

## Antenna-2 Power Spectral Density Measurements

Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Spectral Density [dBm]	Maximum Permissible Power Density [dBm / 3kHz]	Margin [dB]	Pass / Fail
2412	1	b	1	-0.94	8.00	-8.94	Pass
2437	6	b	1	-0.93	8.00	-8.93	Pass
2462	11	b	1	-0.35	8.00	-8.35	Pass
2412	1	g	6	-3.70	8.00	-11.70	Pass
2437	6	g	6	-4.41	8.00	-12.41	Pass
2462	11	g	6	-4.12	8.00	-12.12	Pass
2412	1	n	6.5/7.2 (MCS0)	-4.45	8.00	-12.45	Pass
2437	6	n	6.5/7.2 (MCS0)	-4.86	8.00	-12.86	Pass
2462	11	n	6.5/7.2 (MCS0)	-4.26	8.00	-12.26	Pass
5745	149	а	6	-3.51	8.00	-11.51	Pass
5785	157	а	6	-3.73	8.00	-11.73	Pass
5825	165	а	6	-4.18	8.00	-12.18	Pass
5745	149	n (20MHz)	6.5/7.2 (MCS0)	-4.16	8.00	-12.16	Pass
5785	157	n (20MHz)	6.5/7.2 (MCS0)	-4.08	8.00	-12.08	Pass
5825	165	n (20MHz)	6.5/7.2 (MCS0)	-5.90	8.00	-13.90	Pass
5755	151	n (40MHz)	13.5/15 (MCS0)	-7.84	8.00	-15.84	Pass
5795	159	n (40MHz)	13.5/15 (MCS0)	-8.81	8.00	-16.81	Pass
5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-10.66	8.00	-18.66	Pass

Table 6-31. Conducted Power Density Measurements

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 52 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 52 01 117
© 2014 PCTEST Engineering L	aboratory, Inc.	·		V 5.0





Plot 6-55. Power Spectral Density Plot (802.11b - Ch. 1)



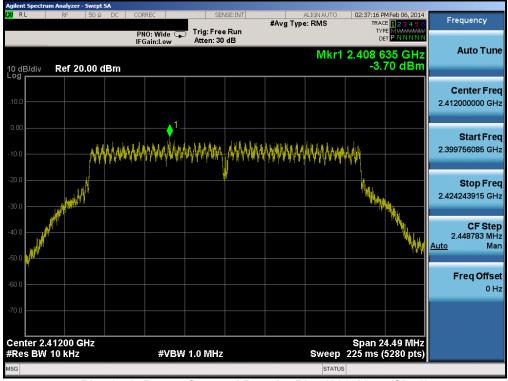
Plot 6-56. Power Spectral Density Plot (802.11b - Ch. 6)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 53 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 55 01 117
© 2014 PCTEST Engineering L	aboratory, Inc.	•		V 5.0





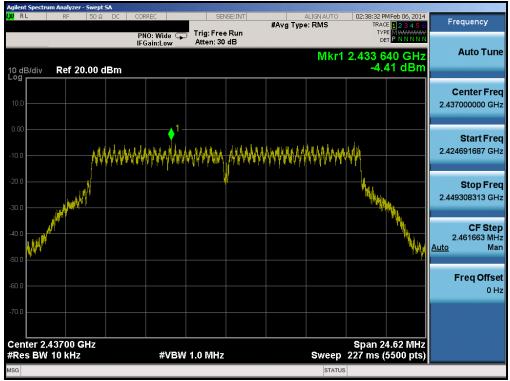
Plot 6-57. Power Spectral Density Plot (802.11b - Ch. 11)



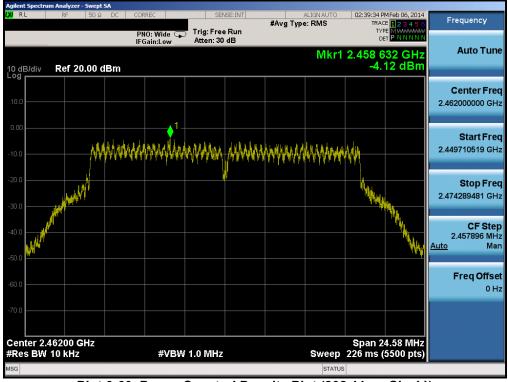
Plot 6-58. Power Spectral Density Plot (802.11g – Ch. 1)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 54 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 54 01 117	
© 2014 PCTEST Engineering Laboratory, Inc.					





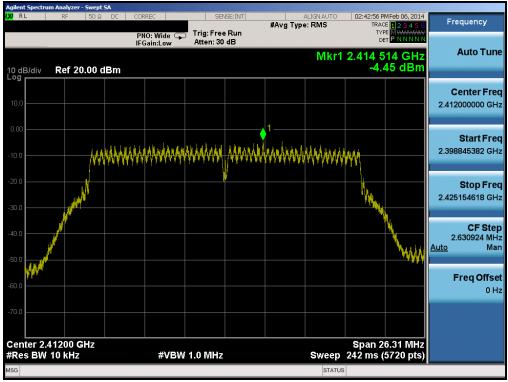
Plot 6-59. Power Spectral Density Plot (802.11g - Ch. 6)



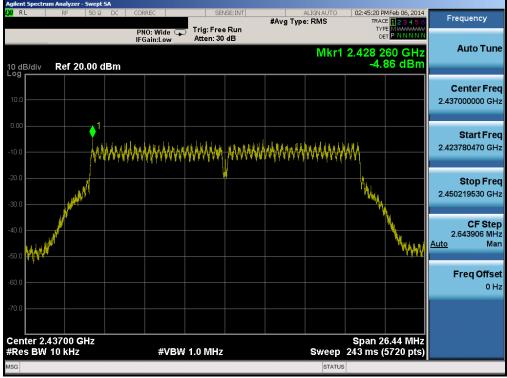
Plot 6-60. Power Spectral Density Plot (802.11g - Ch. 11)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 55 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 55 01 117	
© 2014 PCTEST Engineering Laboratory, Inc.					





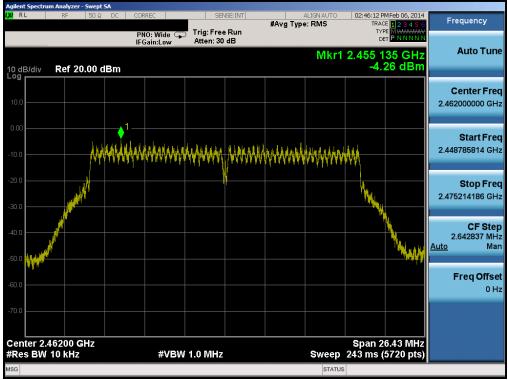


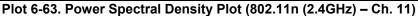


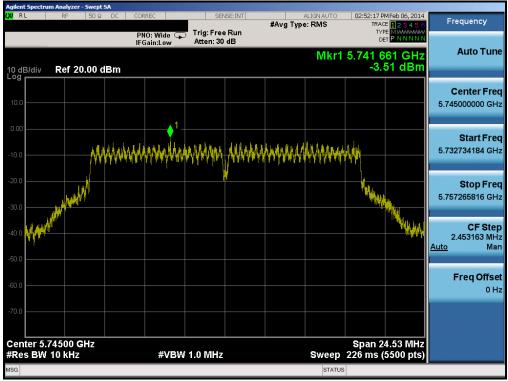
Plot 6-62. Power Spectral Density Plot (802.11n (2.4GHz) - Ch. 6)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dege EC of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 56 of 117	
© 2014 PCTEST Engineering Laboratory, Inc.					





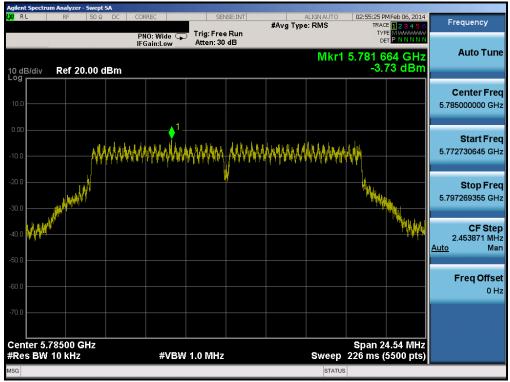


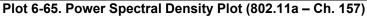


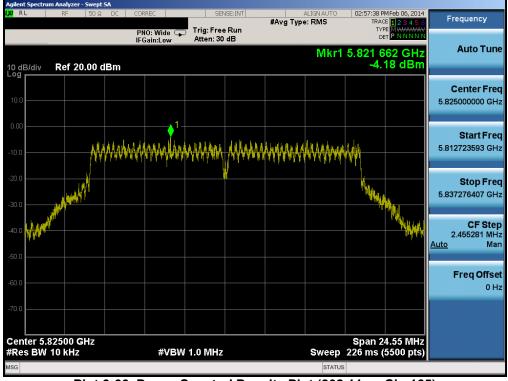
Plot 6-64. Power Spectral Density Plot (802.11a - Ch. 149)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dege 57 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 57 of 117	
© 2014 PCTEST Engineering Laboratory, Inc.					





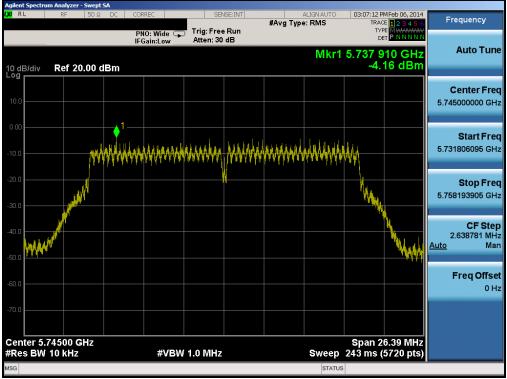


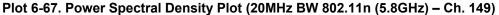


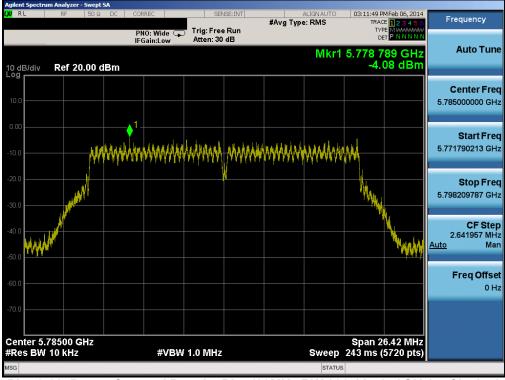
Plot 6-66. Power Spectral Density Plot (802.11a - Ch. 165)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dege 59 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 58 of 117	
© 2014 PCTEST Engineering Laboratory, Inc.					





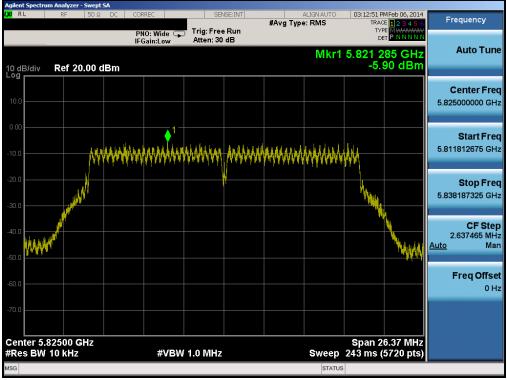


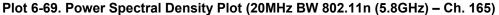


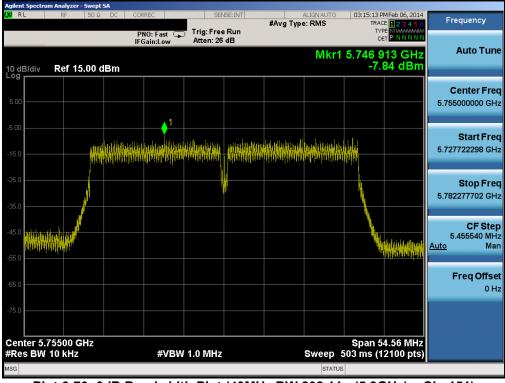
Plot 6-68. Power Spectral Density Plot (20MHz BW 802.11n (5.8GHz) - Ch. 157)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Daga 50 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 59 of 117		
© 2014 PCTEST Engineering Laboratory. Inc.						





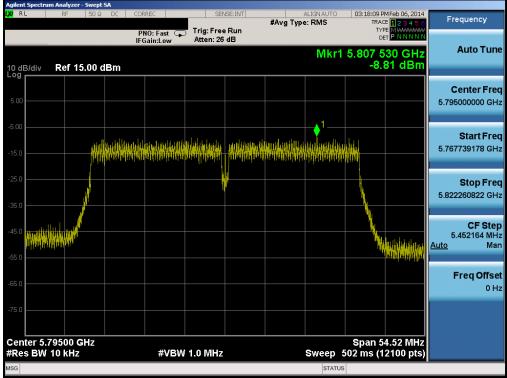




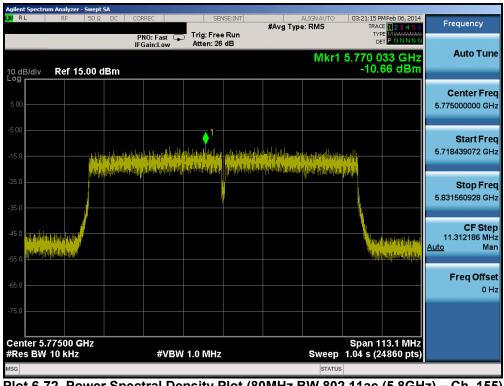
Plot 6-70. 6dB Bandwidth Plot (40MHz BW 802.11n (5.8GHz) - Ch. 151)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 60 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 60 01 117	
© 2014 PCTEST Engineering Laboratory, Inc.					





Plot 6-71. 6dB Bandwidth Plot (40MHz BW 802.11n (5.8GHz) - Ch. 159)



Plot 6-72. Power Spectral Density Plot (80MHz BW 802.11ac (5.8GHz) – Ch. 155)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 61 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 61 01 117	
© 2014 PCTEST Engineering Laboratory, Inc.					



Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	ANT 1 Power Spectral Density [dBm]	ANT 2 Power Spectral Density [dBm]	Summed MIMO Power Spectral Density [dBm]	Maximum Permissible Power Density IdBm / 3kHz1	Margin [dB]	Pass / Fail
2412	1	n	13/14.4 (MCS8)	-4.58	-4.45	-1.50	8.00	-9.50	Pass
2437	6	n	13/14.4 (MCS8)	-5.07	-4.86	-1.95	8.00	-9.95	Pass
2462	11	n	13/14.4 (MCS8)	-5.33	-4.26	-1.75	8.00	-9.75	Pass
5745	149	n (20MHz)	13/14.4 (MCS8)	-4.87	-4.16	-1.49	8.00	-9.49	Pass
5785	157	n (20MHz)	13/14.4 (MCS8)	-5.03	-4.08	-1.52	8.00	-9.52	Pass
5825	165	n (20MHz)	13/14.4 (MCS8)	-5.31	-5.90	-2.58	8.00	-10.58	Pass
5755	151	n (40MHz)	27/30 (MCS8)	-8.71	-7.84	-5.25	8.00	-13.25	Pass
5795	159	n (40MHz)	27/30 (MCS8)	-8.08	-8.81	-5.42	8.00	-13.42	Pass
5775	155	ac (80MHz)	58.5/65 (MCS0)	-10.63	-10.66	-7.64	8.00	-15.64	Pass

## MIMO Power Spectral Density Measurements

Table 6-32.MIMO Conducted Power Density Measurements

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 62 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 62 01 117	
© 2014 PCTEST Engineering Laboratory, Inc.					



# 6.5 Conducted Emissions at the Band Edge §15.247(d)

#### Test Overview and Limit

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle (≥98%), at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. For the following out of band conducted spurious emissions plots at the band edge, the EUT was set at a data rate of 1Mbps for "b" mode, 6 Mbps for "g" mode, 6 Mbps for "a" mode, 6.5/7.2Mbps for 20MHz BW "n" mode, 13.5/15Mbps for 40MHz "n", and 29.3/32.5Mbps for 80MHz "ac" mode as these settings produced the worst-case emissions.

The limit for out-of-band spurious emissions at the band edge is 30dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100kHz bandwidth per the PSD procedure (Section 9.1).

#### Test Procedure Used

KDB 558074 v03r01 – Section 11.3

#### **Test Settings**

- 1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
- 2. Span was set large enough so as to capture all out of band emissions near the band edge
- 3. RBW = 100kHz
- 4. VBW = 1MHz
- 5. Detector = Peak
- 6. Number of sweep points  $\geq 2 \times \text{Span/RBW}$
- 7. Trace mode = max hold
- 8. Sweep time = auto couple
- 9. The trace was allowed to stabilize

#### Test Setup

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

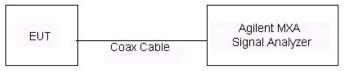


Figure 6-5. Test Instrument & Measurement Setup

#### Test Notes

#### None

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Daga 62 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 63 of 117
© 2014 PCTEST Engineering Laboratory. Inc.				

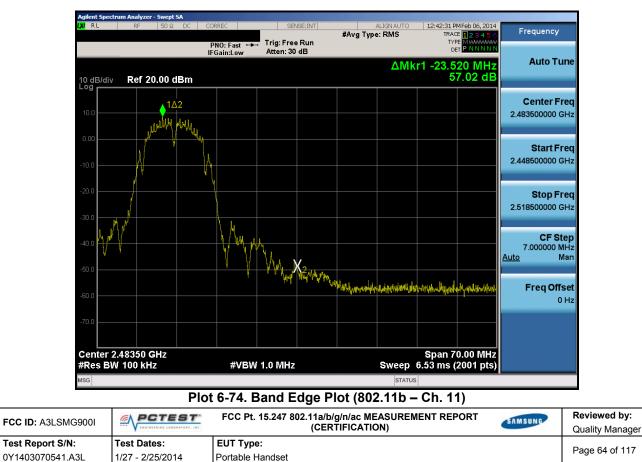
2014 PCTEST Engineering Laboratory, Inc.





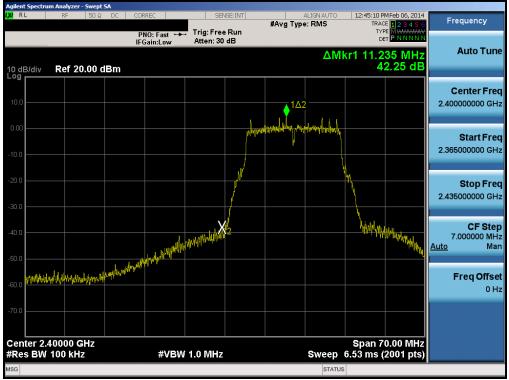
### Antenna-1 Conducted Emissions at the Band Edge





© 2014 PCTEST Engineering Laboratory, Inc.





Plot 6-75. Band Edge Plot (802.11g- Ch. 1)



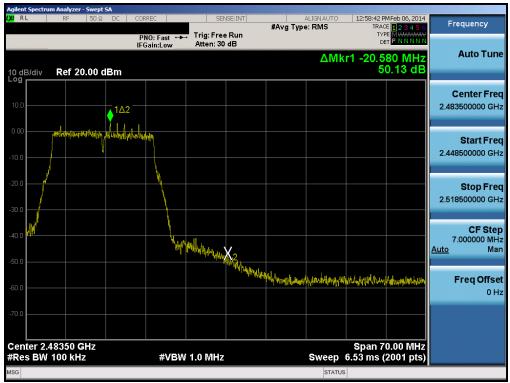
#### Plot 6-76. Band Edge Plot (802.11g - Ch. 11)

FCC ID: A3LSMG9001		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dege 65 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 65 of 117
2014 PCTEST Engineering Laboratory Inc				





Plot 6-77. Band Edge Plot (802.11n (2.4GHz) - Ch. 1)



Plot 6-78. Band Edge Plot (802.11n (2.4GHz) - Ch. 11)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 66 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 66 of 117
© 2014 PCTEST Engineering I	2014 PCTEST Engineering Laboratory, Inc.			





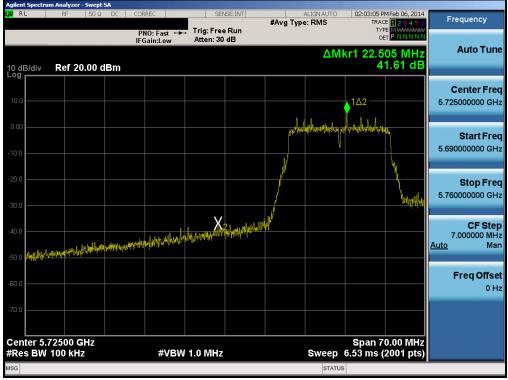
Plot 6-79. Band Edge Plot (802.11a - Ch. 149)



Plot 6-80. Band Edge Plot (802.11a - Ch. 165)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dege 67 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 67 of 117
© 2014 PCTEST Engineering Laboratory, Inc.				V 5.0





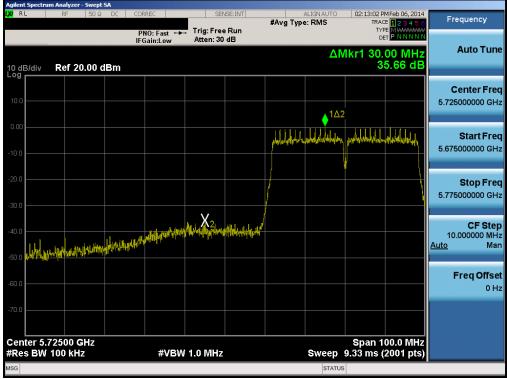
Plot 6-81. Band Edge Plot (20MHz BW 802.11n (5.8GHz) - Ch. 149)



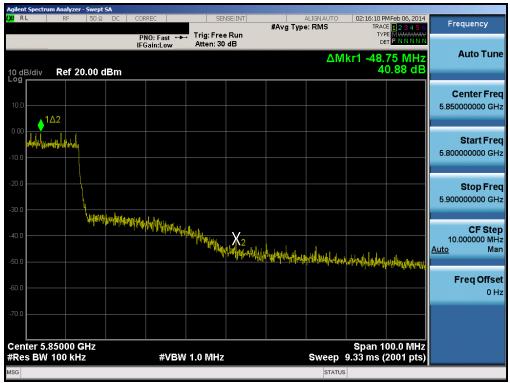
Plot 6-82. Band Edge Plot (20MHz BW 802.11n (5.8GHz) - Ch. 165)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 68 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 66 01 117
© 2014 PCTEST Engineering Laboratory, Inc.				V 5.0





Plot 6-83. Band Edge Plot (40MHz BW 802.11n (5.8GHz) - Ch. 151)



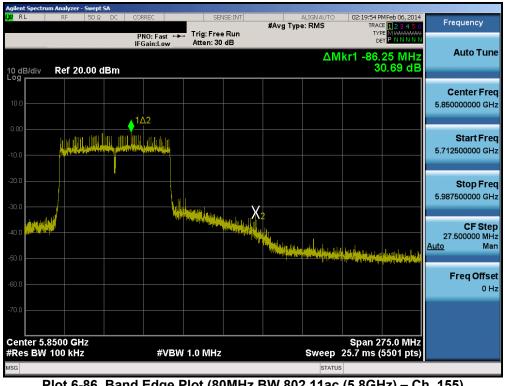
Plot 6-84. Band Edge Plot (40MHz BW 802.11n (5.8GHz) - Ch. 159)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 69 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 69 01 117
© 2014 PCTEST Engineering Laboratory, Inc.				V 5.0



Agilent Spectrum Analyzer - Swept SA IXI RL RF 50 Ω DC	CORREC	SENSE:INT	ALIGN AU #Avg Type: RMS	TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 20.00 dBm		rig: Free Run Atten: 30 dB		ΔMkr1 67.20 MHz 32.86 dB	Auto Tune
10.0			<b>↓</b> 1∆	2	Center Fred 5.725000000 GHz
-10.0					<b>Start Fred</b> 5.587500000 GH;
-20.0					<b>Stop Fred</b> 5.862500000 GH:
-40.0					CF Step 27.500000 MH: <u>Auto</u> Mar
-50.0					Freq Offse 0 H
-70.0				Span 275.0 MHz	
#Res BW 100 kHz	#VBW 1.	0 MHz		ep 25.7 ms (5501 pts)	

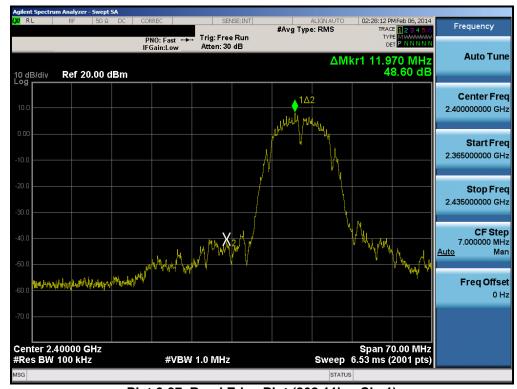
Plot 6-85. Band Edge Plot (80MHz BW 802.11ac (5.8GHz) - Ch. 155)



Plot 6-86. Band Edge Plot (80MHz BW 802.11ac (5.8GHz) - Ch. 155)

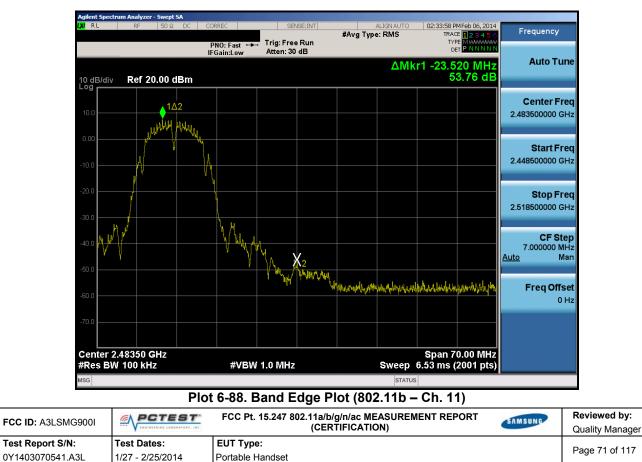
FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dage 70 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 70 of 117
0 2014 PCTEST Engineering Laboratory, Inc.				V 5.0





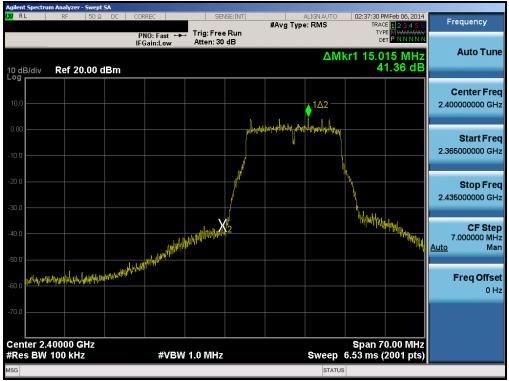
## Antenna-2 Conducted Emissions at the Band Edge





© 2014 PCTEST Engineering Laboratory, Inc.





Plot 6-89. Band Edge Plot (802.11g- Ch. 1)



Plot 6-90. Band Edge Plot (802.11g - Ch. 11)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dogo 70 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 72 of 117	
© 2014 PCTEST Engineering Laboratory, Inc.					

2014 PCTEST Engineering Laboratory, Inc





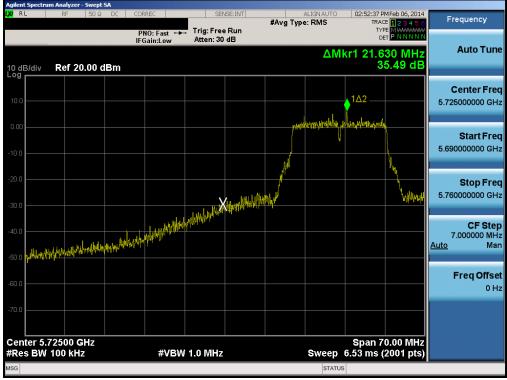
Plot 6-91. Band Edge Plot (802.11n (2.4GHz) - Ch. 1)



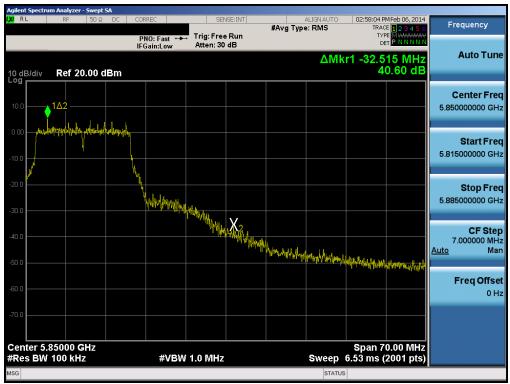
Plot 6-92. Band Edge Plot (802.11n (2.4GHz) - Ch. 11)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 73 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 75 01 117
© 2014 PCTEST Engineering Laboratory, Inc.				V 5.0





Plot 6-93. Band Edge Plot (802.11a - Ch. 149)



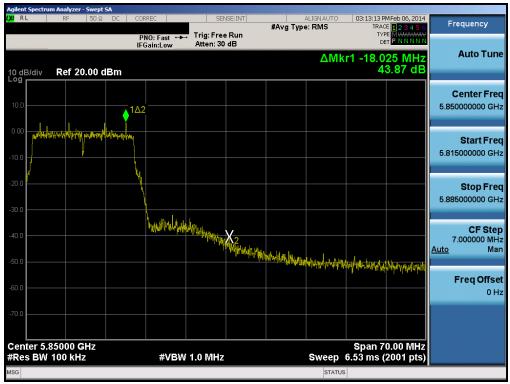
Plot 6-94. Band Edge Plot (802.11a - Ch. 165)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dego 74 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 74 of 117
0 2014 PCTEST Engineering Laboratory, Inc.				V 5.0





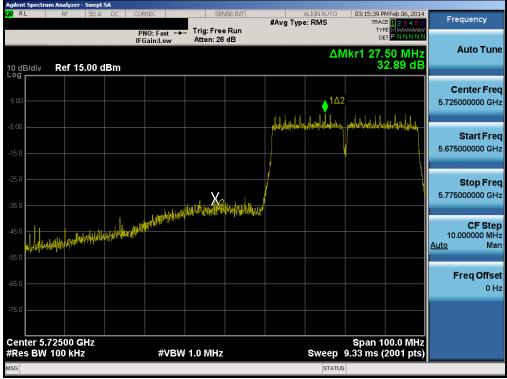
Plot 6-95. Band Edge Plot (20MHz BW 802.11n (5.8GHz) - Ch. 149)



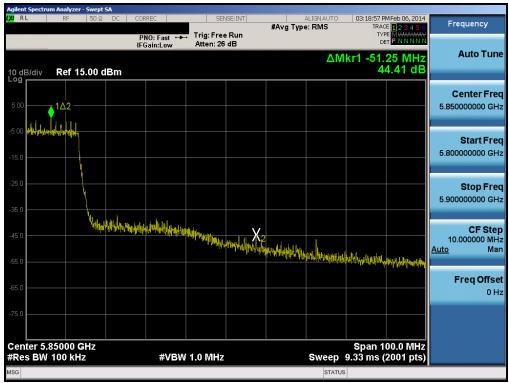
Plot 6-96. Band Edge Plot (20MHz BW 802.11n (5.8GHz) - Ch. 165)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dego 75 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 75 of 117
© 2014 PCTEST Engineering	Laboratory, Inc.			V 5.0





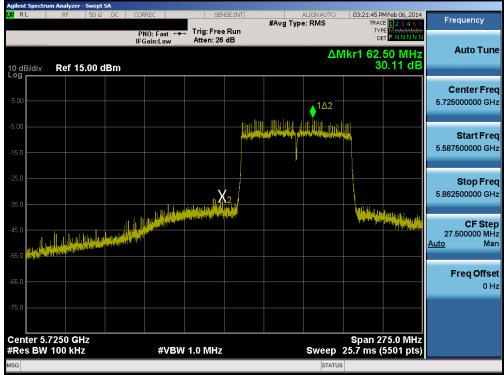
Plot 6-97. Band Edge Plot (40MHz BW 802.11n (5.8GHz) - Ch. 151)



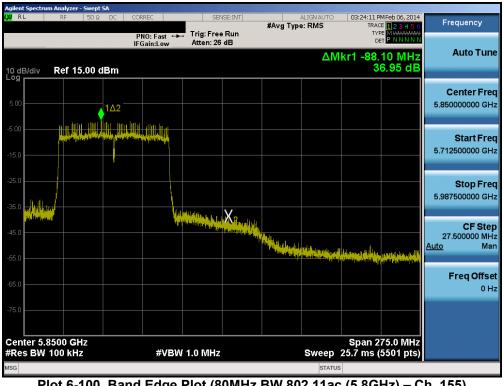
Plot 6-98. Band Edge Plot (40MHz BW 802.11n (5.8GHz) - Ch. 159)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 76 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 76 of 117
© 2014 PCTEST Engineering L	aboratory, Inc.			V 5.0





Plot 6-99. Band Edge Plot (80MHz BW 802.11ac (5.8GHz) - Ch. 155)



Plot 6-100. Band Edge Plot (80MHz BW 802.11ac (5.8GHz) - Ch. 155)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 77 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 77 of 117
© 2014 PCTEST Engineering L	aboratory, Inc.	·		V 5.0



# 6.6 Conducted Spurious Emissions §15.247(d)

#### Test Overview and Limit

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle (≥98%), at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. For the following out of band conducted spurious emissions plots, the EUT was investigated in all available data rates for "b", "g", "a", "n", and "ac" modes. The worst case spurious emissions for the 2.4GHz band were found while transmitting in "b" mode at 1 Mbps and are shown in the plots below. The worst case spurious emissions for the 5.8GHz band were found while transmitting in "a" mode at 6 Mbps and are shown in the plots below.

The limit for out-of-band spurious emissions at the band edge is 30dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100kHz bandwidth per the procedure in Section 11.1 of KDB 558074 v03r01.

#### Test Procedure Used

KDB 558074 v03r01 – Section 11.3

#### Test Settings

- 1. Start frequency was set to 30MHz and stop frequency was set to 25GHz for 2.4GHz frequencies and 40GHz for 5GHz frequencies (separated into two plots per channel)
- 2. RBW = 1MHz
- 3. VBW = 3MHz
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep time = auto couple
- 7. The trace was allowed to stabilize

#### Test Setup

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

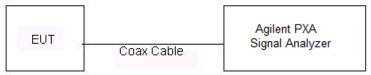


Figure 6-6. Test Instrument & Measurement Setup

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dana 70 of 447
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 78 of 117
© 2014 PCTEST Engineering	Laboratory. Inc.	•		V 5.0



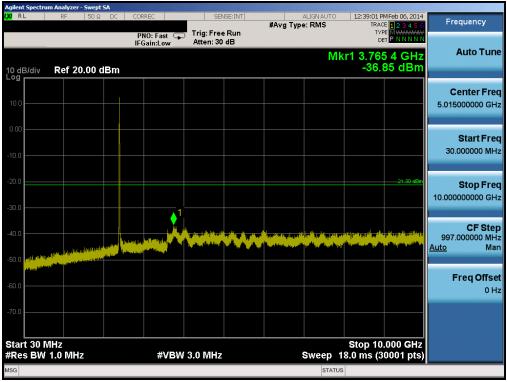
#### Test Notes

- 1. RBW was set to 1MHz rather than 100kHz in order to increase the measurement speed.
- 2. The display line shown in the following plots denotes the limit at 30dB below the fundamental emission level measured in a 100kHz bandwidth. However, since the traces in the following plots are measured with a 1MHz RBW, the display line may not necessarily appear to be 30dB below the level of the fundamental in a 1MHz bandwidth.
- 3. For plots showing conducted spurious emissions near the limit, the frequencies were investigated with a reduced RBW to ensure that no emissions were present.
- 4. The proper limit for the out-of-band emissions is 20dB, however, since the plots below show an out of band emission of 30dB below the fundamental emission, they are still compliant.

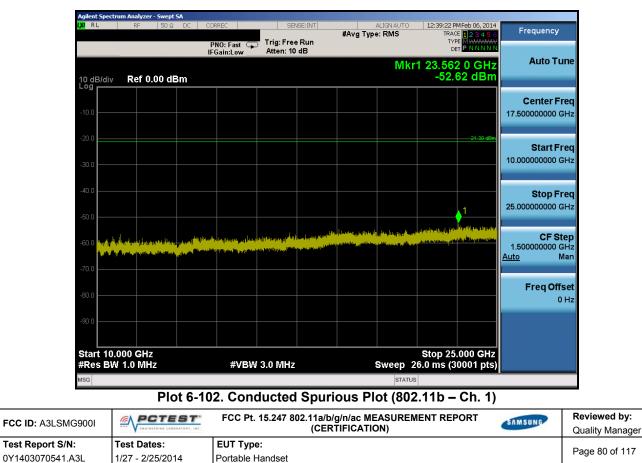
FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 70 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 79 of 117
© 2014 PCTEST Engineering L	aboratory, Inc.			V 5.0



## **Antenna-1 Conducted Spurious Emissions**



Plot 6-101. Conducted Spurious Plot (802.11b - Ch. 1)

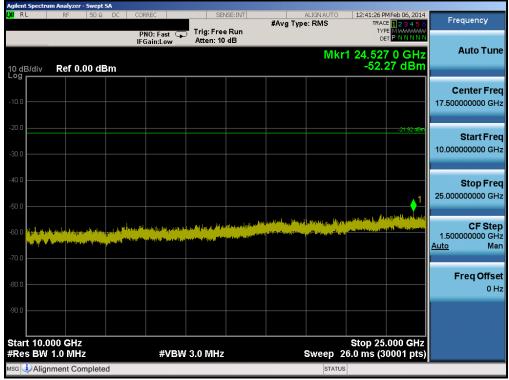


© 2014 PCTEST Engineering Laboratory, Inc.



Agilent :		Analyzer - Swe RF 50	pt SA Ω DC	CORI	REC	SE	NSE:INT		ALIGN AUTO	12:41:04	PM Feb 06, 2014	
					IO: Fast			#Avg Typ		TRA TY	CE 1 2 3 4 5 6 PE MWWWWW	Frequency
				IFG	ain:Low	Atten: 30	dB					Auto Tune
10 dB Log r	3/div	Ref 20.00	dBm						IVI	kr1 3.84 -37.	3 5 GHZ 05 dBm	
3												Center Freq
10.0												5.015000000 GHz
0.00												
40.0												Start Freq 30.000000 MHz
-10.0 -												
-20.0											-21.92 dBm	Stop Freq
-30.0 -												10.00000000 GHz
					• • • • •	1						CF Step
-40.0				e and the second se	lution alors			and the second sec		an his sine ngan ngan Ing his sine ngan ngan	ta per la proposita de la su la política política de la composita de la comp	997.000000 MHz Auto Man
-50.0	a and a first of the second	Physiological Social States Provident Street Social Activity	and the second	الدواقيات	and an and a second		* * *					Auto Mari
-60.0												Freq Offset
-00.0												0 Hz
-70.0												
	30 MH 8 BW 1.				#VBW	/ 3.0 MHz			Sweep	Stop 10 18.0 ms (3	0.000 GHz 00001 pts)	
MSG									STATU			





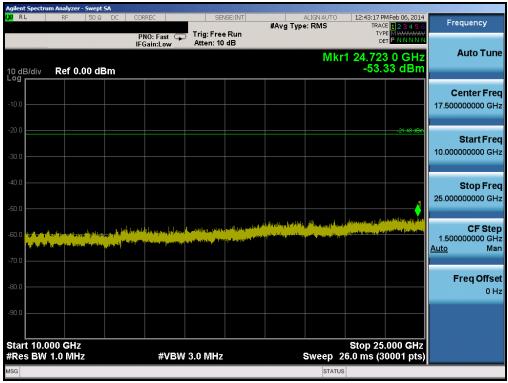
Plot 6-104. Conducted Spurious Plot (802.11b – Ch. 6)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dege 91 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 81 of 117
© 2014 PCTEST Engineering L	aboratory, Inc.	·		V 5.0



	n Analyzer - Swept S									-
LX/RL	RF 50 Ω	DC CO	RREC	SEN	ISE:INT	#Avg Type	ALIGN AUTO	TRA	MFeb 06, 2014	Frequency
		Р	NO: Fast 🕞 Gain:Low	Trig: Free Atten: 30				TY	PE MWWWWW ET P N N N N N	
		IF	Gain:Low	Atten. 00	40		м	kr1 3.75	5.1.047	Auto Tune
10 dB/div	Ref 20.00 d	Bm					141	-37.	10 dBm	
	Rei 20.00 u									
										Center Fred
10.0										5.015000000 GHz
0.00										Start Fred
-10.0										30.000000 MHz
-10.0										
-20.0									-21 48 dBm	Oton Eng
										Stop Fred 10.00000000 GHz
-30.0			<u> </u>							10.0000000000000
			♦'							07.01
-40.0		<u> </u>	Loved Learner	The second second	an in the state of the	. Although a state of the second second	للبراغش حقاير بعظ	. بعق بطقي ففس بغد	ula phane da	CF Step 997.000000 MHz
	المتلكية فسميهما والتعا	MINING TRADUCT		المسلحة المحريفاني أ	A A A	a started as a start	بالأديعة إسطاقهم	ألفر بالأمتحر الأمتير أأراس	n shi na kata ka	<u>Auto</u> Mar
-50.0 yeller 199	and the local distance in the second s									
and a stand										Freq Offset
-60.0										0 Hz
-70.0										
-70.0										
Start 30 M			41) (D) A	3.0 MHz			Cure on	Stop 10	.000 GHz	
#Res BW 1			#VBW	J.U WIHZ				18.0 ms (3	iooon pis)	
MSG							STATU	JS		

Plot 6-105. Conducted Spurious Plot (802.11b - Ch. 11)



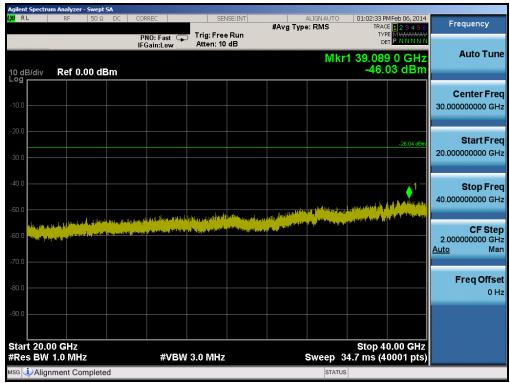
Plot 6-106. Conducted Spurious Plot (802.11b - Ch. 11)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 82 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 62 01 117
© 2014 PCTEST Engineering L	aboratory, Inc.	•		V 5.0



Agilent Spectrum Analyzer - Sw									
LXI RL RF 50	DΩ DC COR	REC	SEN	SE:INT	#Avg Type	ALIGN AUTO		MFeb 06, 2014 E 1 2 3 4 5 6	Frequency
		IO: Fast 😱	Trig: Free				TYP		
	IFG	ain:Low	Atten: 30	dB					Auto Tune
						Mkr	1 19.338	3 5 GHz	Auto Tune
10 dB/div Ref 20.00	0 dBm						-34.:	29 dBm	
10.0									Center Freq
10.0									10.015000000 GHz
0.00									Start Freq
									30.000000 MHz
-10.0									
-20.0									Stop Freq
								-26.04 dBm	20.00000000 GHz
-30.0								^1	
					. 6.	ورافلة ورواد وراما والقال	المحاف الم	and the second	CF Step
-40.0	distant and so its	ىر يېرىلىرى، ئە خاشارلار	a de la companya de l	and a standard and a standard at the		an makada kata kata ka	regeleren in der geheren er at der soner er at	the Real Property in the second	1.997000000 GHz
ALL CLOSED AND AND AND AND AND AND AND AND AND AN	Alexandel		h in this pair of the	and the state of the	الخريمانية	a contract being the	1		<u>Auto</u> Man
-50.0									
									Freq Offset
-60.0									0 Hz
-70.0									
							<b>0</b> 4 00		
Start 30 MHz #Res BW 1.0 MHz		#\/B\/	3.0 MHz			Sween 3	500 20	.000 GHz 0001 pts)	
		# ¥ L) ¥ ¥	5-0 19112					ooo r pis)	
MSG						STATUS			

Plot 6-107. Conducted Spurious Plot (802.11a – Ch. 149)



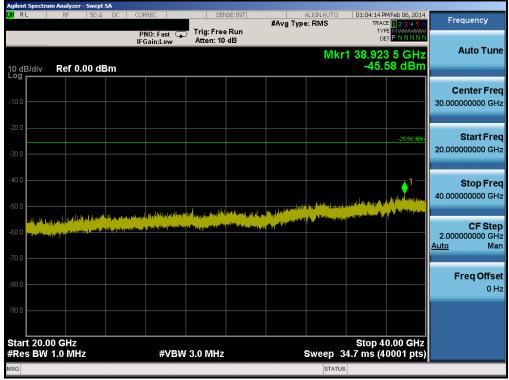
Plot 6-108. Conducted Spurious Plot (802.11a - Ch. 149)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 83 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 65 01 117
© 2014 PCTEST Engineering I	aboratory, Inc.	·		V 5.0



		Analyzer - Swep									
<b>l,Xi</b> R	-	RF 50 \$	2 DC CO	RREC		ISE:INT	#Avg Typ	ALIGNAUTO e: RMS	TRAC	MFeb 06, 2014 E <b>1 2 3 4 5</b> 6	Frequency
			P	NO: Fast 🖵 Gain:Low	Trig: Free Atten: 30				TYF		
				ounicon				Mki	1 19.12	7 8 GHz	Auto Tune
10 di Log	3/div	Ref 20.00	dBm						-34.	97 dBm	
L08											Center Fred
10.0											10.015000000 GH:
0.00											Start Fred
-10.0											30.000000 MH;
-10.0											
-20.0											Stop Free
										-25.56 dBm	20.000000000 GH
-30.0			-							1-	
						المتعادية	ay the first of the second	Abiata akia a	المعروبية المعروب	The state of the second	CF Ster
-40.0			A LOUGH	r na rengini la renji				الالدر السب المالاتي	a second as a second	A STREET, STREET, STREET, ST.	1.997000000 GH: Auto Mar
-50.0	dan televite	A DESCRIPTION OF THE OWNER	10 0 0 C 1 Y -	Protect to the other							Auto Mar
	Particular And										Freq Offse
-60.0											0 Hi
-70.0											
	t 30 MH sBW 1.			#)(P)A	3.0 MHz			Swoon 2		.000 GHz	
MSG	S DW 1			#VBW	3.0 WIAZ			Sweep a		0001 pts)	
mod								STATU			

Plot 6-109. Conducted Spurious Plot (802.11a - Ch. 157)



Plot 6-110. Conducted Spurious Plot (802.11a - Ch. 157)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dege 94 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 84 of 117		
© 2014 PCTEST Engineering Laboratory, Inc.						



		nalyzer - Swe									
l <b>XI</b> R	L	RF 50	Ω DC CO	RREC		ISE:INT	#Avg Typ	ALIGNAUTO e: RMS	TRAC	MFeb 06, 2014 E <b>1 2 3 4 5 6</b>	Frequency
			P	NO: Fast 🖙 Gain:Low	Trig: Free Atten: 30				TYI DI		
								Mki	1 19.58	9 1 GHz	Auto Tune
10 di Log	3/div	Ref 20.00	dBm						-34.	32 dBm	
_											Center Freq
10.0											10.015000000 GHz
0.00											
0.00											Start Freq
-10.0											30.000000 MHz
-20.0										-25.37 dBm	Stop Freq
-30.0										-20101 4011	20.00000000 GHz
-30.0											
-40.0		. على		ىرىم <b>م. د. لەلغ</b> ىرىيا		ومالعظ وخيري		alementary in all fe	and the second s	Children and a star star star	CF Step 1.997000000 GHz
	hipping		(All the second s	- Aller and the start	fan de fan hender						<u>Auto</u> Man
-50.0	A CONTRACTOR OF THE OWNER										
-60.0											Freq Offset 0 Hz
											0 HZ
-70.0											
	t 30 MH			-437034	0.0 000-			0	Stop 20	.000 GHz	
#RC	s BW 1.	UWINZ		#VBW	3.0 MHz			Sweep 3		0001 pts)	
Nog								STATUS	3		

Plot 6-111. Conducted Spurious Plot (802.11a - Ch. 165)

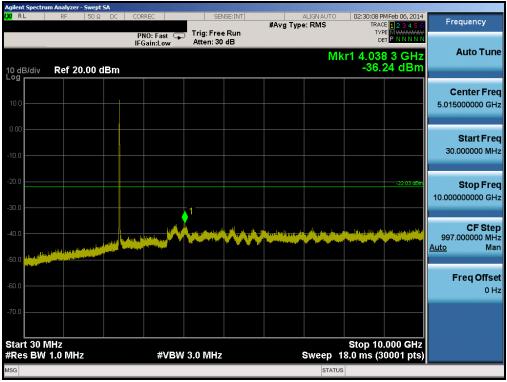


Plot 6-112. Conducted Spurious Plot (802.11a - Ch. 165)

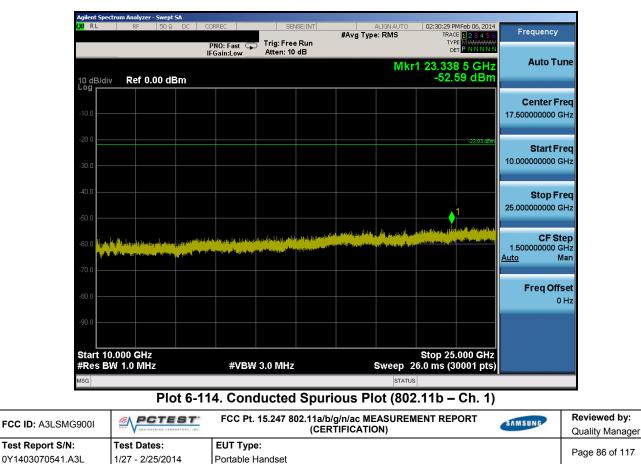
FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:		Dama 05 of 447			
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 85 of 117			
© 2014 PCTEST Engineering Laboratory. Inc.							



## **Antenna-2 Conducted Spurious Emissions**



Plot 6-113. Conducted S	purious Plot	(802.11b – Ch. 1)
-------------------------	--------------	-------------------



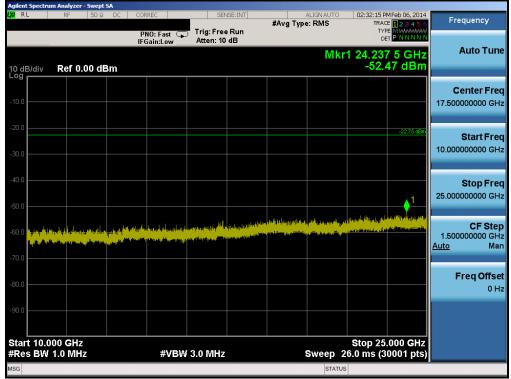
 0Y1403070541.A3L
 1/27 - 2/25/20

 © 2014 PCTEST Engineering Laboratory, Inc.



Agilent Spect	rum Analyzer - Swept RF 50 Ω		RREC	CEA	ISE:INT		ALIGN AUTO	02/21/54 5	MFeb 06, 2014	
LA KL	RF   50 Ω					#Avg Type		TRAC	E 123456	Frequency
		P	NO: Fast 🖵 Gain:Low	Trig: Free Atten: 30				DI		Auto Tune
10 dB/div Log	Mkr1 6.000 4 GHz           10 dB/div         Ref 20.00 dBm         -37.22 dBm								Auto Tune	
										Center Freq
10.0										5.015000000 GHz
0.00										Start Freq
-10.0										30.000000 MHz
-20.0									-22.75 dBm	Stop Freq 10.00000000 GHz
-30.0						1				10.00000000000000
-40.0				والمراجع المراجع	T IT THE LET			n and standing stars	, and the state of	CF Step 997.000000 MHz
TO O LUN	and a start of the first start of the start			and a state of the state		and the second	and the second second	and the second	المأتأث وترويه والتروية	<u>Auto</u> Man
-50.0	ania a distinta na atati di da da di ang									Freq Offset
-60.0										0 Hz
-70.0										
Start 30 #Res BV	MHz V 1.0 MHz		#VBW	3.0 MHz			Sweep	Stop 10 18.0 ms (3	.000 GHz 0001 pts)	
MSG							STATU			





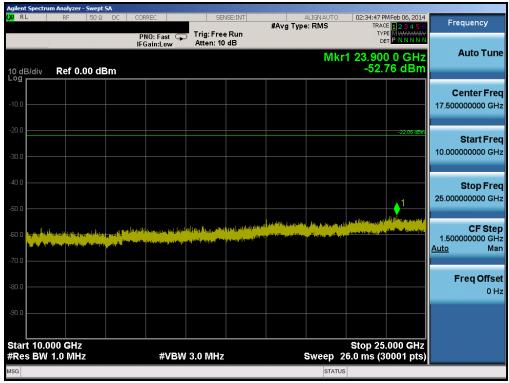
Plot 6-116. Conducted Spurious Plot (802.11b – Ch. 6)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dego 97 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 87 of 117
© 2014 PCTEST Engineering I	aboratory, Inc.	·		V 5.0



		alyzer - Swej										
X/RL	F	RF 50	Ω DC	CORRE	:C		ISE:INT	#Avg Typ	ALIGNAUTO e: RMS	TRA	MFeb 06, 2014	Frequency
				PNO	): Fast 🖵 in:Low	Trig: Free Atten: 30				TY	PE MWWWWW ET P N N N N N	
				IFGa	IN:LOW	Aden. 00			М	kr1 3.78	3.0.047	Auto Tune
10 dB/di	. в.	ef 20.00	dBm						141	-36	92 dBm	
	IV N		uBill					1				
												Center Free
10.0												5.015000000 GHz
0.00												Start Fred
												30.000000 MHz
-10.0												
-20.0												
-20.0											-22.06 dBm	Stop Fred
-30.0												10.00000000 GHz
-30.0												
-40.0						A AL OF ALL A	the state and	and the second second		in the second state of the	والمنافق والمرور التقرير	CF Step 997.000000 MHz
		يار بين .	للأسليلان	endellikeren.	State of the	and a stand of the		i Alexandra di	- Alexander and	a Harden alter		Auto Mar
-50.0	distanting.		and a lines	a Bullaha ang Bulla								
lation of	and He											Freq Offset
-60.0												0 Hz
-70.0												
Start 3	0 MHz									Stop 10	.000 GHz	
#Res E					#VBW	3.0 MHz			Sweep	18.0 ms (3	0001 pts)	
MSG									STATU	JS		
_												

Plot 6-117. Conducted Spurious Plot (802.11b - Ch. 11)



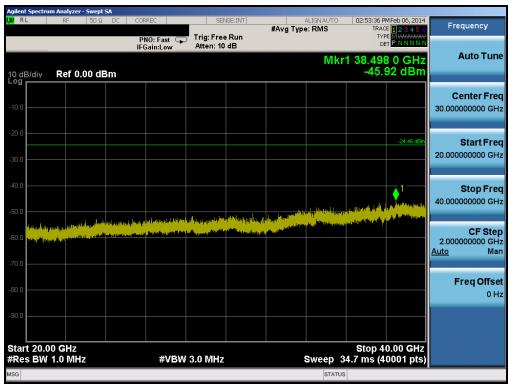
Plot 6-118. Conducted Spurious Plot (802.11b - Ch. 11)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dege 99 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 88 of 117		
© 2014 PCTEST Engineering Laboratory, Inc.						



Agilent Spectrum Analyzer - Swept SA		- I I		
LX RL RF 50Ω DC	CORREC SENSE	#Avg Type: RMS	02:53:15 PM Feb 06, 2014 TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency
10 dB/div Ref 20.00 dBm	PN0: Fast 🖵 Trig: Free R IFGain:Low Atten: 30 df	8	1 19.133 8 GHz -34.77 dBm	Auto Tune
10.0				Center Freq 10.015000000 GHz
-10.0				Start Freq 30.000000 MHz
-20.0			-24.46 dBm	<b>Stop Freq</b> 20.000000000 GHz
-40.0		A ster denklicher andere die elementen und die erste einen erste	A string long to get the set of the second	<b>CF Step</b> 1.997000000 GHz <u>Auto</u> Man
-60.0				<b>Freq Offset</b> 0 Hz
-70.0 Start 30 MHz			Stop 20.000 GHz	
#Res BW 1.0 MHz	#VBW 3.0 MHz	Sweep 3	4.7 ms (40001 pts)	
MSG		STATUS		

Plot 6-119. Conducted Spurious Plot (802.11a – Ch. 149)



Plot 6-120. Conducted Spurious Plot (802.11a - Ch. 149)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 90 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 89 of 117	
© 2014 PCTEST Engineering I	Laboratory, Inc.	•		V 5.0	



		Analyzer - Swep									
<b>l,XI</b> R	L	RF 50 Ω	P DC CO	RREC	SEN	ISE:INT	#Avg Typ	ALIGNAUTO e: RMS		MFeb 06, 2014	Frequency
10 d	B/div	Ref 20.00	IF	NO: Fast 😱 Gain:Low	Trig: Free Atten: 30				TYF DE 1 19.41		Auto Tune
10.0											Center Freq 10.015000000 GHz
0.00 -10.0											Start Freq 30.000000 MHz
-20.0 -30.0										-24.83 dBm	<b>Stop Freq</b> 20.000000000 GHz
-40.0 -50.0	والمراجع والأرب			r <del>a lang a gi pin</del> Anna a Adam	<sup>1</sup> lente <del>d'y'n trade</del> Nebyte de trade	hang Hitlanson ola Nganaka kananang	Carl Contraction of the	a a su da a su Internet da a su da a s	in differing for the st		<b>CF Step</b> 1.997000000 GHz <u>Auto</u> Man
	La										<b>Freq Offset</b> 0 Hz
-70.0 Star	rt 30 MF								Stop 20	.000 GHz	
#Re	s BW 1.			#VBW	3.0 MHz				14.7 ms (4	0001 pts)	
MSG								STATU	5		

Plot 6-121. Conducted Spurious Plot (802.11a - Ch. 157)



Plot 6-122. Conducted Spurious Plot (802.11a - Ch. 157)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:		Dago 00 of 117			
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 90 of 117			
© 2014 PCTEST Engineering L	© 2014 PCTEST Engineering Laboratory, Inc.						



		Analyzer - Swe									
<b>l,XI</b> RI	-	RF 50	Ω DC CC	RREC		ISE:INT	#Avg Typ	ALIGNAUTO e: RMS	TRAC	MFeb 06, 2014	Frequency
			F	PNO: Fast 📮 Gain:Low	Trig: Free Atten: 30				DE		Auto Turo
10 dB Log	3/div	Ref 20.00	dBm					Mkı	1 19.59 -33.	9 6 GHz 91 dBm	Auto Tune
10.0											Center Freq 10.015000000 GHz
0.00 -10.0											Start Freq 30.000000 MHz
-20.0 -30.0										-24.70 dBm	<b>Stop Freq</b> 20.000000000 GHz
-40.0	and in the letter		Munit ()			n y fa far far henden 1979 - Al farmanisa	anta Managana Ma	alış bir serve işi bişanına Ministratiya ile yarak t	yn hy Laby ffarwy	and the second	<b>CF Step</b> 1.997000000 GHz <u>Auto</u> Man
-50.0											<b>Freq Offset</b> 0 Hz
-70.0	4 00 BAL								<b>6</b> 4		
	t 30 MH s BW 1.			#VBW	/ 3.0 MHz			Sweep 3	Stop 20 4.7 ms (4	.000 GHz 0001 pts)	
MSG								STATU	5		

Plot 6-123. Conducted Spurious Plot (802.11a - Ch. 165)



Plot 6-124. Conducted Spurious Plot (802.11a - Ch. 165)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dego 01 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 91 of 117		
© 2014 PCTEST Engineering Laboratory, Inc.						



### 6.7 Radiated Spurious Emission Measurements §15.247(d) §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 maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. 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 6-33 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 6-33. Radiated Limits

#### **Test Procedures Used**

KDB 558074 v03r01 – Section 12.2.5 (average power measurements)

KDB 558074 v03r01 – Section 12.2.4 (peak power measurements)

#### **Test Settings**

#### Average Field Strength Measurements per Section 12.2.5.1 of KDB 558074 v03r01

- 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. Sweep time = auto
- 7. Trace (RMS) averaging was performed over at least 100 traces

FCC ID: A3LSMG9001		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dego 02 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 92 of 117
© 2014 PCTEST Engineering	Laboratory Inc	•		V 5 0

© 2014 PCTEST Engineering Laboratory, Inc.



#### Peak Field Strength Measurements per Section 12.2.4 of KDB 558074 v03r01

- 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

#### Test Setup

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

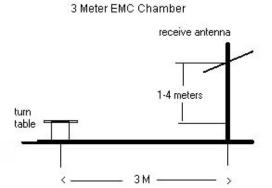


Figure 6-7. Test Instrument & Measurement Setup

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager			
Test Report S/N:	Test Dates:	EUT Type:		Page 93 of 117			
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 95 01 117			
© 2014 PCTEST Engineering L	© 2014 PCTEST Engineering Laboratory, Inc.						



#### Test Notes

- The optional test procedures for antenna port conducted measurements of unwanted emissions per the guidance of KDB 558074 v03r01 were not used to evaluate this device for compliance to radiated limits. All radiated spurious emissions levels were measured in a radiated test setup.
- 2. All emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 6-10.
- 3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
- 4. The EUT is supplied with a new/fully-recharged battery. The battery for this model EB-BG900BBE contains an embedded NFC antenna.
- 5. 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.
- 6. 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.
- 7. Average levels at -135dBm and peak levels at -125dBm represent the analyzer noise floor and signify that no emission was detected.
- 8. Significant radiated spurious emissions levels were not found for MIMO test configurations.

#### Sample Calculations

#### **Determining Spurious Emissions Levels**

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

#### Radiated Band Edge Measurement Offset

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

Offset (dB) = (Antenna Factor + Cable Loss + 10 dB Attenuator) – Preamplifier Gain

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dega 04 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 94 of 117
© 2014 PCTEST Engineering	aboratory Inc	·		V 5 0

© 2014 PCTEST Engineering Laboratory, Inc.



# Antenna-1 Radiated Spurious Emission Measurements §15.247(d) §15.205 & §15.209

Worst Case Mode:	802.11b
Worst Case Transfer Rate:	1 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2412MHz
Channel:	01

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4824.00	-101.96	Avg	Н	40.23	45.27	53.98	-8.71
4824.00	-96.06	Peak	Н	40.23	51.17	73.98	-22.81
12060.00	-135.00	Avg	Н	51.02	23.02	53.98	-30.96
12060.00	-125.00	Peak	Н	51.02	33.02	73.98	-40.96

#### Table 6-34. Radiated Measurements

Worst Case Mode: Worst Case Transfer Rate: Distance of Measurements: Operating Frequency: Channel:

802.11b	
1 Mbps	
3 Meters	
2437MHz	
06	

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4874.00	-98.35	Avg	Н	40.30	48.95	53.98	-5.03
4874.00	-93.46	Peak	Н	40.30	53.84	73.98	-20.14
7311.00	-109.06	Avg	Н	43.02	40.96	53.98	-13.02
7311.00	-98.85	Peak	Н	43.02	51.17	73.98	-22.81
12185.00	-135.00	Avg	Н	51.95	23.95	53.98	-30.03
12185.00	-125.00	Peak	Н	51.95	33.95	73.98	-40.03

Table 6-35. Radiated Measurements

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 95 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 95 01 117
© 2014 PCTEST Engineering L	aboratory, Inc.	•		V 5.0

01/13/2014



Worst Case Mode:	802.11b
Worst Case Transfer Rate:	1 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2462MHz
Channel:	11

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	-98.81	Avg	Н	40.35	48.54	53.98	-5.44
4924.00	-94.35	Peak	Н	40.35	53.00	73.98	-20.98
7386.00	-106.16	Avg	Н	42.97	43.81	53.98	-10.17
7386.00	-96.85	Peak	Н	42.97	53.12	73.98	-20.86
12310.00	-135.00	Avg	Н	52.84	24.84	53.98	-29.14
12310.00	-125.00	Peak	Н	52.84	34.84	73.98	-39.14

Table 6-36. Radiated Measurements

Worst Case Mode: Worst Case Transfer Rate: Distance of Measurements: Operating Frequency: Channel:

_	802.11a
_	6 Mbps
	1 & 3 Meters
	5745MHz
-	149

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11490.00	-135.00	Avg	Η	47.45	19.45	53.98	-34.52
11490.00	-125.00	Peak	Н	47.45	29.45	73.98	-44.52
22980.00	-135.00	Avg	Н	44.46	16.46	53.98	-37.51
22980.00	-125.00	Peak	Н	44.46	26.46	73.98	-47.51

Table 6-37. Radiated Measurements

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 96 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 96 01 117
© 2014 PCTEST Engineering L	aboratory, Inc.	•		V 5.0



Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5785MHz
Channel:	157

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11570.00	-135.00	Avg	Н	47.56	19.56	53.98	-34.42
11570.00	-125.00	Peak	Н	47.56	29.56	73.98	-44.42

Table 6-38. Radiated Measurements

Worst Case Mode: Worst Case Transfer Rate: Distance of Measurements: Operating Frequency: Channel:

802.11a	
6 Mbps	
1 & 3 Meters	
5825MHz	
165	

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11650.00	-135.00	Avg	Н	47.85	19.85	53.98	-34.13
11650.00	-125.00	Peak	Н	47.85	29.85	73.98	-44.13

Table 6-39. Radiated Measurements

FCC ID: A3LSMG9001		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Page 97 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 97 01 117		
© 2014 PCTEST Engineering L	2014 PCTEST Engineering Laboratory, Inc.					



# Antenna-2 Radiated Spurious Emission Measurements §15.247(d) §15.205 & §15.209

Worst Case Mode:	802.11b
Worst Case Transfer Rate:	1 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2412MHz
Channel:	01

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4824.00	-102.59	Avg	Н	40.23	44.64	53.98	-9.34
4824.00	-96.09	Peak	Н	40.23	51.14	73.98	-22.84
12060.00	-135.00	Avg	Н	51.02	23.02	53.98	-30.96
12060.00	-125.00	Peak	Н	51.02	33.02	73.98	-40.96

#### Table 6-40. Radiated Measurements

Worst Case Mode: Worst Case Transfer Rate: Distance of Measurements: Operating Frequency: Channel:

802.11b	
1 Mbps	
3 Meters	
2437MHz	
06	

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4874.00	-102.39	Avg	Н	40.30	44.91	53.98	-9.07
4874.00	-96.23	Peak	Н	40.30	51.07	73.98	-22.91
7311.00	-106.13	Avg	Н	43.02	43.89	53.98	-10.09
7311.00	-96.44	Peak	Н	43.02	53.58	73.98	-20.40
12185.00	-135.00	Avg	Н	51.95	23.95	53.98	-30.03
12185.00	-125.00	Peak	Н	51.95	33.95	73.98	-40.03

Table 6-41. Radiated Measurements

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 98 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 96 01 117	
2014 PCTEST Engineering Laboratory, Inc.					

v 5.0 01/13/2014



Worst Case Mode:	802.11b
Worst Case Transfer Rate:	1 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	2462MHz
Channel:	11

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	-100.26	Avg	Н	40.35	47.09	53.98	-6.89
4924.00	-95.68	Peak	Н	40.35	51.67	73.98	-22.31
7386.00	-107.22	Avg	Н	42.97	42.75	53.98	-11.23
7386.00	-98.20	Peak	Н	42.97	51.77	73.98	-22.21
12310.00	-135.00	Avg	Н	52.84	24.84	53.98	-29.14
12310.00	-125.00	Peak	Н	52.84	34.84	73.98	-39.14

Table 6-42. Radiated Measurements

Worst Case Mode: Worst Case Transfer Rate: Distance of Measurements: Operating Frequency:

Channel:

802.11a	
6 Mbps	
1 & 3 Meters	
5745MHz	
149	

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11490.00	-135.00	Avg	Н	47.45	19.45	53.98	-34.52
11490.00	-125.00	Peak	Н	47.45	29.45	73.98	-44.52
22980.00	-135.00	Avg	Н	44.46	16.46	53.98	-37.51
22980.00	-125.00	Peak	Н	44.46	26.46	73.98	-47.51

Table 6-43. Radiated Measurements

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dega 00 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 99 of 117		
© 2014 PCTEST Engineering Laboratory, Inc.						



Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5785MHz
Channel:	157

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11570.00	-135.00	Avg	Н	47.56	19.56	53.98	-34.42
11570.00	-125.00	Peak	Н	47.56	29.56	73.98	-44.42

Table 6-44. Radiated Measurements

Worst Case Mode:

Worst Case Transfer Rate: Distance of Measurements: Operating Frequency:

Channel:

802.11a
6 Mbps
1 & 3 Meters
5825MHz
165

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11650.00	-135.00	Avg	Н	47.85	19.85	53.98	-34.13
11650.00	-125.00	Peak	Н	47.85	29.85	73.98	-44.13

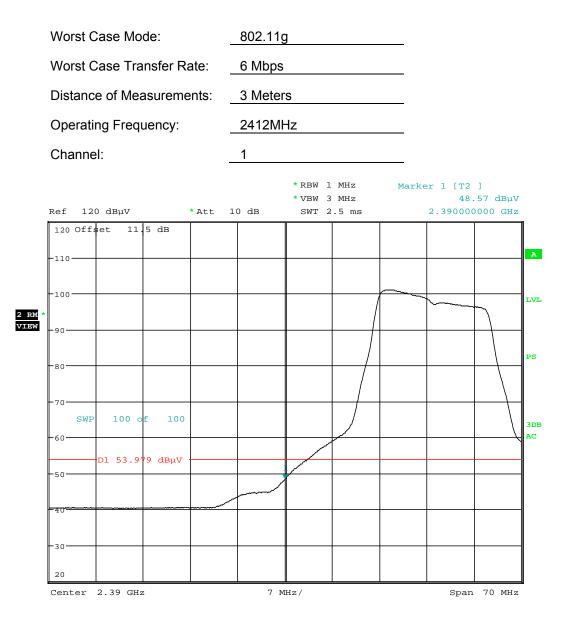
Table 6-45. Radiated Measurements

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Page 100 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 100 01 117		
© 2014 PCTEST Engineering Laboratory, Inc.						



### 6.8 Antenna-1 Radiated Restricted Band Edge Measurements §15.205 §15.209

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

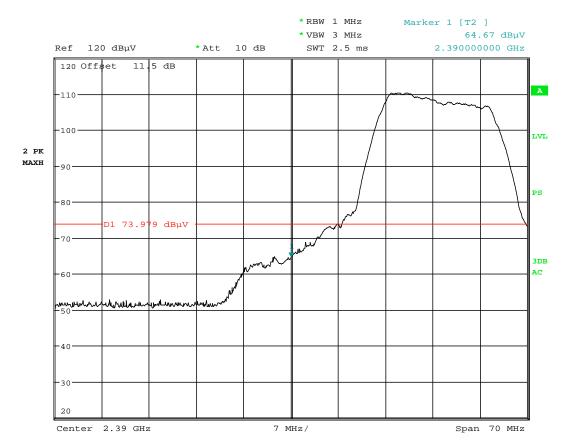


Date: 6.FEB.2014 07:25:41

#### Plot 6-125. Radiated Restricted Lower Band Edge Measurement (Average)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dega 101 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 101 of 117		
© 2014 PCTEST Engineering Laboratory, Inc.						



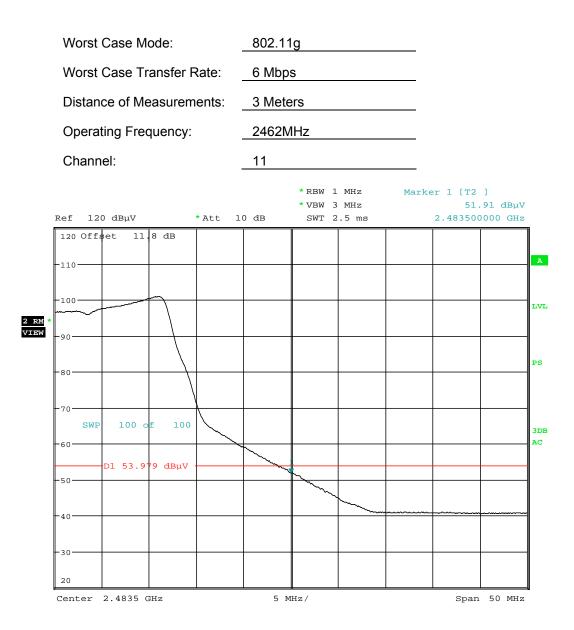


Date: 6.FEB.2014 07:20:41

#### Plot 6-126. Radiated Restricted Lower Band Edge Measurement (Peak)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dega 102 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 102 of 117		
© 2014 PCTEST Engineering Laboratory, Inc.						



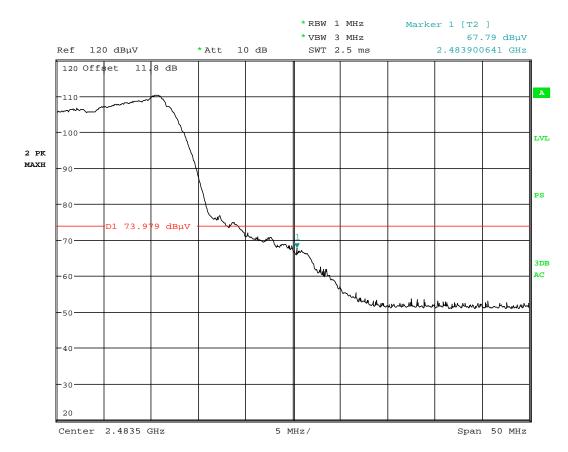


Date: 6.FEB.2014 08:01:46

#### Plot 6-127. Radiated Restricted Upper Band Edge Measurement (Average)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dega 102 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset	Page 103 of 117			
© 2014 PCTEST Engineering Laboratory, Inc.						





Date: 6.FEB.2014 08:00:30

#### Plot 6-128. Radiated Restricted Upper Band Edge Measurement (Peak)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dega 104 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 104 of 117		
© 2014 PCTEST Engineering Laboratory, Inc.						



### 6.9 Antenna-2 Radiated Restricted Band Edge Measurements §15.205 §15.209

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

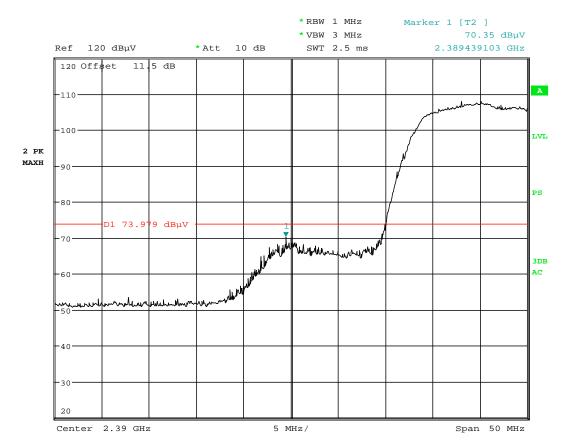
	Worst Case Mode:				802.11	g				
	Worst Case Transfer Rate:				6 Mbps					
	Distanc	e of Mea	asureme	ents:	3 Meter	ſS				
	Operati	ng Frequ	uency:	-	2412M	Hz				
	Channe	el:		-	1					
	Ref 12	0 dBµV		*Att 1	L0 dB	* RBW 1 * VBW 3 SWT 2		Marke		] .03 dBµV )000 GHz
	120 Off:	set 11.	5 dB							
	-110									
	-100									L'
2 RM VIEW	90									
	-80									P
	-70 SWP	100 0	f 100					/		31
	-60	D1 53.9	19 dBuV					/		A0
	-50									
			<u></u>							
	-30									
	20									
	Center	2.39 GHz	2		5 N	lHz/			Span	50 MHz

Date: 6.FEB.2014 08:42:37

#### Plot 6-129. Radiated Restricted Lower Band Edge Measurement (Average)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Page 105 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 105 01 117		
© 2014 PCTEST Engineering Laboratory, Inc.						



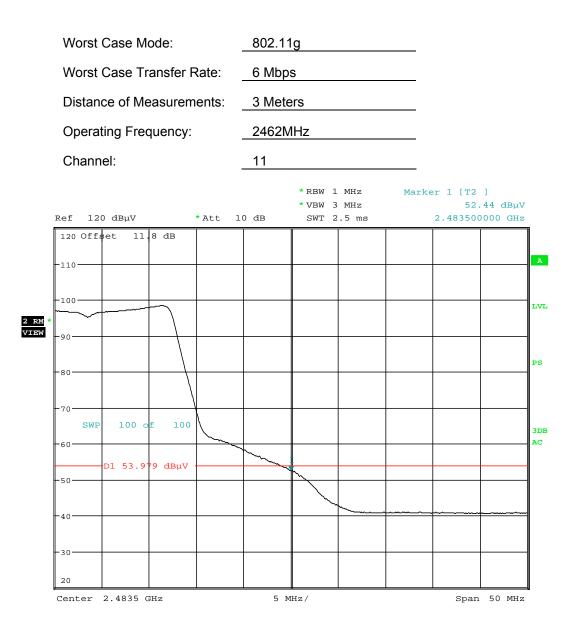


Date: 6.FEB.2014 08:39:50

#### Plot 6-130. Radiated Restricted Lower Band Edge Measurement (Peak)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dage 106 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 106 of 117		
© 2014 PCTEST Engineering L	2014 PCTEST Engineering Laboratory, Inc.					



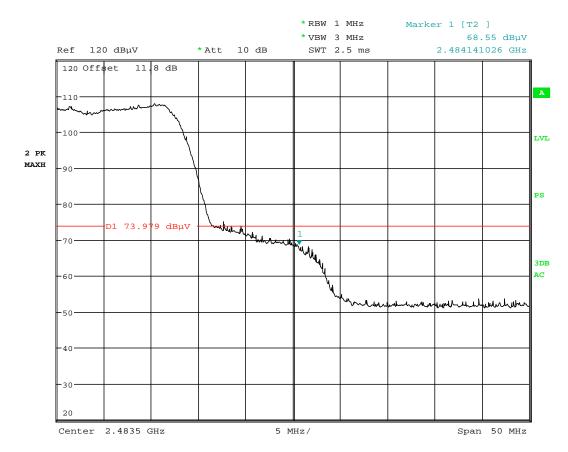


Date: 6.FEB.2014 09:08:54

#### Plot 6-131. Radiated Restricted Upper Band Edge Measurement (Average)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Dega 107 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 107 of 117		
© 2014 PCTEST Engineering L	2014 PCTEST Engineering Laboratory, Inc.					





Date: 6.FEB.2014 09:10:33

#### Plot 6-132. Radiated Restricted Upper Band Edge Measurement (Peak)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 109 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 108 of 117	
2014 PCTEST Engineering Laboratory, Inc.					



### 6.10 MIMO Radiated Restricted Band Edge Measurements §15.205 §15.209

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

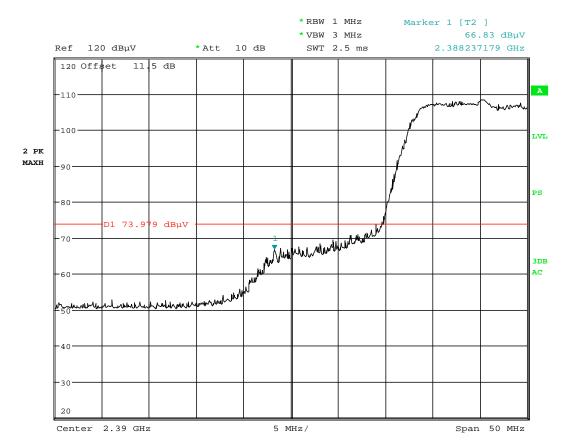
	Worst C	Case Mo	de:		802.11	n					
	Worst C	Case Tra	nsfer Ra	ate:	MCS8						
	Distance of Measurements:			ents:	3 Mete	rs					
	Operati	ng Freq	uency:		2412M	Hz					
	Channe	el:			1						
	Ref 12	0 dBµV		* Att	10 dB	* RBW 1 * VBW 3 SWT 2		Marke		] .89 dBµV 0000 GHz	
	120 Off:	et 11.	5 dB								
	-110										A
	-100									L	.v.
2 RM VIEW	-90										
	-80							_/		Р	s
	-70										
	SWP	100 0	f 100				,				301
	-60	D1 53.9'	9 dBµV				and the second s			A	٩C
	-50										
	-30										
	20										
	Center	2.39 GHz	2		5 1	MHz/			Span	1 50 MHz	

Date: 6.FEB.2014 09:35:17

#### Plot 6-133. Radiated Restricted Lower Band Edge Measurement (Average)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Page 109 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 109 01 117	
© 2014 PCTEST Engineering L	2014 PCTEST Engineering Laboratory, Inc.				



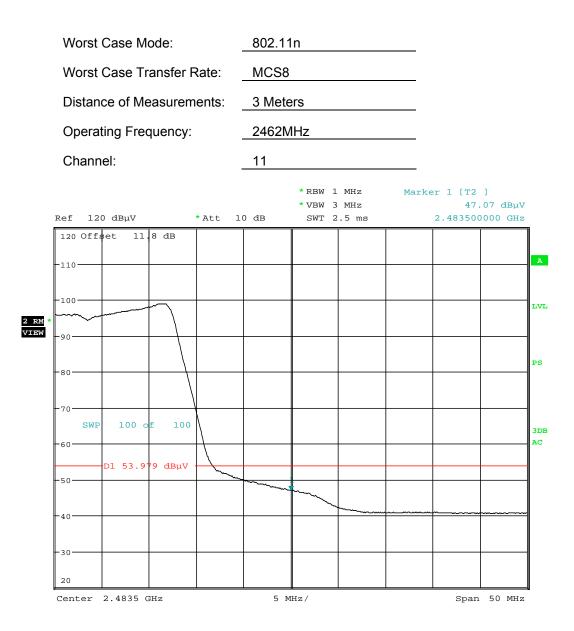


Date: 6.FEB.2014 09:34:05

#### Plot 6-134. Radiated Restricted Lower Band Edge Measurement (Peak)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager		
Test Report S/N:	Test Dates:	EUT Type:		Page 110 of 117		
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 110 01 117		
© 2014 PCTEST Engineering L	2014 PCTEST Engineering Laboratory, Inc.					



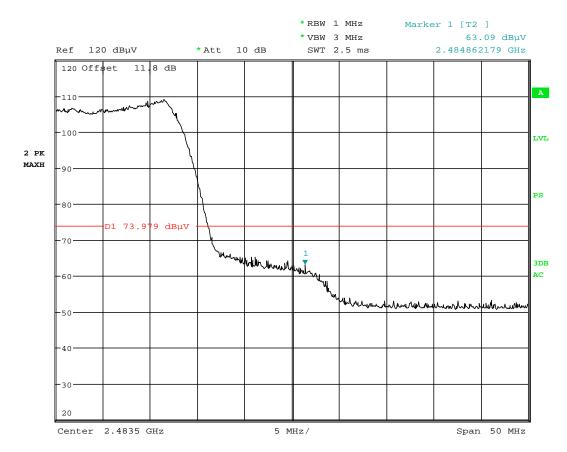


Date: 6.FEB.2014 09:41:14

#### Plot 6-135. Radiated Restricted Upper Band Edge Measurement (Average)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dego 111 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 111 of 117	
© 2014 PCTEST Engineering Laboratory, Inc.					





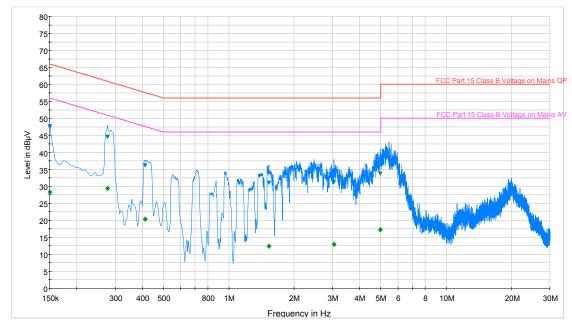
Date: 6.FEB.2014 09:40:07

#### Plot 6-136. Radiated Restricted Upper Band Edge Measurement (Peak)

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dego 110 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 112 of 117	
2014 PCTEST Engineering Laboratory, Inc.					



### 6.11 Line-Conducted Test Data §15.207



FCC Part 15 Class B Voltage on Mains QP.LimitLine FCC Part 15 Class B Voltage on Mains AV.LimitLine Preview Result 1-PK+ Final Result 1-QPK Final Result 2-AVG

Lino	Corr.	QuasiPeak	Limit	Margin	Average	Limit	Margin
LIIIG	dB	dBµV	dBµV	dB	dBµV	dBµV	dB
L1	0.2	47.60	66.00	18.40	28.40	56.00	27.60
L1	0.1	44.60	60.90	16.40	29.40	50.90	21.60
L1	0.1	36.20	57.60	21.50	20.40	47.60	27.20
L1	0.1	31.10	56.00	24.90	12.50	46.00	33.60
L1	0.2	31.30	56.00	24.70	12.90	46.00	33.10
L1	0.2	33.70	56.00	22.30	17.30	46.00	28.70
	L1 L1 L1 L1	dB           L1         0.2           L1         0.1           L1         0.1           L1         0.1           L1         0.2           L1         0.1           L1         0.1           L1         0.1           L1         0.1           L1         0.2           L1         0.2	dB         dBµV           L1         0.2         47.60           L1         0.1         44.60           L1         0.1         36.20           L1         0.1         31.10           L1         0.2         31.30           L1         0.2         33.70	dB         dBµV         dBµV           L1         0.2         47.60         66.00           L1         0.1         44.60         60.90           L1         0.1         36.20         57.60           L1         0.1         31.10         56.00           L1         0.2         31.30         56.00           L1         0.2         33.70         56.00	dB         dBμV         dBμV         dBμV         dB           L1         0.2         47.60         66.00         18.40           L1         0.1         44.60         60.90         16.40           L1         0.1         36.20         57.60         21.50           L1         0.1         31.10         56.00         24.90           L1         0.2         31.30         56.00         24.70           L1         0.2         33.70         56.00         22.30	dB         dBµV         dBµV         dB         dBµV           L1         0.2         47.60         66.00         18.40         28.40           L1         0.1         44.60         60.90         16.40         29.40           L1         0.1         36.20         57.60         21.50         20.40           L1         0.1         31.10         56.00         24.90         12.50           L1         0.2         31.30         56.00         24.70         12.90           L1         0.2         33.70         56.00         22.30         17.30	dB         dBµV         dBµV         dB         dBµV         dBµV           L1         0.2         47.60         66.00         18.40         28.40         56.00           L1         0.1         44.60         60.90         16.40         29.40         50.90           L1         0.1         36.20         57.60         21.50         20.40         47.60           L1         0.1         31.10         56.00         24.90         12.50         46.00           L1         0.2         31.30         56.00         24.70         12.90         46.00

Notes:

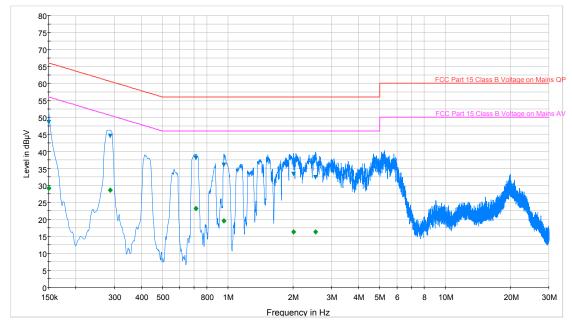
 Table 6-46. Line Conducted Data with 802.11b (L1)

- 1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11b mode using 1Mbps on Channel 6. The emissions found were not affected by the choice of channel used during testing.
- 2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- 3. Factor (dB) = Cable loss (dB) + LISN insertion factor (dB)
- 4. QP/AV Level (dB $\mu$ V) = QP/AV Analyzer/Receiver Level (dB $\mu$ V) + Factor (dB)
- 5. Margin (dB) = QP/AV Limit (dB $\mu$ V) QP/AV Level (dB $\mu$ V)
- 6. Traces shown in plot are made using a peak detector.
- 7. Deviations to the Specifications: None.

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager	
Test Report S/N:	Test Dates:	EUT Type:		Dega 112 of 117	
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 113 of 117	
0 2014 PCTEST Engineering Laboratory, Inc.					



### Line-Conducted Test Data (Cont'd) §15.207



FCC Part 15 Class B Voltage on Mains QP.LimitLine FCC Part 15 Class B Voltage on Mains AV.LimitLine Preview Result 1-PK+ Final Result 1-QPK Final Result 2-AVG

Frequency	Line	Corr.	QuasiPeak	Limit	Margin	Average	Limit	Margin
MHz		dB	dBµV	dBµV	dB	dBµV	dBµV	dB
0.150	Ν	0.3	48.50	66.00	17.50	29.20	56.00	26.80
0.287	Ν	0.1	44.50	60.60	16.10	28.70	50.60	21.90
0.715	Ν	0.1	38.00	56.00	18.00	23.20	46.00	22.80
0.958	Ν	0.1	36.00	56.00	20.00	19.60	46.00	26.40
2.006	Ν	0.2	33.30	56.00	22.70	16.30	46.00	29.70
2.535	Ν	0.2	32.40	56.00	23.60	16.30	46.00	29.70

Table 6-47. Line Conducted Data with 802.11b (N)

Notes:

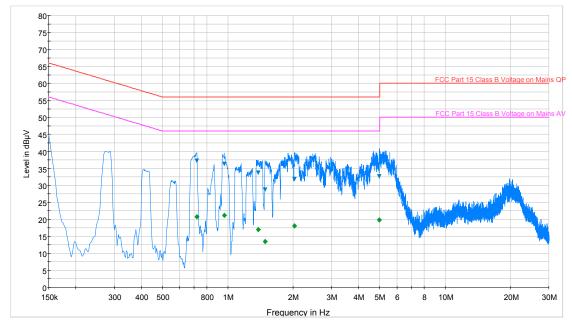
- 1.All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11b mode using 1Mbps on Channel 6. The emissions found were not affected by the choice of channel used during testing.
- 2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- 3.Factor (dB) = Cable loss (dB) + LISN insertion factor (dB)
- 4.QP/AV Level (dB $\mu$ V) = QP/AV Analyzer/Receiver Level (dB $\mu$ V) + Factor (dB)
- 5. Margin (dB) = QP/AV Limit (dB $\mu$ V) QP/AV Level (dB $\mu$ V)
- 6. Traces shown in plot are made using a peak detector.
- 7. Deviations to the Specifications: None.

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dego 114 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 114 of 117
© 2014 PCTEST Engineering	Laboratory Inc	·		VEO

© 2014 PCTEST Engineering Laboratory, Inc.



### Line-Conducted Test Data (Cont'd) §15.207



FCC Part 15 Class B Voltage on Mains QP.LimitLine FCC Part 15 Class B Voltage on Mains AV.LimitLine Preview Result 1-PK+ Final Result 1-QPK Final Result 2-AVG

Plot 6-139	. Line	Conducted	Plot with	802.11a	(L1)
------------	--------	-----------	-----------	---------	------

Line	Corr.	QuasiPeak	Limit	Margin	Average	Limit	Margin
	dB	dBµV	dBµV	dB	dBµV	dBµV	dB
L1	0.1	37.30	56.00	18.70	20.80	46.00	25.20
L1	0.1	36.30	56.00	19.70	21.20	46.00	24.80
L1	0.1	33.70	56.00	22.30	17.00	46.00	29.00
L1	0.1	28.70	56.00	27.30	13.50	46.00	32.50
L1	0.1	31.90	56.00	24.10	18.00	46.00	28.00
L1	0.2	32.60	56.00	23.40	19.80	46.00	26.20
	Line L1 L1 L1 L1 L1 L1 L1	Line         dB           L1         0.1           L1         0.1	Line         dB         dBµV           L1         0.1         37.30           L1         0.1         36.30           L1         0.1         33.70           L1         0.1         28.70           L1         0.1         31.90	Line         dB         dBµV         dBµV           L1         0.1         37.30         56.00           L1         0.1         36.30         56.00           L1         0.1         33.70         56.00           L1         0.1         33.70         56.00           L1         0.1         33.70         56.00           L1         0.1         31.90         56.00	Line         dB         dBµV         dBµV         dBµV         dB           L1         0.1         37.30         56.00         18.70           L1         0.1         36.30         56.00         19.70           L1         0.1         33.70         56.00         22.30           L1         0.1         28.70         56.00         27.30           L1         0.1         31.90         56.00         24.10	Line         dB         dBµV         dBµV         dB         dBµV           L1         0.1         37.30         56.00         18.70         20.80           L1         0.1         36.30         56.00         19.70         21.20           L1         0.1         33.70         56.00         22.30         17.00           L1         0.1         28.70         56.00         27.30         13.50           L1         0.1         31.90         56.00         24.10         18.00	Line         dB         dBµV         dBµV         dBµV         dB         dBµV         dBµV           L1         0.1         37.30         56.00         18.70         20.80         46.00           L1         0.1         36.30         56.00         19.70         21.20         46.00           L1         0.1         33.70         56.00         22.30         17.00         46.00           L1         0.1         28.70         56.00         27.30         13.50         46.00           L1         0.1         31.90         56.00         24.10         18.00         46.00

Notes:

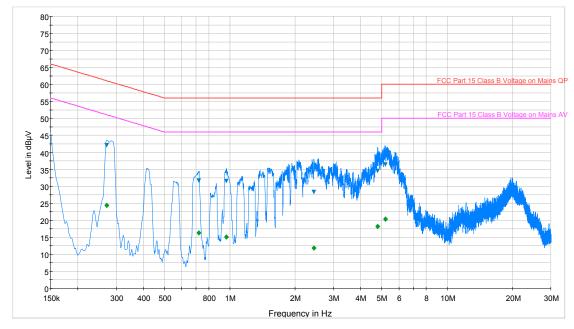
Table 6-48. Line Conducted Data with 802.11a (L1)

- 1.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 157. The emissions found were not affected by the choice of channel used during testing.
- 2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- 3.Factor (dB) = Cable loss (dB) + LISN insertion factor (dB)
- 4.QP/AV Level (dB $\mu$ V) = QP/AV Analyzer/Receiver Level (dB $\mu$ V) + Factor (dB)
- 5. Margin (dB) = QP/AV Limit (dB $\mu$ V) QP/AV Level (dB $\mu$ V)
- 6. Traces shown in plot are made using a peak detector.
- 7. Deviations to the Specifications: None.

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Page 115 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 115 01 117
© 2014 PCTEST Engineering	aboratory Inc			VEO



### Line-Conducted Test Data (Cont'd) §15.207



FCC Part 15 Class B Voltage on Mains QP.LimitLine FCC Part 15 Class B Voltage on Mains AV.LimitLine Preview Result 1-PK+ Final Result 1-QPK Final Result 2-AVG

#### Plot 6-140. Line Conducted Plot with 802.11a (N)

Frequency	Line	Corr.	QuasiPeak	Limit	Margin	Average	Limit	Margin
MHz		dB	dBµV	dBµV	dB	dBµV	dBµV	dB
0.272	Ν	0.2	42.20	61.10	18.90	24.50	51.10	26.60
0.719	Ν	0.1	31.80	56.00	24.20	16.30	46.00	29.70
0.965	Ν	0.1	31.50	56.00	24.50	15.10	46.00	30.90
2.436	Ν	0.2	28.30	56.00	27.70	11.80	46.00	34.20
4.796	Ν	0.2	34.50	56.00	21.50	18.30	46.00	27.70
5.204	Ν	0.2	36.40	60.00	23.60	20.40	50.00	29.60
Table 6.49 Line Conducted Date with 902.11a (N)								

Notes:

Table 6-49. Line Conducted Data with 802.11a (N)

- 1.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 157. The emissions found were not affected by the choice of channel used during testing.
- 2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- 3.Factor (dB) = Cable loss (dB) + LISN insertion factor (dB)
- 4.QP/AV Level (dB $\mu$ V) = QP/AV Analyzer/Receiver Level (dB $\mu$ V) + Factor (dB)
- 5. Margin (dB) = QP/AV Limit (dB $\mu$ V) QP/AV Level (dB $\mu$ V)
- 6. Traces shown in plot are made using a peak detector.
- 7. Deviations to the Specifications: None.

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dogo 116 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 116 of 117
© 2014 PCTEST Engineering	Laboratory Inc	·		



#### CONCLUSION 7.0

The data collected relate only the item(s) tested and show that the Samsung Portable Handset FCC ID: A3LSMG900I is in compliance with Part 15C of the FCC Rules.

FCC ID: A3LSMG900I		FCC Pt. 15.247 802.11a/b/g/n/ac MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N:	Test Dates:	EUT Type:		Dego 117 of 117
0Y1403070541.A3L	1/27 - 2/25/2014	Portable Handset		Page 117 of 117
© 2014 PCTEST Engineering I	Laboratory, Inc.	·		V 5.0