.82

Table 7-99. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	IG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 240 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 249 of 292
© 2020 PCTEST				V 9.0 02/01/2019



1Hz BW)

	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	269	295	-80.53	17.03	0.00	43.50	53.98	-10.48
*	11440.00	Peak	V	269	295	-69.49	17.03	0.00	54.54	73.98	-19.44
	17160.00	Peak	V	-	-	-68.88	23.47	0.00	61.59	68.20	-6.61
*	22880.00	Average	V	-	-	-73.39	19.64	-9.54	43.71	53.98	-10.27
*	22880.00	Peak	V	-	-	-64.36	19.64	-9.54	52.74	73.98	-21.24
	28600.00	Peak	V	-	-	-53.56	5.12	-9.54	49.01	68.20	-19.19

Table 7-100. Radiated Measurements SISO ANT2 (26 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	V	214	294	-79.91	16.80	0.00	43.89	53.98	-10.09
*	11490.00	Peak	V	214	294	-67.00	16.80	0.00	56.80	73.98	-17.18
	17235.00	Peak	V	-	-	-69.50	24.70	0.00	62.20	68.20	-6.00
*	22980.00	Average	V	-	-	-74.92	19.39	-9.54	41.93	53.98	-12.05
*	22980.00	Peak	V	-	-	-65.62	19.39	-9.54	51.23	73.98	-22.75
	28725.00	Peak	V	-	-	-52.16	6.24	-9.54	51.54	68.20	-16.66

Table 7-101. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 250 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 250 of 292
© 2020 PCTEST				V 9.0 02/01/2019



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5785MHz
Channel:	157

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	Average	V	200	296	-79.32	16.48	0.00	44.16	53.98	-9.82
*	11570.00	Peak	V	200	296	-64.22	16.48	0.00	59.26	73.98	-14.72
	17355.00	Peak	V	-	-	-69.61	25.37	0.00	62.76	68.20	-5.44
	23140.00	Peak	V	-	-	-65.86	19.78	-9.54	51.37	68.20	-16.83
	28925.00	Peak	V	-	-	-55.19	5.18	-9.54	47.45	68.20	-20.75

## Table 7-102. Radiated Measurements SISO ANT2 (26 Tones)

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

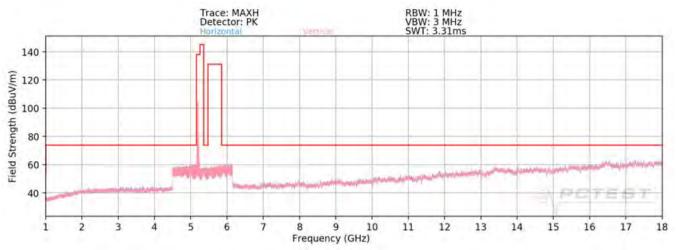
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	Average	V	176	292	-79.02	16.99	0.00	44.97	53.98	-9.00
*	11650.00	Peak	V	176	292	-64.17	16.99	0.00	59.82	73.98	-14.15
	17475.00	Peak	V	-	-	-70.07	25.73	0.00	62.66	68.20	-5.54
	23300.00	Peak	V	-	-	-65.23	20.06	-9.54	52.29	68.20	-15.91
	29125.00	Peak	V	-	-	-51.96	4.94	-9.54	50.44	68.20	-17.76

Table 7-103. Radiated Measurements SISO ANT2 (26 Tones)

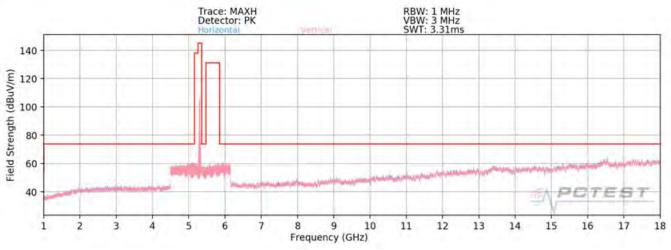
FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dago 251 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 251 of 292
© 2020 PCTEST				V 9.0 02/01/2019



# 242 Tones



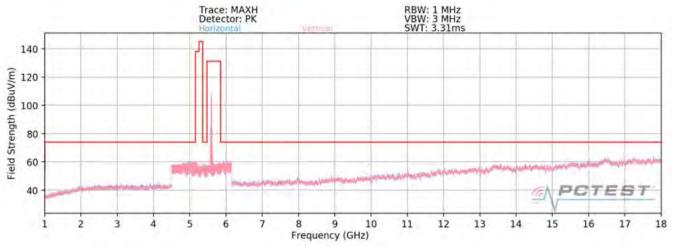
Plot 7-343. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U1 Ch. 40 - 242 Tones)



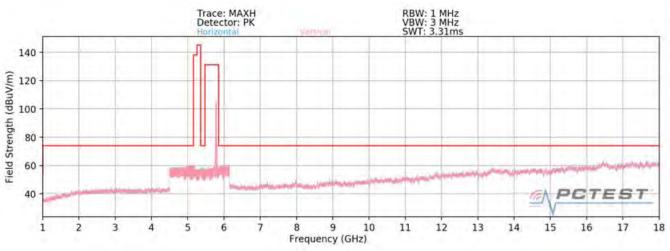
Plot 7-344. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U2A Ch. 56 - 242 Tones)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 252 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 252 of 292
© 2020 PCTEST	*			V 9.0 02/01/2019





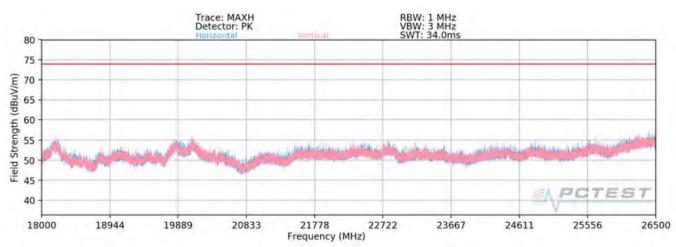




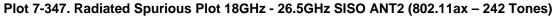
Plot 7-346. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax - U3 Ch. 157 - 242 Tones)

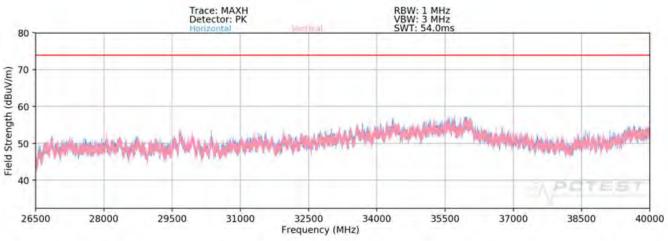
FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 252 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 253 of 292
© 2020 PCTEST		-		V 9.0 02/01/2019





# SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)





Plot 7-348. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax - 242 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 254 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 254 of 292
© 2020 PCTEST				V 9.0 02/01/2019



#### SISO Antenna-2 Radiated Spurious Emission Measurements §15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

ax (20MHz BW)
eters
lz

	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	190	328	-68.91	14.45	0.00	52.54	68.20	-15.66
*	15540.00	Average	V	-	-	-81.22	21.74	0.00	47.52	53.98	-6.46
*	15540.00	Peak	V	-	-	-70.04	21.74	0.00	58.70	73.98	-15.28
*	20720.00	Average	V	-	-	-74.16	17.88	-9.54	41.18	53.98	-12.80
*	20720.00	Peak	V	-	-	-64.72	17.88	-9.54	50.62	73.98	-23.36
	25900.00	Peak	V	-	-	-64.90	20.40	-9.54	52.96	68.20	-15.24

Table 7-104. Radiated Measurements SISO ANT2 (242 Tones)

Worst Case Mode: Worst Case Transfer Rate: RU Index: Distance of Measurements: Operating Frequency: Channel: 802.11ax (20MHz BW) MCS0 61 1 & 3 Meters 5200MHz 40

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	V	193	330	-68.49	14.60	0.00	53.11	68.20	-15.09
*	15600.00	Average	V	-	-	-81.07	21.90	0.00	47.83	53.98	-6.15
*	15600.00	Peak	V	-	-	-69.38	21.90	0.00	59.52	73.98	-14.46
*	20800.00	Average	V	-	-	-75.81	18.08	-9.54	39.73	53.98	-14.25
*	20800.00	Peak	V	-	-	-66.88	18.08	-9.54	48.66	73.98	-25.32
	26000.00	Peak	V	-	-	-63.57	20.68	-9.54	54.56	68.20	-13.64

Table 7-105. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Daga 255 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 255 of 292	
© 2020 PCTEST				V 9.0 02/01/2019	



802.11ax (20MHz BW)
MCS0
61
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	198	329	-67.88	14.57	0.00	53.69	68.20	-14.51
*	15720.00	Average	V	-	-	-80.87	22.17	0.00	48.30	53.98	-5.68
*	15720.00	Peak	V	-	-	-69.36	22.17	0.00	59.81	73.98	-14.17
*	20960.00	Average	V	-	-	-75.19	18.46	-9.54	40.73	53.98	-13.25
*	20960.00	Peak	V	-	-	-65.01	18.46	-9.54	50.91	73.98	-23.07
	26200.00	Peak	V	-	-	-63.02	20.96	-9.54	55.40	68.20	-12.80

## Table 7-106. Radiated Measurements SISO ANT2 (242 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	V	216	325	-68.48	15.10	0.00	53.62	68.20	-14.58
*	15780.00	Average	V	-	-	-81.34	21.87	0.00	47.53	53.98	-6.45
*	15780.00	Peak	V	-	-	-70.04	21.87	0.00	58.83	73.98	-15.15
*	21040.00	Average	V	-	-	-74.95	18.64	-9.54	41.14	53.98	-12.84
*	21040.00	Peak	V	-	-	-65.26	18.64	-9.54	50.83	73.98	-23.15
	26300.00	Peak	V	-	-	-64.73	21.23	-9.54	53.96	68.20	-14.24

Table 7-107. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dage 256 of 202	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 256 of 292	
© 2020 PCTEST				V 9.0 02/01/2019	



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5280MHz
Channel:	56

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10560.00	Peak	V	303	341	-68.51	14.95	0.00	53.44	68.20	-14.76
*	15840.00	Average	V	-	-	-81.43	22.33	0.00	47.90	53.98	-6.08
*	15840.00	Peak	V	-	-	-70.39	22.33	0.00	58.94	73.98	-15.04
*	21120.00	Average	V	-	-	-74.26	18.80	-9.54	42.00	53.98	-11.98
*	21120.00	Peak	V	-	-	-65.31	18.80	-9.54	50.95	73.98	-23.03
	26400.00	Peak	V	-	-	-63.91	21.49	-9.54	55.03	68.20	-13.17

#### Table 7-108. Radiated Measurements SISO ANT2 (242 Tones)

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5320MHz
Channel:	64
	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	213	343	-71.51	15.37	0.00	50.86	53.98	-3.12
*	10640.00	Peak	V	-	-	-80.41	15.37	0.00	41.96	73.98	-32.02
*	15960.00	Average	V	-	-	-82.17	22.27	0.00	47.10	53.98	-6.88
*	15960.00	Peak	V	-	-	-70.35	22.27	0.00	58.92	73.98	-15.06
*	21280.00	Average	V	-	-	-74.79	18.76	-9.54	41.43	53.98	-12.55
*	21280.00	Peak	V	-	-	-65.93	18.76	-9.54	50.29	73.98	-23.69
	26600.00	Peak	V	-	-	-64.24	6.35	-9.54	39.56	68.20	-28.64

Table 7-109. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dago 257 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 257 of 292
© 2020 PCTEST				V 9.0 02/01/2019



Worst Case Mode:	802.11ax (20MHz BW)			
Worst Case Transfer Rate:	MCS0			
RU Index:	61			
Distance of Measurements:	1 & 3 Meters			
Operating Frequency:	5500MHz			
Channel:	100			

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	V	152	345	-72.27	16.28	0.00	51.01	53.98	-2.97
*	11000.00	Peak	V	-	-	-80.24	16.28	0.00	43.04	73.98	-30.94
	16500.00	Peak	V	-	-	-70.29	23.88	0.00	60.59	68.20	-7.61
	22000.00	Peak	V	-	-	-64.99	19.37	-9.54	51.84	68.20	-16.36
	27500.00	Peak	V	-	-	-53.33	5.07	-9.54	49.20	68.20	-19.00

# Table 7-110. Radiated Measurements SISO ANT2 (242 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11200.00	Average	V	190	340	-80.04	16.05	0.00	43.01	53.98	-10.97
*	11200.00	Peak	V	190	340	-68.68	16.05	0.00	54.37	73.98	-19.61
	16800.00	Peak	V	-	-	-69.29	24.05	0.00	61.76	68.20	-6.44
*	22400.00	Average	V	-	-	-74.44	20.25	-9.54	43.26	53.98	-10.72
*	22400.00	Peak	V	-	-	-66.30	20.25	-9.54	51.40	73.98	-22.58
	28000.00	Peak	V	-	-	-53.48	6.42	-9.54	50.40	68.20	-17.80

Table 7-111. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 259 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 258 of 292
© 2020 PCTEST				V 9.0 02/01/2019



802.11ax (20MHz BW)				
MCS0				
61				
1 & 3 Meters				
5720MHz				
144				

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	V	173	9	-80.55	17.03	0.00	43.48	53.98	-10.50
*	11440.00	Peak	V	173	9	-68.92	17.03	0.00	55.11	73.98	-18.87
	17160.00	Peak	V	-	-	-68.26	23.47	0.00	62.21	68.20	-5.99
*	22880.00	Average	V	-	-	-73.30	19.64	-9.54	43.80	53.98	-10.18
*	22880.00	Peak	V	-	-	-65.03	19.64	-9.54	52.07	73.98	-21.91
	28600.00	Peak	V	-	-	-53.42	5.12	-9.54	49.15	68.20	-19.05

#### Table 7-112. Radiated Measurements SISO ANT2 (242 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	V	108	359	-73.26	16.80	0.00	50.54	53.98	-3.44
*	11490.00	Peak	V	108	359	-69.58	16.80	0.00	54.22	73.98	-19.76
	17235.00	Peak	V	-	-	-69.57	24.70	0.00	62.13	68.20	-6.07
*	22980.00	Average	V	-	-	-75.19	19.39	-9.54	41.66	53.98	-12.32
*	22980.00	Peak	V	-	-	-65.32	19.39	-9.54	51.53	73.98	-22.45
	28725.00	Peak	V	-	-	-52.20	6.24	-9.54	51.50	68.20	-16.70

Table 7-113. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	MSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 259 of 292
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 259 01 292
© 2020 PCTEST				V 9.0 02/01/2019



802.11ax (20MHz BW)				
MCS0				
61				
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	234	176	-73.58	16.48	0.00	49.90	53.98	-4.08
*	11570.00	Peak	V	234	176	-69.85	16.48	0.00	53.63	73.98	-20.35
	17355.00	Peak	V	-	-	-70.84	25.37	0.00	61.53	68.20	-6.67
	23140.00	Peak	V	-	-	-65.62	19.78	-9.54	51.61	68.20	-16.59
	28925.00	Peak	V	-	-	-54.50	5.18	-9.54	48.14	68.20	-20.06

# Table 7-114. Radiated Measurements SISO ANT2 (242 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	Average	V	-	-	-74.11	16.99	0.00	49.88	53.98	-4.09
*	11650.00	Peak	V	-	-	-69.93	16.99	0.00	54.06	73.98	-19.91
	17475.00	Peak	V	-	-	-70.68	25.73	0.00	62.05	68.20	-6.15
	23300.00	Peak	V	-	-	-64.88	20.06	-9.54	52.64	68.20	-15.56
	29125.00	Peak	V	-	-	-52.75	4.94	-9.54	49.65	68.20	-18.55

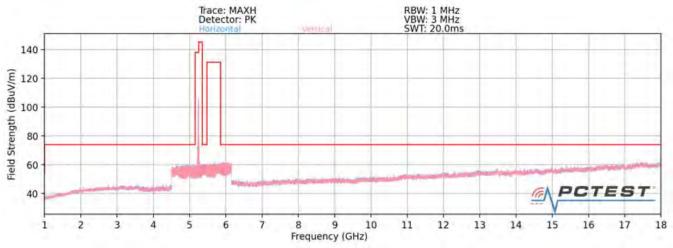
Table 7-115. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 260 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 260 of 292
© 2020 PCTEST				V 9.0 02/01/2019

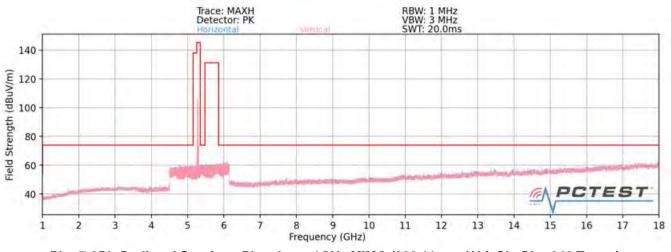


# 7.6.3 MIMO Radiated Spurious Emission Measurements

## 242 Tones



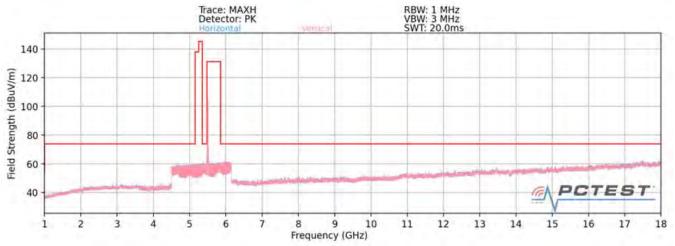


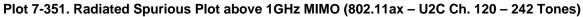


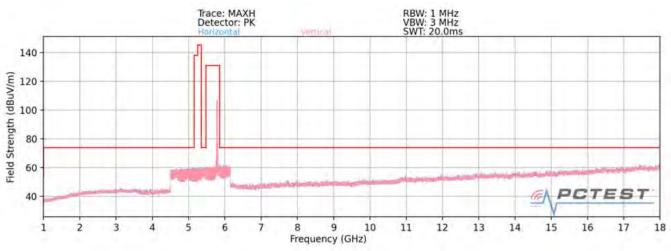
Plot 7-350. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U2A Ch. 56 - 242 Tones)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 261 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 261 of 292
© 2020 PCTEST		·		V 9.0 02/01/2019





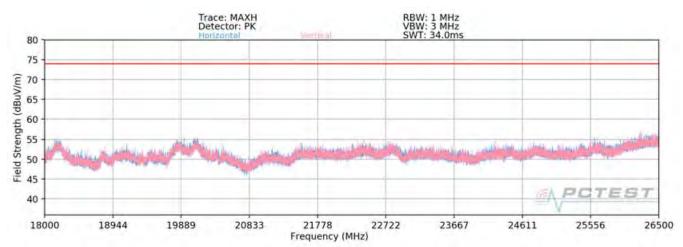




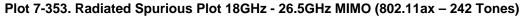
Plot 7-352. Radiated Spurious Plot above 1GHz MIMO (802.11ax - U3 Ch. 157 - 242 Tones)

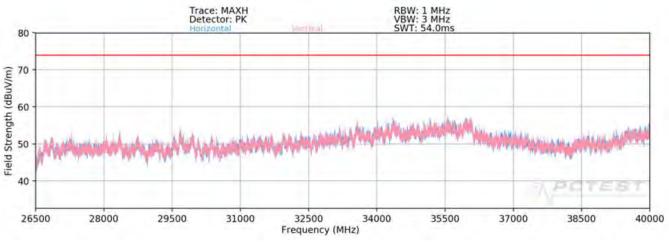
FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dega 262 of 202		
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 262 of 292		
© 2020 PCTEST V 9.0 02/01/2019						





# MIMO Radiated Spurious Emissions Measurements (Above 18GHz)





Plot 7-354. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11ax - 242 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 262 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 263 of 292
© 2020 PCTEST				V 9.0 02/01/2019



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

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
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	325	332	-68.63	14.45	0.00	52.82	68.20	-15.38
*	15540.00	Average	V	-	-	-81.47	21.74	0.00	47.27	53.98	-6.71
*	15540.00	Peak	V	-	-	-69.53	21.74	0.00	59.21	73.98	-14.77
*	20720.00	Average	V	-	-	-75.42	17.88	-9.54	39.92	53.98	-14.06
*	20720.00	Peak	V	-	-	-66.09	17.88	-9.54	49.25	73.98	-24.73
	25900.00	Peak	V	-	-	-64.99	20.40	-9.54	52.87	68.20	-15.33

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

Worst Case Mode: Worst Case Transfer Rate: RU Index: Distance of Measurements: Operating Frequency: Channel: 802.11ax (20MHz BW) MCS0 61 1 & 3 Meters 5200MHz 40

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	V	317	324	-69.44	14.60	0.00	52.16	68.20	-16.04
*	15600.00	Average	V	-	-	-81.23	21.90	0.00	47.67	53.98	-6.31
*	15600.00	Peak	V	-	-	-69.88	21.90	0.00	59.02	73.98	-14.96
*	20800.00	Average	V	-	-	-76.13	18.08	-9.54	39.41	53.98	-14.57
*	20800.00	Peak	V	-	-	-66.01	18.08	-9.54	49.53	73.98	-24.45
	26000.00	Peak	V	-	-	-64.02	20.68	-9.54	54.11	68.20	-14.09

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

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: Test Dates:		EUT Type:		Dage 264 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 264 of 292
© 2020 PCTEST				V 9.0 02/01/2019



802.11ax (20MHz BW)
MCS0
61
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	320	341	-68.77	14.57	0.00	52.80	68.20	-15.40
*	15720.00	Average	V	-	-	-81.28	22.17	0.00	47.89	53.98	-6.09
*	15720.00	Peak	V	-	-	-69.59	22.17	0.00	59.58	73.98	-14.40
*	20960.00	Average	V	-	-	-75.57	18.46	-9.54	40.35	53.98	-13.63
*	20960.00	Peak	V	-	-	-64.54	18.46	-9.54	51.38	73.98	-22.60
	26200.00	Peak	V	-	-	-63.18	20.96	-9.54	55.24	68.20	-12.96

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

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	V	256	7	-69.61	15.10	0.00	52.49	68.20	-15.71
*	15780.00	Average	V	-	-	-81.41	21.87	0.00	47.46	53.98	-6.52
*	15780.00	Peak	V	-	-	-69.77	21.87	0.00	59.10	73.98	-14.88
*	21040.00	Average	V	-	-	-74.34	18.64	-9.54	41.75	53.98	-12.23
*	21040.00	Peak	V	-	-	-65.38	18.64	-9.54	50.71	73.98	-23.27
	26300.00	Peak	V	-	-	-63.09	21.23	-9.54	55.60	68.20	-12.60

Table 7-119. Radiated Measurements MIMO (242 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 265 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 265 of 292
© 2020 PCTEST				V 9.0 02/01/2019



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5280MHz
Channel:	56
RU Index: Distance of Measurements: Operating Frequency:	61 1 & 3 Meters 5280MHz

	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	291	347	-69.36	14.95	0.00	52.59	68.20	-15.61
*	15840.00	Average	V	-	-	-81.46	22.33	0.00	47.87	53.98	-6.11
*	15840.00	Peak	V	-	-	-70.06	22.33	0.00	59.27	73.98	-14.71
*	21120.00	Average	V	-	-	-74.48	18.80	-9.54	41.78	53.98	-12.20
*	21120.00	Peak	V	-	-	-64.04	18.80	-9.54	52.22	73.98	-21.76
	26400.00	Peak	V	-	-	-62.70	21.49	-9.54	56.24	68.20	-11.96

#### Table 7-120. Radiated Measurements MIMO (242 Tones)

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5320MHz
Channel:	64

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	10640.00	Average	V	348	84	-81.13	15.37	0.00	41.24	53.98	-12.74
*	10640.00	Peak	V	348	84	-69.29	15.37	0.00	53.08	73.98	-20.90
*	15960.00	Average	V	-	-	-81.68	22.27	0.00	47.59	53.98	-6.39
*	15960.00	Peak	V	-	-	-69.79	22.27	0.00	59.48	73.98	-14.50
*	21280.00	Average	V	-	-	-74.89	18.76	-9.54	41.33	53.98	-12.65
*	21280.00	Peak	V	-	-	-66.28	18.76	-9.54	49.94	73.98	-24.04
	26600.00	Peak	V	-	-	-65.26	6.35	-9.54	38.54	68.20	-29.66

Table 7-121. Radiated Measurements MIMO (242 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 266 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 266 of 292
© 2020 PCTEST				V 9.0 02/01/2019



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5500MHz
Channel:	100

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	V	119	8	-80.29	16.28	0.00	42.99	53.98	-10.99
*	11000.00	Peak	V	119	8	-68.61	16.28	0.00	54.67	73.98	-19.31
	16500.00	Peak	V	-	-	-70.17	23.88	0.00	60.71	68.20	-7.49
	22000.00	Peak	V	-	-	-64.38	19.37	-9.54	52.45	68.20	-15.75
	27500.00	Peak	V	-	-	-53.88	5.07	-9.54	48.65	68.20	-19.55

## Table 7-122. Radiated Measurements MIMO (242 Tones)

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5580MHz
Channel:	116

	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	206	346	-80.00	16.05	0.00	43.05	53.98	-10.93
*	11200.00	Peak	V	206	346	-68.18	16.05	0.00	54.87	73.98	-19.11
	16800.00	Peak	V	-	-	-70.16	24.05	0.00	60.89	68.20	-7.31
*	22400.00	Average	V	-	-	-74.54	20.25	-9.54	43.16	53.98	-10.82
*	22400.00	Peak	V	-	-	-63.53	20.25	-9.54	54.17	73.98	-19.81
	28000.00	Peak	V	-	-	-54.01	6.42	-9.54	49.87	68.20	-18.33

 Table 7-123. Radiated Measurements MIMO (242 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 267 of 292
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset	Page 267 01 292
© 2020 PCTEST			V 9.0 02/01/2019



Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5700MHz
Channel:	140

	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	208	356	-80.71	17.03	0.00	43.32	53.98	-10.66
*	11440.00	Peak	V	208	356	-68.92	17.03	0.00	55.11	73.98	-18.87
	17160.00	Peak	V	-	-	-70.26	23.47	0.00	60.21	68.20	-7.99
*	22880.00	Average	V	-	-	-73.60	19.64	-9.54	43.50	53.98	-10.48
*	22880.00	Peak	V	-	-	-64.53	19.64	-9.54	52.57	73.98	-21.41
	28600.00	Peak	V	-	-	-54.69	5.12	-9.54	47.88	68.20	-20.32

#### Table 7-124. Radiated Measurements MIMO (242 Tones)

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	V	178	1	-80.72	16.80	0.00	43.08	53.98	-10.90
*	11490.00	Peak	V	178	1	-69.41	16.80	0.00	54.39	73.98	-19.59
	17235.00	Peak	V	-	-	-70.20	24.70	0.00	61.50	68.20	-6.70
*	22980.00	Average	V	-	-	-75.39	19.39	-9.54	41.46	53.98	-12.52
*	22980.00	Peak	V	-	-	-65.89	19.39	-9.54	50.96	73.98	-23.02
	28725.00	Peak	V	-	-	-53.99	6.24	-9.54	49.71	68.20	-18.49

Table 7-125. Radiated Measurements MIMO (242 Tones)

FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		
© 2020 PCTEST				V 9.0 02/01/2019



802.11ax (20MHz BW)
MCS0
61
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	189	357	-80.38	16.48	0.00	43.10	53.98	-10.88
*	11570.00	Peak	V	189	357	-69.31	16.48	0.00	54.17	73.98	-19.81
	17355.00	Peak	V	-	-	-70.29	25.37	0.00	62.08	68.20	-6.12
	23140.00	Peak	V	-	-	-63.42	19.78	-9.54	53.81	68.20	-14.39
	28925.00	Peak	V	-	-	-54.10	5.18	-9.54	48.54	68.20	-19.66

### Table 7-126. Radiated Measurements MIMO (242 Tones)

Worst Case Mode:802.11axWorst Case Transfer Rate:MCS0RU Index:61Distance of Measurements:1 & 3 MeterOperating Frequency:5825MHzChannel:165

802.11ax (20MHz BW)
MCS0
61
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	392	355	-80.79	16.99	0.00	43.20	53.98	-10.77
*	11650.00	Peak	V	392	355	-68.22	16.99	0.00	55.77	73.98	-18.20
	17475.00	Peak	V	-	-	-70.49	25.73	0.00	62.24	68.20	-5.96
	23300.00	Peak	V	-	-	-64.14	20.06	-9.54	53.38	68.20	-14.82
	29125.00	Peak	V	-	-	-51.53	4.94	-9.54	50.87	68.20	-17.33

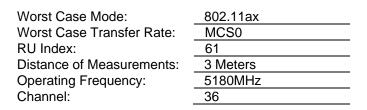
Table 7-127. Radiated Measurements MIMO (242 Tones)

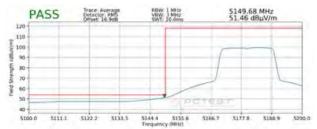
FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	tes: EUT Type:		Page 269 of 292
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 269 01 292
© 2020 PCTEST				V 9.0 02/01/2019



#### 7.6.4 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]

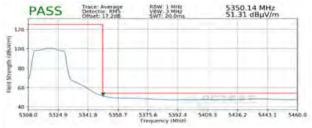
### 242 Tones



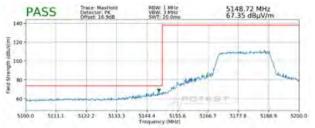


Plot 7-355. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1 – 242 Tones)

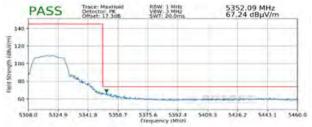
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



Plot 7-357. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A – 242 Tones)



Plot 7-356. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 1 – 242 Tones)

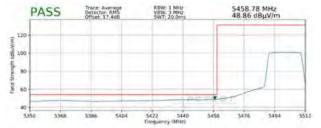


Plot 7-358. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A – 242 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 270 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 270 of 292
© 2020 PCTEST		·		V 9.0 02/01/2019

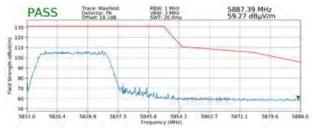


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

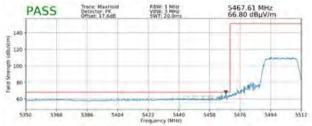




Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165



Plot 7-361. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 242 Tones)



Plot 7-360. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C – 242 Tones)

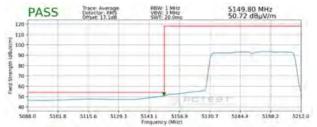
FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 071 of 000
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 271 of 292
© 2020 PCTEST		·		V 9.0 02/01/2019



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

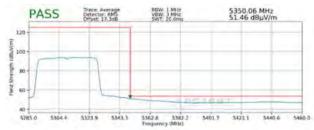
#### 484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

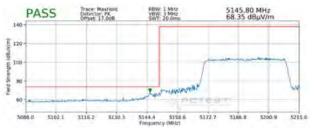


Plot 7-362. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1 – 484 Tones)

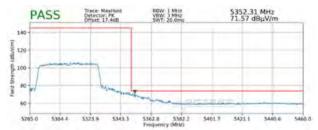
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62
-	



Plot 7-364. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A – 484 Tones)



Plot 7-363. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 1 – 484 Tones)

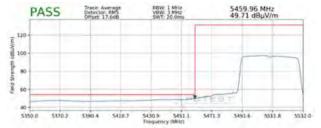


Plot 7-365. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A – 484 Tones)

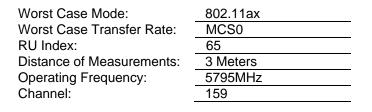
FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 070 of 000
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 272 of 292
© 2020 PCTEST	·	·		V 9.0 02/01/2019

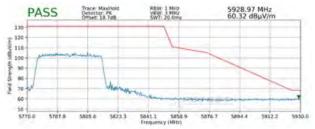


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5510MHz
Channel:	102













Plot 7-367. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C – 484 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 272 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 273 of 292
© 2020 PCTEST	-			V 9.0 02/01/2019



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

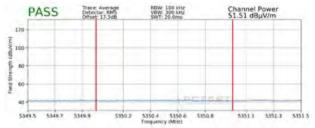
#### 996 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

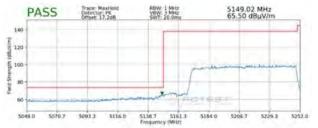


Plot 7-369. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 1 – 996 Tones)

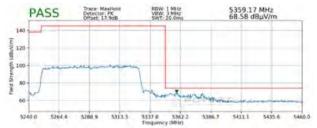
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58
_	



Plot 7-371. Radiated Upper Band Edge Plot SISO ANT1 (Average – UNII Band 2A – 996 Tones)



Plot 7-370. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 1 – 996 Tones)

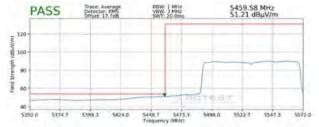


Plot 7-372. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 2A – 996 Tones)

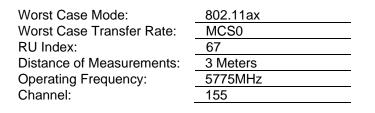
FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 074 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 274 of 292
© 2020 PCTEST	·	·		V 9.0 02/01/2019

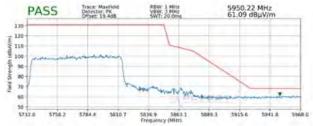


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106

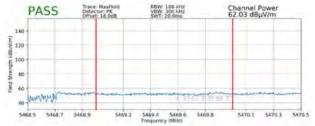












Plot 7-374. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C – 996 Tones)

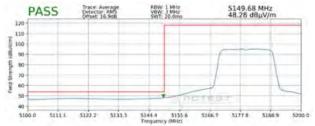
FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 075 of 000
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 275 of 292
© 2020 PCTEST		·		V 9.0 02/01/2019



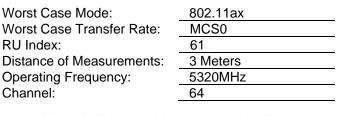
#### 7.6.7 SISO Antenna-2 Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

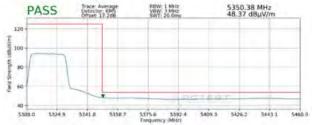
### 242 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

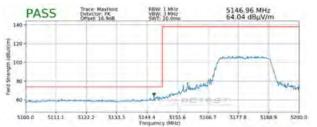


Plot 7-376. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1 – 242 Tones)

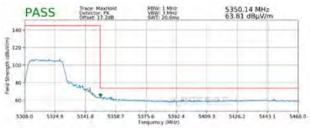




Plot 7-378. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A – 242 Tones)



Plot 7-377. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1 – 242 Tones)

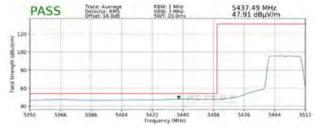


Plot 7-379. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A – 242 Tones)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 276 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 276 of 292
© 2020 PCTEST	·			V 9.0 02/01/2019

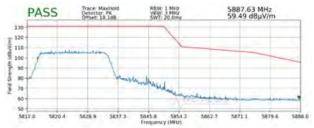


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

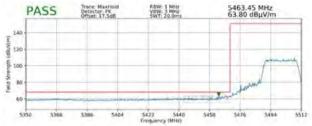




Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165



Plot 7-382. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 242 Tones)



Plot 7-381. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 242 Tones)

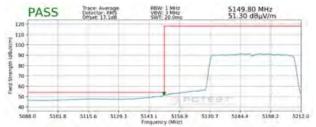
FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dago 277 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 277 of 292
© 2020 PCTEST		·		V 9.0 02/01/2019



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

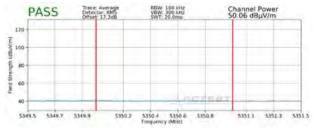
#### 484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

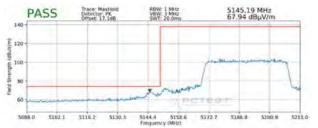


Plot 7-383. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1 – 484 Tones)

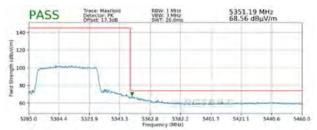
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62
-	



Plot 7-385. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A – 484 Tones)



Plot 7-384. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1 – 484 Tones)

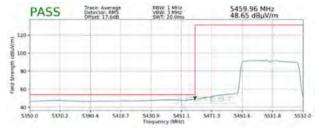


Plot 7-386. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A – 484 Tones)

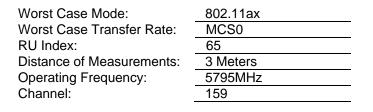
FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 079 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 278 of 292
© 2020 PCTEST	<u>.</u>	·		V 9.0 02/01/2019

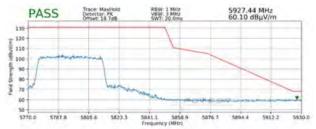


802.11ax
MCS0
65
3 Meters
5510MHz
102

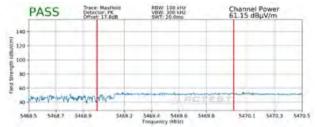








Plot 7-389. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 484 Tones)



Plot 7-388. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 484 Tones)

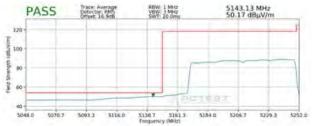
FCC ID: A3LSMN986JPN	755at 6 to part of 2 elements	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 070 of 000
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 279 of 292
© 2020 PCTEST				V 9.0 02/01/2019



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

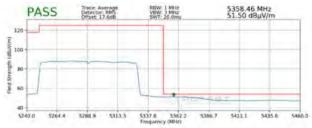
#### 996 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

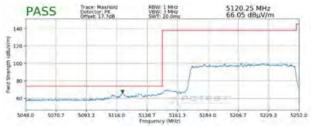


Plot 7-390. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1 – 996 Tones)

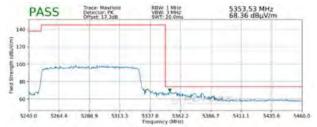
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58
-	



Plot 7-392. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A – 996 Tones)



Plot 7-391. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1 – 996 Tones)

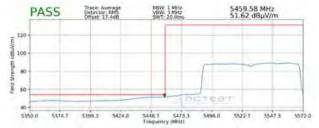


Plot 7-393. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A – 996 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 280 of 292	
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset			
© 2020 PCTEST				V 9.0 02/01/2019	

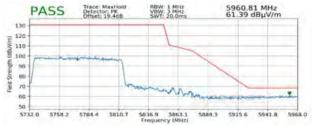


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106

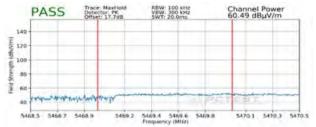




Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5775MHz
Channel:	155







Plot 7-395. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 996 Tones)

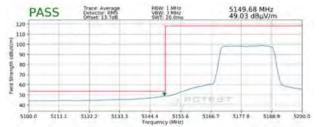
FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 201 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 281 of 292
© 2020 PCTEST				V 9.0 02/01/2019



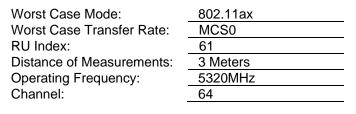
# 7.6.10 MIMO Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

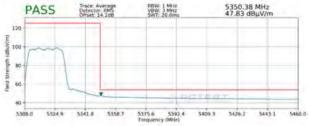
# 242 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

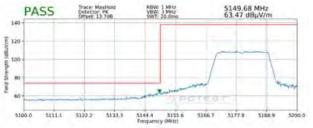


Plot 7-397. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1 – 242 Tones)

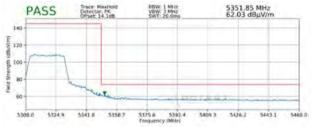




Plot 7-399. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A – 242 Tones)



Plot 7-398. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1 – 242 Tones)

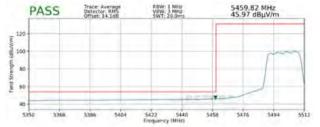


Plot 7-400. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A – 242 Tones)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 202 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 282 of 292
© 2020 PCTEST	•	·		V 9.0 02/01/2019

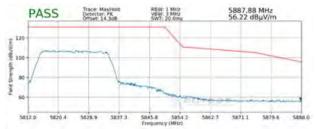


Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

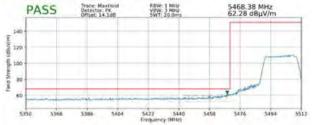




Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165



Plot 7-403. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 3 – 242 Tones)



Plot 7-402. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C – 242 Tones)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 202 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 283 of 292
© 2020 PCTEST				V 9.0 02/01/2019



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

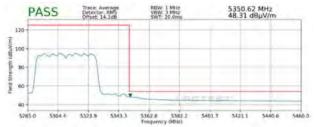
# 484 Tones

802.11ax
MCS0
65
3 Meters
5190MHz
38

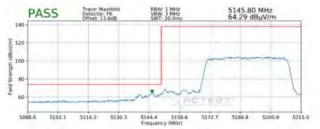


Plot 7-404. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1 – 484 Tones)

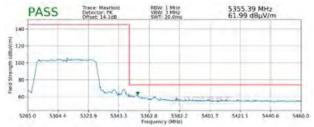
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62
-	



Plot 7-406. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A – 484 Tones)



Plot 7-405. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1 – 484 Tones)

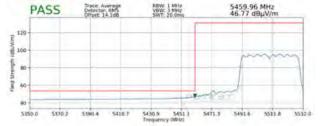


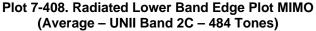
Plot 7-407. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A – 484 Tones)

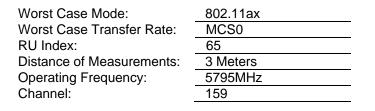
FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 284 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 284 of 292
© 2020 PCTEST				V 9.0 02/01/2019

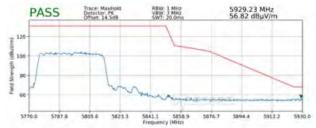


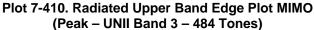
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5510MHz
Channel:	102

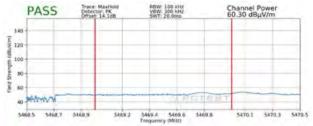












Plot 7-409. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C – 484 Tones)

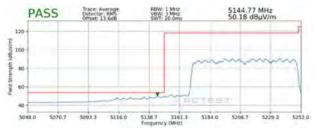
FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 205 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 285 of 292
© 2020 PCTEST	*	·		V 9.0 02/01/2019



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

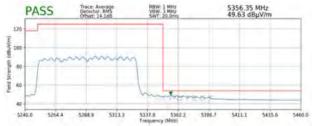
# 996 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

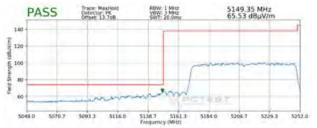


Plot 7-411. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1 – 996 Tones)

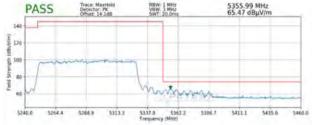
Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58
-	



Plot 7-413. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A – 996 Tones)



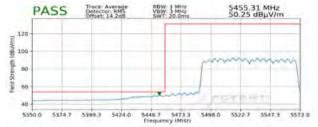
Plot 7-412. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1 – 996 Tones)

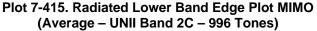


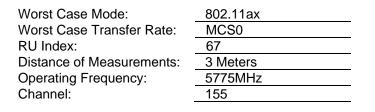
Plot 7-414. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A – 996 Tones)

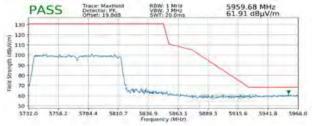
FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 206 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 286 of 292
© 2020 PCTEST	•	·		V 9.0 02/01/2019

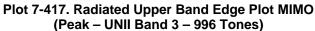


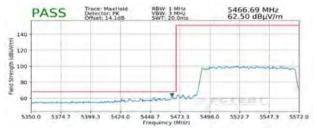












Plot 7-416. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 2C – 996 Tones)

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 207 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 287 of 292
© 2020 PCTEST				V 9.0 02/01/2019



# 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 7-128 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 7-128. 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

FCC ID: A3LSMN986JPN	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 200 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 288 of 292
© 2020 PCTEST				V 9.0 02/01/2019



# Test Setup

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

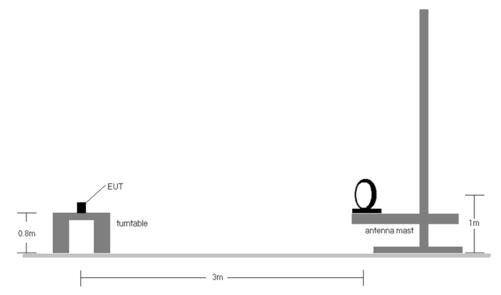
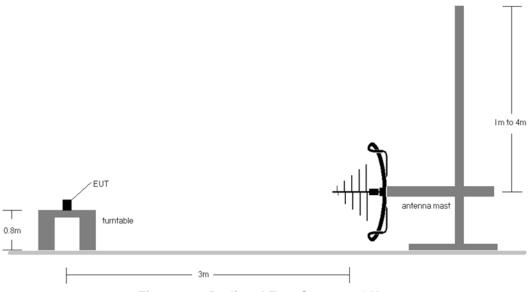
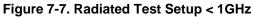


Figure 7-6. Radiated Test Setup < 30MHz





FCC ID: A3LSMN986JPN	75kd 5 be part of @ element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 200 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 289 of 292
© 2020 PCTEST				V 9.0 02/01/2019



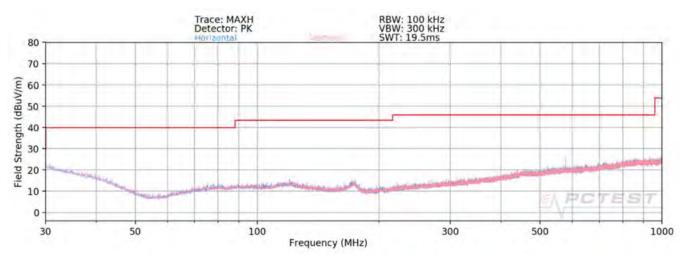
### Test Notes

- 1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen (8.10) are below the limit shown in Table 7-128.
- 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.

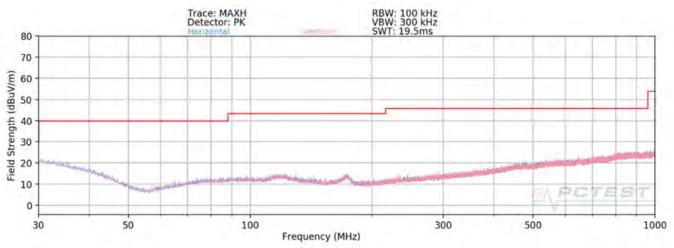
FCC ID: A3LSMN986JPN	PCTEST'	MEASUREMENT REPORT (CERTIFICATION)	SUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 200 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 290 of 292
© 2020 PCTEST				V 9.0 02/01/2019



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



Plot 7-418. Radiated Spurious Plot below 1GHz MIMO (802.11ax - 26 Tones - U3 Ch. 157)



Plot 7-419. Radiated Spurious Plot below 1GHz MIMO (802.11ax - 242 Tones - U3 Ch. 157)

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 201 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 291 of 292
© 2020 PCTEST				V 9.0 02/01/2019



# 8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSCG06** is in compliance with Part 15 Subpart E (15.407) of the FCC Rules.

FCC ID: A3LSMN986JPN		MEASUREMENT REPORT (CERTIFICATION)	SUNG	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 202 of 202
1M2006240100-06.A3L	04/17 - 06/12/2020	Portable Handset		Page 292 of 292
© 2020 PCTEST				V 9.0 02/01/2019