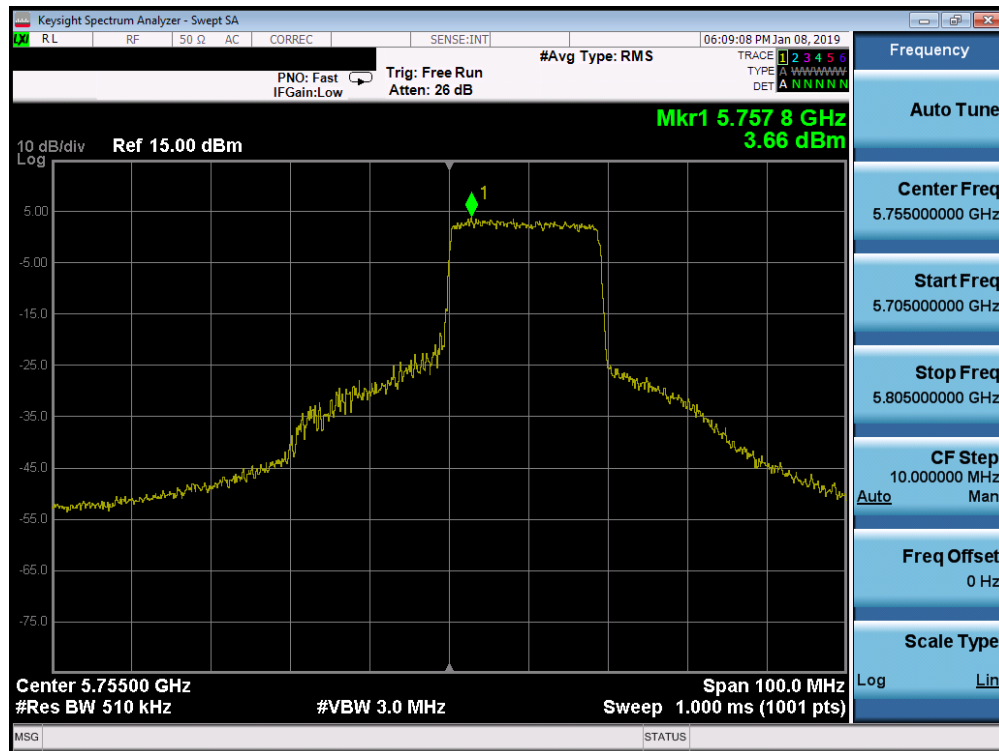
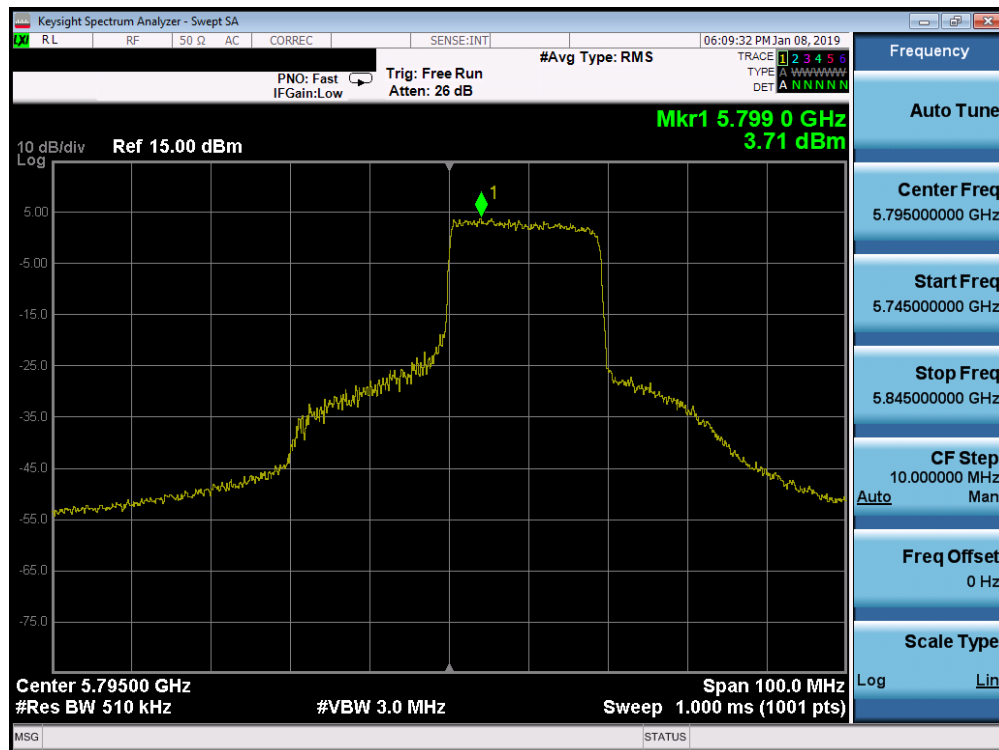


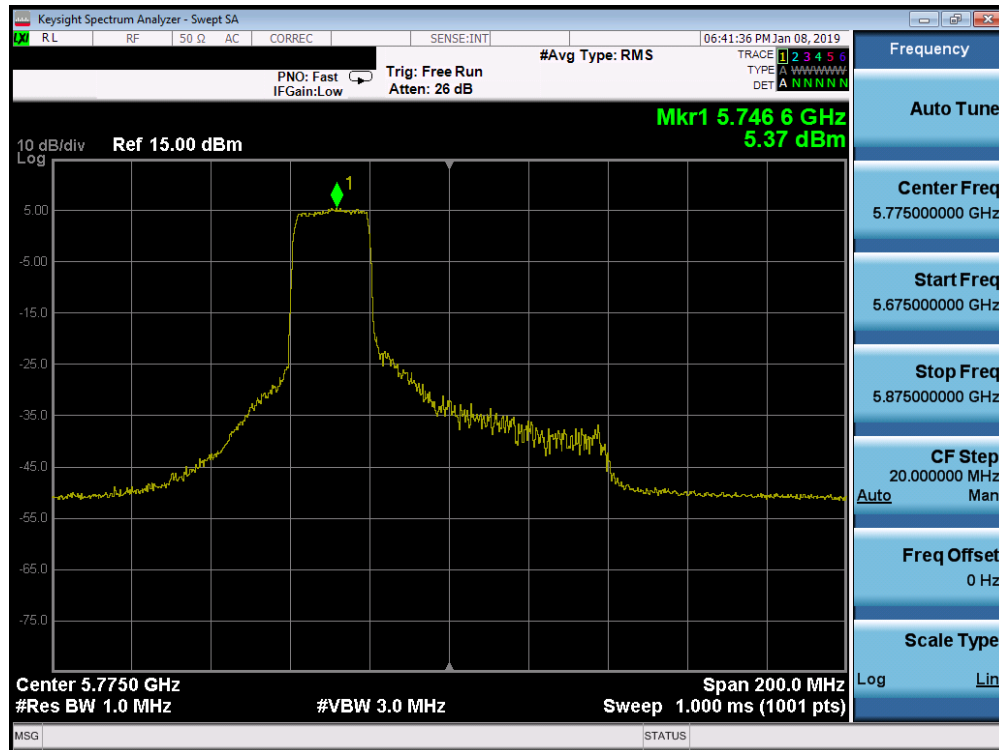


Plot 7-343. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 151)



Plot 7-344. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 159)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 245 of 519



Plot 7-345. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 246 of 519

SISO Antenna-2 Power Spectral Density Measurements (484 Tones)

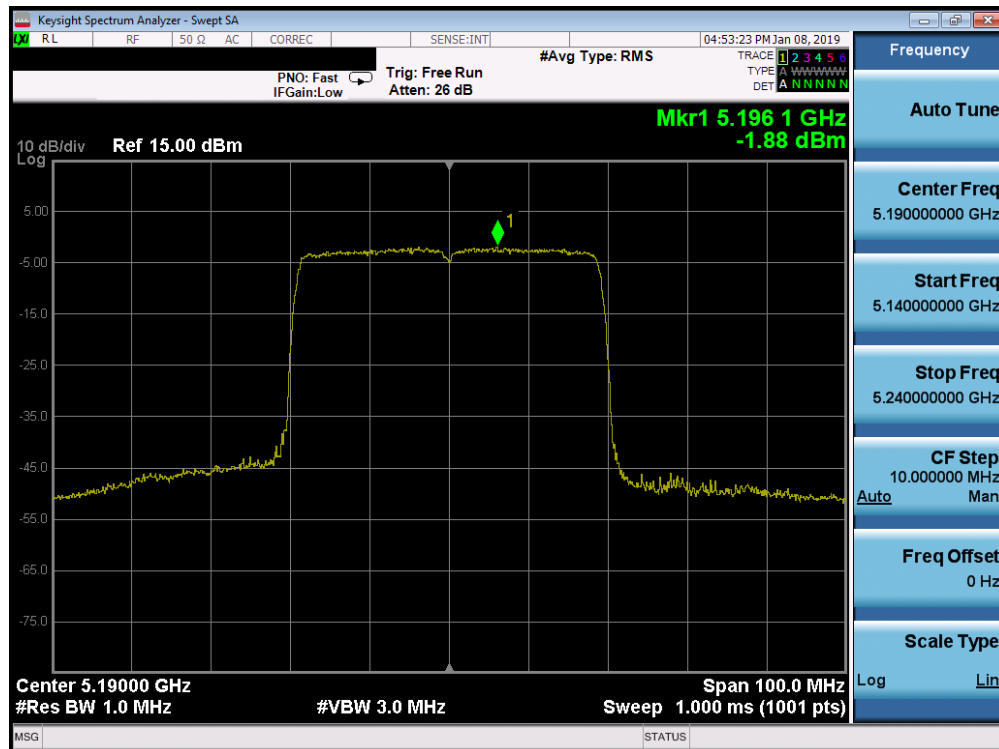
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5190	38	ax (40MHz)	484T	MCS0	-1.88	11.00	-12.88
	5230	46	ax (40MHz)	484T	MCS0	2.32	11.00	-8.68
	5210	42	ax (80MHz)	484T	MCS0	-1.90	11.00	-12.90
Band 2A	5270	54	ax (40MHz)	484T	MCS0	3.35	11.00	-7.65
	5310	62	ax (40MHz)	484T	MCS0	-0.18	11.00	-11.18
	5290	58	ax (80MHz)	484T	MCS0	-1.30	11.00	-12.30
Band 2C	5510	102	ax (40MHz)	484T	MCS0	0.67	11.00	-10.33
	5590	118	ax (40MHz)	484T	MCS0	2.50	11.00	-8.50
	5710	142	ax (40MHz)	484T	MCS0	2.91	11.00	-8.09
	5530	106	ax (80MHz)	484T	MCS0	1.17	11.00	-9.83
	5610	122	ax (80MHz)	484T	MCS0	2.63	11.00	-8.37
	5690	138	ax (80MHz)	484T	MCS0	2.90	11.00	-8.10

Table 7-93. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements SISO ANT2 (484 Tones)

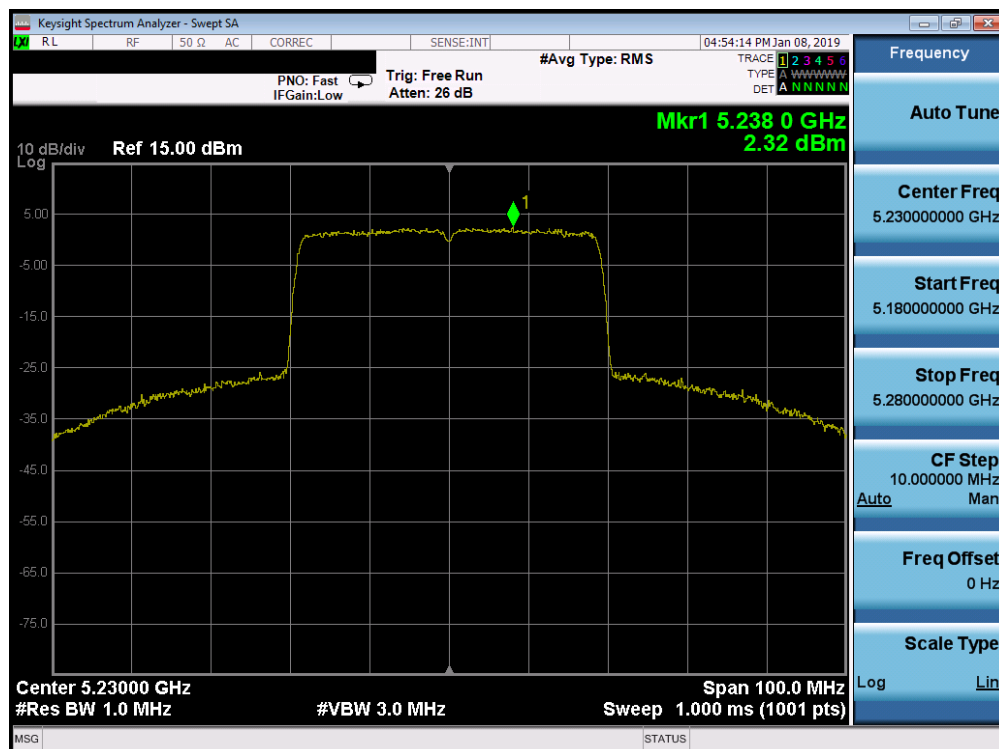
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5190	38	ax (40MHz)	484T	MCS0	-1.88	-7.68	-9.56	10.0	-19.56
	5230	46	ax (40MHz)	484T	MCS0	2.32	-7.38	-5.06	10.0	-15.06
	5210	42	ax (80MHz)	484T	MCS0	-1.90	-7.68	-9.58	10.0	-19.58

Table 7-94. Bands 1 e.i.r.p Conducted Power Spectral Density Measurements (ISED 484 Tones)

FCC ID: A3LSMG9700	MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset	Page 247 of 519

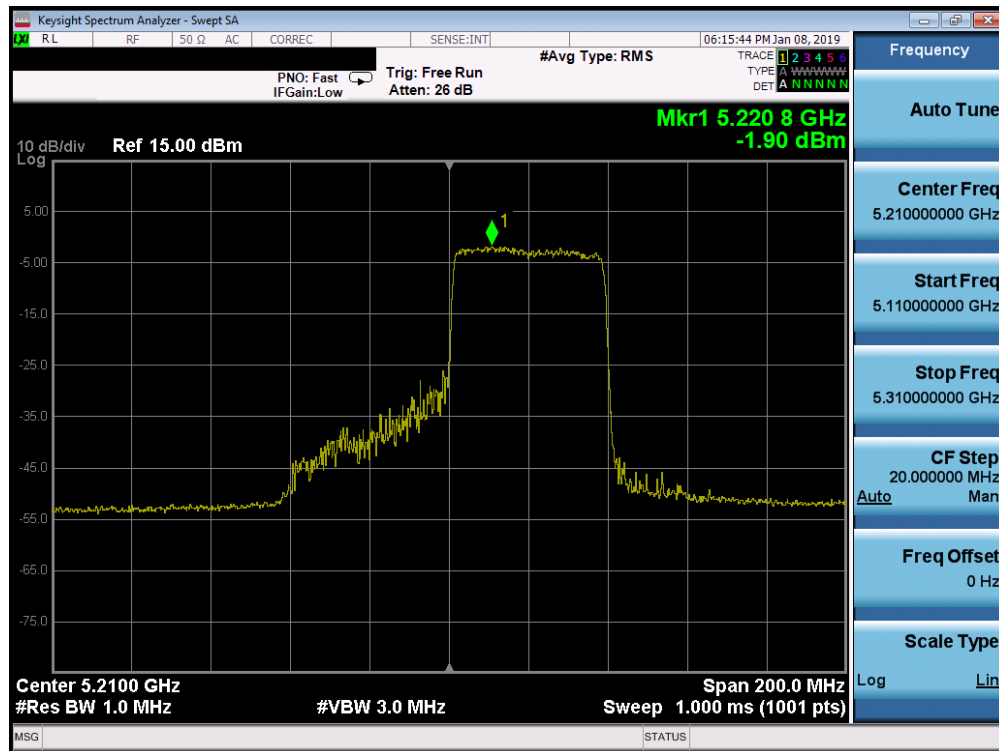


Plot 7-346. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 1) – Ch. 38)

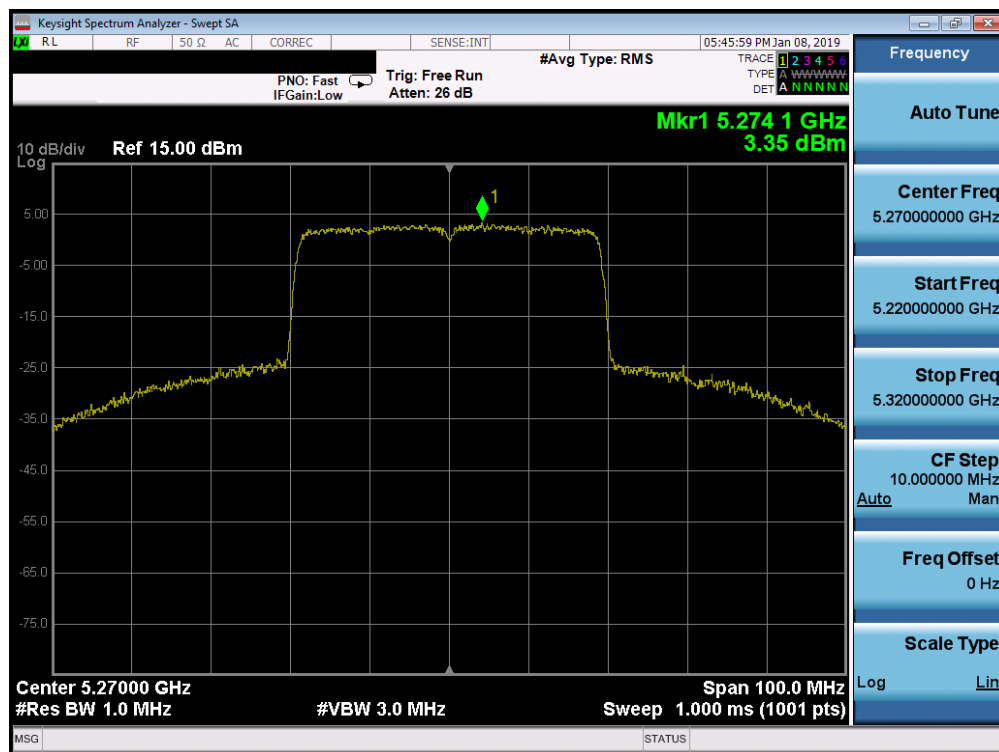


Plot 7-347. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 1) – Ch. 46)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 248 of 519

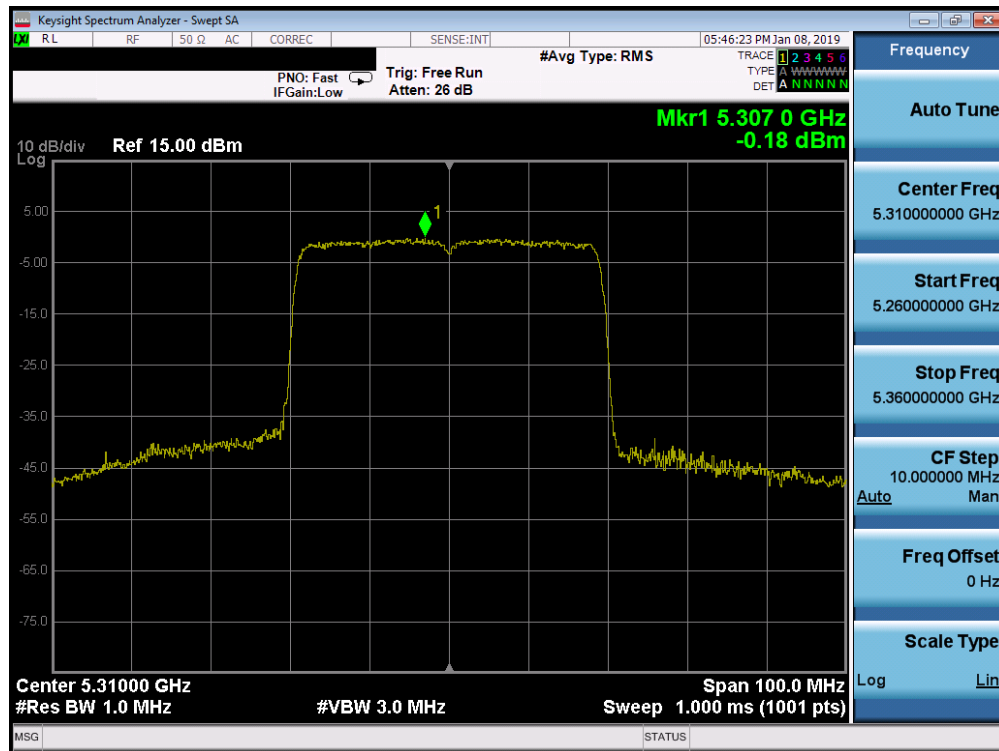


Plot 7-348. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 484 Tones (UNII Band 1) – Ch. 42)

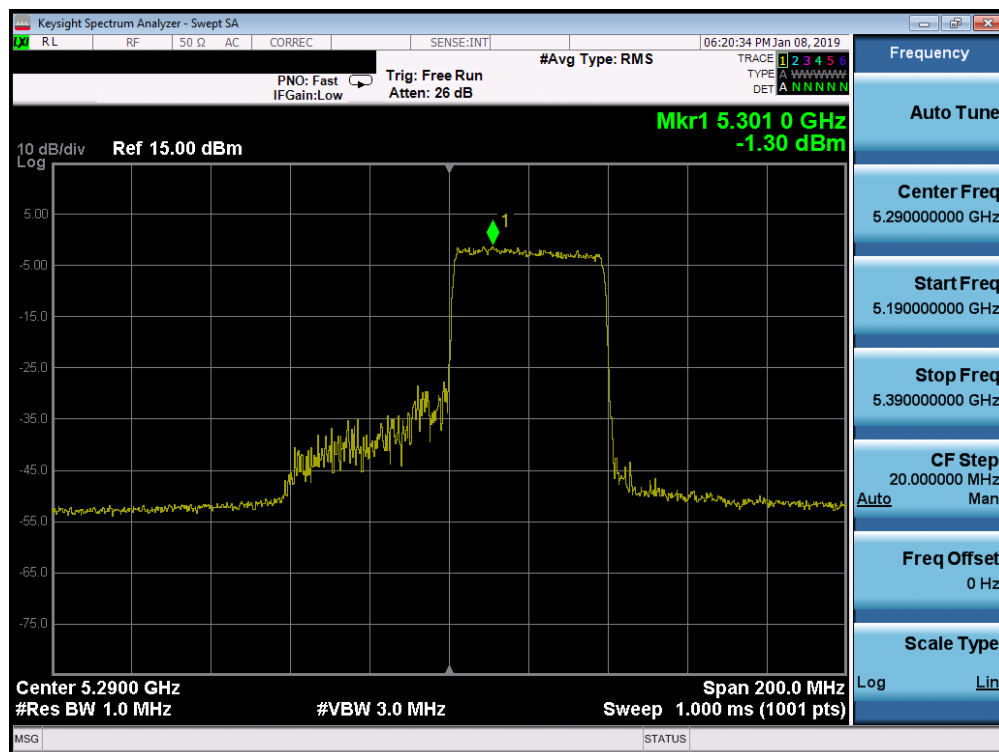


Plot 7-349. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 249 of 519

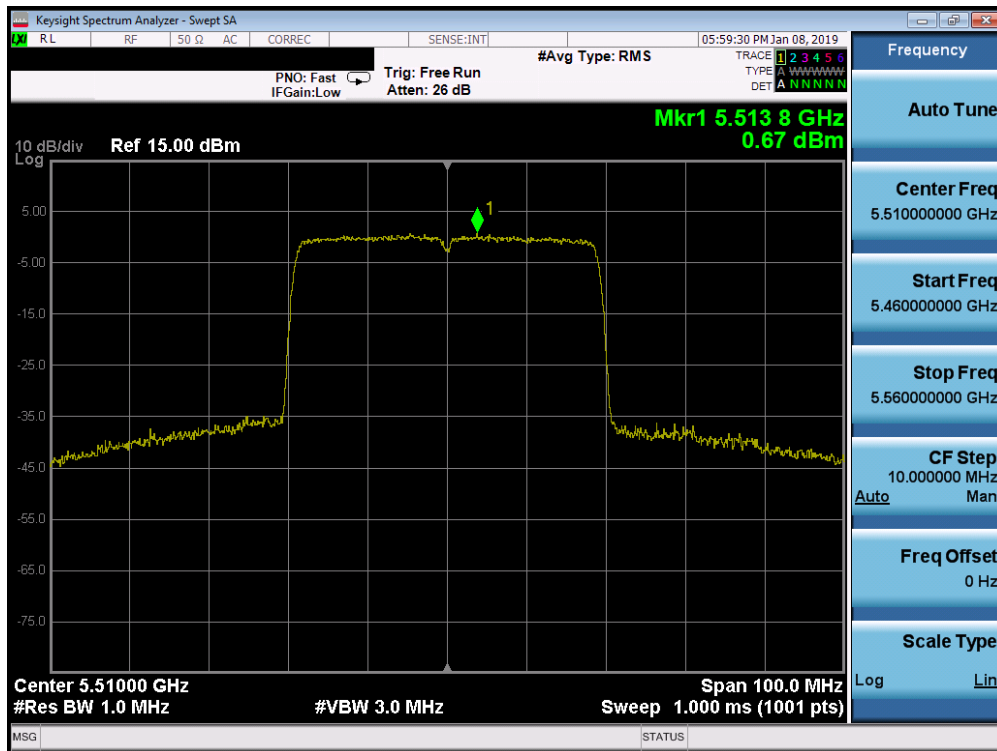


Plot 7-350. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2A) – Ch. 62)

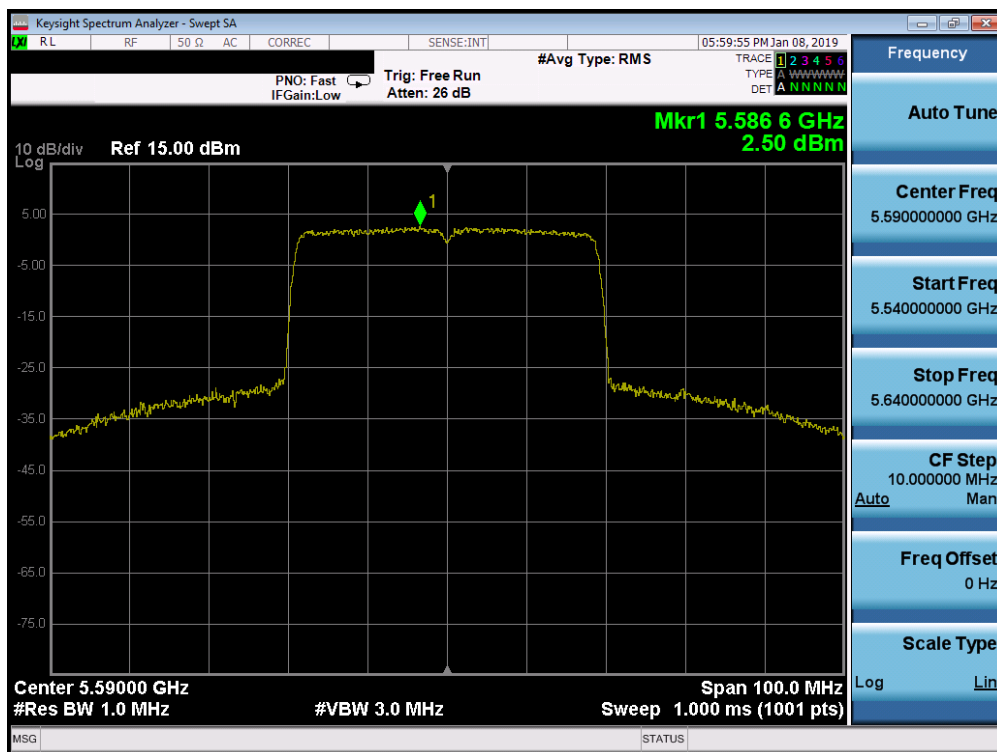


Plot 7-351. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 484 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 250 of 519

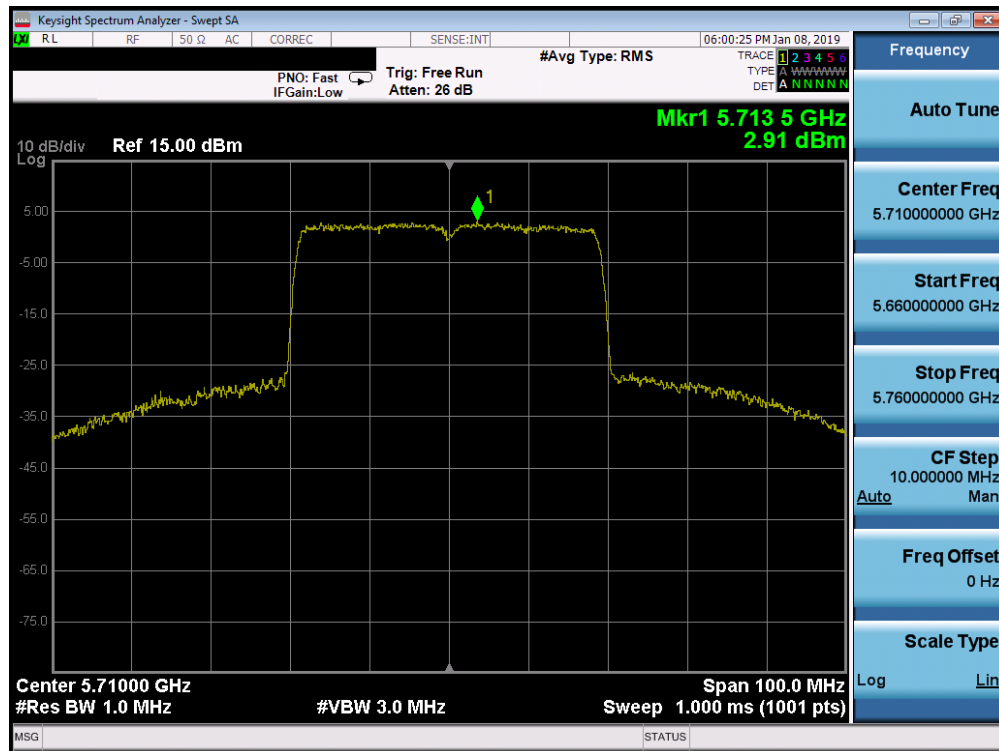


Plot 7-352. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 102)

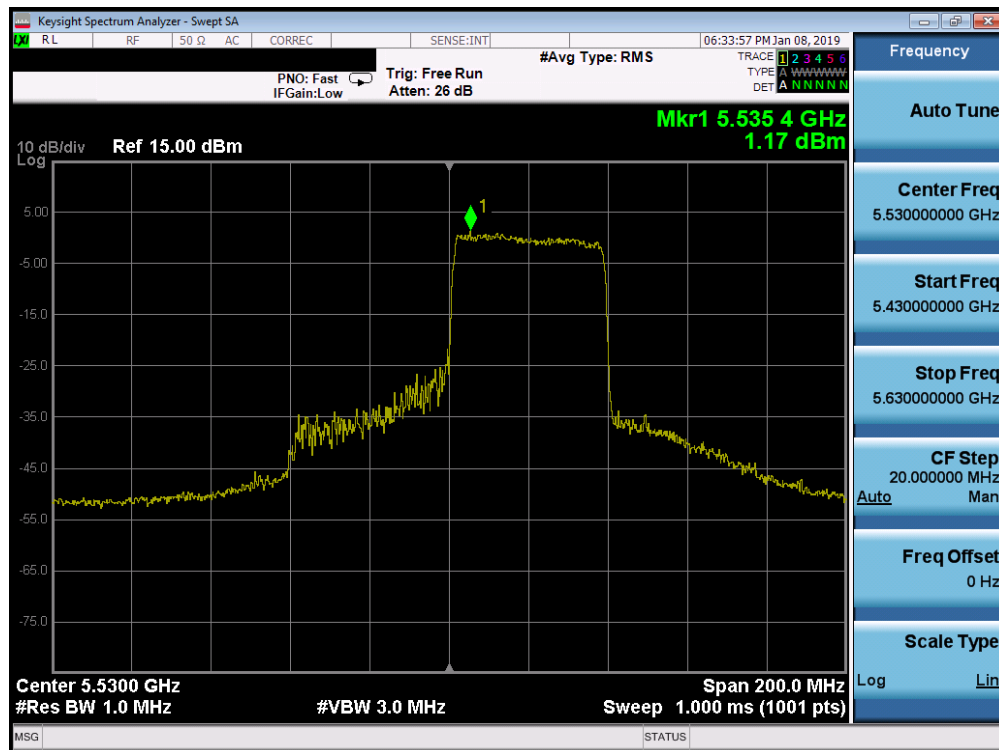


Plot 7-353. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 118)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 251 of 519

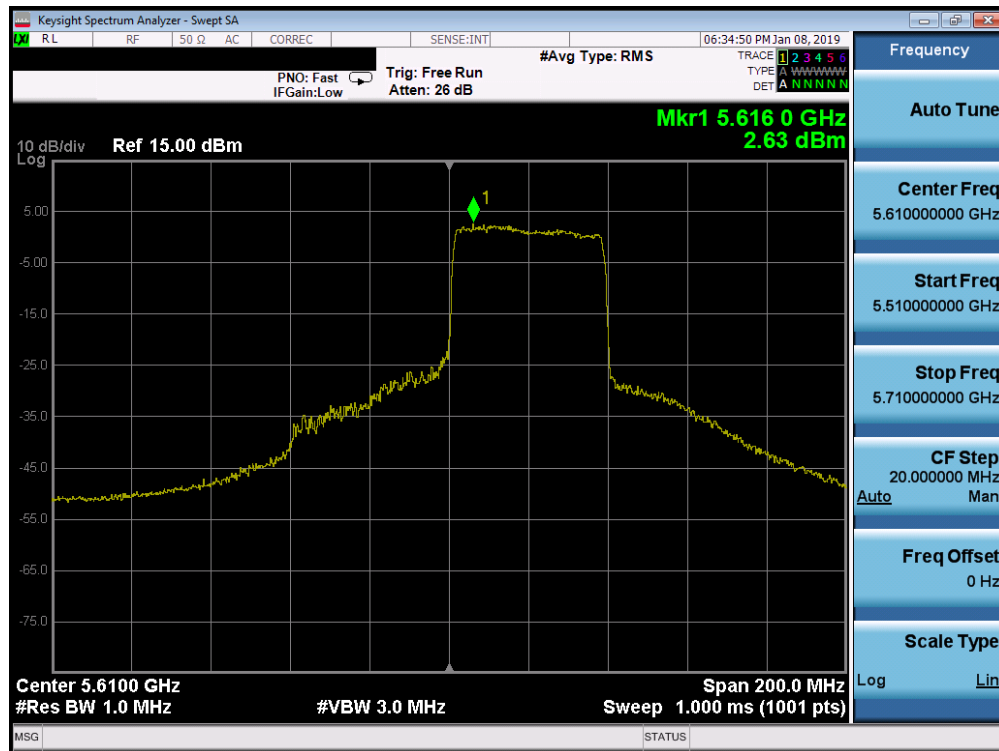


Plot 7-354. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 142)

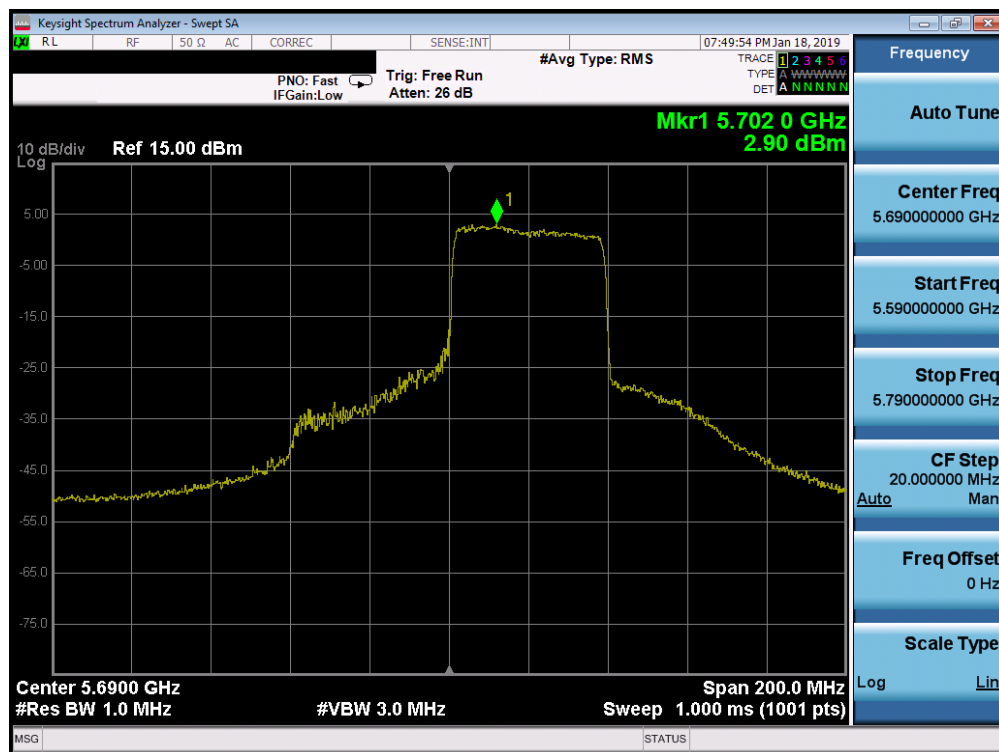


Plot 7-355. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 252 of 519



Plot 7-356. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 122)

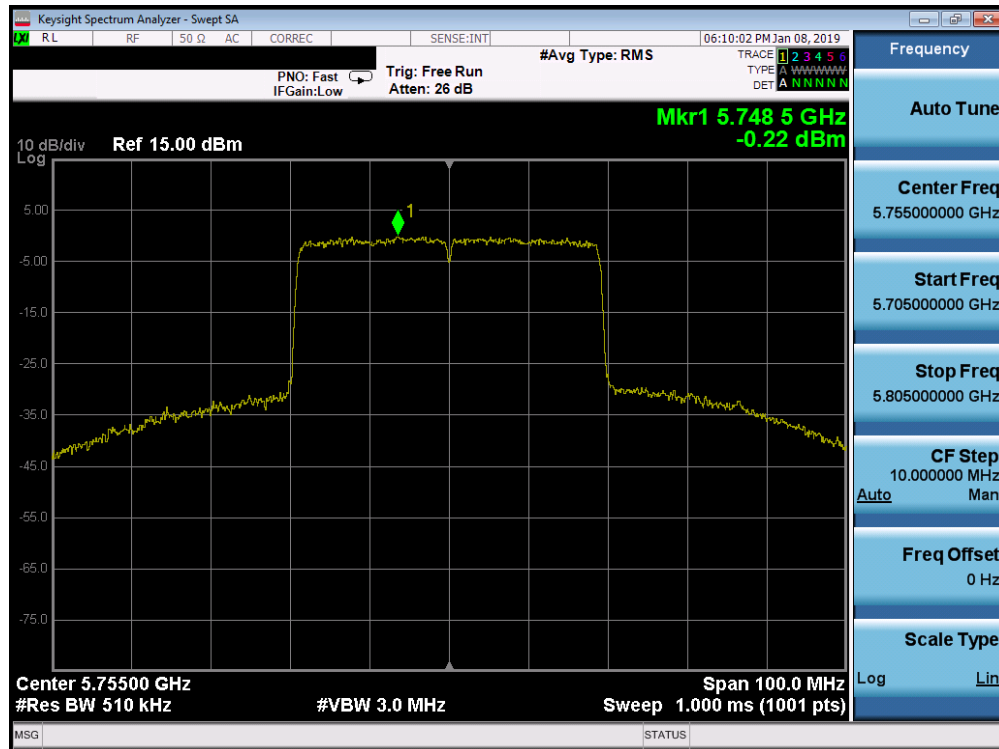


Plot 7-357. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 253 of 519

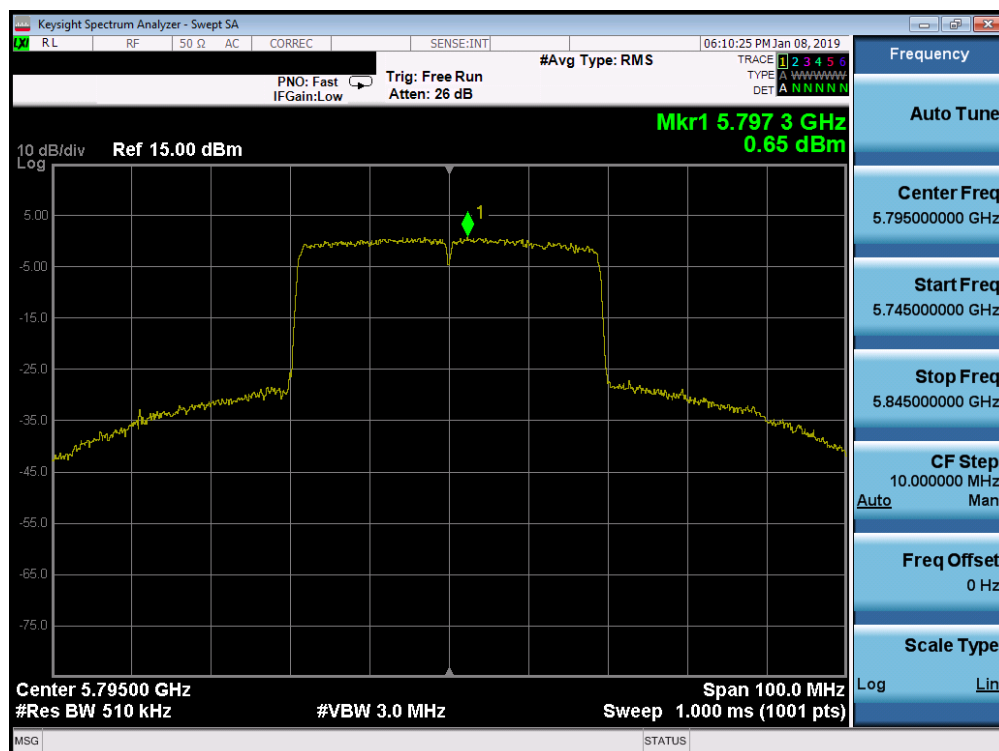
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5755	151	ax (40MHz)	484T	MCS0	-0.22	30.00	-30.22
	5795	159	ax (40MHz)	484T	MCS0	0.65	30.00	-29.35
	5775	155	ax (80MHz)	484T	MCS0	2.88	30.00	-27.12

Table 7-95. Band 3 Conducted Power Spectral Density Measurements SISO ANT2 (484 Tones)

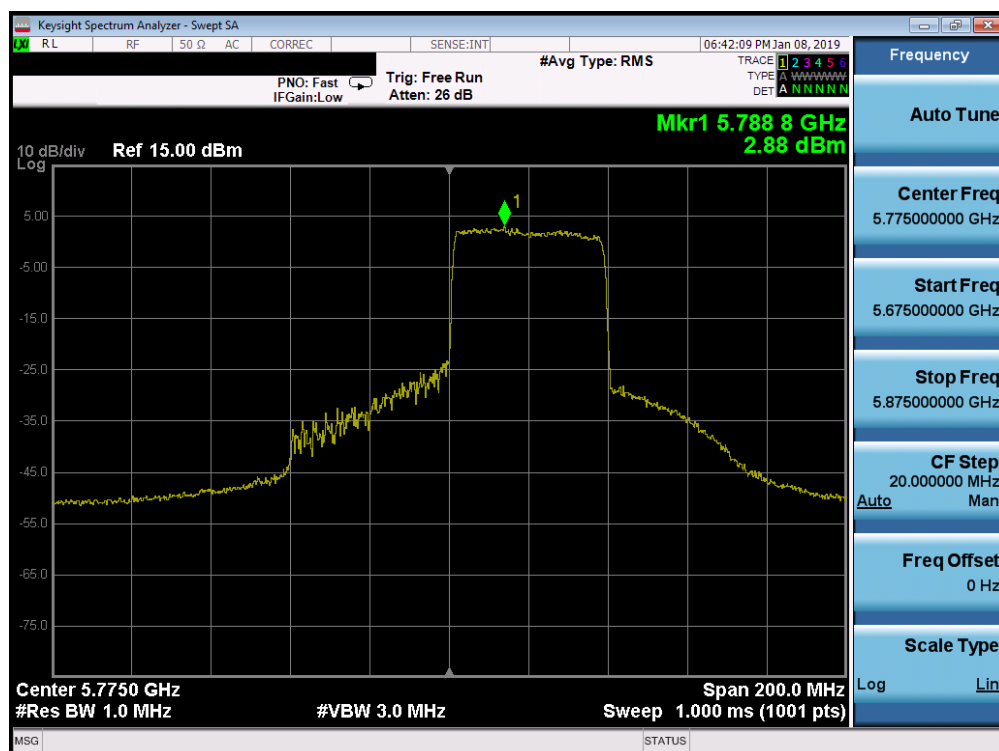


Plot 7-358. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 254 of 519



Plot 7-359. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 159)



Plot 7-360. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 255 of 519

SISO Antenna-2 Power Spectral Density Measurements (996 Tones)

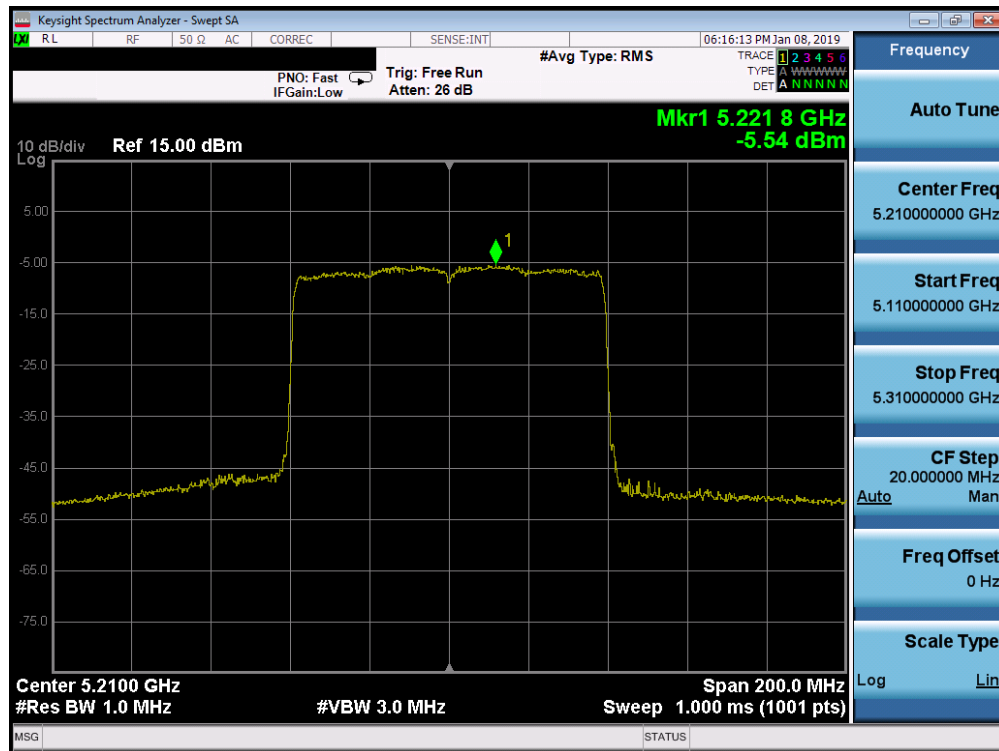
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5210	42	ax (80MHz)	996T	MCS0	-5.54	11.00	-16.54
Band 2A	5290	58	ax (80MHz)	996T	MCS0	-4.67	11.00	-15.67
Band 2C	5530	106	ax (80MHz)	996T	MCS0	-1.84	11.00	-12.84
	5610	122	ax (80MHz)	996T	MCS0	-1.10	11.00	-12.10
	5690	138	ax (80MHz)	996T	MCS0	-0.93	11.00	-11.93

Table 7-96. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements SISO ANT2 (996 Tones)

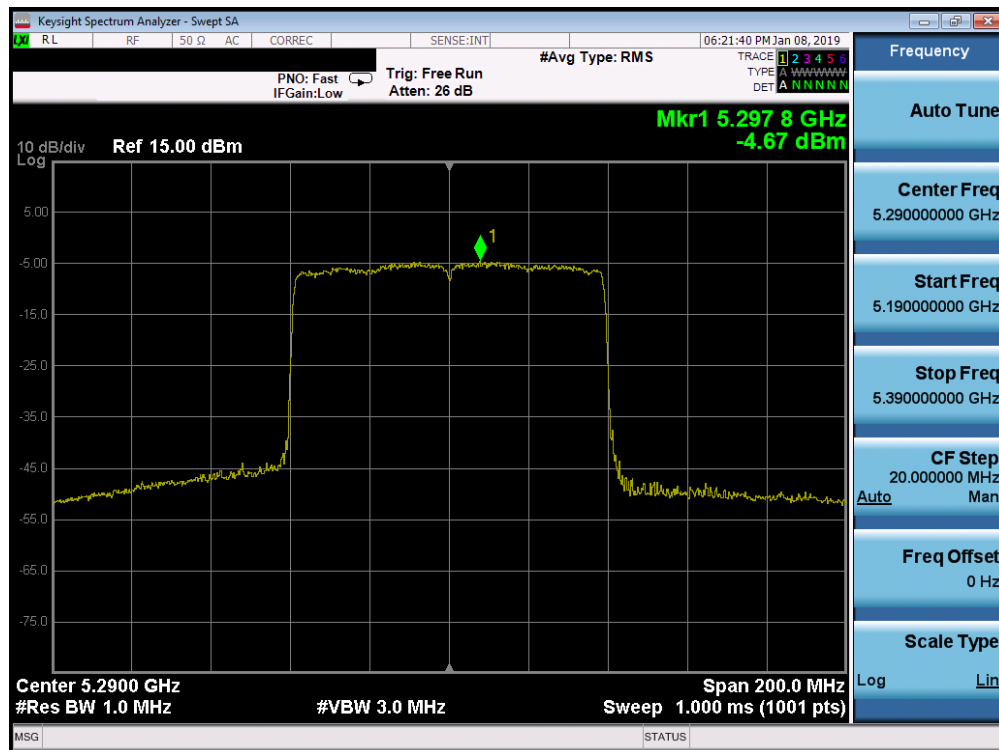
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5210	42	ax (80MHz)	996T	MCS0	-5.54	-7.68	-13.22	10.0	-23.22

Table 7-97. Bands 1 e.i.r.p Conducted Power Spectral Density Measurements (ISED 996 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 256 of 519

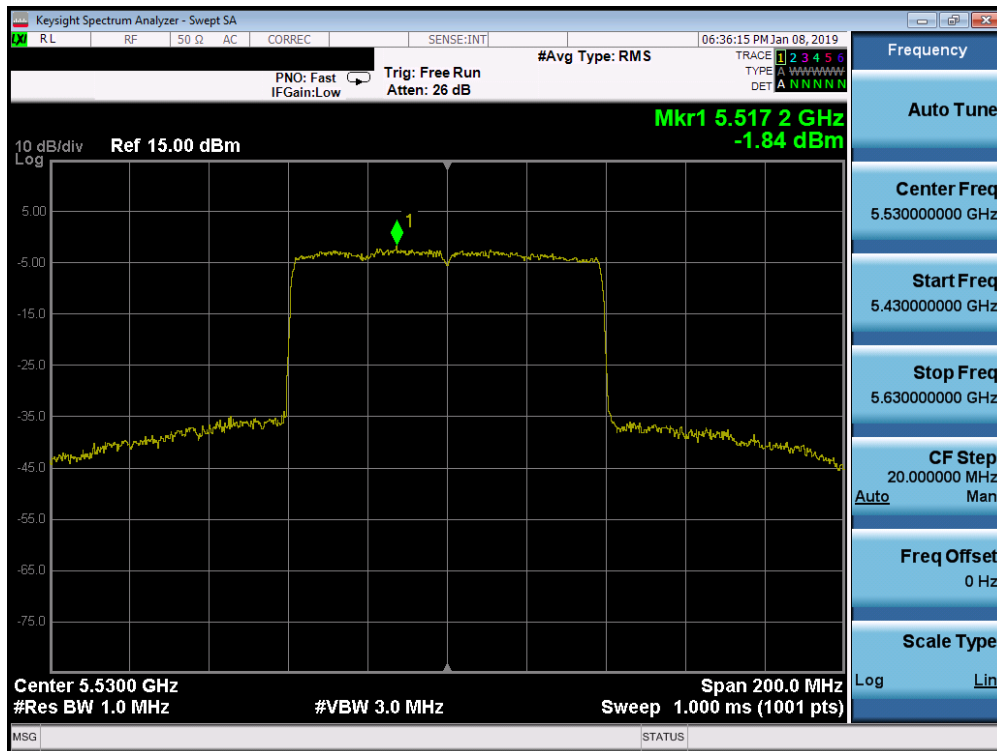


Plot 7-361. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 1) – Ch. 42)

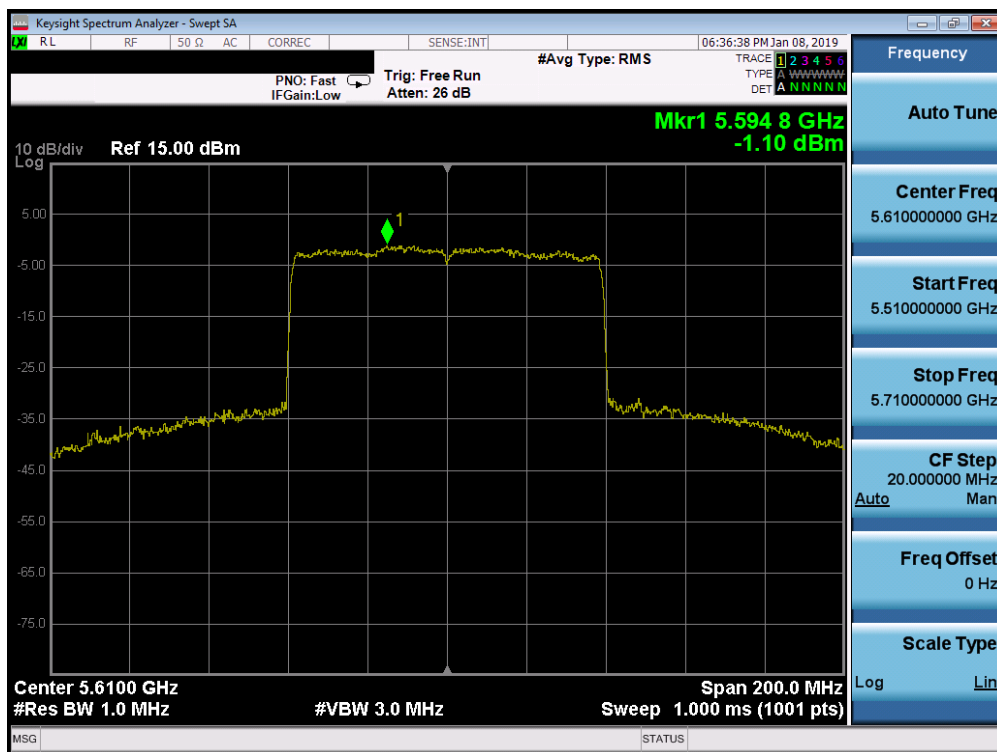


Plot 7-362. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 257 of 519

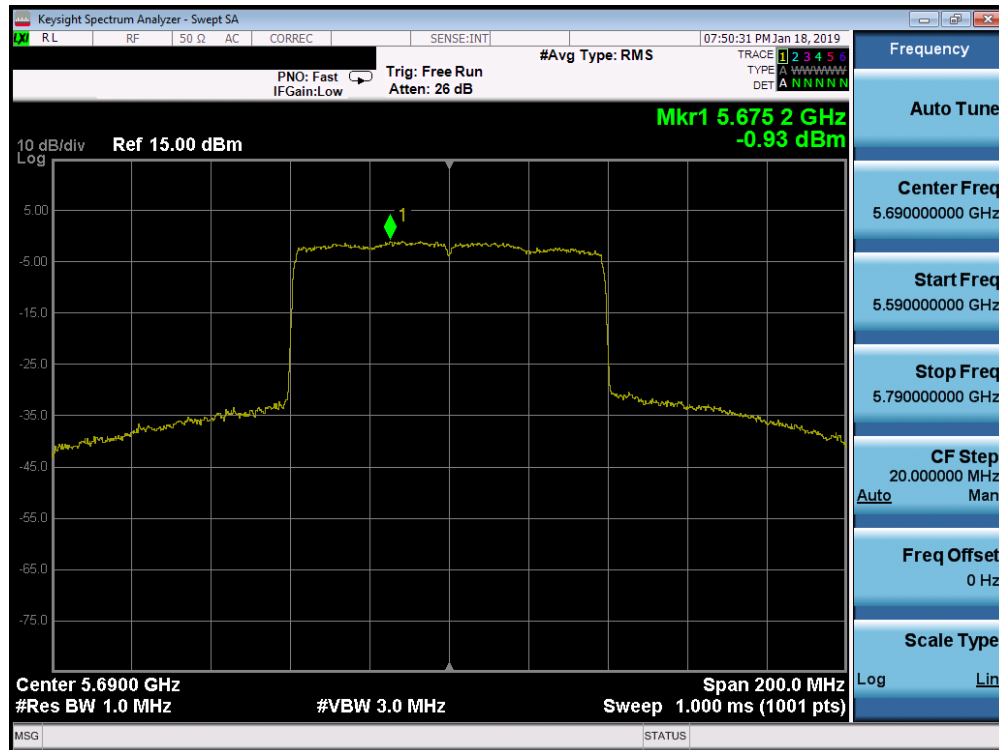


Plot 7-363. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 106)



Plot 7-364. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 258 of 519

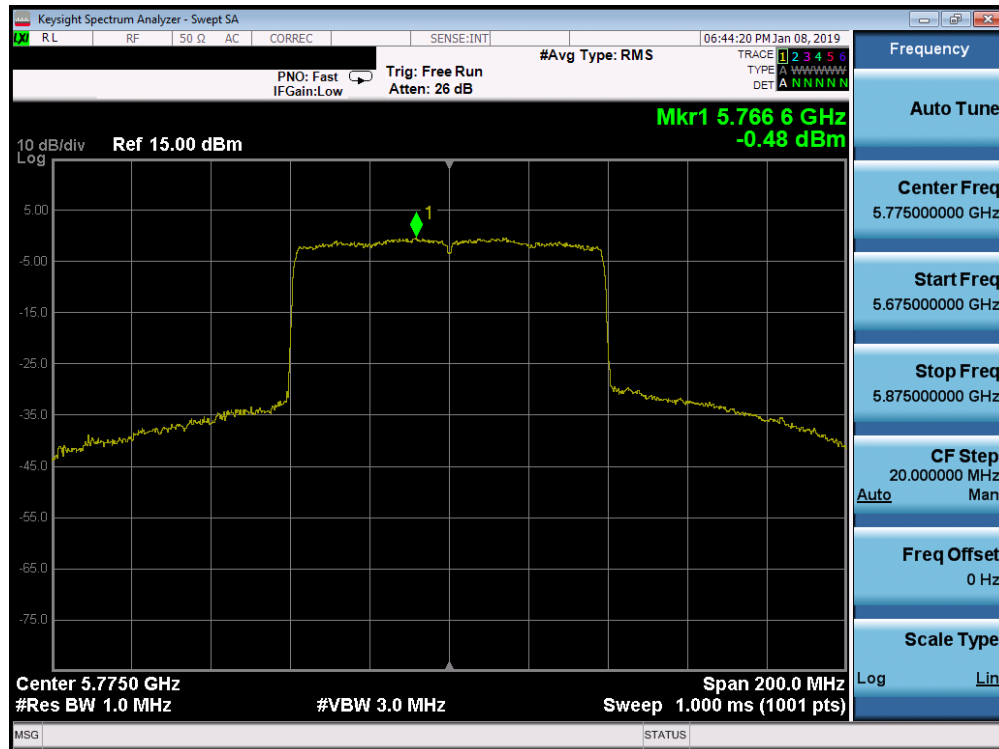


Plot 7-365. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 259 of 519

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5775	155	ax (80MHz)	996T	MCS0	-0.48	30.00	-30.48

Table 7-98. Band 3 Conducted Power Spectral Density Measurements SISO ANT2 (996 Tones)



Plot 7-366. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 260 of 519

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]
Band 1	5180	36	ax (20MHz)	26T	MCS0	5.88	6.27	9.09	11.00	-1.91
	5200	40	ax (20MHz)	26T	MCS0	5.63	6.37	9.03	11.00	-1.97
	5240	48	ax (20MHz)	26T	MCS0	4.66	5.30	8.00	11.00	-3.00
	5190	38	ax (40MHz)	26T	MCS0	5.70	6.23	8.98	11.00	-2.02
	5230	46	ax (40MHz)	26T	MCS0	6.11	5.85	8.99	11.00	-2.01
	5210	42	ax (80MHz)	26T	MCS0	5.45	5.79	8.63	11.00	-2.37
Band 2A	5260	52	ax (20MHz)	26T	MCS0	5.71	6.08	8.91	11.00	-2.09
	5280	56	ax (20MHz)	26T	MCS0	5.85	6.17	9.02	11.00	-1.98
	5320	64	ax (20MHz)	26T	MCS0	5.31	5.83	8.59	11.00	-2.41
	5270	54	ax (40MHz)	26T	MCS0	5.29	5.63	8.47	11.00	-2.53
	5310	62	ax (40MHz)	26T	MCS0	5.40	5.77	8.60	11.00	-2.40
	5290	58	ax (80MHz)	26T	MCS0	5.67	5.90	8.80	11.00	-2.20
Band 2C	5500	100	ax (20MHz)	26T	MCS0	4.85	4.97	7.92	11.00	-3.08
	5600	120	ax (20MHz)	26T	MCS0	5.21	4.96	8.10	11.00	-2.90
	5720	144	ax (20MHz)	26T	MCS0	5.69	6.03	8.87	11.00	-2.13
	5510	102	ax (40MHz)	26T	MCS0	5.72	5.25	8.50	11.00	-2.50
	5590	118	ax (40MHz)	26T	MCS0	6.16	6.08	9.13	11.00	-1.87
	5710	142	ax (40MHz)	26T	MCS0	5.93	5.96	8.96	11.00	-2.04
	5530	106	ax (80MHz)	26T	MCS0	5.54	5.44	8.50	11.00	-2.50
	5610	122	ax (80MHz)	26T	MCS0	5.57	5.51	8.55	11.00	-2.45
	5690	138	ax (80MHz)	26T	MCS0	5.24	5.73	8.50	11.00	-2.50

Table 7-99. Bands 1, 2A, 2C 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]	Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	26T	MCS0	5.88	6.27	9.09	-5.12	3.97	10.0	-6.03
	5200	40	ax (20MHz)	26T	MCS0	5.63	6.37	9.03	-5.12	3.91	10.0	-6.09
	5240	48	ax (20MHz)	26T	MCS0	4.66	5.30	8.00	-4.51	3.49	10.0	-6.51
	5190	38	ax (40MHz)	26T	MCS0	5.70	6.23	8.98	-5.12	3.86	10.0	-6.14
	5230	46	ax (40MHz)	26T	MCS0	6.11	5.85	8.99	-4.51	4.48	10.0	-5.52
	5210	42	ax (80MHz)	26T	MCS0	5.45	5.79	8.63	-4.66	3.97	10.0	-6.03

Table 7-100. Bands 1 e.i.r.p Conducted Power Spectral Density Measurements (ISED 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 [dBm/500kHz]	Margin [dB]
Band 3	5745	149	ax (20MHz)	26T	MCS0	2.72	3.83	6.32	30.00	-23.68
	5785	157	ax (20MHz)	26T	MCS0	2.84	3.91	6.42	30.00	-23.58
	5825	165	ax (20MHz)	26T	MCS0	2.36	3.20	5.81	30.00	-24.19
	5755	151	ax (40MHz)	26T	MCS0	2.59	3.98	6.35	30.00	-23.65
	5795	159	ax (40MHz)	26T	MCS0	3.34	3.71	6.54	30.00	-23.46
	5775	155	ax (80MHz)	26T	MCS0	4.32	5.22	7.80	30.00	-22.20

Table 7-101. Bands 3 Conducted Power Spectral Density Measurements MIMO (26 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 261 of 519

MIMO Power Spectral Density Measurements (52 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]
Band 1	5180	36	ax (20MHz)	52T	MCS0	4.87	5.17	8.03	11.00	-2.97
	5200	40	ax (20MHz)	52T	MCS0	4.93	5.29	8.12	11.00	-2.88
	5240	48	ax (20MHz)	52T	MCS0	5.13	5.45	8.30	11.00	-2.70
	5190	38	ax (40MHz)	52T	MCS0	4.82	5.52	8.19	11.00	-2.81
	5230	46	ax (40MHz)	52T	MCS0	4.75	5.16	7.97	11.00	-3.03
	5210	42	ax (80MHz)	52T	MCS0	5.24	5.53	8.40	11.00	-2.60
Band 2A	5260	52	ax (20MHz)	52T	MCS0	4.64	5.30	7.99	11.00	-3.01
	5280	56	ax (20MHz)	52T	MCS0	4.75	5.21	8.00	11.00	-3.00
	5320	64	ax (20MHz)	52T	MCS0	4.89	5.16	8.04	11.00	-2.96
	5270	54	ax (40MHz)	52T	MCS0	4.63	5.32	8.00	11.00	-3.00
	5310	62	ax (40MHz)	52T	MCS0	5.00	5.63	8.34	11.00	-2.66
	5290	58	ax (80MHz)	52T	MCS0	4.69	5.25	7.99	11.00	-3.01
Band 2C	5500	100	ax (20MHz)	52T	MCS0	4.97	5.26	8.13	11.00	-2.87
	5600	120	ax (20MHz)	52T	MCS0	5.13	5.18	8.17	11.00	-2.83
	5720	144	ax (20MHz)	52T	MCS0	4.49	5.04	7.78	11.00	-3.22
	5510	102	ax (40MHz)	52T	MCS0	4.39	5.04	7.74	11.00	-3.26
	5590	118	ax (40MHz)	52T	MCS0	4.60	5.08	7.86	11.00	-3.14
	5710	142	ax (40MHz)	52T	MCS0	4.98	5.06	8.03	11.00	-2.97
	5530	106	ax (80MHz)	52T	MCS0	3.93	4.43	7.20	11.00	-3.80
	5610	122	ax (80MHz)	52T	MCS0	4.08	4.57	7.34	11.00	-3.66
	5690	138	ax (80MHz)	52T	MCS0	4.35	4.51	7.44	11.00	-3.56

Table 7-102. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements MIMO (52 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]	Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	52T	MCS0	4.87	5.17	8.03	-5.12	2.91	10.0	-7.09
	5200	40	ax (20MHz)	52T	MCS0	4.93	5.29	8.12	-5.12	3.00	10.0	-7.00
	5240	48	ax (20MHz)	52T	MCS0	5.13	5.45	8.30	-4.51	3.79	10.0	-6.21
	5190	38	ax (40MHz)	52T	MCS0	4.82	5.52	8.19	-5.12	3.07	10.0	-6.93
	5230	46	ax (40MHz)	52T	MCS0	4.75	5.16	7.97	-4.51	3.46	10.0	-6.54
	5210	42	ax (80MHz)	52T	MCS0	5.24	5.53	8.40	-4.66	3.74	10.0	-6.26

Table 7-103. Bands 1 e.i.r.p. Conducted Power Spectral Density Measurements (ISED 52 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 [dBm/500kHz]	Margin [dB]
Band 3	5745	149	ax (20MHz)	52T	MCS0	1.40	2.55	5.02	30.00	-24.98
	5785	157	ax (20MHz)	52T	MCS0	1.90	3.11	5.56	30.00	-24.44
	5825	165	ax (20MHz)	52T	MCS0	1.39	3.01	5.29	30.00	-24.71
	5755	151	ax (40MHz)	52T	MCS0	1.61	3.22	5.50	30.00	-24.50
	5795	159	ax (40MHz)	52T	MCS0	1.63	2.99	5.37	30.00	-24.63
	5775	155	ax (80MHz)	52T	MCS0	4.54	5.74	8.19	30.00	-21.81

Table 7-104. Bands 3 Conducted Power Spectral Density Measurements MIMO (52 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 262 of 519

MIMO Power Spectral Density Measurements (106 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]
Band 1	5180	36	ax (20MHz)	106T	MCS0	3.96	4.00	6.99	11.00	-4.01
	5200	40	ax (20MHz)	106T	MCS0	3.86	4.31	7.10	11.00	-3.90
	5240	48	ax (20MHz)	106T	MCS0	4.13	4.14	7.15	11.00	-3.85
	5190	38	ax (40MHz)	106T	MCS0	3.45	4.03	6.76	11.00	-4.24
	5230	46	ax (40MHz)	106T	MCS0	3.95	4.24	7.11	11.00	-3.89
	5210	42	ax (80MHz)	106T	MCS0	3.50	4.12	6.83	11.00	-4.17
Band 2A	5260	52	ax (20MHz)	106T	MCS0	3.96	4.05	7.02	11.00	-3.98
	5280	56	ax (20MHz)	106T	MCS0	3.98	3.89	6.95	11.00	-4.05
	5320	64	ax (20MHz)	106T	MCS0	3.43	4.04	6.76	11.00	-4.24
	5270	54	ax (40MHz)	106T	MCS0	3.41	4.08	6.77	11.00	-4.23
	5310	62	ax (40MHz)	106T	MCS0	3.40	4.38	6.93	11.00	-4.07
	5290	58	ax (80MHz)	106T	MCS0	3.93	4.32	7.14	11.00	-3.86
Band 2C	5500	100	ax (20MHz)	106T	MCS0	3.88	4.19	7.05	11.00	-3.95
	5600	120	ax (20MHz)	106T	MCS0	3.99	4.10	7.06	11.00	-3.94
	5720	144	ax (20MHz)	106T	MCS0	3.91	4.21	7.07	11.00	-3.93
	5510	102	ax (40MHz)	106T	MCS0	1.85	4.13	6.15	11.00	-4.85
	5590	118	ax (40MHz)	106T	MCS0	3.75	4.31	7.05	11.00	-3.95
	5710	142	ax (40MHz)	106T	MCS0	4.07	4.48	7.29	11.00	-3.71
	5530	106	ax (80MHz)	106T	MCS0	3.10	3.85	6.50	11.00	-4.50
	5610	122	ax (80MHz)	106T	MCS0	2.87	3.41	6.16	11.00	-4.84
	5690	138	ax (80MHz)	106T	MCS0	3.13	4.02	6.61	11.00	-4.39

Table 7-105. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements MIMO (106 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]	Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	106T	MCS0	3.96	4.00	6.99	-5.12	1.87	10.0	-8.13
	5200	40	ax (20MHz)	106T	MCS0	3.86	4.31	7.10	-5.12	1.98	10.0	-8.02
	5240	48	ax (20MHz)	106T	MCS0	4.13	4.14	7.15	-4.51	2.64	10.0	-7.36
	5190	38	ax (40MHz)	106T	MCS0	3.45	4.03	6.76	-5.12	1.64	10.0	-8.36
	5230	46	ax (40MHz)	106T	MCS0	3.95	4.24	7.11	-4.51	2.60	10.0	-7.40
	5210	42	ax (80MHz)	106T	MCS0	3.50	4.12	6.83	-4.66	2.17	10.0	-7.83

Table 7-106. Bands 1 e.i.r.p Conducted Power Spectral Density Measurements (ISED 106 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 [dBm/500kHz]	Margin [dB]
Band 3	5745	149	ax (20MHz)	106T	MCS0	0.41	1.53	4.02	30.00	-25.98
	5785	157	ax (20MHz)	106T	MCS0	0.83	1.58	4.23	30.00	-25.77
	5825	165	ax (20MHz)	106T	MCS0	0.43	1.38	3.94	30.00	-26.06
	5755	151	ax (40MHz)	106T	MCS0	0.98	1.50	4.26	30.00	-25.74
	5795	159	ax (40MHz)	106T	MCS0	0.62	2.10	4.43	30.00	-25.57
	5775	155	ax (80MHz)	106T	MCS0	3.42	5.01	7.30	30.00	-22.70

Table 7-107. Bands 3 Conducted Power Spectral Density Measurements MIMO (106 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset	Page 263 of 519	

MIMO Power Spectral Density Measurements (242 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]
Band 1	5180	36	ax (20MHz)	242T	MCS0	0.58	0.46	3.53	11.00	-7.47
	5200	40	ax (20MHz)	242T	MCS0	2.92	3.14	6.04	11.00	-4.96
	5240	48	ax (20MHz)	242T	MCS0	3.23	3.36	6.31	11.00	-4.69
	5190	38	ax (40MHz)	242T	MCS0	-1.61	-0.79	1.83	11.00	-9.17
	5230	46	ax (40MHz)	242T	MCS0	2.42	2.74	5.59	11.00	-5.41
	5210	42	ax (80MHz)	242T	MCS0	-3.04	-2.44	0.28	11.00	-10.72
Band 2A	5260	52	ax (20MHz)	242T	MCS0	2.67	3.17	5.94	11.00	-5.06
	5280	56	ax (20MHz)	242T	MCS0	2.63	3.21	5.94	11.00	-5.06
	5320	64	ax (20MHz)	242T	MCS0	0.93	1.45	4.21	11.00	-6.79
	5270	54	ax (40MHz)	242T	MCS0	2.30	3.14	5.75	11.00	-5.25
	5310	62	ax (40MHz)	242T	MCS0	-0.92	0.22	2.70	11.00	-8.30
	5290	58	ax (80MHz)	242T	MCS0	-2.63	-2.04	0.69	11.00	-10.31
Band 2C	5500	100	ax (20MHz)	242T	MCS0	3.03	3.54	6.30	11.00	-4.70
	5600	120	ax (20MHz)	242T	MCS0	3.20	3.55	6.39	11.00	-4.61
	5720	144	ax (20MHz)	242T	MCS0	3.21	3.52	6.38	11.00	-4.62
	5510	102	ax (40MHz)	242T	MCS0	-0.25	0.66	3.24	11.00	-7.76
	5590	118	ax (40MHz)	242T	MCS0	2.32	2.78	5.57	11.00	-5.43
	5710	142	ax (40MHz)	242T	MCS0	2.62	2.90	5.77	11.00	-5.23
	5530	106	ax (80MHz)	242T	MCS0	-2.86	-1.88	0.67	11.00	-10.33
	5610	122	ax (80MHz)	242T	MCS0	1.40	1.63	4.53	11.00	-6.47
	5690	138	ax (80MHz)	242T	MCS0	0.64	1.55	4.13	11.00	-6.87

Table 7-108. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements MIMO (242 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]	Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	242T	MCS0	0.58	0.46	3.53	-5.12	-1.59	10.0	-11.59
	5200	40	ax (20MHz)	242T	MCS0	2.92	3.14	6.04	-5.12	0.92	10.0	-9.08
	5240	48	ax (20MHz)	242T	MCS0	3.23	3.36	6.31	-4.51	1.80	10.0	-8.20
	5190	38	ax (40MHz)	242T	MCS0	-1.61	-0.79	1.83	-5.12	-3.29	10.0	-13.29
	5230	46	ax (40MHz)	242T	MCS0	2.42	2.74	5.59	-4.51	1.08	10.0	-8.92
	5210	42	ax (80MHz)	242T	MCS0	-3.04	-2.44	0.28	-4.66	-4.38	10.0	-14.38

Table 7-109. Bands 1 e.i.r.p. Conducted Power Spectral Density Measurements (ISED 242 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 [dBm/500kHz]	Margin [dB]
Band 3	5745	149	ax (20MHz)	242T	MCS0	-0.14	0.70	3.31	30.00	-26.69
	5785	157	ax (20MHz)	242T	MCS0	0.10	0.83	3.49	30.00	-26.51
	5825	165	ax (20MHz)	242T	MCS0	-0.32	0.91	3.35	30.00	-26.65
	5755	151	ax (40MHz)	242T	MCS0	-0.28	1.13	3.49	30.00	-26.51
	5795	159	ax (40MHz)	242T	MCS0	-0.22	1.04	3.47	30.00	-26.53
	5775	155	ax (80MHz)	242T	MCS0	1.60	2.54	5.11	30.00	-24.89

Table 7-110. Bands 3 Conducted Power Spectral Density Measurements MIMO (242 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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MIMO Power Spectral Density Measurements (484 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]
Band 1	5190	38	ax (40MHz)	484T	MCS0	-4.73	-4.47	-1.59	11.00	-12.59
	5230	46	ax (40MHz)	484T	MCS0	-0.94	-0.74	2.17	11.00	-8.83
	5210	42	ax (80MHz)	484T	MCS0	-5.80	-5.11	-2.43	11.00	-13.43
Band 2A	5270	54	ax (40MHz)	484T	MCS0	-1.03	-0.20	2.42	11.00	-8.58
	5310	62	ax (40MHz)	484T	MCS0	-4.04	-3.46	-0.73	11.00	-11.73
	5290	58	ax (80MHz)	484T	MCS0	-4.81	-4.59	-1.69	11.00	-12.69
Band 2C	5510	102	ax (40MHz)	484T	MCS0	-0.54	-2.72	1.52	11.00	-9.48
	5590	118	ax (40MHz)	484T	MCS0	-0.46	-0.38	2.59	11.00	-8.41
	5710	142	ax (40MHz)	484T	MCS0	-0.42	-0.40	2.60	11.00	-8.40
	5530	106	ax (80MHz)	484T	MCS0	-5.27	-5.15	-2.20	11.00	-13.20
	5610	122	ax (80MHz)	484T	MCS0	-2.14	-1.67	1.11	11.00	-9.89
	5690	138	ax (80MHz)	484T	MCS0	-2.63	-1.89	0.77	11.00	-10.23

Table 7-111. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements MIMO (484 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]	Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5190	38	ax (40MHz)	484T	MCS0	-4.73	-4.47	-1.59	-5.12	-6.71	10.0	-16.71
	5230	46	ax (40MHz)	484T	MCS0	-0.94	-0.74	2.17	-4.51	-2.34	10.0	-12.34
	5210	42	ax (80MHz)	484T	MCS0	-5.80	-5.11	-2.43	-4.66	-7.09	10.0	-17.09

Table 7-112. Bands 1 e.i.r.p Conducted Power Spectral Density Measurements (ISED 484 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 [dBm/500kHz]	Margin [dB]
Band 3	5755	151	ax (40MHz)	484T	MCS0	-3.47	-2.89	-0.16	30.00	-30.16
	5795	159	ax (40MHz)	484T	MCS0	-3.32	-2.52	0.11	30.00	-29.89
	5775	155	ax (80MHz)	484T	MCS0	-1.84	-0.47	1.91	30.00	-28.09

Table 7-113. Bands 3 Conducted Power Spectral Density Measurements MIMO (484 Tones)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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MIMO Power Spectral Density Measurements (996 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]
Band 1	5210	42	ax (80MHz)	996T	MCS0	-8.88	-8.51	-5.68	11.00	-16.68
Band 2A	5290	58	ax (80MHz)	996T	MCS0	-8.24	-7.38	-4.78	11.00	-15.78
Band 2C	5530	106	ax (80MHz)	996T	MCS0	-9.05	-8.04	-5.51	11.00	-16.51
	5610	122	ax (80MHz)	996T	MCS0	-5.41	-4.32	-1.82	11.00	-12.82
	5690	138	ax (80MHz)	996T	MCS0	-5.56	-4.14	-1.78	11.00	-12.78

Table 7-114. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements MIMO (996 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]	Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5210	42	ax (80MHz)	996T	MCS0	-8.88	-8.51	-5.68	-4.66	-10.34	10.0	-20.34

Table 7-115. Bands 1 e.i.r.p Conducted Power Spectral Density Measurements (ISED 996 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 [dBm/500kHz]	Margin [dB]
Band 3	5775	155	ax (80MHz)	996T	MCS0	-4.96	-3.80	-1.33	30.00	-31.33

Table 7-116. Bands 3 Conducted Power Spectral Density Measurements MIMO (996 Tones)

FCC ID: A3LSMG9700		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 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 Directional Gain Calculation:

Assuming the antenna gain is -8.61 dBi for Antenna-1 and -7.68 dBi for Antenna-2.

$$\begin{aligned} \text{Directional gain} &= 10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{\text{ANT}}] \text{ dBi} \\ &= 10 \log[(10^{-8.61/20} + 10^{-7.68/20} / 2] \text{ dBi} \\ &= (-5.12) \text{ dBi} \end{aligned}$$

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.

$$\text{Antenna 1} + \text{Antenna 2} = \text{MIMO}$$

$$(5.88 \text{ dBm} + 6.27 \text{ dBm}) = (3.87 \text{ mW} + 4.24 \text{ mW}) = 8.11 \text{ mW} = 9.09 \text{ dBm}$$

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

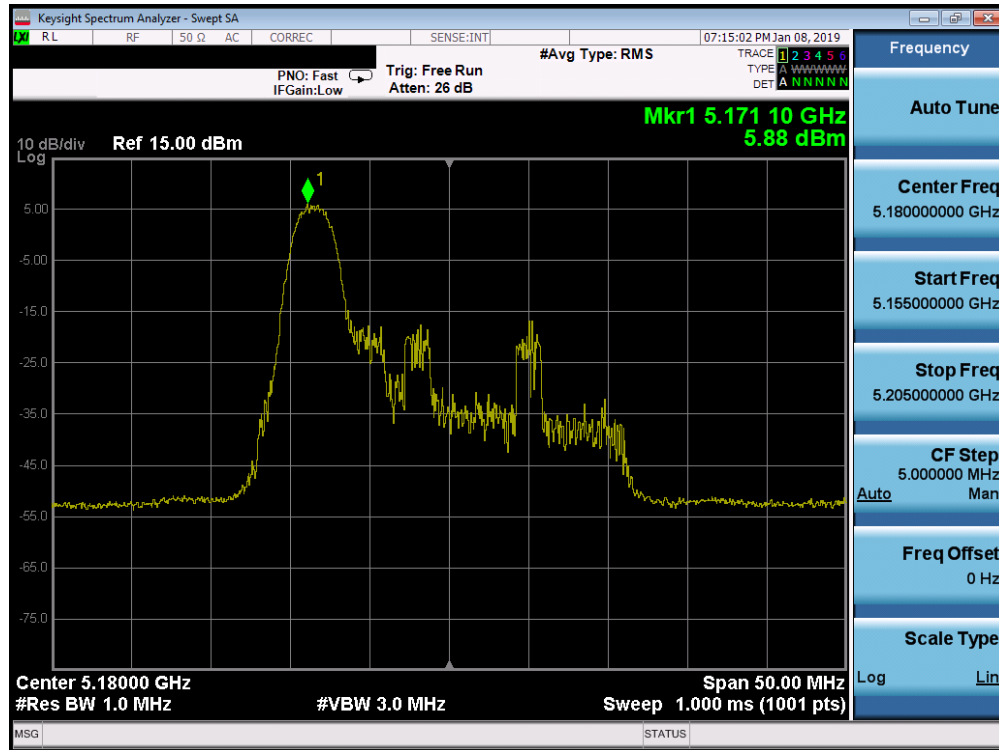
Assuming the average MIMO power density was calculated to be 9.09 dBm with directional gain of -5.12 dBi.

$$\text{e.i.r.p. Power Spectral Density(dBm)} = \text{Power Spectral Density (dBm)} + \text{directional gain (dBi)}$$

$$9.09 \text{ dBm} + (-5.12) \text{ dBi} = 3.97 \text{ dBm}$$

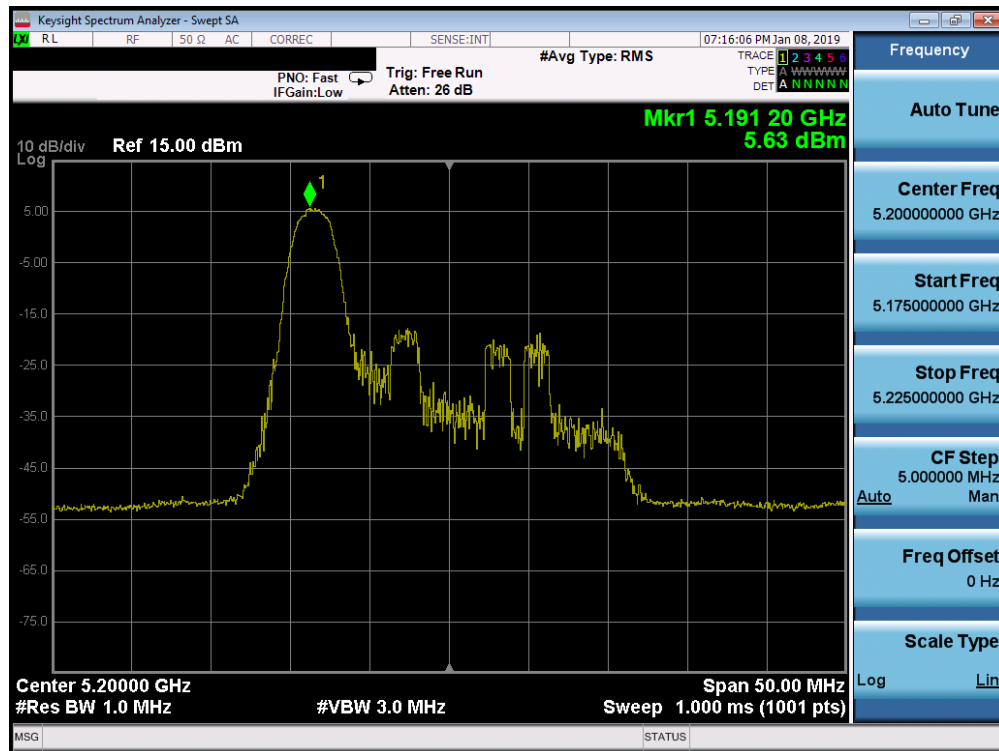
FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset	Page 267 of 519	

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

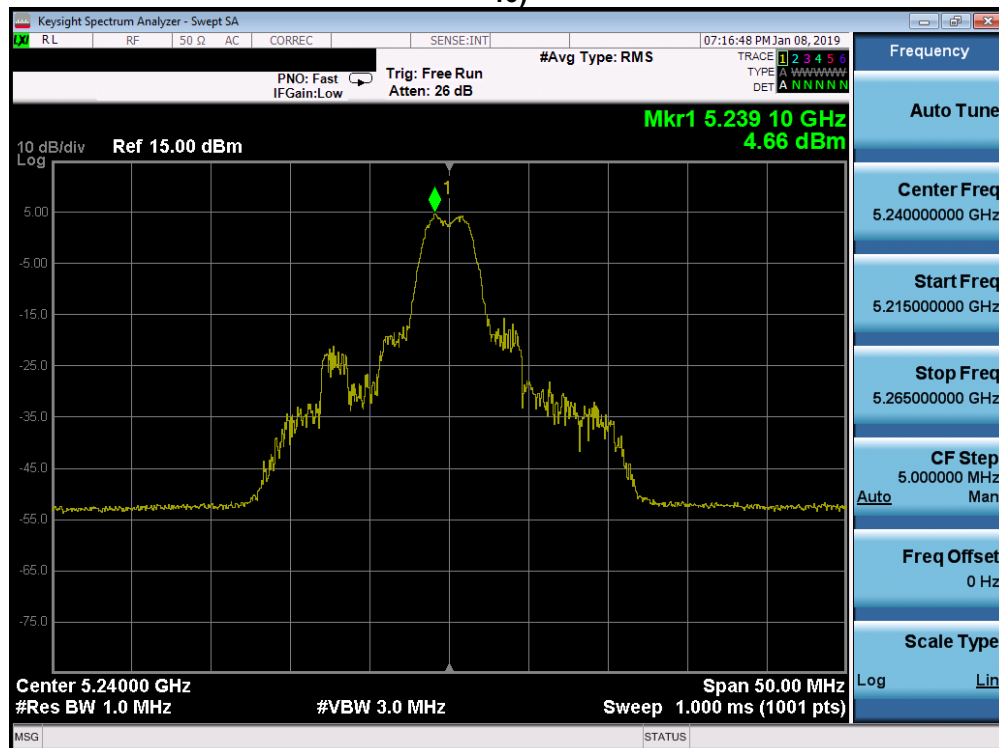


Plot 7-367. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 268 of 519

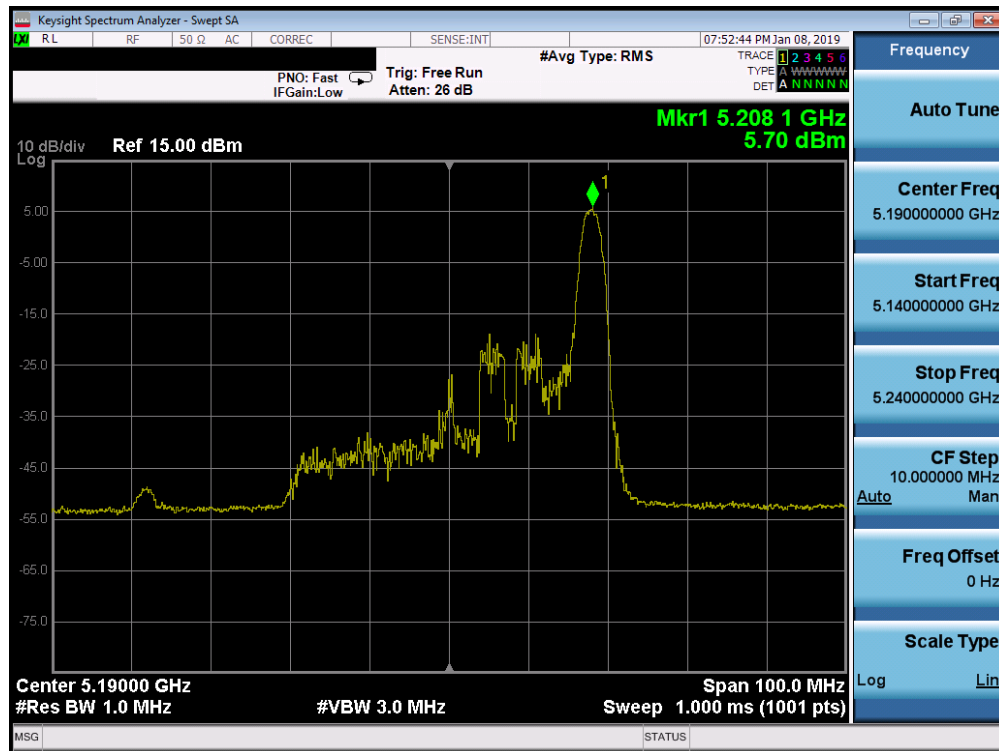


Plot 7-368. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

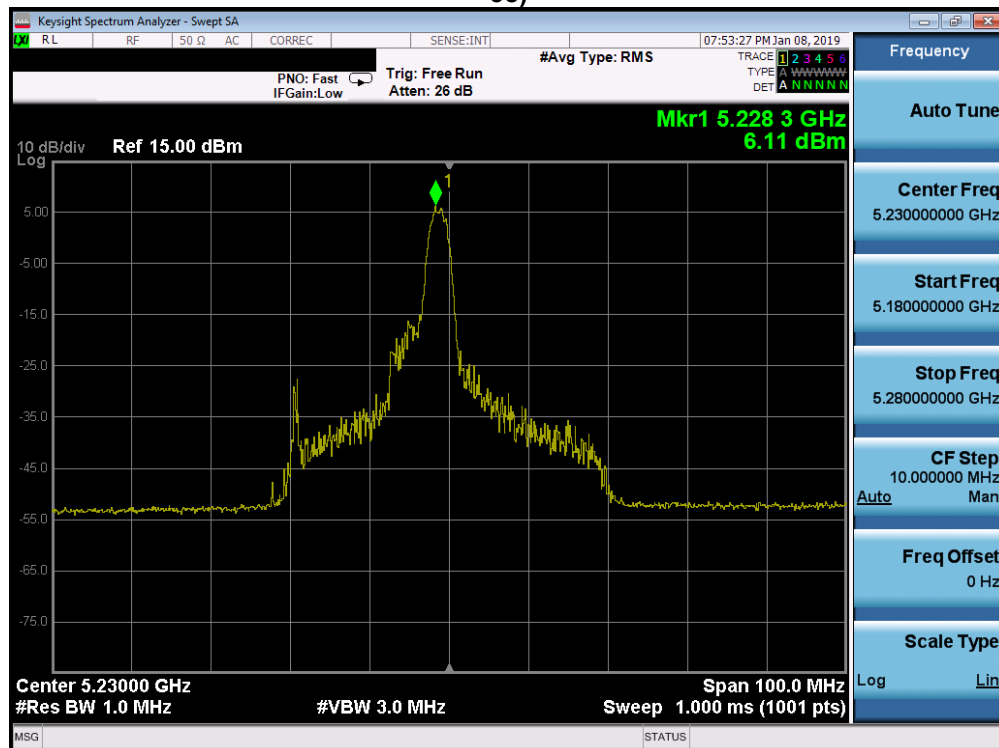


Plot 7-369. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 269 of 519

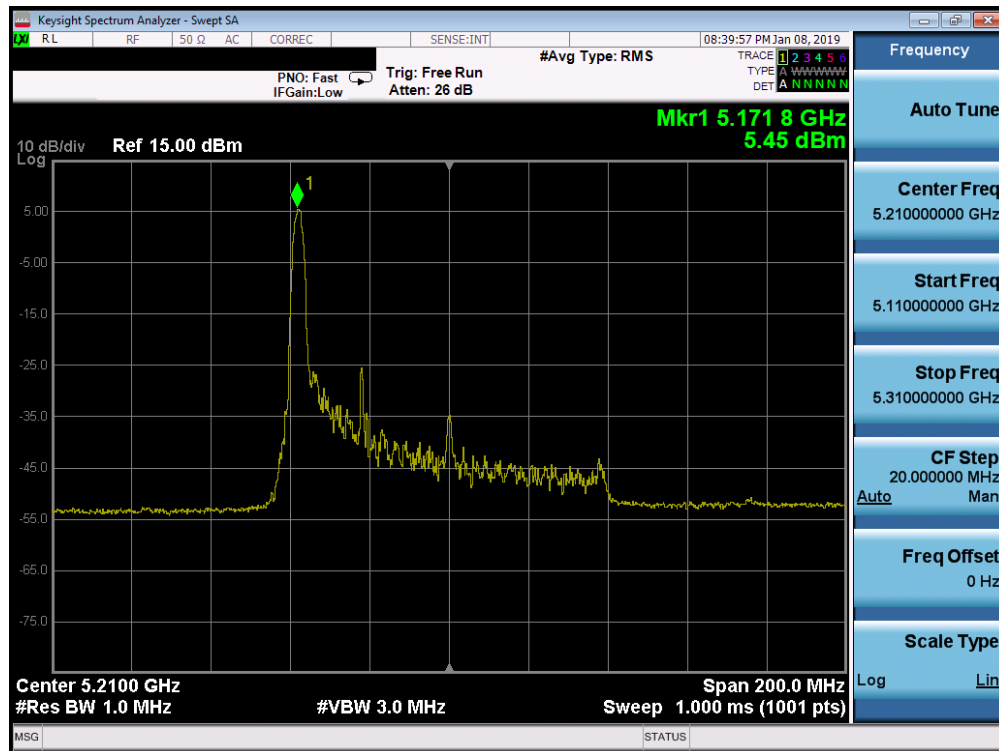


Plot 7-370. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

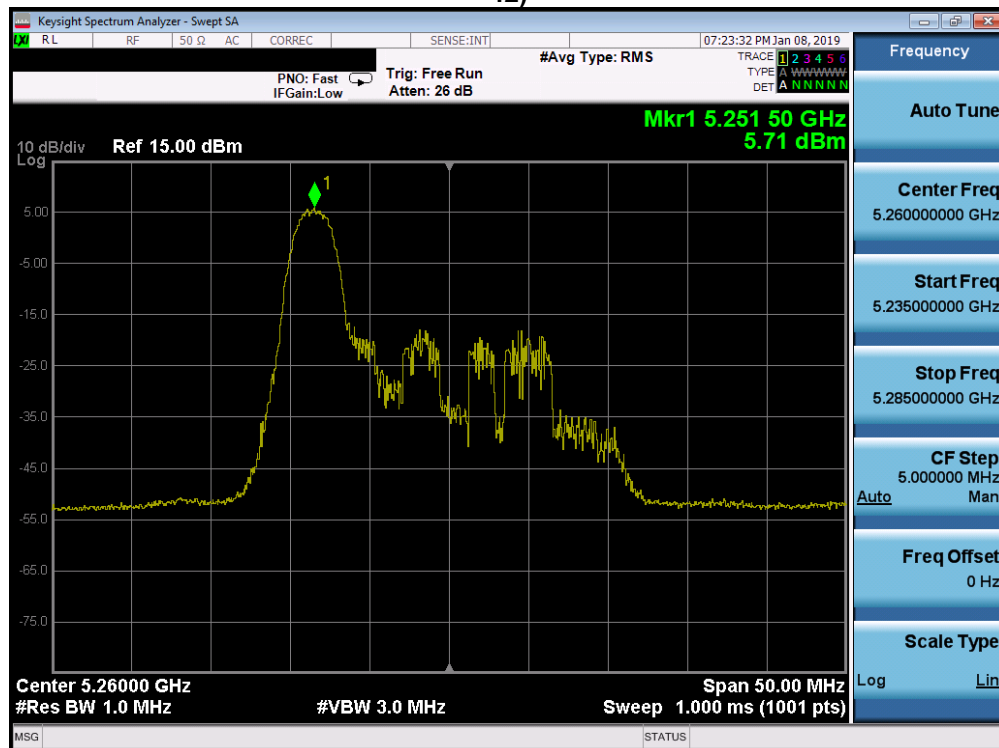


Plot 7-371. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 270 of 519

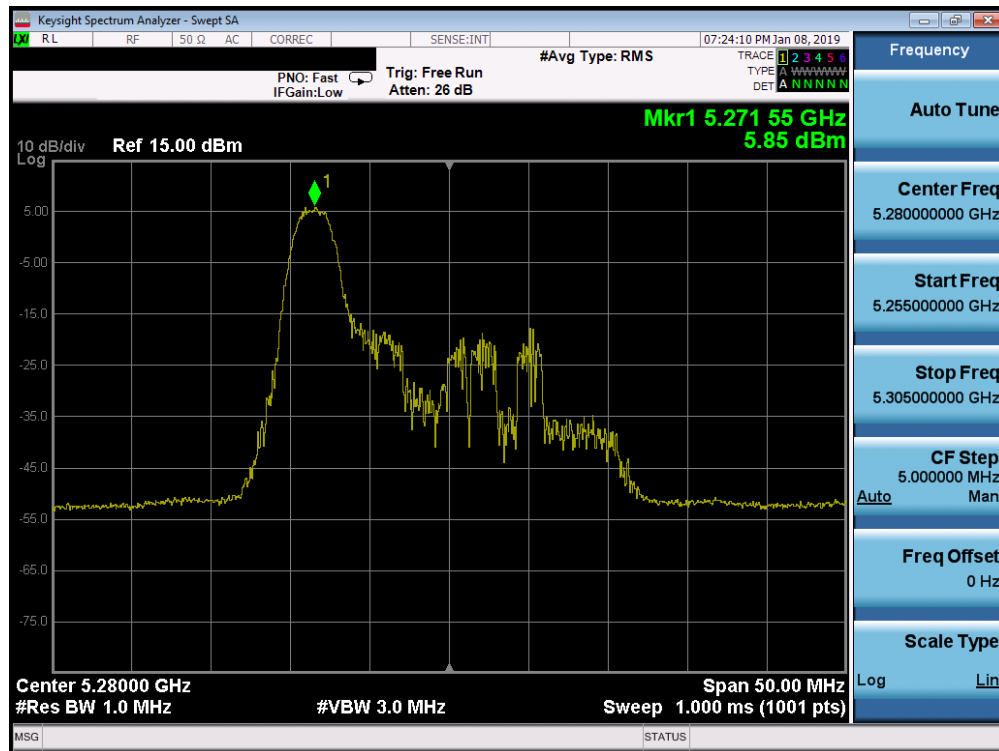


Plot 7-372. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

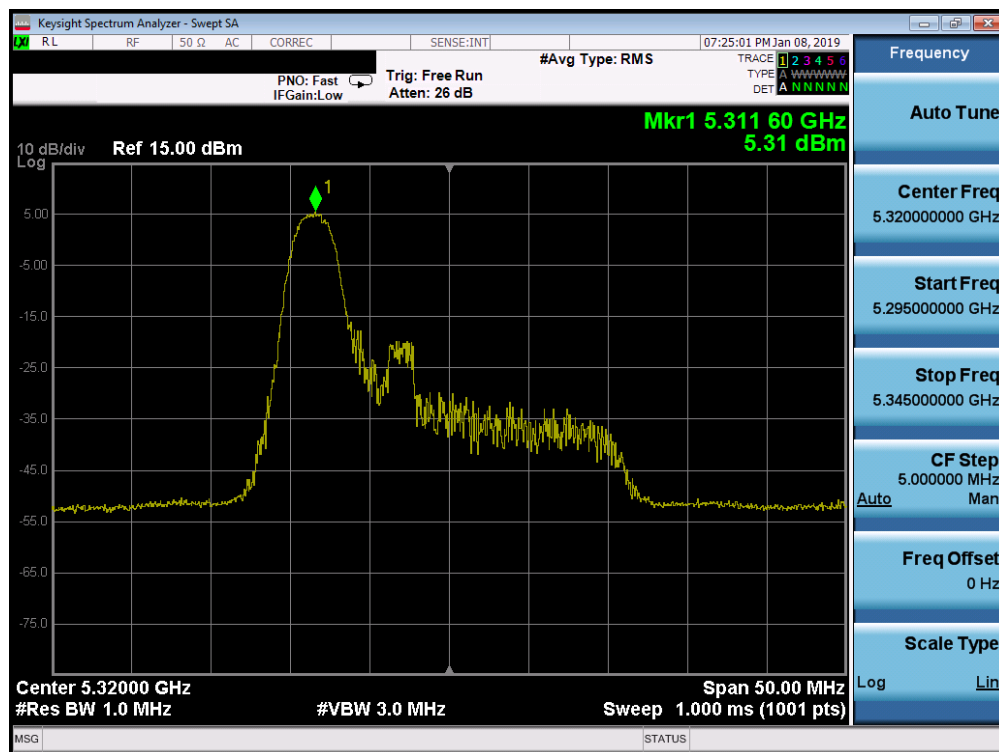


Plot 7-373. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 271 of 519

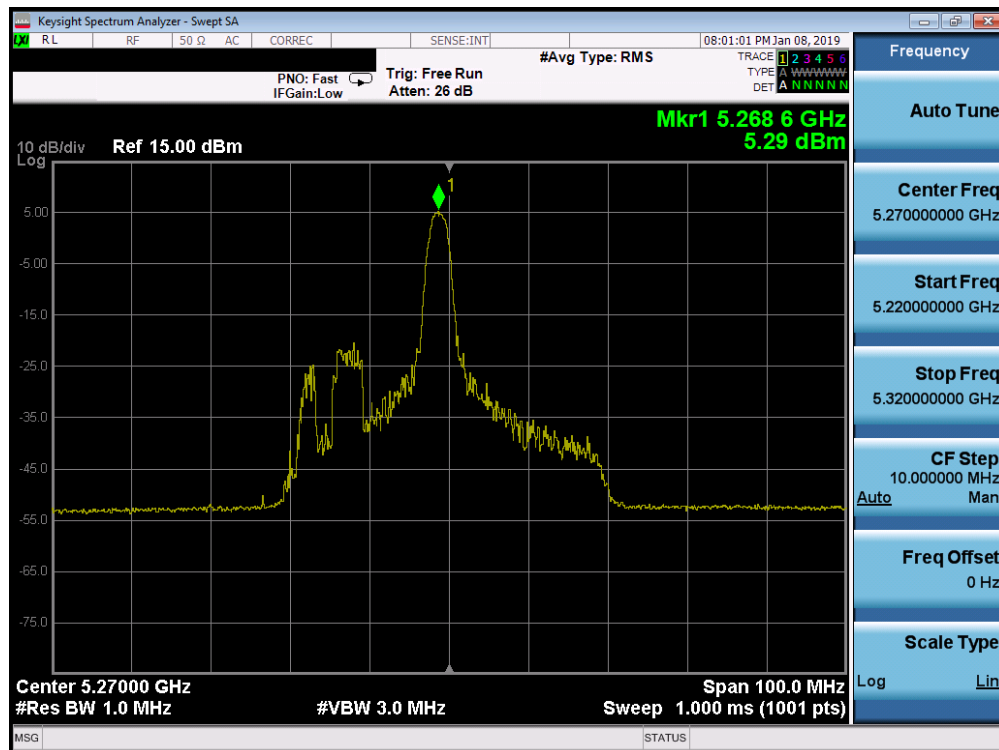


Plot 7-374. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

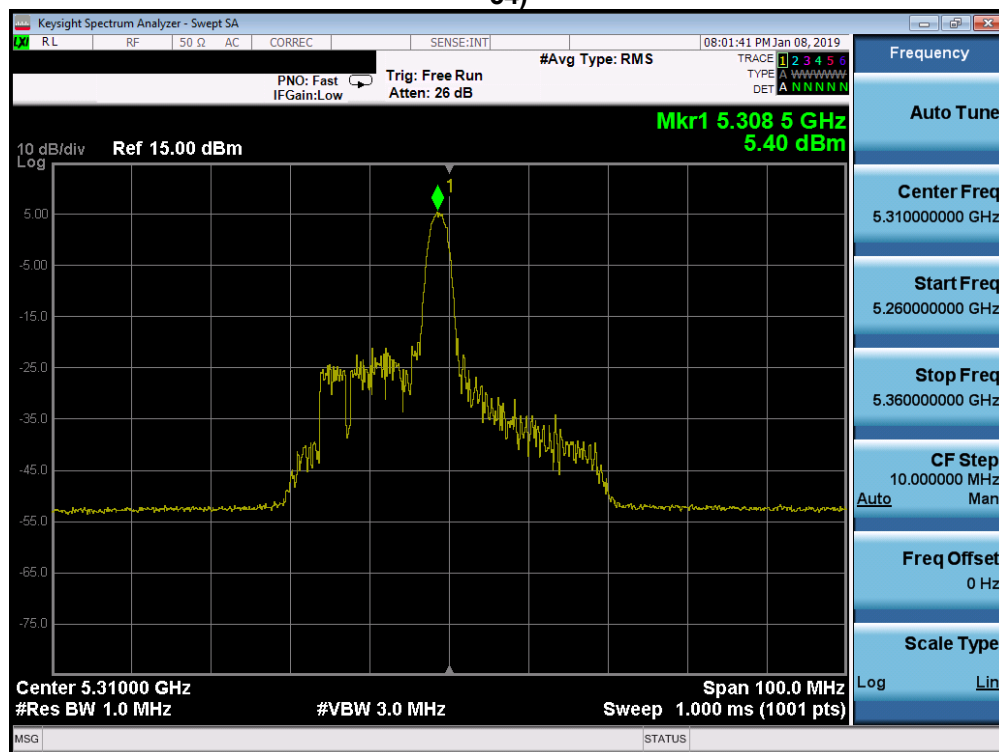


Plot 7-375. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 272 of 519

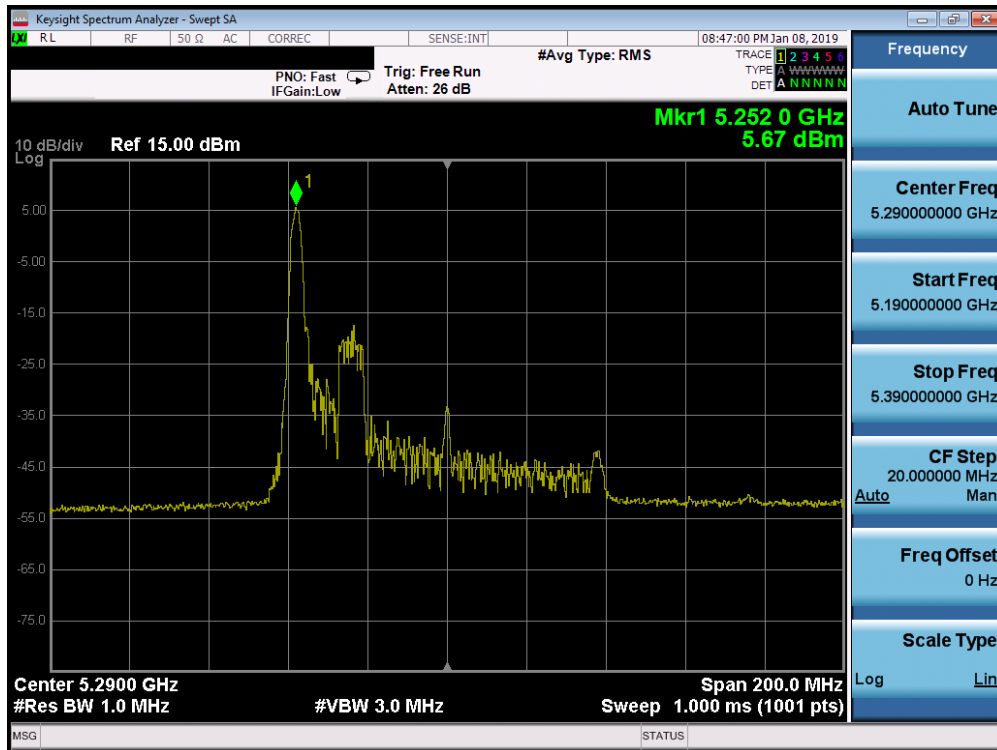


Plot 7-376. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

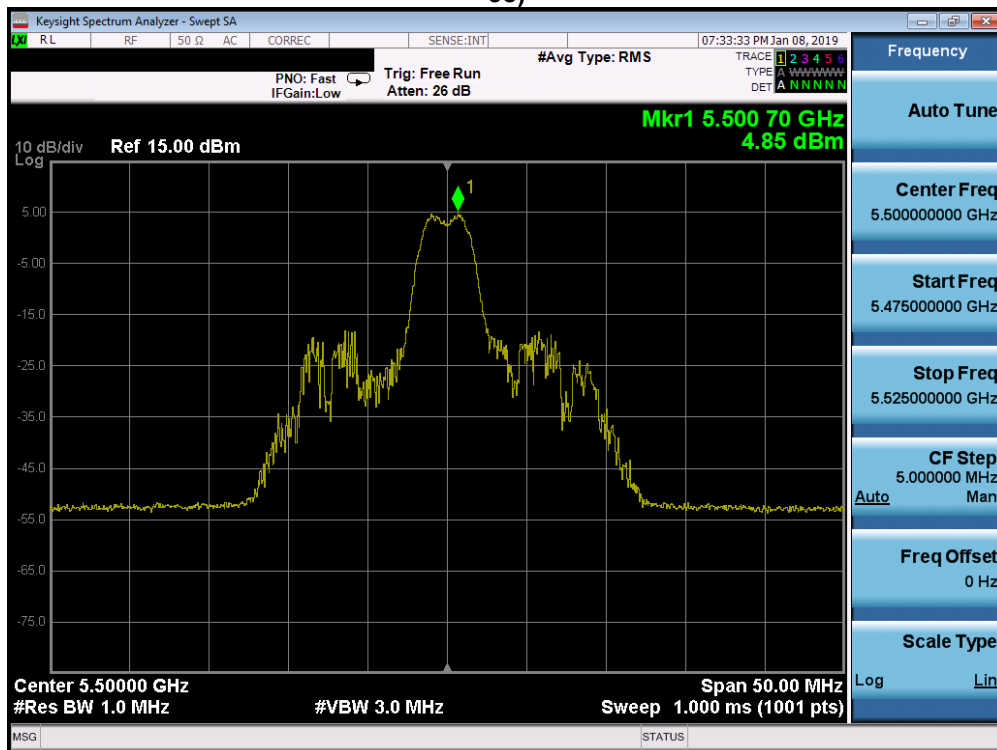


Plot 7-377. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

FCC ID: A3LSMG9700			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset	Page 273 of 519		

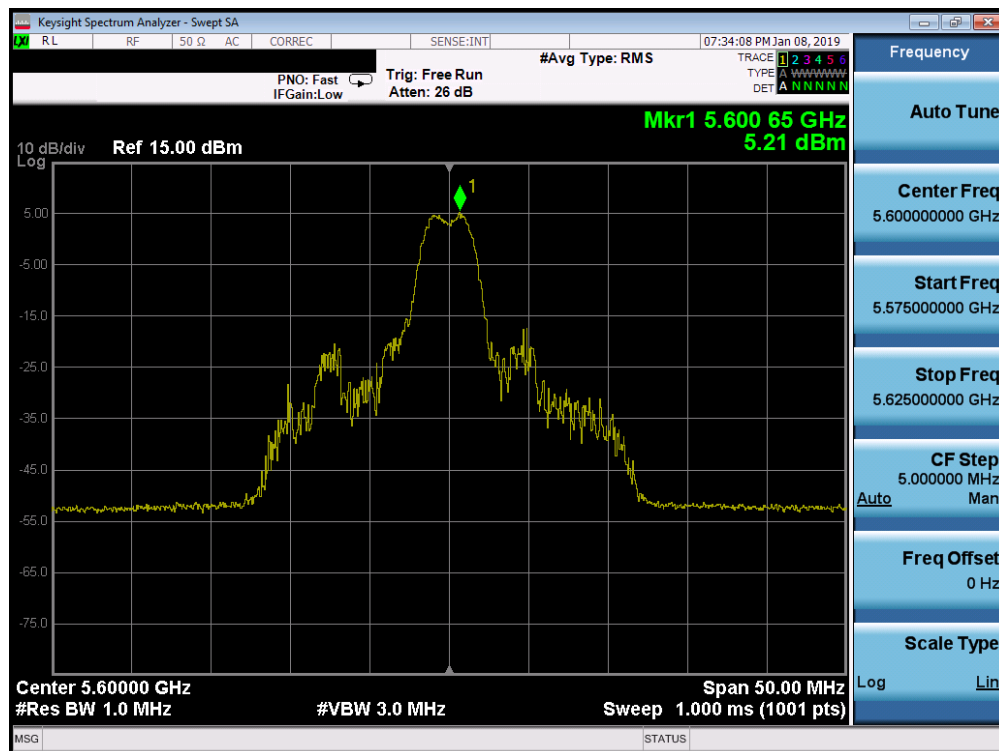


Plot 7-378. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

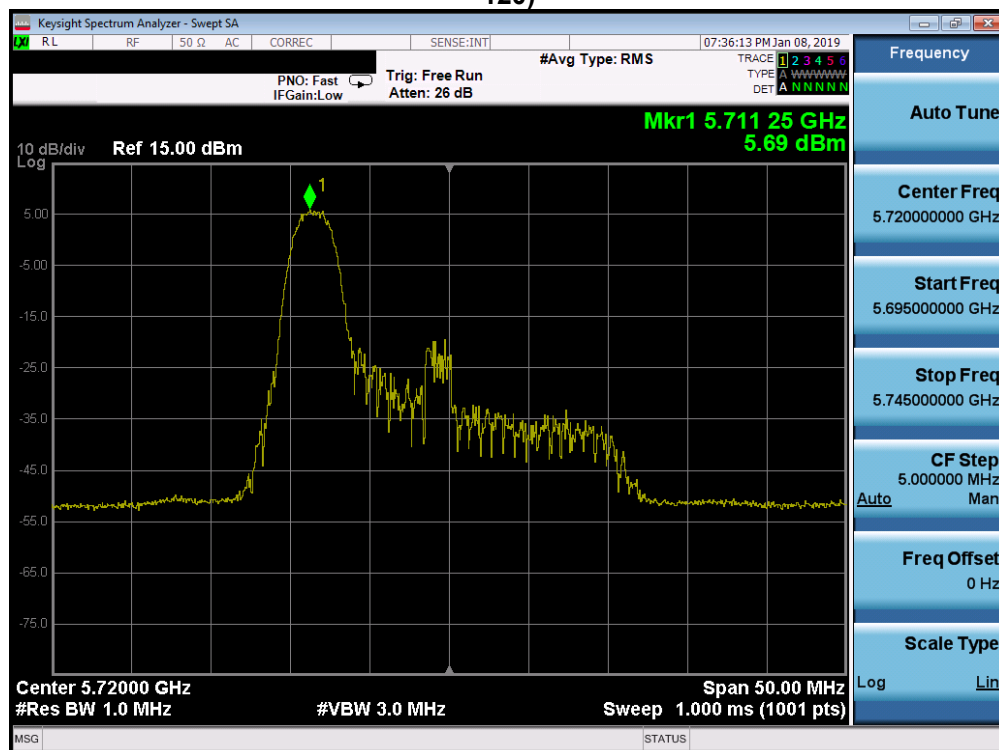


Plot 7-379. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 274 of 519

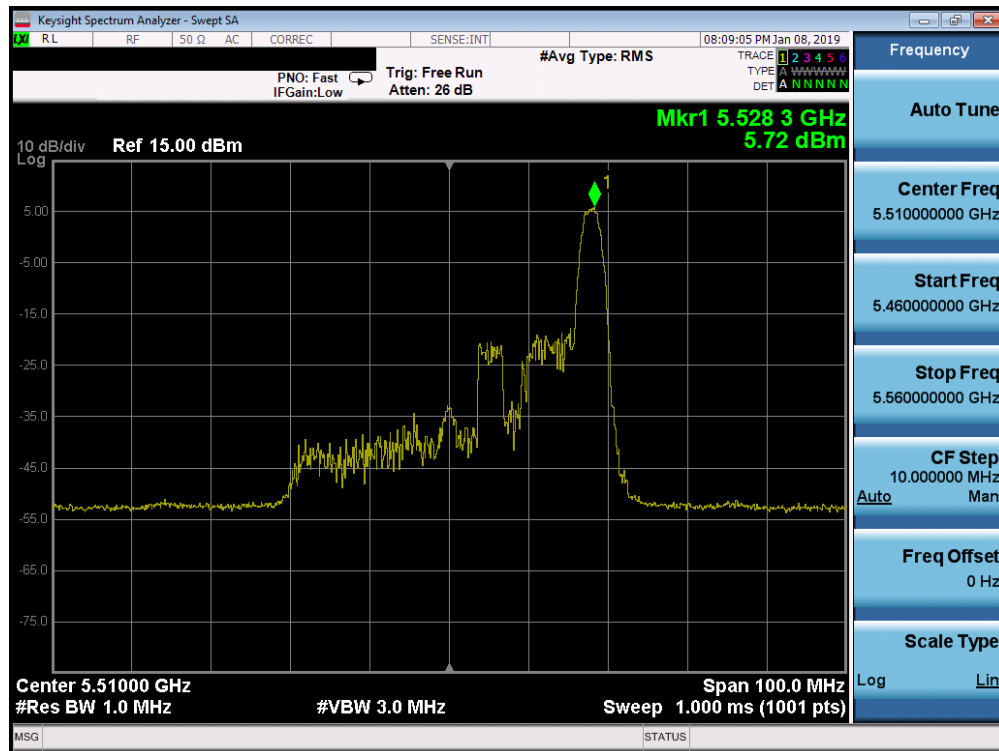


Plot 7-380. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

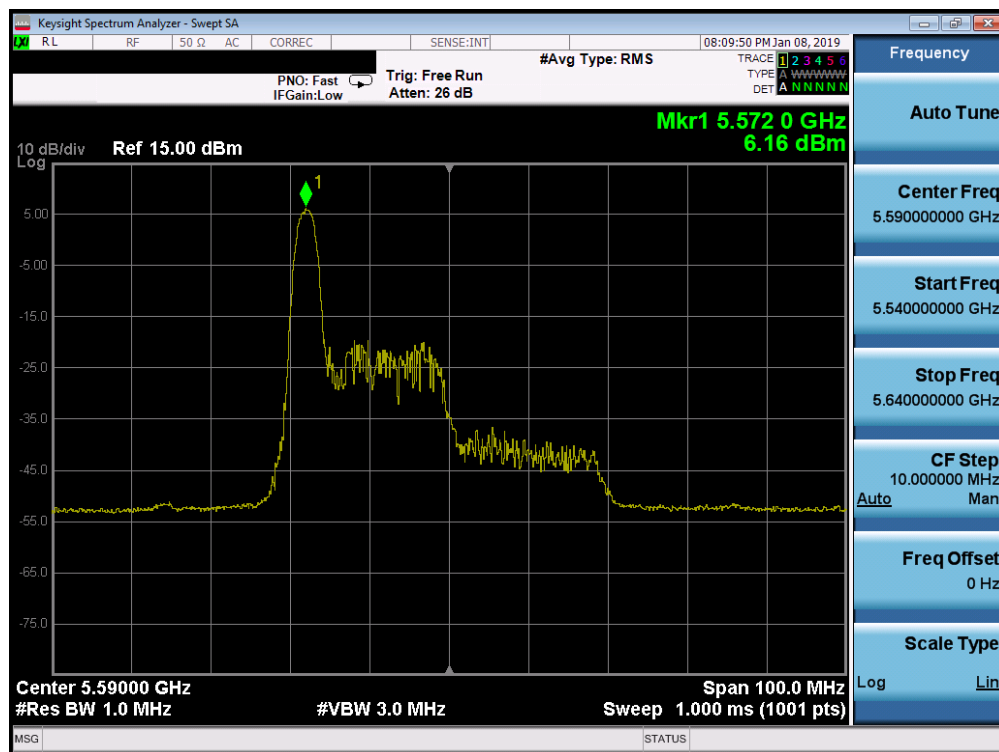


Plot 7-381. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 275 of 519

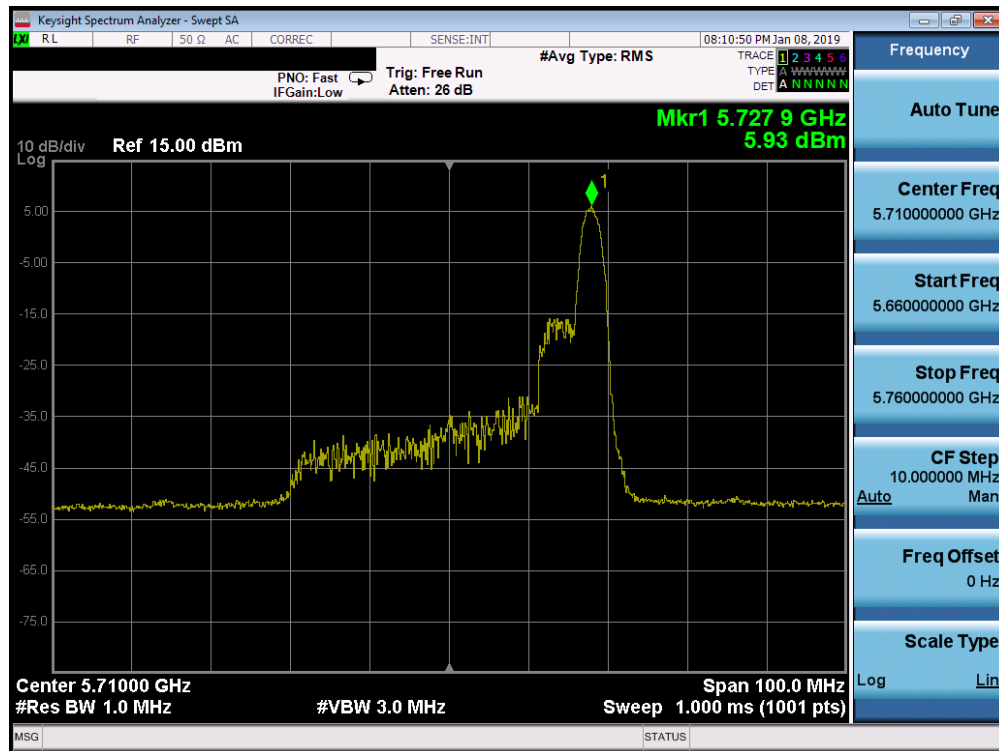


Plot 7-382. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

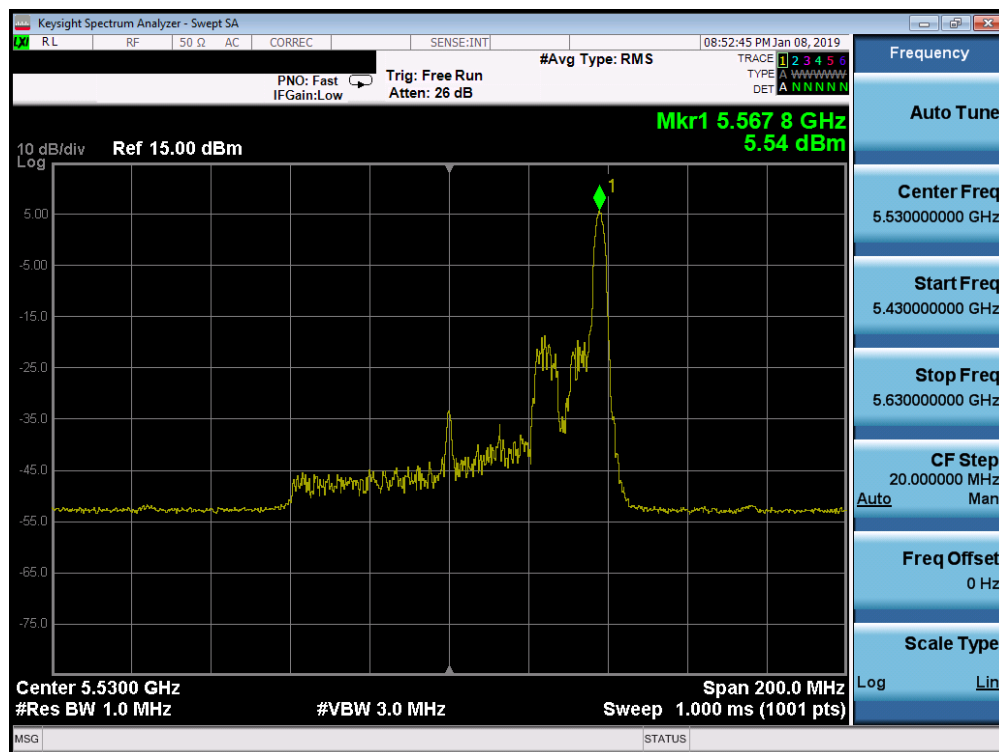


Plot 7-383. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 276 of 519

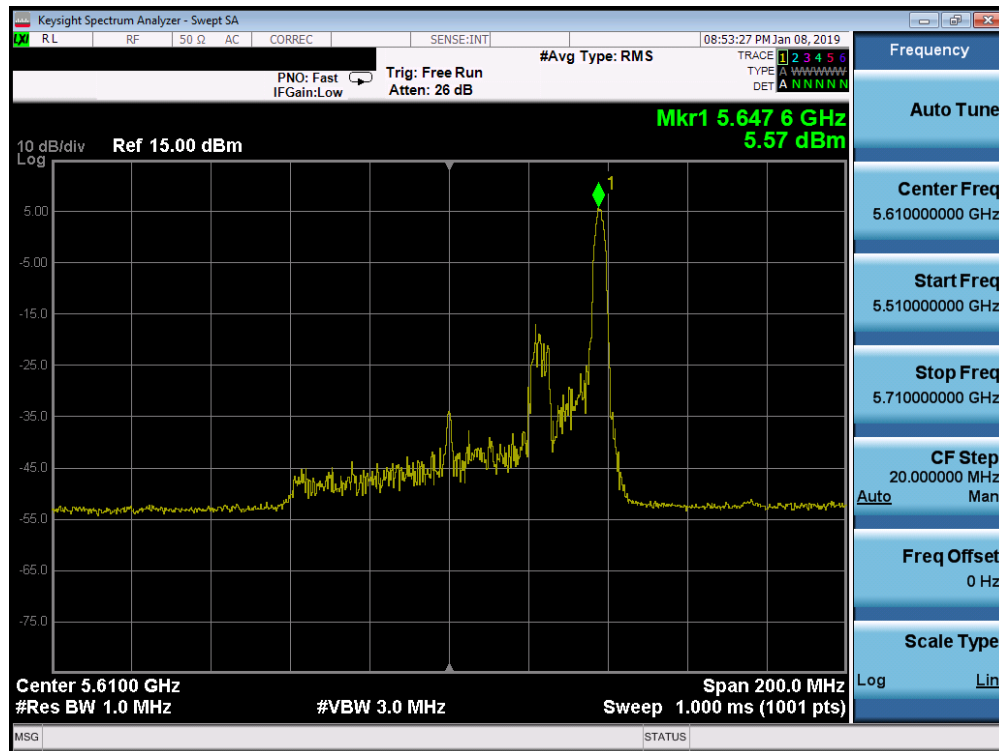


Plot 7-384. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

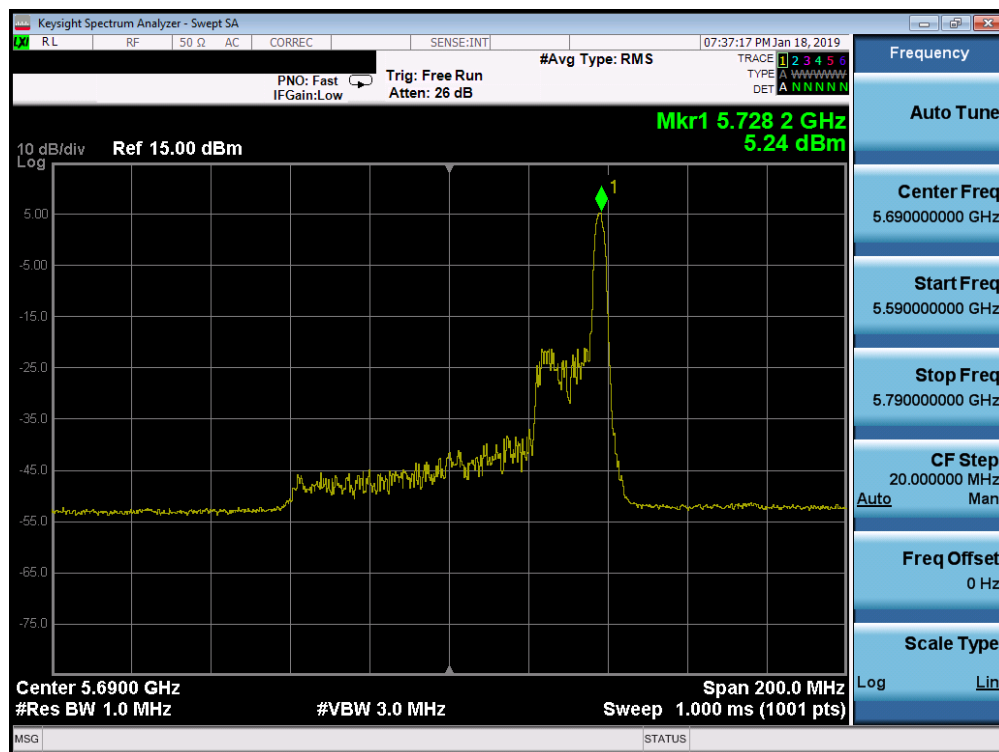


Plot 7-385. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 277 of 519

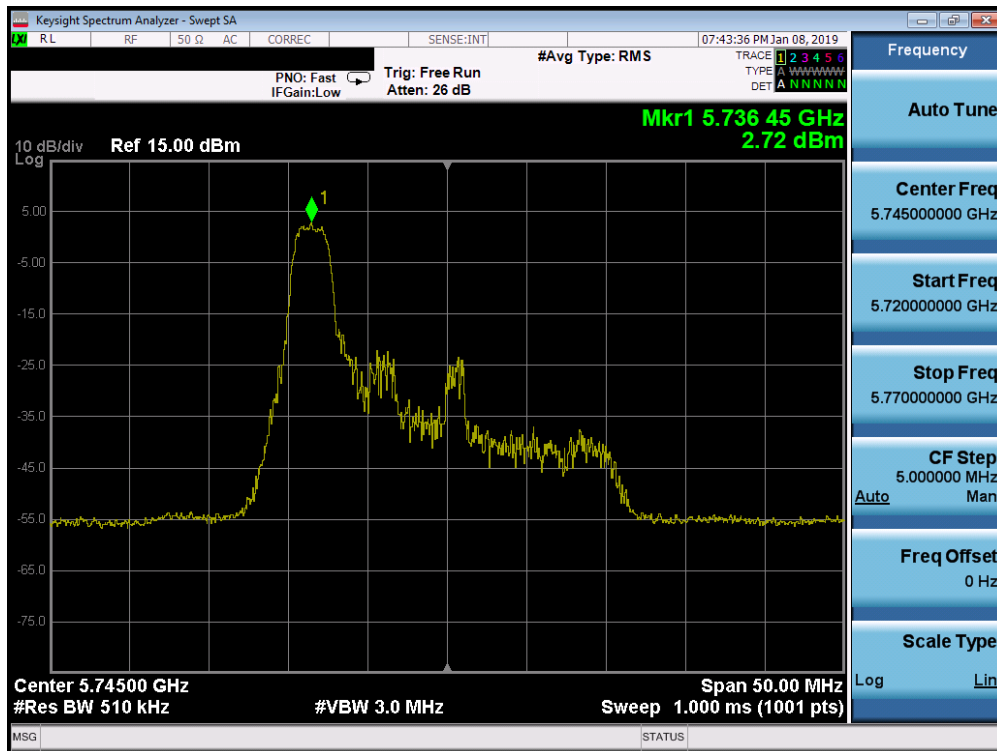


Plot 7-386. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

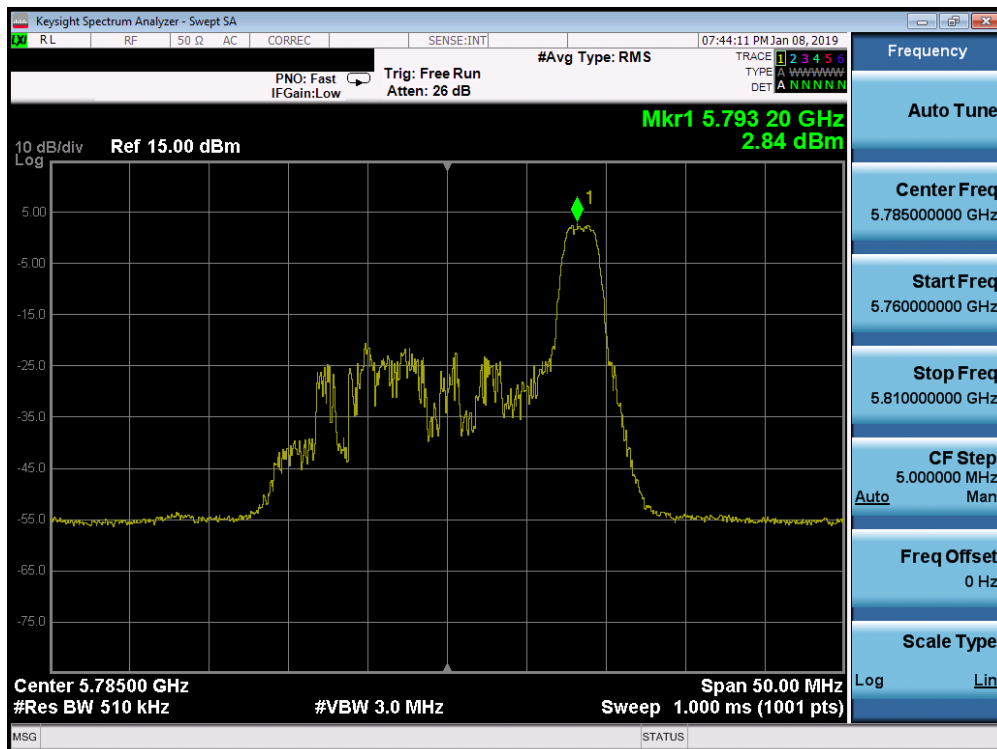


Plot 7-387. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 278 of 519

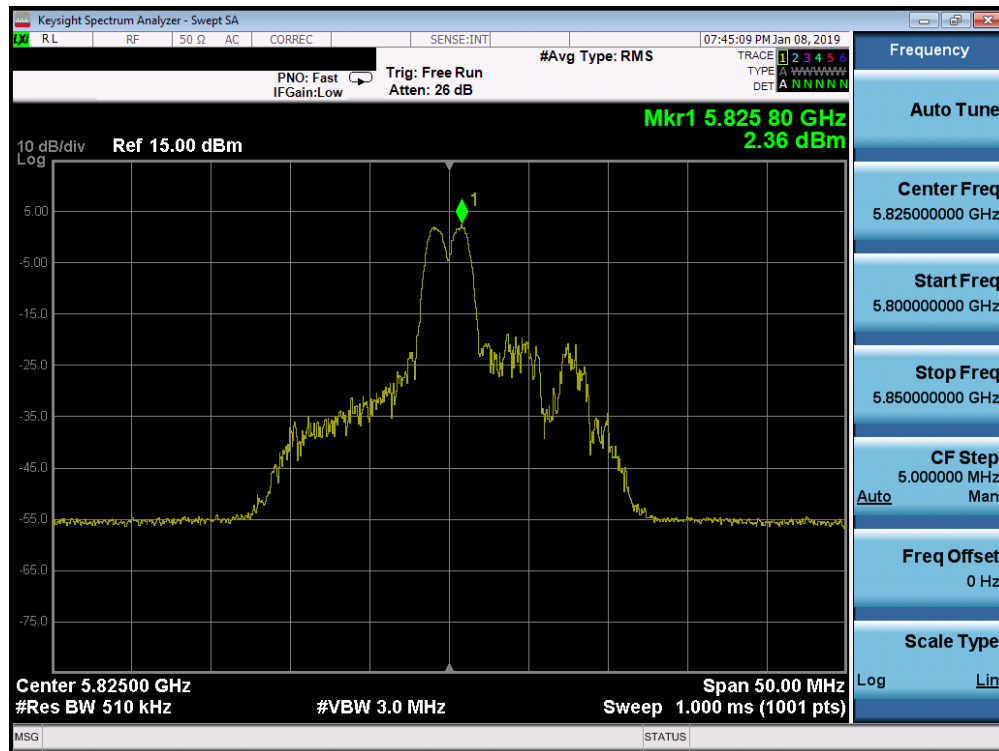


Plot 7-388. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

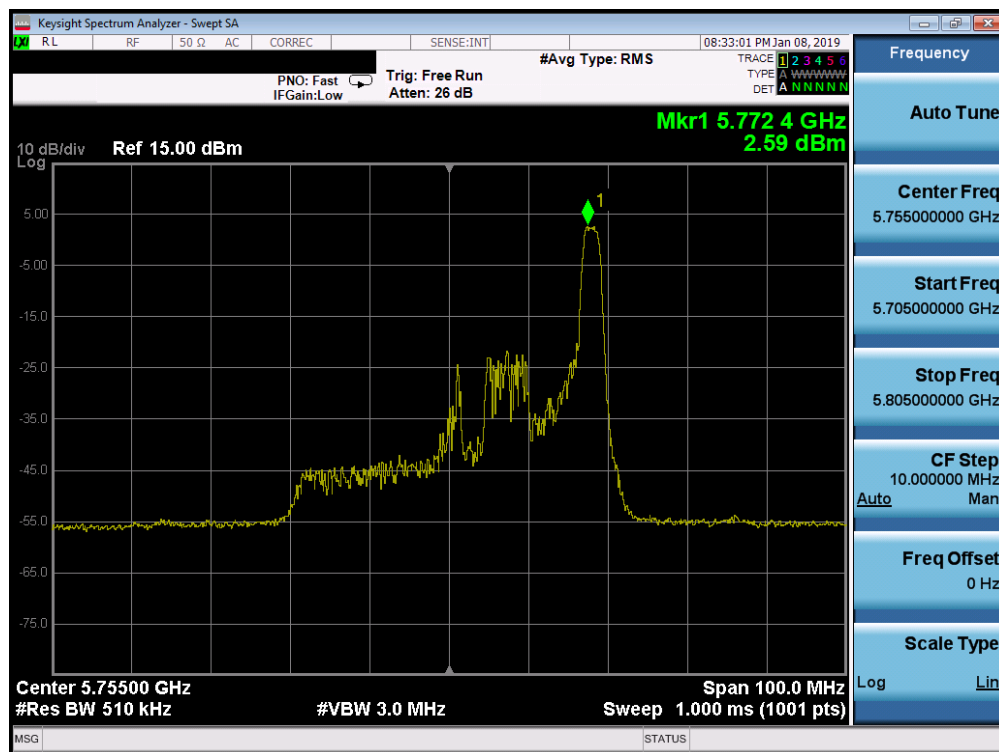


Plot 7-389. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMG9700			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 279 of 519	

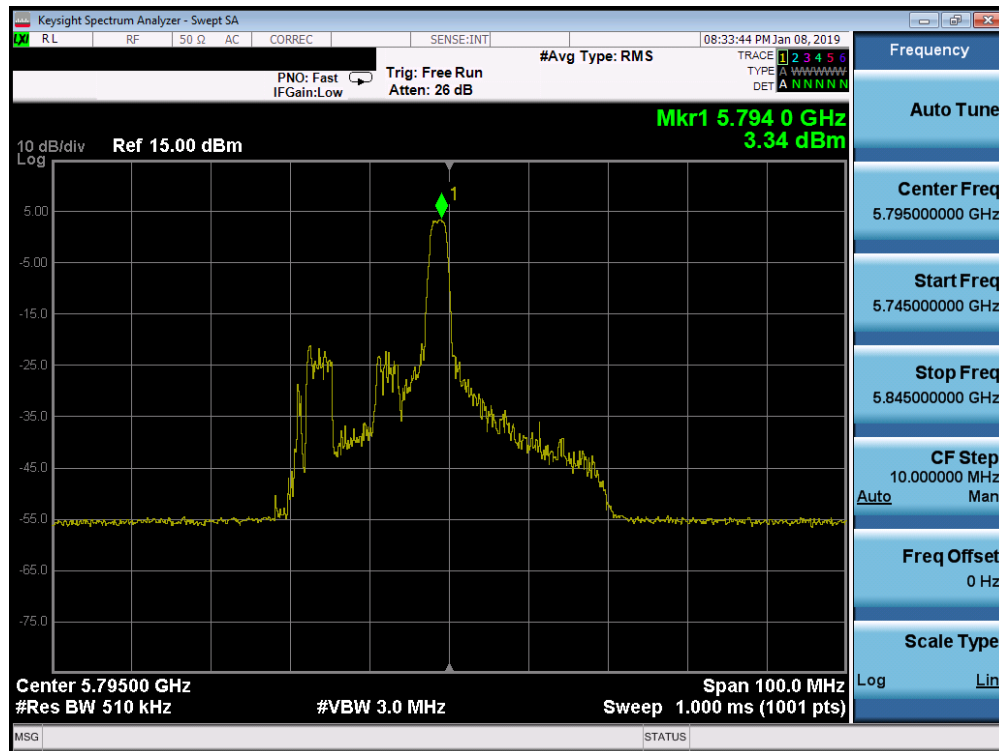


Plot 7-390. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

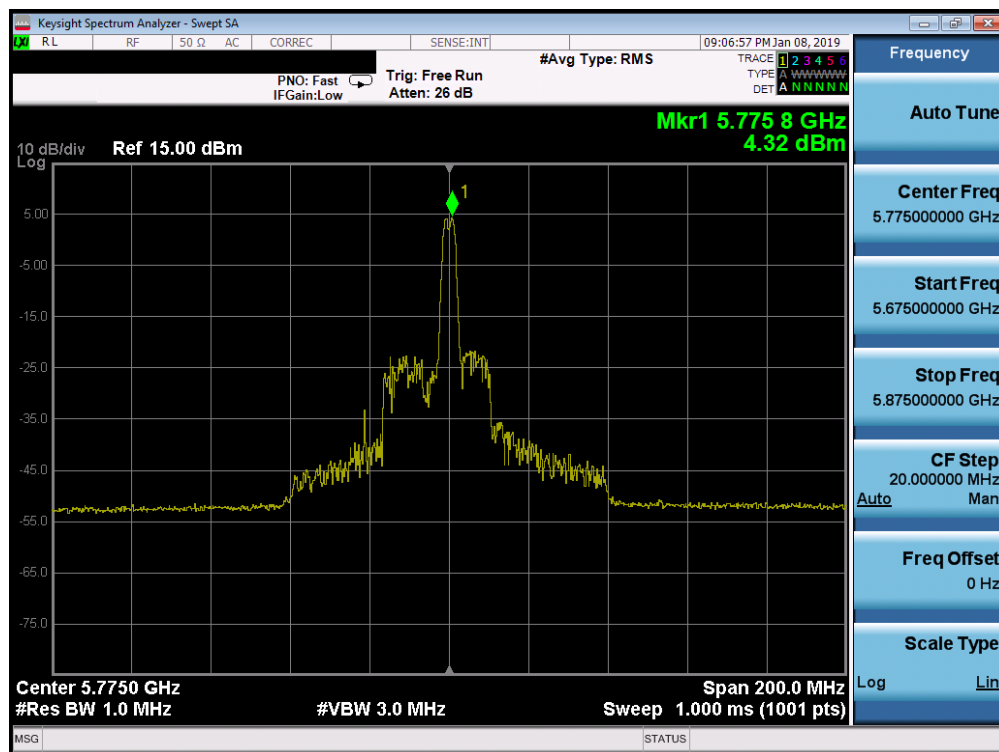


Plot 7-391. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 280 of 519



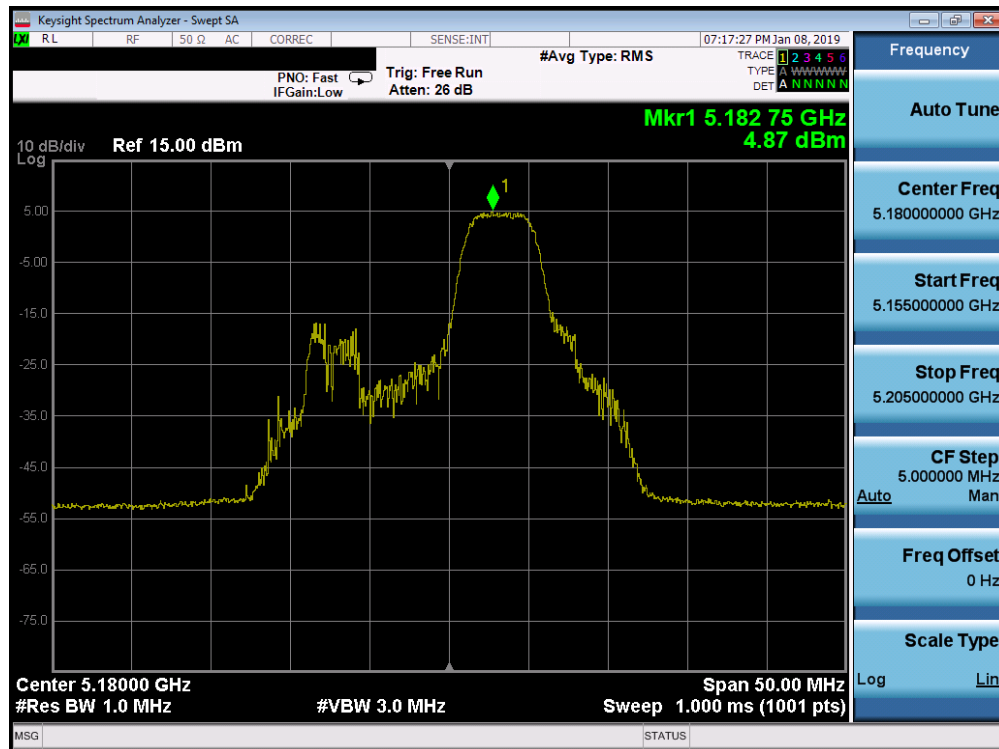
Plot 7-392. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)



Plot 7-393. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

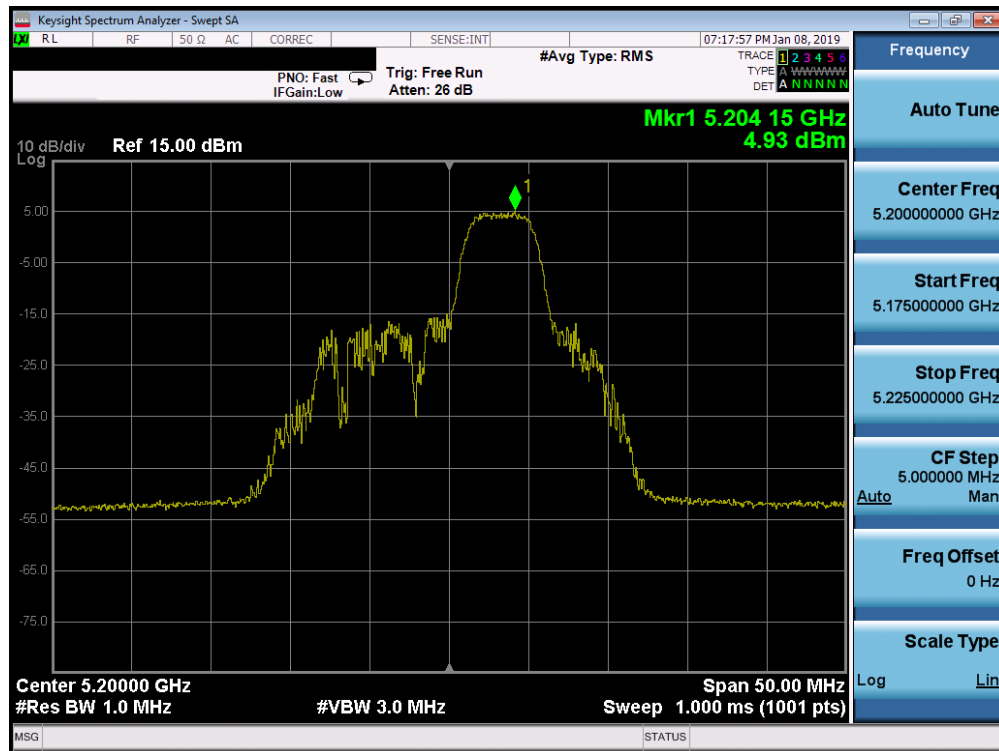
FCC ID: A3LSMG9700	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset	Page 281 of 519

MIMO Antenna-1 Power Spectral Density Measurements (52 Tones)

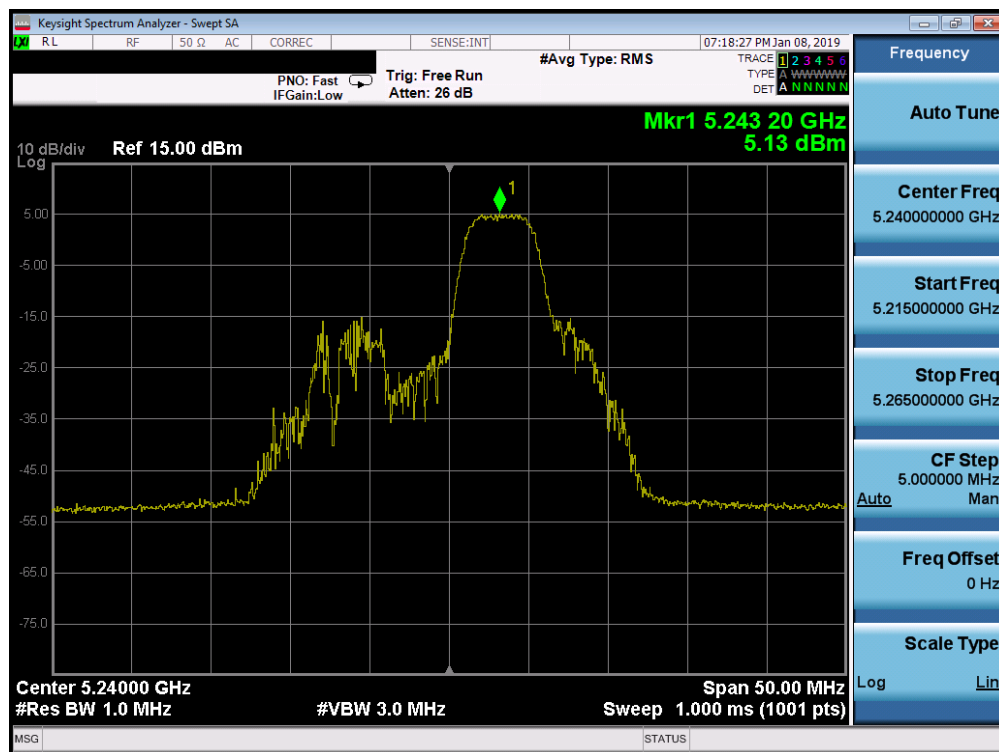


Plot 7-394. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 52 Tones (UNII Band 1) – Ch. 36)

FCC ID: A3LSMG9700	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset	Page 282 of 519

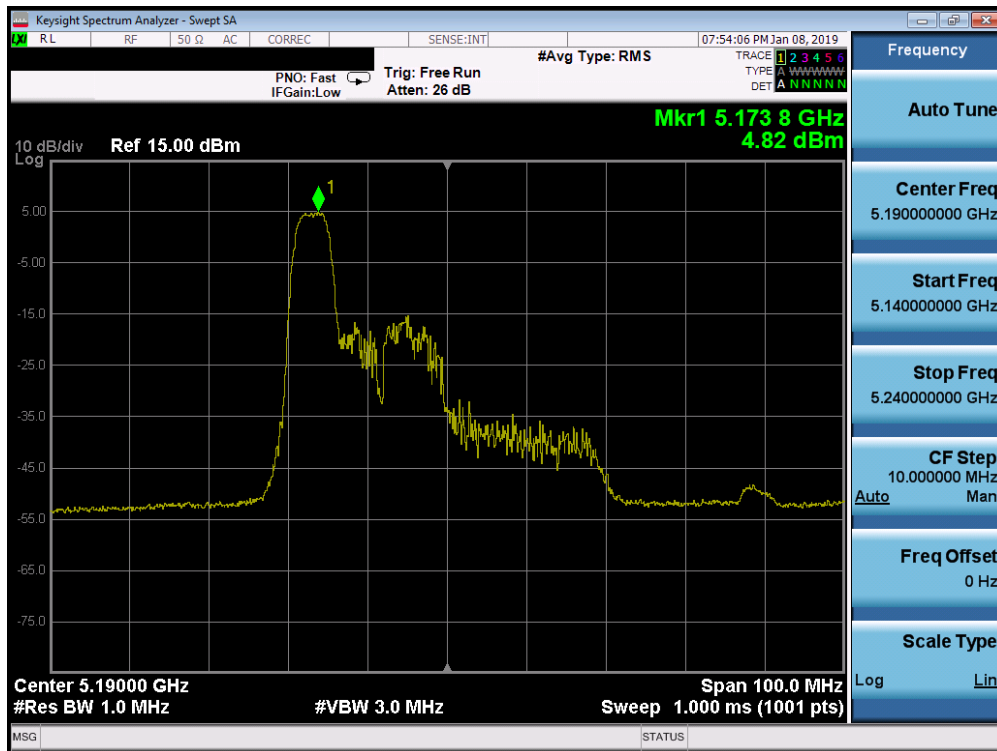


Plot 7-395. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 52 Tones (UNII Band 1) – Ch. 40)

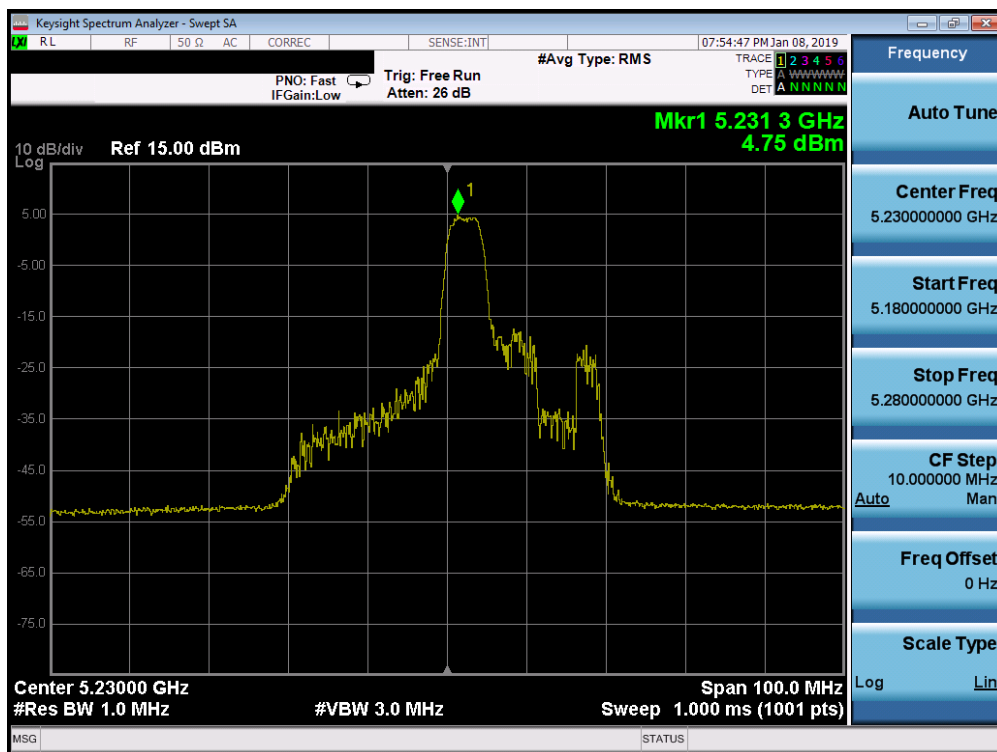


Plot 7-396. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 52 Tones (UNII Band 1) – Ch. 48)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 283 of 519

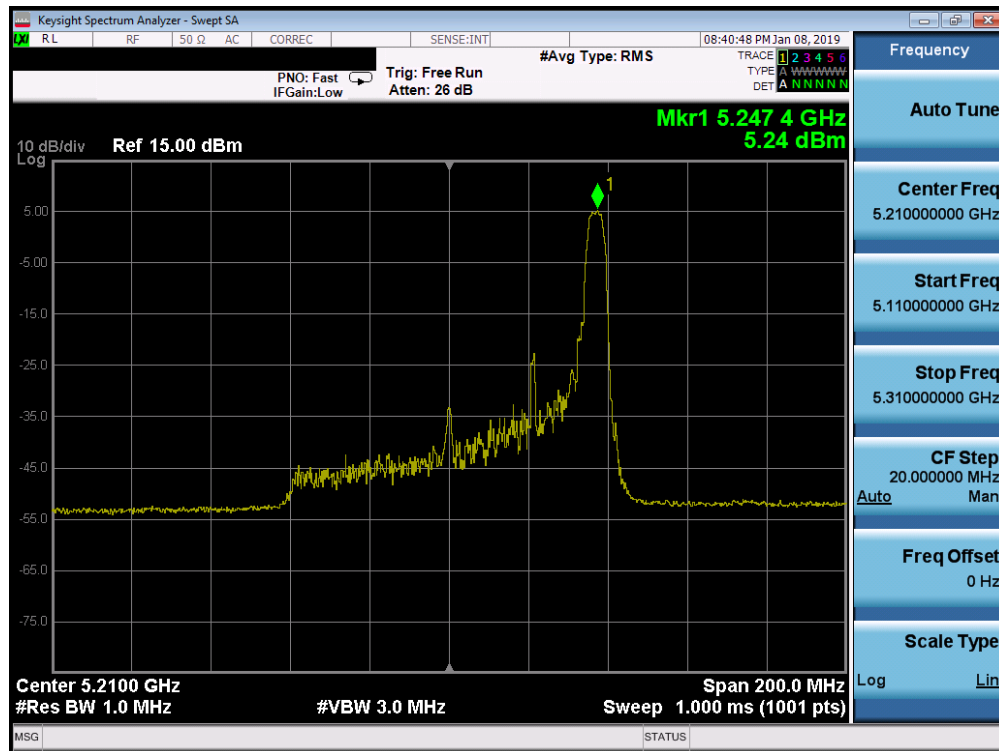


Plot 7-397. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 52 Tones (UNII Band 1) – Ch. 38)

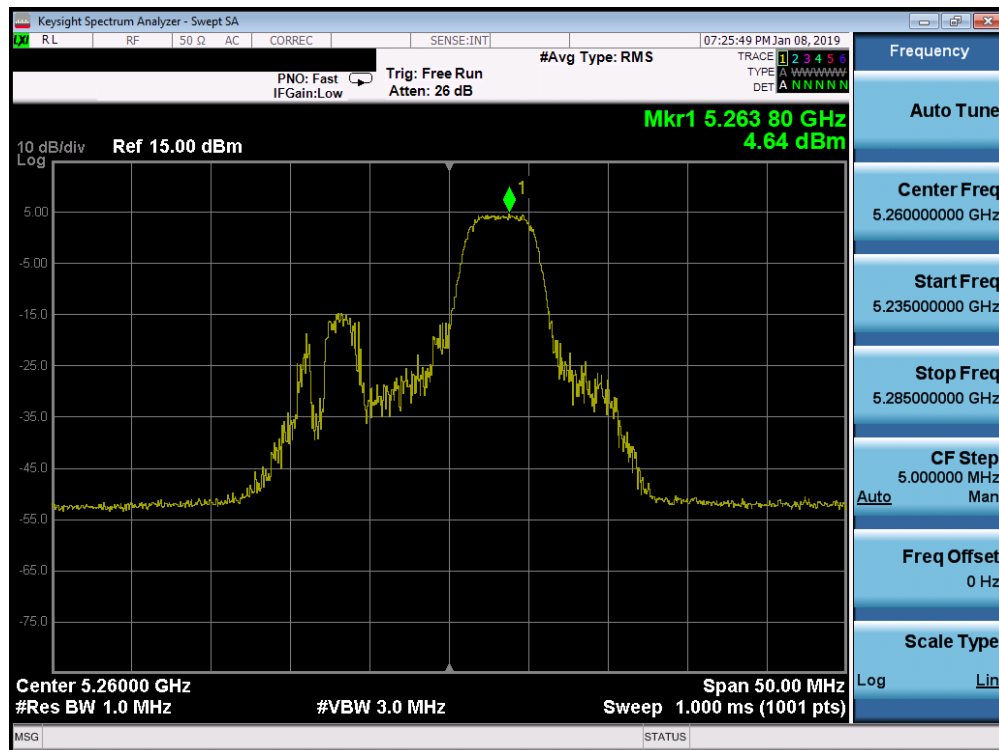


Plot 7-398. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 52 Tones (UNII Band 1) – Ch. 46)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 284 of 519

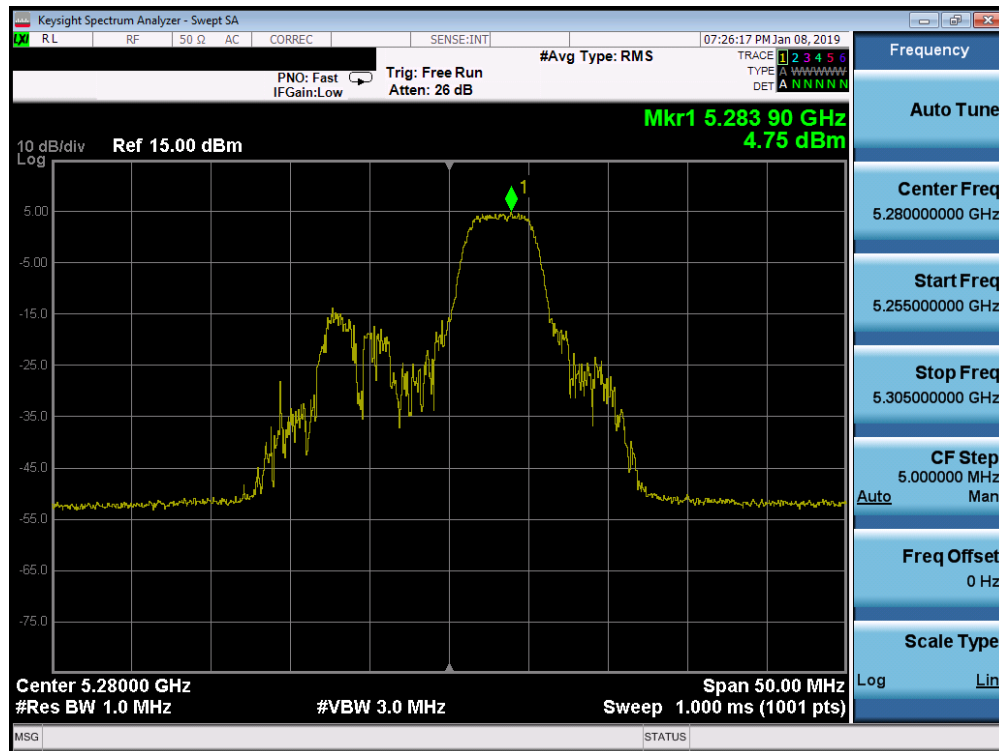


Plot 7-399. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 52 Tones (UNII Band 1) – Ch. 42)

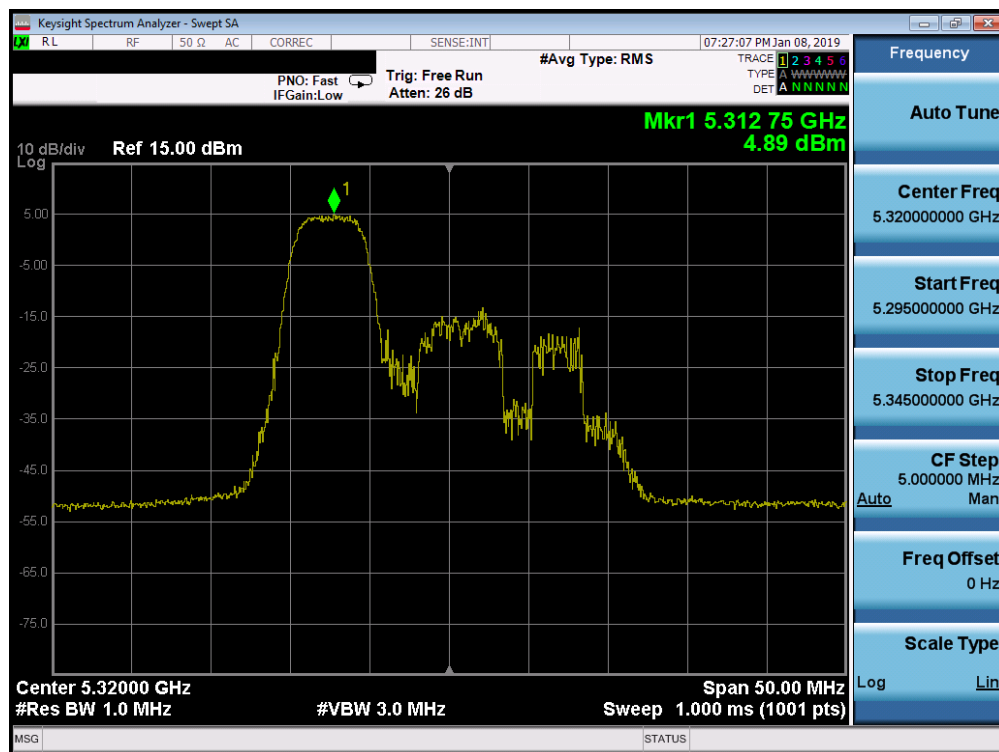


Plot 7-400. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 52 Tones (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 285 of 519

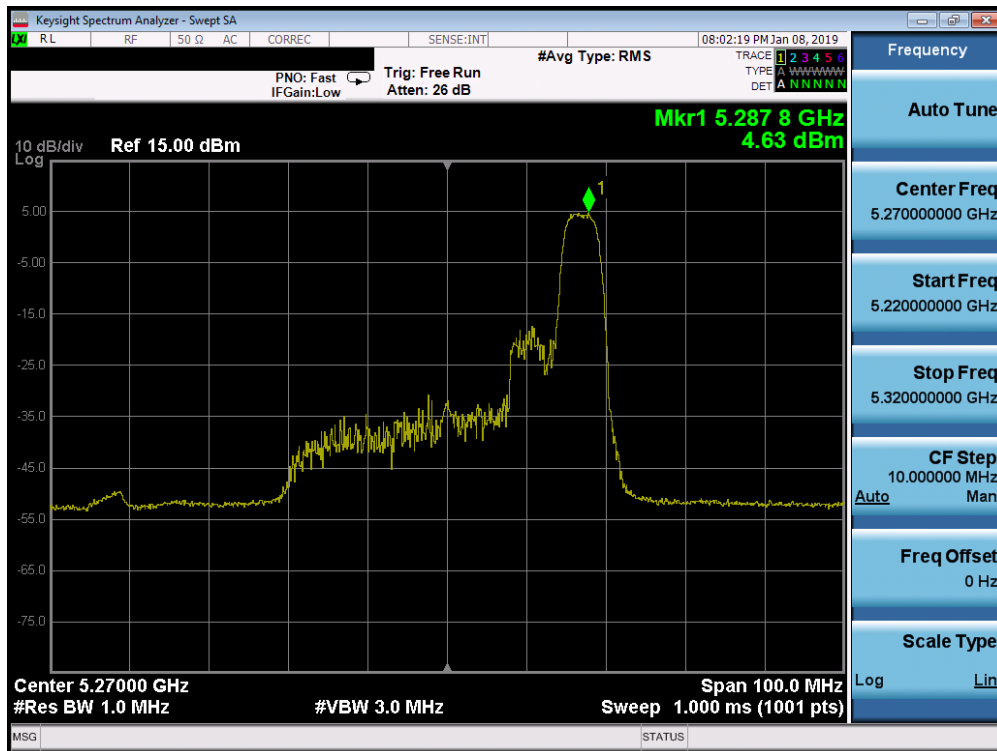


Plot 7-401. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 52 Tones (UNII Band 2A) – Ch. 56)

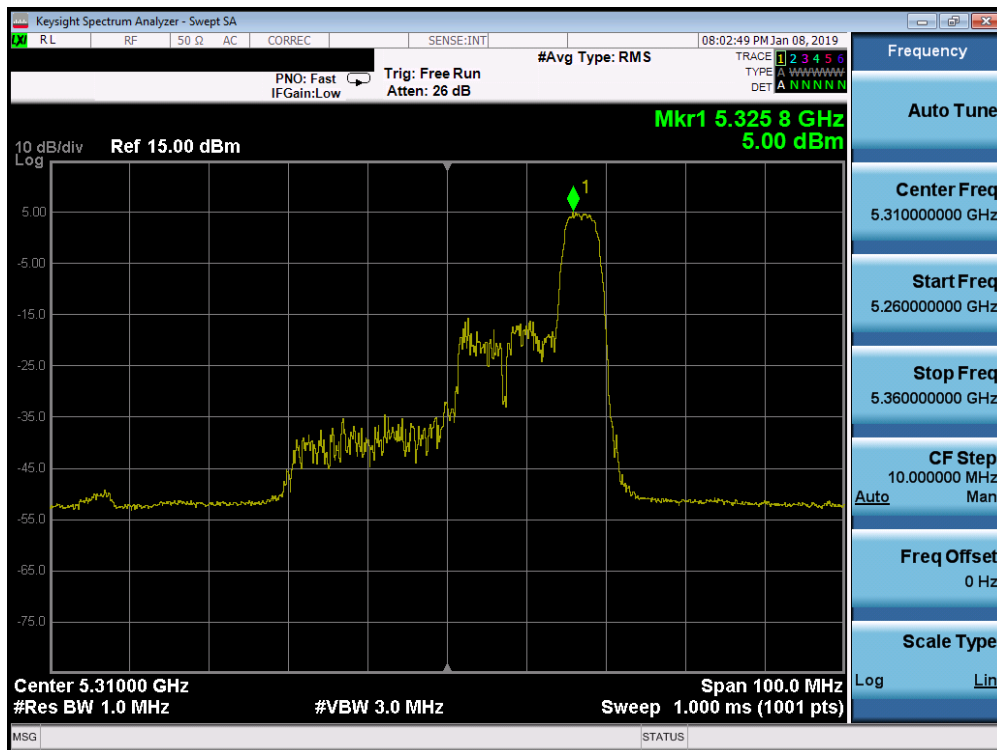


Plot 7-402. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 52 Tones (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 286 of 519

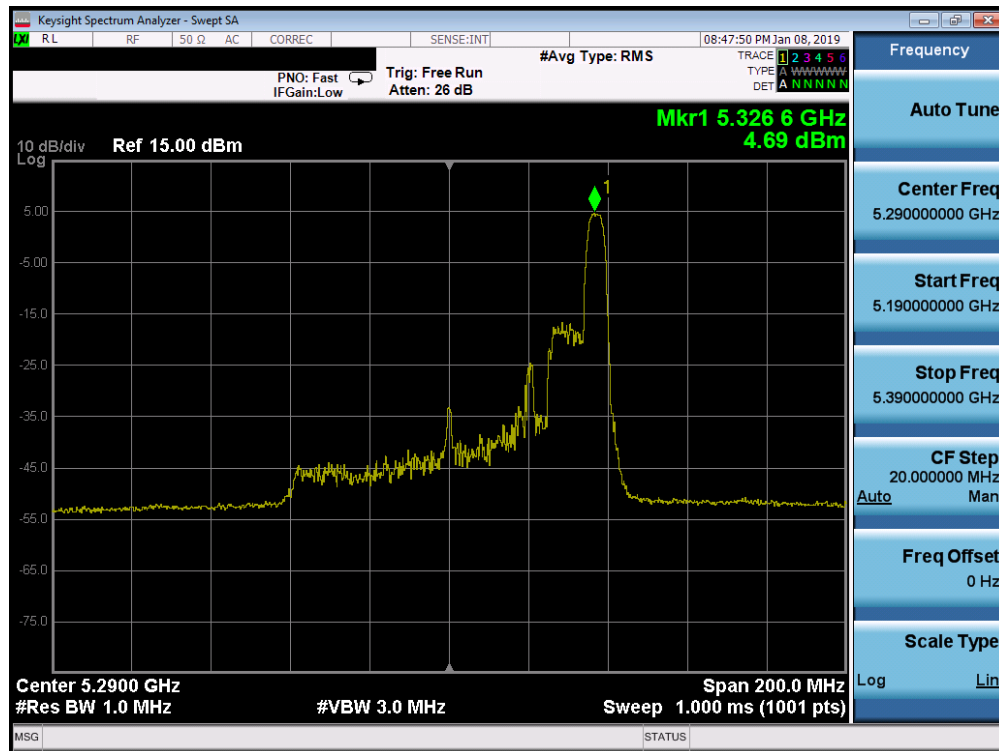


Plot 7-403. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 52 Tones (UNII Band 2A) – Ch. 54)

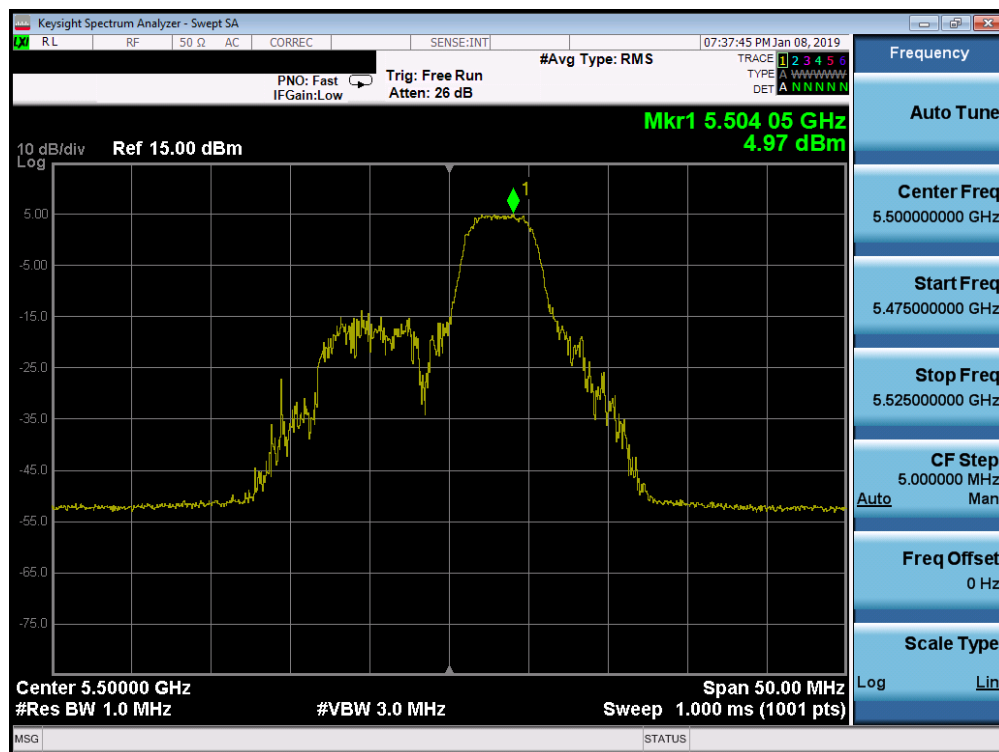


Plot 7-404. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 52 Tones (UNII Band 2A) – Ch. 62)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 287 of 519

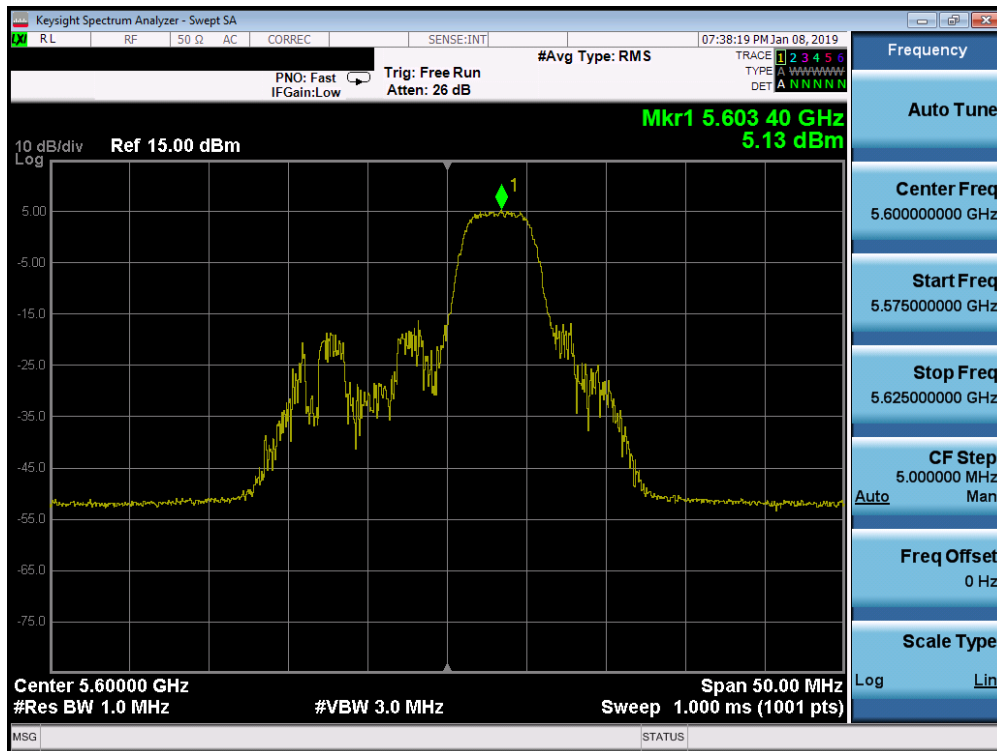


Plot 7-405. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 52 Tones (UNII Band 2A) – Ch. 58)

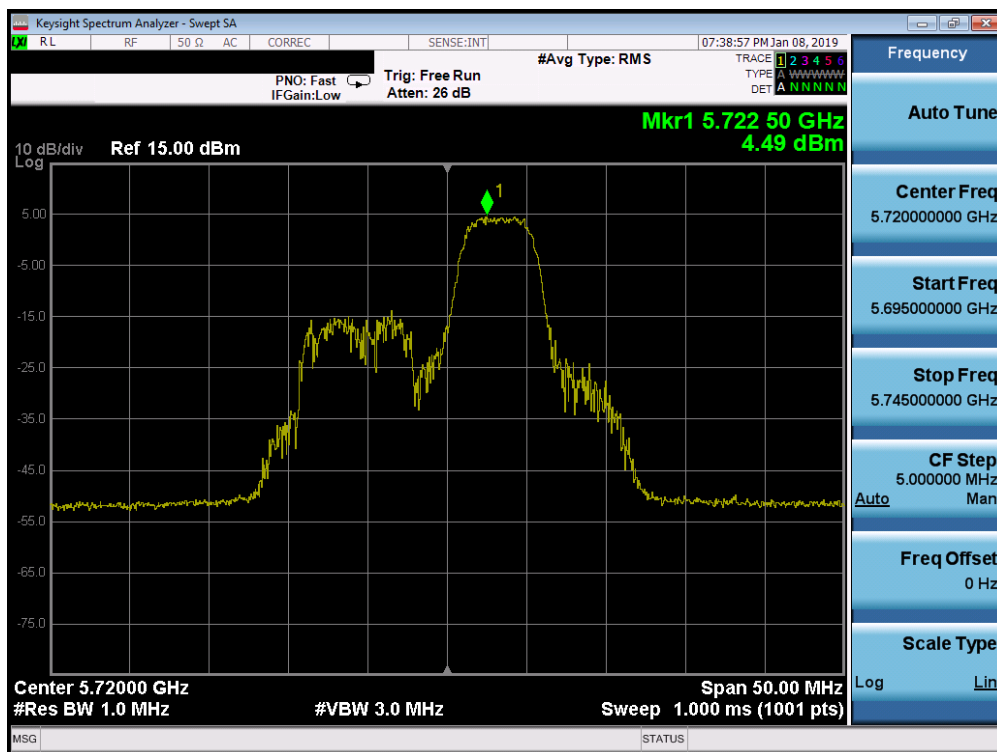


Plot 7-406. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 52 Tones (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 288 of 519

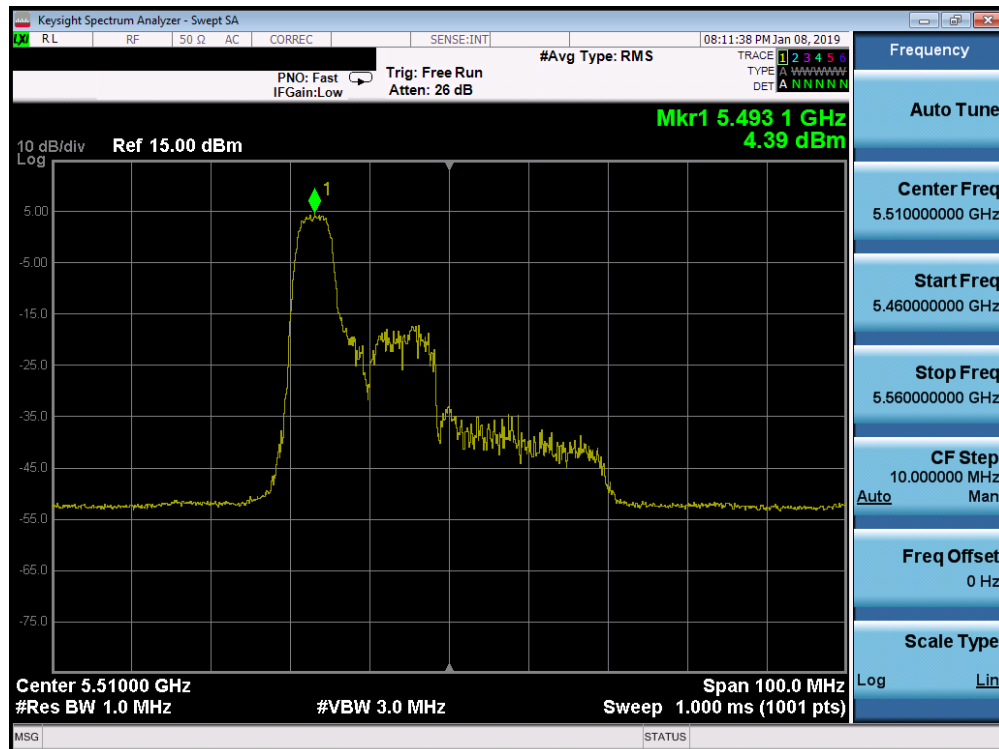


Plot 7-407. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 52 Tones (UNII Band 2C) – Ch. 120)

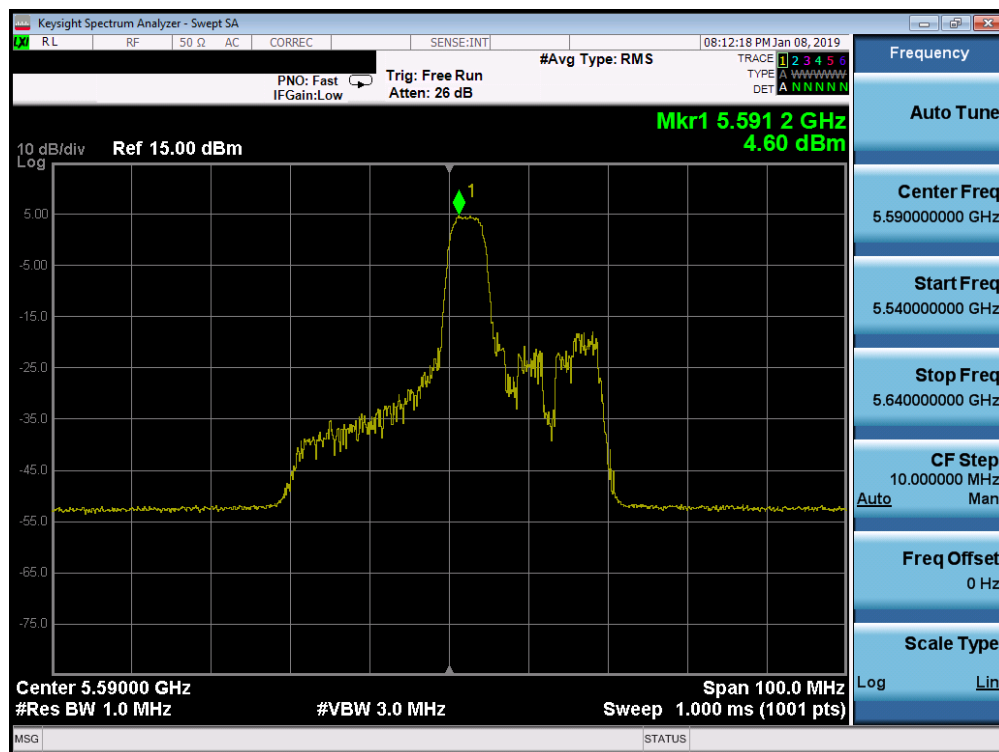


Plot 7-408. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 52 Tones (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMG9700			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset	Page 289 of 519		

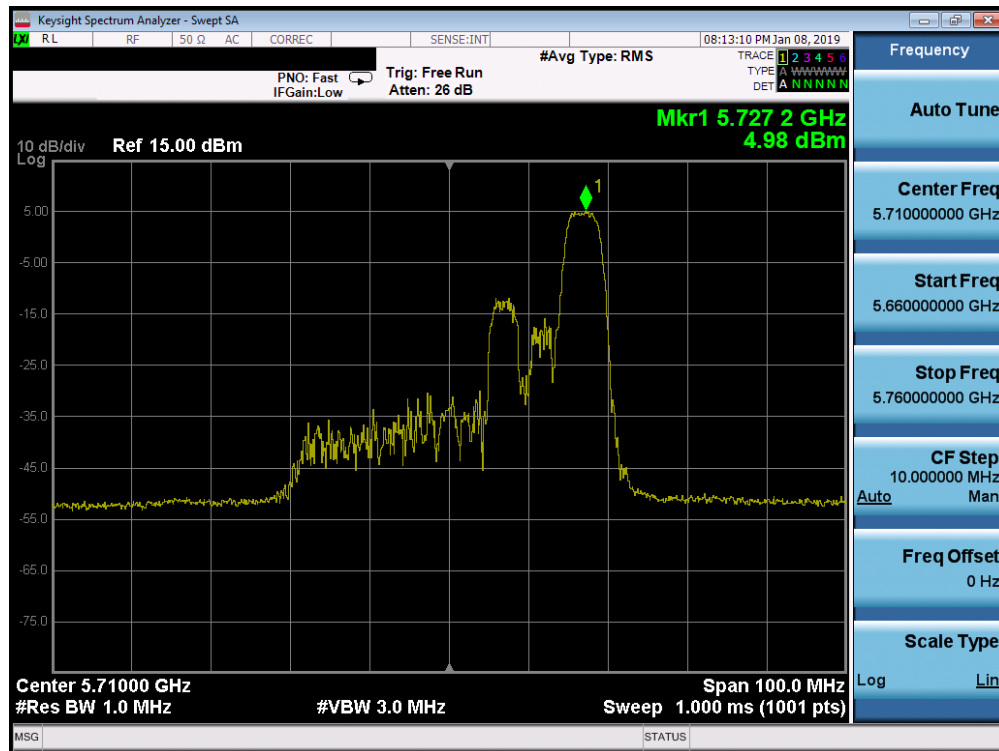


Plot 7-409. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 52 Tones (UNII Band 2C) – Ch. 102)

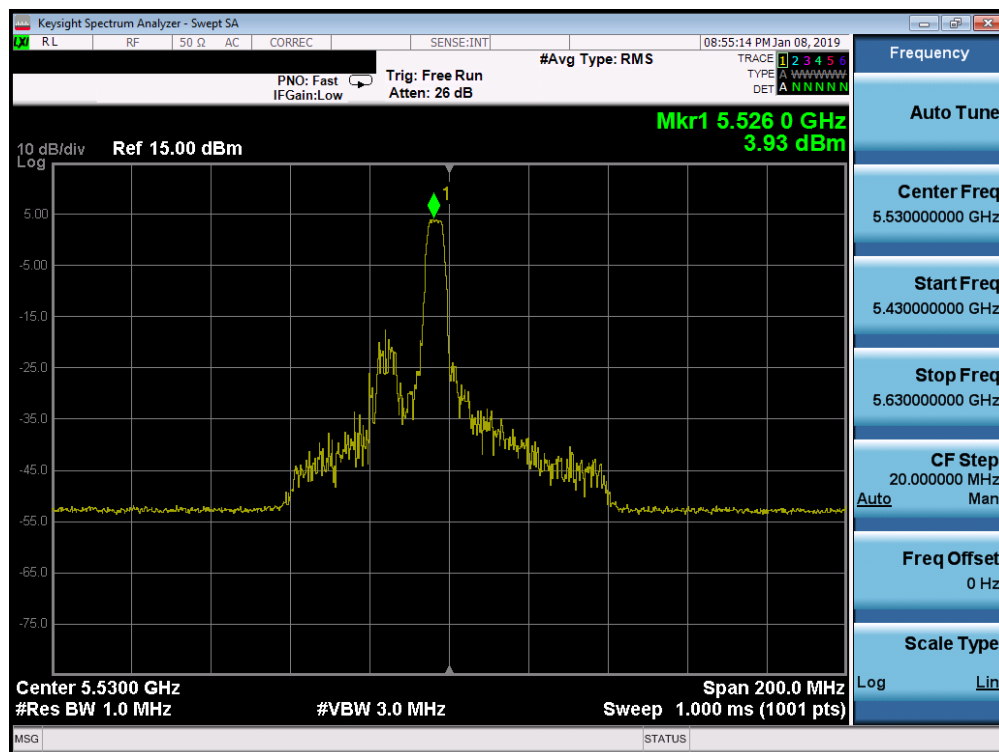


Plot 7-410. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 52 Tones (UNII Band 2C) – Ch. 118)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 290 of 519

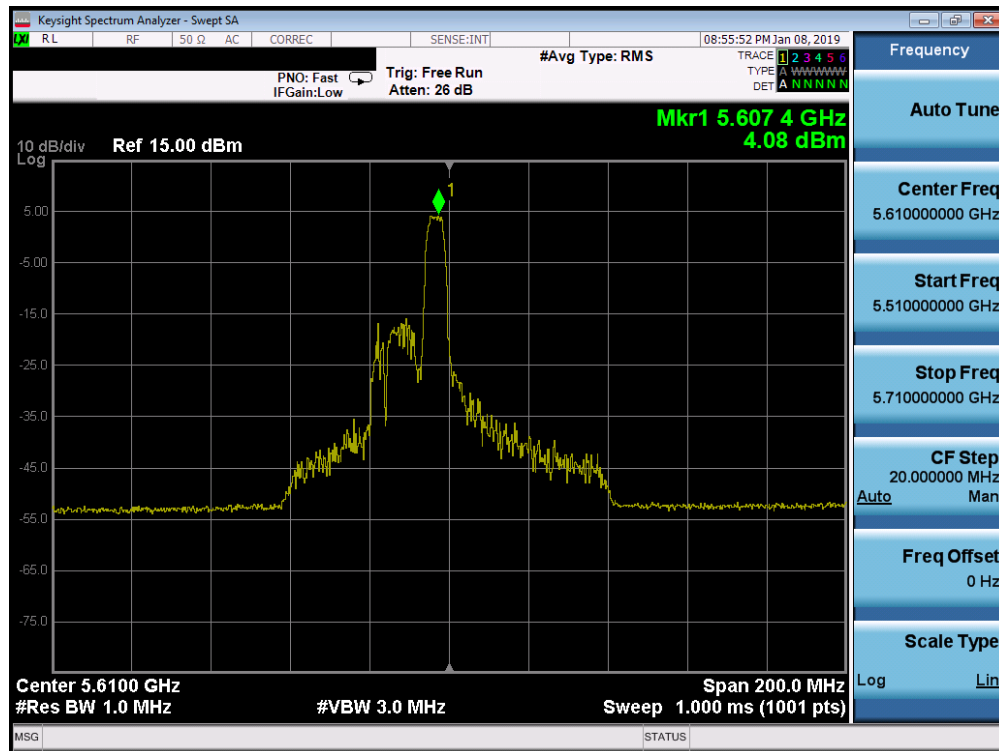


Plot 7-411. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 52 Tones (UNII Band 2C) – Ch. 142)

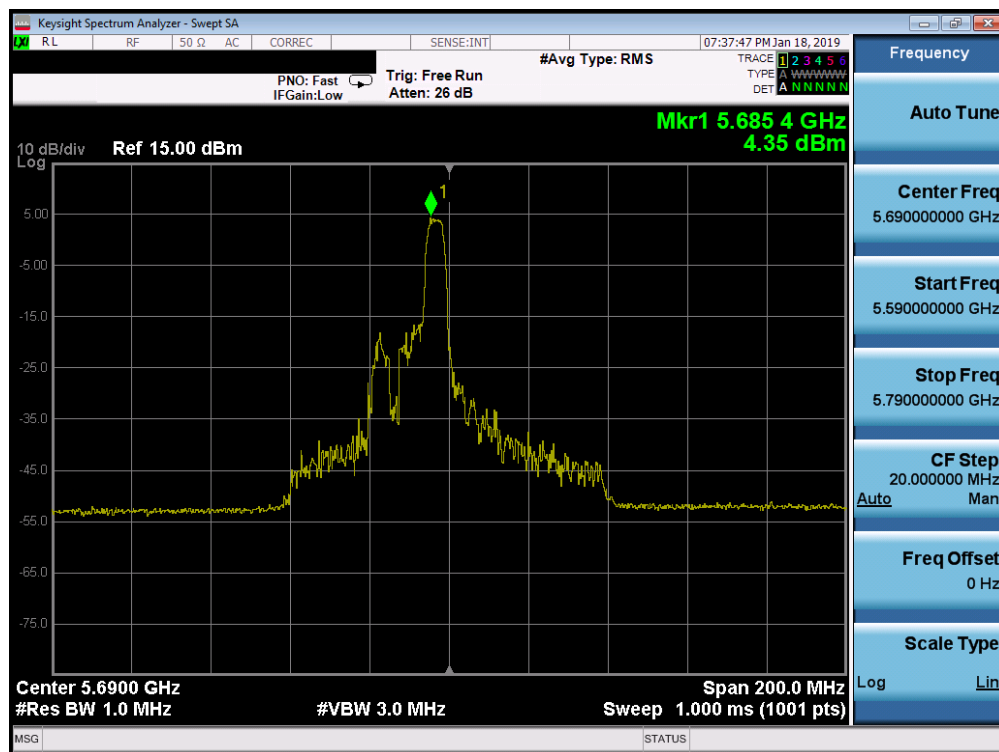


Plot 7-412. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 52 Tones (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMG9700			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset	Page 291 of 519		

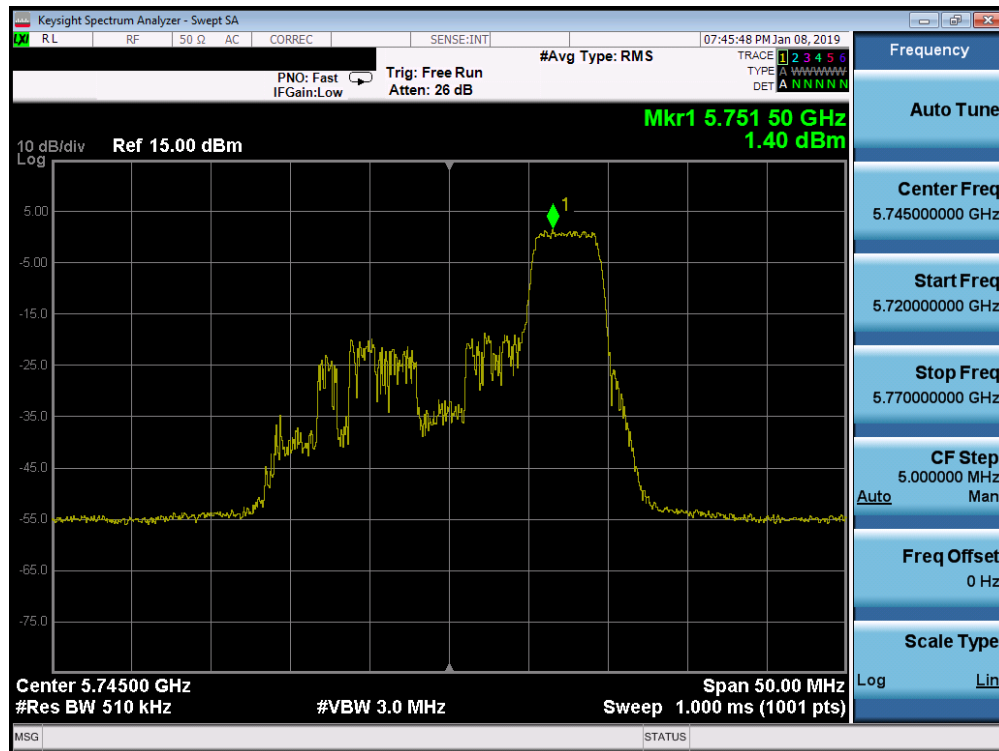


Plot 7-413. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 52 Tones (UNII Band 2C) – Ch. 122)

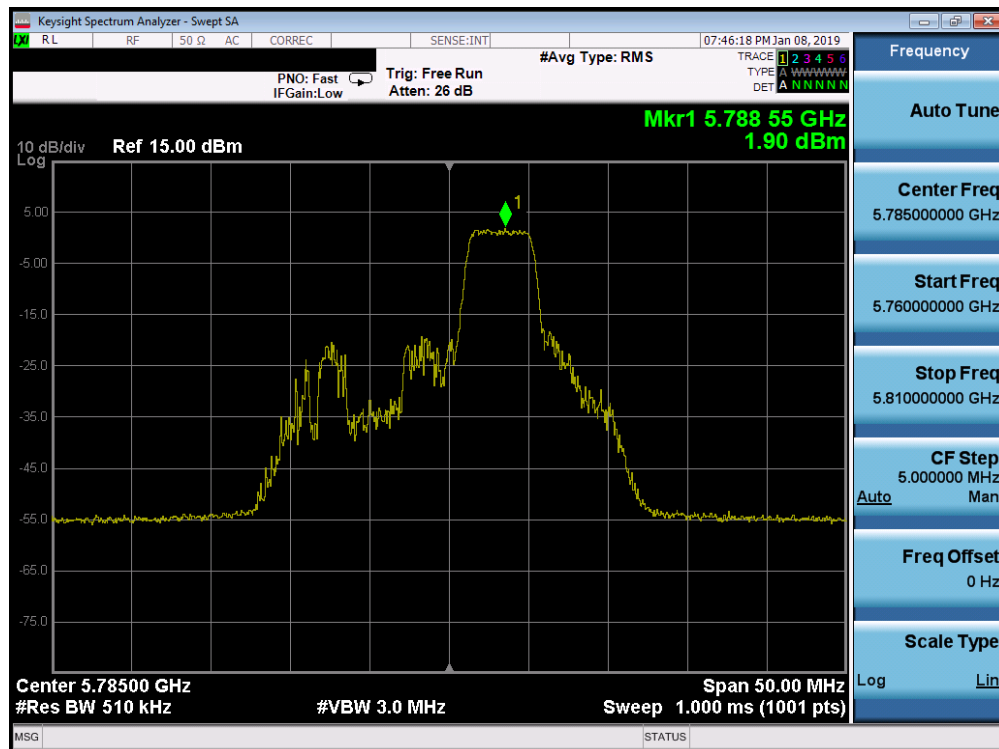


Plot 7-414. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 52 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMG9700		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 292 of 519

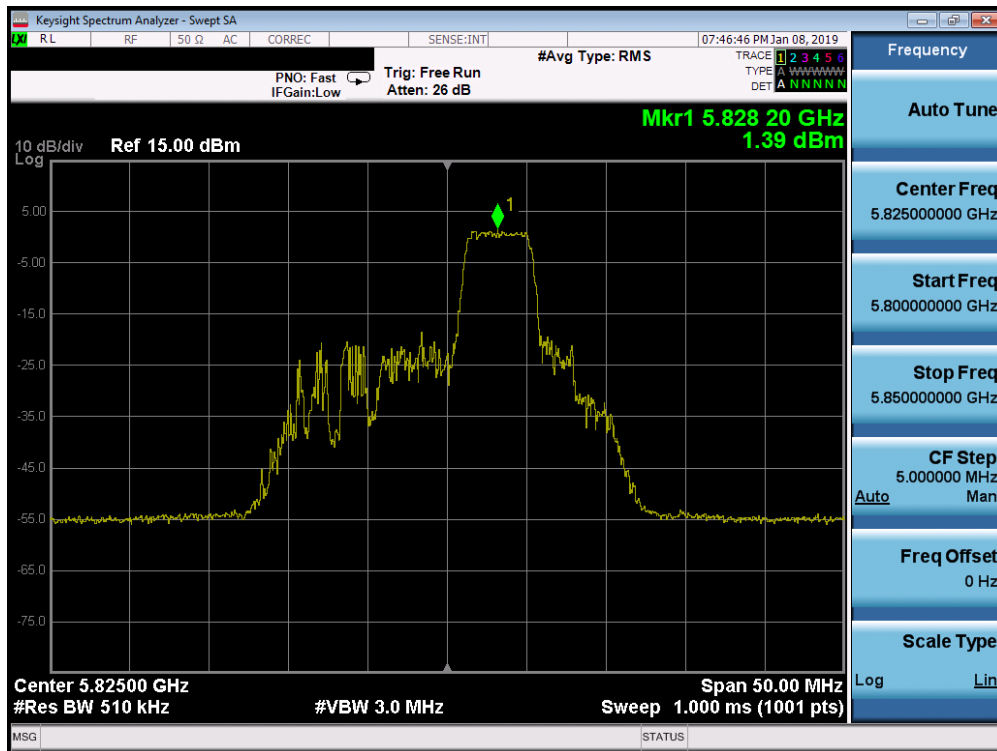


Plot 7-415. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 52 Tones (UNII Band 3) – Ch. 149)

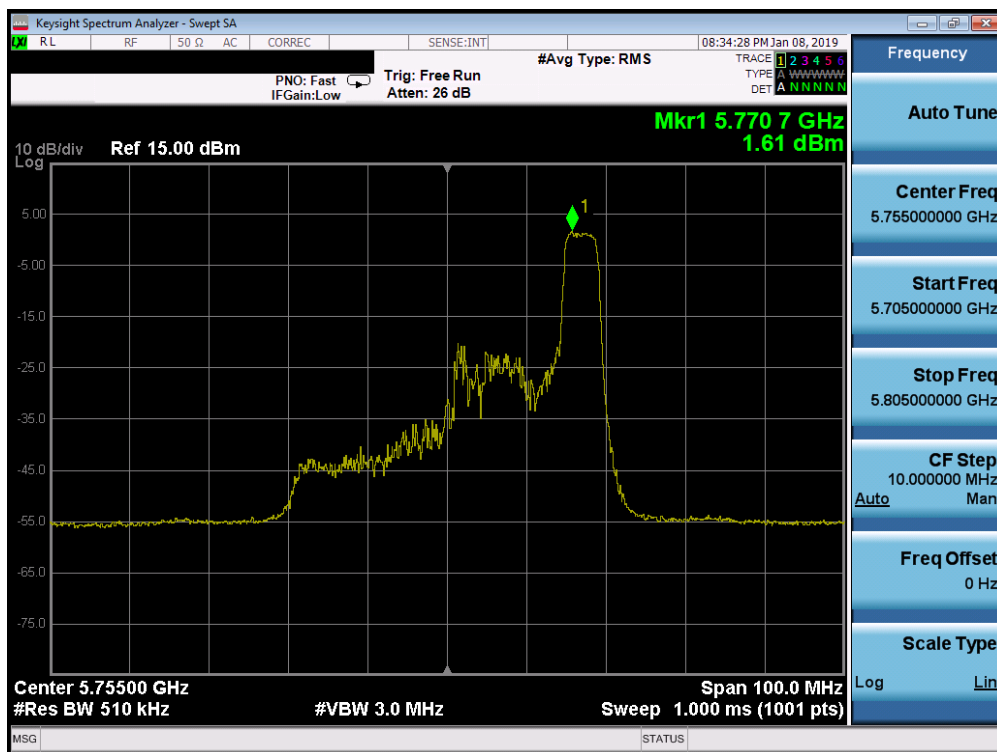


Plot 7-416. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 52 Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 293 of 519

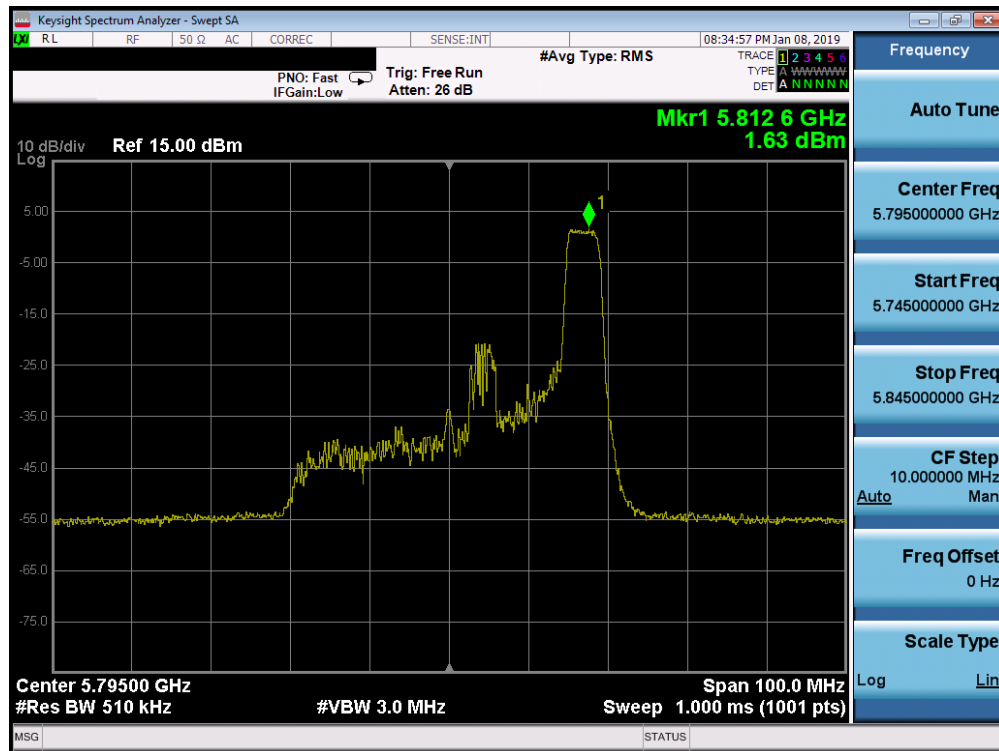


Plot 7-417. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 52 Tones (UNII Band 3) – Ch. 165)

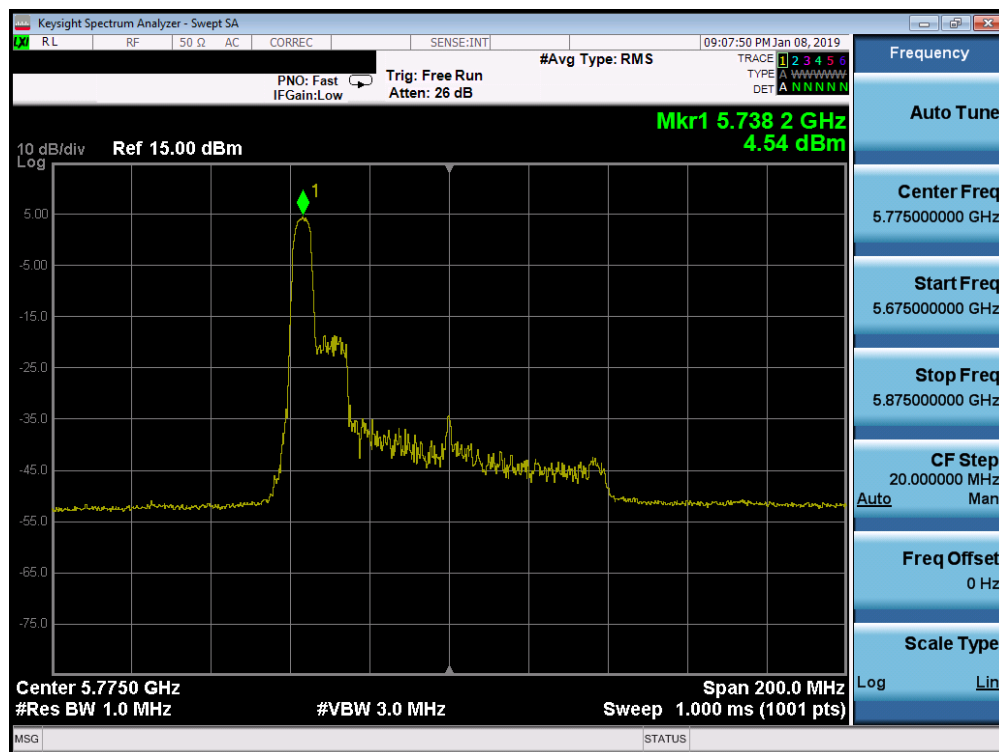


Plot 7-418. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 52 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 294 of 519



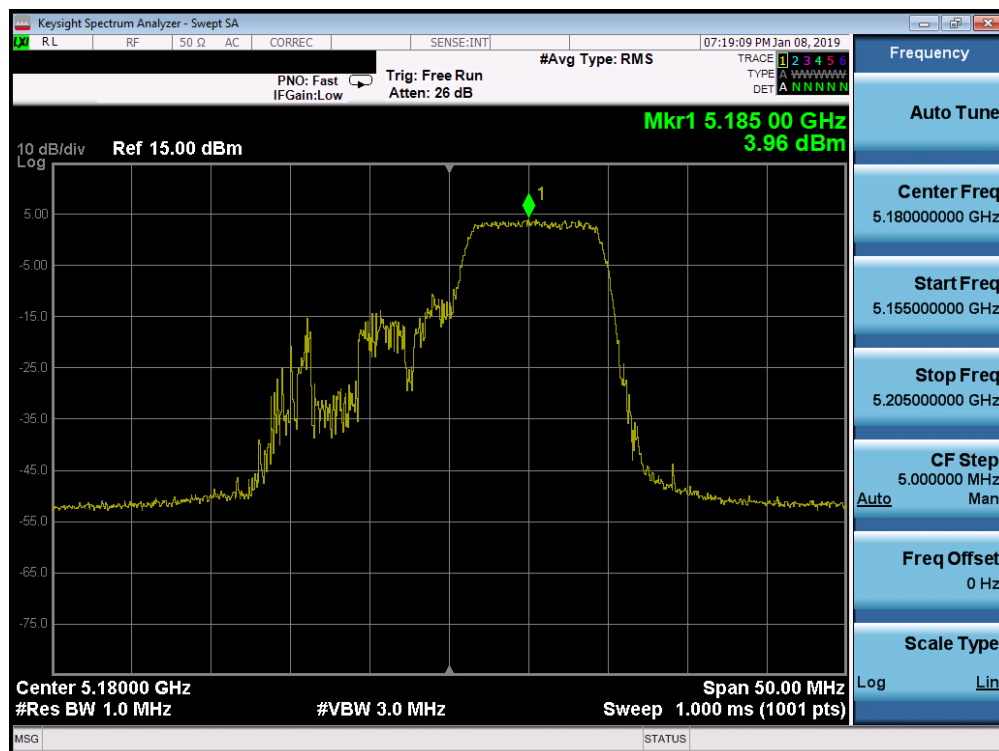
Plot 7-419. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 52 Tones (UNII Band 3) – Ch. 159)



Plot 7-420. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 52 Tones (UNII Band 3) – Ch. 155)

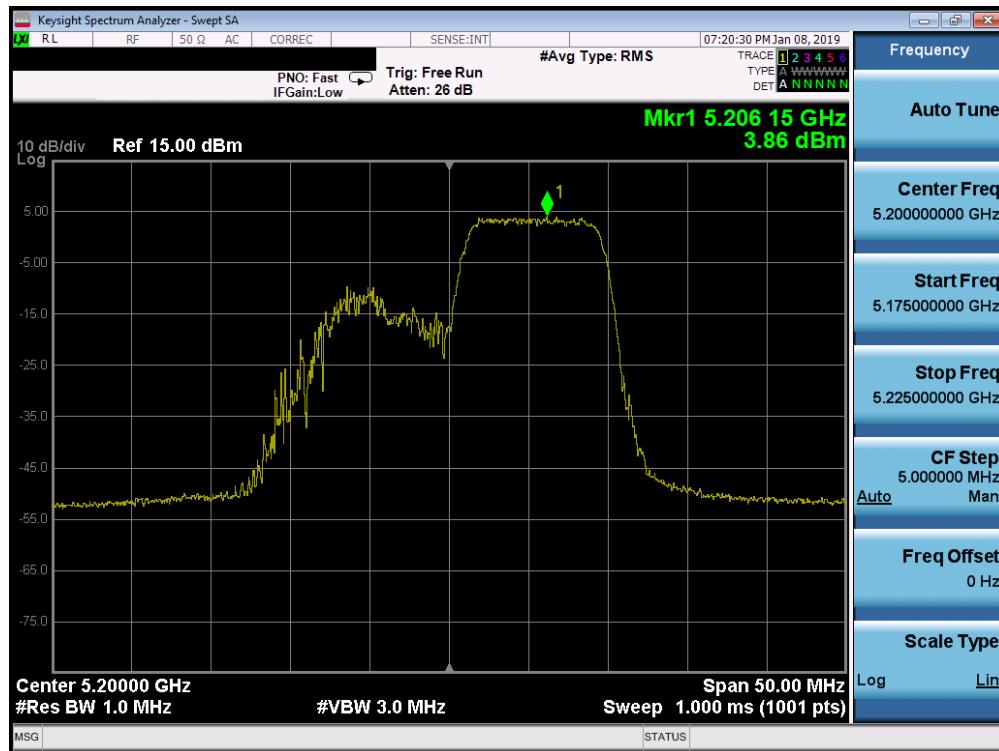
FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 295 of 519

MIMO Antenna-1 Power Spectral Density Measurements (106 Tones)

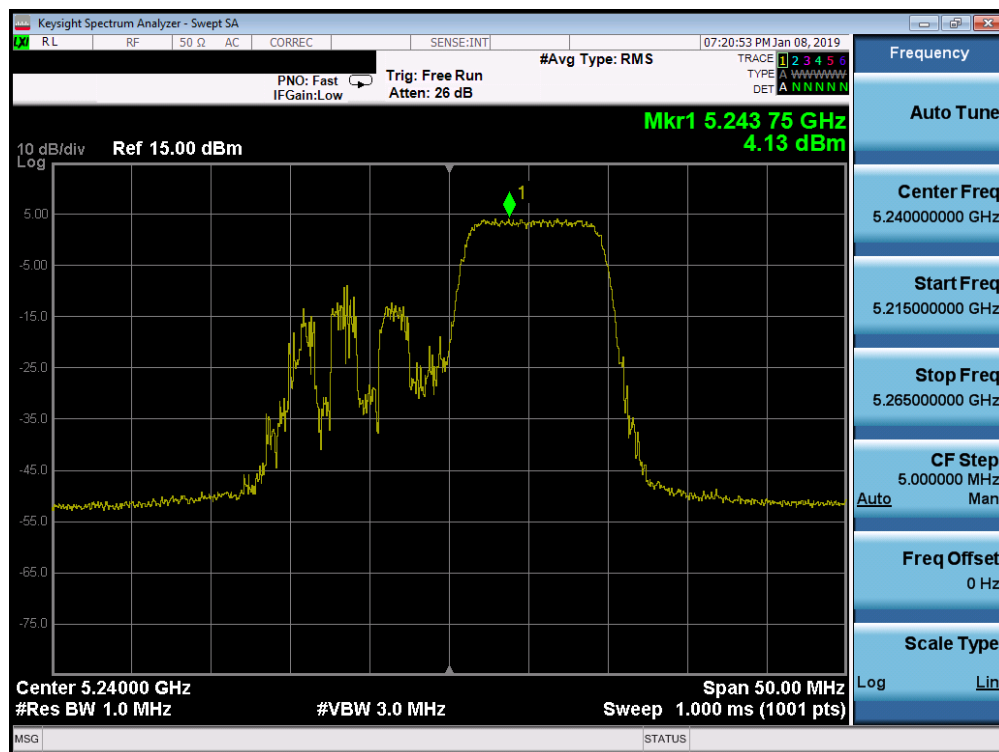


Plot 7-421. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 106 Tones (UNII Band 1) – Ch. 36)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 296 of 519

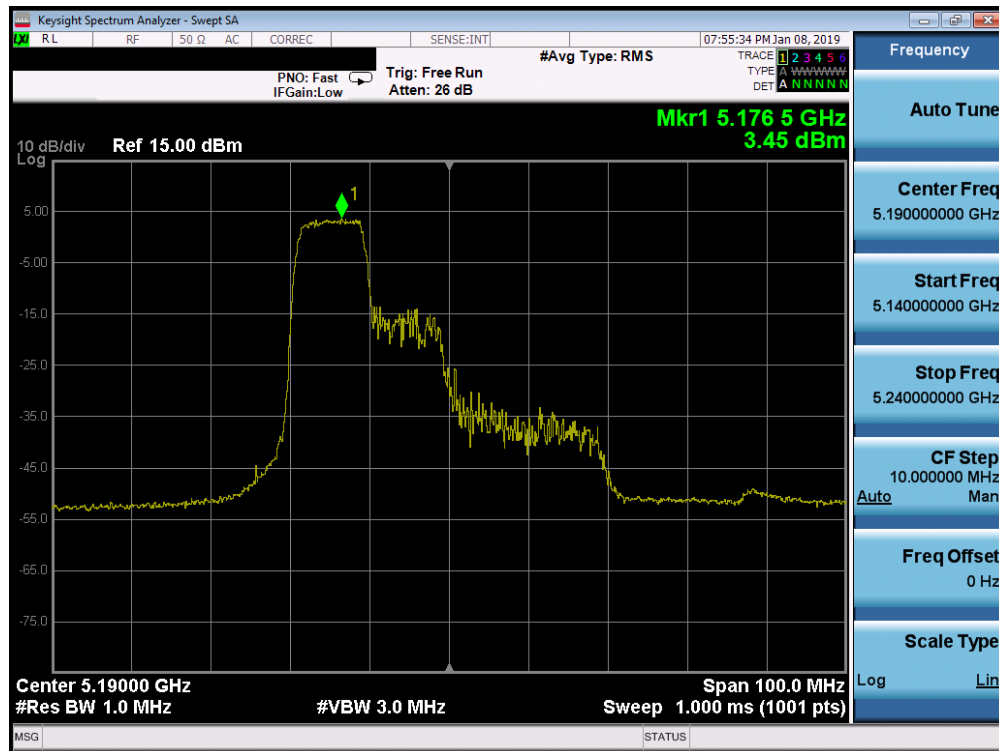


Plot 7-422. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 106 Tones (UNII Band 1) – Ch. 40)

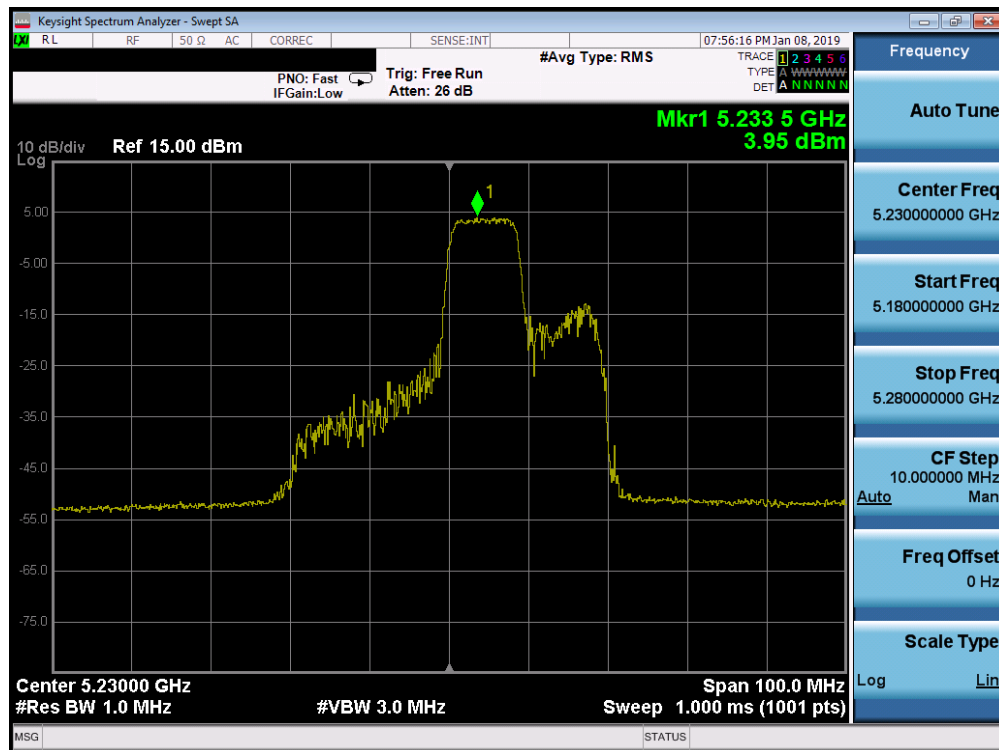


Plot 7-423. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 106 Tones (UNII Band 1) – Ch. 48)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 297 of 519

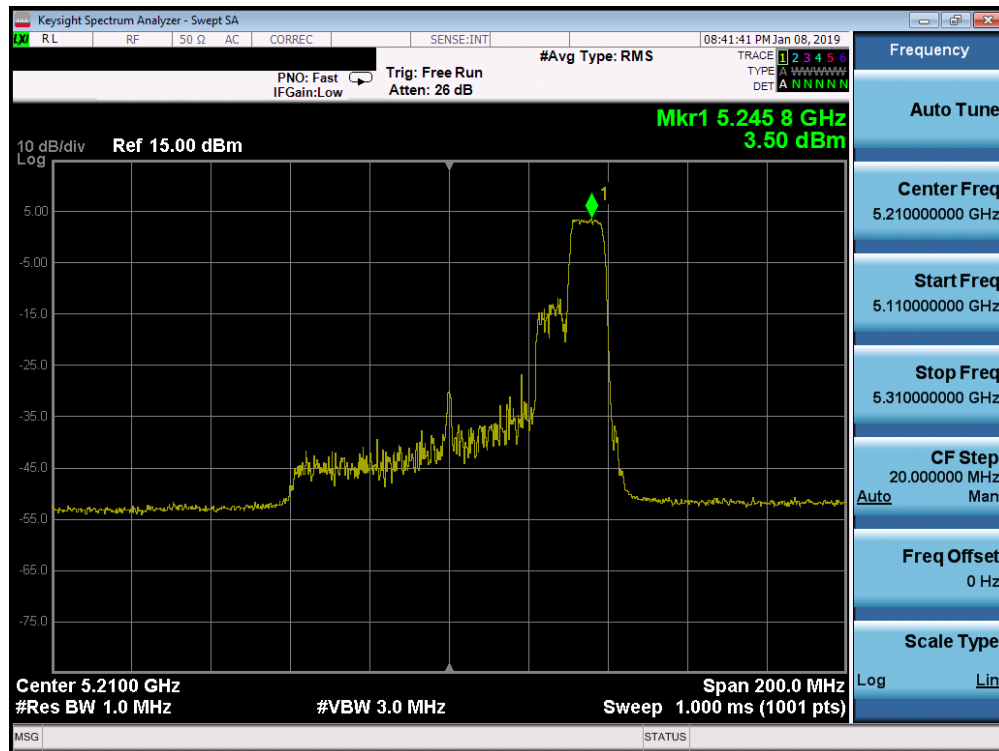


Plot 7-424. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 106 Tones (UNII Band 1) – Ch. 38)

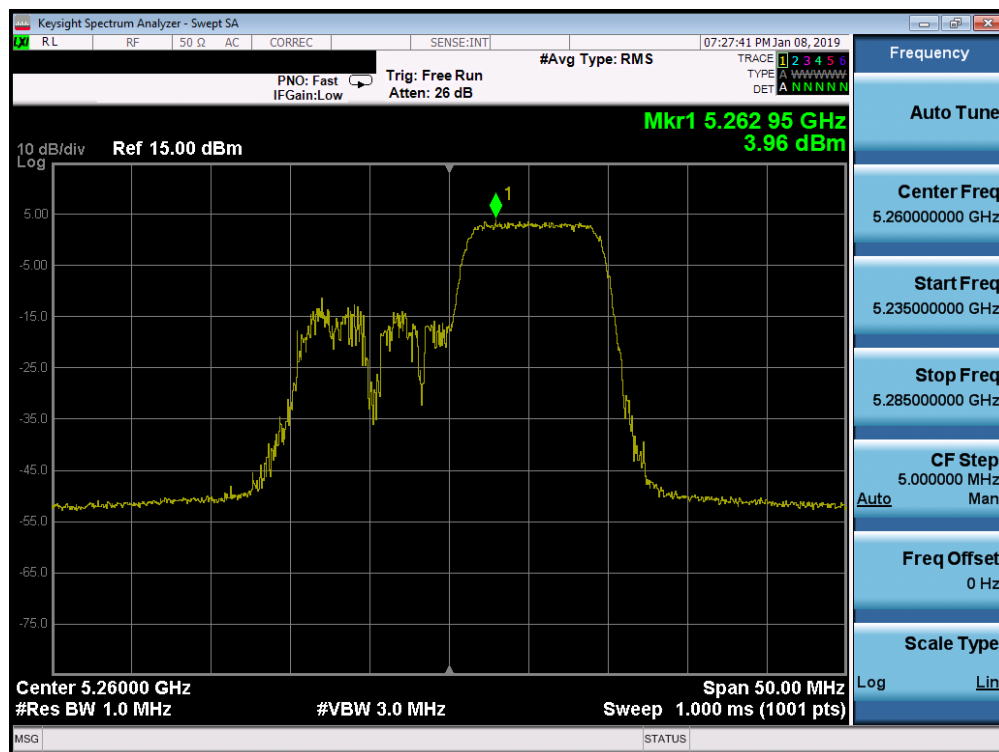


Plot 7-425. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 106 Tones (UNII Band 1) – Ch. 46)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 298 of 519

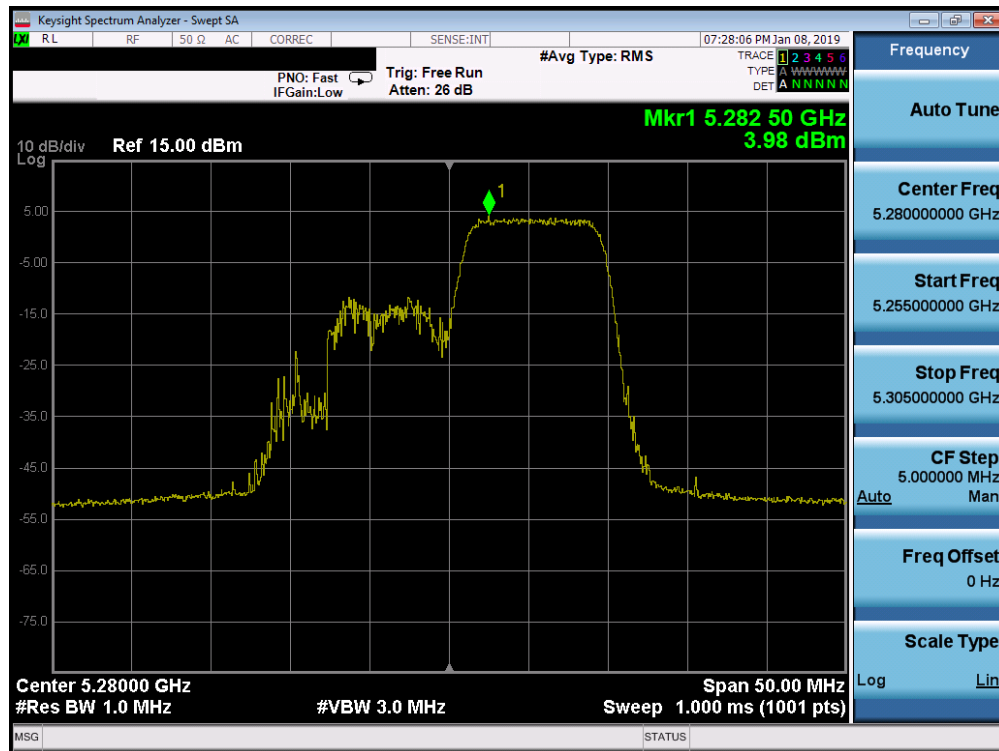


Plot 7-426. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 106 Tones (UNII Band 1) – Ch. 42)

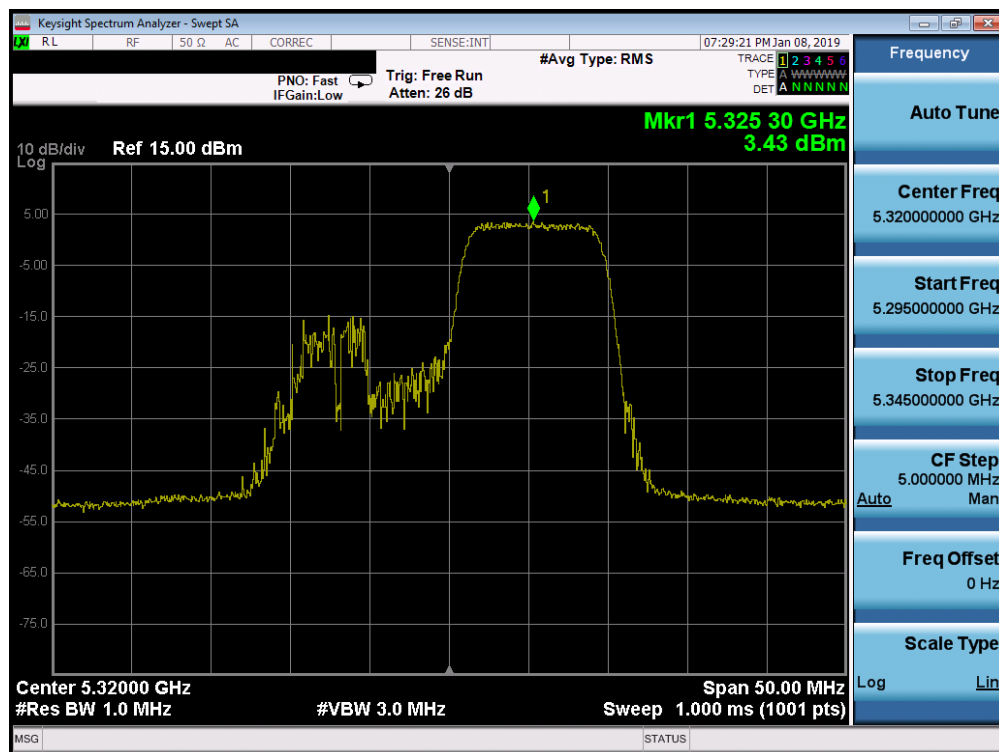


Plot 7-427. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 106 Tones (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 299 of 519

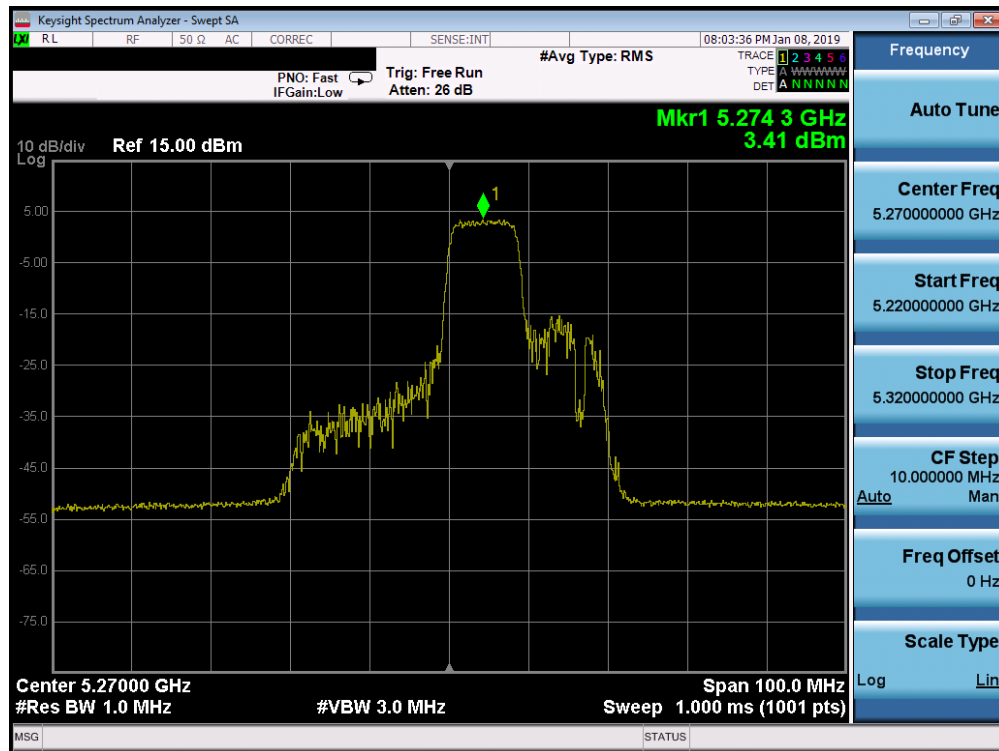


Plot 7-428. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 106 Tones (UNII Band 2A) – Ch. 56)

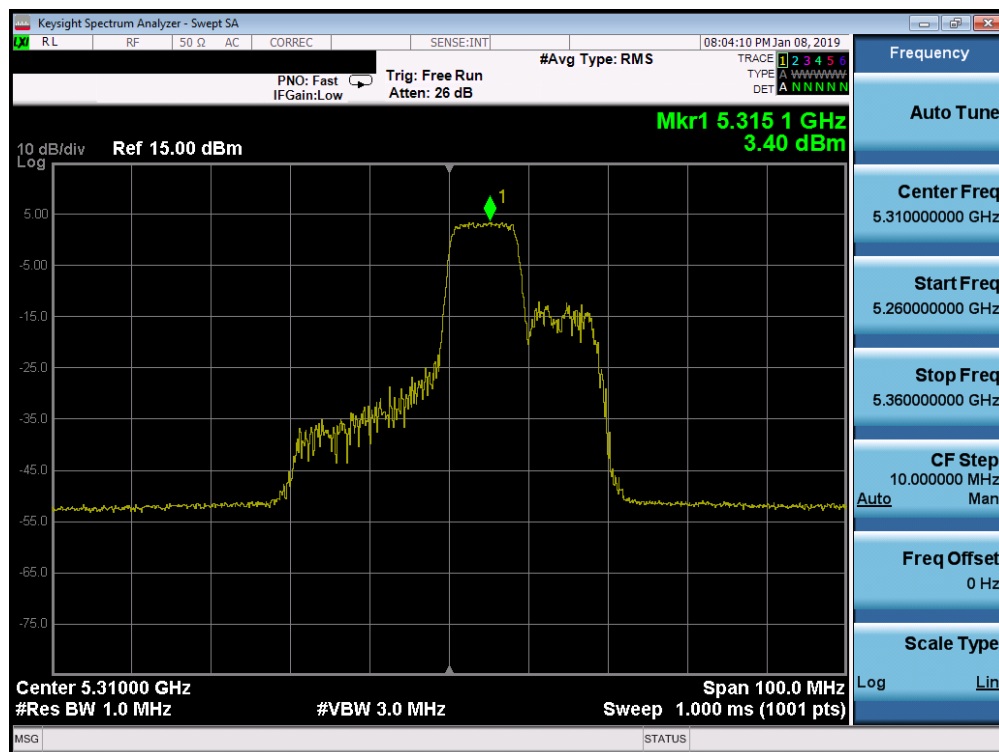


Plot 7-429. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 106 Tones (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 300 of 519

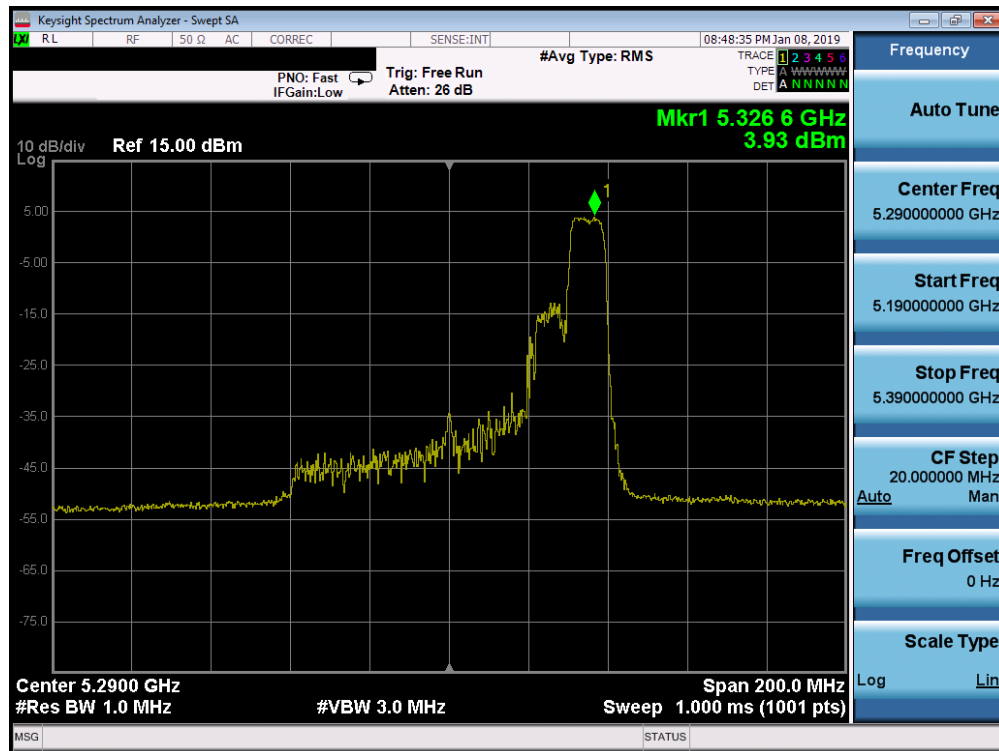


Plot 7-430. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 106 Tones (UNII Band 2A) – Ch. 54)

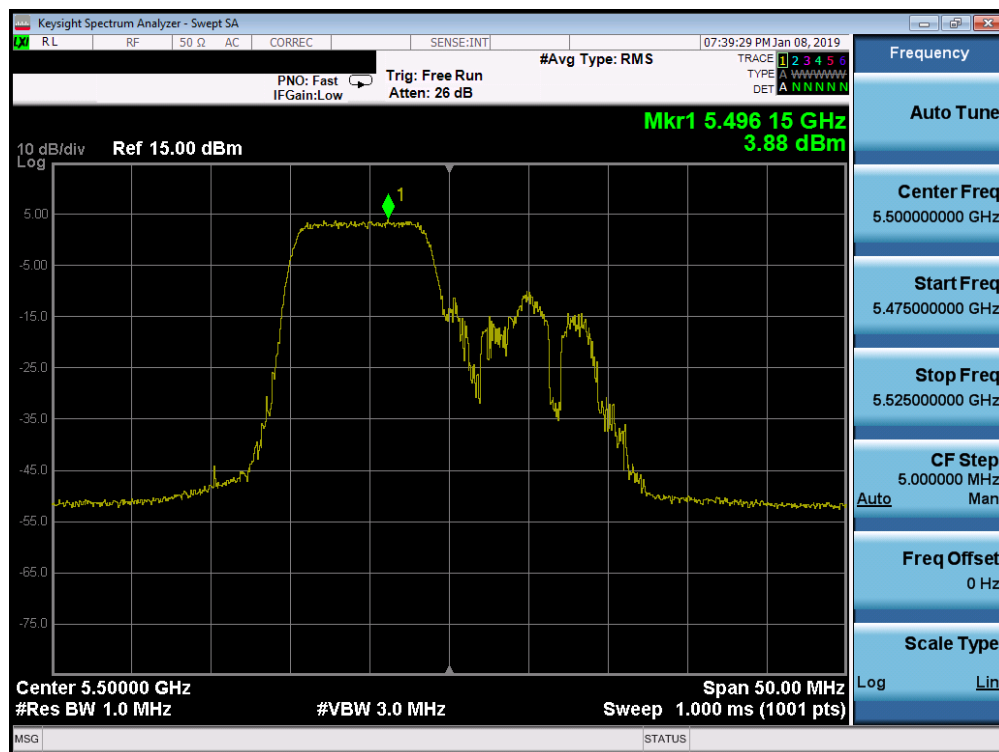


Plot 7-431. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 106 Tones (UNII Band 2A) – Ch. 62)

FCC ID: A3LSMG9700	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset	Page 301 of 519

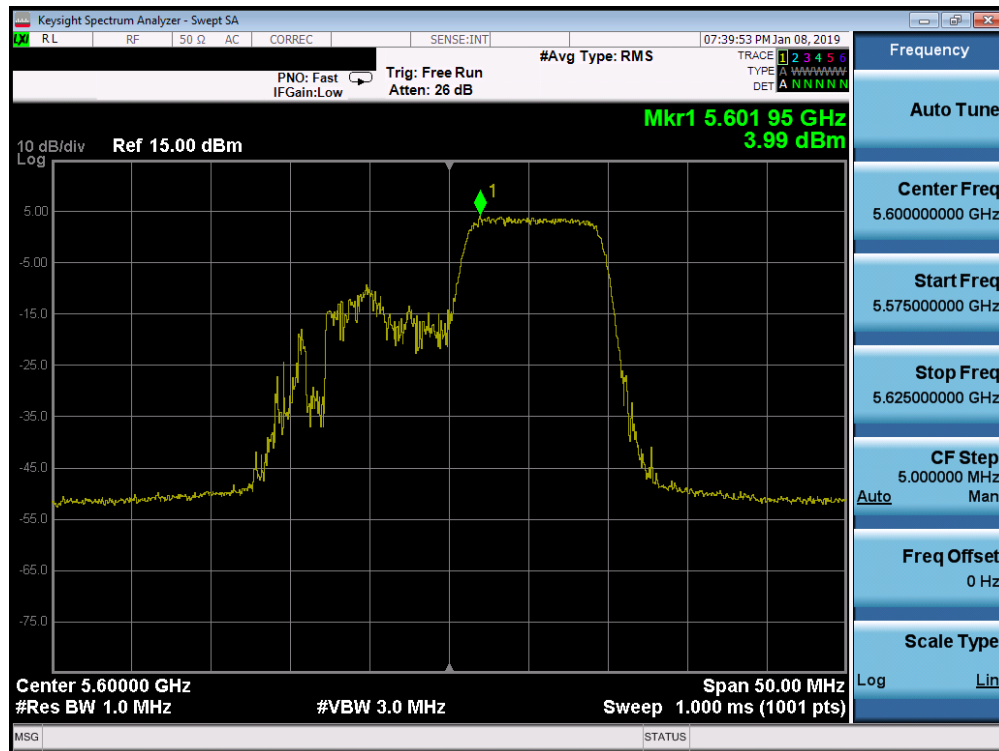


Plot 7-432. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 106 Tones (UNII Band 2A) – Ch. 58)

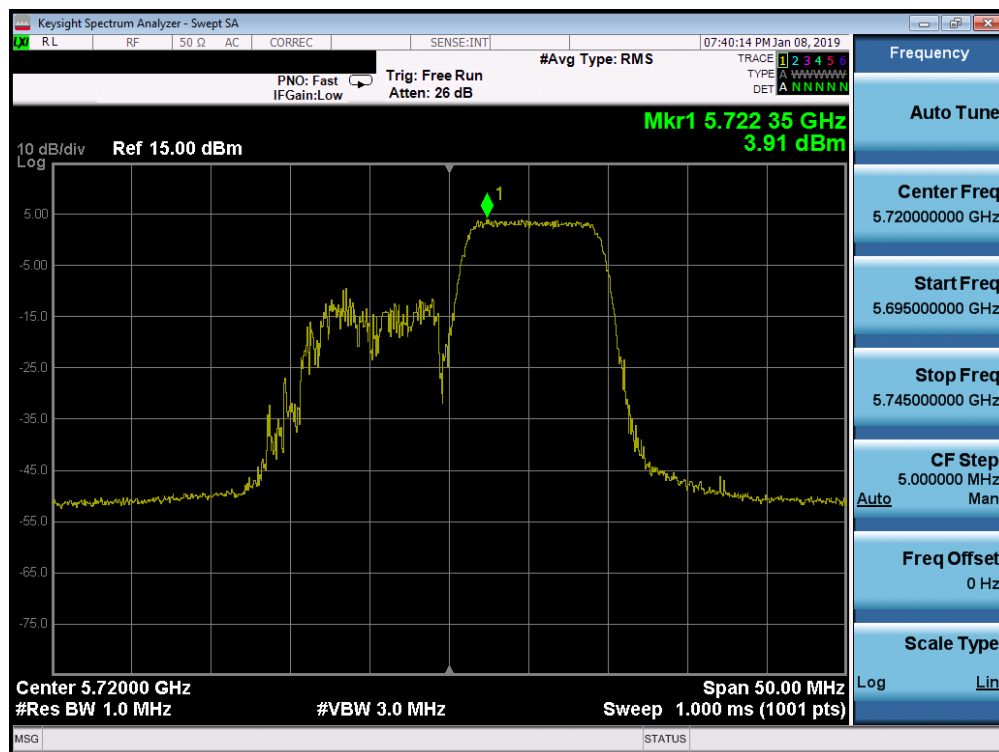


Plot 7-433. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 106 Tones (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 302 of 519

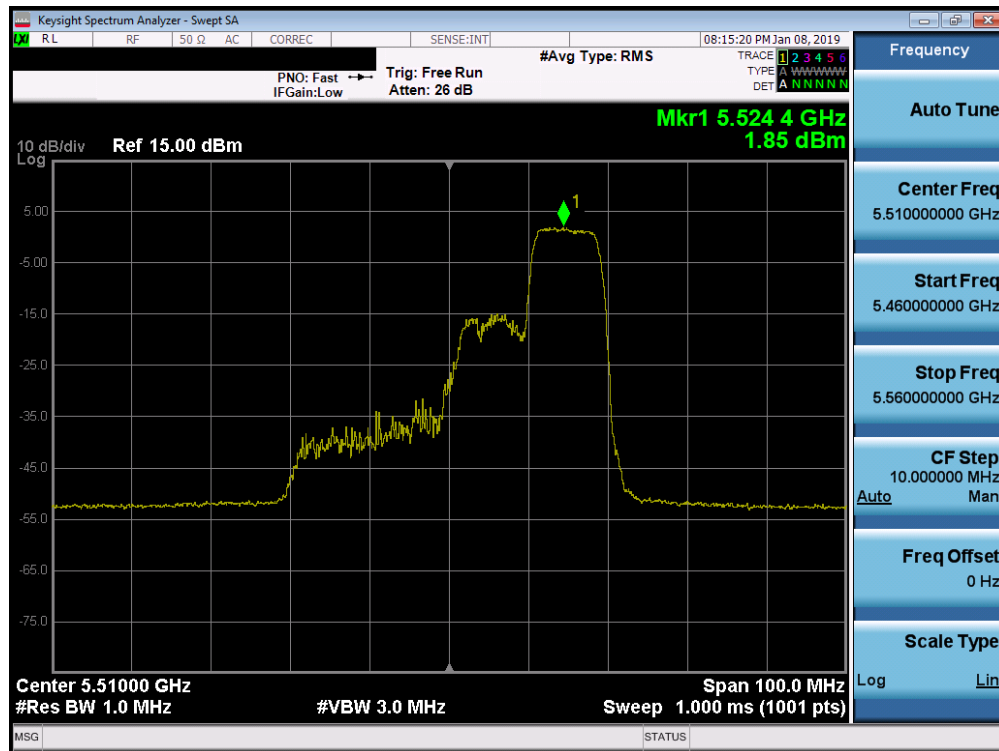


Plot 7-434. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 106 Tones (UNII Band 2C) – Ch. 120)



Plot 7-435. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 106 Tones (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 303 of 519



Plot 7-436. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 106 Tones (UNII Band 2C) – Ch. 102)

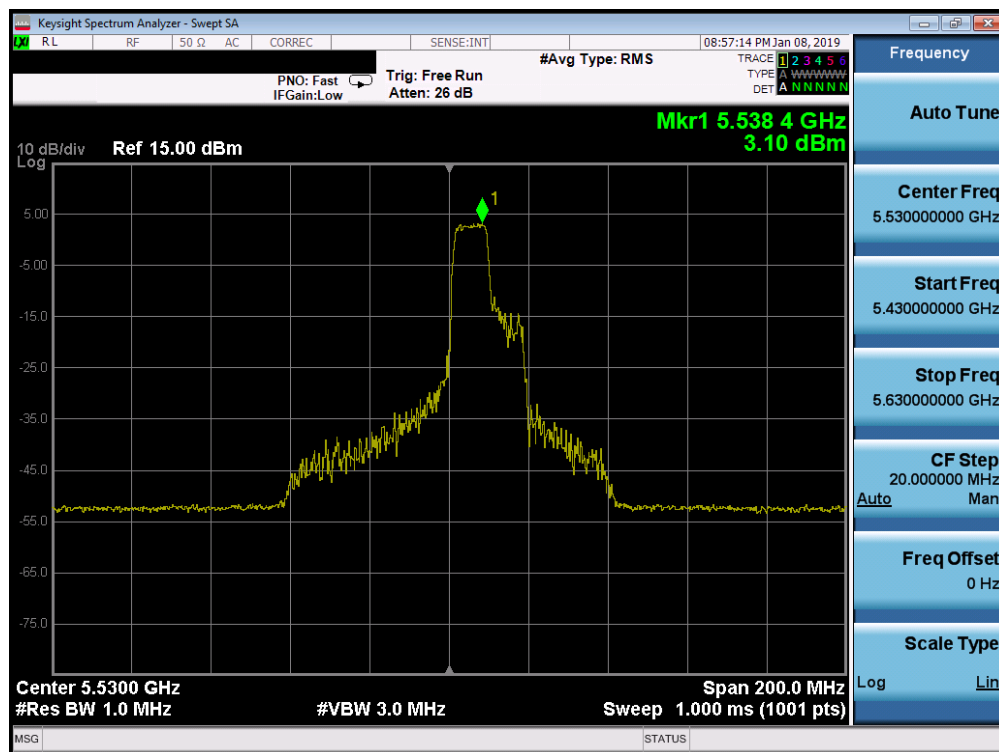


Plot 7-437. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 106 Tones (UNII Band 2C) – Ch. 118)

FCC ID: A3LSMG9700			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset	Page 304 of 519		

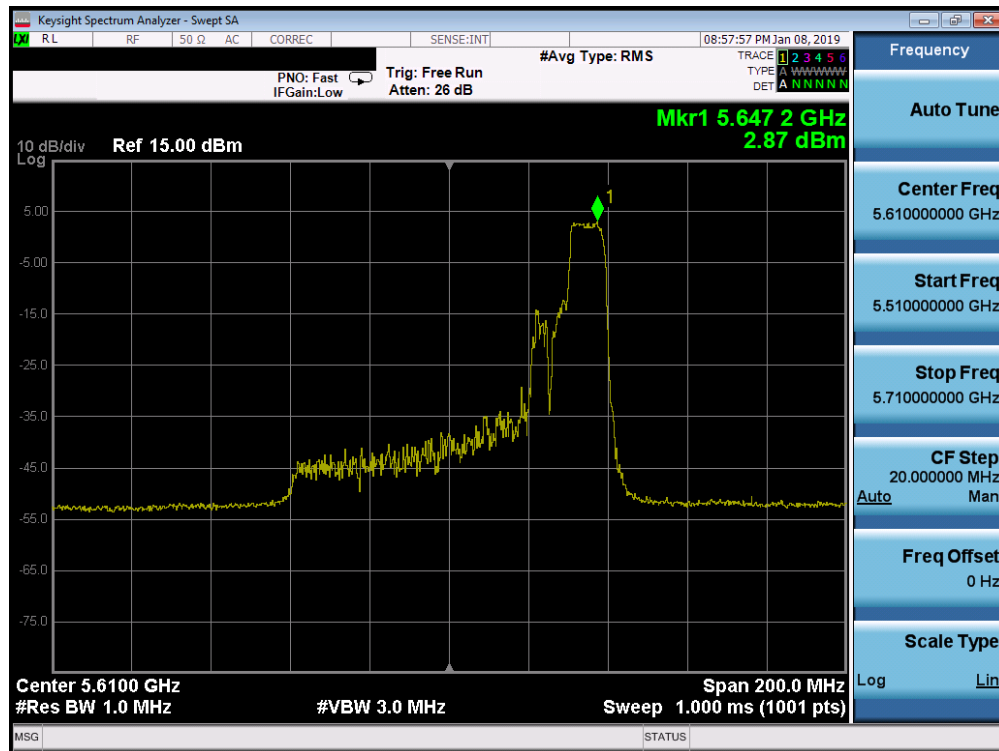


Plot 7-438. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 106 Tones (UNII Band 2C) – Ch. 142)

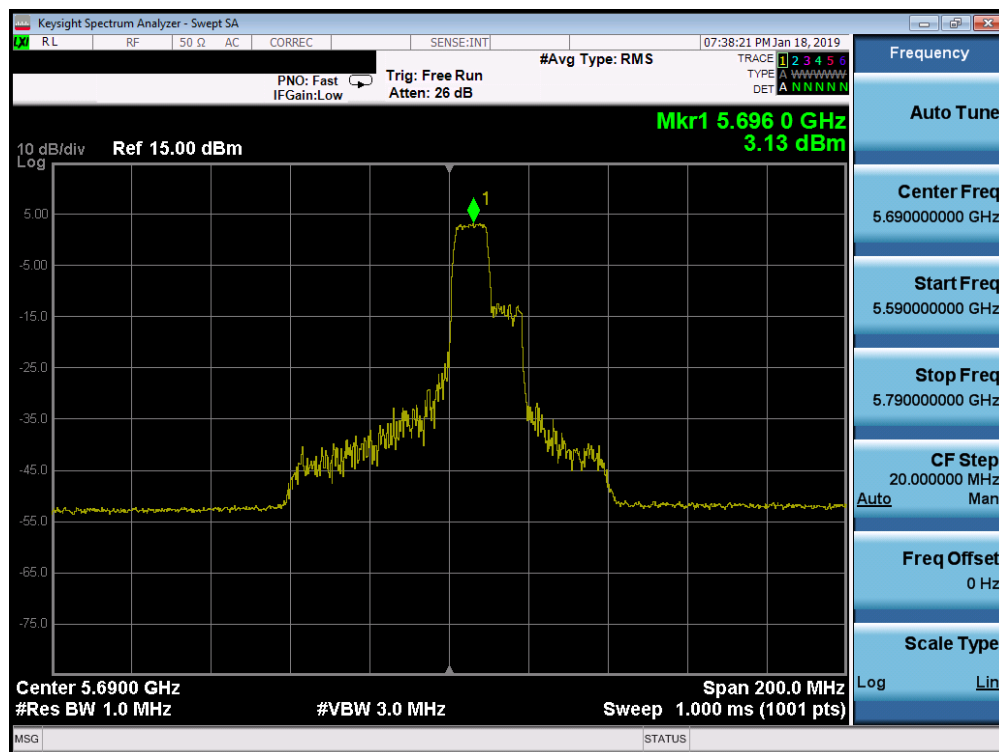


Plot 7-439. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 106 Tones (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMG9700			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset	Page 305 of 519		

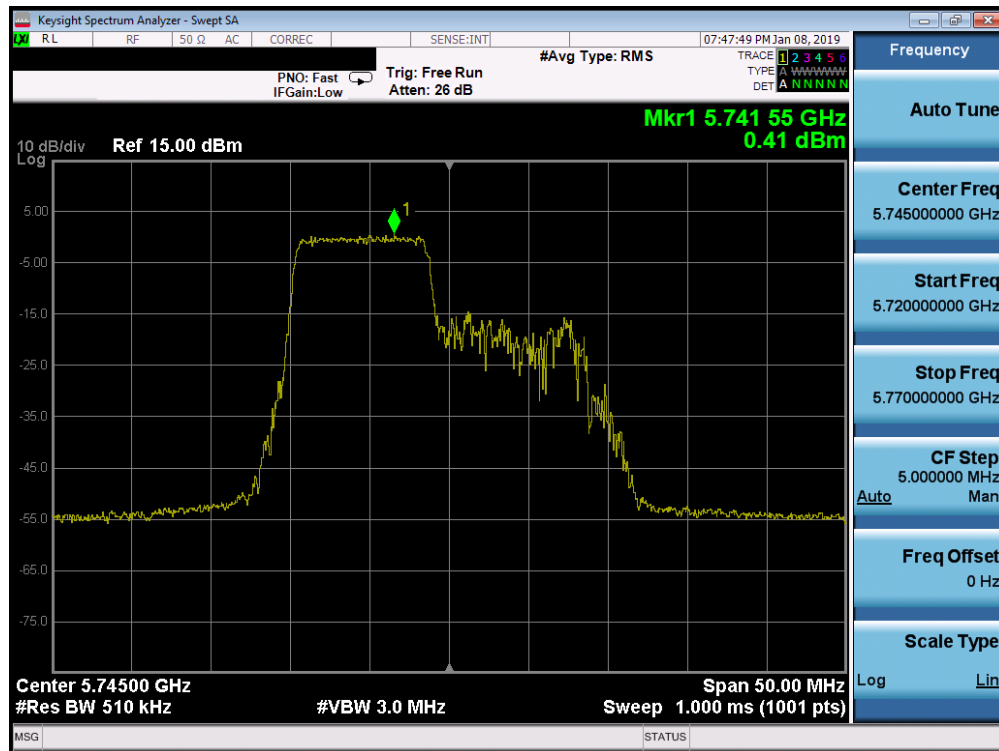


Plot 7-440. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 106 Tones (UNII Band 2C) – Ch. 122)

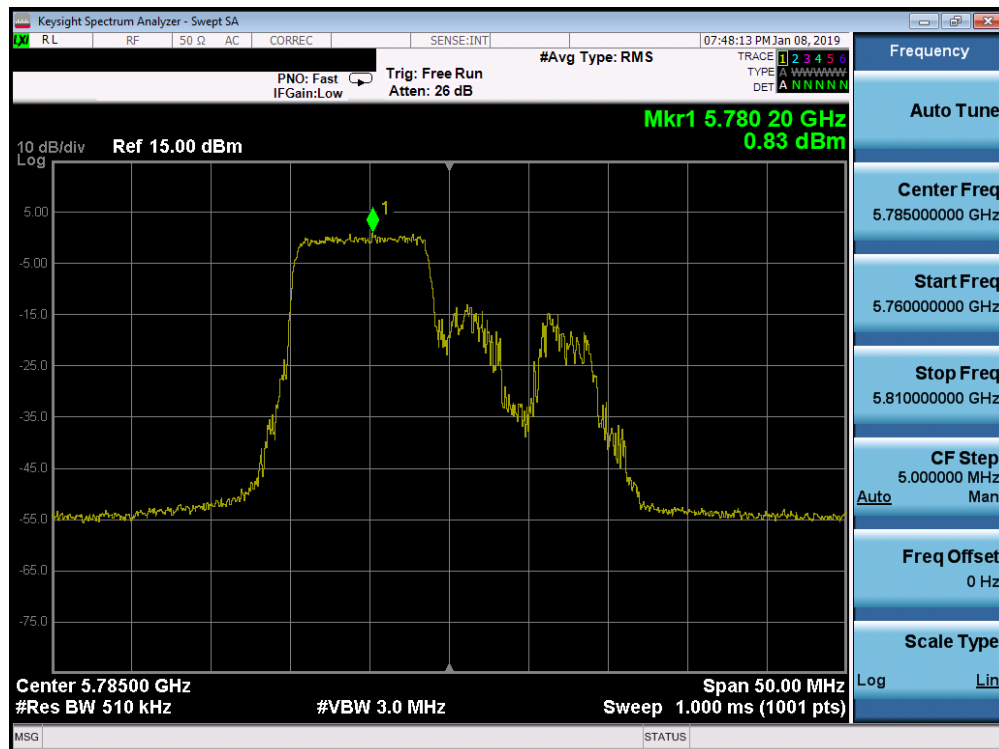


Plot 7-441. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 106 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 306 of 519

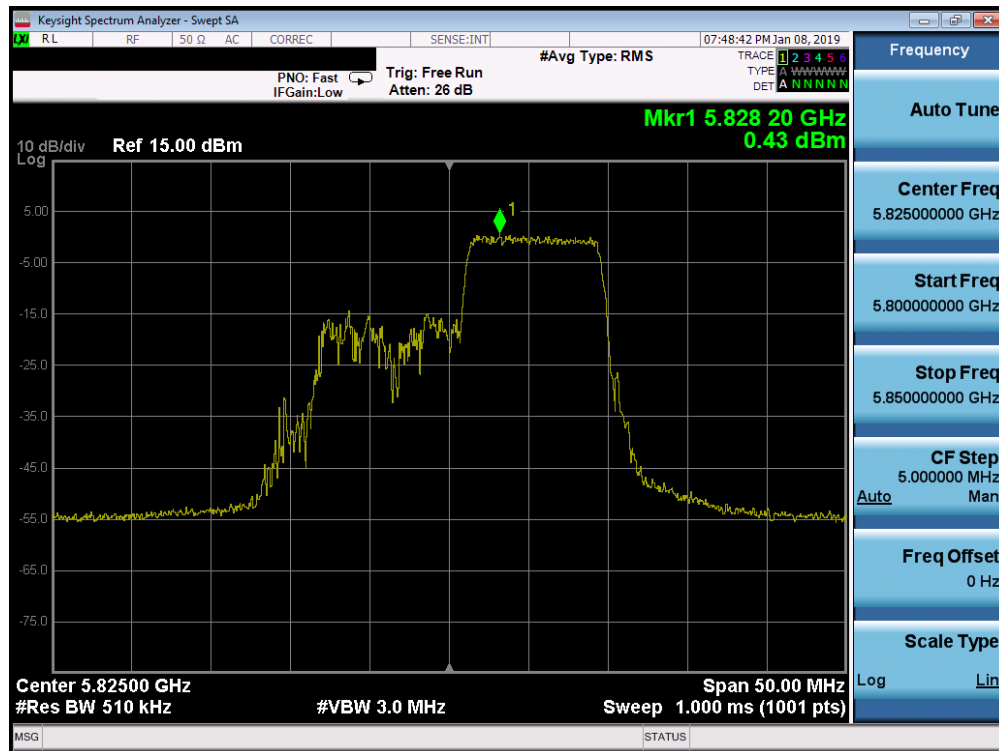


Plot 7-442. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 106 Tones (UNII Band 3) – Ch. 149)

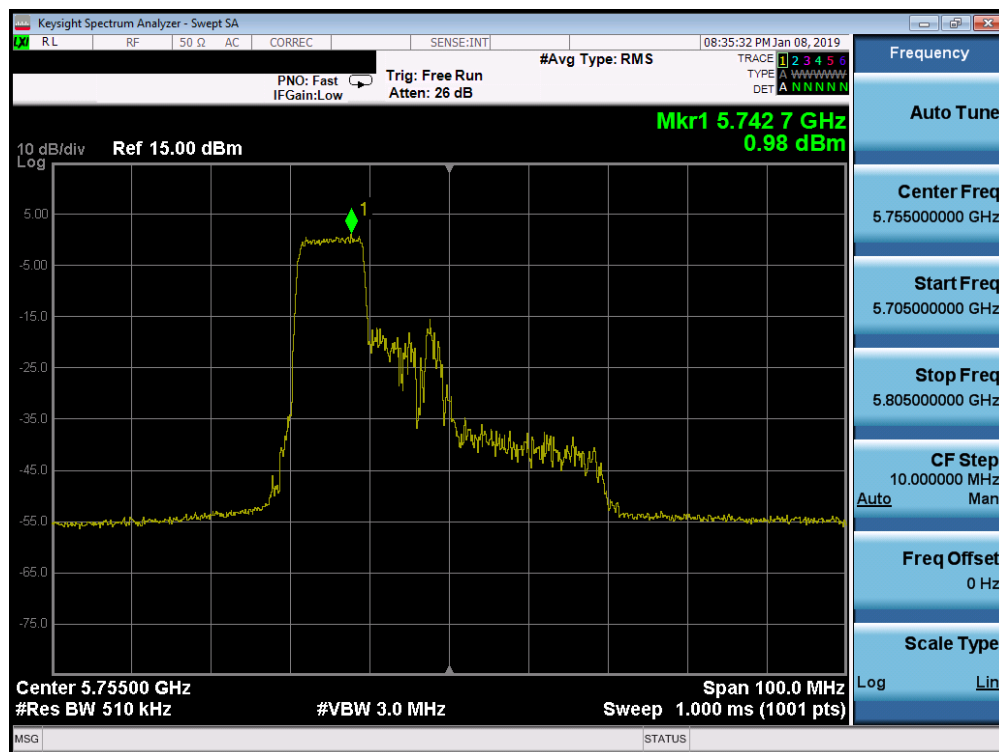


Plot 7-443. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 106 Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMG9700	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset	Page 307 of 519

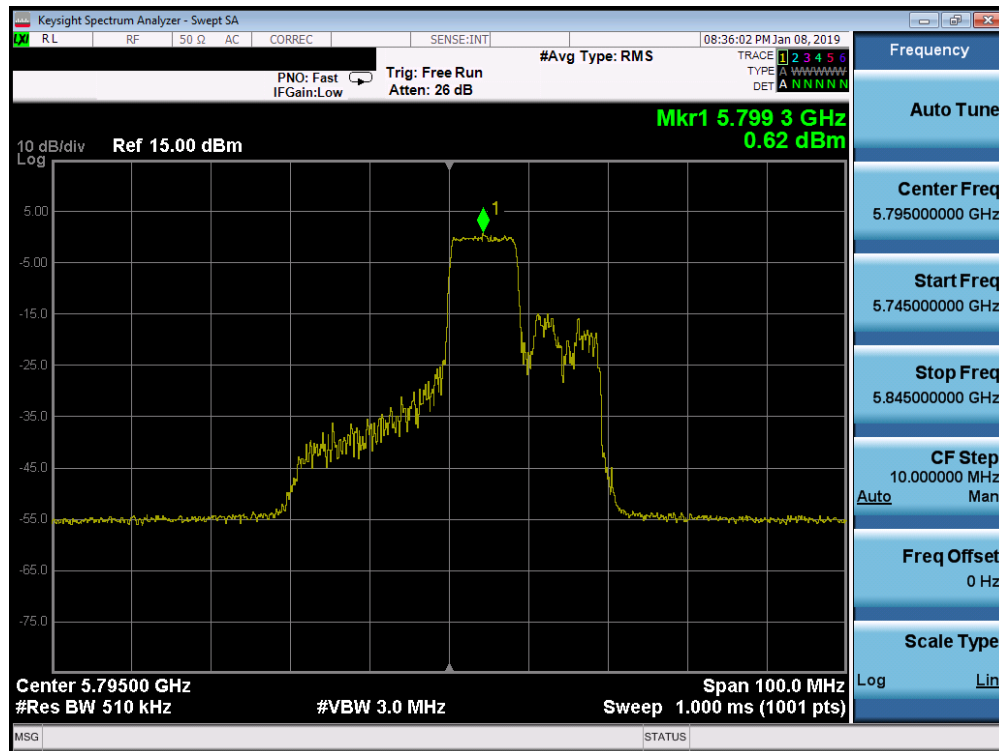


Plot 7-444. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 106 Tones (UNII Band 3) – Ch. 165)

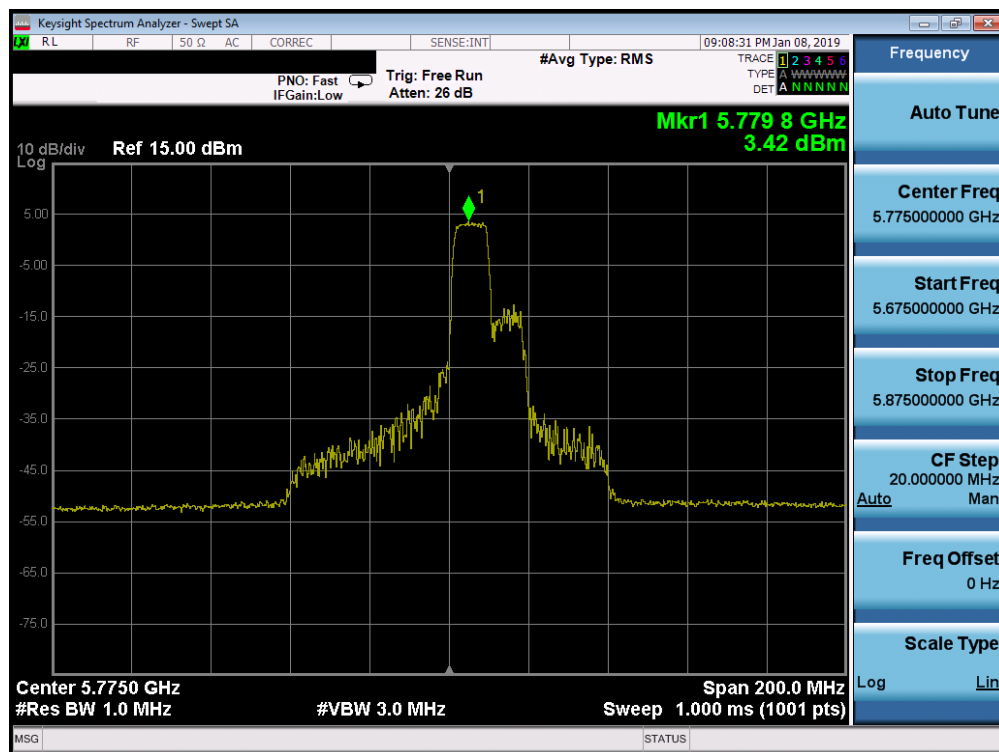


Plot 7-445. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 106 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 308 of 519



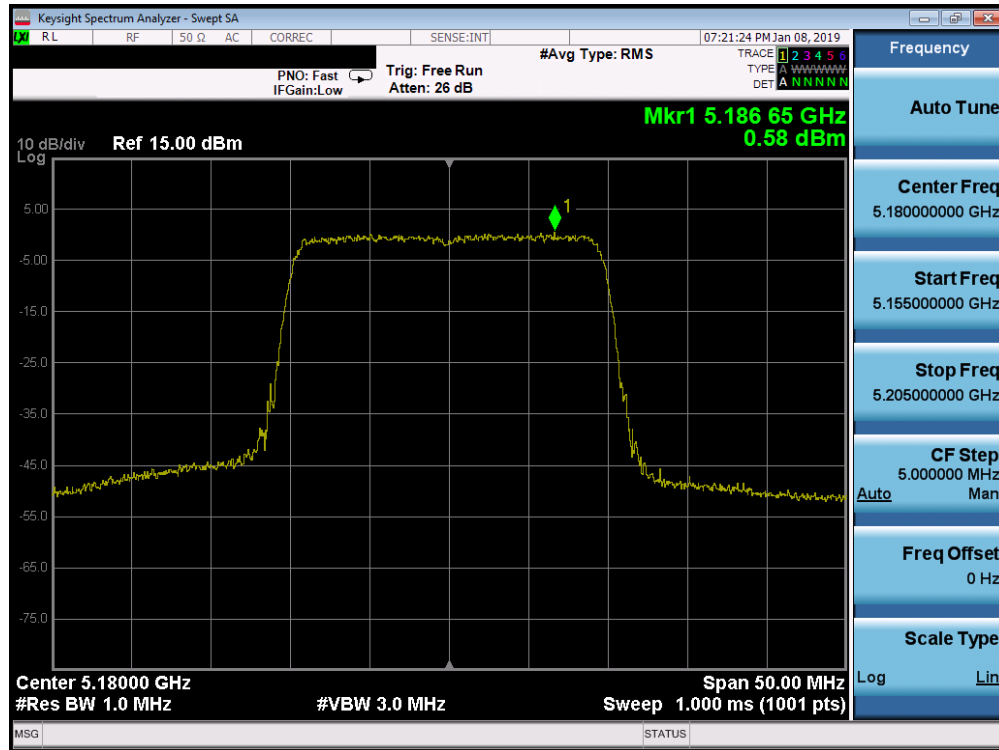
Plot 7-446. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 106 Tones (UNII Band 3) – Ch. 159)



Plot 7-447. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 106 Tones (UNII Band 3) – Ch. 155)

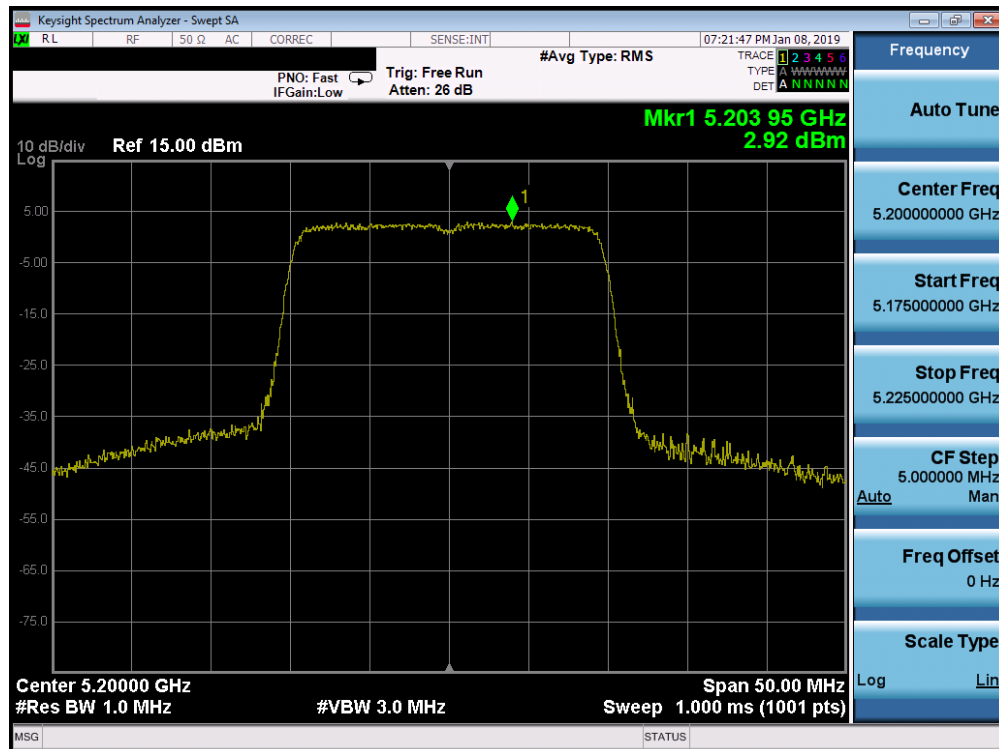
FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 309 of 519

MIMO Antenna-1 Power Spectral Density Measurements (242 Tones)

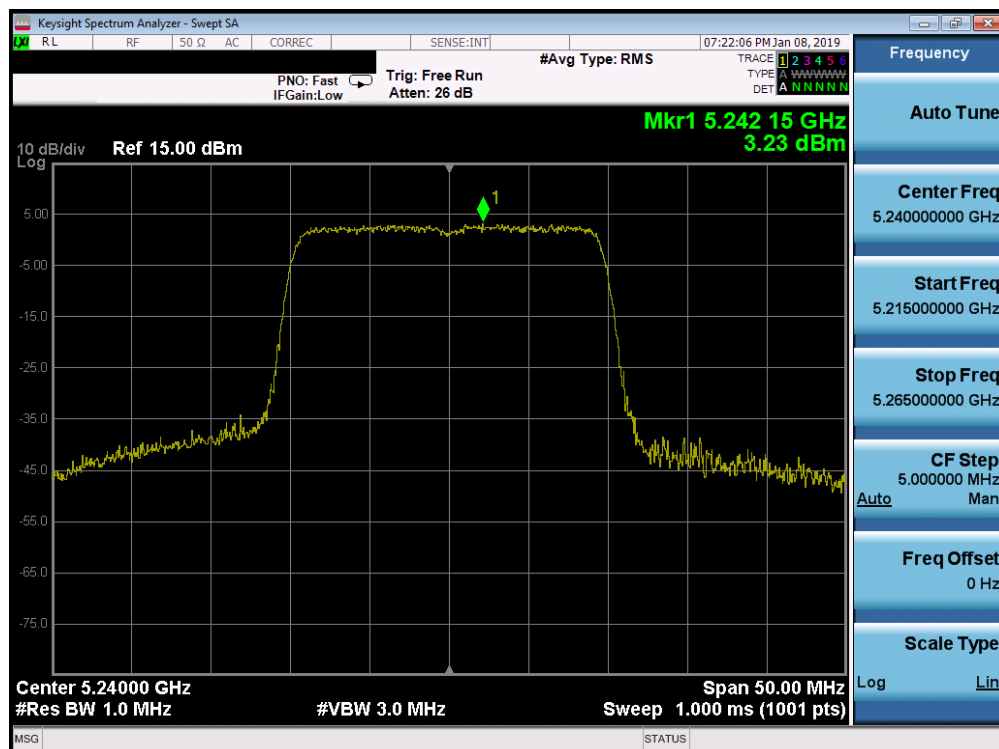


Plot 7-448. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 1) – Ch. 36)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 310 of 519

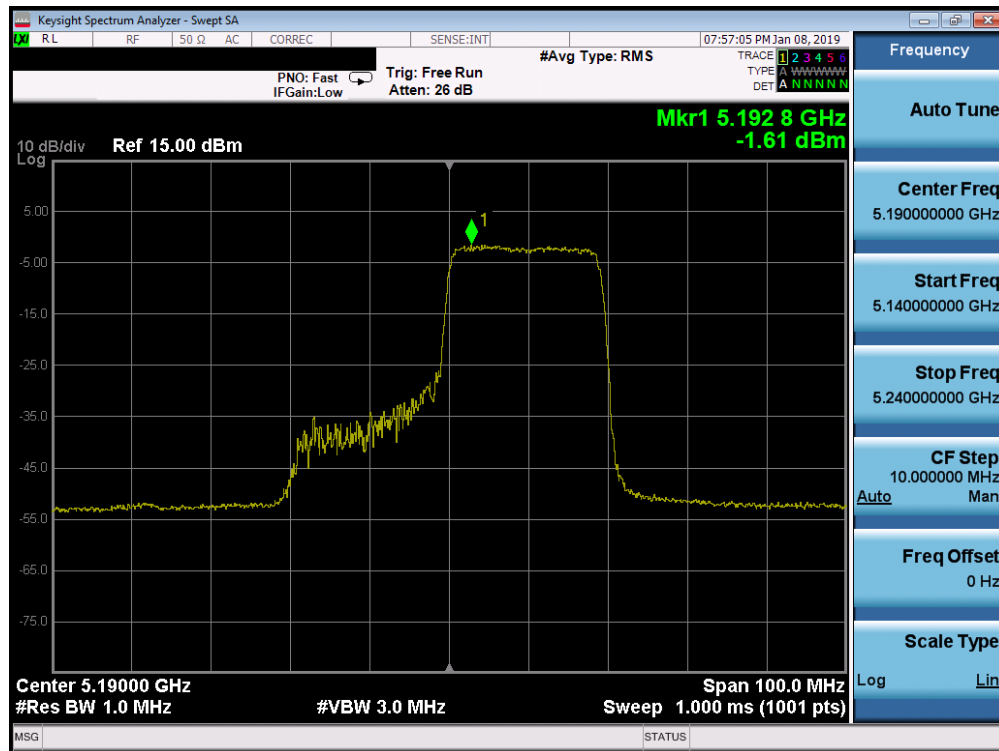


Plot 7-449. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 1) – Ch. 40)

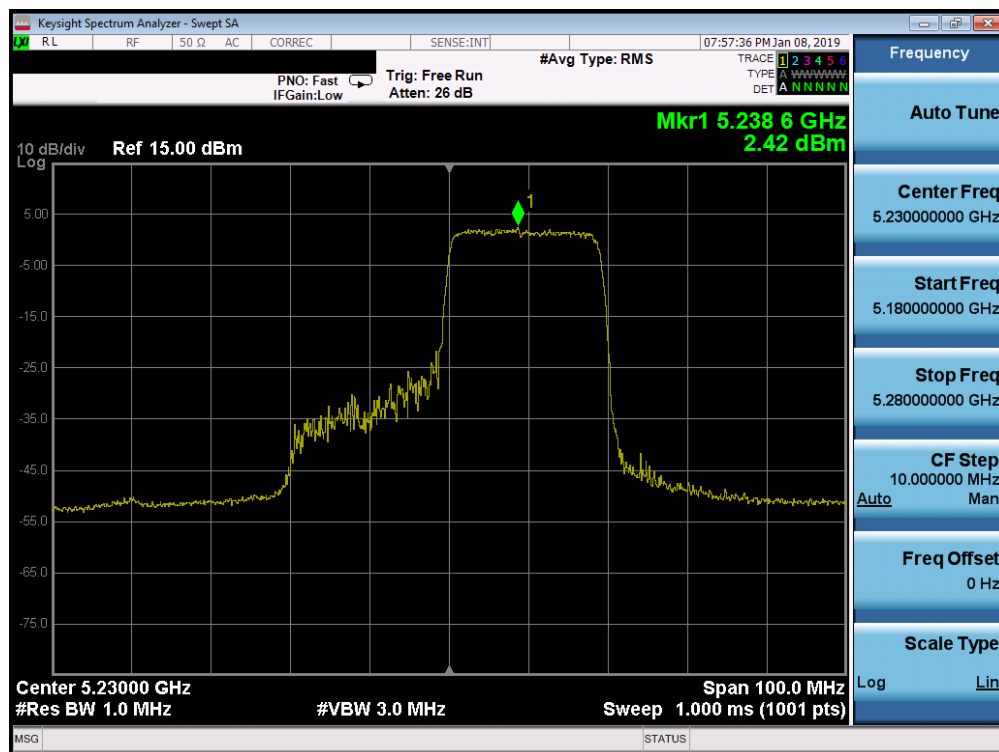


Plot 7-450. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 1) – Ch. 48)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 311 of 519

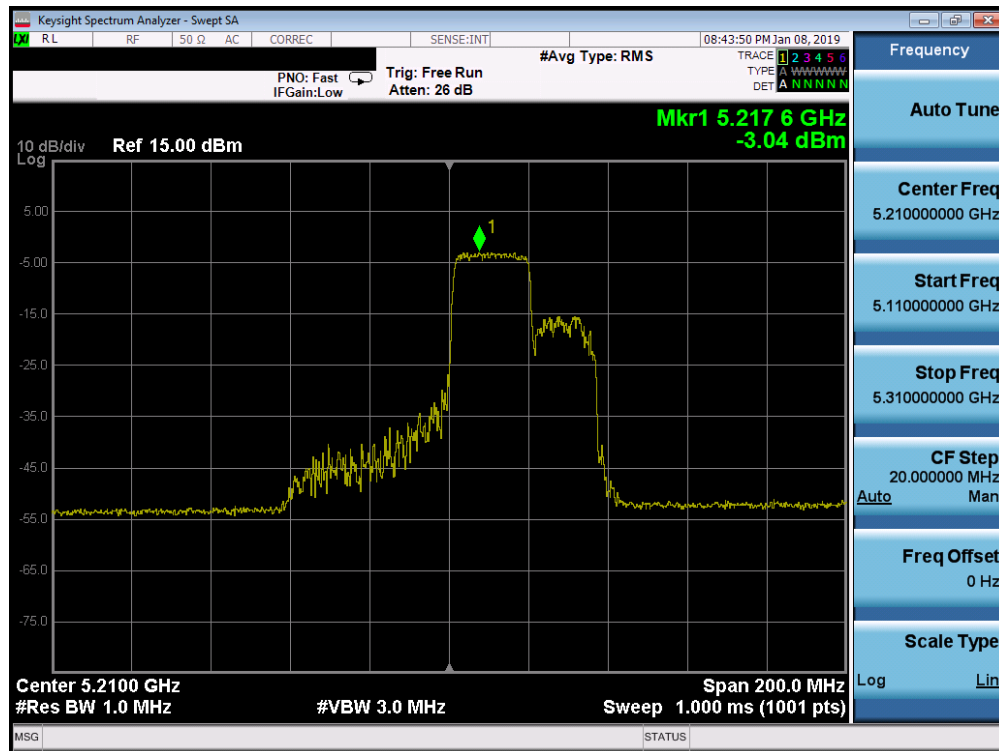


Plot 7-451. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 242 Tones (UNII Band 1) – Ch. 38)

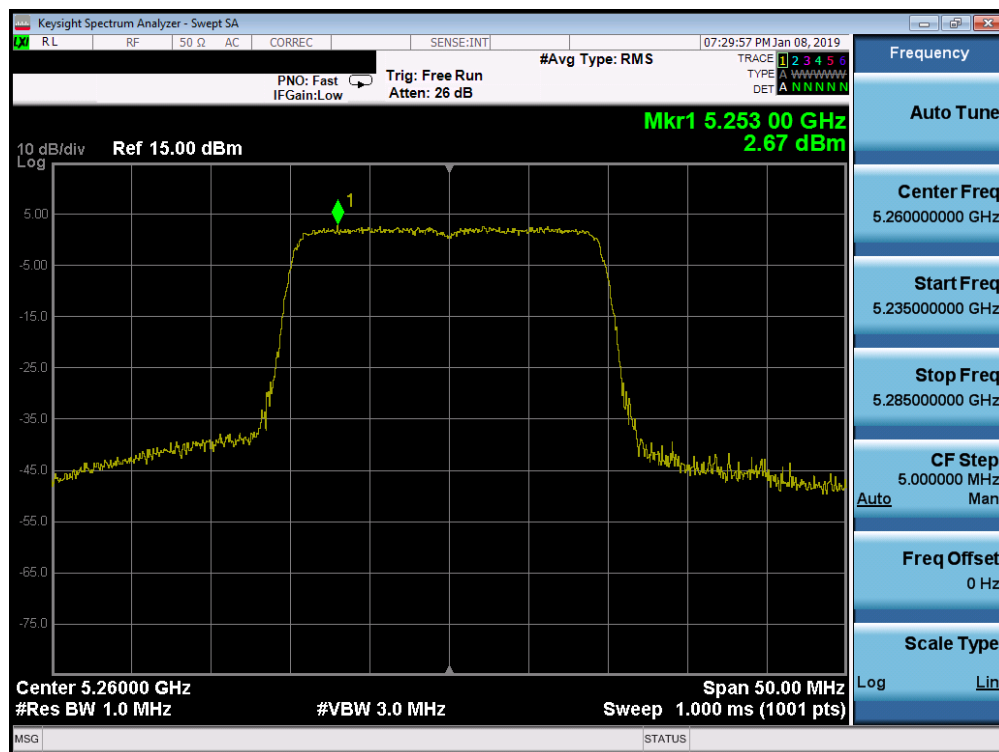


Plot 7-452. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 242 Tones (UNII Band 1) – Ch. 46)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 312 of 519

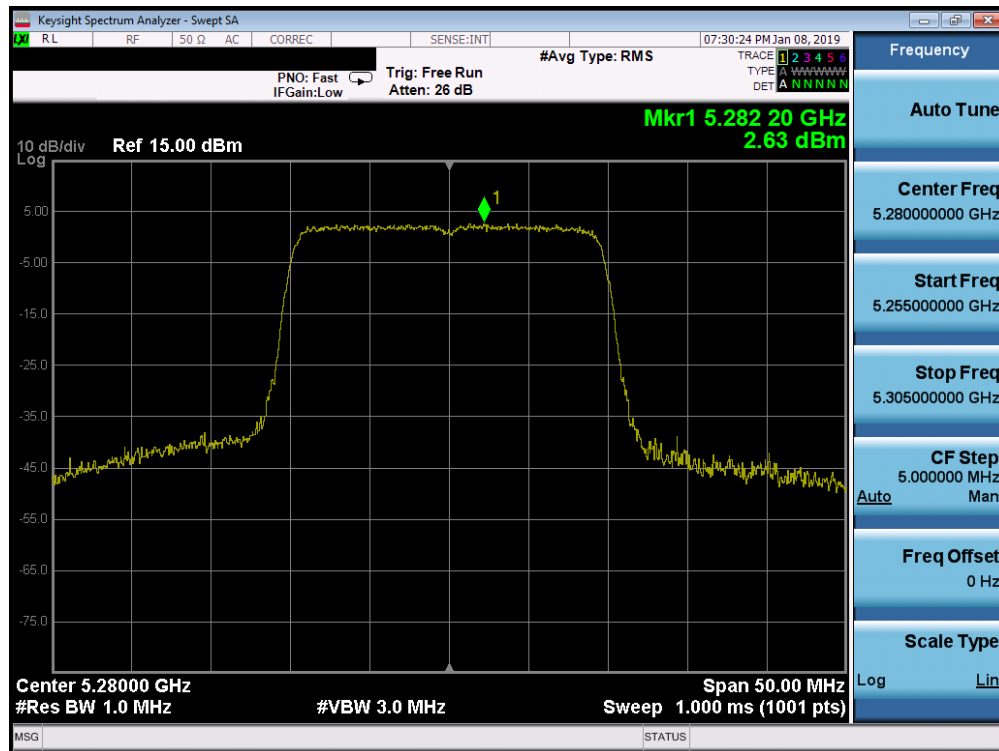


Plot 7-453. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 242 Tones (UNII Band 1) – Ch. 42)

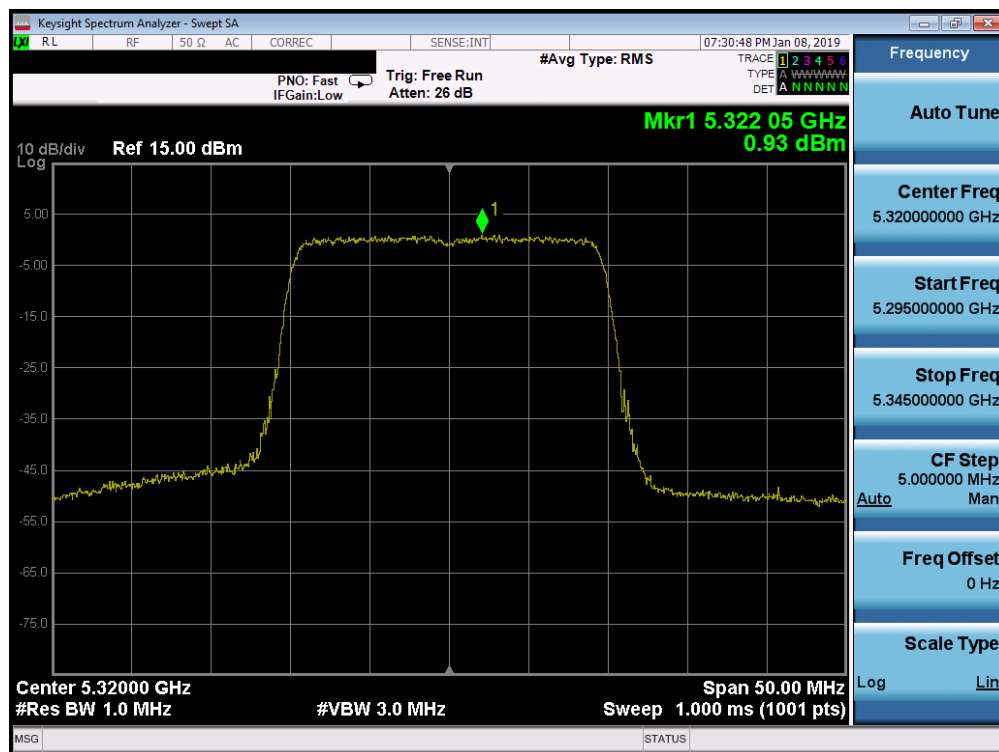


Plot 7-454. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 313 of 519

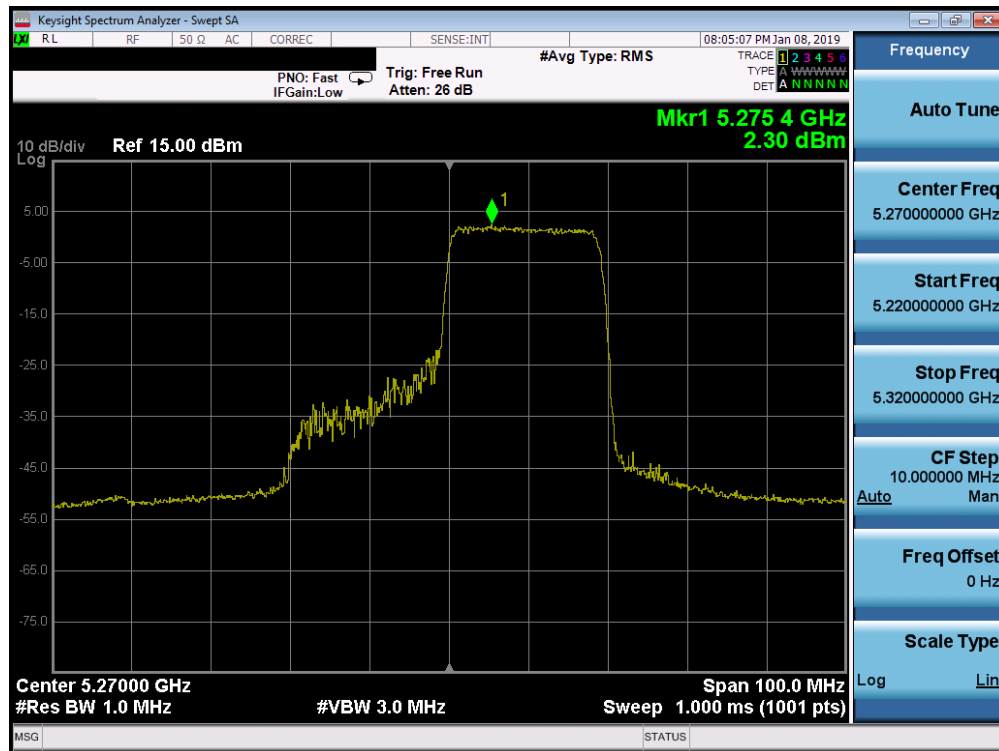


Plot 7-455. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 2A) – Ch. 56)

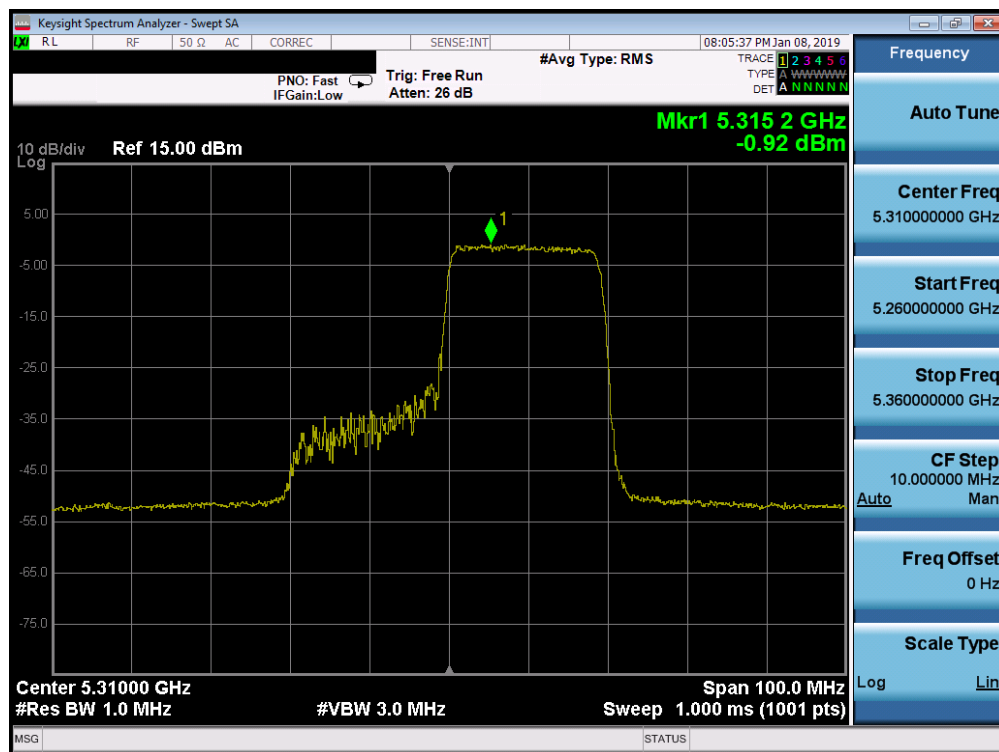


Plot 7-456. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 314 of 519



Plot 7-457. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 242 Tones (UNII Band 2A) – Ch. 54)



Plot 7-458. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 242 Tones (UNII Band 2A) – Ch. 62)

FCC ID: A3LSMG9700	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1811260212-15.A3L	Test Dates: 11/9/2018 - 1/22/2019	EUT Type: Portable Handset		Page 315 of 519