

6.4 Peak 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 v01r03, and at the appropriate frequencies. Method SA-1, as defined in KDB 789033 v01r03, 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 and the 5.47 – 5.725GHz bands, the maximum permissible power spectral density is 11dBm/MHz.

Test Procedure Used

KDB 789033 v01r03 – Section F

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 $\geq 2 \times (\text{span/RBW})$
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.

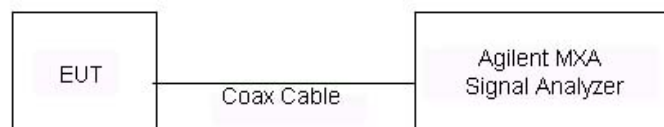


Figure 6-3. Test Instrument & Measurement Setup

Test Notes

None

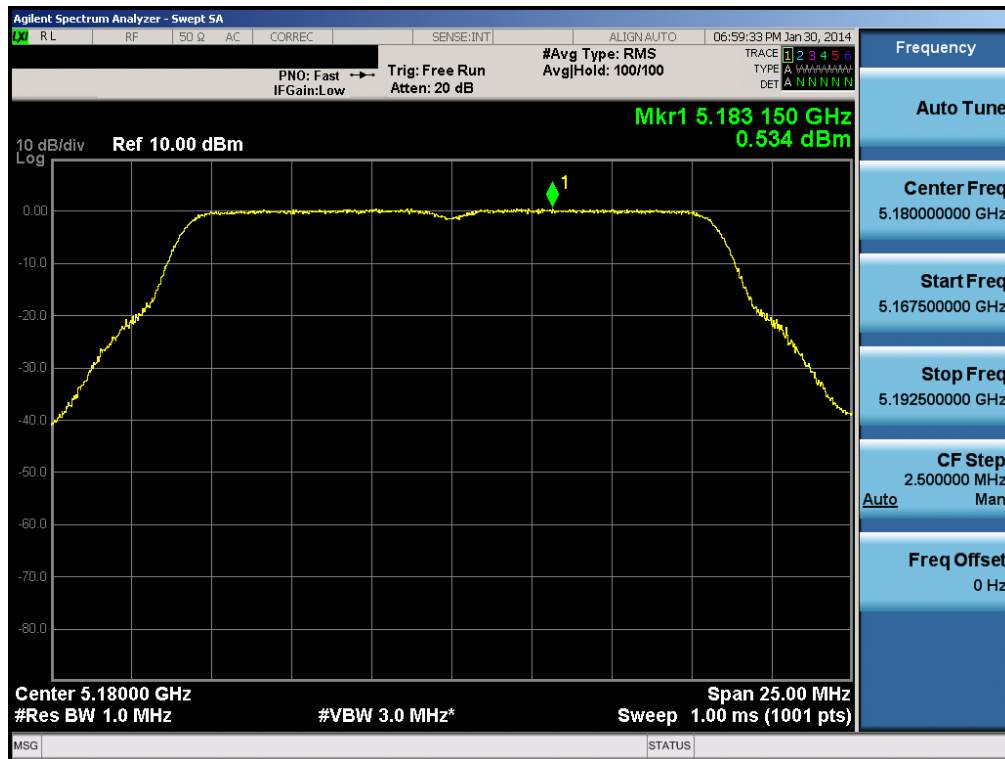
FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset	Page 55 of 206	

Antenna-1 Peak Power Spectral Density – 802.11a/n/ac

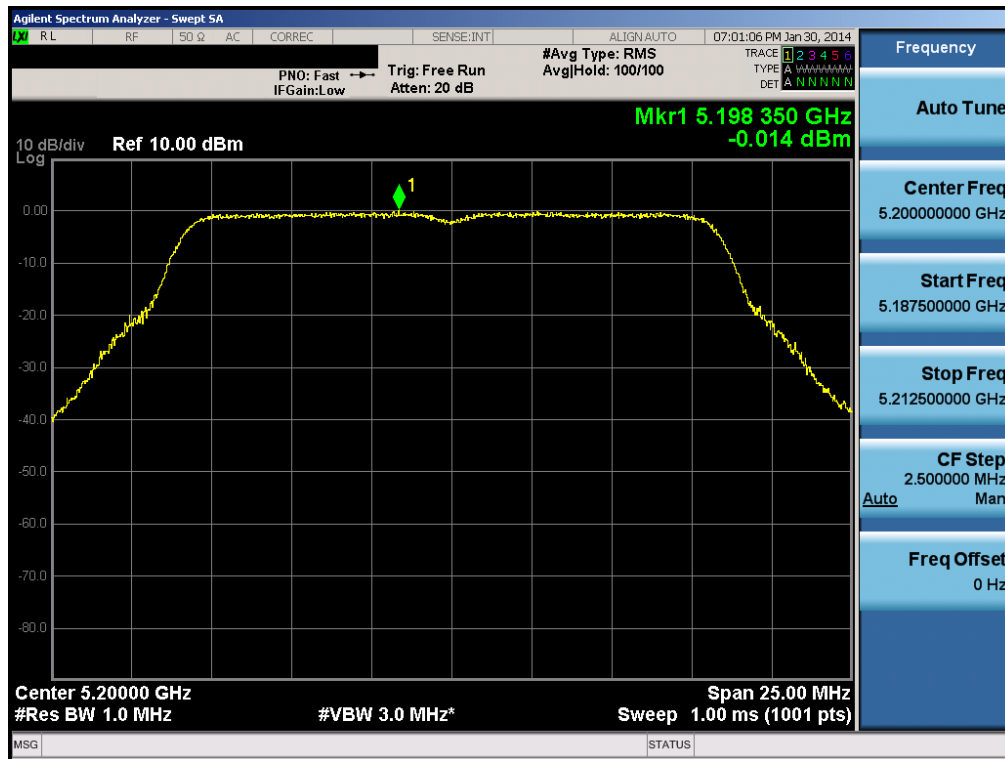
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6	0.53	4.0	-3.47	Pass
	5200	40	a	6	-0.01	4.0	-4.01	Pass
	5240	48	a	6	-0.01	4.0	-4.01	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	-0.72	4.0	-4.72	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	-0.25	4.0	-4.25	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	-0.87	4.0	-4.87	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-2.35	4.0	-6.35	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-2.45	4.0	-6.45	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-6.83	4.0	-10.83	Pass
Band 2A	5260	52	a	6	1.74	11.0	-9.26	Pass
	5280	56	a	6	1.71	11.0	-9.29	Pass
	5320	64	a	6	1.80	11.0	-9.20	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	0.93	11.0	-10.08	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	1.19	11.0	-9.81	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	1.09	11.0	-9.91	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-2.42	11.0	-13.42	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-2.33	11.0	-13.33	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-6.53	11.0	-17.53	Pass
Band 2C	5500	100	a	6	2.45	11.0	-8.55	Pass
	5580	116	a	6	2.47	11.0	-8.53	Pass
	5700	140	a	6	2.29	11.0	-8.71	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	1.90	11.0	-9.10	Pass
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	2.06	11.0	-8.94	Pass
	5700	140	n (20MHz)	6.5/7.2 (MCS0)	2.12	11.0	-8.88	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-2.61	11.0	-13.61	Pass
	5550	110	n (40MHz)	13.5/15 (MCS0)	-2.58	11.0	-13.58	Pass
	5670	134	n (40MHz)	13.5/15 (MCS0)	-2.58	11.0	-13.58	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-6.37	11.0	-17.37	Pass

Table 6-23. Conducted Power Spectral Density Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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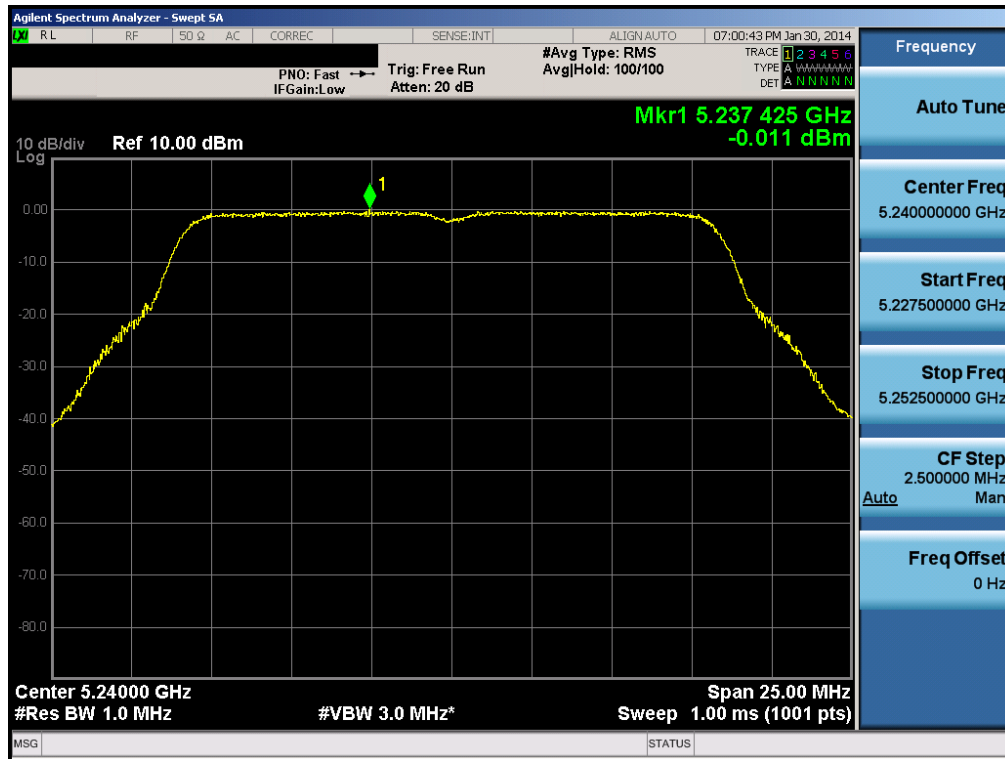


Plot 6-69. Peak Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)

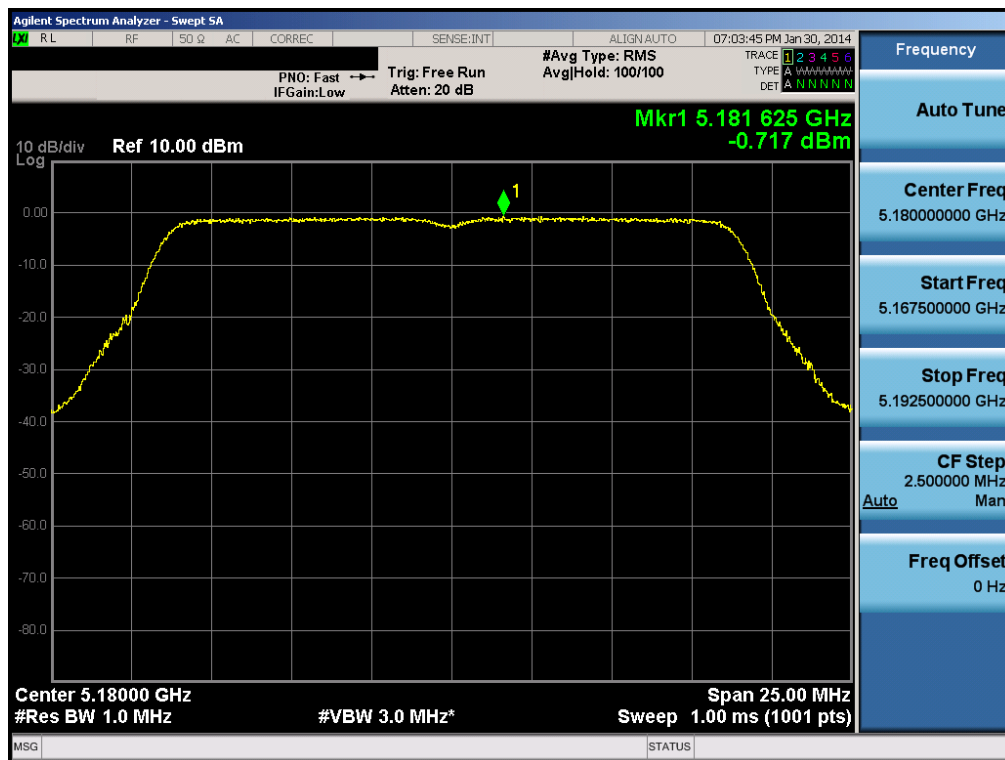


Plot 6-70. Peak Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 40)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 57 of 206

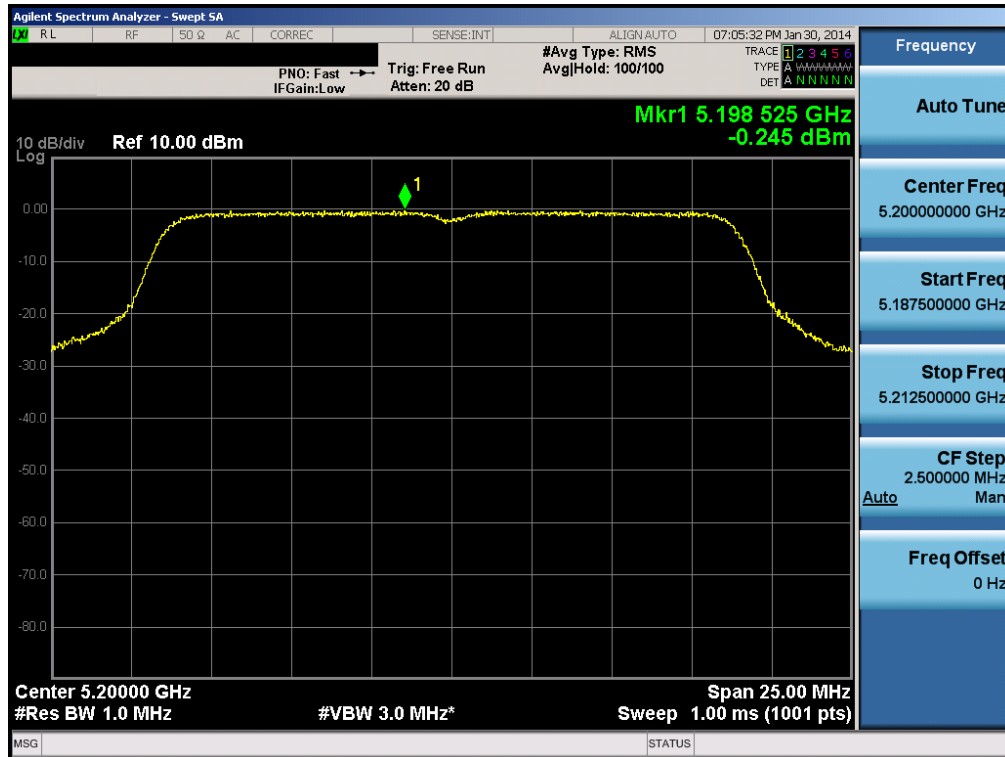


Plot 6-71. Peak Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)

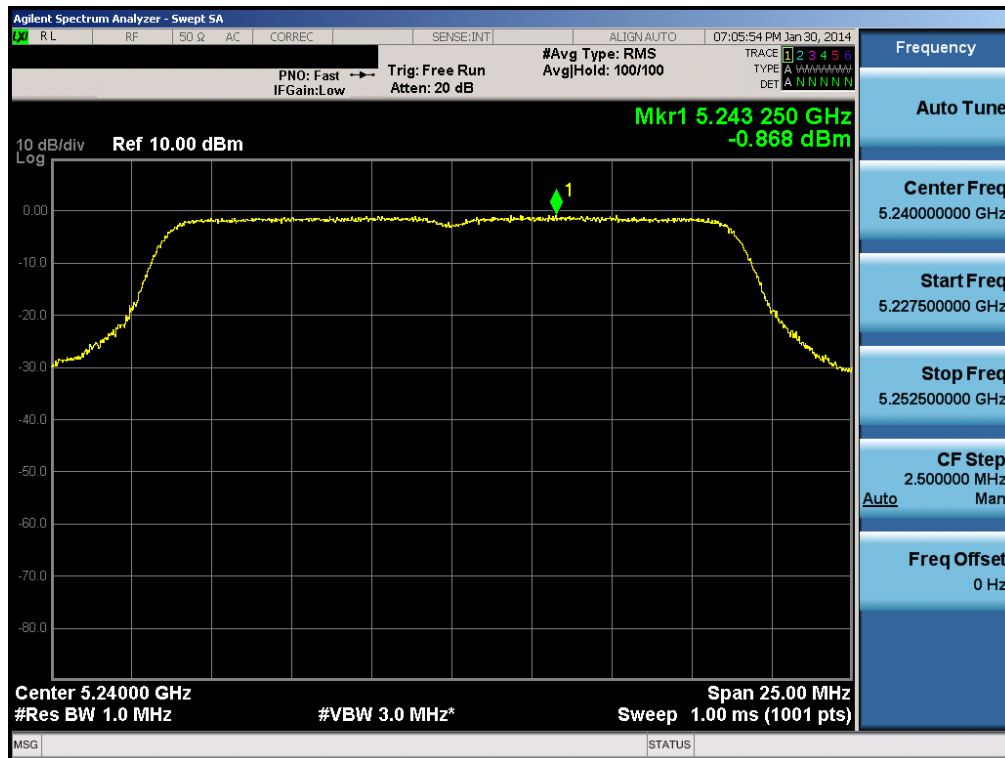


Plot 6-72. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 58 of 206

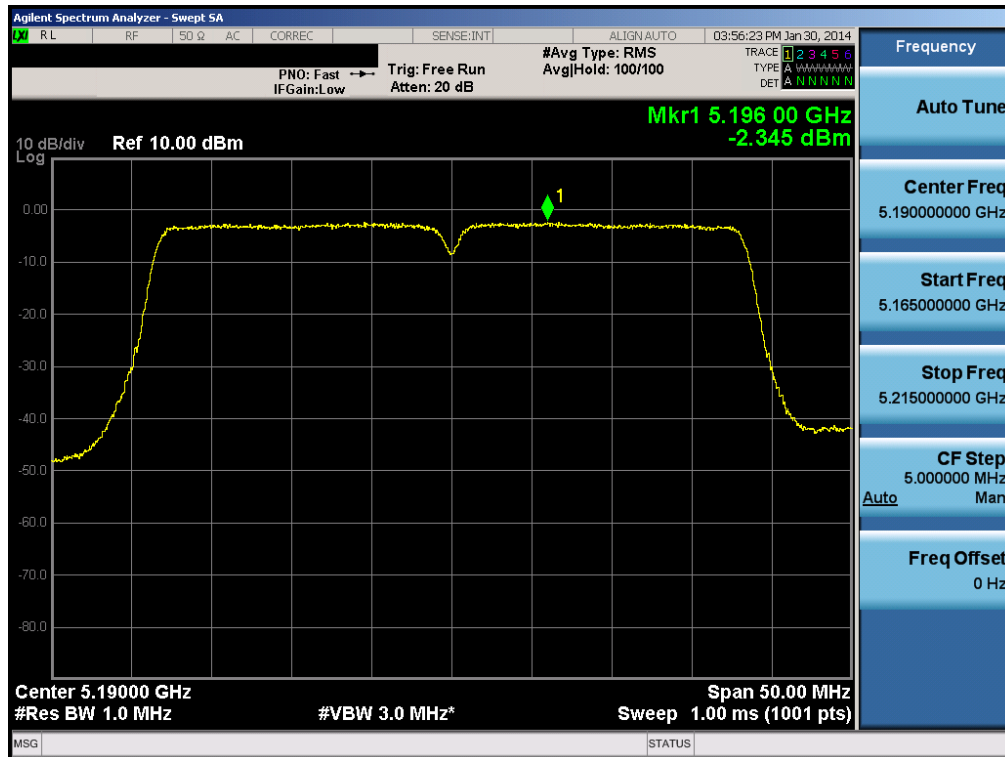


Plot 6-73. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

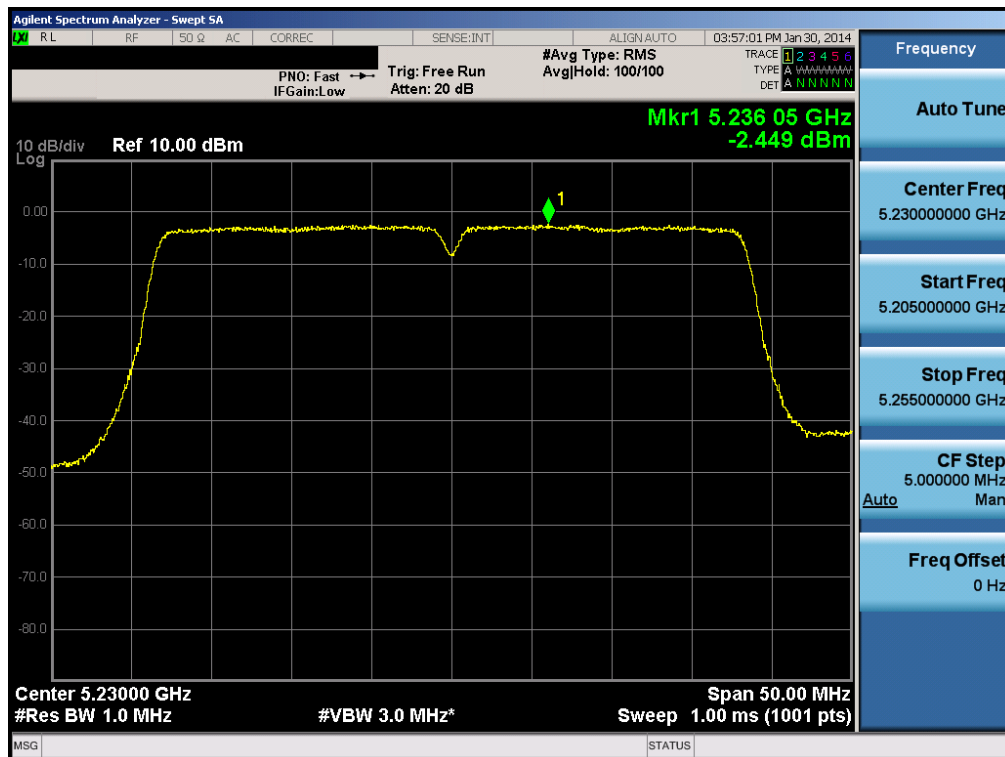


Plot 6-74. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 59 of 206

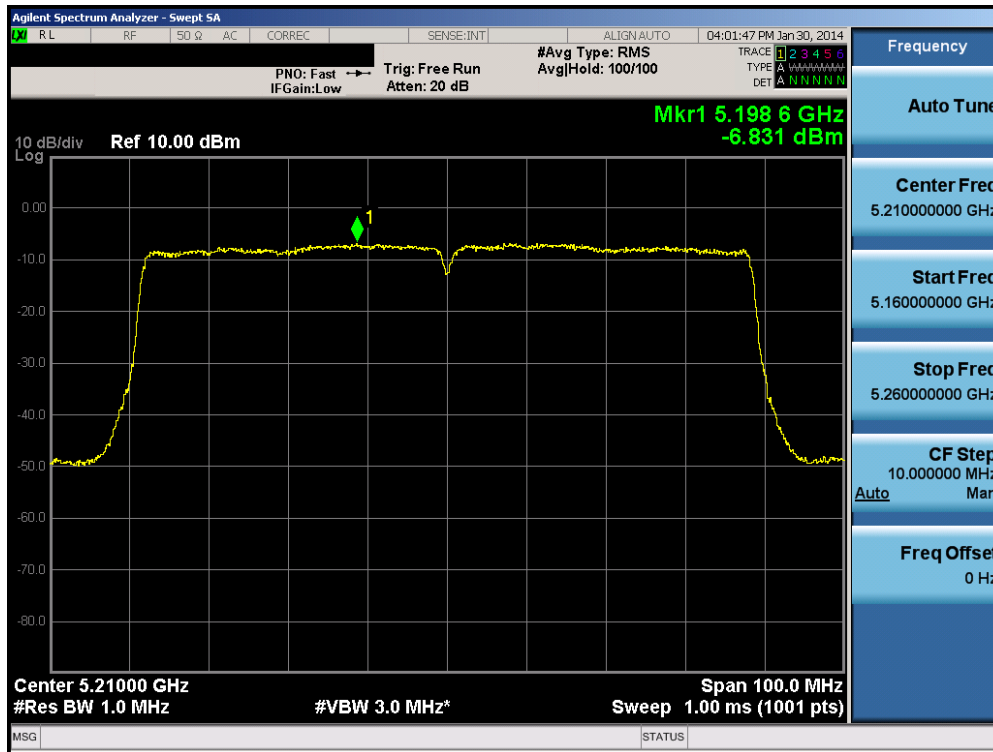


Plot 6-75. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)

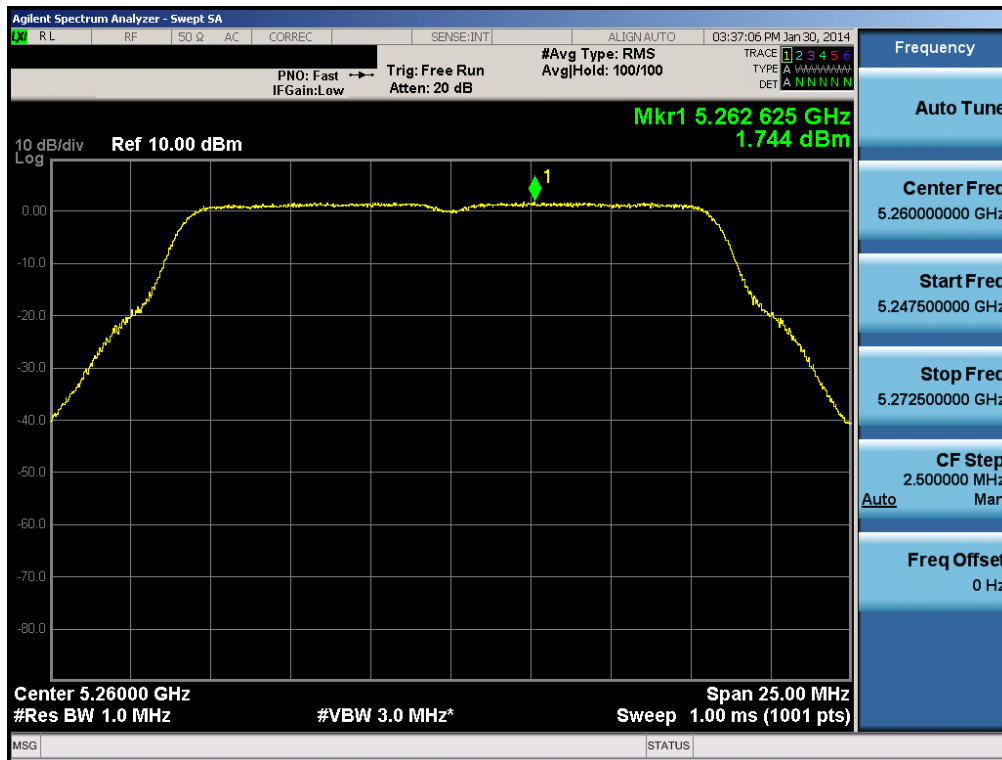


Plot 6-76. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 60 of 206

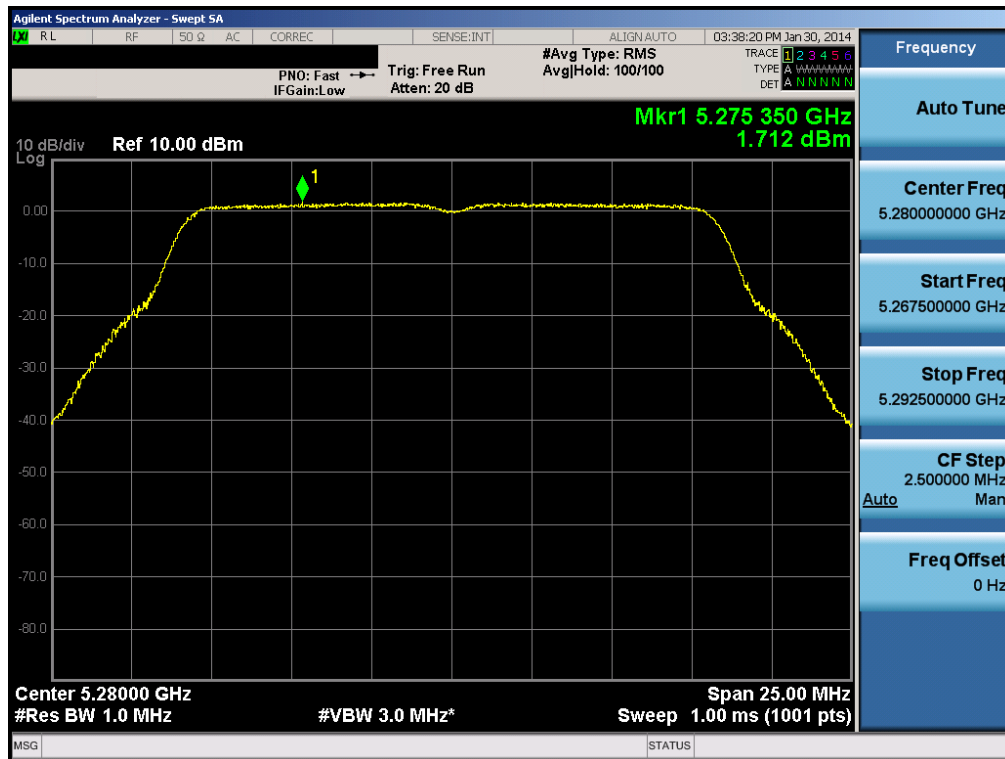


Plot 6-77. Peak Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

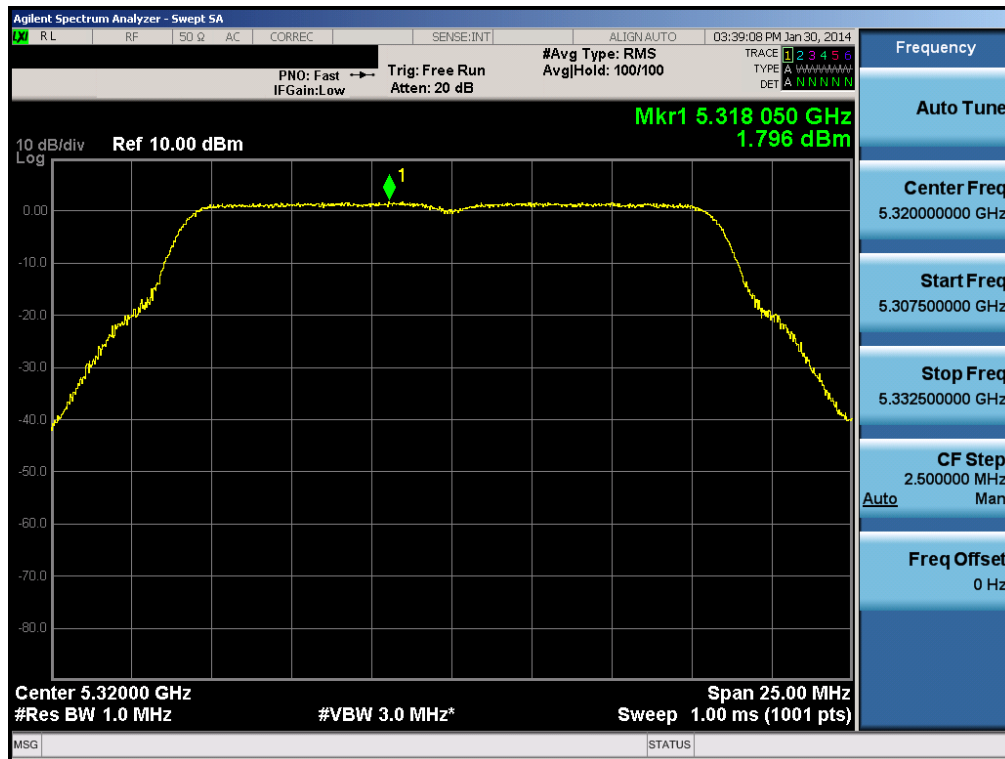


Plot 6-78. Peak Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 61 of 206

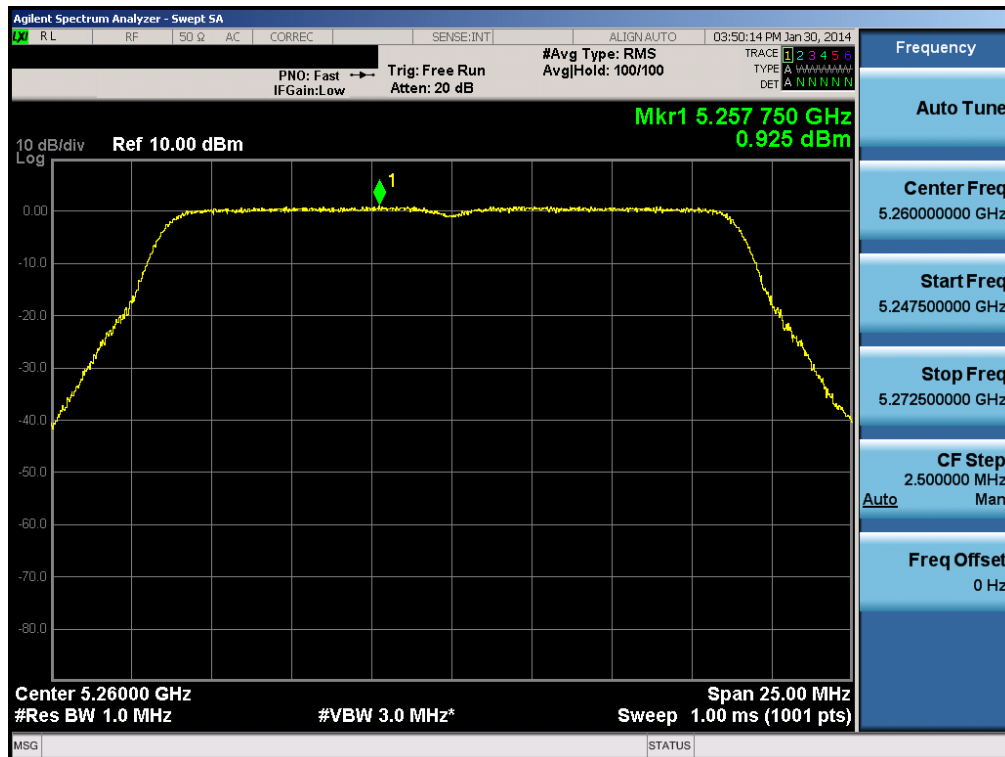


Plot 6-79. Peak Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)

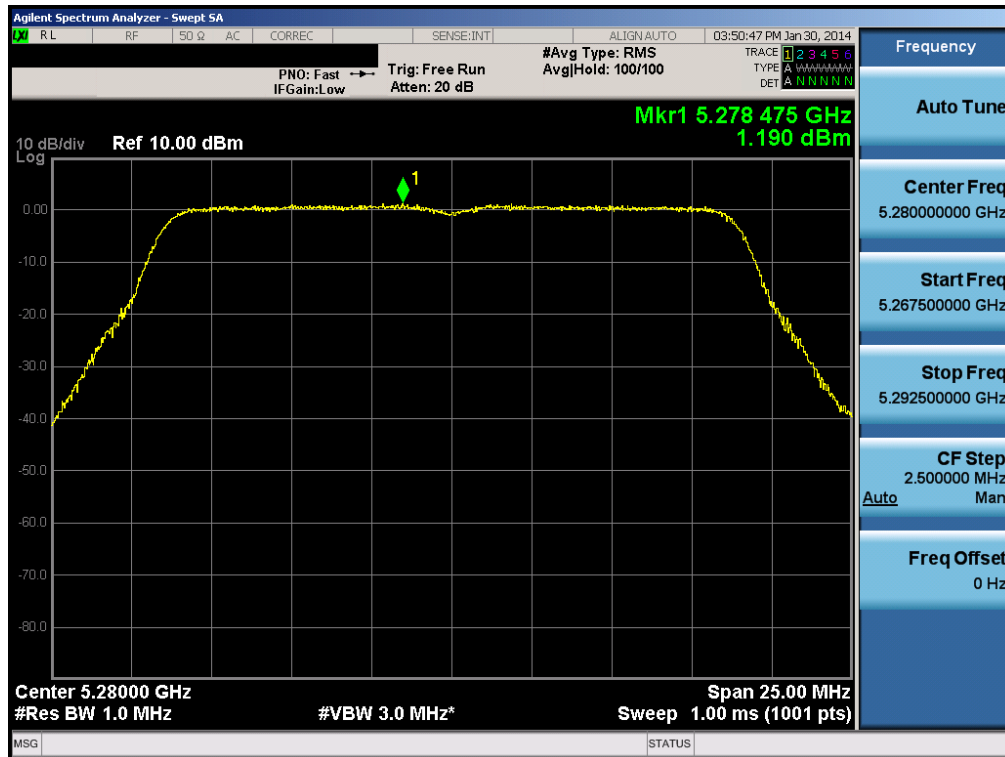


Plot 6-80. Peak Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 62 of 206

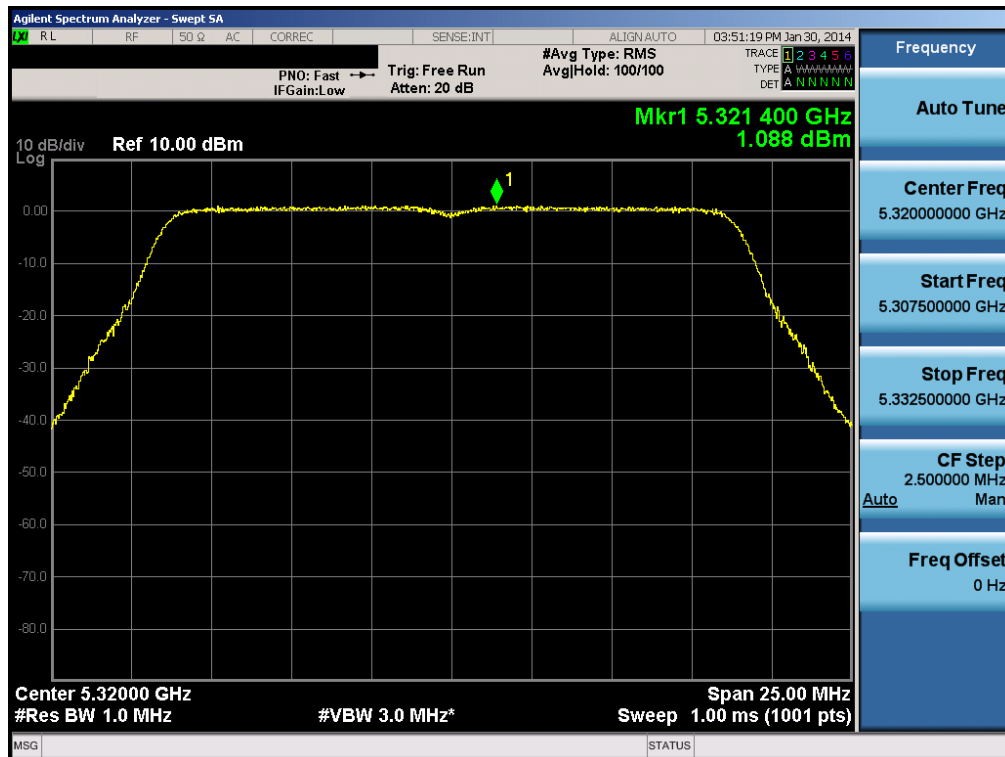


Plot 6-81. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

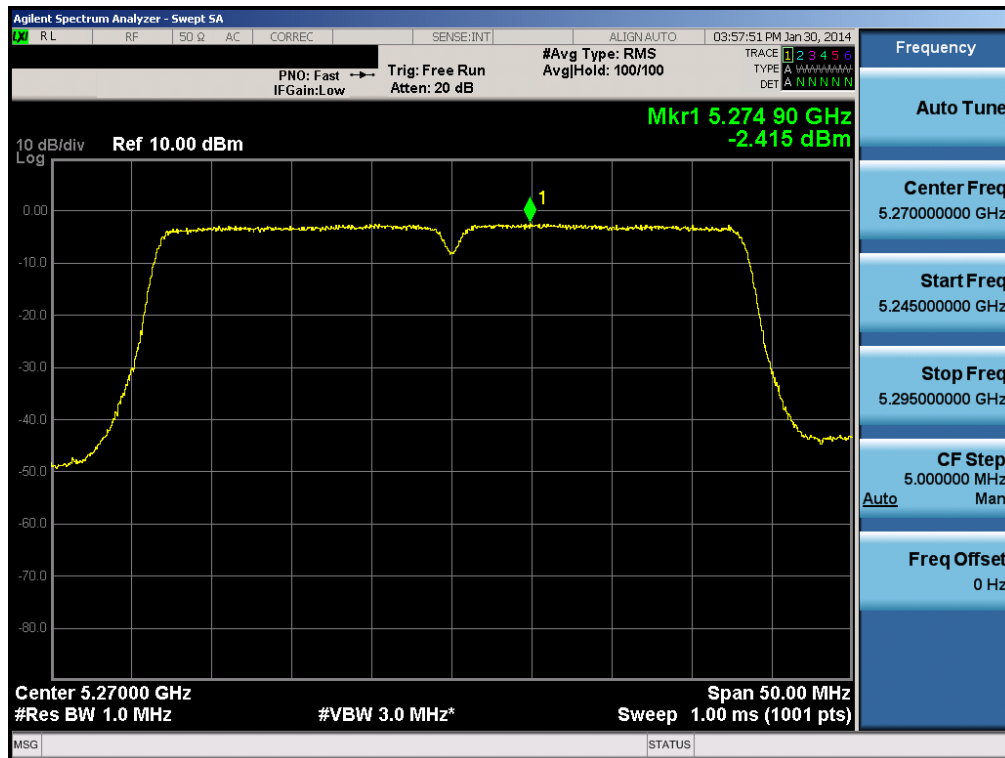


Plot 6-82. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 63 of 206

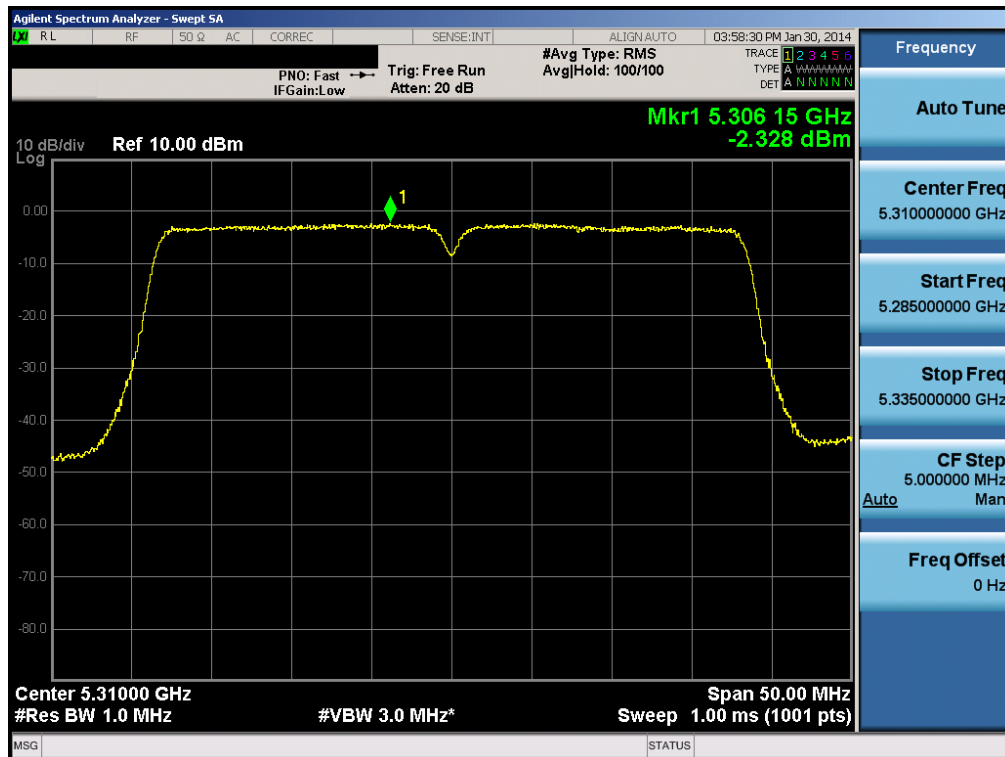


Plot 6-83. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

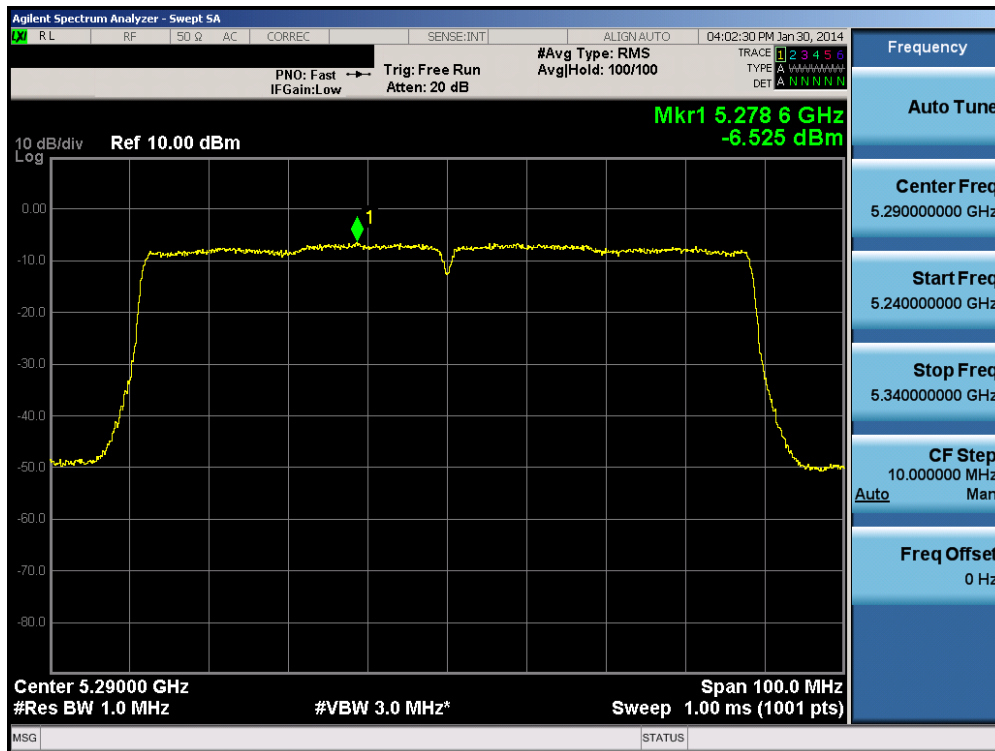


Plot 6-84. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 64 of 206

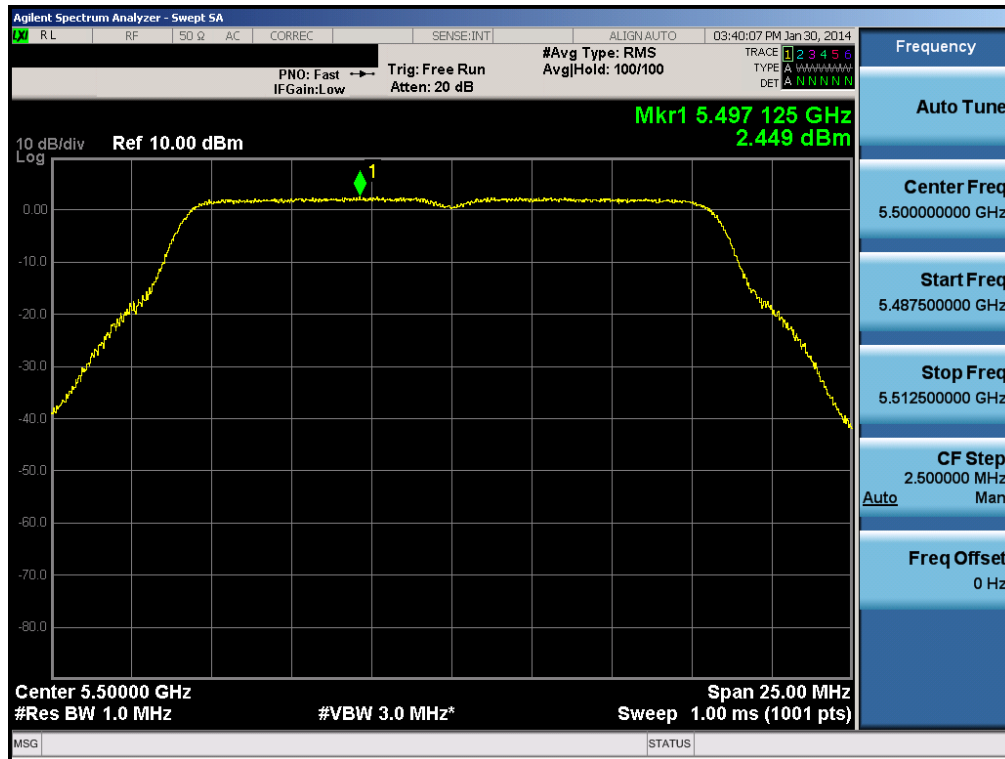


Plot 6-85. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

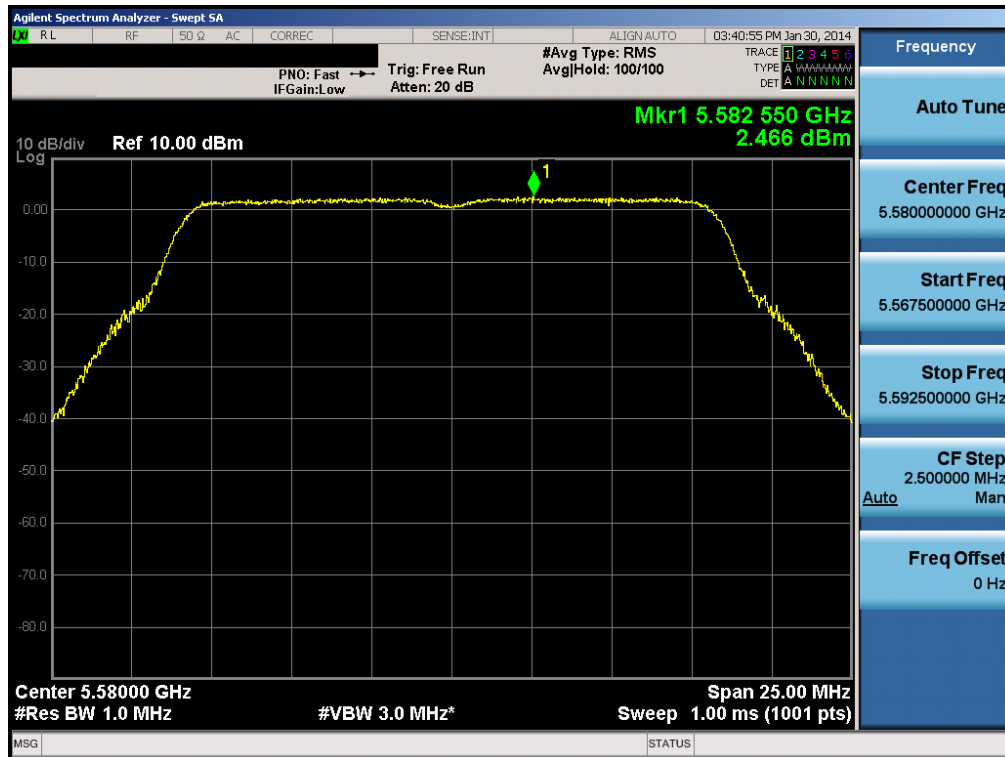


Plot 6-86. Peak Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 65 of 206

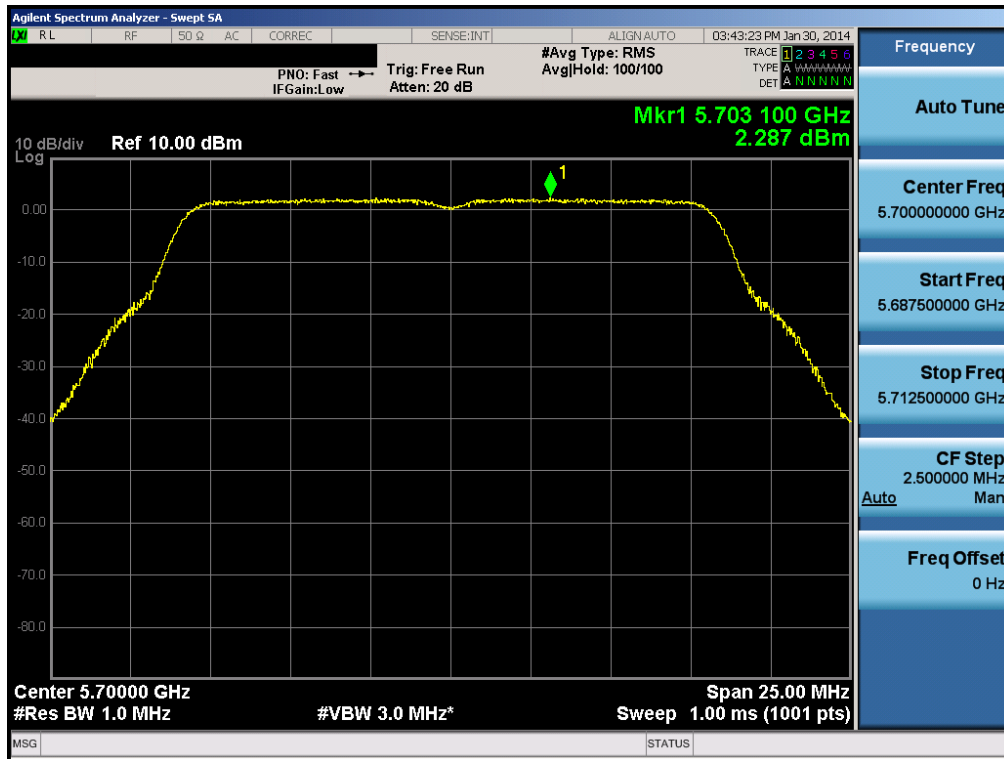


Plot 6-87. Peak Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)

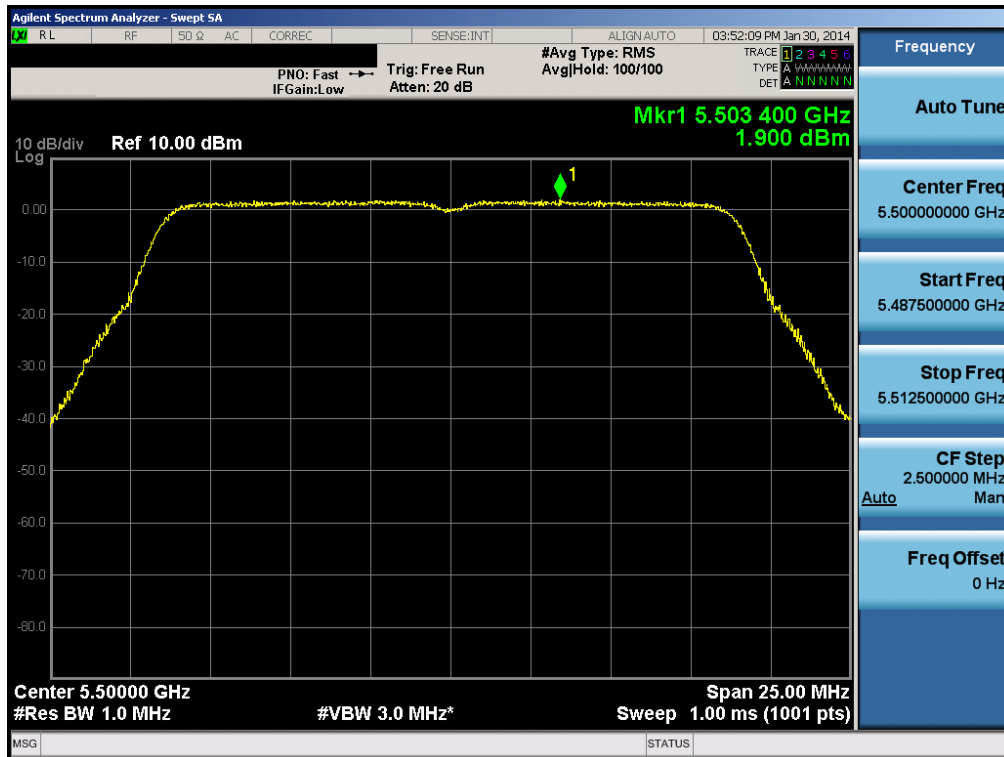


Plot 6-88. Peak Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 116)

FCC ID: A3LSMG900P	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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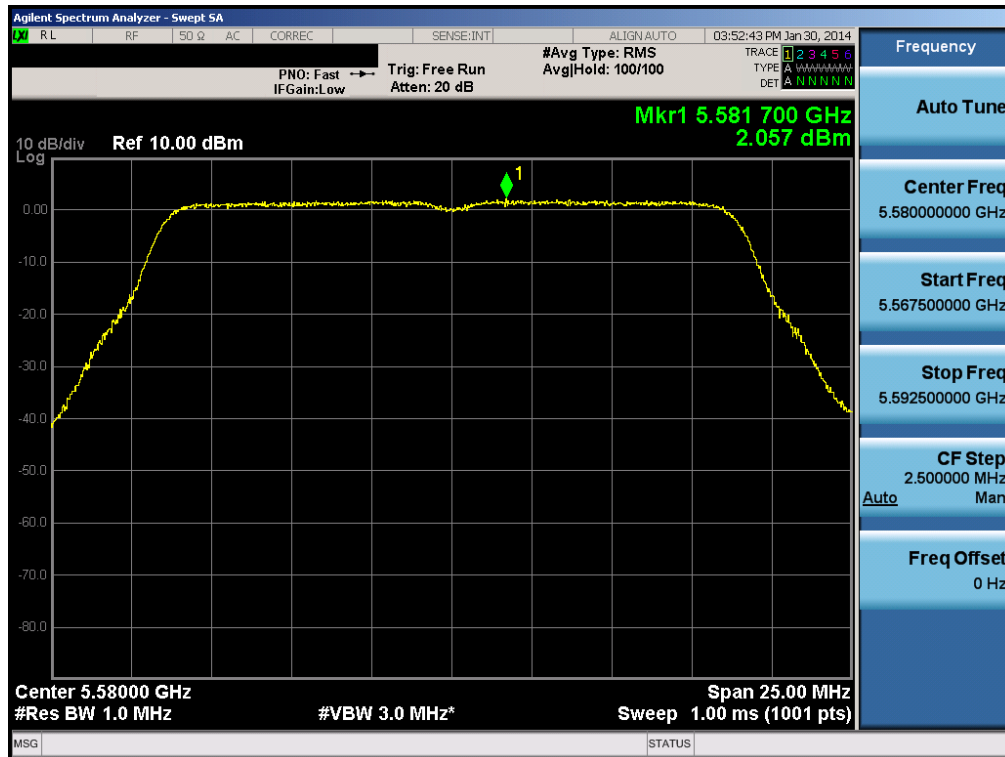


Plot 6-89. Peak Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 140)

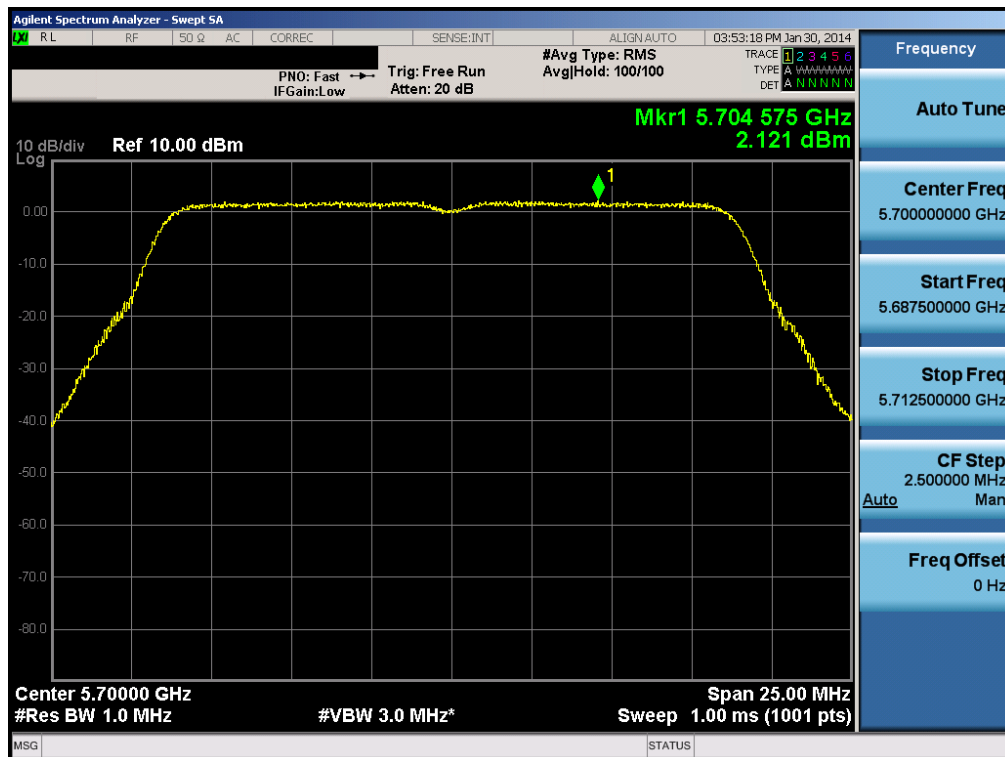


Plot 6-90. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 67 of 206

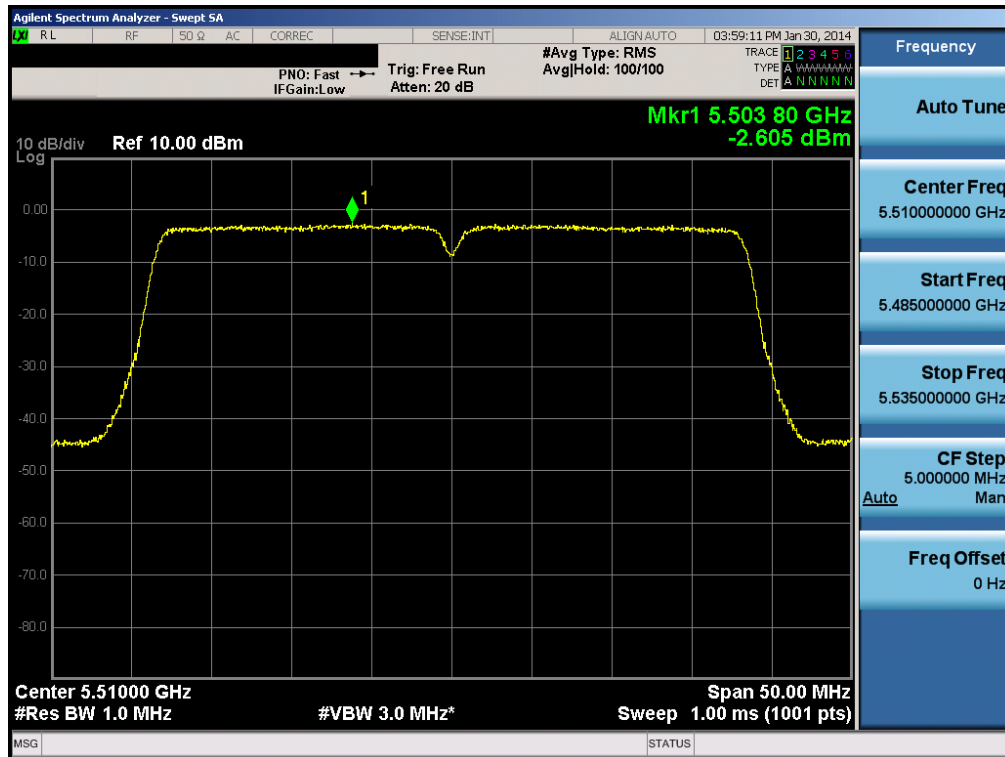


Plot 6-91. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 116)

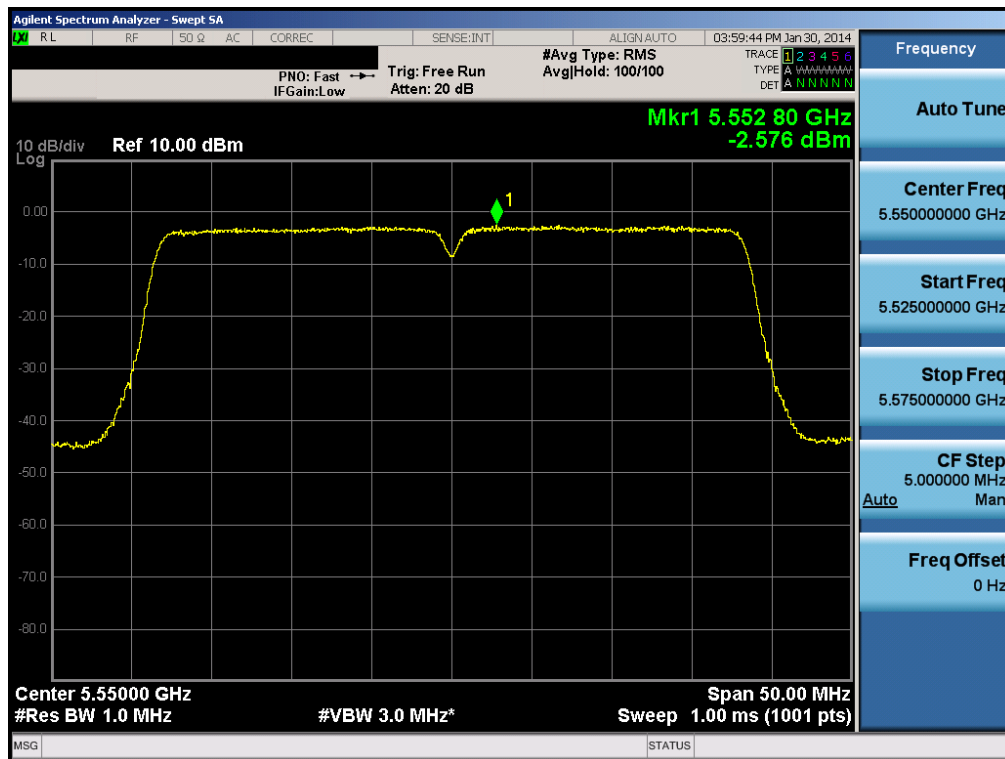


Plot 6-92. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 140)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 68 of 206

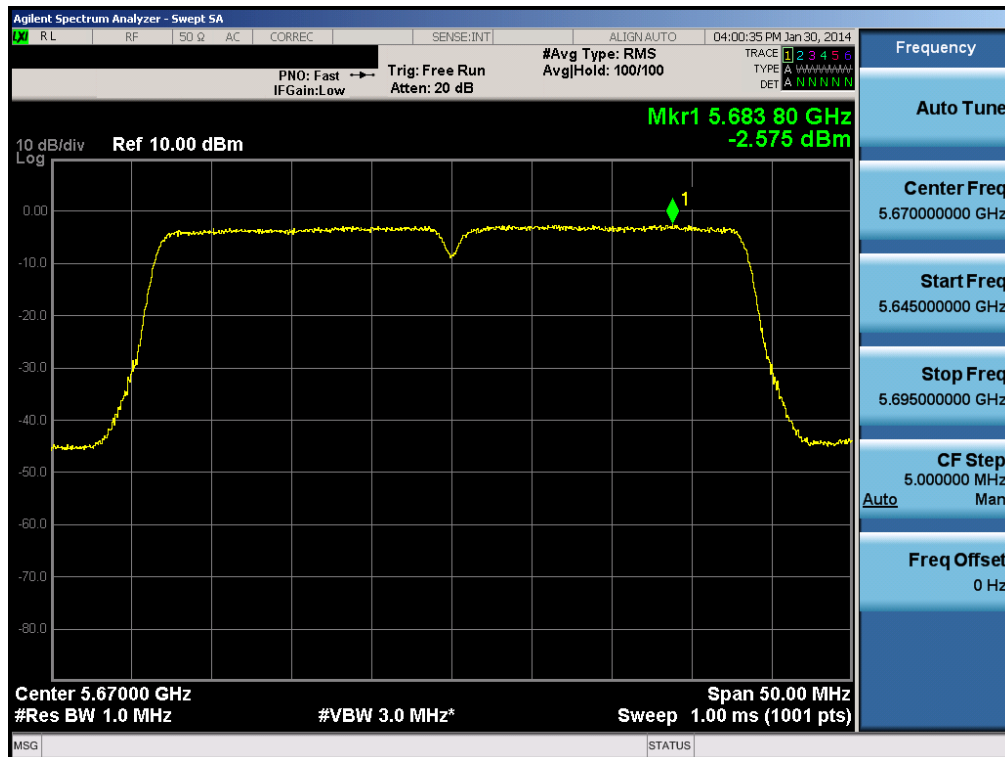


Plot 6-93. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

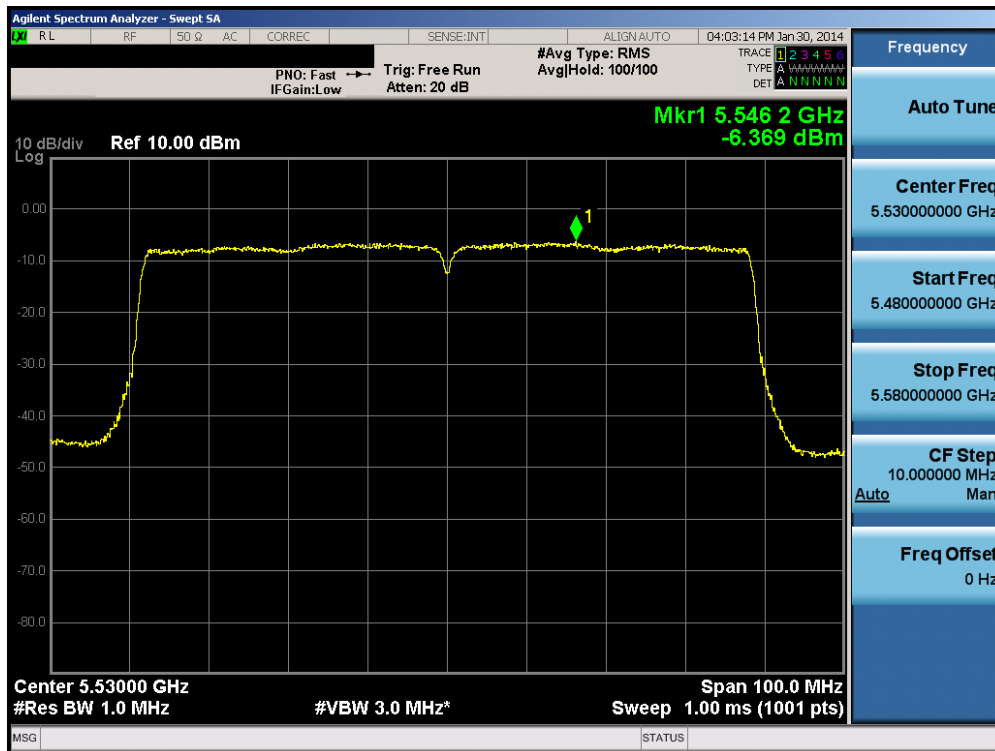


Plot 6-94. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 110)

FCC ID: A3LSMG900P	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 6-95. 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)

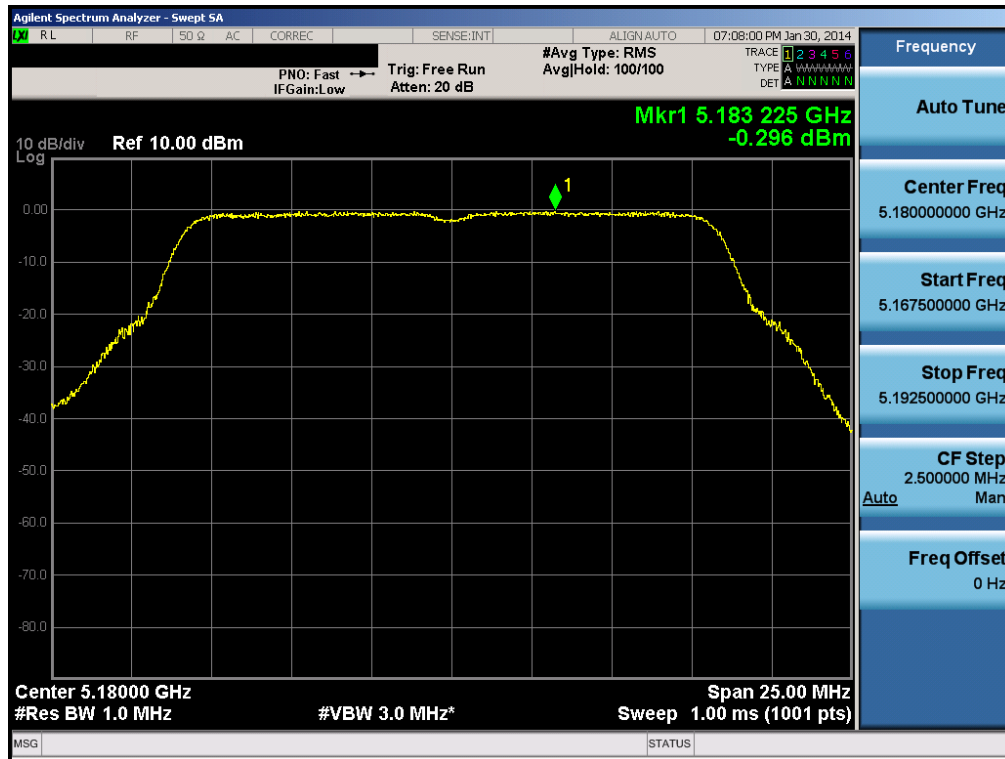
FCC ID: A3LSMG900P	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 70 of 206

Antenna-2 Peak Power Spectral Density – 802.11a/n/ac

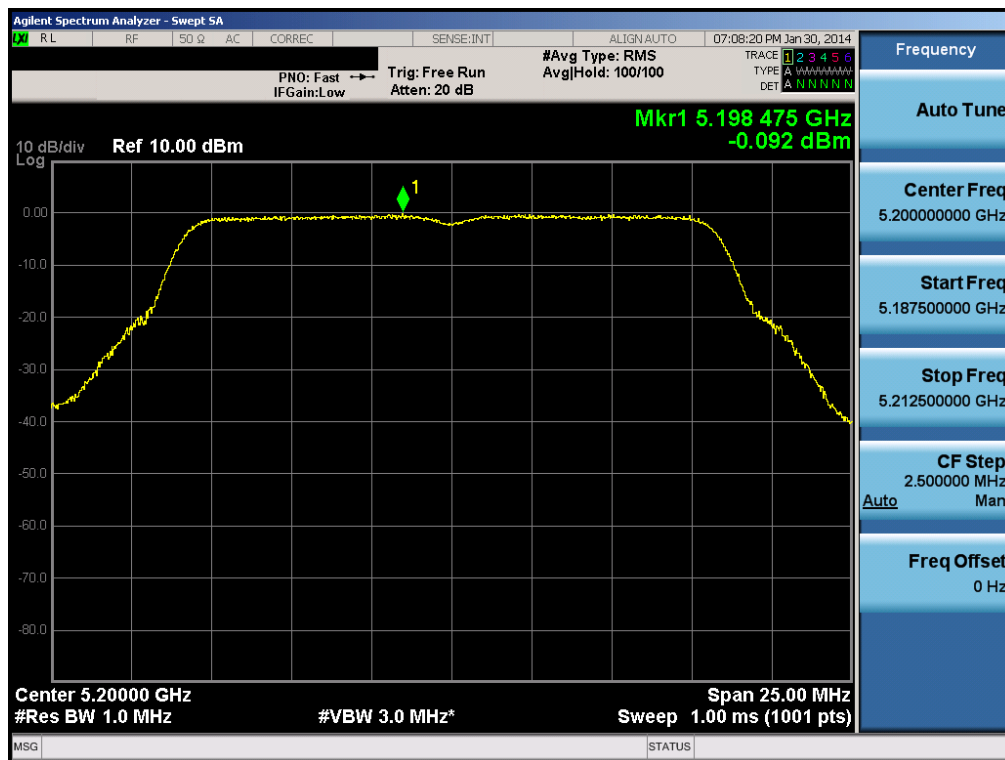
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6	-0.30	4.0	-4.30	Pass
	5200	40	a	6	-0.09	4.0	-4.09	Pass
	5240	48	a	6	-0.64	4.0	-4.64	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	-0.60	4.0	-4.60	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	-0.75	4.0	-4.75	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	-0.53	4.0	-4.53	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-2.23	4.0	-6.23	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-1.97	4.0	-5.97	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-6.40	4.0	-10.40	Pass
Band 2A	5260	52	a	6	2.05	11.0	-8.96	Pass
	5280	56	a	6	1.93	11.0	-9.07	Pass
	5320	64	a	6	2.10	11.0	-8.90	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	1.08	11.0	-9.92	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	1.01	11.0	-10.00	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	0.91	11.0	-10.09	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-1.63	11.0	-12.63	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-1.56	11.0	-12.56	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-6.17	11.0	-17.17	Pass
Band 2C	5500	100	a	6	2.16	11.0	-8.84	Pass
	5580	116	a	6	2.27	11.0	-8.73	Pass
	5700	140	a	6	2.05	11.0	-8.95	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	1.04	11.0	-9.96	Pass
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	1.33	11.0	-9.67	Pass
	5700	140	n (20MHz)	6.5/7.2 (MCS0)	1.20	11.0	-9.80	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-2.55	11.0	-13.55	Pass
	5550	110	n (40MHz)	13.5/15 (MCS0)	-2.56	11.0	-13.56	Pass
	5670	134	n (40MHz)	13.5/15 (MCS0)	-2.48	11.0	-13.48	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-6.18	11.0	-17.18	Pass

Table 6-24. Conducted Power Spectral Density Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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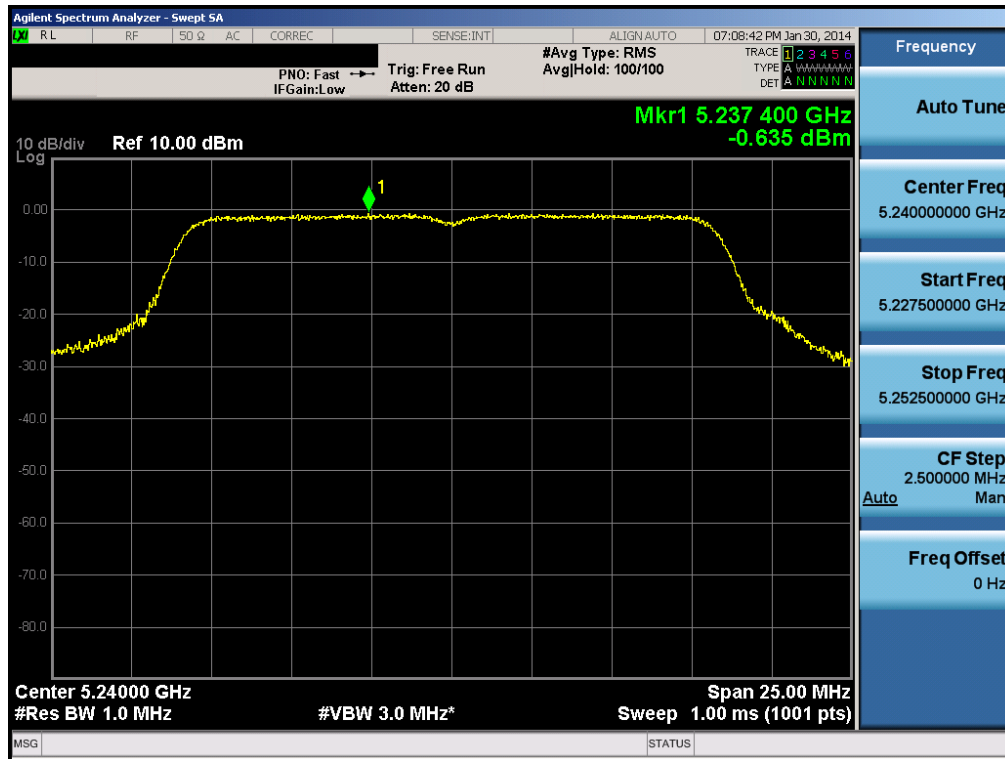


Plot 6-97. Peak Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)

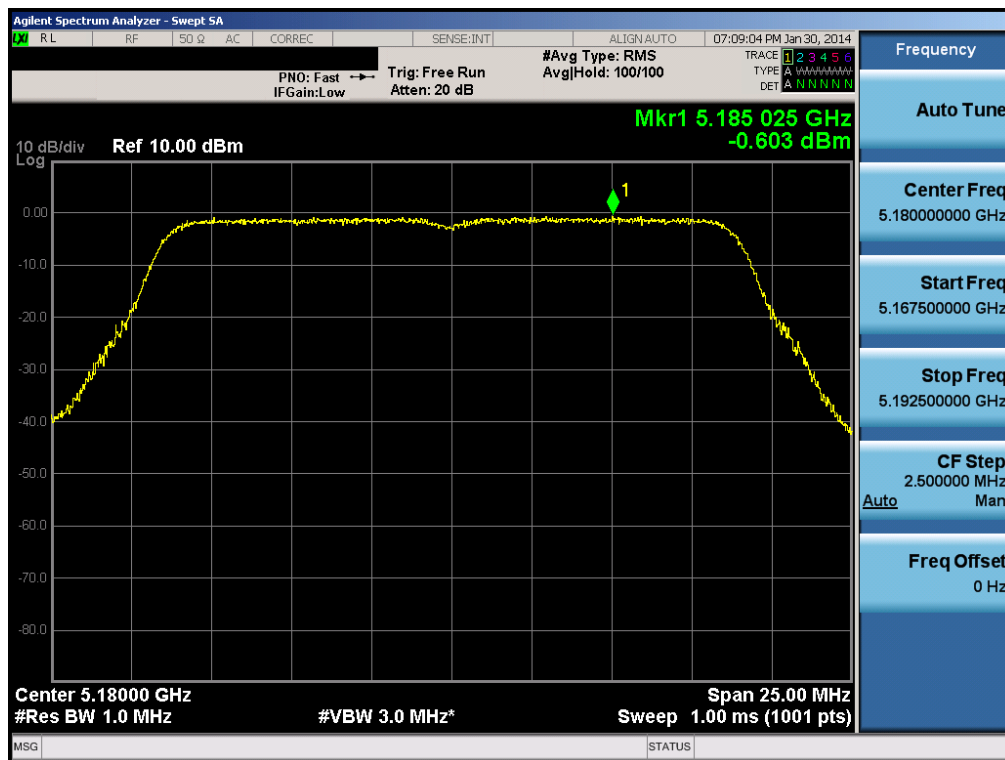


Plot 6-98. Peak Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 40)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 72 of 206

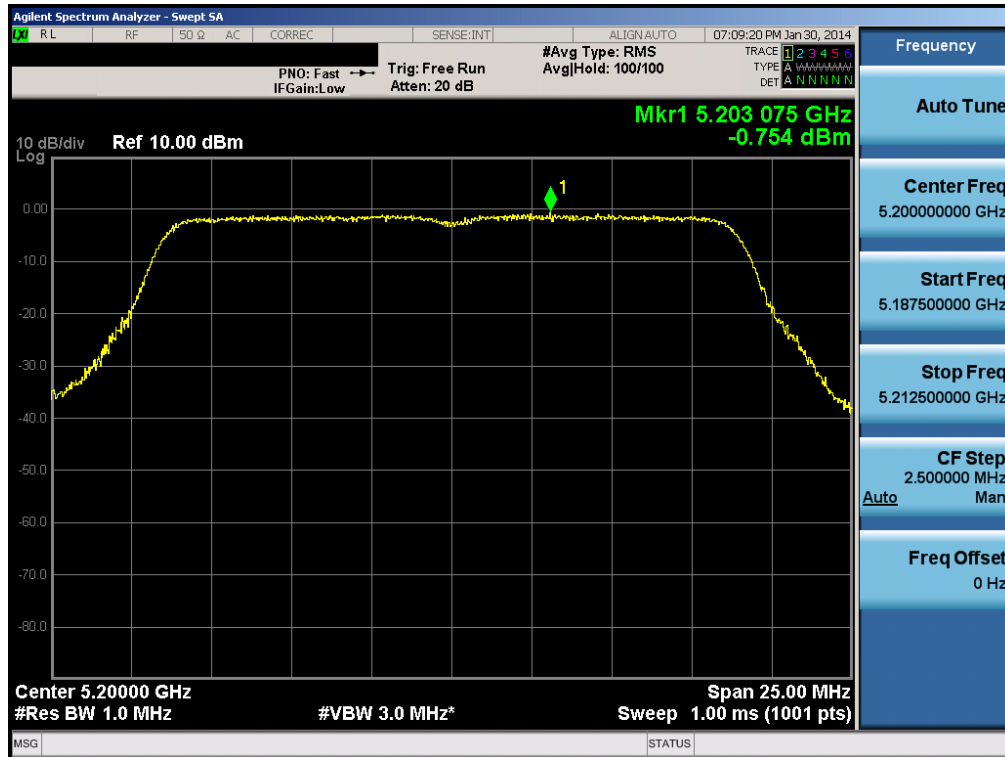


Plot 6-99. Peak Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)

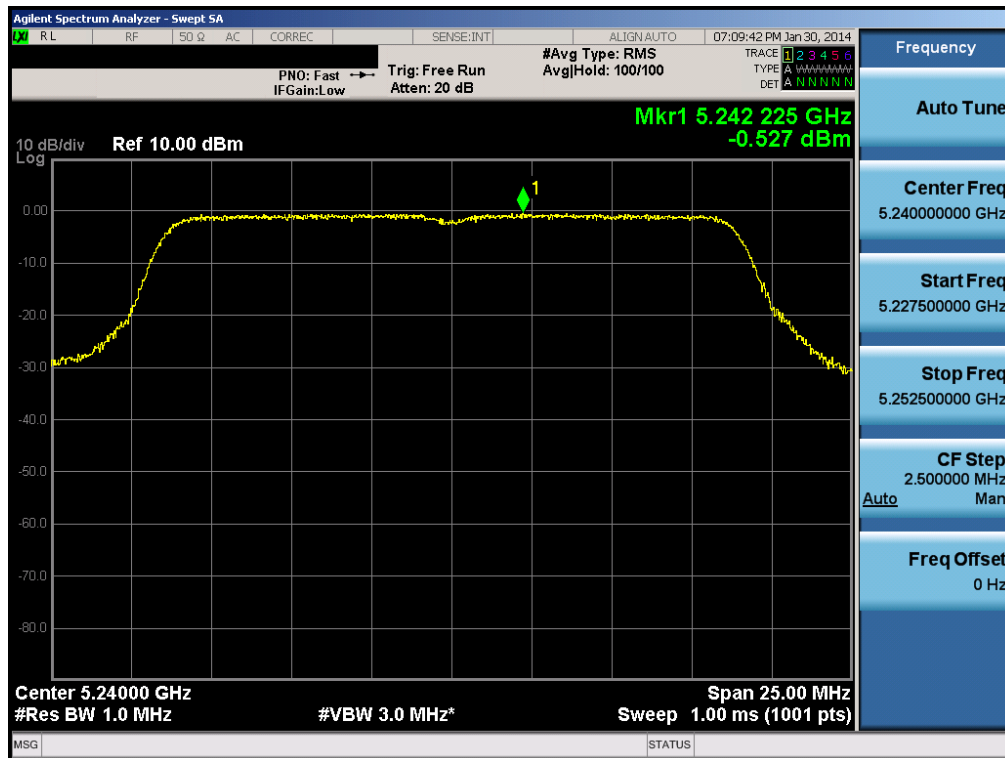


Plot 6-100. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 73 of 206

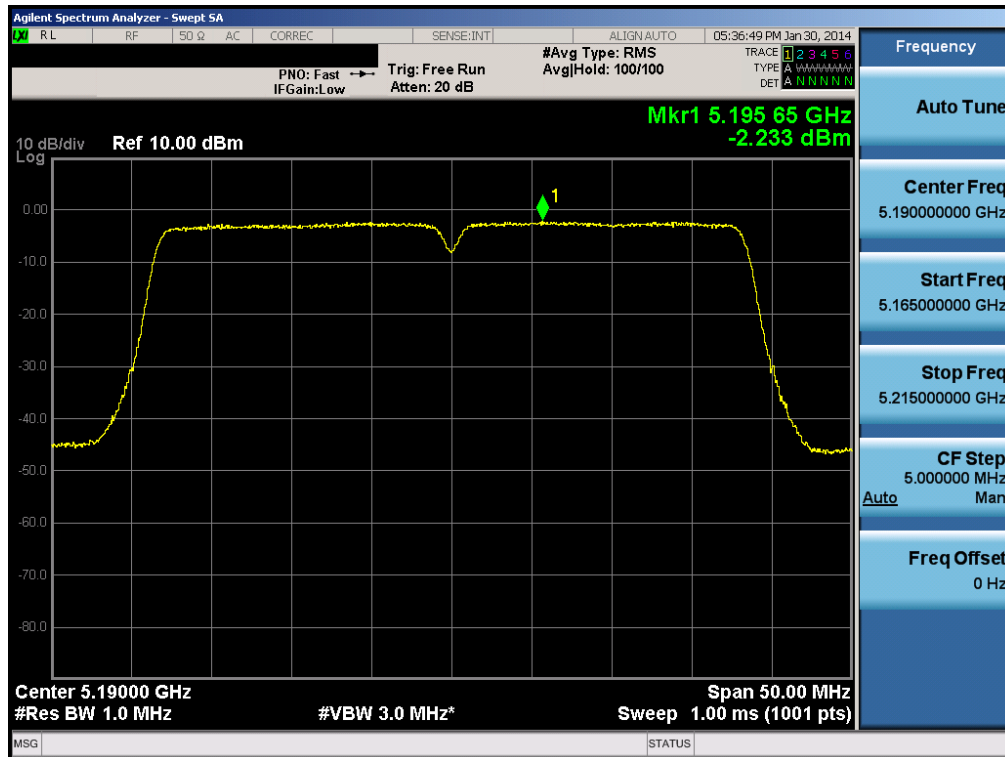


Plot 6-101. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

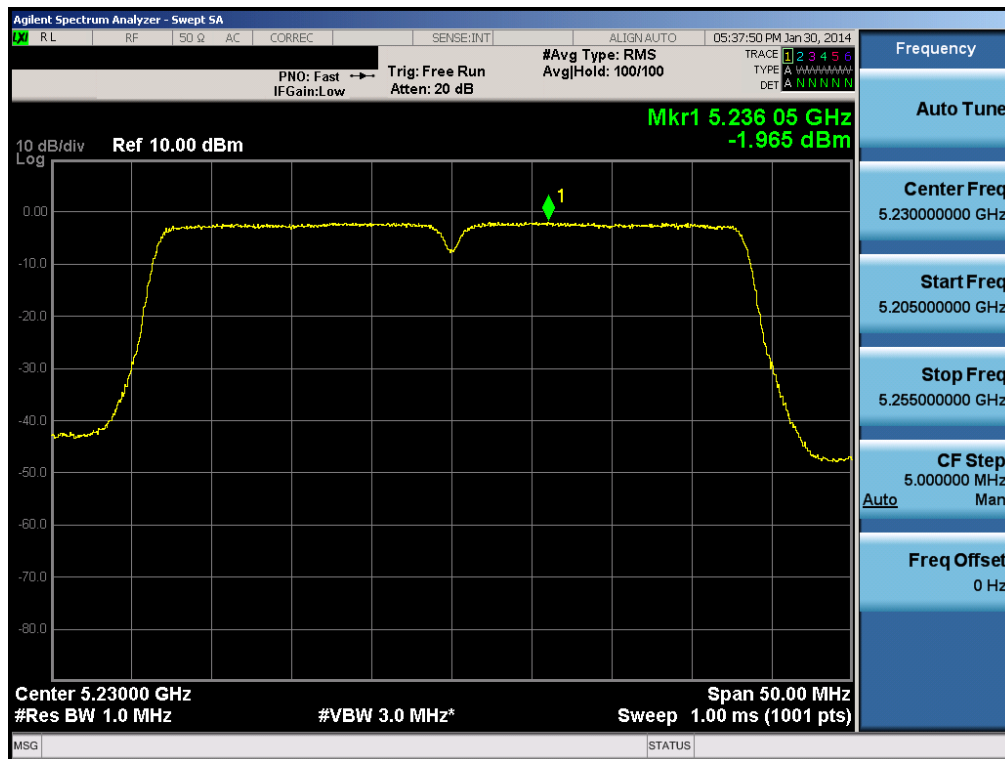


Plot 6-102. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 74 of 206

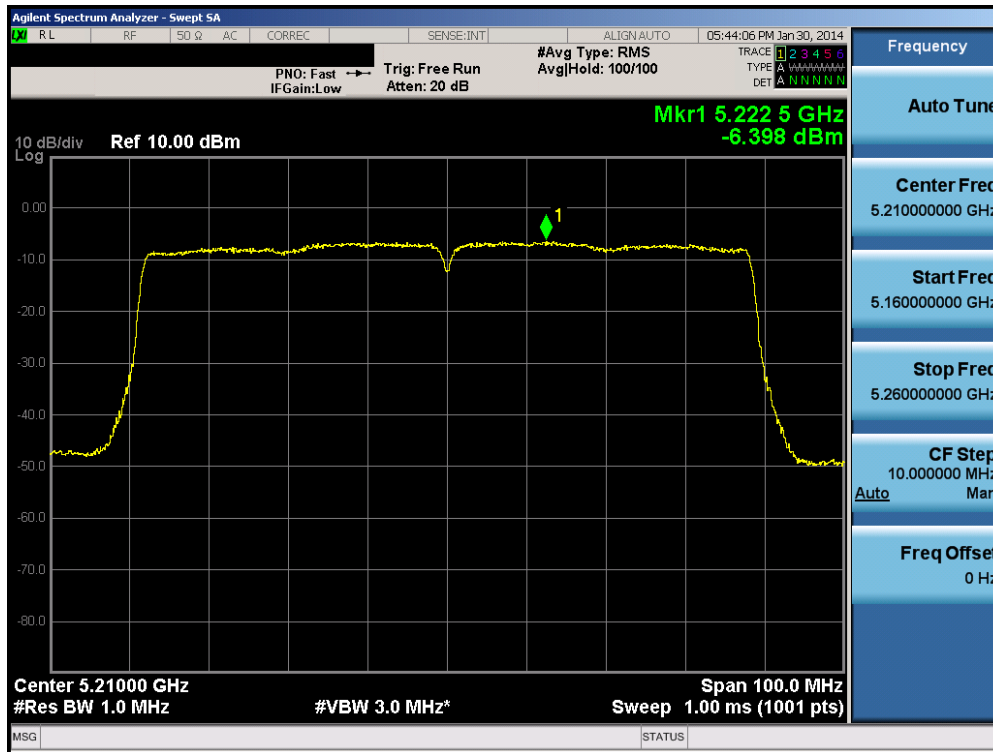


Plot 6-103. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)

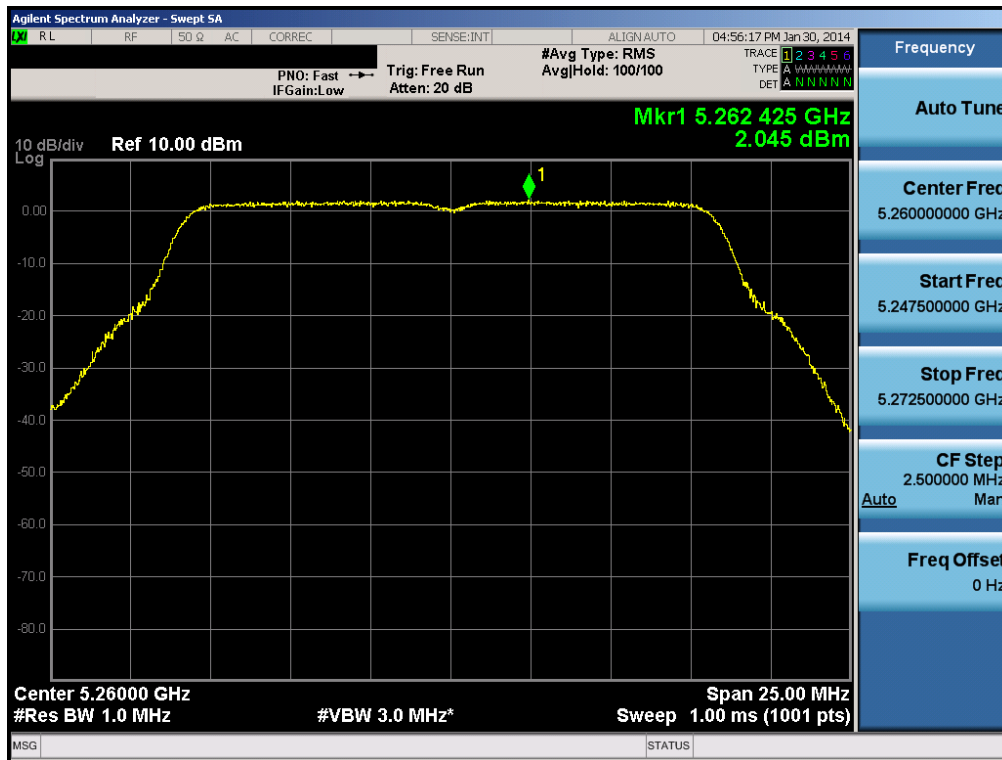


Plot 6-104. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 75 of 206

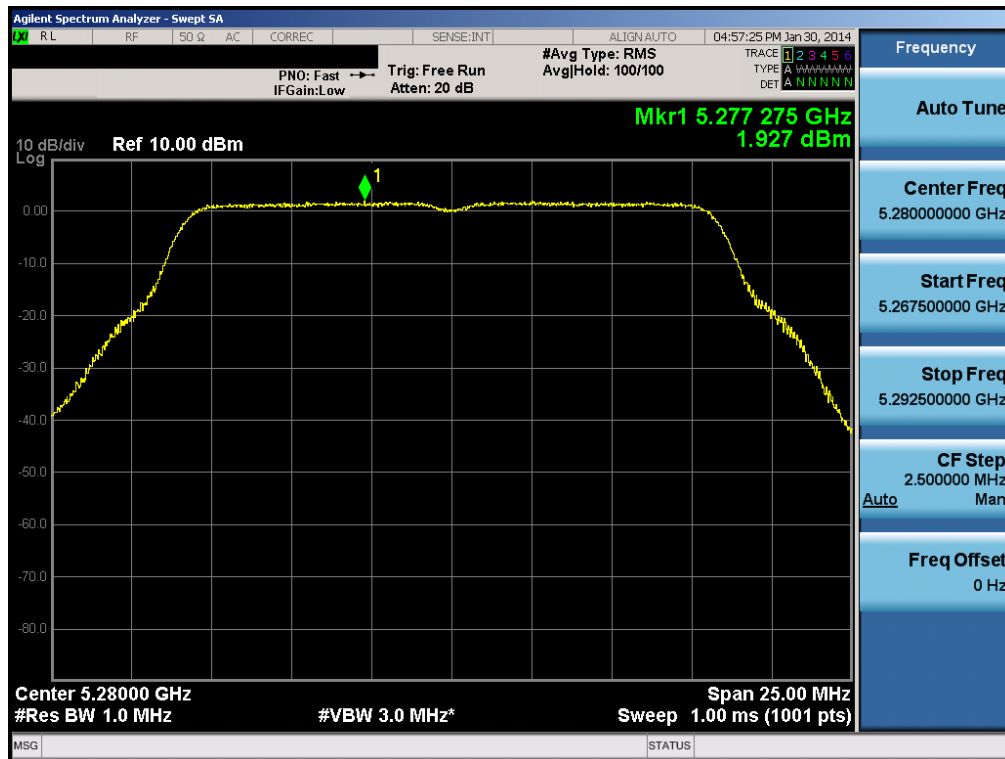


Plot 6-105. Peak Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

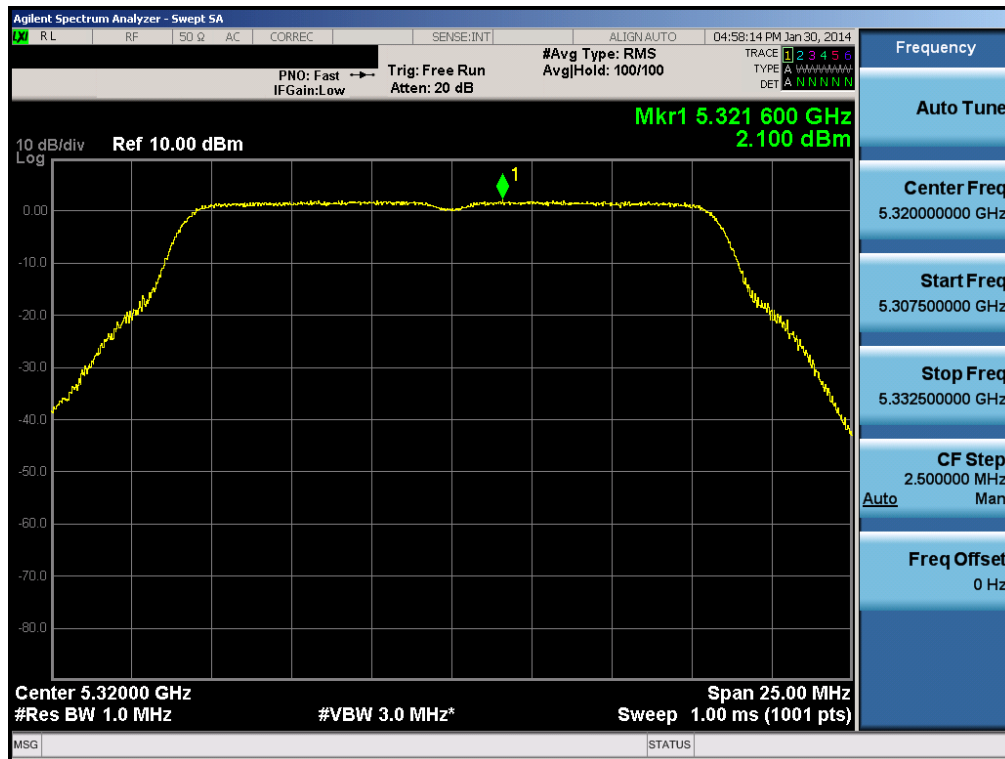


Plot 6-106. Peak Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 76 of 206

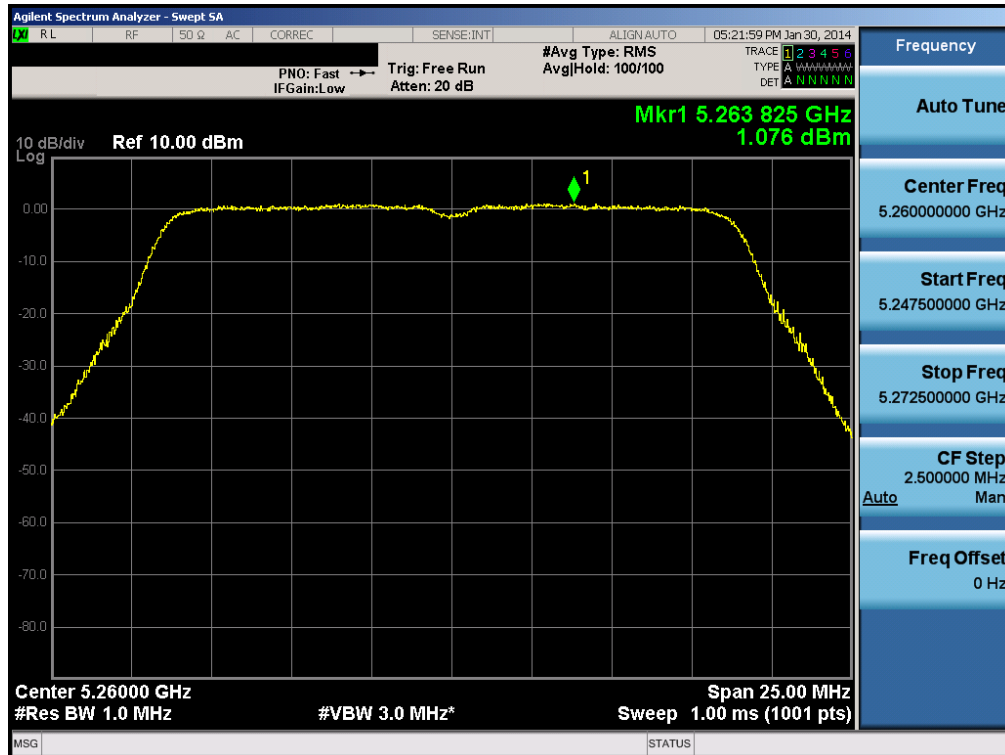


Plot 6-107. Peak Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)

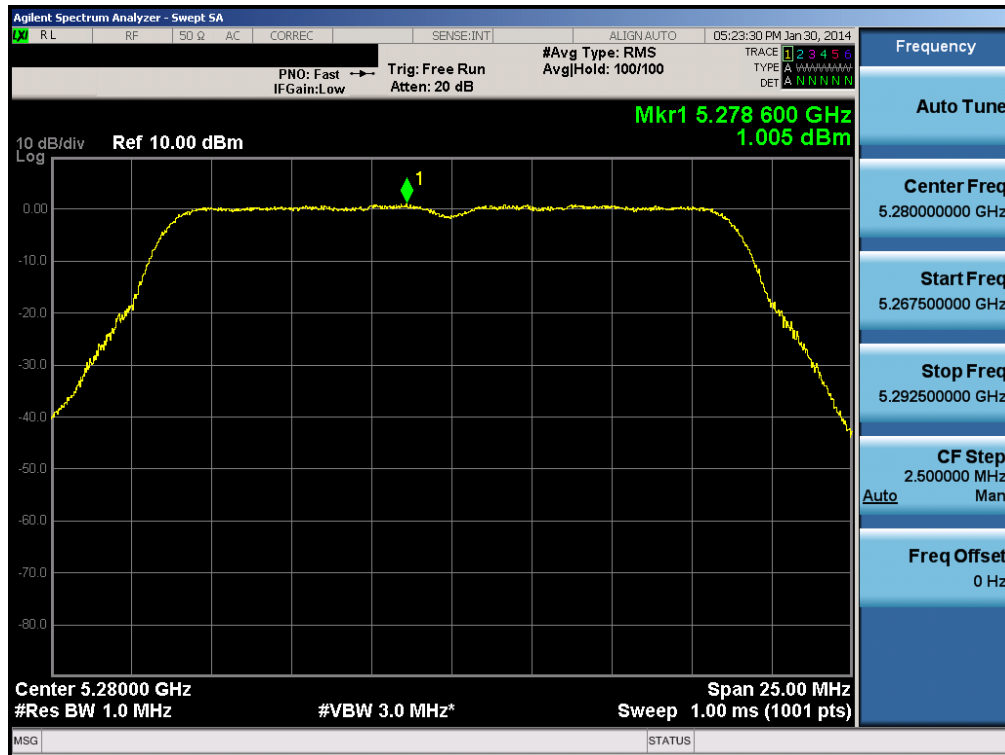


Plot 6-108. Peak Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 77 of 206

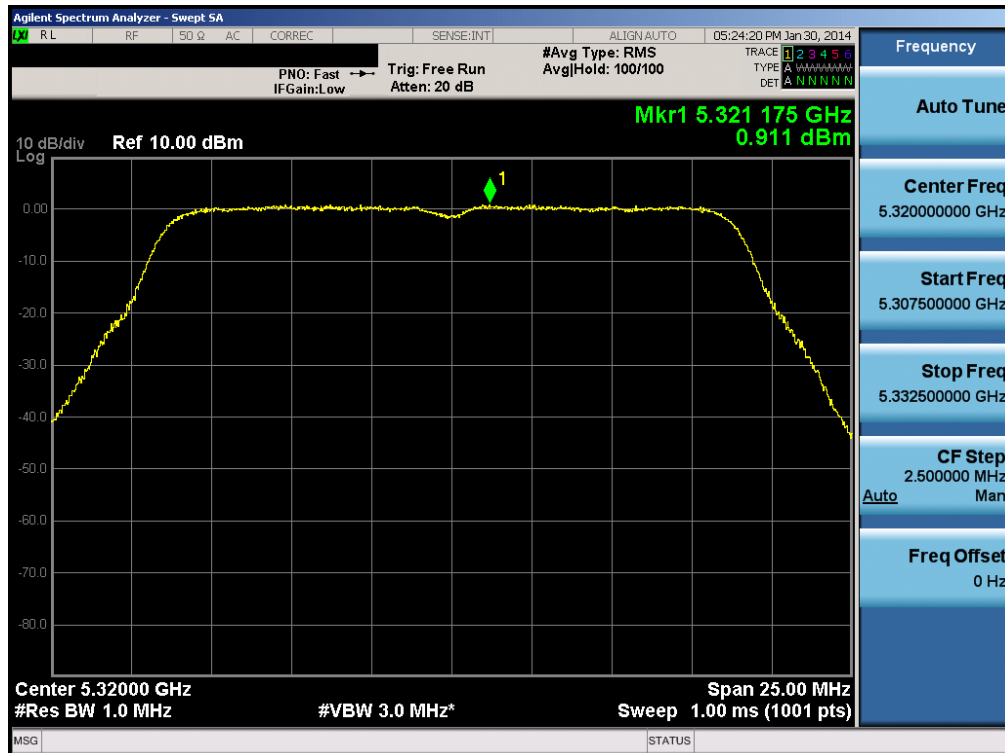


Plot 6-109. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

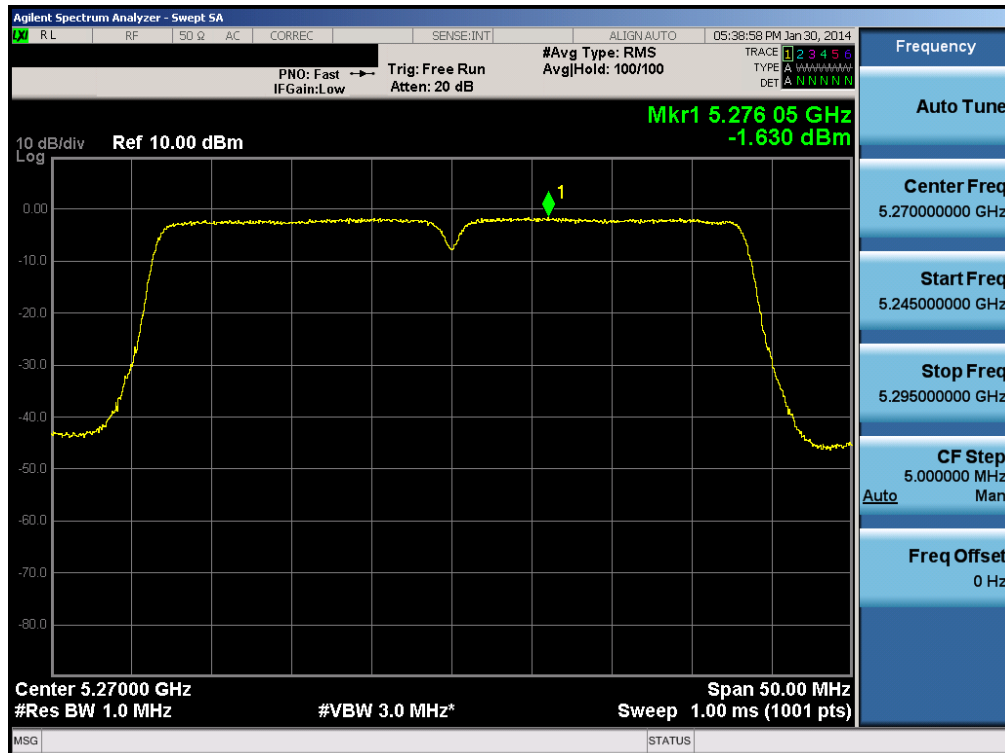


Plot 6-110. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 78 of 206

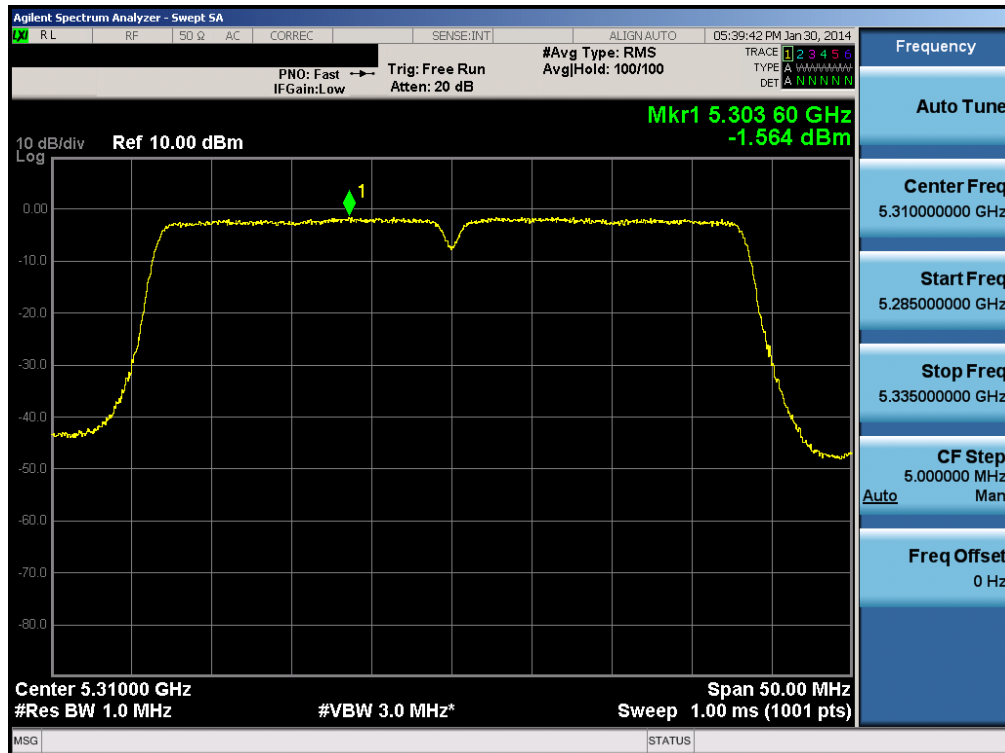


Plot 6-111. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

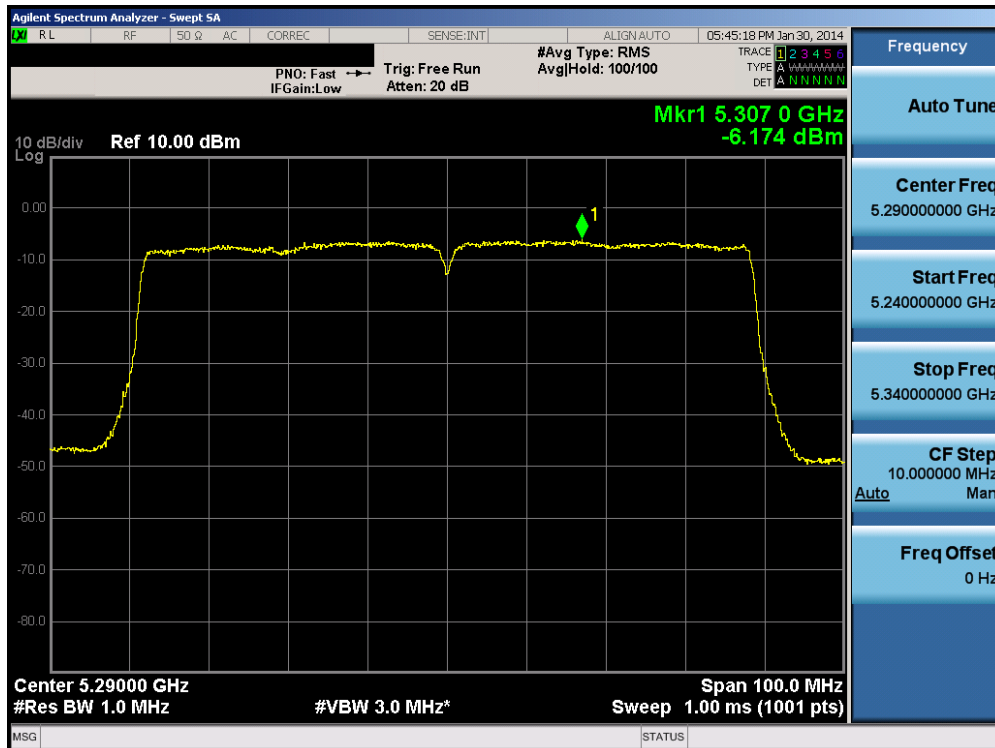


Plot 6-112. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 79 of 206

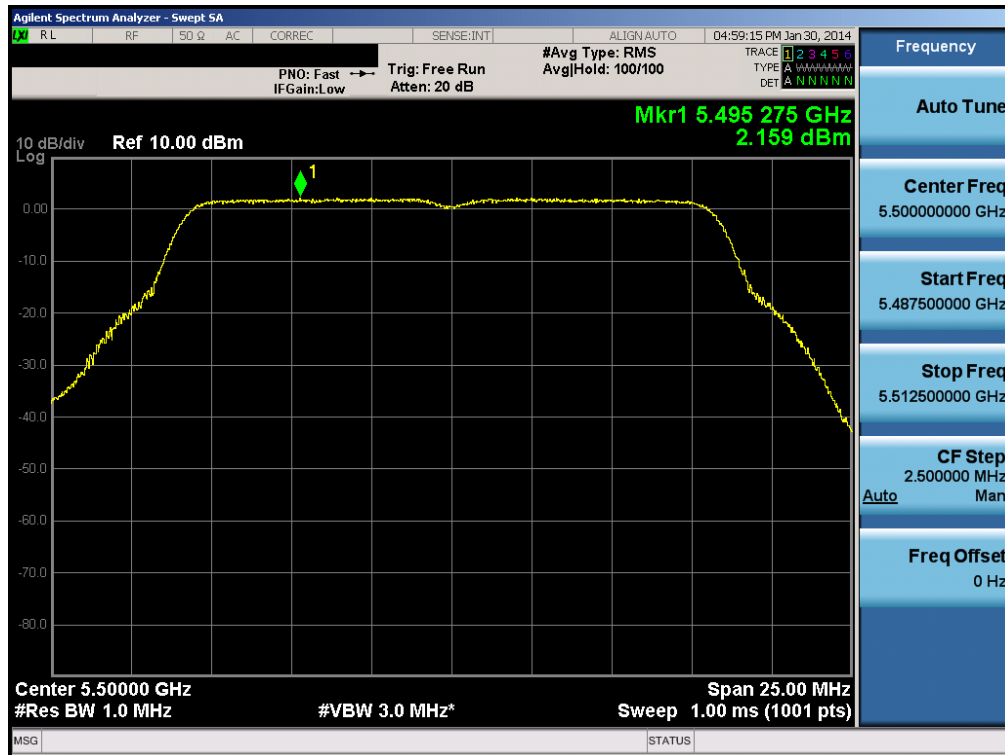


Plot 6-113. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

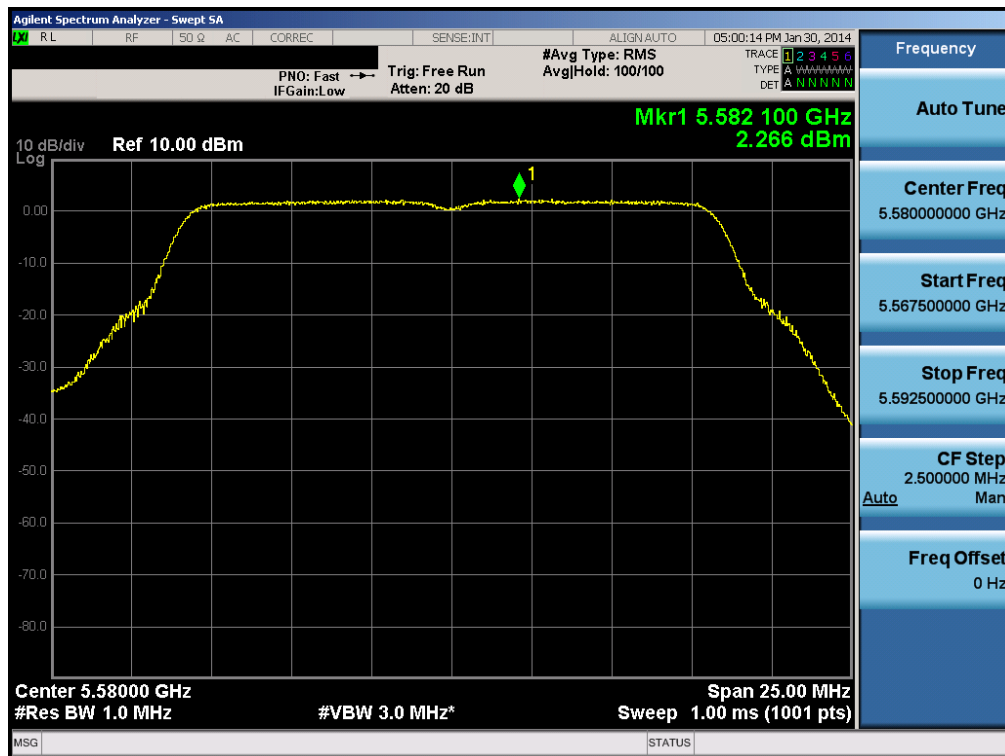


Plot 6-114. Peak Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 80 of 206

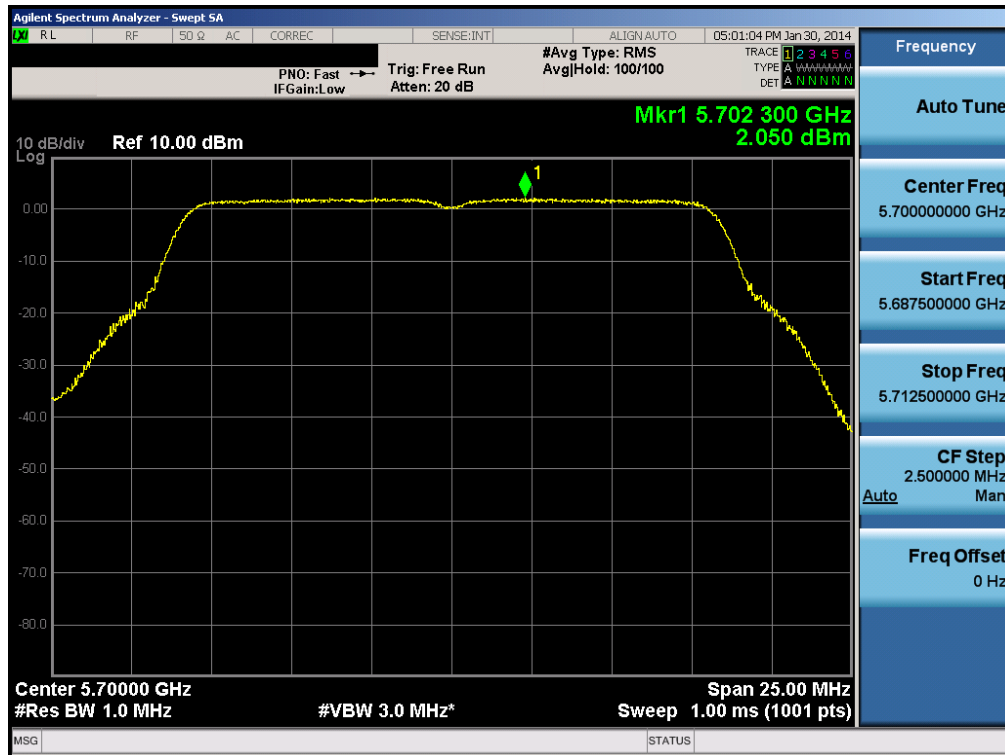


Plot 6-115. Peak Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)

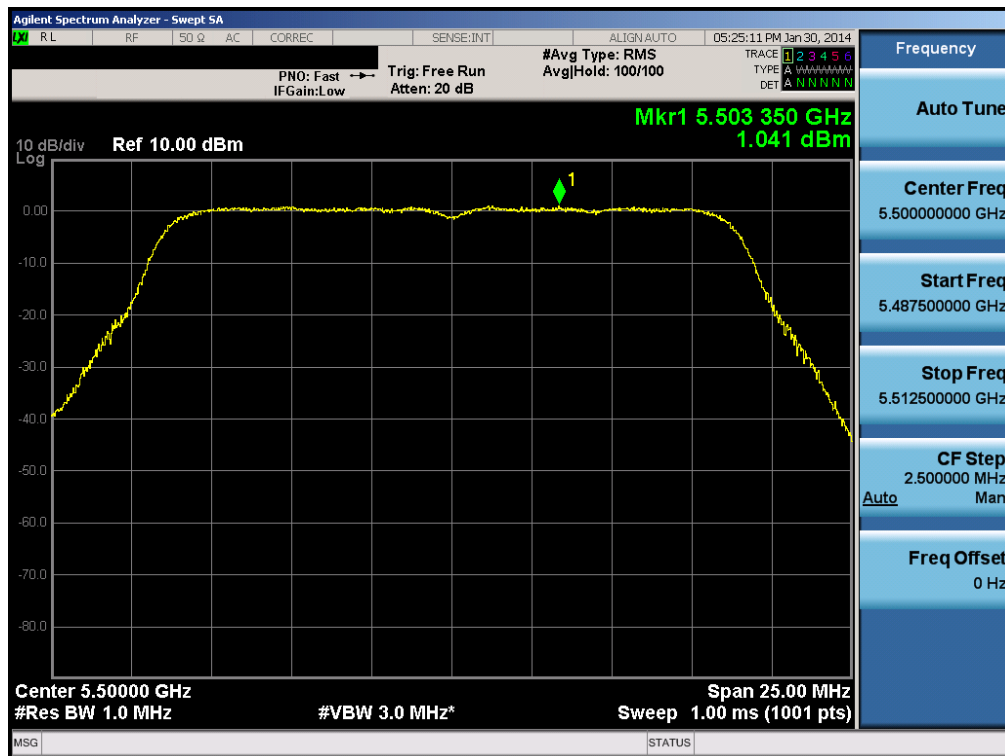


Plot 6-116. Peak Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 116)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 81 of 206

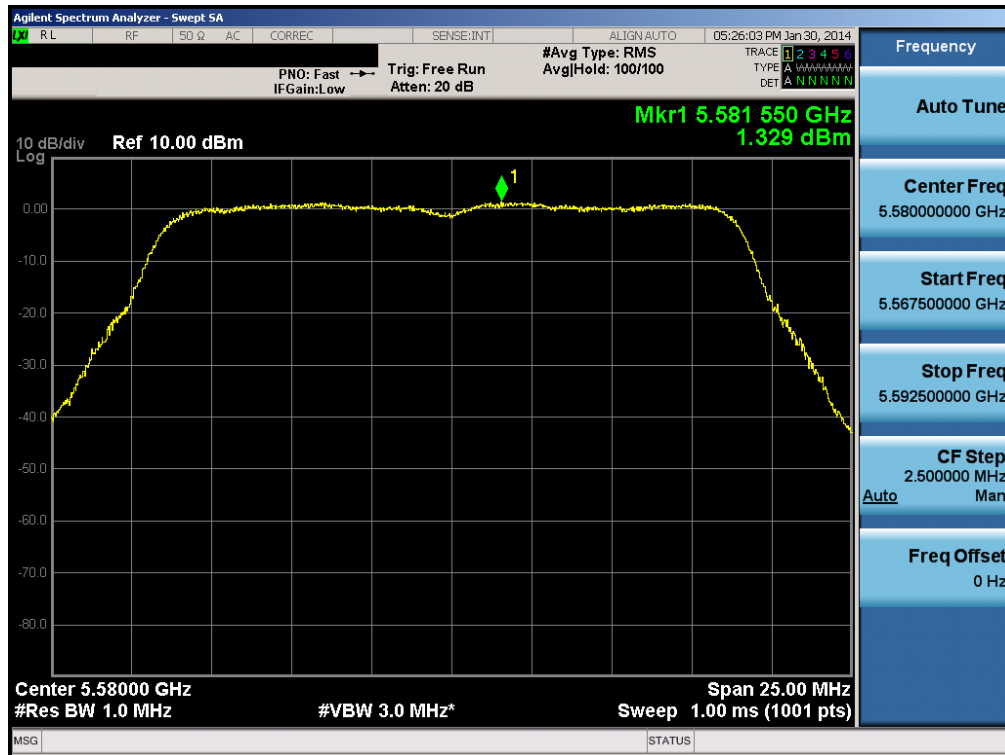


Plot 6-117. Peak Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 140)

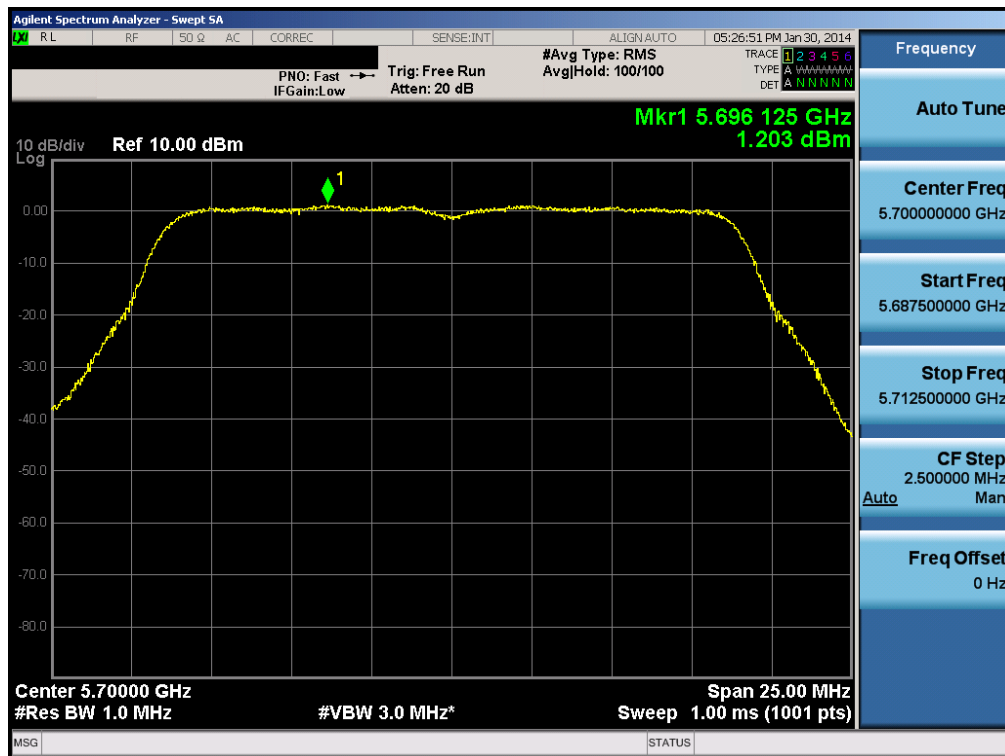


Plot 6-118. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 82 of 206

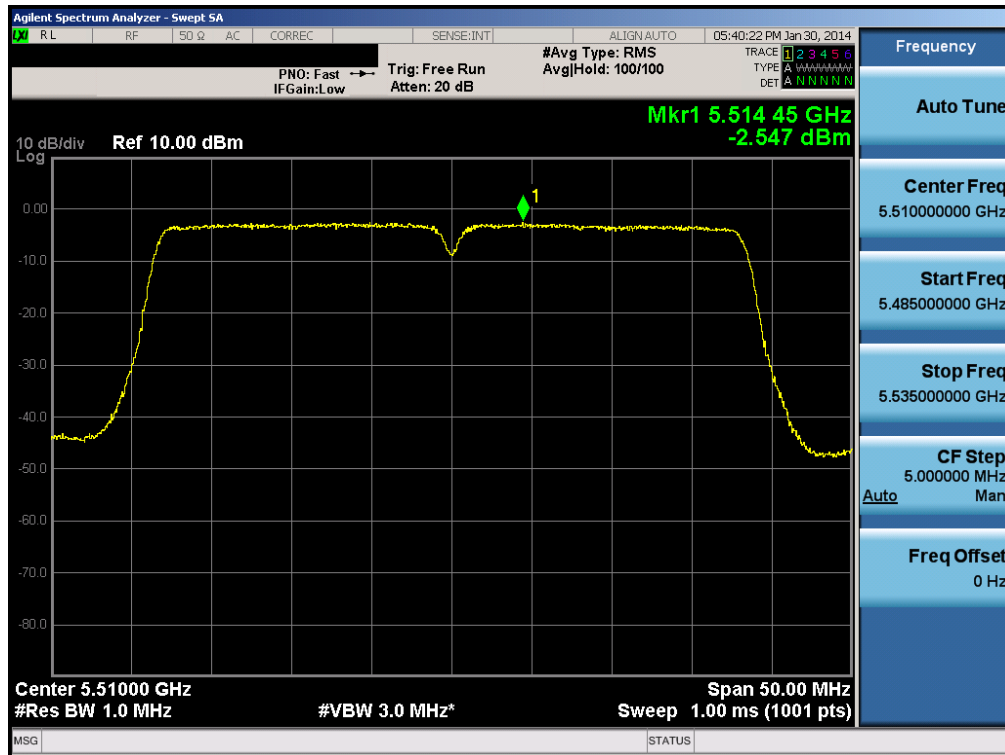


Plot 6-119. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 116)

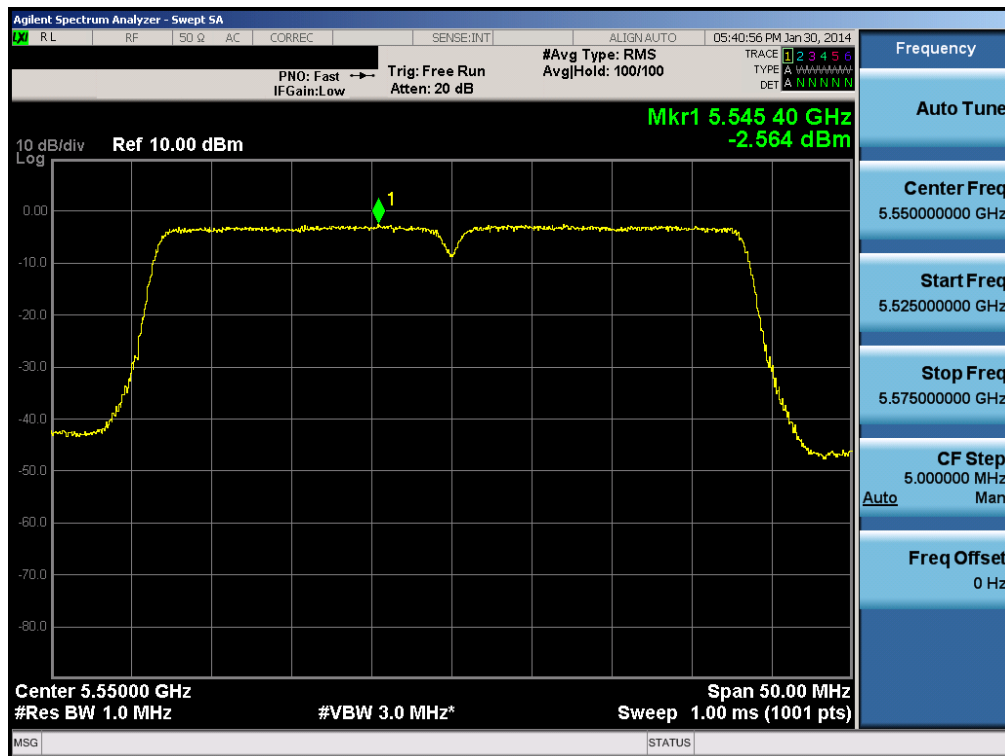


Plot 6-120. Peak Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 140)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 83 of 206

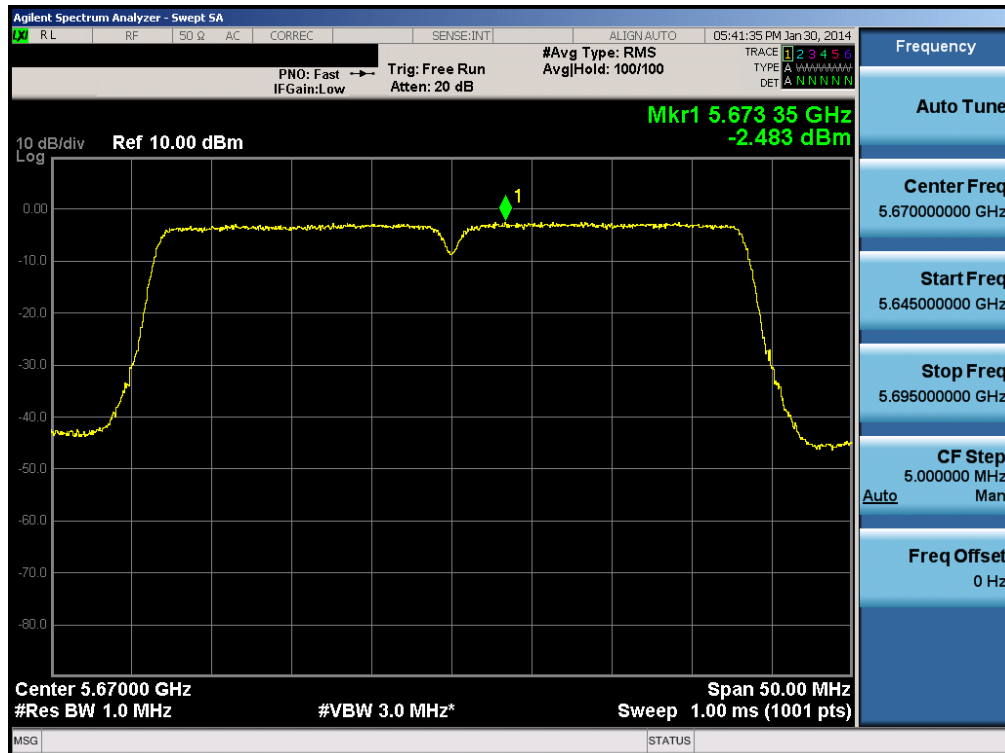


Plot 6-121. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

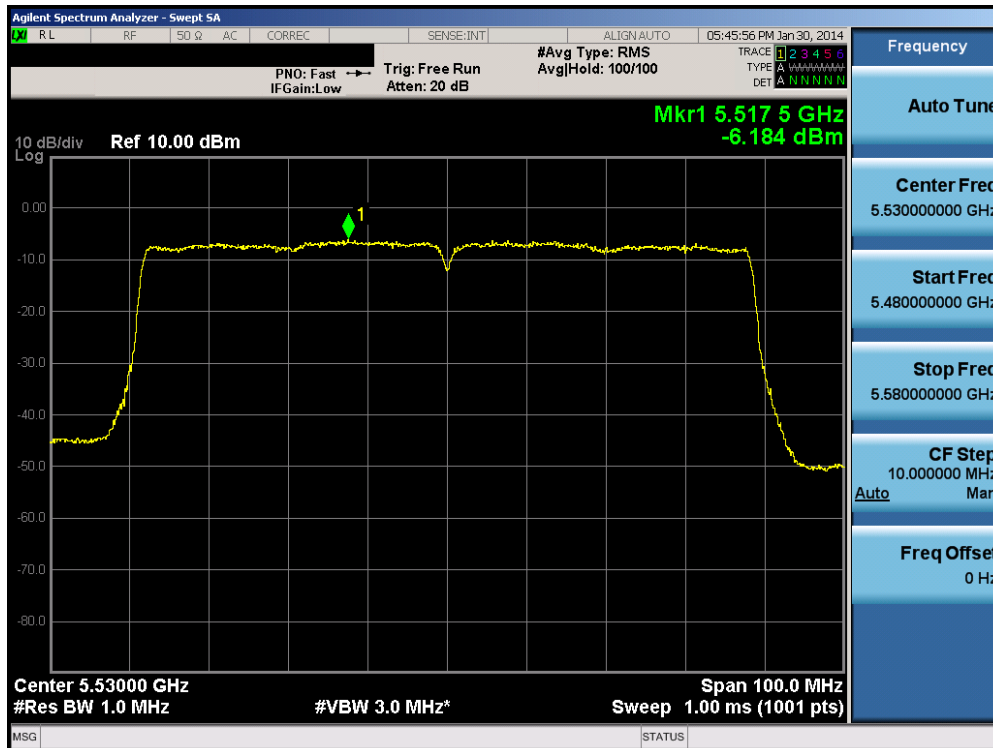


Plot 6-122. Peak Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 110)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 84 of 206



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: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 85 of 206

Summed MIMO Power 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)	-0.72	-0.60	2.35	4.0	-1.65	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	-0.25	-0.75	2.52	4.0	-1.48	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	-0.87	-0.53	2.32	4.0	-1.68	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-2.35	-2.23	0.72	4.0	-3.28	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-2.45	-1.97	0.81	4.0	-3.19	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-6.83	-6.40	-3.60	4.0	-7.60	Pass
Band 2A	5260	52	n (20MHz)	6.5/7.2 (MCS0)	0.93	1.08	4.01	11.0	-6.99	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	1.19	1.01	4.11	11.0	-6.89	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	1.09	0.91	4.01	11.0	-6.99	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-2.42	-1.63	1.01	11.0	-9.99	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-2.33	-1.56	1.08	11.0	-9.92	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-6.53	-6.17	-3.34	11.0	-14.34	Pass
Band 2C	5500	100	n (20MHz)	6.5/7.2 (MCS0)	1.90	1.04	4.50	11.0	-6.50	Pass
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	2.06	1.33	4.72	11.0	-6.28	Pass
	5700	140	n (20MHz)	6.5/7.2 (MCS0)	2.12	1.20	4.70	11.0	-6.30	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-2.61	-2.55	0.43	11.0	-10.57	Pass
	5550	110	n (40MHz)	13.5/15 (MCS0)	-2.58	-2.56	0.44	11.0	-10.56	Pass
	5670	134	n (40MHz)	13.5/15 (MCS0)	-2.58	-2.48	0.48	11.0	-10.52	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-6.37	-6.18	-3.27	11.0	-14.27	Pass

Table 6-25. MIMO Conducted Power Spectral Density Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset	Page 86 of 206	

6.5 Peak Excursion Ratio – 802.11a/n/ac §15.407(a.6)

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 v01r03, and at the appropriate frequencies. Method SA-1, as defined in KDB 789033 v01r03, was used to capture the average trace used to make the peak excursion measurement.

The largest permissible difference between the modulation envelope (measured using a peak hold function) and the maximum power spectral density is 13 dBm/MHz.

Test Procedure Used

KDB 789033 v01r03 – Section G

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. Detector = peak
6. Trace mode = max hold
7. Trace was allowed to stabilize
8. The peak search function of the spectrum analyzer was used to find the peak of the spectrum. This level was compared to the peak power density level found from the previous section to determine the peak excursion.

Test Setup

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

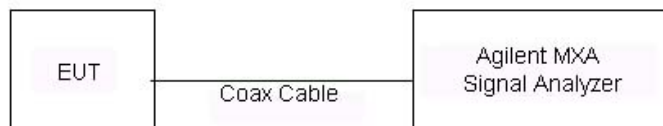


Figure 6-4. Test Instrument & Measurement Setup

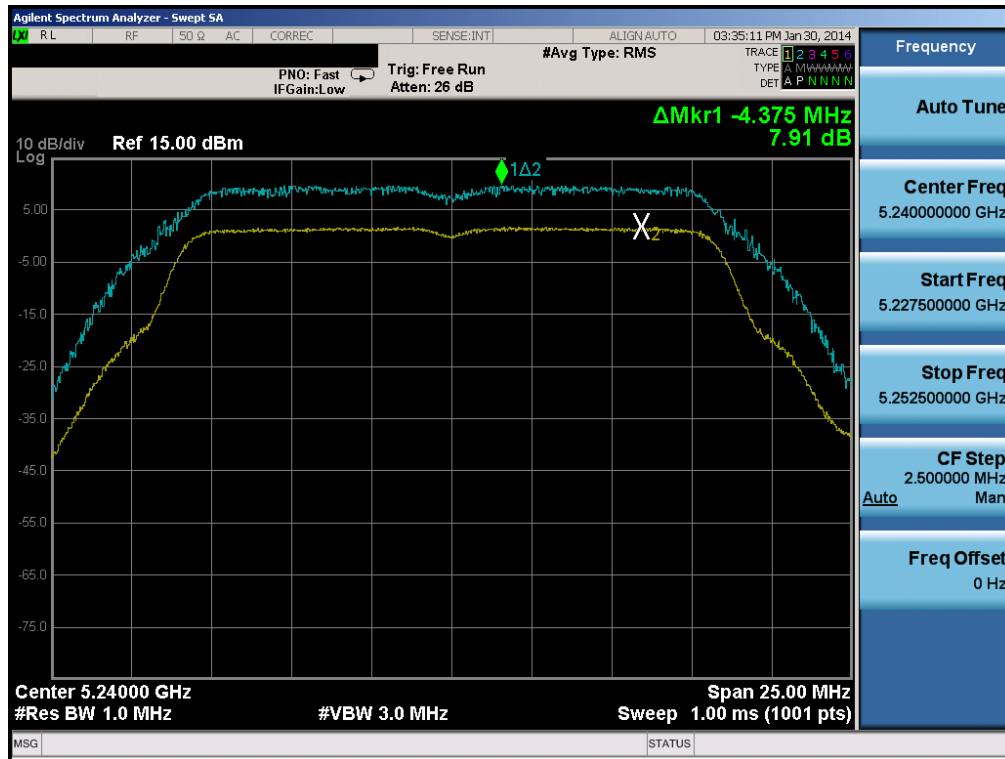
FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 87 of 206

Antenna-1 Peak Excursion Ratio – 802.11a/n/ac

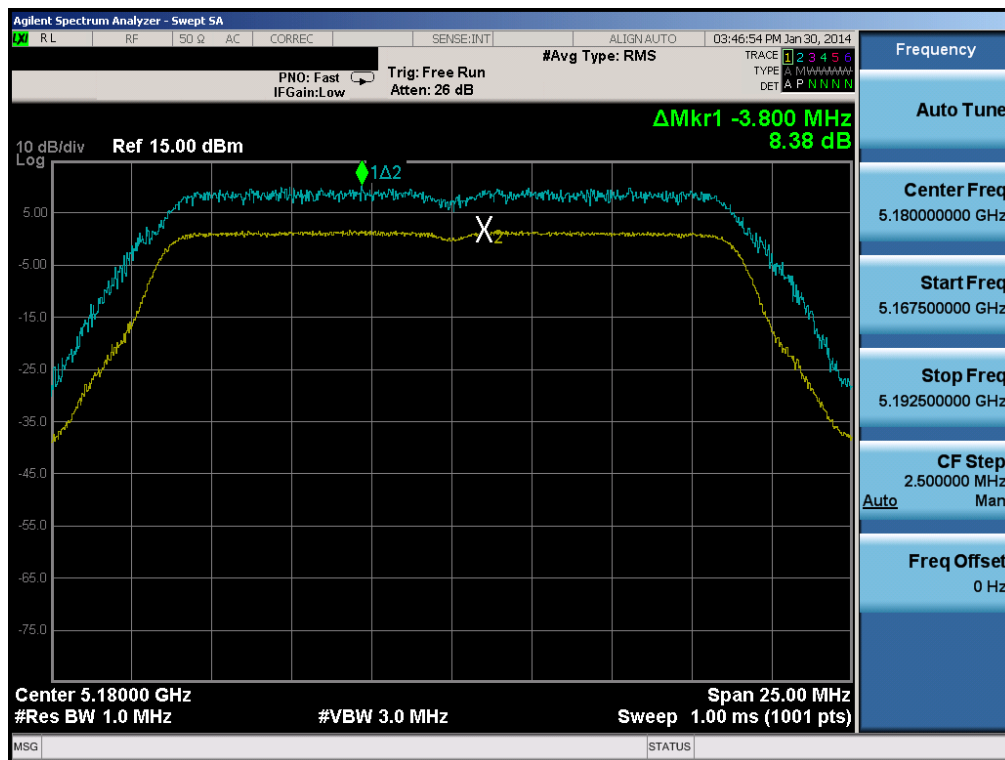
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Peak Excursion Ratio [dBm]	Max Permissible Peak Excursion Ratio [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6	7.96	13.0	-5.04	Pass
	5200	40	a	6	8.03	13.0	-4.97	Pass
	5240	48	a	6	7.91	13.0	-5.09	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	8.38	13.0	-4.62	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	7.95	13.0	-5.05	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	8.00	13.0	-5.00	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	7.99	13.0	-5.01	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	8.24	13.0	-4.76	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	8.69	13.0	-4.31	Pass
Band 2A	5260	52	a	6	8.23	13.0	-4.77	Pass
	5280	56	a	6	8.03	13.0	-4.97	Pass
	5320	64	a	6	7.87	13.0	-5.13	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	8.57	13.0	-4.43	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	7.97	13.0	-5.03	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	7.79	13.0	-5.21	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	8.18	13.0	-4.82	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	8.21	13.0	-4.79	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	8.14	13.0	-4.86	Pass
Band 2C	5500	100	a	6	7.74	13.0	-5.26	Pass
	5580	116	a	6	8.06	13.0	-4.94	Pass
	5700	140	a	6	8.01	13.0	-4.99	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	8.21	13.0	-4.79	Pass
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	8.04	13.0	-4.96	Pass
	5700	140	n (20MHz)	6.5/7.2 (MCS0)	8.69	13.0	-4.31	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	7.97	13.0	-5.04	Pass
	5550	110	n (40MHz)	13.5/15 (MCS0)	8.39	13.0	-4.61	Pass
	5670	134	n (40MHz)	13.5/15 (MCS0)	8.03	13.0	-4.97	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	8.95	13.0	-4.05	Pass

Table 6-26. Conducted Peak Excursion Ratio Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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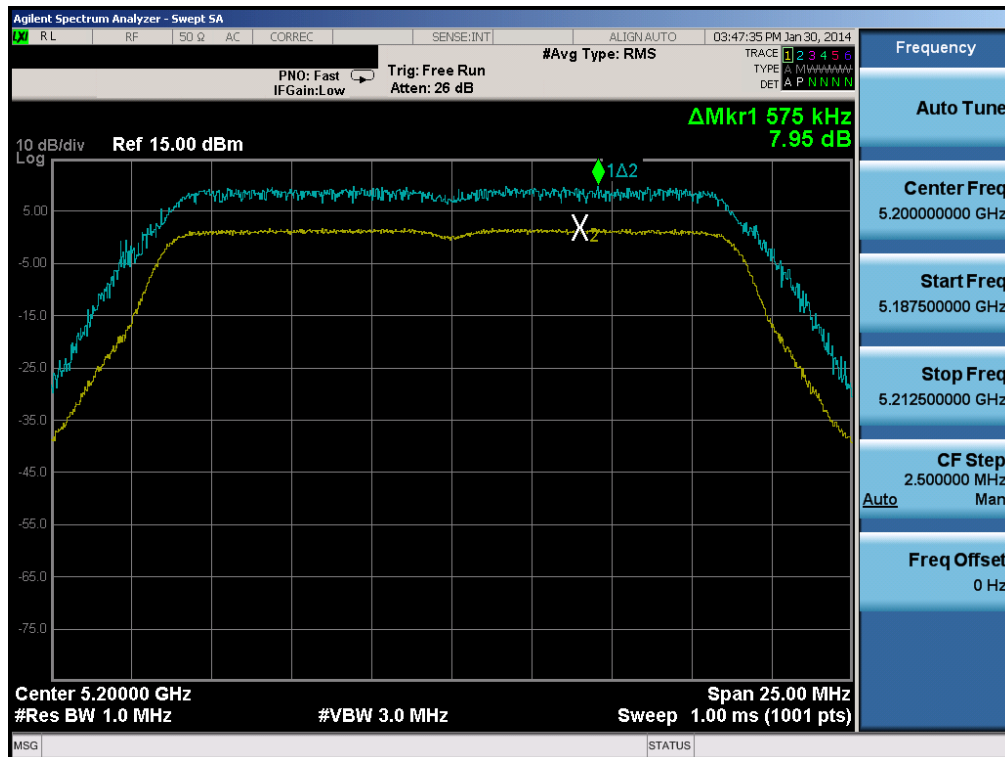


Plot 6-127. Peak Excursion Ratio Plot (802.11a (UNII Band 1) – Ch. 48)

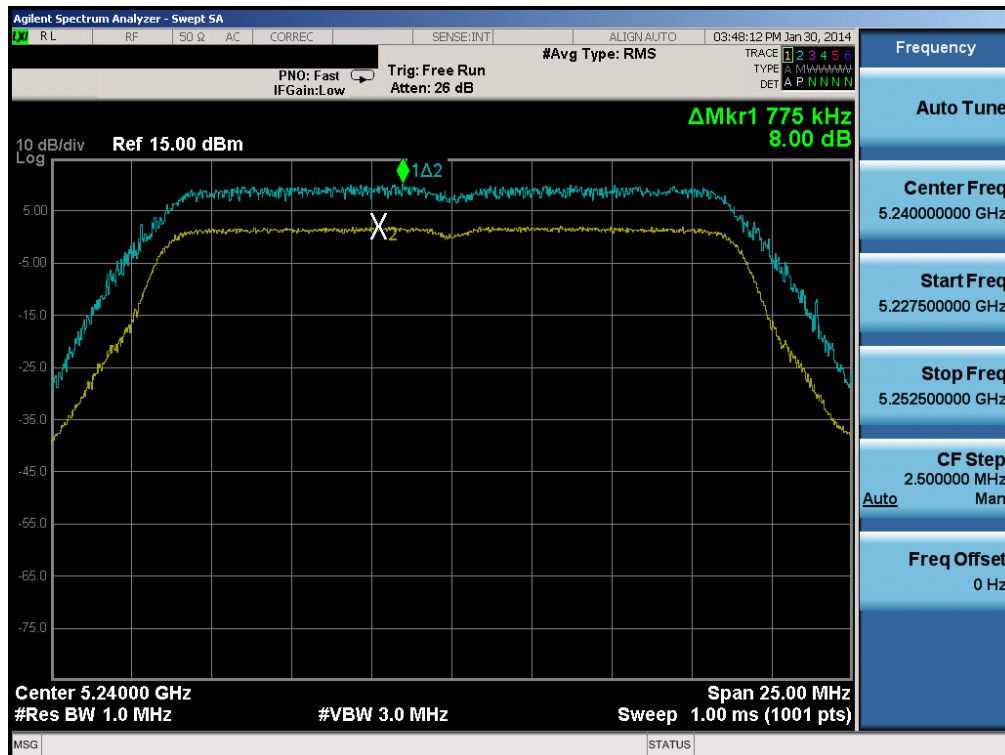


Plot 6-128. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 90 of 206

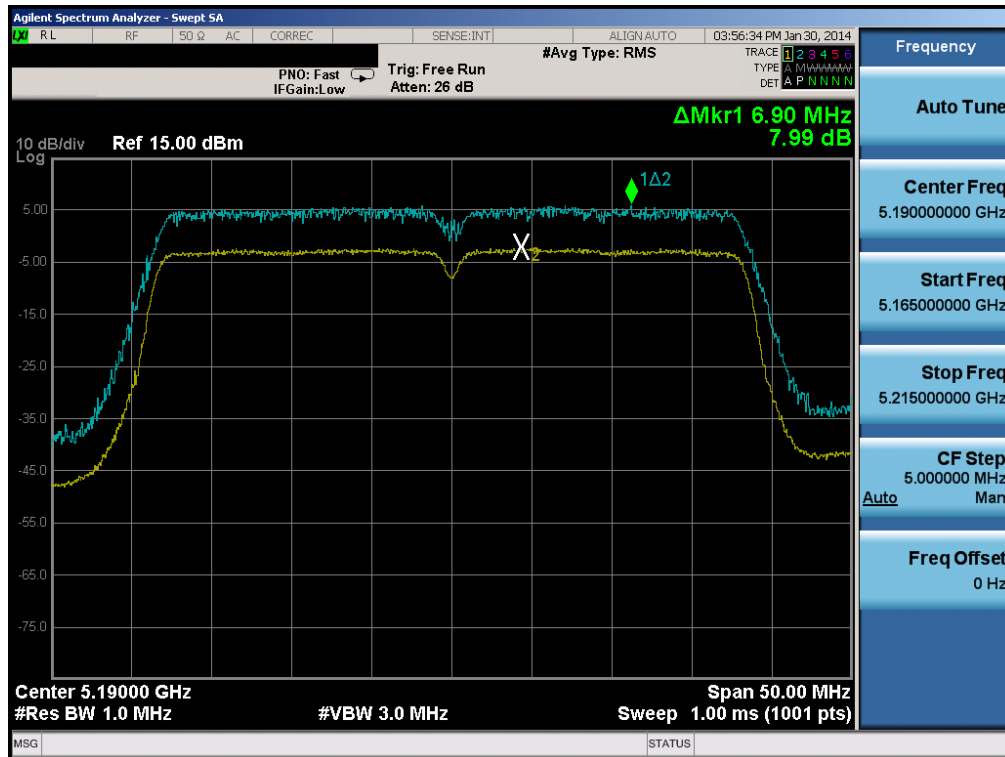


Plot 6-129. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

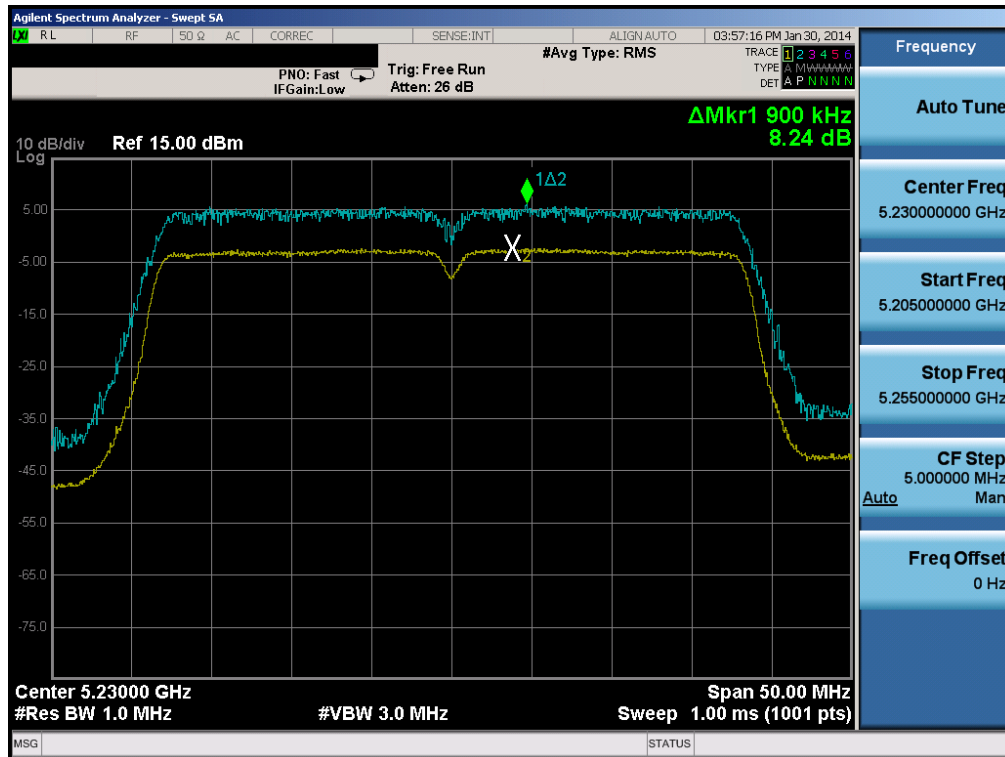


Plot 6-130. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 91 of 206

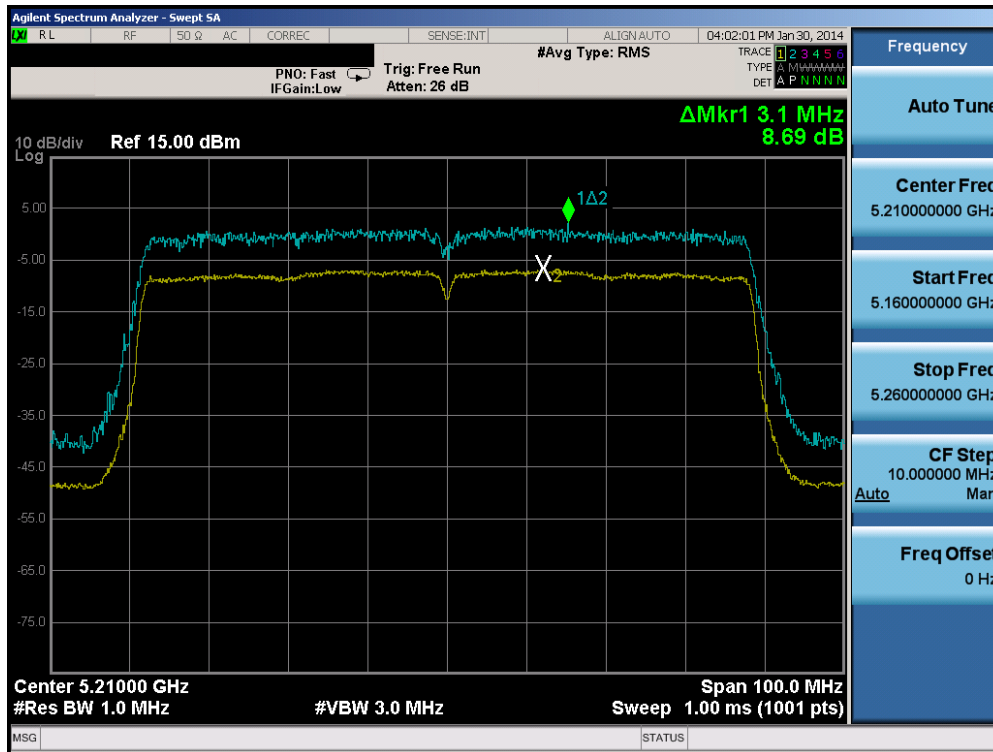


Plot 6-131. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)

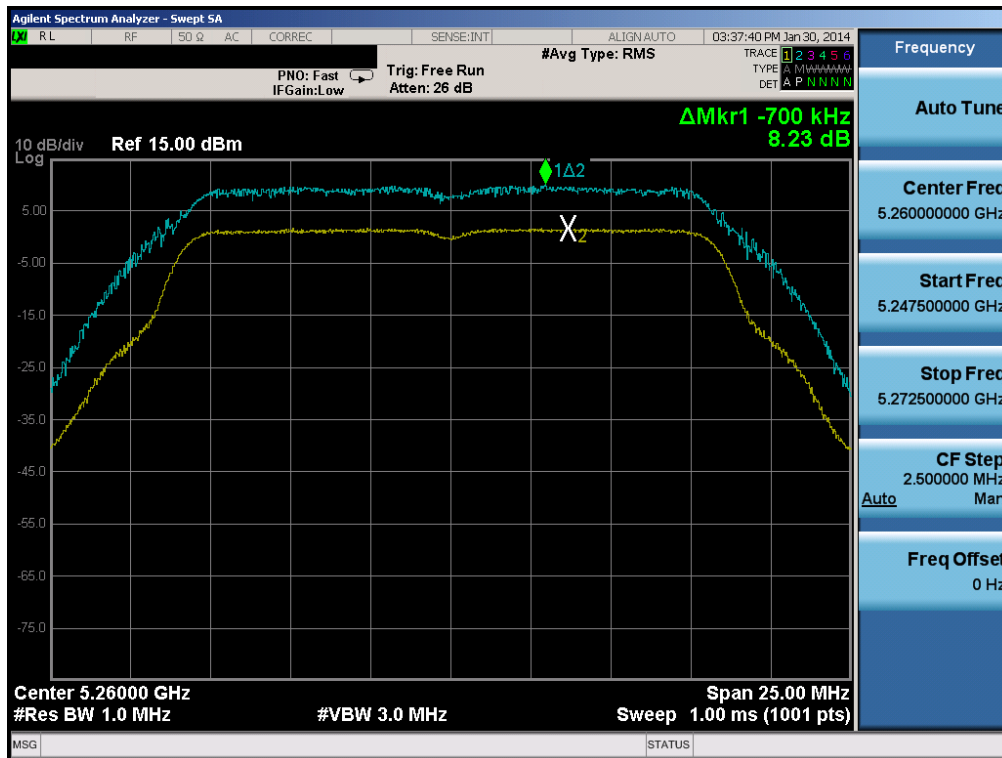


Plot 6-132. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 92 of 206

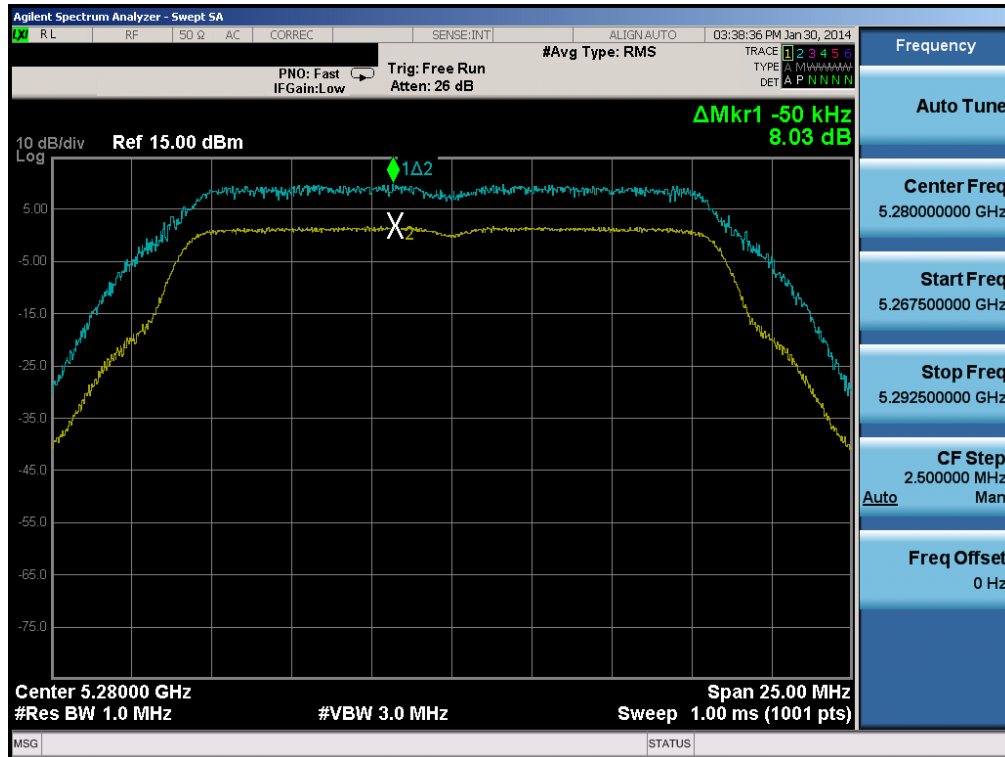


Plot 6-133. Peak Excursion Ratio Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

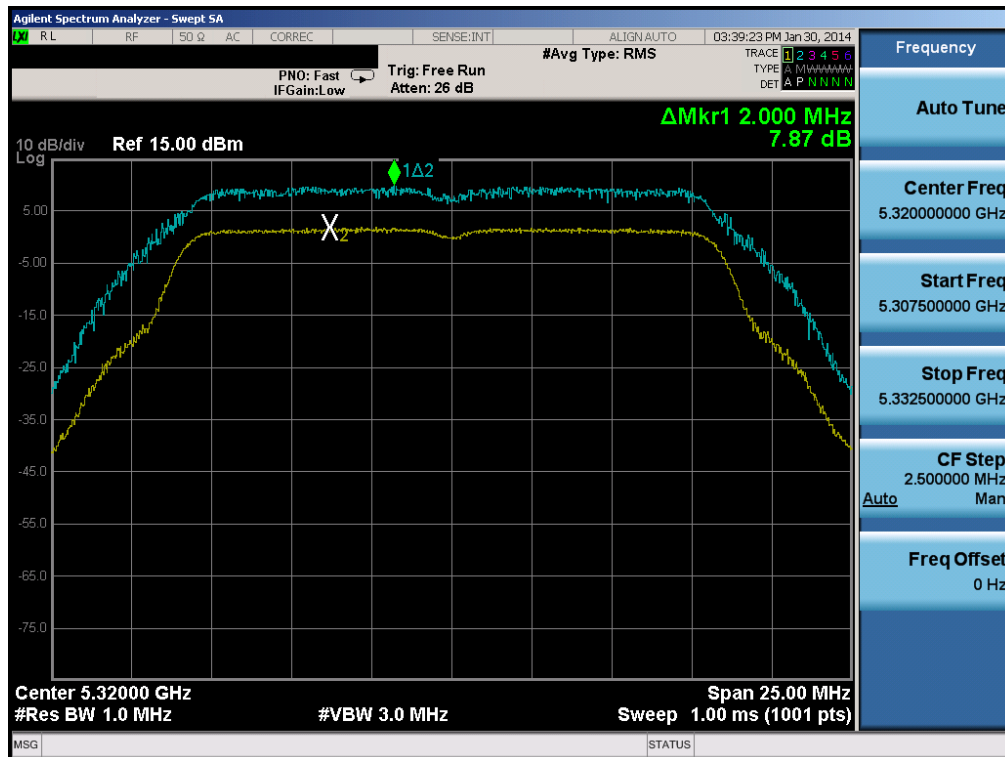


Plot 6-134. Peak Excursion Ratio Plot (802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 93 of 206

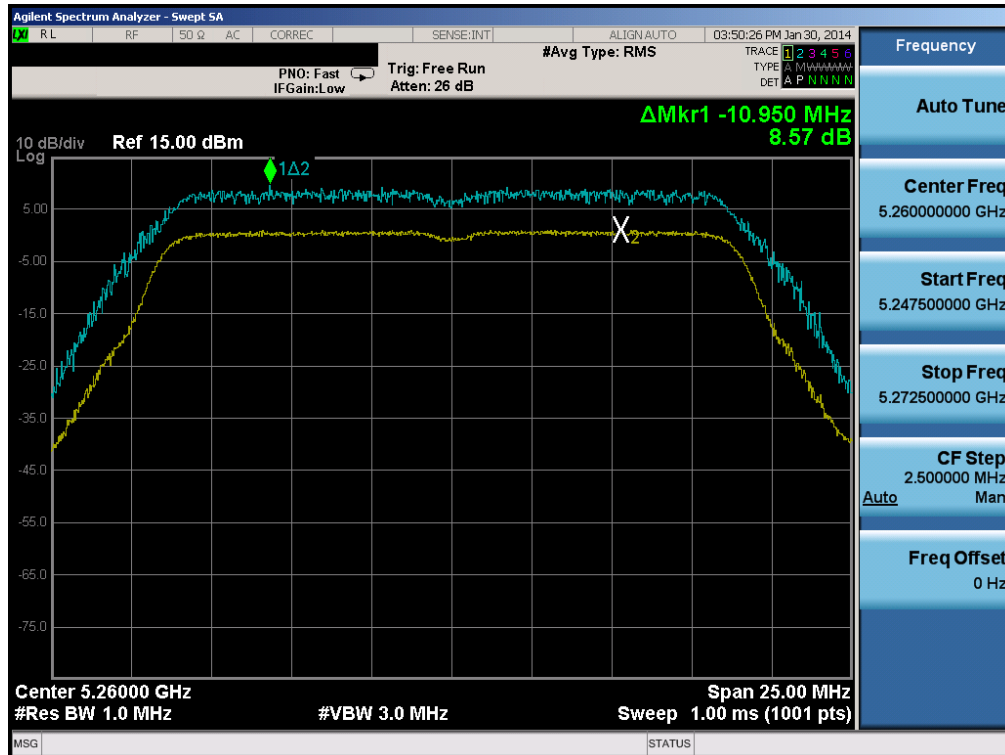


Plot 6-135. Peak Excursion Ratio Plot (802.11a (UNII Band 2A) – Ch. 56)

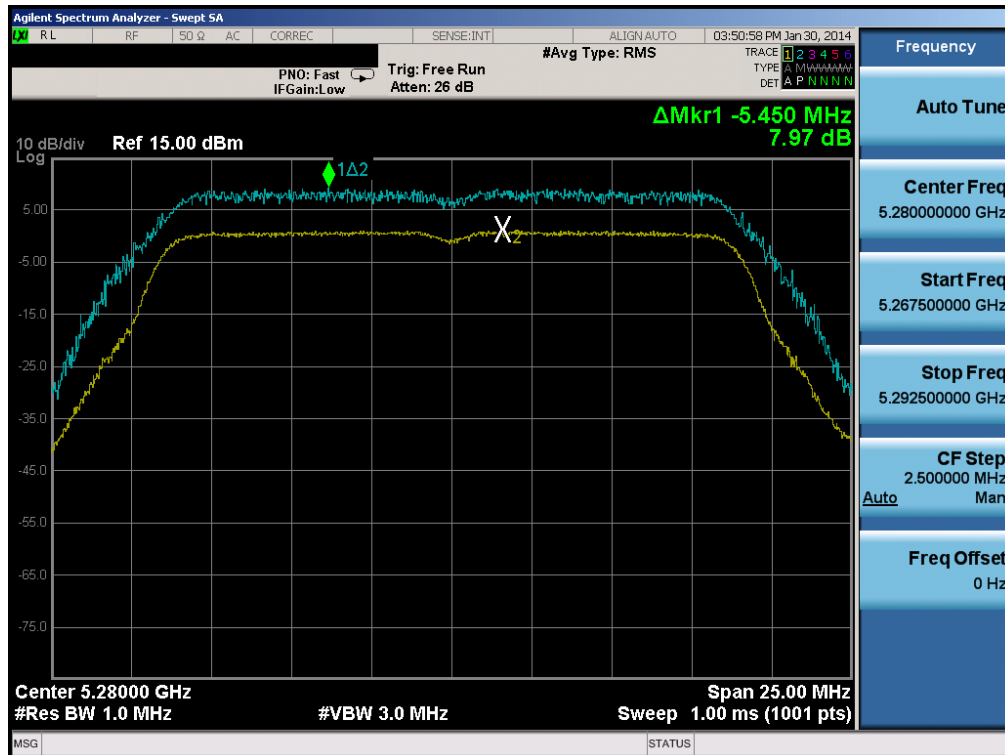


Plot 6-136. Peak Excursion Ratio Plot (802.11a (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 94 of 206

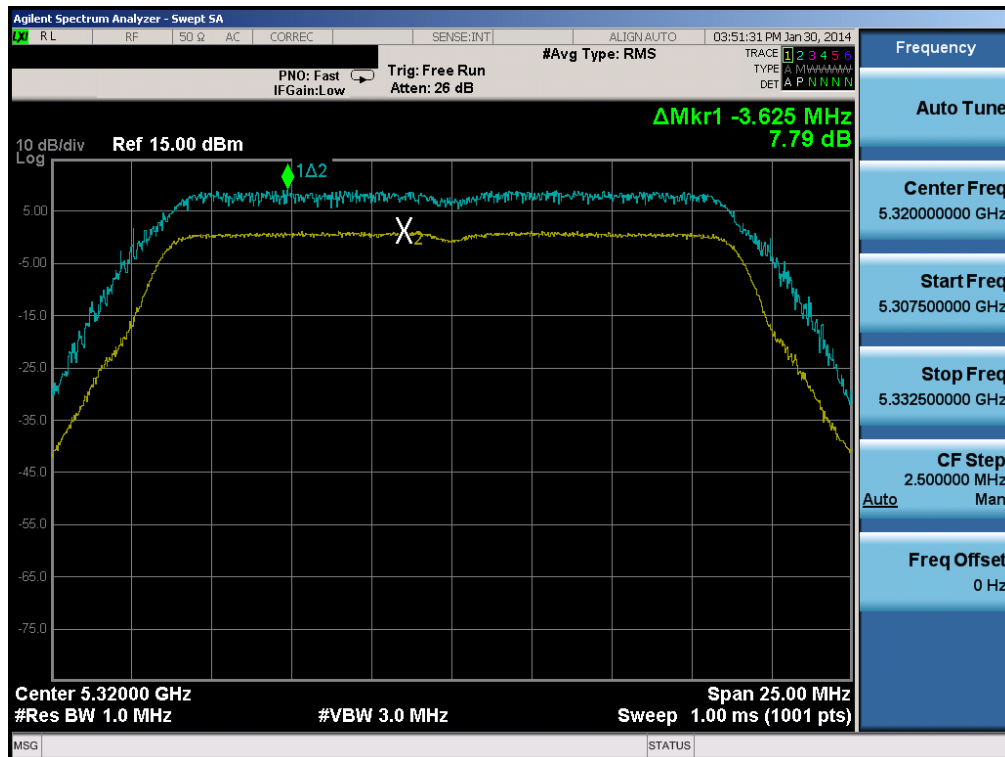


Plot 6-137. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

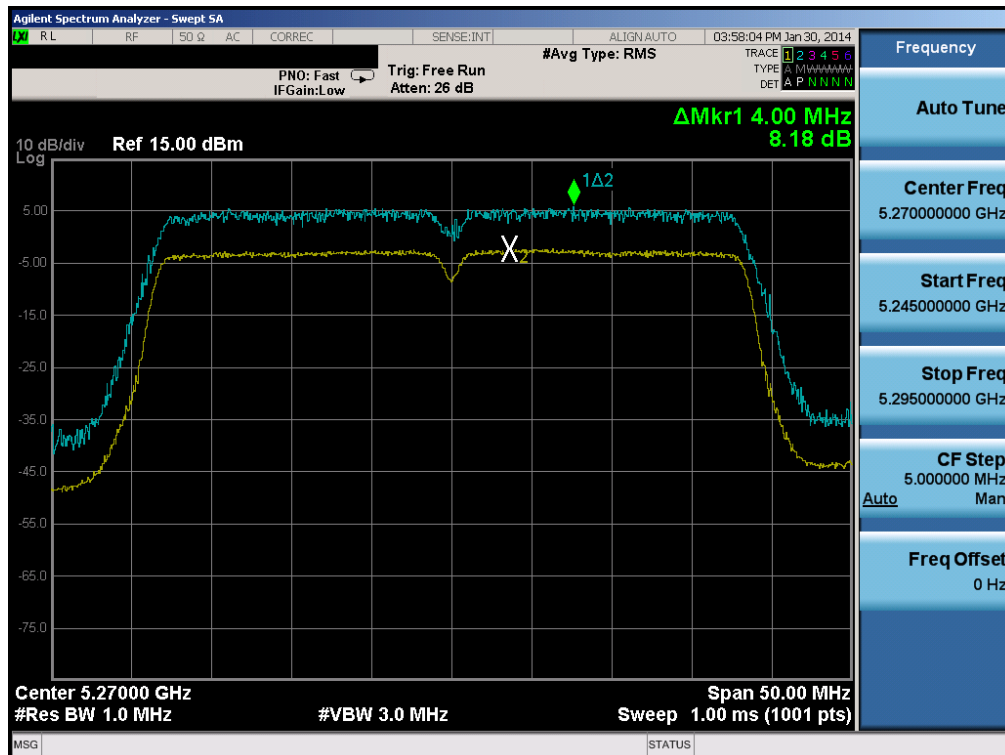


Plot 6-138. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 95 of 206

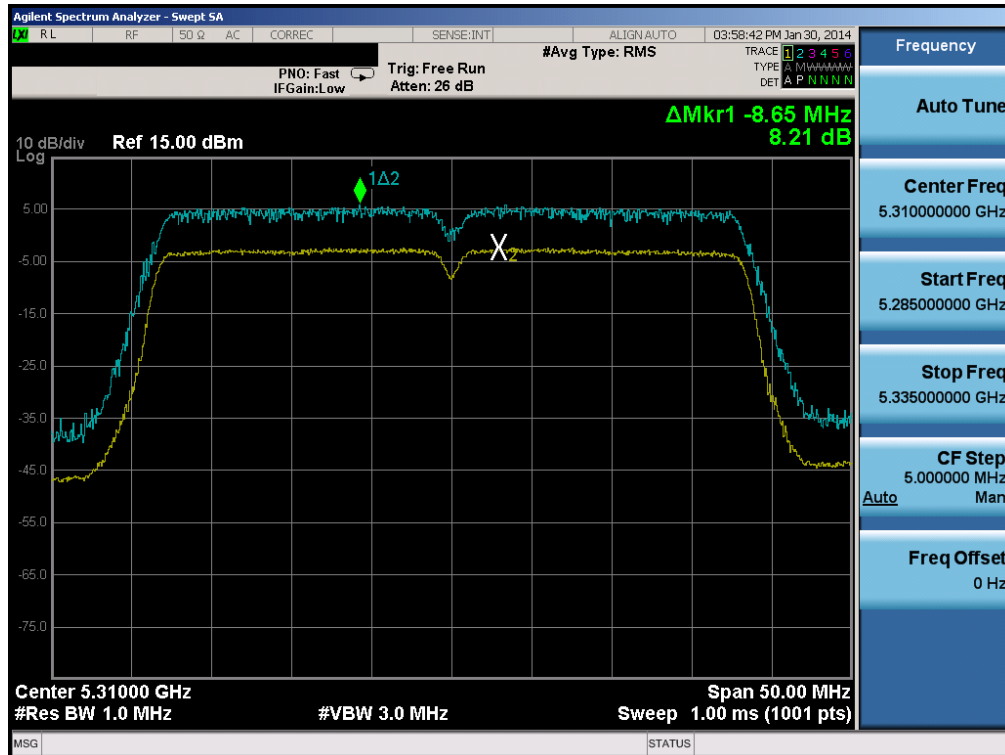


Plot 6-139. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

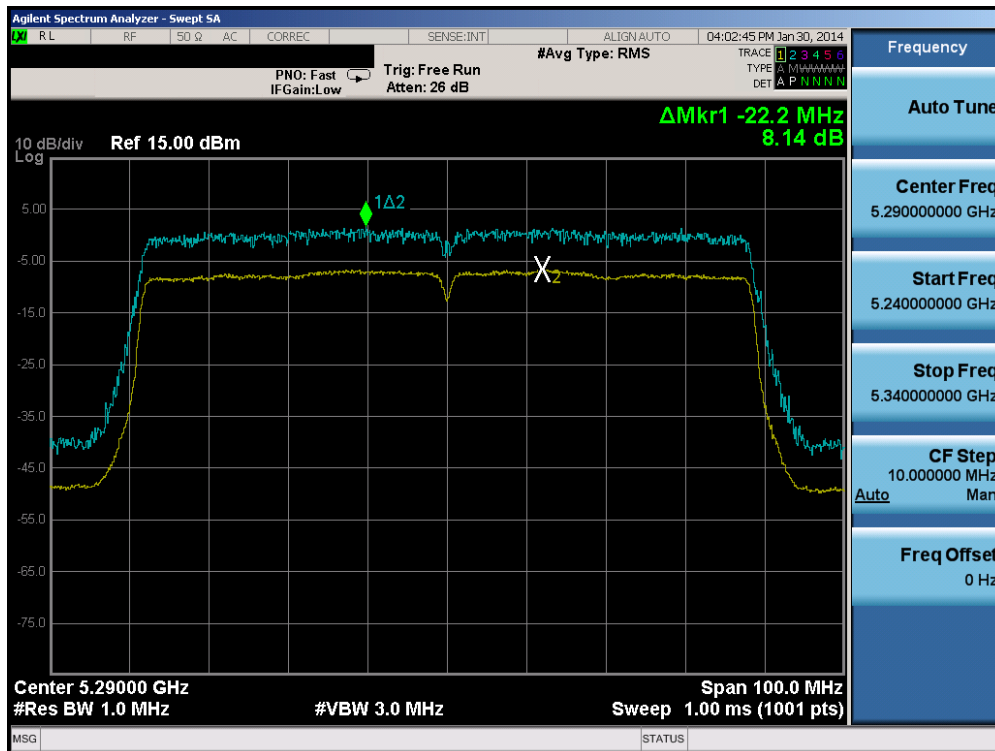


Plot 6-140. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 96 of 206

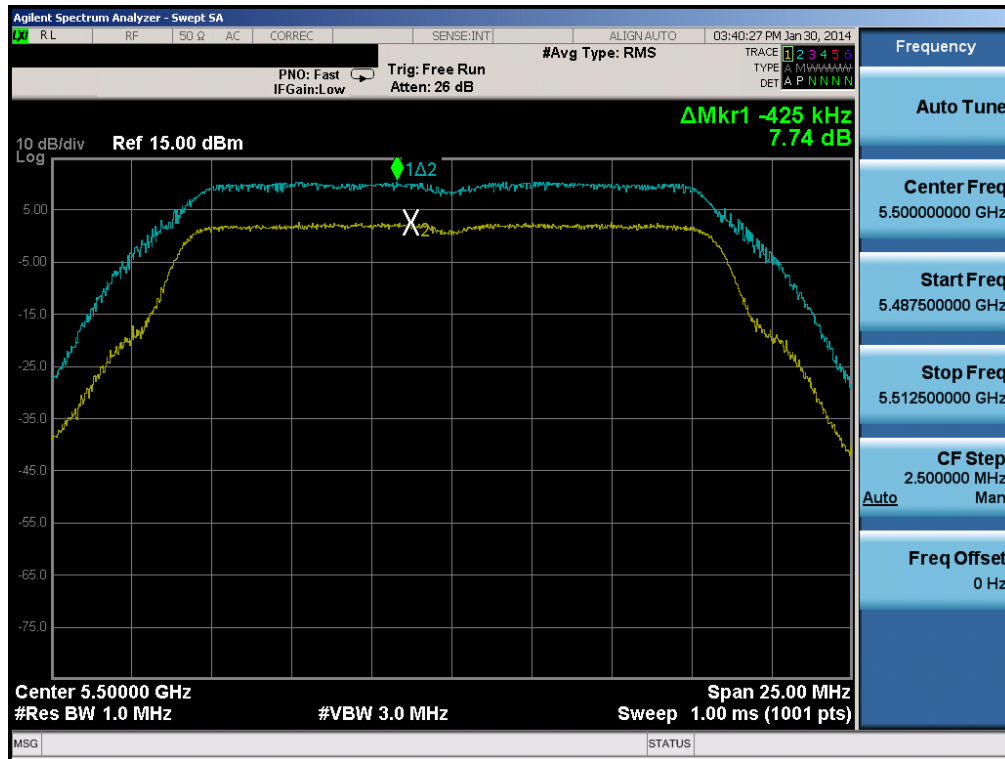


Plot 6-141. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

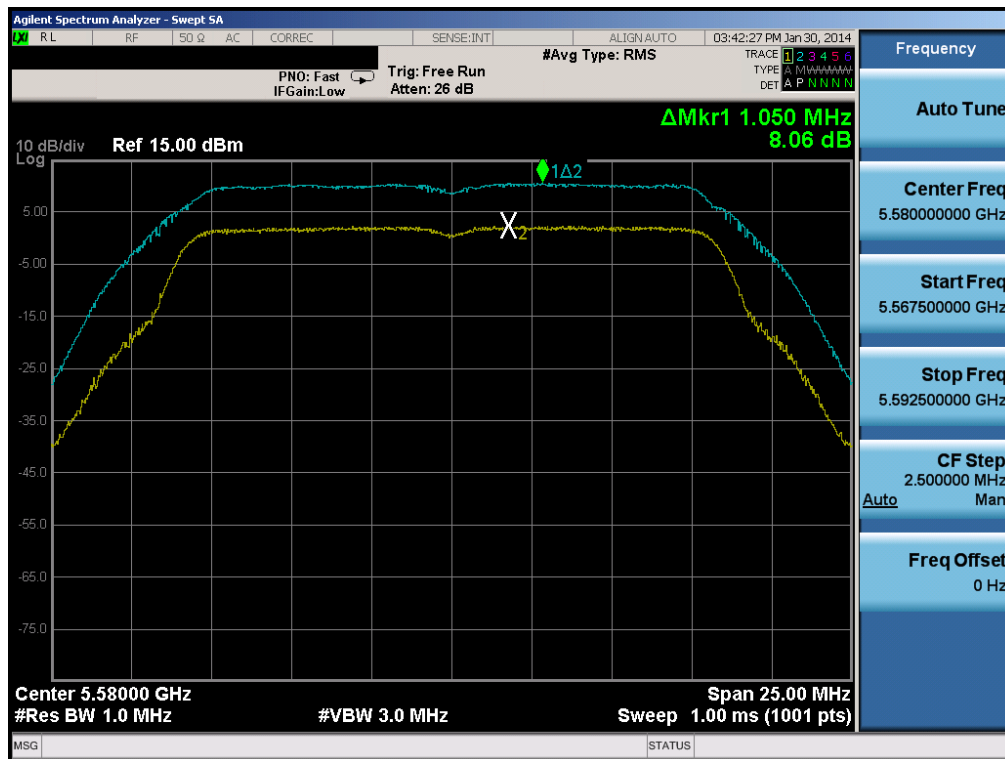


Plot 6-142. Peak Excursion Ratio Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 97 of 206

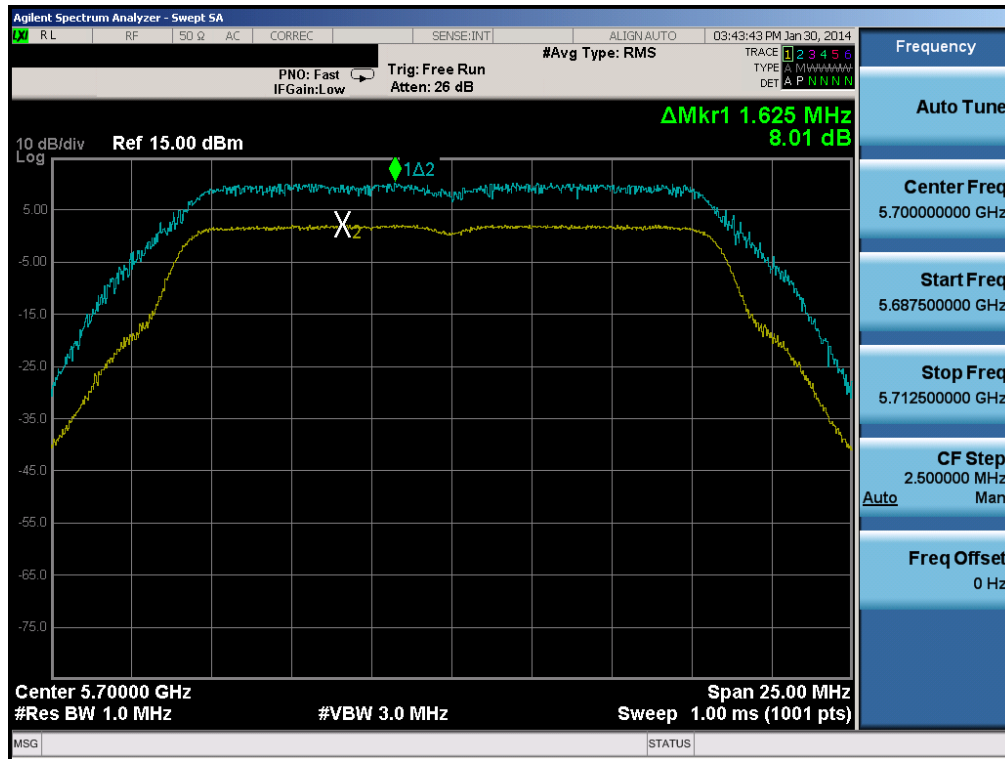


Plot 6-143. Peak Excursion Ratio Plot (802.11a (UNII Band 2C) – Ch. 100)

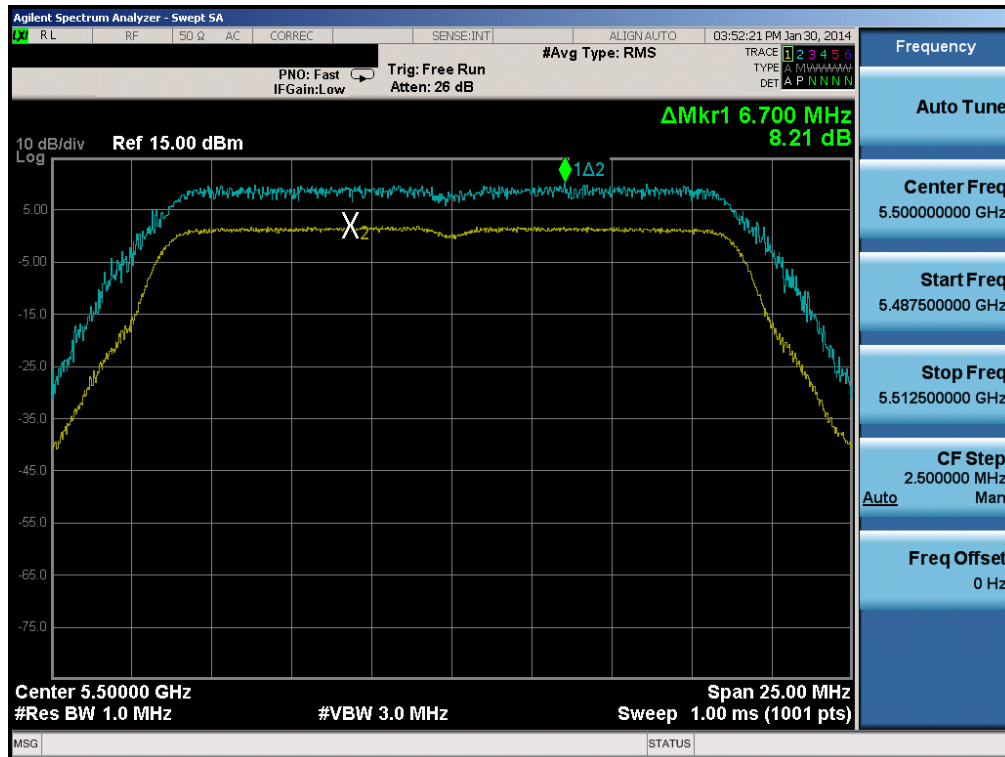


Plot 6-144. Peak Excursion Ratio Plot (802.11a (UNII Band 2C) – Ch. 116)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 98 of 206

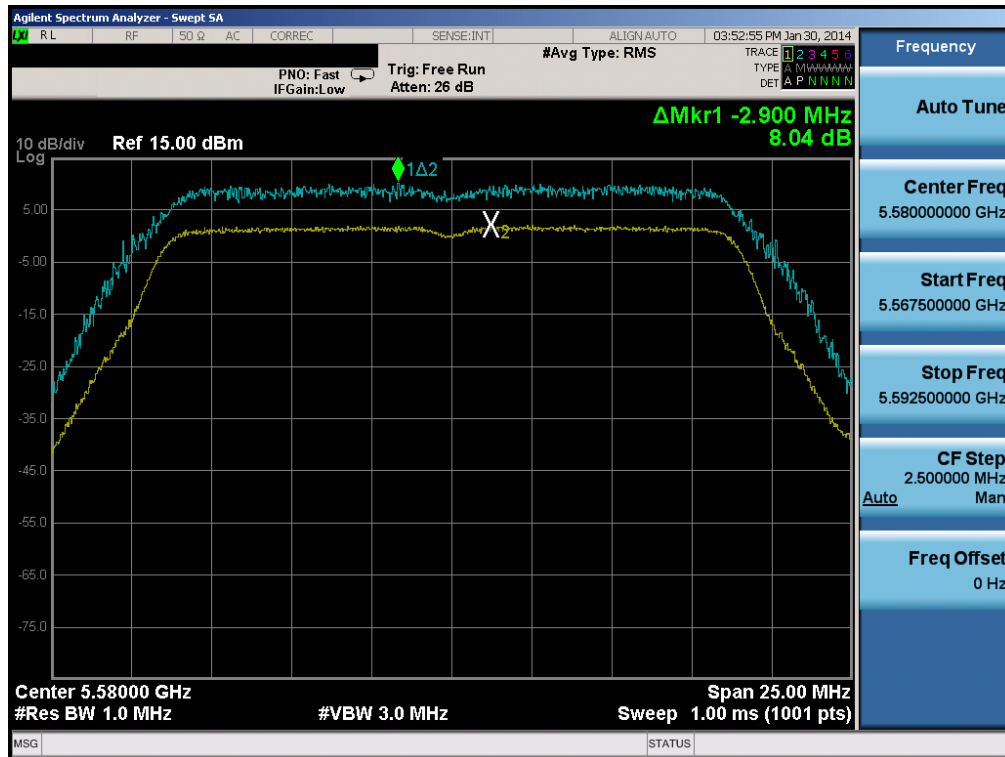


Plot 6-145. Peak Excursion Ratio Plot (802.11a (UNII Band 2C) – Ch. 140)

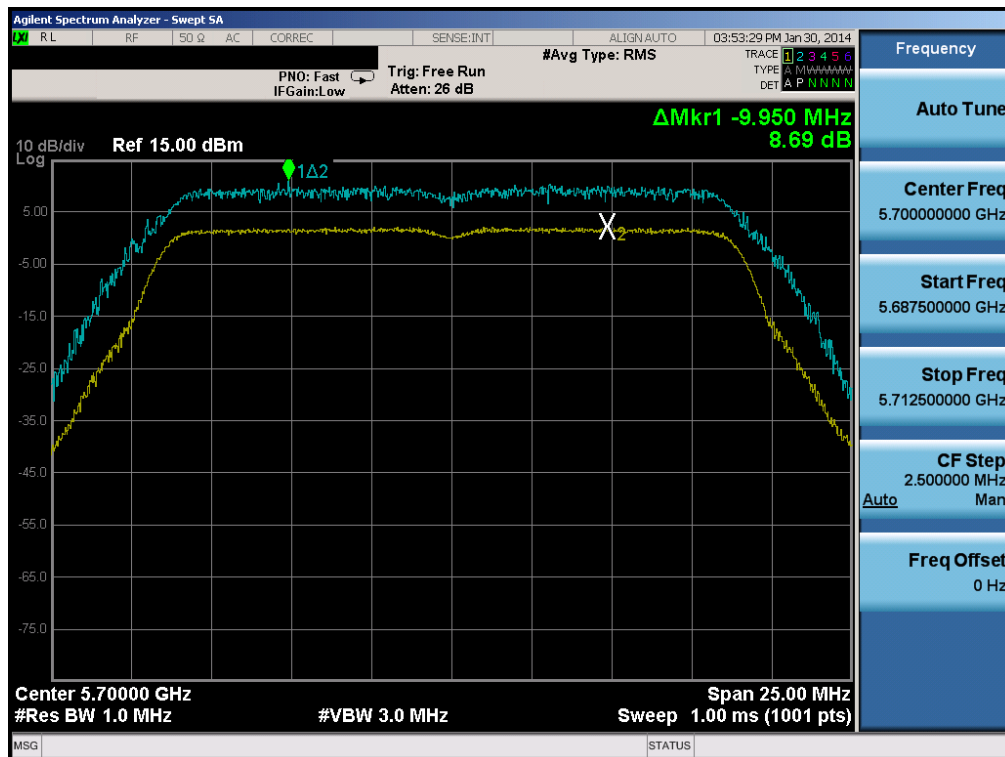


Plot 6-146. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 99 of 206

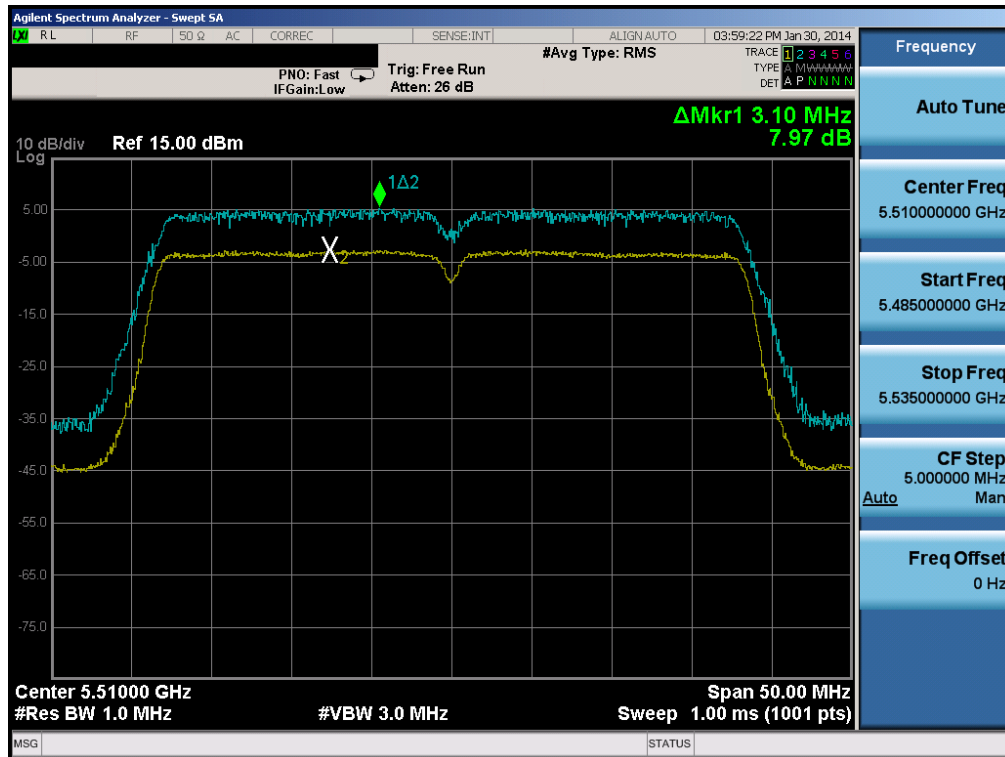


Plot 6-147. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 116)

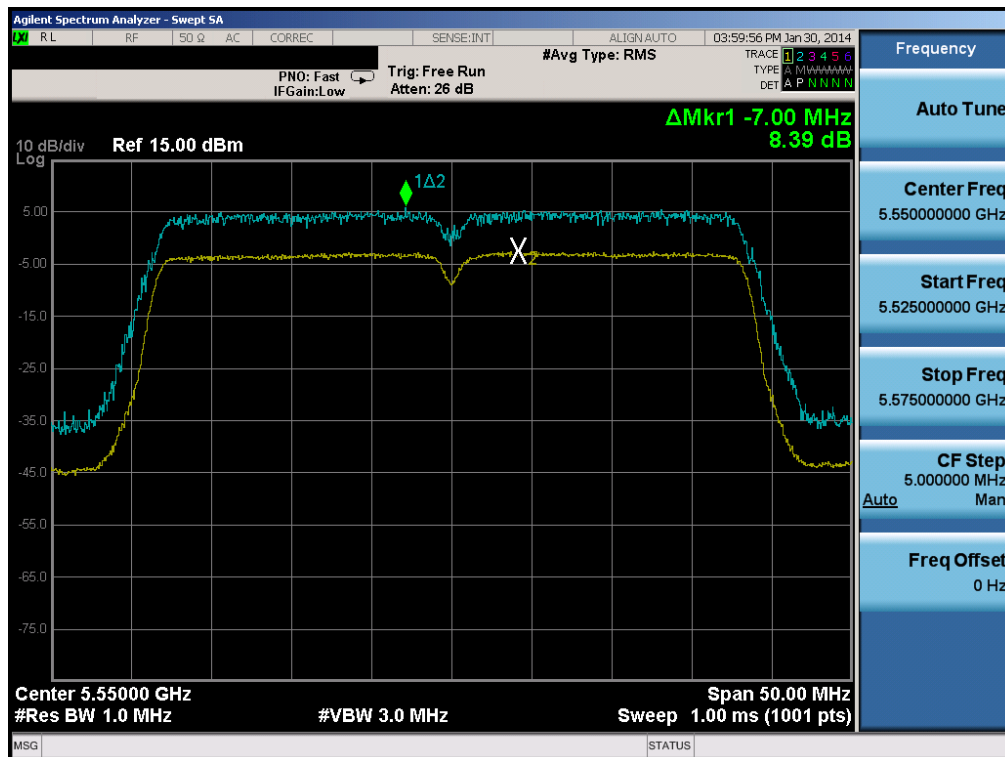


Plot 6-148. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 140)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 100 of 206

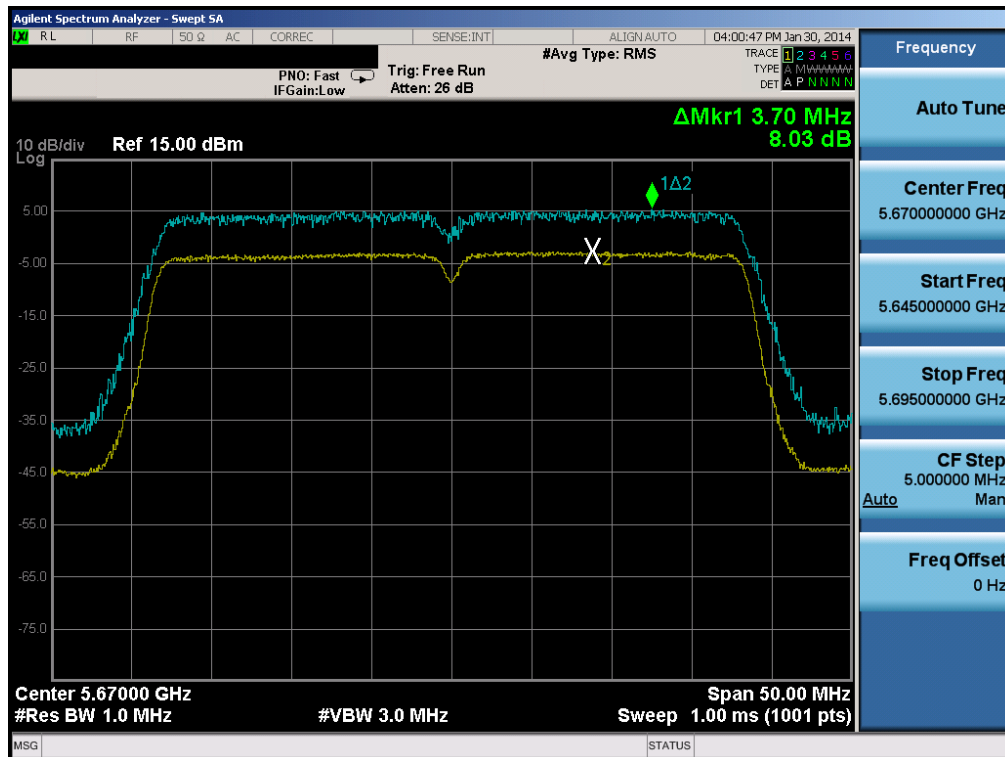


Plot 6-149. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

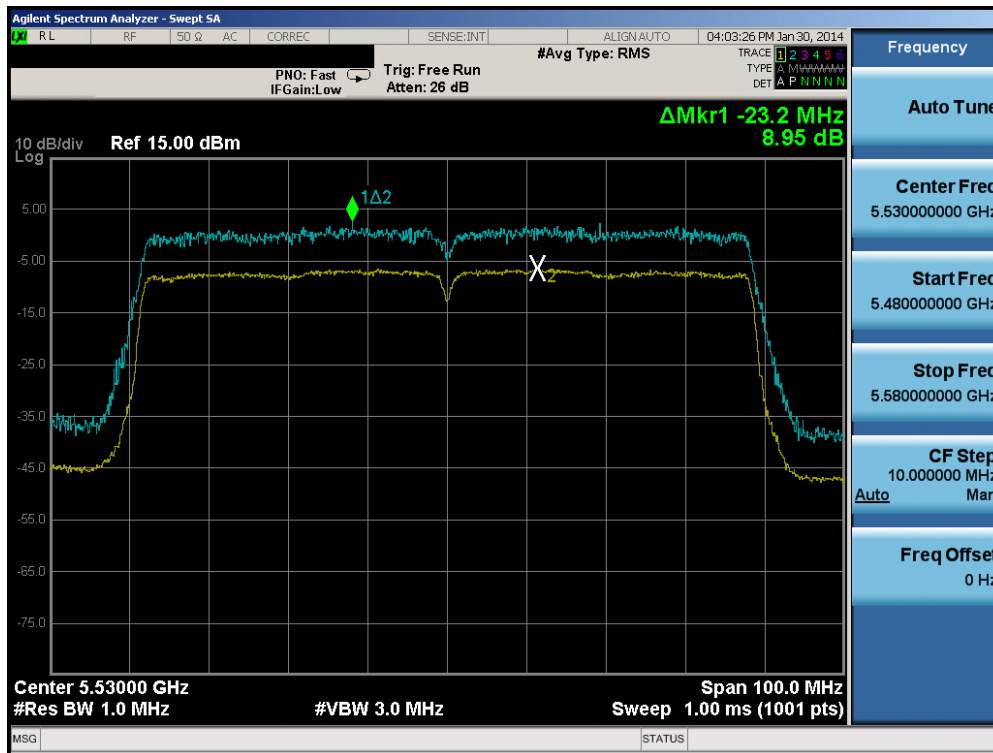


Plot 6-150. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 110)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 101 of 206



Plot 6-151. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 134)



Plot 6-152. Peak Excursion Ratio Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

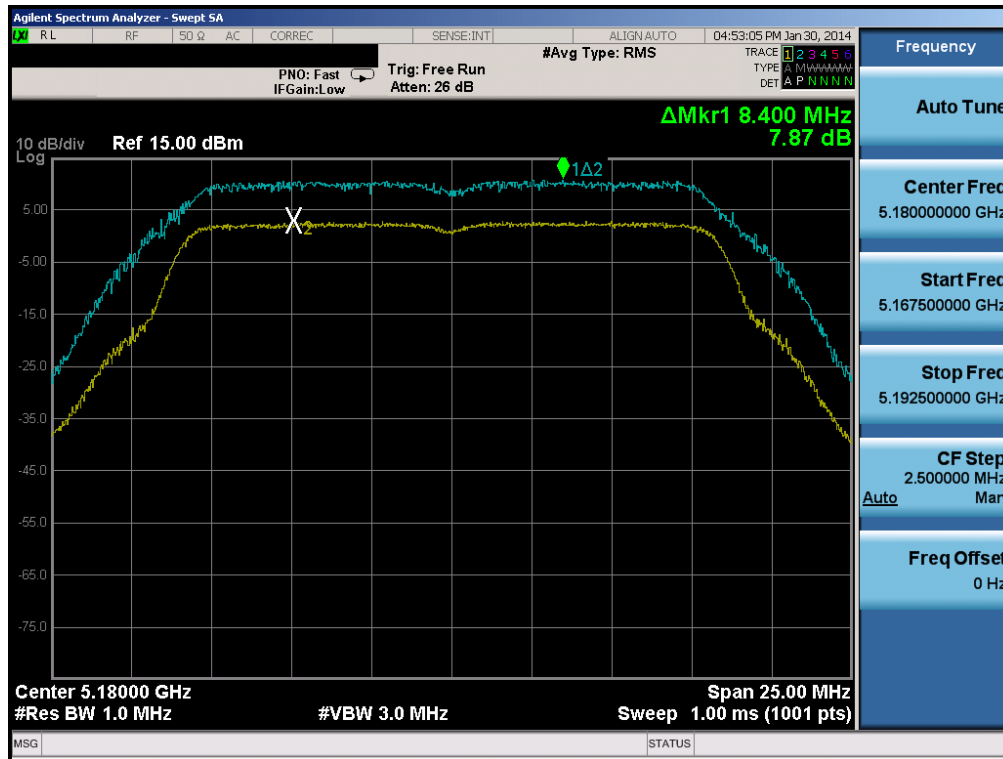
FCC ID: A3LSMG900P	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 102 of 206

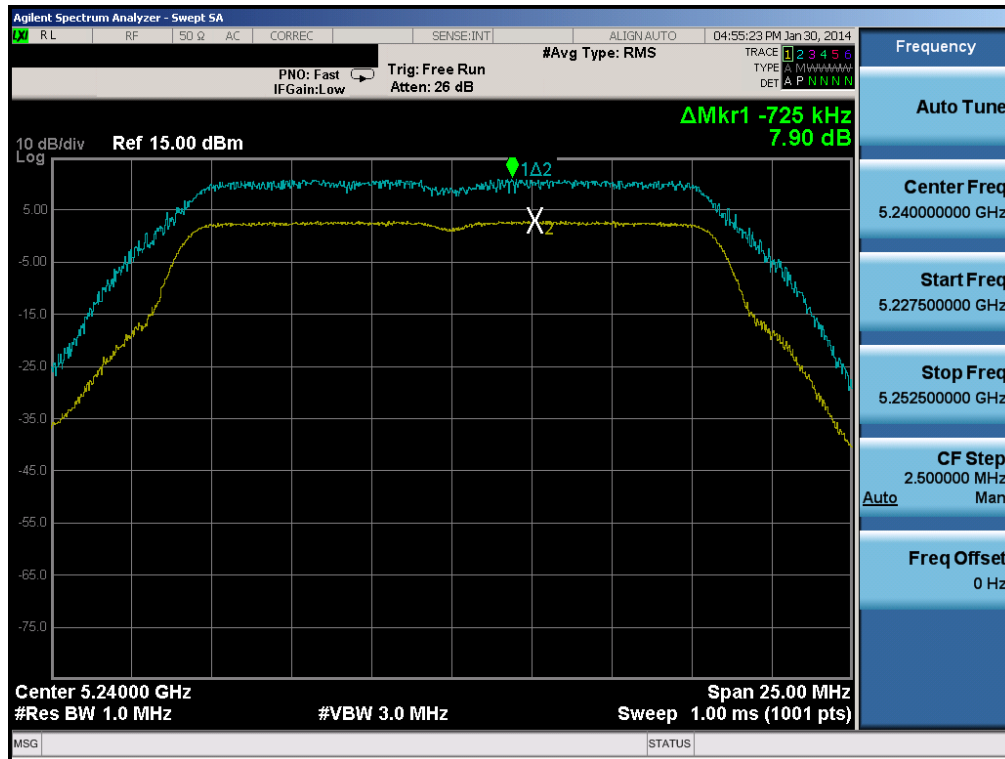
Antenna-2 Peak Excursion Ratio – 802.11a/n/ac

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Peak Excursion Ratio [dBm]	Max Permissible Peak Excursion Ratio [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6	7.87	13.0	-5.13	Pass
	5200	40	a	6	7.93	13.0	-5.07	Pass
	5240	48	a	6	7.90	13.0	-5.10	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	8.81	13.0	-4.19	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	8.11	13.0	-4.89	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	8.79	13.0	-4.21	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	8.31	13.0	-4.70	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	8.28	13.0	-4.72	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	8.71	13.0	-4.29	Pass
Band 2A	5260	52	a	6	7.92	13.0	-5.08	Pass
	5280	56	a	6	7.89	13.0	-5.11	Pass
	5320	64	a	6	7.85	13.0	-5.15	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	9.24	13.0	-3.76	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	8.55	13.0	-4.45	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	9.10	13.0	-3.90	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	8.59	13.0	-4.41	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	8.52	13.0	-4.48	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	8.39	13.0	-4.62	Pass
Band 2C	5500	100	a	6	7.84	13.0	-5.16	Pass
	5580	116	a	6	7.98	13.0	-5.02	Pass
	5700	140	a	6	7.90	13.0	-5.10	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	8.92	13.0	-4.09	Pass
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	9.06	13.0	-3.94	Pass
	5700	140	n (20MHz)	6.5/7.2 (MCS0)	8.94	13.0	-4.06	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	8.15	13.0	-4.85	Pass
	5550	110	n (40MHz)	13.5/15 (MCS0)	8.44	13.0	-4.56	Pass
	5670	134	n (40MHz)	13.5/15 (MCS0)	8.38	13.0	-4.62	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	8.20	13.0	-4.80	Pass

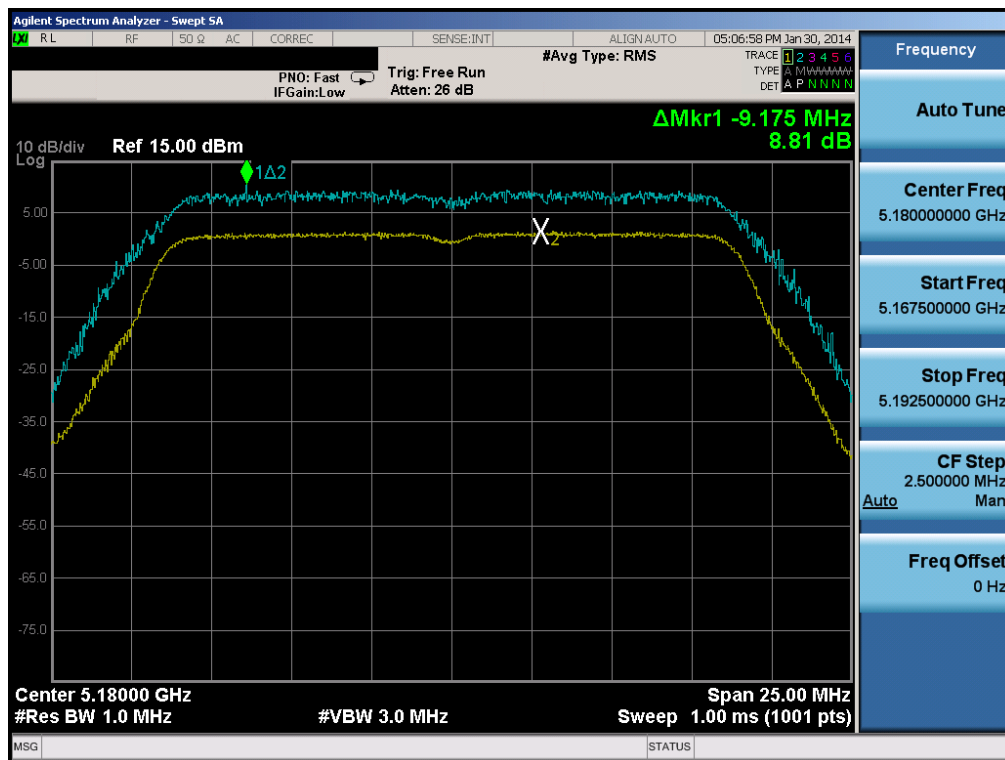
Table 6-27. Conducted Peak Excursion Ratio Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset	Page 103 of 206	



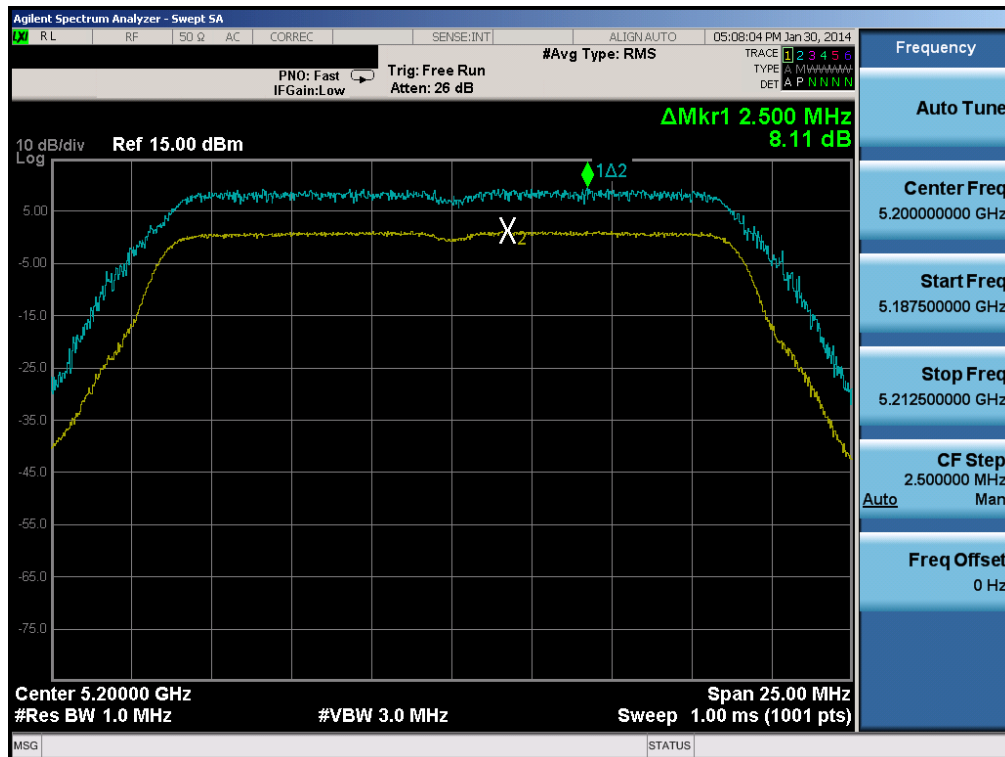


Plot 6-155. Peak Excursion Ratio Plot (802.11a (UNII Band 1) – Ch. 48)

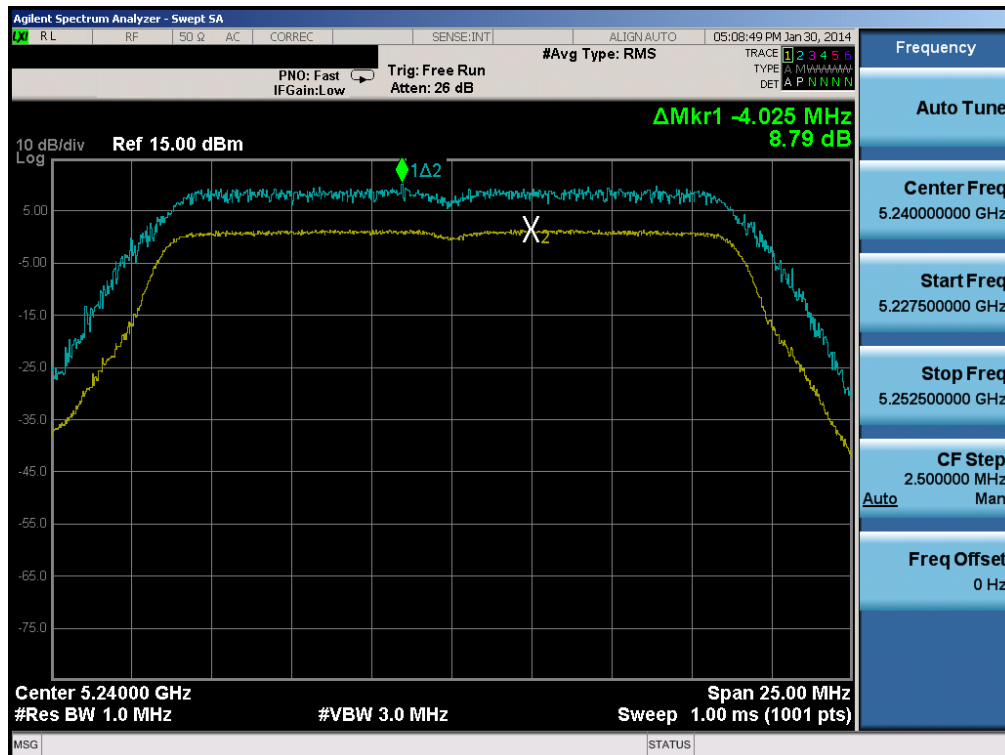


Plot 6-156. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 105 of 206

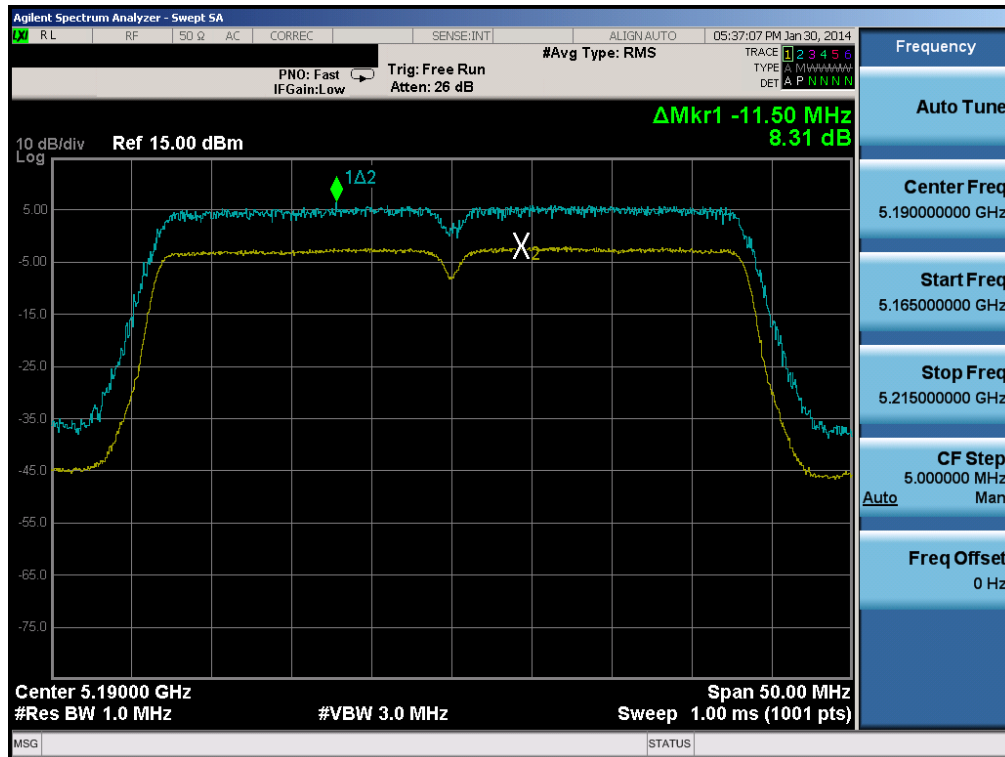


Plot 6-157. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

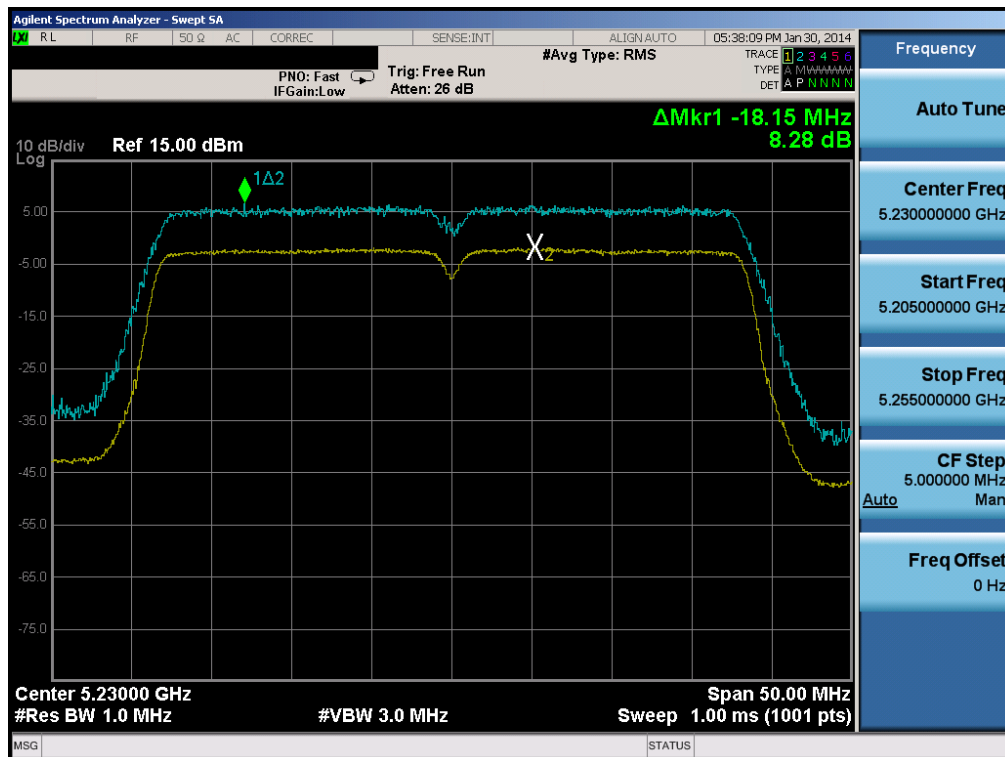


Plot 6-158. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 106 of 206

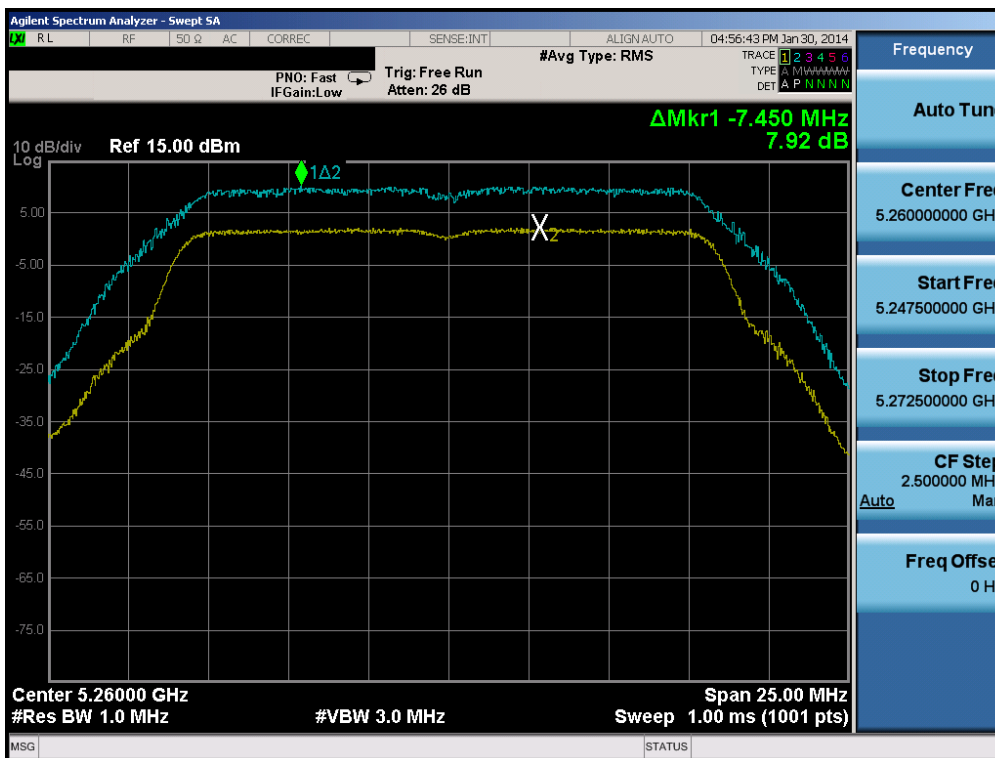
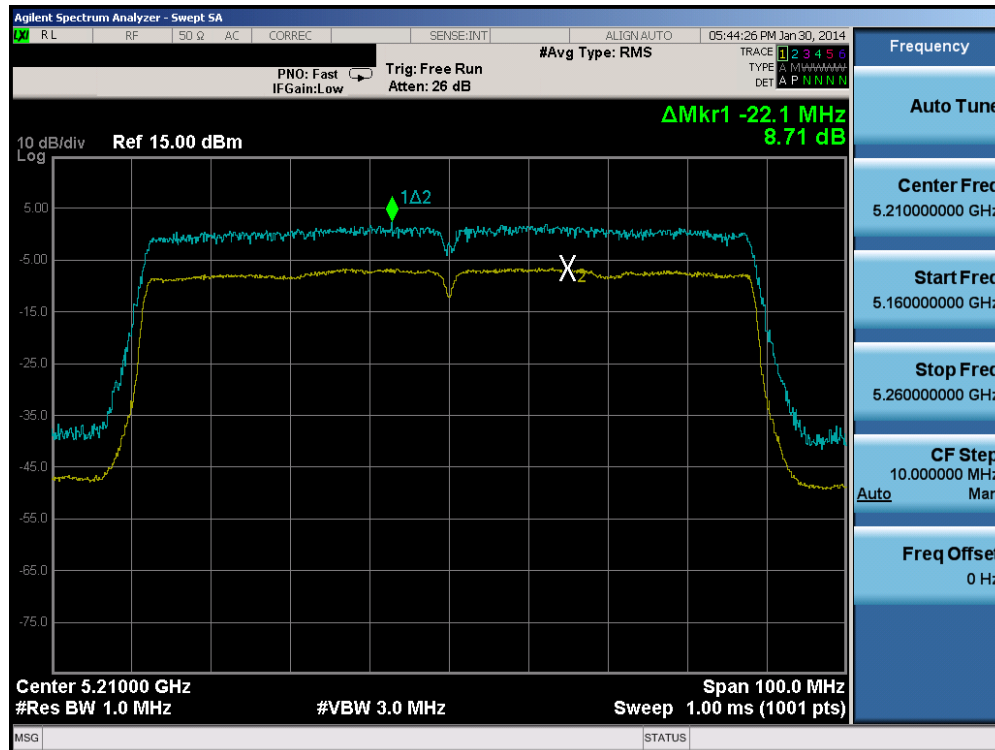


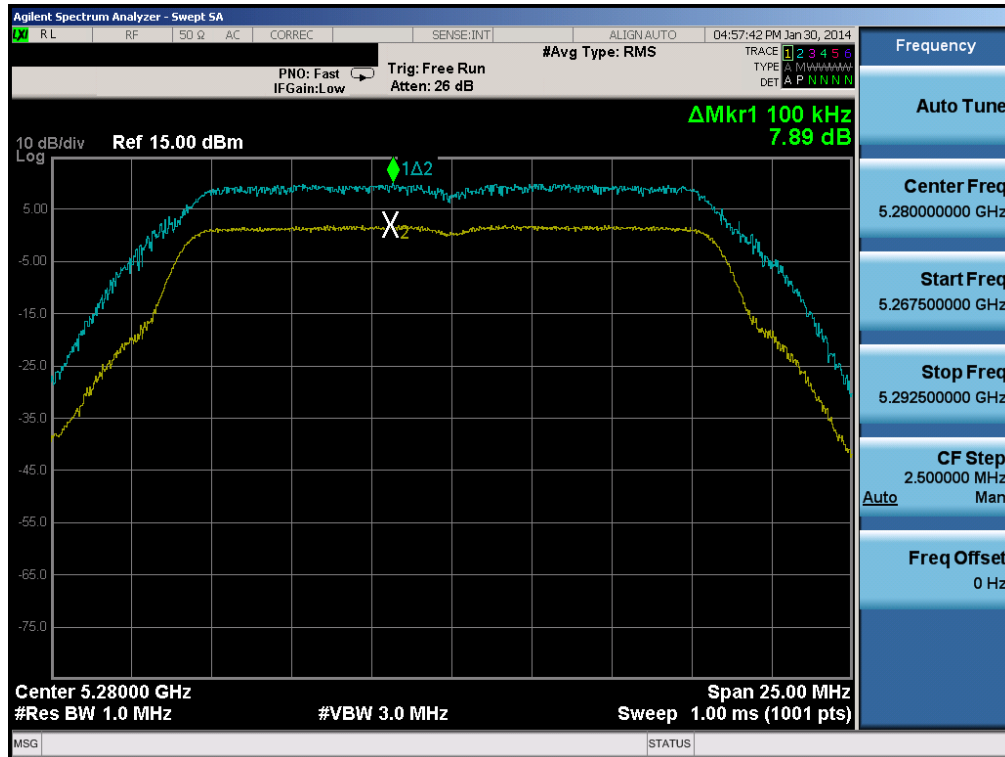
Plot 6-159. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)



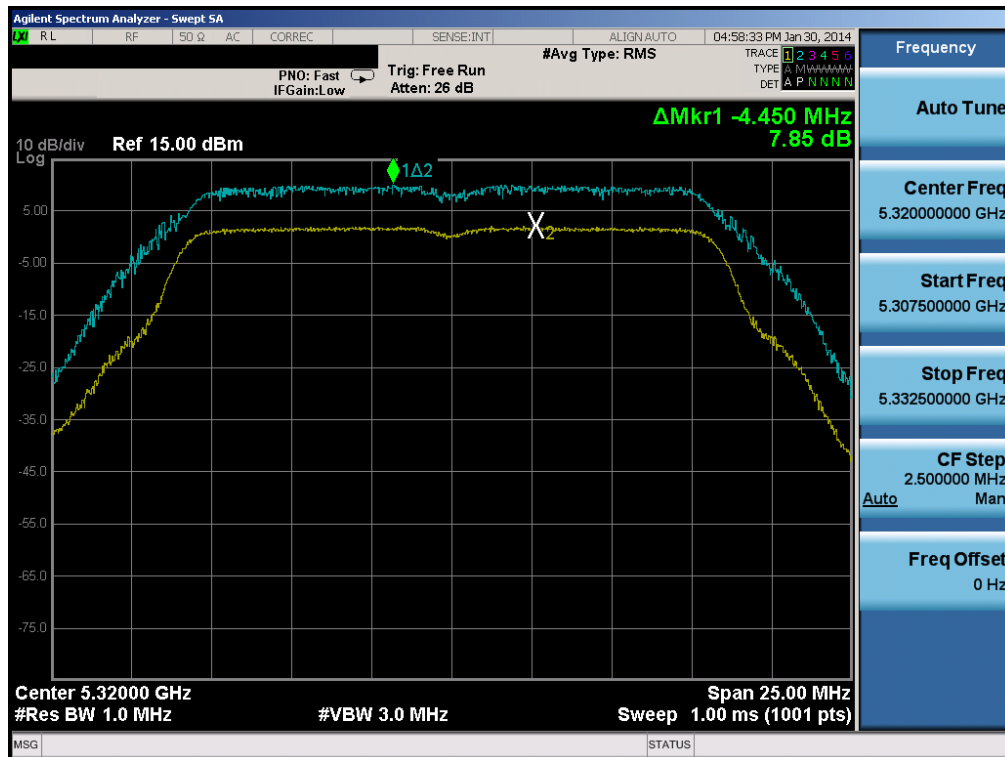
Plot 6-160. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 107 of 206



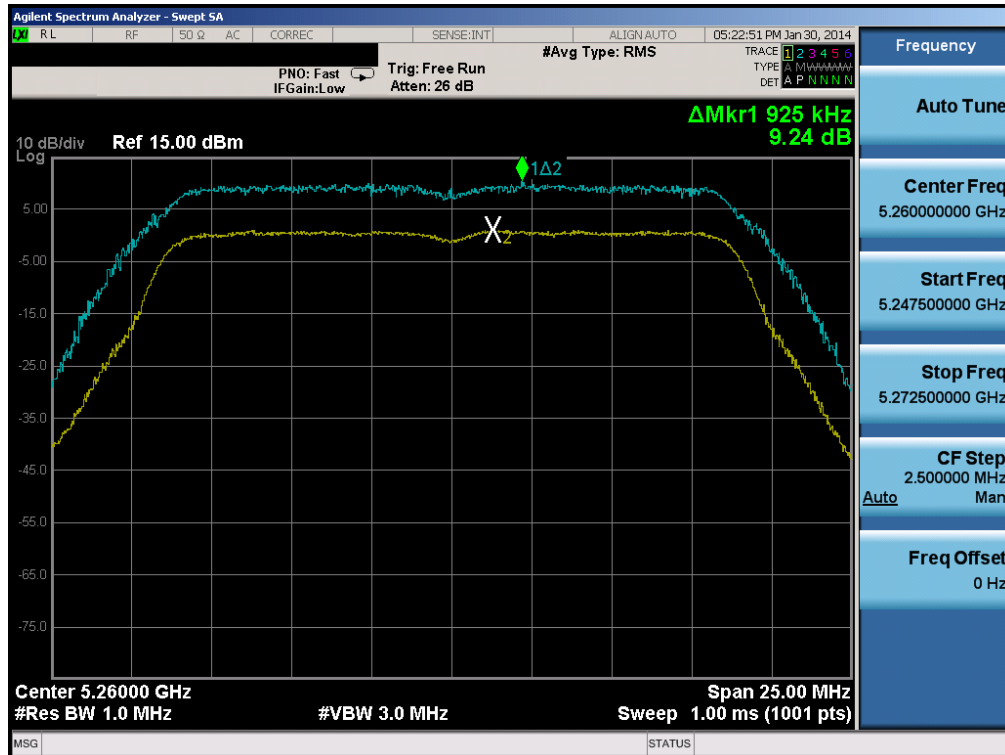


Plot 6-163. Peak Excursion Ratio Plot (802.11a (UNII Band 2A) – Ch. 56)

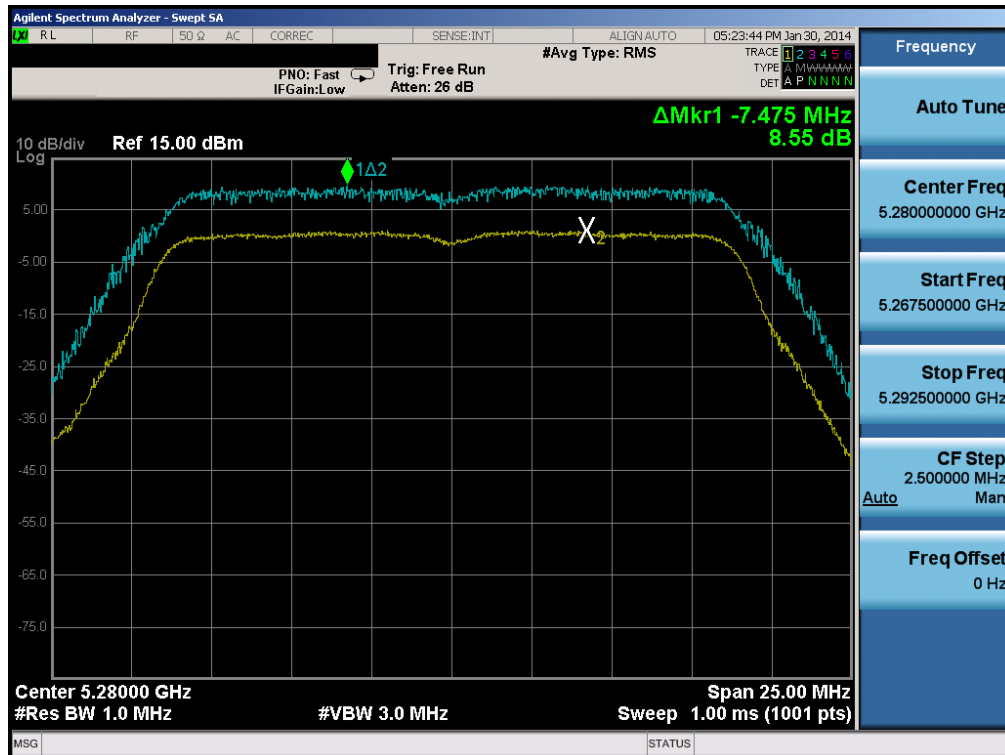


Plot 6-164. Peak Excursion Ratio Plot (802.11a (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 109 of 206

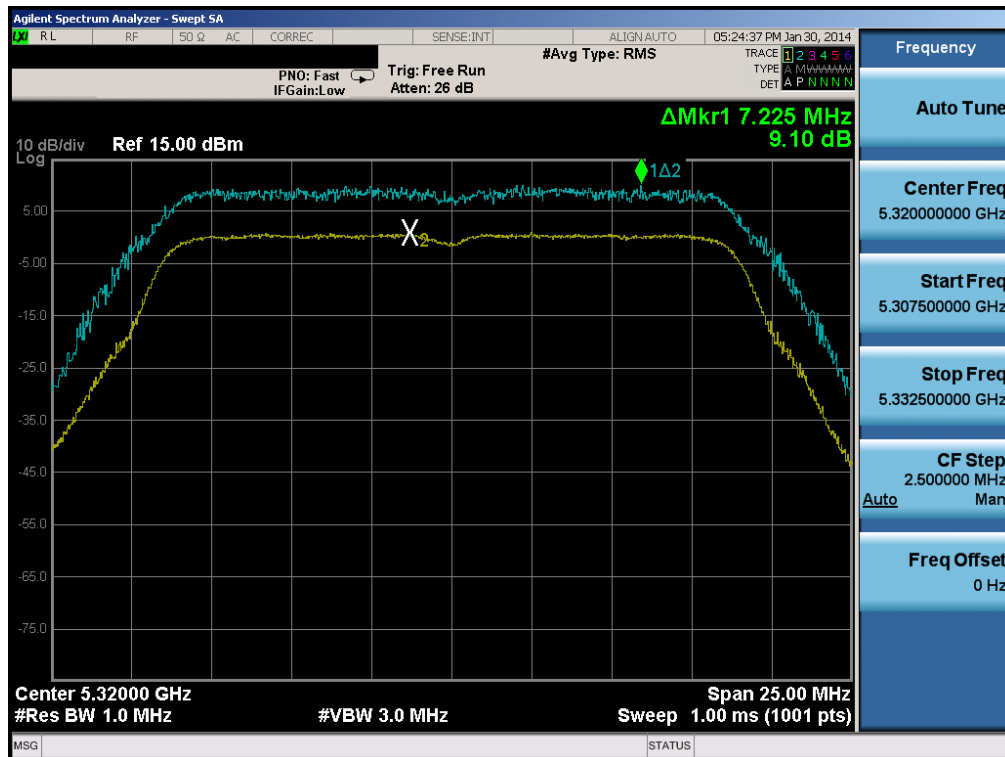


Plot 6-165. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

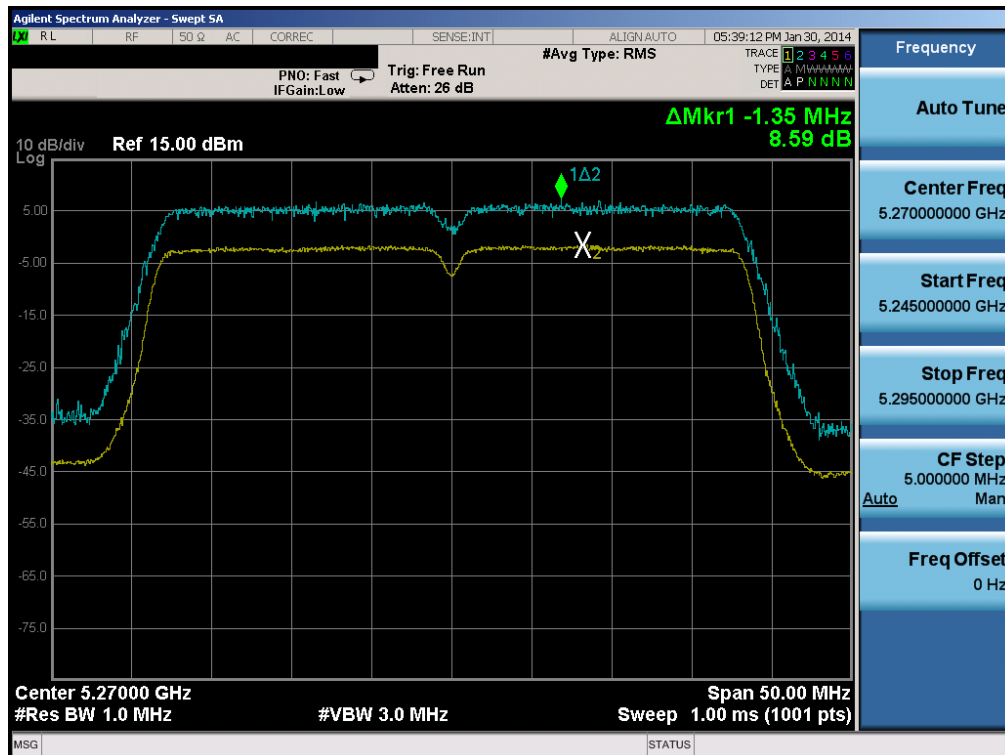


Plot 6-166. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 110 of 206

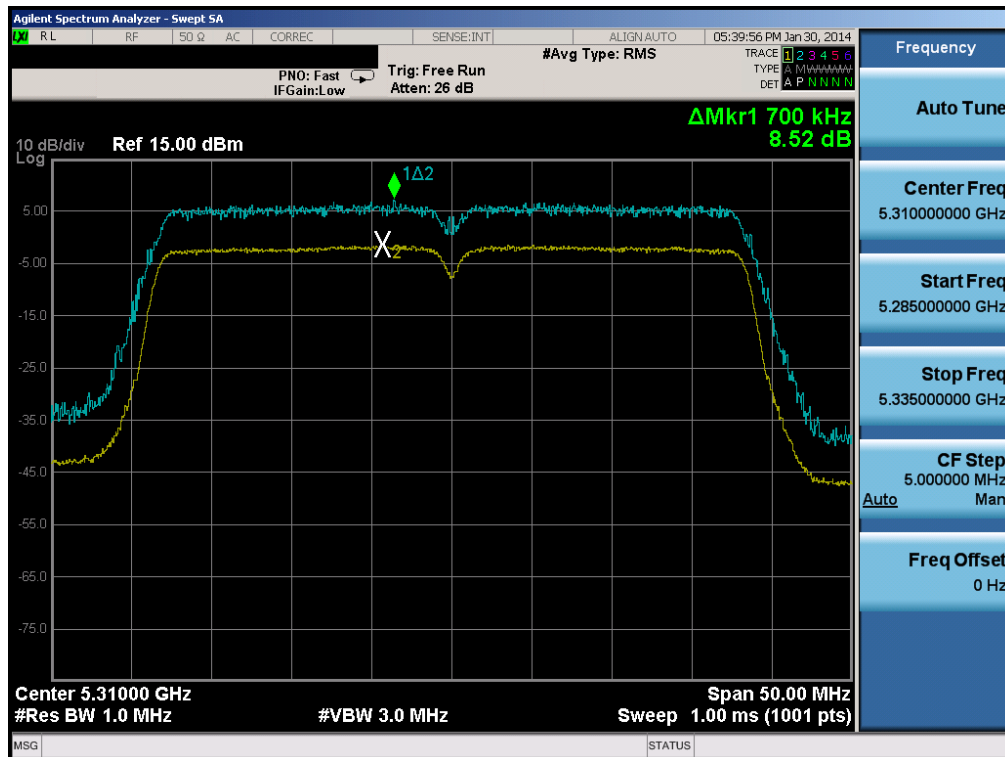


Plot 6-167. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

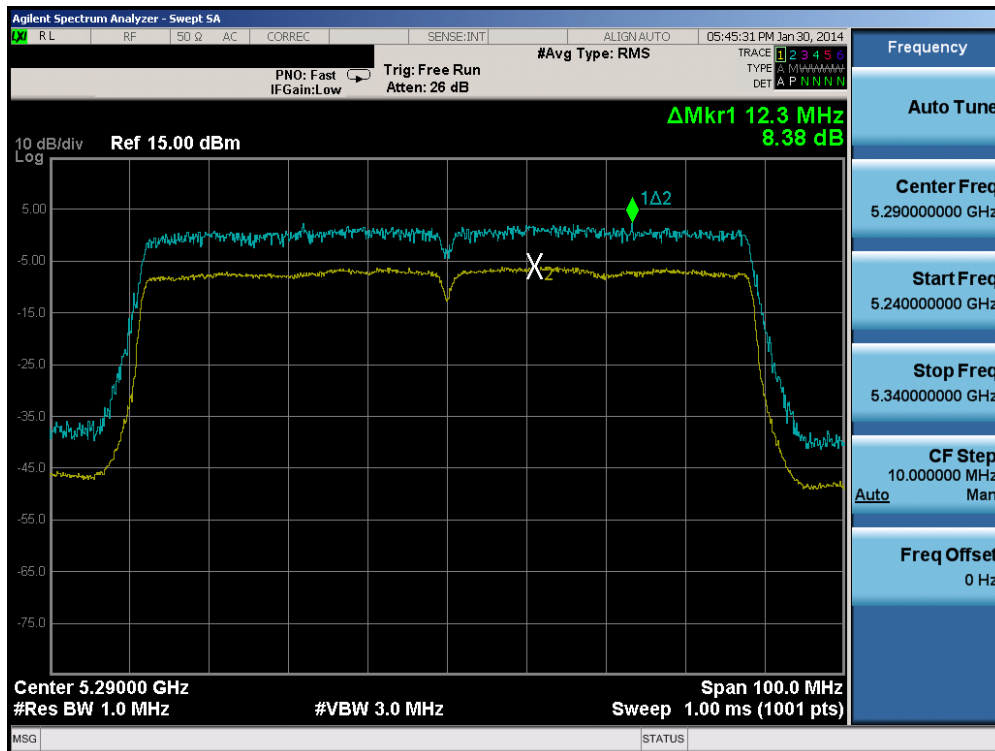


Plot 6-168. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 111 of 206

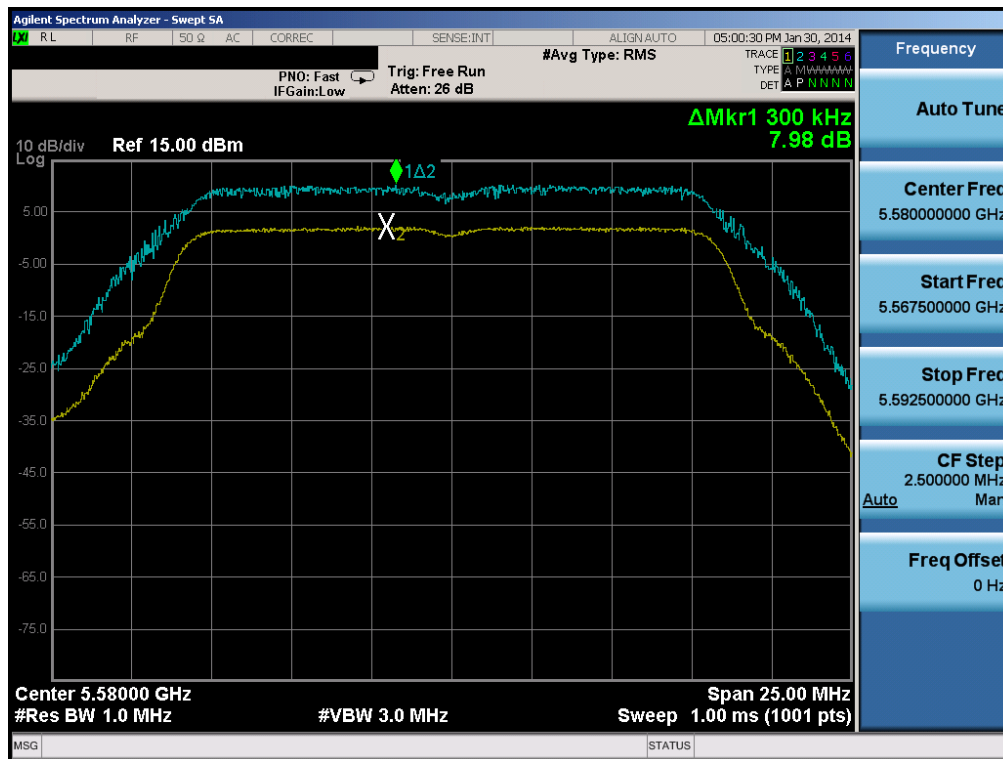
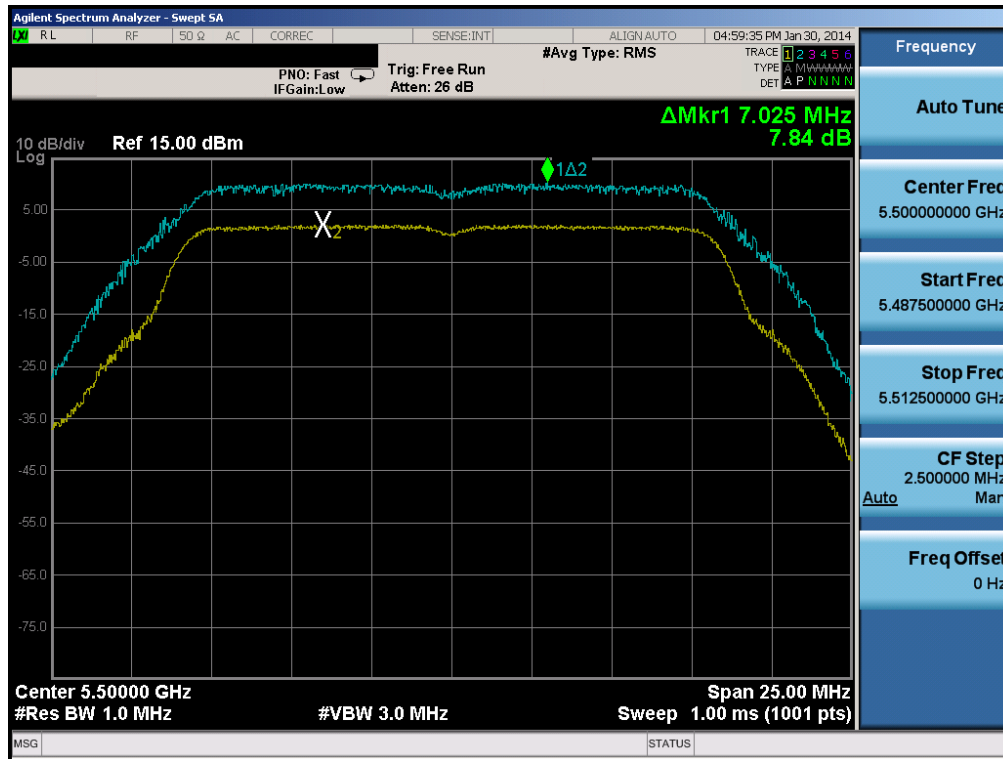


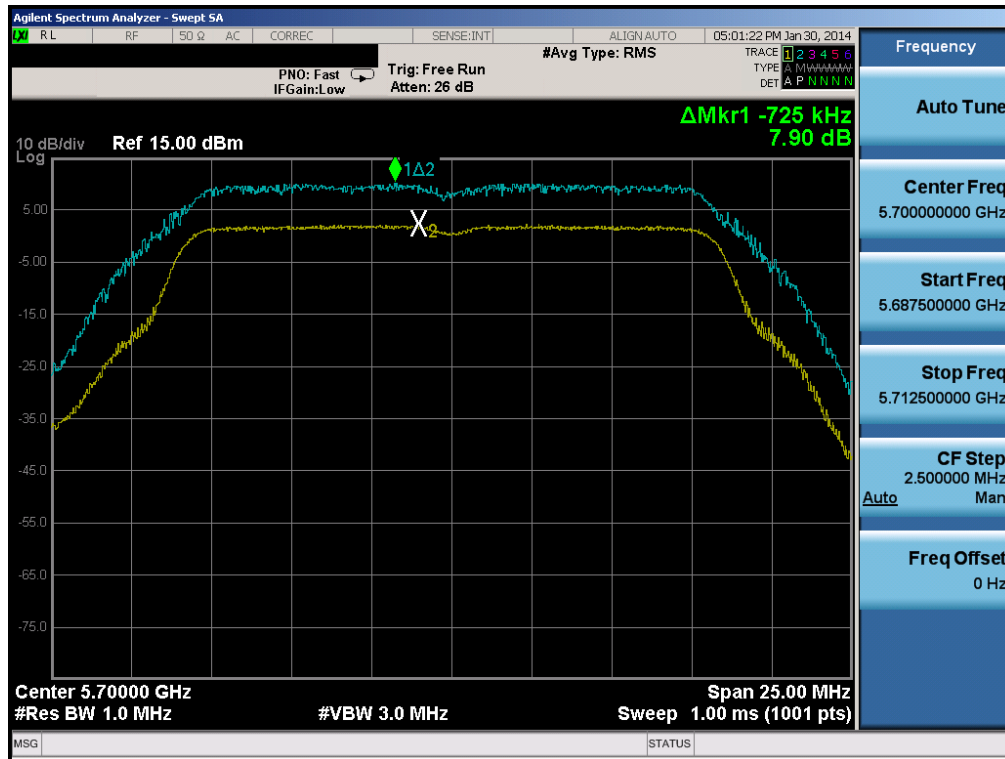
Plot 6-169. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)



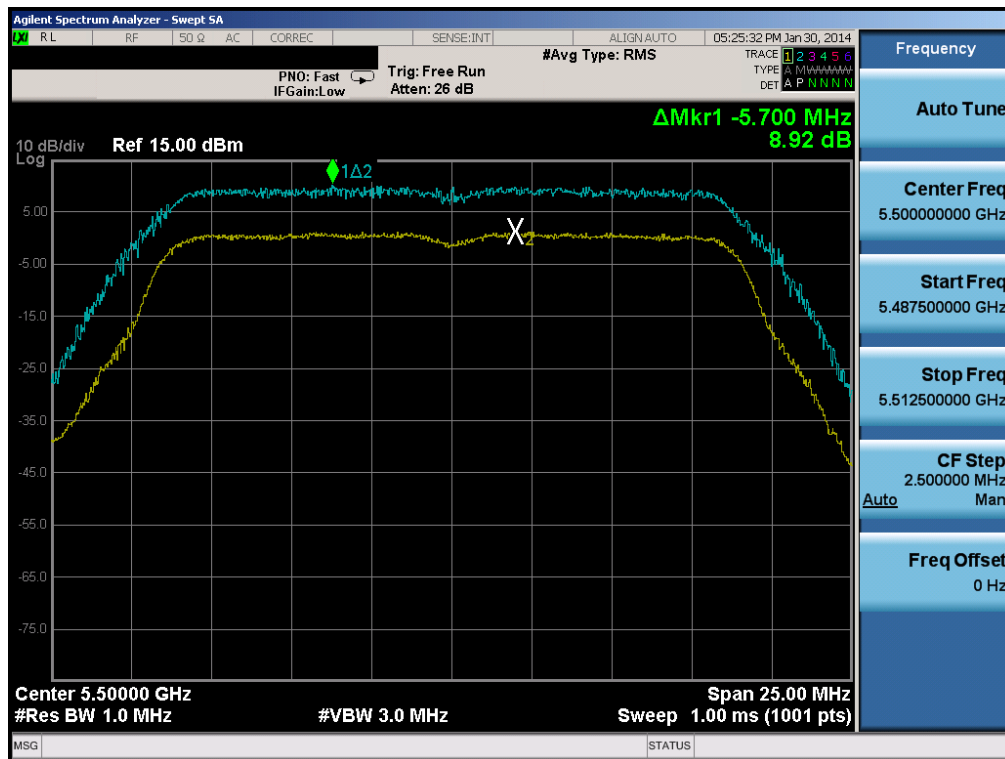
Plot 6-170. Peak Excursion Ratio Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMG900P	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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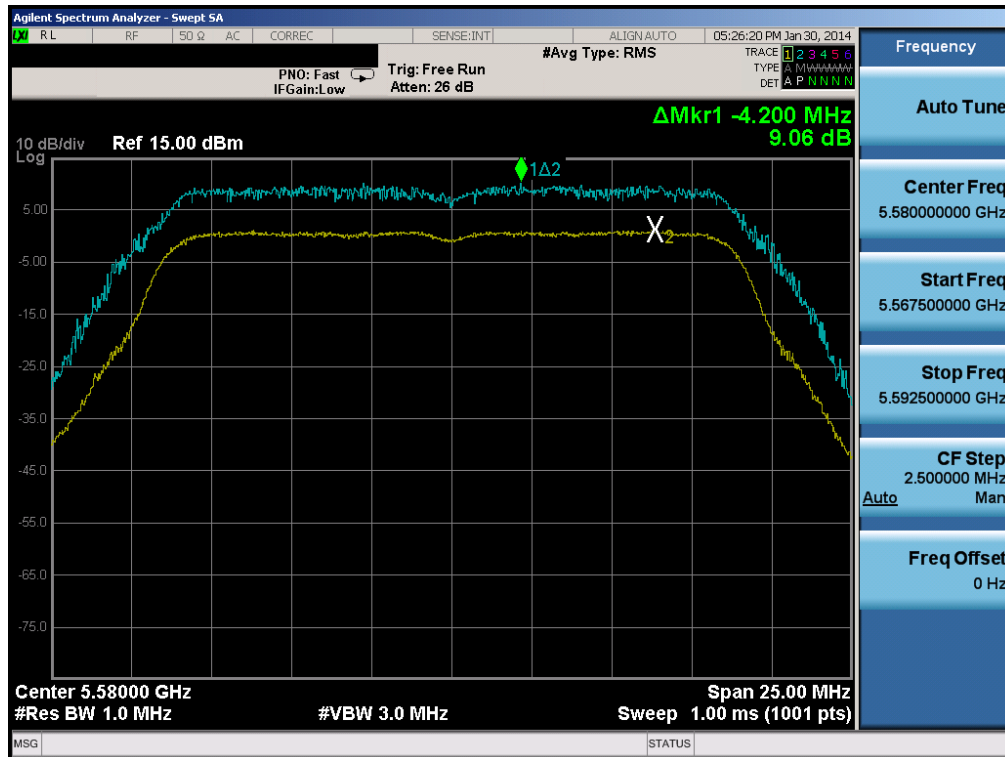


Plot 6-173. Peak Excursion Ratio Plot (802.11a (UNII Band 2C) – Ch. 140)

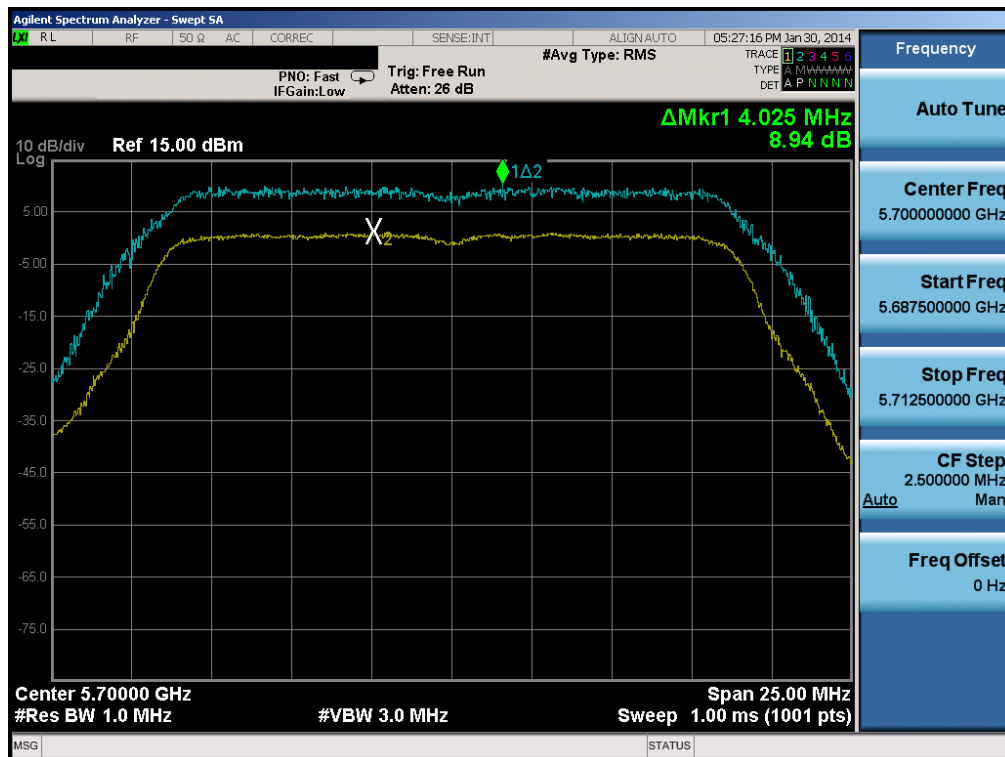


Plot 6-174. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMG900P	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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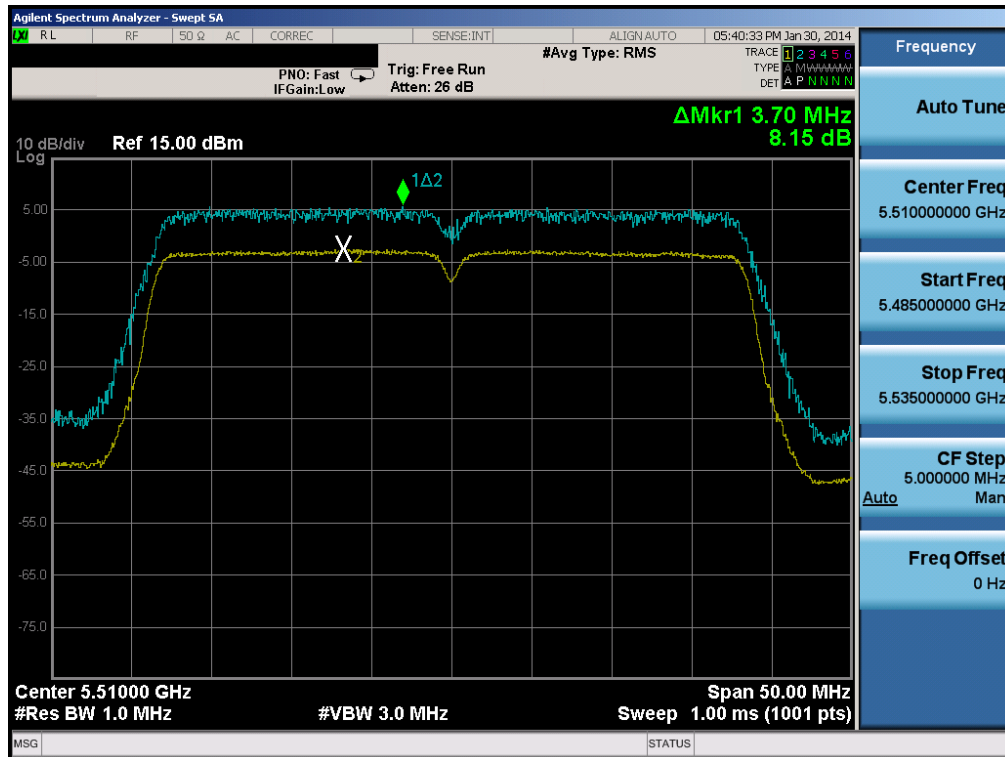


Plot 6-175. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 116)

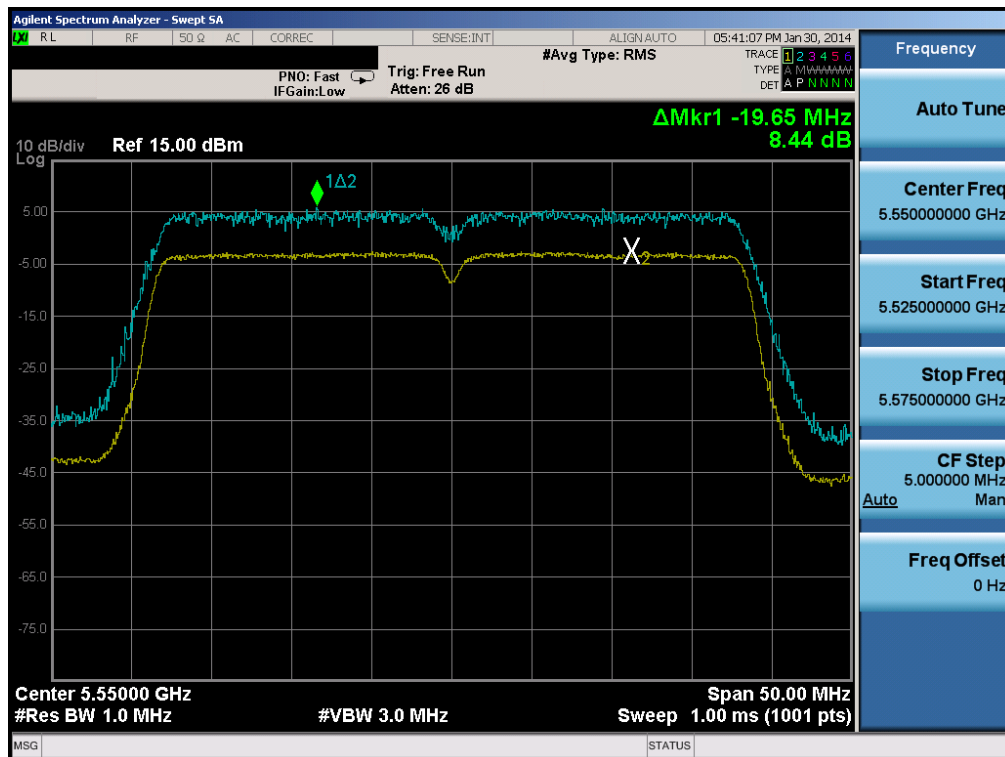


Plot 6-176. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 140)

FCC ID: A3LSMG900P	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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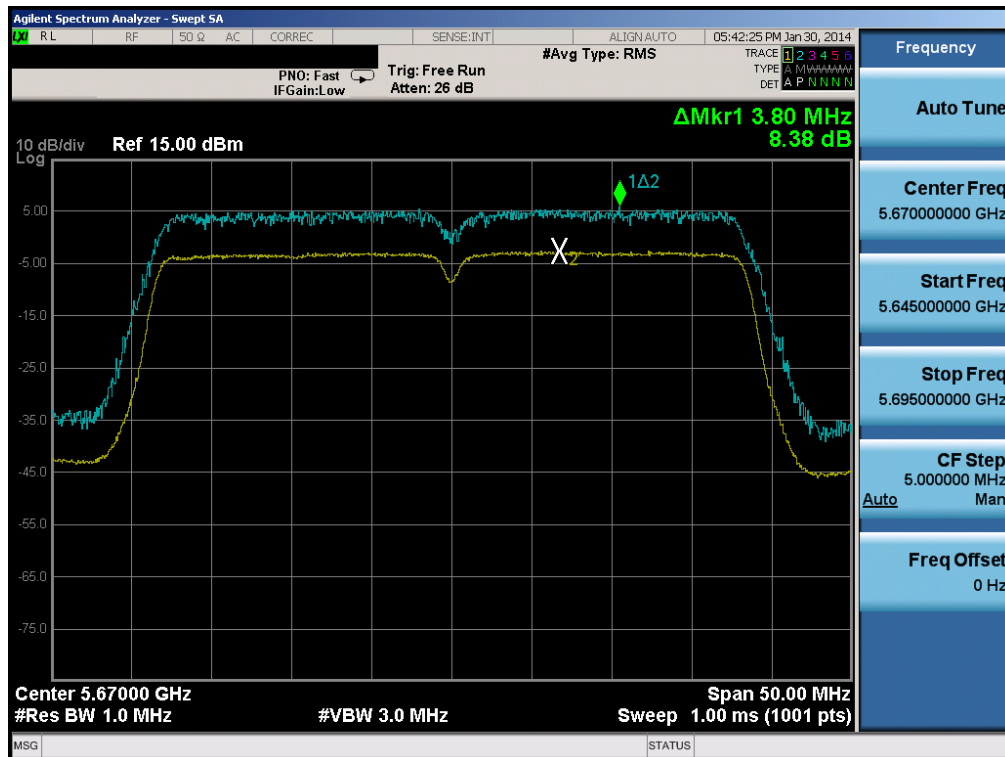


Plot 6-177. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)



Plot 6-178. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 110)

FCC ID: A3LSMG900P	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 6-179. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 134)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 117 of 206

6.6 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	5,180,000,025	25	0.00000048
100 %		- 20	5,179,999,974	-26	-0.00000050
100 %		- 10	5,180,000,005	5	0.00000010
100 %		0	5,179,999,986	-14	-0.00000027
100 %		+ 10	5,180,000,020	20	0.00000039
100 %		+ 20	5,179,999,971	-29	-0.00000056
100 %		+ 30	5,180,000,017	17	0.00000033
100 %		+ 40	5,180,000,005	5	0.00000010
100 %		+ 50	5,179,999,973	-27	-0.00000052
100 %		+ 20	5,179,999,991	-9	-0.00000017
115 %	4.43	+ 20	5,180,000,020	20	0.00000039
BATT. ENDPOINT	3.45	+ 20	5,179,999,985	-15	-0.00000029

Table 6-28. 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 (Cont'd)

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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)	5,260,000,010	10	0.00000019
100 %		- 30	5,260,000,007	7	0.00000013
100 %		- 20	5,259,999,973	-27	-0.00000051
100 %		- 10	5,260,000,000	0	0.00000000
100 %		0	5,260,000,008	8	0.00000015
100 %		+ 10	5,259,999,984	-16	-0.00000030
100 %		+ 20	5,260,000,004	4	0.00000008
100 %		+ 30	5,260,000,009	9	0.00000017
100 %		+ 40	5,259,999,982	-18	-0.00000034
100 %		+ 50	5,260,000,020	20	0.00000038
100 %		+ 20	5,259,999,988	-12	-0.00000023
115 %	4.43	+ 20	5,260,000,003	3	0.00000006
BATT. ENDPOINT	3.45	+ 20	5,260,000,004	4	0.00000008

Table 6-29. 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 (Cont'd)

§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)	5,499,999,975	-25	-0.00000045
100 %		- 30	5,500,000,022	22	0.00000040
100 %		- 20	5,499,999,979	-21	-0.00000038
100 %		- 10	5,499,999,999	-1	-0.00000002
100 %		0	5,500,000,007	7	0.00000013
100 %		+ 10	5,500,000,022	22	0.00000040
100 %		+ 20	5,500,000,002	2	0.00000004
100 %		+ 30	5,500,000,019	19	0.00000035
100 %		+ 40	5,499,999,985	-15	-0.00000027
100 %		+ 50	5,500,000,018	18	0.00000033
85 %	3.27	+ 20	5,500,000,002	2	0.00000004
115 %	4.43	+ 20	5,499,999,982	-18	-0.00000033
BATT. ENDPOINT	3.45	+ 20	5,499,999,982	-18	-0.00000033

Table 6-30. 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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6.7 Radiated Spurious Emission Measurements

§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 (>98%), at its maximum power control level, as defined in KDB 789033 v01r03, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11n (40MHz BW), and 802.11ac (80MHz BW)), 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 6-31 per Section 15.209.

Frequency	Field Strength [μV/m]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 6-31. Radiated Limits

Test Procedures Used

KDB 789033 v01r03 – Section H

Test Settings

Average Measurements above 1GHz (Method AD)

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

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Peak Measurements above 1GHz

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

Peak Measurements below 1GHz

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

Test Setup

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

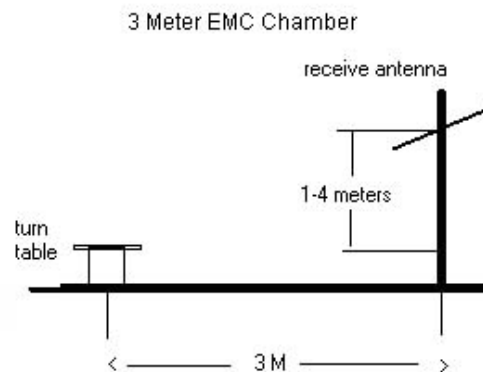


Figure 6-5. Test Instrument & Measurement Setup

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Test Notes

1. All radiated spurious emissions levels were measured in a radiated test setup per the guidance of KDB 789033 v01r03 Section H.
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 6-31.
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.
4. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
5. The EUT is supplied with a new/fully-recharged battery. The battery for this model PN547 contains an embedded NFC antenna.
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. Average levels at -135dBm and peak levels at -125dBm represent the analyzer noise floor and signify that no emission was detected.
9. Significant radiated spurious emissions levels were not found for MIMO test configurations.

Sample Calculations

Determining Spurious Emissions Levels

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

Radiated Band Edge Measurement Offset

- o The amplitude offset shown in the radiated restricted band edge plots in Section 6.8 was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + 10 \text{ dB Attenuator}) - \text{Preamplifier Gain}$$

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Antenna-1 Radiated Spurious Emission Measurements

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	-125.00	Peak	H	46.44	28.44	68.20	-39.76
* 15540.00	-135.00	Average	H	51.12	23.12	53.98	-30.86
* 15540.00	-125.00	Peak	H	51.12	33.12	73.98	-40.86
* 20720.00	-135.00	Average	H	44.00	16.00	53.98	-37.98
* 20720.00	-125.00	Peak	H	44.00	26.00	73.98	-47.98
25900.00	-125.00	Peak	H	44.87	26.87	68.20	-41.33

Table 6-32. Radiated Measurements

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

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	-125.00	Peak	H	46.65	28.65	68.20	-39.55
* 15600.00	-135.00	Average	H	51.11	23.11	53.98	-30.87
* 15600.00	-125.00	Peak	H	51.11	33.11	73.98	-40.87
* 20800.00	-135.00	Average	H	43.99	15.99	53.98	-37.99
* 20800.00	-125.00	Peak	H	43.99	25.99	73.98	-47.99
26000.00	-125.00	Peak	H	44.97	26.97	68.20	-41.23

Table 6-33. Radiated Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5240MHz
 Channel: 48

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	-125.00	Peak	H	46.65	28.65	68.20	-39.55
* 15720.00	-135.00	Average	H	51.40	23.40	53.98	-30.58
* 15720.00	-125.00	Peak	H	51.40	33.40	73.98	-40.58
* 20960.00	-135.00	Average	H	43.90	15.90	53.98	-38.08
* 20960.00	-125.00	Peak	H	43.90	25.90	73.98	-48.08
26200.00	-125.00	Peak	H	44.76	26.76	68.20	-41.44

Table 6-34. Radiated Measurements

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

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	-125.00	Peak	H	46.71	28.71	68.20	-39.49
* 15780.00	-135.00	Average	H	51.48	23.48	53.98	-30.50
* 15780.00	-125.00	Peak	H	51.48	33.48	73.98	-40.50
* 21040.00	-135.00	Average	H	43.84	15.84	53.98	-38.14
* 21040.00	-125.00	Peak	H	43.84	25.84	73.98	-48.14
26300.00	-125.00	Peak	H	44.78	26.78	68.20	-41.42

Table 6-35. Radiated Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5280MHz
 Channel: 56

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	-125.00	Peak	H	46.84	28.84	68.20	-39.36
* 15840.00	-135.00	Average	H	51.38	23.38	53.98	-30.60
* 15840.00	-125.00	Peak	H	51.38	33.38	73.98	-40.60
* 21120.00	-135.00	Average	H	43.74	15.74	53.98	-38.24
* 21120.00	-125.00	Peak	H	43.74	25.74	73.98	-48.24
26400.00	-125.00	Peak	H	44.72	26.72	68.20	-41.48

Table 6-36. Radiated Measurements

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

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10640.00	-135.00	Average	H	46.94	18.94	53.98	-35.04
10640.00	-125.00	Peak	H	46.94	28.94	73.98	-45.04
15960.00	-135.00	Average	H	51.55	23.55	53.98	-30.43
15960.00	-125.00	Peak	H	51.55	33.55	73.98	-40.43
21280.00	-135.00	Average	H	43.64	15.64	53.98	-38.34
21280.00	-125.00	Peak	H	43.64	25.64	73.98	-48.34
26600.00	-125.00	Peak	H	47.28	29.28	68.20	-38.92

Table 6-37. Radiated Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5500MHz
 Channel: 100

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	-135.00	Average	H	46.89	18.89	53.98	-35.09
* 11000.00	-125.00	Peak	H	46.89	28.89	73.98	-45.09
16500.00	-125.00	Peak	H	52.96	34.96	68.20	-33.24
22000.00	-125.00	Peak	H	43.92	25.92	68.20	-42.28
27500.00	-125.00	Peak	H	48.51	30.51	68.20	-37.69

Table 6-38. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5580MHz
 Channel: 116

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11160.00	-135.00	Average	H	47.07	19.07	53.98	-34.91
* 11160.00	-125.00	Peak	H	47.07	29.07	73.98	-44.91
16740.00	-125.00	Peak	H	53.12	35.12	68.20	-33.08
* 22320.00	-135.00	Average	H	44.40	16.40	53.98	-37.58
* 22320.00	-125.00	Peak	H	44.40	26.40	73.98	-47.58
27900.00	-125.00	Peak	H	48.13	30.13	68.20	-38.07

Table 6-39. Radiated Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 127 of 206

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5700MHz
 Channel: 140

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11400.00	-135.00	Average	H	47.30	19.30	53.98	-34.68
*	11400.00	-125.00	Peak	H	47.30	29.30	73.98	-44.68
	17100.00	-125.00	Peak	H	53.07	35.07	68.20	-33.13
*	22800.00	-135.00	Average	H	44.39	16.39	53.98	-37.59
*	22800.00	-125.00	Peak	H	44.39	26.39	73.98	-47.59
	28500.00	-125.00	Peak	H	48.03	30.03	68.20	-38.17

Table 6-40. Radiated Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 128 of 206

Antenna-2 Radiated Spurious Emission Measurements

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	-125.00	Peak	H	46.44	28.44	68.20	-39.76
* 15540.00	-135.00	Average	H	51.12	23.12	53.98	-30.86
* 15540.00	-125.00	Peak	H	51.12	33.12	73.98	-40.86
* 20720.00	-135.00	Average	H	44.00	16.00	53.98	-37.98
* 20720.00	-125.00	Peak	H	44.00	26.00	73.98	-47.98
25900.00	-125.00	Peak	H	44.87	26.87	68.20	-41.33

Table 6-41. Radiated Measurements

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

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	-125.00	Peak	H	46.65	28.65	68.20	-39.55
* 15600.00	-135.00	Average	H	51.11	23.11	53.98	-30.87
* 15600.00	-125.00	Peak	H	51.11	33.11	73.98	-40.87
* 20800.00	-135.00	Average	H	43.99	15.99	53.98	-37.99
* 20800.00	-125.00	Peak	H	43.99	25.99	73.98	-47.99
26000.00	-125.00	Peak	H	44.97	26.97	68.20	-41.23

Table 6-42. Radiated Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 129 of 206

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

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	-125.00	Peak	H	46.65	28.65	68.20	-39.55
* 15720.00	-135.00	Average	H	51.40	23.40	53.98	-30.58
* 15720.00	-125.00	Peak	H	51.40	33.40	73.98	-40.58
* 20960.00	-135.00	Average	H	43.90	15.90	53.98	-38.08
* 20960.00	-125.00	Peak	H	43.90	25.90	73.98	-48.08
26200.00	-125.00	Peak	H	44.76	26.76	68.20	-41.44

Table 6-43. Radiated Measurements

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

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	-125.00	Peak	H	46.71	28.71	68.20	-39.49
* 15780.00	-135.00	Average	H	51.48	23.48	53.98	-30.50
* 15780.00	-125.00	Peak	H	51.48	33.48	73.98	-40.50
* 21040.00	-135.00	Average	H	43.84	15.84	53.98	-38.14
* 21040.00	-125.00	Peak	H	43.84	25.84	73.98	-48.14
26300.00	-125.00	Peak	H	44.78	26.78	68.20	-41.42

Table 6-44. Radiated Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 130 of 206

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

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	-125.00	Peak	H	46.84	28.84	68.20	-39.36
* 15840.00	-135.00	Average	H	51.38	23.38	53.98	-30.60
* 15840.00	-125.00	Peak	H	51.38	33.38	73.98	-40.60
* 21120.00	-135.00	Average	H	43.74	15.74	53.98	-38.24
* 21120.00	-125.00	Peak	H	43.74	25.74	73.98	-48.24
26400.00	-125.00	Peak	H	44.72	26.72	68.20	-41.48

Table 6-45. Radiated Measurements

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

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10640.00	-135.00	Average	H	46.94	18.94	53.98	-35.04
10640.00	-125.00	Peak	H	46.94	28.94	73.98	-45.04
15960.00	-135.00	Average	H	51.55	23.55	53.98	-30.43
15960.00	-125.00	Peak	H	51.55	33.55	73.98	-40.43
21280.00	-135.00	Average	H	43.64	15.64	53.98	-38.34
21280.00	-125.00	Peak	H	43.64	25.64	73.98	-48.34
26600.00	-125.00	Peak	H	47.28	29.28	68.20	-38.92

Table 6-46. Radiated Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 131 of 206

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

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	-135.00	Average	H	46.89	18.89	53.98	-35.09
* 11000.00	-125.00	Peak	H	46.89	28.89	73.98	-45.09
16500.00	-125.00	Peak	H	52.96	34.96	68.20	-33.24
22000.00	-125.00	Peak	H	43.92	25.92	68.20	-42.28
27500.00	-125.00	Peak	H	48.51	30.51	68.20	-37.69

Table 6-47. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5580MHz
 Channel: 116

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11160.00	-135.00	Average	H	47.07	19.07	53.98	-34.91
* 11160.00	-125.00	Peak	H	47.07	29.07	73.98	-44.91
16740.00	-125.00	Peak	H	53.12	35.12	68.20	-33.08
* 22320.00	-135.00	Average	H	44.40	16.40	53.98	-37.58
* 22320.00	-125.00	Peak	H	44.40	26.40	73.98	-47.58
27900.00	-125.00	Peak	H	48.13	30.13	68.20	-38.07

Table 6-48. Radiated Measurements

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 132 of 206

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5700MHz
 Channel: 140

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11400.00	-135.00	Average	H	47.30	19.30	53.98	-34.68
*	11400.00	-125.00	Peak	H	47.30	29.30	73.98	-44.68
	17100.00	-125.00	Peak	H	53.07	35.07	68.20	-33.13
*	22800.00	-135.00	Average	H	44.39	16.39	53.98	-37.59
*	22800.00	-125.00	Peak	H	44.39	26.39	73.98	-47.59
	28500.00	-125.00	Peak	H	48.03	30.03	68.20	-38.17

Table 6-49. Radiated Measurements

6.8 Antenna-1 Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

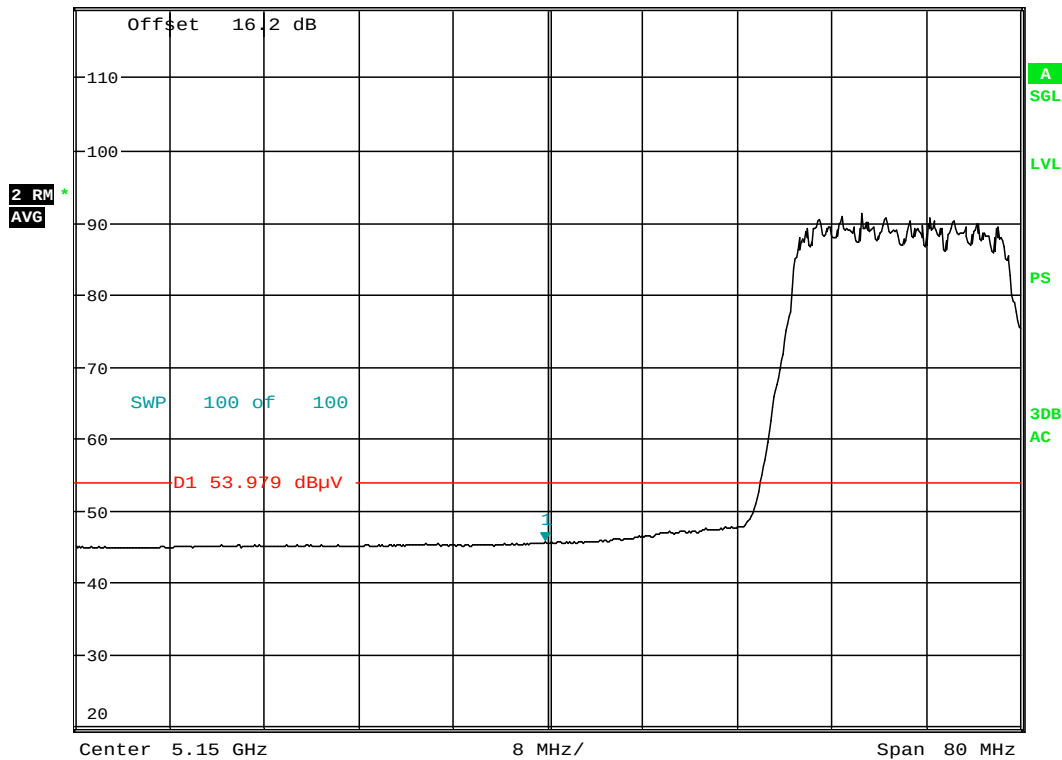
Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36



MARKER 1
5.14974359 GHz
Ref 119.7 dBμV * Att 10 dB * RBW 1 MHz * VBW 3 MHz * Marker 1 [T2] 45.55 dBμV 5.149743590 GHz
SWT 20 ms



Date: 4.FEB.2014 17:10:16

Plot 6-180. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 134 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd)

\$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1

5.12974359 GHz

Ref 125.6 dBμV

* Att 10 dB

* RBW 1 MHz

* VBW 3 MHz

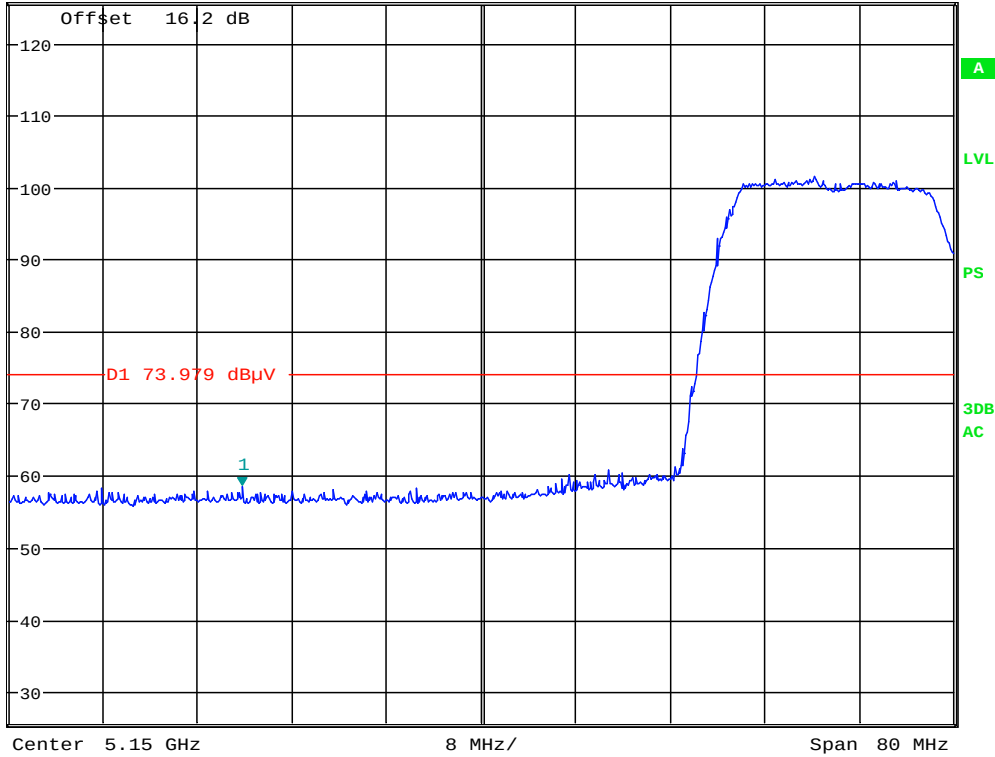
SWT 20 ms

Marker 1 [T1]

58.43 dBμV

5.129743590 GHz

**1 PK
VIEW**



Date: 4.FEB.2014 17:11:31

Plot 6-181. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 135 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64

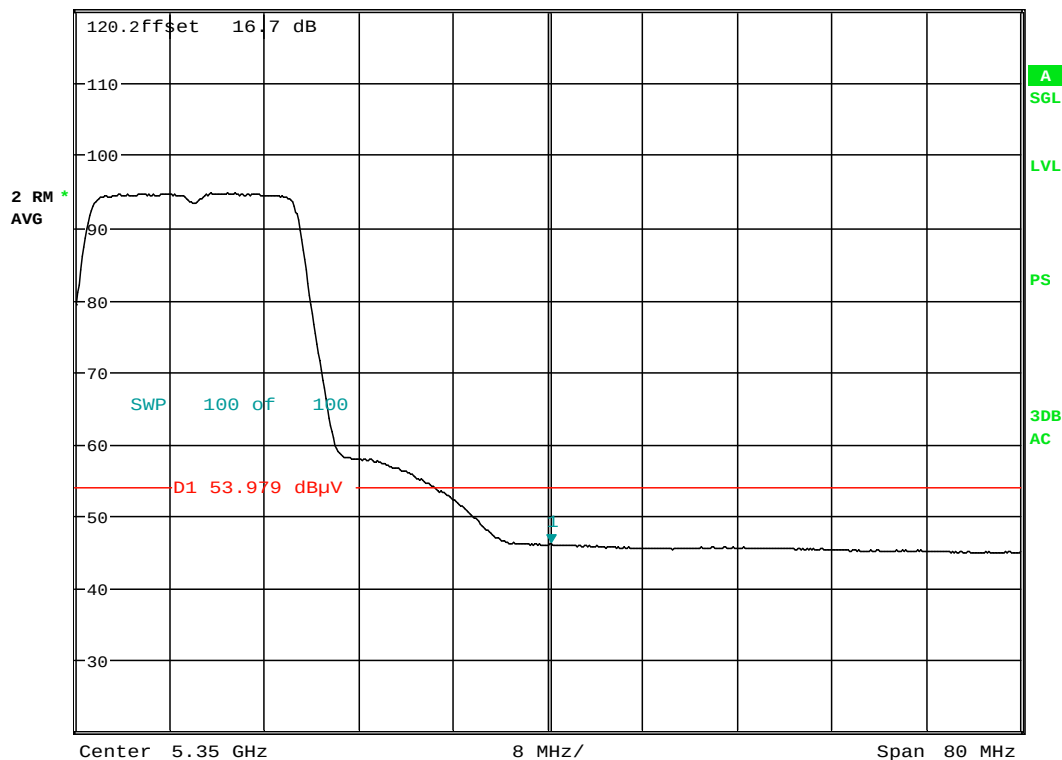


MARKER 1
5.35025641 GHz

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
46.08 dBμV
5.350256410 GHz

Ref 120.2 dBμV * Att 10 dB



Date: 5.FEB.2014 09:54:33

Plot 6-182. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 136 of 206

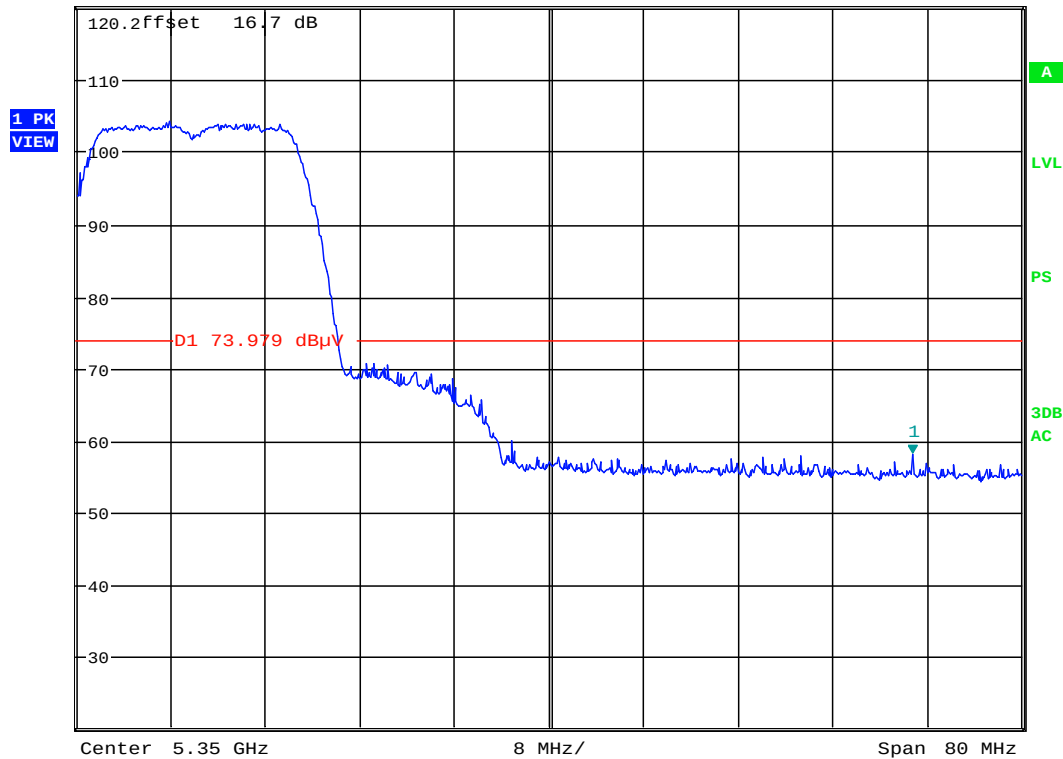
Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.380769231 GHz
Ref 120.2 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
58.14 dBμV
5.380769231 GHz



Date: 5.FEB.2014 09:55:12

Plot 6-183. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 137 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd)

\$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100

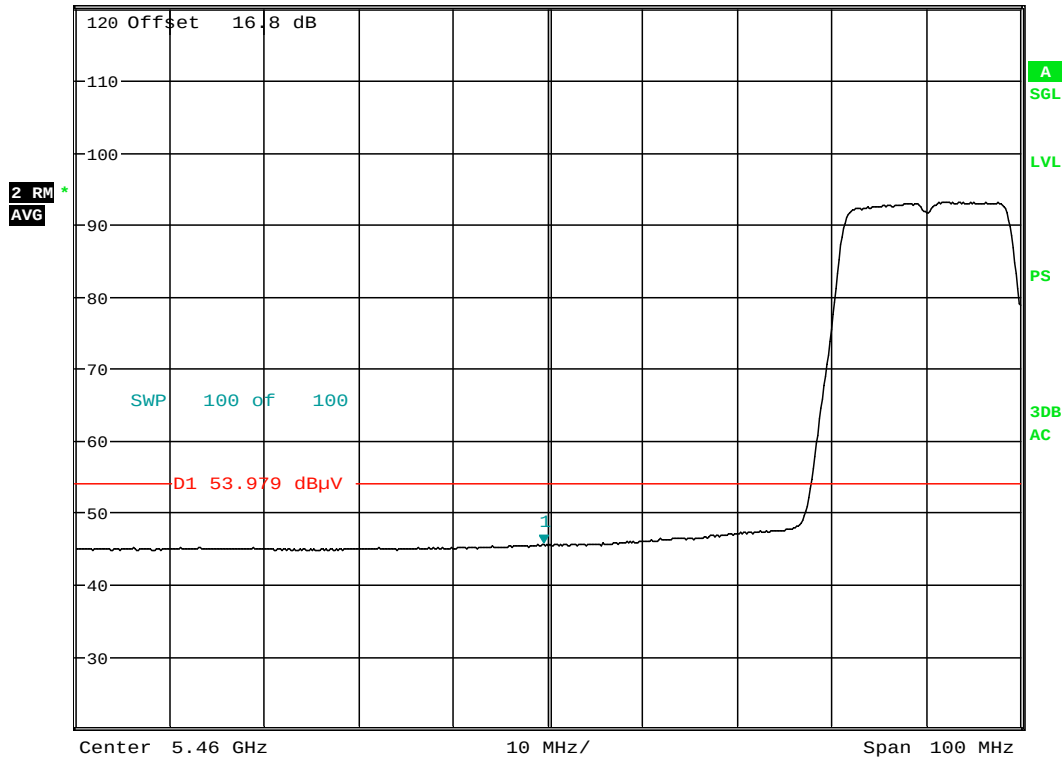


MARKER 1
5.459519231 GHz

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
45.56 dBμV
5.459519231 GHz

Ref 120.3 dBμV * Att 10 dB



Date: 5.FEB.2014 10:43:49

Plot 6-184. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 138 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

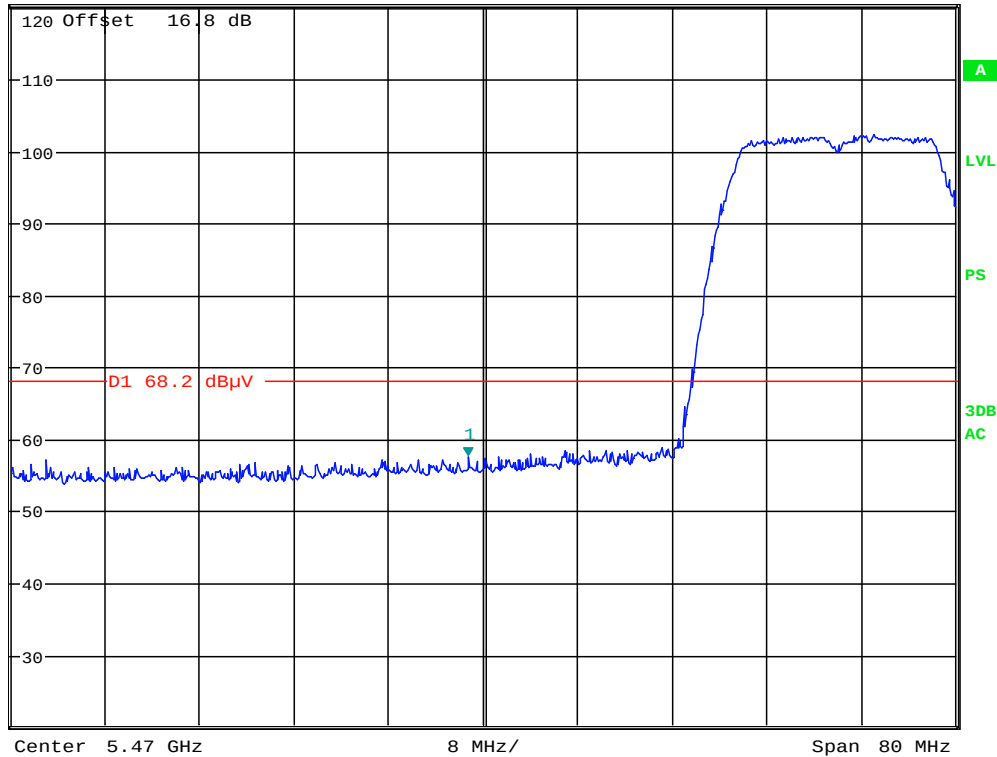


MARKER 1
5.468717949 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
57.66 dBμV
5.468717949 GHz

1 PK
VIEW



Date: 5.FEB.2014 10:44:04

Plot 6-185. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 139 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

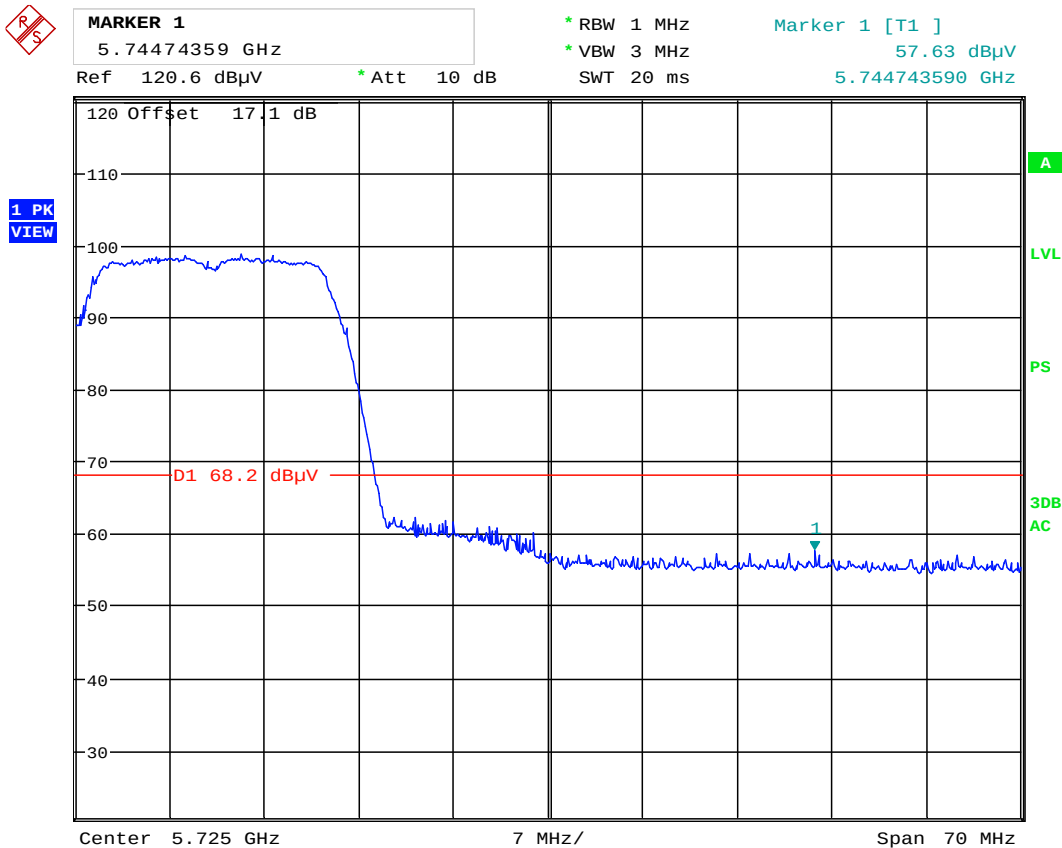
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5700MHz

Channel: 140



Date: 5.FEB.2014 11:21:56

Plot 6-186. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 140 of 206

6.9 Antenna-1 Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38



MARKER 1
5.149615385 GHz

* RBW 1 MHz

* VBW 3 MHz

SWT 20 ms

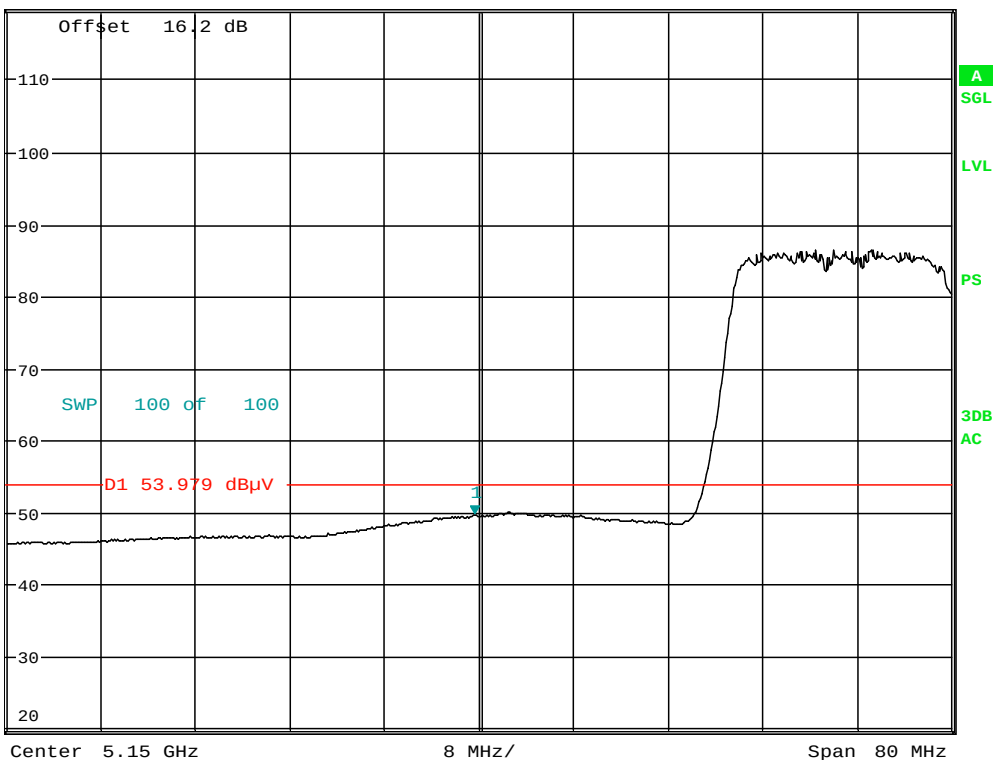
Marker 1 [T2]

49.55 dBμV

5.149615385 GHz

Ref 119.7 dBμV * Att 10 dB

2 RM
AVG



Date: 4.FEB.2014 17:25:57

Plot 6-187. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 141 of 206

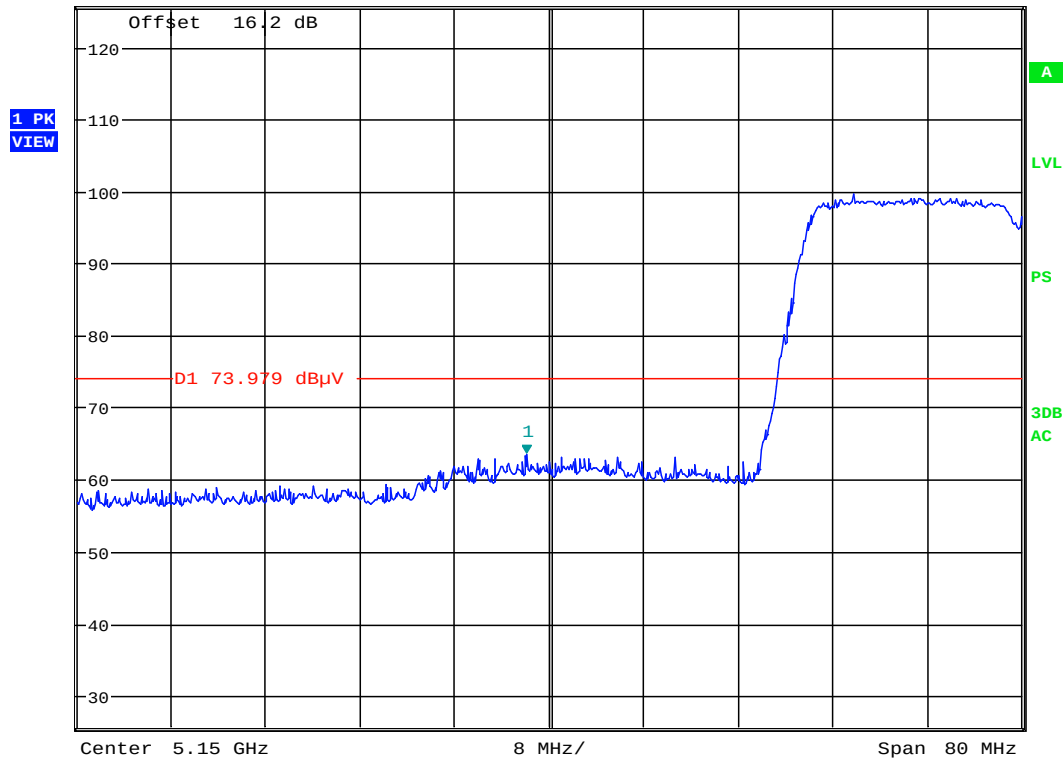
Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.148076923 GHz
Ref 125.6 dBμV *Att 10 dB

*RBW 1 MHz
*VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
63.50 dBμV
5.148076923 GHz



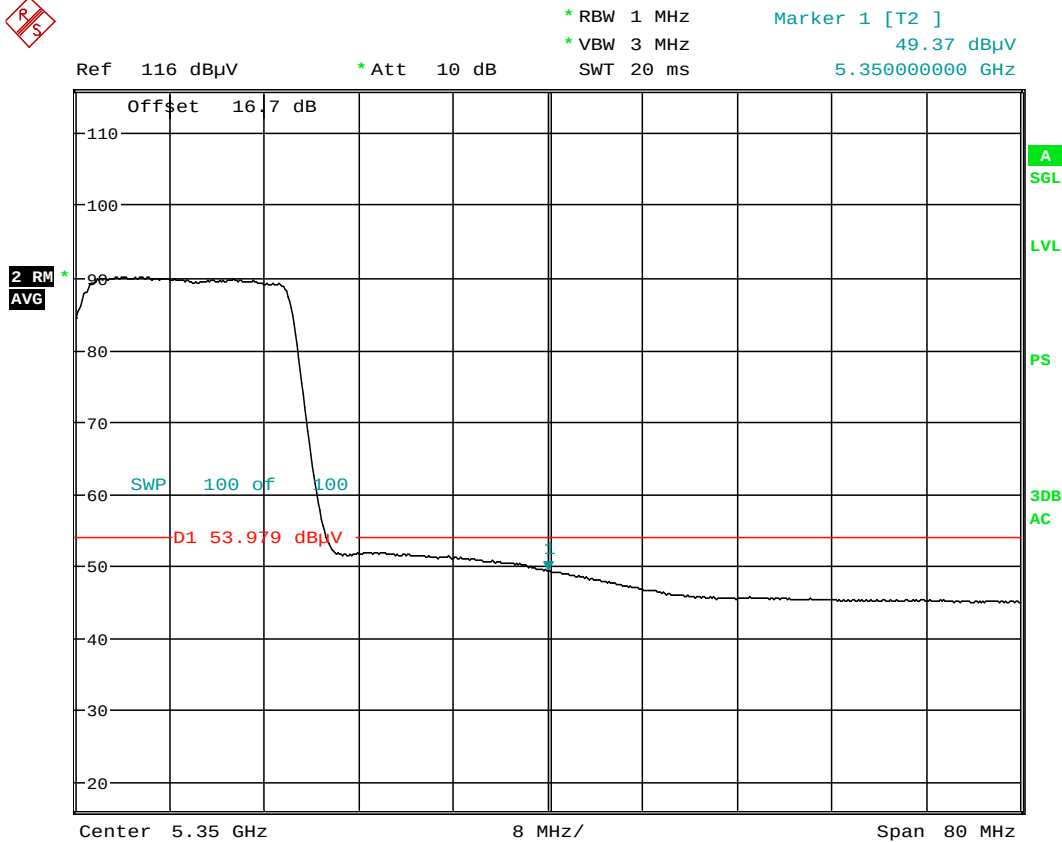
Date: 4.FEB.2014 17:26:16

Plot 6-188. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 142 of 206

Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11n (40MHz)
Worst Case Transfer Rate: MCS0
Distance of Measurements: 3 Meters
Operating Frequency: 5310MHz
Channel: 62

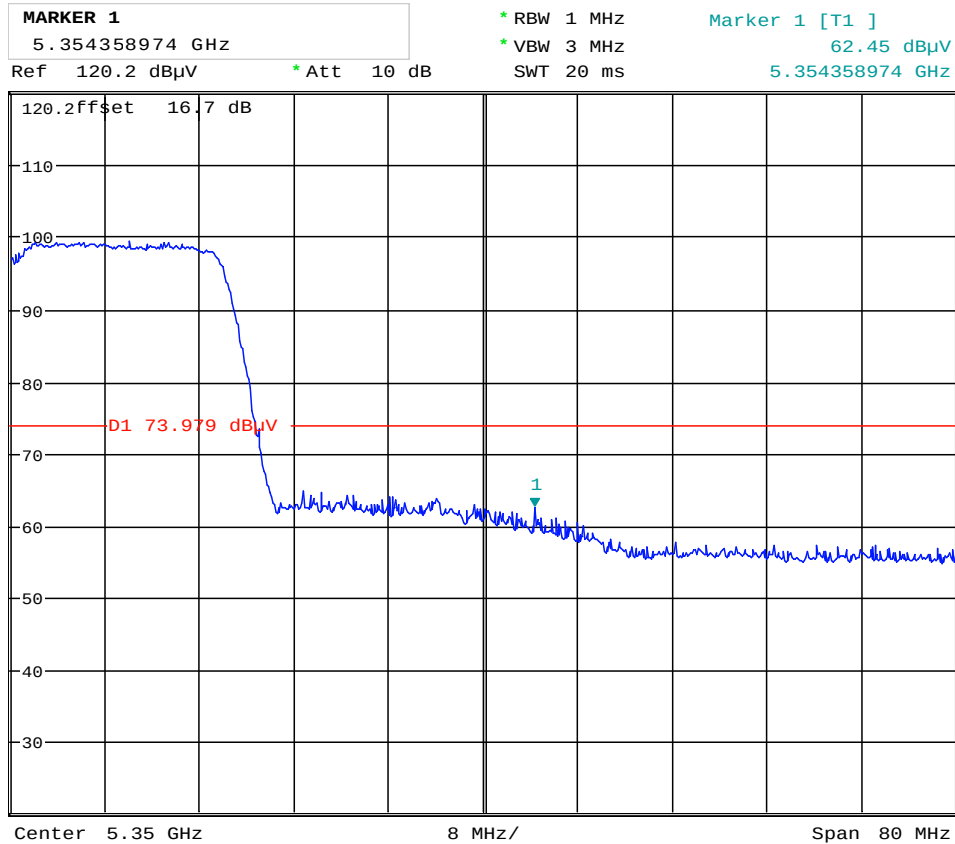


Date: 5.FEB.2014 10:21:42

Plot 6-189. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 143 of 206

Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 5.FEB.2014 10:22:11

Plot 6-190. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 144 of 206

Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102



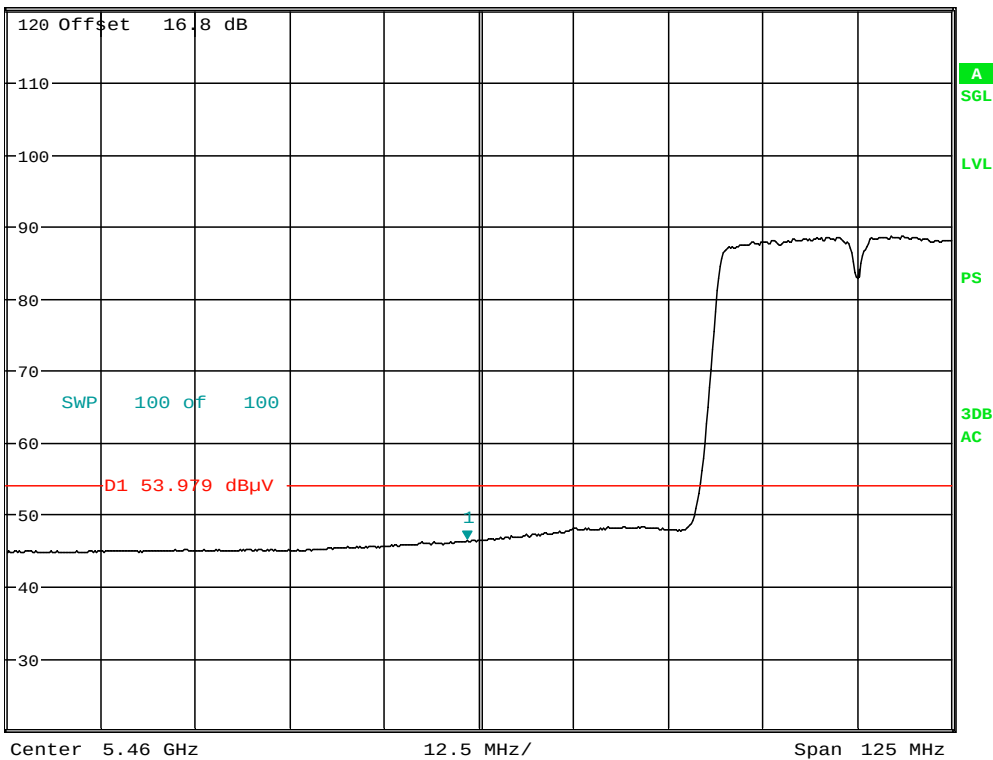
MARKER 1
5.458397436 GHz

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
46.54 dBμV
5.458397436 GHz

Ref 120.3 dBμV * Att 10 dB

2 RM
AVG



Date: 5.FEB.2014 10:47:10

Plot 6-191. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 145 of 206

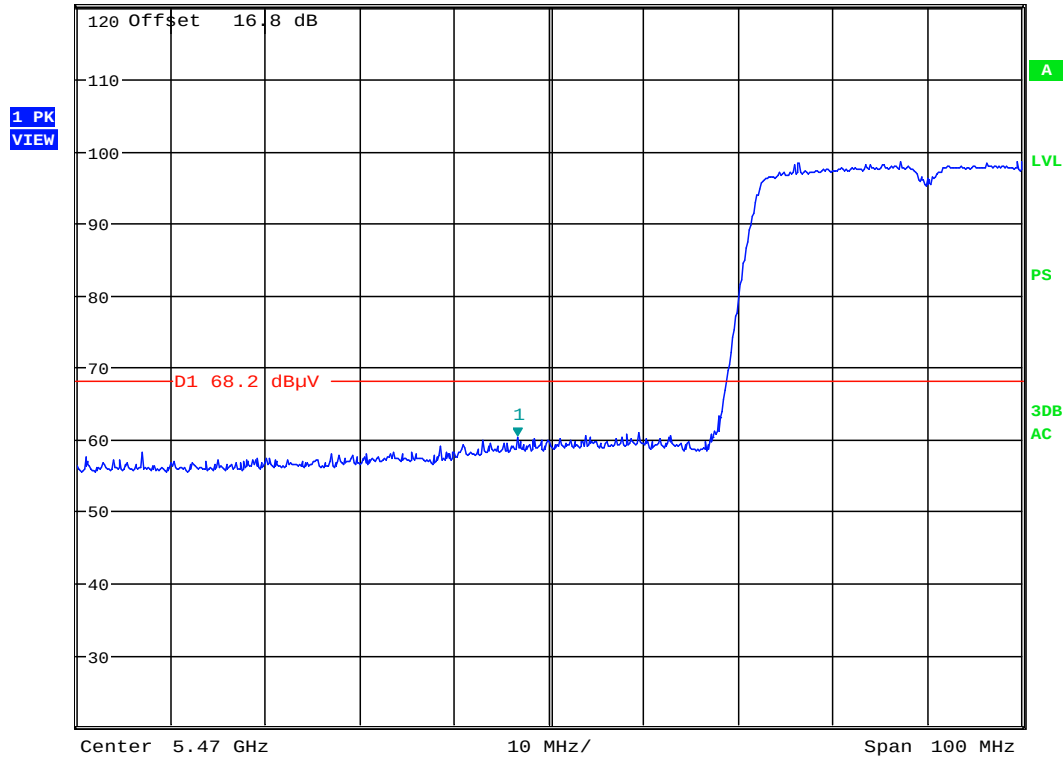
Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.466634615 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
60.37 dBμV
5.466634615 GHz



Date: 5.FEB.2014 10:46:45

Plot 6-192. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 146 of 206

Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11n (40MHz)
Worst Case Transfer Rate: MCS0
Distance of Measurements: 3 Meters
Operating Frequency: 5670MHz
Channel: 134



MARKER 1

5.763461538 GHz

Ref 120.6 dBμV

* Att 10 dB

* RBW 1 MHz

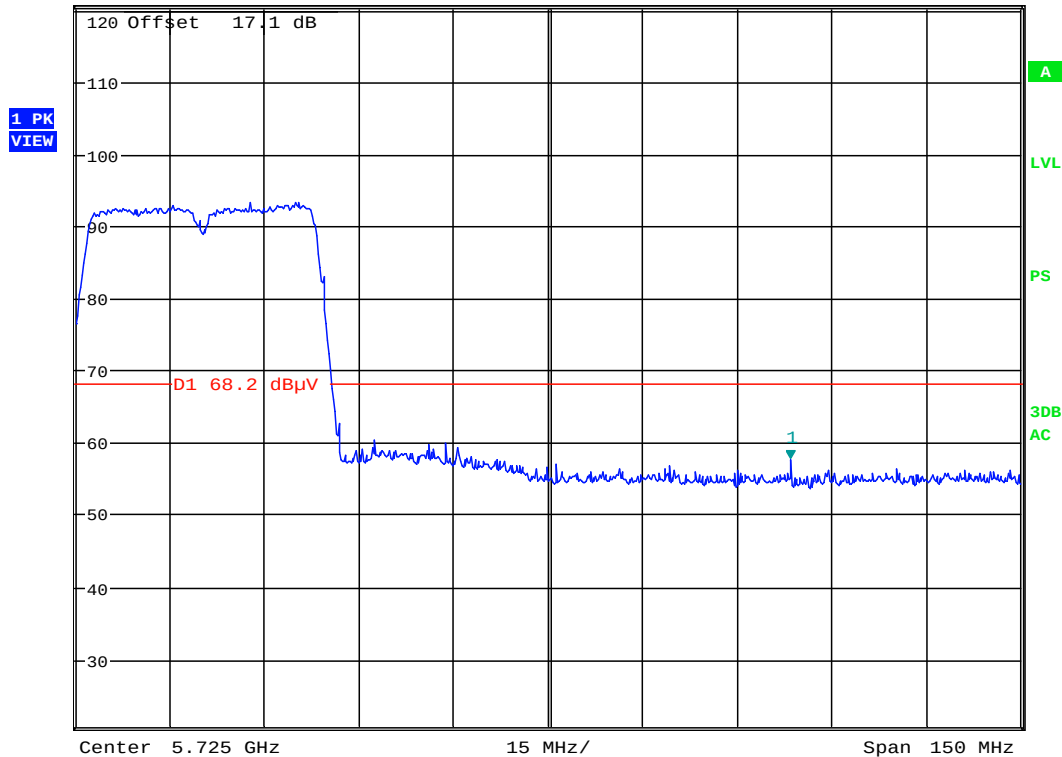
* VBW 3 MHz

SWT 20 ms

Marker 1 [T1]

57.64 dBμV

5.763461538 GHz



Date: 5.FEB.2014 11:23:54

Plot 6-193. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 147 of 206

6.10 Antenna-1 Radiated Band Edge Measurements (80MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

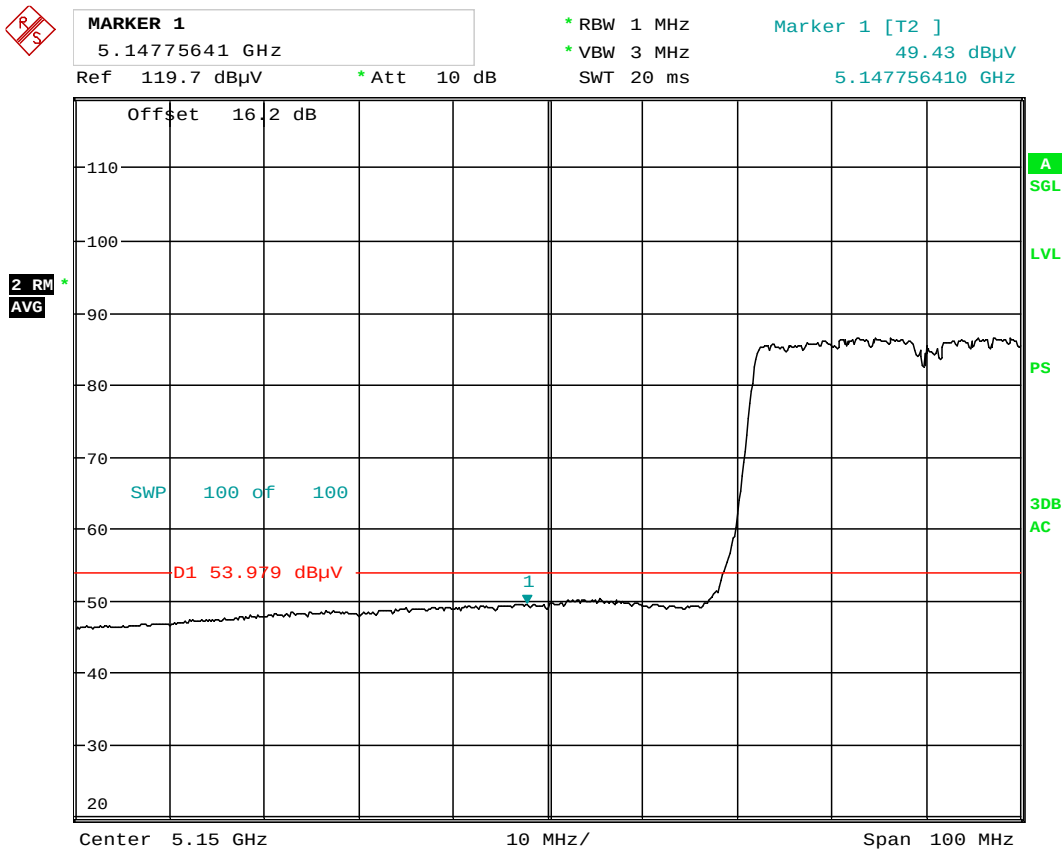
Worst Case Mode: 802.11n (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5210MHz

Channel: 42



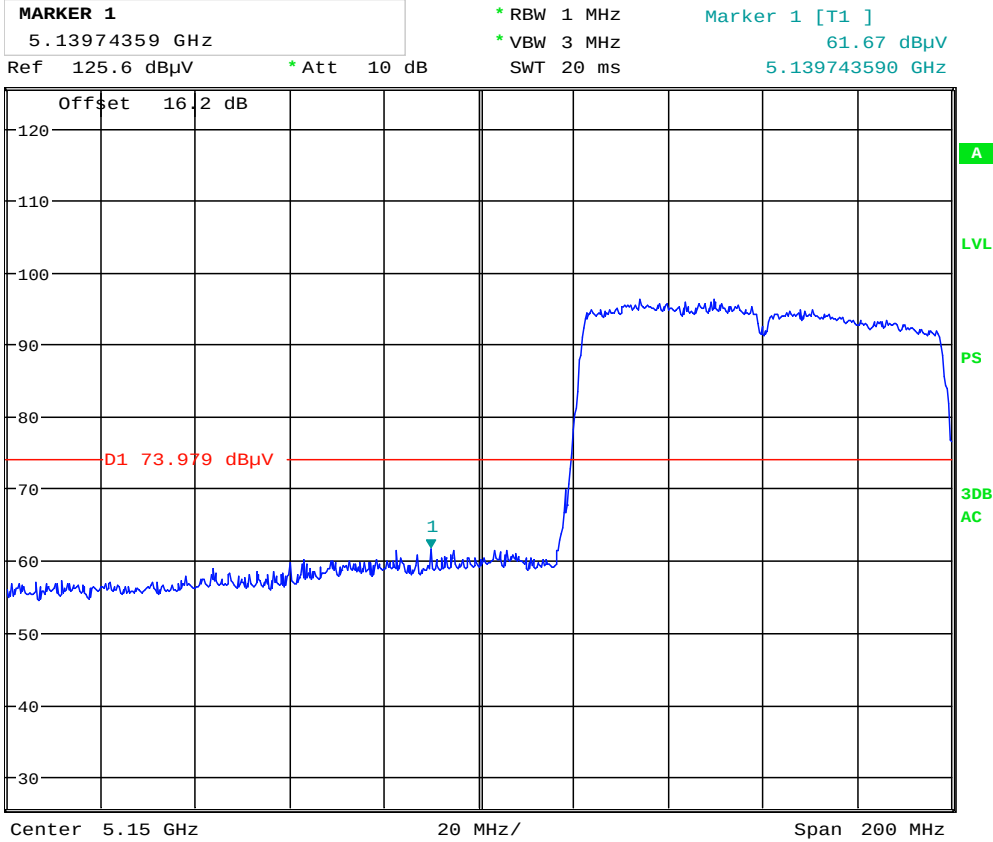
Date: 4.FEB.2014 17:31:12

Plot 6-194. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 148 of 206

Radiated Band Edge Measurements (80MHz BW) (Cont'd)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 4.FEB.2014 17:32:05

Plot 6-195. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 149 of 206

Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58

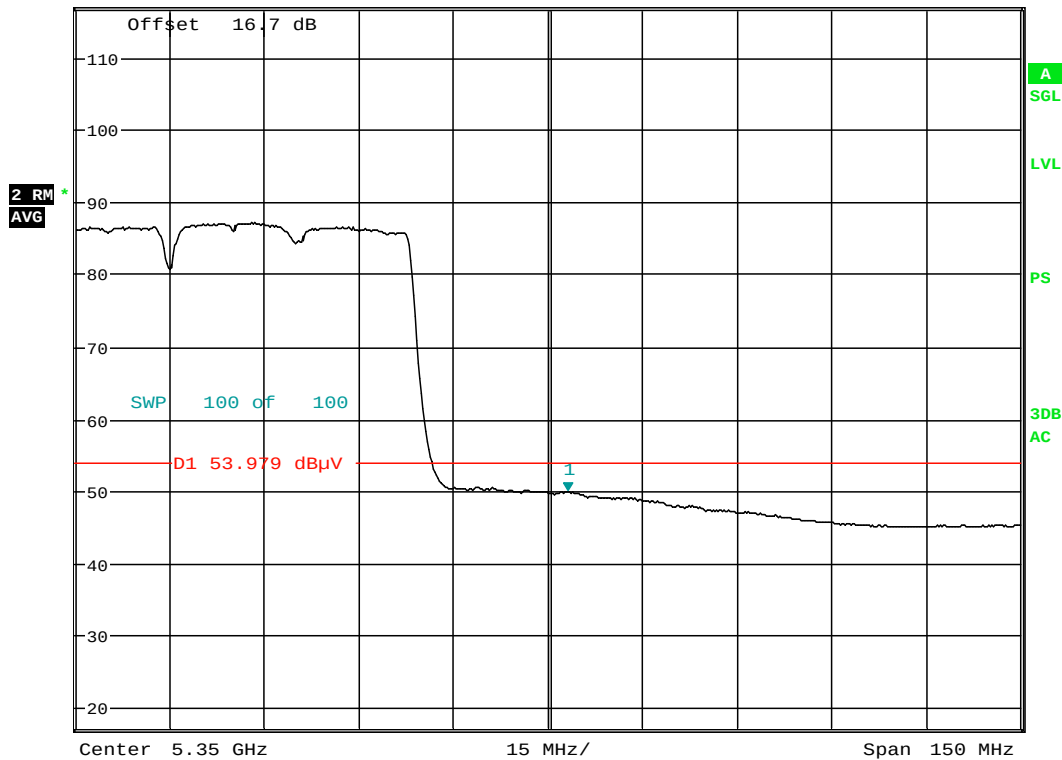


MARKER 1
5.353125 GHz

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
49.92 dBμV
5.353125000 GHz

Ref 117 dBμV * Att 10 dB



Date: 5.FEB.2014 10:29:23

Plot 6-196. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 150 of 206

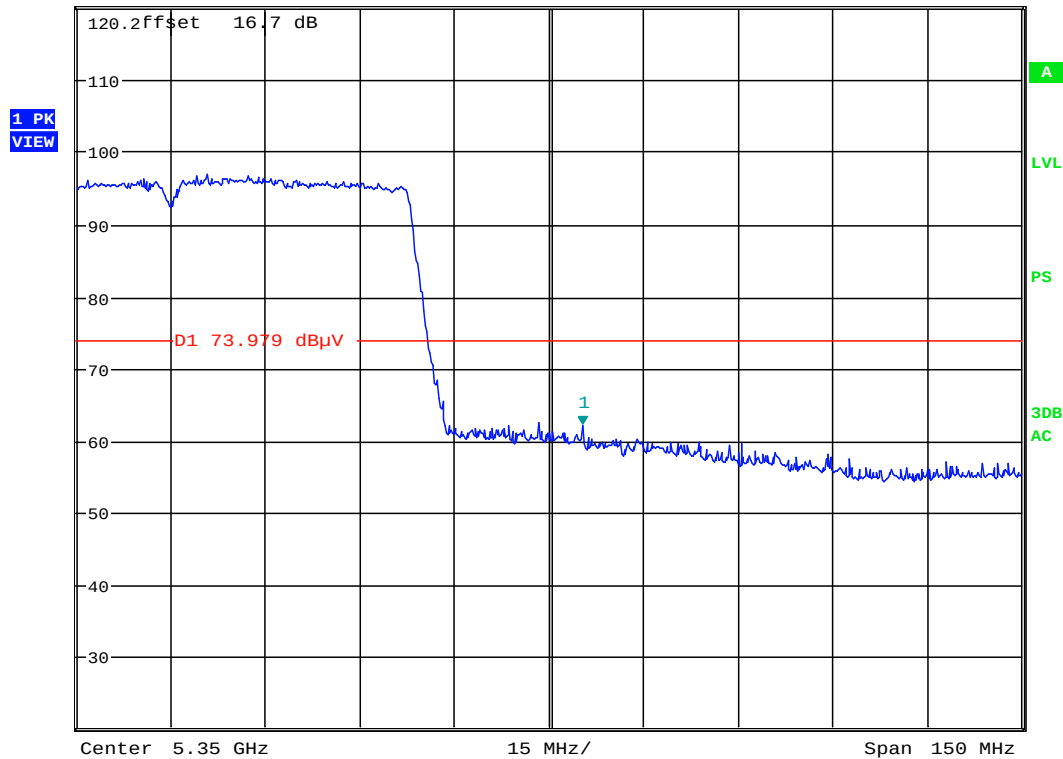
Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.355288462 GHz
Ref 120.2 dBμV *Att 10 dB

*RBW 1 MHz
*VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
62.04 dBμV
5.355288462 GHz



Date: 5.FEB.2014 10:29:47

Plot 6-197. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 151 of 206

Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11ac (80MHz)
Worst Case Transfer Rate: MCS0
Distance of Measurements: 3 Meters
Operating Frequency: 5530MHz
Channel: 106



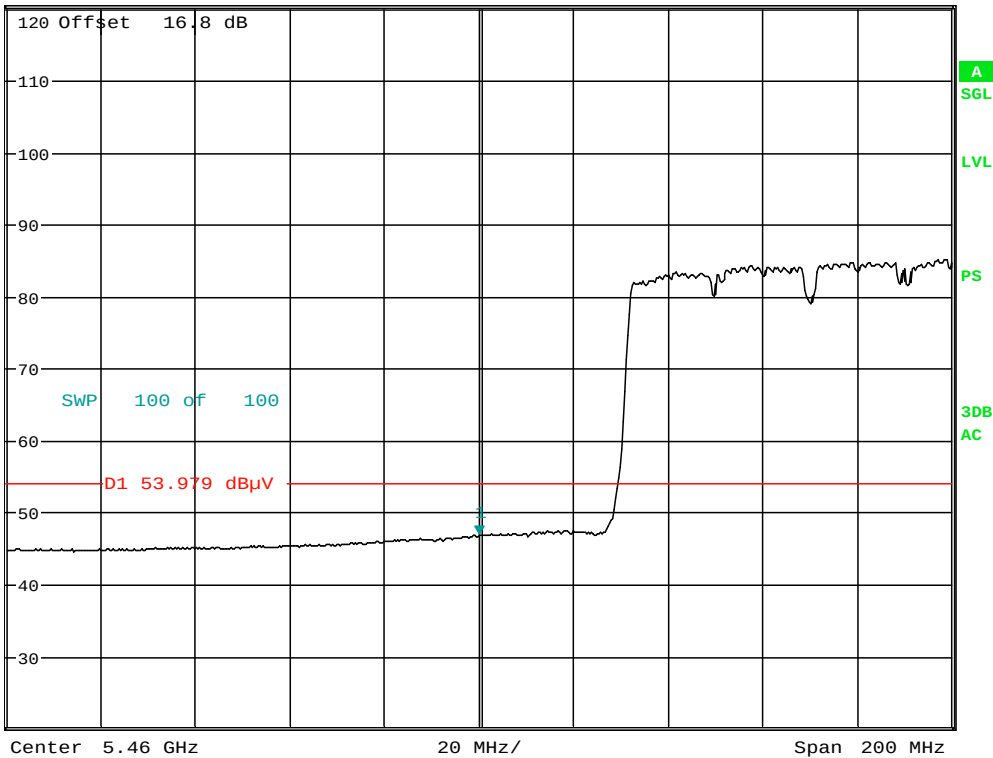
MARKER 1
5.46 GHz

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
46.89 dBμV
5.460000000 GHz

Ref 120.3 dBμV * Att 10 dB

2 RM
AVG



Date: 5.FEB.2014 10:49:17

Plot 6-198. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 152 of 206

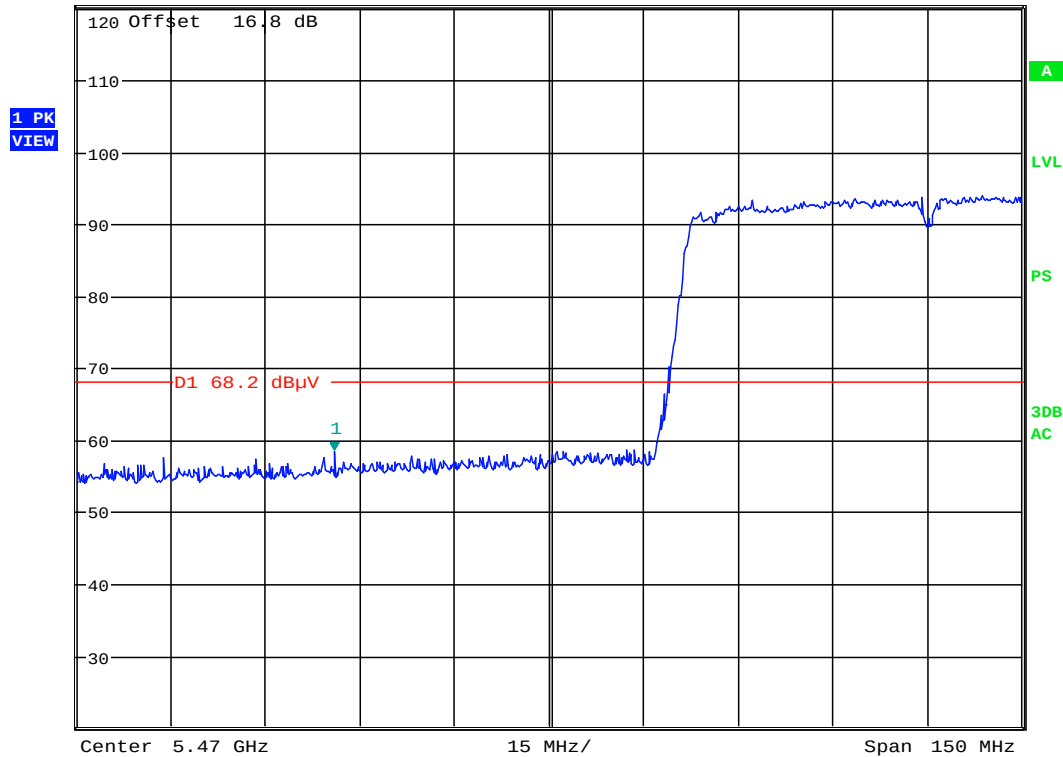
Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.435865385 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
58.43 dBμV
5.435865385 GHz



Date: 5.FEB.2014 10:49:41

Plot 6-199. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 153 of 206

6.11 Antenna-2 Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

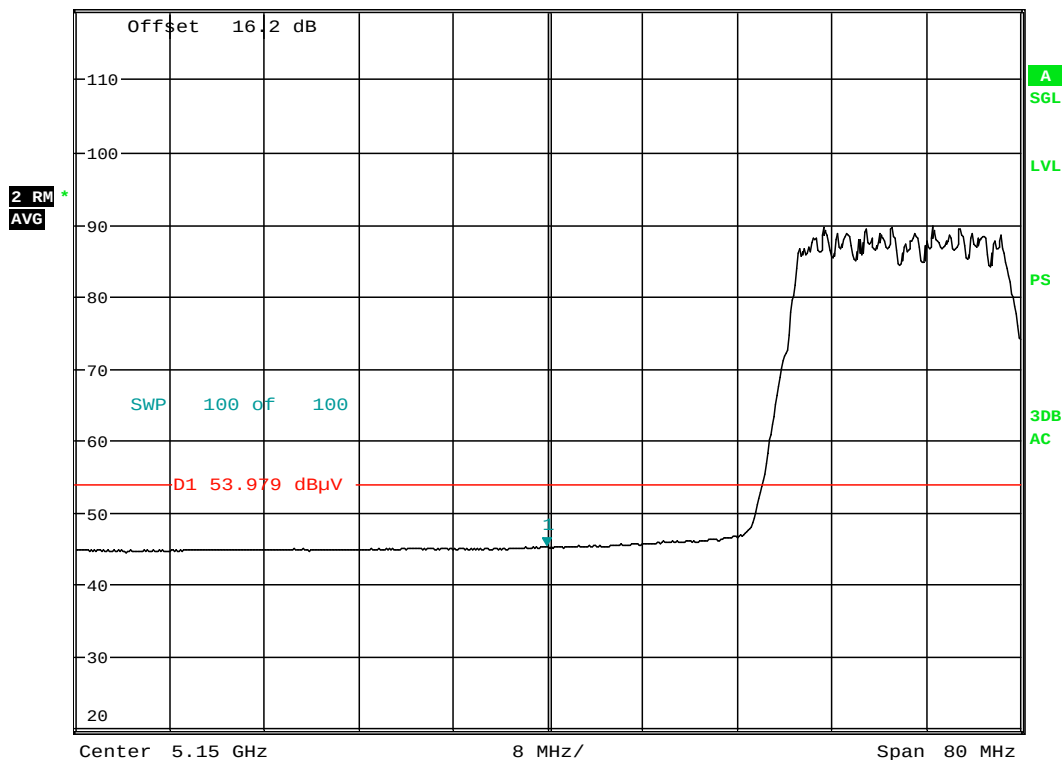
Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36



MARKER 1
5.149871795 GHz
Ref 119.7 dBμV * Att 10 dB * RBW 1 MHz * VBW 3 MHz * Marker 1 [T2] 45.23 dBμV 5.149871795 GHz
SWT 20 ms

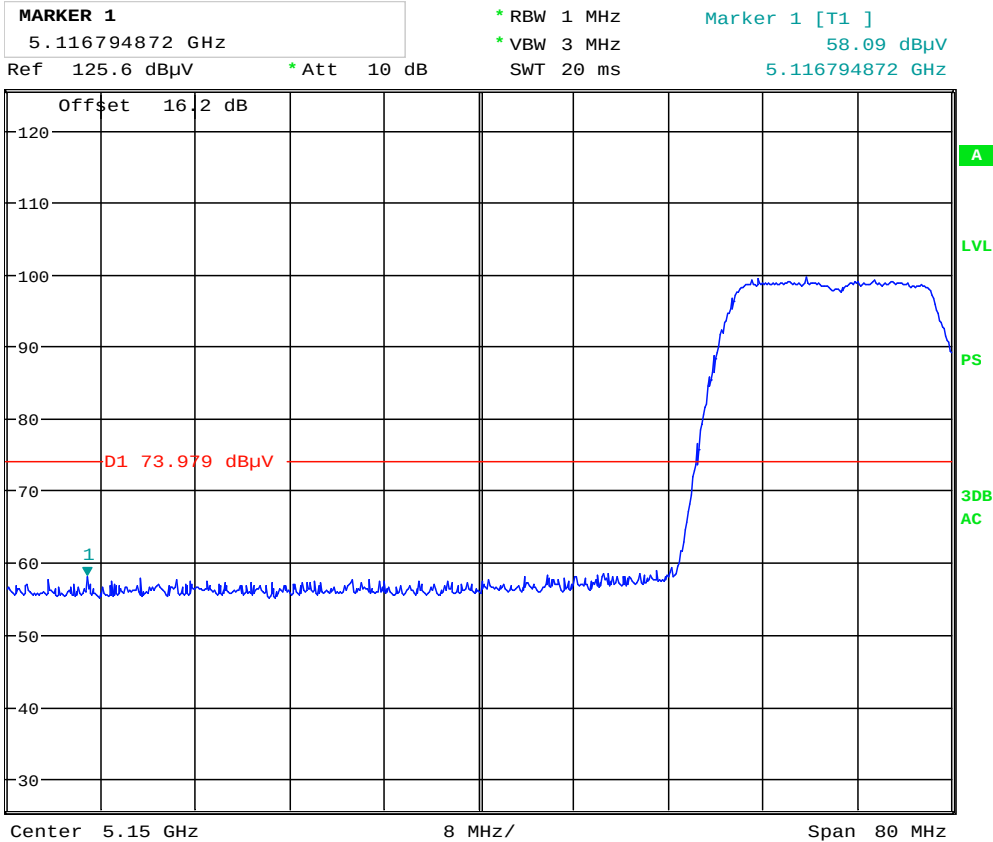


Date: 4.FEB.2014 17:15:59

Plot 6-200. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 154 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 4.FEB.2014 17:15:26

Plot 6-201. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 155 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64

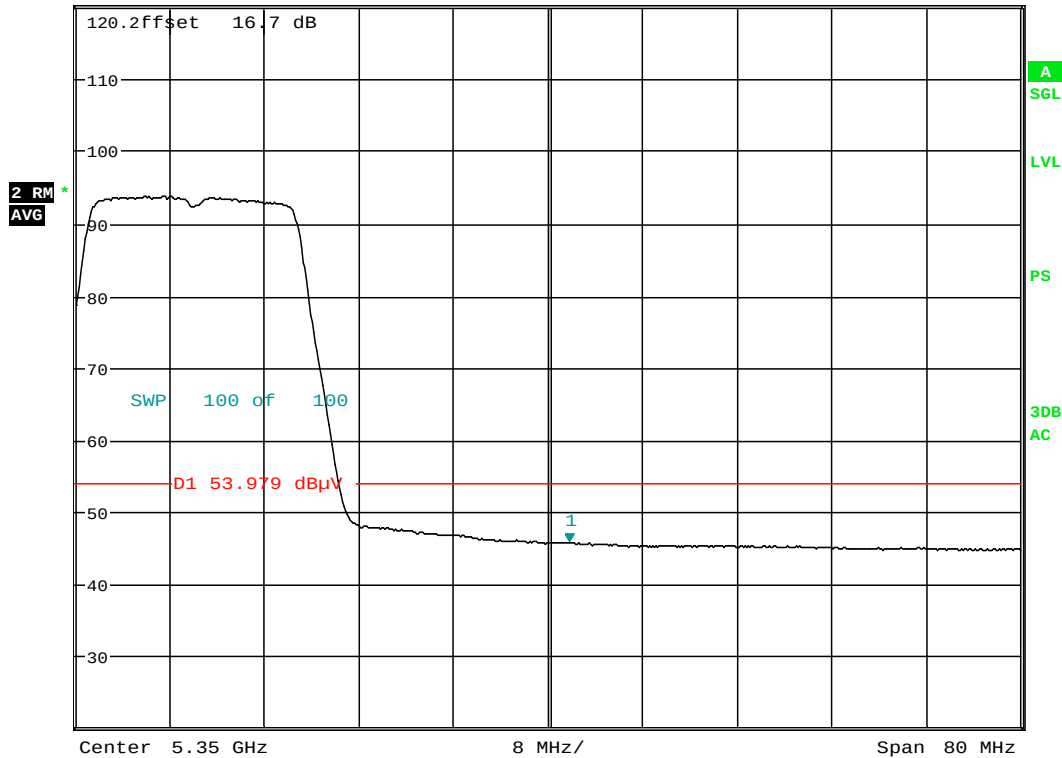


MARKER 1
5.351794872 GHz

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
45.82 dBμV
5.351794872 GHz

Ref 120.2 dBμV * Att 10 dB



Date: 5.FEB.2014 10:03:55

Plot 6-202. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

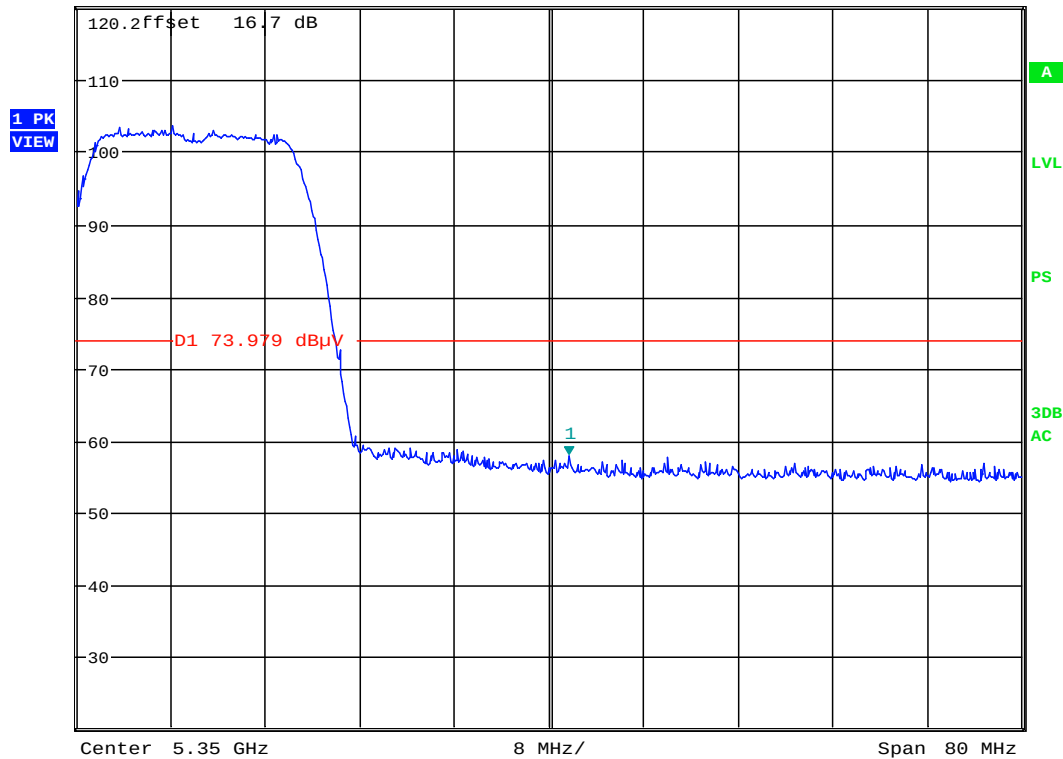
FCC ID: A3LSMG900P	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 156 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.351666667 GHz
Ref 120.2 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms
Marker 1 [T1]
57.89 dBμV
5.351666667 GHz



Date: 5.FEB.2014 10:04:14

Plot 6-203. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 157 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

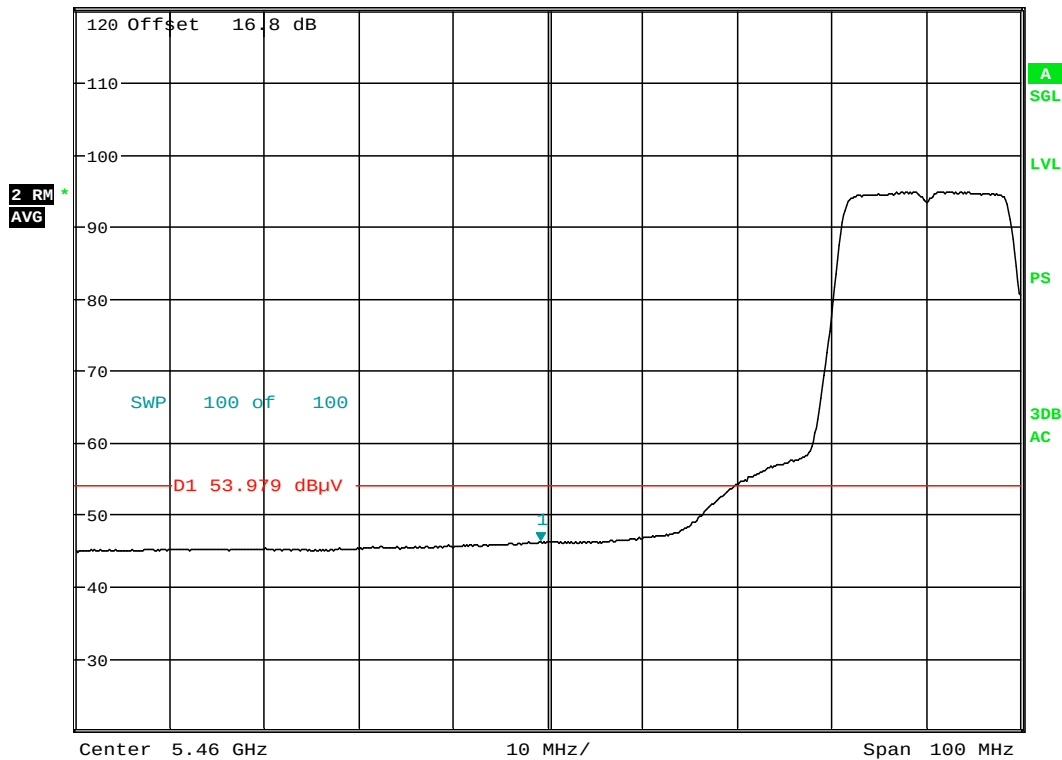
Channel: 100



MARKER 1
5.459198718 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
46.23 dBμV
5.459198718 GHz



Date: 5.FEB.2014 10:54:59

Plot 6-204. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 158 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd)

\$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1

5.466282051 GHz

Ref 120.3 dBμV

* Att 10 dB

* RBW 1 MHz

* VBW 3 MHz

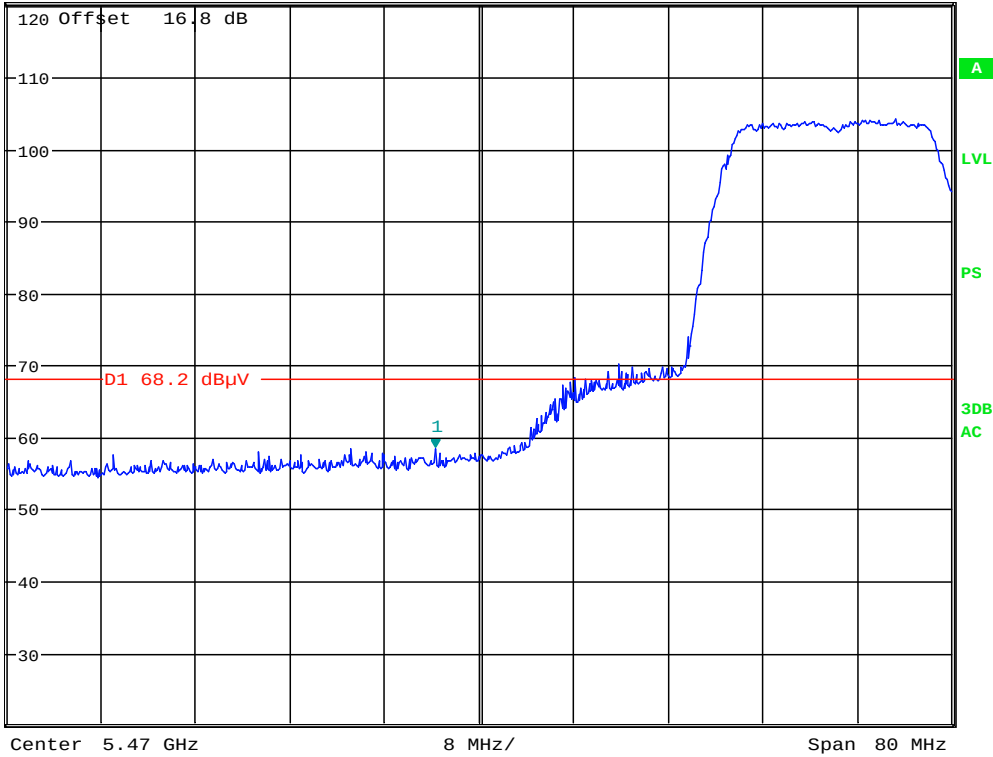
SWT 20 ms

Marker 1 [T1]

58.53 dBμV

5.466282051 GHz

**1 PK
VIEW**



Date: 5.FEB.2014 10:55:15

Plot 6-205. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 159 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd)

\$15.407(b.1)(b.2) \$15.205 \$15.209

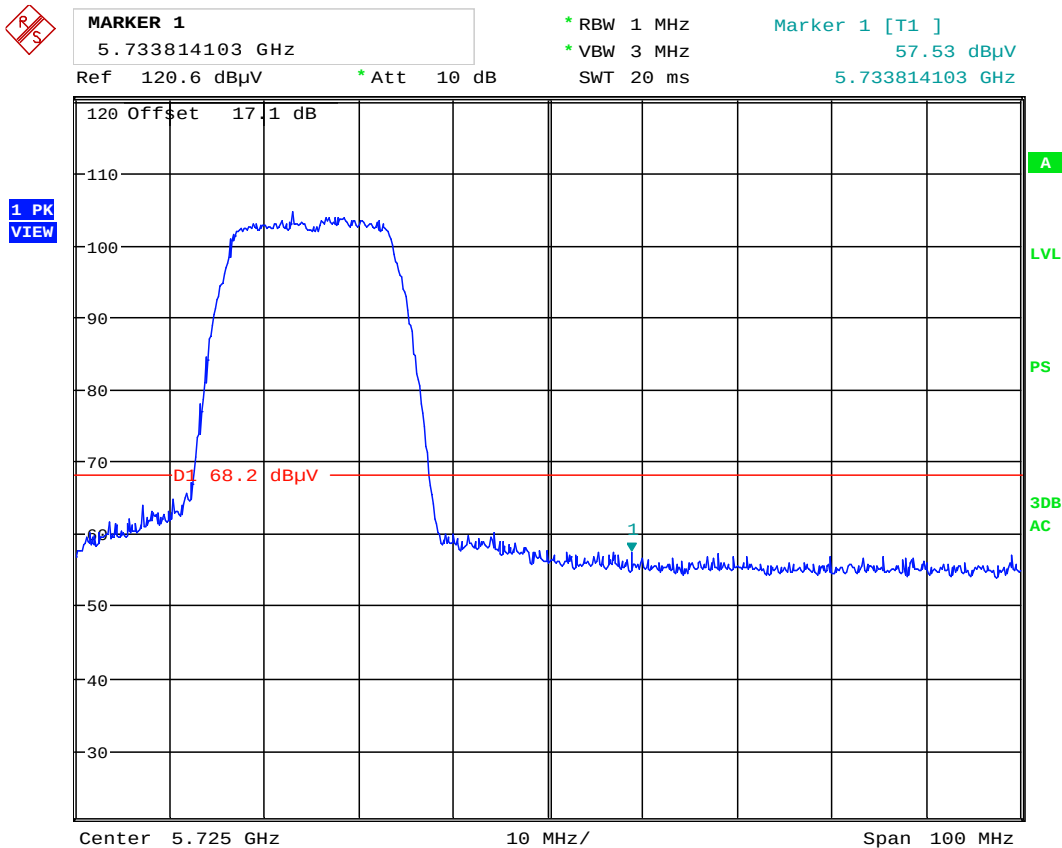
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5700MHz

Channel: 140



Date: 5.FEB.2014 11:25:28

Plot 6-206. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 160 of 206

6.12 Antenna-2 Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

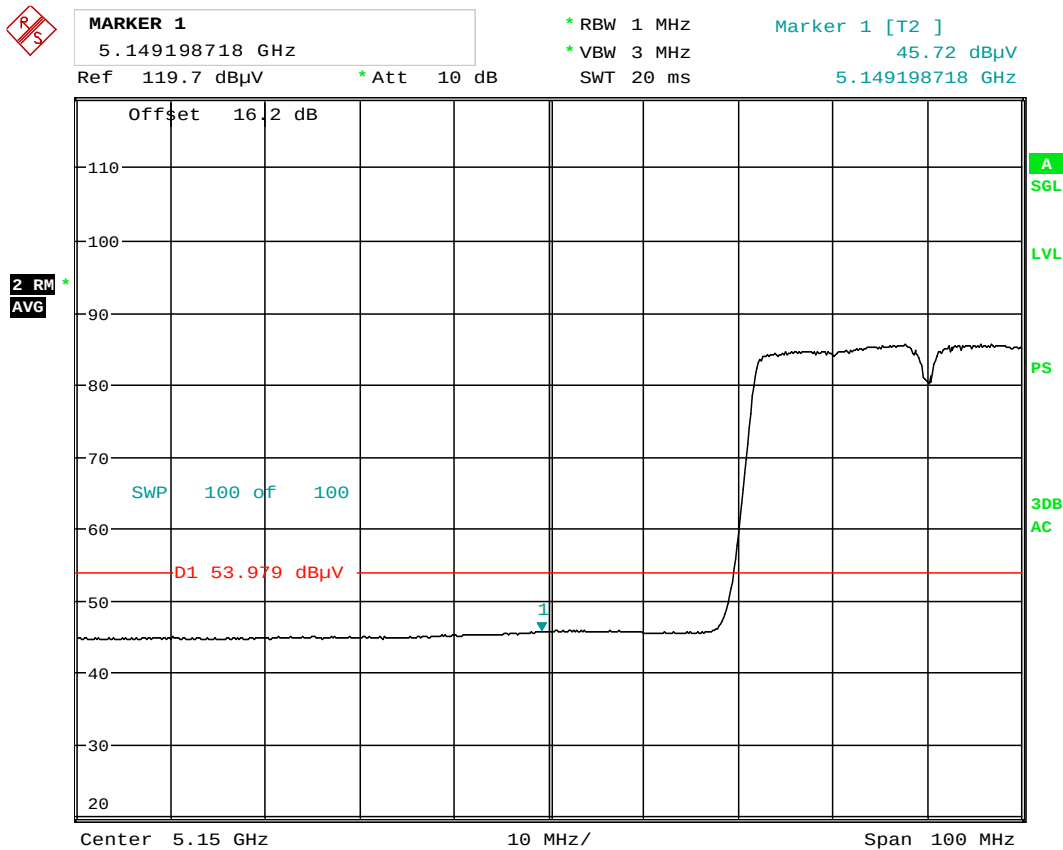
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38



Date: 4.FEB.2014 17:34:30

Plot 6-207. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 161 of 206

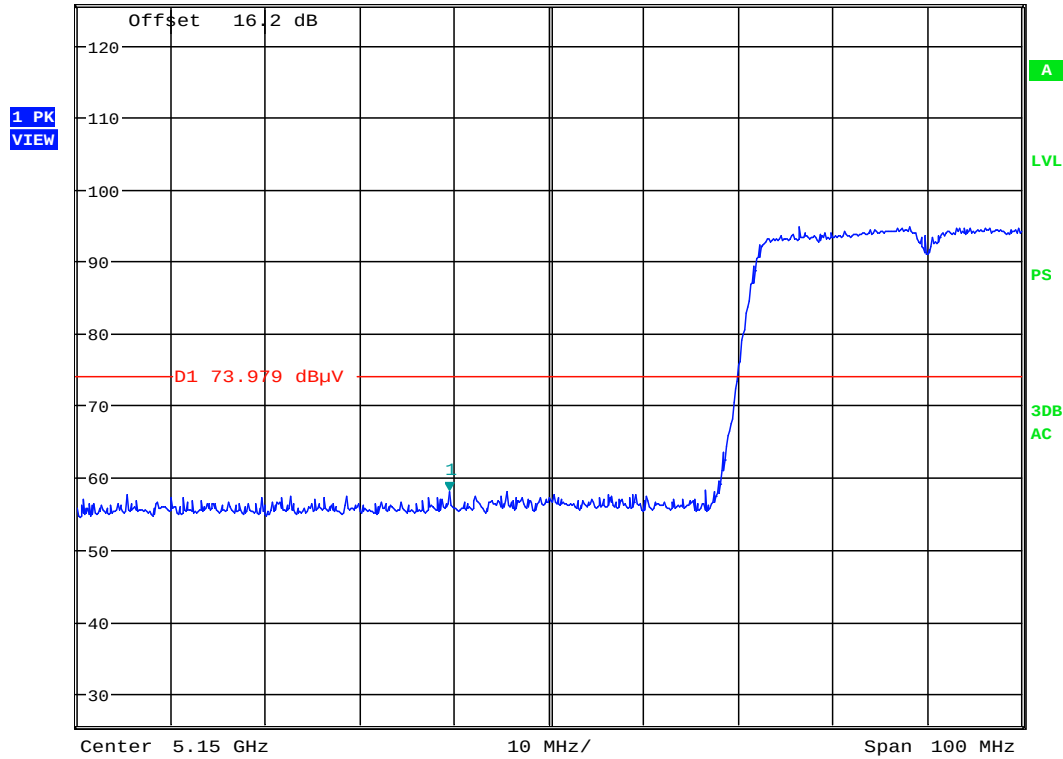
Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.139423077 GHz
Ref 125.6 dBμV *Att 10 dB

*RBW 1 MHz
*VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
58.09 dBμV
5.139423077 GHz



Date: 4.FEB.2014 17:34:52

Plot 6-208. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 162 of 206

Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62



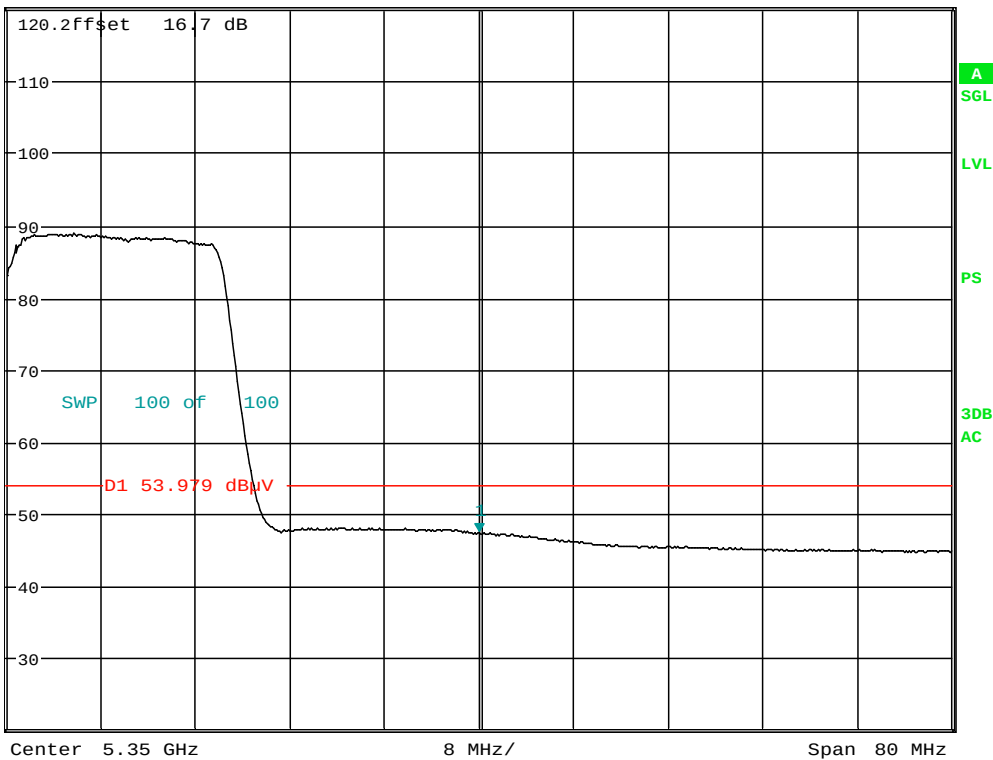
MARKER 1
5.35 GHz

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
47.39 dBμV
5.350000000 GHz

Ref 120.2 dBμV * Att 10 dB

2 RM
AVG



Date: 5.FEB.2014 10:06:28

Plot 6-209. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

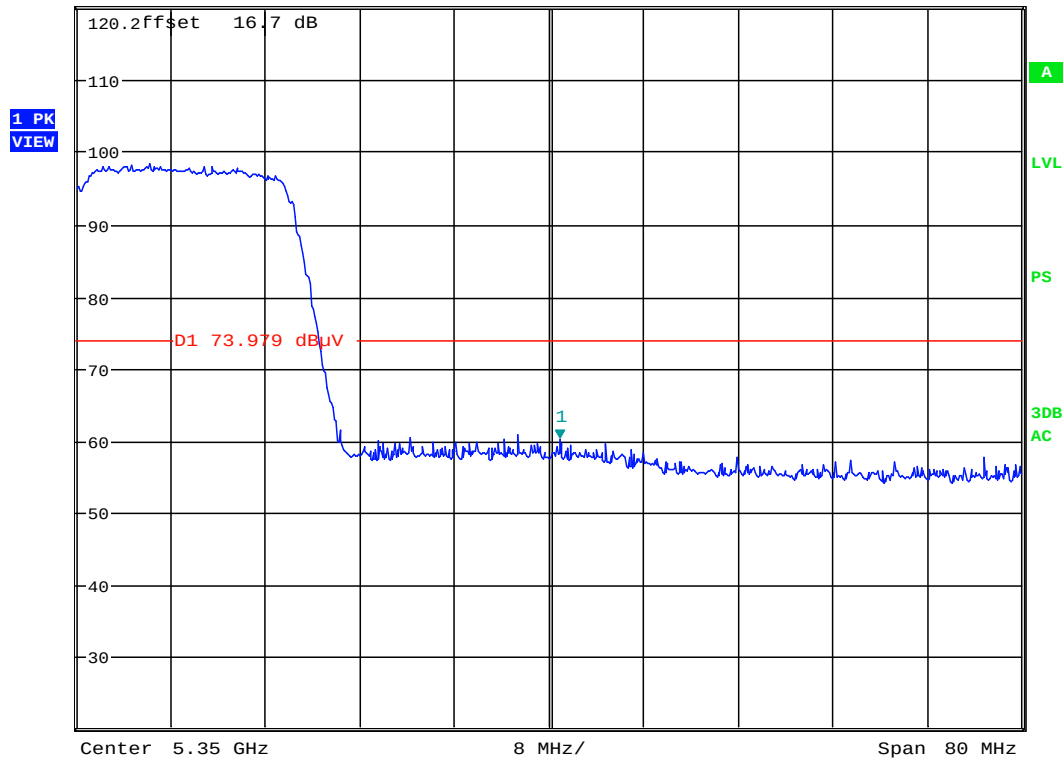
FCC ID: A3LSMG900P	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 163 of 206

Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.350897436 GHz
Ref 120.2 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms
Marker 1 [T1]
60.30 dBμV
5.350897436 GHz



Date: 5.FEB.2014 10:06:45

Plot 6-210. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 164 of 206

Radiated Band Edge Measurements (40MHz BW) (Cont'd)

\$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102



MARKER 1
5.46 GHz

* RBW 1 MHz

* VBW 3 MHz

SWT 20 ms

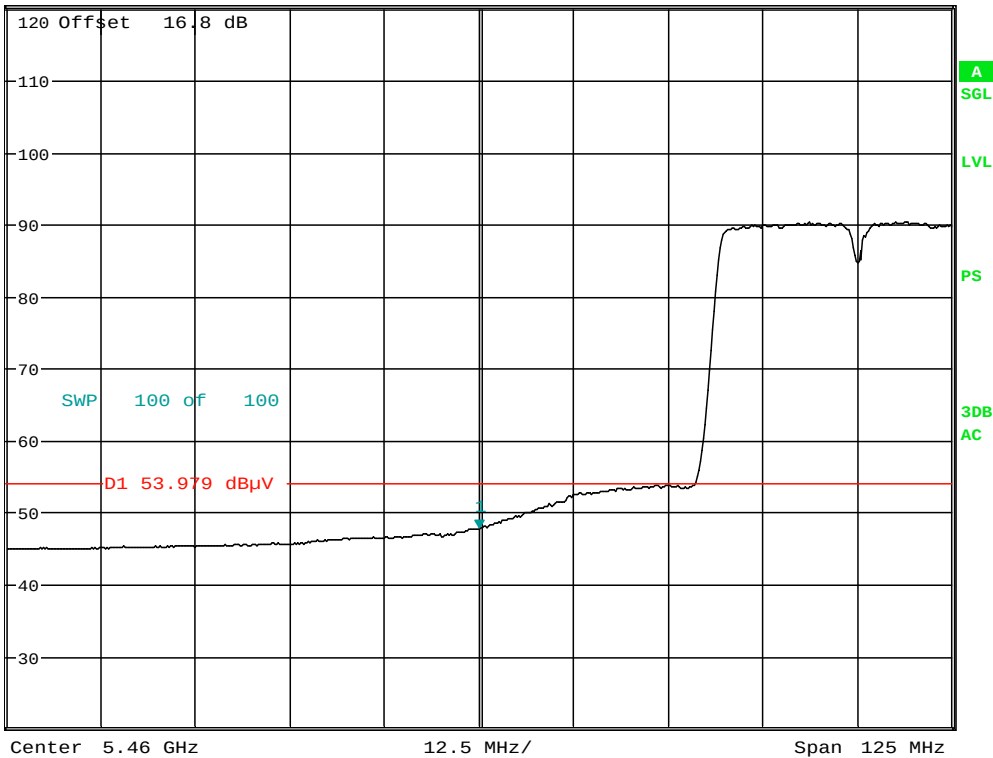
Marker 1 [T2]

47.76 dBμV

5.460000000 GHz

Ref 120.3 dBμV * Att 10 dB

2 RM
AVG



Date: 5.FEB.2014 10:57:22

Plot 6-211. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 165 of 206

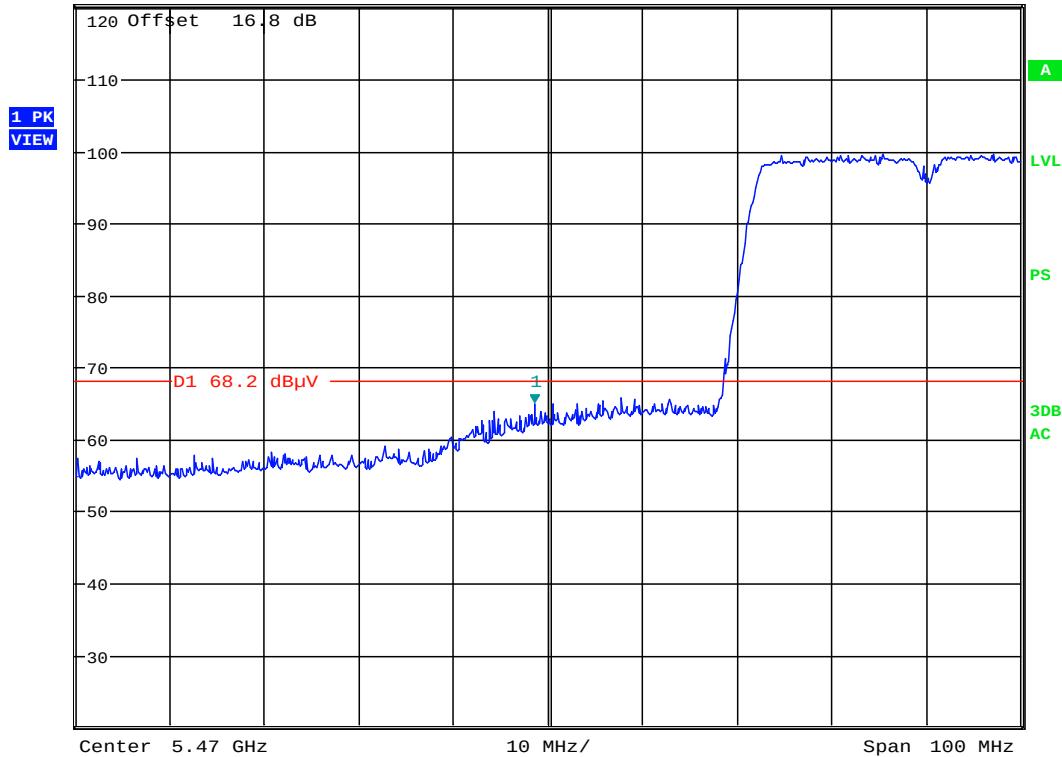
Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.468557692 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
64.86 dBμV
5.468557692 GHz



Date: 5.FEB.2014 10:56:55

Plot 6-212. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 166 of 206

Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

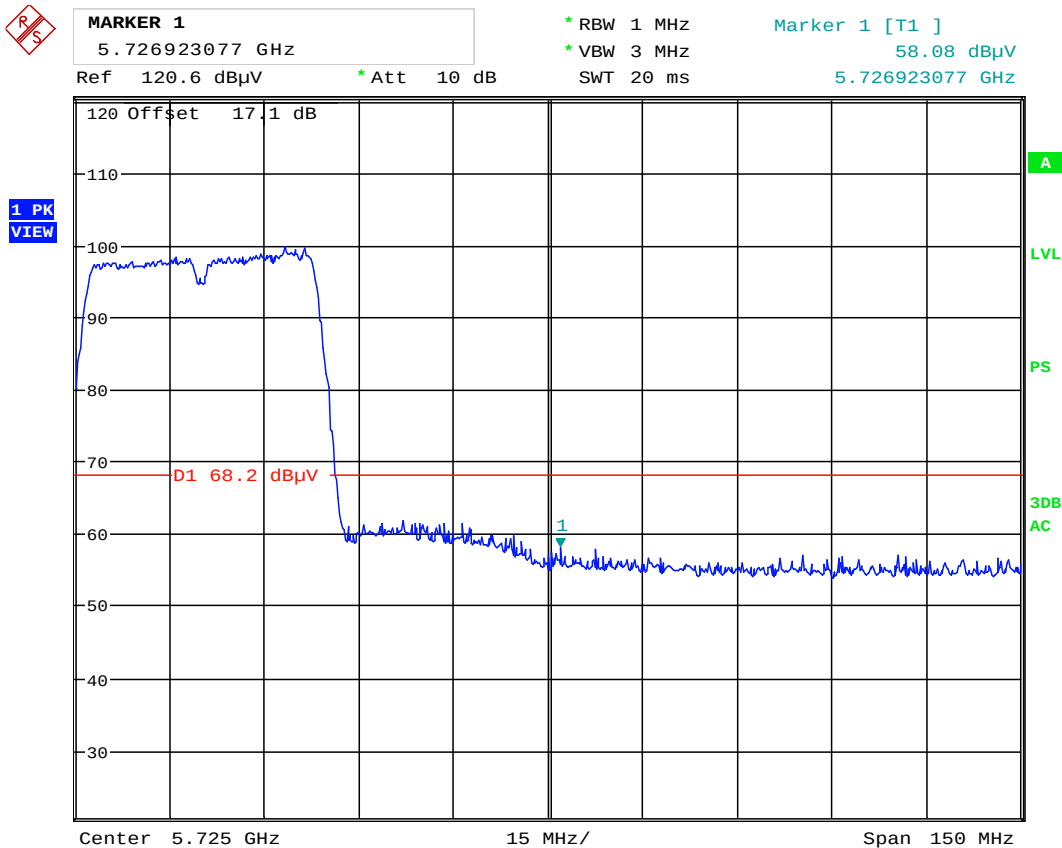
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5670MHz

Channel: 134



Date: 5.FEB.2014 11:26:47

Plot 6-213. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 167 of 206

6.13 Antenna-2 Radiated Band Edge Measurements (80MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

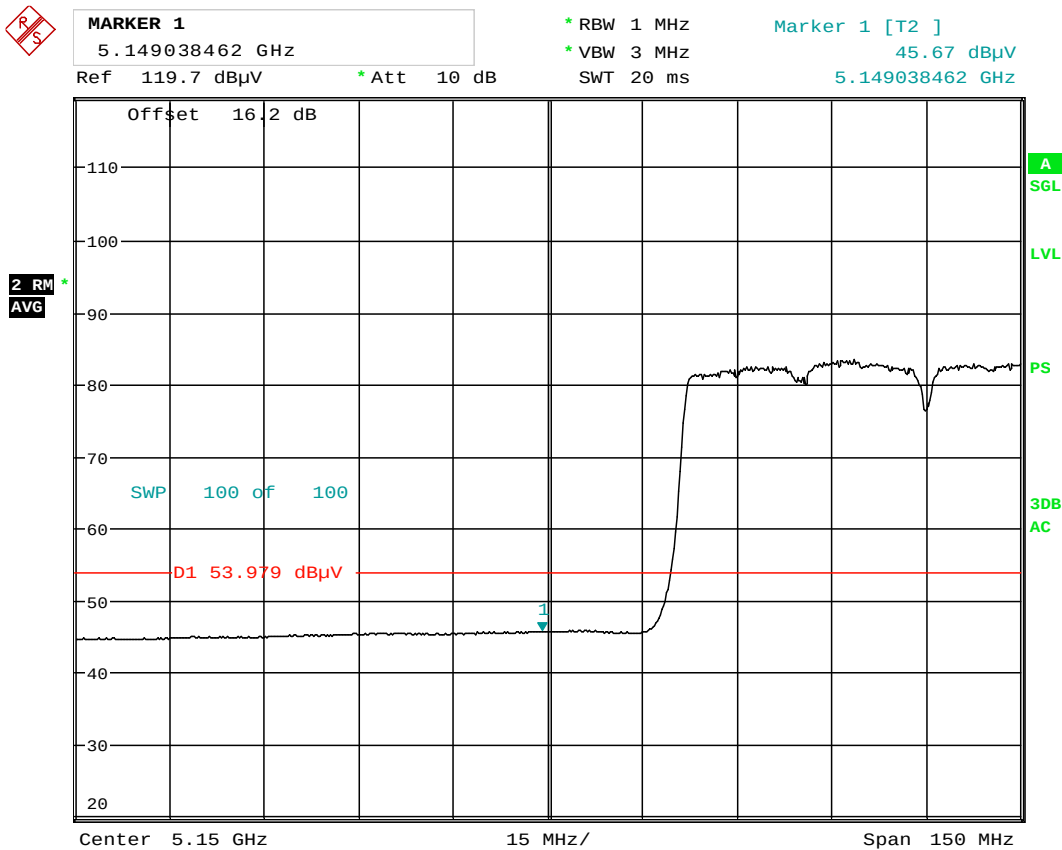
Worst Case Mode: 802.11n (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5210MHz

Channel: 42

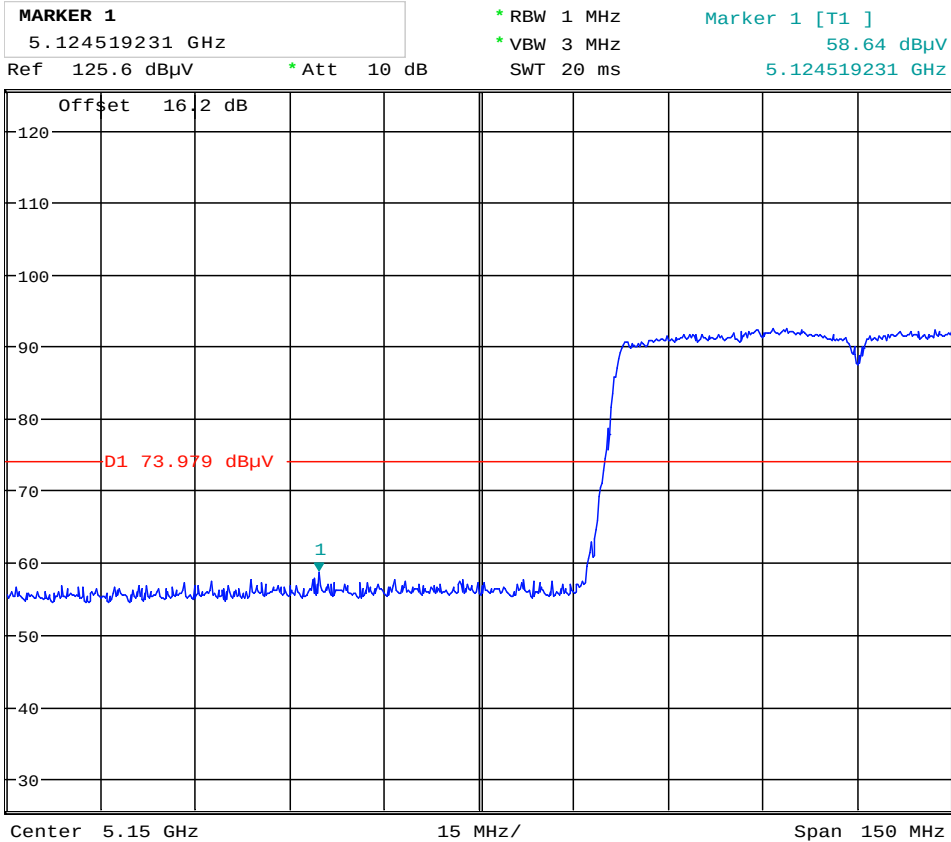


Date: 4.FEB.2014 17:36:51

Plot 6-214. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 168 of 206

Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 4.FEB.2014 17:37:19

Plot 6-215. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 169 of 206

Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11ac (80MHz)
Worst Case Transfer Rate: MCS0
Distance of Measurements: 3 Meters
Operating Frequency: 5290MHz
Channel: 58

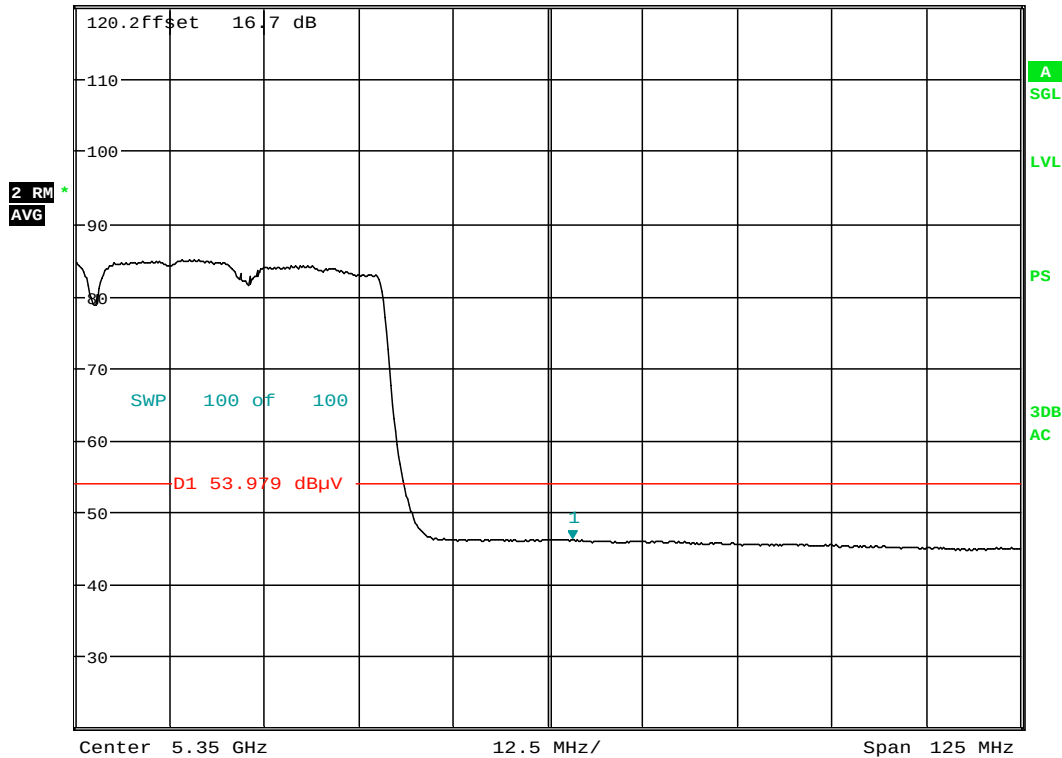


MARKER 1
5.353205128 GHz

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
46.18 dBμV
5.353205128 GHz

Ref 120.2 dBμV * Att 10 dB

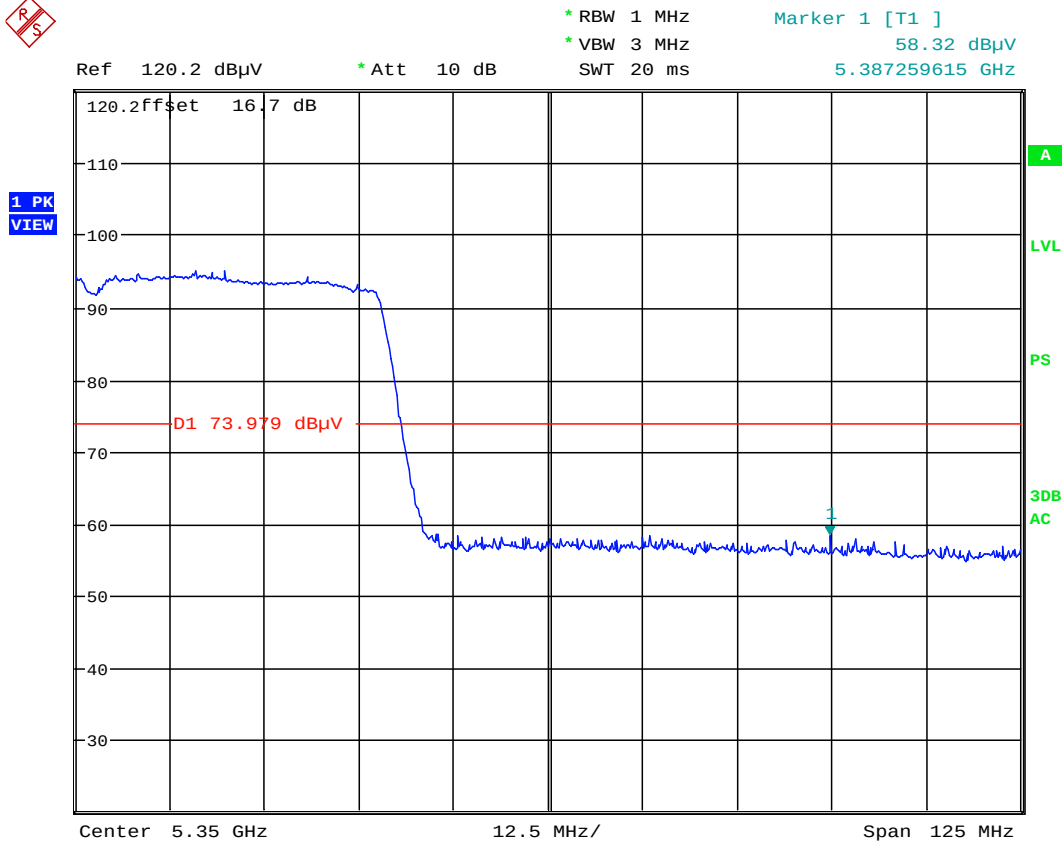


Date: 5.FEB.2014 10:10:08

Plot 6-216. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 170 of 206

Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 5.FEB.2014 10:09:27

Plot 6-217. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 171 of 206

Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

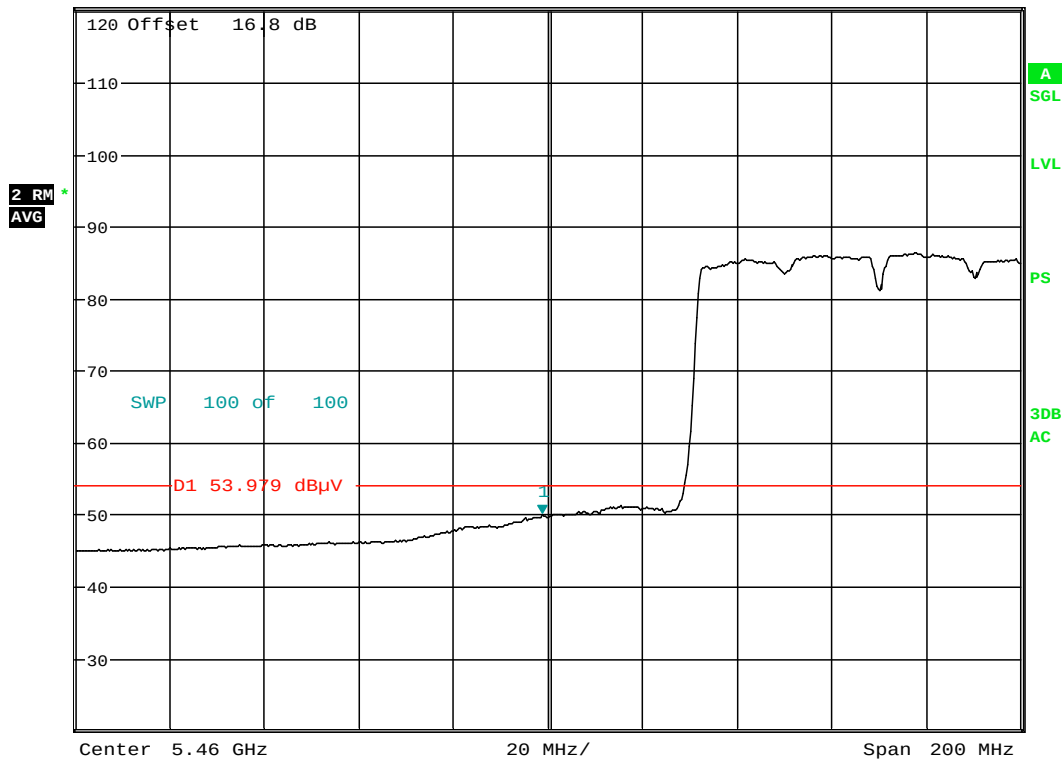
Worst Case Mode: 802.11ac (80MHz)
Worst Case Transfer Rate: MCS0
Distance of Measurements: 3 Meters
Operating Frequency: 5530MHz
Channel: 106



MARKER 1
5.458717949 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
49.95 dBμV
5.458717949 GHz



Date: 5.FEB.2014 10:58:46

Plot 6-218. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 172 of 206

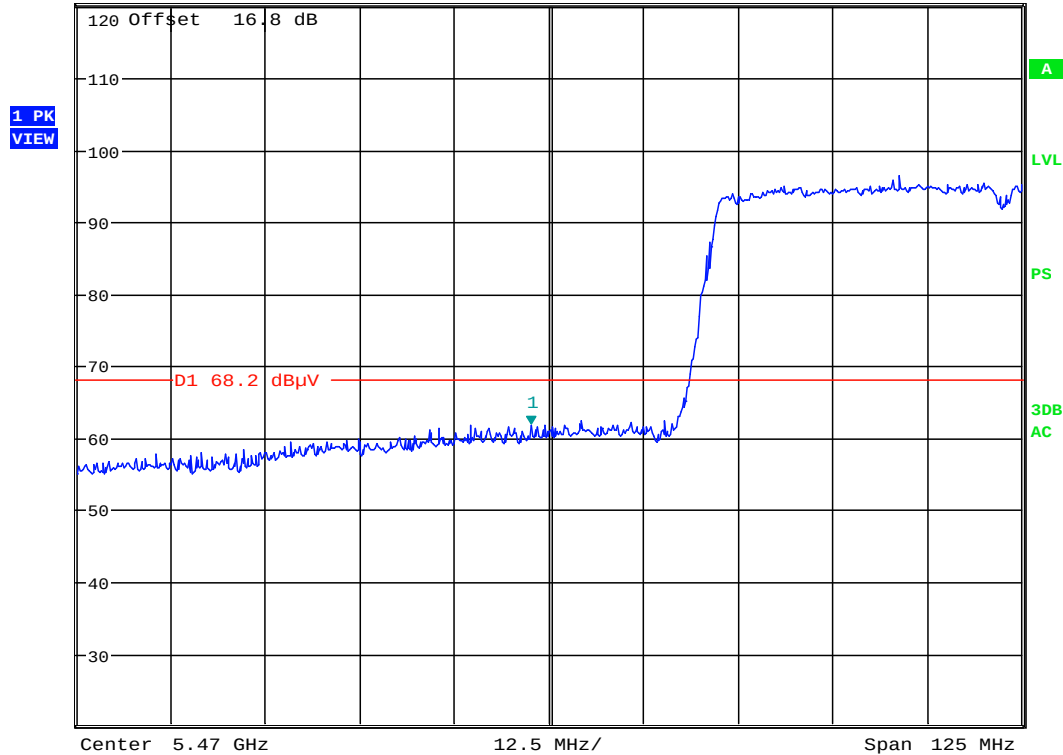
Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.467596154 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
61.87 dBμV
5.467596154 GHz



Date: 5.FEB.2014 10:59:09

Plot 6-219. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 173 of 206

6.14 MIMO Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36



MARKER 1
5.148333333 GHz

* RBW 1 MHz

* VBW 3 MHz

SWT 20 ms

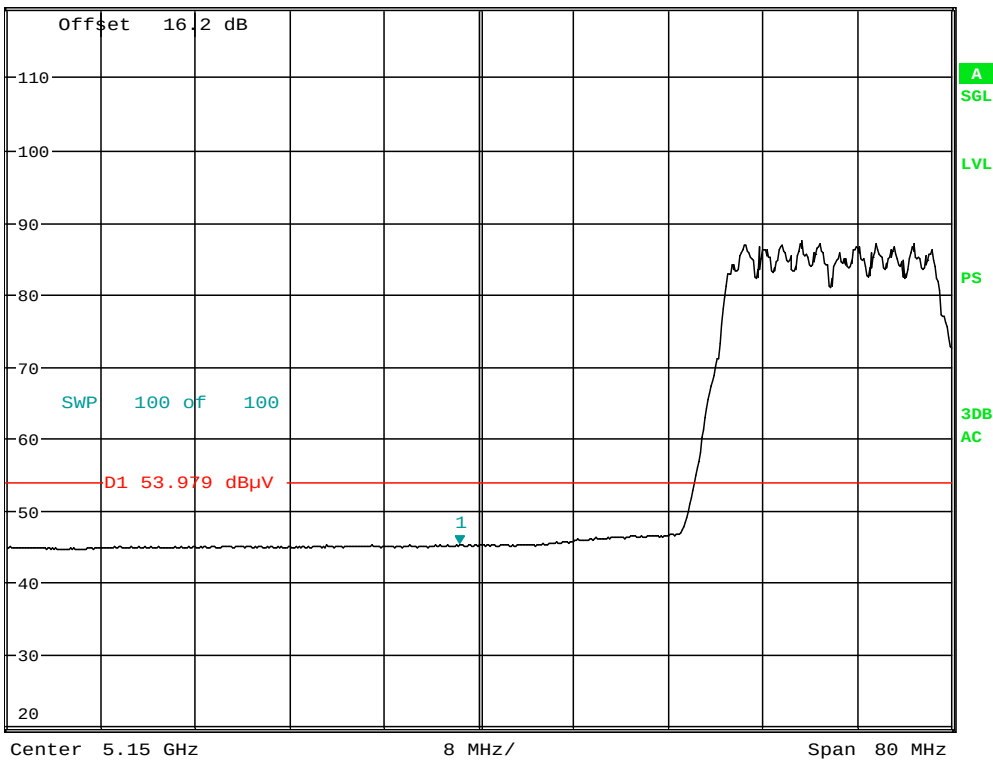
Marker 1 [T2]

45.17 dBμV

5.148333333 GHz

Ref 119.7 dBμV * Att 10 dB

2 RM
AVG



Date: 4.FEB.2014 17:20:40

Plot 6-220. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 174 of 206

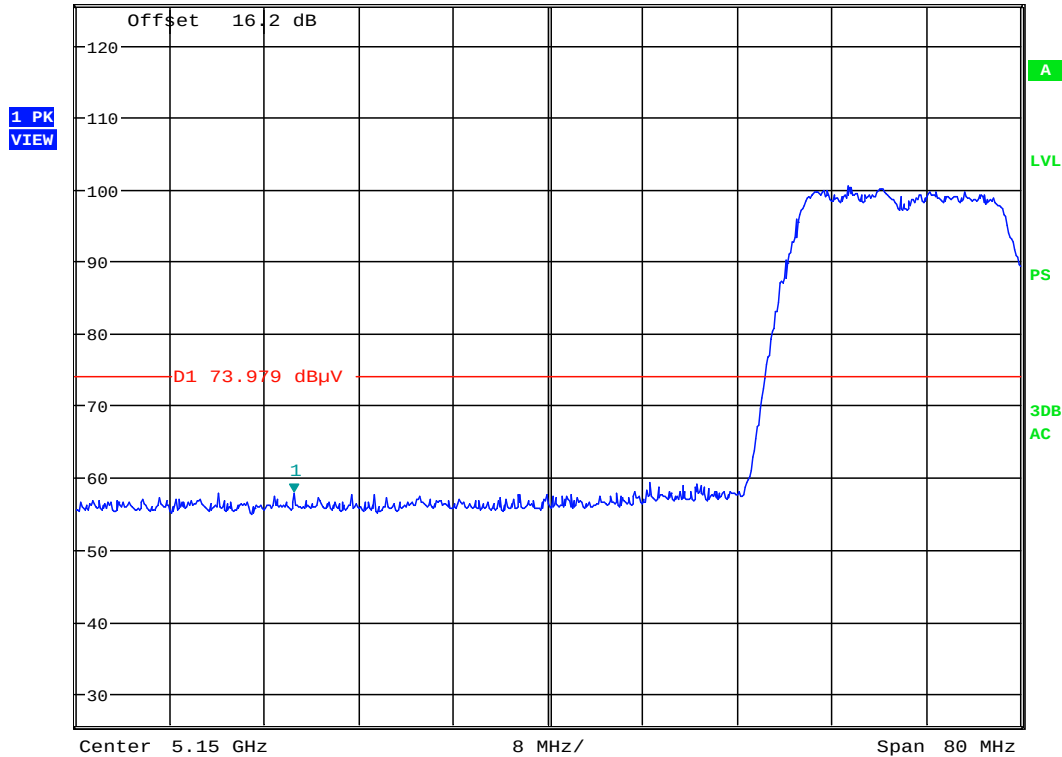
Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.128461538 GHz
Ref 125.6 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
57.91 dBμV
5.128461538 GHz



Date: 4.FEB.2014 17:21:06

Plot 6-221. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 175 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64

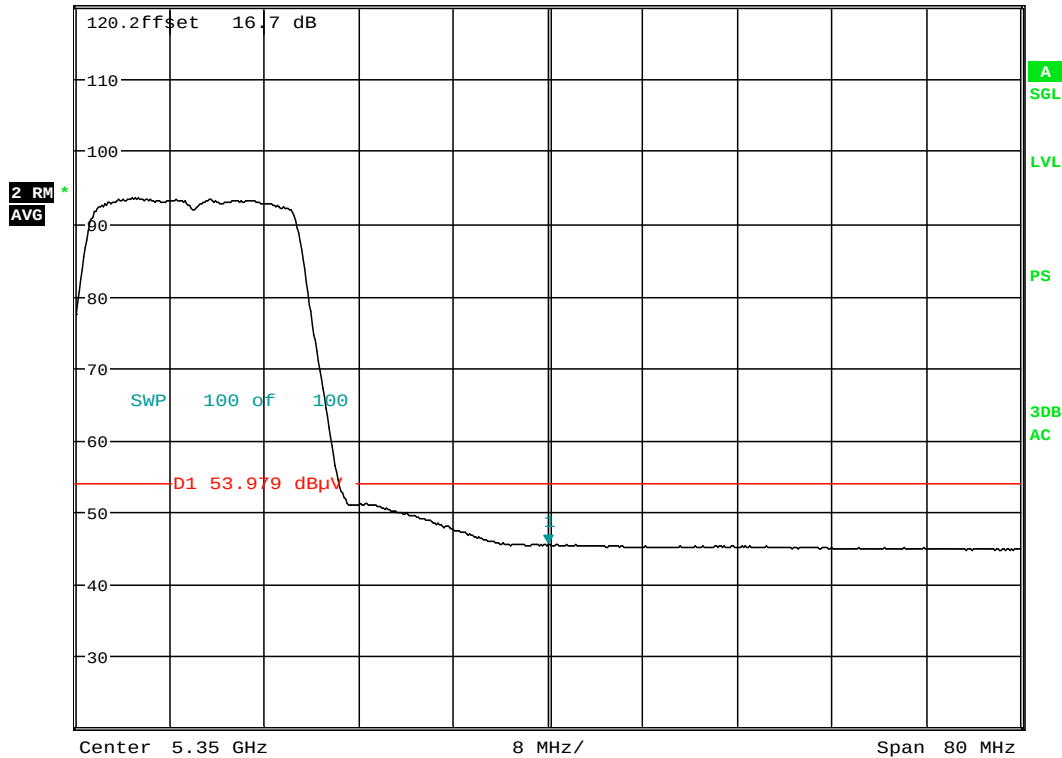


MARKER 1
5.35 GHz

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
45.51 dBμV
5.350000000 GHz

Ref 120.2 dBμV * Att 10 dB



Date: 5.FEB.2014 10:32:58

Plot 6-222. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

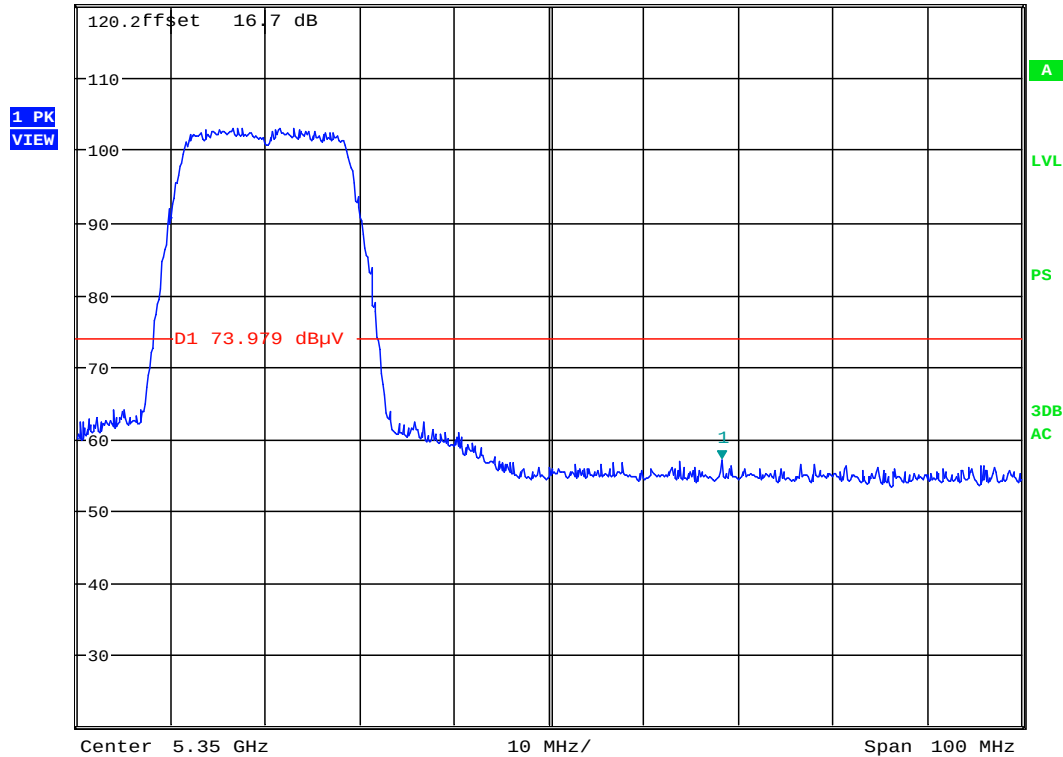
FCC ID: A3LSMG900P	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 176 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.368269231 GHz
Ref 120.2 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms
Marker 1 [T1]
57.13 dBμV
5.368269231 GHz



Date: 5.FEB.2014 10:32:27

Plot 6-223. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 177 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

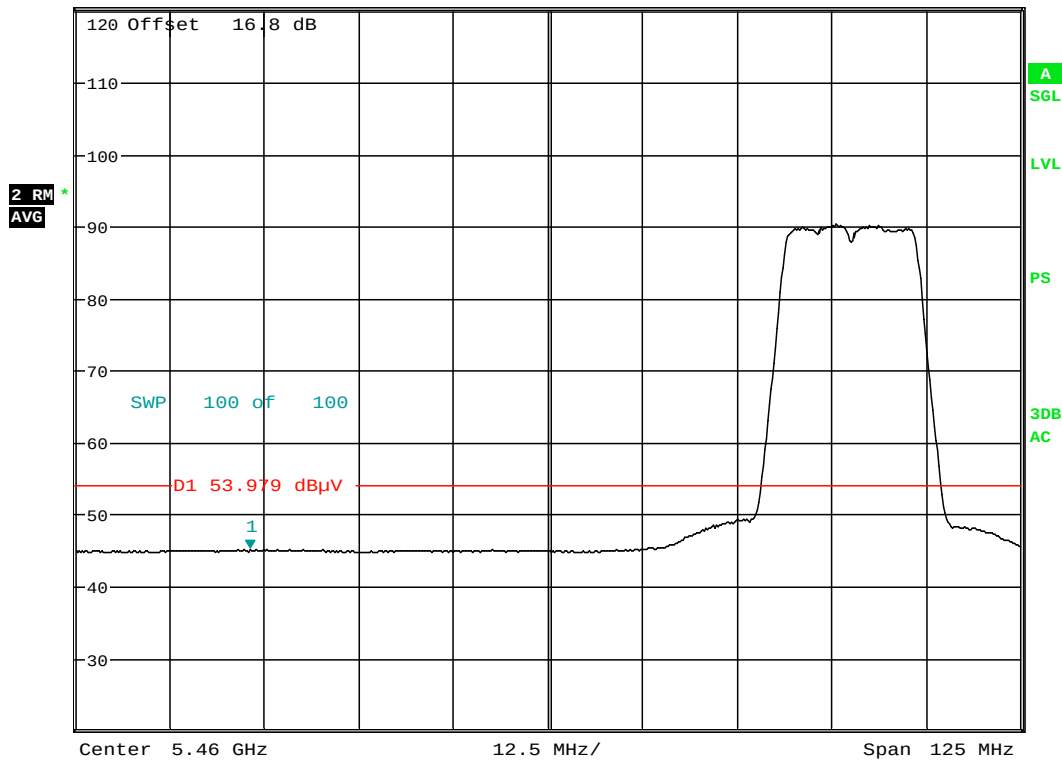
Channel: 100



MARKER 1
5.420536859 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
45.16 dBμV
5.420536859 GHz

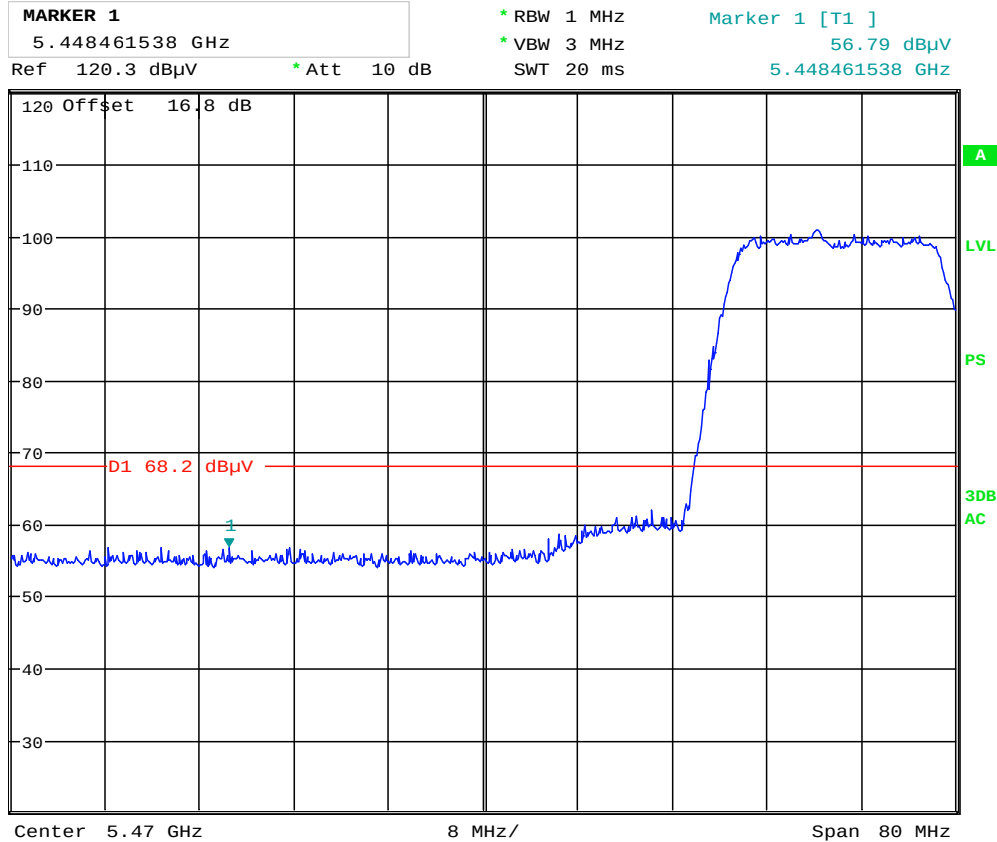


Date: 5.FEB.2014 11:14:15

Plot 6-224. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 178 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 5.FEB.2014 11:14:31

Plot 6-225. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 179 of 206

Radiated Band Edge Measurements (20MHz BW) (Cont'd)

\$15.407(b.1)(b.2) \$15.205 \$15.209

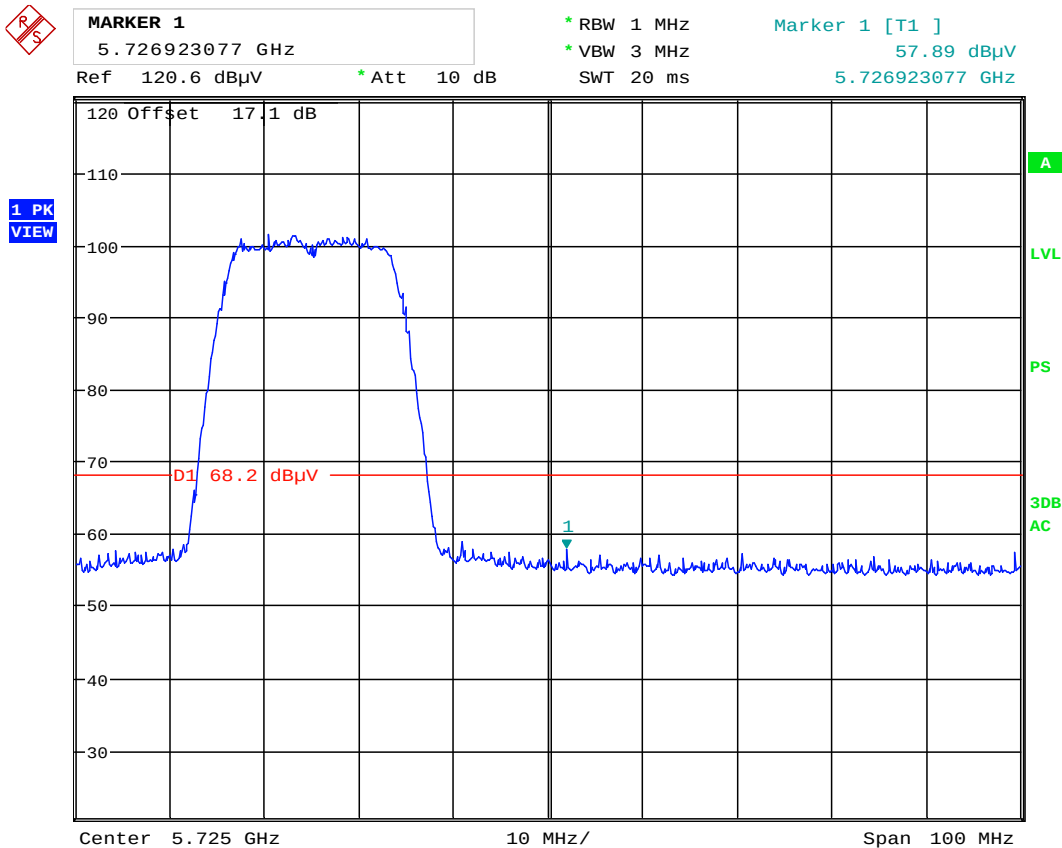
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5700MHz

Channel: 140



Date: 5.FEB.2014 11:28:08

Plot 6-226. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 180 of 206

6.15 MIMO Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38

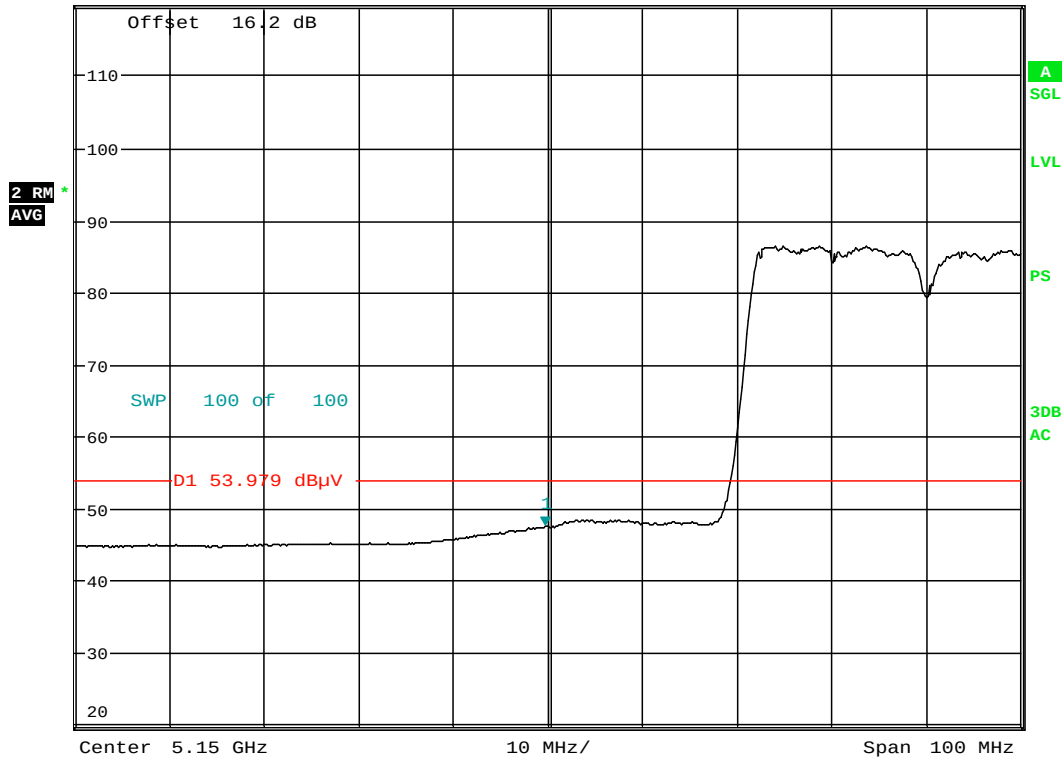


MARKER 1
5.149679487 GHz

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
47.48 dBμV
5.149679487 GHz

Ref 119.7 dBμV * Att 10 dB



Date: 4.FEB.2014 17:40:20

Plot 6-227. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 181 of 206

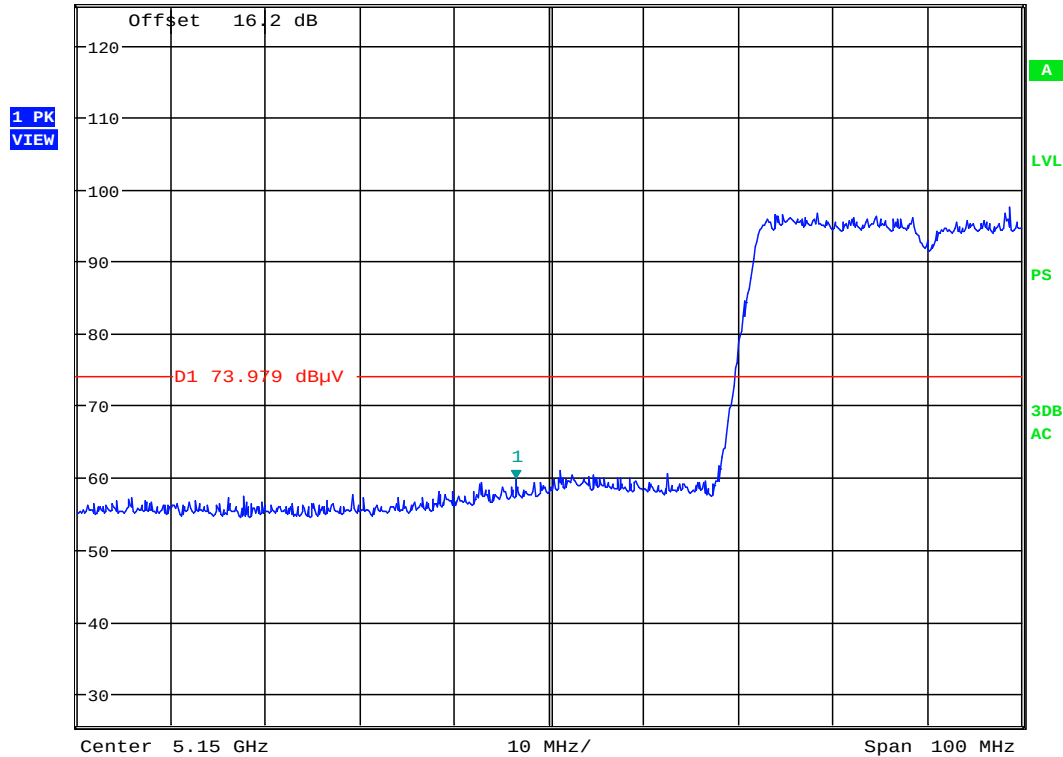
Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.146474359 GHz
Ref 125.6 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
59.75 dBμV
5.146474359 GHz



Date: 4.FEB.2014 17:40:45

Plot 6-228. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 182 of 206

Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62



MARKER 1
5.35 GHz

* RBW 1 MHz

Marker 1 [T2]

* VBW 3 MHz

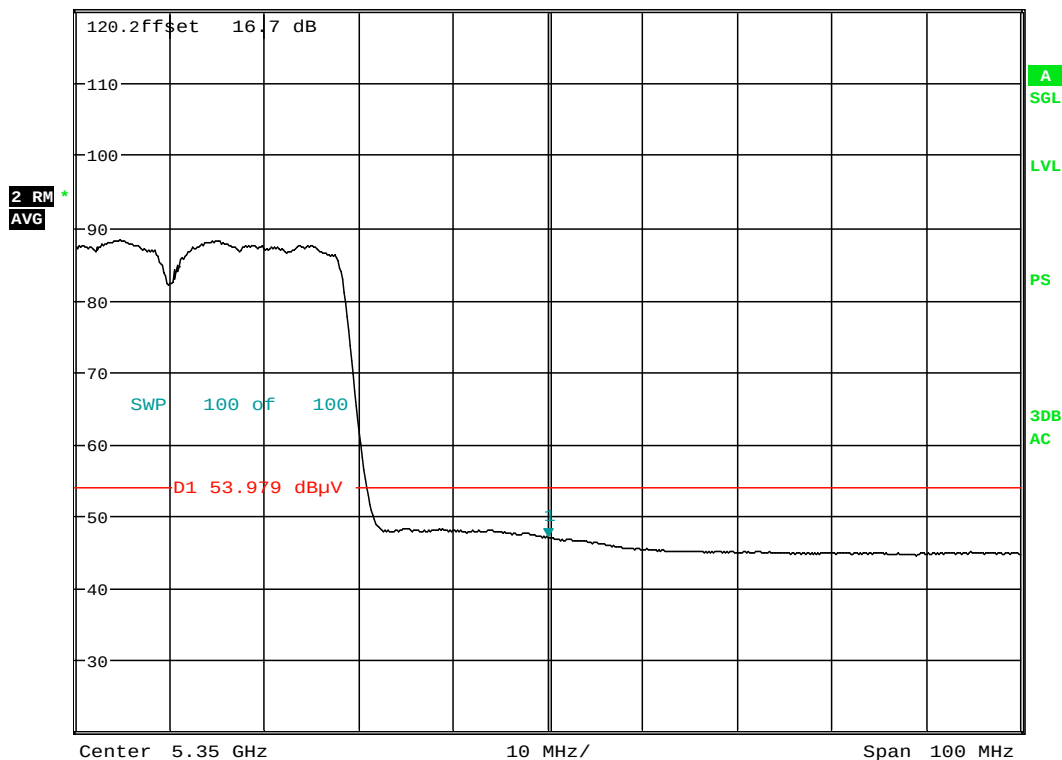
47.00 dBμV

Ref 120.2 dBμV

* Att 10 dB

SWT 20 ms

5.350000000 GHz



Date: 5.FEB.2014 10:35:10

Plot 6-229. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 183 of 206

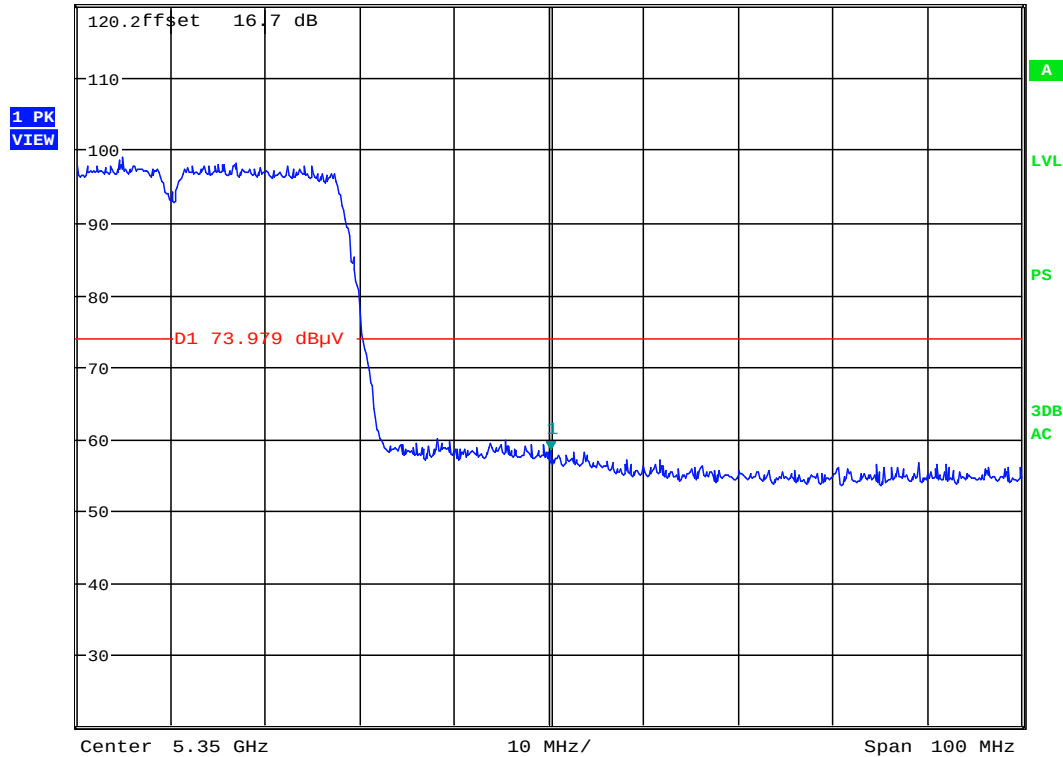
Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.350160256 GHz
Ref 120.2 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
58.24 dBμV
5.350160256 GHz



Date: 5.FEB.2014 10:35:29

Plot 6-230. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 184 of 206

Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11n (40MHz)
Worst Case Transfer Rate: MCS8
Distance of Measurements: 3 Meters
Operating Frequency: 5510MHz
Channel: 102



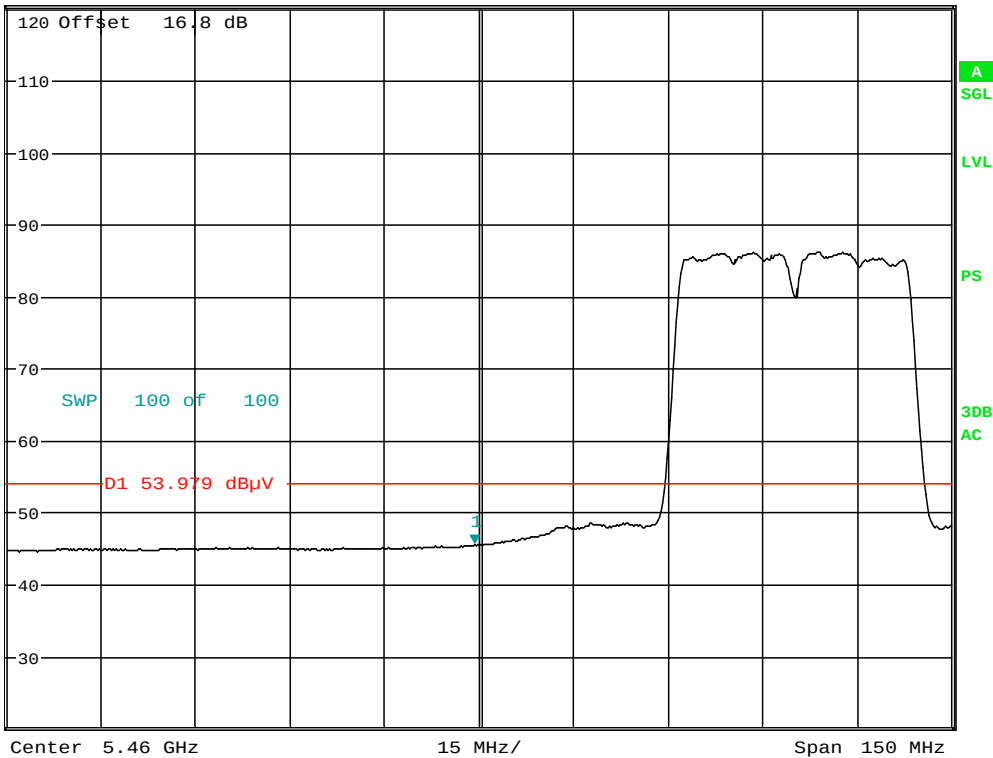
MARKER 1
5.459278846 GHz

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
45.54 dBμV
5.459278846 GHz

Ref 120.3 dBμV * Att 10 dB

2 RM
AVG



Date: 5.FEB.2014 11:16:15

Plot 6-231. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 185 of 206

Radiated Band Edge Measurements (40MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1

5.464711538 GHz

Ref 120.3 dBμV

* Att 10 dB

* RBW 1 MHz

* VBW 3 MHz

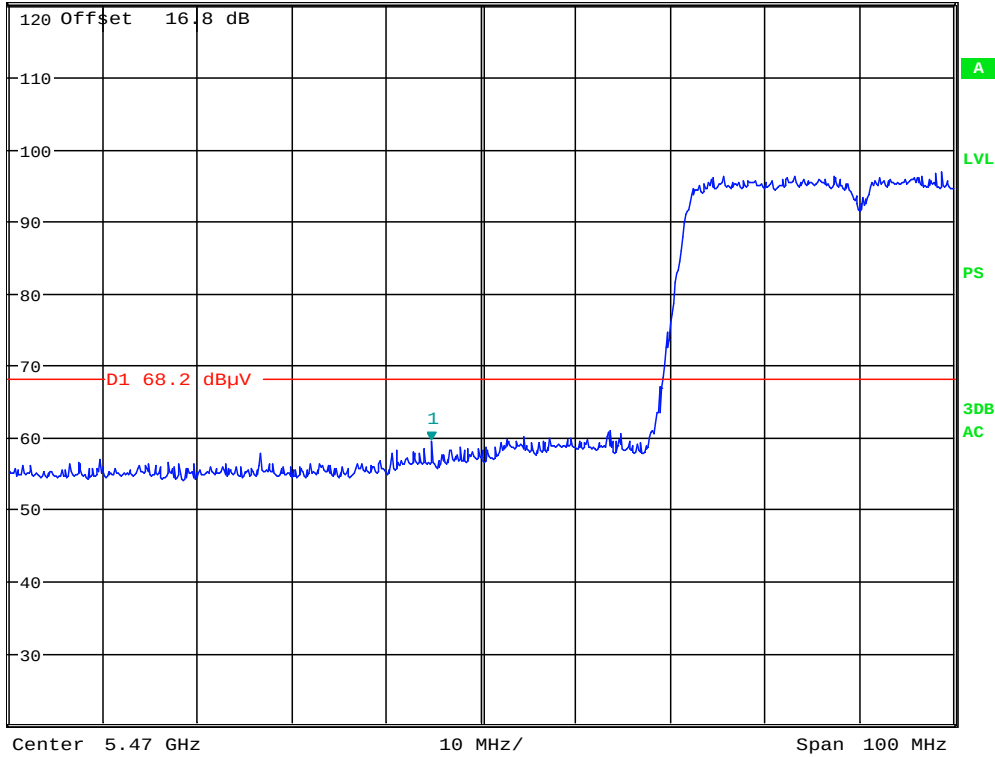
SWT 20 ms

Marker 1 [T1]

59.56 dBμV

5.464711538 GHz

**1 PK
VIEW**



Date: 5.FEB.2014 11:15:53

Plot 6-232. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 186 of 206

Radiated Band Edge Measurements (40MHz BW) (Cont'd)

\$15.407(b.1)(b.2) \$15.205 \$15.209

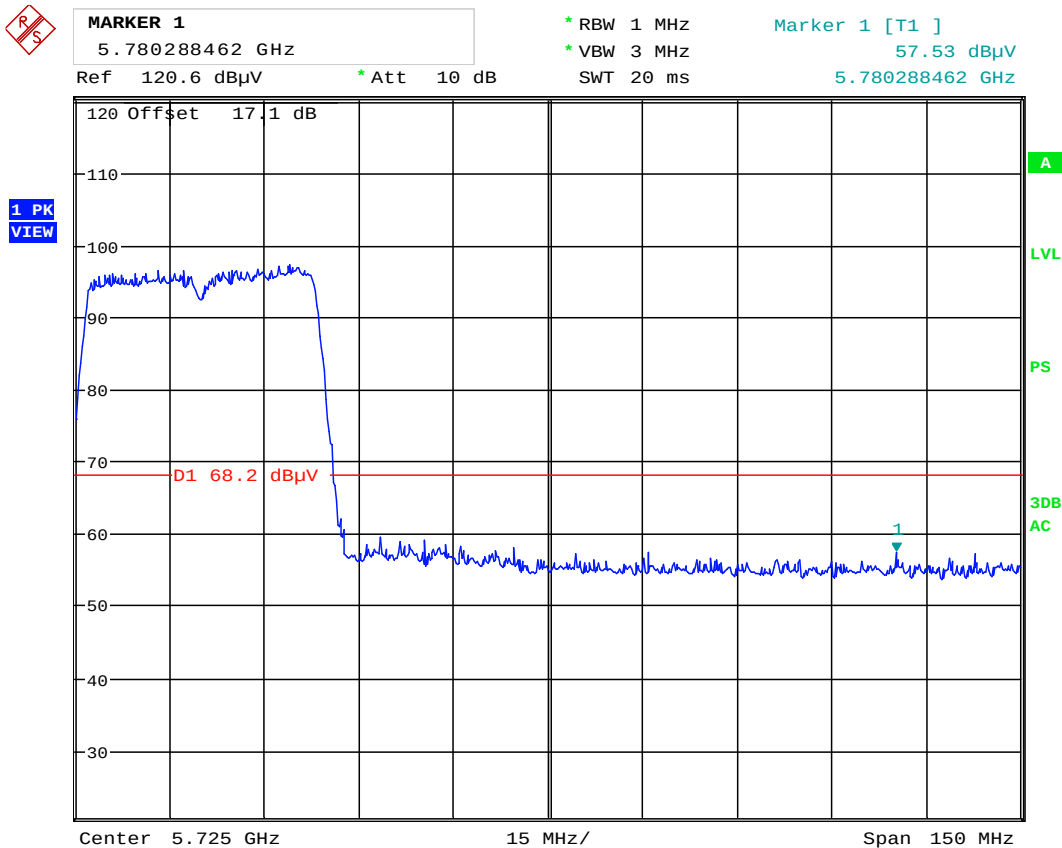
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5670MHz

Channel: 134



Date: 5.FEB.2014 11:29:07

Plot 6-233. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 187 of 206

6.16 MIMO Radiated Band Edge Measurements (80MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5210MHz

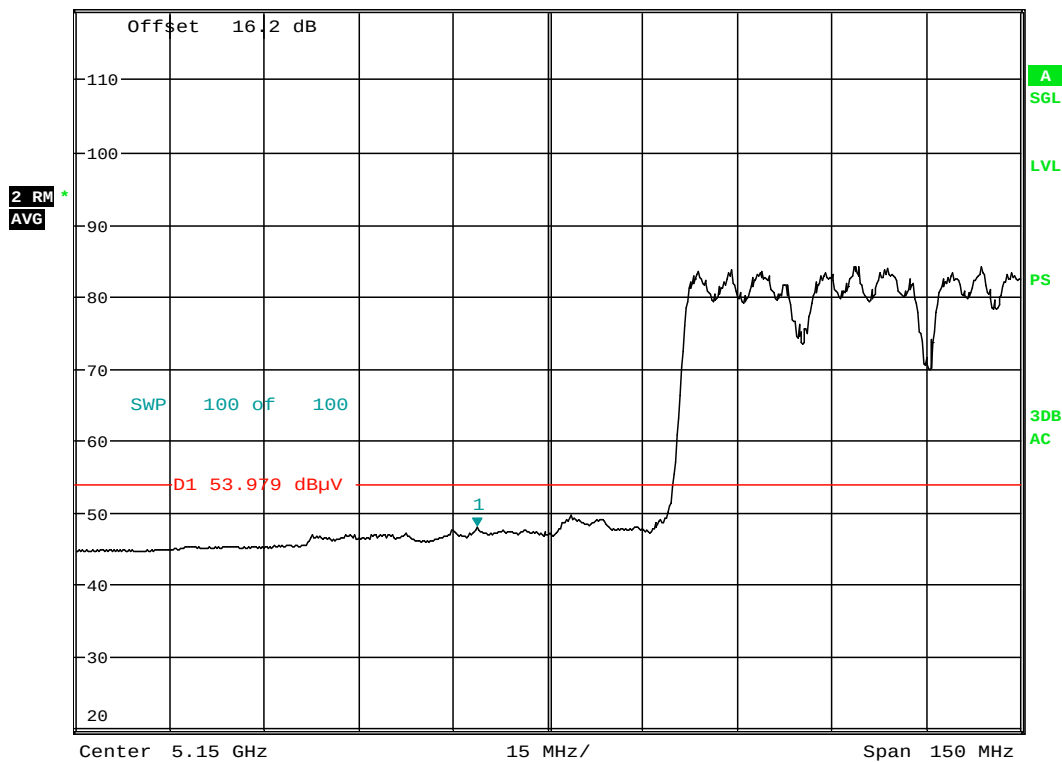
Channel: 42



MARKER 1
5.138701923 GHz
Ref 119.7 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
48.04 dBμV
5.138701923 GHz

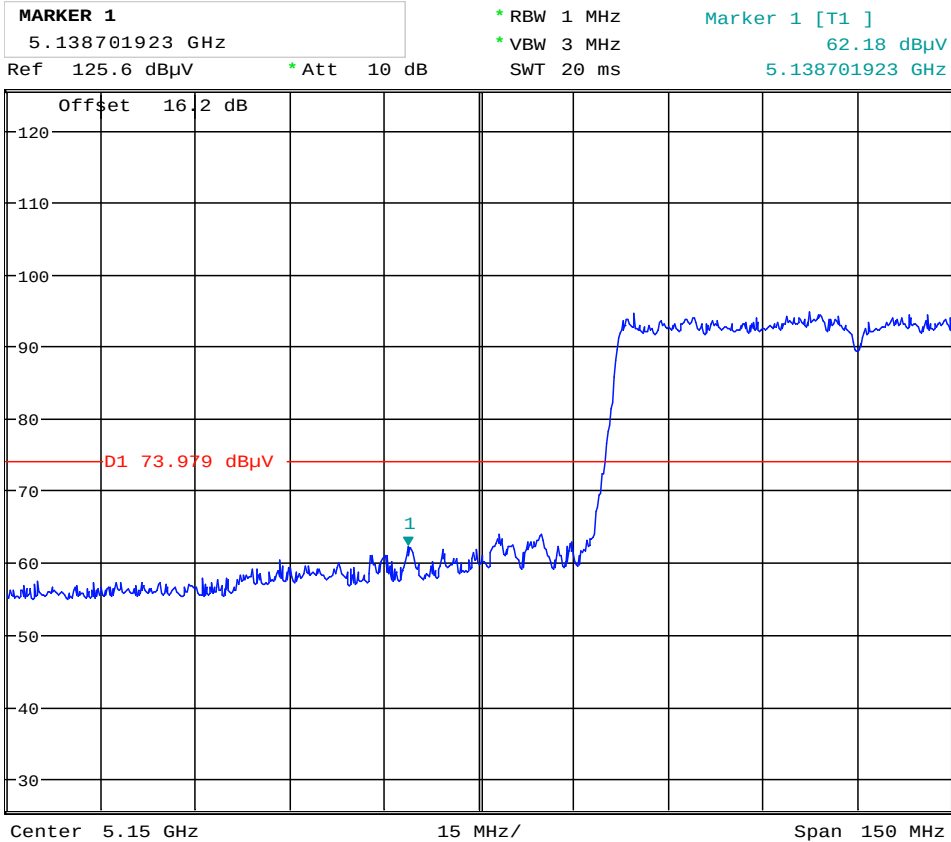


Date: 4.FEB.2014 17:43:07

Plot 6-234. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 188 of 206

Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 4.FEB.2014 17:43:32

Plot 6-235. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 189 of 206

Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58



MARKER 1
5.354487179 GHz

* RBW 1 MHz

Marker 1 [T2]

* VBW 3 MHz

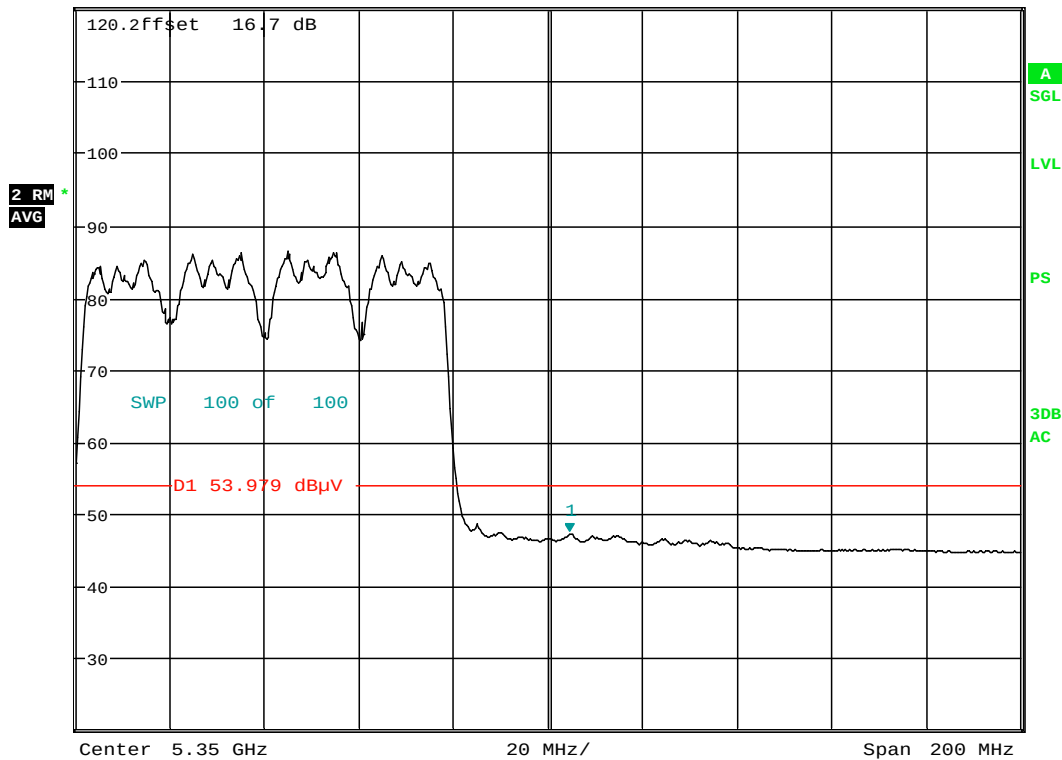
47.34 dBμV

Ref 120.2 dBμV

* Att 10 dB

SWT 20 ms

5.354487179 GHz



Date: 5.FEB.2014 10:37:47

Plot 6-236. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 190 of 206

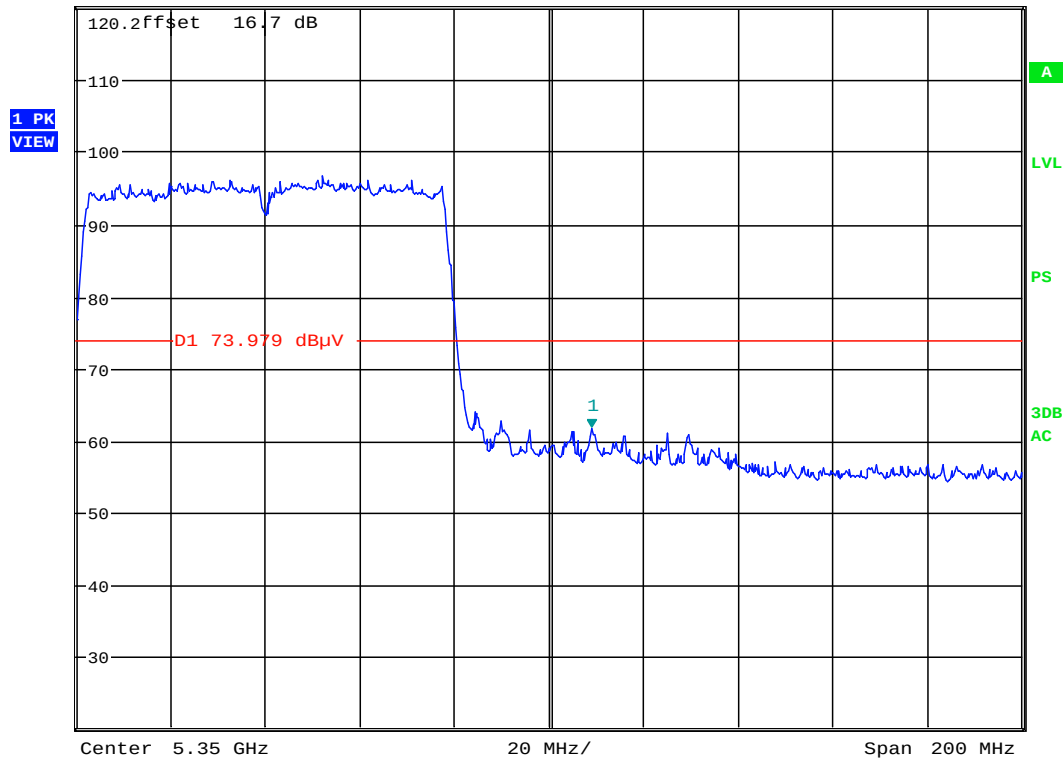
Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.358974359 GHz
Ref 120.2 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
61.65 dBμV
5.358974359 GHz



Date: 5.FEB.2014 10:36:54

Plot 6-237. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 191 of 206

Radiated Band Edge Measurements (80MHz BW) (Cont'd)

\$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5530MHz

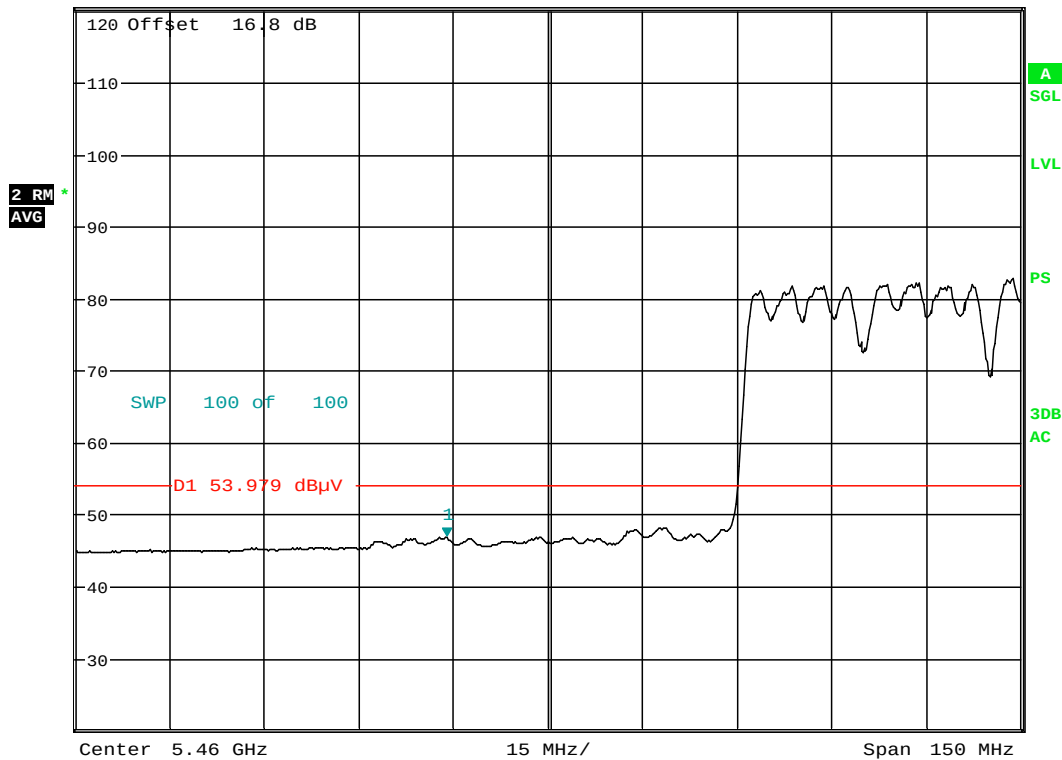
Channel: 106



MARKER 1
5.443894231 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
46.98 dBμV
5.443894231 GHz



Date: 5.FEB.2014 11:18:04

Plot 6-238. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 192 of 206

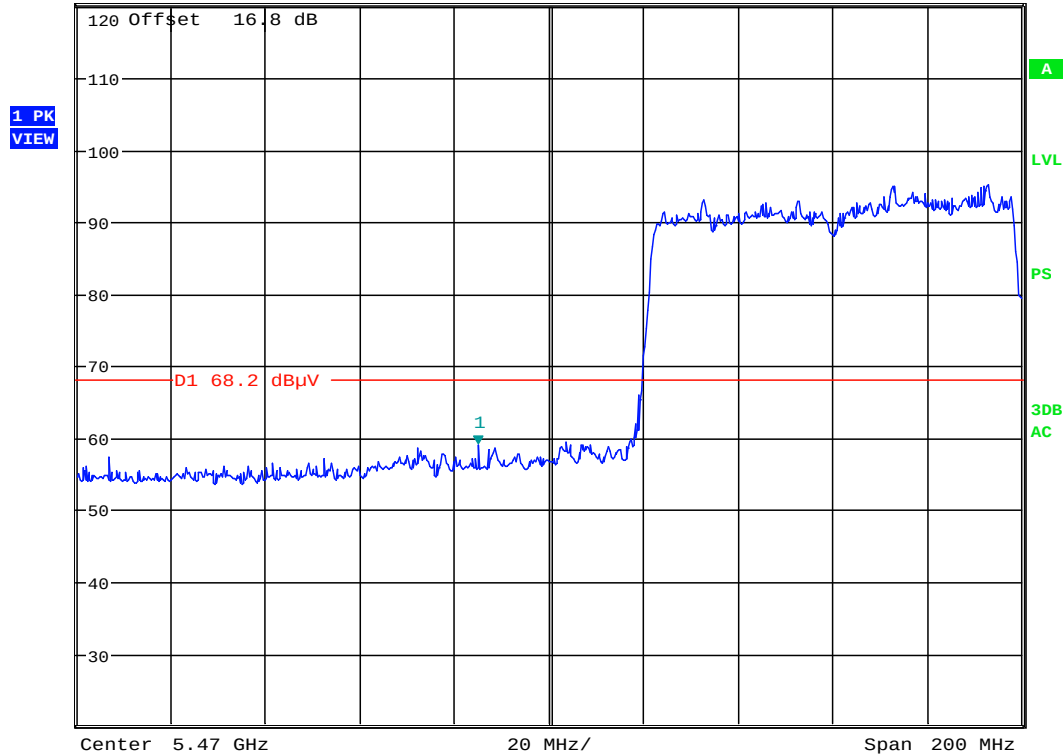
Radiated Band Edge Measurements (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1
5.454935897 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
59.00 dBμV
5.454935897 GHz



Date: 5.FEB.2014 11:18:33

Plot 6-239. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 193 of 206

6.17 WCC Radiated Band Edge Measurements

\$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

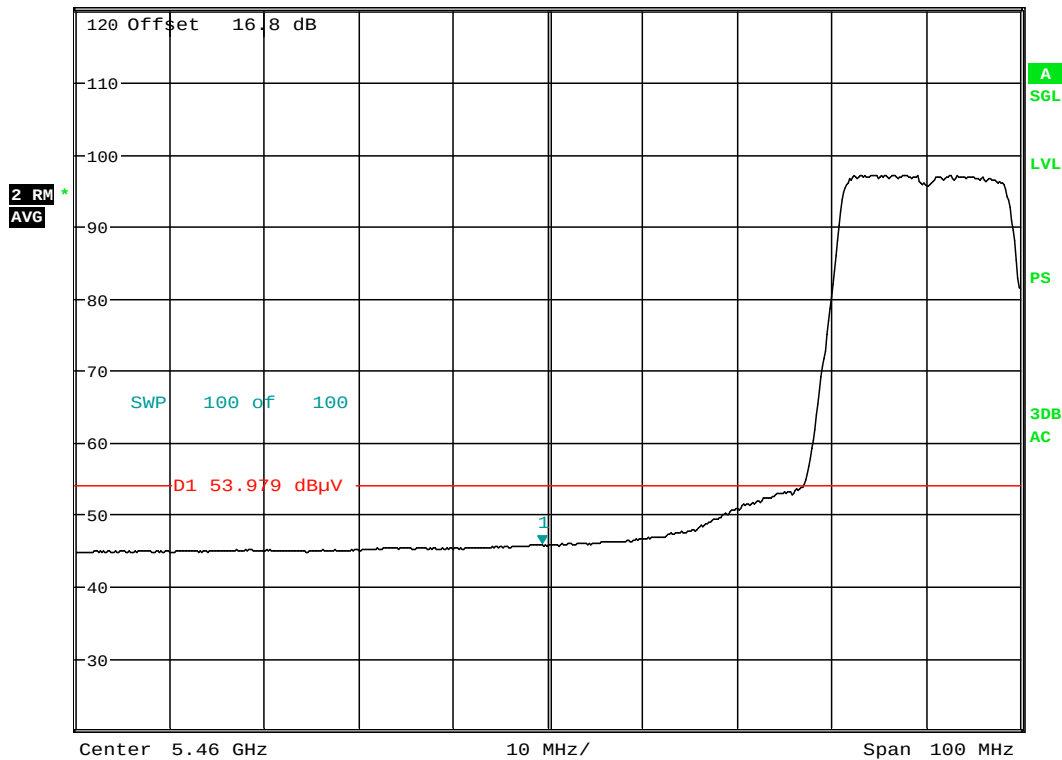
Channel: 100



MARKER 1
5.459358974 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
45.83 dBμV
5.459358974 GHz



Date: 13.FEB.2014 20:37:17

Plot 6-240. Radiated Restricted Lower Band Edge Plot with WCC (Average – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 194 of 206

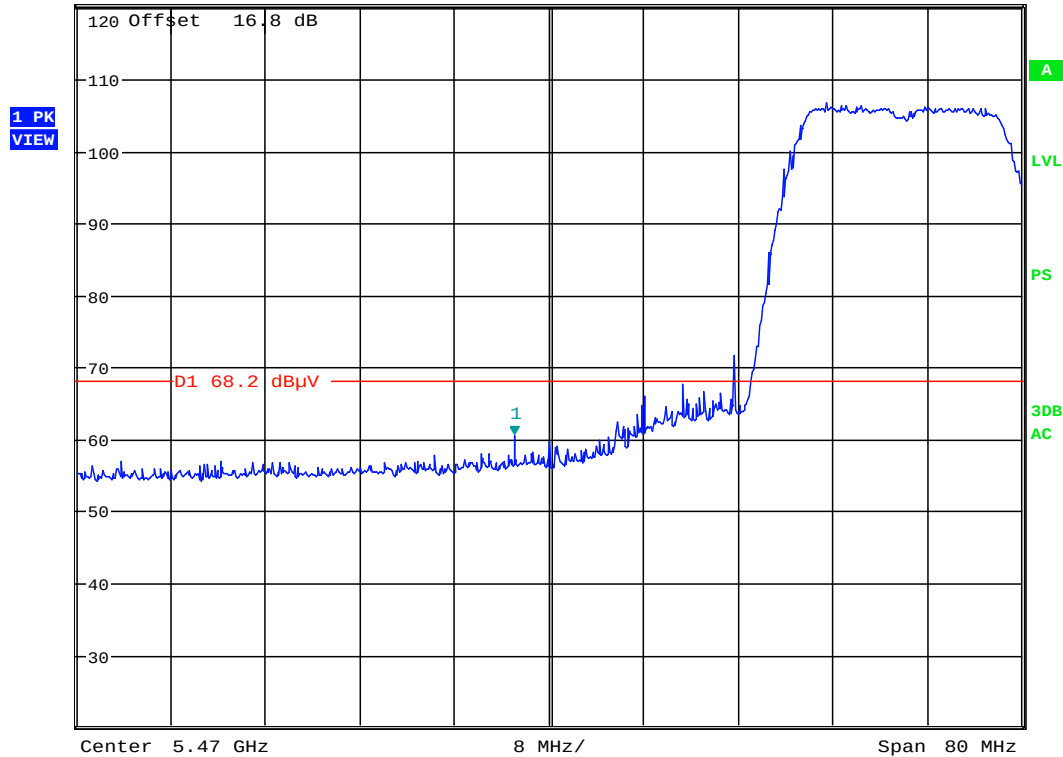
WCC Radiated Band Edge Measurements (20MHz BW) (Cont'd) **\$15.407(b.1)(b.2) \$15.205 \$15.209**



MARKER 1
5.467051282 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T1]
60.48 dBμV
5.467051282 GHz



Date: 13.FEB.2014 20:36:51

Plot 6-241. Radiated Restricted Lower Band Edge Plot with WCC (Peak – UNII Band 2C)

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 195 of 206

WCC Radiated Band Edge Measurements (40MHz BW) (Cont'd) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

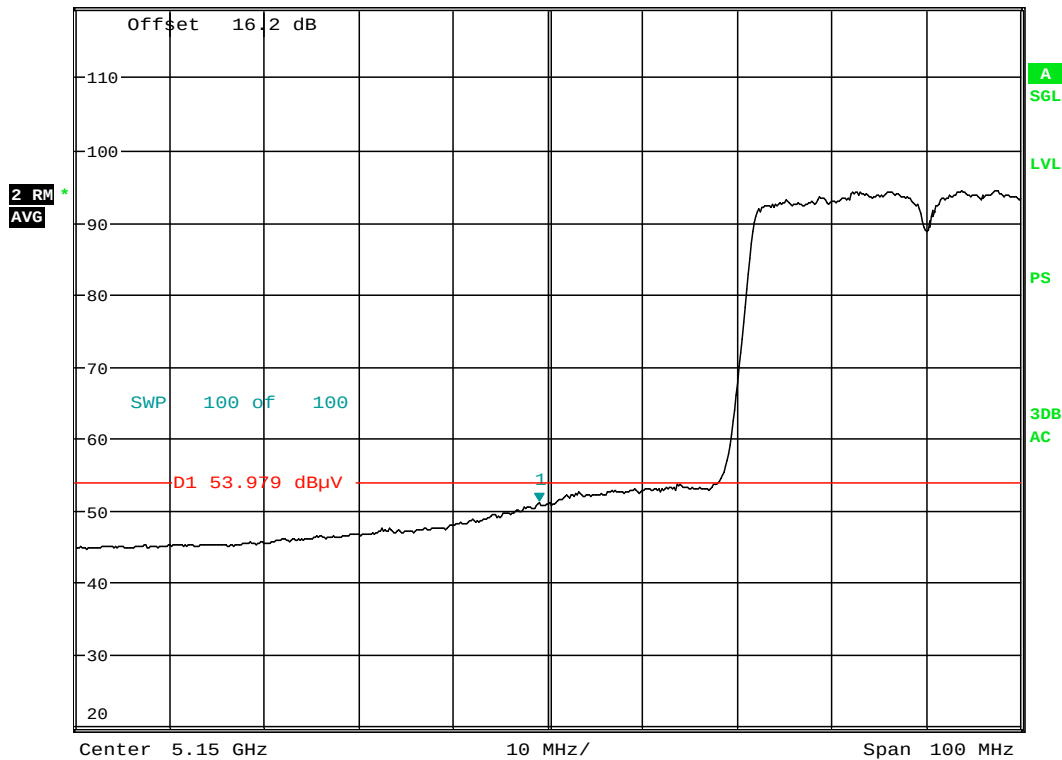
Channel: 38



MARKER 1
5.149038462 GHz
Ref 119.7 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
51.03 dBμV
5.149038462 GHz



Date: 13.FEB.2014 20:42:15

Plot 6-242. Radiated Restricted Lower Band Edge Plot with WCC (Average – UNII Band 1)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 196 of 206

WCC Radiated Band Edge Measurements (40MHz BW) (Cont'd)

\$15.407(b.1)(b.2) \$15.205 \$15.209



MARKER 1

5.149839744 GHz

Ref 125.6 dBμV

* Att 10 dB

* RBW 1 MHz

* VBW 3 MHz

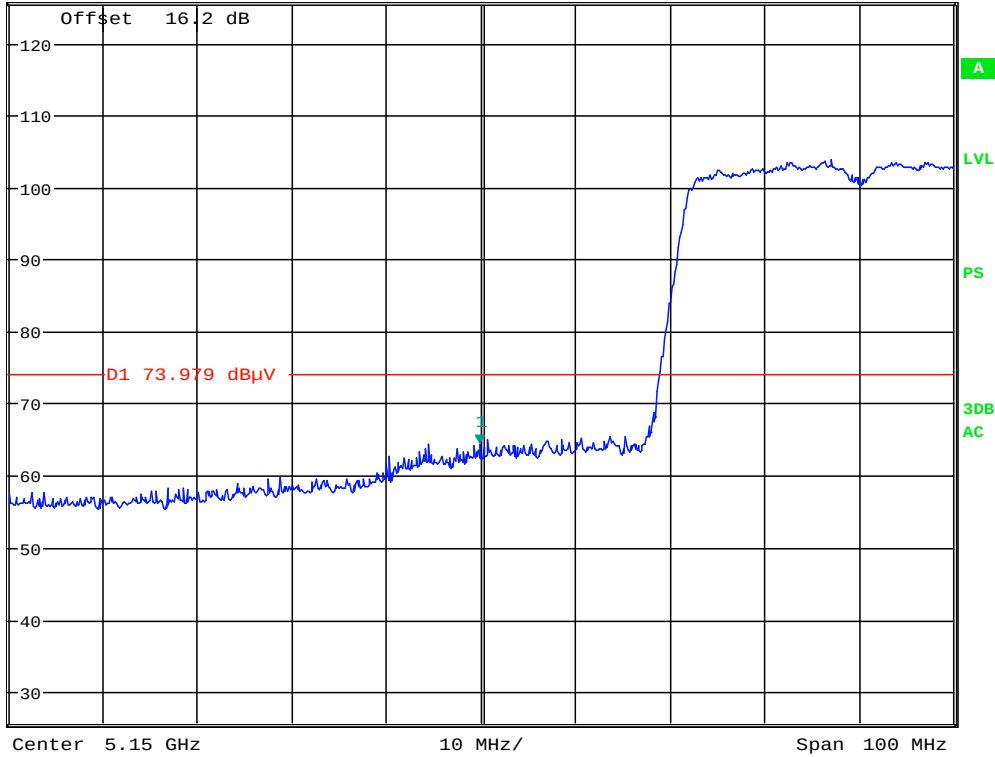
SWT 20 ms

Marker 1 [T1]

64.38 dBμV

5.149839744 GHz

**1 PK
VIEW**



Date: 13.FEB.2014 20:43:29

Plot 6-243. Radiated Restricted Lower Band Edge Plot with WCC (Peak – UNII Band 1)

FCC ID: A3LSMG900P		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 197 of 206

Radiated Band Edge Measurements with WCC (80MHz BW) (Cont'd)

\$15.407(b.1)(b.2) \$15.205 \$15.209

Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5530MHz

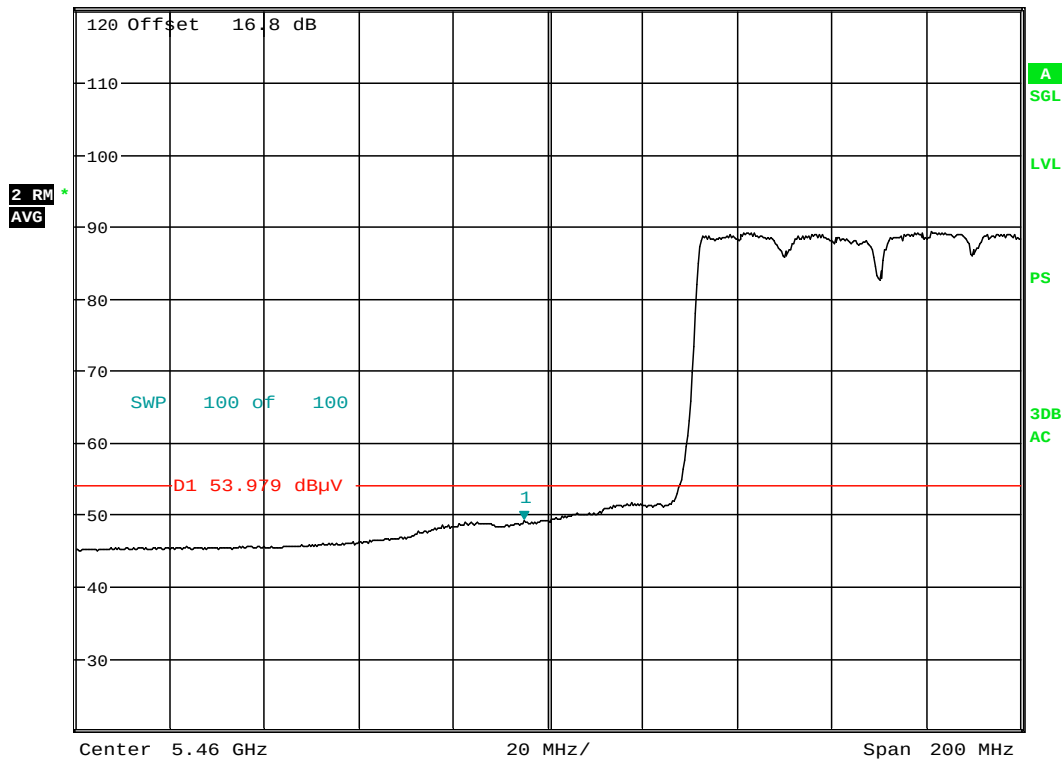
Channel: 106



MARKER 1
5.454871795 GHz
Ref 120.3 dBμV * Att 10 dB

* RBW 1 MHz
* VBW 3 MHz
SWT 20 ms

Marker 1 [T2]
49.19 dBμV
5.454871795 GHz

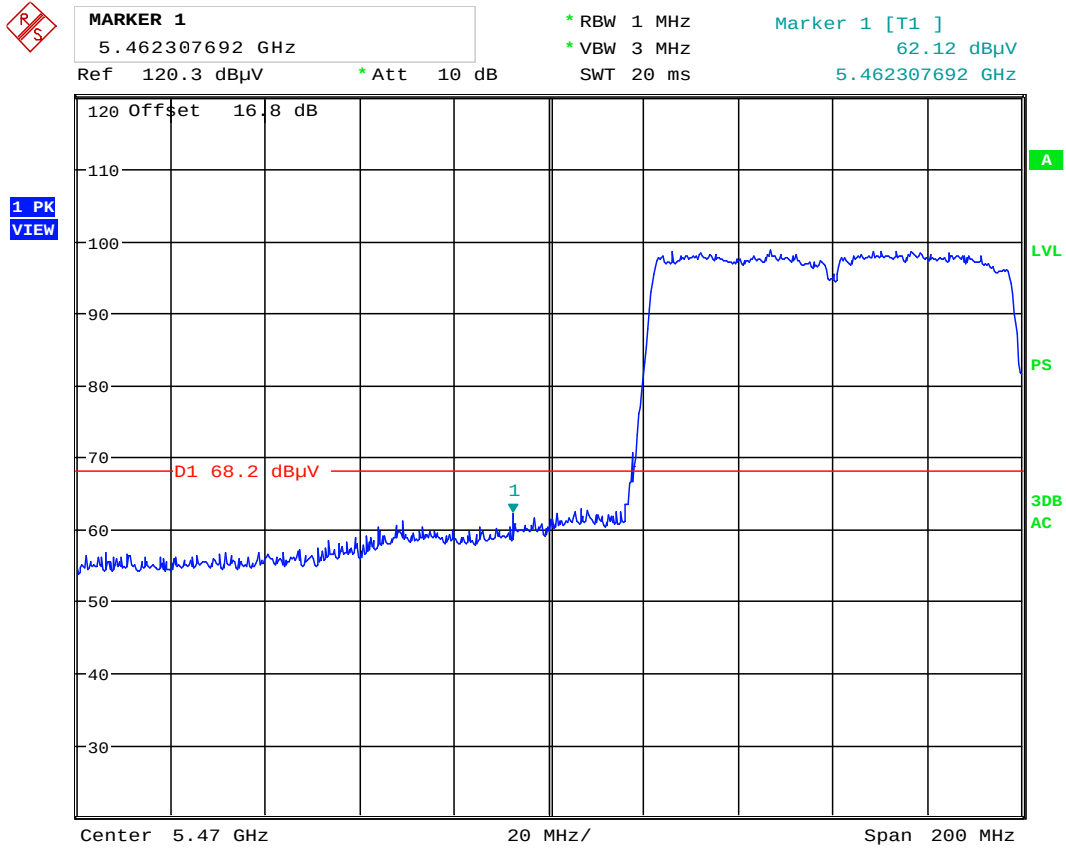


Date: 13.FEB.2014 20:49:37

Plot 6-244. Radiated Restricted Lower Band Edge Plot with WCC (Average – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 198 of 206

Radiated Band Edge Measurements with WCC (80MHz BW) (Cont'd) \$15.407(b.1)(b.2) \$15.205 \$15.209



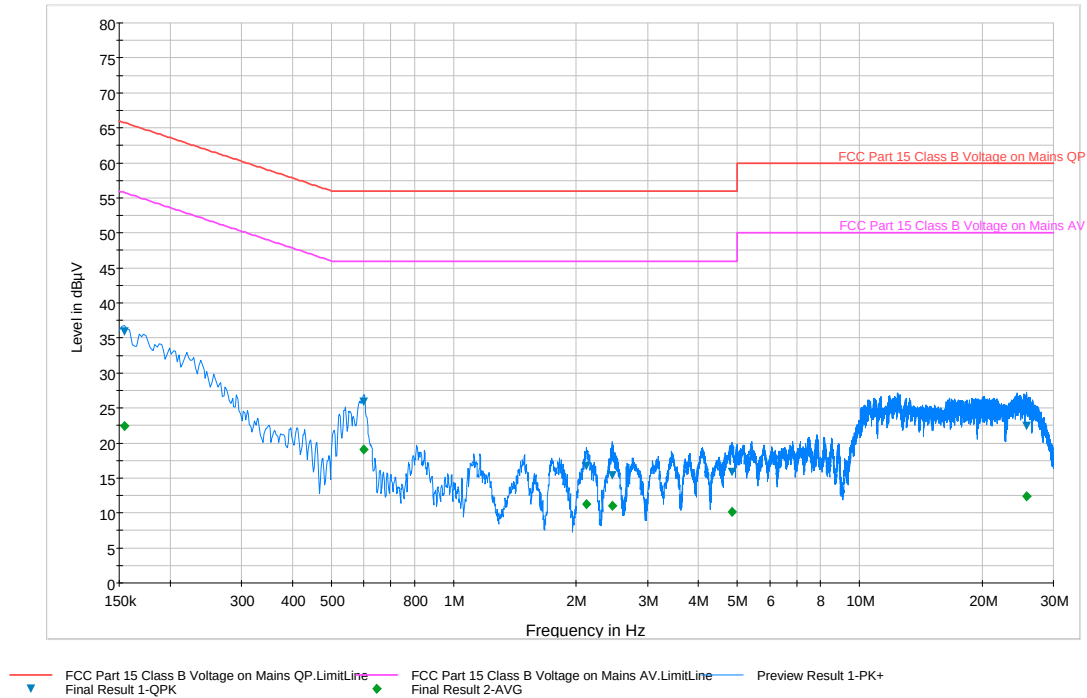
Date: 13.FEB.2014 20:50:03

Plot 6-245. Radiated Restricted Lower Band Edge Plot with WCC (Peak – UNII Band 2C)

FCC ID: A3LSMG900P	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: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset		Page 199 of 206

6.18 Line-Conducted Test Data

\$15.407



Plot 6-246. Line Conducted Plot with 802.11a UNII Band 1 (L1)

Frequency MHz	Line	Corr. dB	QuasiPeak dBμV	Limit dBμV	Margin dB	Average dBμV	Limit dBμV	Margin dB
0.155	L1	0.2	35.90	65.80	29.80	22.40	55.80	33.30
0.600	L1	0.1	25.90	56.00	30.10	19.10	46.00	26.90
2.123	L1	0.1	16.70	56.00	39.30	11.30	46.00	34.70
2.454	L1	0.1	15.40	56.00	40.60	11.00	46.00	35.00
4.839	L1	0.2	15.90	56.00	40.10	10.20	46.00	35.80
25.762	L1	0.8	22.40	60.00	37.60	12.40	50.00	37.60

Table 6-50. Line Conducted Data with 802.11a UNII Band 1 (L1)

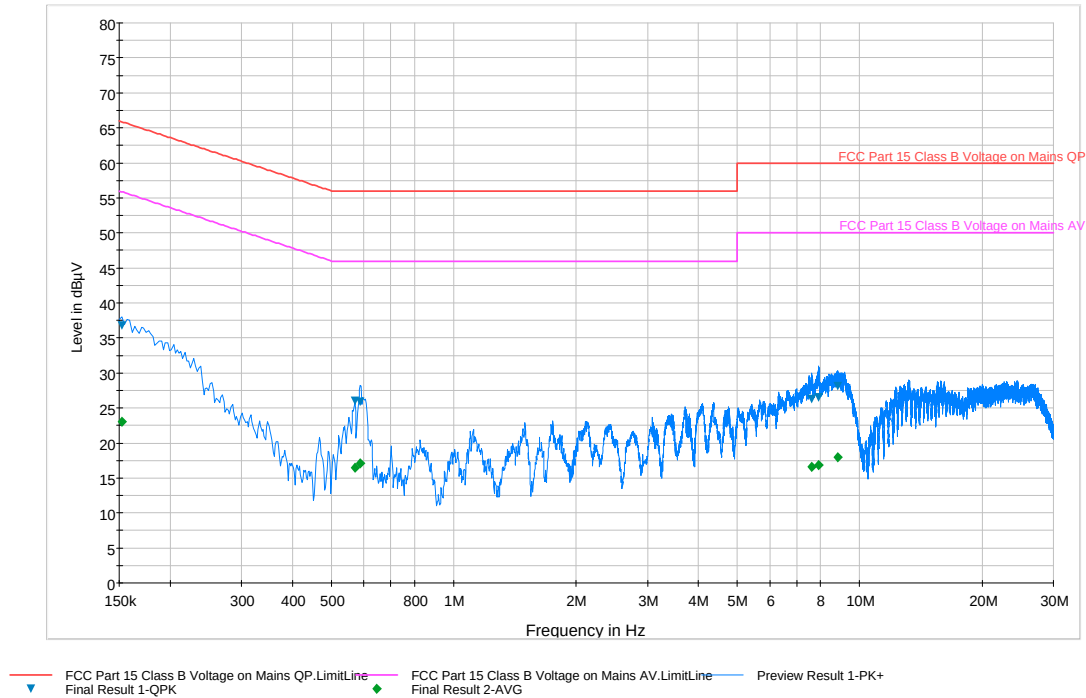
Notes:

- All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 36. The emissions found were not affected by the choice of channel used during testing.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- L1 = Phase; N = Neutral
- Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- QP/AV Level (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Corr. (dB)
- Margin (dB) = QP/AVLimit (dBμV) - QP/AV Level (dBμV)
- Traces shown in plot are made using a peak detector.
- Deviations to the Specifications: None.

FCC ID: A3LSMG900P	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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Line-Conducted Test Data (Cont'd)

\$15.407



Plot 6-247. Line Conducted Plot with 802.11a UNII Band 1 (N)

Frequency MHz	Line	Corr. dB	QuasiPeak dBμV	Limit dBμV	Margin dB	Average dBμV	Limit dBμV	Margin dB
0.152	N	0.3	36.80	65.90	29.10	23.00	55.90	32.90
0.571	N	0.1	26.00	56.00	30.00	16.50	46.00	29.50
0.589	N	0.1	25.90	56.00	30.10	17.10	46.00	28.90
7.607	N	0.3	26.20	60.00	33.80	16.50	50.00	33.50
7.924	N	0.3	26.50	60.00	33.50	16.90	50.00	33.10
8.804	N	0.3	28.10	60.00	31.90	18.00	50.00	32.00

Table 6-51. Line Conducted Data with 802.11a UNII Band 1 (N)

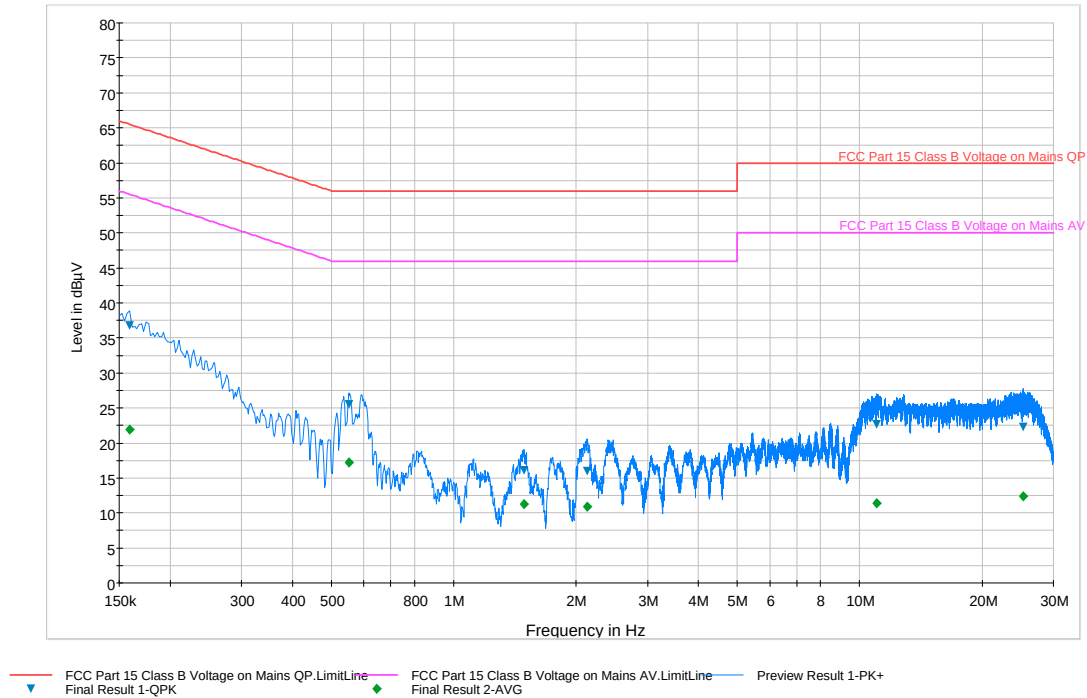
Notes:

- All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 36. The emissions found were not affected by the choice of channel used during testing.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- L1 = Phase; N = Neutral
- Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- QP/AV Level (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Corr. (dB)
- Margin (dB) = QP/AVLimit (dBμV) - QP/AV Level (dBμV)
- Traces shown in plot are made using a peak detector.
- Deviations to the Specifications: None.

FCC ID: A3LSMG900P	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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Line-Conducted Test Data (Cont'd)

\$15.407



Plot 6-248. Line Conducted Plot with 802.11a UNII Band 2A (L1)

Frequency MHz	Line	Corr. dB	QuasiPeak dBμV	Limit dBμV	Margin dB	Average dBμV	Limit dBμV	Margin dB
0.159	L1	0.2	36.70	65.50	28.80	21.90	55.50	33.60
0.551	L1	0.1	25.60	56.00	30.40	17.20	46.00	28.80
1.491	L1	0.1	16.10	56.00	39.90	11.30	46.00	34.70
2.132	L1	0.1	16.00	56.00	40.00	10.90	46.00	35.10
11.009	L1	0.4	22.70	60.00	37.30	11.40	50.00	38.60
25.307	L1	0.8	22.30	60.00	37.70	12.40	50.00	37.60

Table 6-52. Line Conducted Data with 802.11a UNII Band 2A (L1)

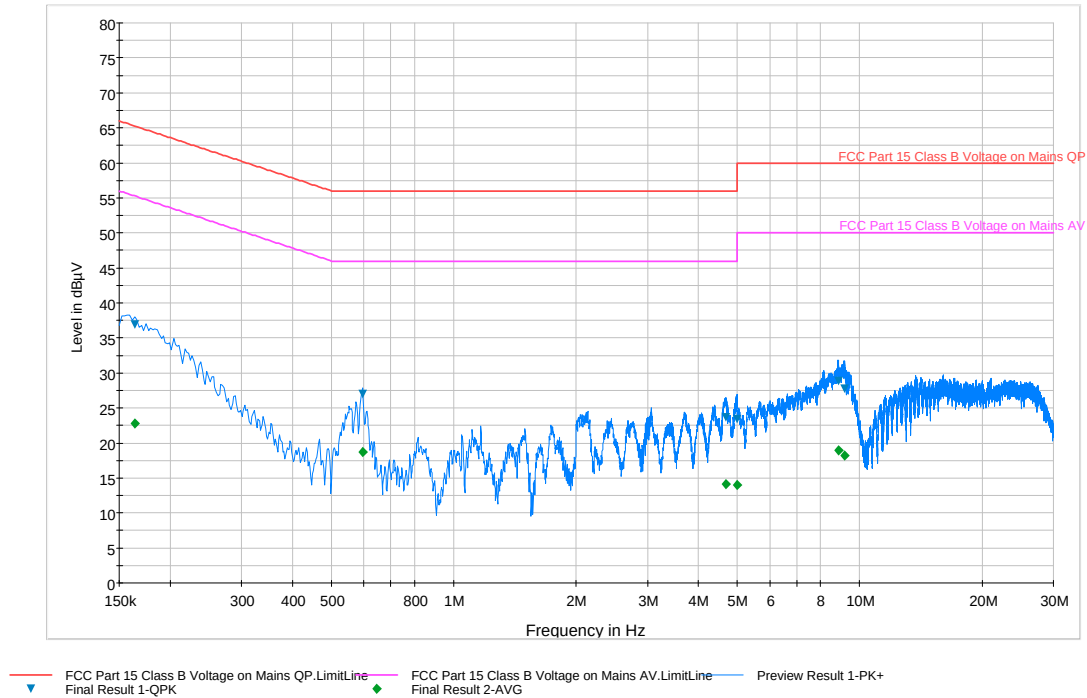
Notes:

- All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 52. The emissions found were not affected by the choice of channel used during testing.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- L1 = Phase; N = Neutral
- Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- QP/AV Level (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Corr. (dB)
- Margin (dB) = QP/AVLimit (dBμV) - QP/AV Level (dBμV)
- Traces shown in plot are made using a peak detector.
- Deviations to the Specifications: None.

FCC ID: A3LSMG900P	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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Line-Conducted Test Data (Cont'd)

\$15.407



Plot 6-249. Line Conducted Plot with 802.11a UNII Band 2A (N)

Frequency MHz	Line	Corr. dB	QuasiPeak dBμV	Limit dBμV	Margin dB	Average dBμV	Limit dBμV	Margin dB
0.164	N	0.3	36.90	65.30	28.40	22.70	55.30	32.60
0.596	N	0.1	27.00	56.00	29.00	18.70	46.00	27.40
4.670	N	0.2	23.60	56.00	32.40	14.10	46.00	31.90
4.992	N	0.2	23.40	56.00	32.60	14.00	46.00	32.00
8.851	N	0.3	28.90	60.00	31.10	19.00	50.00	31.00
9.173	N	0.3	27.70	60.00	32.30	18.20	50.00	31.80

Table 6-53. Line Conducted Data with 802.11a UNII Band 2A (N)

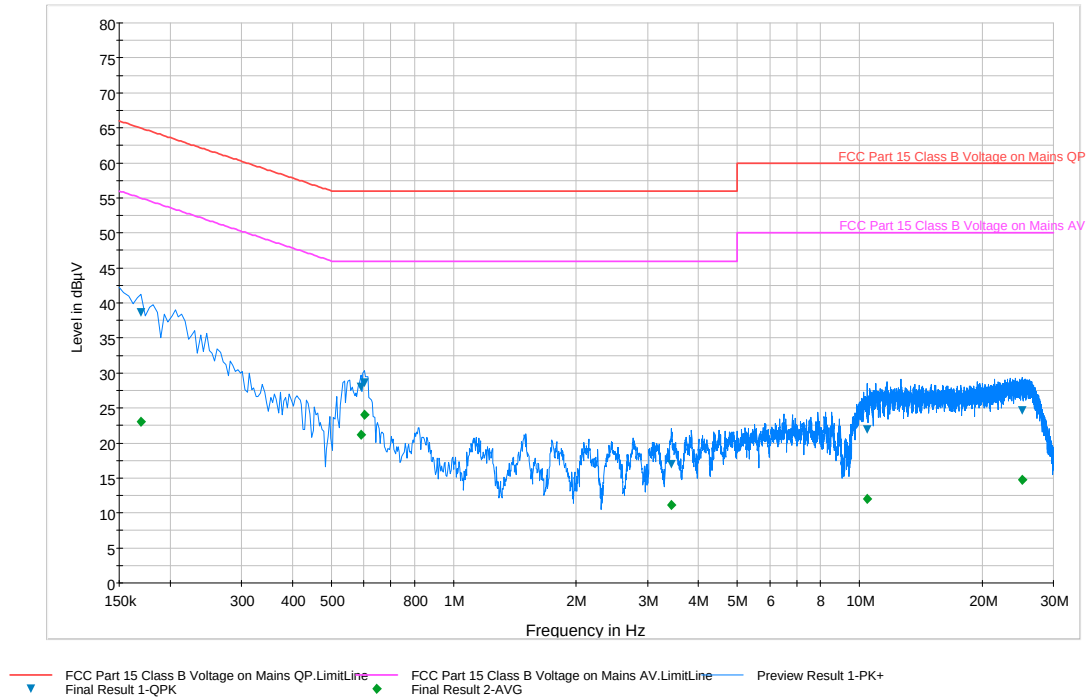
Notes:

- All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 52. The emissions found were not affected by the choice of channel used during testing.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- L1 = Phase; N = Neutral
- Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- QP/AV Level (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Corr. (dB)
- Margin (dB) = QP/AVLimit (dBμV) - QP/AV Level (dBμV)
- Traces shown in plot are made using a peak detector.
- Deviations to the Specifications: None.

FCC ID: A3LSMG900P	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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Line-Conducted Test Data (Cont'd)

\$15.407



Plot 6-250. Line Conducted Plot with 802.11a UNII Band 2C (L1)

Frequency MHz	Line	Corr. dB	QuasiPeak dBμV	Limit dBμV	Margin dB	Average dBμV	Limit dBμV	Margin dB
0.170	L1	0.2	38.60	65.00	26.30	23.00	55.00	31.90
0.590	L1	0.1	28.00	56.00	28.00	21.10	46.00	24.90
0.602	L1	0.1	28.60	56.00	27.40	24.10	46.00	21.90
3.430	L1	0.2	17.00	56.00	39.00	11.20	46.00	34.80
10.434	L1	0.4	21.90	60.00	38.10	12.10	50.00	37.90
25.110	L1	0.8	24.70	60.00	35.30	14.80	50.00	35.20

Table 6-54. Line Conducted Plot with 802.11a UNII Band 2C (L1)

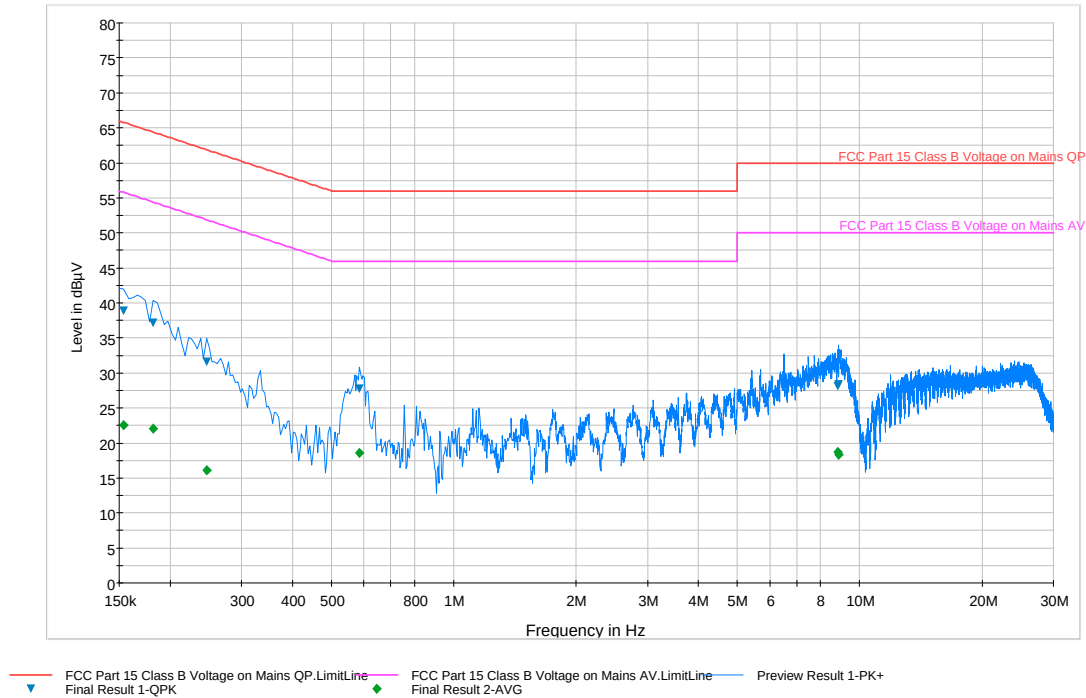
Notes:

- All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 100. The emissions found were not affected by the choice of channel used during testing.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- L1 = Phase; N = Neutral
- Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- QP/AV Level (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Corr. (dB)
- Margin (dB) = QP/AVLimit (dBμV) - QP/AV Level (dBμV)
- Traces shown in plot are made using a peak detector.
- Deviations to the Specifications: None.

FCC ID: A3LSMG900P	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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Line-Conducted Test Data (Cont'd)

\$15.407



Plot 6-251. Line Conducted Plot with 802.11a UNII Band 2C (N)

Frequency MHz	Line	Corr. dB	QuasiPeak dBμV	Limit dBμV	Margin dB	Average dBμV	Limit dBμV	Margin dB
0.154	N	0.3	38.90	65.80	26.80	22.60	55.80	33.20
0.182	N	0.2	37.20	64.40	27.20	22.00	54.40	32.40
0.246	N	0.2	31.60	61.90	30.30	16.10	51.90	35.80
0.586	N	0.1	27.80	56.00	28.20	18.60	46.00	27.40
8.830	N	0.3	28.10	60.00	31.90	18.70	50.00	31.30
8.874	N	0.3	28.30	60.00	31.70	18.30	50.00	31.70

Table 6-55. Line Conducted Data with 802.11a UNII Band 2C (N)

Notes:

- All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 100. The emissions found were not affected by the choice of channel used during testing.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- L1 = Phase; N = Neutral
- Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- QP/AV Level (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Corr. (dB)
- Margin (dB) = QP/AVLimit (dBμV) - QP/AV Level (dBμV)
- Traces shown in plot are made using a peak detector.
- Deviations to the Specifications: None.

FCC ID: A3LSMG900P	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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7.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMG900P** is in compliance with Part 15E of the FCC Rules.

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Test Report S/N: 0Y1401280221.A3L	Test Dates: 01/29-2/20/2014	EUT Type: Portable Handset	Page 206 of 206	