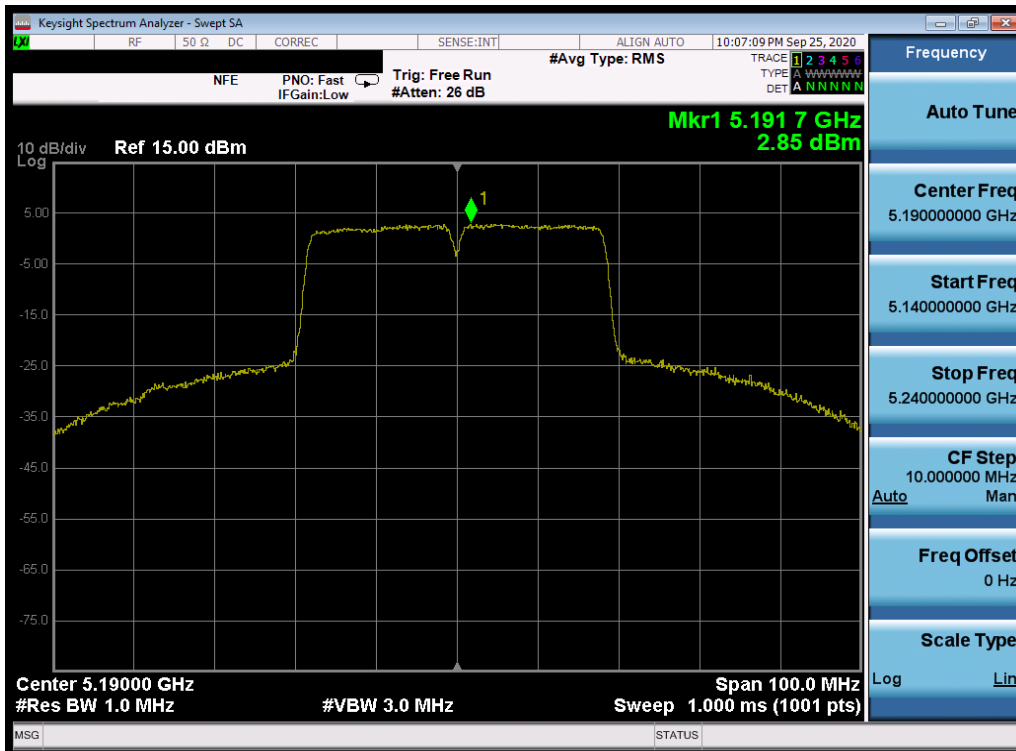
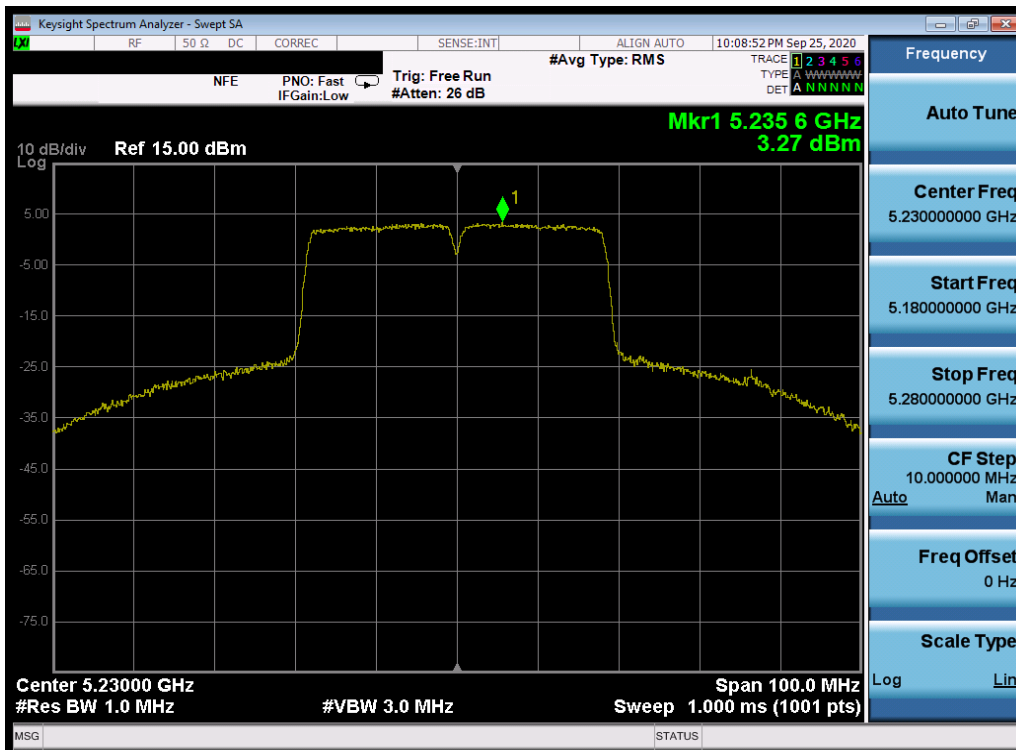


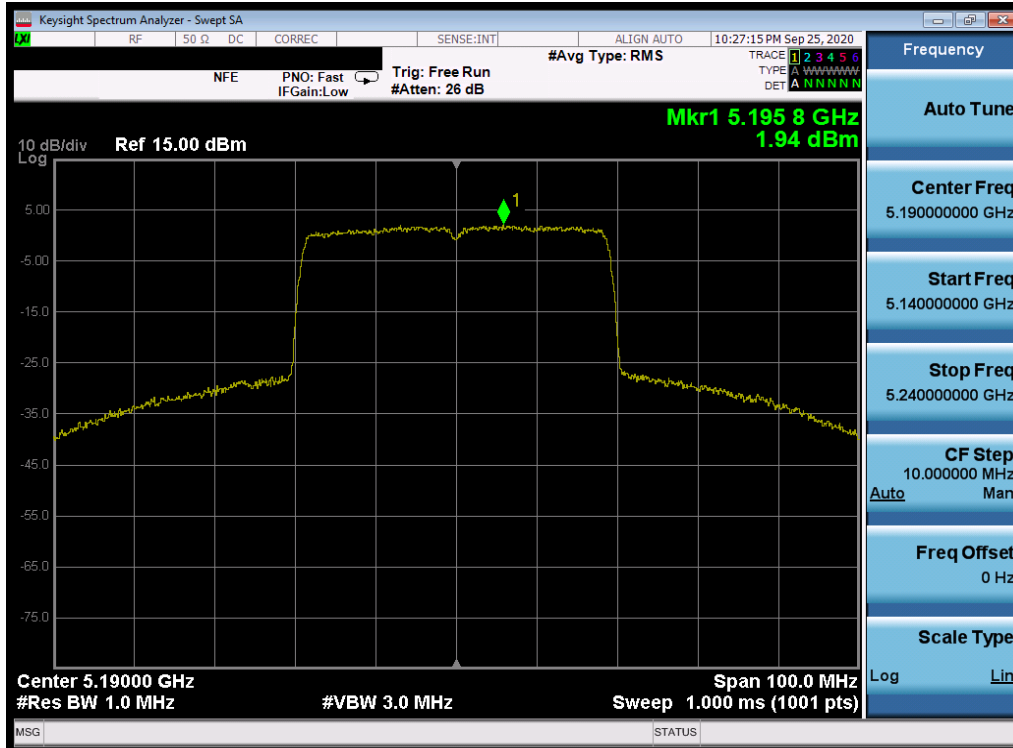


Plot 7-205. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 1) – Ch. 38)

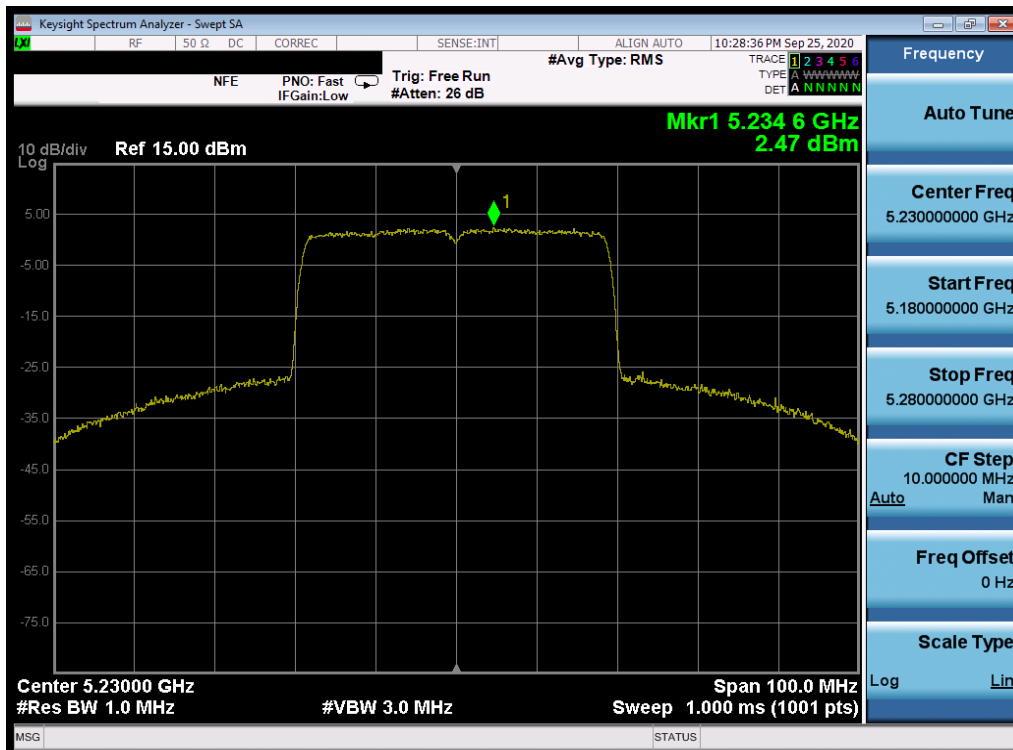


Plot 7-206. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 135 of 234

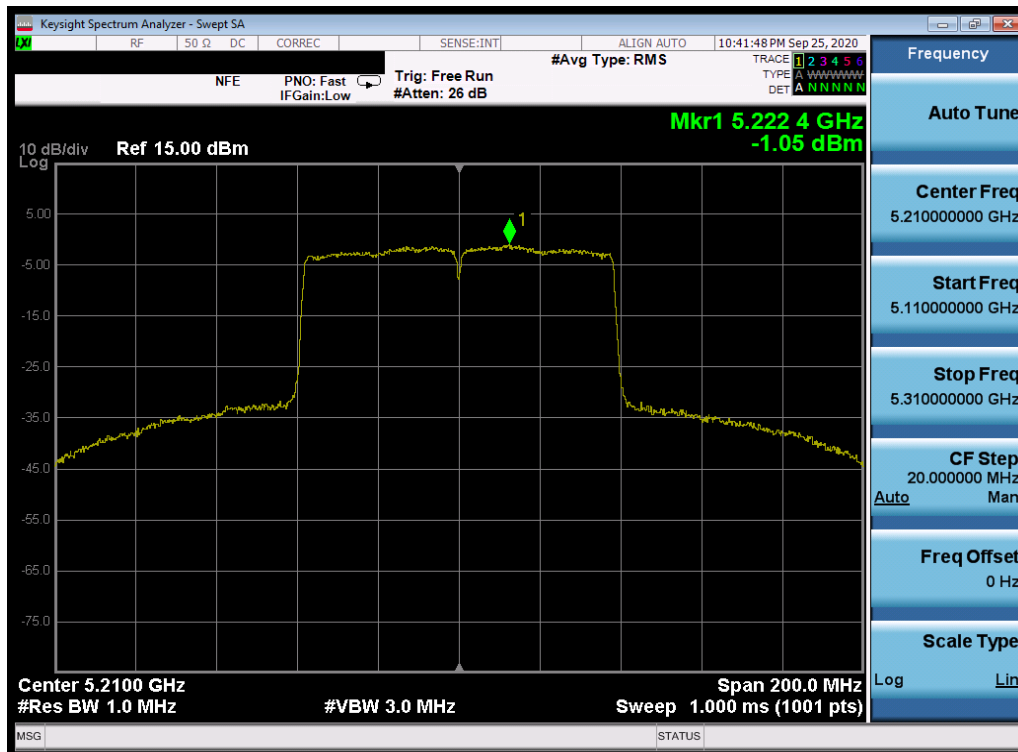


Plot 7-207. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 1) – Ch. 38)

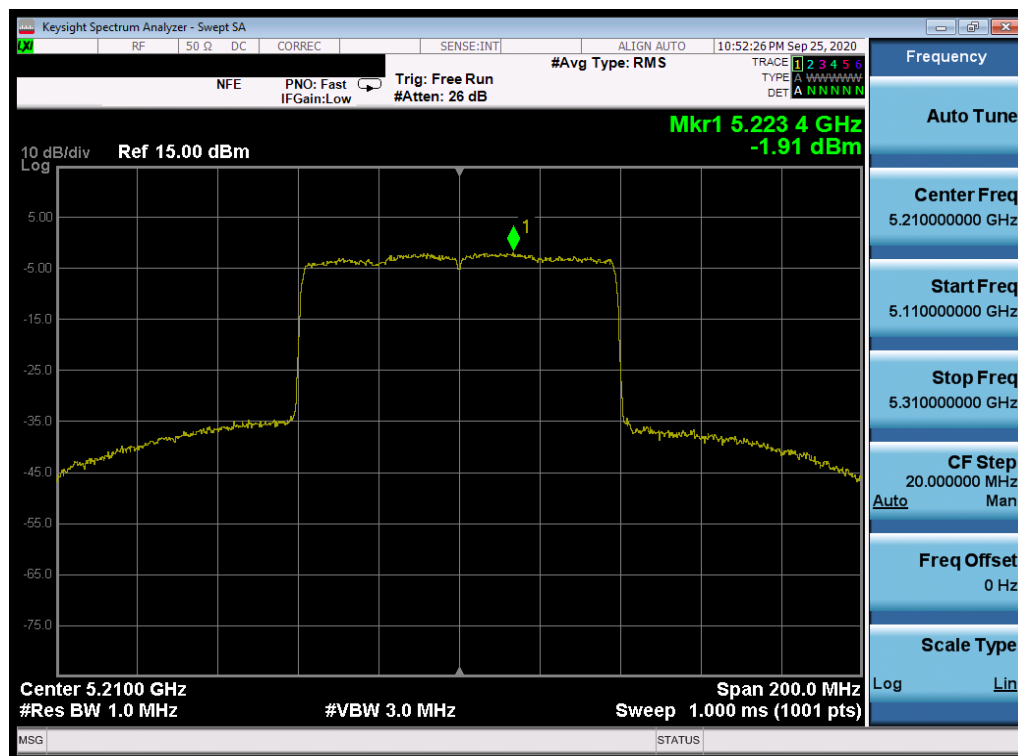


Plot 7-208. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 1) – Ch. 46)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 136 of 234

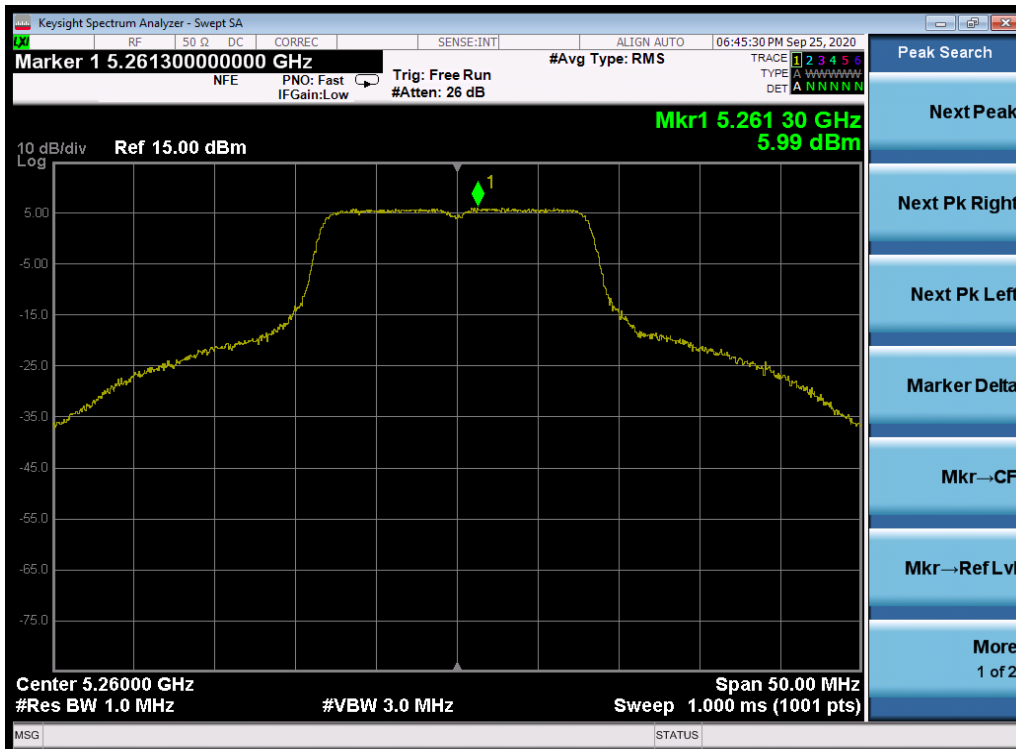


Plot 7-209. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

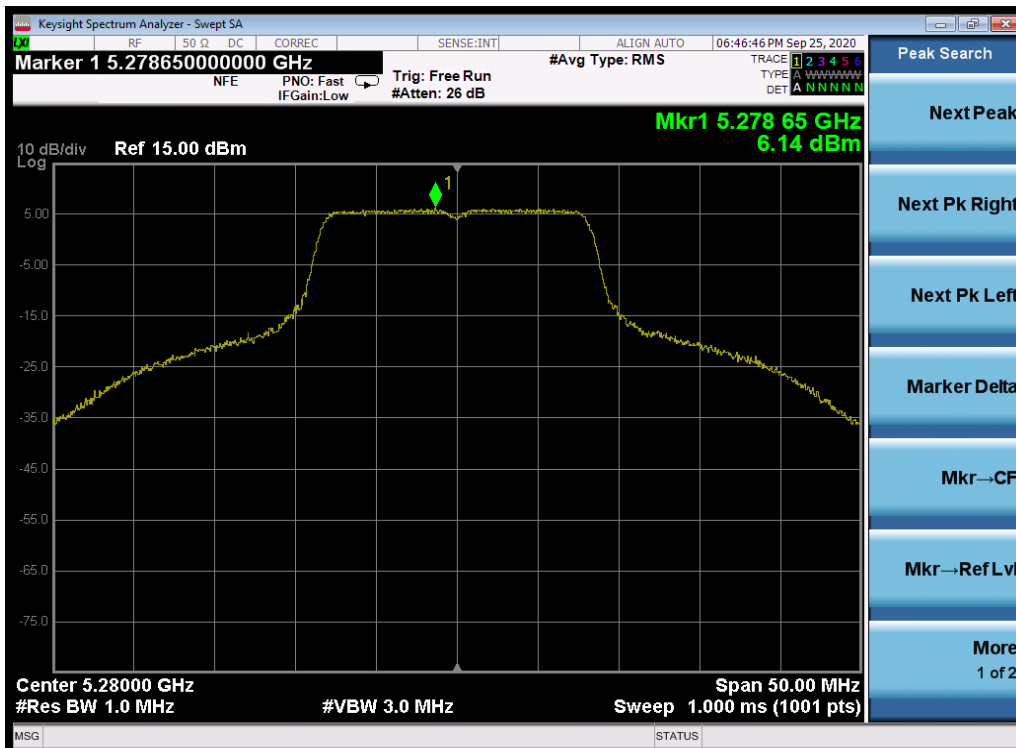


Plot 7-210. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 1) – Ch. 42)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 137 of 234

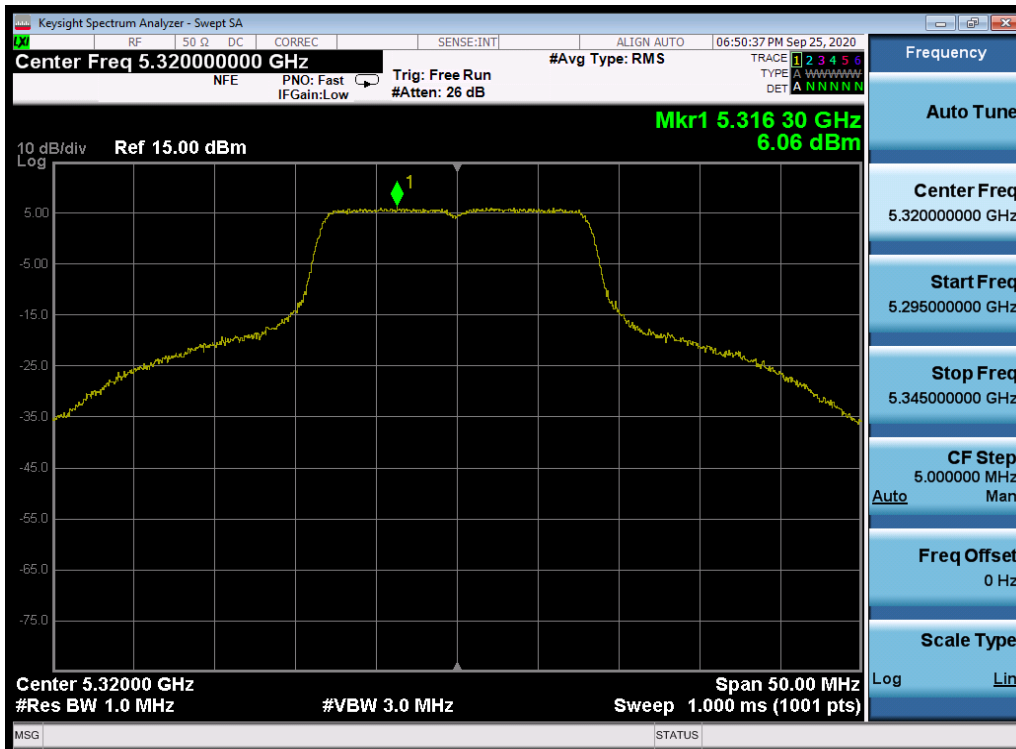


Plot 7-211. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2A) - Ch. 52)

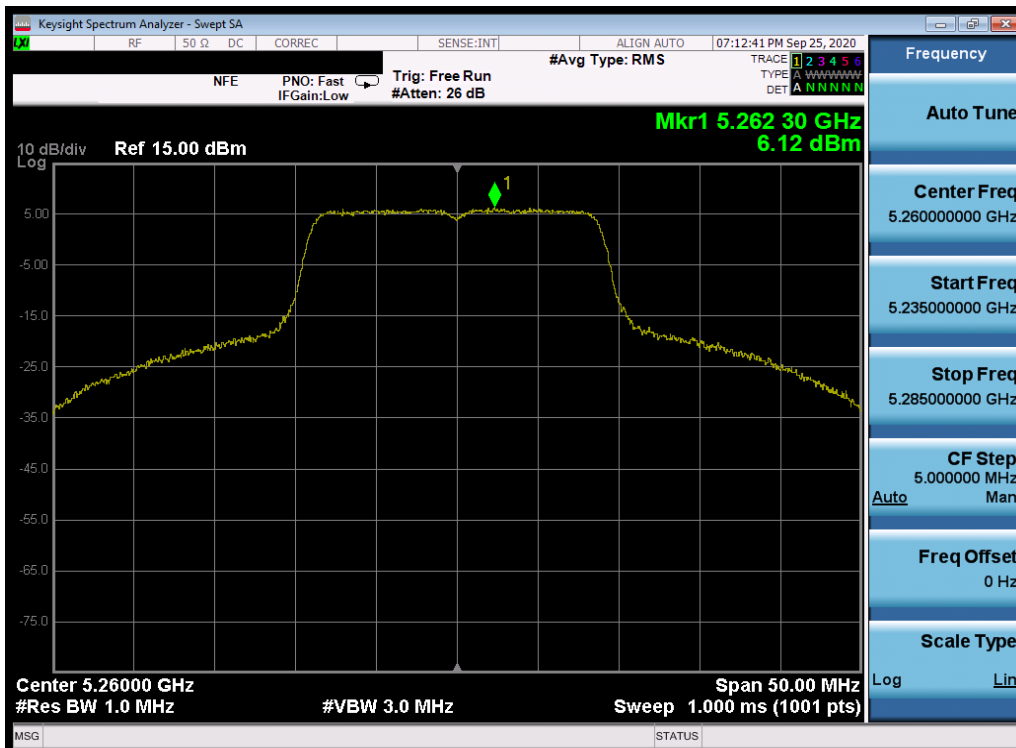


Plot 7-212. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 138 of 234

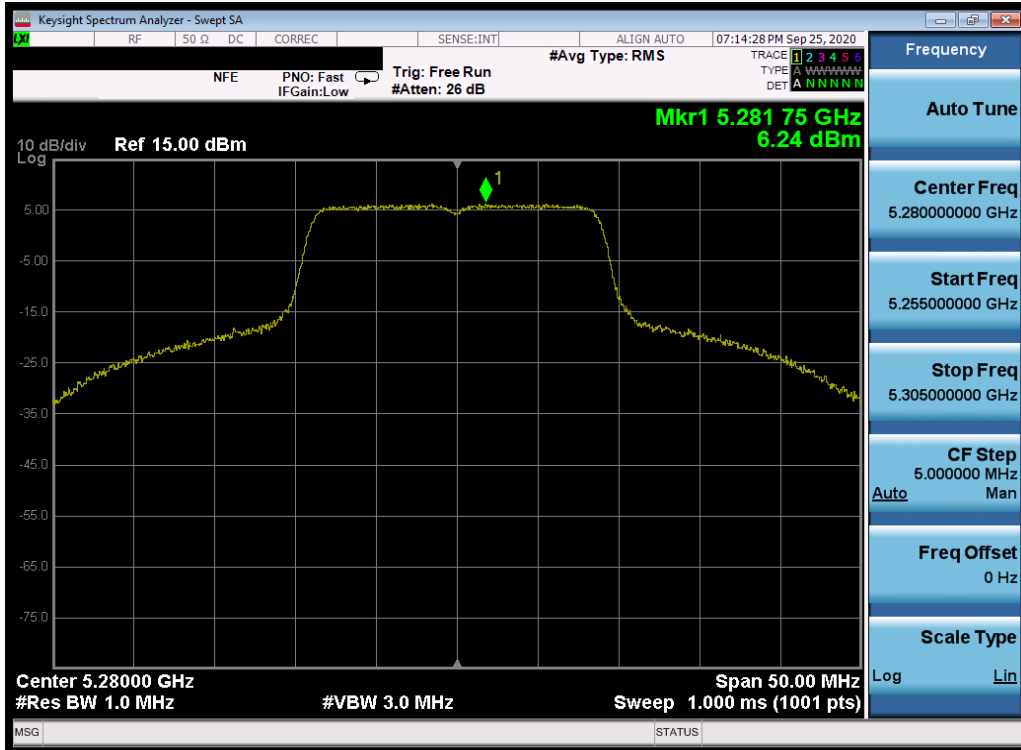


Plot 7-213. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2A) – Ch. 64)

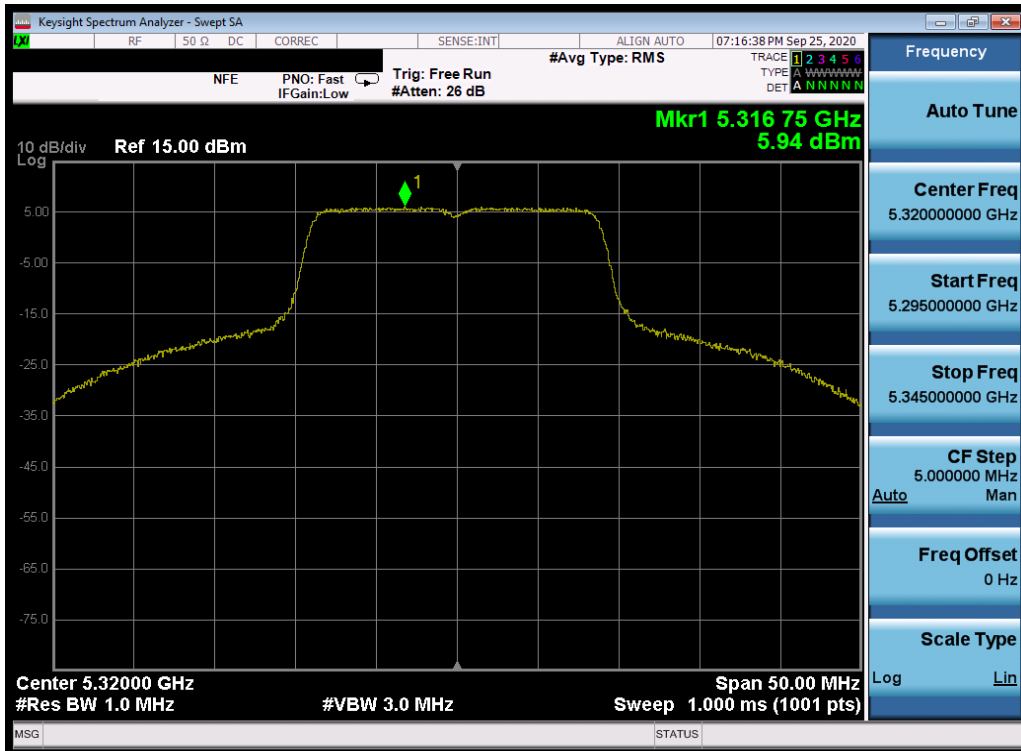


Plot 7-214. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 139 of 234

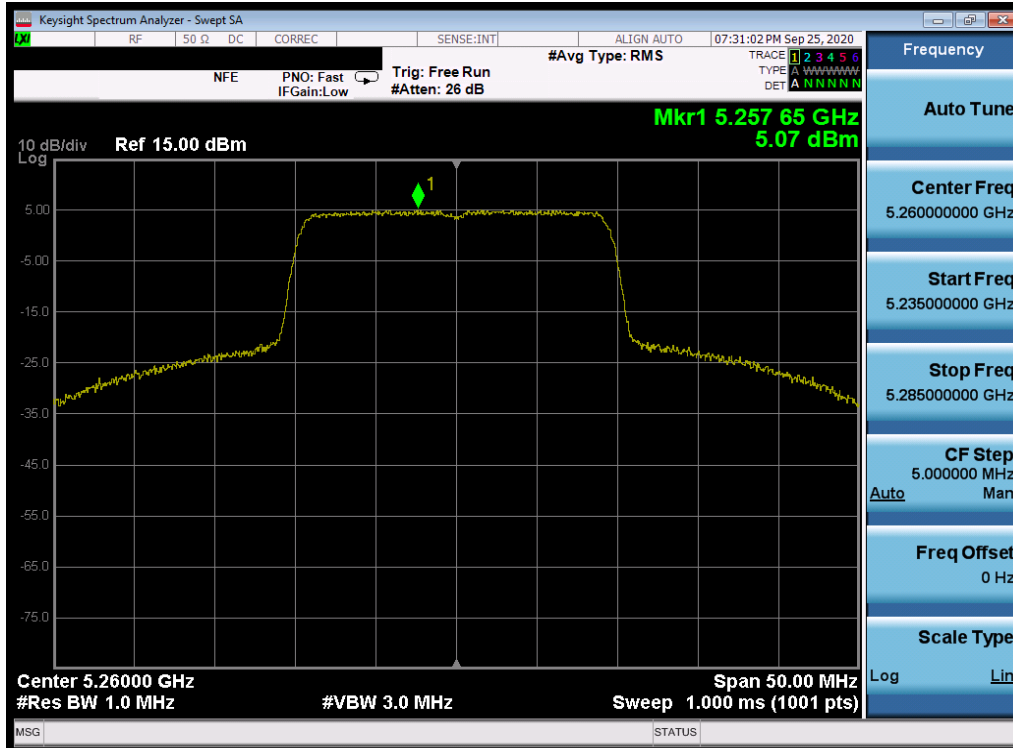


Plot 7-215. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

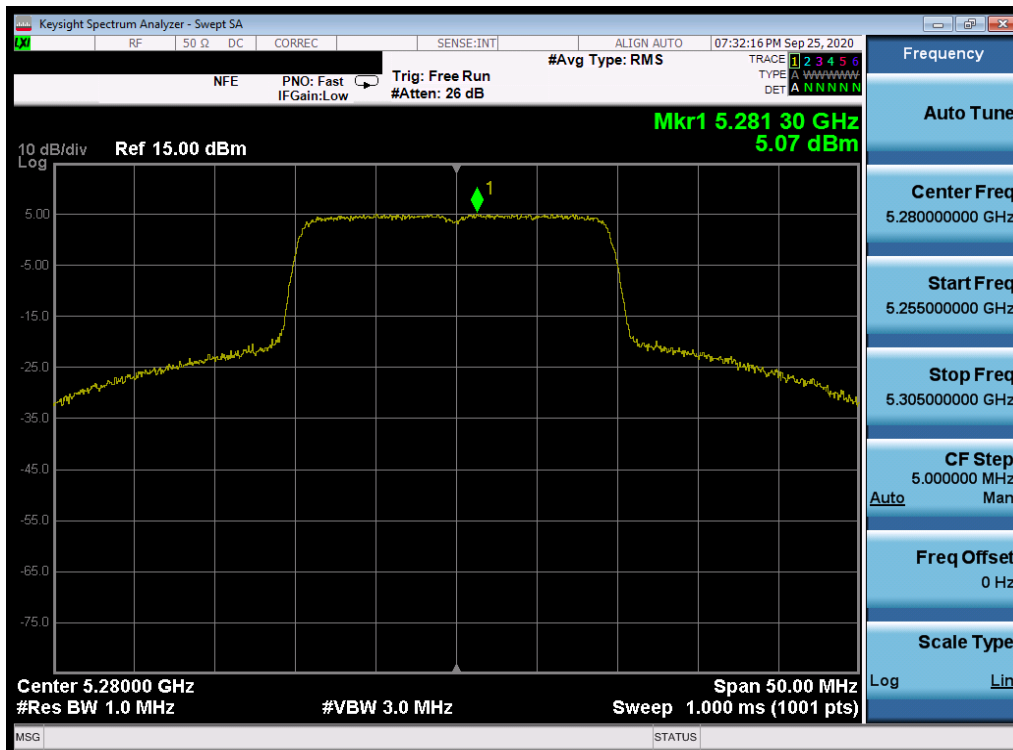


Plot 7-216. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 140 of 234

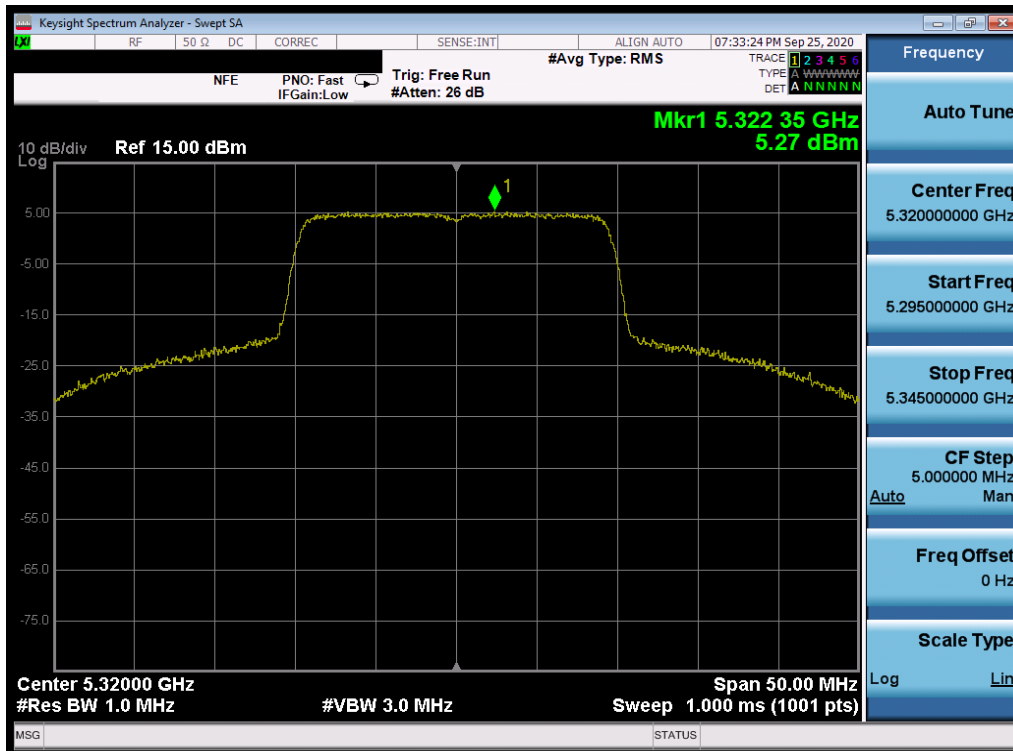


Plot 7-217. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2A) – Ch. 52)

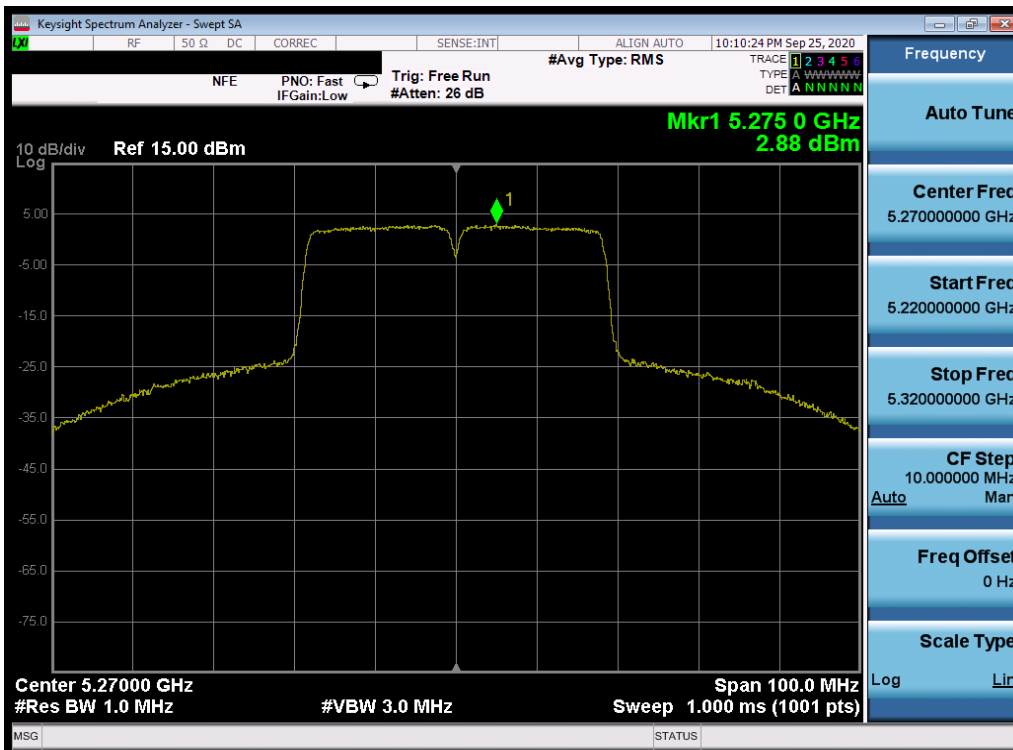


Plot 7-218. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 141 of 234

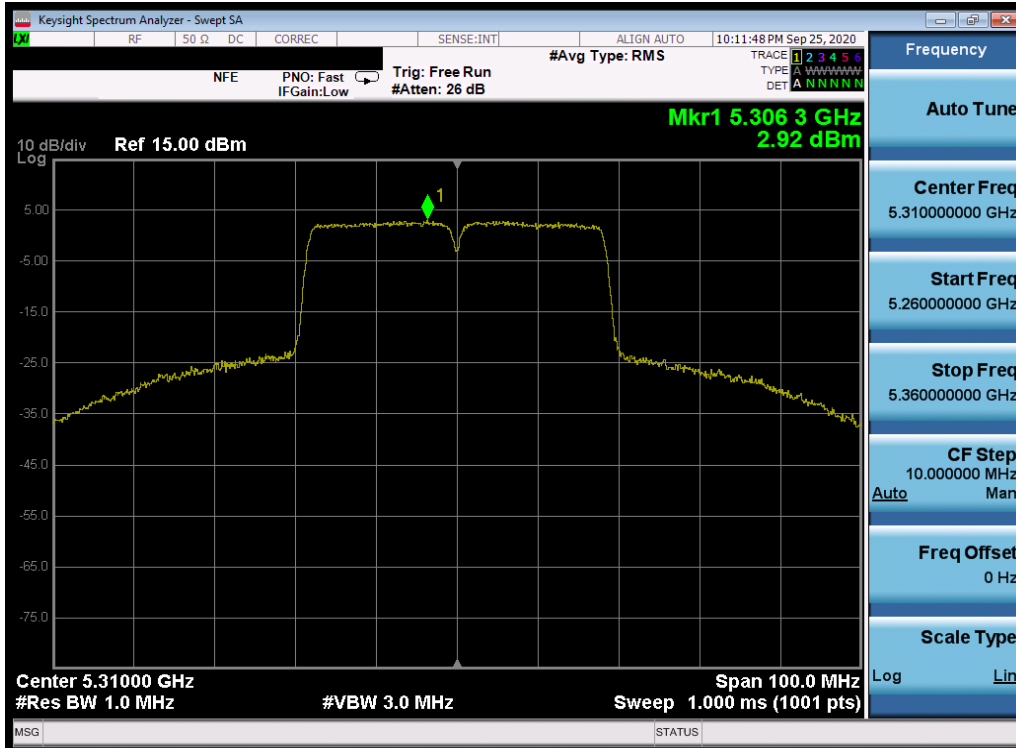


Plot 7-219. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2A) – Ch. 64)

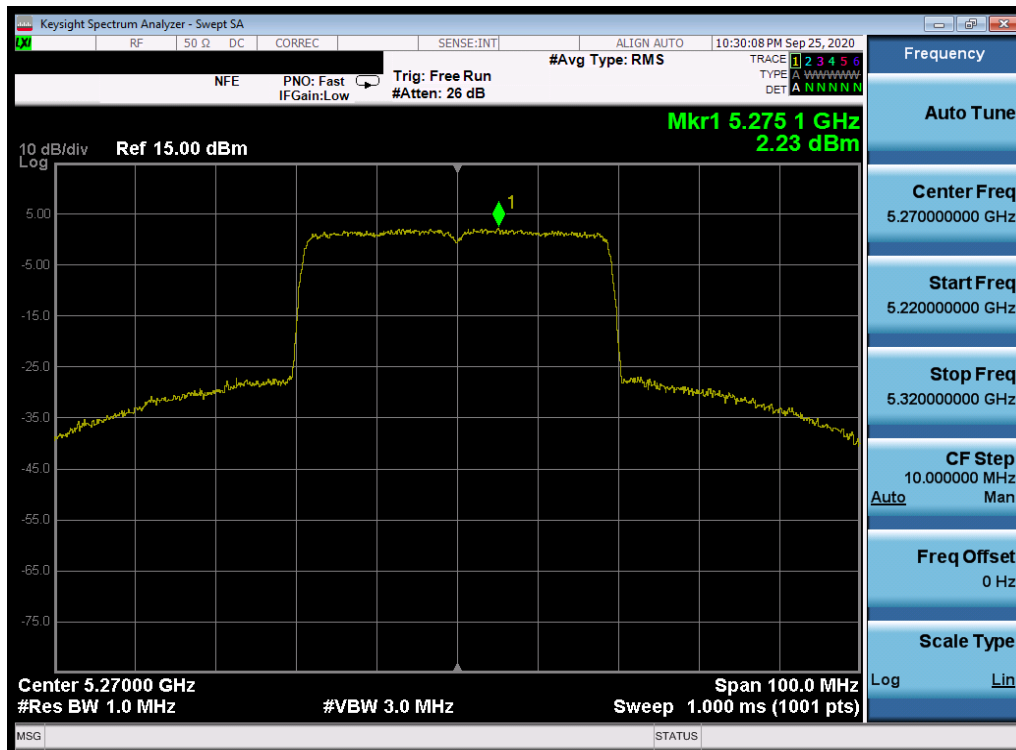


Plot 7-220. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 142 of 234

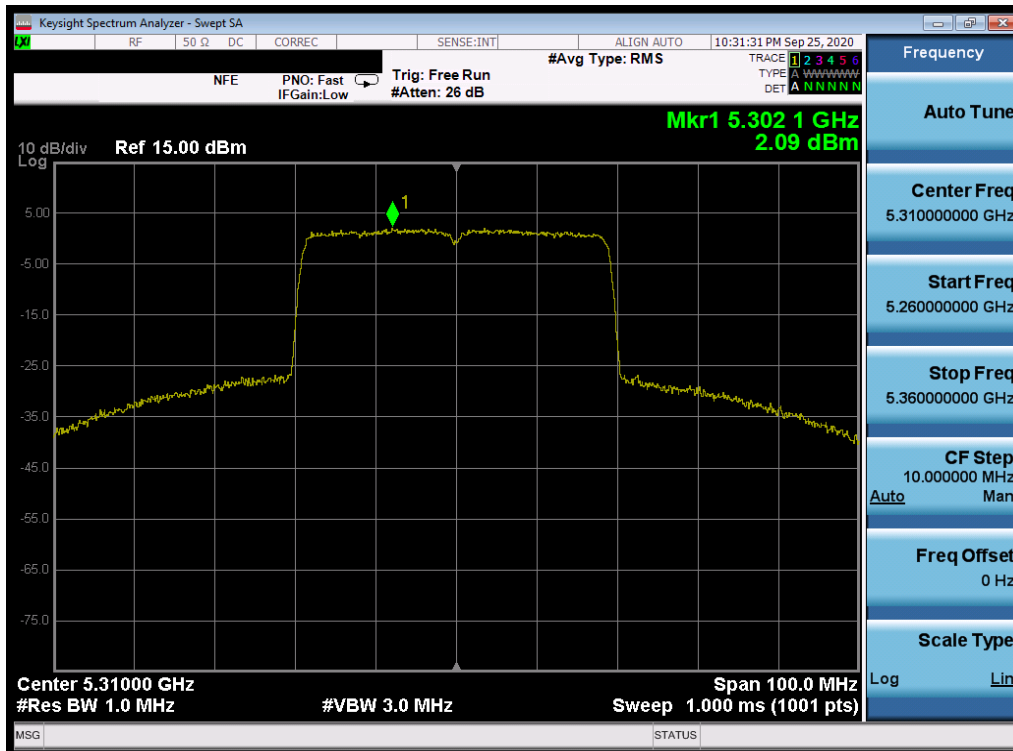


Plot 7-221. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

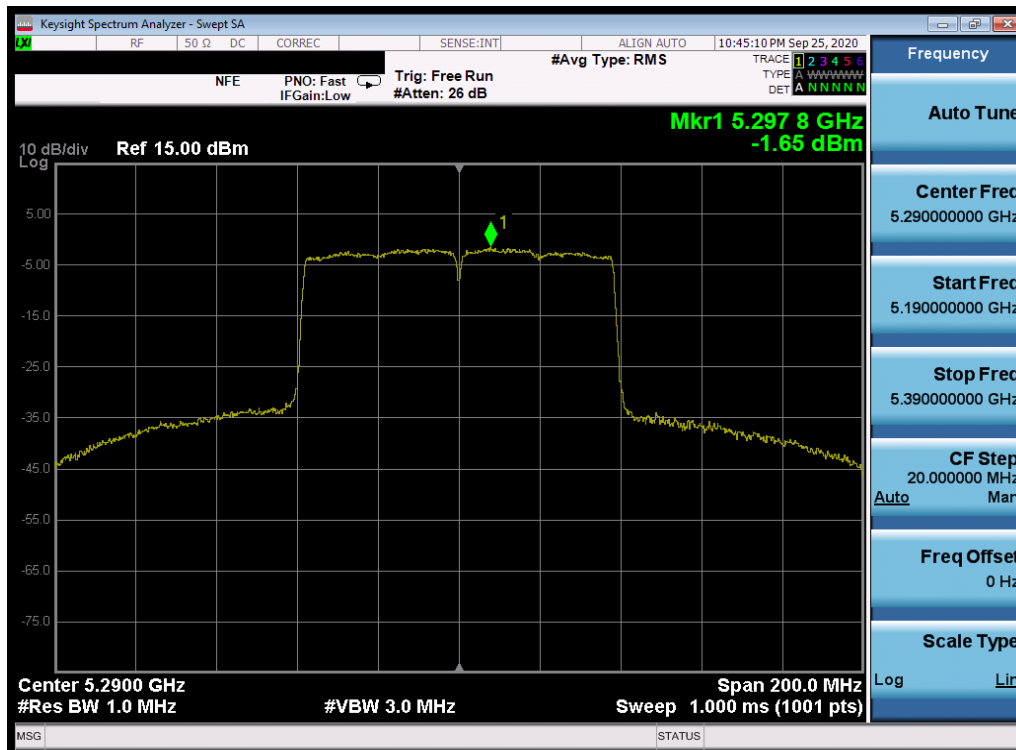


Plot 7-222. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 143 of 234

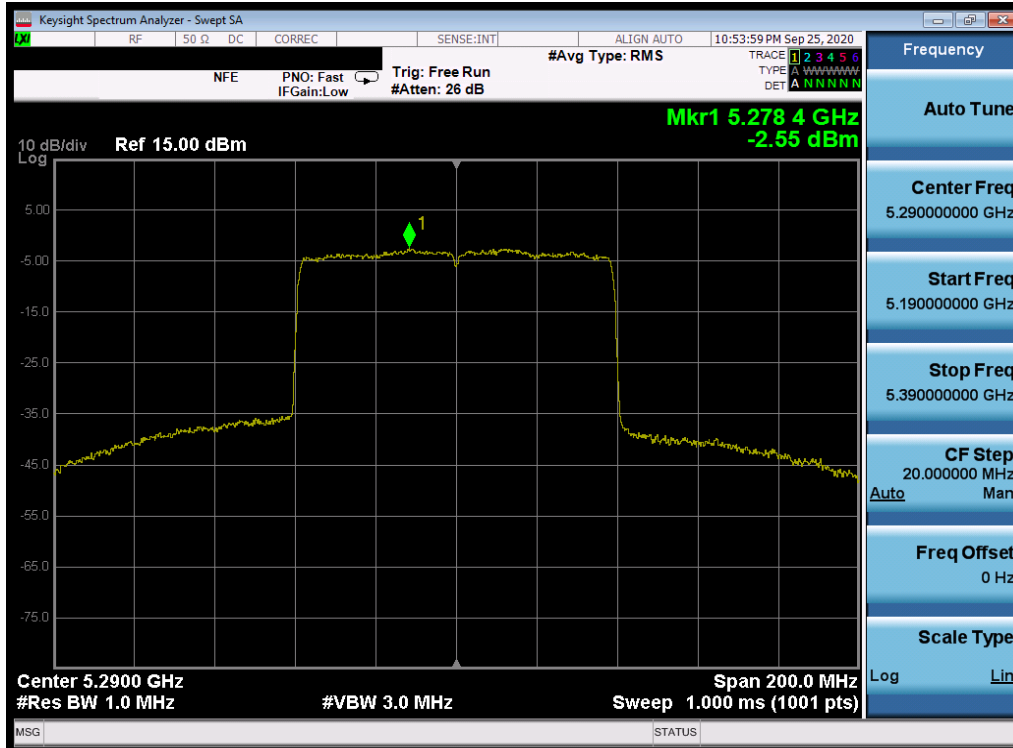


Plot 7-223. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2A) – Ch. 62)

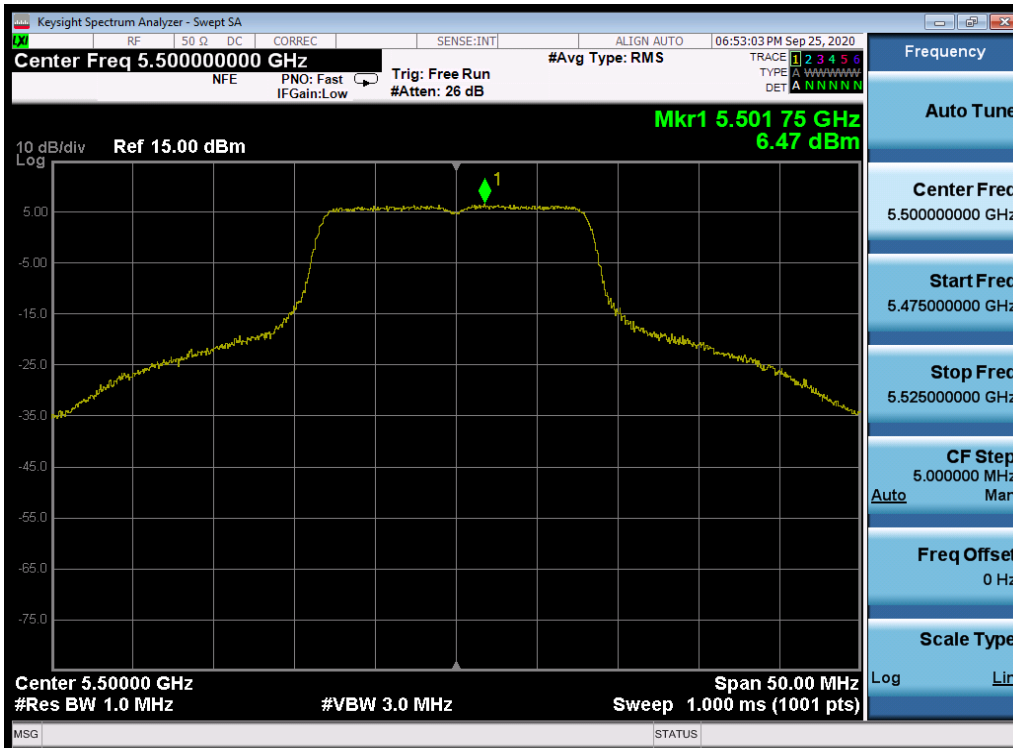


Plot 7-224. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 144 of 234

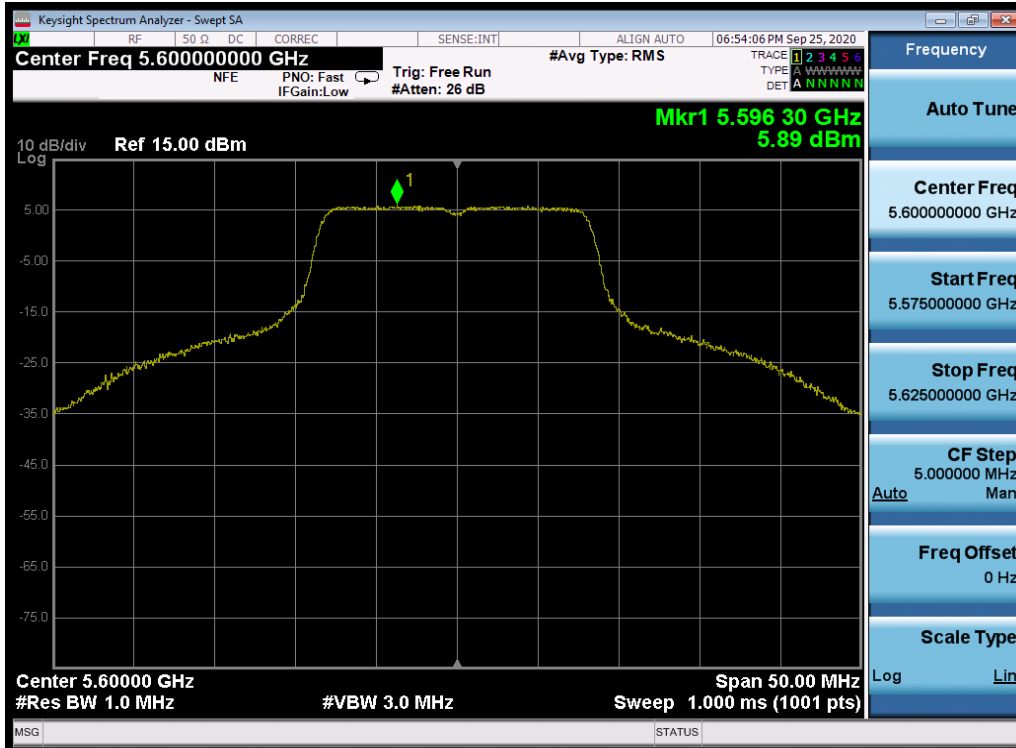


Plot 7-225. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2A) – Ch. 58)

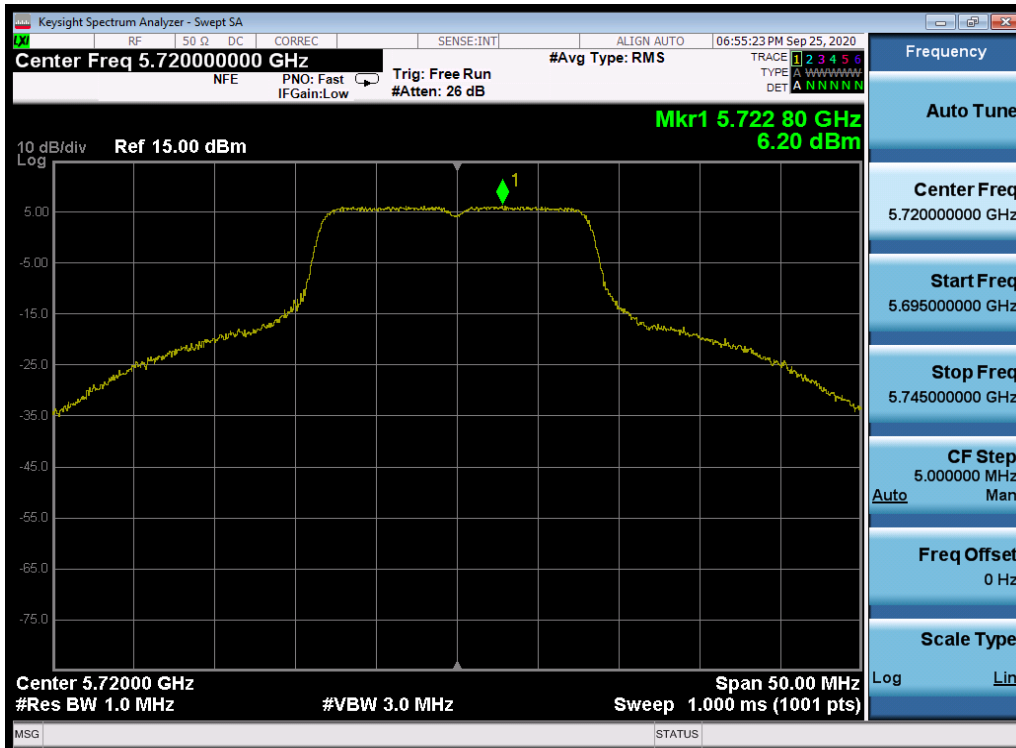


Plot 7-226. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 145 of 234

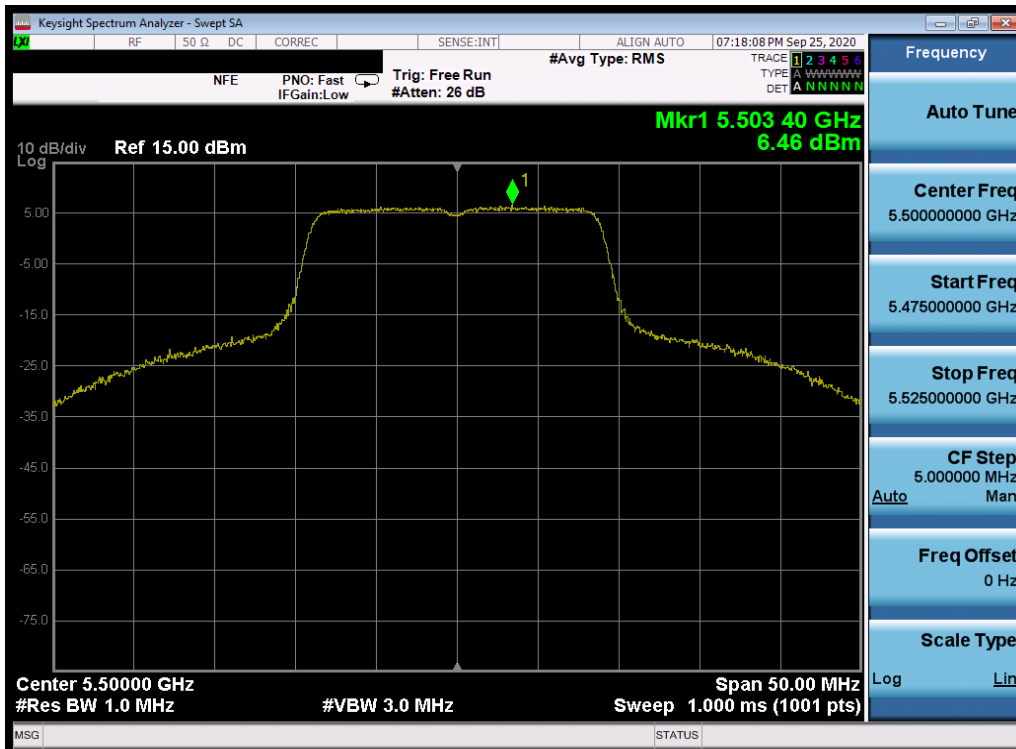


Plot 7-227. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2C) – Ch. 120)

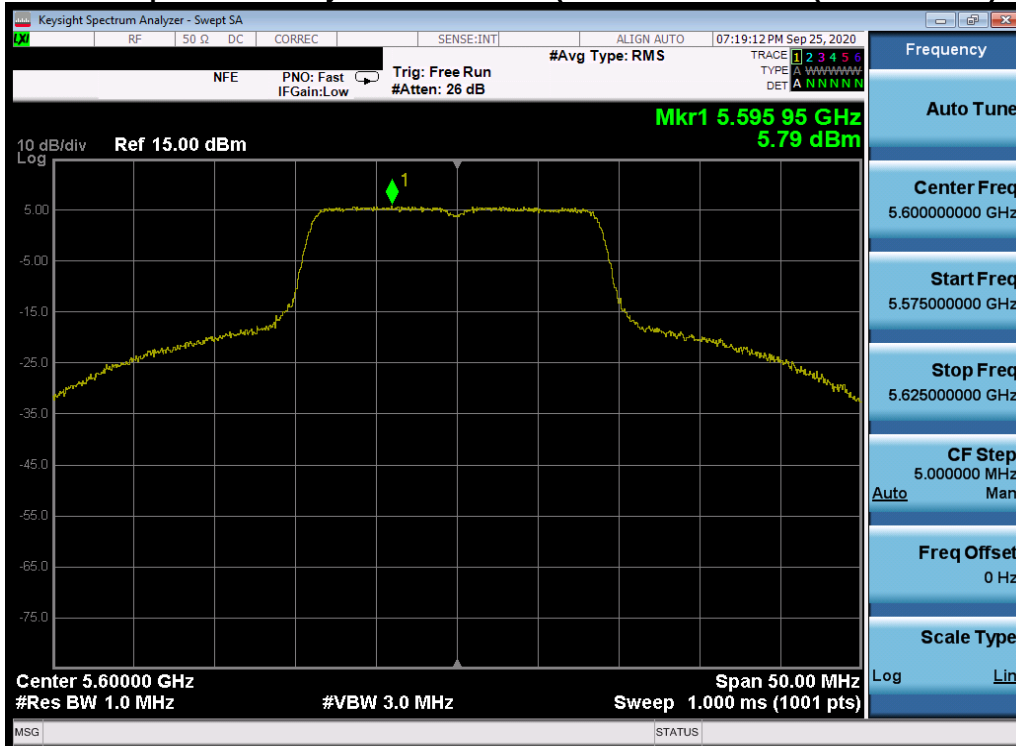


Plot 7-228. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 2C) – Ch. 140144)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 146 of 234

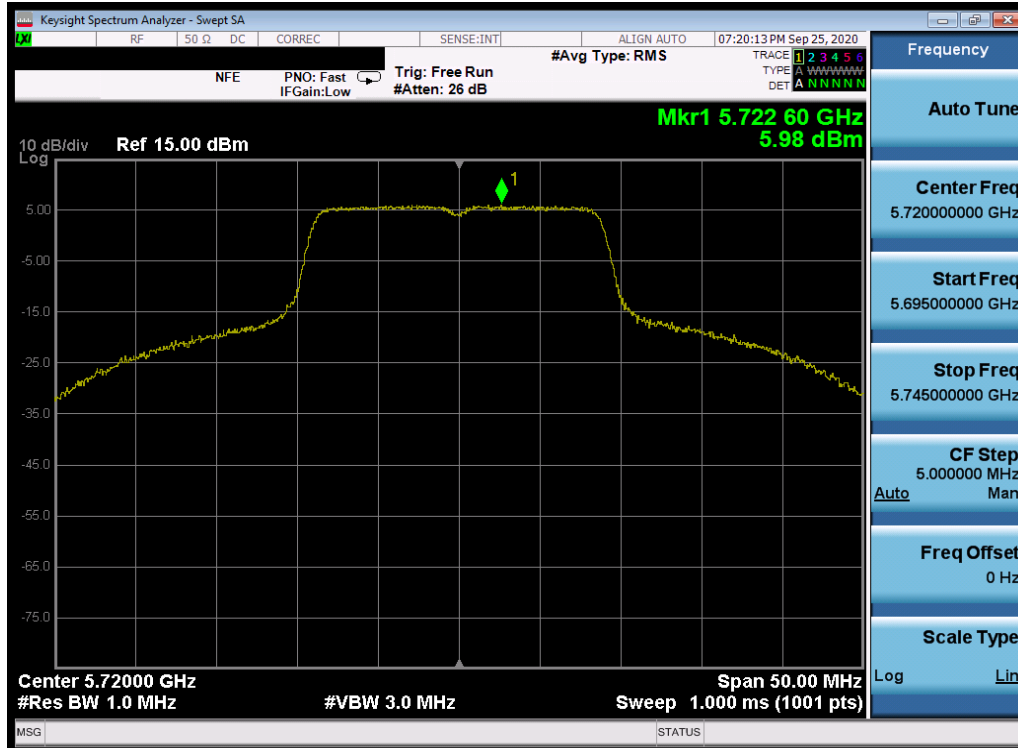


Plot 7-229. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

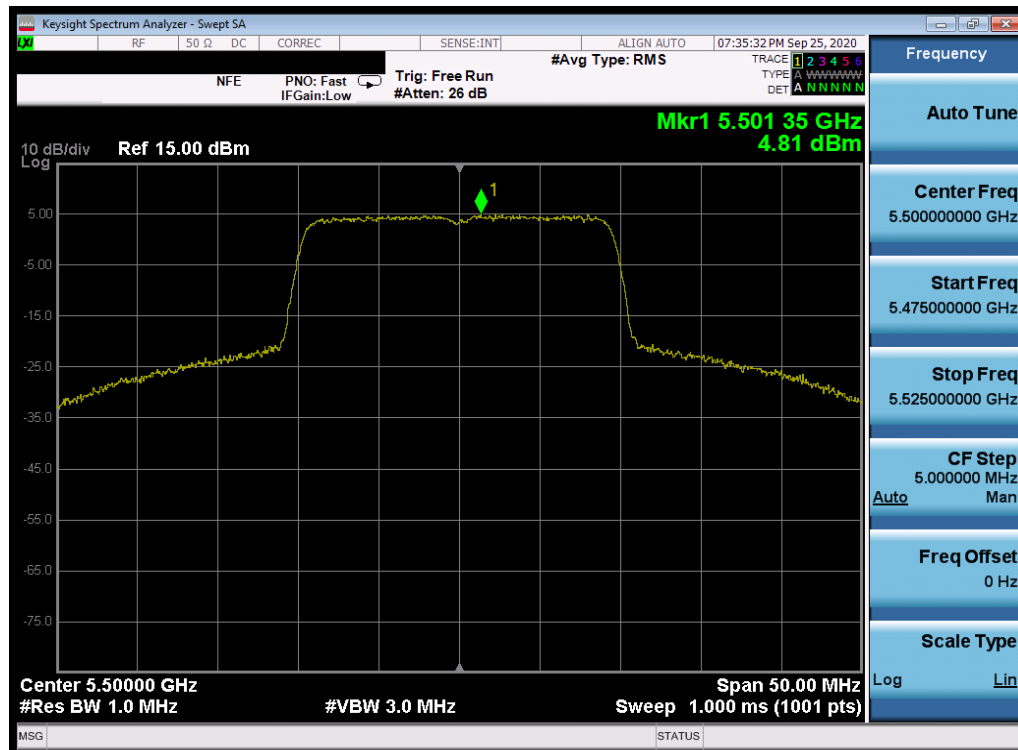


Plot 7-230. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 147 of 234

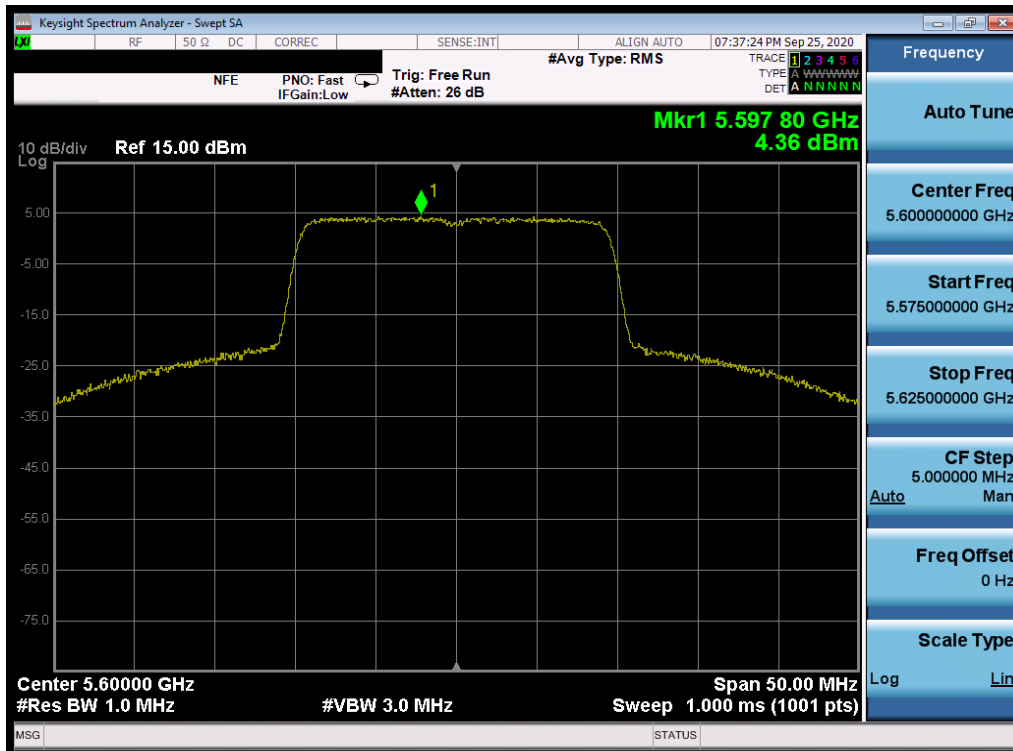


Plot 7-231. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)

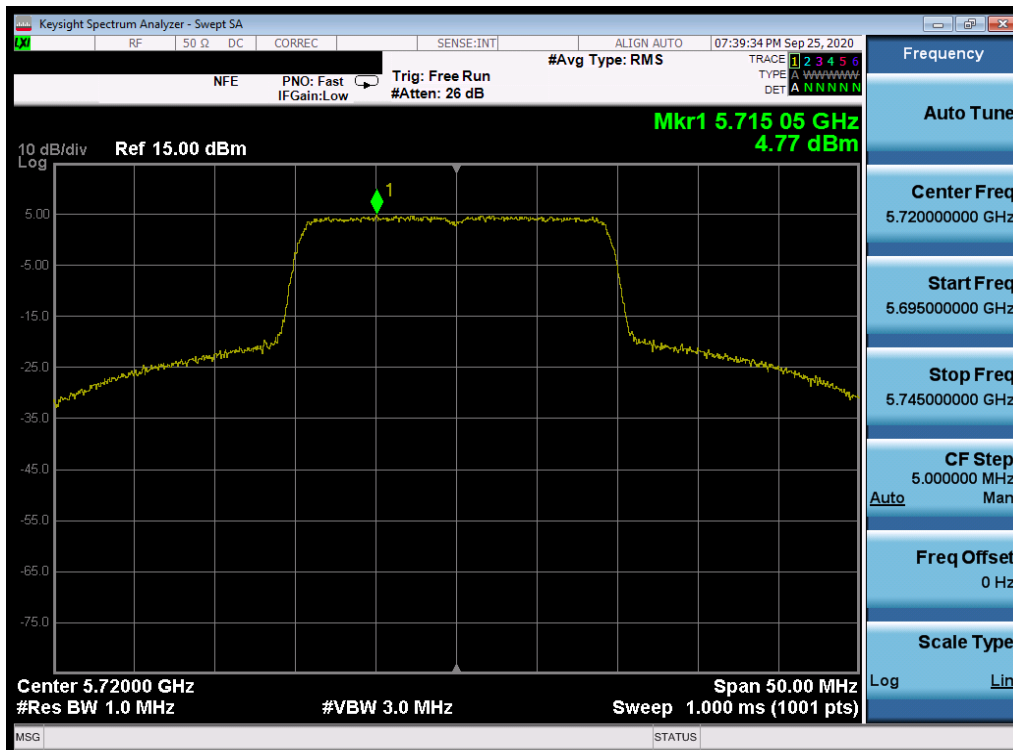


Plot 7-232. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 148 of 234

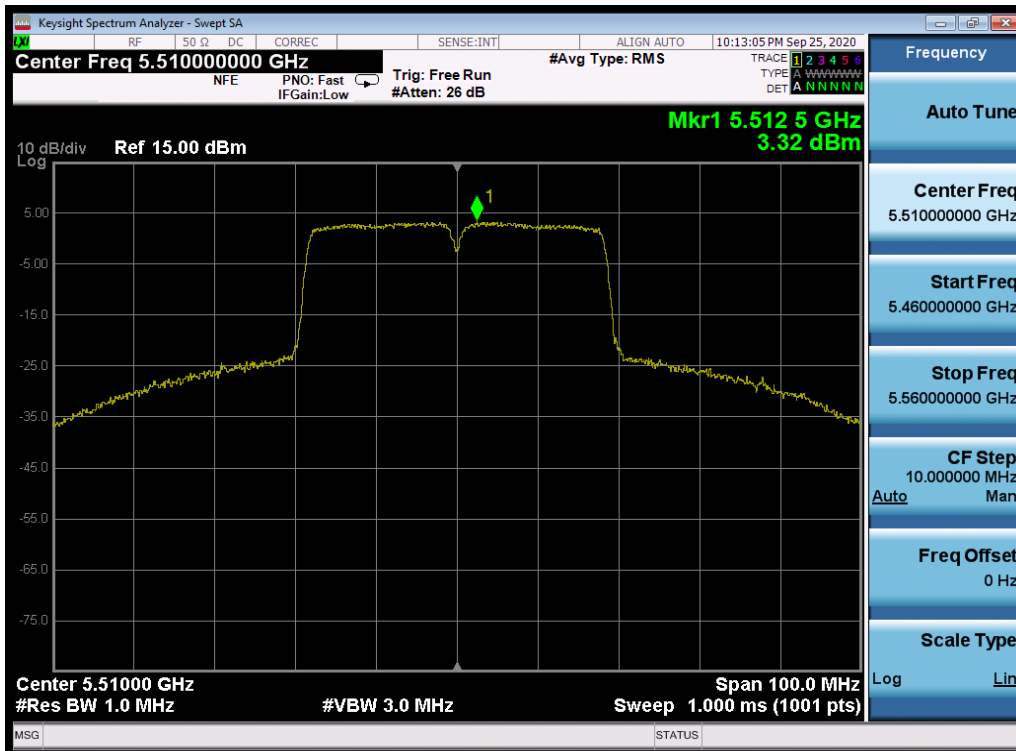


Plot 7-233. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2C) – Ch. 120)

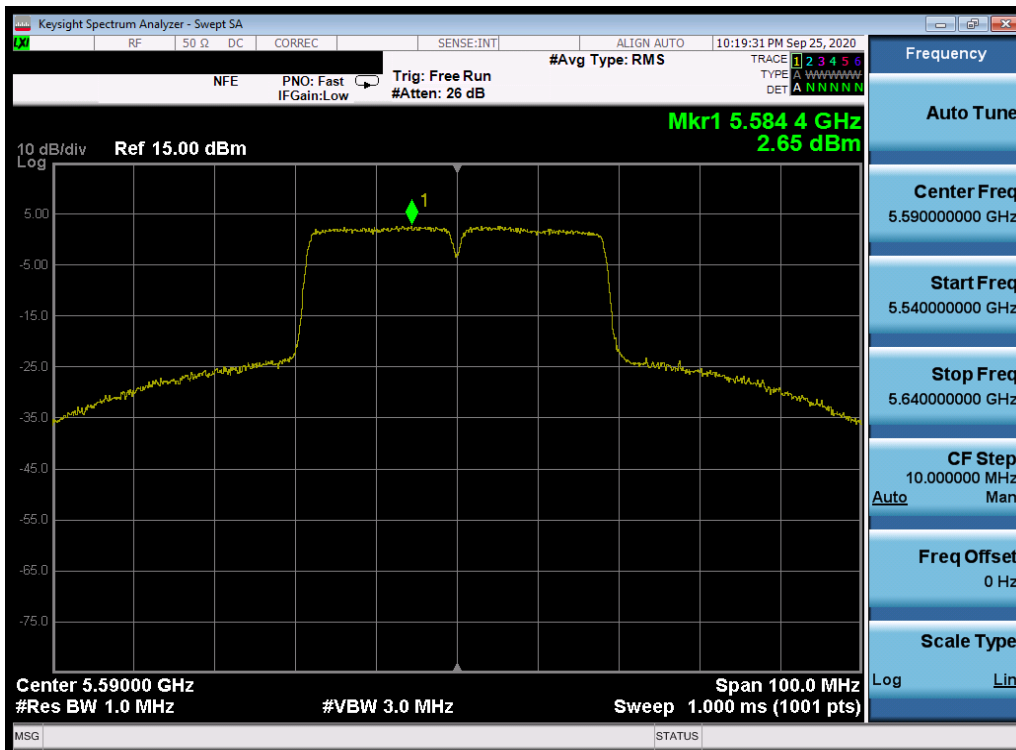


Plot 7-234. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 149 of 234

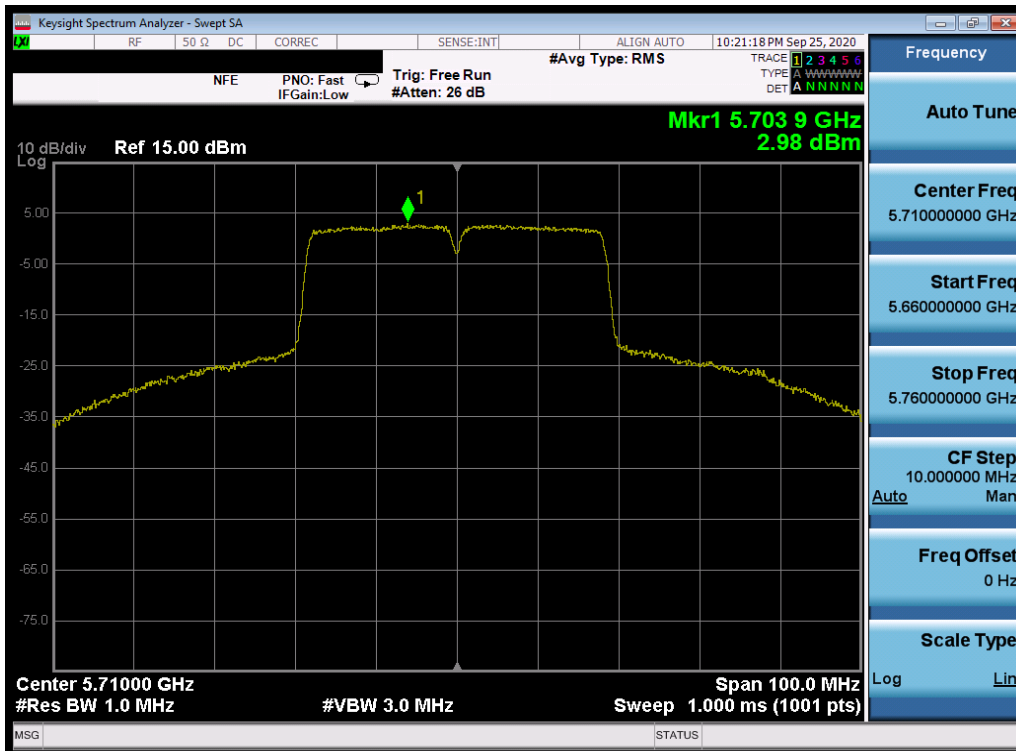


Plot 7-235. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

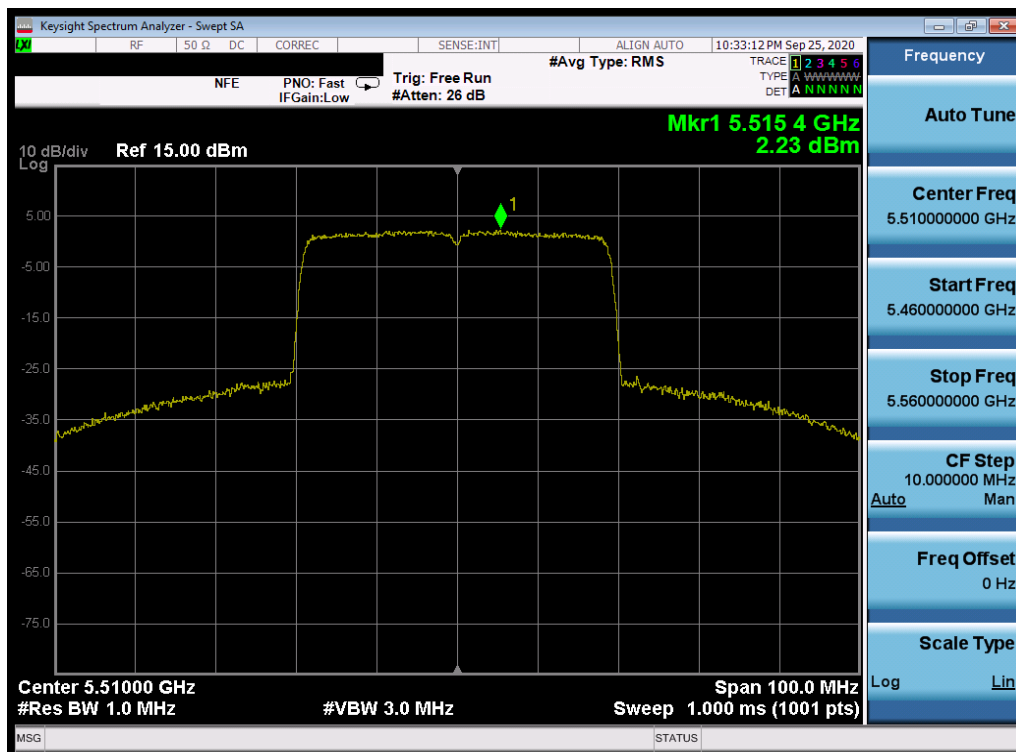


Plot 7-236. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2C) – Ch. 110118)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 150 of 234

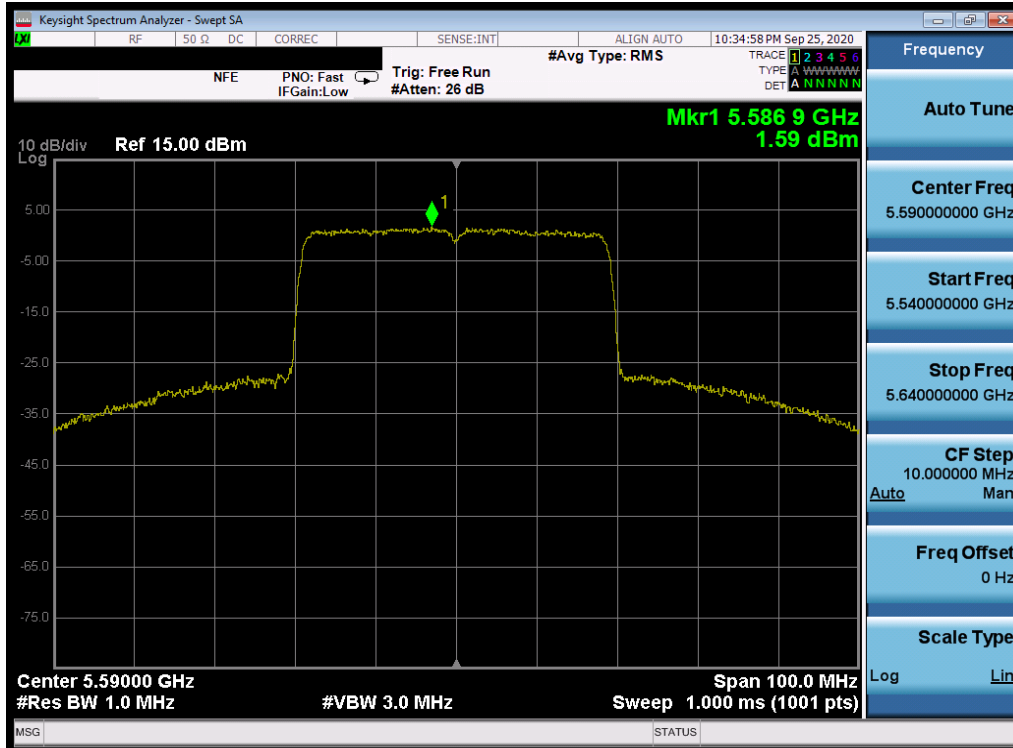


Plot 7-237. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 2C) – Ch. 134142)

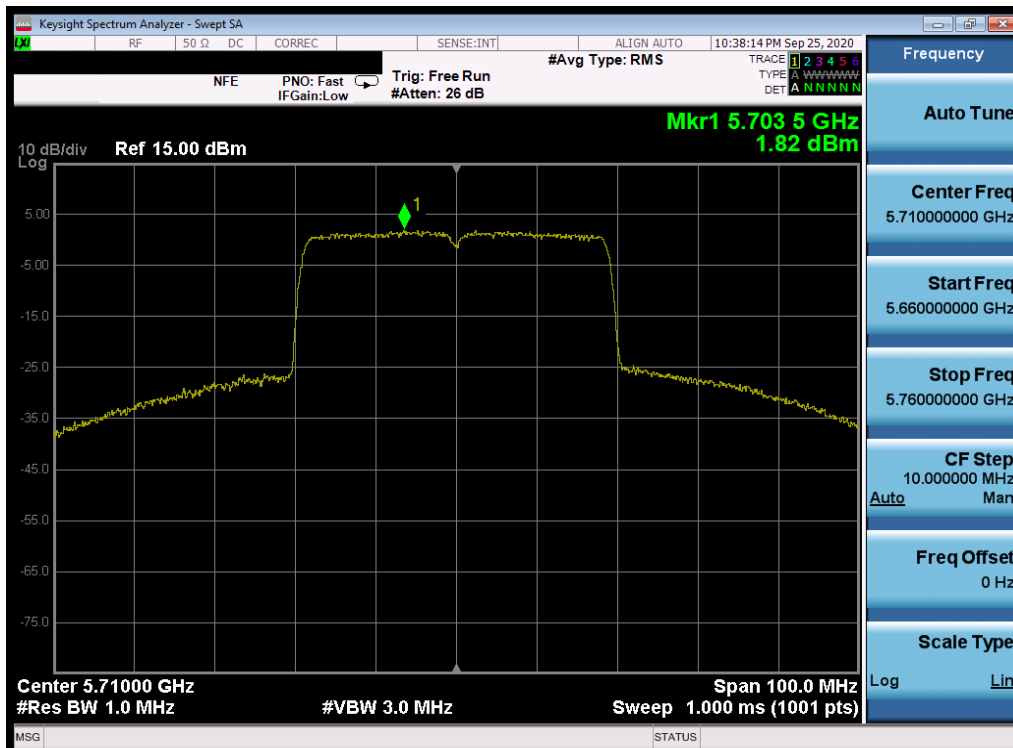


Plot 7-238. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 151 of 234

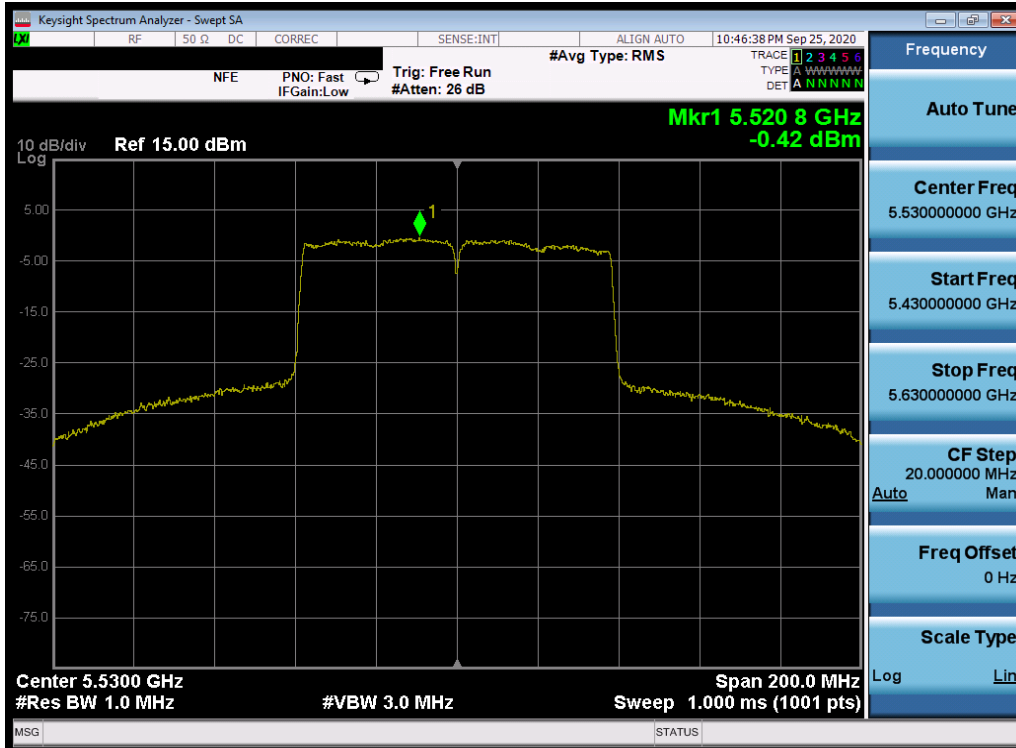


Plot 7-239. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2C) – Ch. 118)

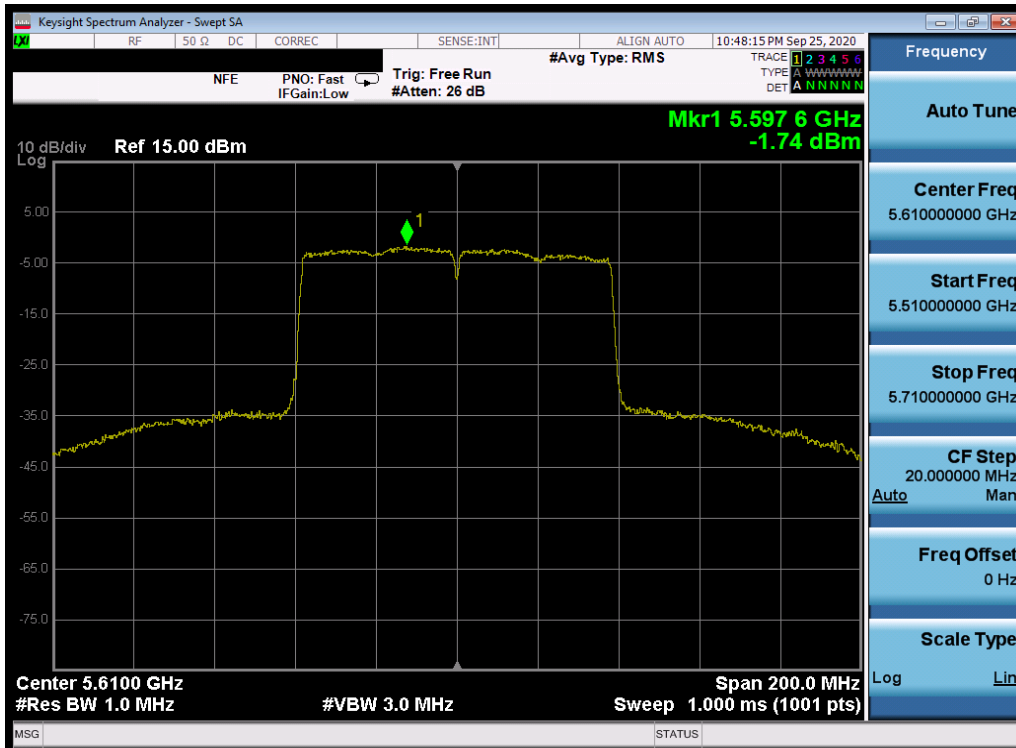


Plot 7-240. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 152 of 234

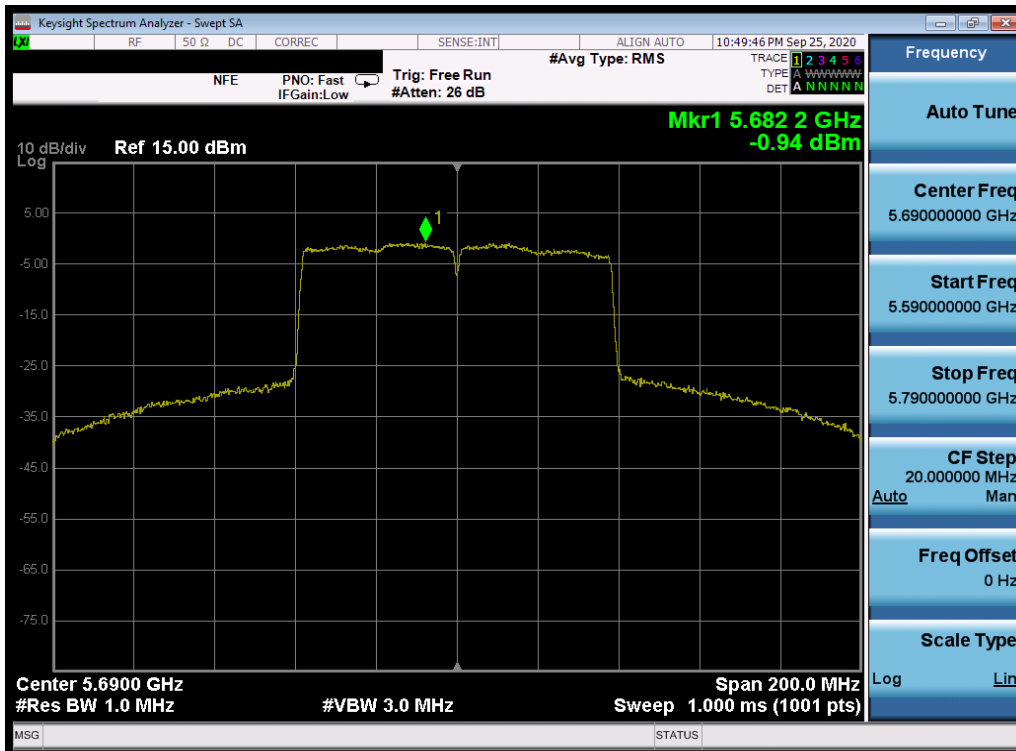


Plot 7-241. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)



Plot 7-242. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 153 of 234

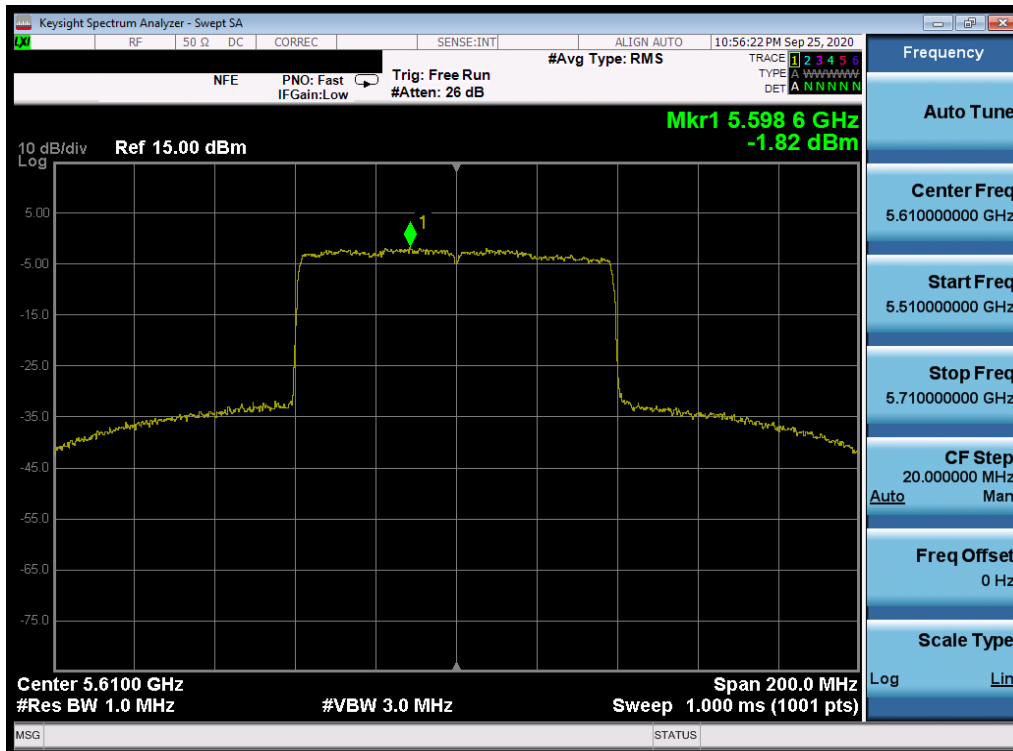


Plot 7-243. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

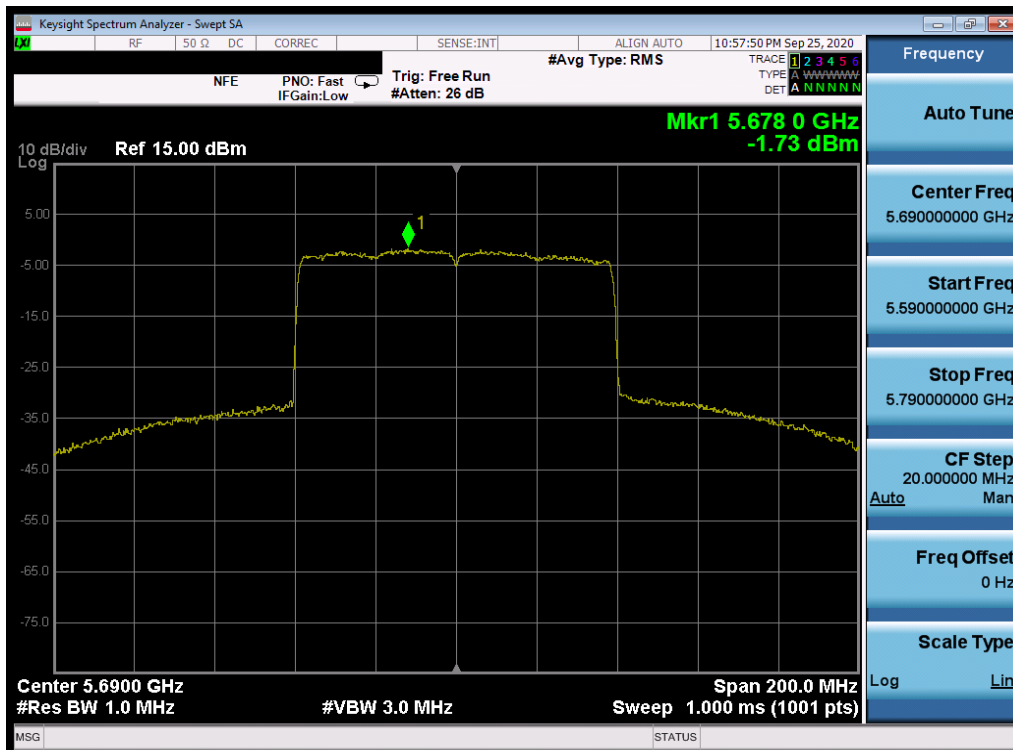


Plot 7-244. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 154 of 234



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

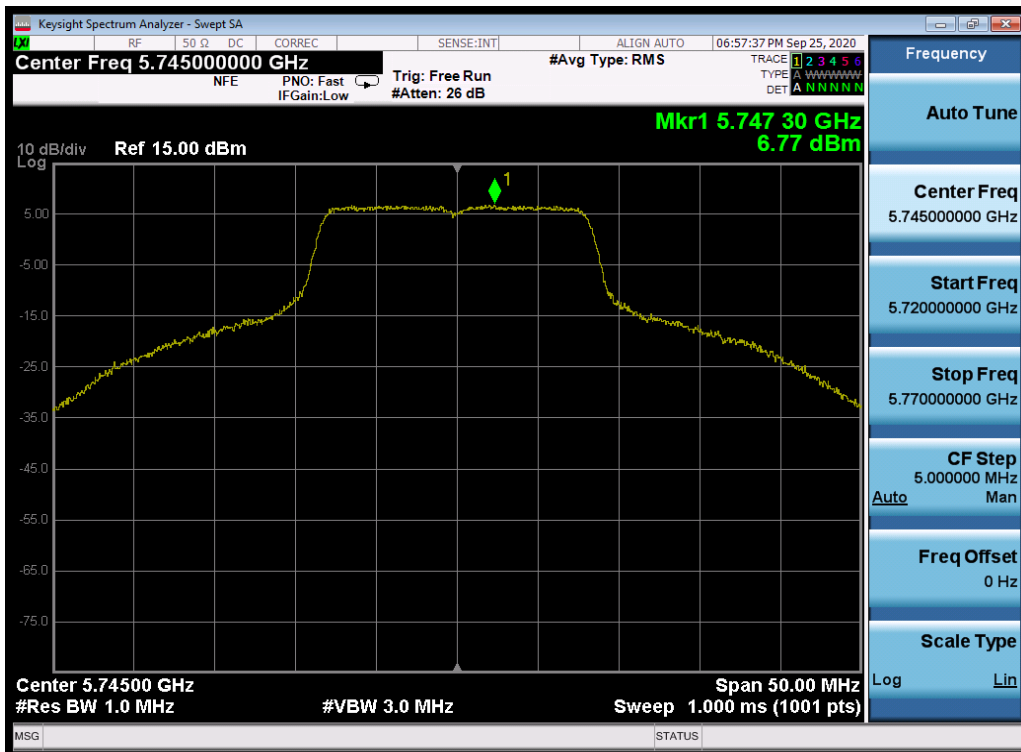


Plot 7-246. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 155 of 234

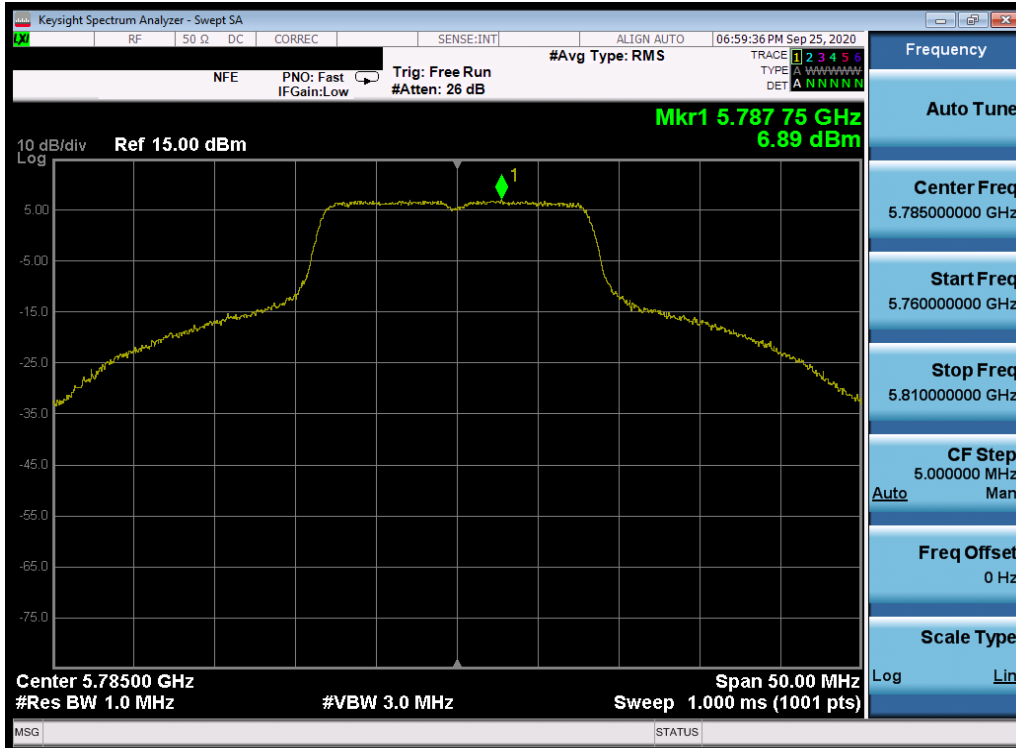
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	a	6	6.77	30.0	-23.23
	5785	157	a	6	6.89	30.0	-23.11
	5825	165	a	6	6.40	30.0	-23.60
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	6.59	30.0	-23.41
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	6.74	30.0	-23.26
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	6.58	30.0	-23.42
	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	5.74	30.0	-24.26
	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	5.78	30.0	-24.22
	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	5.37	30.0	-24.63
	5755	151	n (40MHz)	13.5/15 (MCS0)	3.30	30.0	-26.70
	5795	159	n (40MHz)	13.5/15 (MCS0)	3.25	30.0	-26.75
	5755	151	ax (40MHz)	13.5/15 (MCS0)	2.51	30.0	-27.49
	5795	159	ax (40MHz)	13.5/15 (MCS0)	2.23	30.0	-27.77
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-1.37	30.0	-31.37
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	-1.45	30.0	-31.45

Table 7-26. Band 3 Conducted Power Spectral Density Measurements SISO ANT2

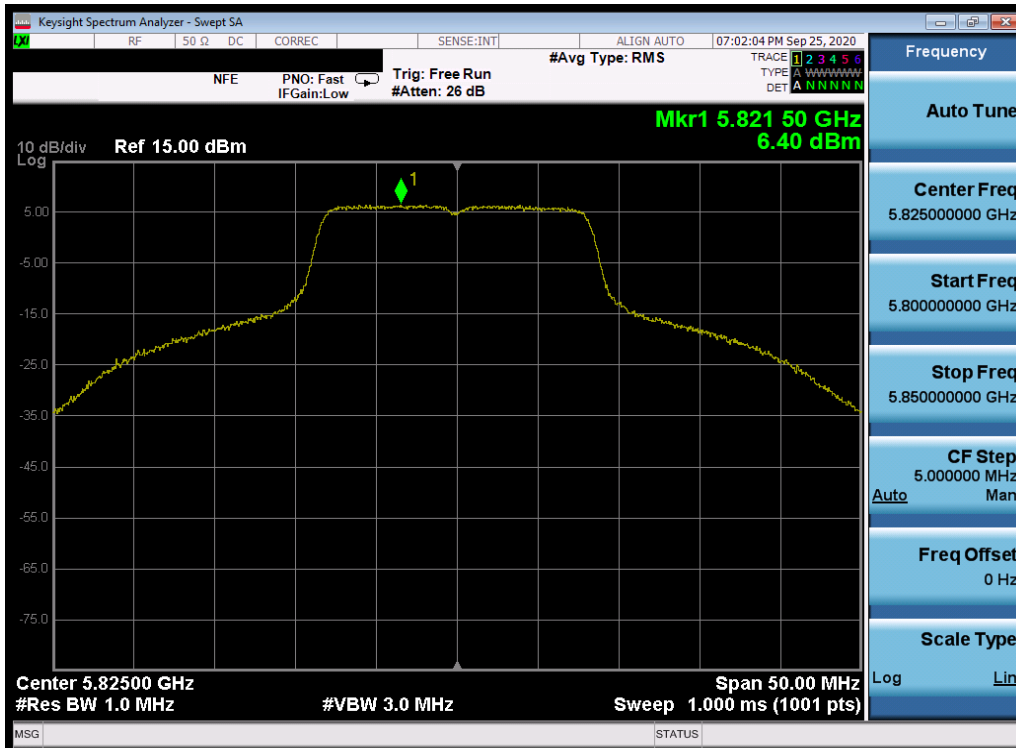


Plot 7-247. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3) – Ch. 149)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 156 of 234

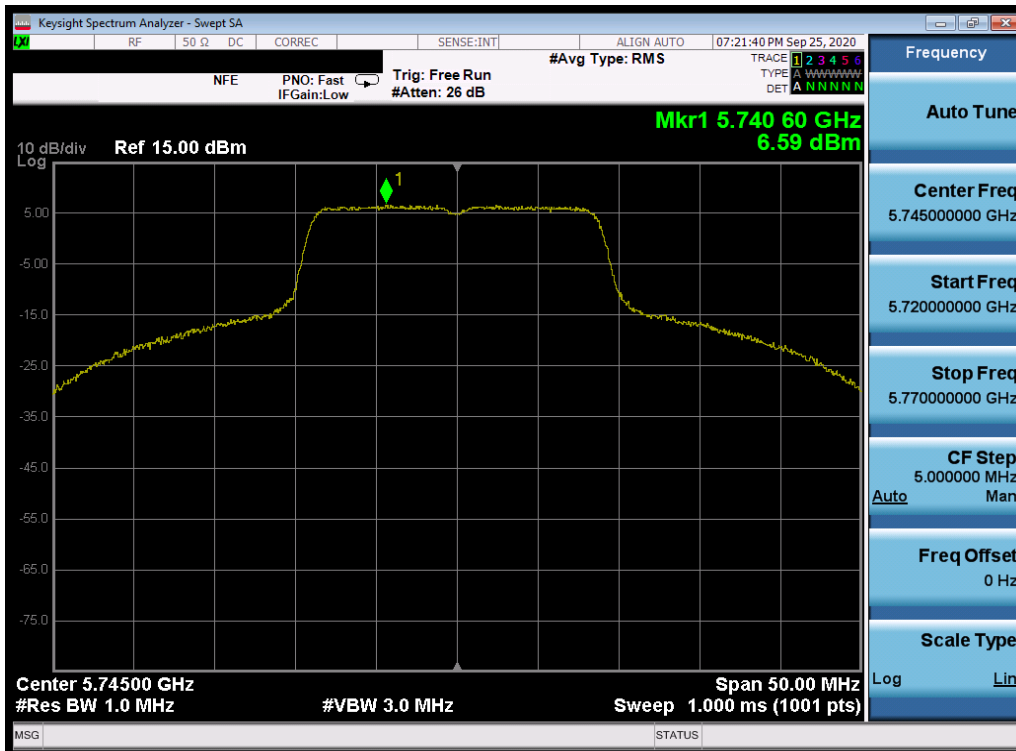


Plot 7-248. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3) – Ch. 157)

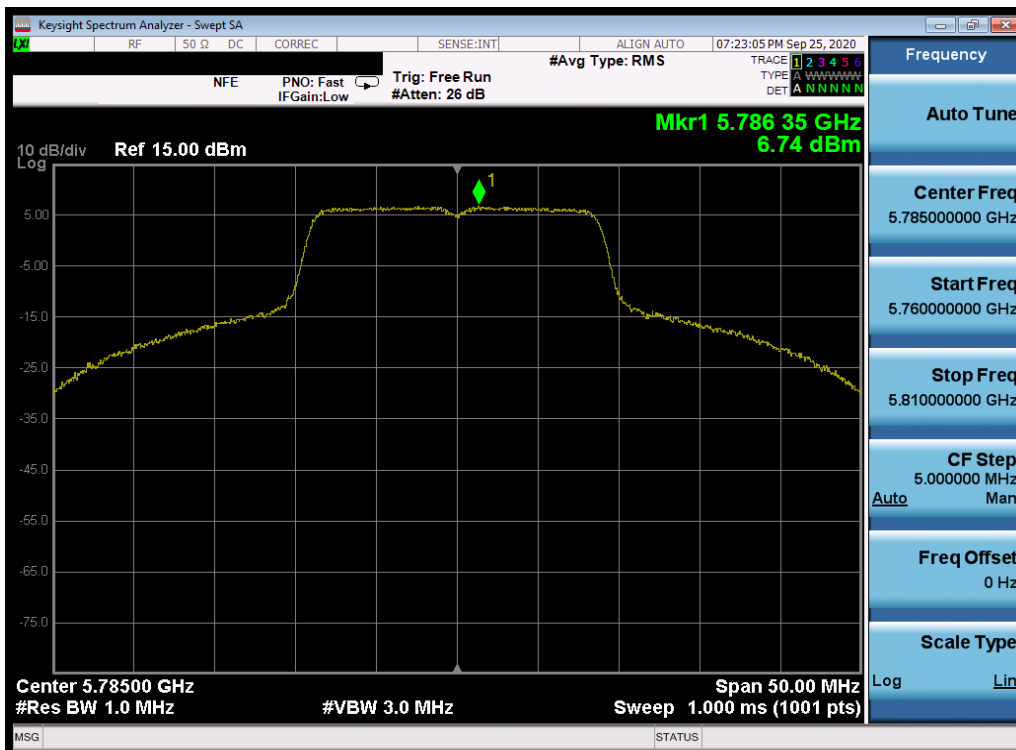


Plot 7-249. Power Spectral Density Plot SISO ANT2 (802.11a (UNII Band 3) – Ch. 165)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 157 of 234

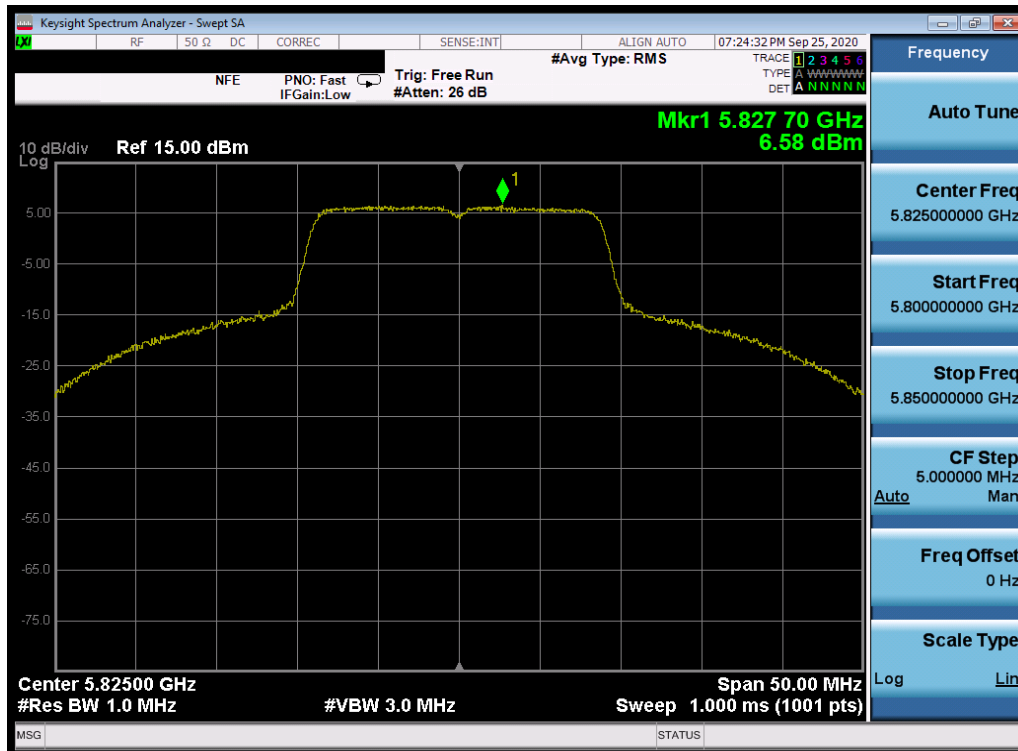


Plot 7-250. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) – Ch. 149)

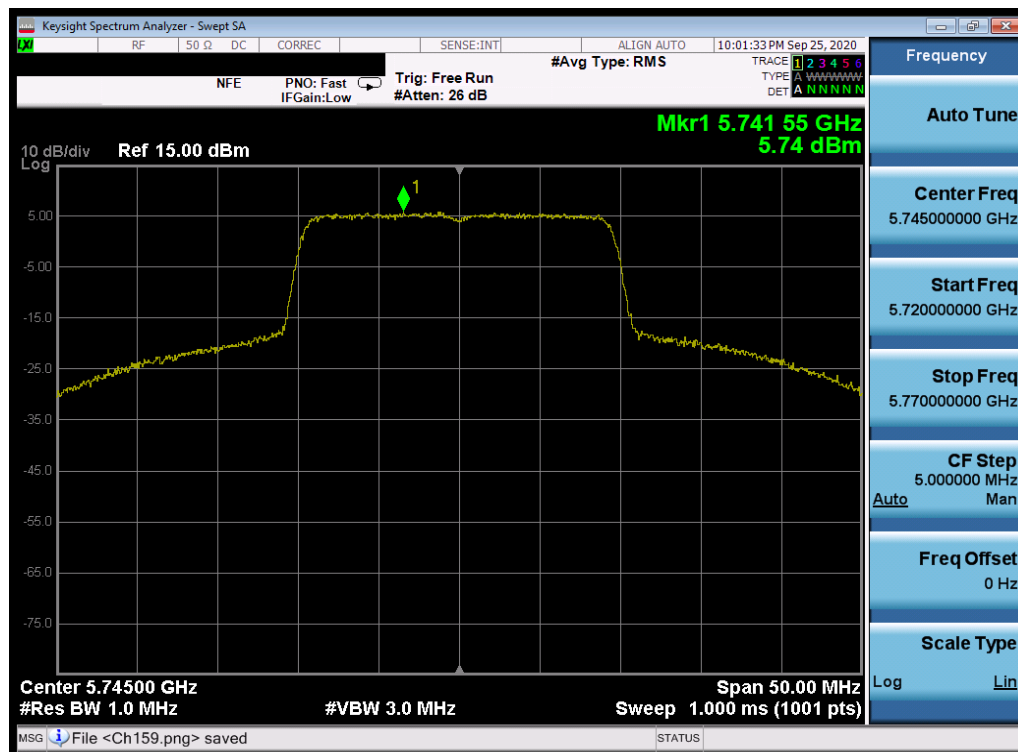


Plot 7-251. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) – Ch. 157)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 158 of 234

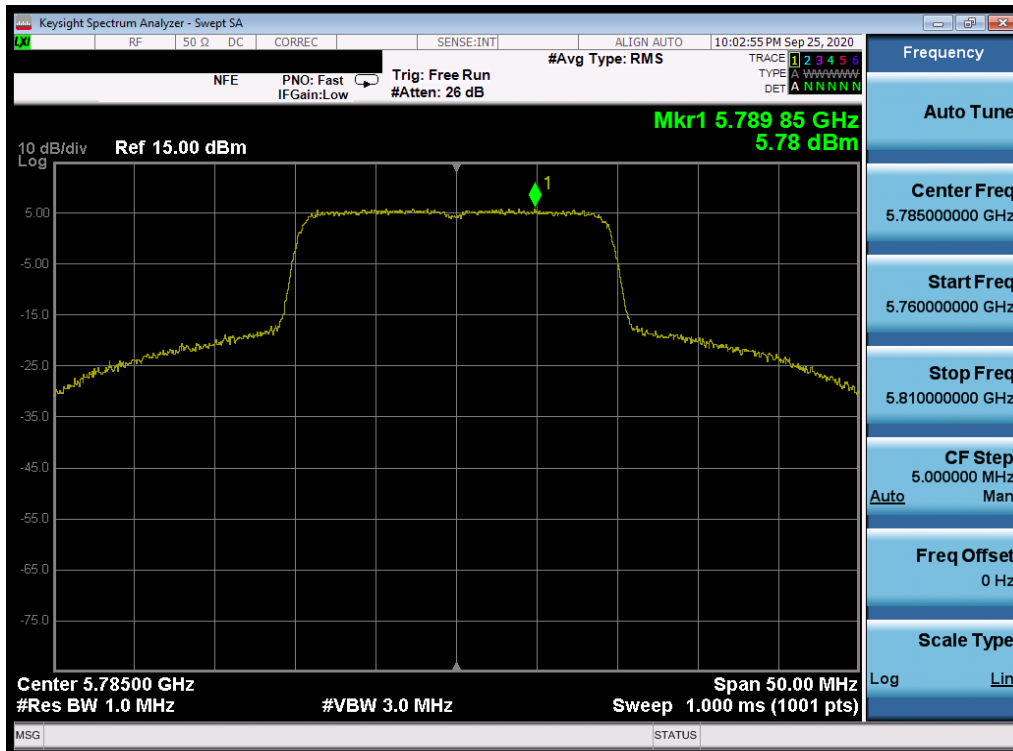


Plot 7-252. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11n (UNII Band 3) – Ch. 165)

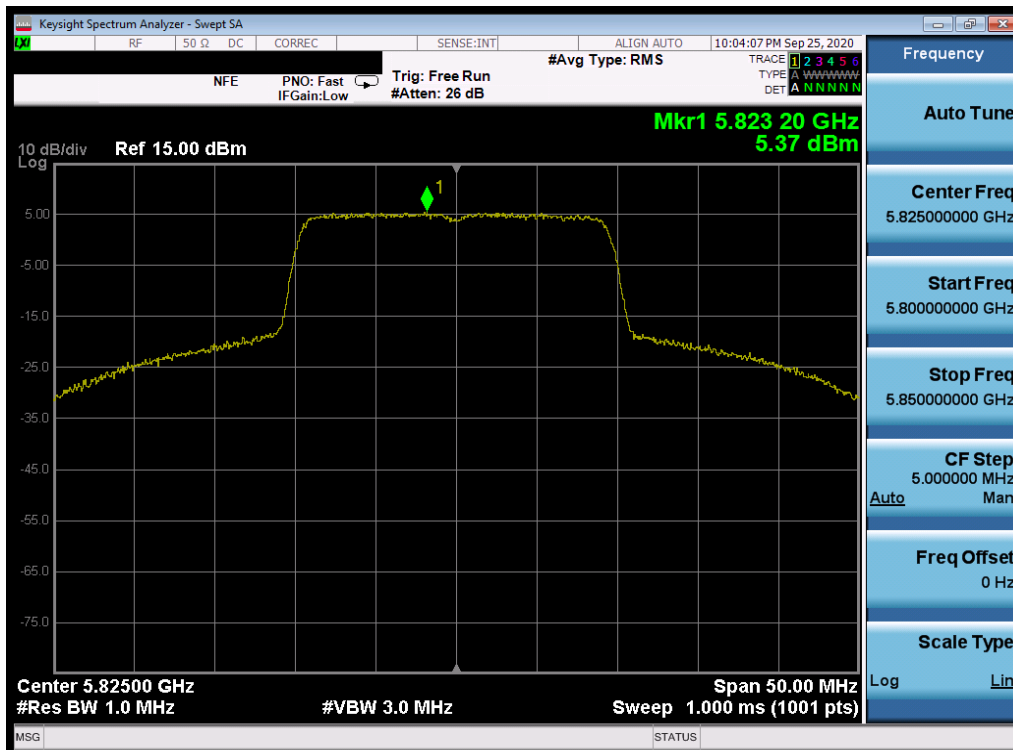


Plot 7-253. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 3) – Ch. 149)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 159 of 234

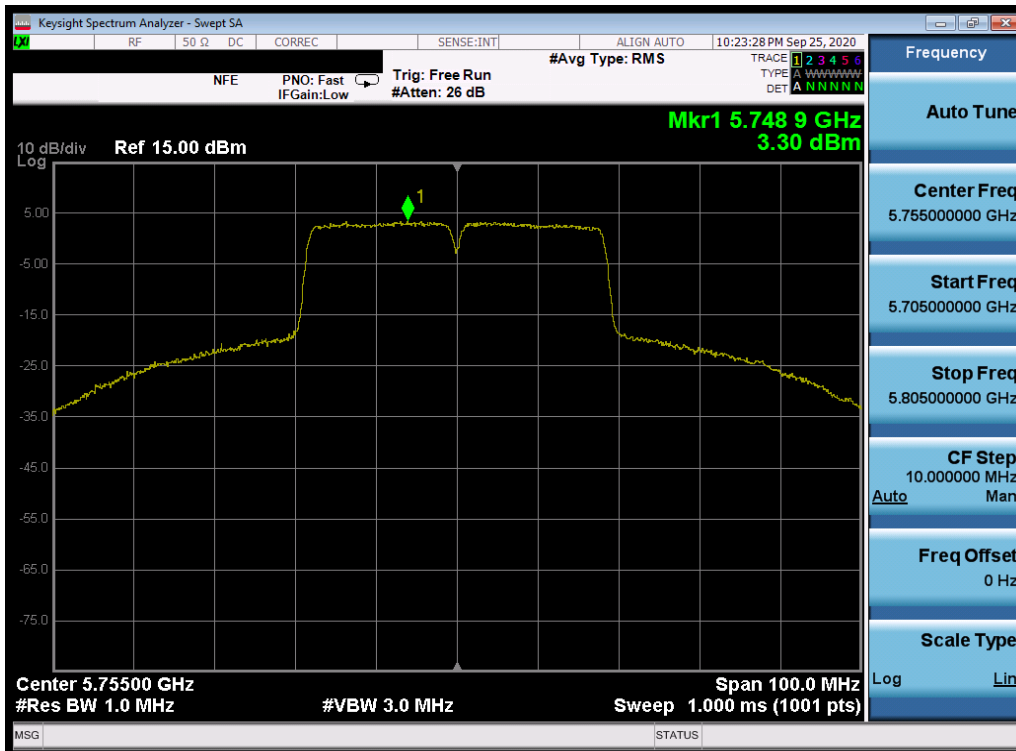


Plot 7-254. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 3) – Ch. 157)

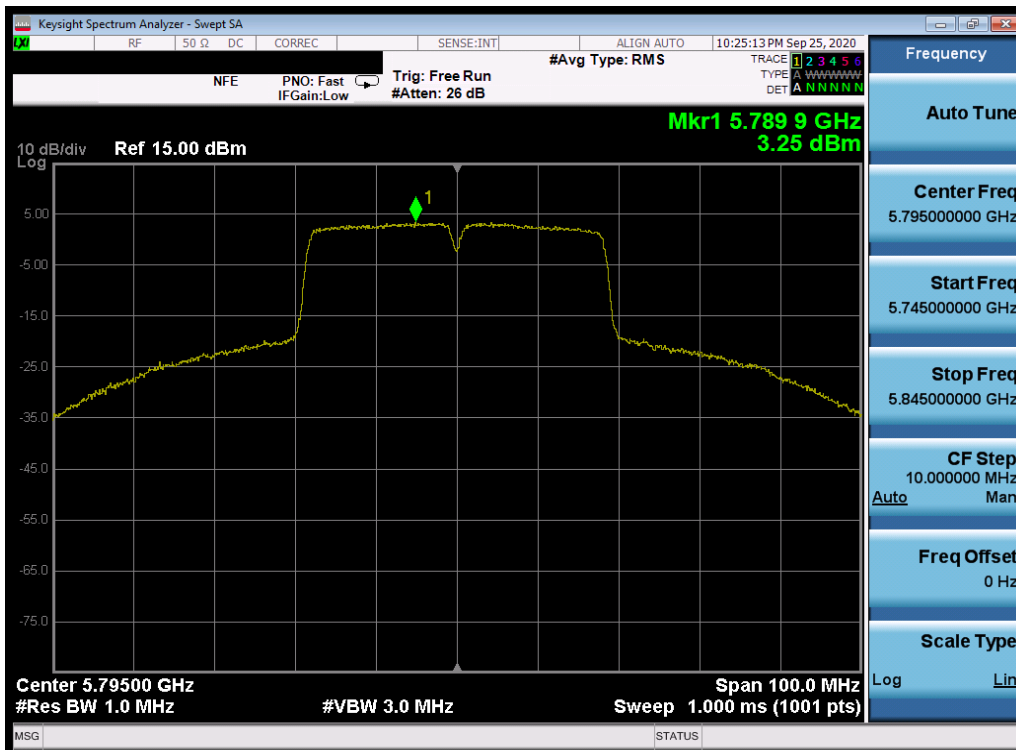


Plot 7-255. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax (UNII Band 3) – Ch. 165)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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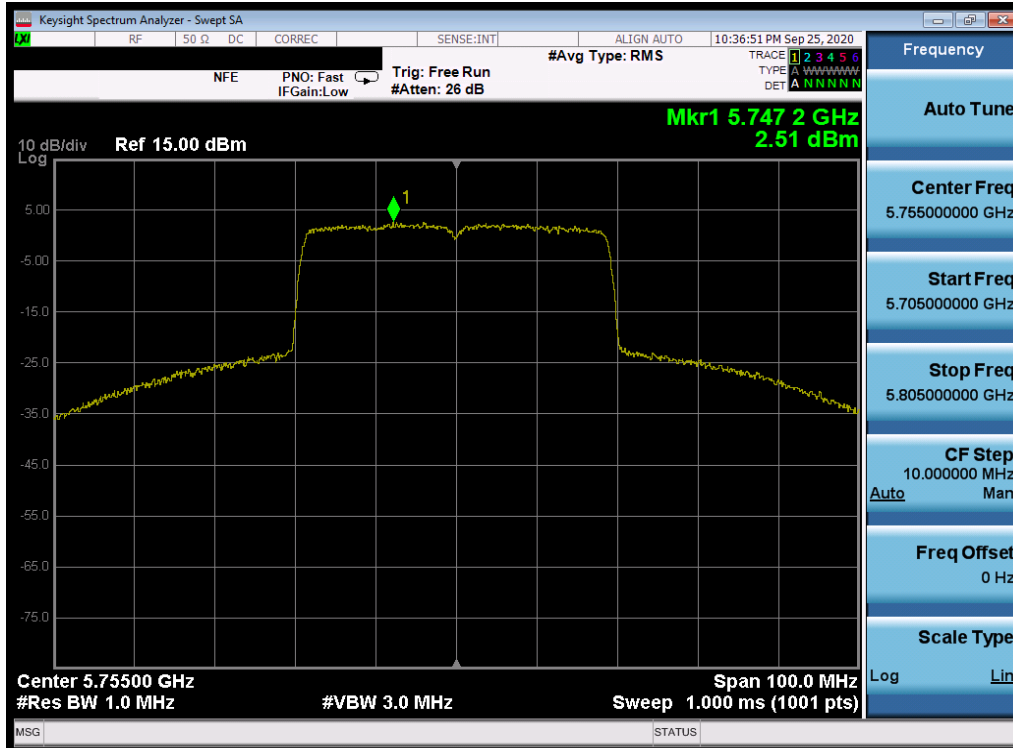


Plot 7-256. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

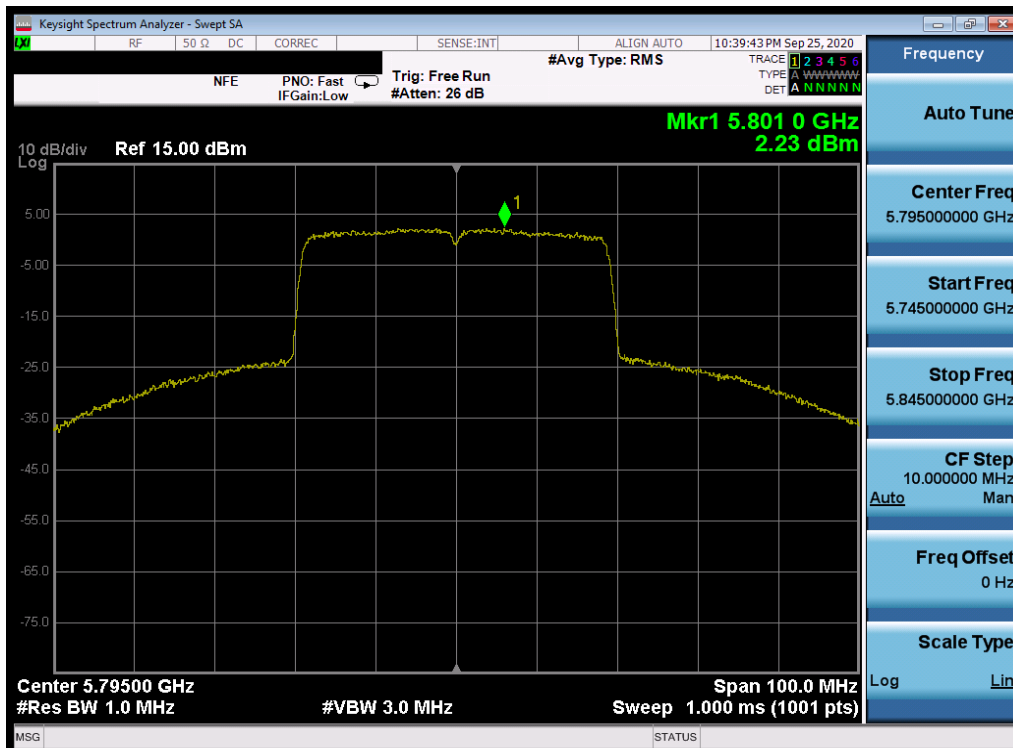


Plot 7-257. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) – Ch. 159)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 161 of 234

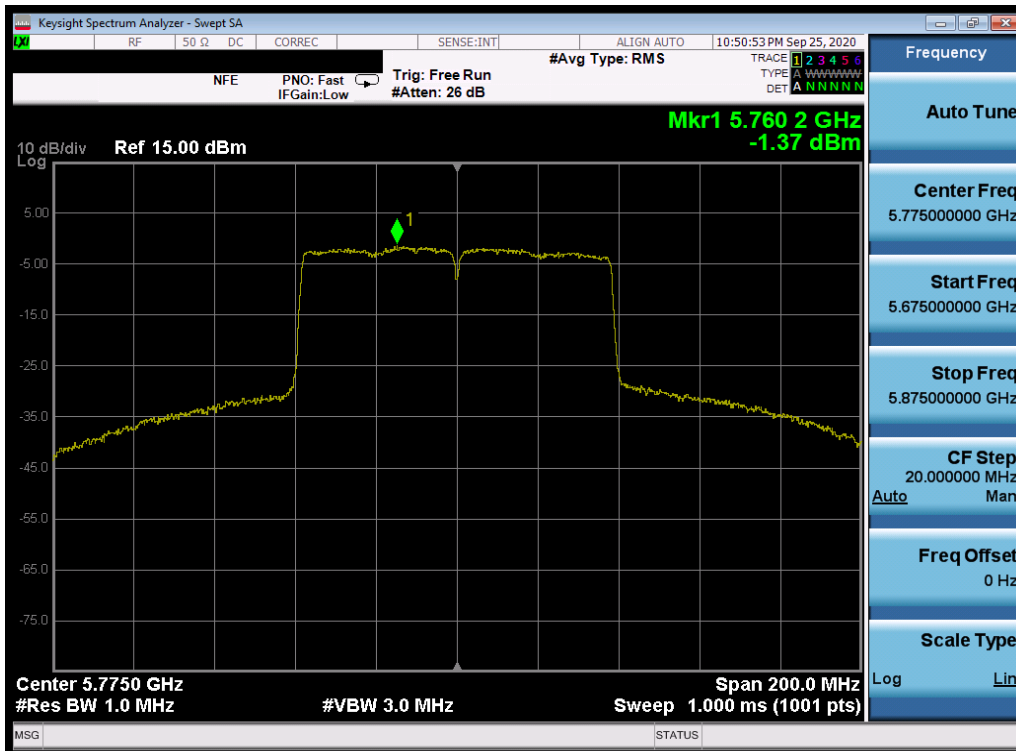


Plot 7-258. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) – Ch. 151)



Plot 7-259. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) – Ch. 159)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-260. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)



Plot 7-261. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 3) – Ch. 155)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 163 of 234

Summed MIMO Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	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]
Band 1	5180	36	a	6	6.21	5.35	8.81	11.0	-2.19
	5200	40	a	6	6.47	5.90	9.20	11.0	-1.80
	5240	48	a	6	6.86	6.13	9.52	11.0	-1.48
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	5.82	5.01	8.44	11.0	-2.56
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	6.14	5.31	8.76	11.0	-2.24
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	6.38	5.93	9.17	11.0	-1.83
	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	5.00	4.53	7.78	11.0	-3.22
	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	5.15	4.95	8.06	11.0	-2.94
	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	5.38	5.42	8.41	11.0	-2.59
	5190	38	n (40MHz)	13.5/15 (MCS0)	2.84	2.85	5.86	11.0	-5.14
	5230	46	n (40MHz)	13.5/15 (MCS0)	3.00	3.27	6.15	11.0	-4.85
	5190	38	ax (40MHz)	13.5/15 (MCS0)	1.72	1.94	4.84	11.0	-6.16
	5230	46	ax (40MHz)	13.5/15 (MCS0)	3.98	2.47	6.30	11.0	-4.70
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-2.22	-1.05	1.41	11.0	-9.59
	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	-0.98	-1.91	1.59	11.0	-9.41
Band 2A	5260	52	a	6	6.68	5.99	9.36	11.0	-1.64
	5280	56	a	6	7.11	6.14	9.66	11.0	-1.34
	5320	64	a	6	6.58	6.06	9.34	11.0	-1.66
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	6.43	6.12	9.29	11.0	-1.71
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	6.69	6.24	9.48	11.0	-1.52
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	6.18	5.94	9.07	11.0	-1.93
	5260	52	ax (20MHz)	6.5/7.2 (MCS0)	5.40	5.07	8.25	11.0	-2.75
	5280	56	ax (20MHz)	6.5/7.2 (MCS0)	5.69	5.07	8.40	11.0	-2.60
	5320	64	ax (20MHz)	6.5/7.2 (MCS0)	5.18	5.27	8.24	11.0	-2.76
	5270	54	n (40MHz)	13.5/15 (MCS0)	2.85	2.88	5.88	11.0	-5.12
	5310	62	n (40MHz)	13.5/15 (MCS0)	2.47	2.92	5.71	11.0	-5.29
	5270	54	ax (40MHz)	13.5/15 (MCS0)	2.06	2.23	5.16	11.0	-5.84
	5310	62	ax (40MHz)	13.5/15 (MCS0)	2.53	2.09	5.33	11.0	-5.67
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-2.25	-1.65	1.07	11.0	-9.93
	5290	58	ax (80MHz)	29.3/32.5 (MCS0)	-2.44	-2.55	0.52	11.0	-10.48
Band 2C	5500	100	a	6	6.78	6.47	9.64	11.0	-1.36
	5600	120	a	6	6.11	5.89	9.01	11.0	-1.99
	5720	144	a	6	6.62	6.20	9.43	11.0	-1.57
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	6.33	6.46	9.41	11.0	-1.59
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	5.73	5.79	8.77	11.0	-2.23
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	6.39	5.98	9.20	11.0	-1.80
	5500	100	ax (20MHz)	6.5/7.2 (MCS0)	4.34	4.81	7.59	11.0	-3.41
	5600	120	ax (20MHz)	6.5/7.2 (MCS0)	4.85	4.36	7.62	11.0	-3.38
	5720	144	ax (20MHz)	6.5/7.2 (MCS0)	5.24	4.77	8.02	11.0	-2.98
	5510	102	n (40MHz)	13.5/15 (MCS0)	3.15	3.32	6.25	11.0	-4.75
	5590	118	n (40MHz)	13.5/15 (MCS0)	2.39	2.65	5.53	11.0	-5.47
	5710	142	n (40MHz)	13.5/15 (MCS0)	2.90	2.98	5.95	11.0	-5.05
	5510	102	ax (40MHz)	13.5/15 (MCS0)	2.19	2.23	5.22	11.0	-5.78
	5590	118	ax (40MHz)	13.5/15 (MCS0)	1.50	1.59	4.56	11.0	-6.44
	5710	142	ax (40MHz)	13.5/15 (MCS0)	2.22	1.82	5.03	11.0	-5.97
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-1.98	-0.42	1.88	11.0	-9.12
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-2.60	-1.74	0.86	11.0	-10.14
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-2.28	-0.94	1.45	11.0	-9.55
	5530	106	ax (80MHz)	29.3/32.5 (MCS0)	-2.02	-1.36	1.33	11.0	-9.67
	5610	122	ax (80MHz)	29.3/32.5 (MCS0)	-2.49	-1.82	0.87	11.0	-10.13
	5690	138	ax (80MHz)	29.3/32.5 (MCS0)	-2.15	-1.73	1.08	11.0	-9.92

Table 7-27. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenn-1 Power Density [dBm]	Antenn-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	a	6	6.72	6.77	9.76	30.0	-20.24
	5785	157	a	6	6.81	6.89	9.86	30.0	-20.14
	5825	165	a	6	5.20	6.40	8.85	30.0	-21.15
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	6.37	6.59	9.49	30.0	-20.51
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	6.46	6.74	9.61	30.0	-20.39
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	6.15	6.58	9.38	30.0	-20.62
	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	-0.32	2.61	4.40	30.0	-25.60
	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	1.86	2.24	5.07	30.0	-24.93
	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	1.33	2.10	4.74	30.0	-25.26
	5755	151	n (40MHz)	13.5/15 (MCS0)	2.47	5.74	7.42	30.0	-22.58
	5795	159	n (40MHz)	13.5/15 (MCS0)	2.47	3.30	5.92	30.0	-24.08
	5755	151	ax (40MHz)	13.5/15 (MCS0)	-1.76	-1.50	1.38	30.0	-28.62
	5795	159	ax (40MHz)	13.5/15 (MCS0)	-1.58	-1.54	1.45	30.0	-28.55
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-2.82	-1.37	0.98	30.0	-29.02
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	-6.05	-5.15	-2.57	30.0	-32.57

Table 7-28. Band 3 MIMO Conducted Power Spectral Density Measurements

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Note:

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

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

$$\text{Directional gain} = 10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}] \text{ dBi}$$

Sample MIMO Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted power spectral density was measured to be 5.82 dBm for Antenna-1 and 5.01 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

$$(5.82 \text{ dBm} + 5.01 \text{ dBm}) = (3.82 \text{ mW} + 3.17 \text{ mW}) = 6.99 \text{ mW} = 8.44 \text{ dBm}$$

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7.6 Radiated Spurious Emission Measurements – Above 1GHz

§15.407(b) §15.205 §15.209; RSS-Gen [8.9]

Test Overview and Limit

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

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

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

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

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-29 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [$\mu\text{V/m}$]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-29. Radiated Limits

Test Procedures Used

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

Test Settings

Average Measurements above 1GHz (Method AD)

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

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Peak Measurements above 1GHz

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

Peak Measurements below 1GHz

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

Test Setup

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

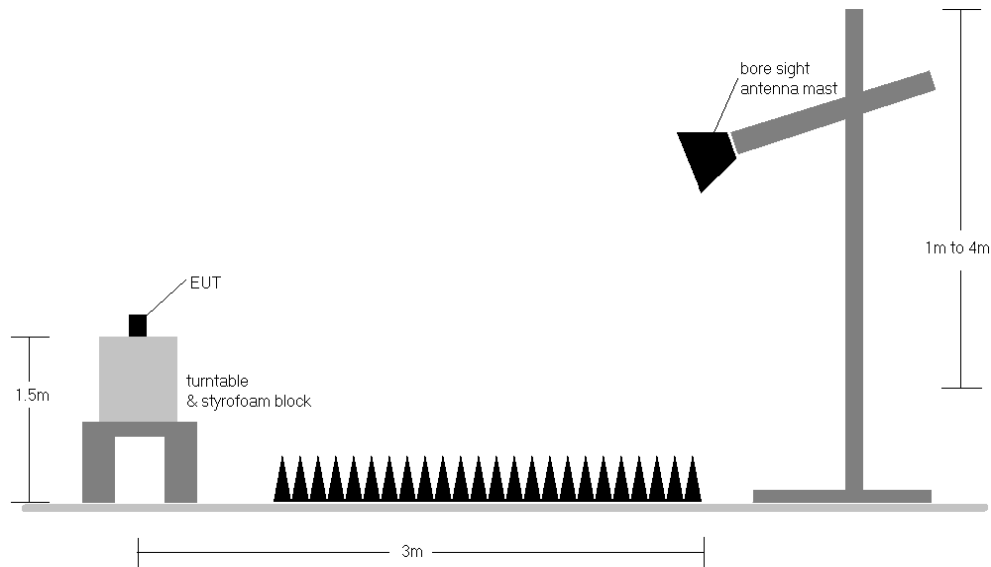


Figure 7-5. Test Instrument & Measurement Setup

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Test Notes

1. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-29.
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 7-29. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
6. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
7. Radiated spurious emissions were investigated while operating in MIMO mode, however, it was determined that single antenna operation produced the worst case emissions. Since the emissions produced from MIMO operation were found to be more than 20dB below the limit, the MIMO emissions are not reported.
8. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
9. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

Sample Calculations

Determining Spurious Emissions Levels

- Field Strength Level [dBμV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB]
- Margin [dB] = Field Strength Level [dBμV/m] – Limit [dBμV/m]

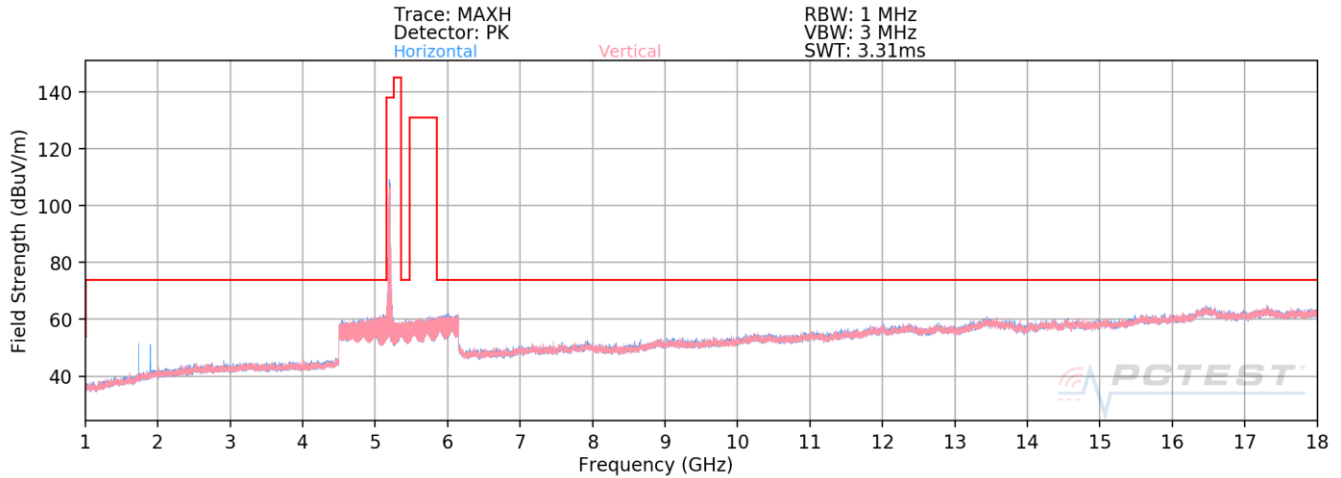
Radiated Band Edge Measurement Offset

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

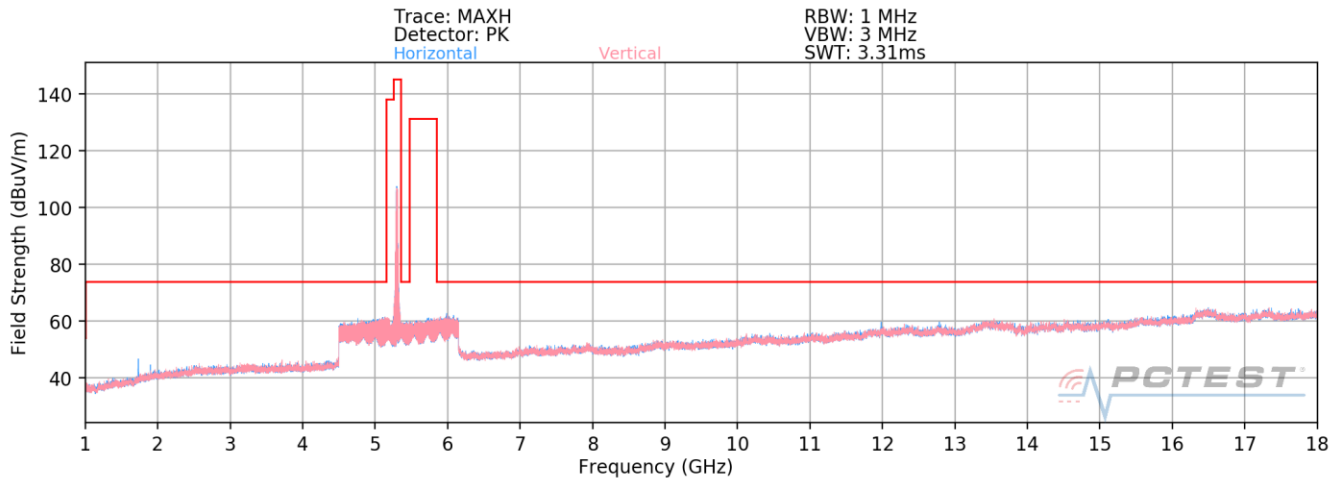
$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

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7.6.1 SISO Antenna-1 Radiated Spurious Emission Measurements

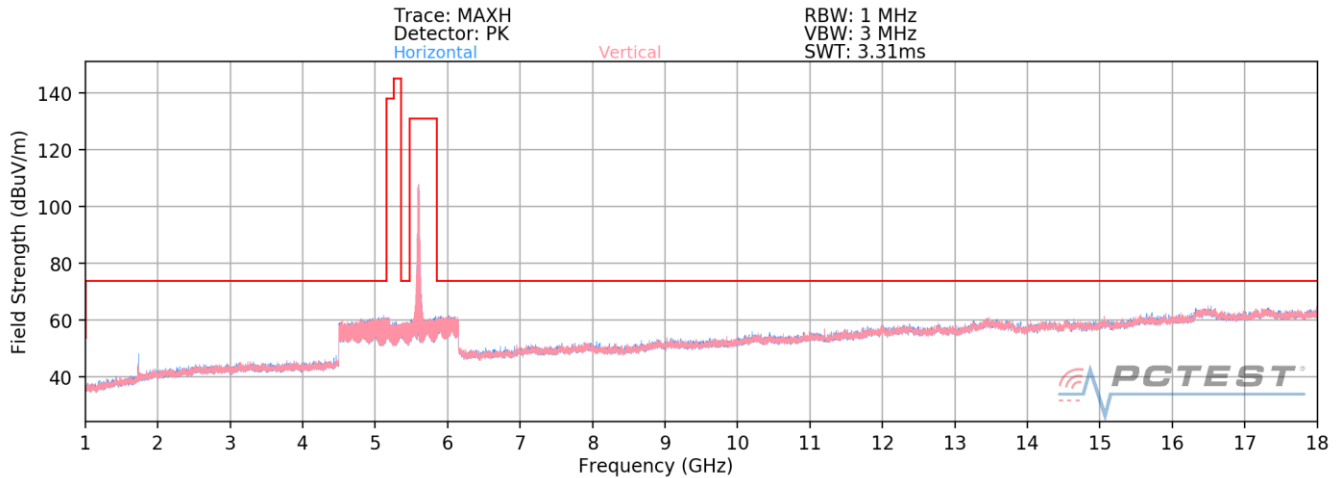


Plot 7-262. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U1 Ch. 40)

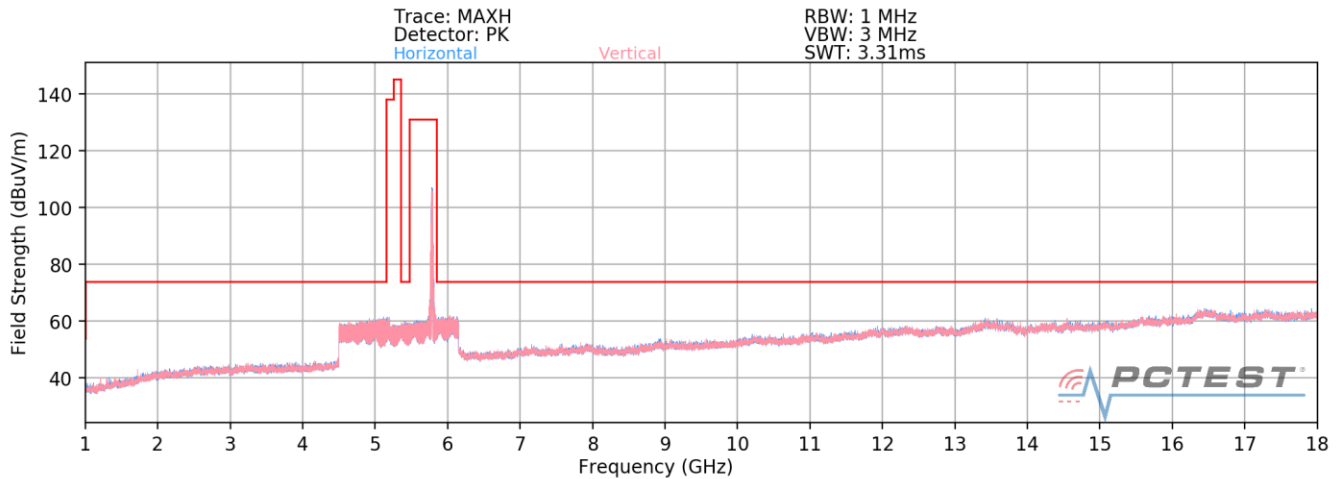


Plot 7-263. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U2A Ch. 56)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 170 of 234



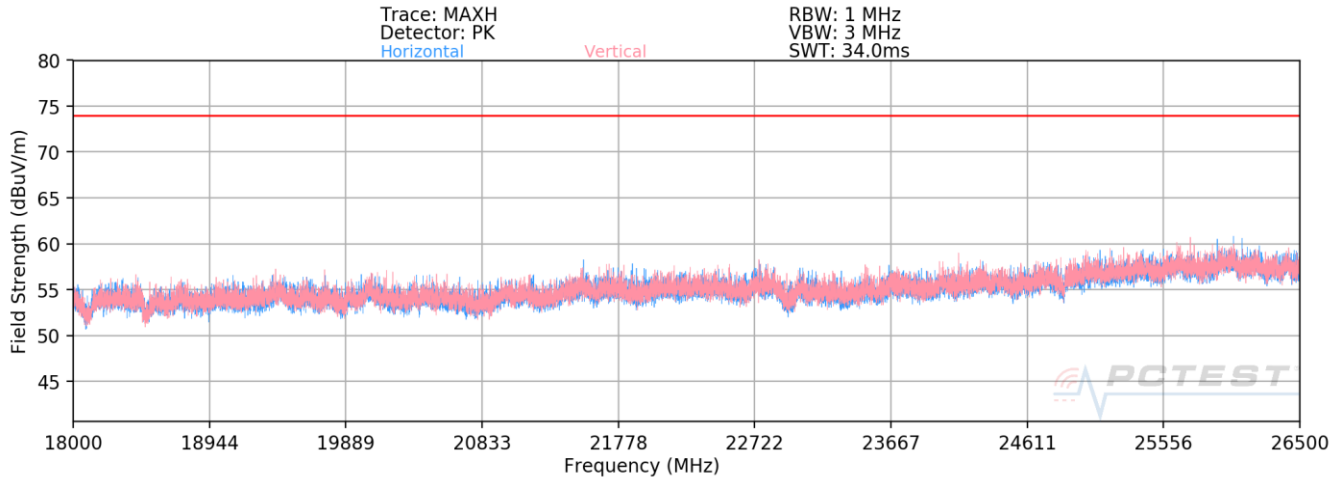
Plot 7-264. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U2C Ch. 120)



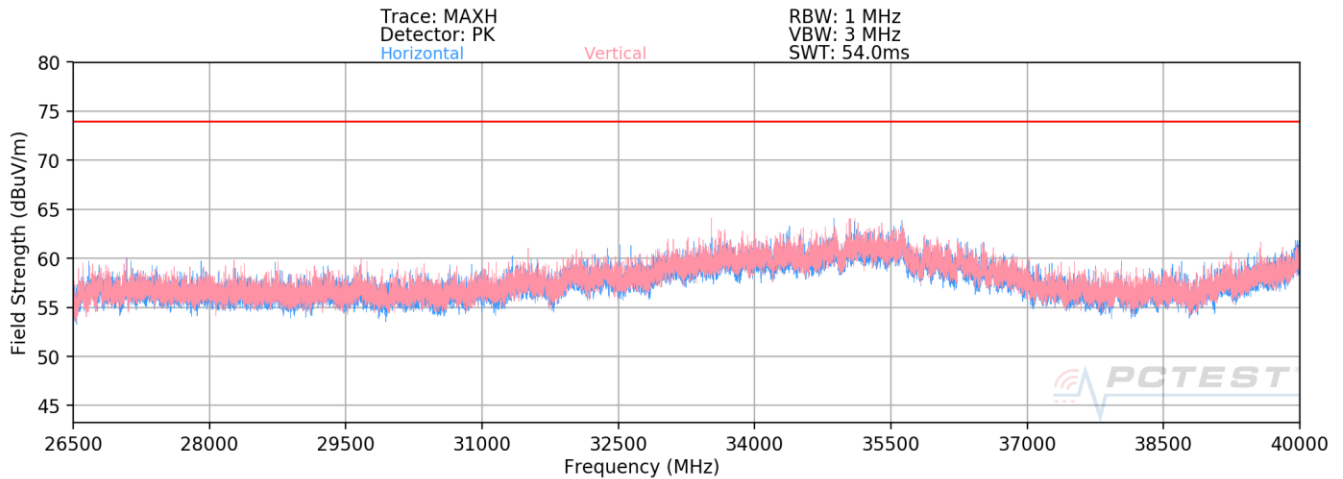
Plot 7-265. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U3 Ch. 157)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 171 of 234

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



Plot 7-266. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 (802.11a)



Plot 7-267. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11a)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 172 of 234

SISO Antenna-1 Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	326	282	-67.84	14.57	0.00	53.73	68.20	-14.47
* 15540.00	Average	H	-	-	-81.72	20.74	0.00	46.02	53.98	-7.96
* 15540.00	Peak	H	-	-	-70.40	20.74	0.00	57.34	73.98	-16.64
* 20720.00	Average	H	-	-	-63.25	1.63	0.00	45.38	53.98	-8.60
* 20720.00	Peak	H	-	-	-51.34	1.63	0.00	57.29	73.98	-16.69
25900.00	Peak	H	150	40	-45.10	4.37	-9.54	56.73	68.20	-11.47

Table 7-30. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5200MHz
Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	H	327	-2	-68.51	14.44	52.93	68.20	-15.27
* 15600.00	Average	H	-	-	-81.61	21.52	46.91	53.98	-7.07
* 15600.00	Peak	H	-	-	-69.60	21.52	58.92	73.98	-15.06
* 20800.00	Average	H	-	-	-63.40	1.54	45.14	53.98	-8.84
* 20800.00	Peak	H	-	-	-51.53	1.54	57.01	73.98	-16.97
26000.00	Peak	H	-	-	-51.02	4.18	60.16	68.20	-8.04

Table 7-31. Radiated Measurements SISO ANT1

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 173 of 234

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5240MHz
Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	-	-	-68.82	15.02	0.00	53.20	68.20	-15.00
* 15720.00	Average	H	-	-	-81.71	21.32	0.00	46.61	53.98	-7.37
* 15720.00	Peak	H	-	-	-70.08	21.32	0.00	58.24	73.98	-15.74
* 20960.00	Average	H	-	-	-63.66	1.82	0.00	45.16	53.98	-8.82
* 20960.00	Peak	H	-	-	-51.48	1.82	0.00	57.34	73.98	-16.64
26200.00	Peak	H	150	40	-46.75	4.39	-9.54	55.10	68.20	-13.10

Table 7-32. Radiated Measurements SISO ANT1

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	400	39	-69.40	15.22	0.00	52.82	68.20	-15.38
* 15780.00	Average	H	-	-	-81.65	21.73	0.00	47.08	53.98	-6.90
* 15780.00	Peak	H	-	-	-70.06	21.73	0.00	58.67	73.98	-15.31
* 21040.00	Average	H	-	-	-62.62	1.91	0.00	46.29	53.98	-7.69
* 21040.00	Peak	H	-	-	-51.25	1.91	0.00	57.66	73.98	-16.32
26300.00	Peak	H	150	40	-46.46	4.34	-9.54	55.33	68.20	-12.87

Table 7-33. Radiated Measurements SISO ANT1

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 174 of 234

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5280MHz
Channel: 56

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	-	-	-68.87	15.15	0.00	53.28	68.20	-14.92
* 15840.00	Average	H	-	-	-81.93	21.22	0.00	46.29	53.98	-7.69
* 15840.00	Peak	H	-	-	-70.02	21.22	0.00	58.20	73.98	-15.78
* 21120.00	Average	H	-	-	-63.53	2.11	0.00	45.58	53.98	-8.40
* 21120.00	Peak	H	-	-	-51.84	2.11	0.00	57.27	73.98	-16.71
26400.00	Peak	H	150	36	-47.23	4.39	-9.54	54.62	68.20	-13.58

Table 7-34. Radiated Measurements SISO ANT1

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	384	295	-80.63	15.58	0.00	41.95	53.98	-12.03
* 10640.00	Peak	H	384	295	-68.50	15.58	0.00	54.08	73.98	-19.90
* 15960.00	Average	H	-	-	-82.14	22.47	0.00	47.33	53.98	-6.65
* 15960.00	Peak	H	-	-	-70.40	22.47	0.00	59.07	73.98	-14.91
* 21280.00	Average	H	-	-	-62.85	2.09	0.00	46.24	53.98	-7.74
* 21280.00	Peak	H	-	-	-51.26	2.09	0.00	57.83	73.98	-16.15
26600.00	Peak	H	150	36	-47.20	4.43	-9.54	54.69	68.20	-13.51

Table 7-35. Radiated Measurements SISO ANT1

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 175 of 234

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5500MHz
Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	-	-	-80.78	15.77	0.00	41.99	53.98	-11.99
* 11000.00	Peak	H	-	-	-68.89	15.77	0.00	53.88	73.98	-20.10
16500.00	Peak	H	-	-	-70.20	22.20	0.00	59.00	68.20	-9.20
22000.00	Peak	H	-	-	-50.87	2.04	0.00	58.17	68.20	-10.03
27500.00	Peak	H	150	31	-46.48	3.49	-9.54	54.47	68.20	-13.73

Table 7-36. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
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	H	-	-	-80.67	16.00	0.00	42.33	53.98	-11.65
* 11200.00	Peak	H	-	-	-69.46	16.00	0.00	53.54	73.98	-20.44
16800.00	Peak	H	-	-	-70.08	21.82	0.00	58.74	68.20	-9.46
* 22400.00	Average	H	-	-	-62.42	2.44	0.00	47.02	53.98	-6.96
* 22400.00	Peak	H	-	-	-51.06	2.44	0.00	58.38	73.98	-15.60
28000.00	Peak	H	150	42	-46.99	3.61	-9.54	54.08	68.20	-14.12

Table 7-37. Radiated Measurements SISO ANT1

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 176 of 234

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5720MHz
Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	-	-	-80.96	17.01	0.00	43.05	53.98	-10.93
* 11440.00	Peak	H	-	-	-69.21	17.01	0.00	54.80	73.98	-19.18
17160.00	Peak	H	-	-	-68.86	22.56	0.00	60.70	68.20	-7.50
* 22880.00	Average	H	-	-	-62.44	2.26	0.00	46.82	53.98	-7.16
* 22880.00	Peak	H	-	-	-50.51	2.26	0.00	58.75	73.98	-15.23
28600.00	Peak	H	-	-	-50.15	3.87	-9.54	51.18	68.20	-17.02

Table 7-38. Radiated Measurements SISO ANT1

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	-	-	-81.16	17.50	43.34	53.98	-10.64
* 11490.00	Peak	H	-	-	-69.19	17.50	55.31	73.98	-18.67
17235.00	Peak	H	-	-	-69.38	21.94	59.56	68.20	-8.64
* 22980.00	Average	H	-	-	-62.69	2.17	36.94	53.98	-17.04
* 22980.00	Peak	H	-	-	-50.55	2.17	49.08	73.98	-24.90
28725.00	Peak	H	-	-	-49.98	3.73	51.21	68.20	-16.99

Table 7-39. Radiated Measurements SISO ANT1

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 177 of 234

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11570.00	Average	H	295	130	-80.82	16.66	42.84	53.98	-11.14
*	11570.00	Peak	H	295	130	-68.75	16.66	54.91	73.98	-19.07
	17355.00	Peak	H	-	-	-69.67	23.75	61.08	68.20	-7.12
	23140.00	Peak	H	-	-	-50.42	2.10	49.13	68.20	-19.07
	28925.00	Peak	H	-	-	-50.96	3.60	50.10	68.20	-18.10

Table 7-40. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5825MHz
Channel: 165

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11650.00	Average	H	-	-	-80.82	17.12	43.30	53.98	-10.68
*	11650.00	Peak	H	-	-	-69.01	17.12	55.11	73.98	-18.87
	17475.00	Peak	H	-	-	-70.39	22.42	59.03	68.20	-9.17
	23300.00	Peak	H	-	-	-51.00	2.14	48.60	68.20	-19.60
	29125.00	Peak	H	-	-	-50.62	3.76	50.59	68.20	-17.61

Table 7-41. Radiated Measurements SISO ANT1

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 178 of 234

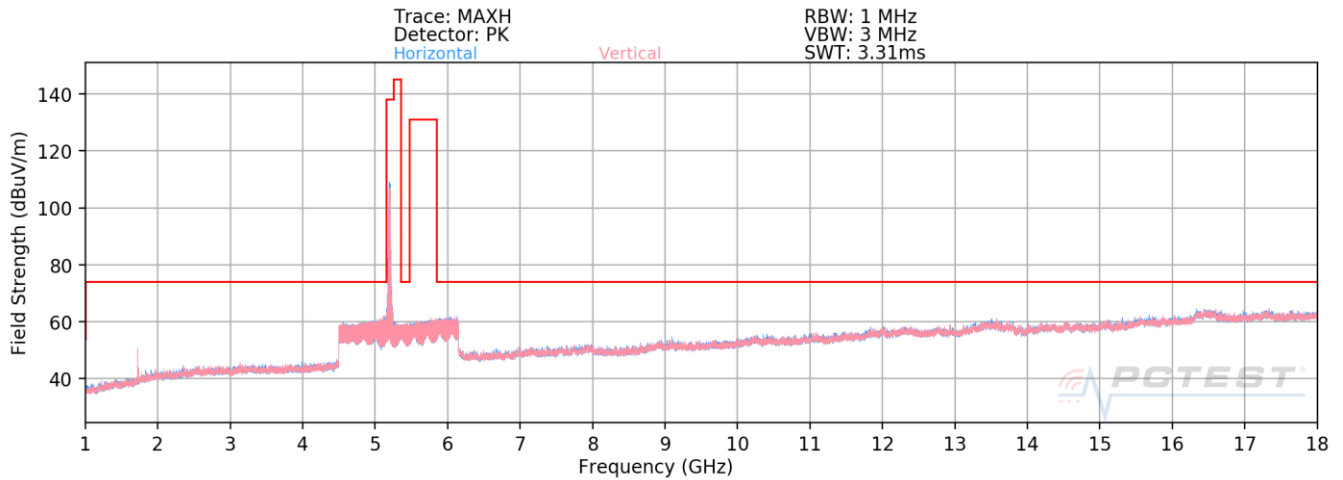
Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5785MHz
Channel: 157

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11570.00	Average	H	-	-	-81.00	16.94	42.94	53.98	-11.04
*	11570.00	Peak	H	-	-	-69.24	16.94	54.70	73.98	-19.28
	17355.00	Peak	H	-	-	-70.33	24.85	61.52	68.20	-6.68
	23140.00	Peak	H	-	-	-50.39	2.10	49.16	68.20	-19.04
	28925.00	Peak	H	-	-	-50.74	3.60	50.32	68.20	-17.88

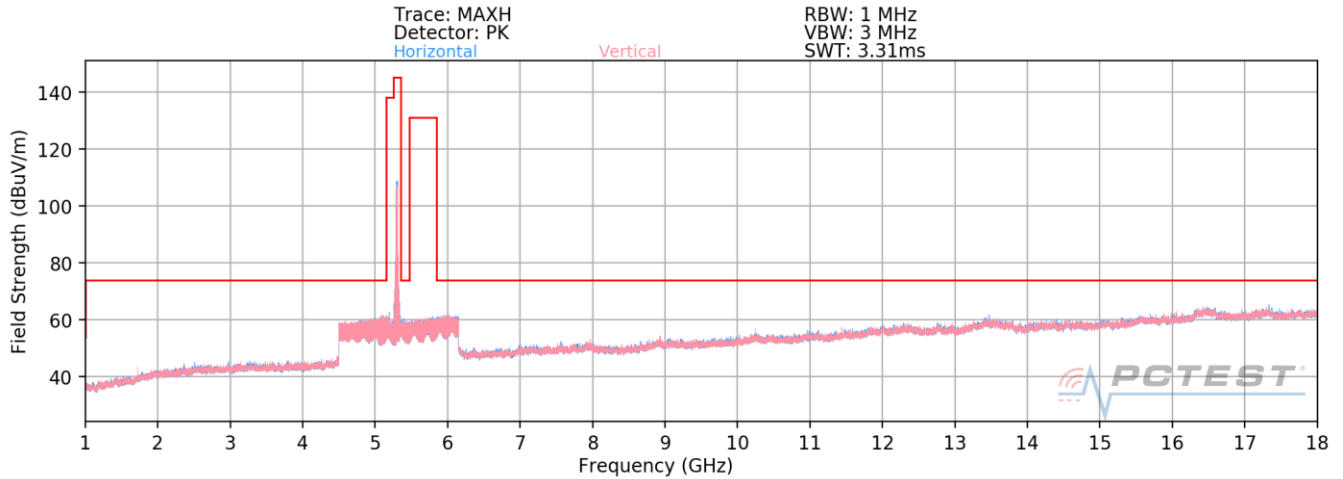
Table 7-42. Radiated Measurements SISO ANT1 with WCP

FCC ID: A3LSMG996U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 179 of 234

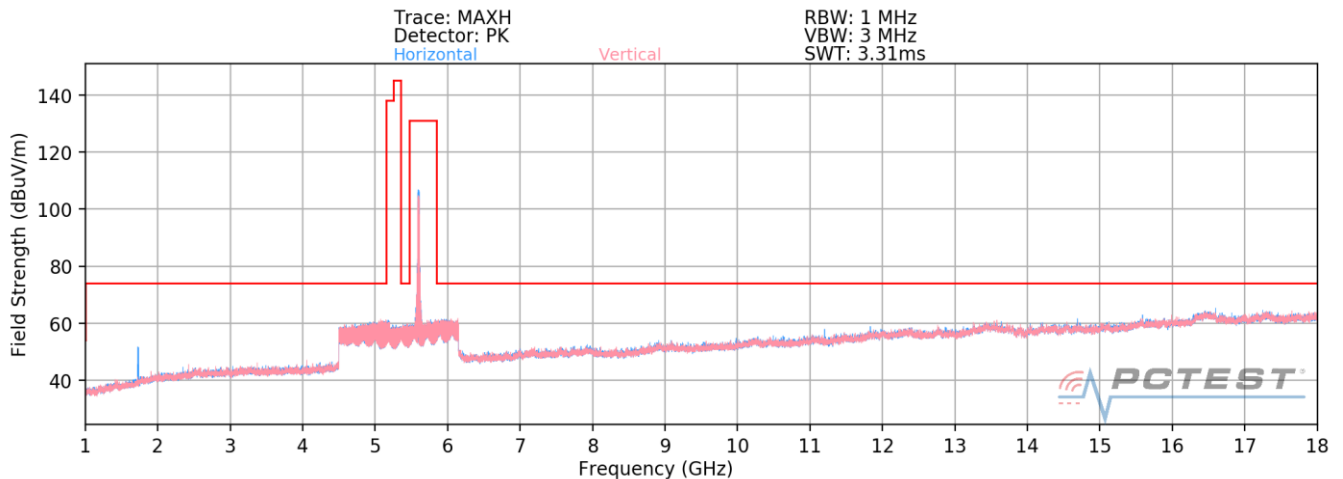
7.6.2 SISO Antenna-2 Radiated Spurious Emission Measurements



Plot 7-268. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a – U1 Ch. 40)

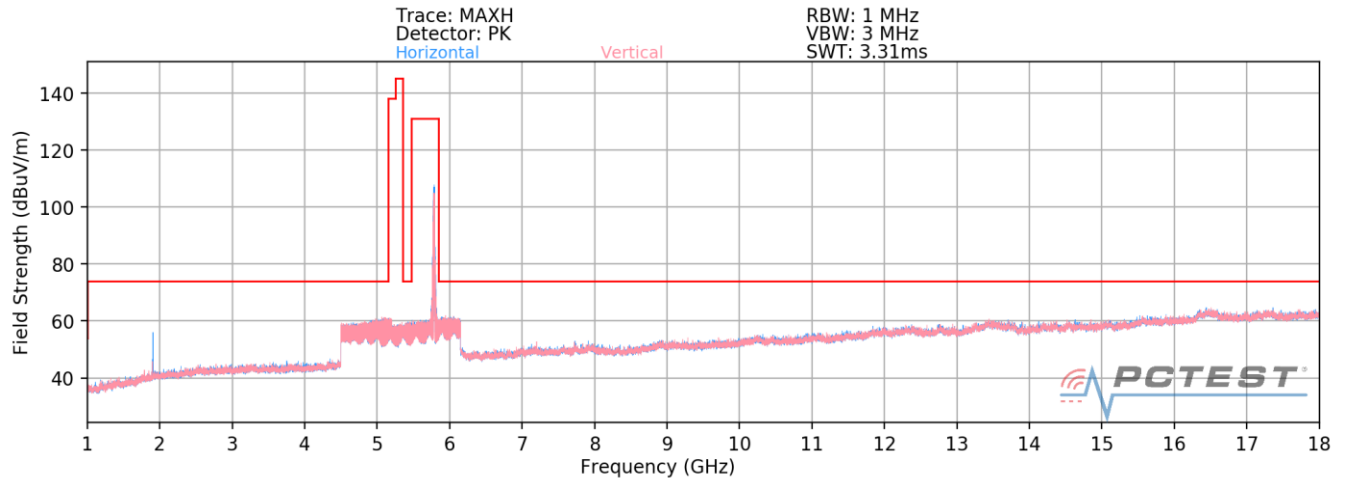


Plot 7-269. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a – U2A Ch. 56)



FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09-A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 180 of 234

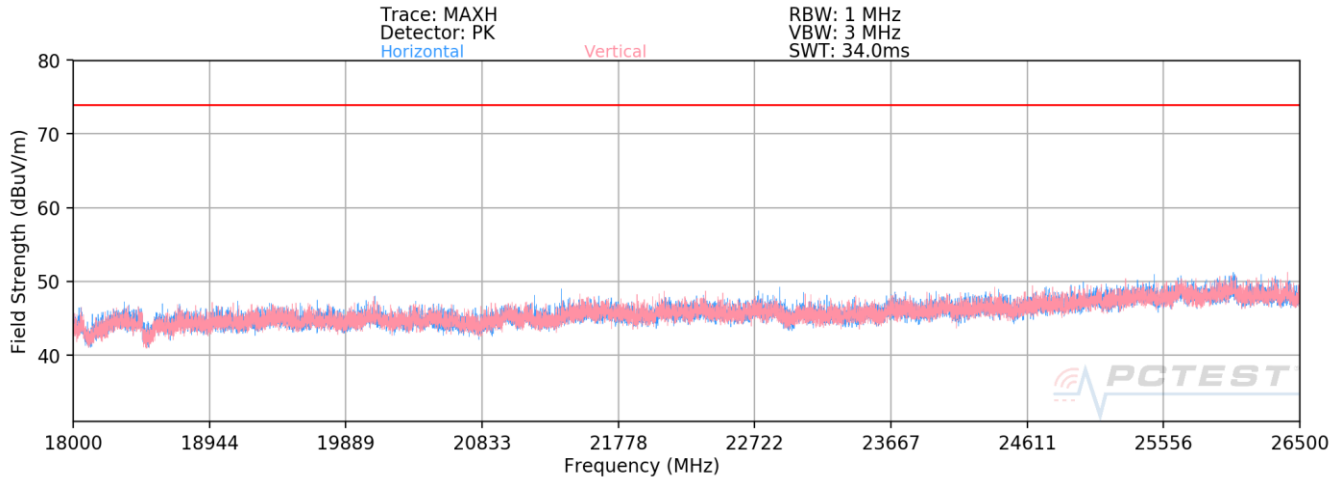
Plot 7-270. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a – U2C Ch. 120)



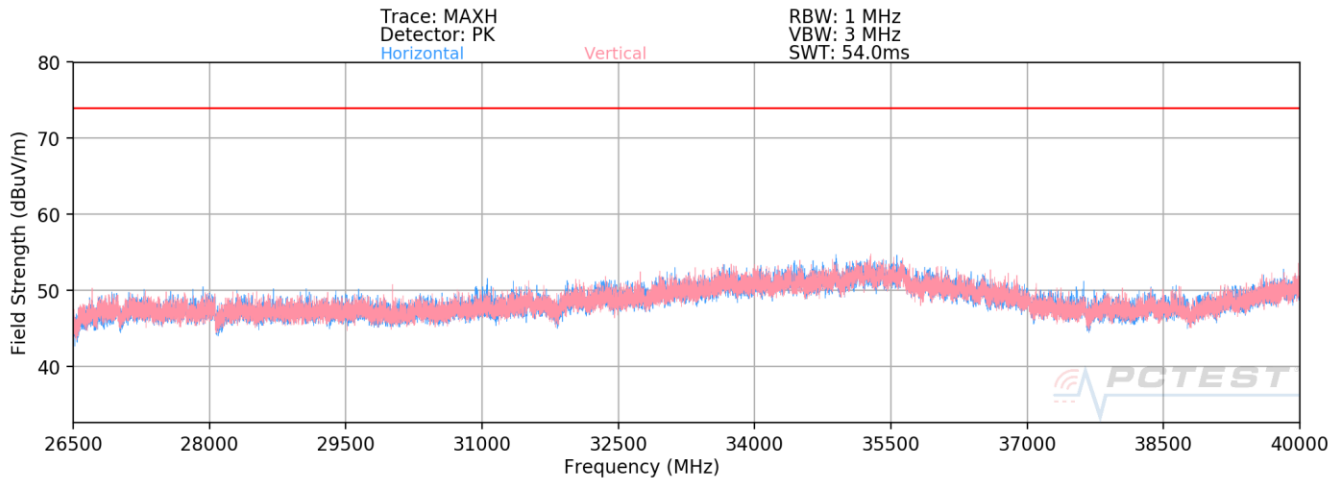
Plot 7-271. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a – U3 Ch. 157)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 181 of 234

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



Plot 7-272. Radiated Spurious Plot above 18GHz - 26.5GHz SISO ANT2 (802.11a)



Plot 7-273. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11a)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 182 of 234

SISO Antenna-2 Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10360.00	Peak	H	-	-	-69.01	14.57	52.56	68.20	-15.64
* 15540.00	Average	H	-	-	-81.72	20.74	46.02	53.98	-7.96
* 15540.00	Peak	H	-	-	-69.66	20.74	58.08	73.98	-15.90
* 20720.00	Average	H	-	-	-63.08	1.63	36.01	53.98	-17.97
* 20720.00	Peak	H	-	-	-51.29	1.63	47.80	73.98	-26.18
25900.00	Peak	H	-	-	-50.21	4.37	51.62	68.20	-16.58

Table 7-43. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5200MHz
Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10400.00	Peak	H	176	9	-68.80	14.44	52.64	68.20	-15.56
* 15600.00	Average	H	-	-	-81.64	21.52	46.88	53.98	-7.10
* 15600.00	Peak	H	-	-	-69.79	21.52	58.73	73.98	-15.25
* 20800.00	Average	H	-	-	-62.96	1.54	36.04	53.98	-17.94
* 20800.00	Peak	H	-	-	-51.04	1.54	47.96	73.98	-26.02
26000.00	Peak	H	-	-	-50.03	4.18	51.60	68.20	-16.60

Table 7-44. Radiated Measurements SISO ANT2

FCC ID: A3LSMG996U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 183 of 234

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5240MHz
Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	-	-	-68.29	15.02	53.73	68.20	-14.47
* 15720.00	Average	H	-	-	-81.75	21.32	46.57	53.98	-7.41
* 15720.00	Peak	H	-	-	-70.02	21.32	58.30	73.98	-15.68
* 20960.00	Average	H	-	-	-62.70	1.82	36.57	53.98	-17.40
* 20960.00	Peak	H	-	-	-50.75	1.82	48.52	73.98	-25.45
26200.00	Peak	H	-	-	-50.14	4.39	51.71	68.20	-16.49

Table 7-45. Radiated Measurements SISO ANT2

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

FCC ID: A3LSMG996U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	-	-	-69.13	15.22	53.09	68.20	-15.11
* 15780.00	Average	H	-	-	-81.65	21.73	47.08	53.98	-6.90
* 15780.00	Peak	H	-	-	-70.61	21.73	58.12	73.98	-15.86
* 21040.00	Average	H	-	-	-62.39	1.91	36.98	53.98	-17.00
* 21040.00	Peak	H	-	-	-50.73	1.91	48.64	73.98	-25.34
26300.00	Peak	H	-	-	-49.96	4.34	51.83	68.20	-16.37

Table 7-46. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5280MHz
Channel: 56

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	-	-	-69.50	15.15	52.65	68.20	-15.55
* 15840.00	Average	H	-	-	-81.95	21.22	46.27	53.98	-7.71
* 15840.00	Peak	H	-	-	-70.59	21.22	57.63	73.98	-16.35
* 21120.00	Average	H	-	-	-62.76	2.11	36.80	53.98	-17.18
* 21120.00	Peak	H	-	-	-50.44	2.11	49.12	73.98	-24.86
26400.00	Peak	H	-	-	-49.55	4.39	52.30	68.20	-15.90

Table 7-47. Radiated Measurements SISO ANT2

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

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 185 of 234

Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	-	-	-80.89	15.58	41.69	53.98	-12.29
* 10640.00	Peak	H	-	-	-68.90	15.58	53.68	73.98	-20.30
* 15960.00	Average	H	-	-	-82.11	22.47	47.36	53.98	-6.62
* 15960.00	Peak	H	-	-	-70.54	22.47	58.93	73.98	-15.05
* 21280.00	Average	H	-	-	-63.12	2.09	36.42	53.98	-17.56
* 21280.00	Peak	H	-	-	-51.66	2.09	47.88	73.98	-26.10
26600.00	Peak	H	-	-	-50.02	4.43	51.87	68.20	-16.33

Table 7-48. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5500MHz
Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	-	-	-80.81	15.77	41.96	53.98	-12.02
* 11000.00	Peak	H	-	-	-69.18	15.77	53.59	73.98	-20.39
16500.00	Peak	H	-	-	-69.99	22.20	59.21	68.20	-8.99
22000.00	Peak	H	-	-	-50.60	2.04	58.44	68.20	-9.76
27500.00	Peak	H	-	-	-50.04	3.49	60.45	68.20	-7.75

Table 7-49. Radiated Measurements SISO ANT2

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

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	-	-	-80.71	16.00	42.29	53.98	-11.69
* 11200.00	Peak	H	-	-	-68.78	16.00	54.22	73.98	-19.76
16800.00	Peak	H	-	-	-70.36	21.82	58.46	68.20	-9.74
* 22400.00	Average	H	-	-	-61.99	2.44	47.45	53.98	-6.53
* 22400.00	Peak	H	-	-	-49.60	2.44	59.84	73.98	-14.14
28000.00	Peak	H	-	-	-49.42	3.61	61.19	68.20	-7.01

Table 7-50. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5720MHz
Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	-	-	-81.15	17.01	42.86	53.98	-11.12
* 11440.00	Peak	H	-	-	-68.99	17.01	55.02	73.98	-18.96
17160.00	Peak	H	-	-	-69.45	22.56	60.11	68.20	-8.09
* 22880.00	Average	H	-	-	-62.24	2.26	47.02	53.98	-6.96
* 22880.00	Peak	H	-	-	-50.86	2.26	58.40	73.98	-15.58
28600.00	Peak	H	-	-	-50.96	3.87	59.91	68.20	-8.29

Table 7-51. Radiated Measurements SISO ANT2

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

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	-	-	-80.95	17.50	43.55	53.98	-10.43
* 11490.00	Peak	H	-	-	-69.33	17.50	55.17	73.98	-18.81
17235.00	Peak	H	-	-	-69.47	21.94	59.47	68.20	-8.73
* 22980.00	Average	H	-	-	-62.60	2.17	46.57	53.98	-7.41
* 22980.00	Peak	H	-	-	-50.94	2.17	58.23	73.98	-15.75
28725.00	Peak	H	-	-	-50.64	3.73	60.09	68.20	-8.11

Table 7-52. Radiated Measurements SISO ANT2

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	119	336	-81.05	16.94	0.00	42.89	53.98	-11.09
* 11570.00	Peak	H	119	336	-69.23	16.94	0.00	54.71	73.98	-19.27
17355.00	Peak	H	-	-	-69.99	24.85	0.00	61.86	68.20	-6.34
23140.00	Peak	H	-	-	-50.43	2.10	0.00	58.67	68.20	-9.53
28925.00	Peak	H	-	-	-50.01	3.60	0.00	60.59	68.20	-7.61

Table 7-53. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5825MHz
Channel: 165

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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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	H	-	-	-81.26	17.47	0.00	43.21	53.98	-10.77
* 11650.00	Peak	H	-	-	-68.65	17.47	0.00	55.82	73.98	-18.16
17475.00	Peak	H	-	-	-70.49	25.03	0.00	61.54	68.20	-6.66
23300.00	Peak	H	-	-	-51.14	2.14	0.00	58.00	68.20	-10.20
29125.00	Peak	H	-	-	-50.30	3.76	0.00	60.46	68.20	-7.74

Table 7-54. Radiated Measurements SISO ANT2

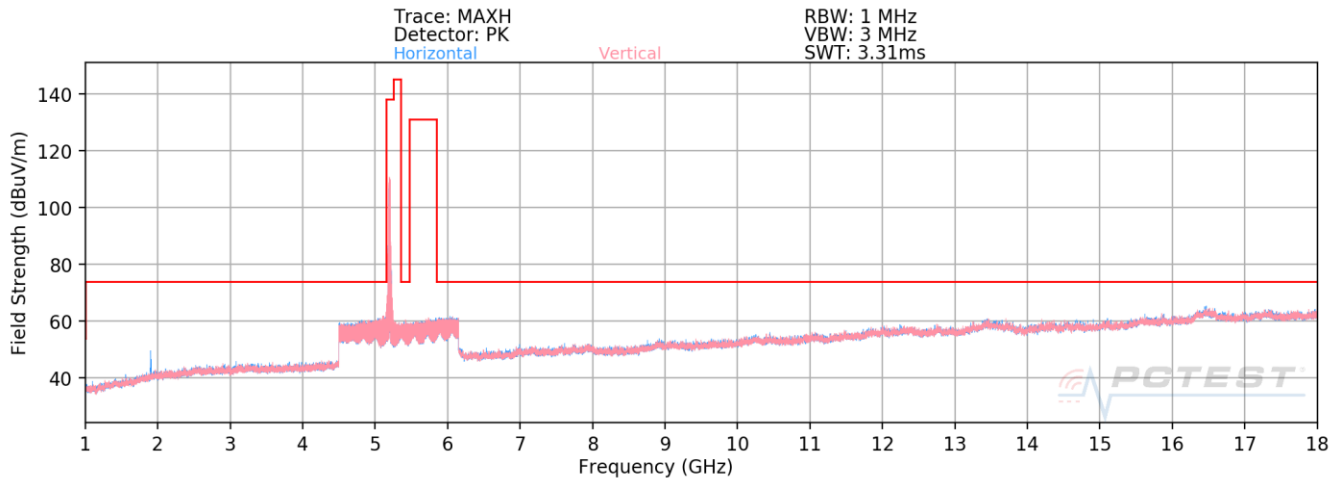
Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5720MHz
Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	-	-	-81.36	17.06	42.70	53.98	-11.28
* 11440.00	Peak	H	-	-	-69.93	17.06	54.13	73.98	-19.85
17160.00	Peak	H	-	-	-69.52	23.48	60.96	68.20	-7.24
22880.00	Average	H	-	-	-62.73	2.26	36.99	53.98	-16.99
22880.00	Peak	H	-	-	-51.64	2.26	48.08	73.98	-25.90
28600.00	Peak	H	-	-	-51.04	3.87	50.29	68.20	-17.91

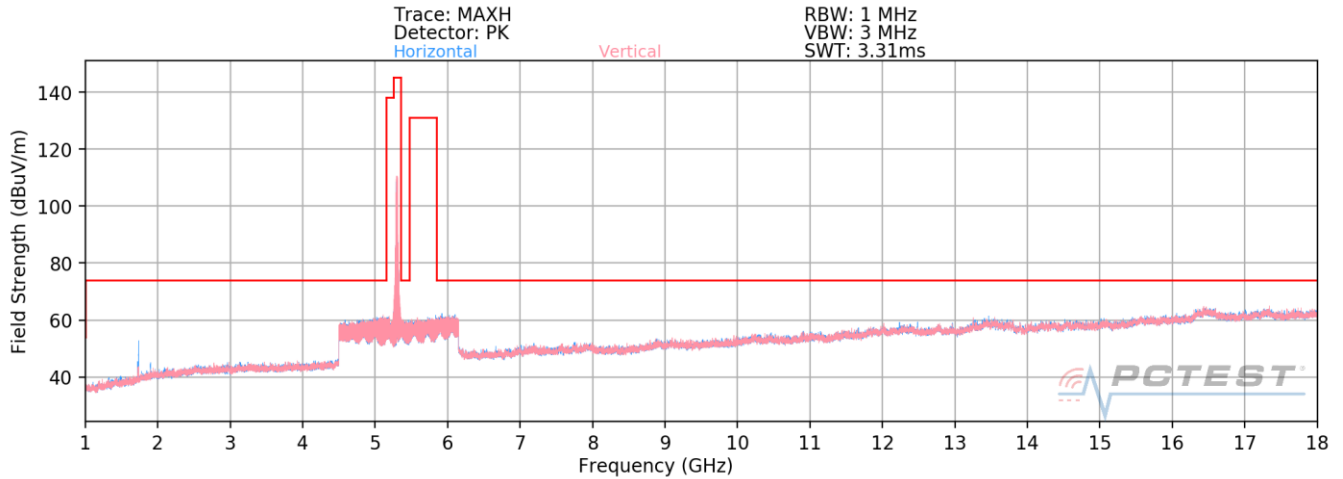
Table 7-55. Radiated Measurements SISO ANT2 with WCP

FCC ID: A3LSMG996U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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7.6.3 MIMO Radiated Spurious Emission Measurements

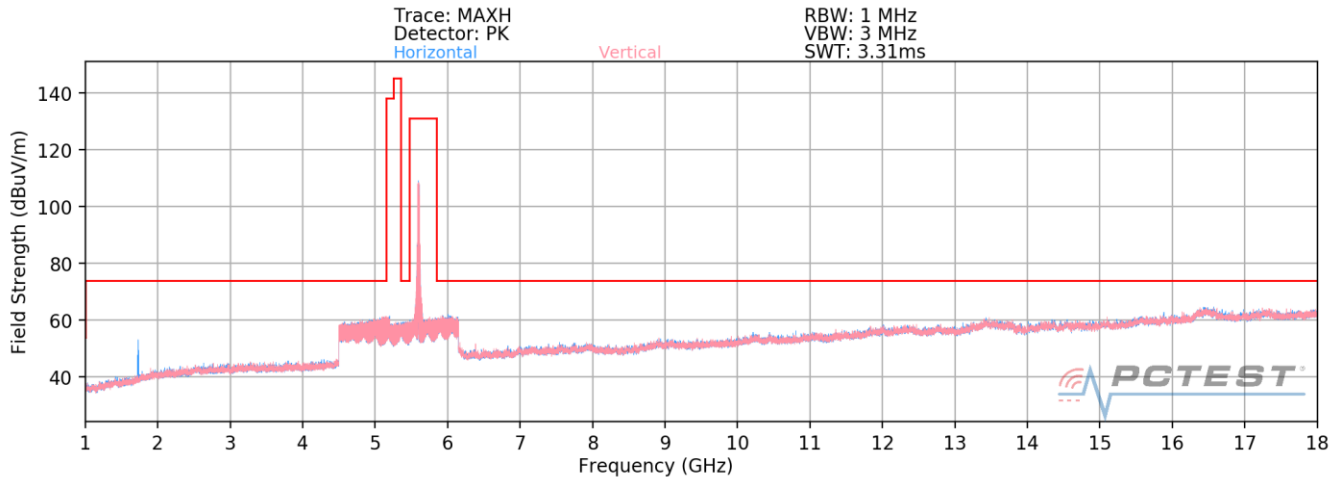


Plot 7-274. Radiated Spurious Plot above 1GHz MIMO (802.11a – U1 Ch. 40)

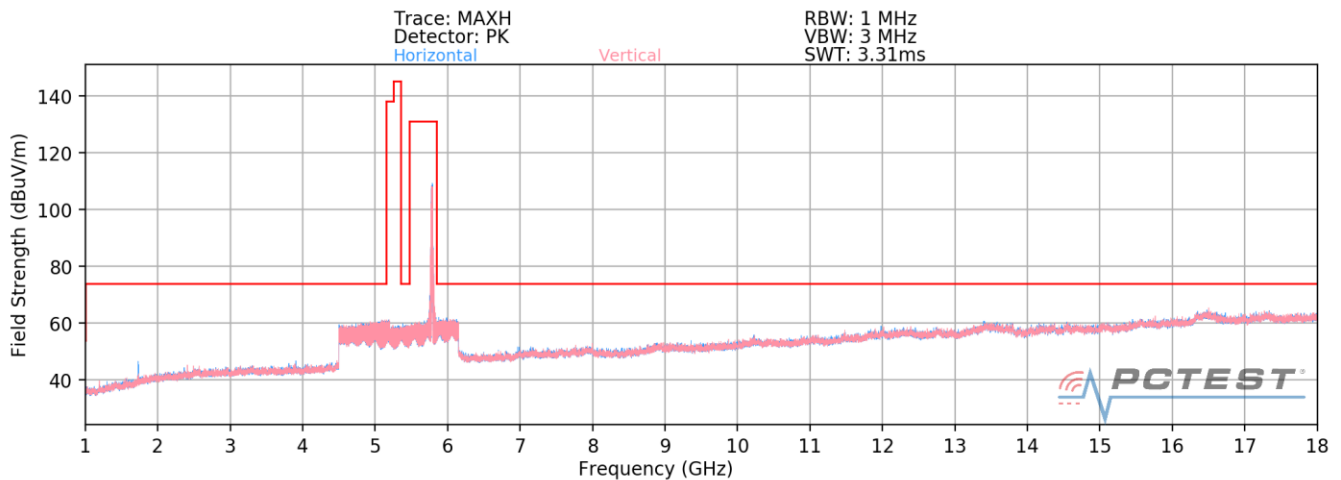


Plot 7-275. Radiated Spurious Plot above 1GHz MIMO (802.11a – U2A Ch. 56)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-276. Radiated Spurious Plot above 1GHz MIMO (802.11a – U2C Ch. 120)



Plot 7-277. Radiated Spurious Plot above 1GHz MIMO (802.11a – U3 Ch. 157)

FCC ID: A3LSMG996U	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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MIMO Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	V	168	230	-67.93	14.57	0.00	53.64	68.20	-14.56
15540.00	Average	V	-	-	-81.71	20.74	0.00	46.03	53.98	-7.95
15540.00	Peak	V	-	-	-69.30	20.74	0.00	58.44	73.98	-15.54
20720.00	Average	V	150	329	-61.27	1.63	-9.54	37.82	53.98	-16.16
20720.00	Peak	V	150	329	-49.22	1.63	-9.54	49.87	73.98	-24.11
25900.00	Peak	V	150	314	-46.22	4.37	-9.54	55.61	68.20	-12.59

Table 7-56. Radiated Measurements MIMO

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5200MHz
Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	V	399	193	-68.45	14.44	0.00	52.99	68.20	-15.21
15600.00	Average	V	-	-	-81.65	21.52	0.00	46.87	53.98	-7.11
15600.00	Peak	V	-	-	-69.75	21.52	0.00	58.77	73.98	-15.21
20800.00	Average	V	150	328	-61.42	1.54	-9.54	37.58	53.98	-16.40
20800.00	Peak	V	150	328	-49.55	1.54	-9.54	49.45	73.98	-24.53
26000.00	Peak	V	150	312	-45.83	4.18	-9.54	55.80	68.20	-12.40

Table 7-57. Radiated Measurements MIMO

FCC ID: A3LSMG996U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5240MHz
Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	V	-	-	-69.39	15.02	0.00	52.63	68.20	-15.57
15720.00	Average	V	-	-	-81.76	21.32	0.00	46.56	53.98	-7.42
15720.00	Peak	V	-	-	-70.49	21.32	0.00	57.83	73.98	-16.15
20960.00	Average	V	150	336	-60.96	1.82	-9.54	38.31	53.98	-15.66
20960.00	Peak	V	150	336	-48.79	1.82	-9.54	50.48	73.98	-23.49
26200.00	Peak	V	150	322	-45.25	4.39	-9.54	56.60	68.20	-11.60

Table 7-58. Radiated Measurements MIMO

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	V	-	-	-68.96	15.22	0.00	53.26	68.20	-14.94
15780.00	Average	V	-	-	-81.61	21.73	0.00	47.12	53.98	-6.86
15780.00	Peak	V	-	-	-69.82	21.73	0.00	58.91	73.98	-15.07
21040.00	Average	V	150	332	-61.02	1.91	-9.54	38.35	53.98	-15.63
21040.00	Peak	V	150	332	-48.88	1.91	-9.54	50.49	73.98	-23.49
26300.00	Peak	V	150	325	-45.66	4.34	-9.54	56.13	68.20	-12.07

Table 7-59. Radiated Measurements MIMO

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 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	-	-	-68.99	15.15	0.00	53.16	68.20	-15.04
15840.00	Average	V	-	-	-81.87	21.22	0.00	46.35	53.98	-7.63
15840.00	Peak	V	-	-	-70.26	21.22	0.00	57.96	73.98	-16.02
21120.00	Average	V	150	337	-61.00	2.11	-9.54	38.56	53.98	-15.42
21120.00	Peak	V	150	337	-49.18	2.11	-9.54	50.38	73.98	-23.60
26400.00	Peak	V	150	12	-45.82	4.39	-9.54	56.03	68.20	-12.17

Table 7-60. Radiated Measurements MIMO

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10640.00	Average	V	-	-	-80.92	15.58	0.00	41.66	53.98	-12.32
10640.00	Peak	V	-	-	-68.89	15.58	0.00	53.69	73.98	-20.29
15960.00	Average	V	-	-	-82.12	22.47	0.00	47.35	53.98	-6.63
15960.00	Peak	V	-	-	-70.71	22.47	0.00	58.76	73.98	-15.22
21280.00	Average	V	150	329	-61.85	2.09	-9.54	37.69	53.98	-16.29
21280.00	Peak	V	150	329	-49.63	2.09	-9.54	49.91	73.98	-24.07
26600.00	Peak	V	150	11	-45.53	4.43	-9.54	56.36	68.20	-11.84

Table 7-61. Radiated Measurements MIMO

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 194 of 234

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5500MHz
Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
11000.00	Average	V	-	-	-80.35	15.77	0.00	42.42	53.98	-11.56
11000.00	Peak	V	-	-	-68.66	15.77	0.00	54.11	73.98	-19.87
16500.00	Peak	V	-	-	-70.40	22.20	0.00	58.80	68.20	-9.40
22000.00	Peak	V	-	-	-50.61	2.04	-9.54	48.88	68.20	-19.32
27500.00	Peak	V	150	355	-44.01	3.49	-9.54	56.94	68.20	-11.26

Table 7-62. Radiated Measurements MIMO

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
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	118	223	-78.86	16.00	0.00	44.14	53.98	-9.84
11200.00	Peak	V	118	223	-67.08	16.00	0.00	55.92	73.98	-18.06
16800.00	Peak	V	-	-	-69.56	21.82	0.00	59.26	68.20	-8.94
22400.00	Average	V	-	-	-62.03	2.44	-9.54	37.87	53.98	-16.11
22400.00	Peak	V	-	-	-50.21	2.44	-9.54	49.69	73.98	-24.29
28000.00	Peak	V	150	315	-49.46	3.61	-9.54	51.61	68.20	-16.59

Table 7-63. Radiated Measurements MIMO

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 195 of 234

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5720MHz
Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
11440.00	Average	V	127	230	-79.68	17.01	0.00	44.33	53.98	-9.65
11440.00	Peak	V	127	230	-68.15	17.01	0.00	55.86	73.98	-18.12
17160.00	Peak	V	-	-	-69.35	22.56	0.00	60.21	68.20	-7.99
22880.00	Average	V	-	-	-62.32	2.26	-9.54	37.40	53.98	-16.58
22880.00	Peak	V	-	-	-50.64	2.26	-9.54	49.08	73.98	-24.90
28600.00	Peak	V	-	-	-49.51	3.87	-9.54	51.82	68.20	-16.38

Table 7-64. Radiated Measurements MIMO

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
11490.00	Average	V	-	-	-81.20	17.50	0.00	43.30	53.98	-10.68
11490.00	Peak	V	-	-	-69.57	17.50	0.00	54.93	73.98	-19.05
17235.00	Peak	V	-	-	-69.69	21.94	0.00	59.25	68.20	-8.95
22980.00	Average	V	-	-	-62.63	2.17	-9.54	37.00	53.98	-16.98
22980.00	Peak	V	-	-	-50.60	2.17	-9.54	49.03	73.98	-24.95
28725.00	Peak	V	-	-	-50.30	3.73	-9.54	50.89	69.20	-18.31

Table 7-65. Radiated Measurements MIMO

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 196 of 234

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
11570.00	Average	V	114	229	-77.79	16.66	0.00	45.87	53.98	-8.11
11570.00	Peak	V	114	229	-65.27	16.66	0.00	58.39	73.98	-15.59
17355.00	Peak	V	-	-	-69.87	23.75	0.00	60.88	68.20	-7.32
23140.00	Peak	V	-	-	-50.76	2.10	-9.54	48.79	68.20	-19.41
28925.00	Peak	V	-	-	-50.44	3.60	-9.54	50.62	68.20	-17.58

Table 7-66. Radiated Measurements MIMO

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5825MHz
Channel: 165

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
11650.00	Average	V	202	227	-79.19	17.12	0.00	44.93	53.98	-9.05
11650.00	Peak	V	202	227	-67.40	17.12	0.00	56.72	73.98	-17.26
17475.00	Peak	V	-	-	-70.31	22.42	0.00	59.11	68.20	-9.09
23300.00	Peak	V	-	-	-51.15	2.14	-9.54	48.45	68.20	-19.75
29125.00	Peak	V	-	-	-49.98	3.76	-9.54	51.23	68.20	-16.97

Table 7-67. Radiated Measurements MIMO

FCC ID: A3LSMG996U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 197 of 234

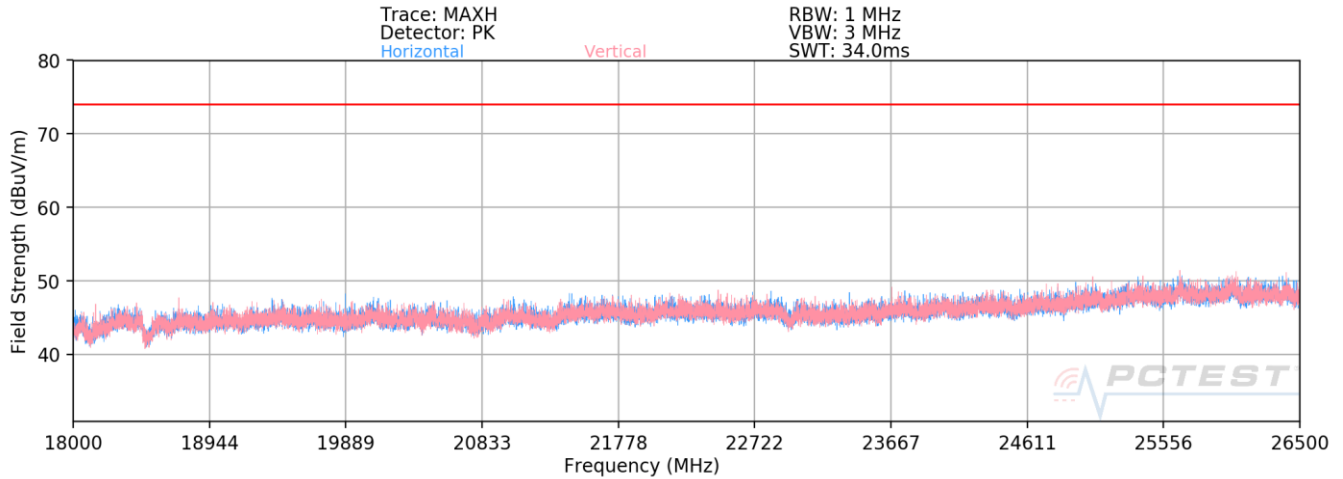
Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5320MHz
Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10640.00	Average	V	157	146	-80.79	15.58	0.00	41.79	53.98	-12.19
10640.00	Peak	V	157	146	-69.30	15.58	0.00	53.28	73.98	-20.70
15960.00	Average	V	-	-	-82.15	22.47	0.00	47.32	53.98	-6.66
15960.00	Peak	V	-	-	-70.57	22.47	0.00	58.90	73.98	-15.08
21280.00	Average	V	-	-	-62.78	2.09	-9.54	36.77	53.98	-17.21
21280.00	Peak	V	-	-	-51.03	2.09	-9.54	48.52	73.98	-25.46
26600.00	Peak	V	-	-	-50.64	4.43	-9.54	51.25	68.20	-16.95

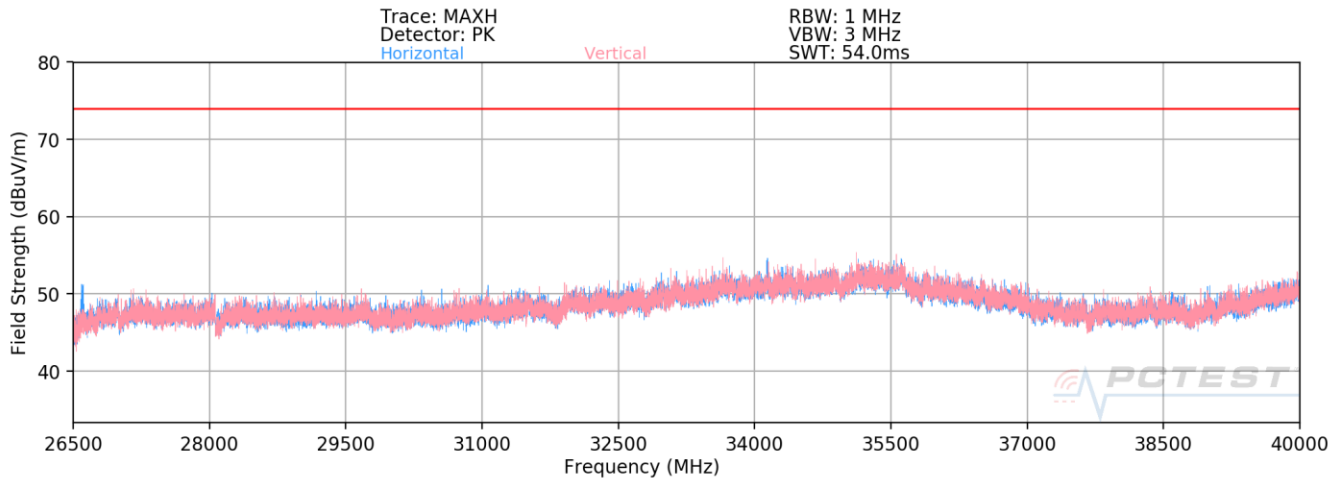
Table 7-68. Radiated Measurements MIMO with WCP

FCC ID: A3LSMG996U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 198 of 234

MIMO Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-278. Radiated Spurious Plot above 18GHz - 26.5GHz MIMO (802.11a)



Plot 7-279. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11a)

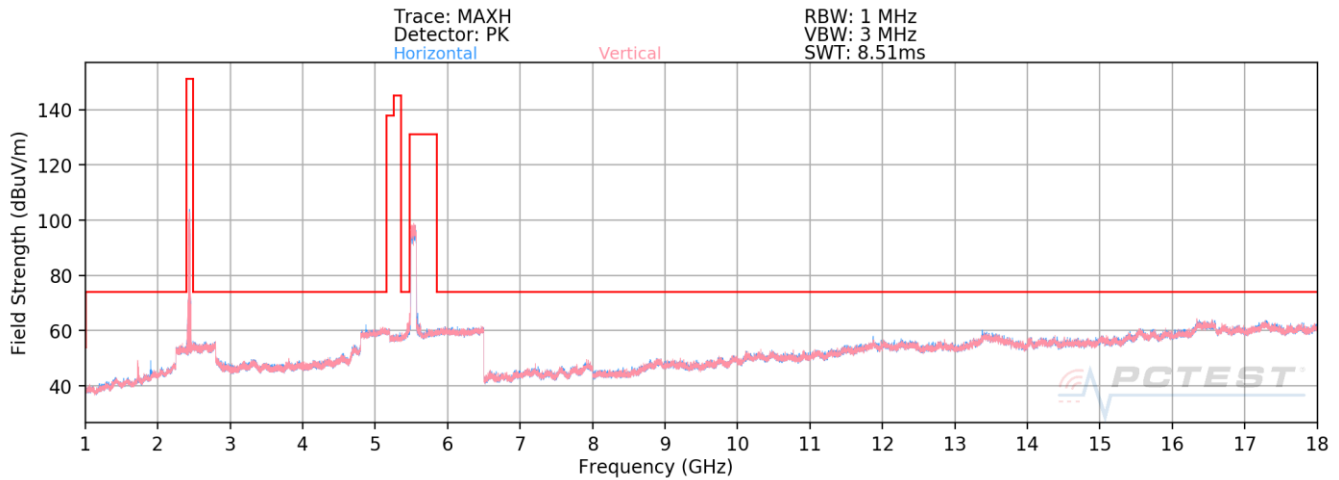
FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 199 of 234

7.6.4 Simultaneous Tx Radiated Spurious Emissions Measurements

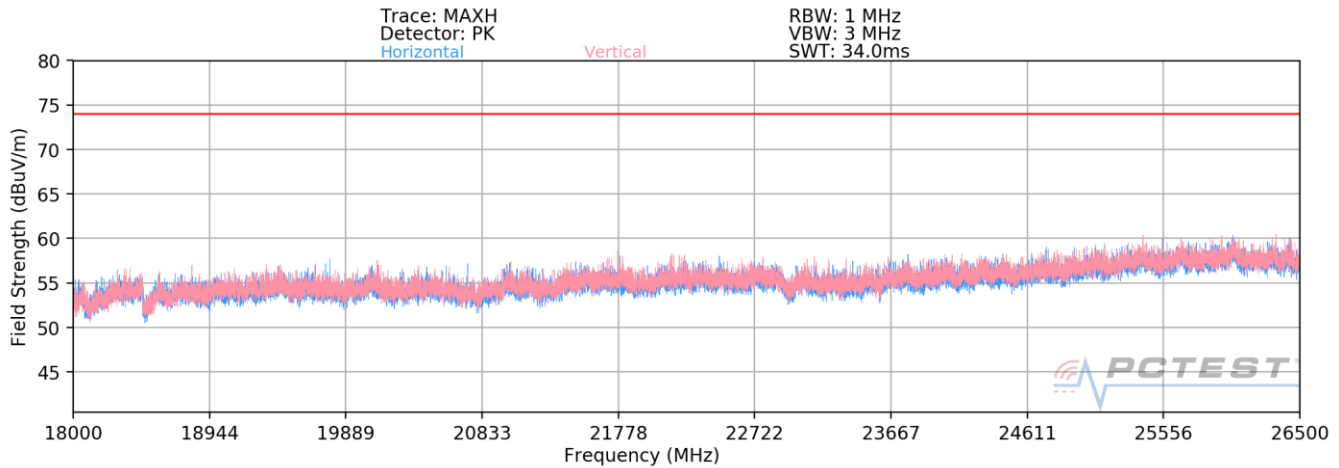
§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Description	2.4 GHz Emission	5 GHz Emission
Antenna	1	2
Channel	6	100
Operating Frequency (MHz)	2437	5500
Data Rate (Mbps)	1	6
Mode	b	a

Table 7-69. Simultaneous Transmission Config-1

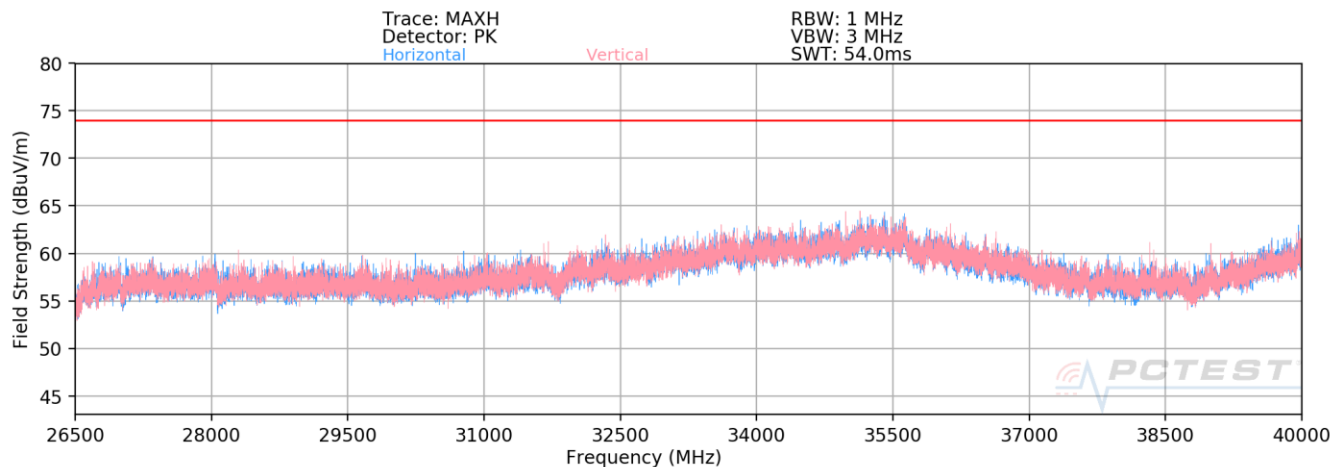


Plot 7-280. Radiated Spurious Plot above 1GHz (2.4GHz – 5GHz)



Plot 7-281. Radiated Spurious Plot 18GHz – 26.5GHz (2.4GHz – 5GHz)

FCC ID: A3LSMG996U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 200 of 234



Plot 7-282. Radiated Spurious Plot above 26.5GHz (2.4GHz – 5GHz)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
3689.00	Average	V	-	-	-80.23	7.68	34.45	53.98	-19.53
3689.00	Peak	V	-	-	-68.94	7.68	45.74	73.98	-28.24
6752.00	Peak	V	-	-	-70.46	14.53	51.07	68.20	-17.13
8563.00	Peak	V	-	-	-71.82	17.00	52.18	68.20	-16.02
9815.00	Peak	V	-	-	-71.68	18.84	54.16	68.20	-14.04
11626.00	Average	V	-	-	-83.91	21.90	44.99	53.98	-8.99
11626.00	Peak	V	-	-	-72.65	21.90	56.25	73.98	-17.73

Table 7-70. Radiated Measurements (ANT1 2.4GHz – ANT2 5GHz)

FCC ID: A3LSMG996U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2009140143-09.A3L	Test Dates: 09/15 - 12/01/2020	EUT Type: Portable Handset		Page 201 of 234