

6.4 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 (>98%), at its maximum power control level, as defined in KDB 789033 v01r04, and at the appropriate frequencies. Method SA-1, as defined in KDB 789033 v01r04, was used to measure the power spectral density.

In the 5.15 – 5.25GHz band, the maximum permissible power spectral density is 4dBm/MHz.

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

Test Procedure Used

KDB 789033 v01r04 – 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 since the EUT was operating at a duty cycle $\geq 98\%$
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.

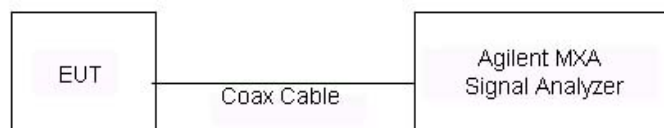


Figure 6-3. Test Instrument & Measurement Setup

Test Notes

None

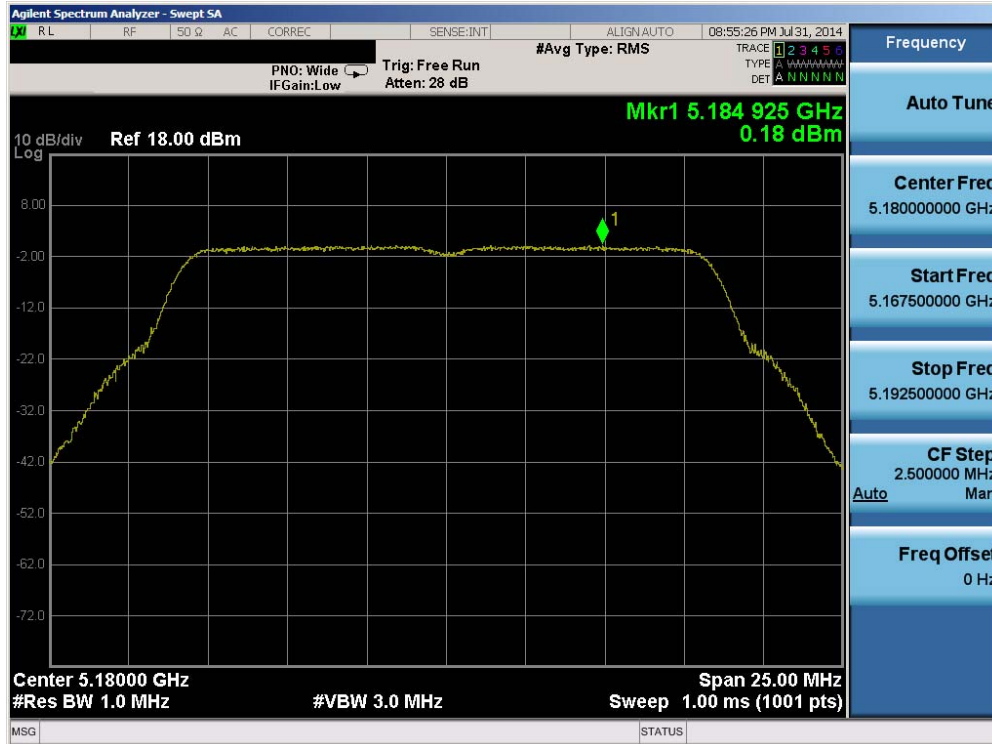
FCC ID: A3LSMN910V		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset	Page 56 of 182	

Antenna-1 Power Spectral Density Measurements

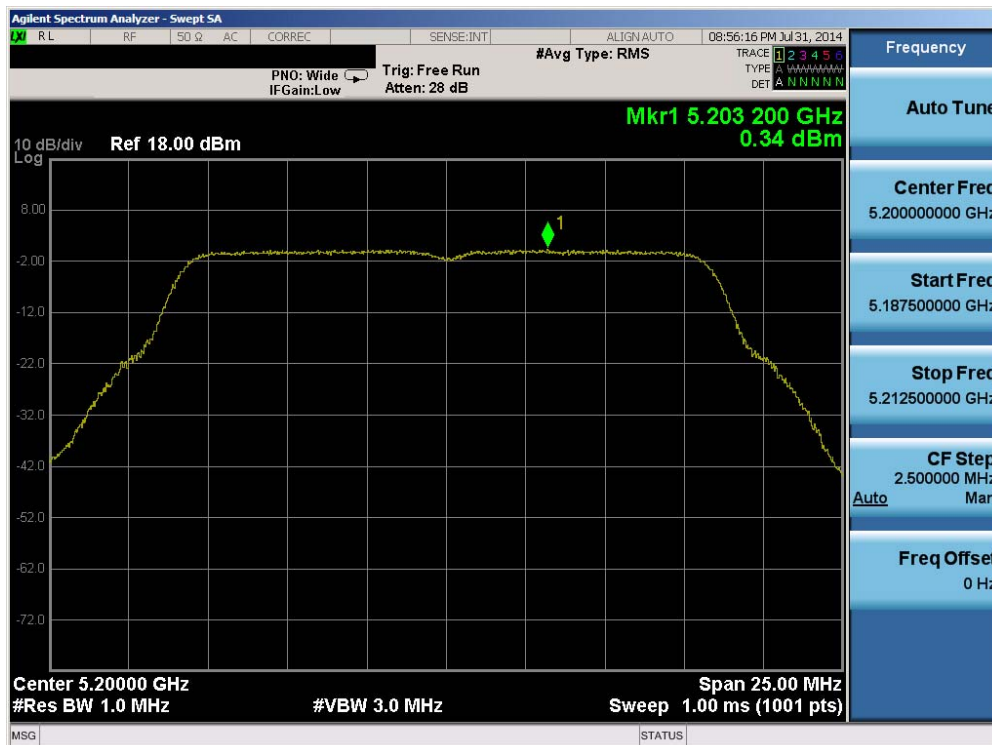
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6	0.18	4.0	-3.82	Pass
	5200	40	a	6	0.34	4.0	-3.66	Pass
	5240	48	a	6	0.25	4.0	-3.75	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	0.33	4.0	-3.67	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	0.16	4.0	-3.85	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	0.22	4.0	-3.78	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-3.46	4.0	-7.46	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-3.50	4.0	-7.50	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-8.06	4.0	-12.06	Pass
Band 2A	5260	52	a	6	0.32	11.0	-10.68	Pass
	5280	56	a	6	0.69	11.0	-10.31	Pass
	5320	64	a	6	0.64	11.0	-10.37	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	0.54	11.0	-10.46	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	0.52	11.0	-10.48	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	0.52	11.0	-10.48	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-3.31	11.0	-14.31	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-3.30	11.0	-14.30	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-7.87	11.0	-18.87	Pass
Band 2C	5500	100	a	6	1.40	11.0	-9.60	Pass
	5580	116	a	6	1.55	11.0	-9.45	Pass
	5700	140	a	6	1.72	11.0	-9.28	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	1.57	11.0	-9.44	Pass
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	1.60	11.0	-9.40	Pass
	5700	140	n (20MHz)	6.5/7.2 (MCS0)	1.57	11.0	-9.43	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-2.34	11.0	-13.34	Pass
	5550	110	n (40MHz)	13.5/15 (MCS0)	-2.49	11.0	-13.49	Pass
	5670	134	n (40MHz)	13.5/15 (MCS0)	-2.31	11.0	-13.31	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-6.91	11.0	-17.91	Pass

Table 6-18. Conducted Power Spectral Density Measurements

FCC ID: A3LSMN910V		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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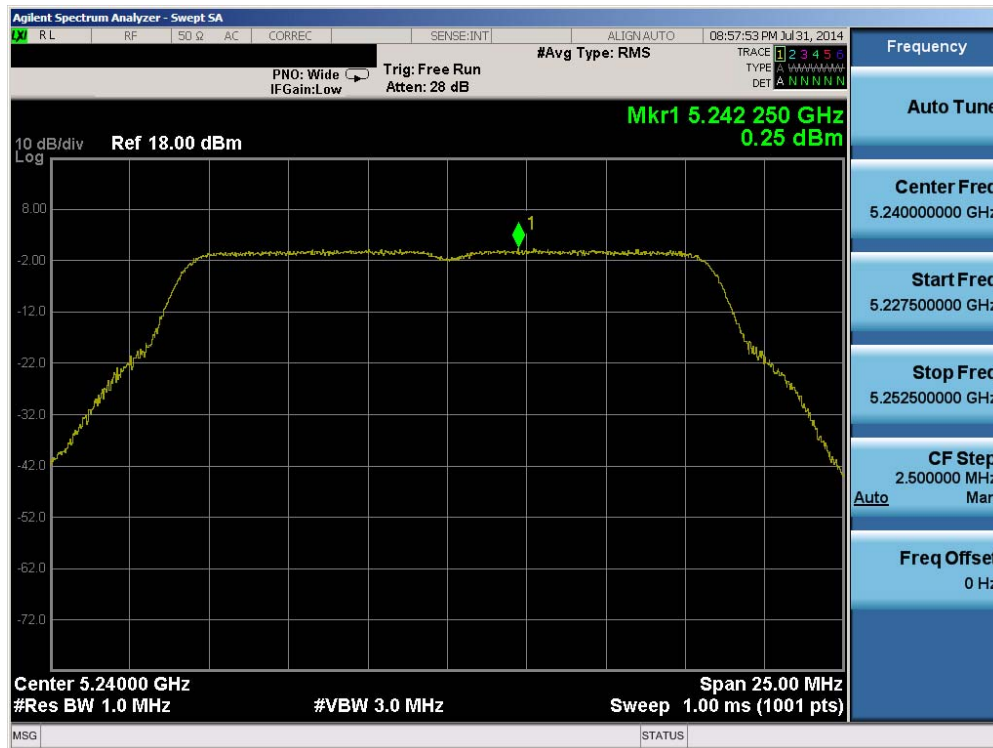


Plot 6-69. Peak Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)

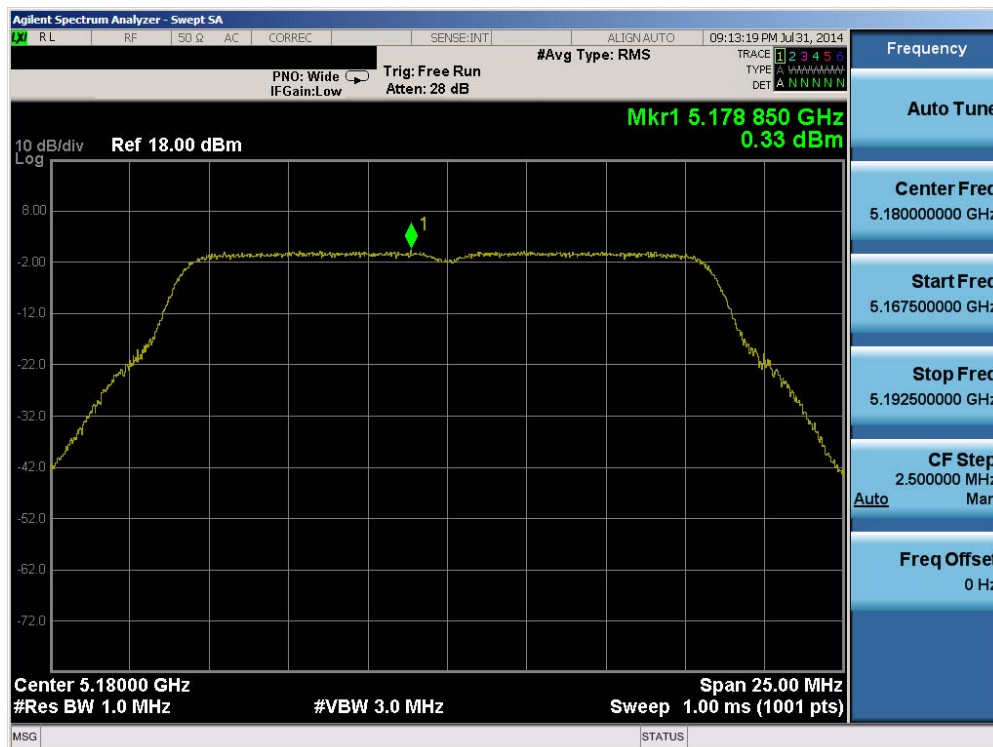


Plot 6-70. Peak Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 40)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 58 of 182

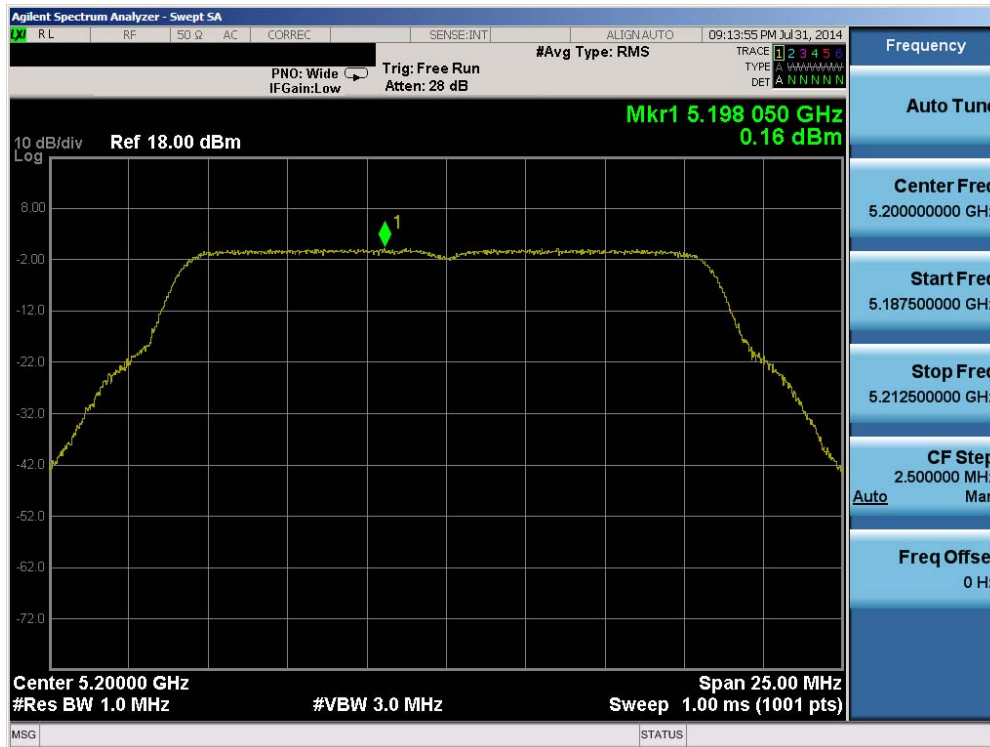


Plot 6-71. Peak Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)



Plot 6-72. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 59 of 182

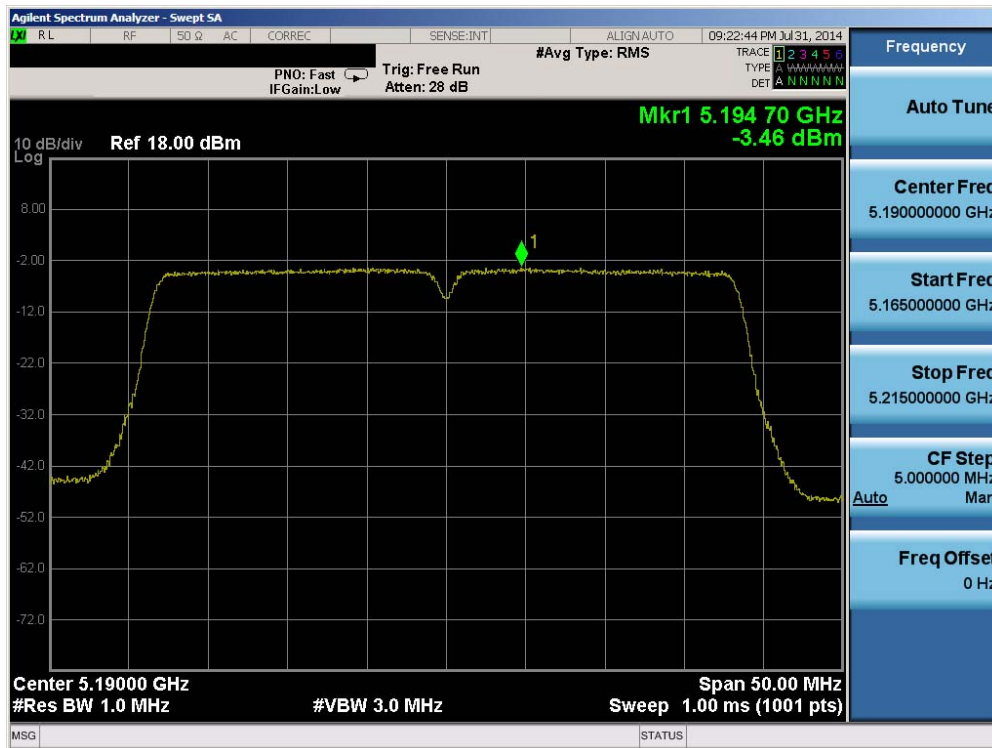


Plot 6-73. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

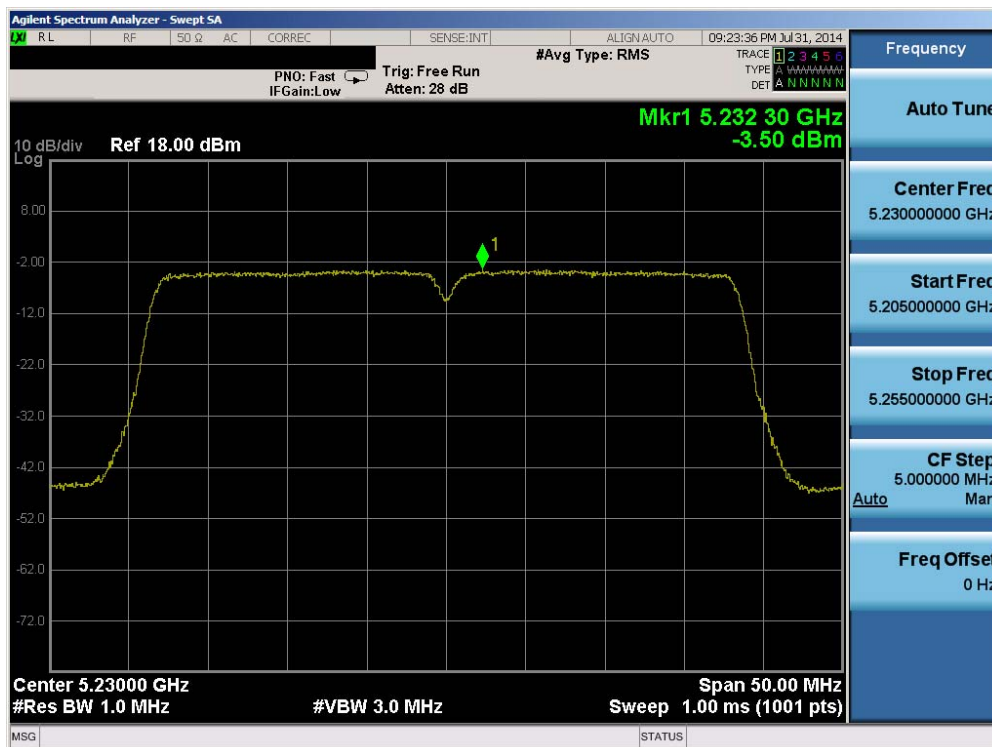


Plot 6-74. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 60 of 182

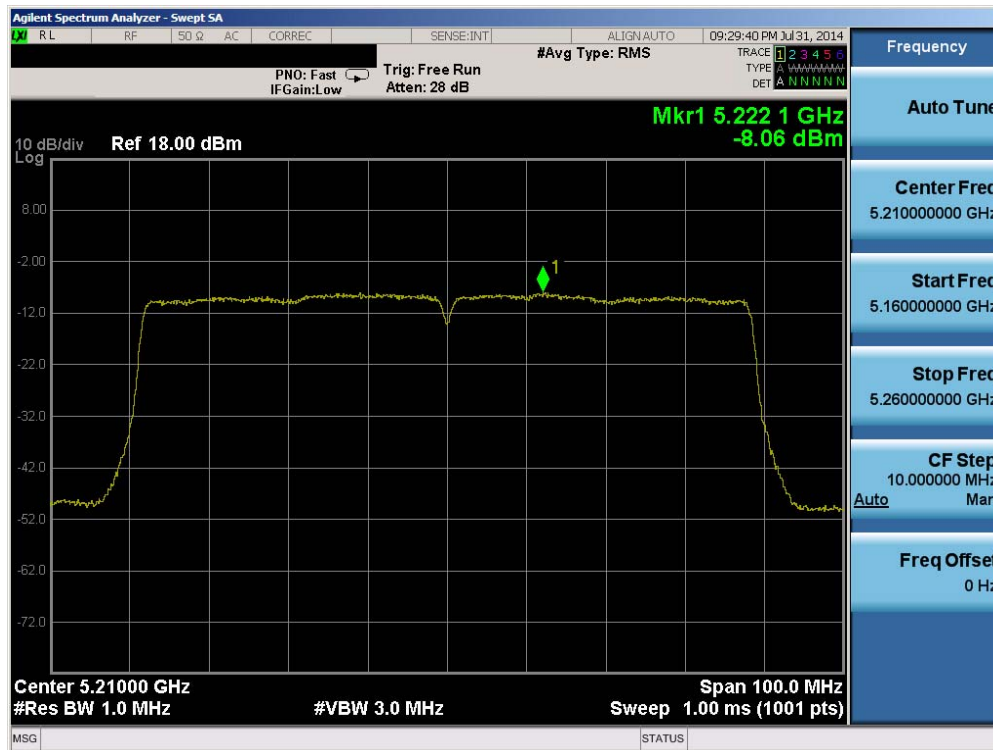


Plot 6-75. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)

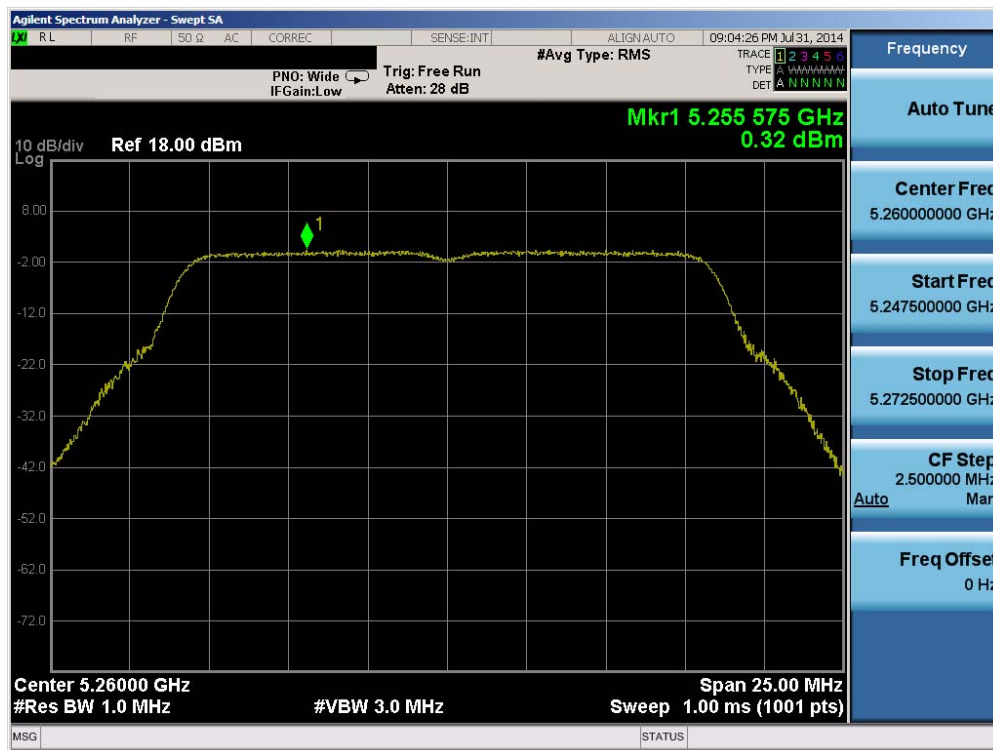


Plot 6-76. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 61 of 182

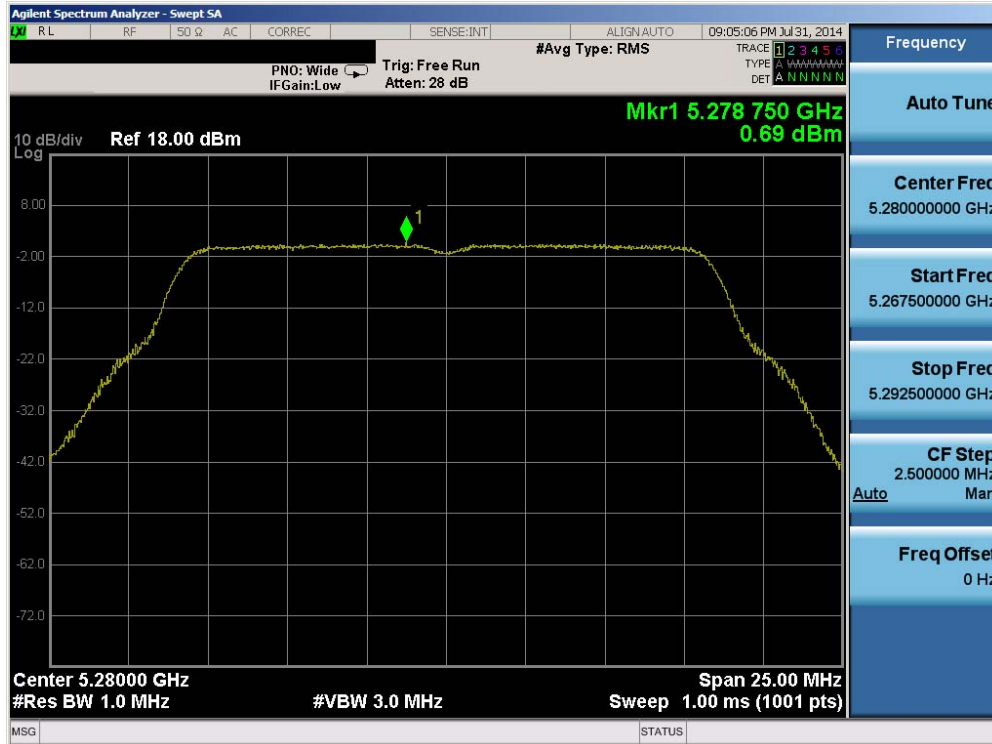


Plot 6-77. Peak Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)



Plot 6-78. Peak Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 62 of 182

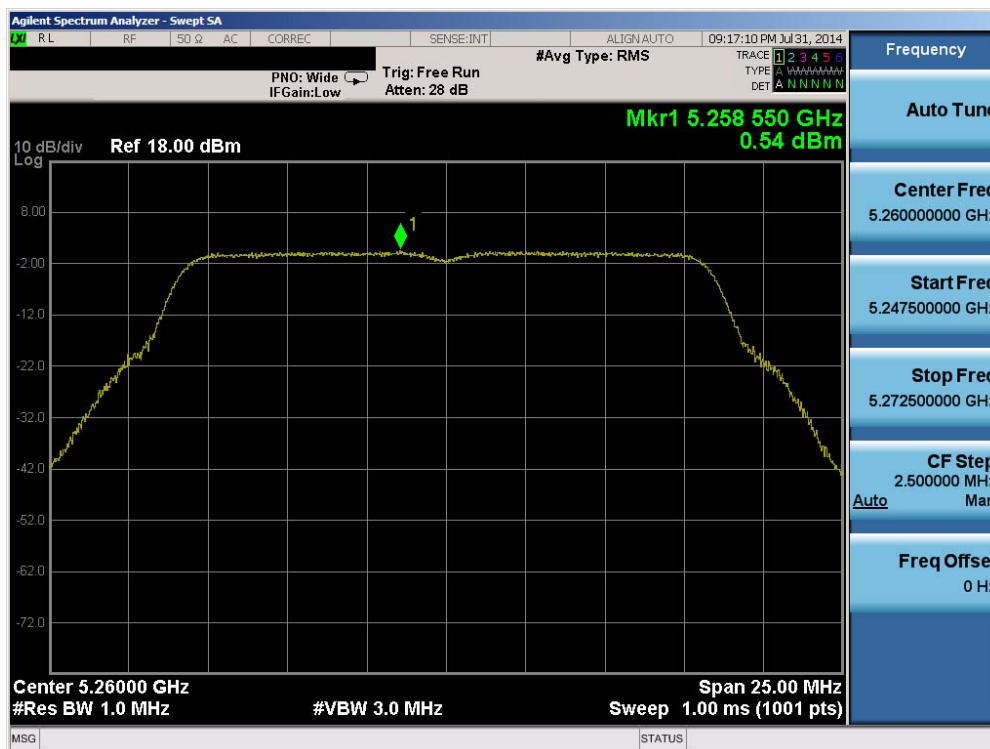


Plot 6-79. Peak Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)

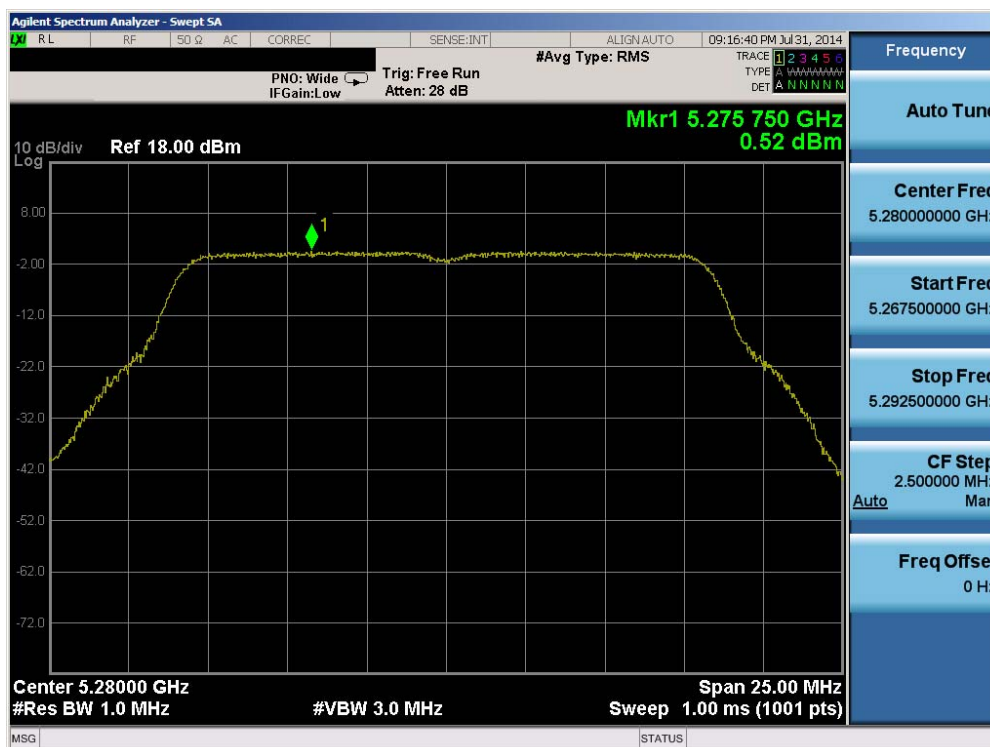


Plot 6-80. Peak Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 63 of 182



Plot 6-81. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

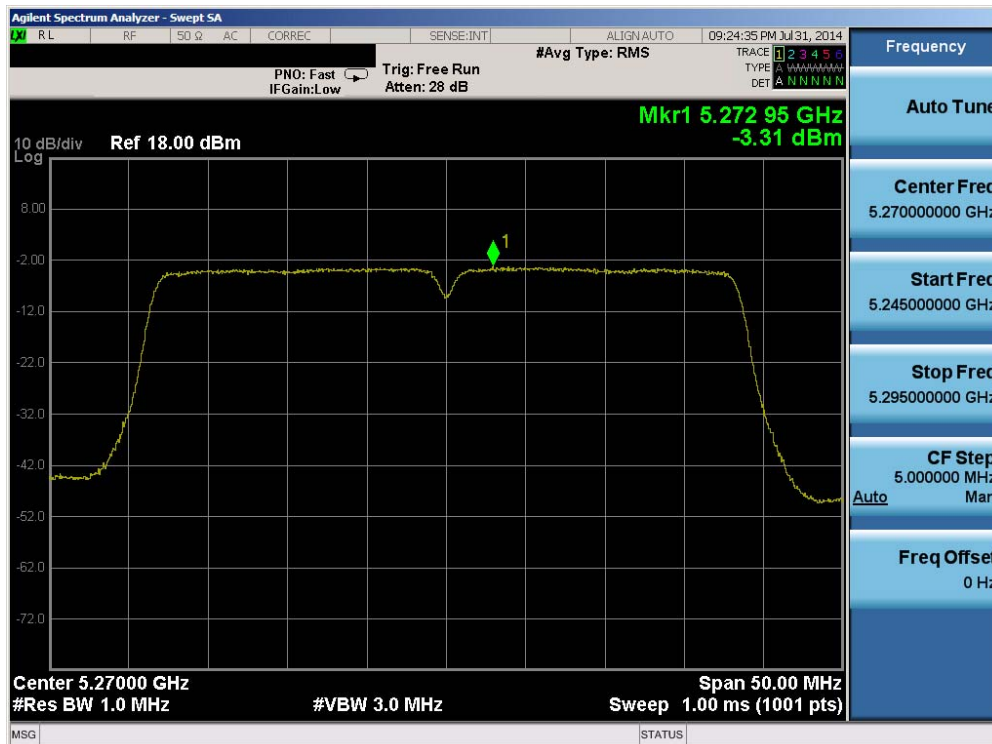


Plot 6-82. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMN910V	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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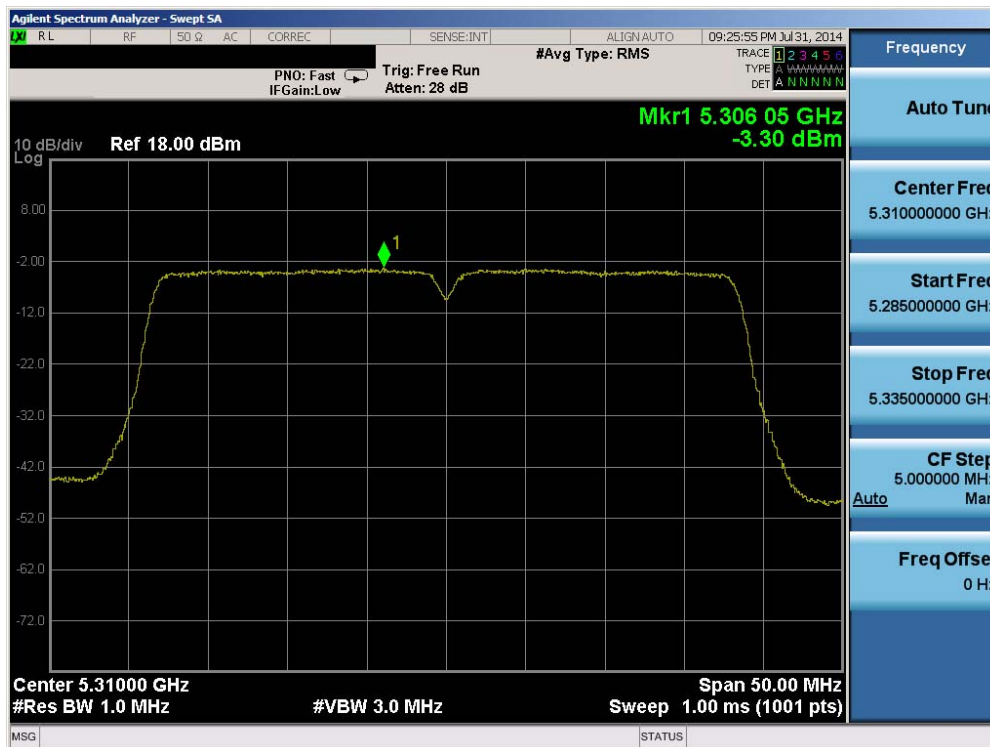


Plot 6-83. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

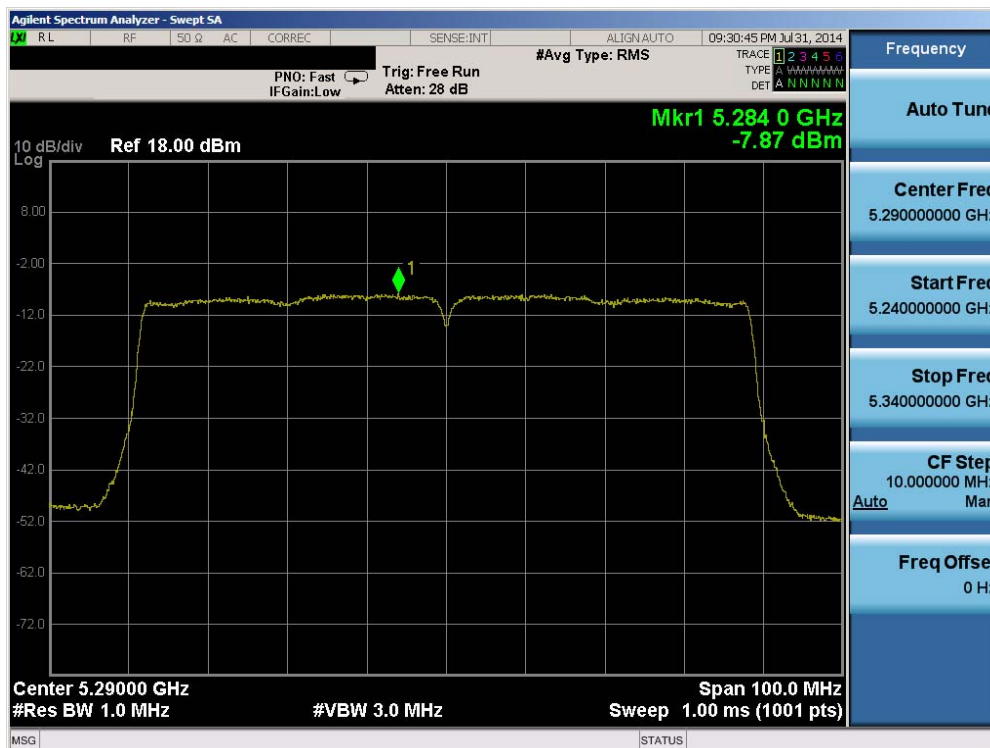


Plot 6-84. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMN910V	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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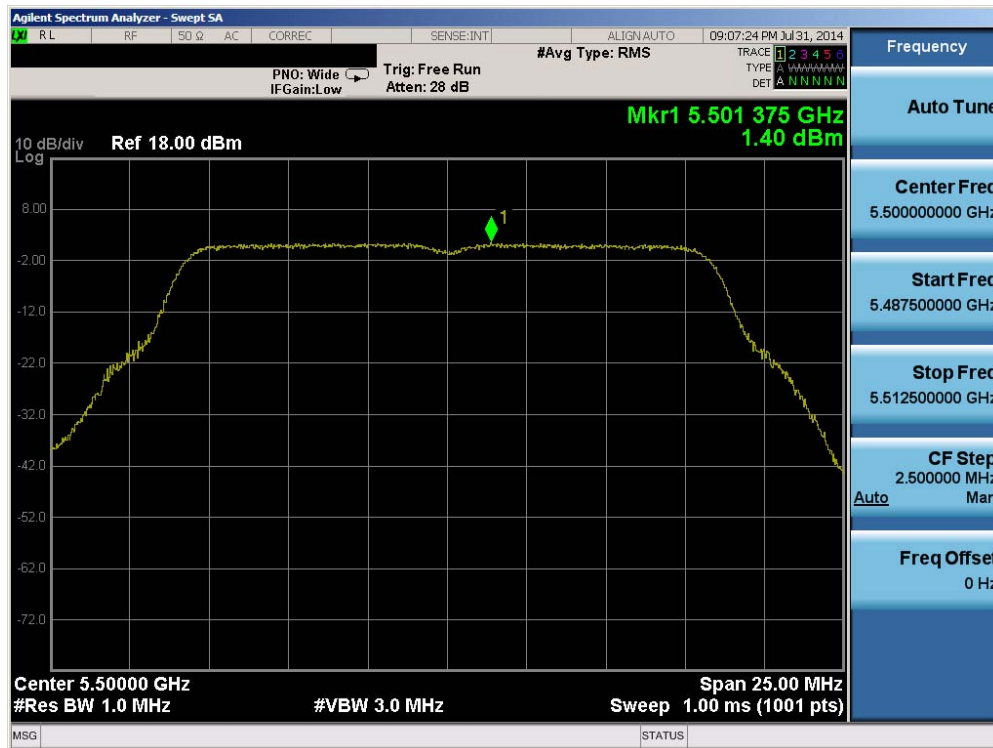


Plot 6-85. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

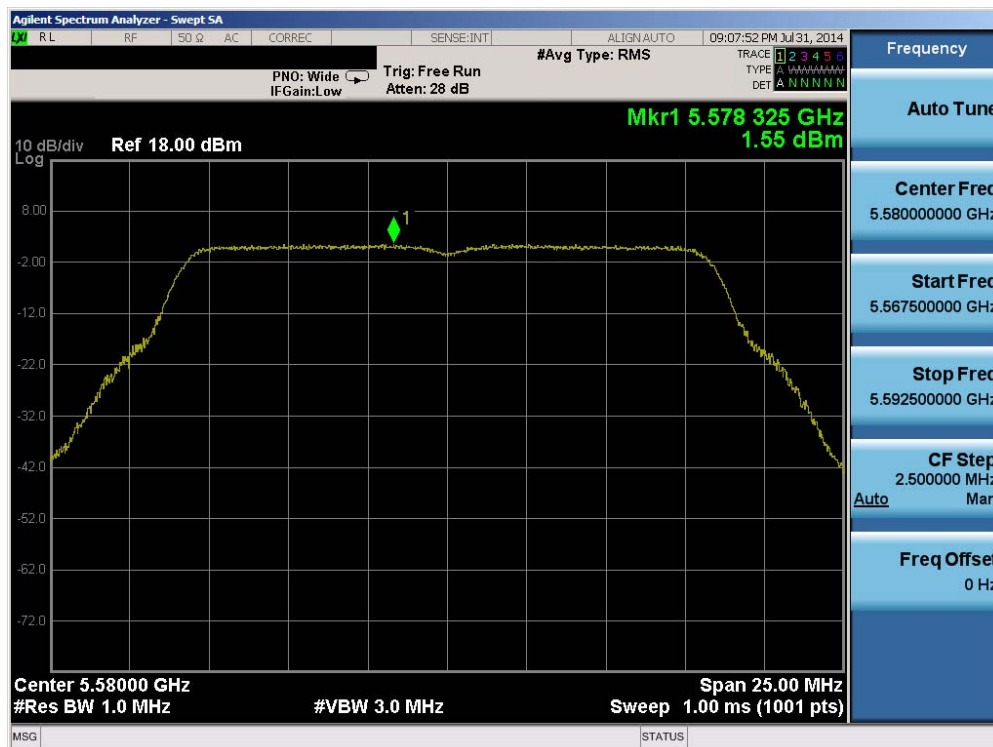


Plot 6-86. Peak Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 66 of 182

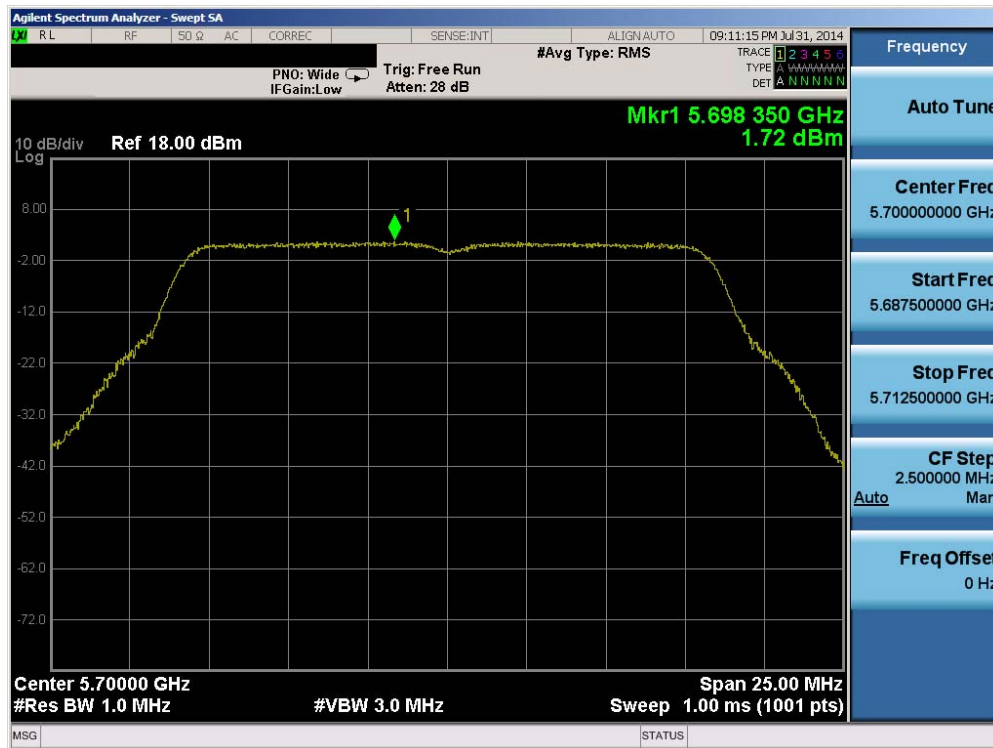


Plot 6-87. Peak Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)



Plot 6-88. Peak Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 116)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 67 of 182

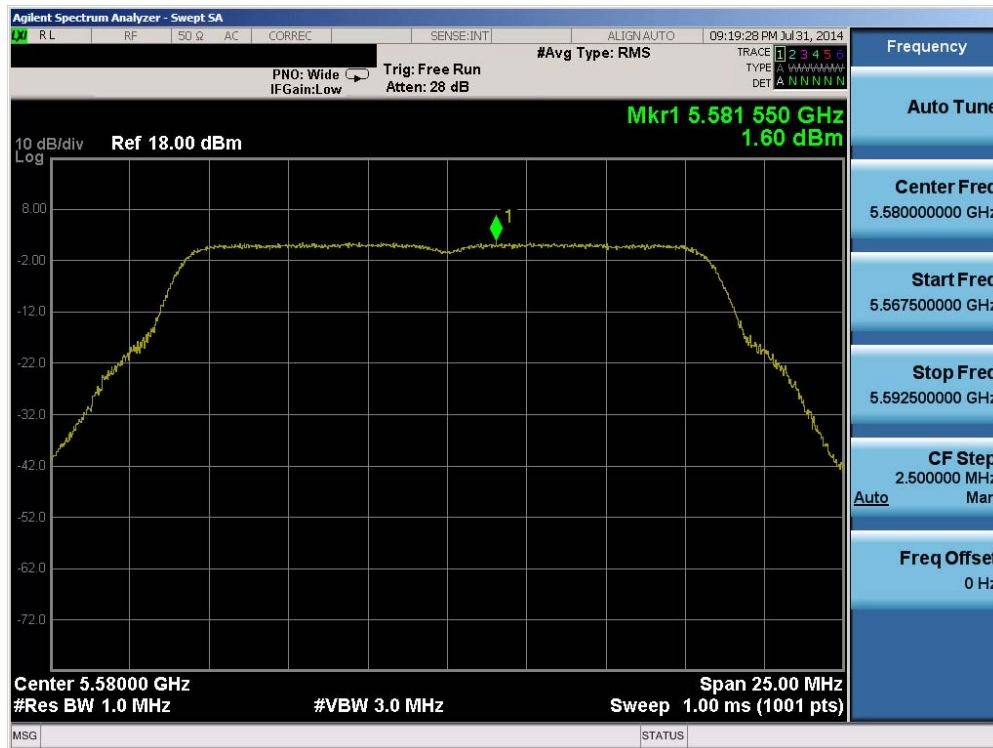


Plot 6-89. Peak Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 140)



Plot 6-90. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMN910V	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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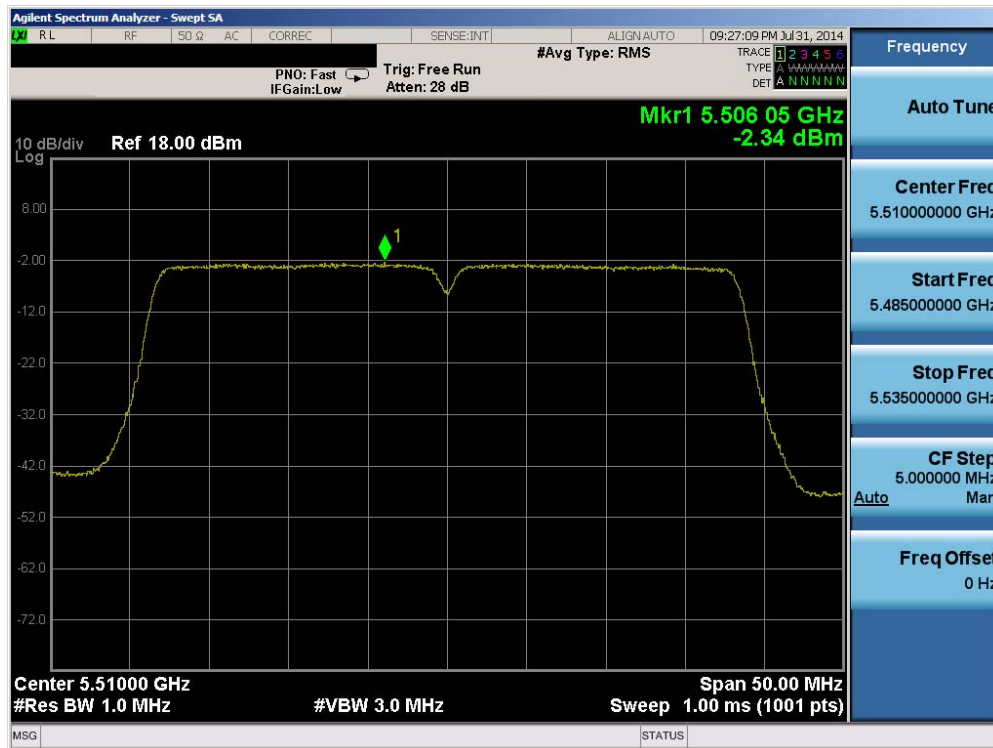


Plot 6-91. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 116)

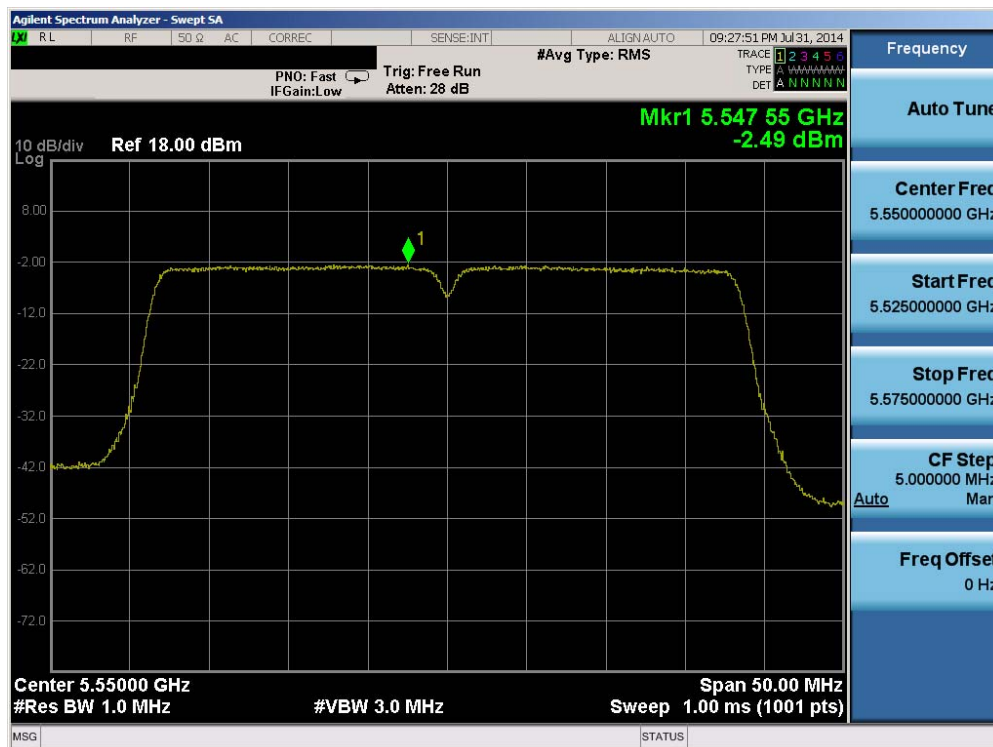


Plot 6-92. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 140)

FCC ID: A3LSMN910V	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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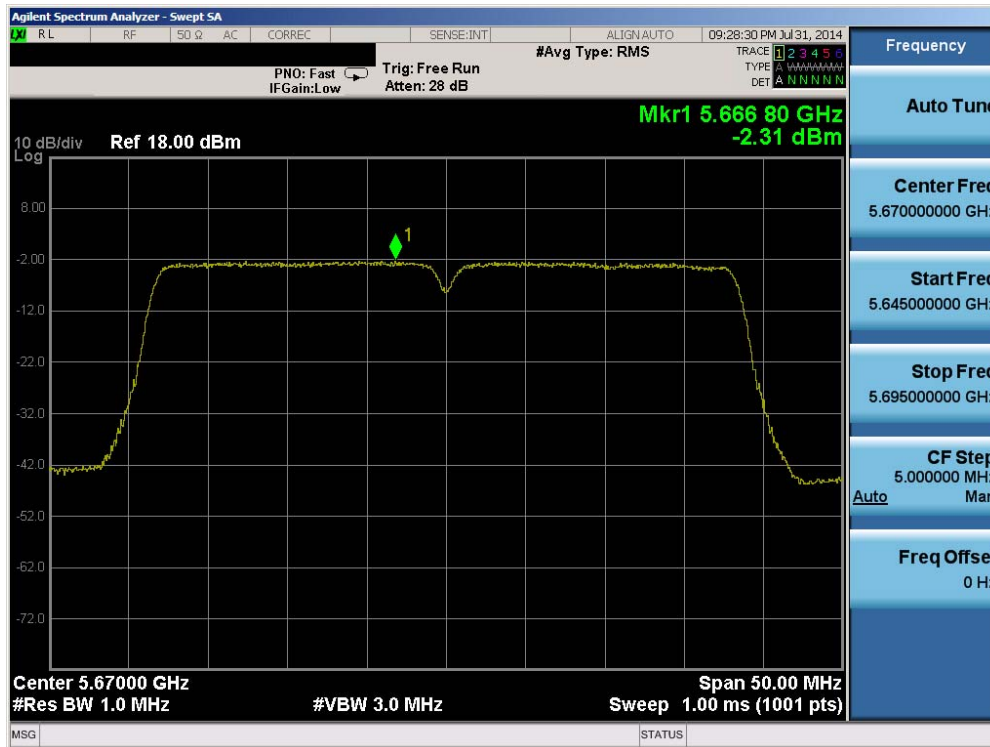


Plot 6-93. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

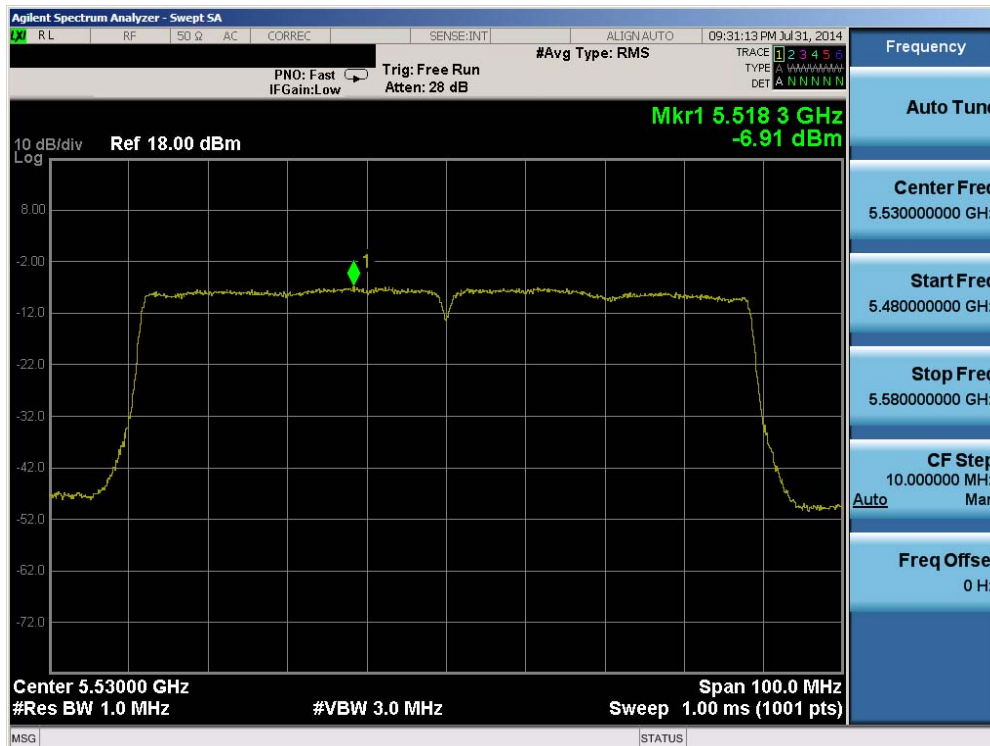


Plot 6-94. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 110)

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Plot 6-95. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 134)



Plot 6-96. Peak Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

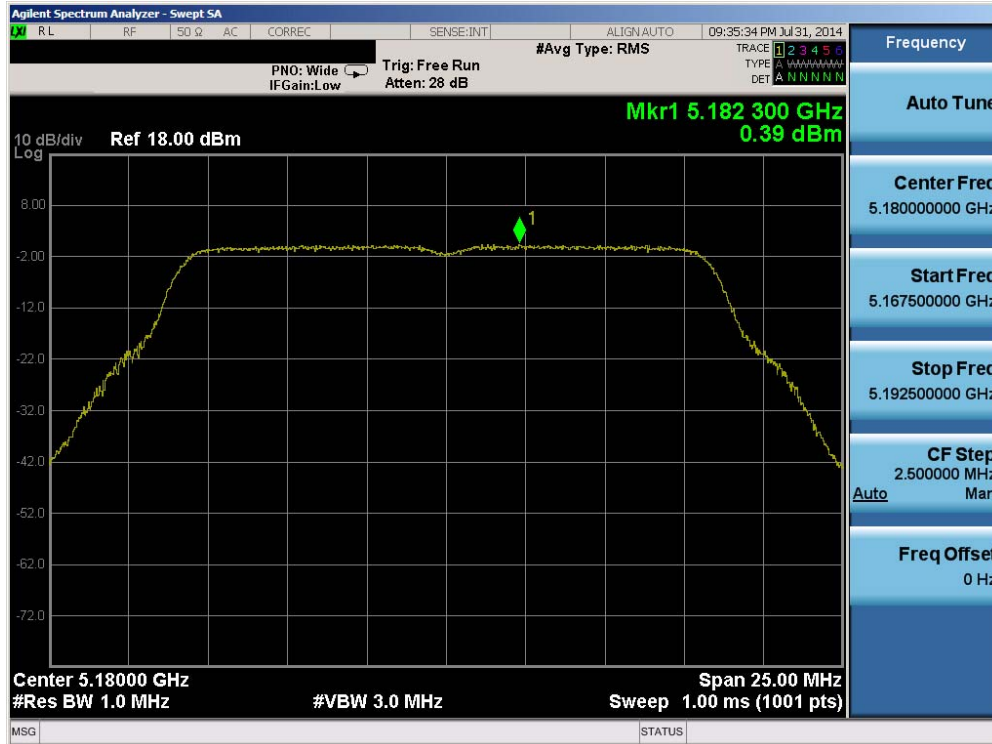
FCC ID: A3LSMN910V	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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Antenna-2 Power Spectral Density Measurements

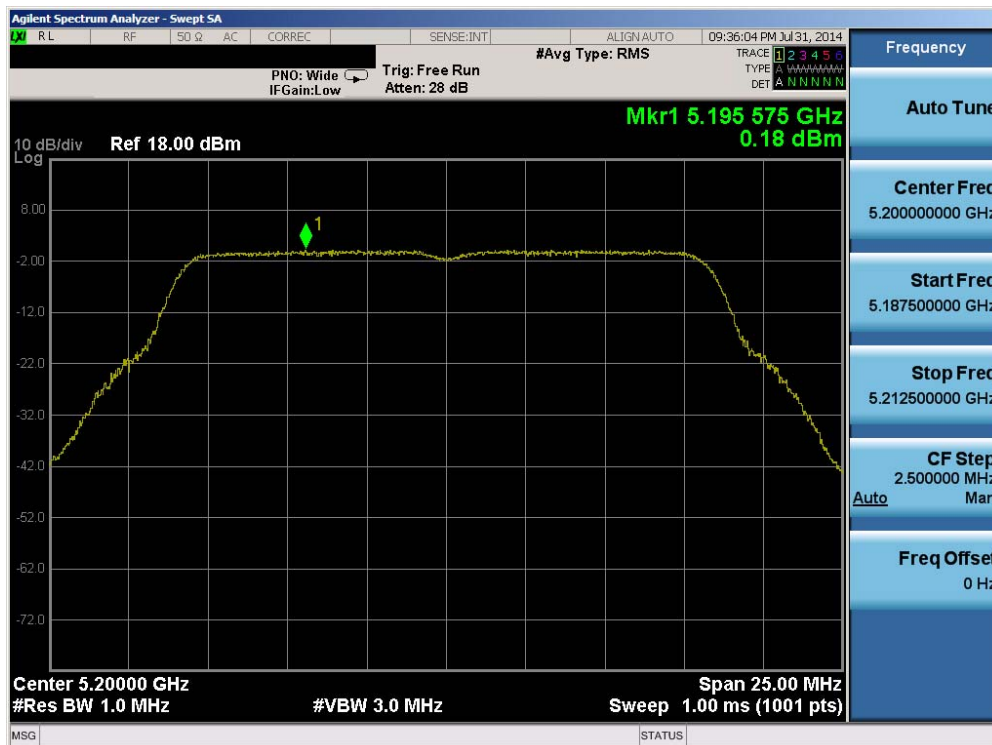
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6	0.39	4.0	-3.61	Pass
	5200	40	a	6	0.18	4.0	-3.82	Pass
	5240	48	a	6	0.51	4.0	-3.49	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	-0.17	4.0	-4.17	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	-0.10	4.0	-4.10	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	0.08	4.0	-3.92	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-3.48	4.0	-7.48	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-3.02	4.0	-7.02	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-7.94	4.0	-11.94	Pass
Band 2A	5260	52	a	6	0.22	11.0	-10.78	Pass
	5280	56	a	6	-0.03	11.0	-11.03	Pass
	5320	64	a	6	0.09	11.0	-10.91	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	-0.09	11.0	-11.09	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	-0.21	11.0	-11.21	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	-0.14	11.0	-11.14	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-3.54	11.0	-14.54	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-3.67	11.0	-14.67	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-8.17	11.0	-19.17	Pass
Band 2C	5500	100	a	6	0.16	11.0	-10.84	Pass
	5580	116	a	6	0.00	11.0	-11.00	Pass
	5700	140	a	6	0.38	11.0	-10.62	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	-0.31	11.0	-11.31	Pass
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	-0.53	11.0	-11.53	Pass
	5700	140	n (20MHz)	6.5/7.2 (MCS0)	-0.13	11.0	-11.13	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-3.49	11.0	-14.49	Pass
	5550	110	n (40MHz)	13.5/15 (MCS0)	-3.50	11.0	-14.50	Pass
	5670	134	n (40MHz)	13.5/15 (MCS0)	-3.15	11.0	-14.15	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-8.06	11.0	-19.06	Pass

Table 6-19. Conducted Power Spectral Density Measurements

FCC ID: A3LSMN910V		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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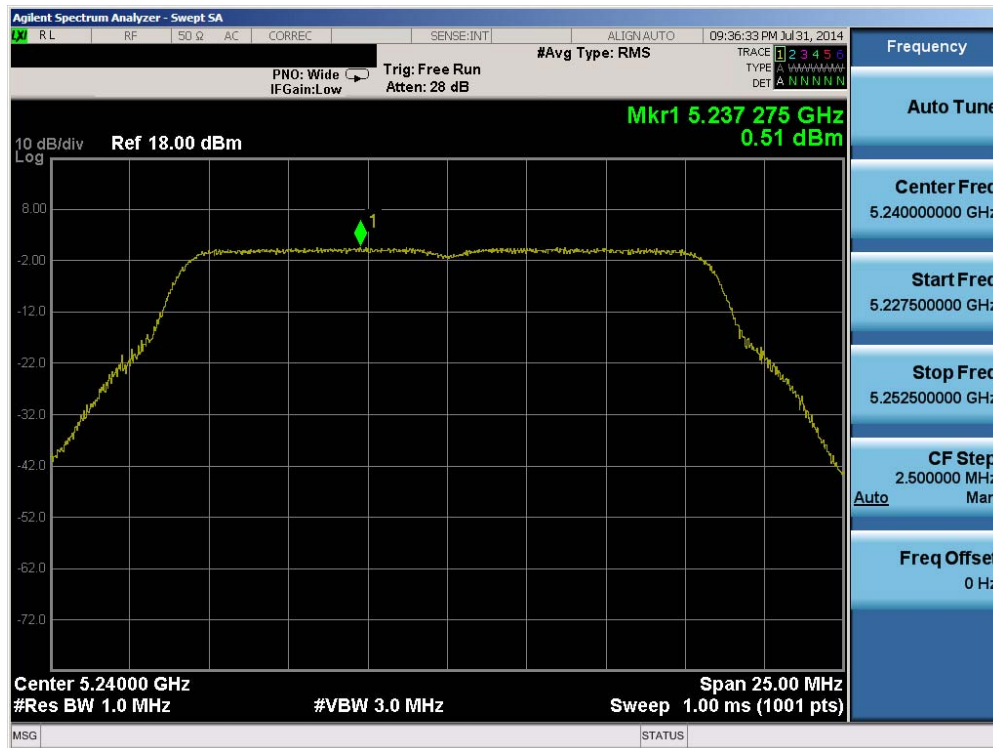


Plot 6-97. Peak Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)

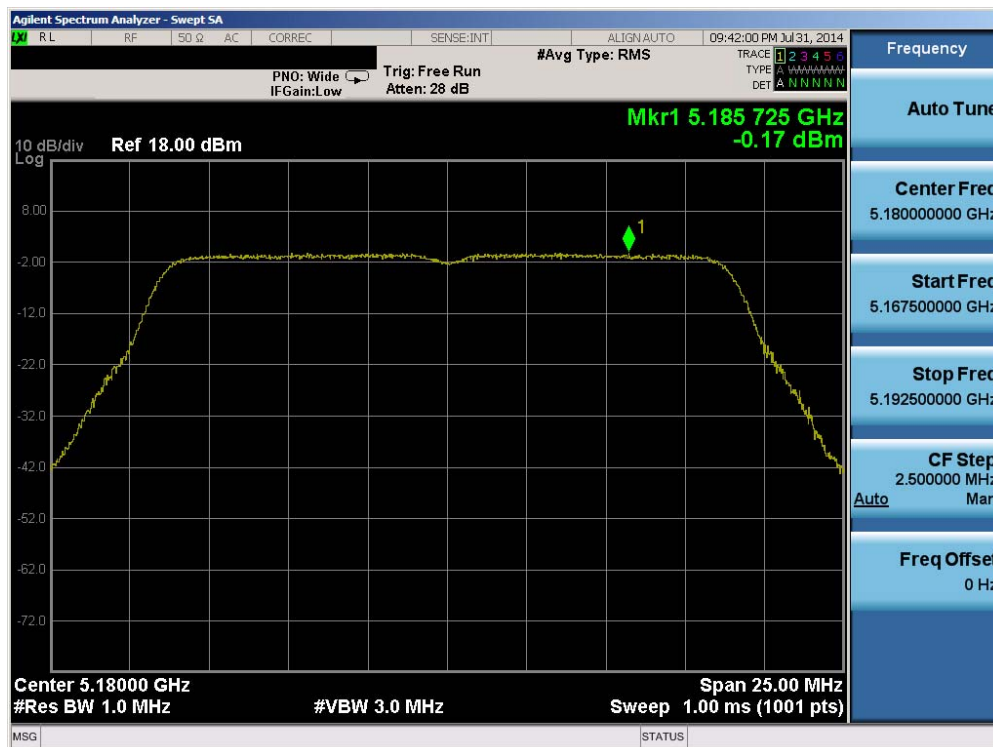


Plot 6-98. Peak Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 40)

FCC ID: A3LSMN910V	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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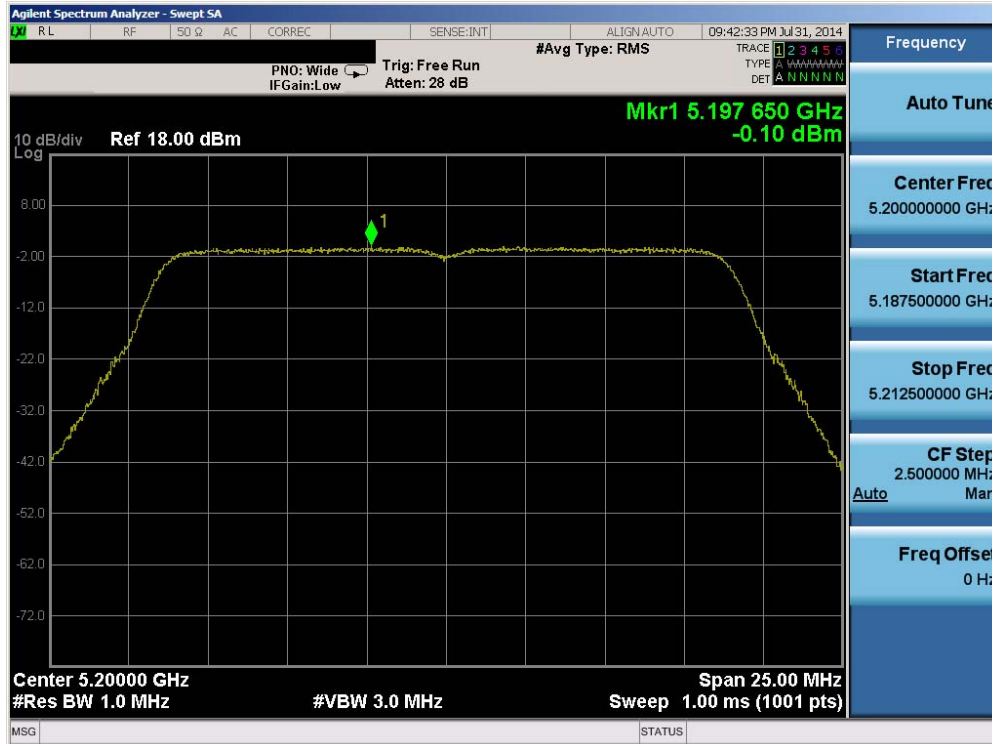


Plot 6-99. Peak Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)

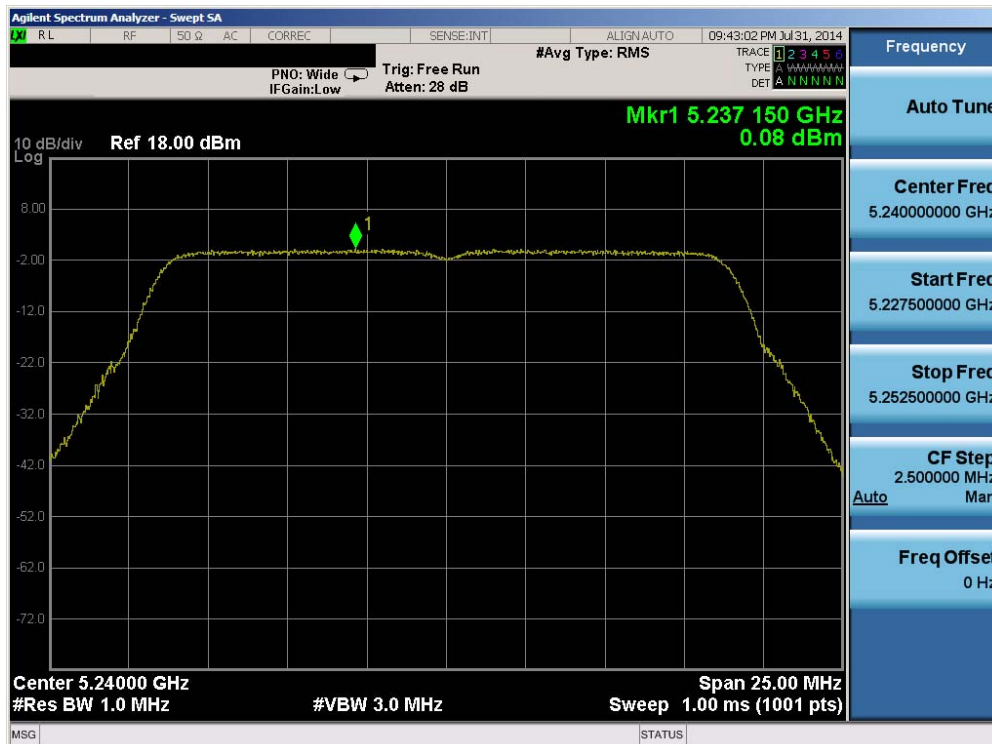


Plot 6-100. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: A3LSMN910V	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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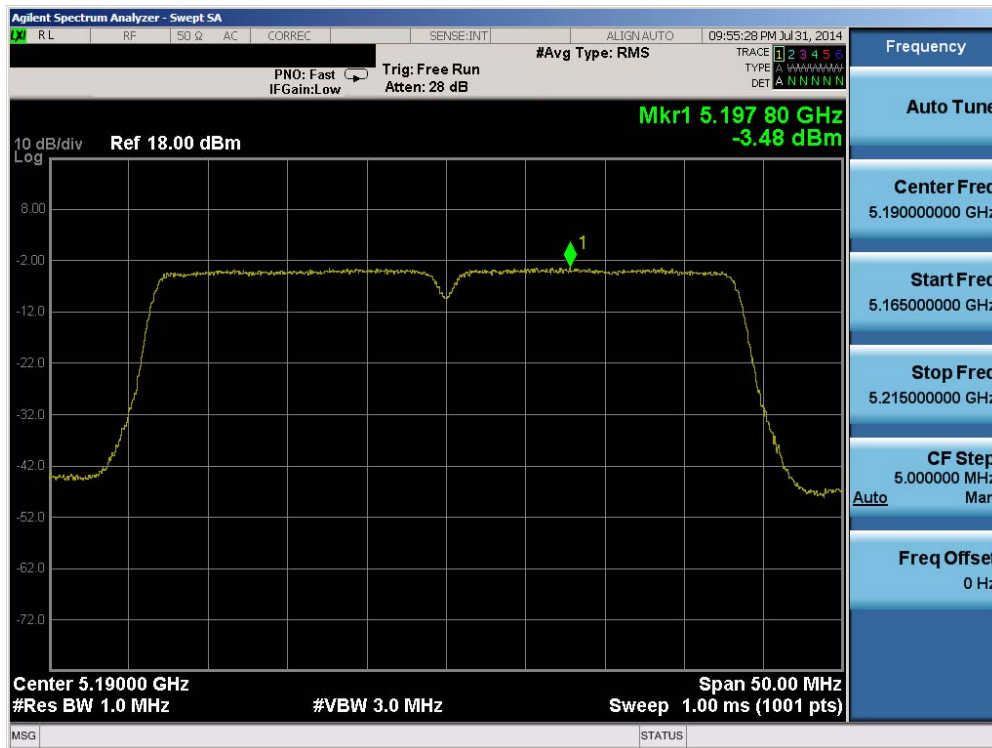


Plot 6-101. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

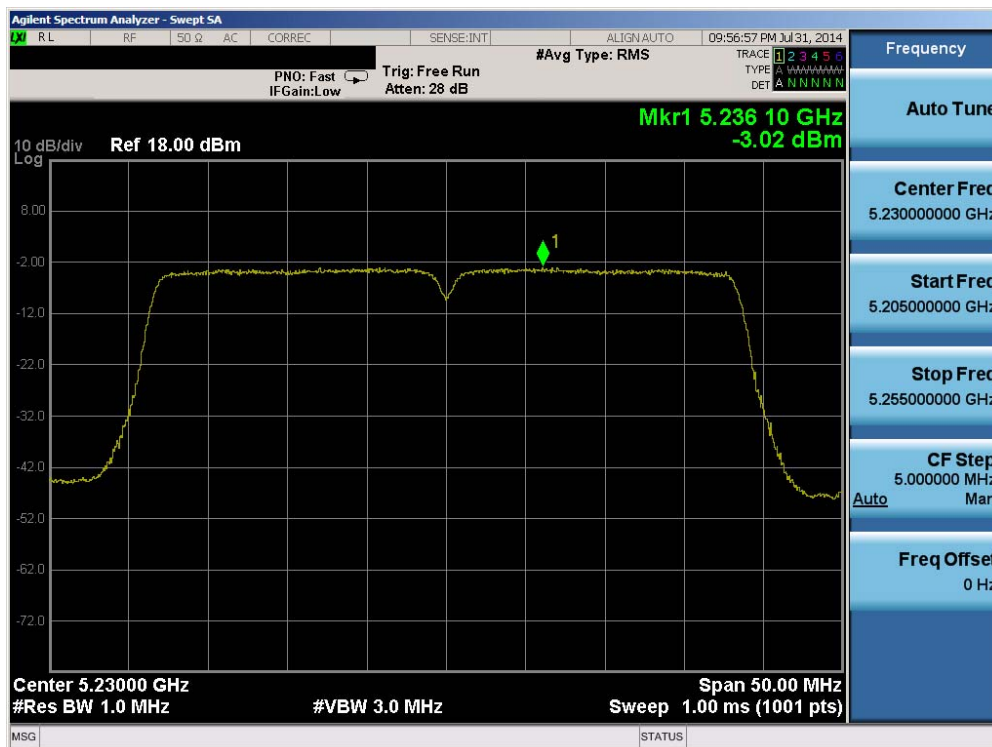


Plot 6-102. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 75 of 182

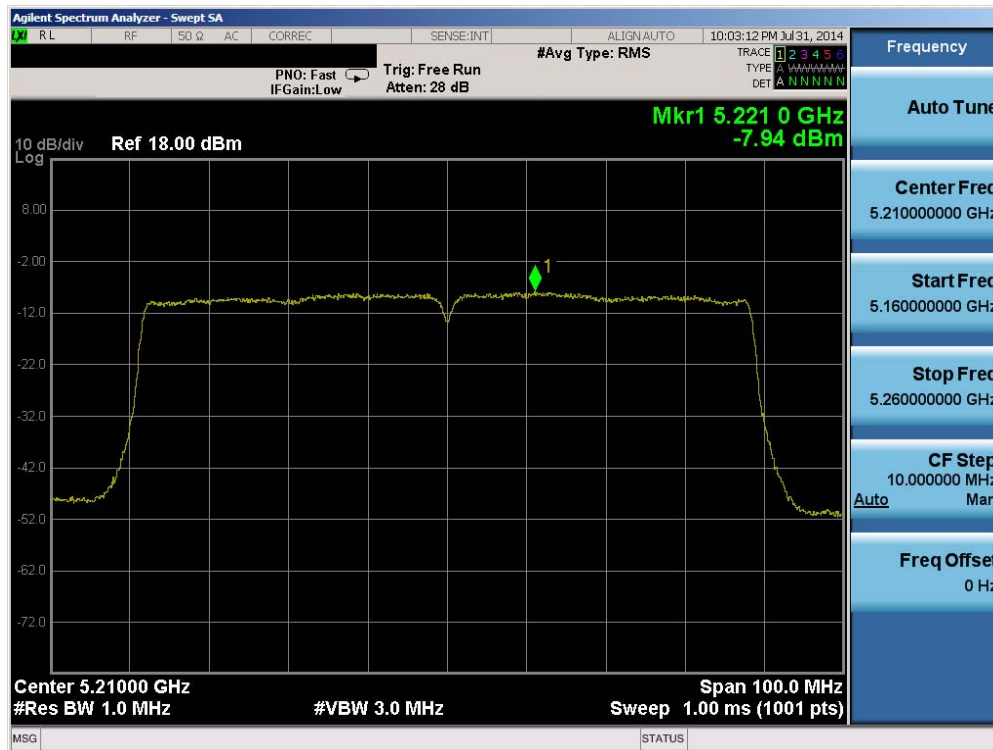


Plot 6-103. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)

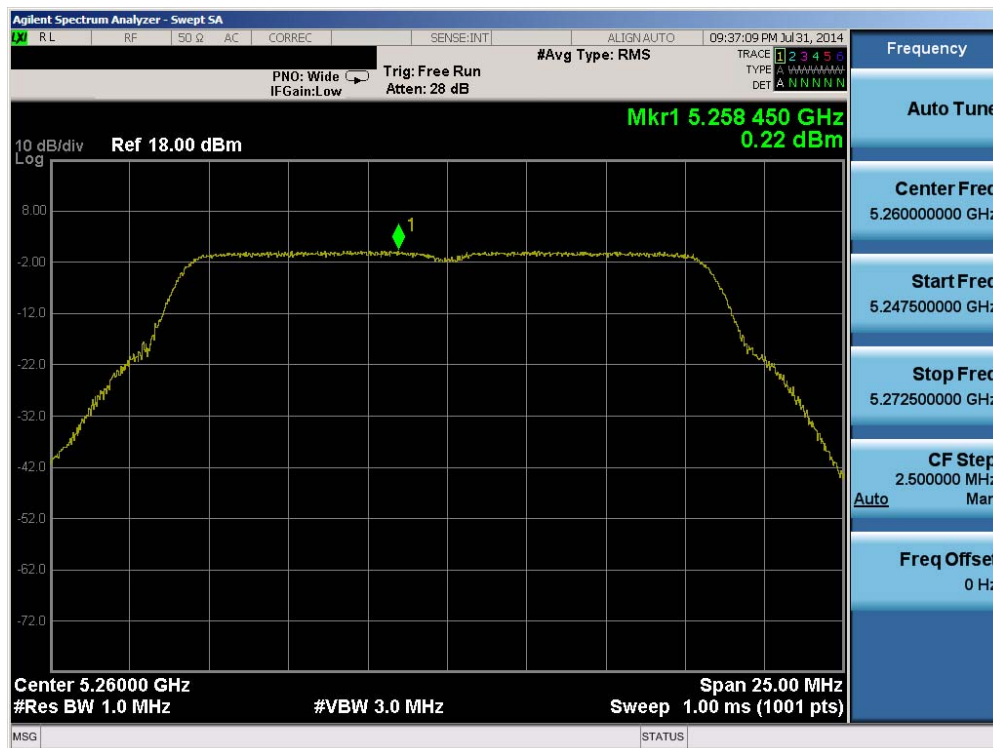


Plot 6-104. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 76 of 182

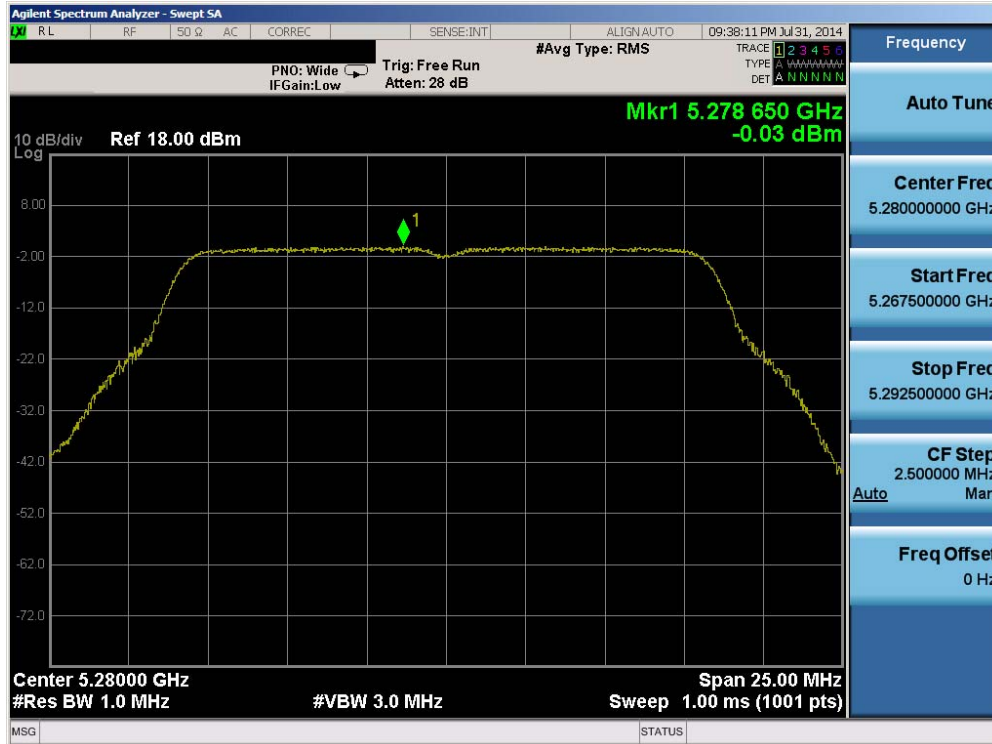


Plot 6-105. Peak Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

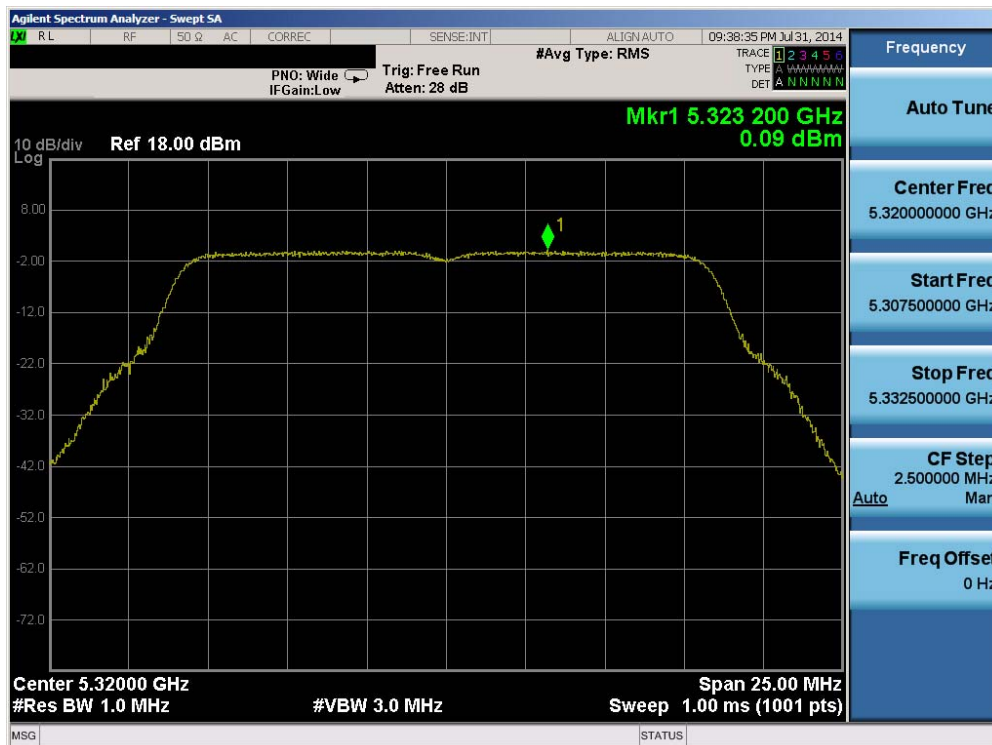


Plot 6-106. Peak Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 77 of 182

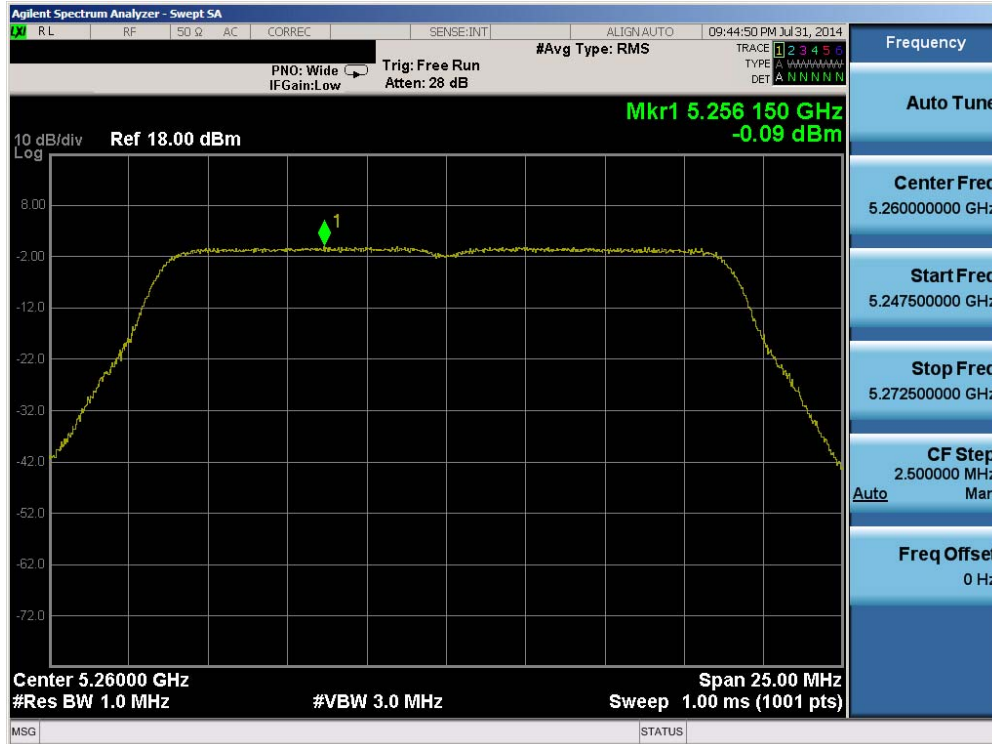


Plot 6-107. Peak Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)

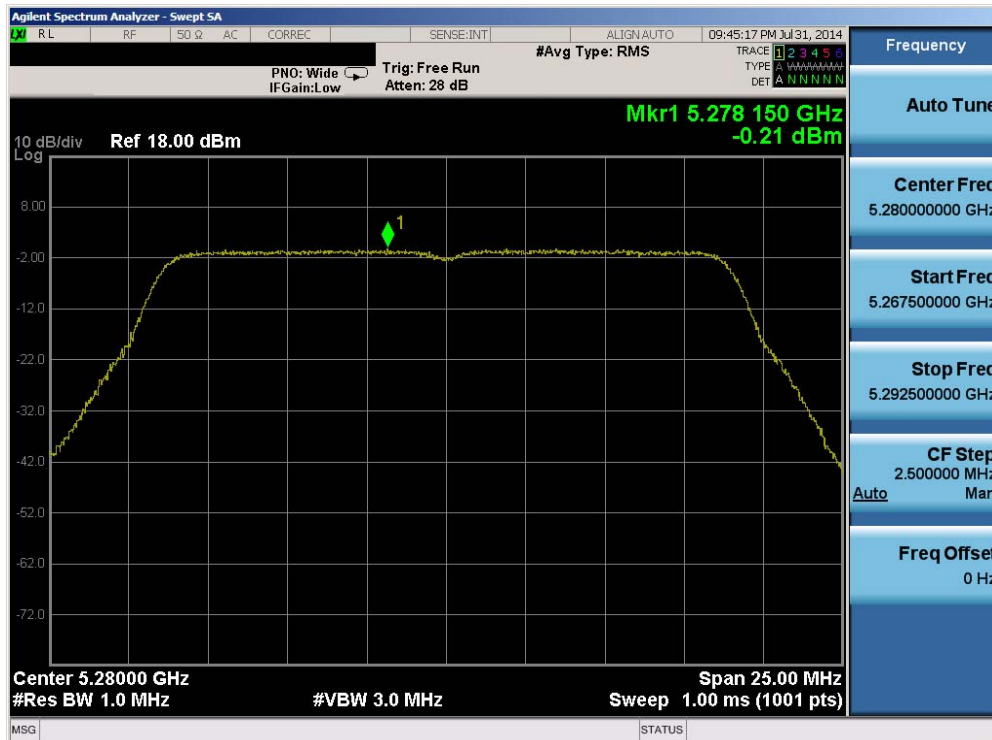


Plot 6-108. Peak Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 78 of 182

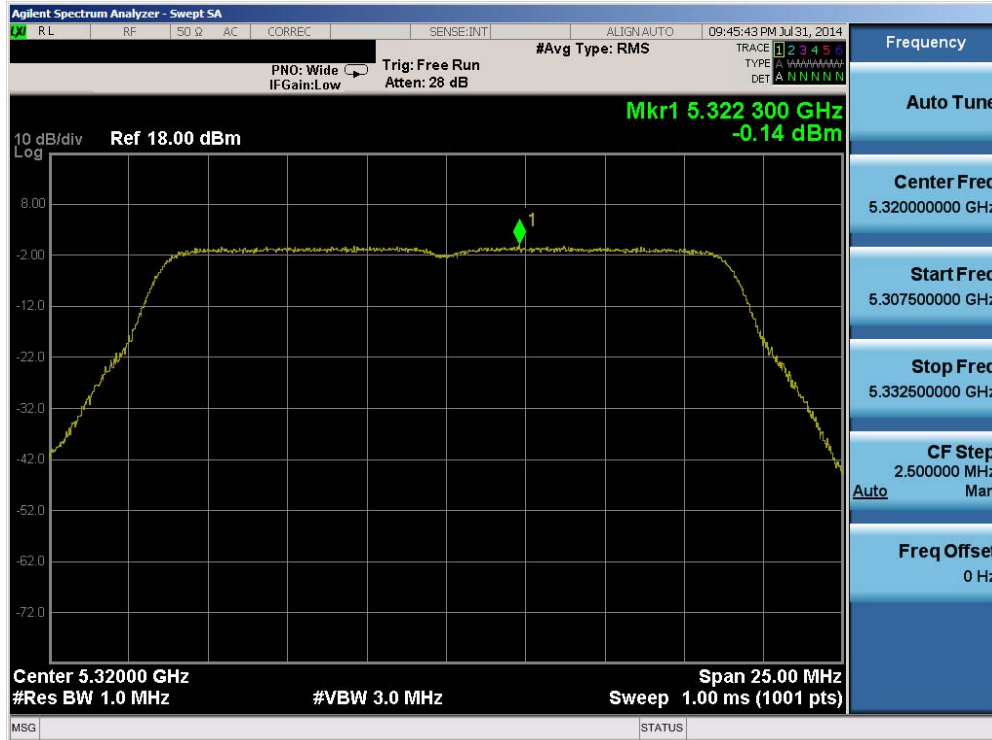


Plot 6-109. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

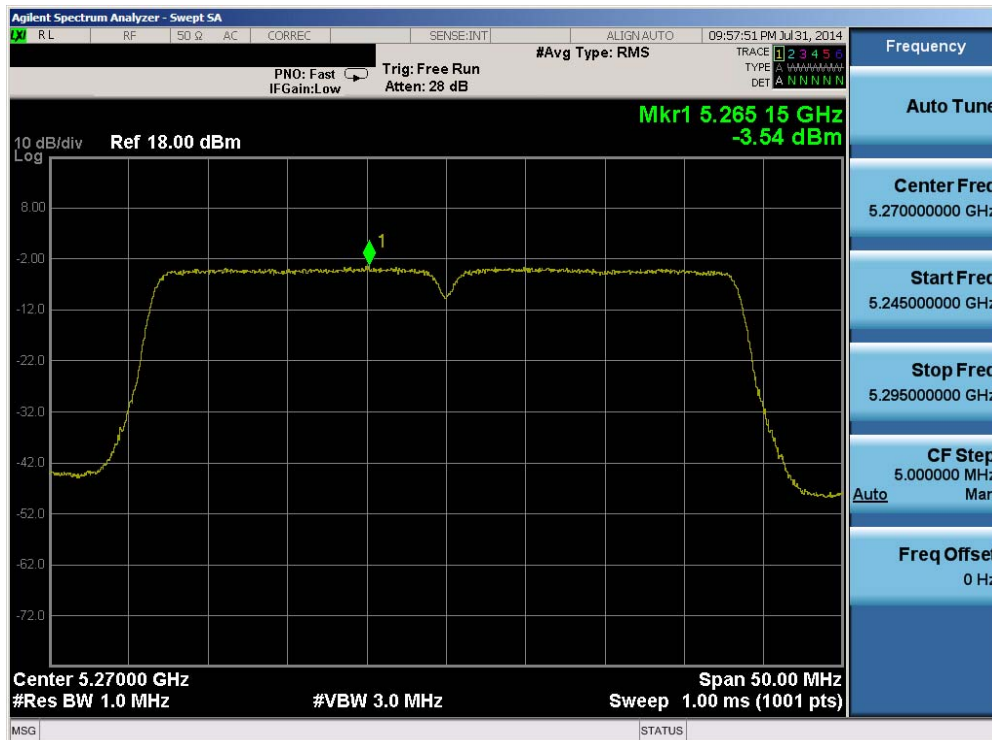


Plot 6-110. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMN910V	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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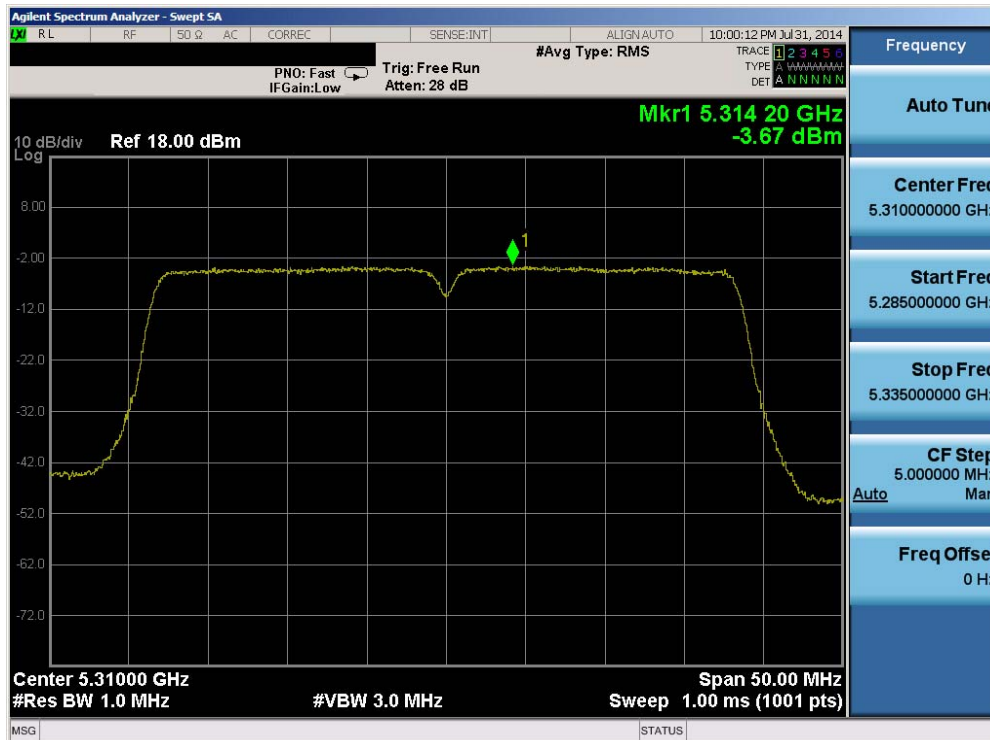


Plot 6-111. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

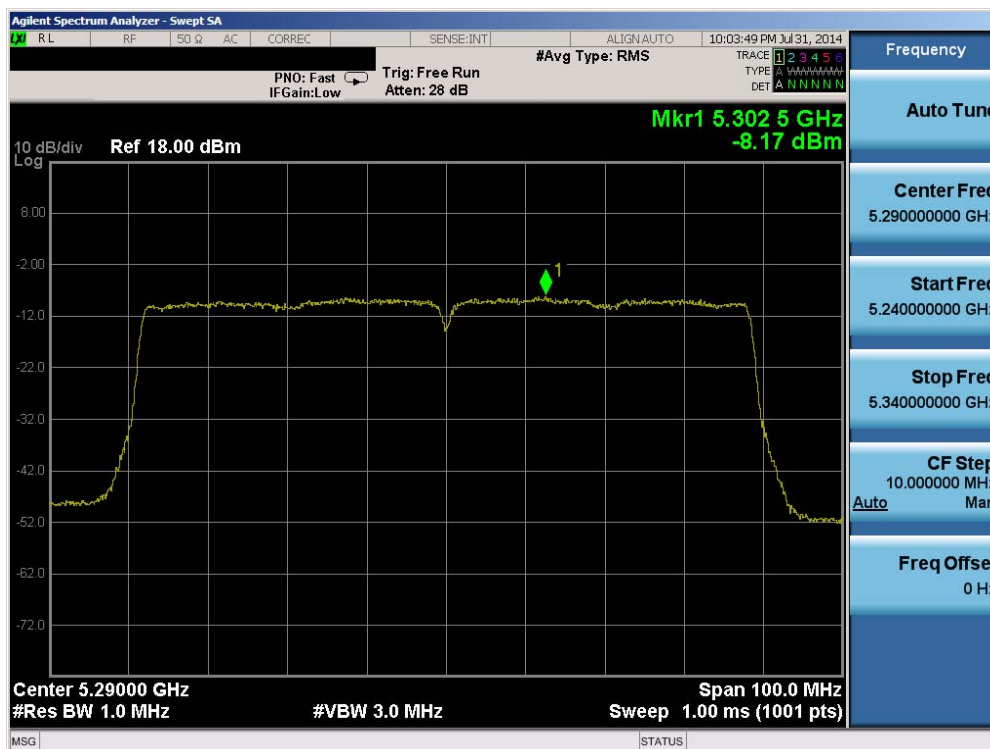


Plot 6-112. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 80 of 182

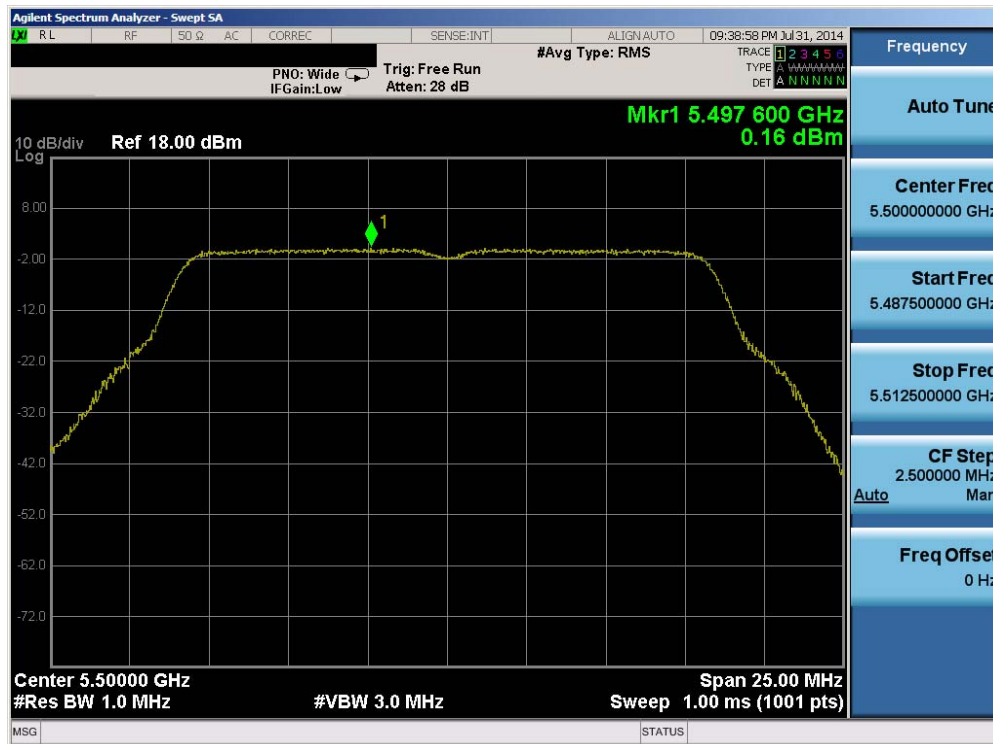


Plot 6-113. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)



Plot 6-114. Peak Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMN910V	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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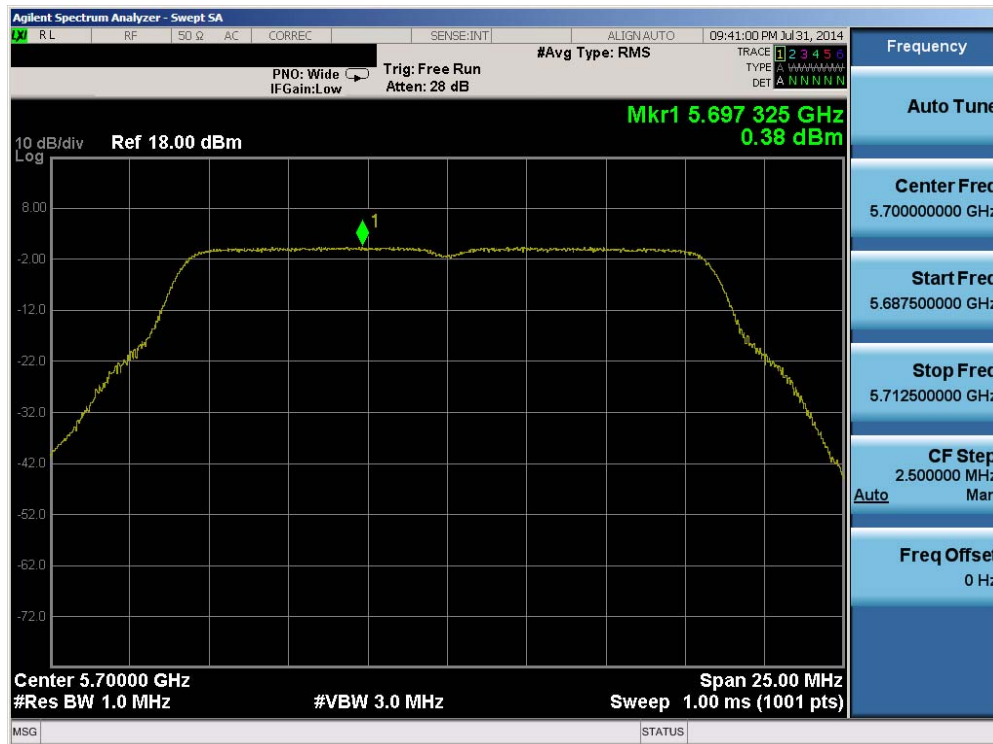


Plot 6-115. Peak Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)



Plot 6-116. Peak Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 116)

FCC ID: A3LSMN910V	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: 0Y1408011608-R1.A3L	Test Dates: 07/29-09/1/2014	EUT Type: Portable Handset		Page 82 of 182

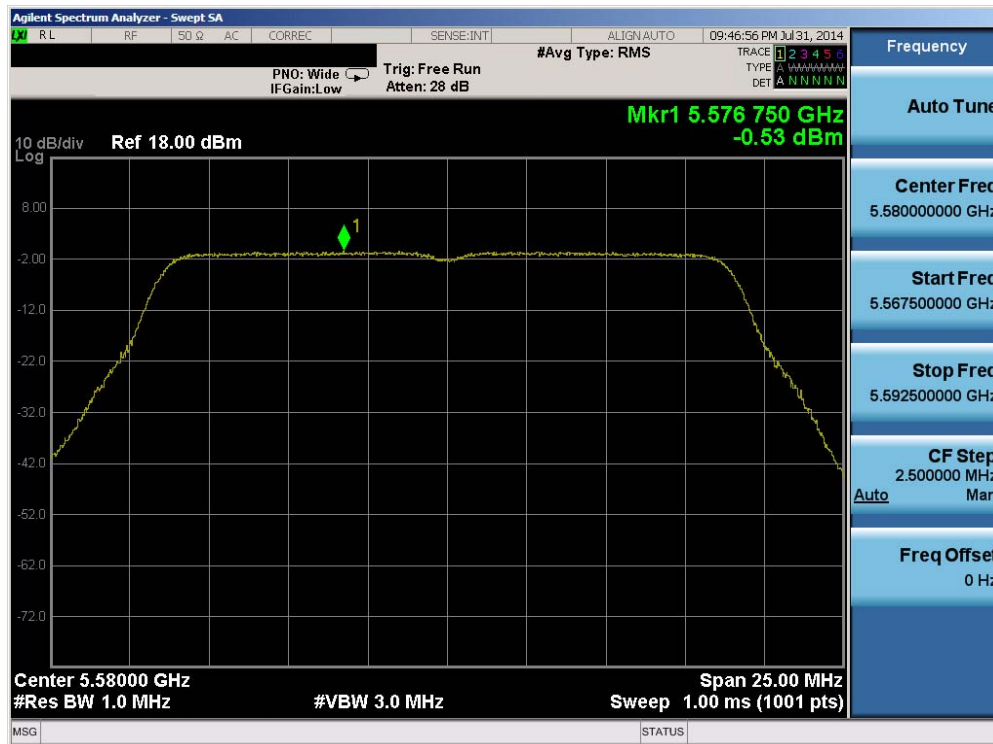


Plot 6-117. Peak Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 140)

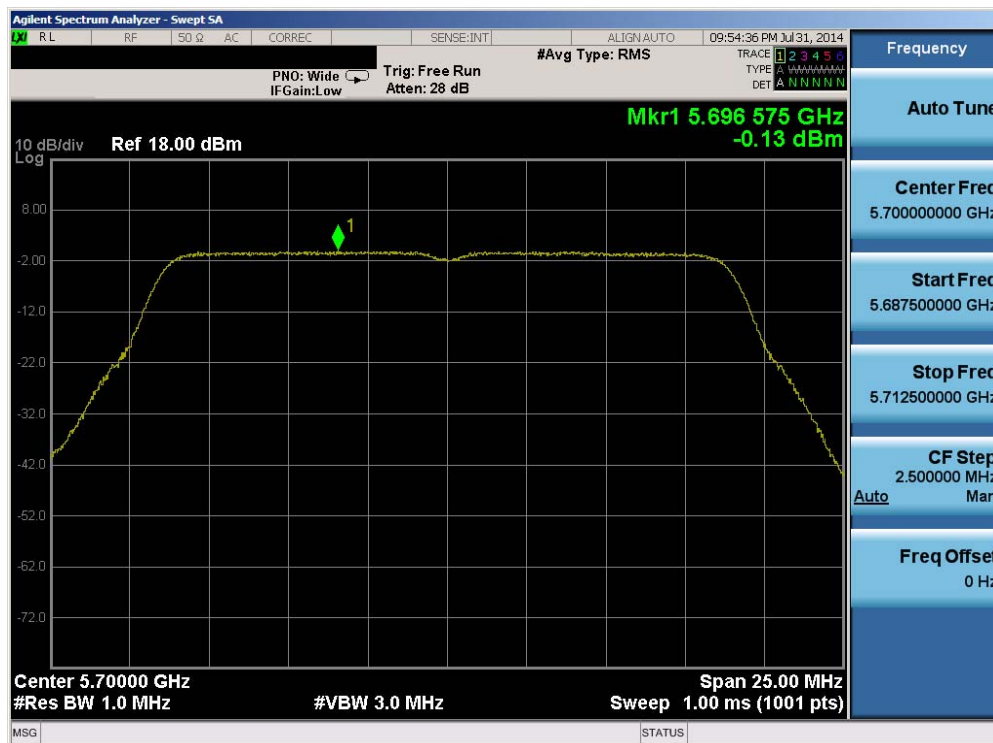


Plot 6-118. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMN910V	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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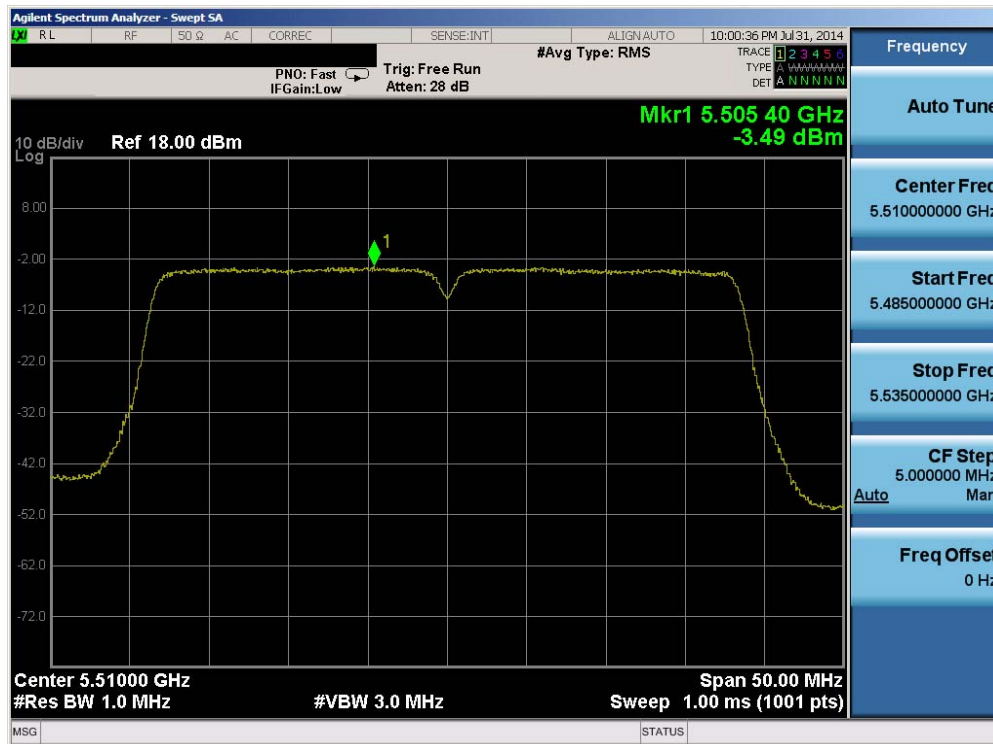


Plot 6-119. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 116)

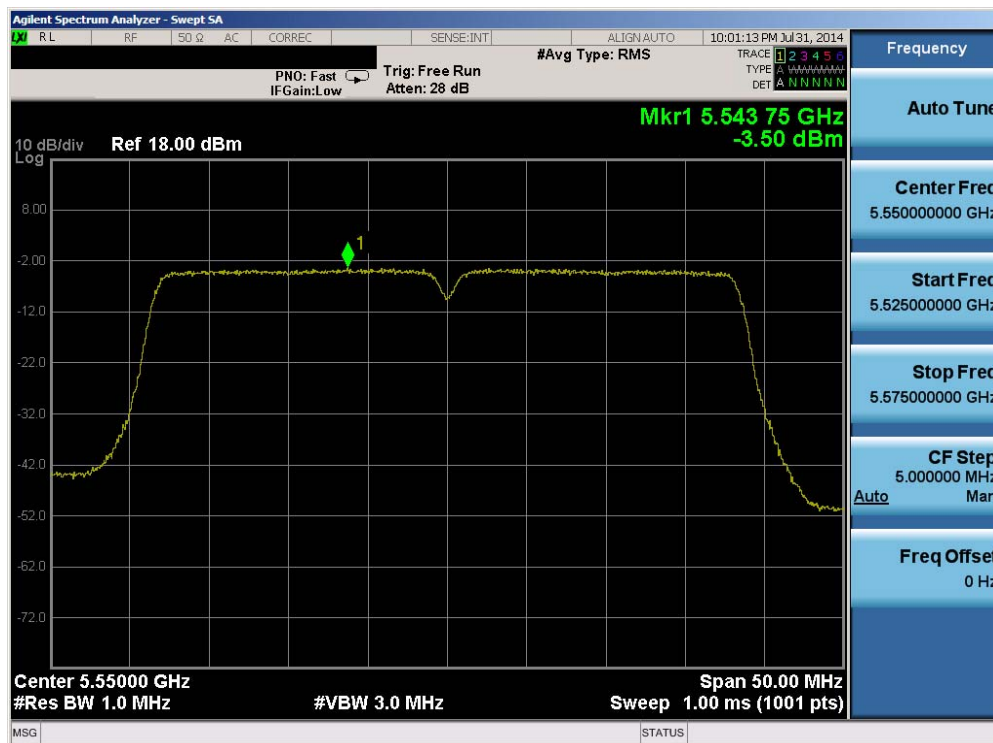


Plot 6-120. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 140)

FCC ID: A3LSMN910V	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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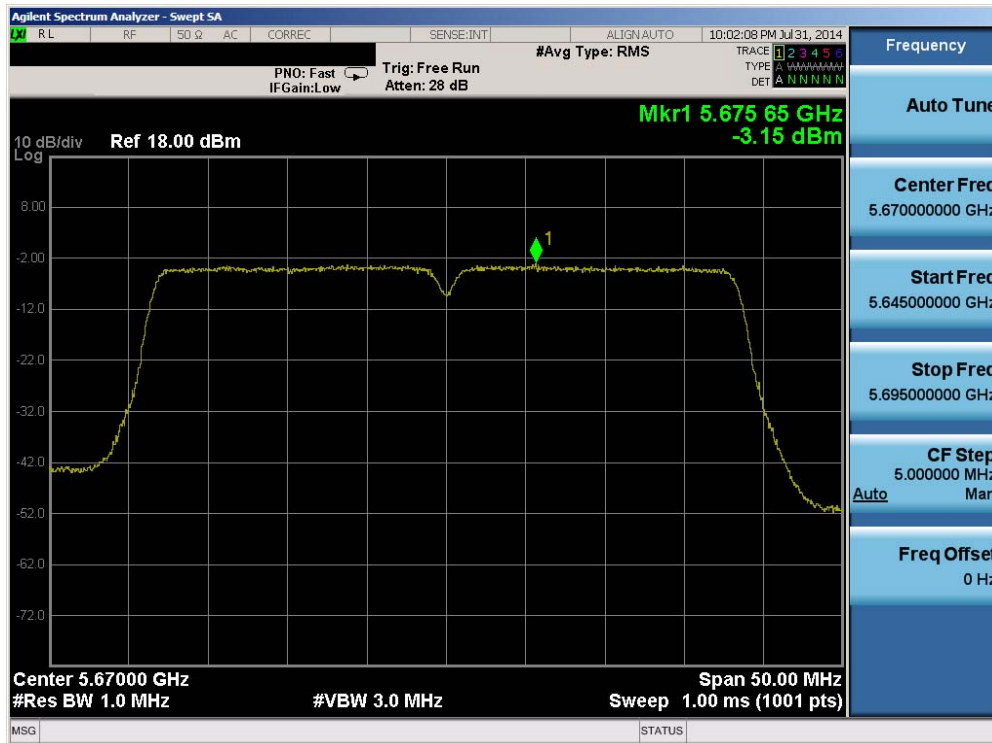


Plot 6-121. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)



Plot 6-122. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 110)

FCC ID: A3LSMN910V	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 6-123. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 134)



Plot 6-124. Peak Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMN910V	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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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)	0.33	-0.17	3.10	4.0	-0.90	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	0.16	-0.10	3.04	4.0	-0.96	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	0.22	0.08	3.16	4.0	-0.84	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-3.46	-3.48	-0.46	4.0	-4.46	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-3.50	-3.02	-0.24	4.0	-4.24	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-8.06	-7.94	-4.99	4.0	-8.99	Pass
Band 2A	5260	52	n (20MHz)	6.5/7.2 (MCS0)	0.54	-0.09	3.25	11.0	-7.75	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	0.52	-0.21	3.18	11.0	-7.82	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	0.52	-0.14	3.21	11.0	-7.79	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-3.31	-3.54	-0.41	11.0	-11.41	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-3.30	-3.67	-0.47	11.0	-11.47	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-7.87	-8.17	-5.01	11.0	-16.01	Pass
Band 2C	5500	100	n (20MHz)	6.5/7.2 (MCS0)	1.57	-0.31	3.74	11.0	-7.26	Pass
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	1.60	-0.53	3.67	11.0	-7.33	Pass
	5700	140	n (20MHz)	6.5/7.2 (MCS0)	1.58	-0.13	3.81	11.0	-7.19	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-2.34	-3.49	0.13	11.0	-10.87	Pass
	5550	110	n (40MHz)	13.5/15 (MCS0)	-2.49	-3.50	0.04	11.0	-10.96	Pass
	5670	134	n (40MHz)	13.5/15 (MCS0)	-2.32	-3.15	0.30	11.0	-10.70	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-6.91	-8.06	-4.44	11.0	-15.44	Pass

Table 6-20. 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 0.33 dBm for Antenna-1 and -0.17 dBm for Antenna-2.

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

$$(0.33 \text{ dBm} + -0.17 \text{ dBm}) = (1.08 \text{ mW} + 0.96 \text{ mW}) = 2.04 \text{ mW} = 3.10 \text{ dBm}$$

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