



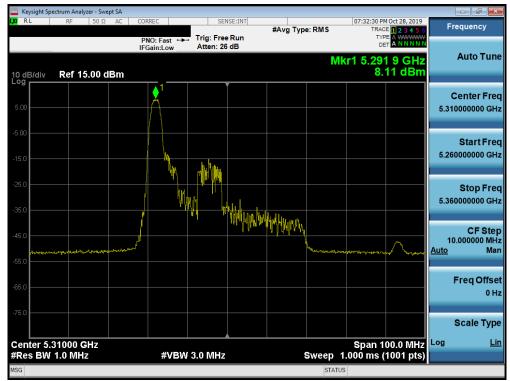
Plot 7-117. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 64)



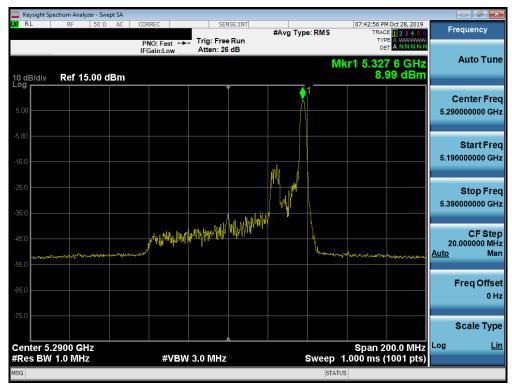
Plot 7-118. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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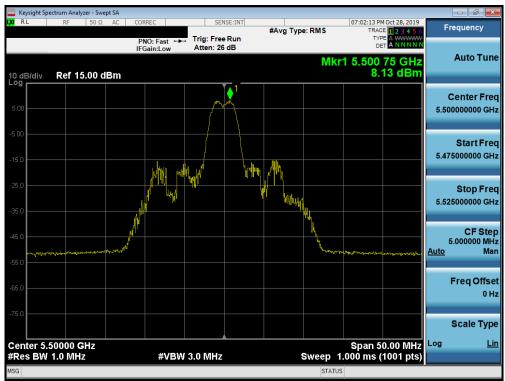
Plot 7-119. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 62)



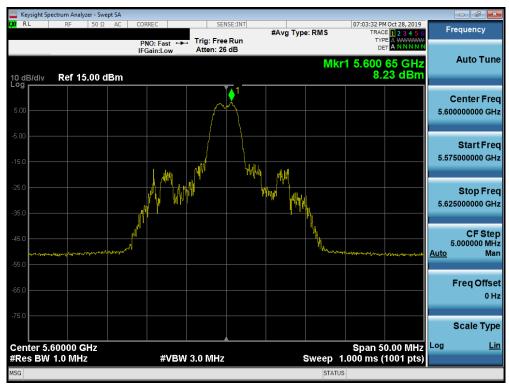
Plot 7-120. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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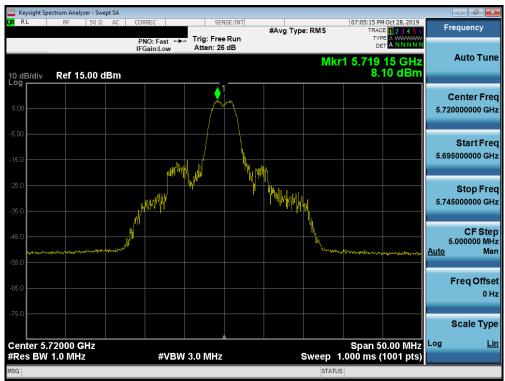
Plot 7-121. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 100)



Plot 7-122. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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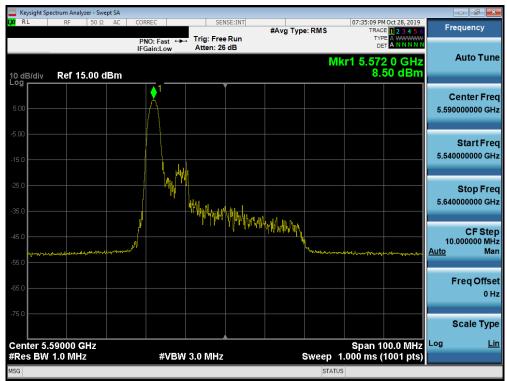
Plot 7-123. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 144)



Plot 7-124. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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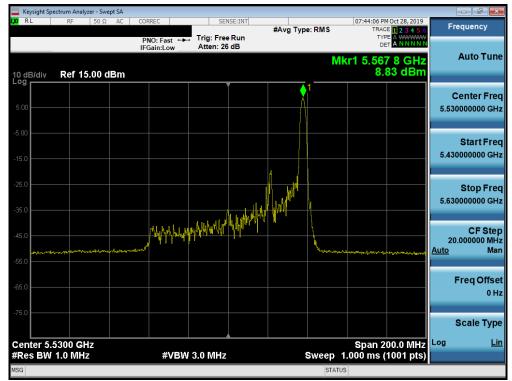
Plot 7-125. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 118)



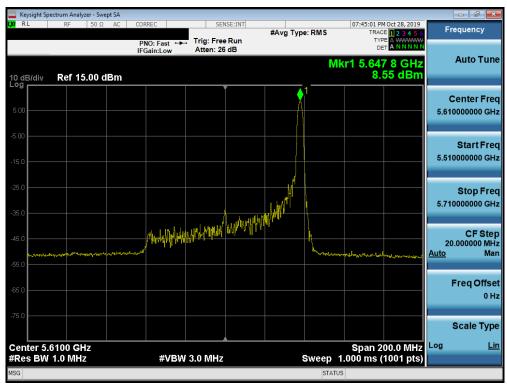
Plot 7-126. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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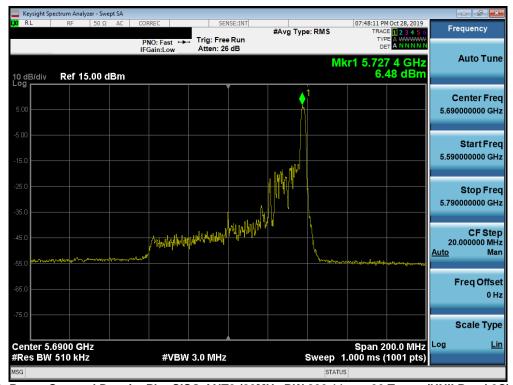
Plot 7-127. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 106)



Plot 7-128. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	ING	Approved by: Quality Manager
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Plot 7-129. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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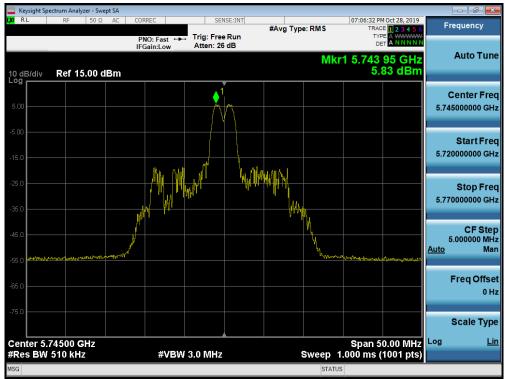


	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density	Margin [dB]
	5745	149	ax (20MHz)	26T	MCS0	5.83	30.00	-24.17
က	5785	157	ax (20MHz)	26T	MCS0	5.91	30.00	-24.09
	5825	165	ax (20MHz)	26T	MCS0	5.55	30.00	-24.45
Band	5755	151	ax (40MHz)	26T	MCS0	6.71	30.00	-23.29
_ <del>_</del>	5795	159	ax (40MHz)	26T	MCS0	6.96	30.00	-23.04
	5775	155	ax (80MHz)	26T	MCS0	9.08	30.00	-20.92

Table 7-59. Band 3 Conducted Power Spectral Density Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-130. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 149)



Plot 7-131. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 157)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-132. Power Spectral Density Plot SISO ANT2 (20 MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 165)



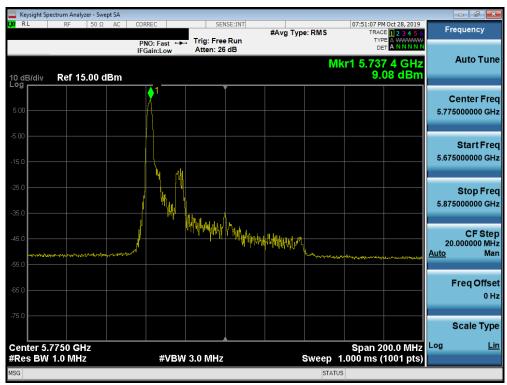
Plot 7-133. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 151)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-134. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 159)



Plot 7-135. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 155)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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# SISO Antenna-2 Power Spectral Density Measurements (Full Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
	5180	36	ax (20MHz)	242T	MCS0	4.89	11.0	-6.11
	5200	40	ax (20MHz)	242T	MCS0	5.24	11.0	-5.76
Band 1	5240	48	ax (20MHz)	242T	MCS0	5.18	11.0	-5.82
Bar	5190	38	ax (40MHz)	242T	MCS0	-0.84	11.0	-11.84
	5230	46	ax (40MHz)	242T	MCS0	-0.73	11.0	-11.73
	5210	42	ax (80MHz)	242T	MCS0	-4.94	11.0	-15.94
	5260	52	ax (20MHz)	242T	MCS0	3.82	11.0	-7.18
<	5280	56	ax (20MHz)	242T	MCS0	4.05	11.0	-6.95
d 2	5320	64	ax (20MHz)	242T	MCS0	4.40	11.0	-6.60
Band 2A	5270	54	ax (40MHz)	242T	MCS0	-0.87	11.0	-11.87
ш	5310	62	ax (40MHz)	242T	MCS0	-0.77	11.0	-11.77
	5290	58	ax (80MHz)	242T	MCS0	-4.31	11.0	-15.31
	5500	100	ax (20MHz)	242T	MCS0	3.85	11.0	-7.15
	5600	120	ax (20MHz)	242T	MCS0	4.15	11.0	-6.85
	5720	144	ax (20MHz)	242T	MCS0	4.11	11.0	-6.89
20	5510	102	ax (40MHz)	242T	MCS0	-0.80	11.0	-11.80
Band 2C	5590	118	ax (40MHz)	242T	MCS0	-1.08	11.0	-12.08
Ва	5710	142	ax (40MHz)	242T	MCS0	-0.63	11.0	-11.63
	5530	106	ax (80MHz)	242T	MCS0	-4.16	11.0	-15.16
	5610	122	ax (80MHz)	242T	MCS0	-4.19	11.0	-15.19
	5690	138	ax (80MHz)	242T	MCS0	-7.25	11.0	-18.25

Table 7-60. Conducted Power Spectral Density Measurements SISO ANT2 (Full Tones)

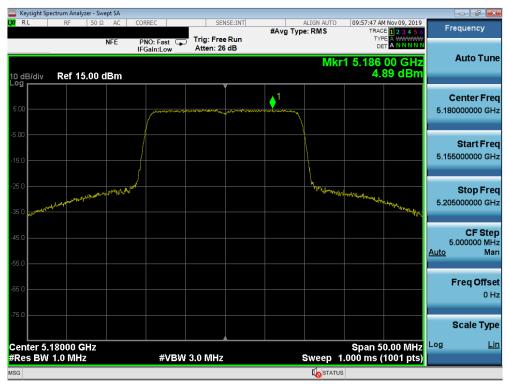
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
	5180	36	ax (20MHz)	242T	MCS0	4.89	-6.45	-1.56	10.0	-11.56
	5200	40	ax (20MHz)	242T	MCS0	5.24	-6.69	-1.45	10.0	-11.45
1 p	5240	48	ax (20MHz)	242T	MCS0	5.18	-6.45	-1.27	10.0	-11.27
Band	5190	38	ax (40MHz)	484T	MCS0	-0.84	-6.69	-7.53	10.0	-17.53
	5230	46	ax (40MHz)	484T	MCS0	-0.73	-6.45	-7.18	10.0	-17.18
	5210	42	ax (80MHz)	996T	MCS0	-4.94	-6.45	-11.39	10.0	-21.39

Table 7-61. Band 1 e.i.r.p Conducted Power Spectral Density Measurements ISED (Full Tones)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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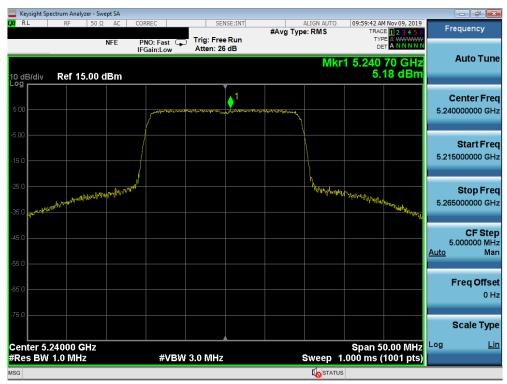
Plot 7-136. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 36)



Plot 7-137. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 40)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-138. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 48)



Plot 7-139. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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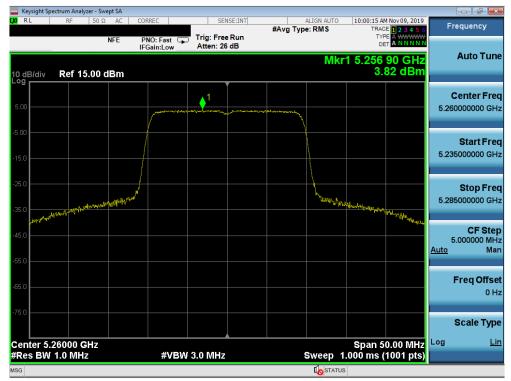
Plot 7-140. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 46)



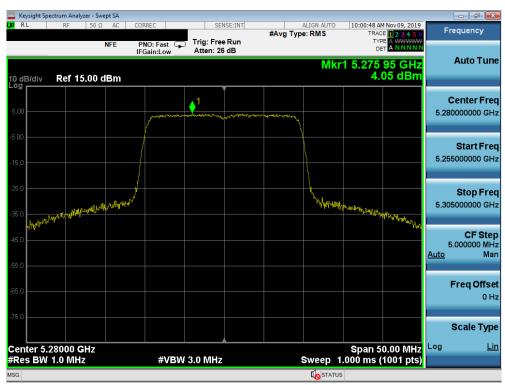
Plot 7-141. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 42)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
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Plot 7-142. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 52)



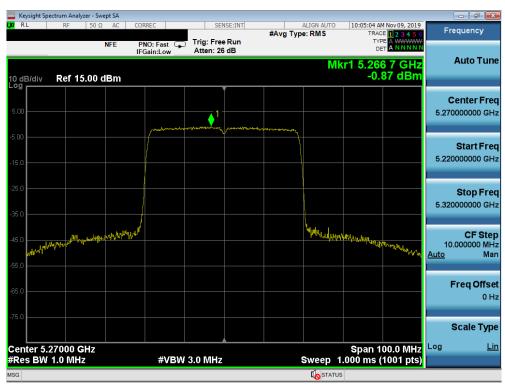
Plot 7-143. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager	
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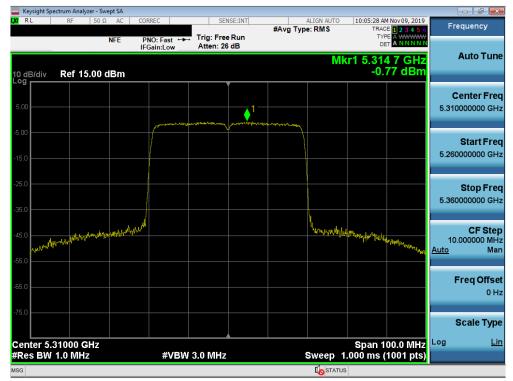
Plot 7-144. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 64)



Plot 7-145. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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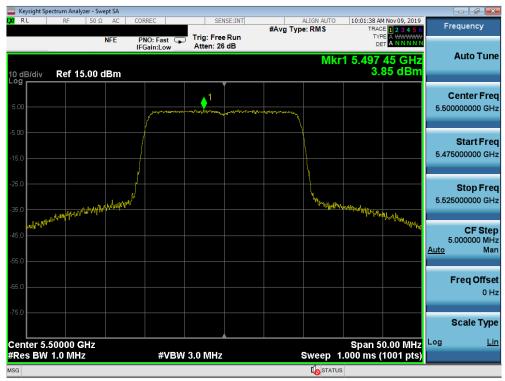
Plot 7-146. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 62)



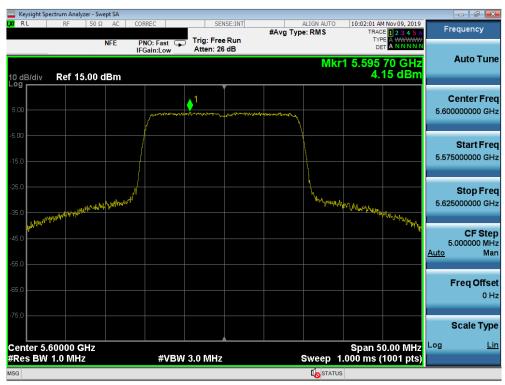
Plot 7-147. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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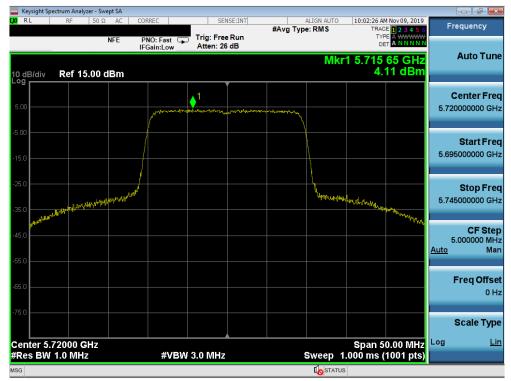
Plot 7-148. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 100)



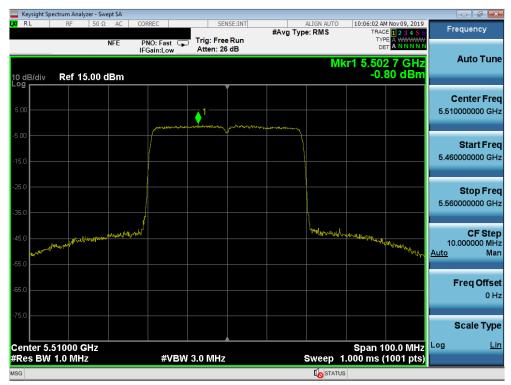
Plot 7-149. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-150. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 144)



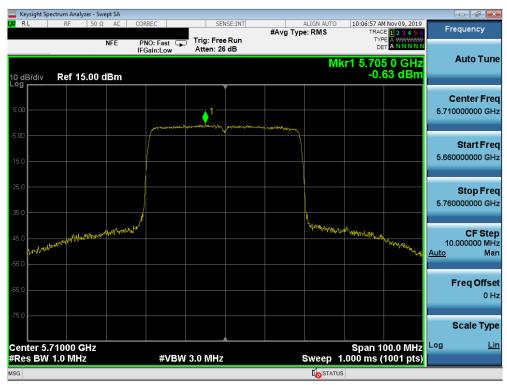
Plot 7-151. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-152. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 118)



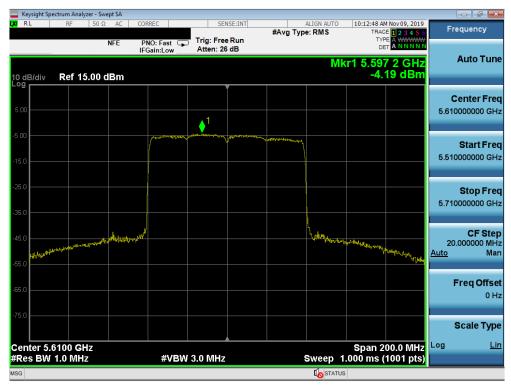
Plot 7-153. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-154. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 106)



Plot 7-155. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 122)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-156. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density	Margin [dB]
	5745	149	ax (20MHz)	242T	MCS0	1.25	30.00	-28.75
က	5785	157	ax (20MHz)	242T	MCS0	1.31	30.00	-28.69
	5825	165	ax (20MHz)	242T	MCS0	1.39	30.00	-28.61
Band	5755	151	ax (40MHz)	242T	MCS0	-3.16	30.00	-33.16
	5795	159	ax (40MHz)	242T	MCS0	-3.38	30.00	-33.38
	5775	155	ax (80MHz)	242T	MCS0	-4.88	30.00	-34.88

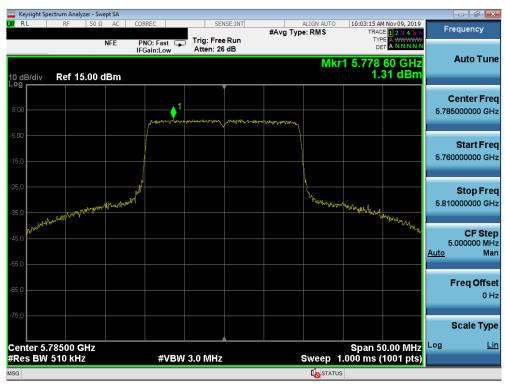
Table 7-62. Band 3 Conducted Power Spectral Density Measurements SISO ANT2 (Full Tones)

FCC ID: A3LSMG986W	<u>@</u> PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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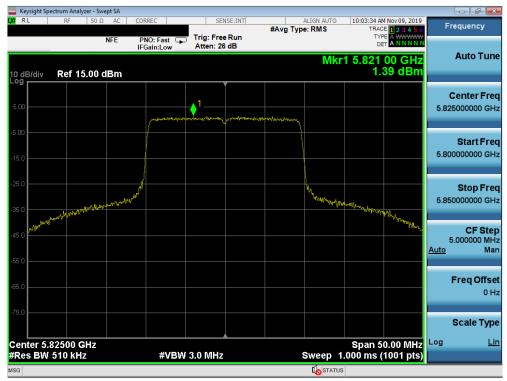
Plot 7-157. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 149)



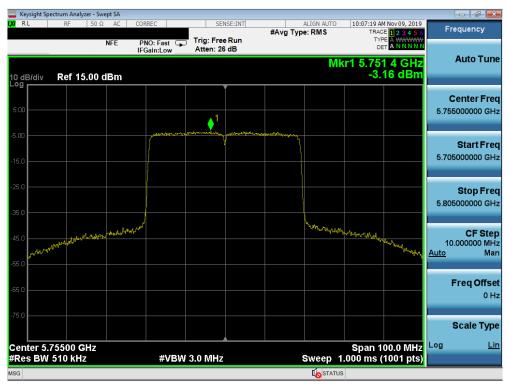
Plot 7-158. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 157)

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Plot 7-159. Power Spectral Density Plot SISO ANT2 (20 MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 165)



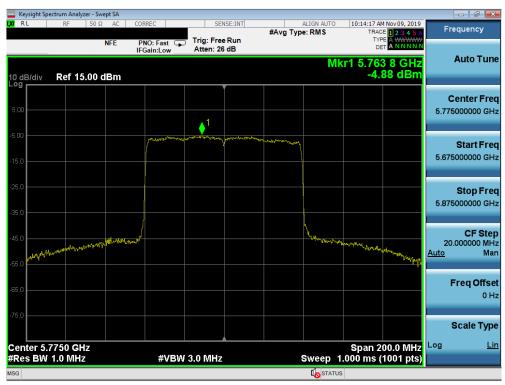
Plot 7-160. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 151)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-161. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 159)



Plot 7-162. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 155)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 128 of 265
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## **Summed MIMO Power Spectral Density Measurements (26 Tones)**

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
	5180	36	ax (20MHz)	26T	MCS0	5.16	6.17	8.70	11.00	-2.30
	5200	40	ax (20MHz)	26T	MCS0	5.07	6.33	8.76	11.00	-2.24
<u>5</u>	5240	48	ax (20MHz)	26T	MCS0	5.83	6.50	9.19	11.00	-1.81
Band	5190	38	ax (40MHz)	26T	MCS0	5.92	6.01	8.97	11.00	-2.03
	5230	46	ax (40MHz)	26T	MCS0	6.29	6.29	9.30	11.00	-1.70
	5210	42	ax (80MHz)	26T	MCS0	6.36	6.32	9.35	11.00	-1.65
	5260	52	ax (20MHz)	26T	MCS0	4.36	5.04	7.72	11.00	-3.28
∢	5280	56	ax (20MHz)	26T	MCS0	4.44	4.88	7.67	11.00	-3.33
d 2A	5320	64	ax (20MHz)	26T	MCS0	5.28	5.61	8.46	11.00	-2.54
Band	5270	54	ax (40MHz)	26T	MCS0	5.18	5.03	8.12	11.00	-2.88
ш	5310	62	ax (40MHz)	26T	MCS0	5.85	5.88	8.87	11.00	-2.13
	5290	58	ax (80MHz)	26T	MCS0	5.53	6.01	8.79	11.00	-2.21
	5500	100	ax (20MHz)	26T	MCS0	4.92	4.30	7.63	11.00	-3.37
	5600	120	ax (20MHz)	26T	MCS0	4.18	4.65	7.43	11.00	-3.57
	5720	144	ax (20MHz)	26T	MCS0	4.68	4.90	7.80	11.00	-3.20
20	5510	102	ax (40MHz)	26T	MCS0	5.59	4.99	8.31	11.00	-2.69
Band	5590	118	ax (40MHz)	26T	MCS0	6.72	5.68	9.24	11.00	-1.76
Ba	5710	142	ax (40MHz)	26T	MCS0	5.91	5.01	8.49	11.00	-2.51
	5530	106	ax (80MHz)	26T	MCS0	6.66	5.47	9.12	11.00	-1.88
	5610	122	ax (80MHz)	26T	MCS0	6.79	5.45	9.18	11.00	-1.82
	5690	138	ax (80MHz)	26T	MCS0	4.37	3.02	6.76	11.00	-4.24

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

	Frequency [MHz]	Channel No.	802.11 <b>M</b> ode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Directional Antenna Gain [dBi]		ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
	5180	36	ax (20MHz)	26T	MCS0	5.16	8.70	10.29	-3.44	6.85	10.0	-3.15
	5200	40	ax (20MHz)	26T	MCS0	5.07	8.76	10.30	-3.68	6.62	10.0	-3.38
<u>5</u>	5240	48	ax (20MHz)	26T	MCS0	5.83	9.19	10.84	-3.44	7.40	10.0	-2.60
Bar	5190	38	ax (40MHz)	26T	MCS0	5.92	8.97	10.72	-3.68	7.04	10.0	-2.96
	5230	46	ax (40MHz)	26T	MCS0	6.29	9.30	11.06	-3.44	7.62	10.0	-2.38
	5210	42	ax (80MHz)	26T	MCS0	6.36	9.35	11.12	-3.44	7.68	10.0	-2.32

Table 7-64. Band 1 MIMO 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]	Permissible	Margin [dB]
	5745	149	ax (20MHz)	26T	MCS0	2.69	3.73	6.25	30.00	-23.75
en en	5785	157	ax (20MHz)	26T	MCS0	2.67	3.04	5.87	30.00	-24.13
	5825	165	ax (20MHz)	26T	MCS0	2.29	2.91	5.62	30.00	-24.38
Band	5755	151	ax (40MHz)	26T	MCS0	2.67	2.85	5.77	30.00	-24.23
_	5795	159	ax (40MHz)	26T	MCS0	2.85	3.49	6.19	30.00	-23.81
	5775	155	ax (80MHz)	26T	MCS0	6.10	6.47	9.30	30.00	-20.70

Table 7-65. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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# **Summed MIMO Power Spectral Density Measurements (Full Tones)**

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
	5180	36	ax (20MHz)	242T	MCS0	0.62	0.89	3.77	11.00	-7.23
	5200	40	ax (20MHz)	242T	MCS0	0.77	1.12	3.96	11.00	-7.04
Band 1	5240	48	ax (20MHz)	242T	MCS0	1.68	1.42	4.56	11.00	-6.44
Bar	5190	38	ax (40MHz)	484T	MCS0	-1.84	-1.46	1.36	11.00	-9.64
	5230	46	ax (40MHz)	484T	MCS0	-2.44	-1.99	0.80	11.00	-10.20
	5210	42	ax (80MHz)	996T	MCS0	-6.16	-6.96	-3.53	11.00	-14.53
	5260	52	ax (20MHz)	242T	MCS0	2.15	1.57	4.88	11.00	-6.12
	5280	56	ax (20MHz)	242T	MCS0	3.00	1.47	5.31	11.00	-5.69
Band 2A	5320	64	ax (20MHz)	242T	MCS0	2.78	1.28	5.10	11.00	-5.90
Banı	5270	54	ax (40MHz)	484T	MCS0	-2.97	-2.68	0.19	11.00	-10.81
	5310	62	ax (40MHz)	484T	MCS0	-2.15	-2.41	0.73	11.00	-10.27
	5290	58	ax (80MHz)	996T	MCS0	-6.02	-6.61	-3.29	11.00	-14.29
	5500	100	ax (20MHz)	242T	MCS0	2.35	1.97	5.17	11.00	-5.83
	5600	120	ax (20MHz)	242T	MCS0	1.78	0.63	4.25	11.00	-6.75
	5720	144	ax (20MHz)	242T	MCS0	1.17	-0.19	3.55	11.00	-7.45
ပ္သ	5510	102	ax (40MHz)	484T	MCS0	-2.67	-3.10	0.13	11.00	-10.87
Band 2C	5590	118	ax (40MHz)	484T	MCS0	-3.10	-3.54	-0.30	11.00	-11.30
B	5710	142	ax (40MHz)	484T	MCS0	-1.51	-2.22	1.16	11.00	-9.84
	5530	106	ax (80MHz)	996T	MCS0	-6.41	-6.83	-3.61	11.00	-14.61
	5610	122	ax (80MHz)	996T	MCS0	-7.14	-7.38	-4.25	11.00	-15.25
	5690	138	ax (80MHz)	996T	MCS0	-9.58	-9.99	-6.77	11.00	-17.77

## Table 7-66. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
<u> </u>	5180	36	ax (20MHz)	242T	MCS0	0.62	0.89	3.77	-3.44	0.33	10.0	-9.67
	5200	40	ax (20MHz)	242T	MCS0	0.77	1.12	3.96	-3.68	0.28	10.0	-9.72
	5240	48	ax (20MHz)	242T	MCS0	1.68	1.42	4.56	-3.44	1.12	10.0	-8.88
Band	5190	38	ax (40MHz)	484T	MCS0	-1.84	-1.46	1.36	-3.68	-2.32	10.0	-12.32
	5230	46	ax (40MHz)	484T	MCS0	-2.44	-1.99	0.80	-3.44	-2.64	10.0	-12.64
	5210	42	ax (80MHz)	996T	MCS0	-6.16	-6.96	-3.53	-3.44	-6.97	10.0	-16.97

### Table 7-67. Band 1 MIMO 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	Margin [dB]
	5745	149	ax (20MHz)	242T	MCS0	-0.88	-0.87	2.13	30.00	-27.87
က	5785	157	ax (20MHz)	242T	MCS0	-1.36	-0.89	1.89	30.00	-28.11
	5825	165	ax (20MHz)	242T	MCS0	-1.33	-1.57	1.56	30.00	-28.44
Band	5755	151	ax (40MHz)	242T	MCS0	-4.52	-4.22	-1.36	30.00	-31.36
	5795	159	ax (40MHz)	242T	MCS0	-5.82	-6.07	-2.93	30.00	-32.93
	5775	155	ax (80MHz)	242T	MCS0	-7.66	-6.26	-3.89	30.00	-33.89

Table 7-68. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)

FCC ID: A3LSMG986W	PCTEST	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.

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  $N_{\text{ANT}}$ , the total number of antennas used.

Directional gain = 
$$10 \log[(10^{G1/20} + 10^{G2/20} + ... + 10^{GN/20})^2 / N_{ANT}] dBi$$

### **Sample Directional Gain Calculation:**

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

Directional gain = 
$$10 \log[(10G1/20 + 10G2/20 + ... + 10GN/20)2 / NANT] dBi$$
  
=  $10 \log[(10-6.5/20 + 10-6.7/20 / 2] dBi$   
=  $(-3.59) dBi$ 

## 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.

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

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

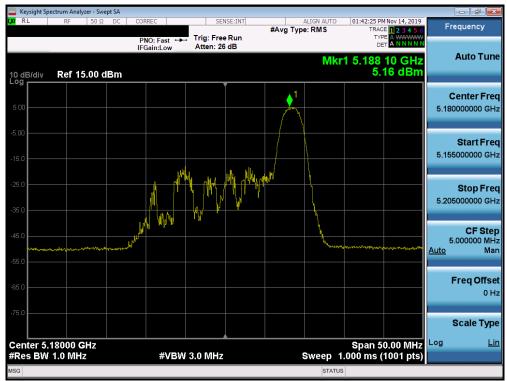
Assuming the MIMO power spectral density was measured to be 10.72 dBm with directional gain of -3.44 dBi

$$10.72 \text{ dBm} + (-3.44) \text{ dBi} = 7.28 \text{ dBm}$$

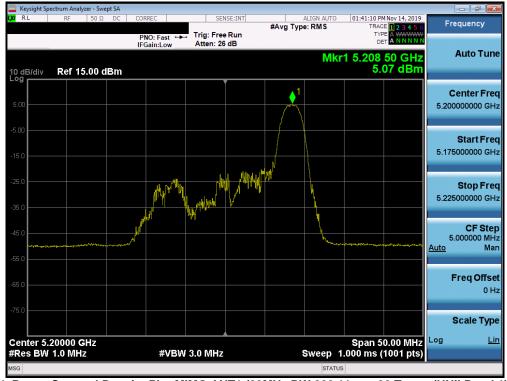
FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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## MIMO Antenna-1 Power Spectral Density Measurements (26 Tones)



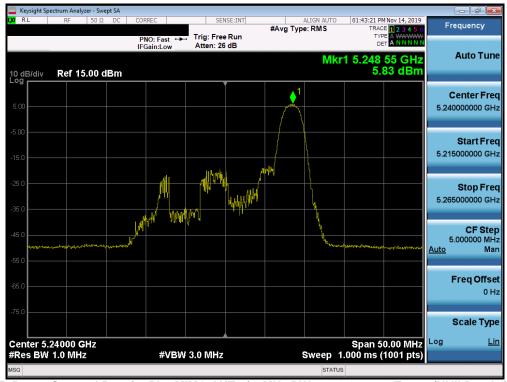
Plot 7-163. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 36)



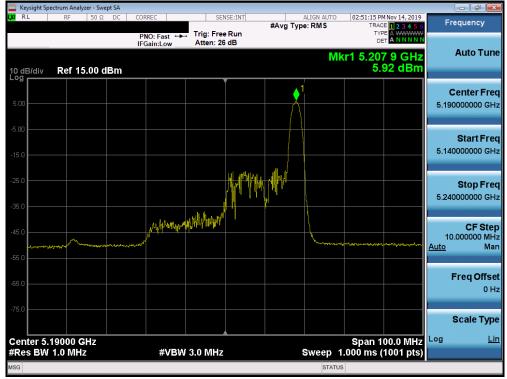
Plot 7-164. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 40)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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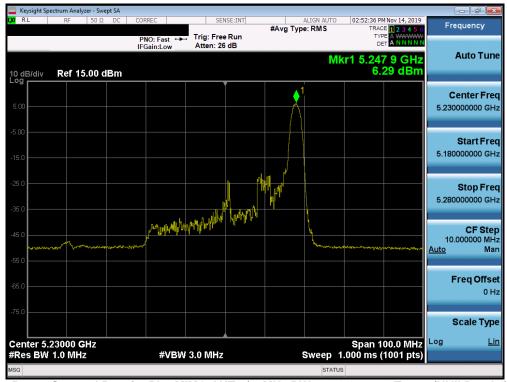
Plot 7-165. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 48)



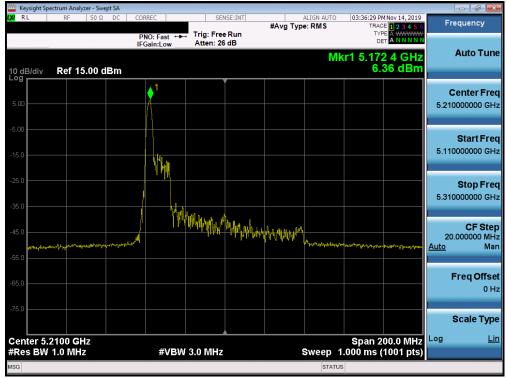
Plot 7-166. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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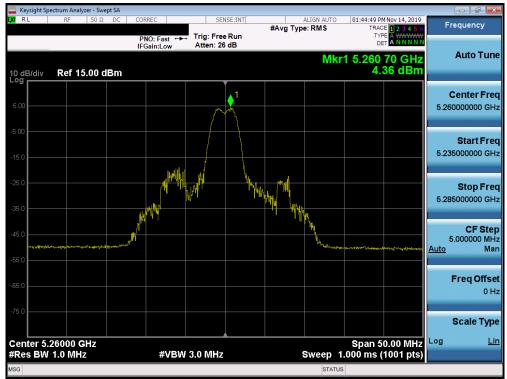
Plot 7-167. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 46)



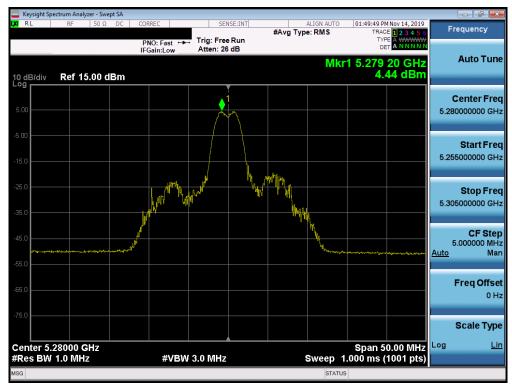
Plot 7-168. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 42)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-169. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 52)



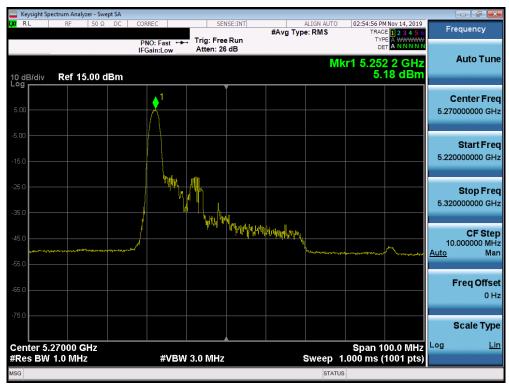
Plot 7-170. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 56)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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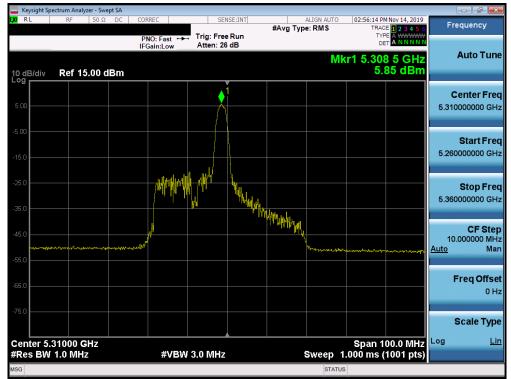
Plot 7-171. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 64)



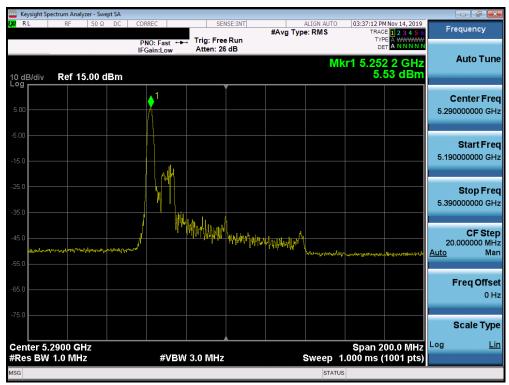
Plot 7-172. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 54)

FCC ID: A3LSMG986W	<u> PCTEST</u>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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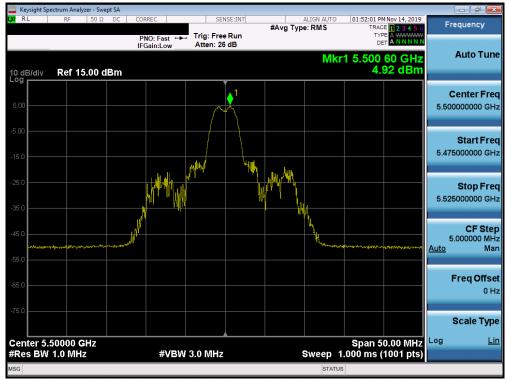
Plot 7-173. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 62)



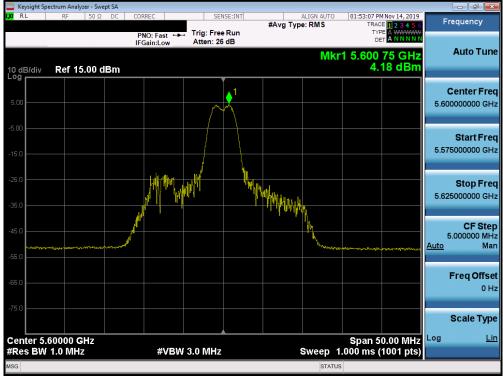
Plot 7-174. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 58)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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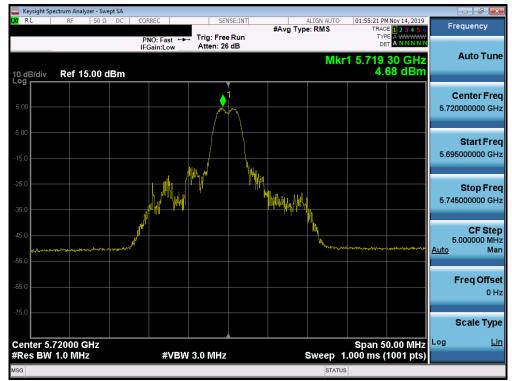
Plot 7-175. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 100)



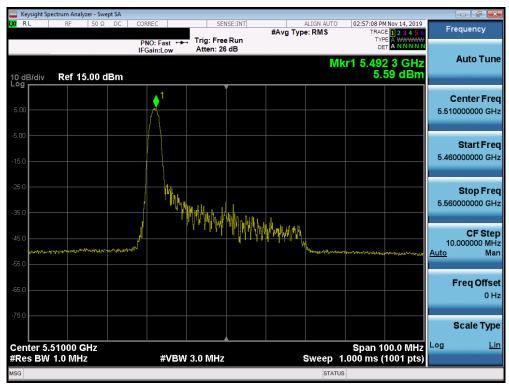
Plot 7-176. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 120)

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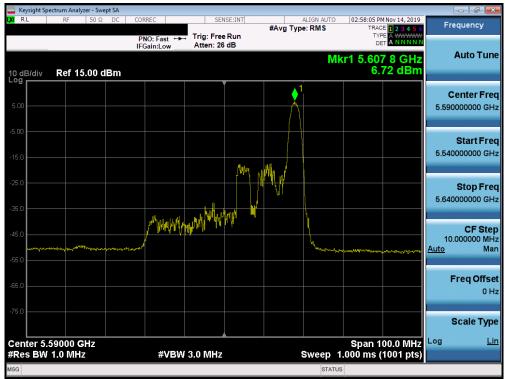
Plot 7-177. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 144)



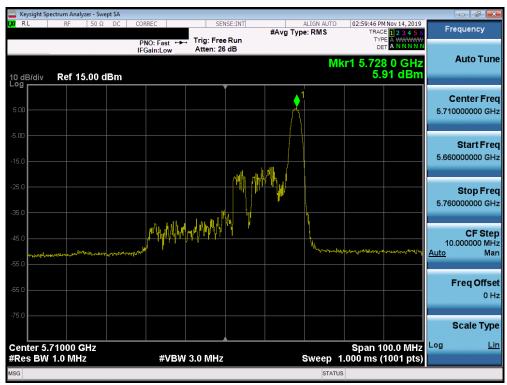
Plot 7-178. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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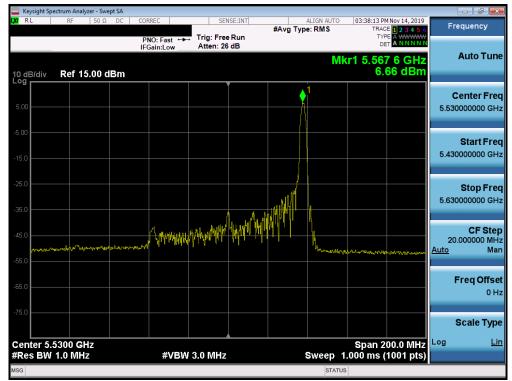
Plot 7-179. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 118)



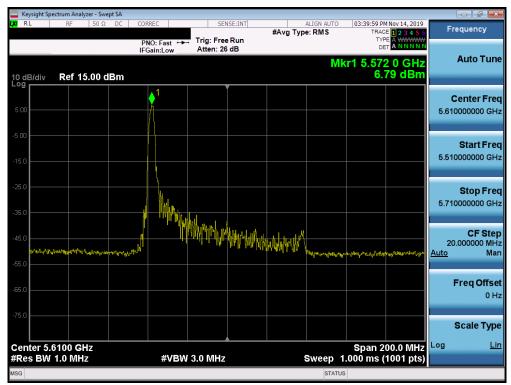
Plot 7-180. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 142)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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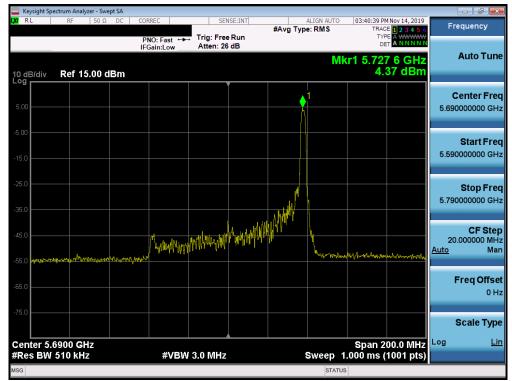
Plot 7-181. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 106)



Plot 7-182. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 122)

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Plot 7-183. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 138)



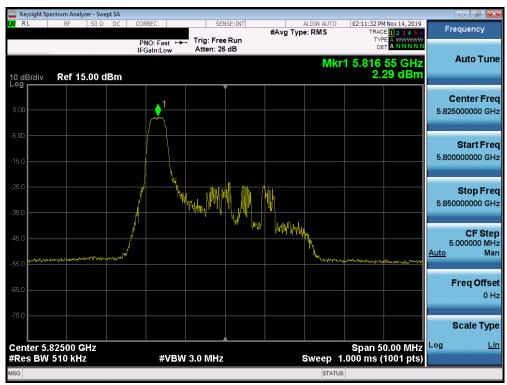
Plot 7-184. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 149)

FCC ID: A3LSMG986W	<u>@</u> PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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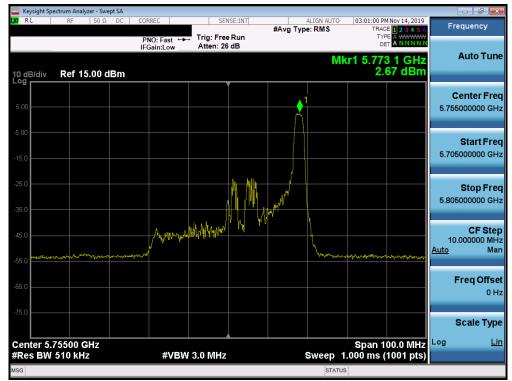
Plot 7-185. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 157)



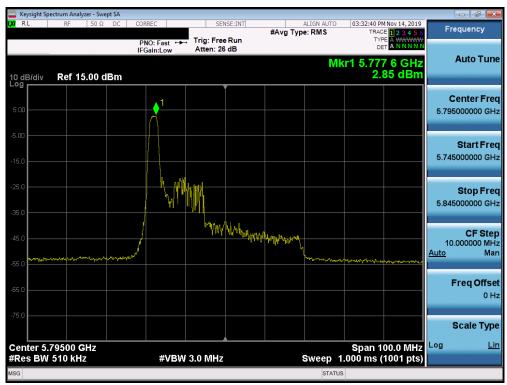
Plot 7-186. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 165)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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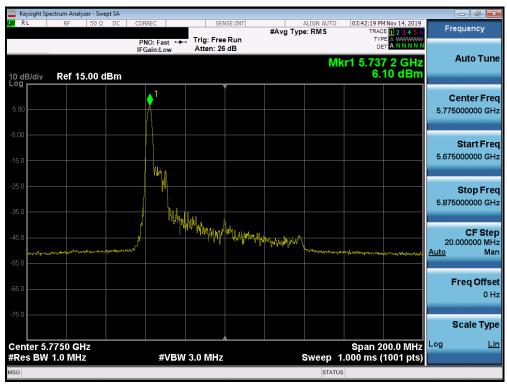
Plot 7-187. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 151)



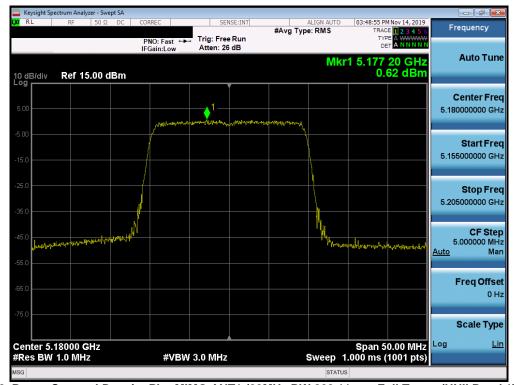
Plot 7-188. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 159)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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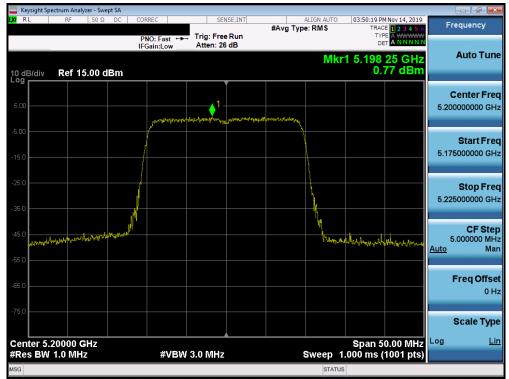
Plot 7-189. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 155)



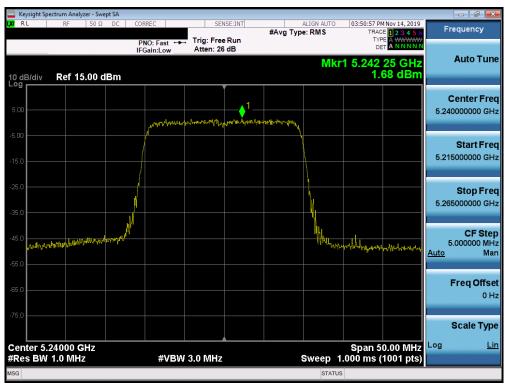
Plot 7-190. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 36)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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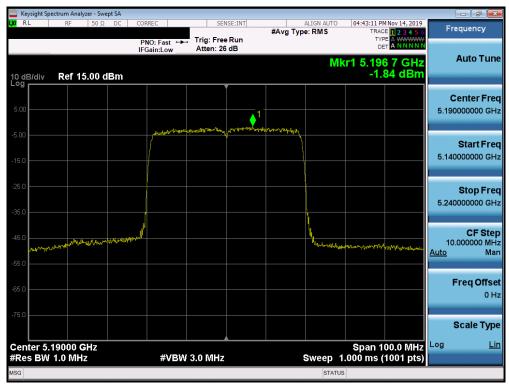
Plot 7-191. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 40)



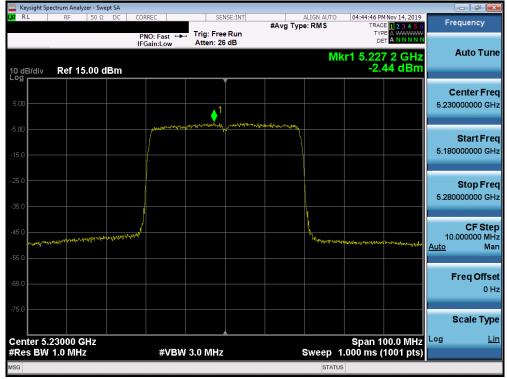
Plot 7-192. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 48)

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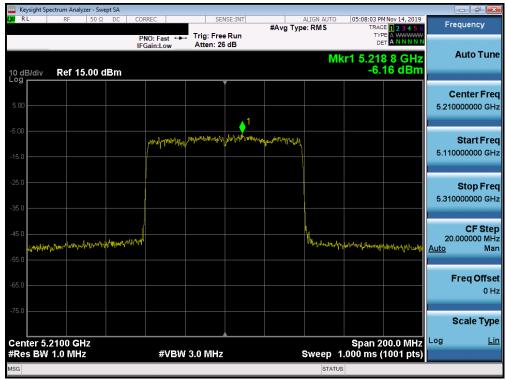
Plot 7-193. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 38)



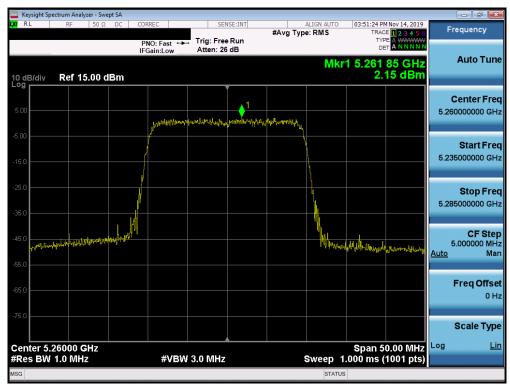
Plot 7-194. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 46)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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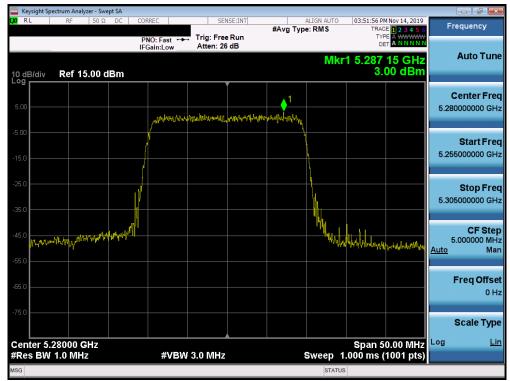
Plot 7-195. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 1) - Ch. 42)



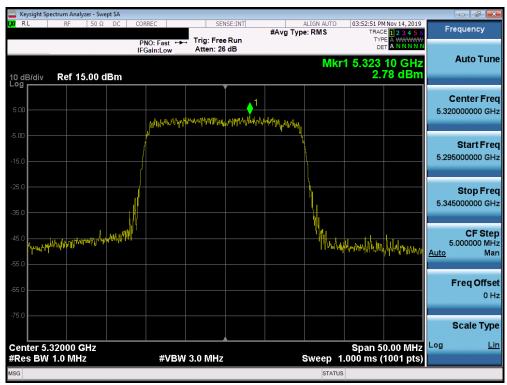
Plot 7-196. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 52)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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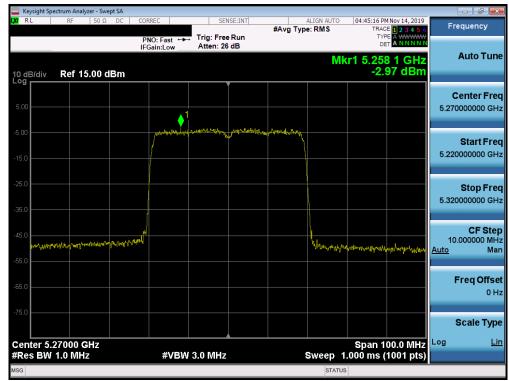
Plot 7-197. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 56)



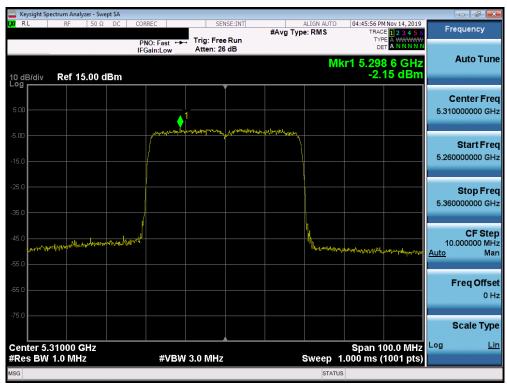
Plot 7-198. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 64)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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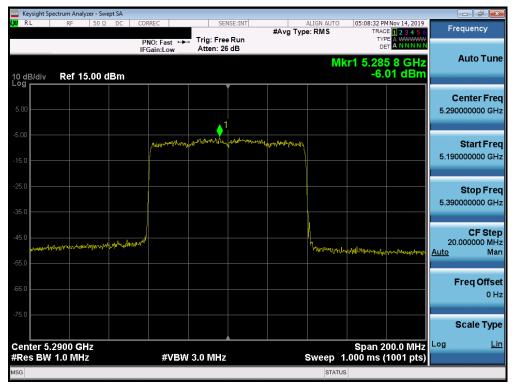
Plot 7-199. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 54)



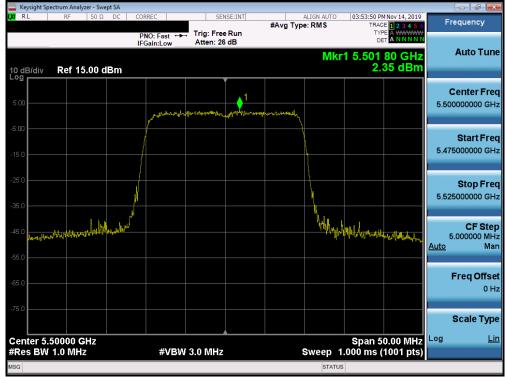
Plot 7-200. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 62)

FCC ID: A3LSMG986W	PCTEST	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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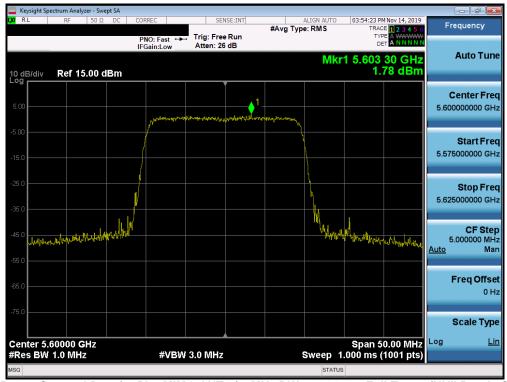
Plot 7-201. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2A) - Ch. 58)



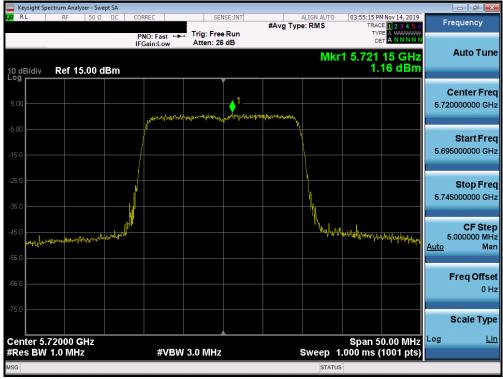
Plot 7-202. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 100)

FCC ID: A3LSMG986W	<u>@</u> PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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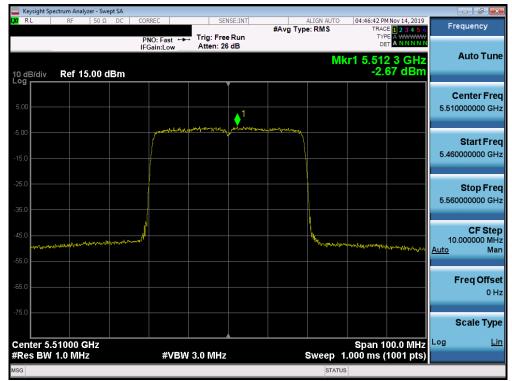
Plot 7-203. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 120)



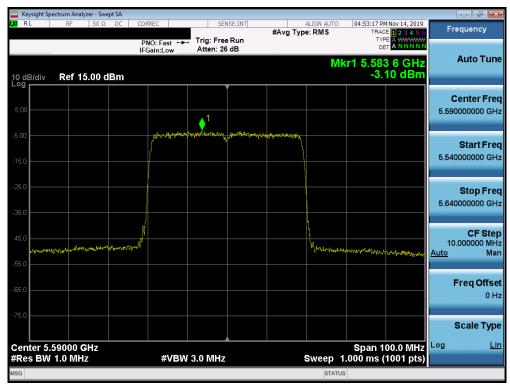
Plot 7-204. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 144)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-205. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 102)



Plot 7-206. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 118)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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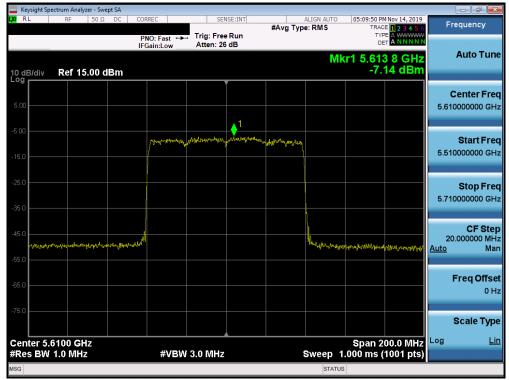
Plot 7-207. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 142)



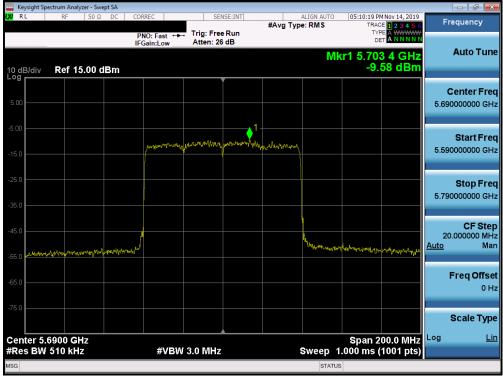
Plot 7-208. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 106)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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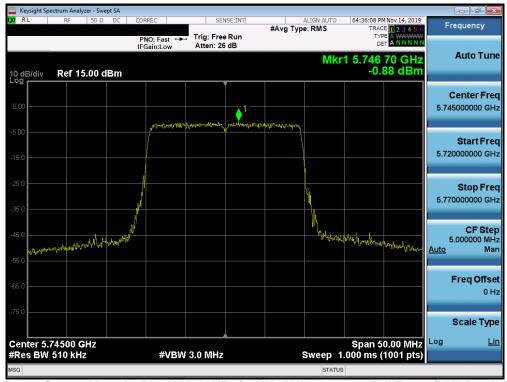
Plot 7-209. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 122)



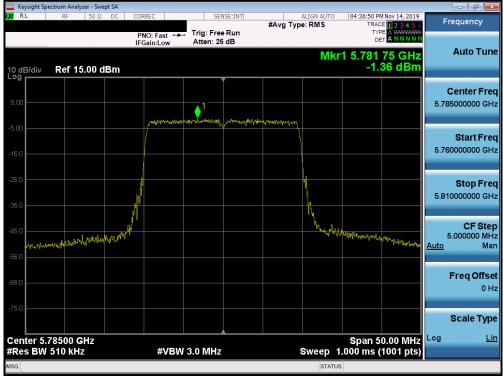
Plot 7-210. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 2C) - Ch. 138)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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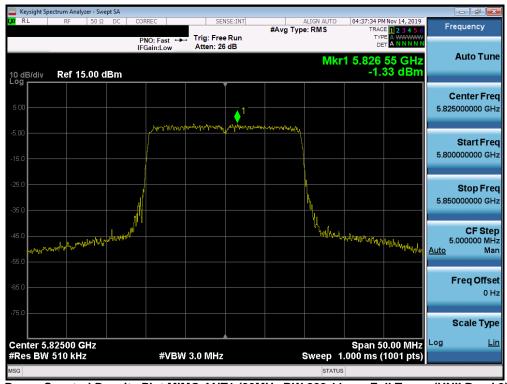
Plot 7-211. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 149)



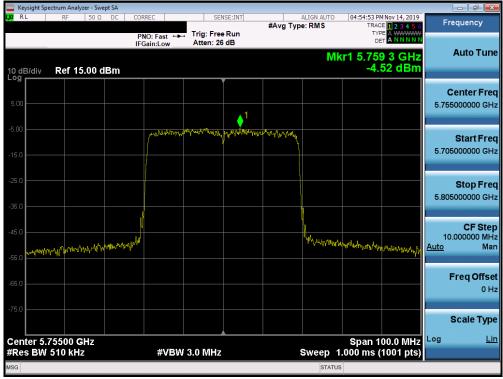
Plot 7-212. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 157)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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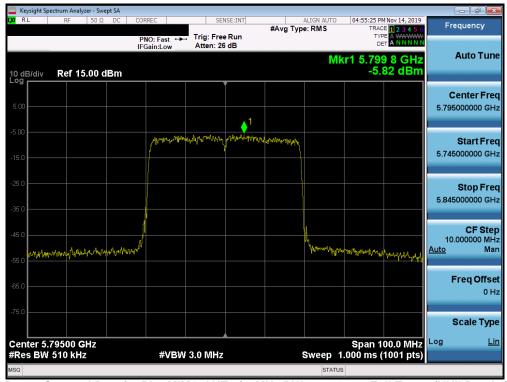
Plot 7-213. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 165)



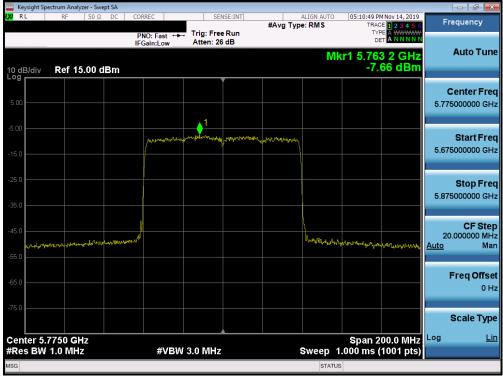
Plot 7-214. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 151)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-215. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 159)

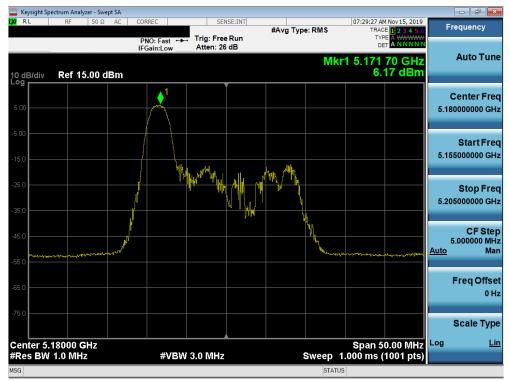


Plot 7-216. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 155)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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## MIMO Antenna-2 Power Spectral Density Measurements (26 Tones)



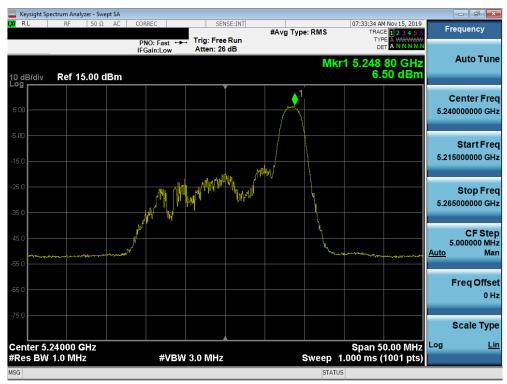
Plot 7-217. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 36)



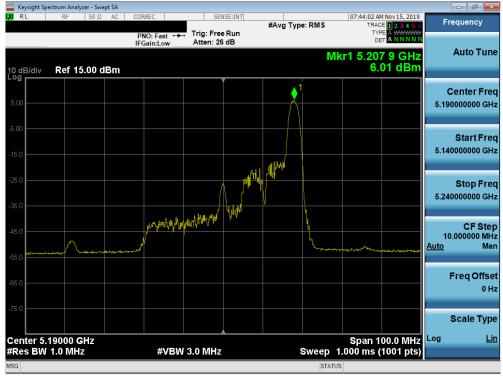
Plot 7-218. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 40)

FCC ID: A3LSMG986W	<u>@</u> PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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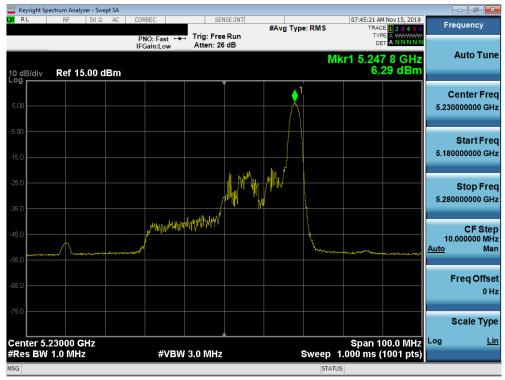
Plot 7-219. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 48)



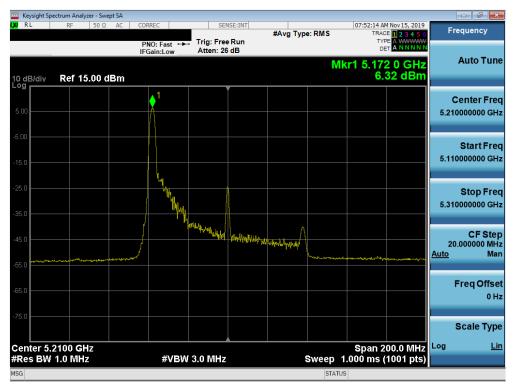
Plot 7-220. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 38)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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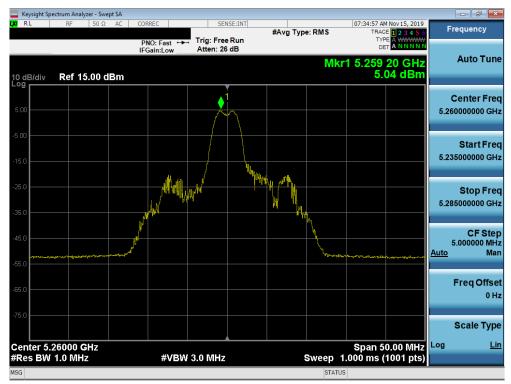
Plot 7-221. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 46)



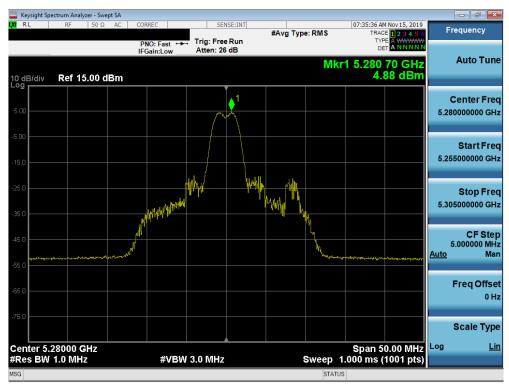
Plot 7-222. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 42)

FCC ID: A3LSMG986W	<u>@</u> \PCTEST	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-223. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 52)



Plot 7-224. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2A) - Ch. 56)

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