

7.5 Maximum Power Spectral Density – 802.11a/n/ac §15.407(a.1)(2.5)

Test Overview and Limit

The spectrum analyzer was connected to the antenna terminal while the EUT was operating at its maximum duty cycle, at its maximum power control level, as defined in KDB 789033 D02 v01r02, and at the appropriate frequencies. Method SA-1, as defined in KDB 789033 D02 v01r02, was used to measure the power spectral density.

In the 5.15 – 5.25GHz, 5.25 – 5.35GHz, 5.47 – 5.725GHz bands, the maximum permissible power spectral density is 11dBm/MHz.

In the 5.725 – 5.850GHz band, the maximum permissible power spectral density is 30dBm/500kHz.

Test Procedure Used

KDB 789033 D02 v01r02 – Section F
KDB 662911 v02r01 – Section E)2) Measure-and-Sum Technique

Test Settings

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire emission bandwidth of the signal
3. RBW = 1MHz
4. VBW = 3MHz
5. Number of sweep points $\geq 2 \times (\text{span}/\text{RBW})$
6. Sweep time = auto
7. Detector = power averaging (RMS)
8. Trigger was set to free run for all modes
9. Trace was averaged over 100 sweeps
10. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.

Test Setup

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

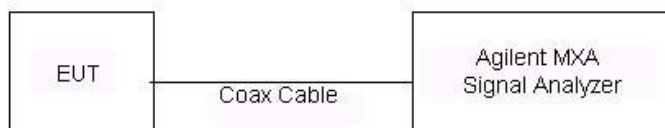


Figure 7-4. Test Instrument & Measurement Setup

Test Notes

None

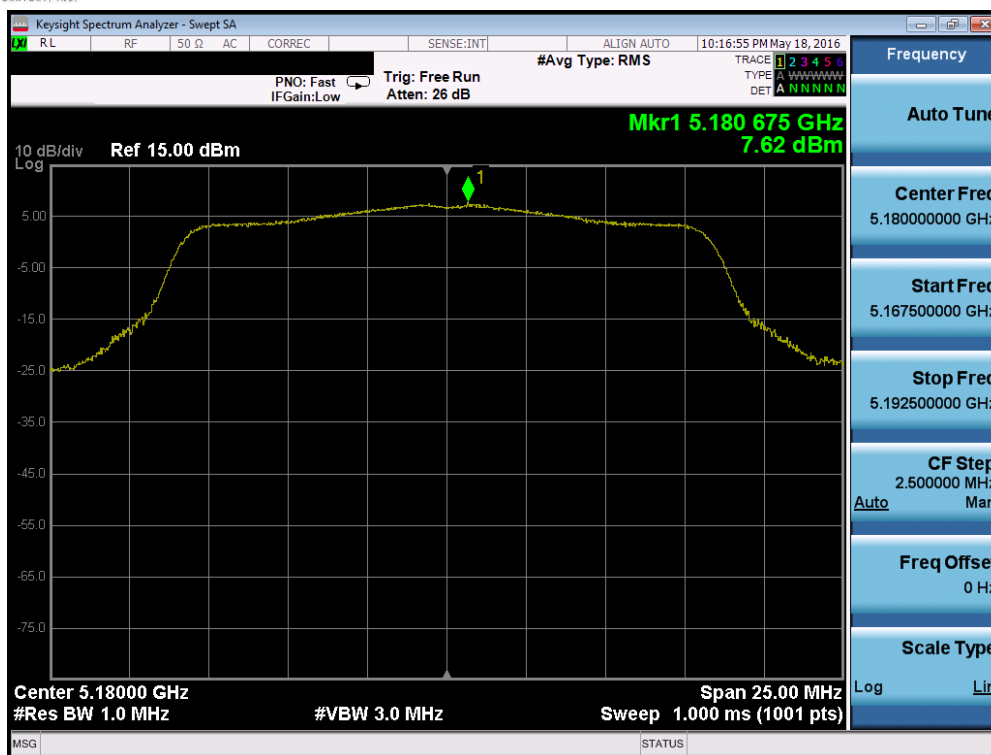
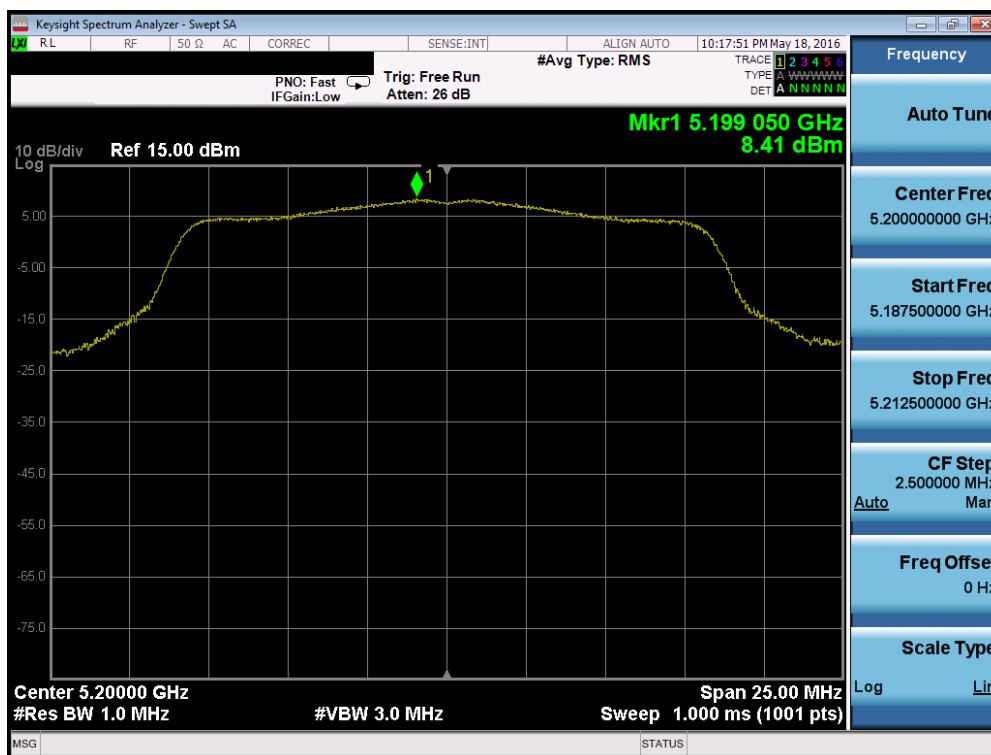
FCC ID: A3LSMN9300		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 68 of 261

Antenna-1 Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6	7.62	11.0	-3.38	Pass
	5200	40	a	6	8.41	11.0	-2.59	Pass
	5240	48	a	6	7.71	11.0	-3.29	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	7.15	11.0	-3.85	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	8.41	11.0	-2.59	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	7.43	11.0	-3.57	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	3.39	11.0	-7.61	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	2.47	11.0	-8.53	Pass
Band 2A	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	0.09	11.0	-10.91	Pass
	5260	52	a	6	7.87	11.0	-3.13	Pass
	5280	56	a	6	8.07	11.0	-2.93	Pass
	5320	64	a	6	7.38	11.0	-3.62	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	7.51	11.0	-3.49	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	7.84	11.0	-3.16	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	7.27	11.0	-3.73	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	2.57	11.0	-8.43	Pass
Band 2C	5310	62	n (40MHz)	13.5/15 (MCS0)	3.20	11.0	-7.80	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	0.07	11.0	-10.93	Pass
	5500	100	a	6	7.51	11.0	-3.49	Pass
	5600	120	a	6	8.34	11.0	-2.66	Pass
	5720	144	a	6	8.26	11.0	-2.74	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	7.39	11.0	-3.61	Pass
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	7.02	11.0	-3.98	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	8.03	11.0	-2.97	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	3.06	11.0	-7.94	Pass
	5590	118	n (40MHz)	13.5/15 (MCS0)	2.72	11.0	-8.28	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	2.77	11.0	-8.23	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-0.20	11.0	-11.20	Pass
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-0.30	11.0	-11.30	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-4.00	11.0	-15.00	Pass

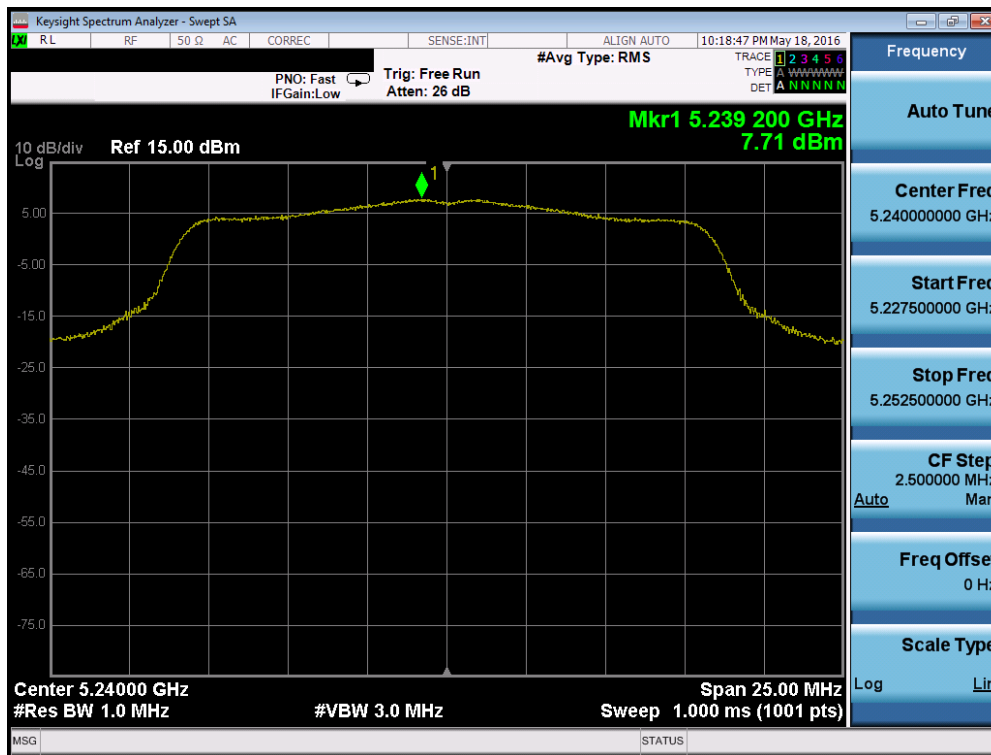
Table 7-17. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements

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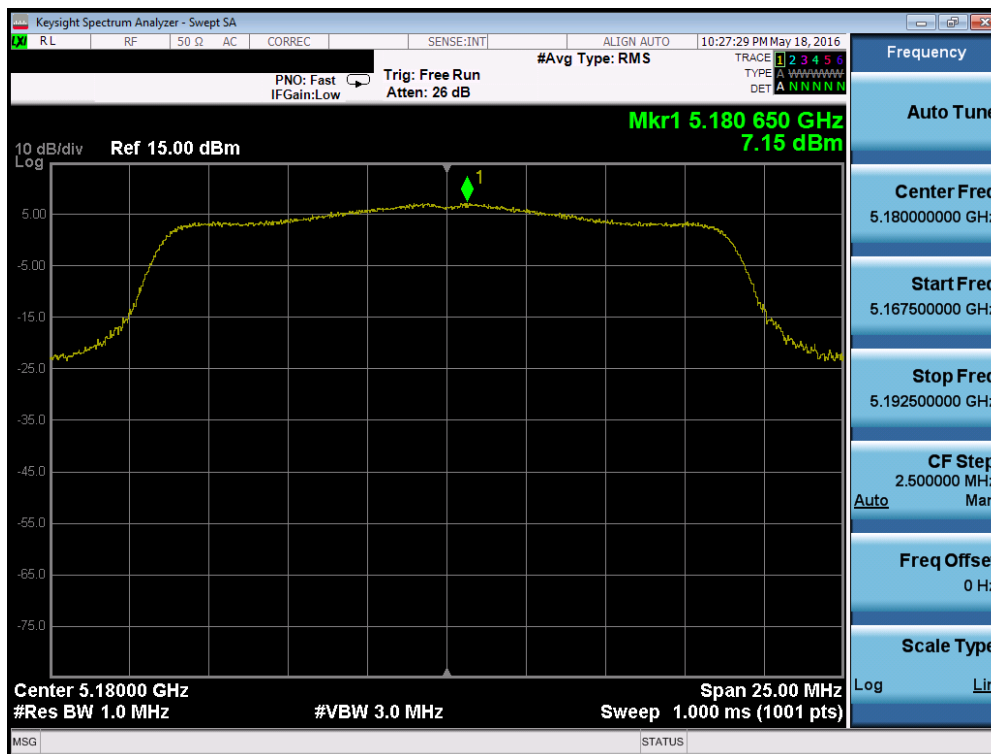
**Plot 7-79. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)**

Plot 7-80. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 40)

FCC ID: A3LSMN9300	 FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
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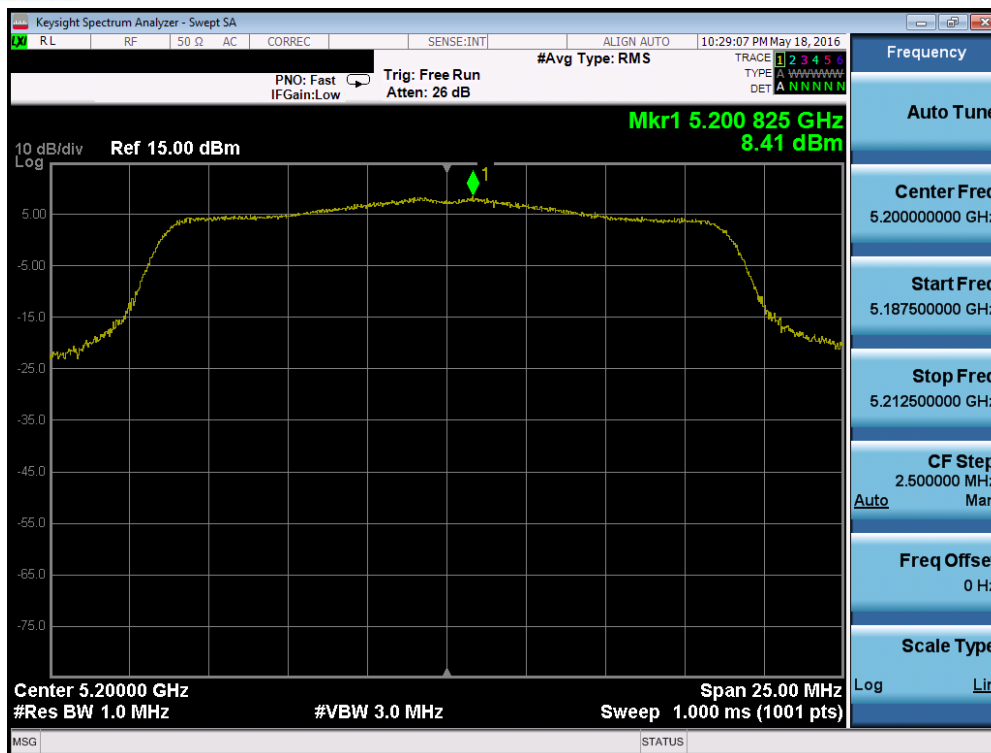


Plot 7-81. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)

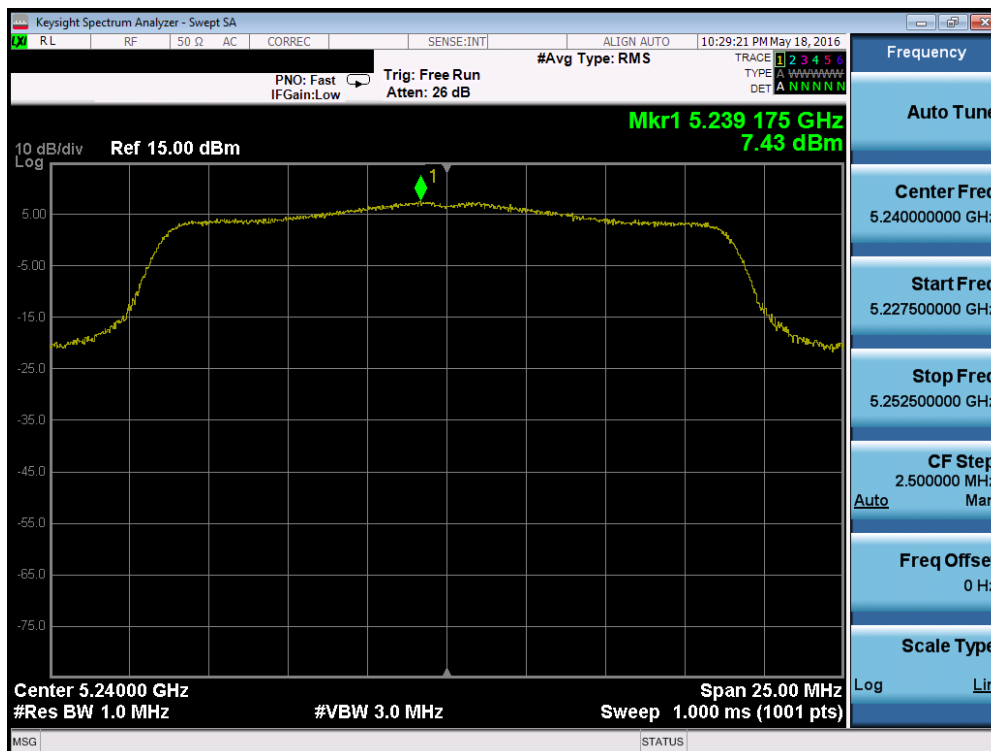


Plot 7-82. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 71 of 261

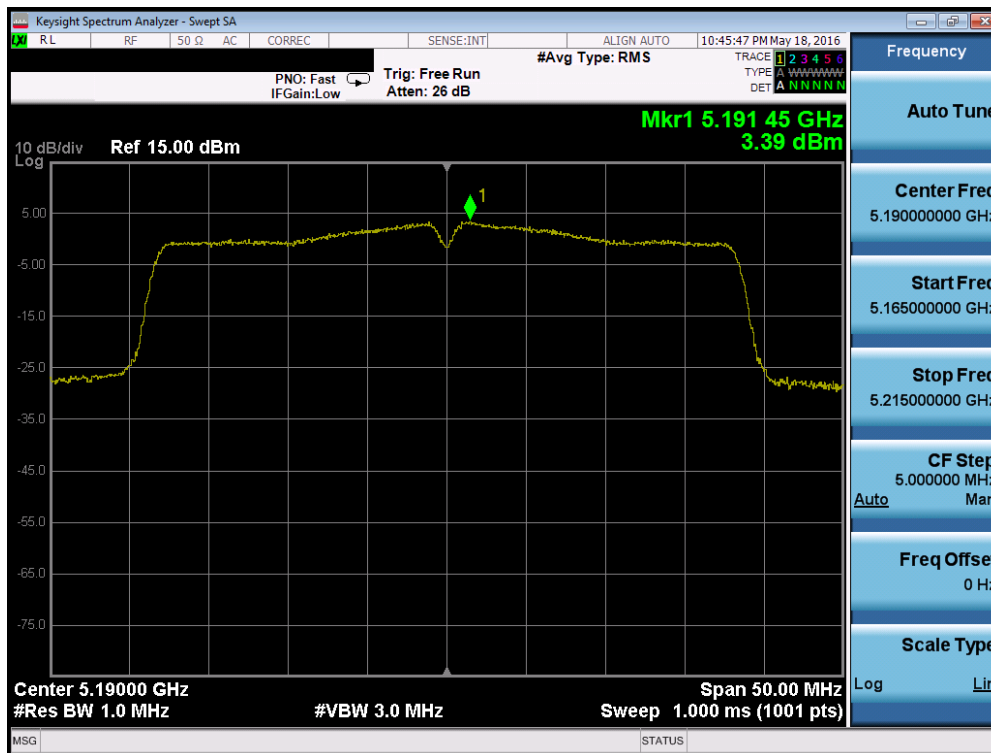


Plot 7-83. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

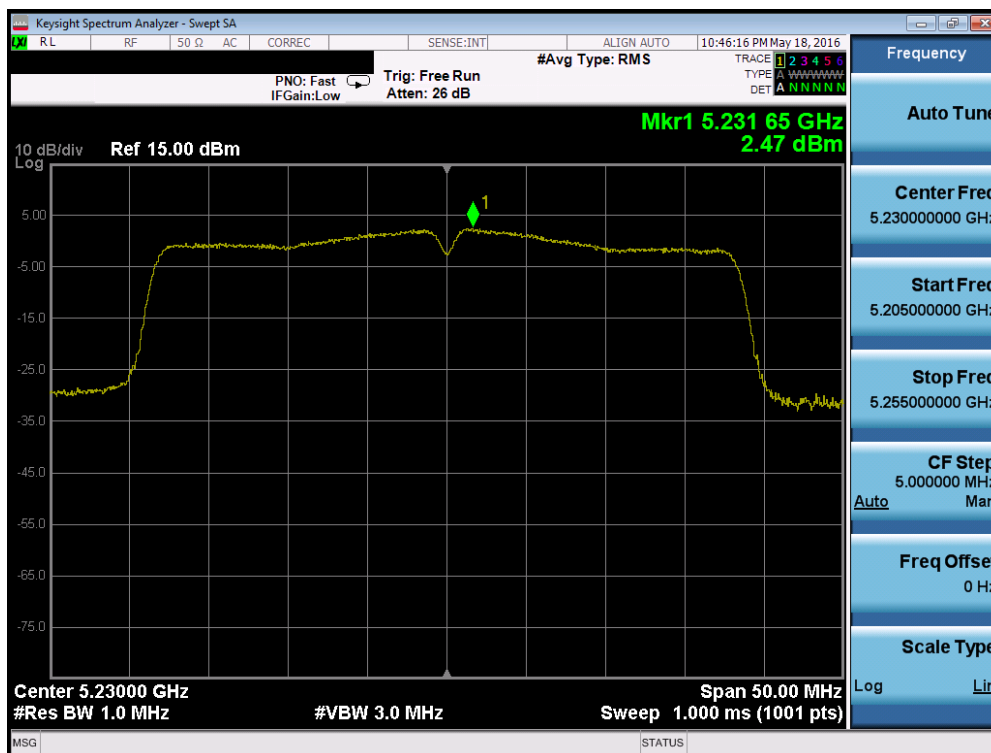


Plot 7-84. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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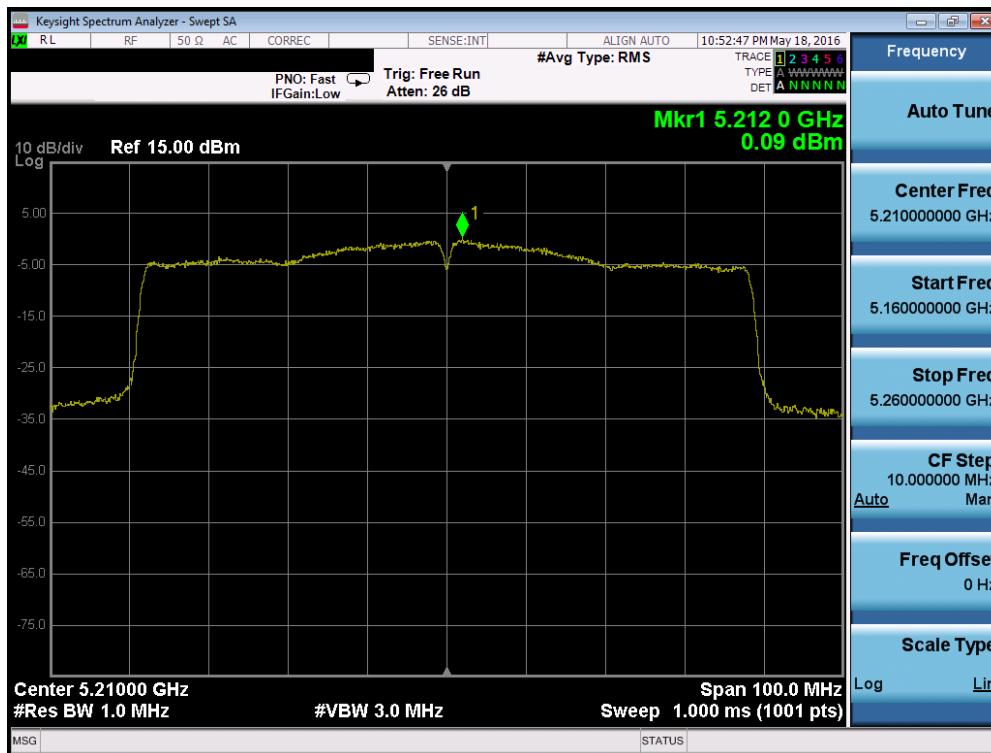


Plot 7-85. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)

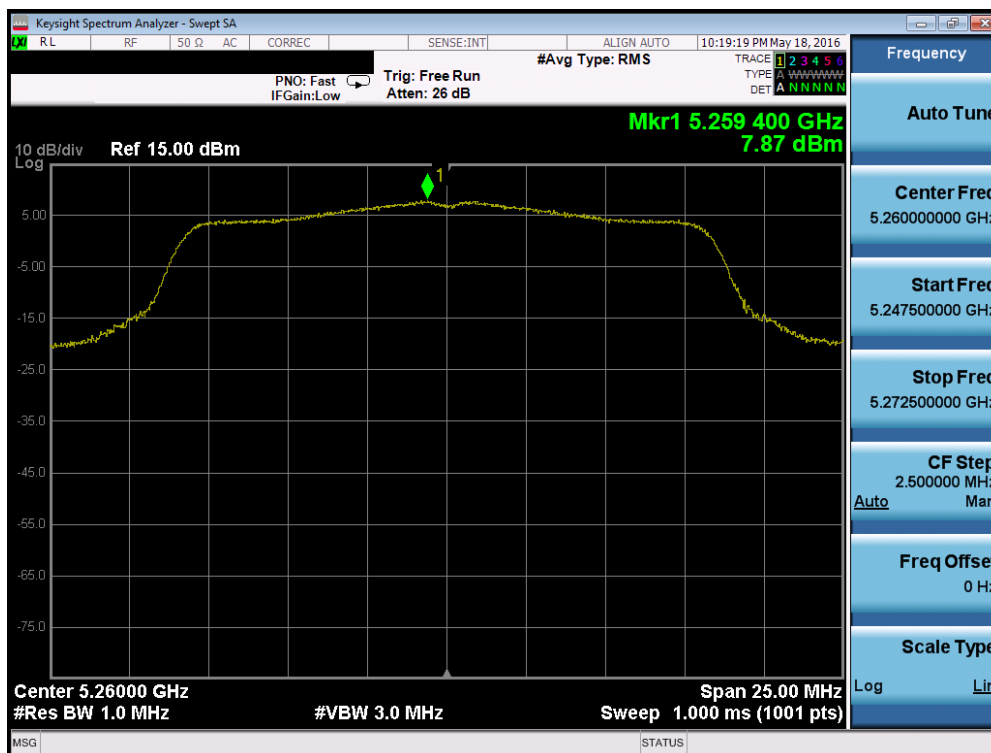


Plot 7-86. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

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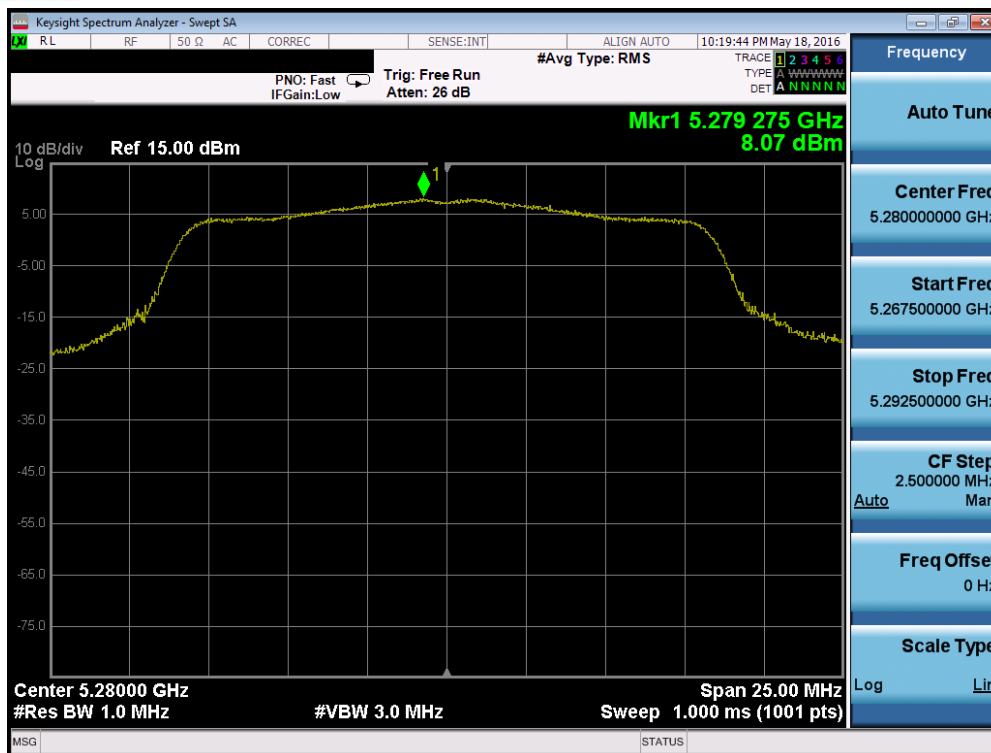


Plot 7-87. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

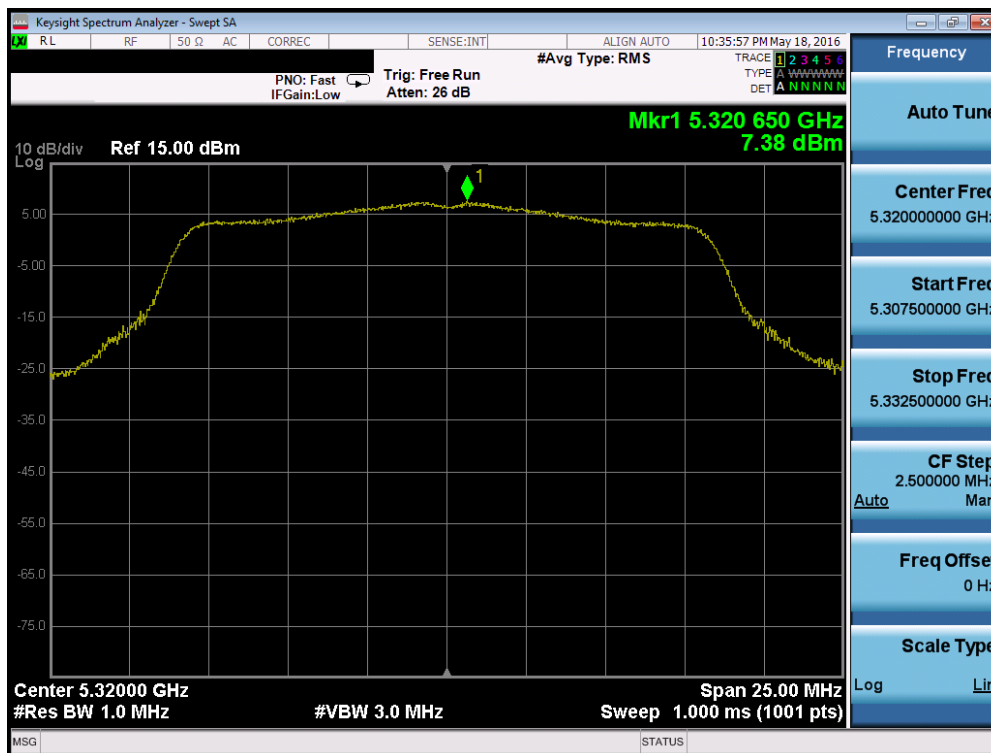


Plot 7-88. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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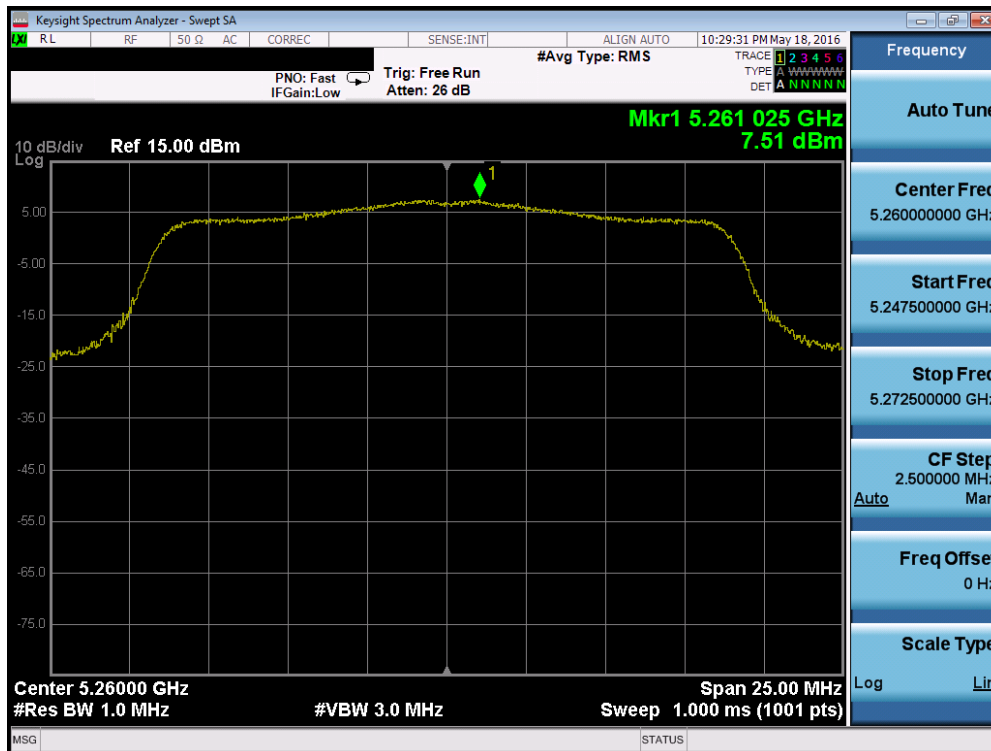


Plot 7-89. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)

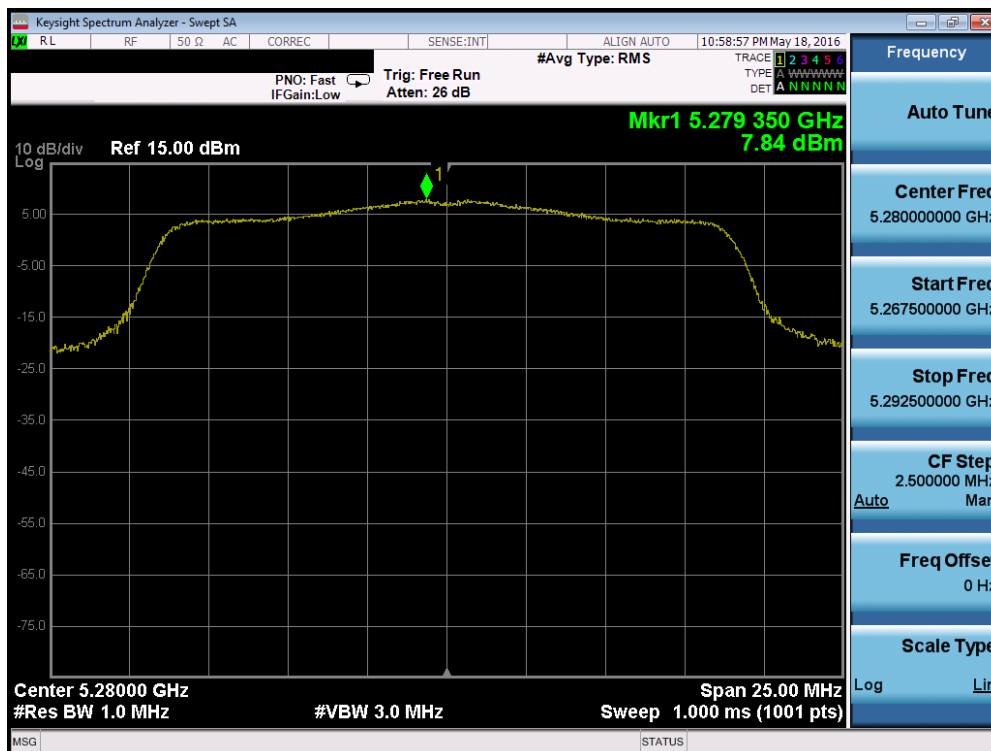


Plot 7-90. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)

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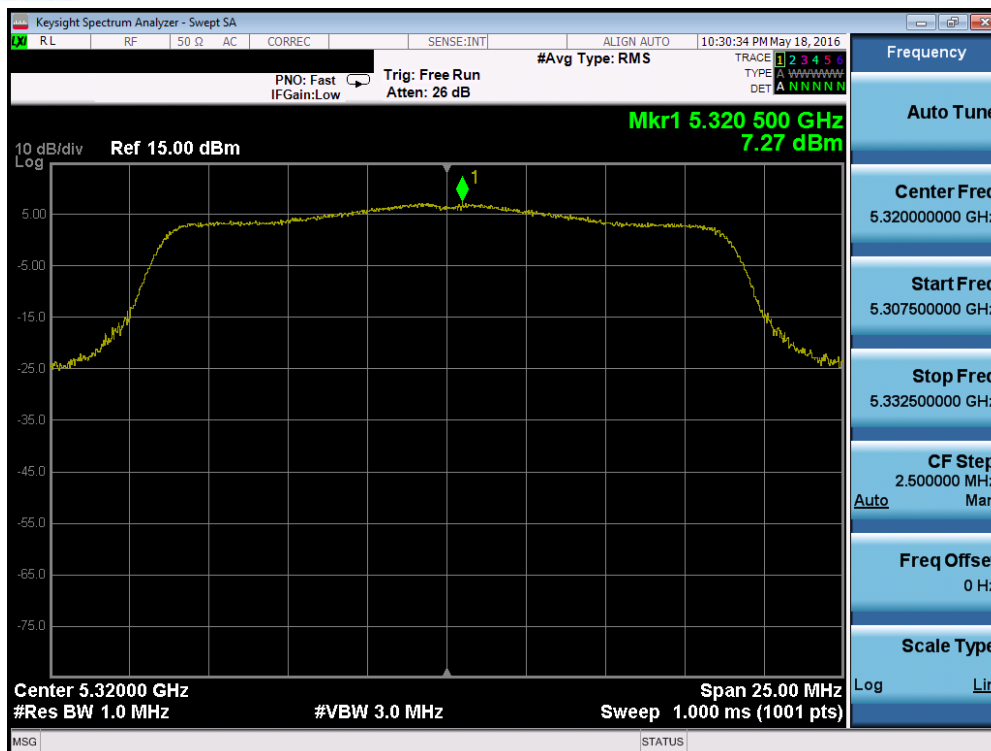


Plot 7-91. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

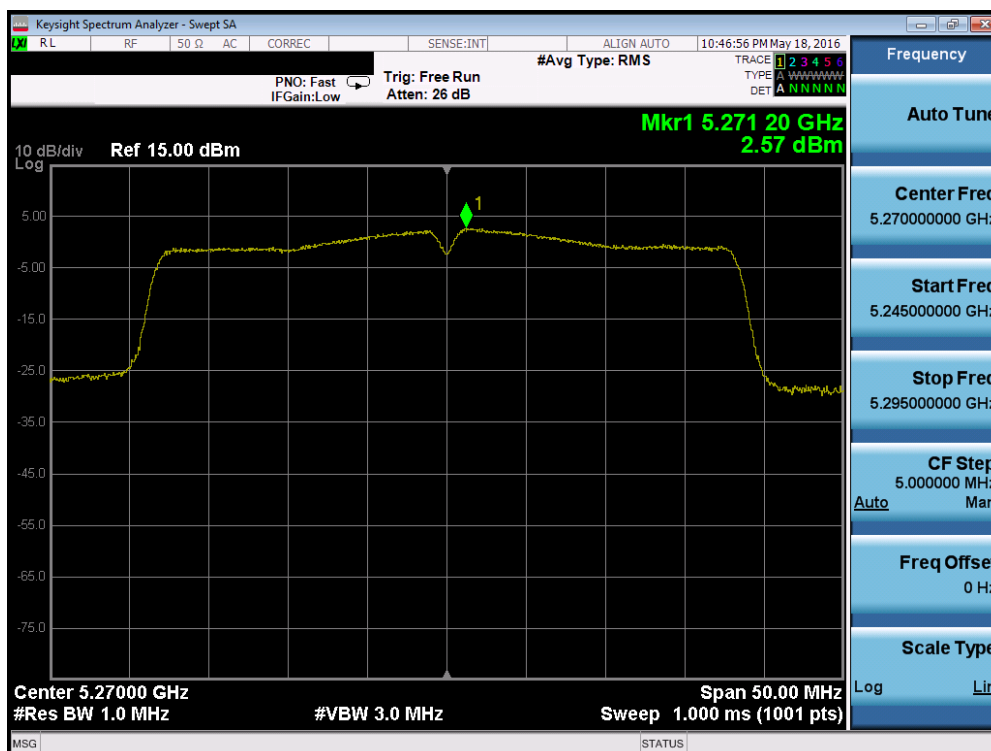


Plot 7-92. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

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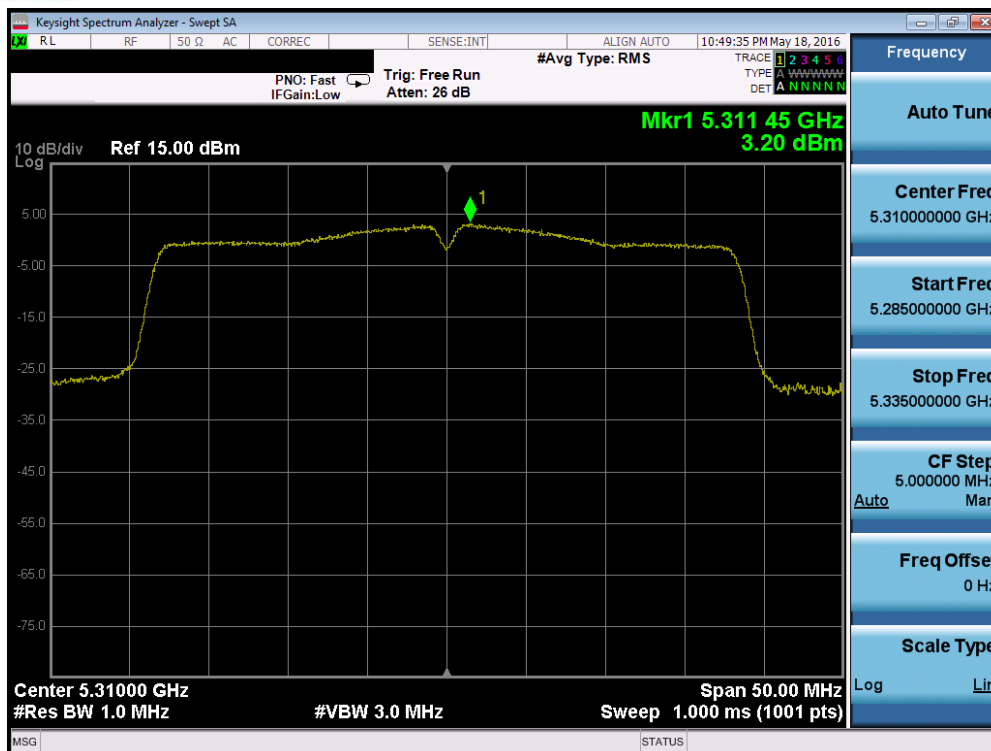


Plot 7-93. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

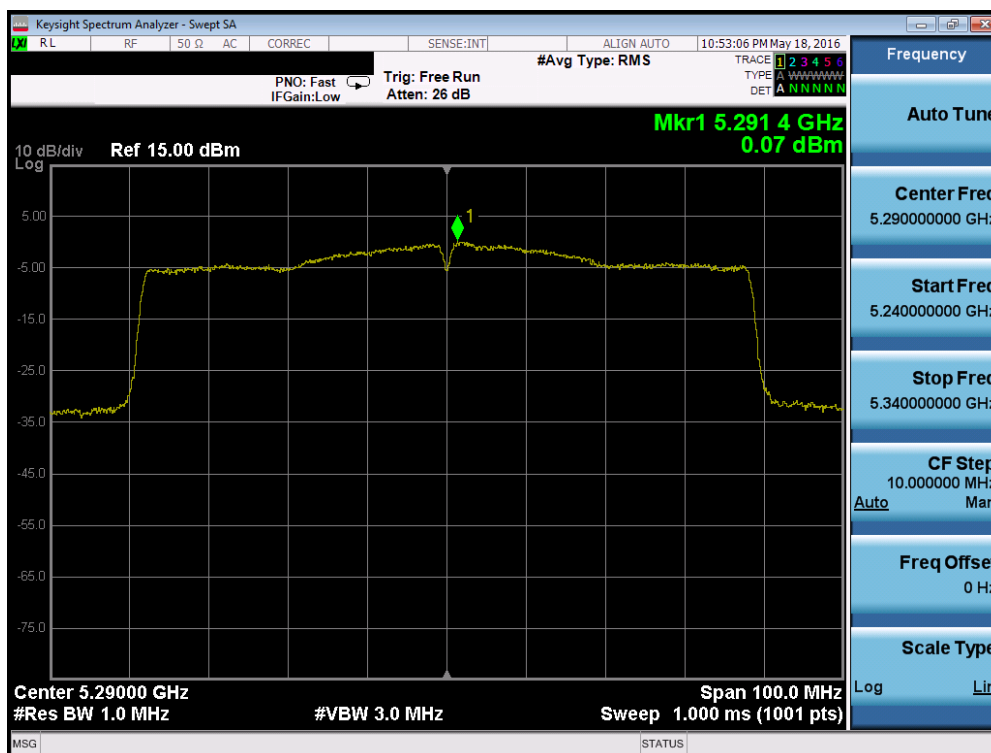


Plot 7-94. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

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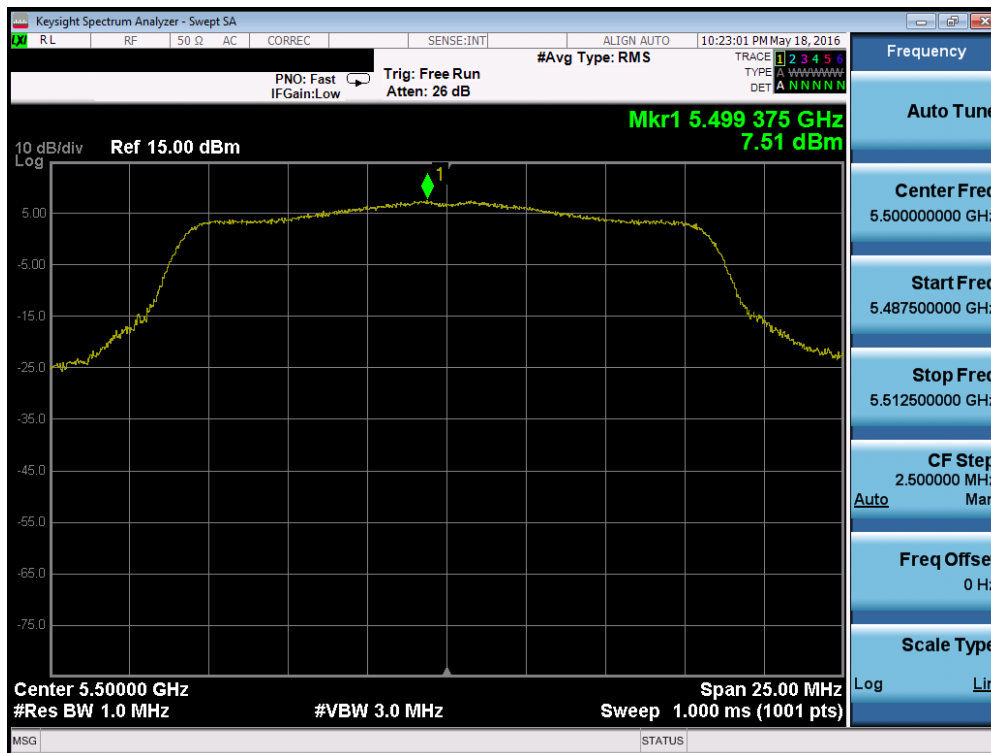


Plot 7-95. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

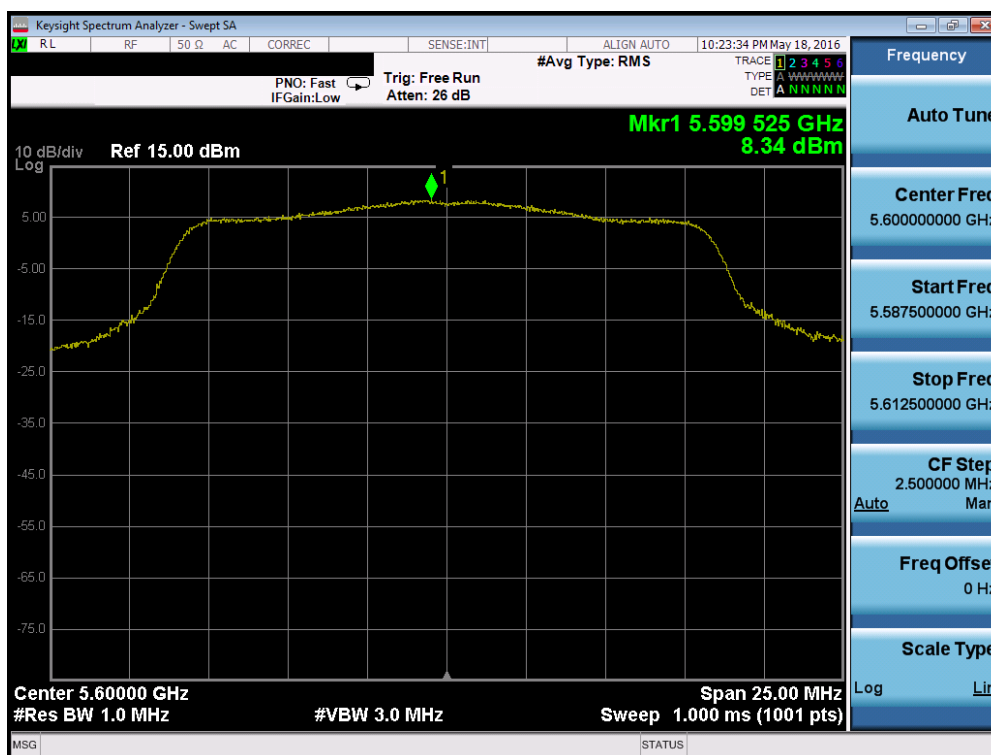


Plot 7-96. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

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Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 78 of 261

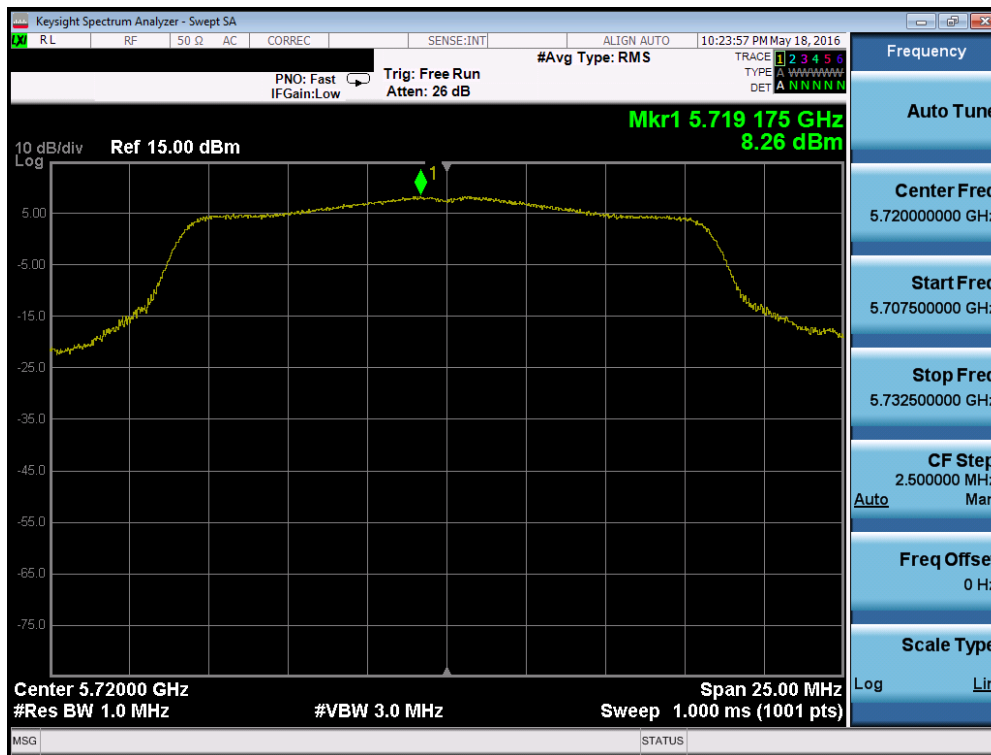


Plot 7-97. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)

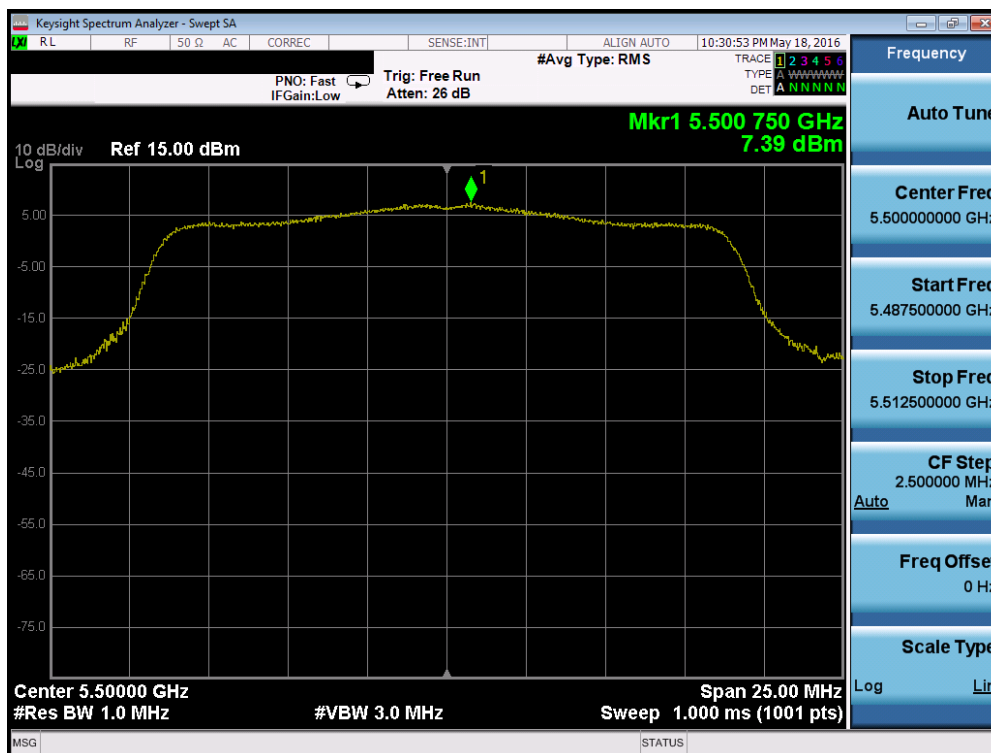


Plot 7-98. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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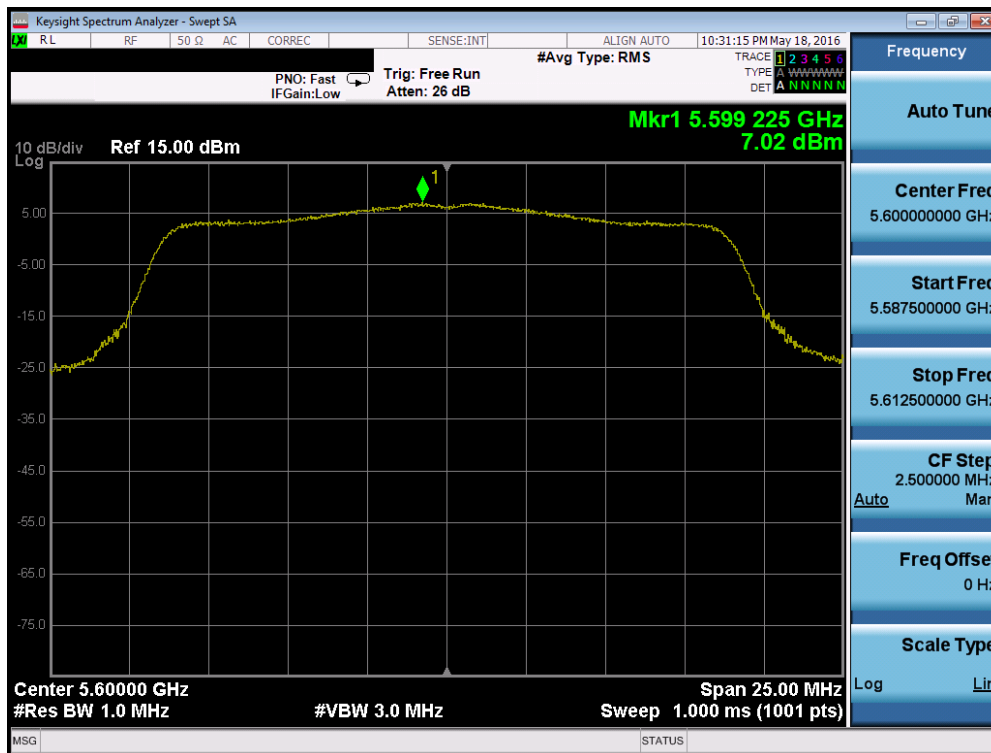


Plot 7-99. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 144)

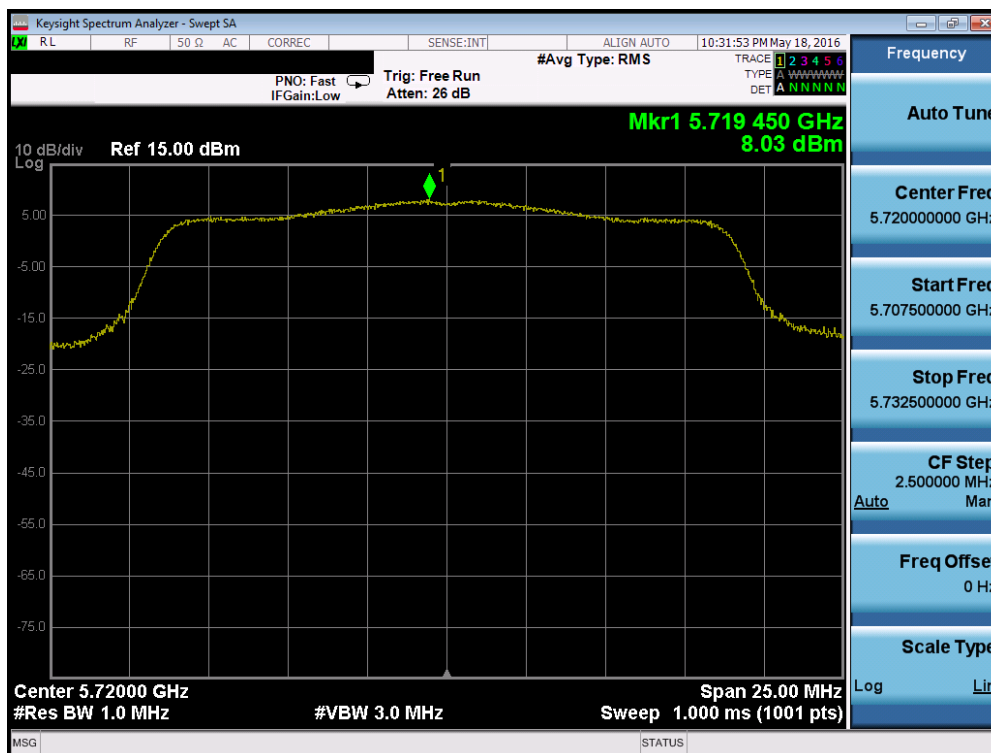


Plot 7-100. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

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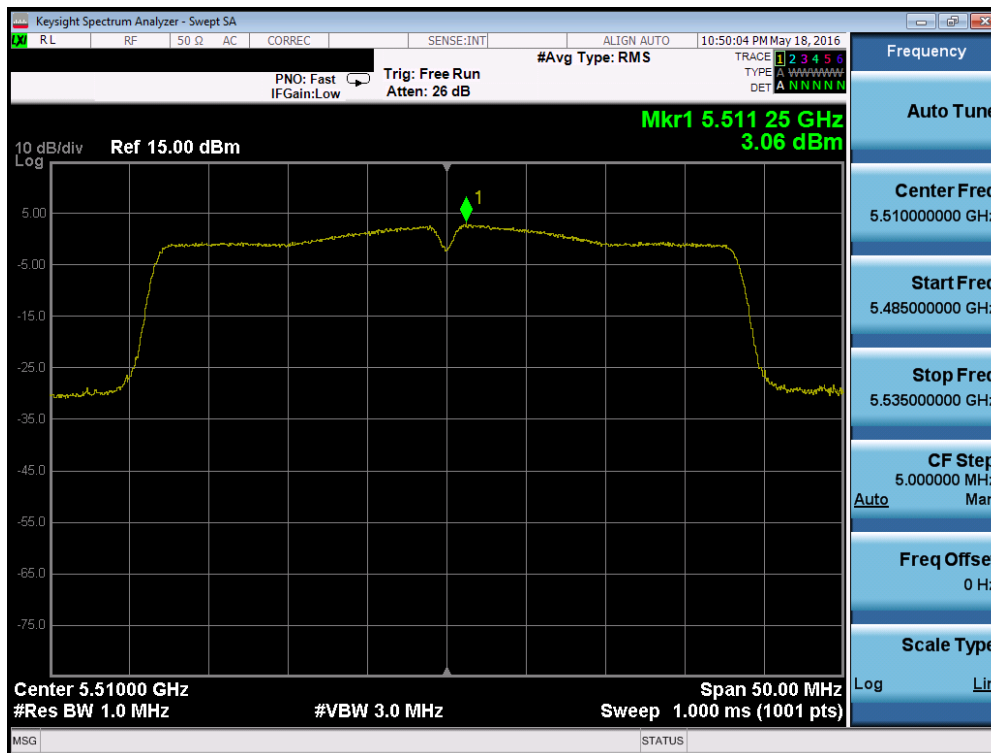


Plot 7-101. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)

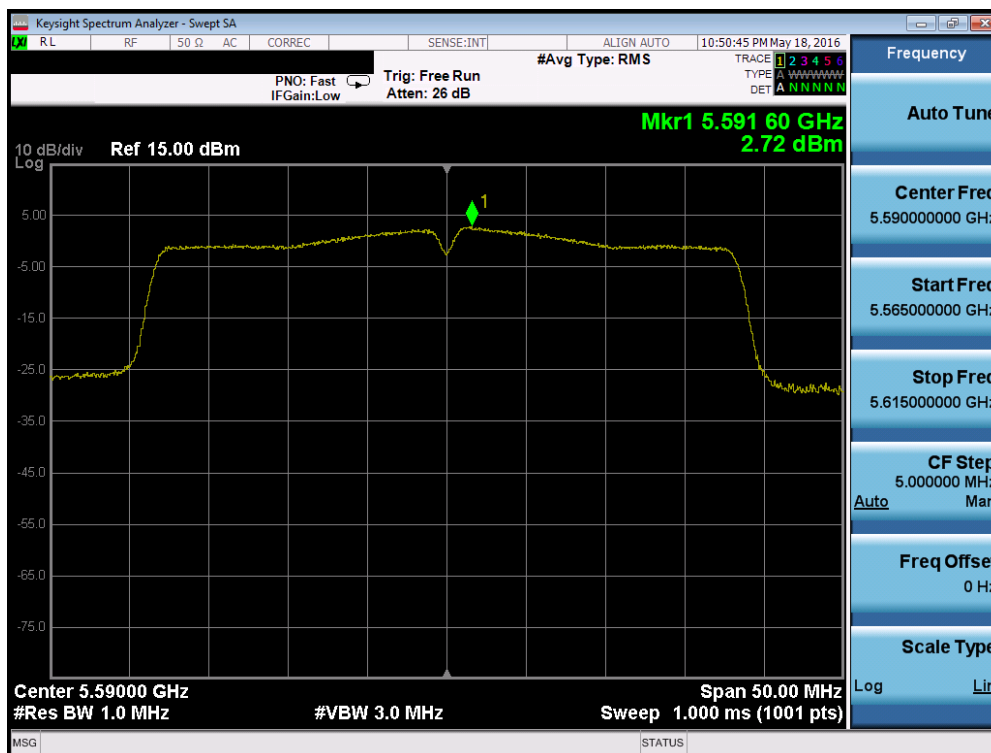


Plot 7-102. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)

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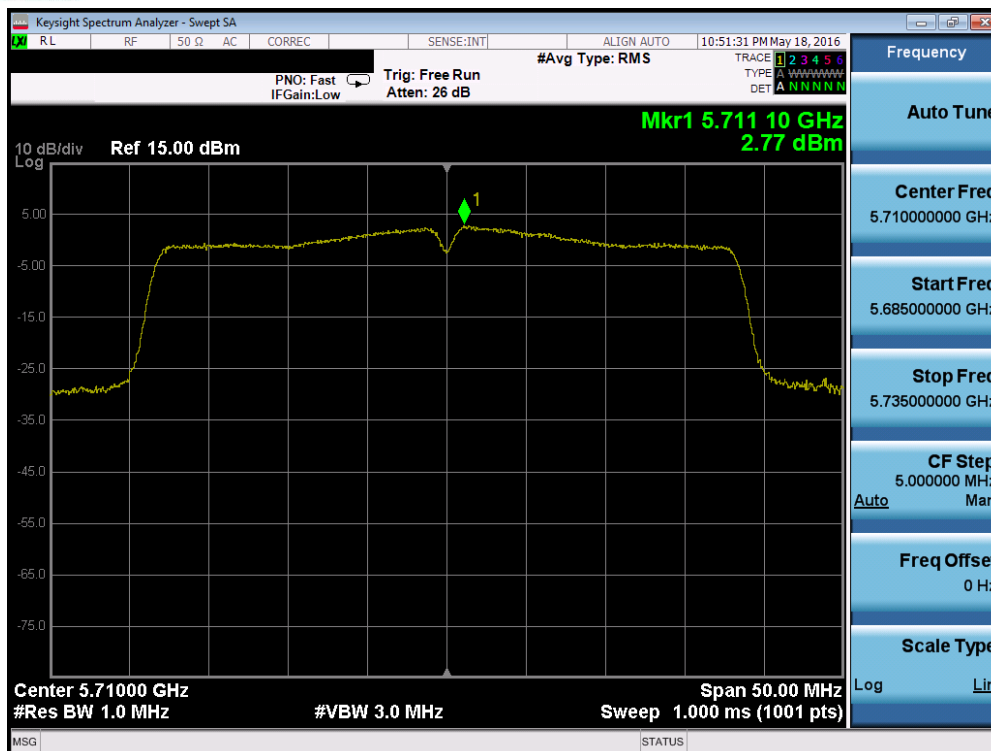


Plot 7-103. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

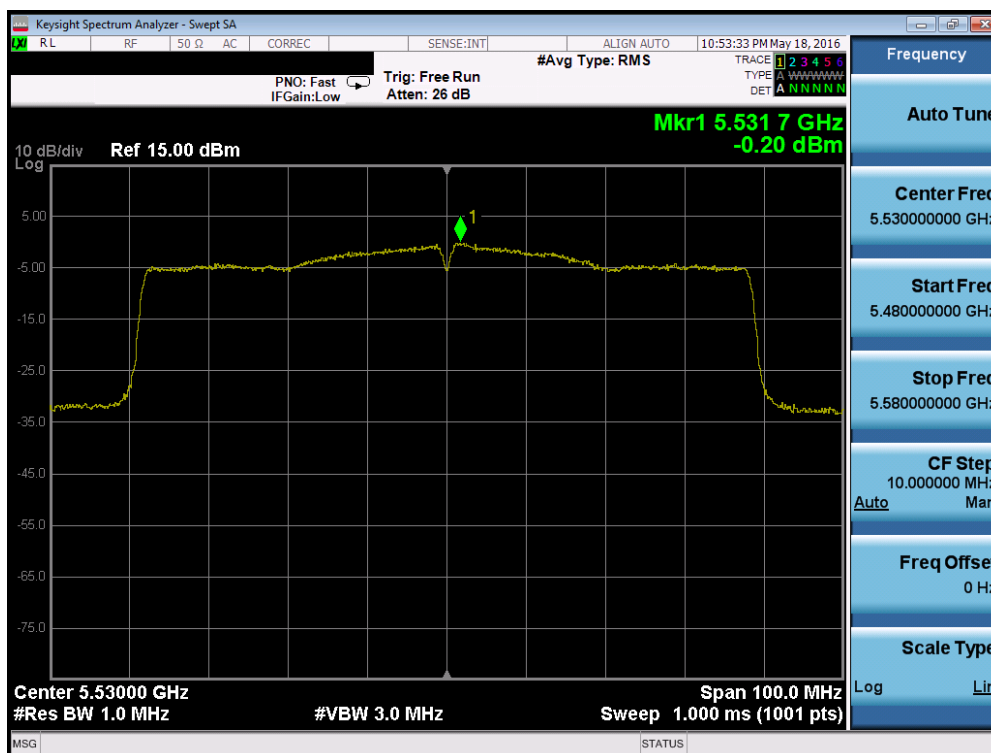


Plot 7-104. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 118)

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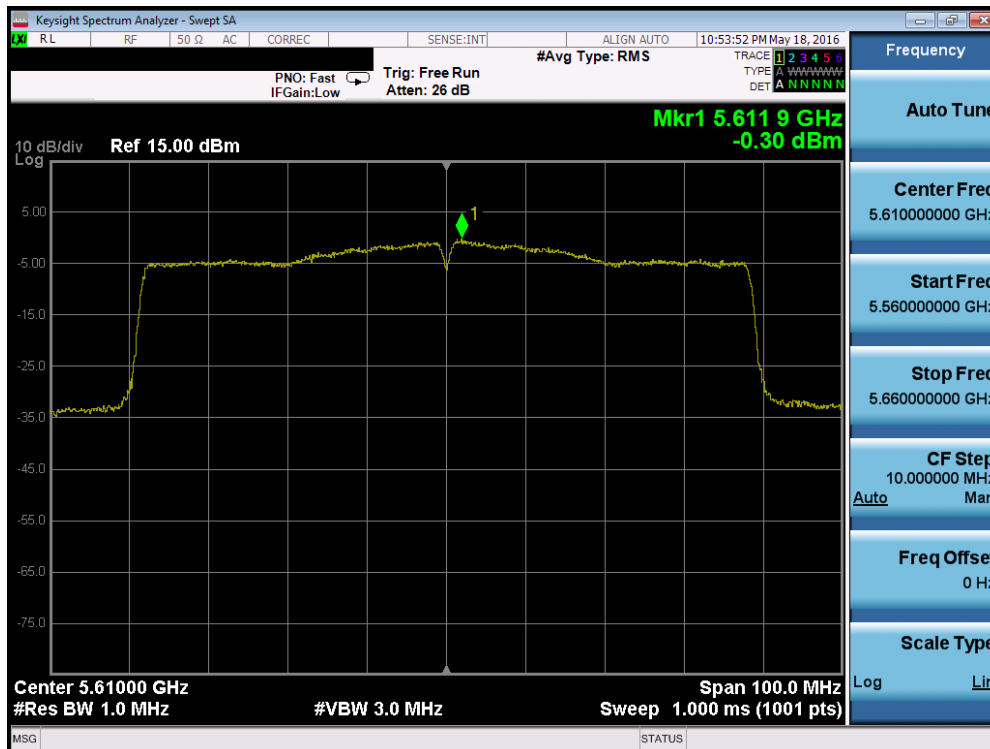


Plot 7-105. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

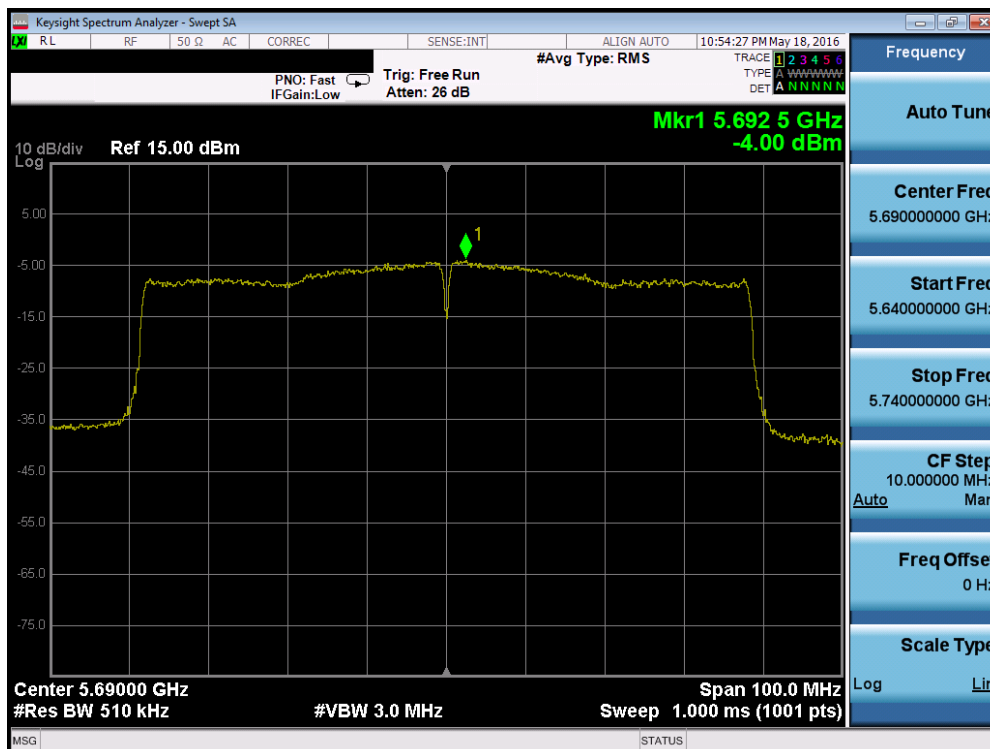


Plot 7-106. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

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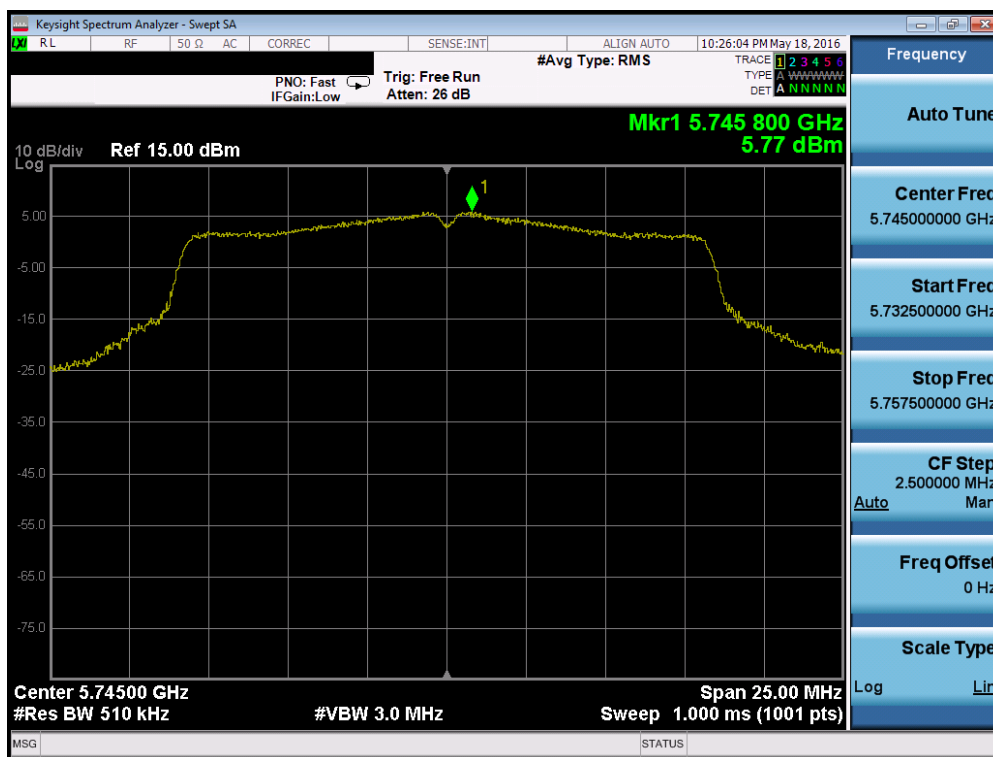


Plot 7-107. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 122)

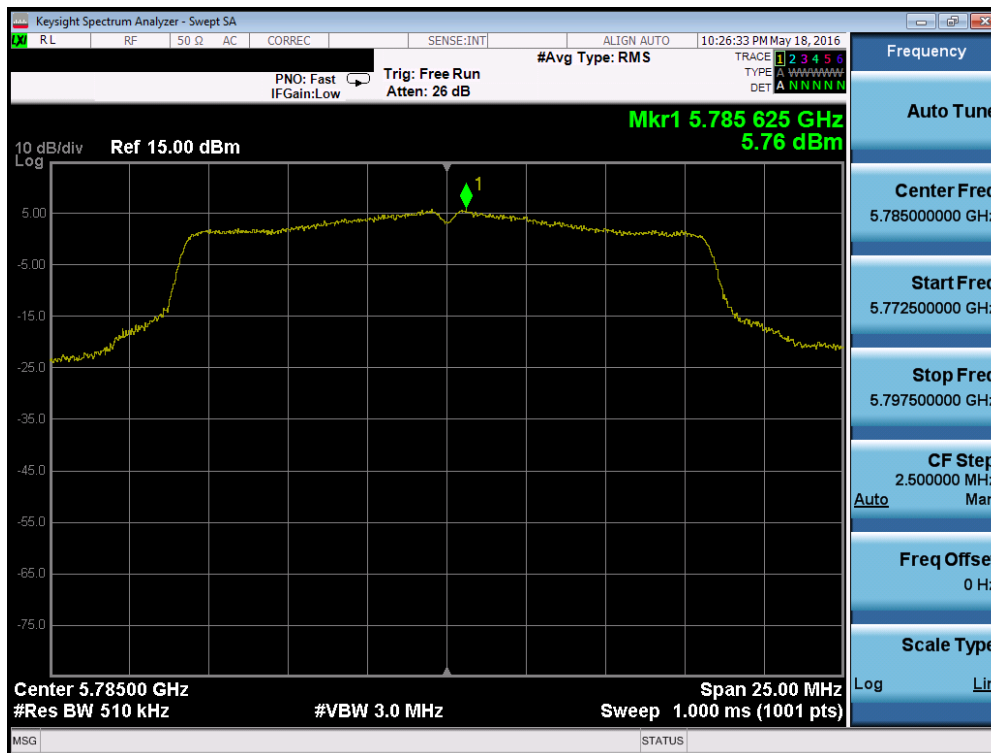


Plot 7-108. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

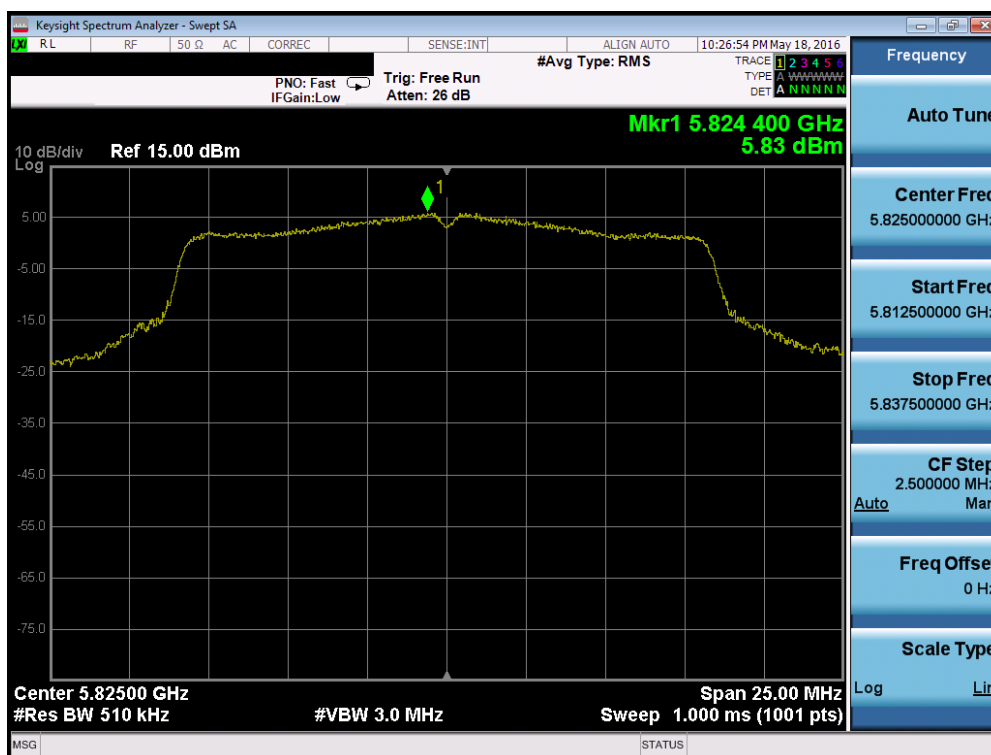
FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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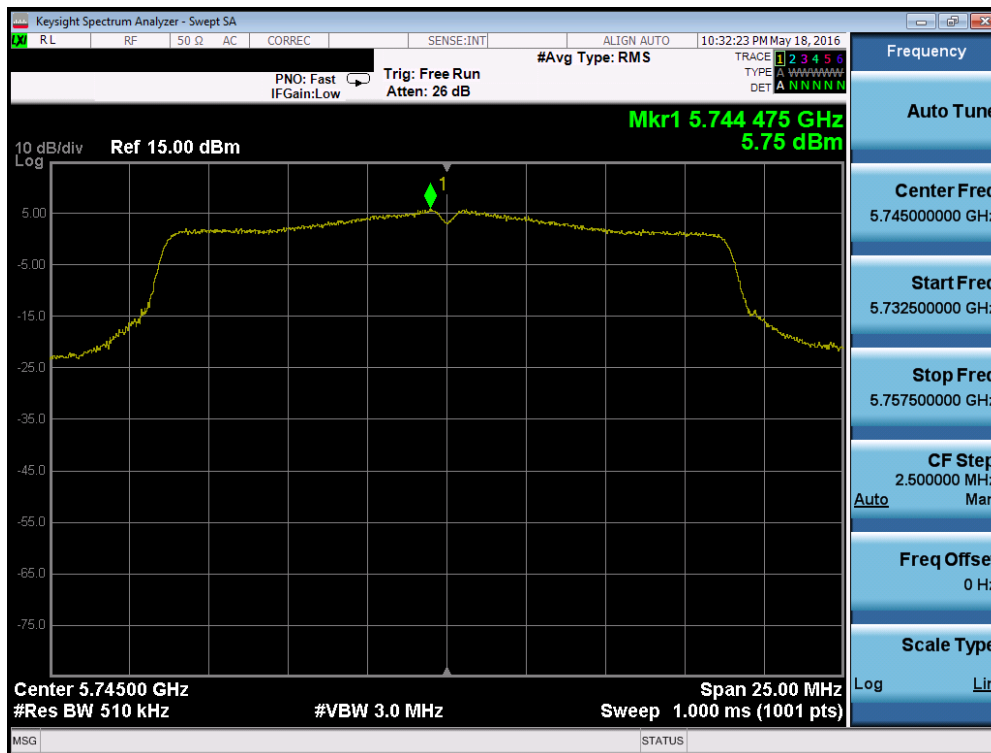


Plot 7-110. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 157)

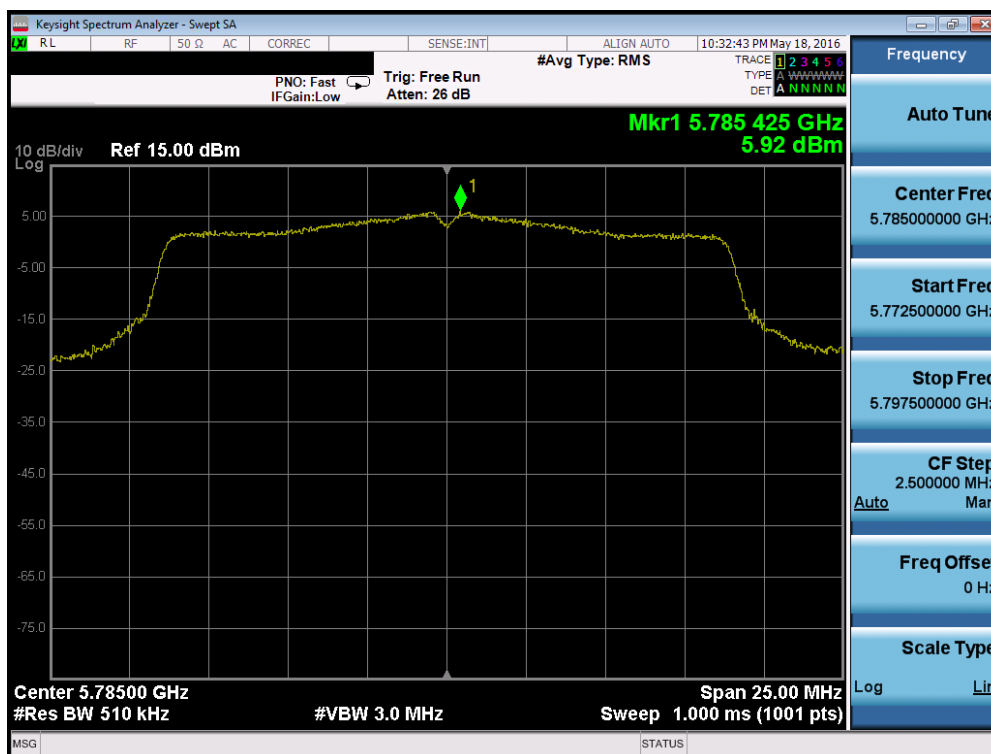


Plot 7-111. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 165)

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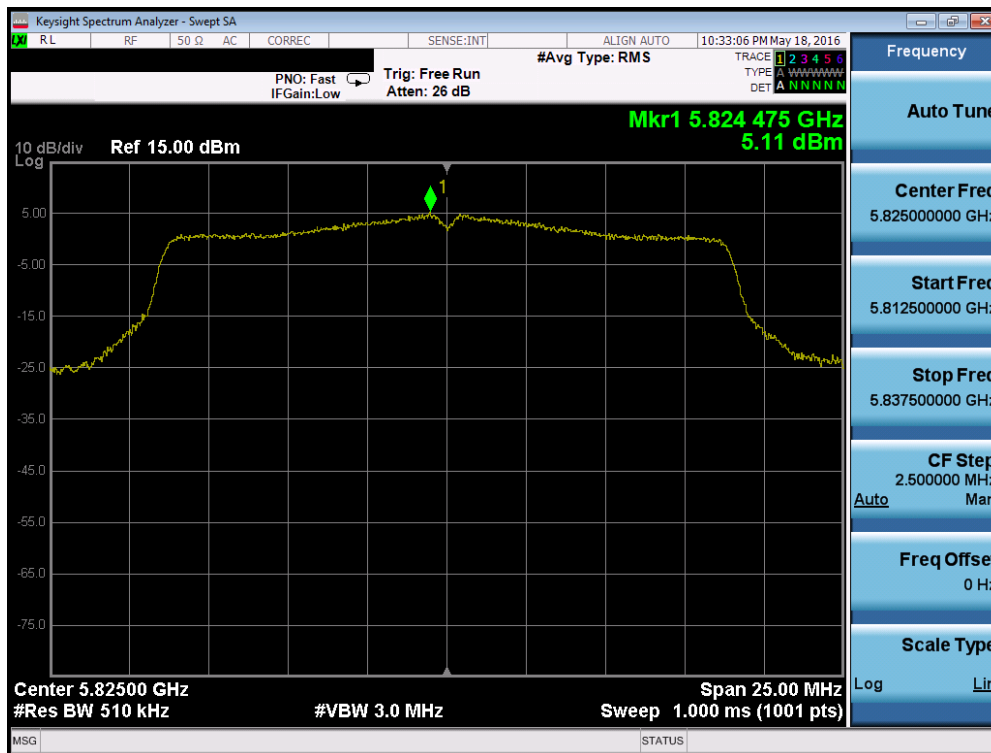


Plot 7-112. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 149)

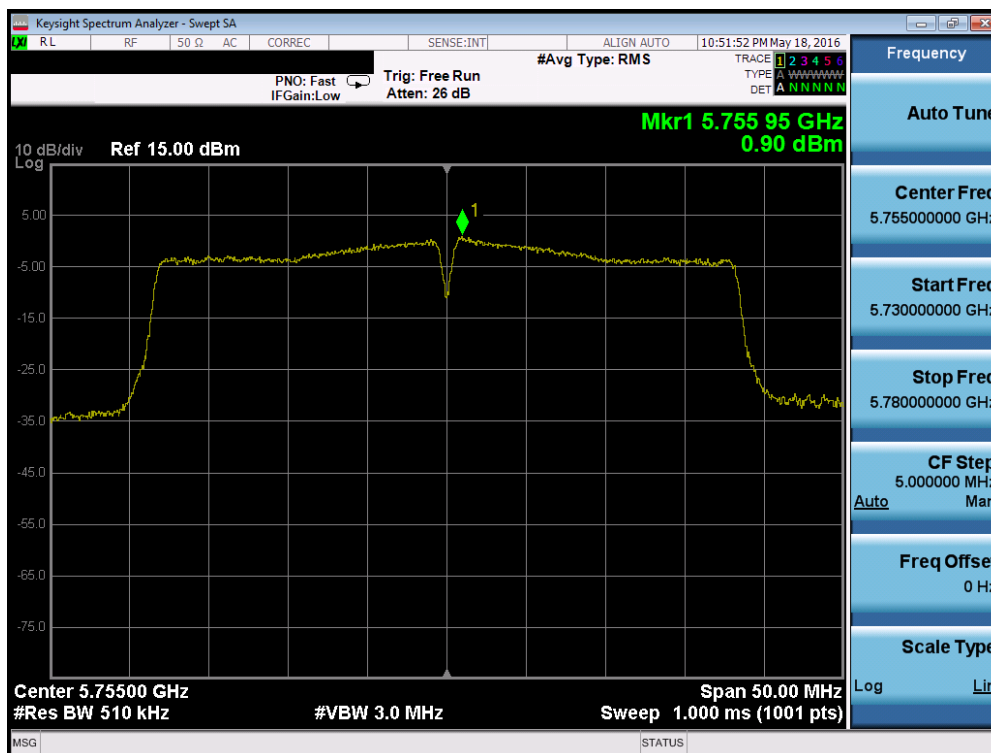


Plot 7-113. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 157)

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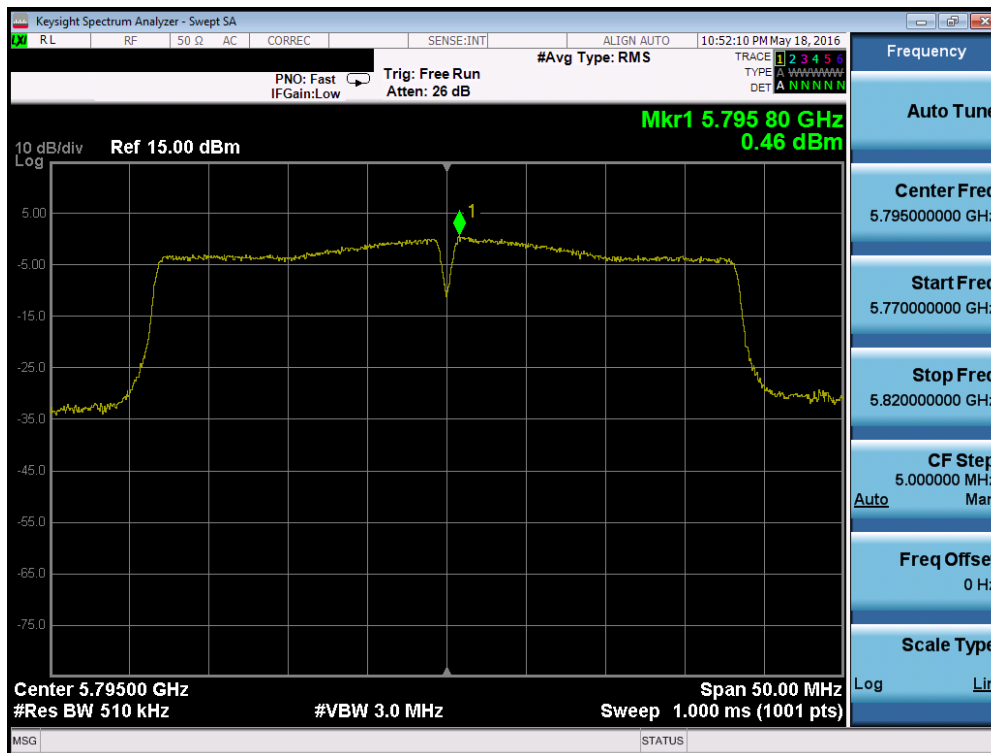


Plot 7-114. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 165)

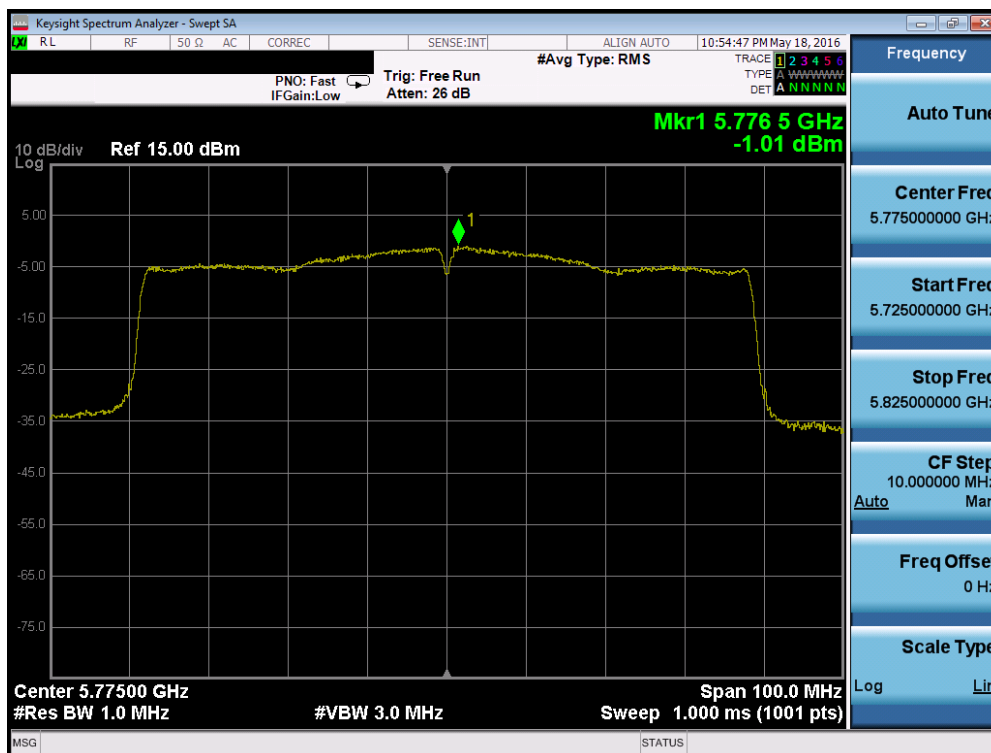


Plot 7-115. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 88 of 261



Plot 7-116. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 159)



Plot 7-117. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

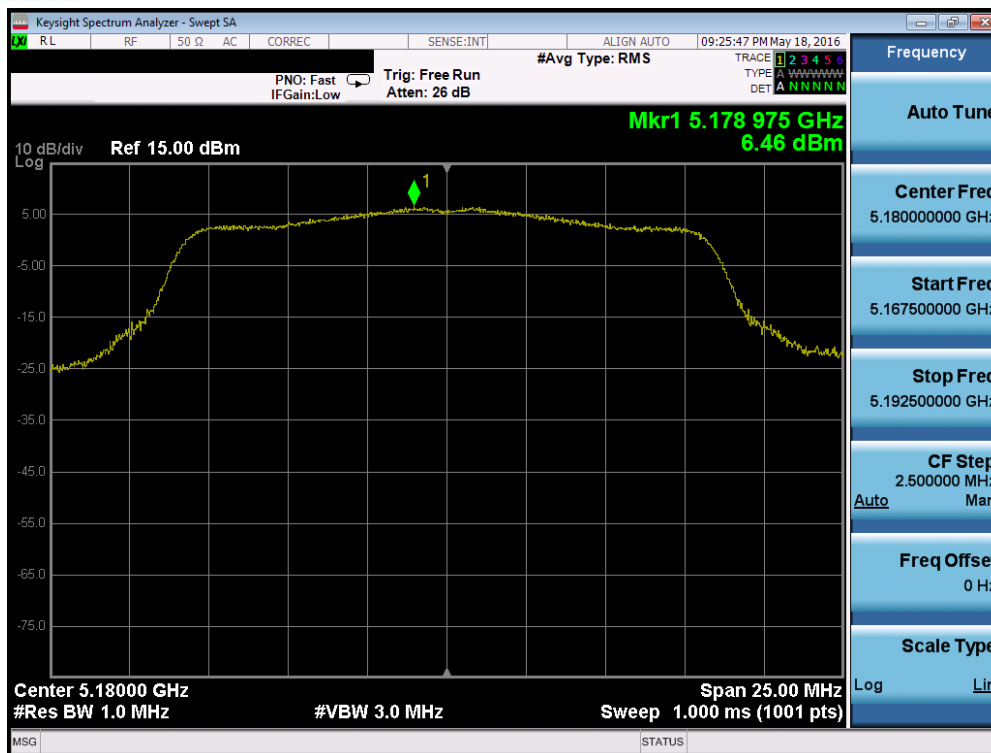
FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 89 of 261

Antenna-2 Power Spectral Density Measurements

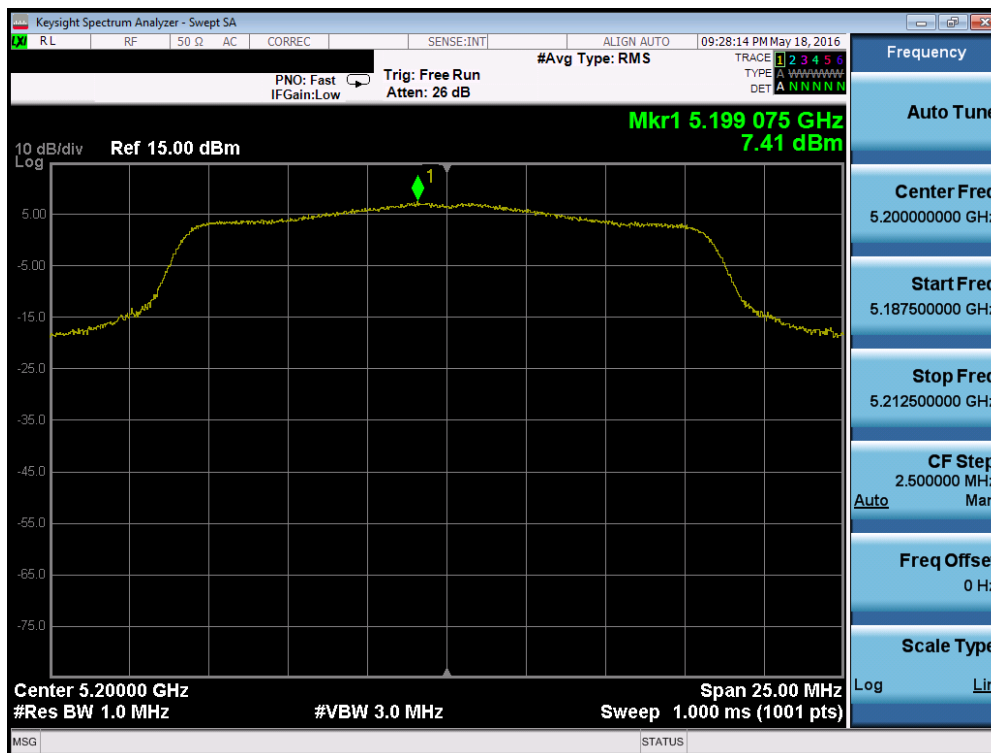
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6	6.46	11.0	-4.54	Pass
	5200	40	a	6	7.41	11.0	-3.59	Pass
	5240	48	a	6	6.92	11.0	-4.08	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	6.20	11.0	-4.80	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	7.01	11.0	-3.99	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	6.76	11.0	-4.24	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	2.33	11.0	-8.67	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	1.99	11.0	-9.01	Pass
Band 2A	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-1.96	11.0	-12.96	Pass
	5260	52	a	6	6.98	11.0	-4.02	Pass
	5280	56	a	6	7.24	11.0	-3.76	Pass
	5320	64	a	6	6.07	11.0	-4.93	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	6.97	11.0	-4.03	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	7.28	11.0	-3.72	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	5.34	11.0	-5.66	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	2.31	11.0	-8.69	Pass
Band 2C	5310	62	n (40MHz)	13.5/15 (MCS0)	1.72	11.0	-9.28	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-1.50	11.0	-12.50	Pass
	5500	100	a	6	6.19	11.0	-4.81	Pass
	5600	120	a	6	7.27	11.0	-3.73	Pass
	5720	144	a	6	7.18	11.0	-3.82	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	5.86	11.0	-5.14	Pass
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	6.88	11.0	-4.12	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	6.77	11.0	-4.23	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	2.09	11.0	-8.91	Pass
	5590	118	n (40MHz)	13.5/15 (MCS0)	1.94	11.0	-9.06	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	1.94	11.0	-9.06	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-2.48	11.0	-13.48	Pass
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-2.14	11.0	-13.14	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-4.64	11.0	-15.64	Pass

Table 7-19. Conducted Power Spectral Density Measurements

FCC ID: A3LSMN9300		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset	Page 90 of 261	

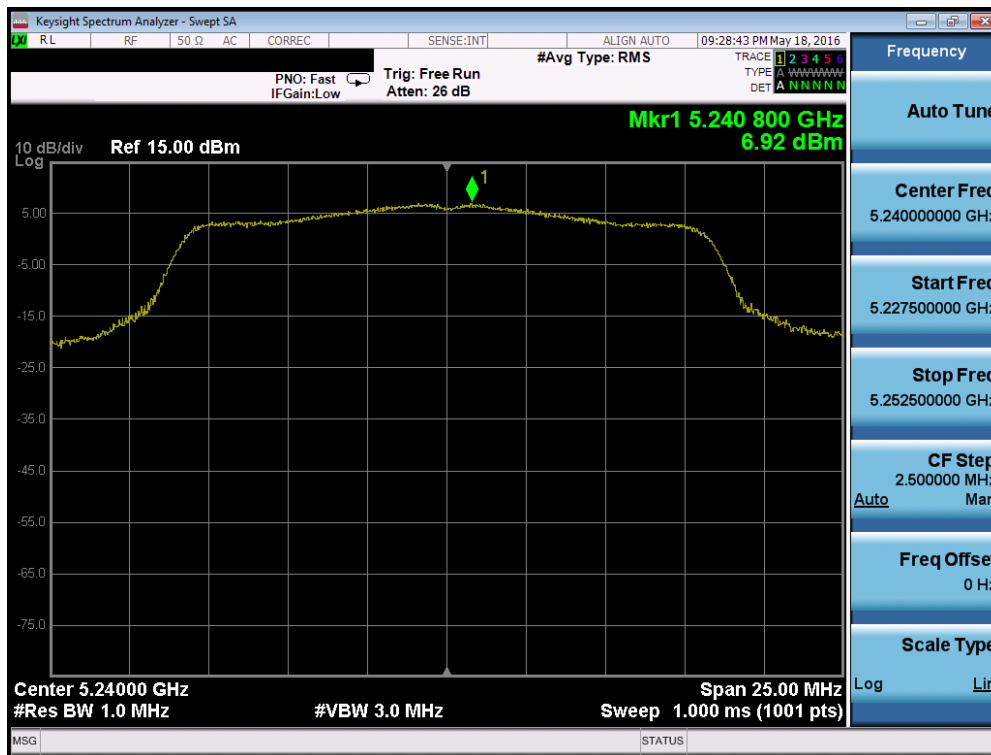


Plot 7-118. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)

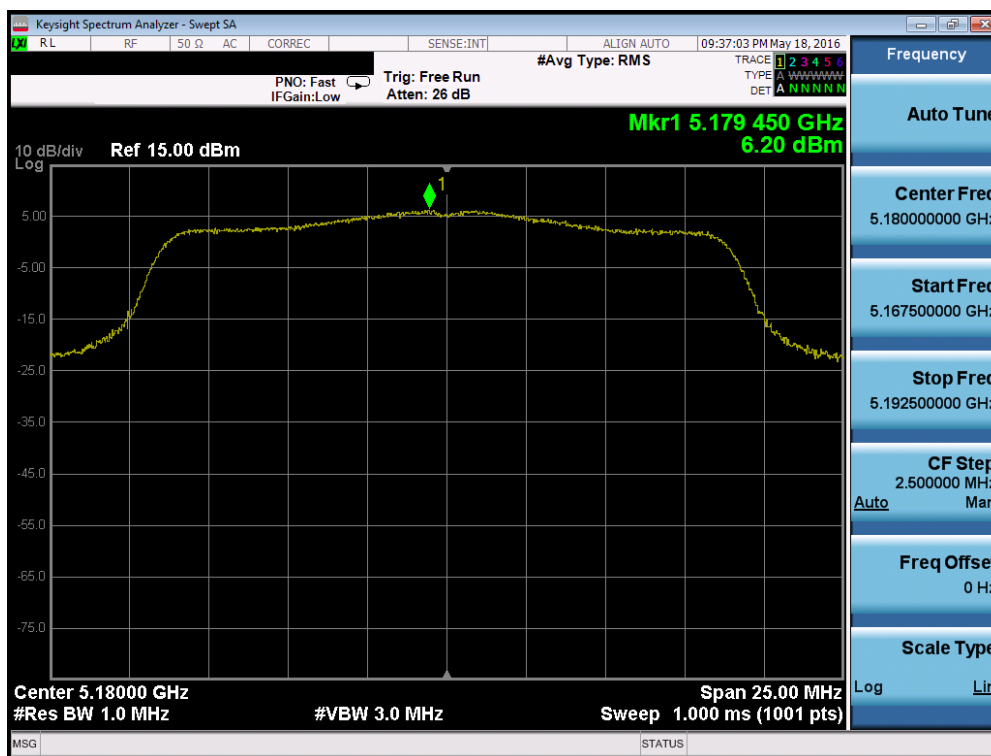


Plot 7-119. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 40)

FCC ID: A3LSMN9300	 FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset	Page 91 of 261

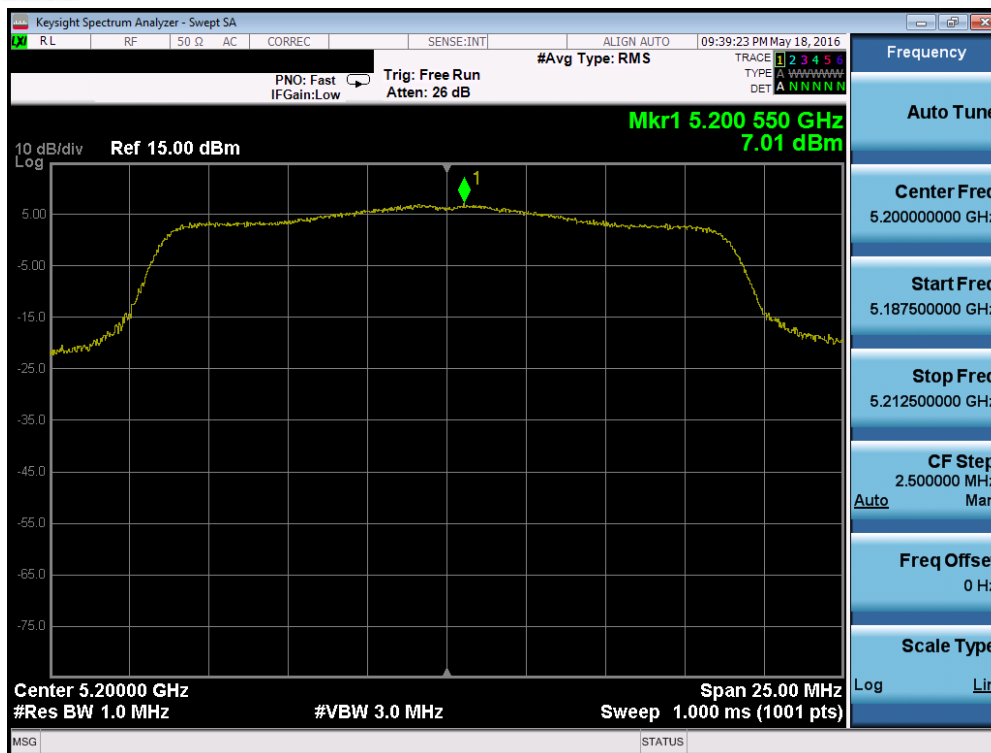


Plot 7-120. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)

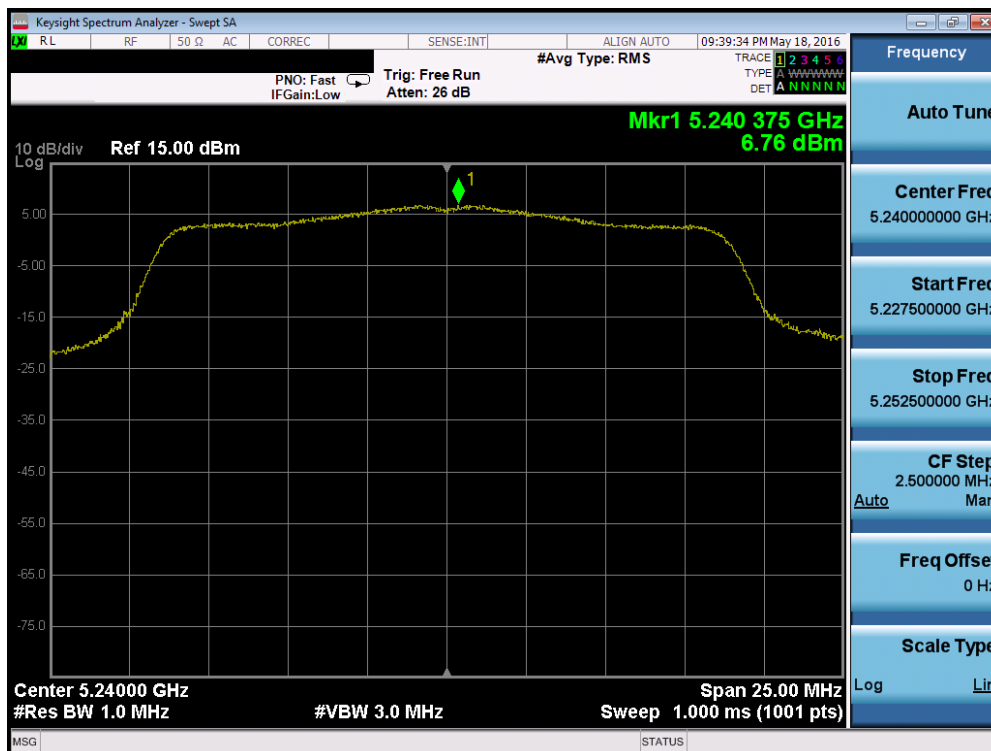


Plot 7-121. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 92 of 261

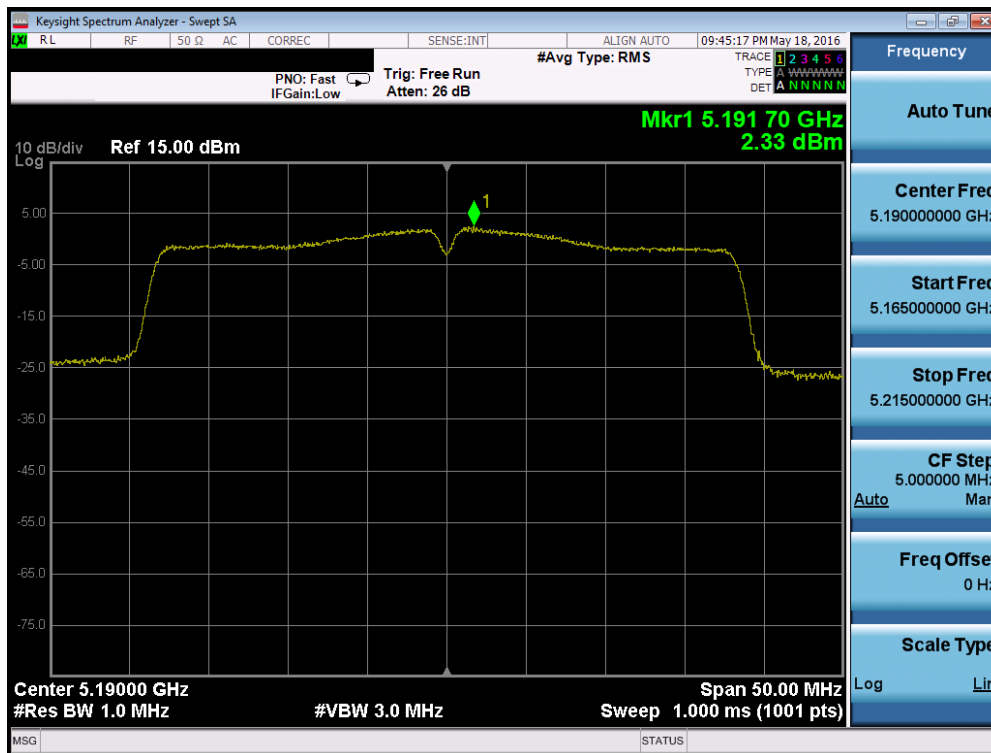


Plot 7-122. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

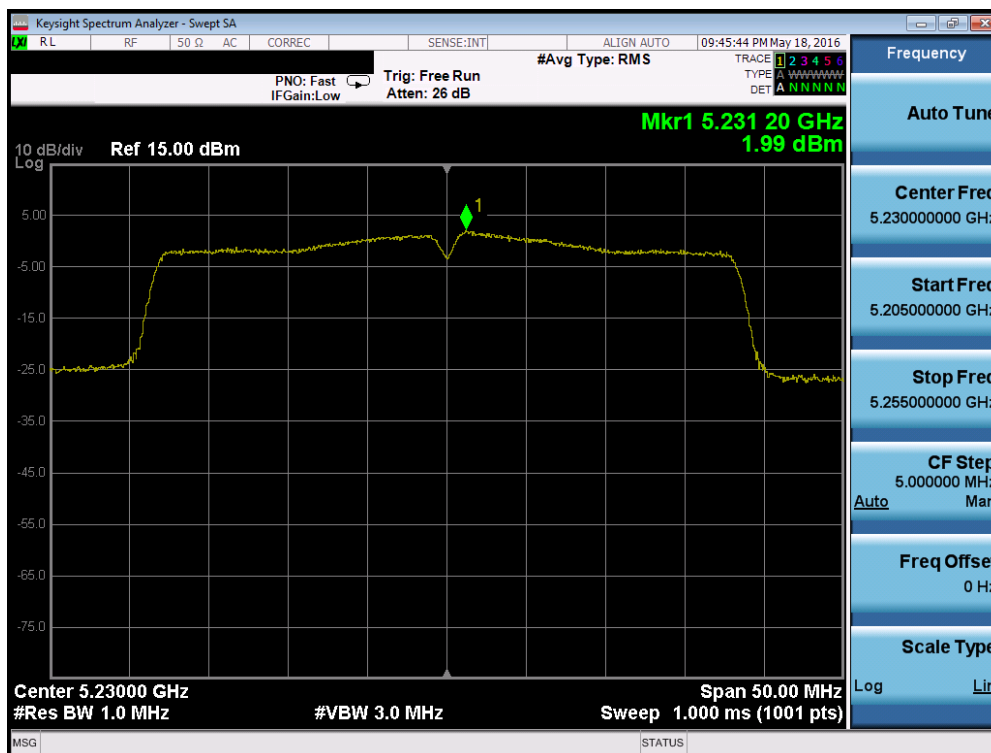


Plot 7-123. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 93 of 261

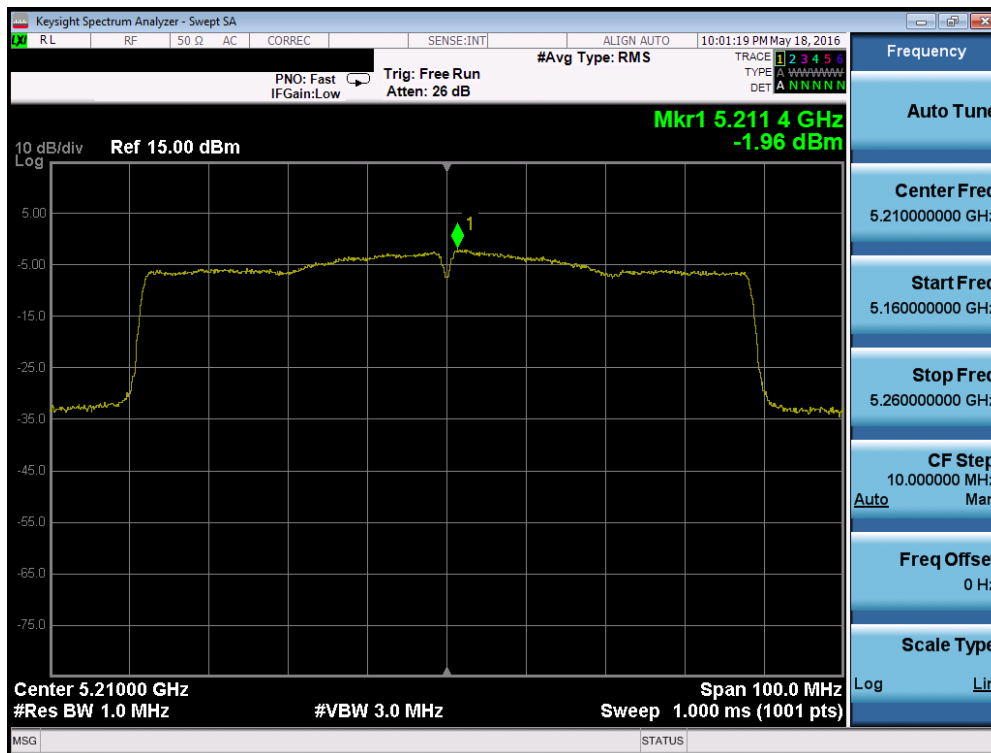


Plot 7-124. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)

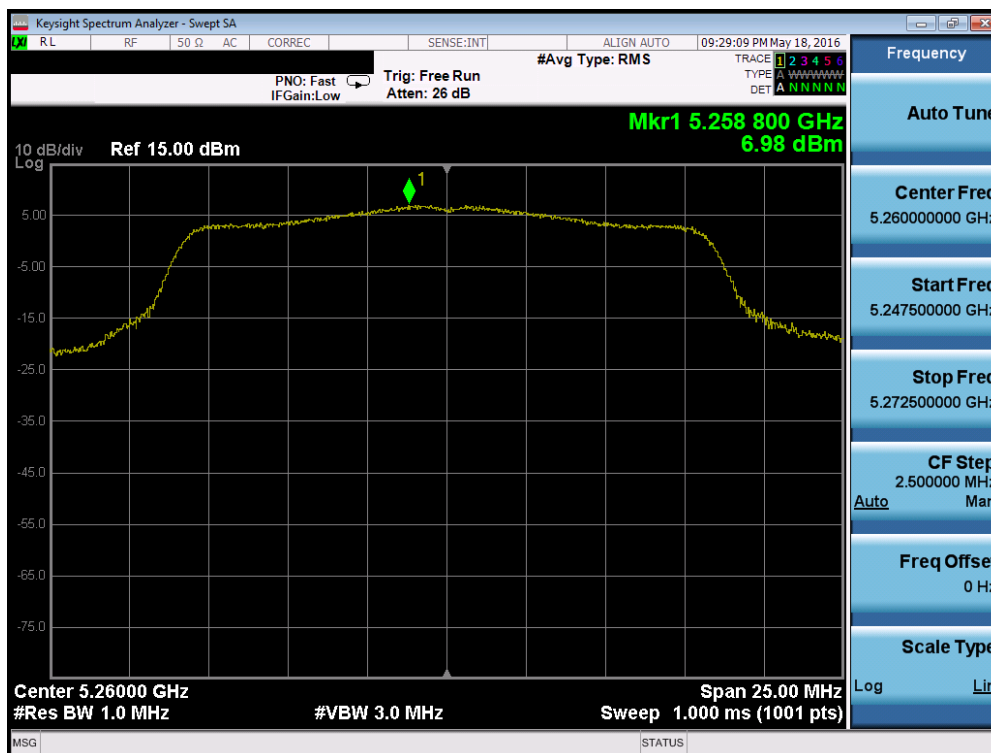


Plot 7-125. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 94 of 261

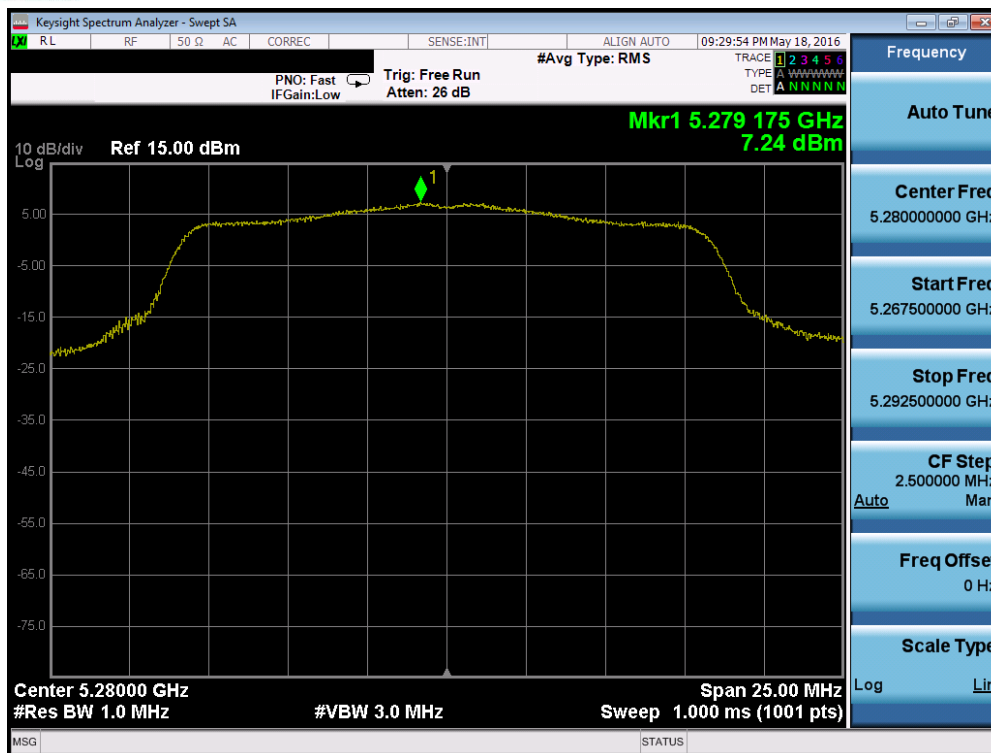


Plot 7-126. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

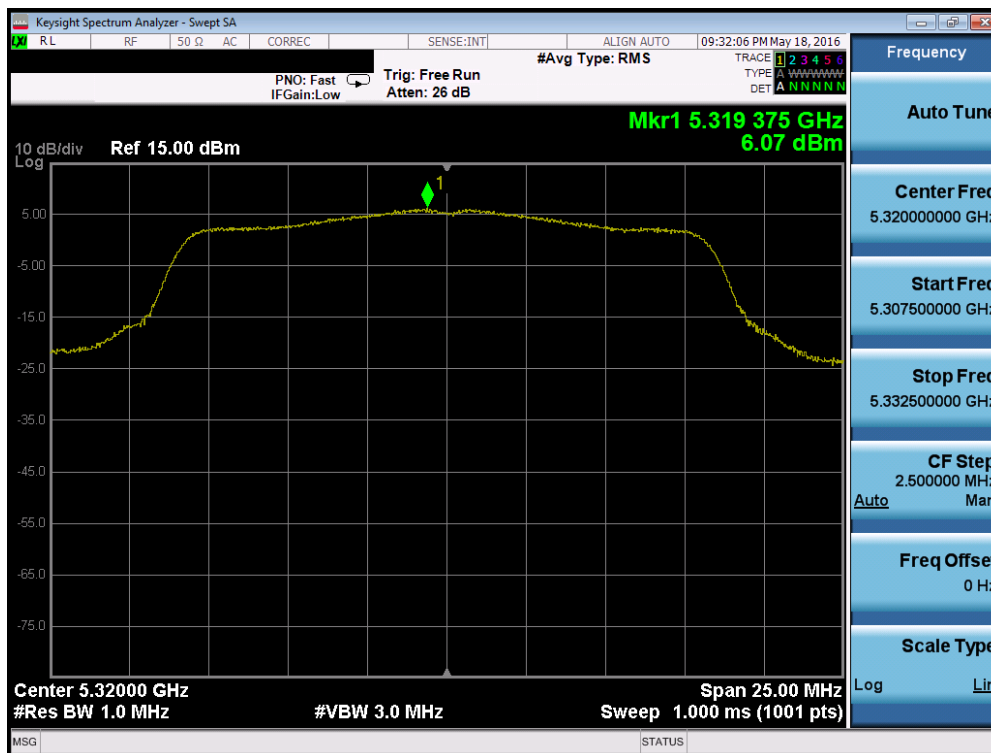


Plot 7-127. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 95 of 261

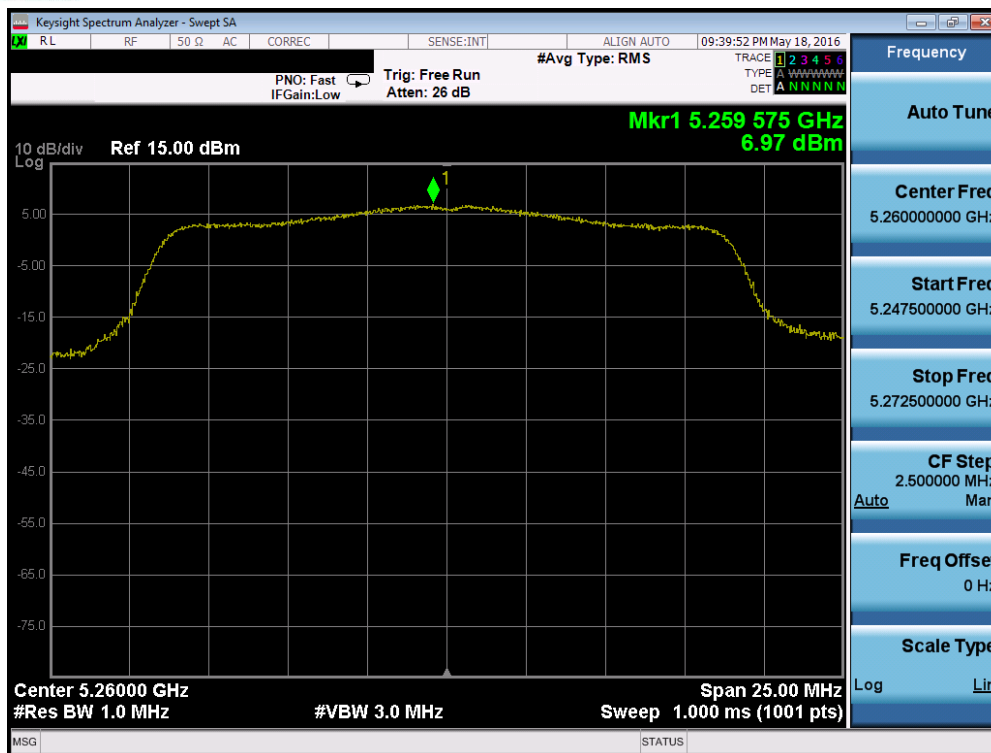


Plot 7-128. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)

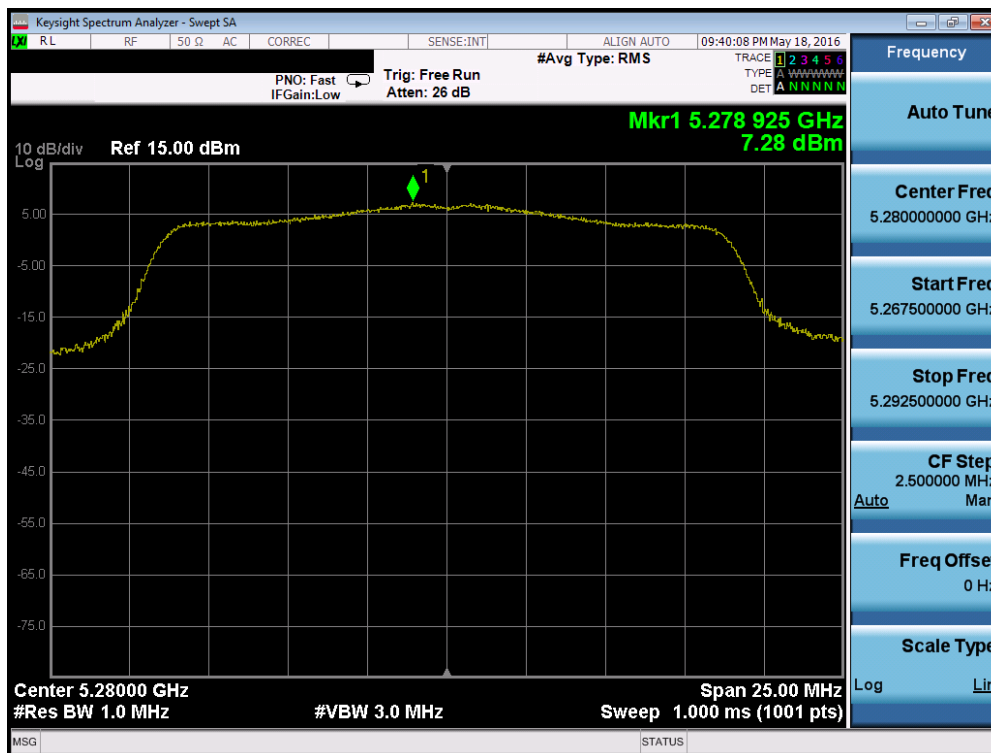


Plot 7-129. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 96 of 261

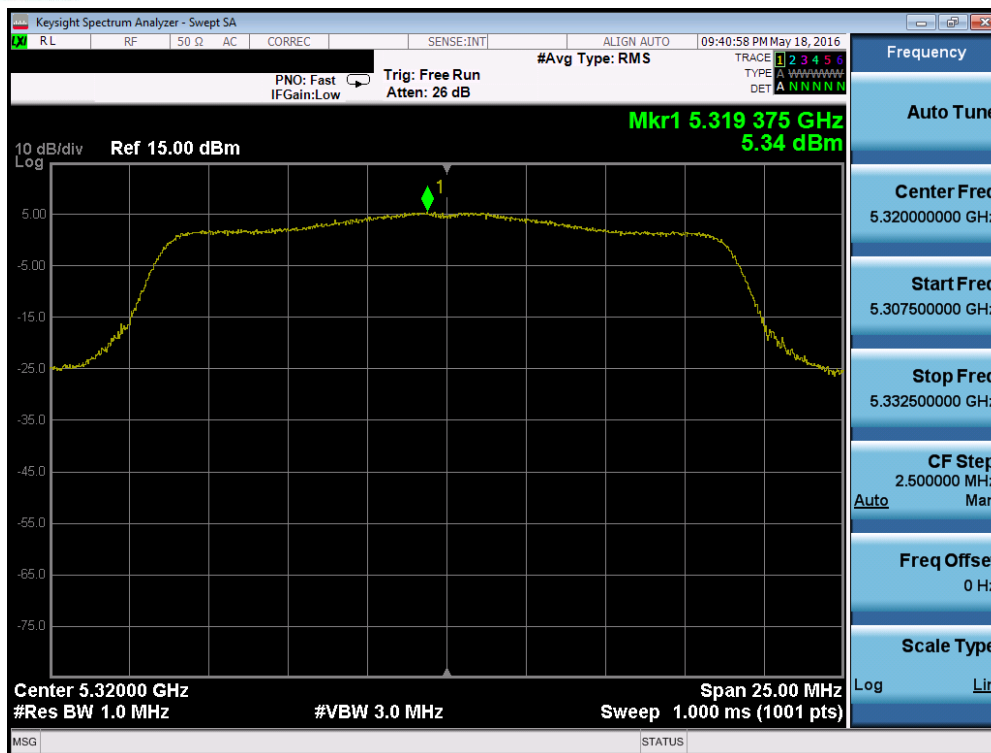


Plot 7-130. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

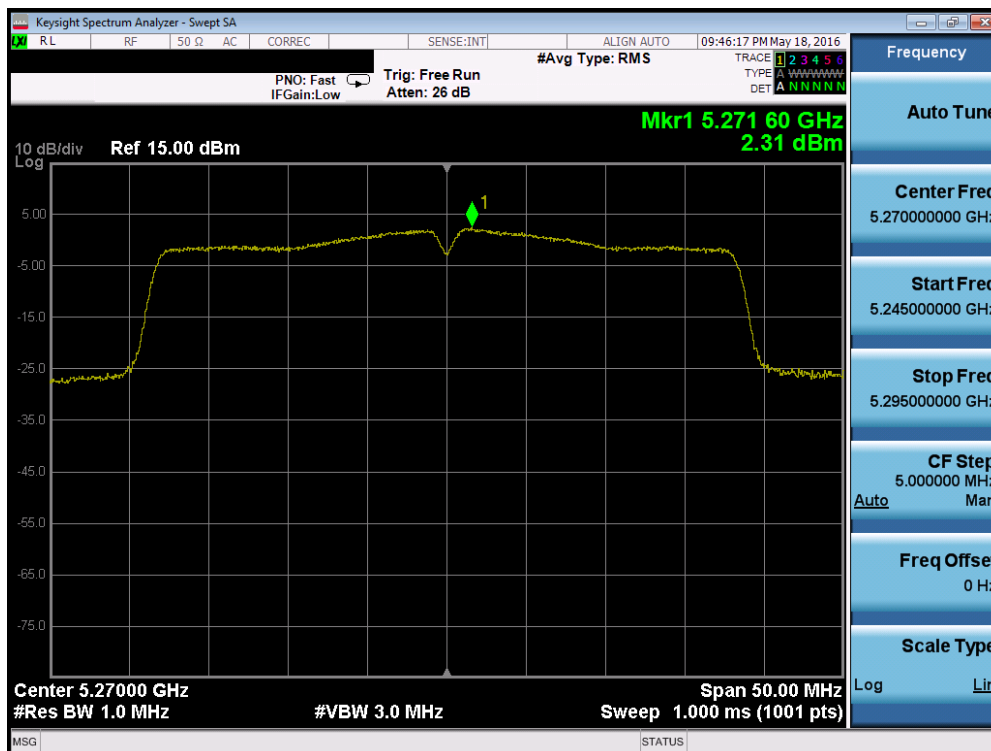


Plot 7-131. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 97 of 261

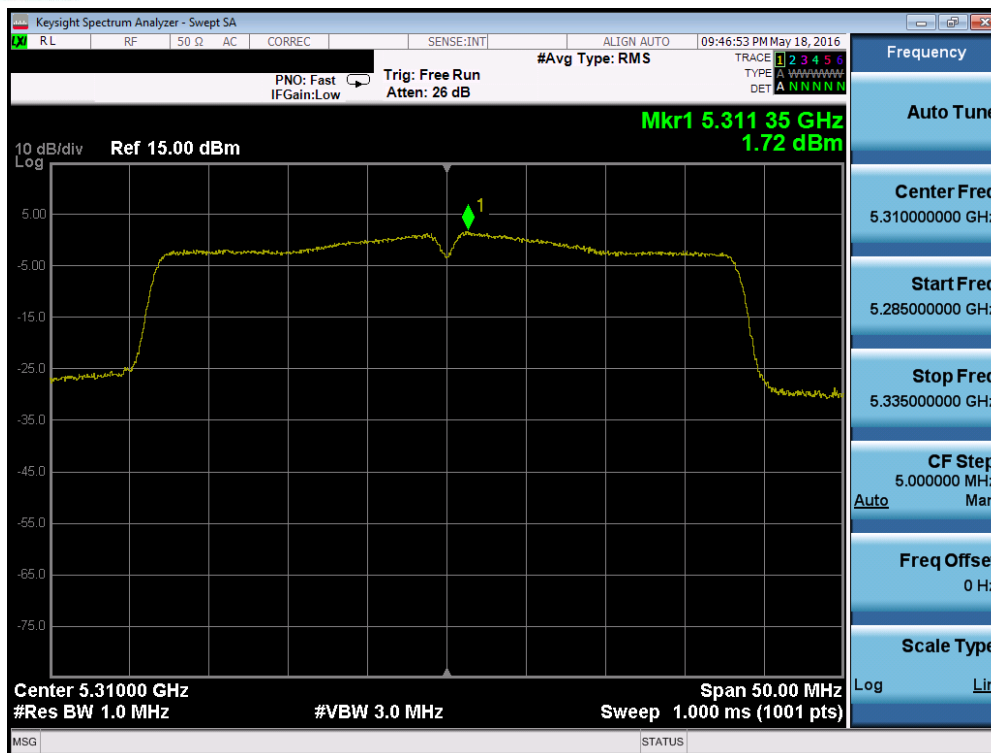


Plot 7-132. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

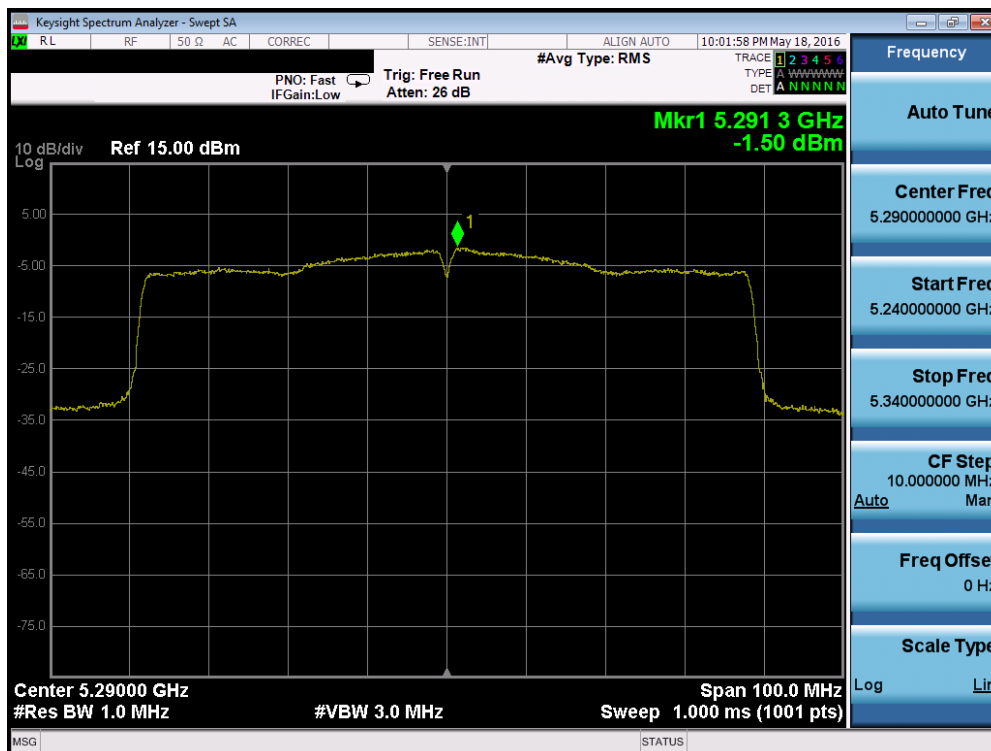


Plot 7-133. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 98 of 261

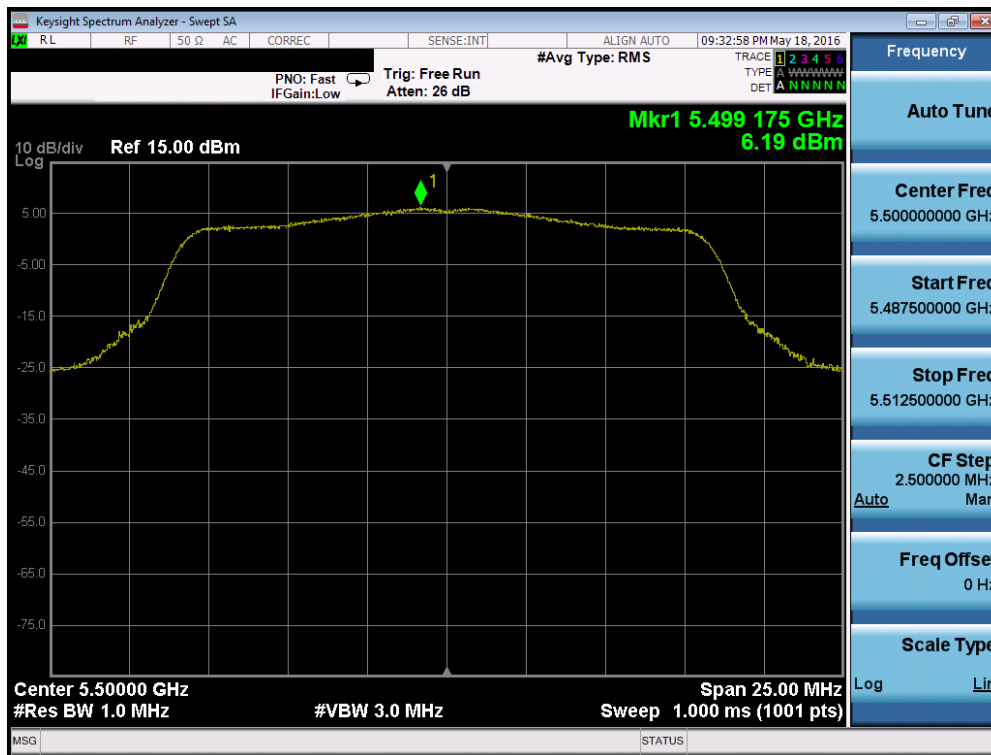


Plot 7-134. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

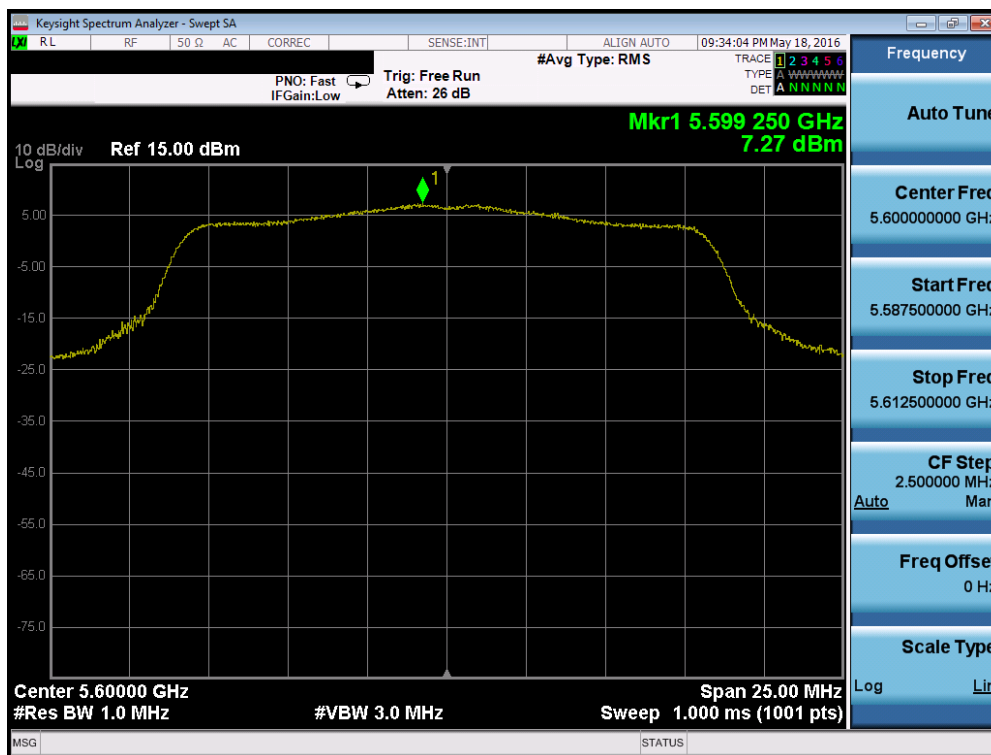


Plot 7-135. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 99 of 261

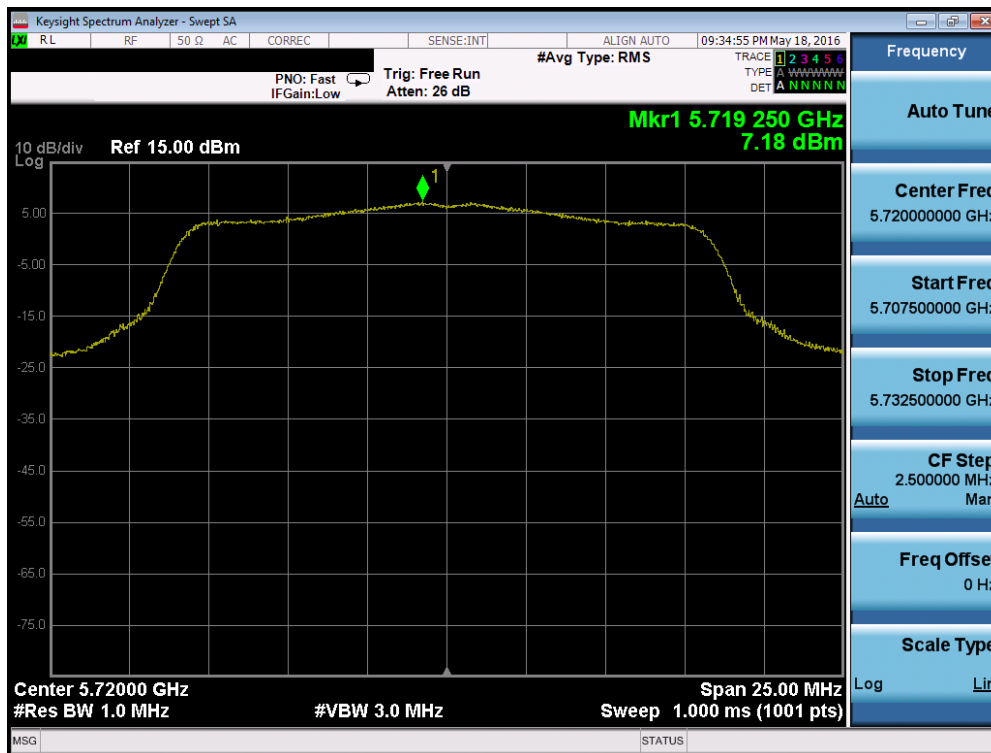


Plot 7-136. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)

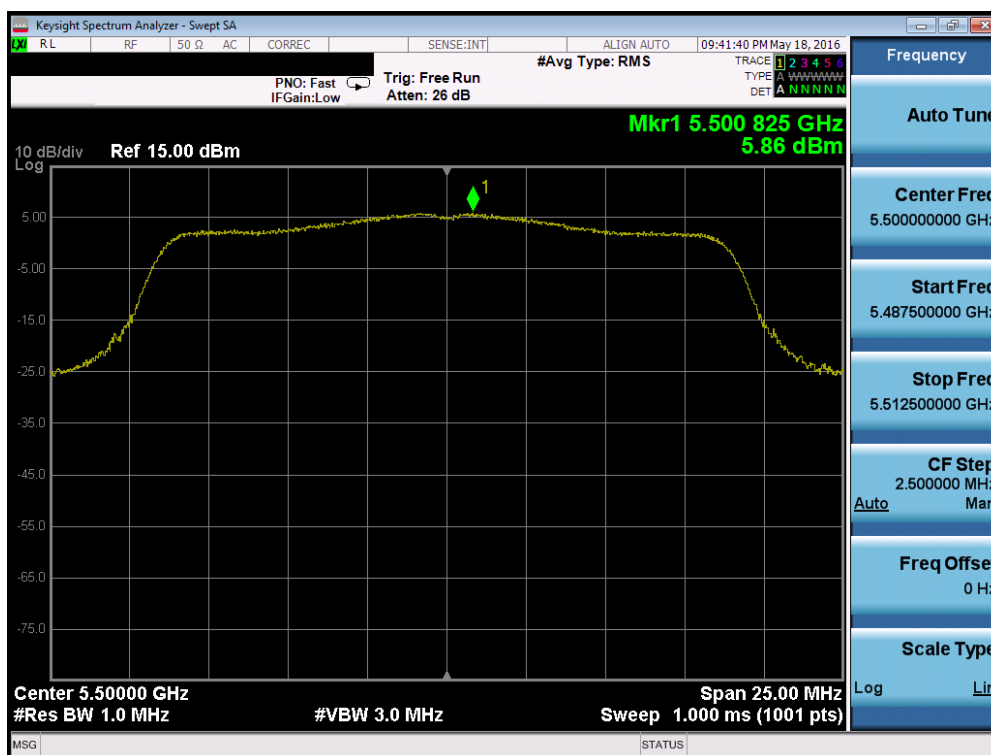


Plot 7-137. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 100 of 261

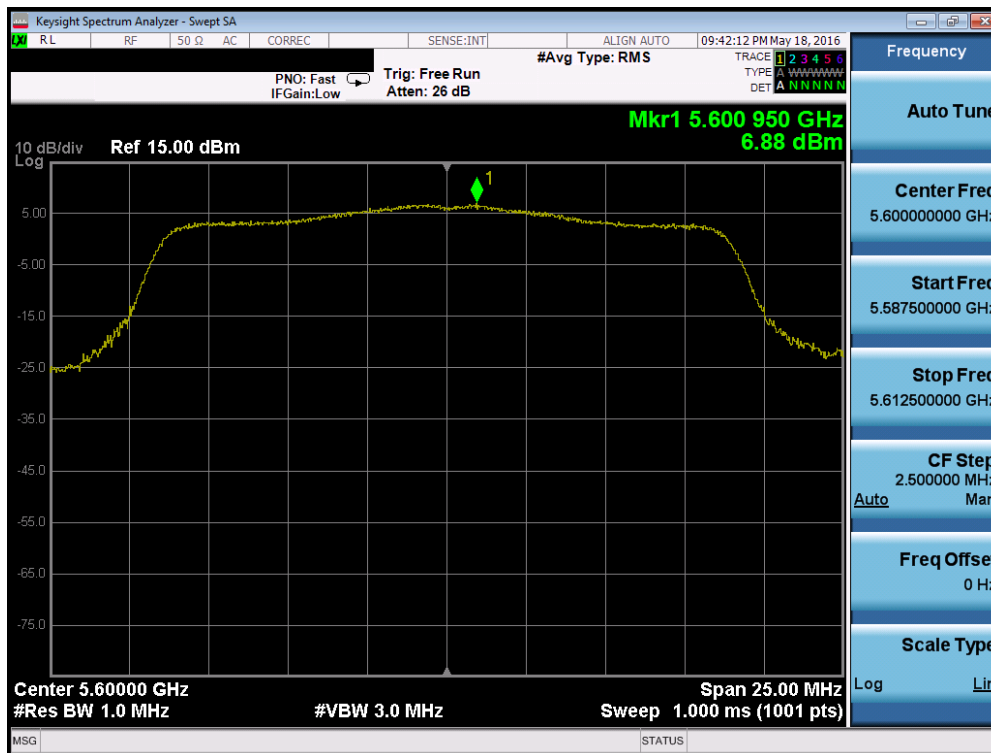


Plot 7-138. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 144)

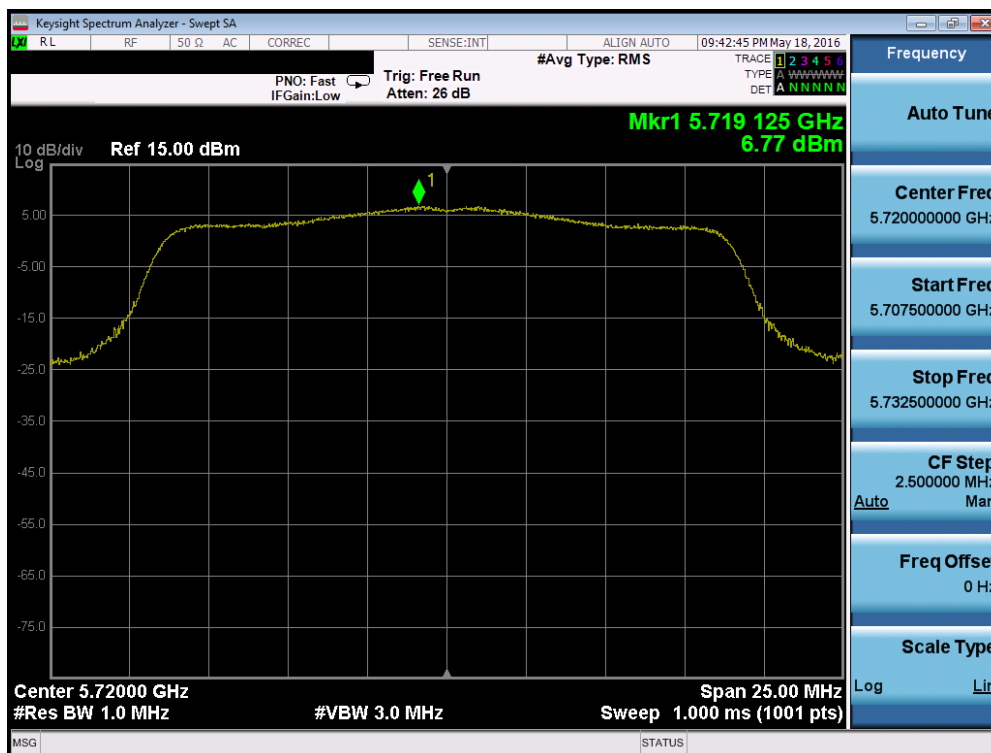


Plot 7-139. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 101 of 261

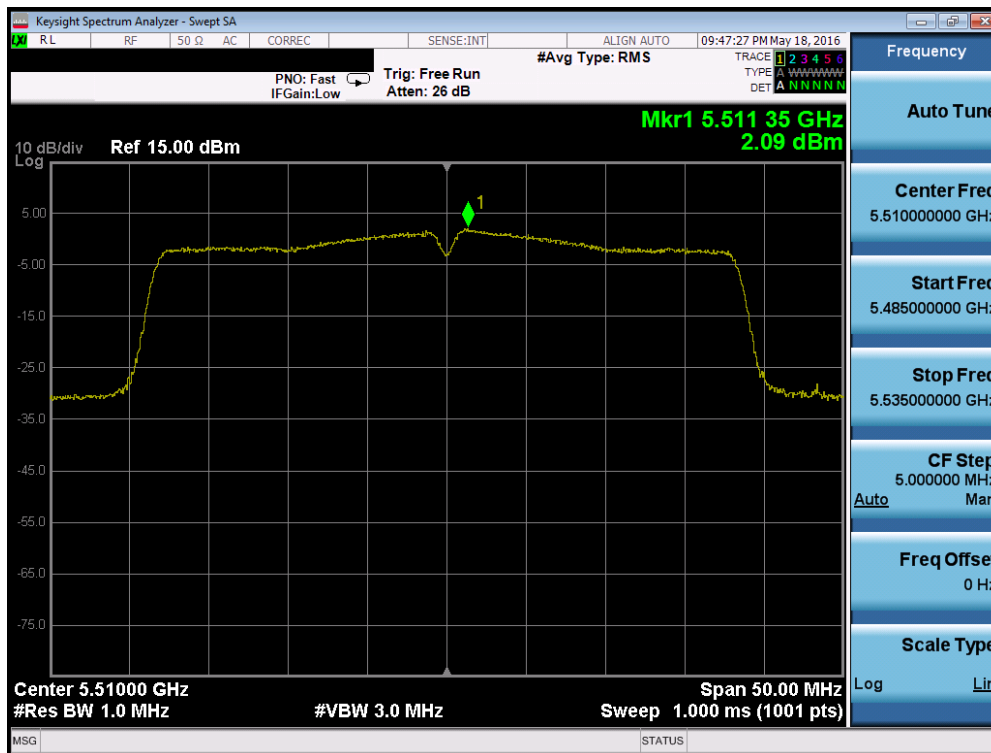


Plot 7-140. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)

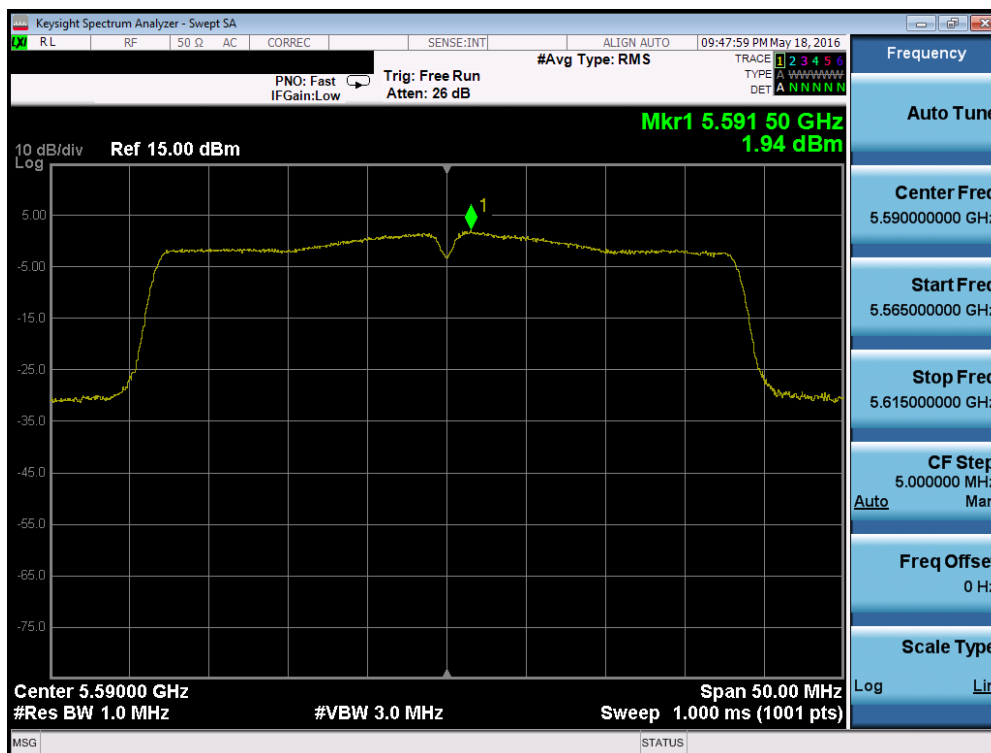


Plot 7-141. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 102 of 261

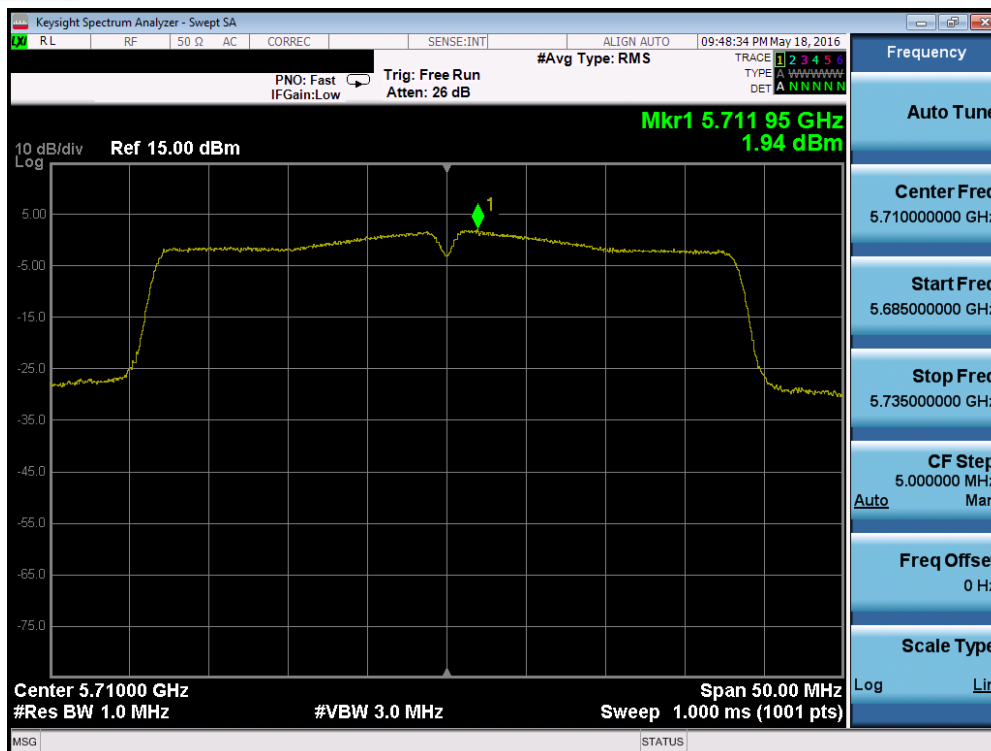


Plot 7-142. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

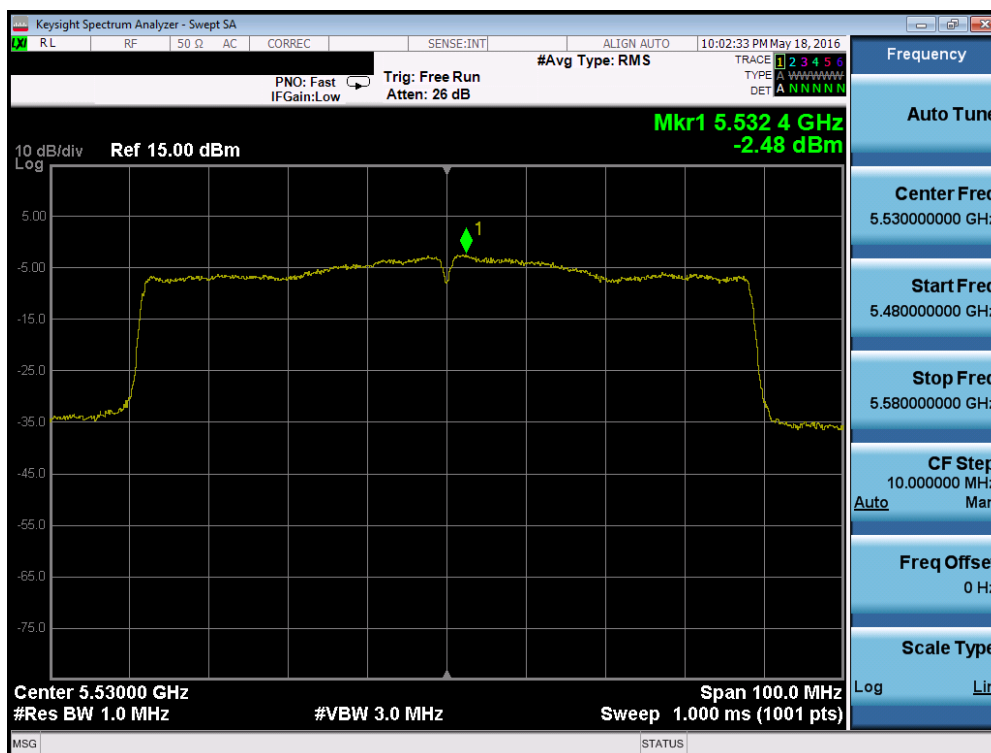


Plot 7-143. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 118)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 103 of 261

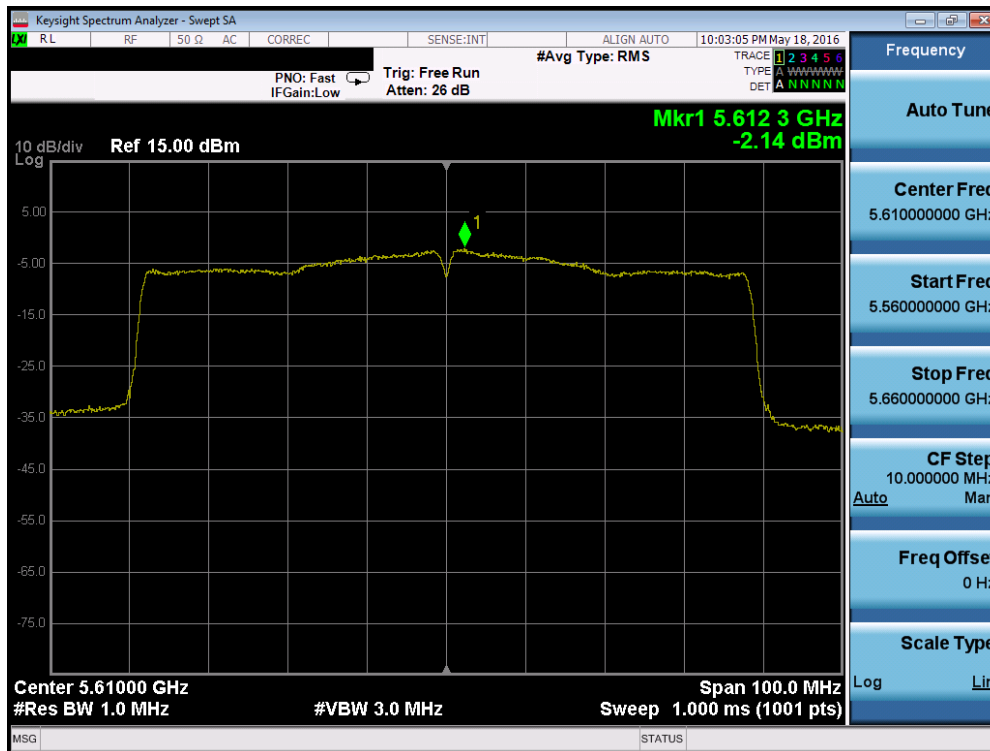


Plot 7-144. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

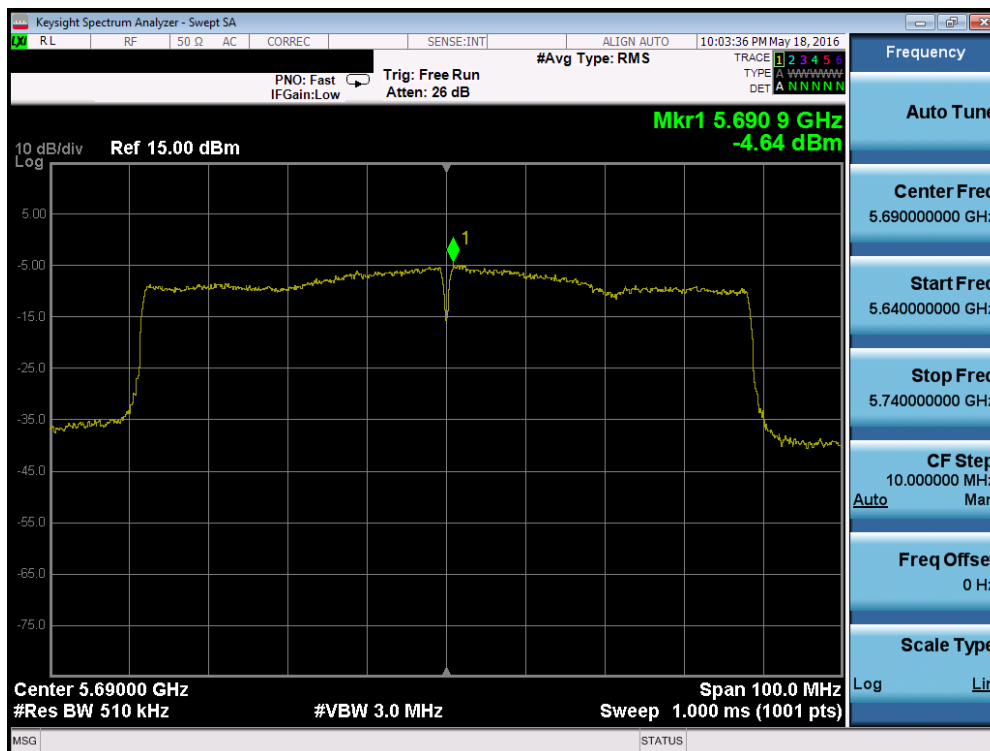


Plot 7-145. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 104 of 261



Plot 7-146. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 122)

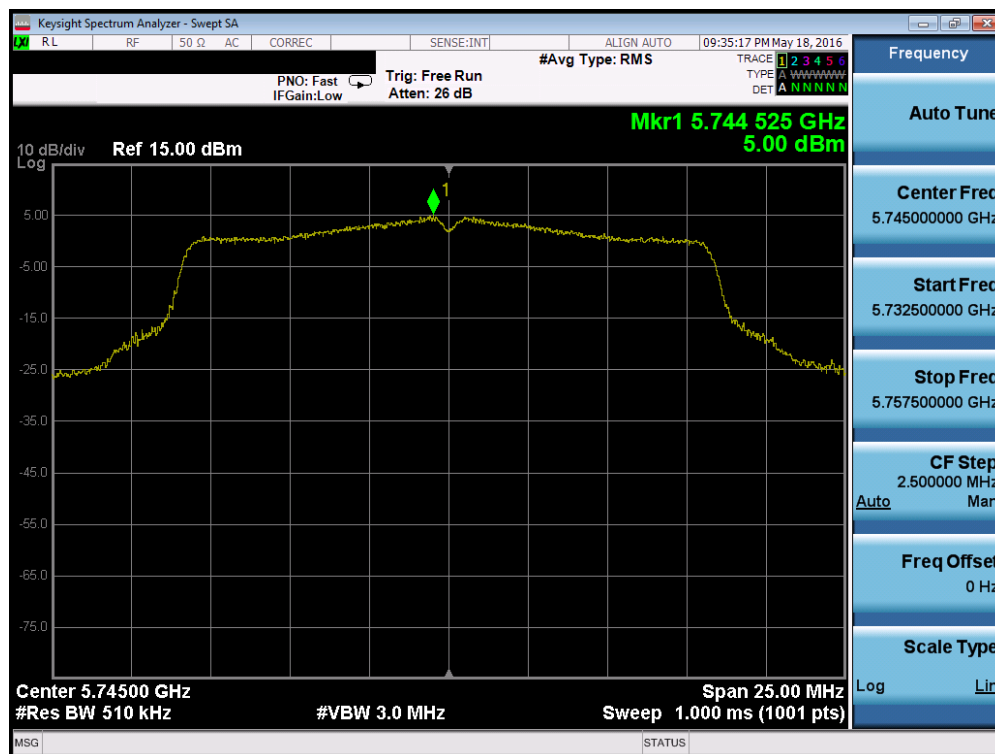


Plot 7-147. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 105 of 261

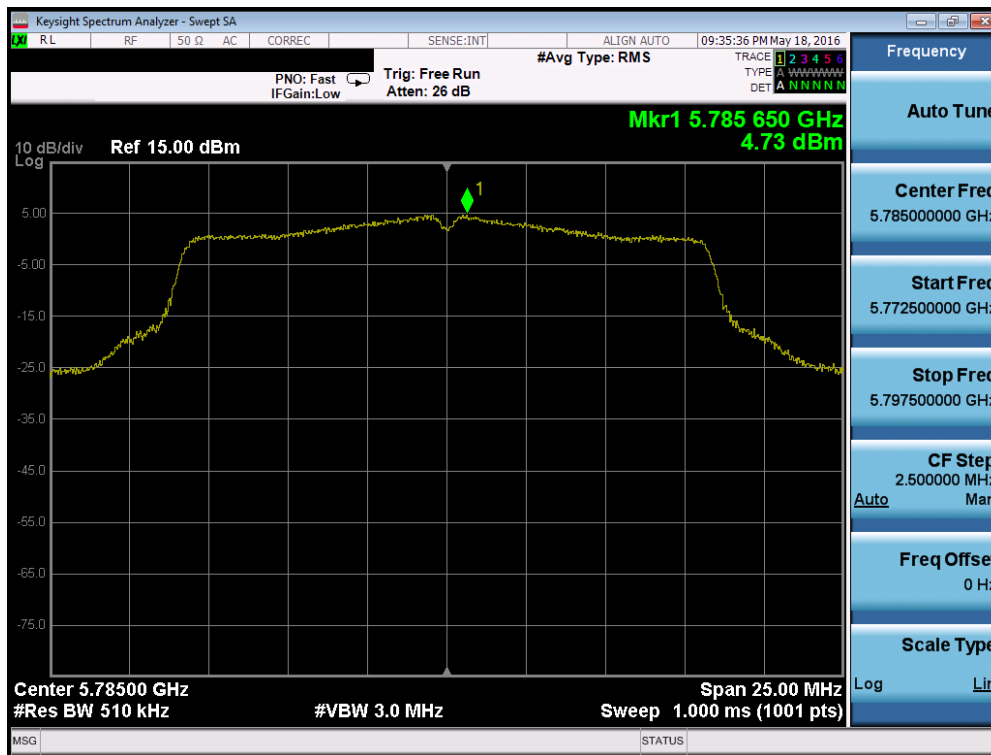
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Pass / Fail
Band 3	5745	149	a	6	5.00	30.0	-25.00	Pass
	5785	157	a	6	4.73	30.0	-25.27	Pass
	5825	165	a	6	4.06	30.0	-25.94	Pass
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	4.40	30.0	-25.60	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	4.61	30.0	-25.39	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	3.49	30.0	-26.51	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	-0.67	30.0	-30.67	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	-0.62	30.0	-30.62	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-2.15	30.0	-32.15	Pass

Table 7-20. Band 3 Conducted Power Spectral Density Measurements

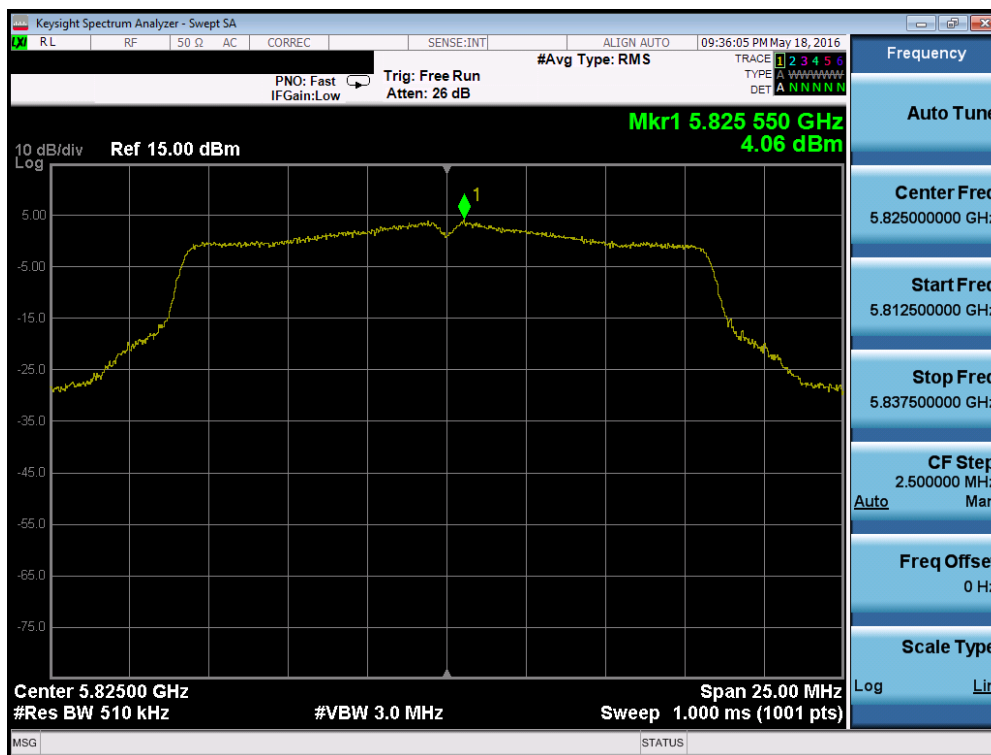


Plot 7-148. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 149)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 106 of 261

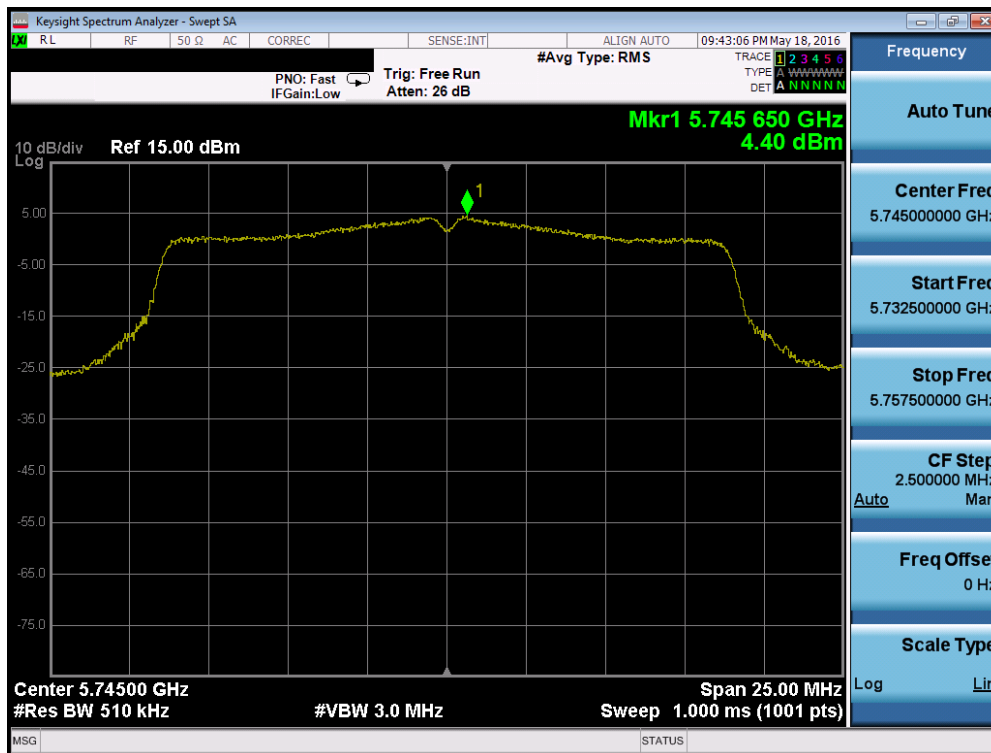


Plot 7-149. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 157)

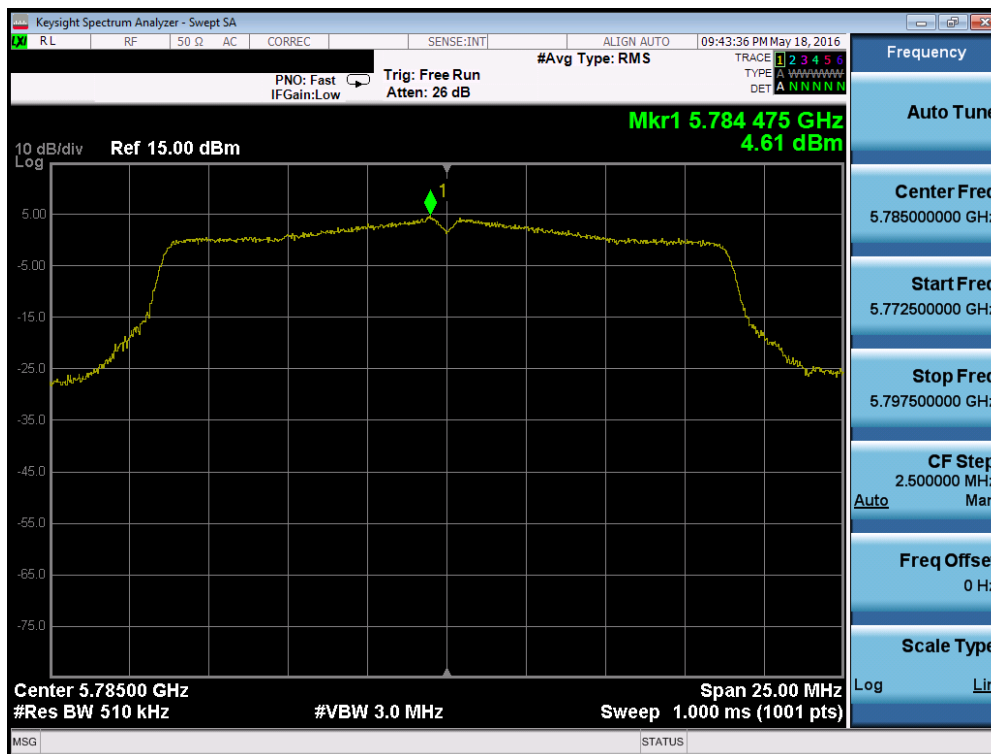


Plot 7-150. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 165)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 107 of 261

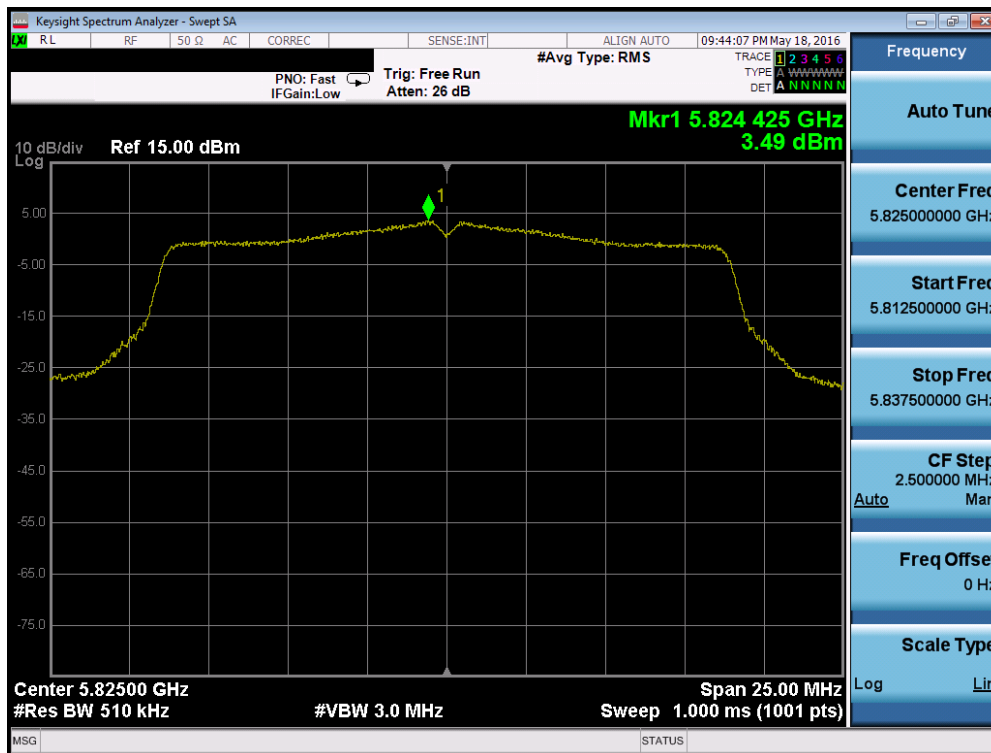


Plot 7-151. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 149)

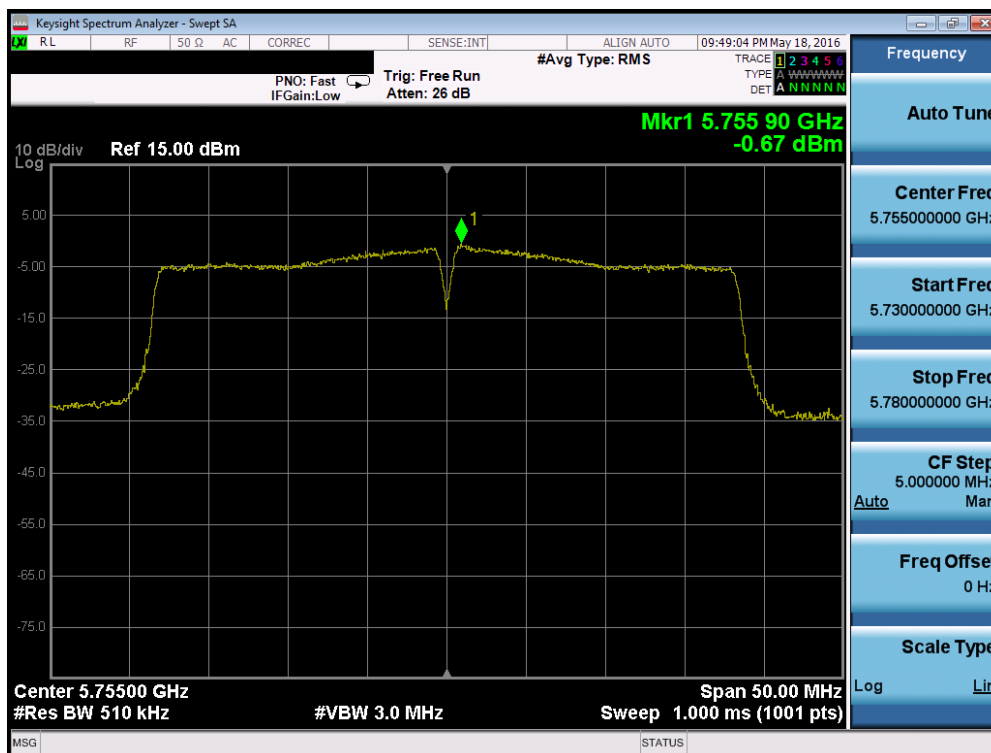


Plot 7-152. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 157)

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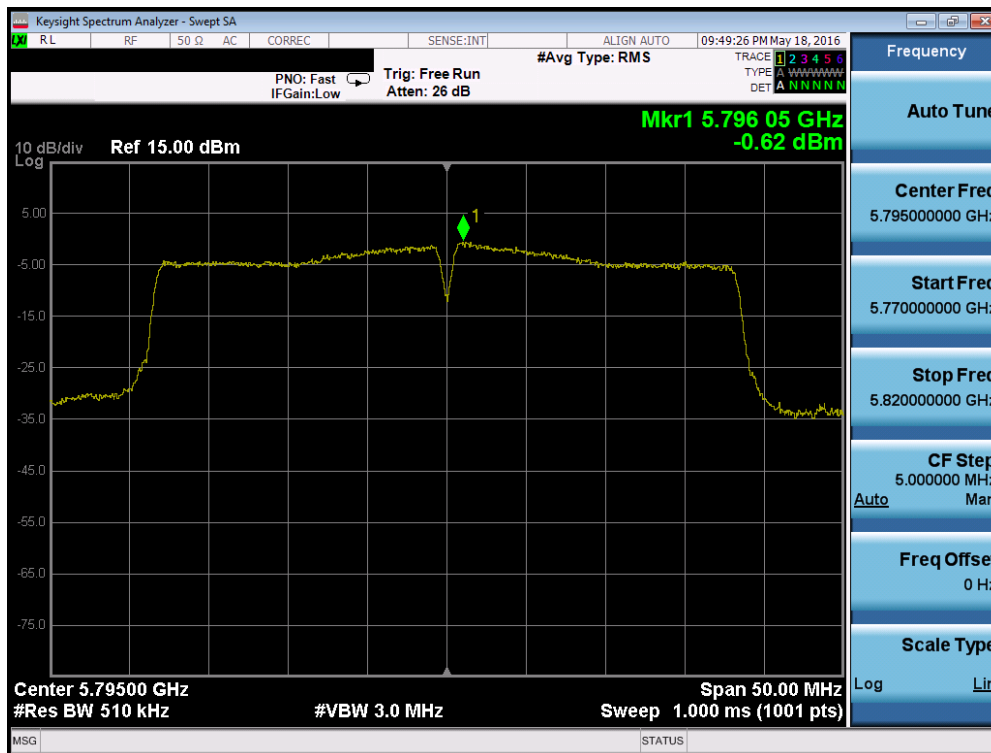


Plot 7-153. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 165)

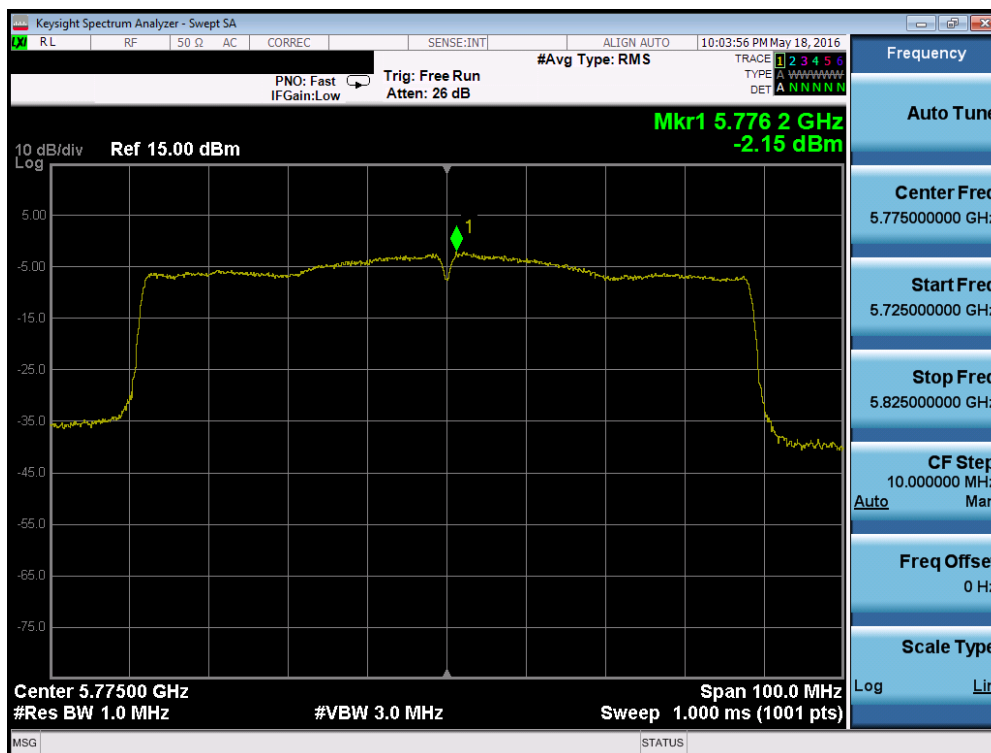


Plot 7-154. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

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Plot 7-155. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 159)



Plot 7-156. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

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Summed MIMO Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenn-1 Power Density [dBm]	Antenn-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	n (20MHz)	6.5/7.2 (MCS0)	7.15	6.20	9.71	11.0	-1.29	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	8.41	7.01	10.78	11.0	-0.22	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	7.43	6.76	10.12	11.0	-0.88	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	3.39	2.33	5.90	11.0	-5.10	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	2.47	1.99	5.25	11.0	-5.75	Pass
Band 2A	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	0.09	-1.96	2.20	11.0	-8.80	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	7.51	6.97	10.26	11.0	-0.74	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	7.84	7.28	10.58	11.0	-0.42	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	7.27	5.34	9.42	11.0	-1.58	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	2.57	2.31	5.45	11.0	-5.55	Pass
Band 2C	5310	62	n (40MHz)	13.5/15 (MCS0)	3.20	1.72	5.53	11.0	-5.47	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	0.07	-1.50	2.36	11.0	-8.64	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	7.39	5.86	9.70	11.0	-1.30	Pass
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	7.02	6.88	9.96	11.0	-1.04	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	8.03	6.77	10.45	11.0	-0.55	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	3.06	2.09	5.61	11.0	-5.39	Pass
	5590	118	n (40MHz)	13.5/15 (MCS0)	2.72	1.94	5.36	11.0	-5.64	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	2.77	1.94	5.39	11.0	-5.61	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-0.20	-2.48	1.82	11.0	-9.18	Pass
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-0.30	-2.14	1.89	11.0	-9.11	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-4.00	-4.64	-1.30	11.0	-12.30	Pass

Table 7-21. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenn-1 Power Density [dBm]	Antenn-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Pass / Fail
Band 3	5745	149	n (20MHz)	6.5/7.2 (MCS0)	5.75	4.40	8.14	30.0	-21.86	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	5.92	4.61	8.33	30.0	-21.67	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	5.11	3.49	7.39	30.0	-22.61	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	0.90	-0.67	3.20	30.0	-26.80	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	0.46	-0.62	2.96	30.0	-27.04	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-1.01	-2.15	1.47	30.0	-28.53	Pass

Table 7-22. Band 3 MIMO Conducted Power Spectral Density Measurements

Note:

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

Sample MIMO Calculation:

At 5180MHz the average conducted power spectral density was measured to be N/A dBm for Antenna-1 and N/A dBm for Antenna-2.

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

$$(\text{N/A dBm} + \text{N/A dBm}) = (\text{N/A mW} + \text{N/A mW}) = \text{N/A mW} = \text{N/A dBm}$$

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7.6 Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

OPERATING FREQUENCY: 5,180,000,000 Hz
 CHANNEL: 36
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,179,999,989	-11	-0.00000021
100 %		- 30	5,179,999,843	-157	-0.00000303
100 %		- 20	5,180,000,277	277	0.00000535
100 %		- 10	5,179,999,934	-66	-0.00000127
100 %		0	5,179,999,960	-40	-0.00000077
100 %		+ 10	5,179,999,988	-12	-0.00000023
100 %		+ 20	5,180,000,037	37	0.00000071
100 %		+ 30	5,179,999,836	-164	-0.00000317
100 %		+ 40	5,179,999,694	-306	-0.00000591
100 %		+ 50	5,180,000,175	175	0.00000338
BATT. ENDPOINT	3.45	+ 20	5,180,000,071	71	0.00000137

Table 7-23. Frequency Stability Measurements for UNII Band 1 (Ch. 36)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

OPERATING FREQUENCY: 5,260,000,000 Hz
 CHANNEL: 52
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,259,999,994	-6	-0.00000011
100 %		- 30	5,260,000,287	287	0.00000546
100 %		- 20	5,260,000,043	43	0.00000082
100 %		- 10	5,260,000,014	14	0.00000027
100 %		0	5,259,999,792	-208	-0.00000395
100 %		+ 10	5,260,000,272	272	0.00000517
100 %		+ 20	5,260,000,288	288	0.00000548
100 %		+ 30	5,260,000,107	107	0.00000203
100 %		+ 40	5,260,000,007	7	0.00000013
100 %		+ 50	5,259,999,990	-10	-0.00000019
BATT. ENDPOINT	3.45	+ 20	5,260,000,183	183	0.00000348

Table 7-24. Frequency Stability Measurements for UNII Band 2A (Ch. 52)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

OPERATING FREQUENCY: 5,500,000,000 Hz
 CHANNEL: 100
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,500,000,005	5	0.00000009
100 %		- 30	5,500,000,032	32	0.00000058
100 %		- 20	5,500,000,367	367	0.00000667
100 %		- 10	5,500,000,058	58	0.00000105
100 %		0	5,500,000,319	319	0.00000580
100 %		+ 10	5,499,999,694	-306	-0.00000556
100 %		+ 20	5,499,999,660	-340	-0.00000618
100 %		+ 30	5,500,000,248	248	0.00000451
100 %		+ 40	5,500,000,054	54	0.00000098
100 %		+ 50	5,500,000,064	64	0.00000116
BATT. ENDPOINT	3.45	+ 20	5,499,999,830	-170	-0.00000309

Table 7-25. Frequency Stability Measurements for UNII Band 2C (Ch. 100)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

OPERATING FREQUENCY: 5,745,000,000 Hz
 CHANNEL: 149
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,744,999,702	-298	-0.00000519
100 %		- 30	5,745,000,112	112	0.00000195
100 %		- 20	5,744,999,899	-101	-0.00000176
100 %		- 10	5,744,999,773	-227	-0.00000395
100 %		0	5,745,000,053	53	0.00000092
100 %		+ 10	5,745,000,139	139	0.00000242
100 %		+ 20	5,744,999,958	-42	-0.00000073
100 %		+ 30	5,744,999,920	-80	-0.00000139
100 %		+ 40	5,744,999,849	-151	-0.00000263
100 %		+ 50	5,744,999,990	-10	-0.00000017
BATT. ENDPOINT	3.45	+ 20	5,745,000,031	31	0.00000054

Table 7-26. Frequency Stability Measurements for UNII Band 3 (Ch. 149)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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7.7 Radiated Spurious Emission Measurements – Above 1GHz

§15.407(b.1)(b.6) §15.205 §15.209

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in KDB 789033 D02 v01r02, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11n (40MHz BW), and 802.11ac (80MHz)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table 7-27 per Section 15.209.

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

Table 7-27. Radiated Limits

Test Procedures Used

KDB 789033 D02 v01r02 – Section G

Test Settings

Average Measurements above 1GHz (Method AD)

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

Peak Measurements above 1GHz

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

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Peak Measurements below 1GHz

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

Test Setup

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

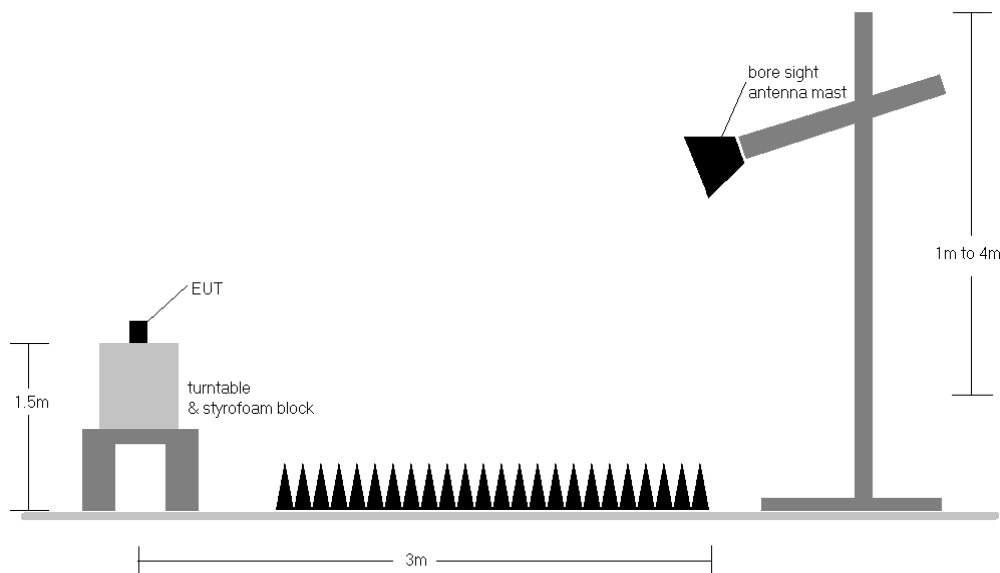


Figure 7-5. Test Instrument & Measurement Setup

Test Notes

1. All radiated spurious emissions levels were measured in a radiated test setup per the guidance of KDB 789033 D02 v01r02 Section G.
2. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 are below the limit shown in Table 7-27.
3. All spurious emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 6-11. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

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4. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
5. This unit was tested with its standard battery.
6. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
7. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
8. Radiated spurious emissions were investigated while operating in MIMO mode, however, it was determined that single antenna operation produced the worst case emissions. Since the emissions produced from MIMO operation were found to be more than 20dB below the limit, the MIMO emissions are not reported.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section. Rohde & Schwarz EMC32, Version 9.15.00 automated test software was used to perform the Radiated Spurious Emissions Pre-Scan testing.
10. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

Sample Calculations

Determining Spurious Emissions Levels

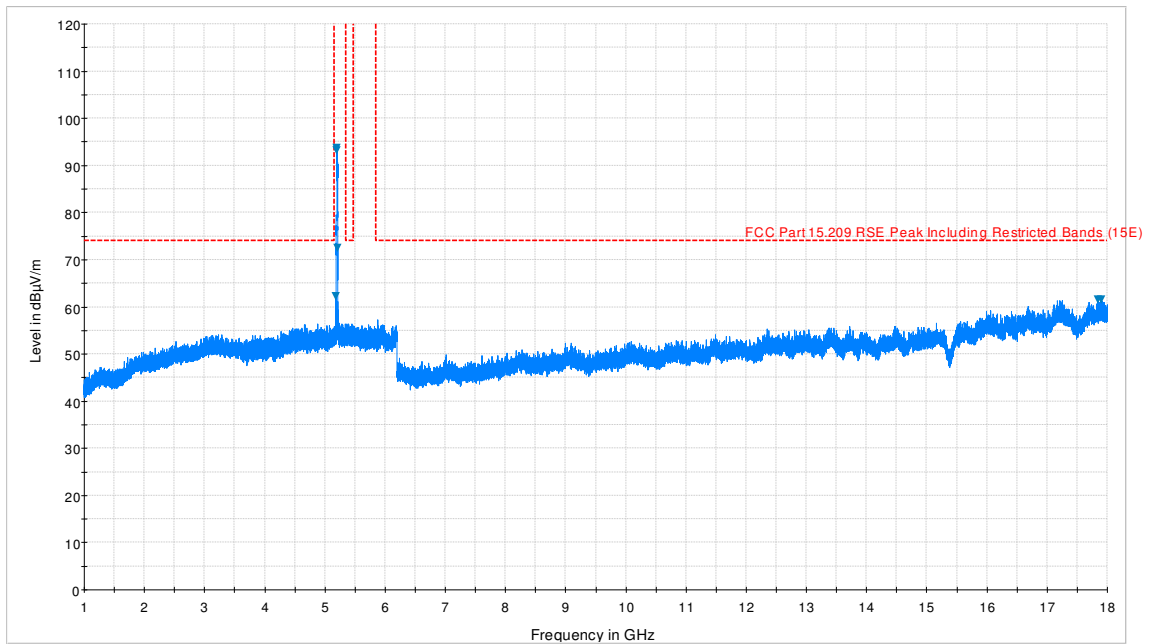
- Field Strength Level $[\text{dB}_{\mu\text{V/m}}] = \text{Analyzer Level} [\text{dBm}] + 107 + \text{AFCL} [\text{dB/m}]$
- $\text{AFCL} [\text{dB/m}] = \text{Antenna Factor} [\text{dB/m}] + \text{Cable Loss} [\text{dB}]$
- $\text{Margin} [\text{dB}] = \text{Field Strength Level} [\text{dB}_{\mu\text{V/m}}]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

Radiated Band Edge Measurement Offset

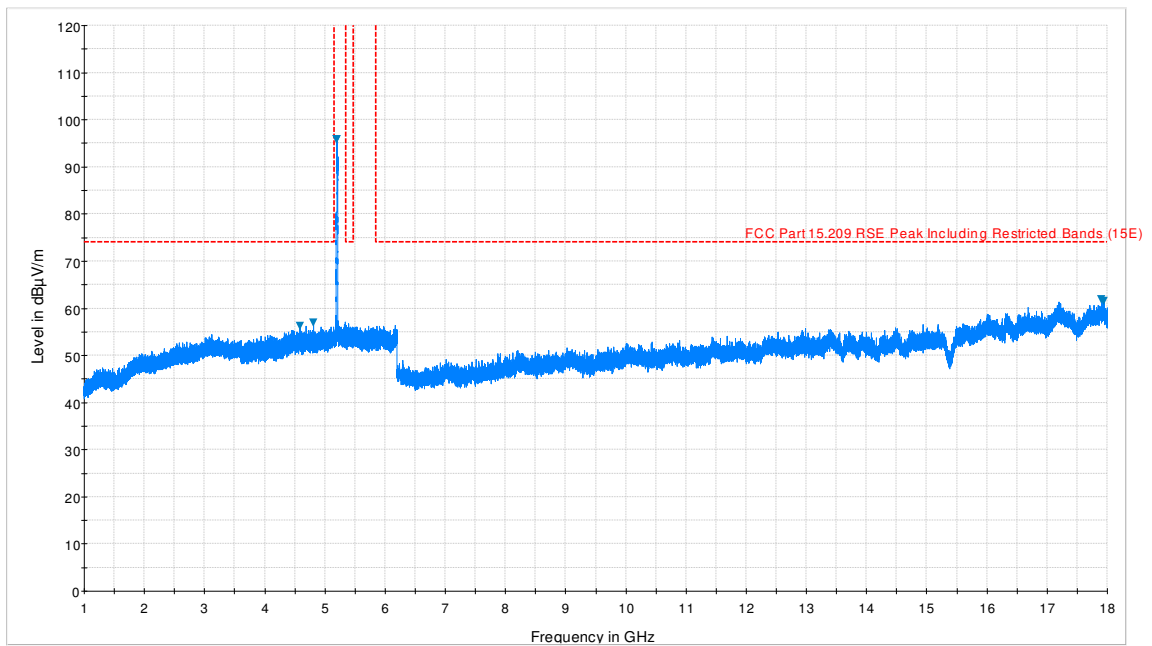
- The amplitude offset shown in the radiated restricted band edge plots in Section 7.7 was calculated using the formula:
Offset (dB) = (Antenna Factor + Cable Loss + 10 dB Attenuator) – Preamplifier Gain

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7.7.1 Antenna-1 Radiated Spurious Emission Measurements

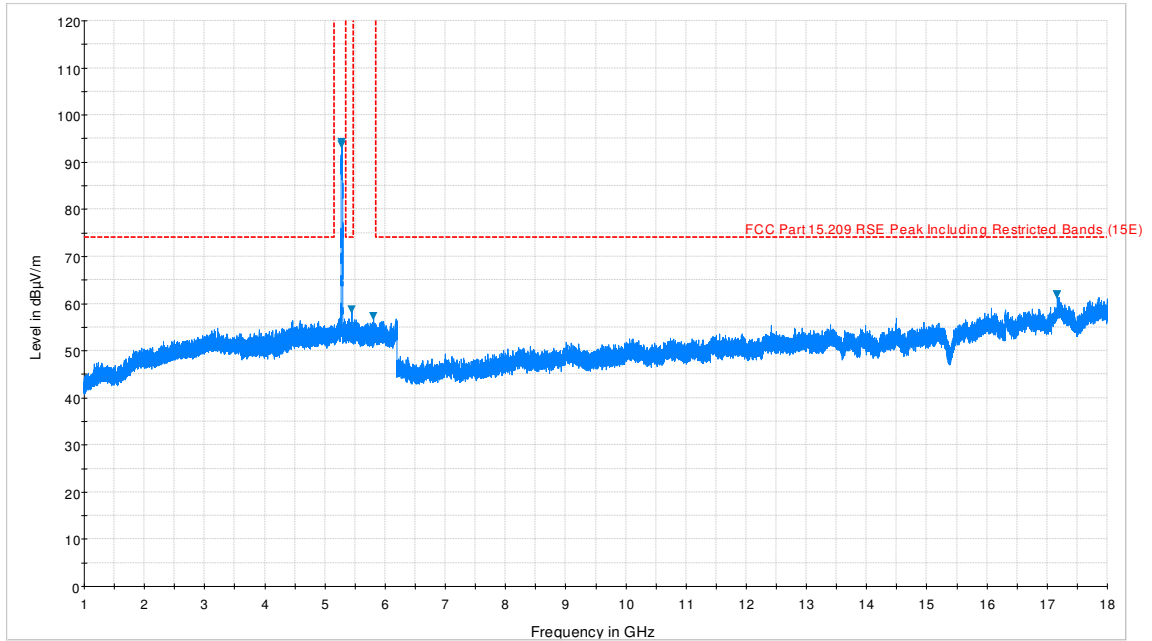


Plot 7-157. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. H)

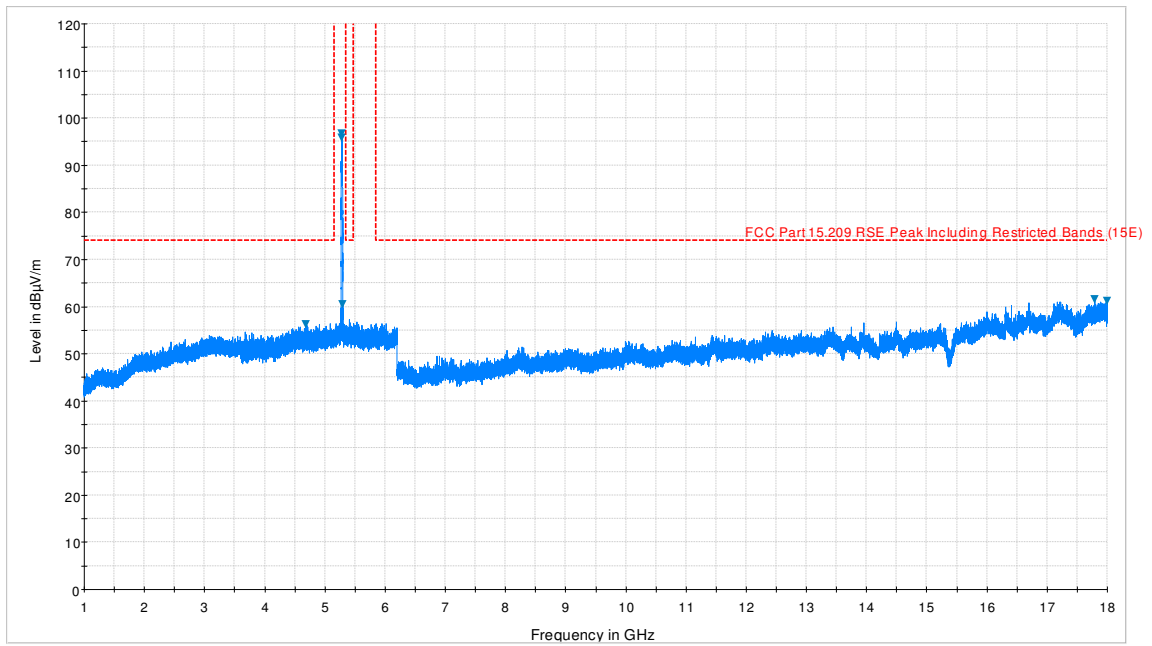


Plot 7-158. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. V)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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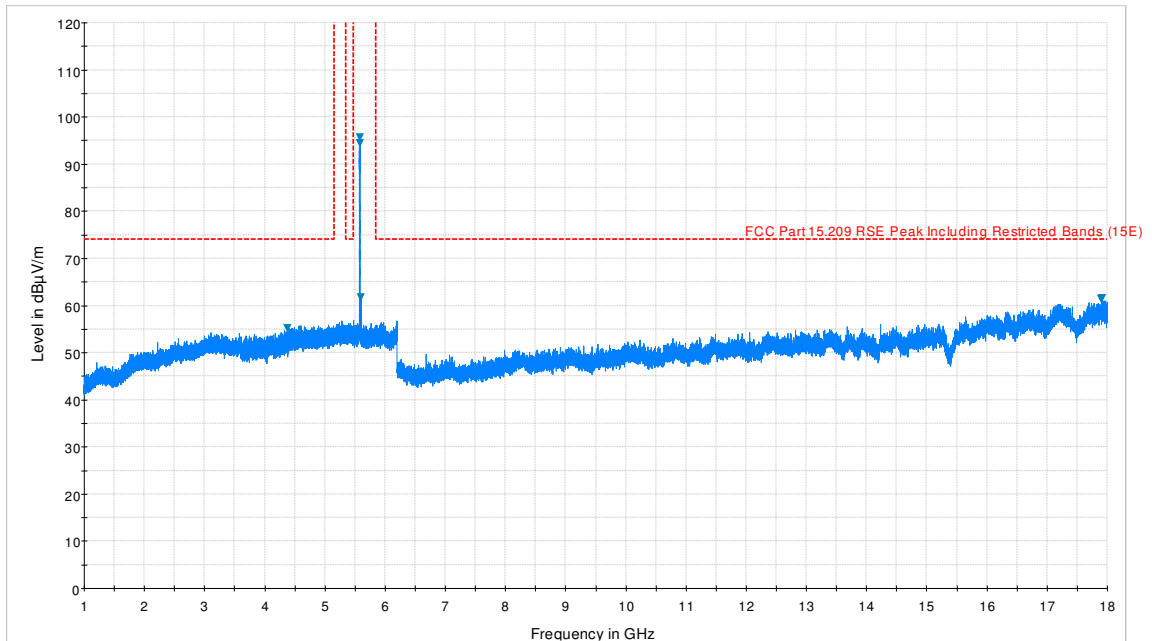


Plot 7-159. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)

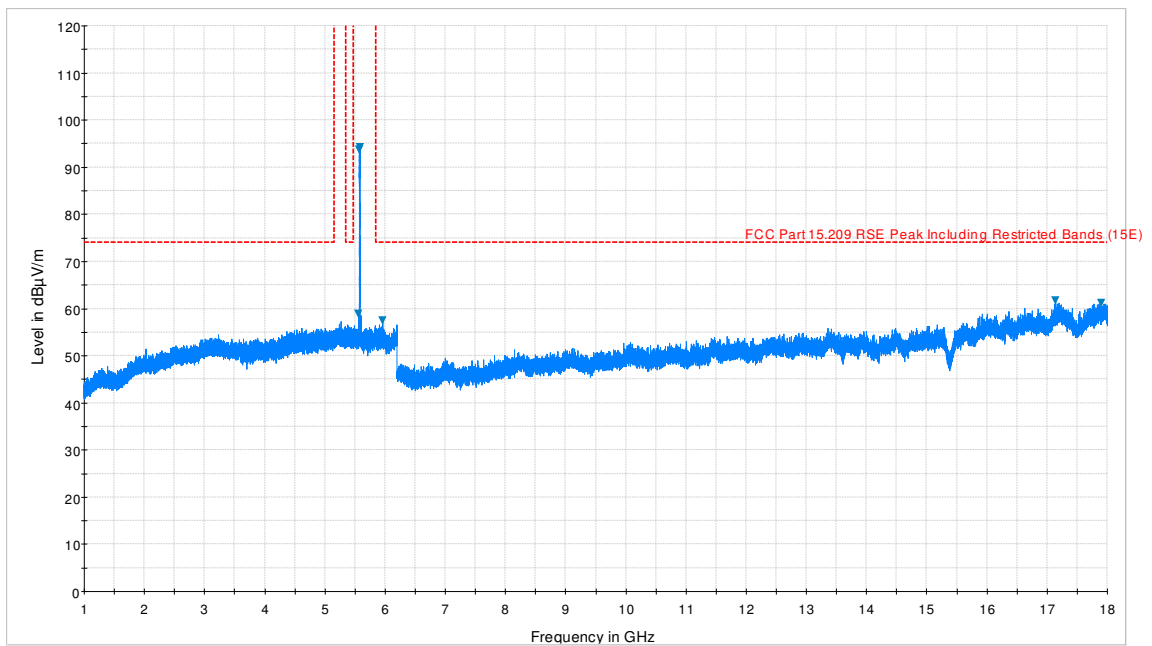


Plot 7-160. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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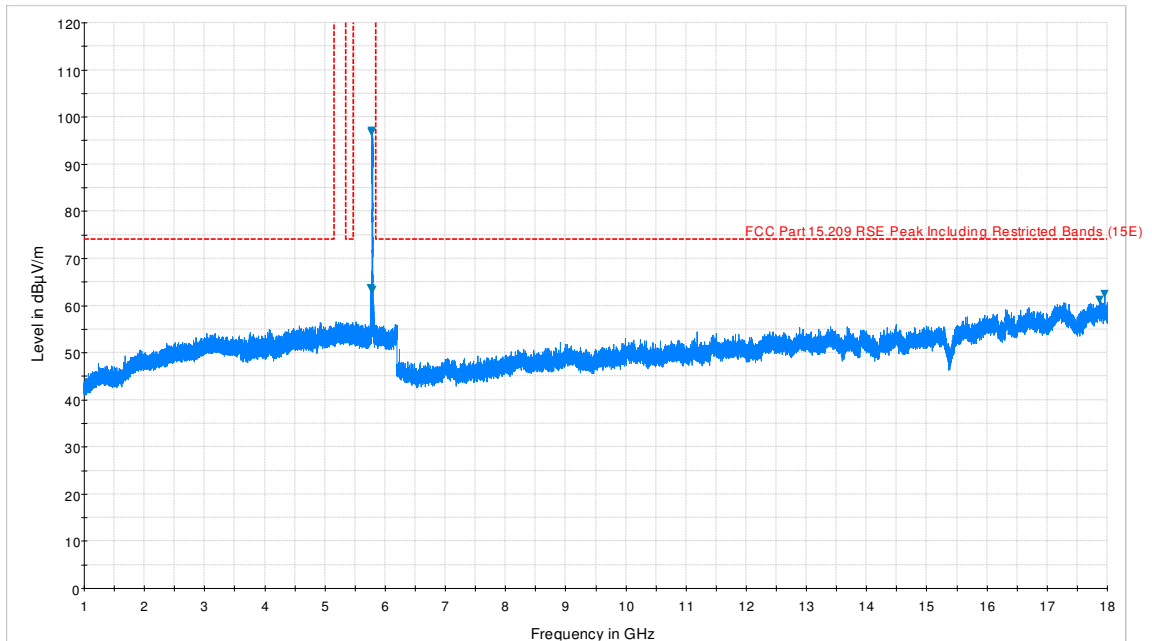


Plot 7-161. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 116, Ant. Pol. H)

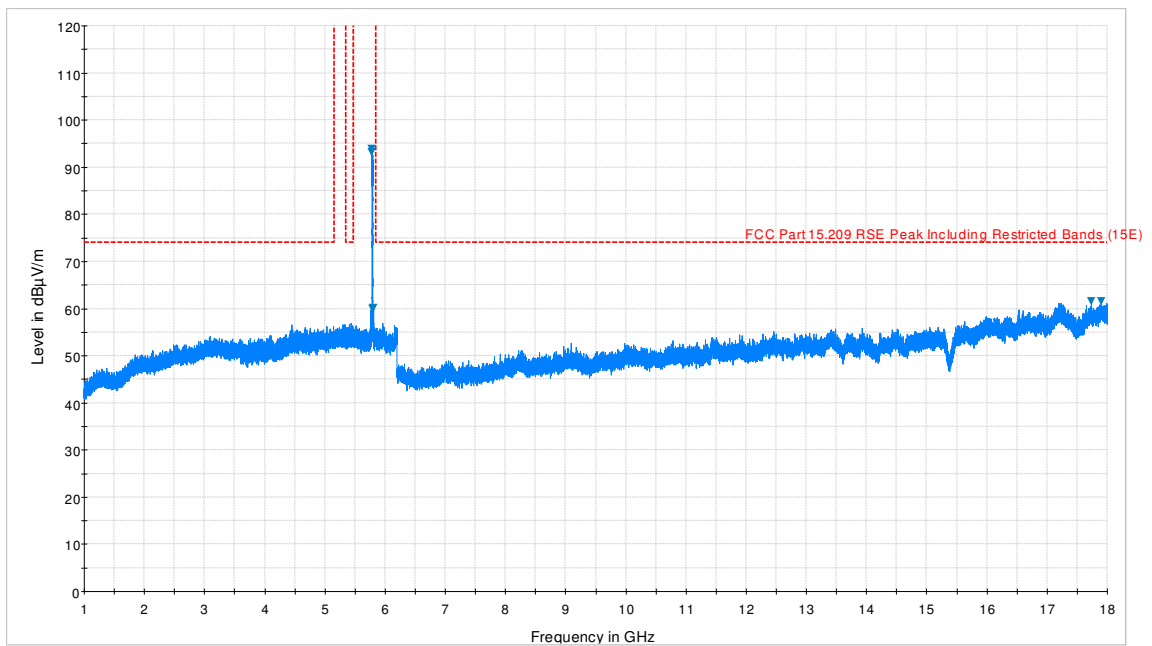


Plot 7-162. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 116, Ant. Pol. V)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 121 of 261



Plot 7-163. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)

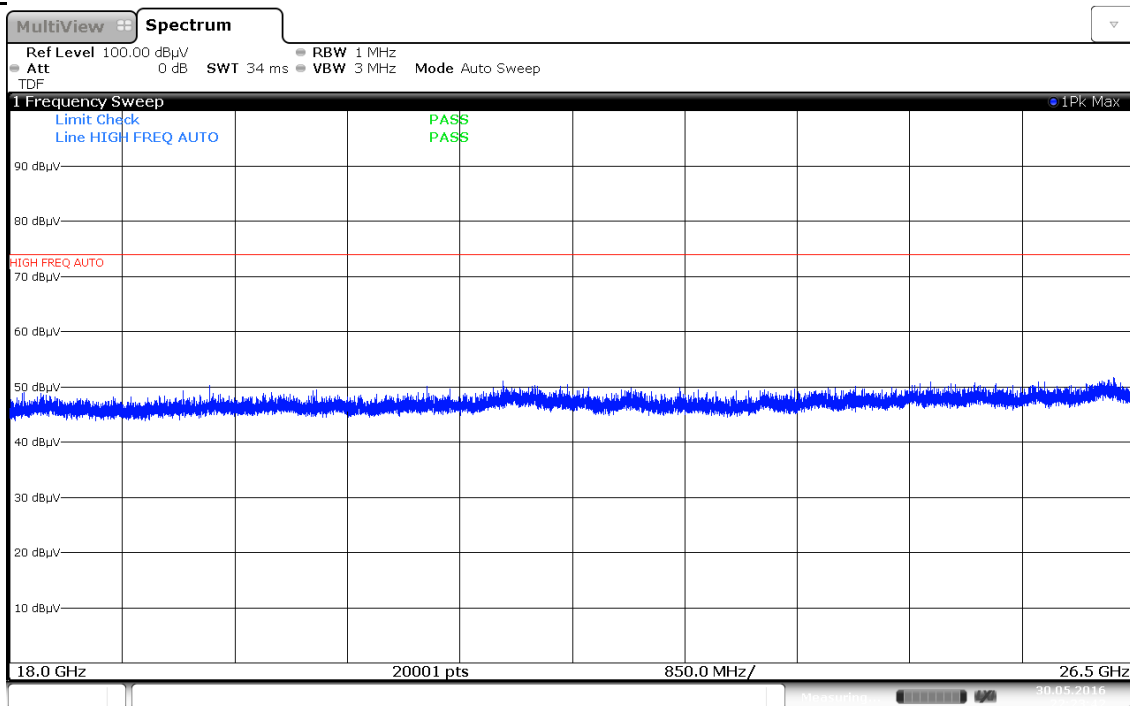


Plot 7-164. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

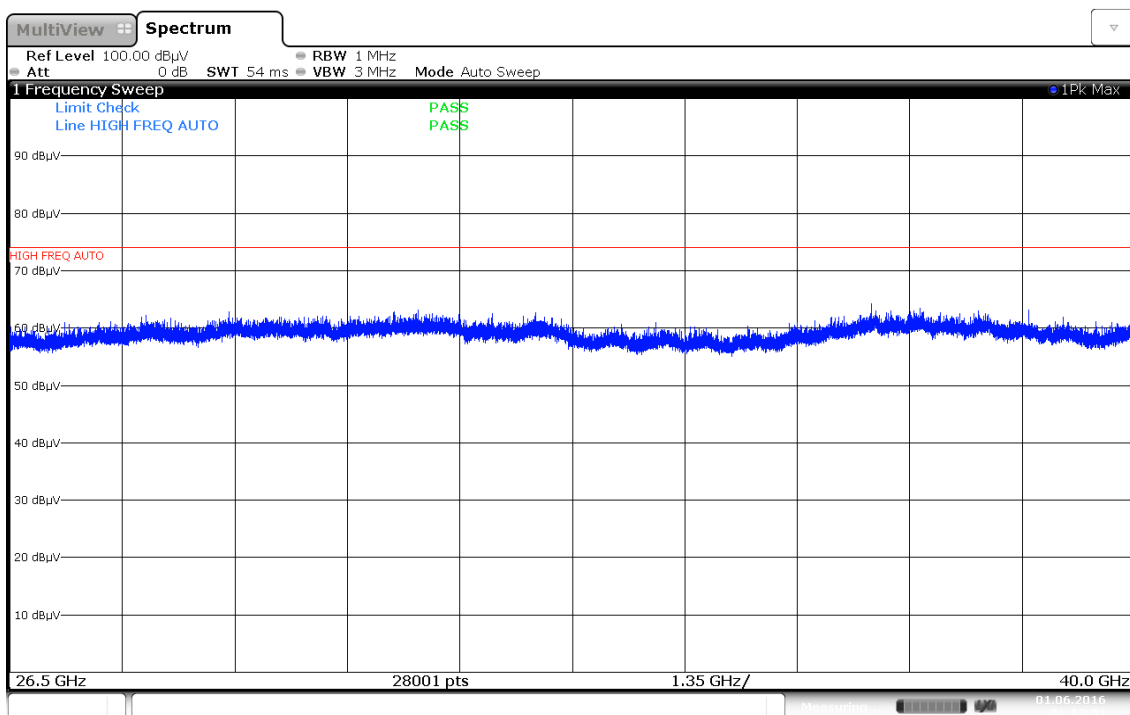
FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 122 of 261

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

§15.209



Plot 7-165. Radiated Spurious Plot above 18GHz (802.11a – Ant. Pol. H)

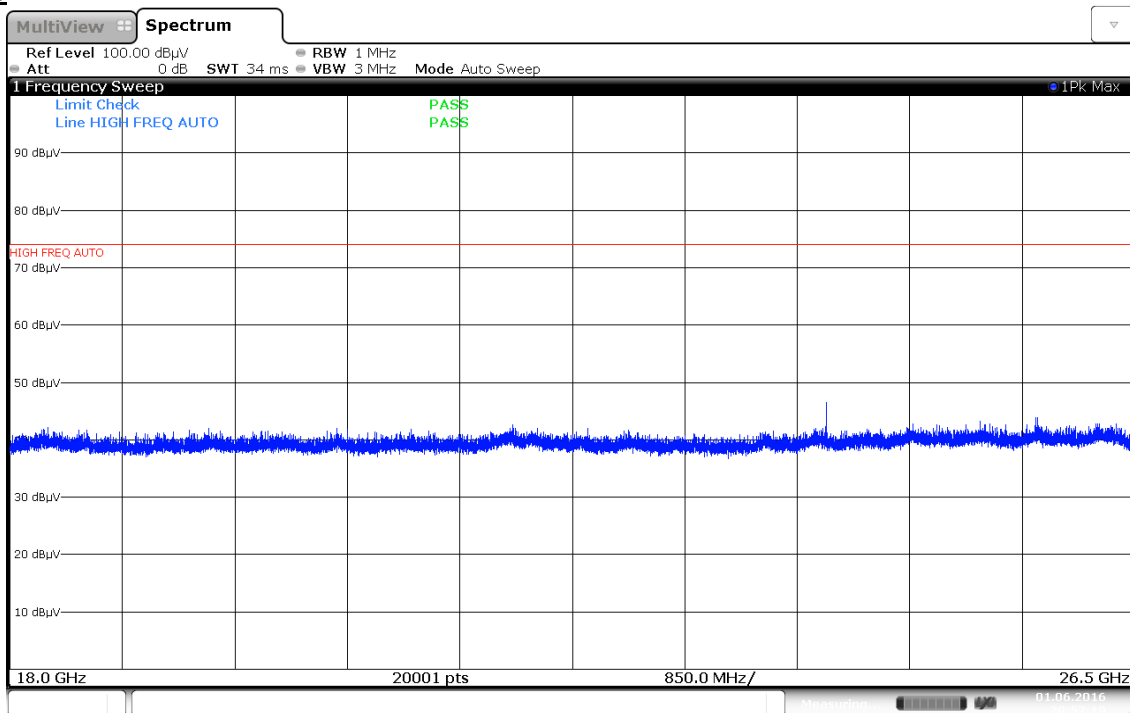


Plot 7-166. Radiated Spurious Plot above 18GHz (802.11a – Ant. Pol. H)

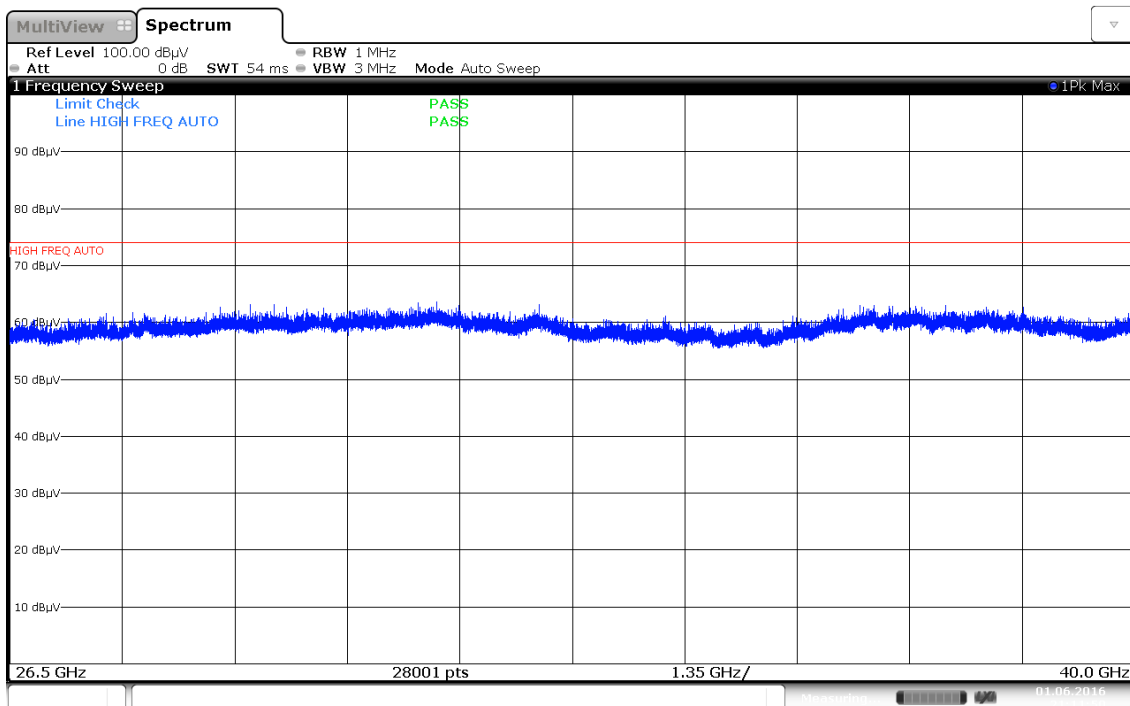
FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 123 of 261

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

\$15.209



Plot 7-167. Radiated Spurious Plot above 18GHz (802.11a – Ant. Pol. V)



Plot 7-168. Radiated Spurious Plot above 18GHz (802.11a – Ant. Pol. V)

FCC ID: A3LSMN9300	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1606061021.A3L	Test Dates: 6/1 - 6/15/2016	EUT Type: Portable Handset		Page 124 of 261