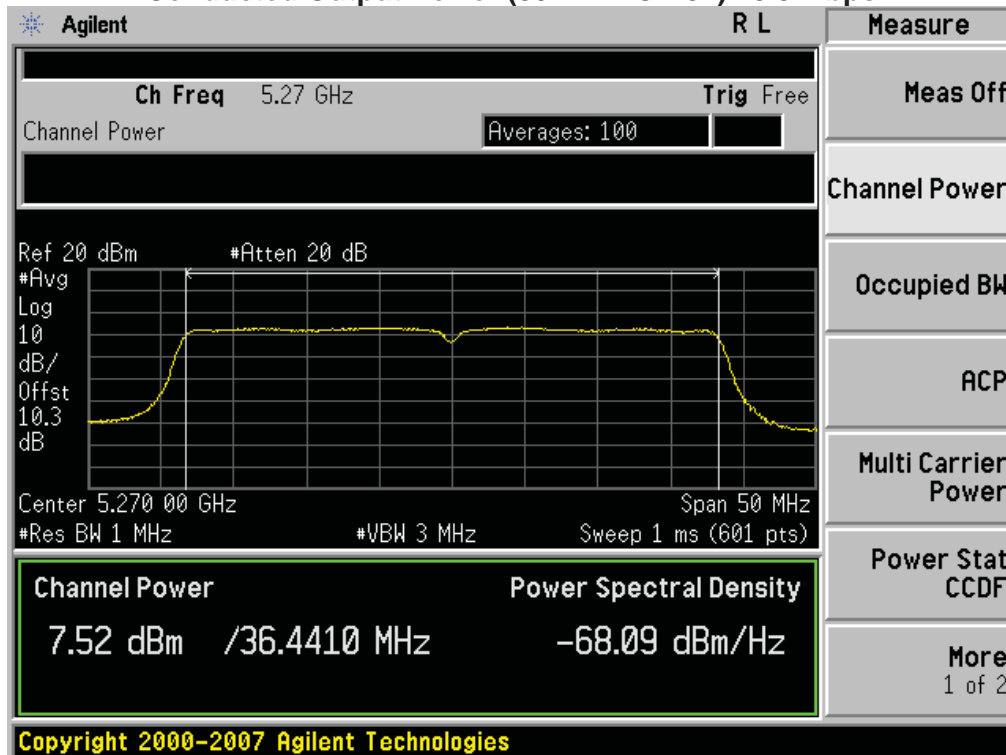
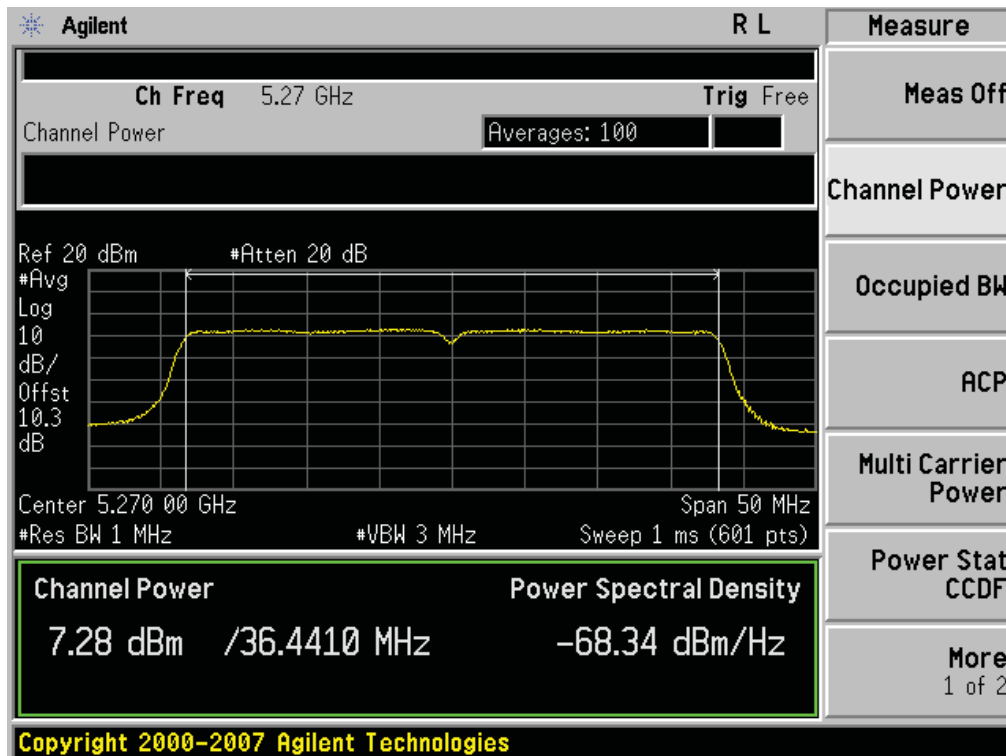


▣ RESULT PLOTS (5270 MHz ~5310 MHz)

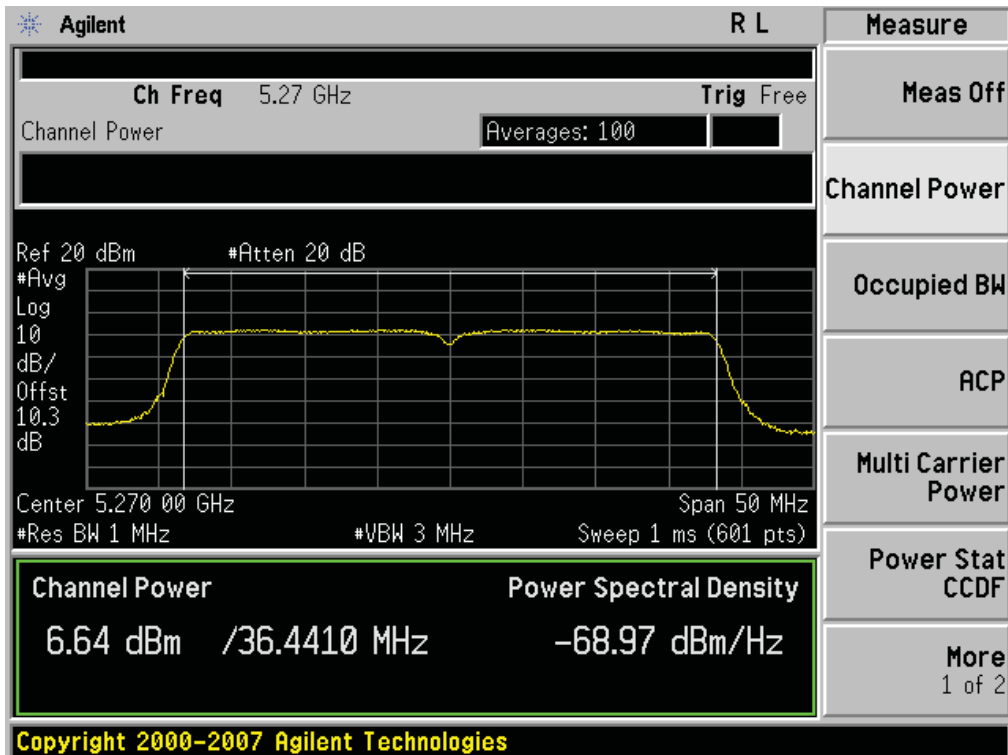
Conducted Output Power (802.11n-CH 54) 13.5 Mbps



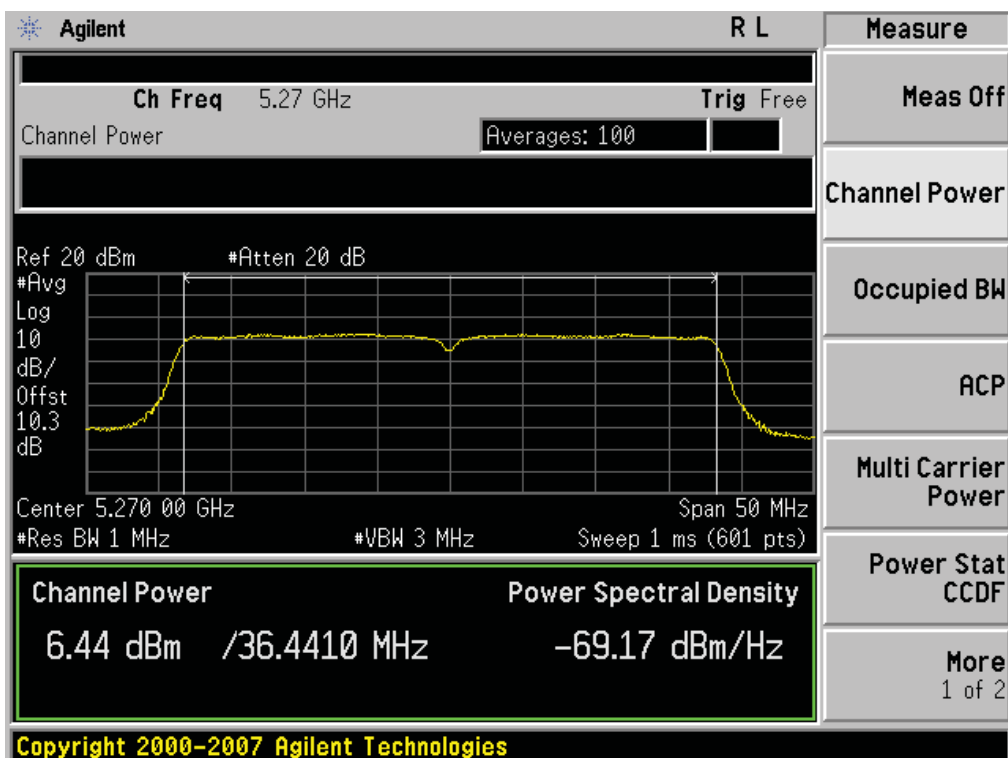
Conducted Output Power (802.11n-CH 54) 27 Mbps



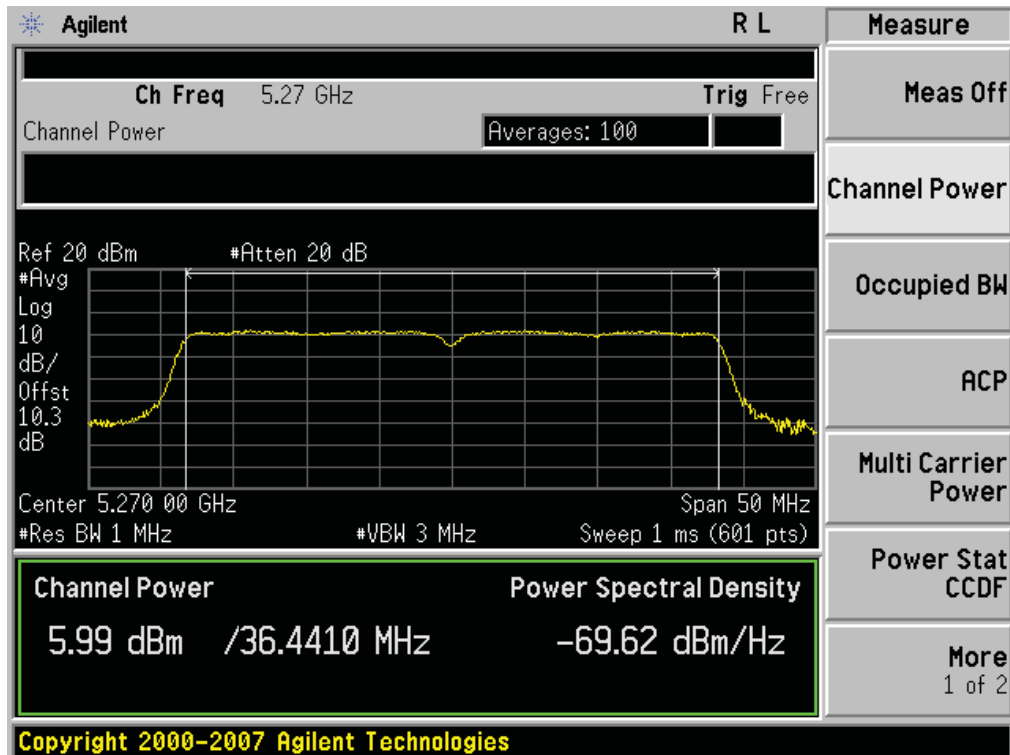
Conducted Output Power (802.11n-CH 54) 40.5 Mbps



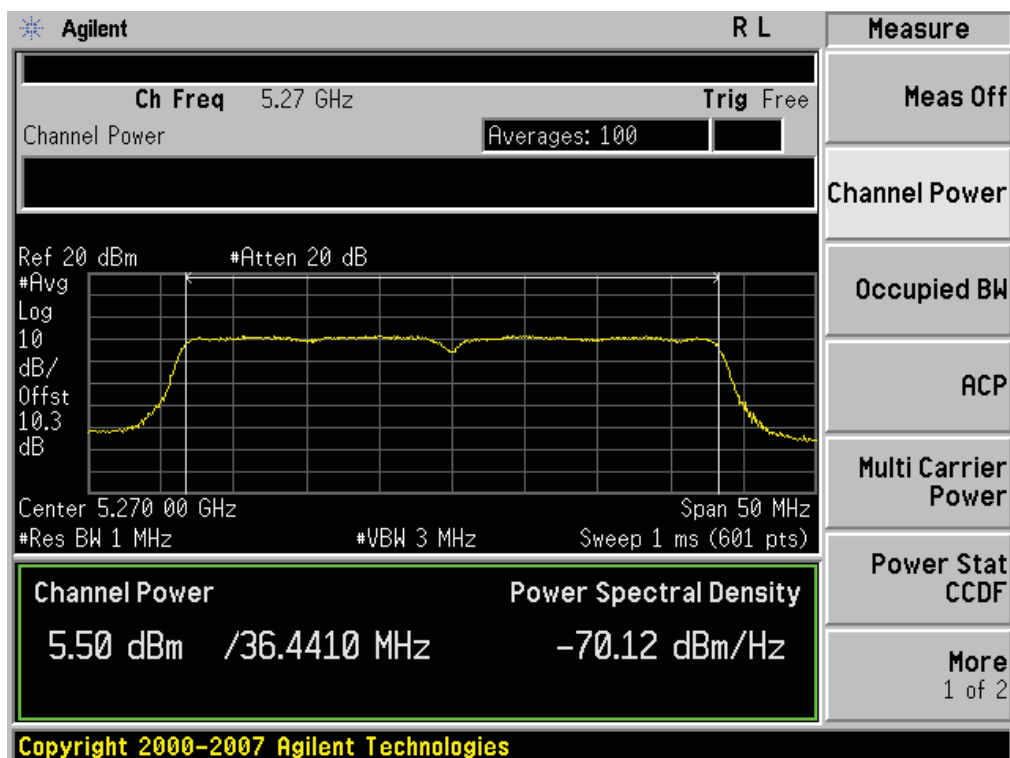
Conducted Output Power (802.11n-CH 54) 54 Mbps



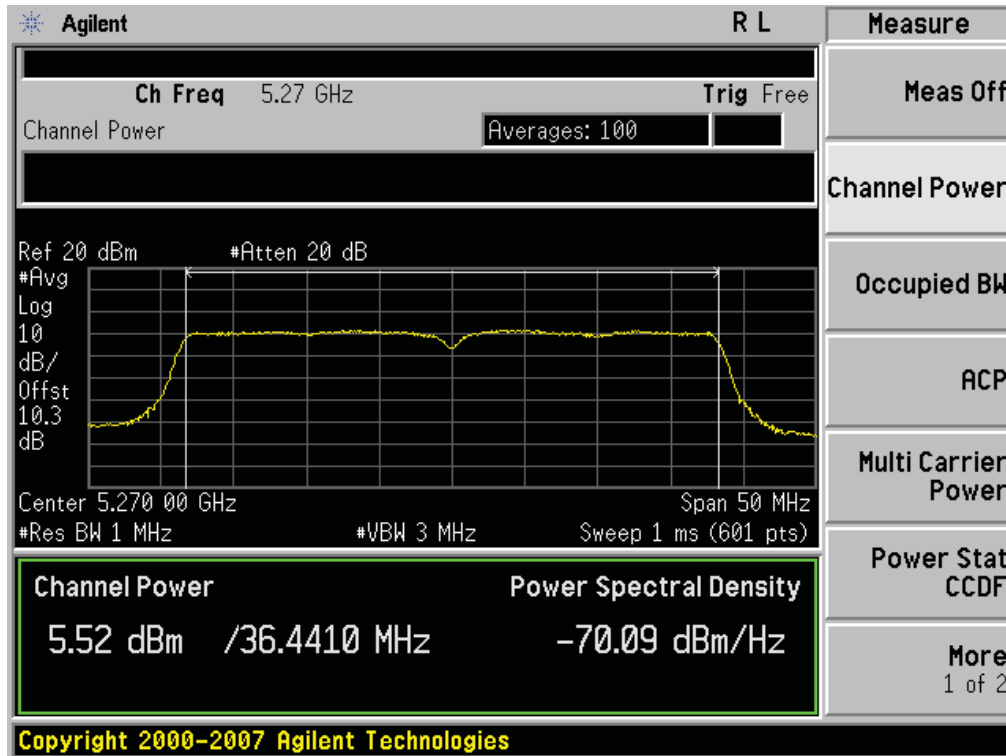
Conducted Output Power (802.11n-CH 54) 81 Mbps



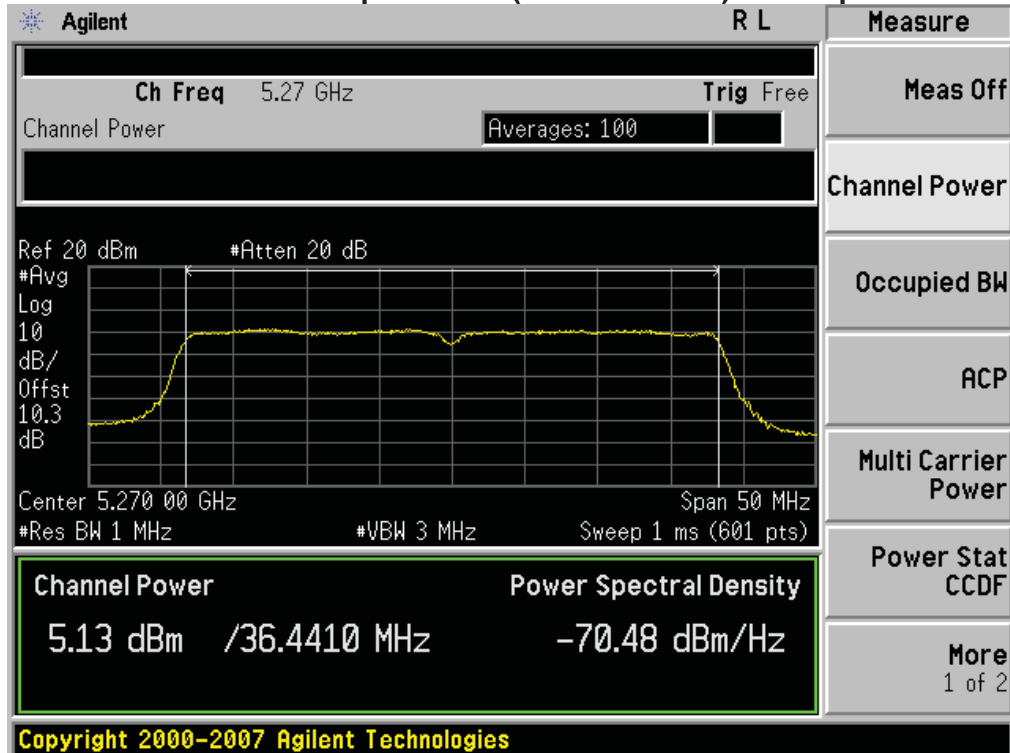
Conducted Output Power (802.11n-CH 54) 108 Mbps



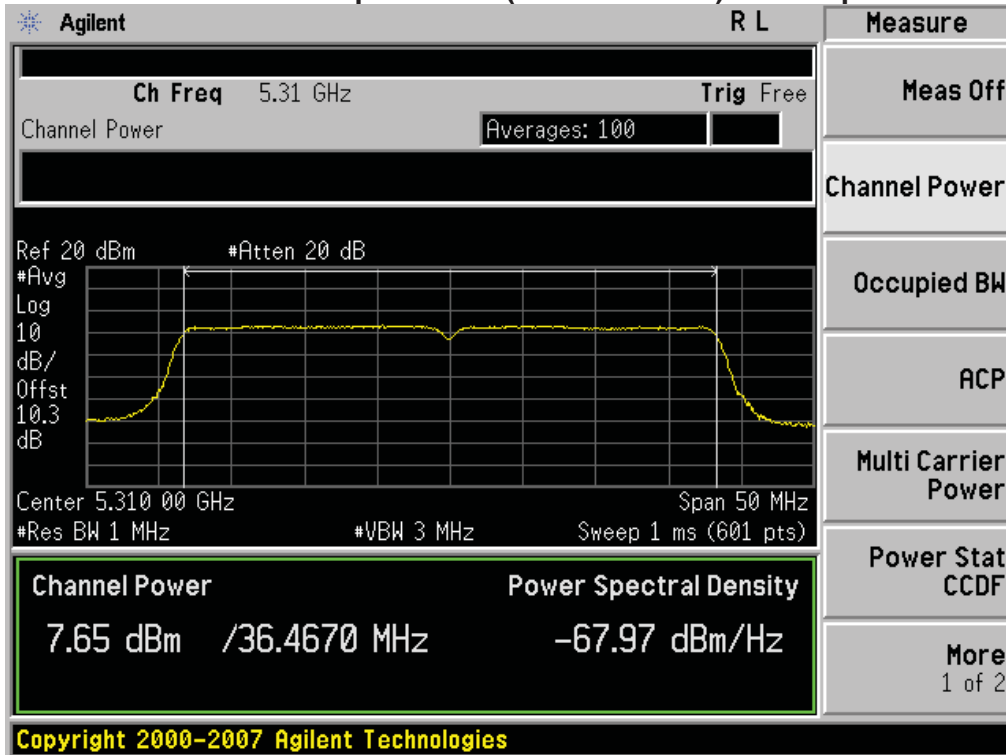
Conducted Output Power (802.11n-CH 54) 121.5 Mbps



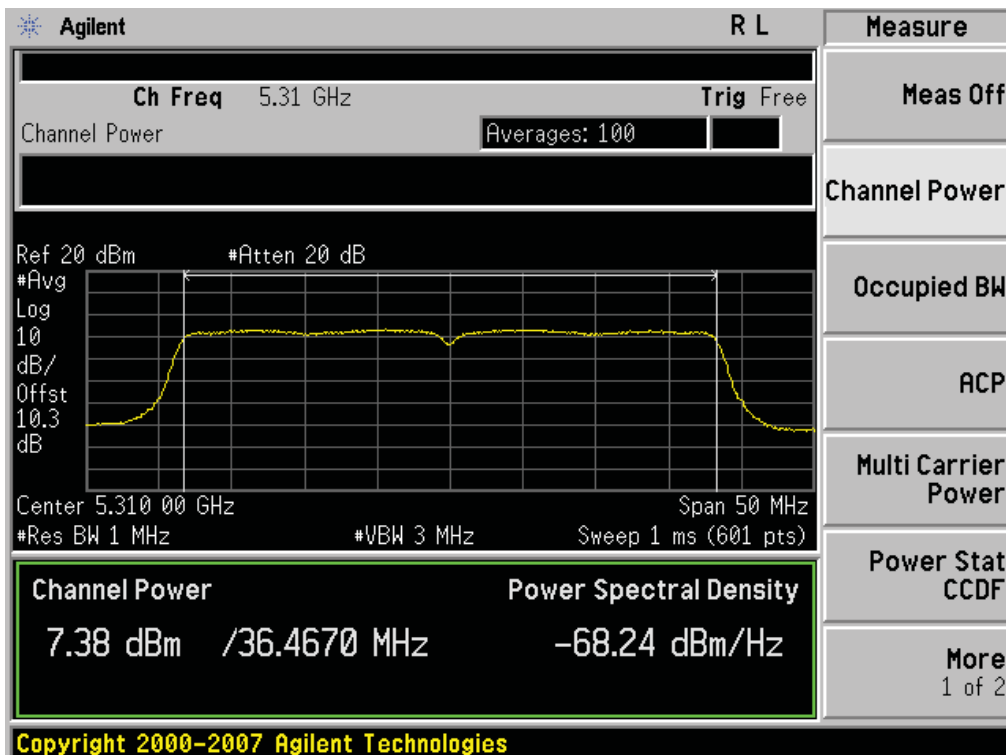
Conducted Output Power (802.11n-CH 54) 135 Mbps



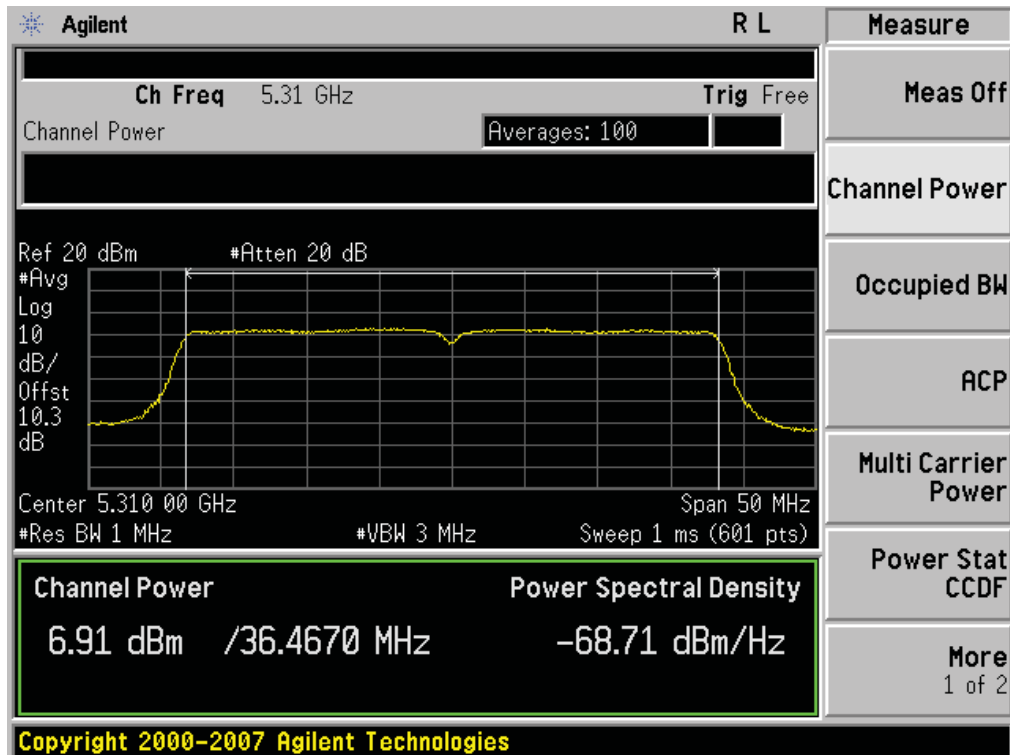
Conducted Output Power (802.11n-CH 62) 13.5 Mbps



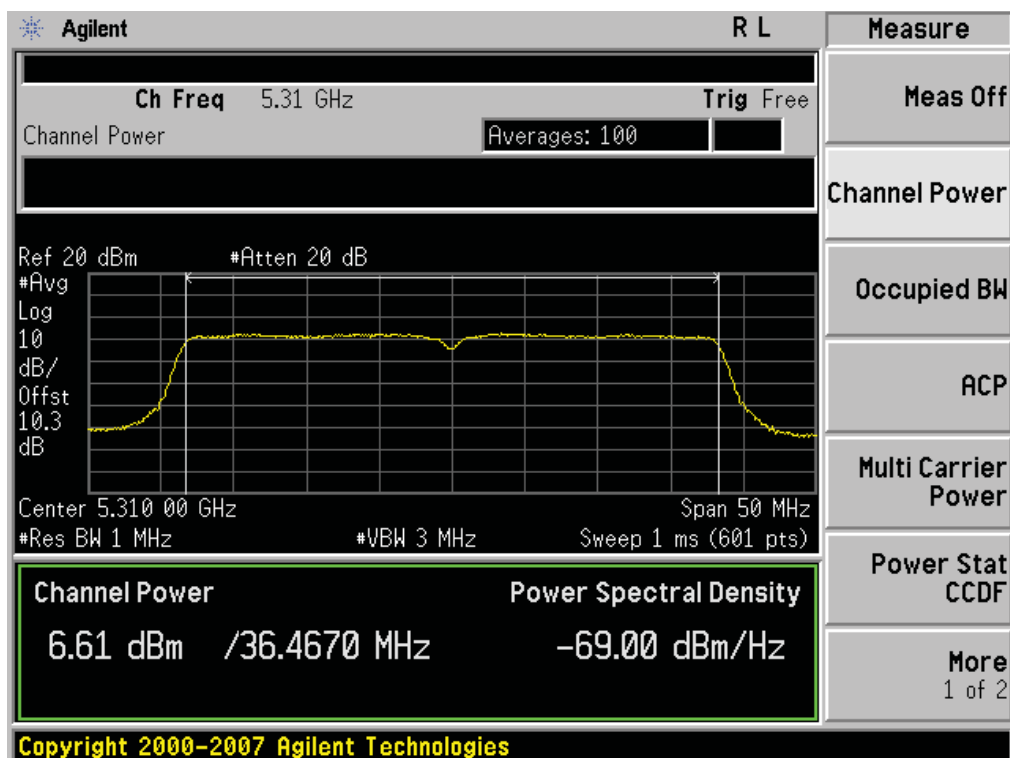
Conducted Output Power (802.11n-CH 62) 27 Mbps



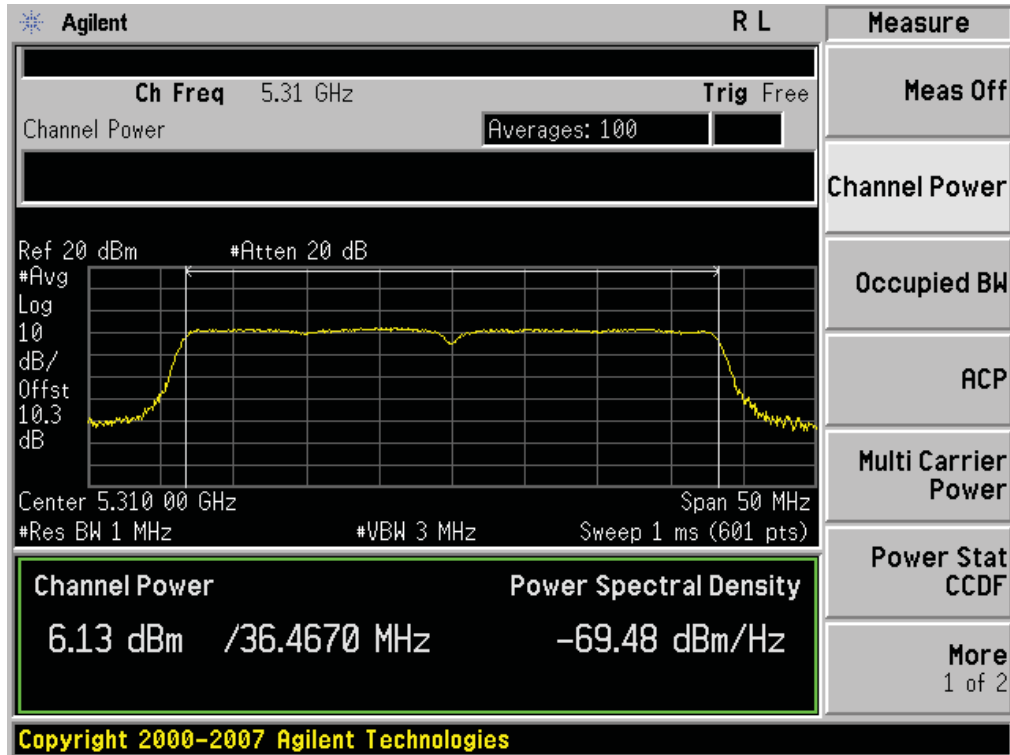
Conducted Output Power (802.11n-CH 62) 40.5 Mbps



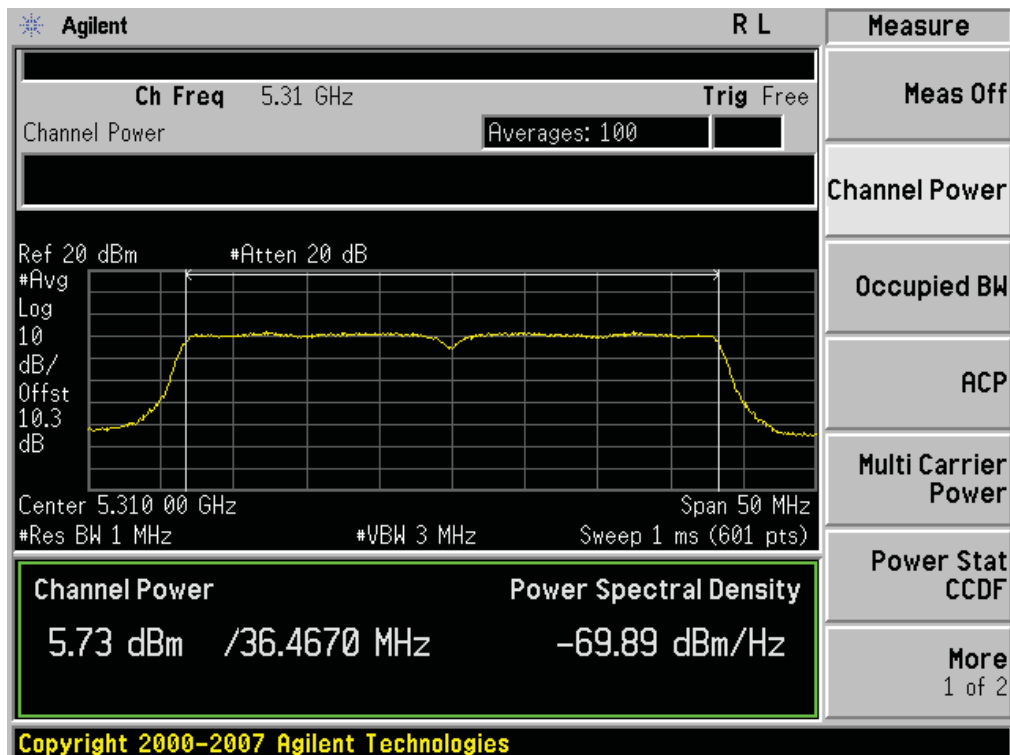
Conducted Output Power (802.11n-CH 62) 54 Mbps



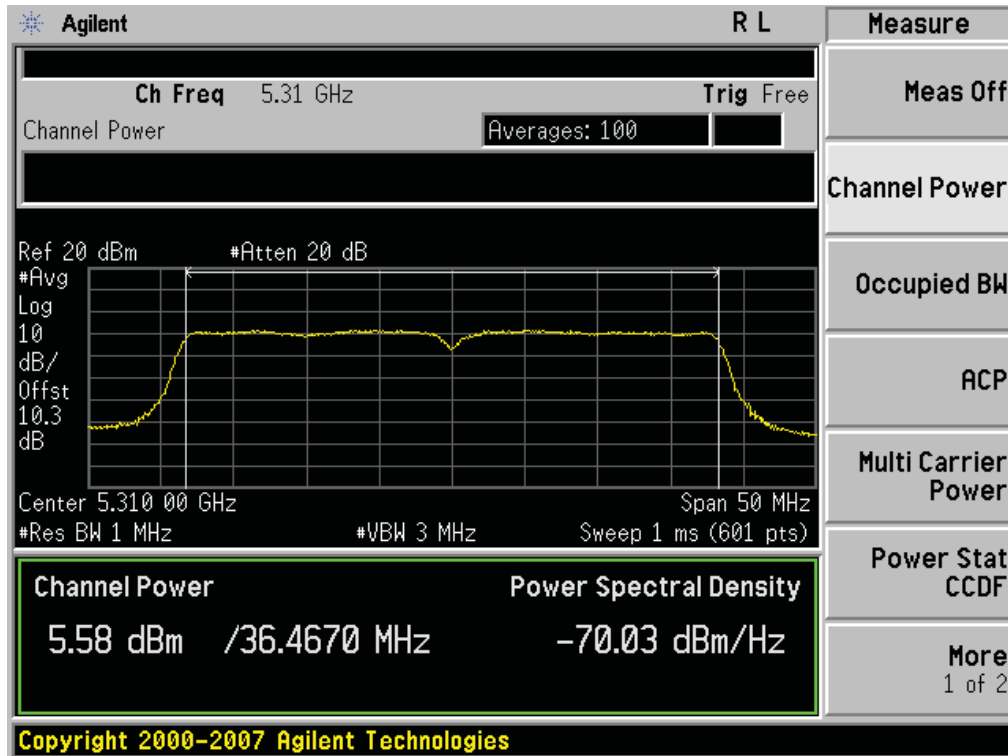
Conducted Output Power (802.11n-CH 62) 81 Mbps



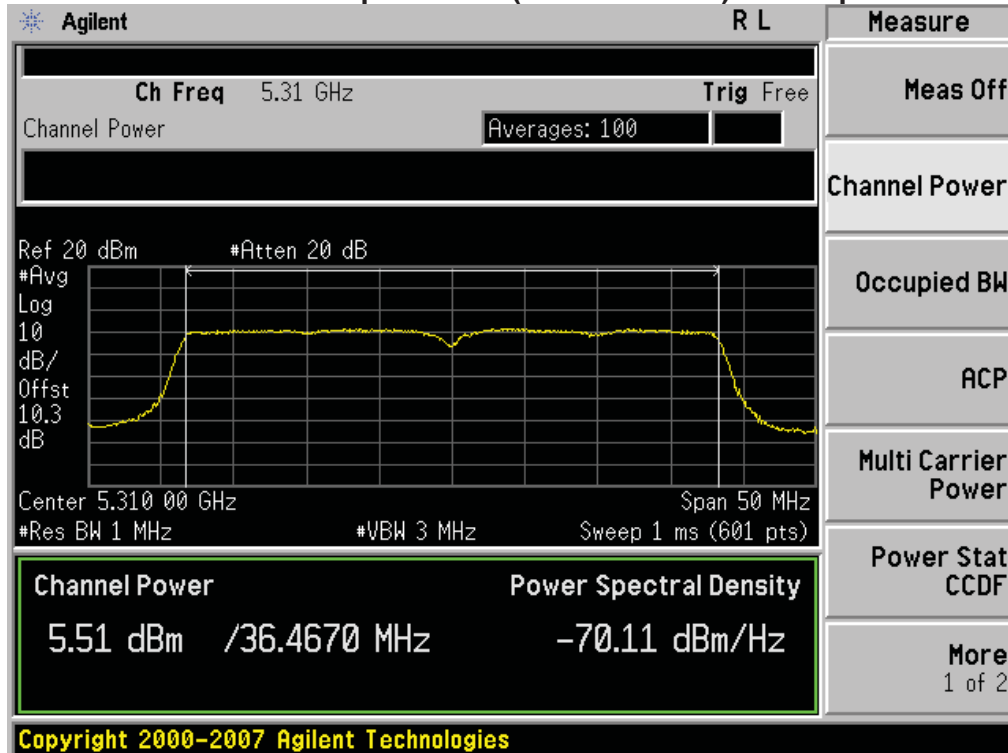
Conducted Output Power (802.11n-CH 62) 108 Mbps



Conducted Output Power (802.11n-CH 62) 121.5 Mbps

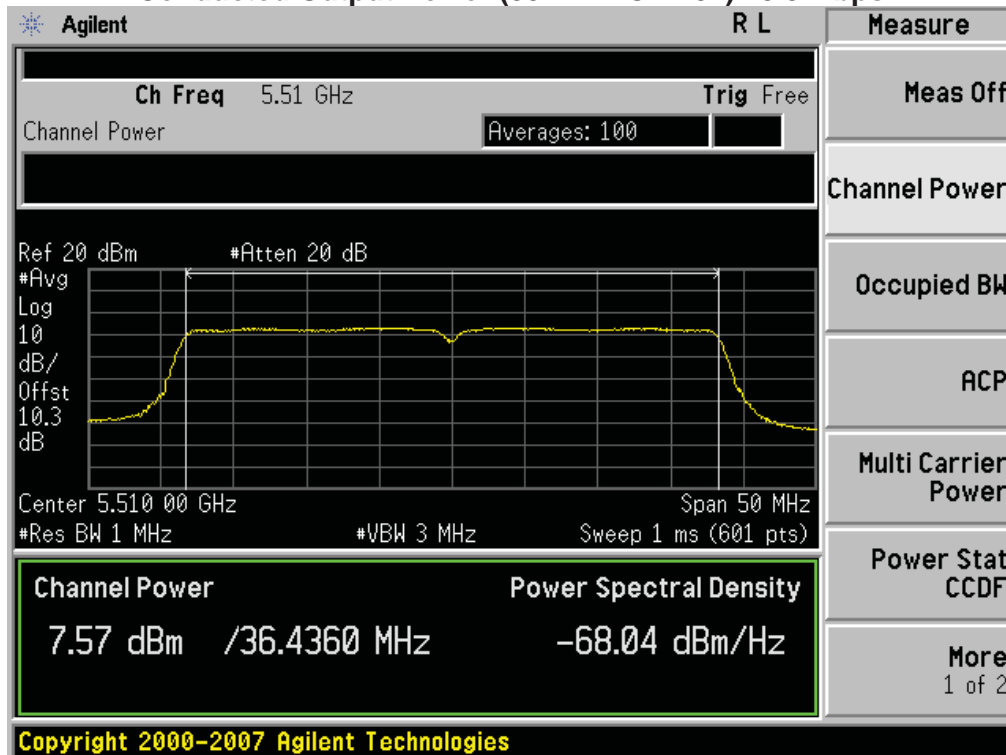


Conducted Output Power (802.11n-CH 62) 135 Mbps

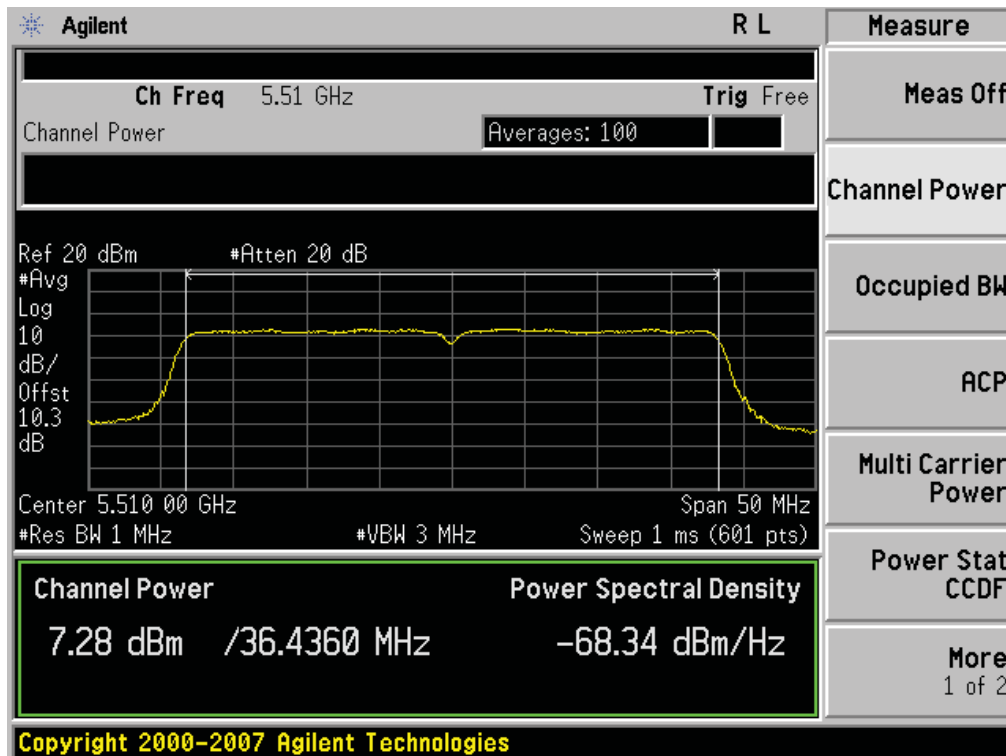


▣ RESULT PLOTS (5510 MHz ~5670 MHz)

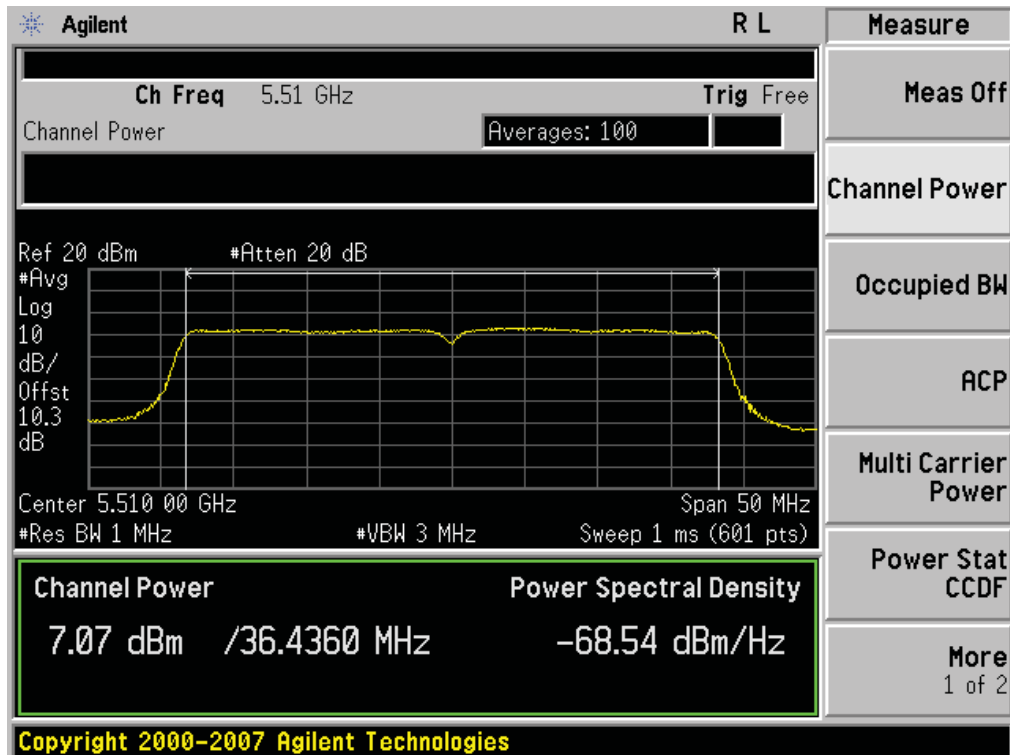
Conducted Output Power (802.11n-CH 102) 13.5 Mbps



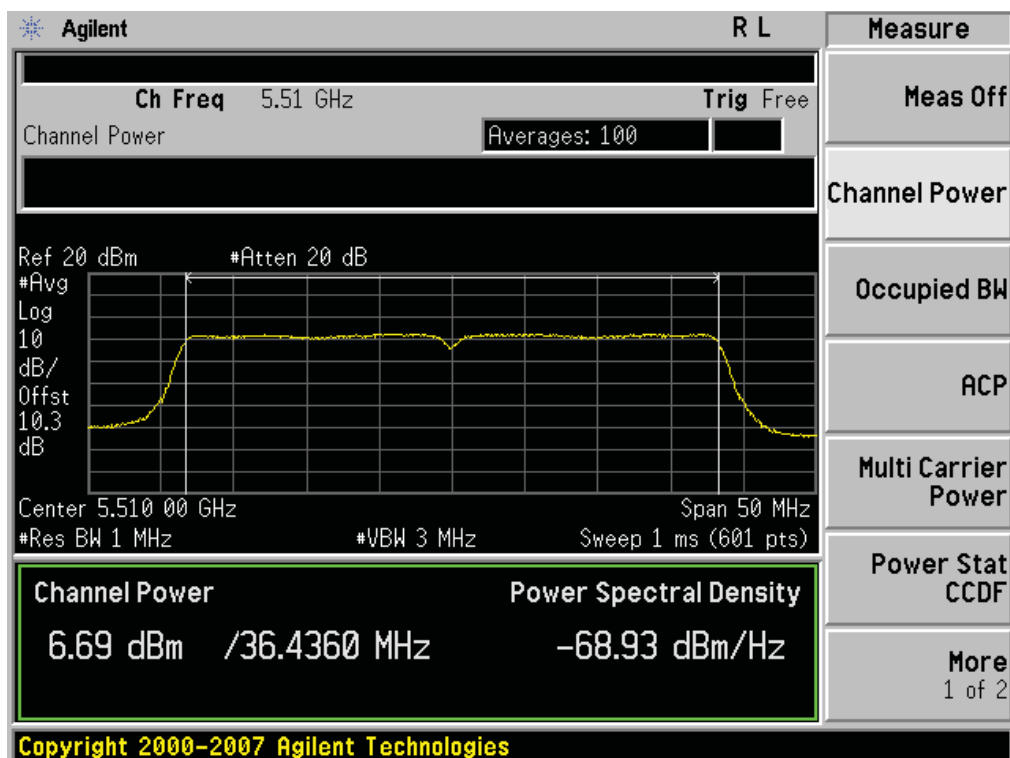
Conducted Output Power (802.11n-CH 102) 27 Mbps



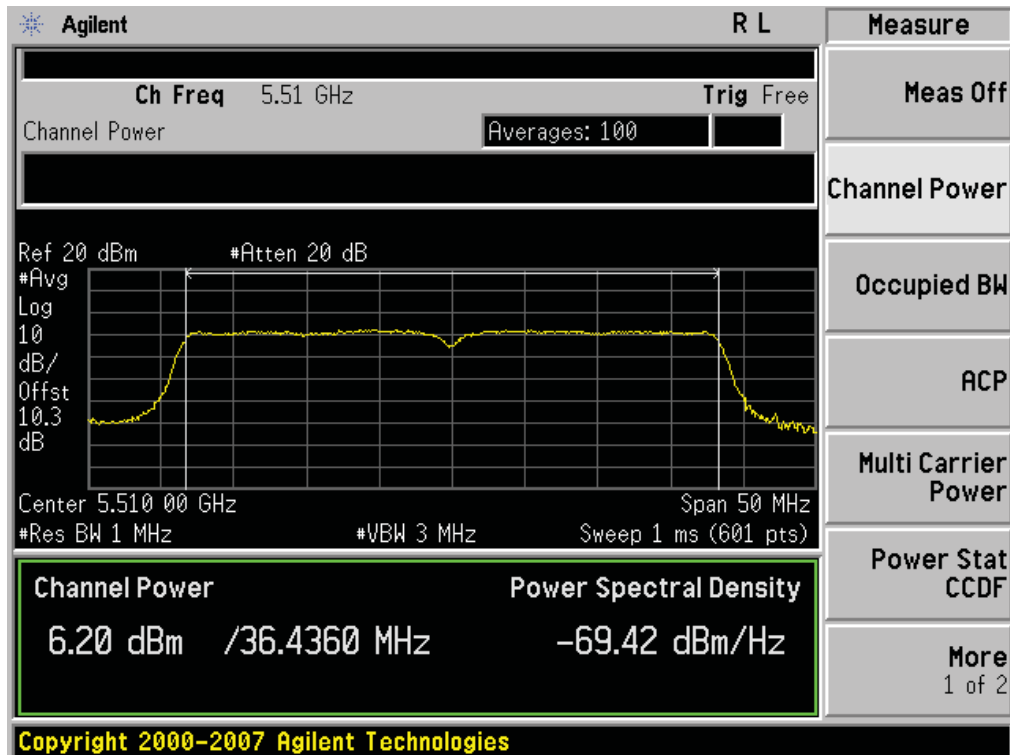
Conducted Output Power (802.11n-CH 102) 40.5 Mbps



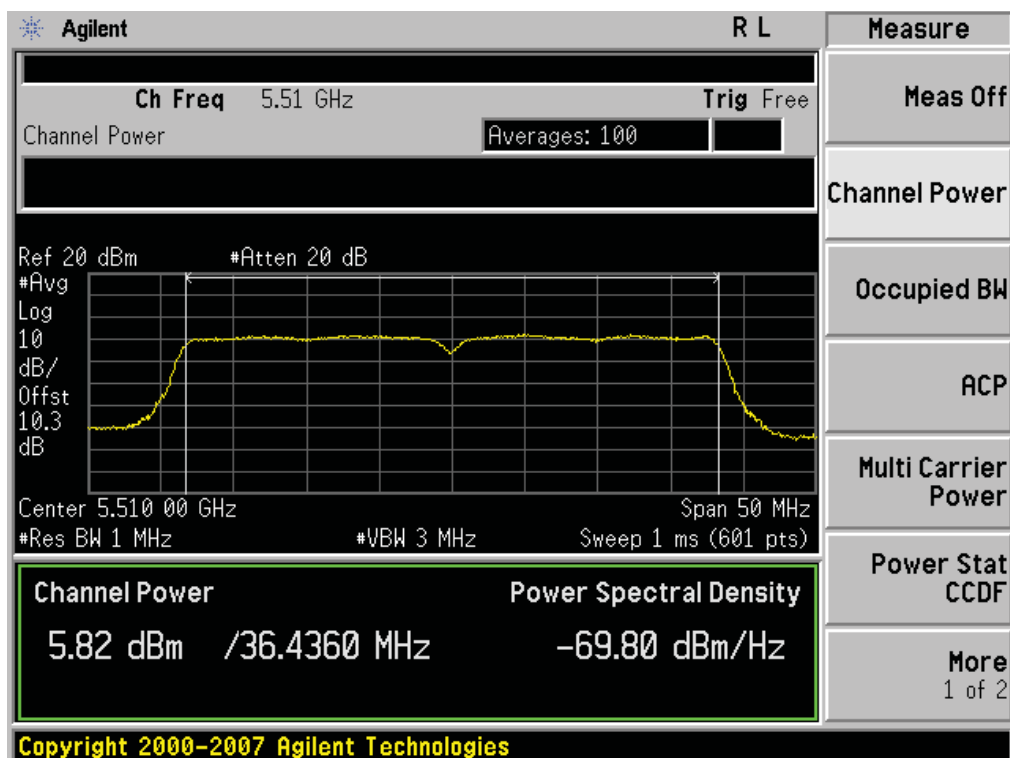
Conducted Output Power (802.11n-CH 102) 54 Mbps



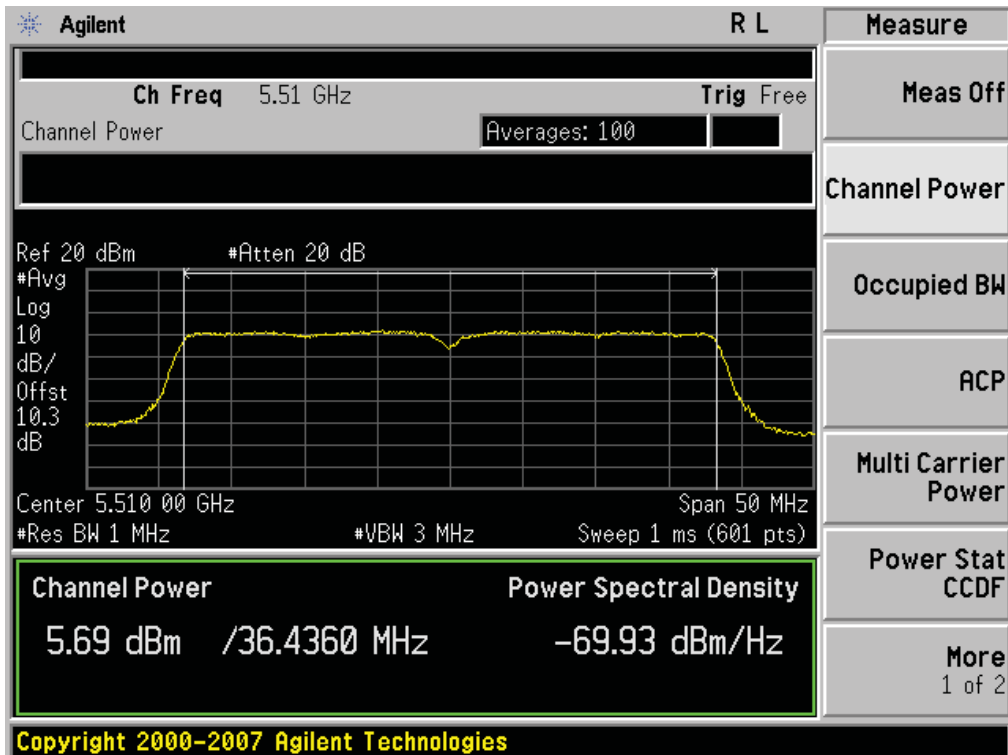
Conducted Output Power (802.11n-CH 102) 81 Mbps



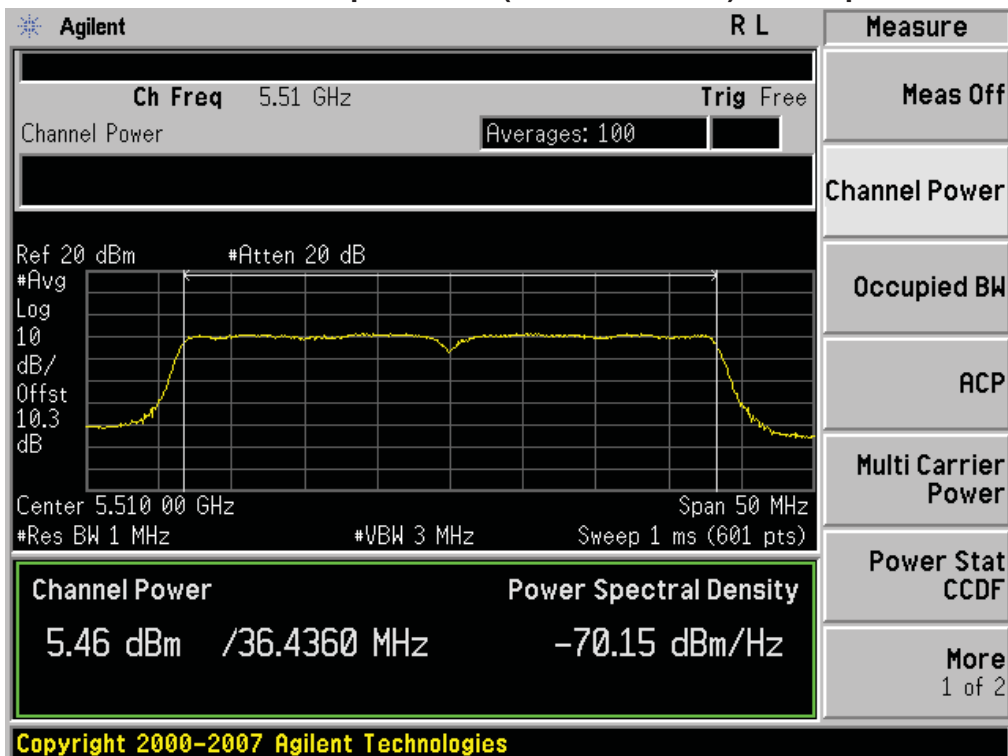
Conducted Output Power (802.11n-CH 102) 108 Mbps



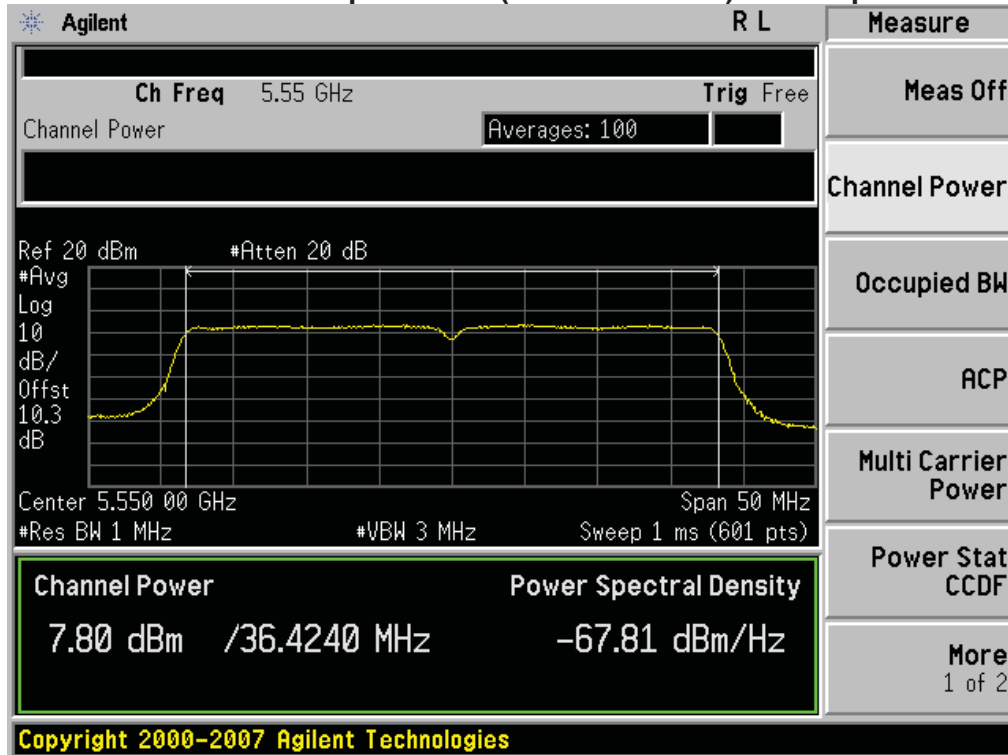
Conducted Output Power (802.11n-CH 102) 121.5 Mbps



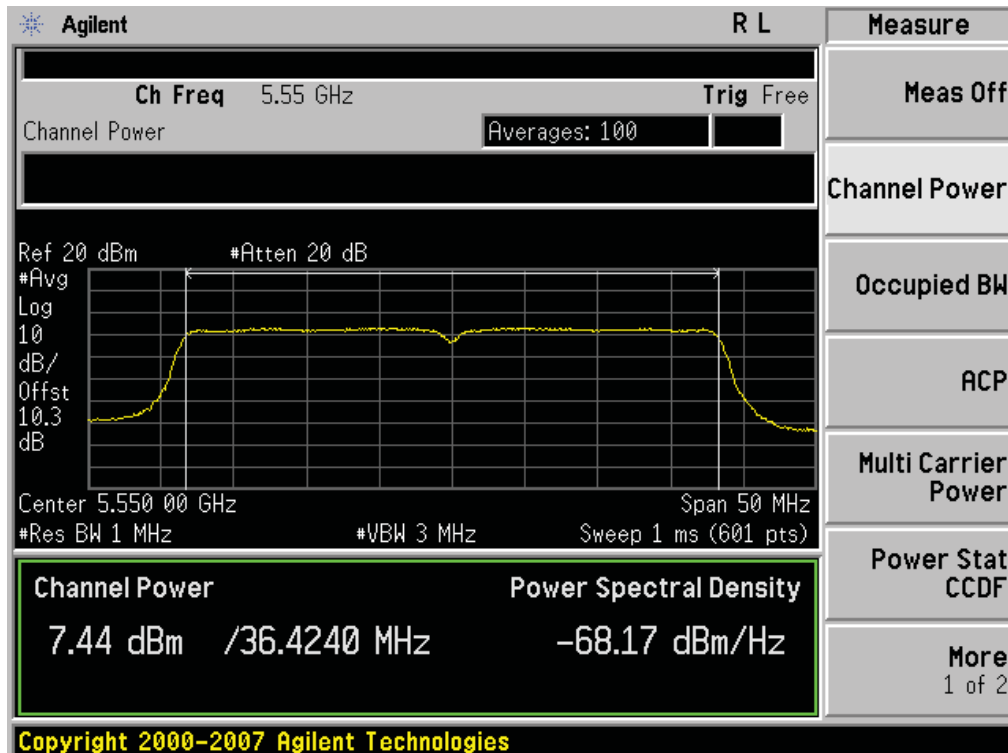
Conducted Output Power (802.11n-CH 102) 135 Mbps



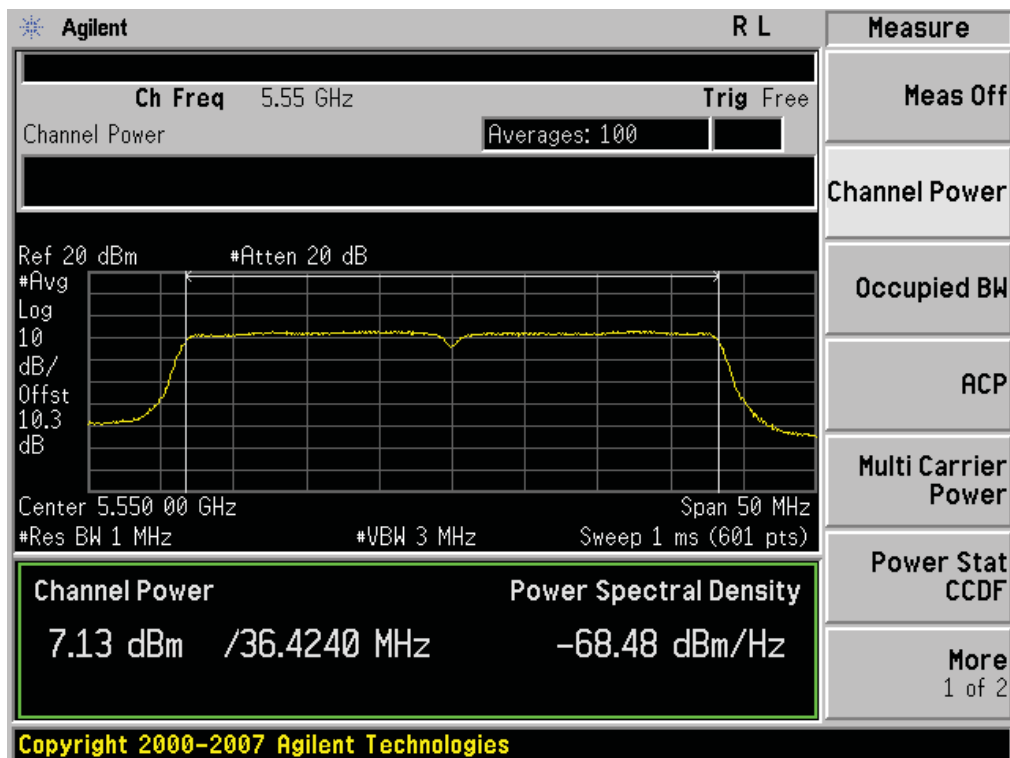
Conducted Output Power (802.11n-CH 110) 13.5 Mbps



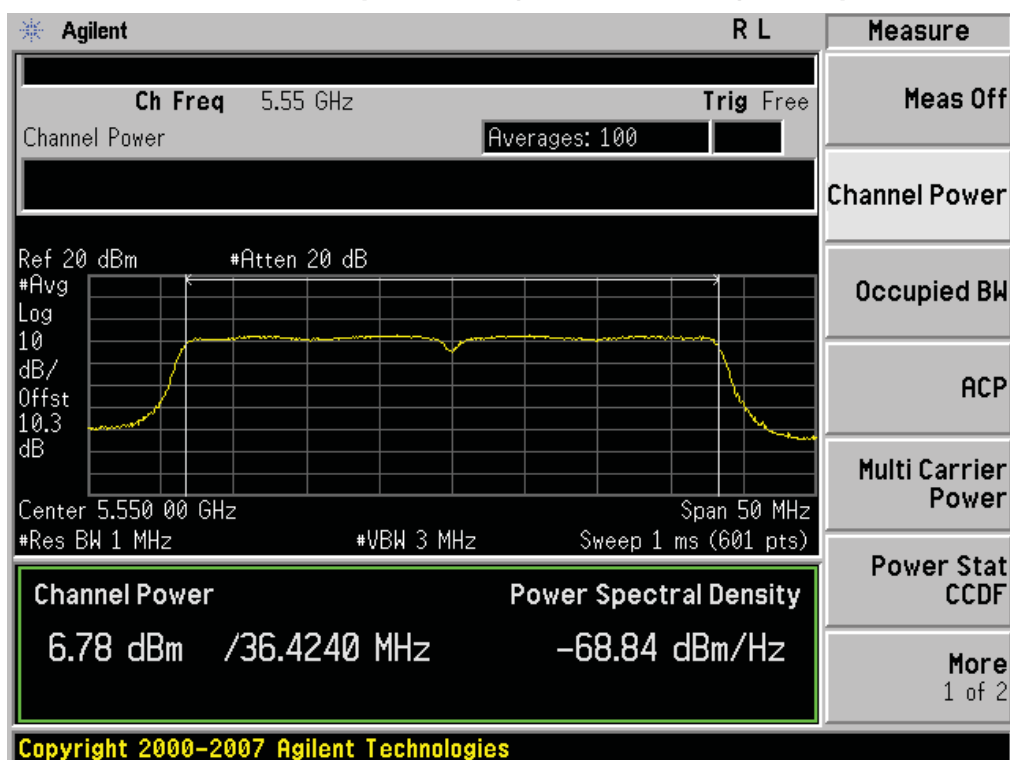
Conducted Output Power (802.11n-CH 110) 27 Mbps



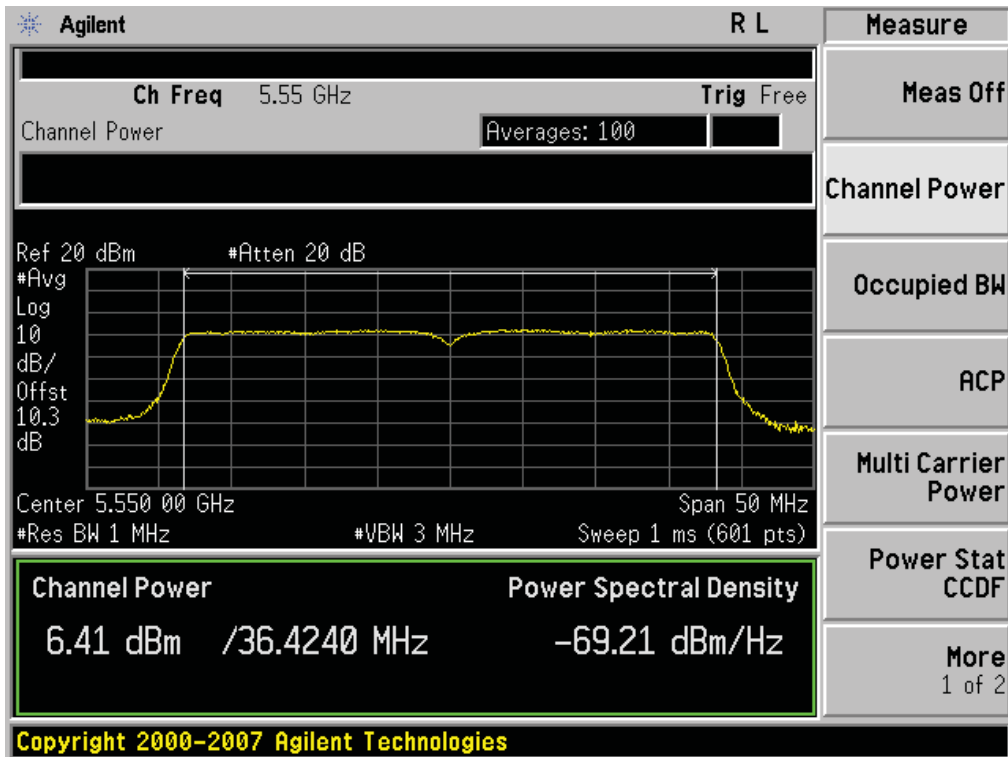
Conducted Output Power (802.11n-CH 110) 40.5 Mbps



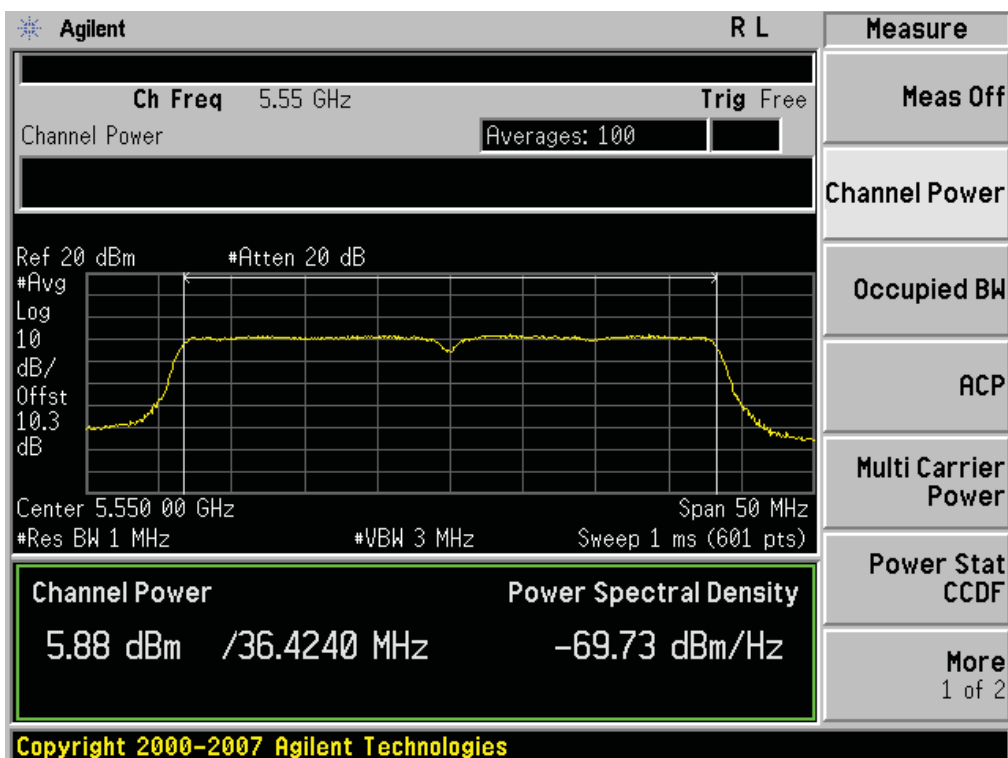
Conducted Output Power (802.11n-CH 110) 54 Mbps



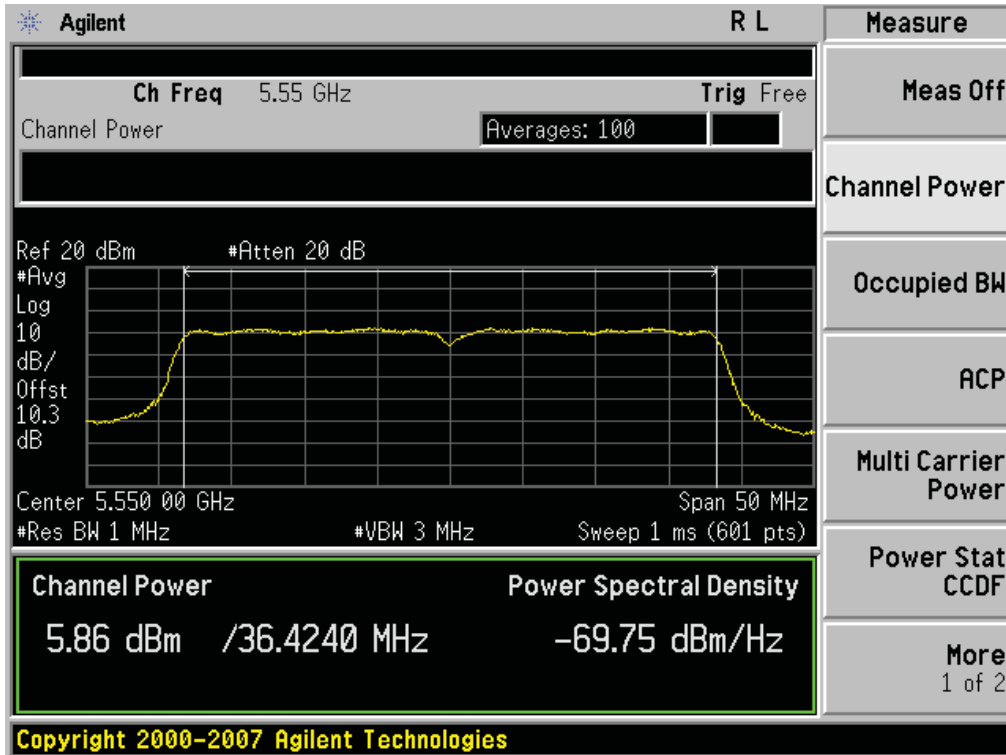
Conducted Output Power (802.11n-CH 110) 81 Mbps



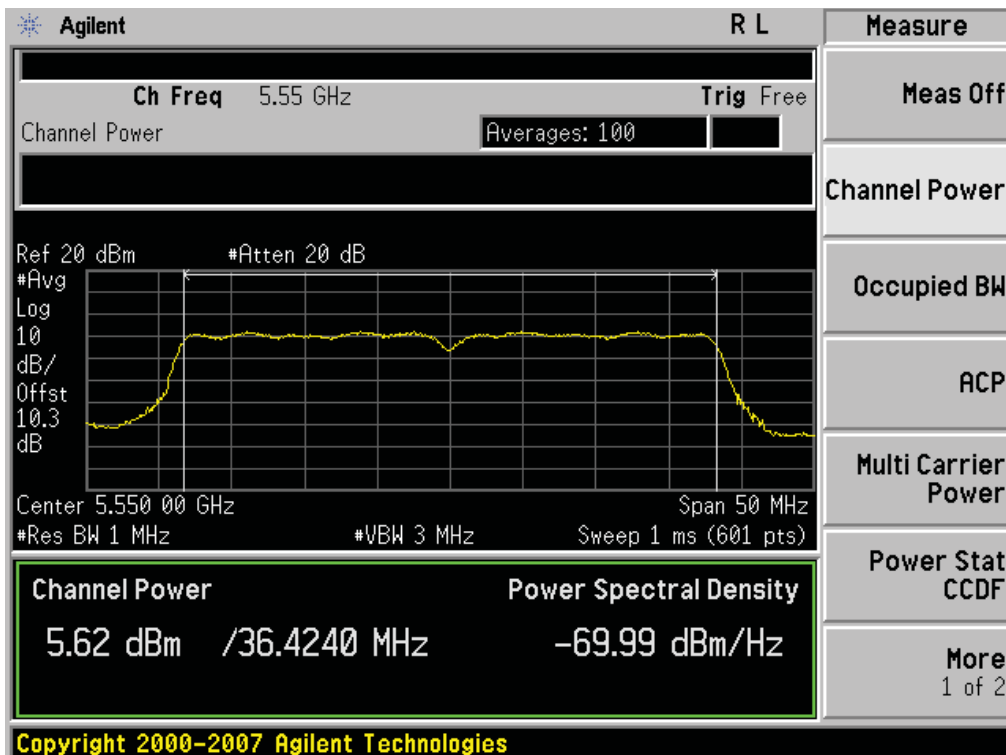
Conducted Output Power (802.11n-CH 110) 108 Mbps



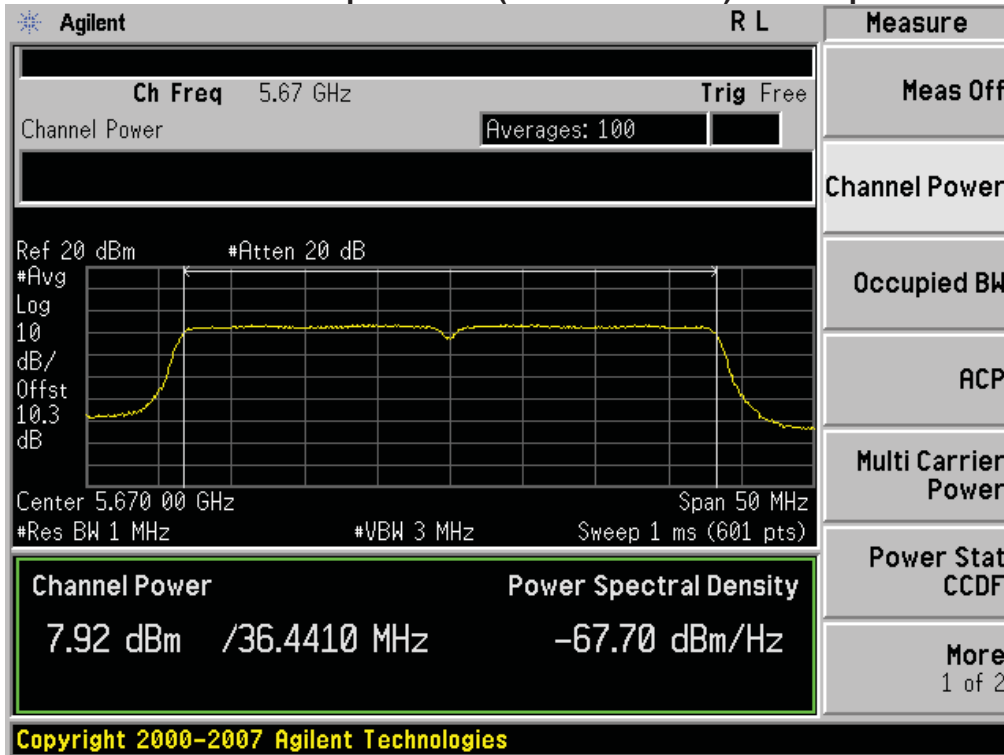
Conducted Output Power (802.11n-CH 110) 121.5 Mbps



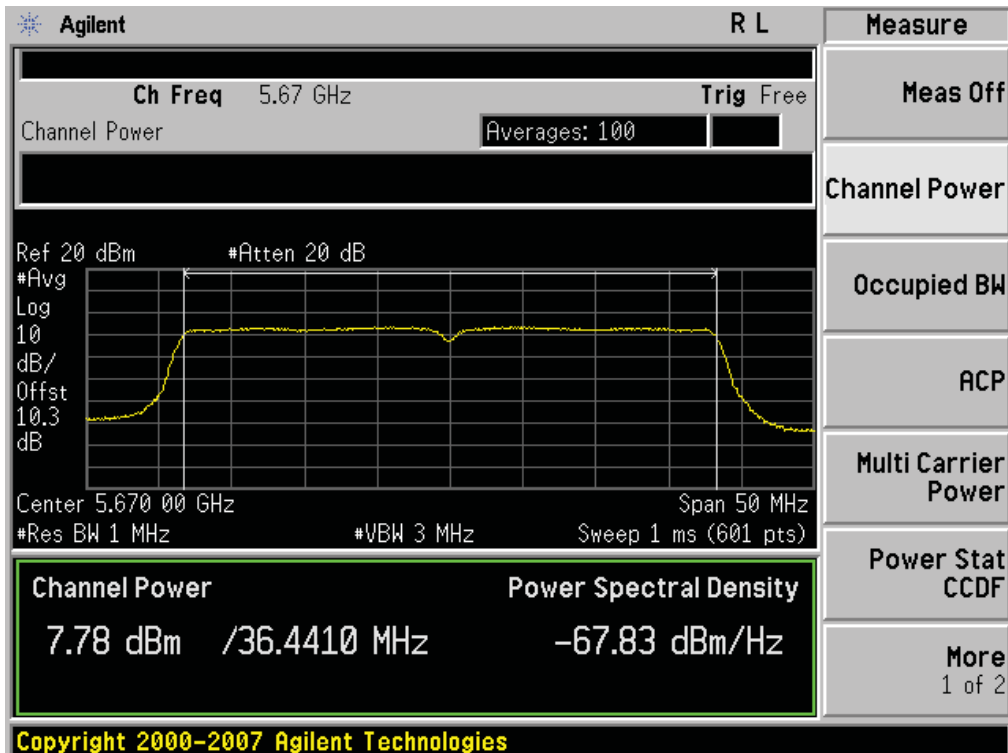
Conducted Output Power (802.11n-CH 110) 135 Mbps



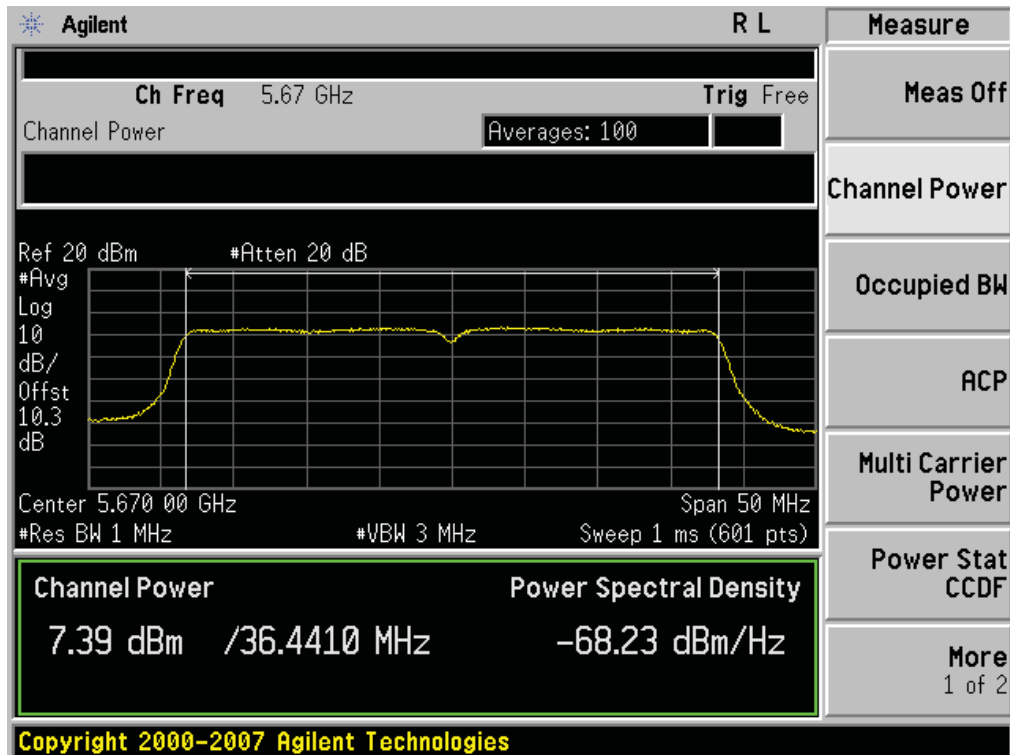
Conducted Output Power (802.11n-CH 134) 13.5 Mbps



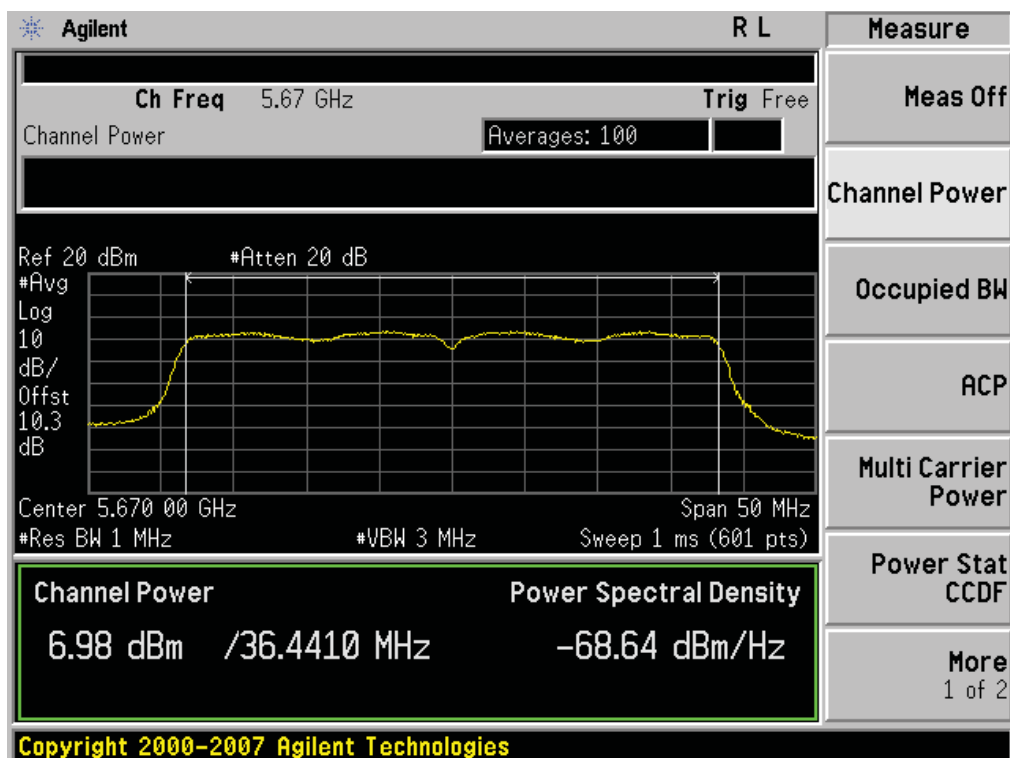
Conducted Output Power (802.11n-CH 134) 27 Mbps



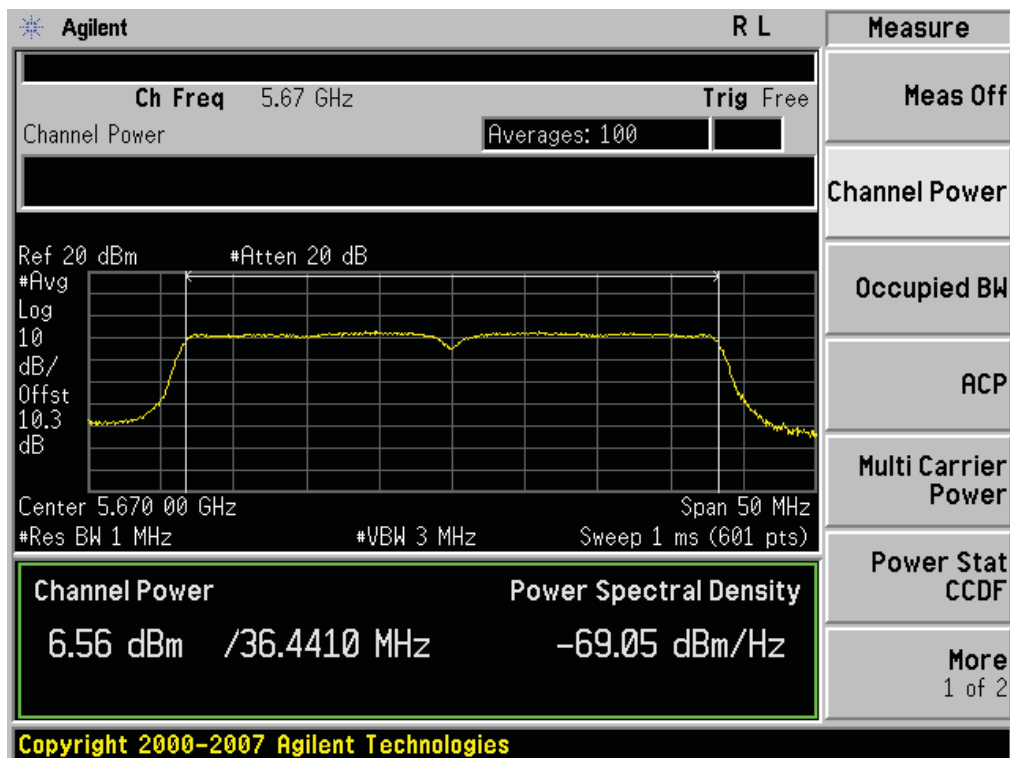
Conducted Output Power (802.11n-CH 134) 40.5 Mbps



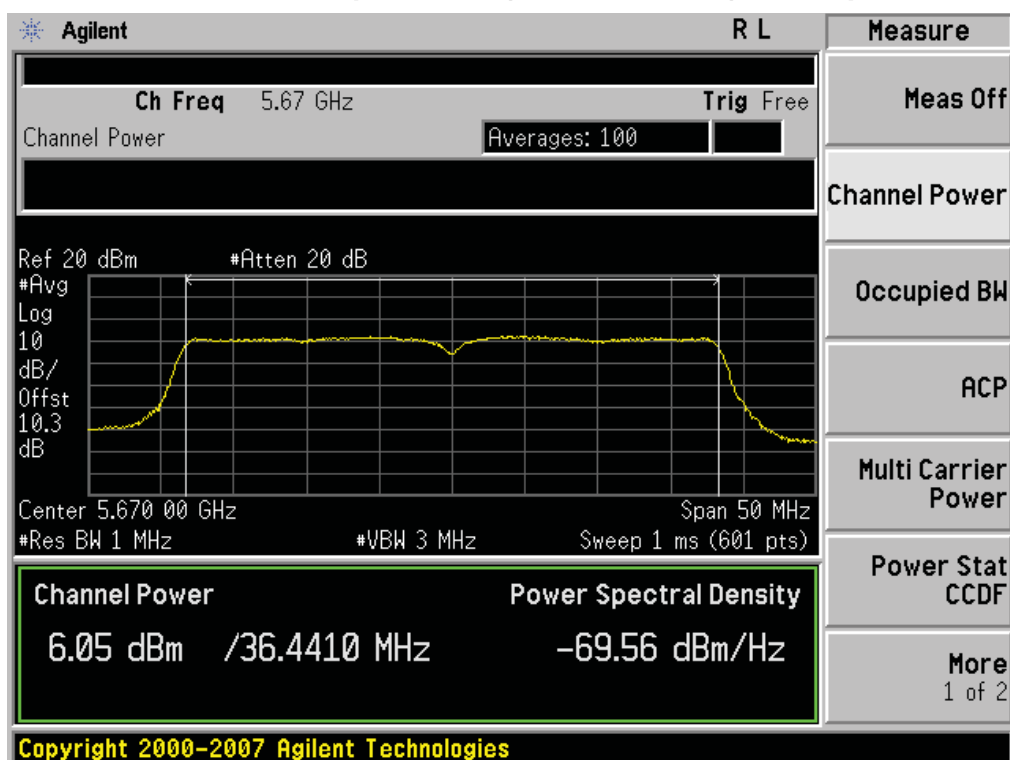
Conducted Output Power (802.11n-CH 134) 54 Mbps



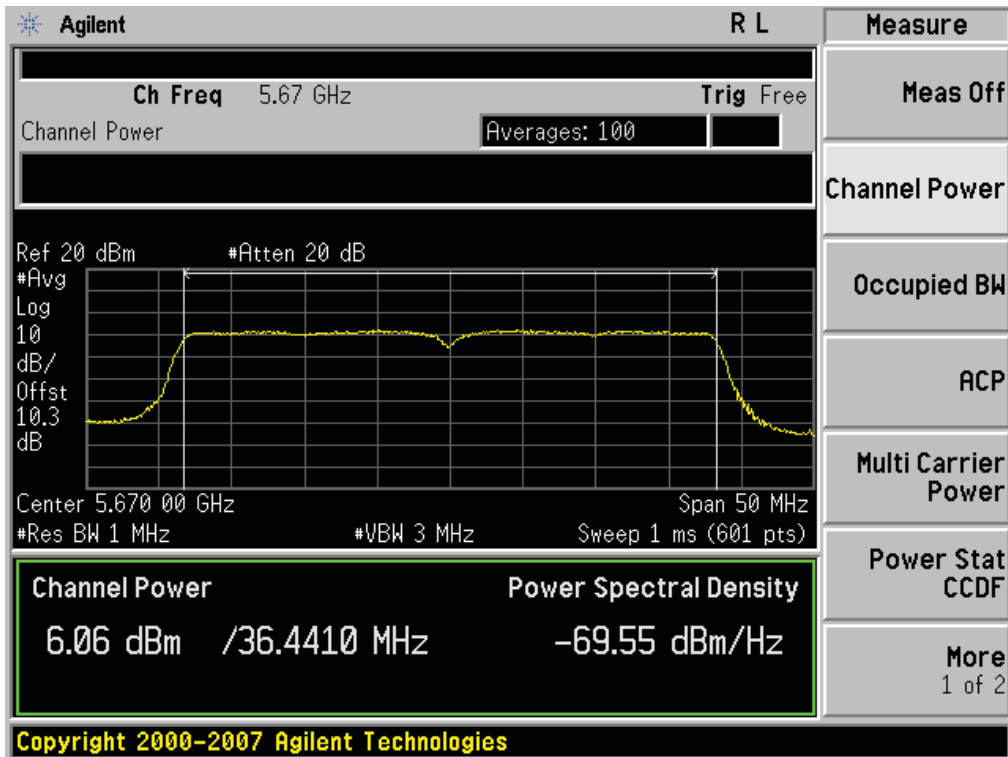
Conducted Output Power (802.11n-CH 134) 81 Mbps



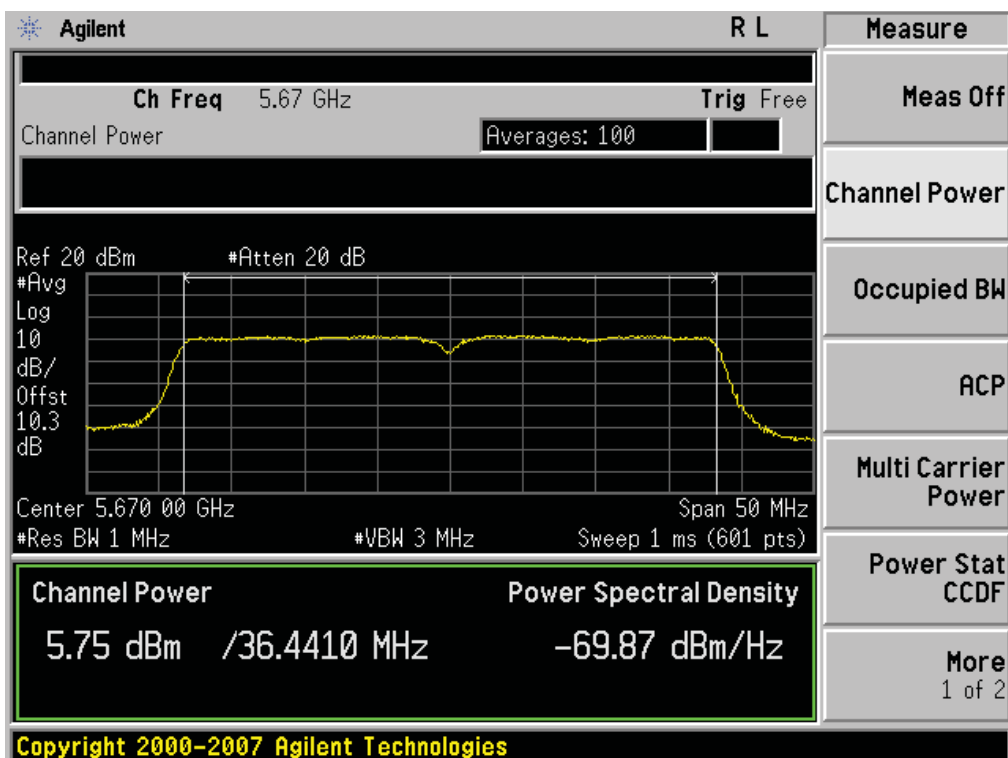
Conducted Output Power (802.11n-CH 134) 108 Mbps



Conducted Output Power (802.11n-CH 134) 121.5 Mbps



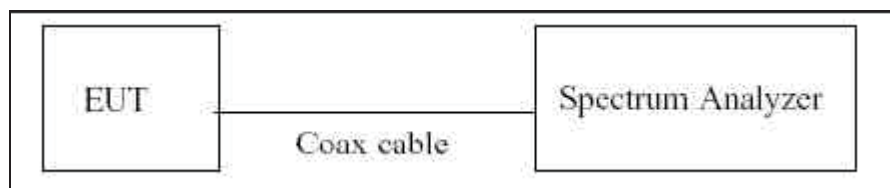
Conducted Output Power (802.11n-CH 134) 135 Mbps



8.3 POWER SPECTRAL DENSITY

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies. The maximum permissible peak power spectral density is 4 dBm/ MHz in the 5.15 GHz – 5.25 GHz band and 11 dBm/ MHz in the 5.25 GHz – 5.35 GHz and 5.47 GHz – 5.725 GHz bands

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

We tested according to Method in KDB 789033(issued 9/26/2012).

The spectrum analyzer is set to :

1. Set span to encompass the entire emission bandwidth(EBW) of the signal.
2. RBW = 1 MHz.
3. VBW \geq 3 MHz.
4. Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$.
5. Sweep time = auto.
6. Detector = RMS(i.e., power averaging), if available. Otherwise, use sample detector mode.
7. Do not use sweep triggering. Allow the sweep to “free run”.
8. Trace average at least 100 traces in power averaging(RMS) mode
9. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
10. If Method SA-2 was used, add $10 \log(1/x)$, where x is the duty cycle, to the peak of the spectrum.

▣ Sample Calculation

PSD = Reading Value + ATT loss + Cable loss(1 ea)

Output Power = -5 dBm + 10 dB + 0.8 dB = 15.8 dBm

Note :

1. Spectrum reading values are not plot data. The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.

FCC PT.15.247 TEST REPORT		FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct		FCC ID: ZNFL05E

2. Spectrum offset = Attenuator loss + Cable loss
3. We apply to the offset in the 5.2 GHz, 5.3 GHz and 5.6 GHz range that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table.

Band	Frequency(MHz)	Loss(dB)
UNII 1	5180	10.26
	5190	10.22
	5200	10.18
	5230	10.19
	5240	10.19
UNII 2	5260	10.18
	5270	10.17
	5300	10.14
	5310	10.11
	5320	10.09
UNII 3	5500	10.20
	5510	10.20
	5550	10.23
	5580	10.24
	5670	10.36
	5700	10.40

(Actual value of loss for the attenuator and cable combination)

▣ TEST RESULTS

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result		
			Power Density (dBm)	Limit (dBm)	Pass/Fail
5180	36	802.11a	-5.551	4	Pass
5200	40		-5.773	4	Pass
5240	48		-5.508	4	Pass
5260	52	802.11a	-5.156	11	Pass
5300	60		-5.253	11	Pass
5320	64		-5.080	11	Pass
5500	100	802.11a	-4.791	11	Pass
5580	116		-4.617	11	Pass
5700	140		-4.937	11	Pass

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result		
			Power Density (dBm)	Limit (dBm)	Pass/Fail
5180	36	802.11n_20MHz BW	-5.683	4	Pass
5200	40		-5.472	4	Pass
5240	48		-5.061	4	Pass
5260	52	802.11n_20MHz BW	-4.976	11	Pass
5300	60		-4.833	11	Pass
5320	64		-4.882	11	Pass
5500	100	802.11n_20MHz BW	-4.441	11	Pass
5580	116		-4.577	11	Pass
5700	140		-4.884	11	Pass

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result		
			Power Density (dBm)	Limit (dBm)	Pass/Fail
5190	38	802.11n_40 MHz BW	-9.000	4	Pass
5230	46		-8.546	4	Pass
5270	54	802.11n_40 MHz BW	-8.157	4	Pass
5310	62		-7.922	11	Pass
5510	102	802.11n_40 MHz BW	-6.877	11	Pass
5550	110		-6.904	11	Pass
5670	134		-6.725	11	Pass

▣ RESULT PLOTS

Power Spectral Density (802.11a-CH 36)



Power Spectral Density (802.11a-CH 40)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

Power Spectral Density (802.11a-CH 48)



Power Spectral Density (802.11a-CH 52)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

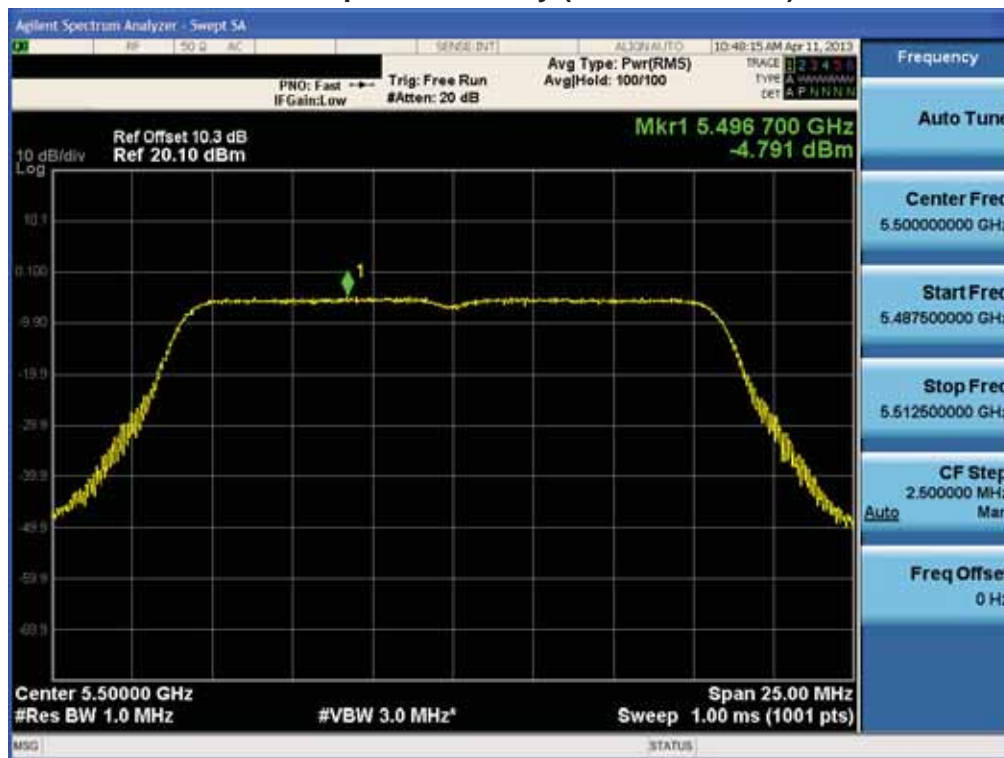
Power Spectral Density (802.11a-CH 60)



Power Spectral Density (802.11a-CH 64)



Power Spectral Density (802.11a-CH 100)



Power Spectral Density (802.11a-CH 116)



Power Spectral Density (802.11a-CH 140)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

20 MHz BW

Power Spectral Density (802.11n-CH 36)



Power Spectral Density (802.11n-CH 40)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

Power Spectral Density (802.11n-CH 48)



Power Spectral Density (802.11n-CH 52)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

Power Spectral Density (802.11n-CH 60)



Power Spectral Density (802.11n-CH 64)

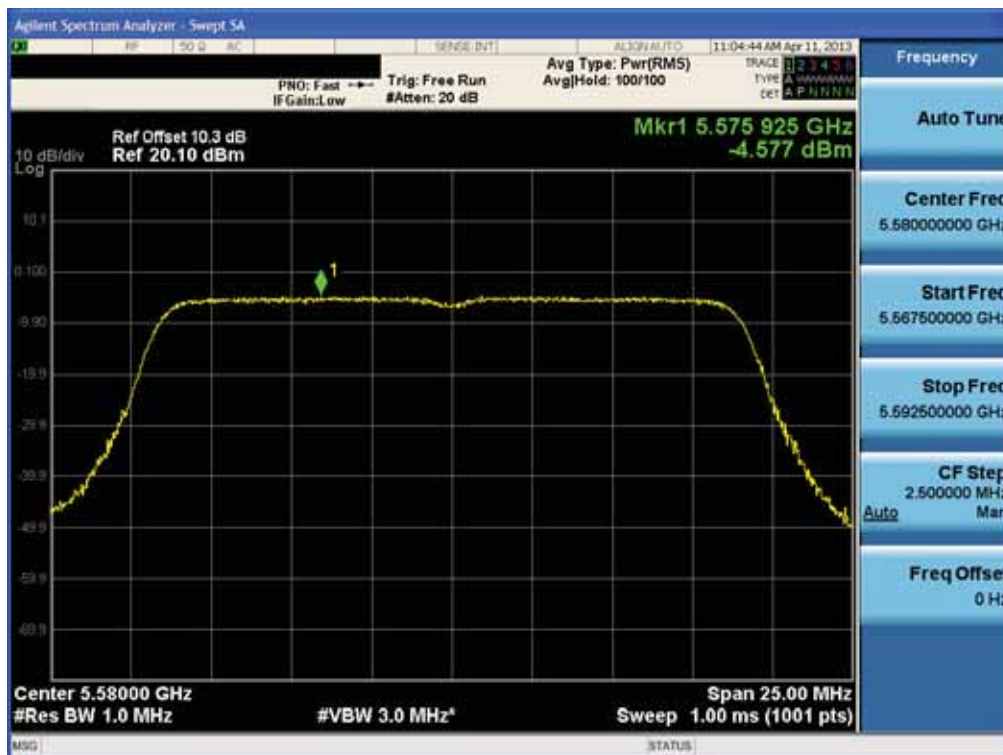


FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

Power Spectral Density (802.11n-CH 100)

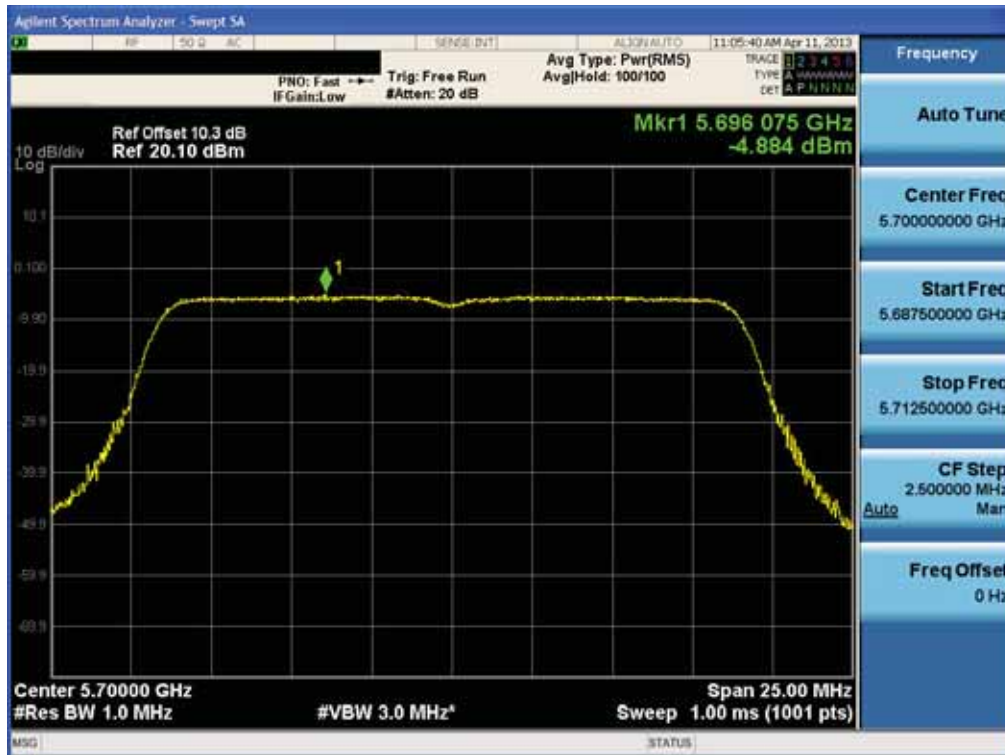


Power Spectral Density (802.11n-CH 116)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

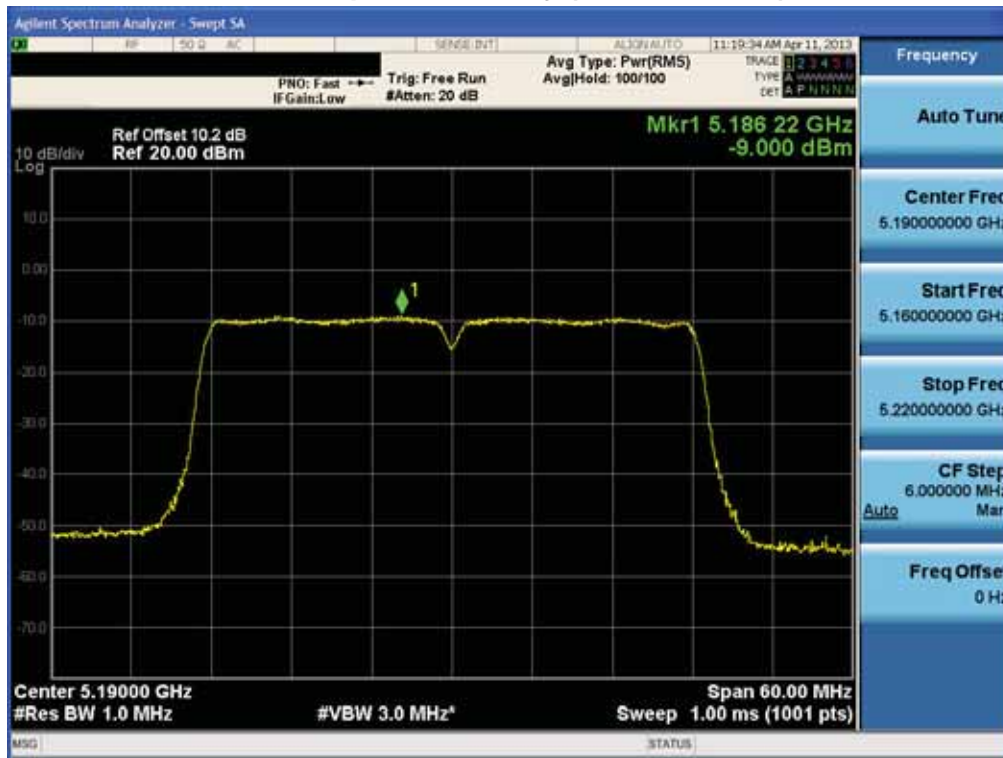
Power Spectral Density (802.11n-CH 140)



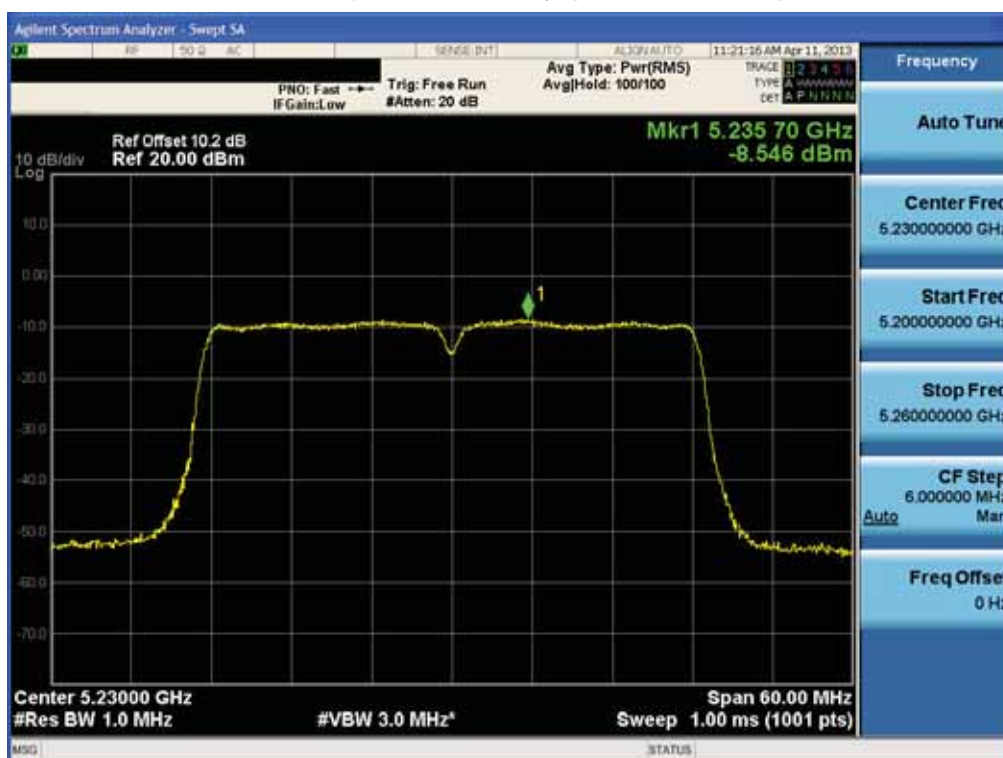
FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

40 MHz BW

Power Spectral Density (802.11n-CH 38)

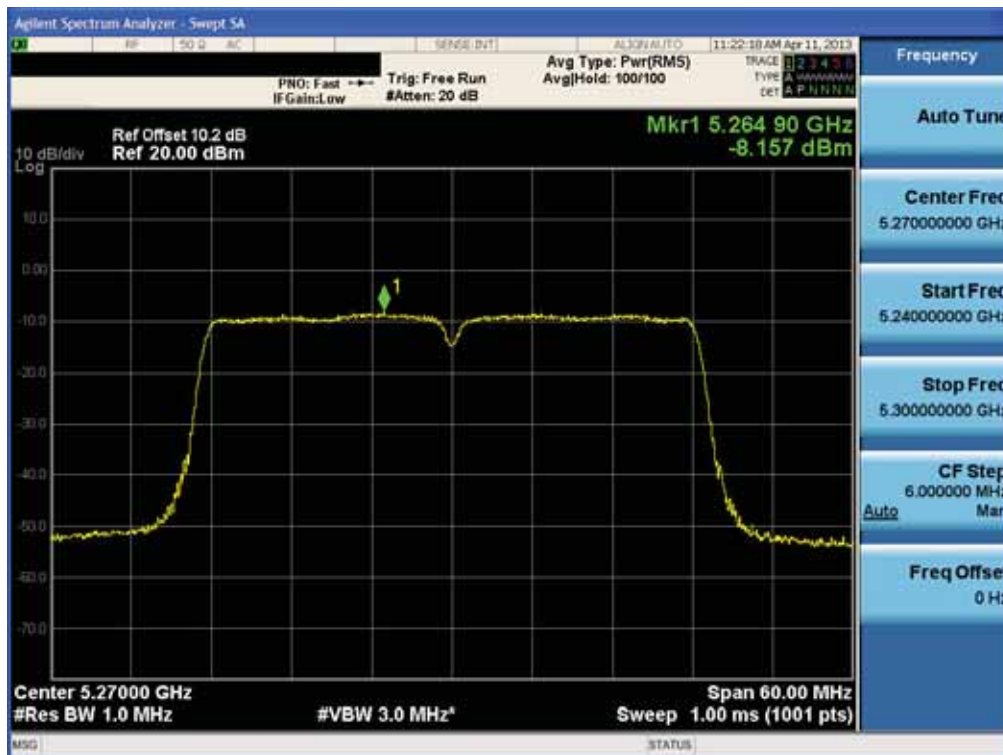


Power Spectral Density (802.11n-CH 46)

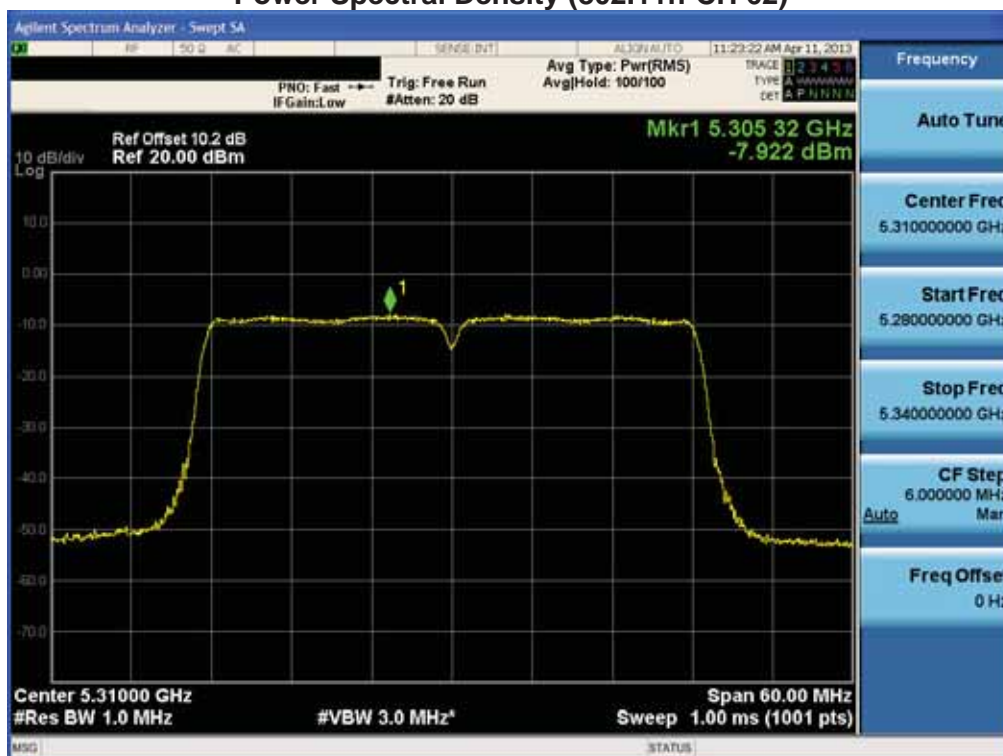


FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

Power Spectral Density (802.11n-CH 54)



Power Spectral Density (802.11n-CH 62)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

Power Spectral Density (802.11n-CH 102)



Power Spectral Density (802.11n-CH 110)



Power Spectral Density (802.11n-CH 134)

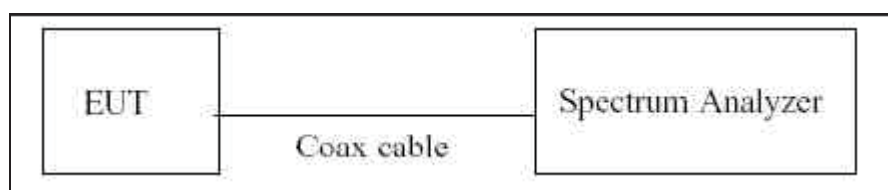


FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

8.4 PEAK EXCURSION RATIO

The spectrum analyzer was connected to the antenna terminal while the EUT was operating in the continuous transmission mode at the appropriate center frequencies. The largest permissible difference between the modulation envelope(measured using a peak hold function) and the maximum conducted output power 13 dB/MHz.

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

We tested according to KDB 789033(issued 09/26/2012).

The spectrum analyzer is set to :

1. Span = Set the span to view the entire emission bandwidth.
2. RBW = 1 MHz
3. VBW ≥ 3 MHz
4. Detector Mode = Peak
5. Trace Mode = Max hold
6. Allow the sweeps to continue until the trace stabilizes.
7. Use the peak search function to find the peak of the spectrum.
8. Use the procedure to measure the PPSD
9. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

Note :

1. The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Spectrum offset = Attenuator loss + Cable loss
3. We apply to the offset in the 5.2 GHz, 5.3 GHz and 5.6 GHz range that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table.

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Band	Frequency(MHz)	Loss(dB)
UNII 1	5180	10.26
	5190	10.22
	5200	10.18
	5230	10.19
	5240	10.19
UNII 2	5260	10.18
	5270	10.17
	5300	10.14
	5310	10.11
	5320	10.09
UNII 3	5500	10.20
	5510	10.20
	5550	10.23
	5580	10.24
	5670	10.36
	5700	10.40

(Actual value of loss for the attenuator and cable combination)

RESULT PLOTS

Peak Excursion Ratio (802.11a-CH 36)



Peak Excursion Ratio (802.11a-CH 40)



Peak Excursion Ratio (802.11a-CH 48)



Peak Excursion Ratio (802.11a-CH 52)



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Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

Peak Excursion Ratio (802.11a-CH 60)



Peak Excursion Ratio (802.11a-CH 64)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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Peak Excursion Ratio (802.11a-CH 100)



Peak Excursion Ratio (802.11a-CH 116)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

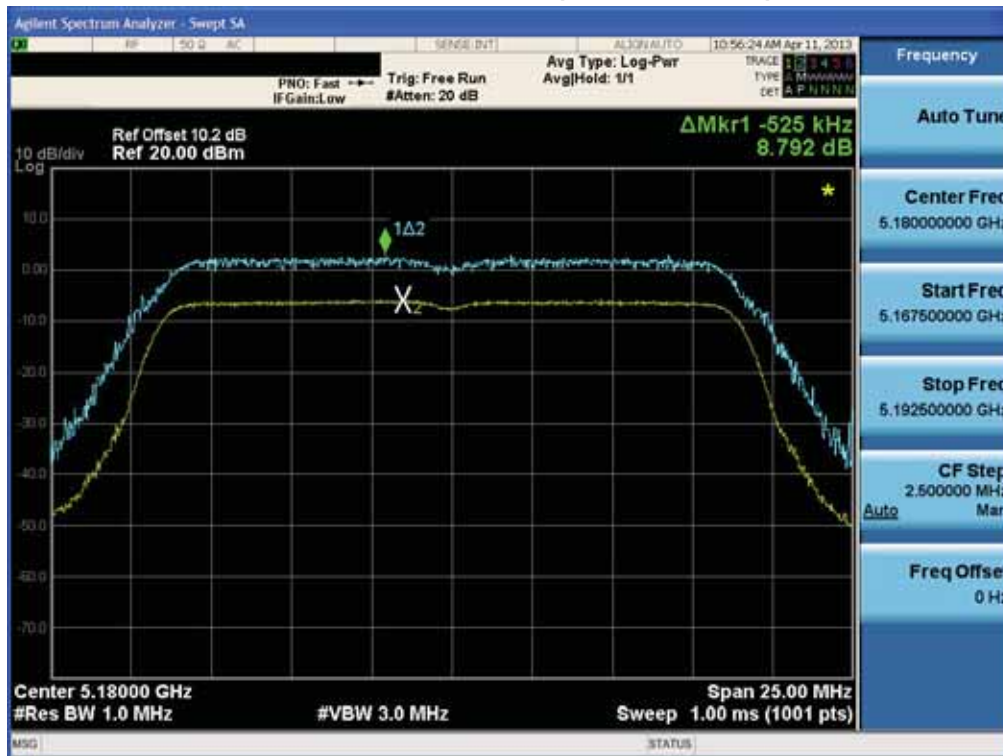
Peak Excursion Ratio (802.11a-CH 140)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

20 MHz BW

Peak Excursion Ratio (802.11n-CH 36)



Peak Excursion Ratio (802.11n-CH 40)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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Peak Excursion Ratio (802.11n-CH 48)

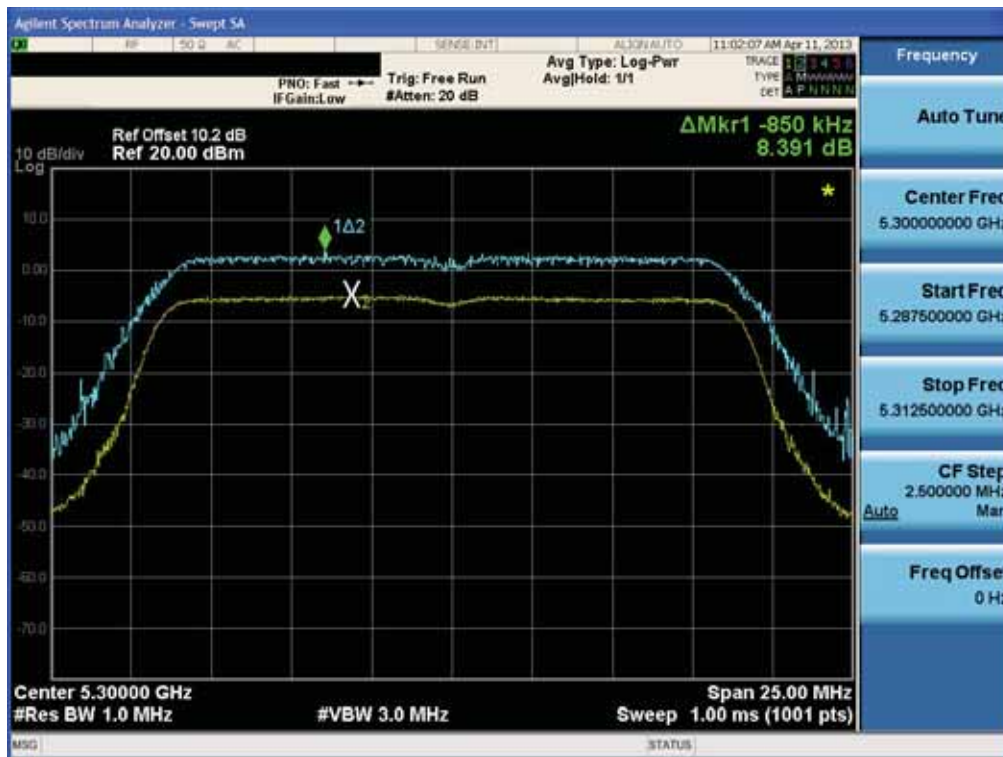


Peak Excursion Ratio (802.11n-CH 52)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

Peak Excursion Ratio (802.11n-CH 60)



Peak Excursion Ratio (802.11n-CH 64)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

Peak Excursion Ratio (802.11n-CH 100)



Peak Excursion Ratio (802.11n-CH 116)



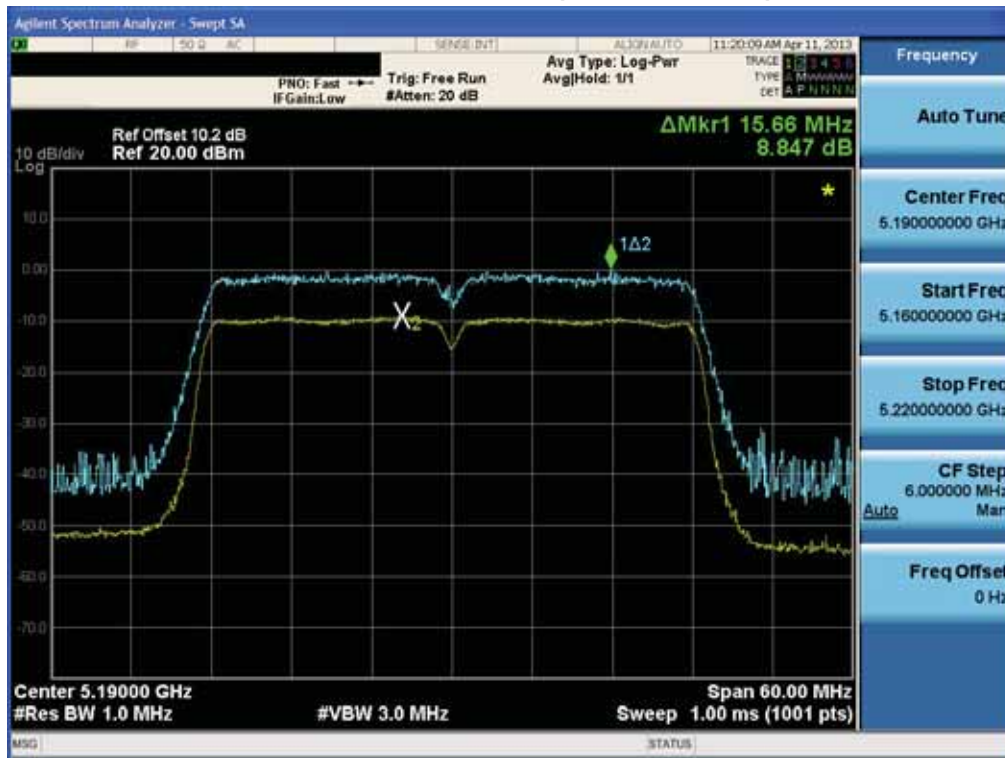
Peak Excursion Ratio (802.11n-CH 140)



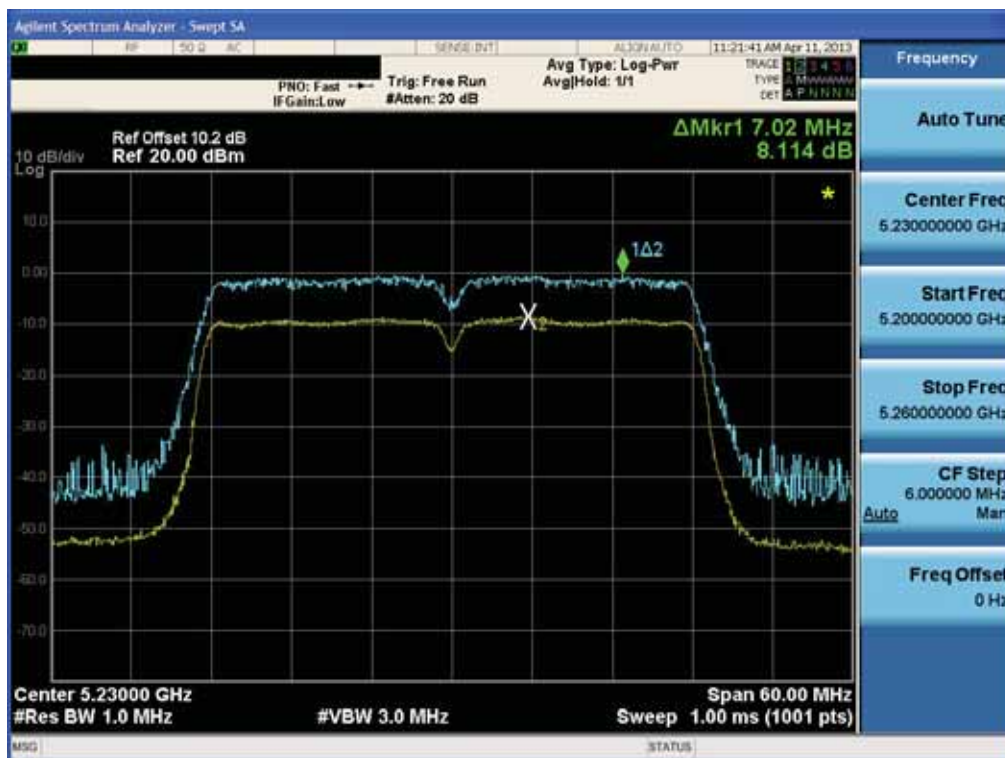
FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

40 MHz BW

Peak Excursion Ratio (802.11n-CH 38)

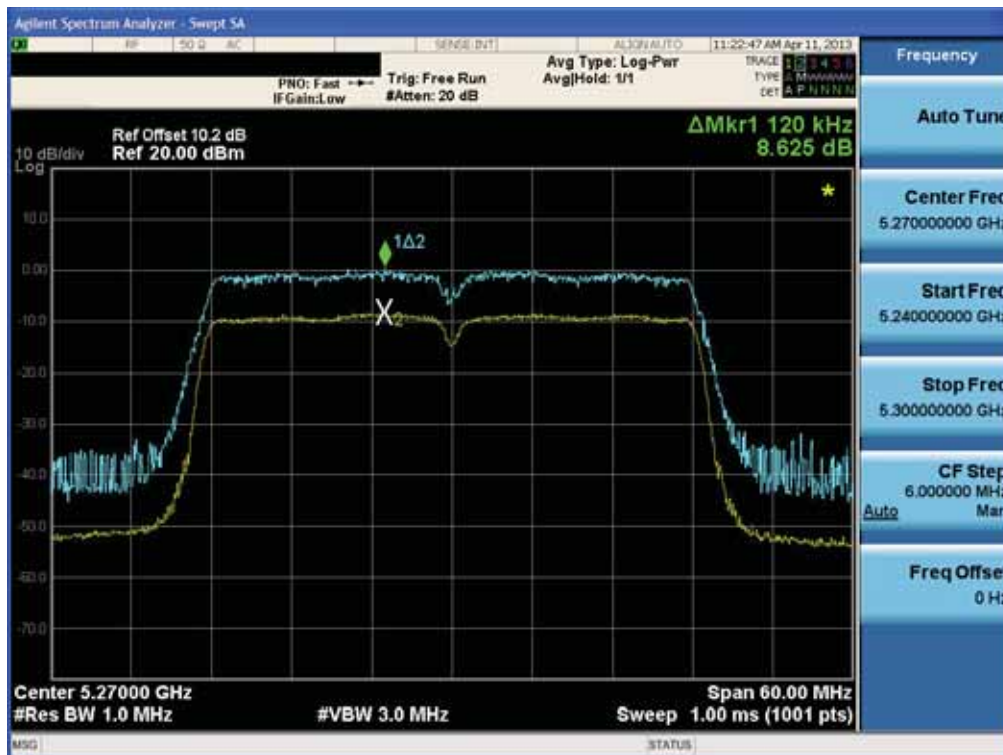


Peak Excursion Ratio (802.11n-CH 46)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

Peak Excursion Ratio (802.11n-CH 54)

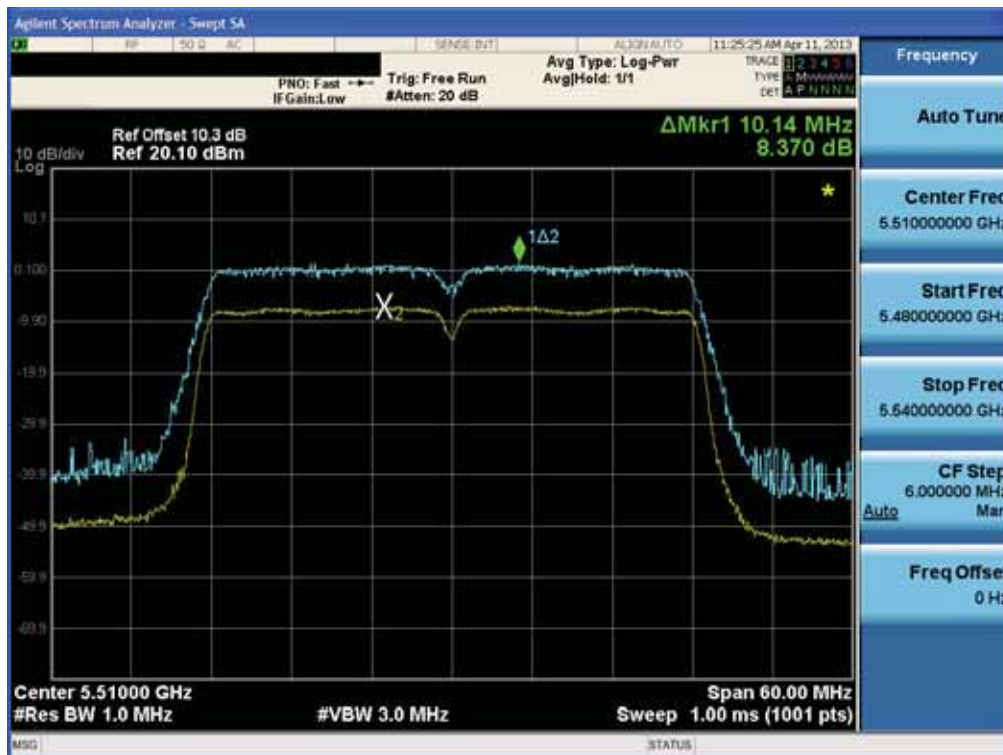


Peak Excursion Ratio (802.11n-CH 62)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

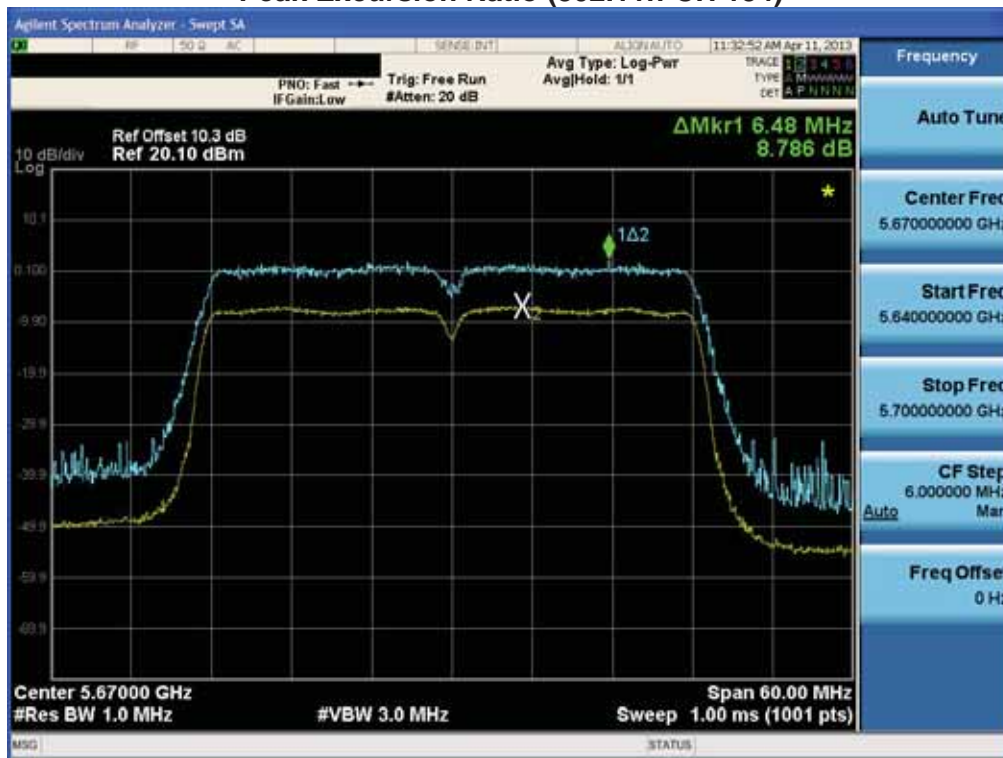
Peak Excursion Ratio (802.11n-CH 102)



Peak Excursion Ratio (802.11n-CH 110)



Peak Excursion Ratio (802.11n-CH 134)



FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

8.5 FREQUENCY STABILITY.

The EUT was placed inside an environmental chamber as the temperature in the chamber was varied between -30 °C and 50 °C. The temperature was incremented by 10 °C 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.

20 MHz BW

OPERATING FREQUENCY: 5,200,000,000 Hz
 CHANNEL: 40
 REFERENCE VOLTAGE: 3.8 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	3.800	+20(Ref)	5 199 960	-39.8
100%		-30	5 200 039	39.0
100%		-20	5 199 959	-41.1
100%		-10	5 200 033	33.2
100%		0	5 200 049	49.1
100%		+10	5 199 976	-24.3
100%		+30	5 200 030	30.4
100%		+40	5 200 038	38.1
100%		+50	5 199 962	-37.8
115%	4.370	+20	5 200 044	44.2
Batt. Endpoint	3.500	+20	5 200 045	45.1

OPERATING FREQUENCY: 5,300,000,000 Hz
 CHANNEL: 60
 REFERENCE VOLTAGE: 3.8 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	3.800	+20(Ref)	5 299 955	-45.4
100%		-30	5 300 036	35.8
100%		-20	5 300 045	44.7
100%		-10	5 299 949	-50.6
100%		0	5 300 045	45.2
100%		+10	5 300 043	43.1
100%		+30	5 299 956	-44.0
100%		+40	5 300 038	38.2
100%		+50	5 299 965	-35.2
115%	4.370	+20	5 300 038	38.0
Batt. Endpoint	3.500	+20	5 299 958	-42.5

OPERATING FREQUENCY: 5,580,000,000 Hz
 CHANNEL: 116
 REFERENCE VOLTAGE: 3.8 VDC

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (kHz)	Frequency Error (kHz)
100%	3.800	+20(Ref)	5 579 952	-47.6
100%		-30	5 579 954	-46.2
100%		-20	5 580 048	48.2
100%		-10	5 580 040	39.5
100%		0	5 580 056	55.6
100%		+10	5 579 956	-44.2
100%		+30	5 579 957	-42.7
100%		+40	5 580 053	52.6
100%		+50	5 580 043	43.1
115%	4.370	+20	5 579 953	-47.5
Batt. Endpoint	3.500	+20	5 580 043	43.0

8.6 RADIATED MEASUREMENT.

8.6.1 RADIATED SPURIOUS EMISSIONS.

Test Requirements and limit, §15.205, §15.209, §15.407

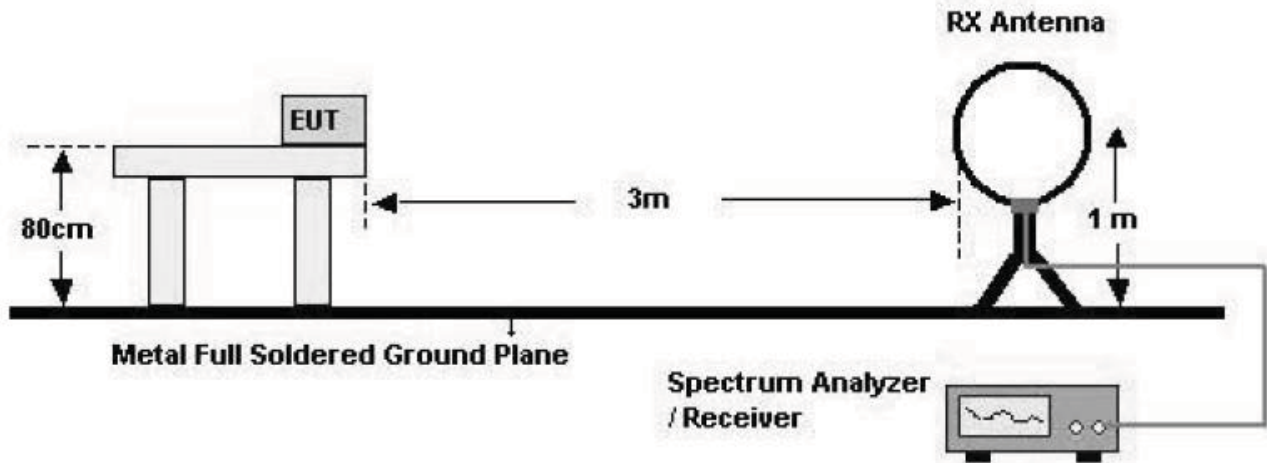
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

▣ §15.407, KDB 789033

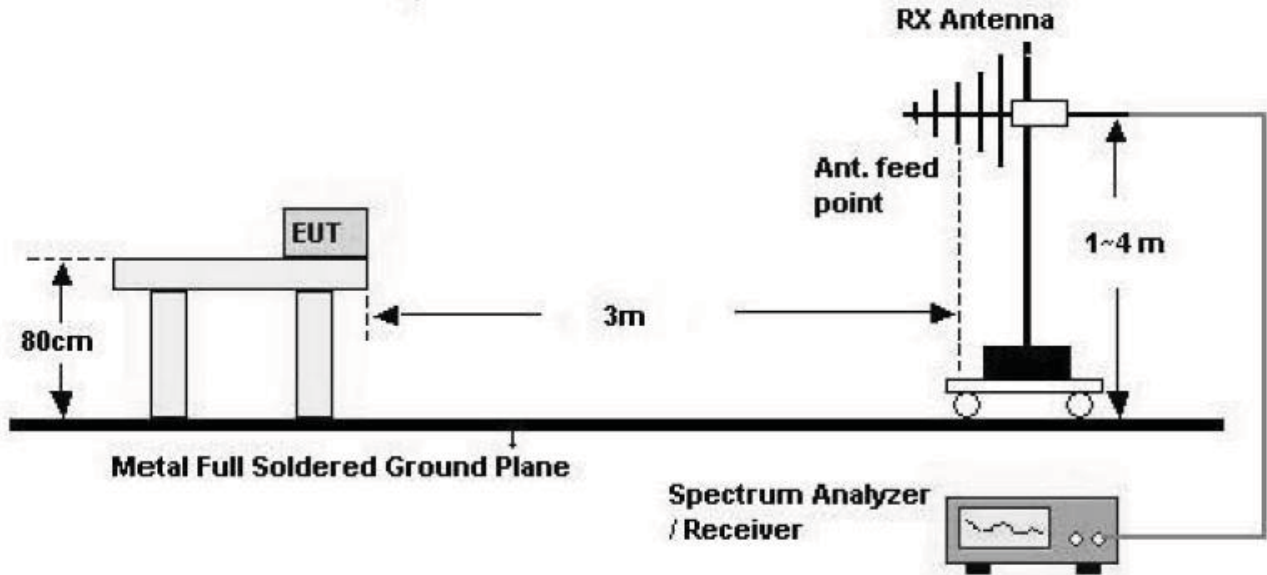
All harmonics that do not lie in a restricted band are subject to a peak limit of -27 dBm/MHz. At a distance of 3 meters the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2 dB to the EIRP limit of -27 dBm/MHz to obtain the limit for out of band spurious emissions of 68.2 dBμV/m.

Test Configuration

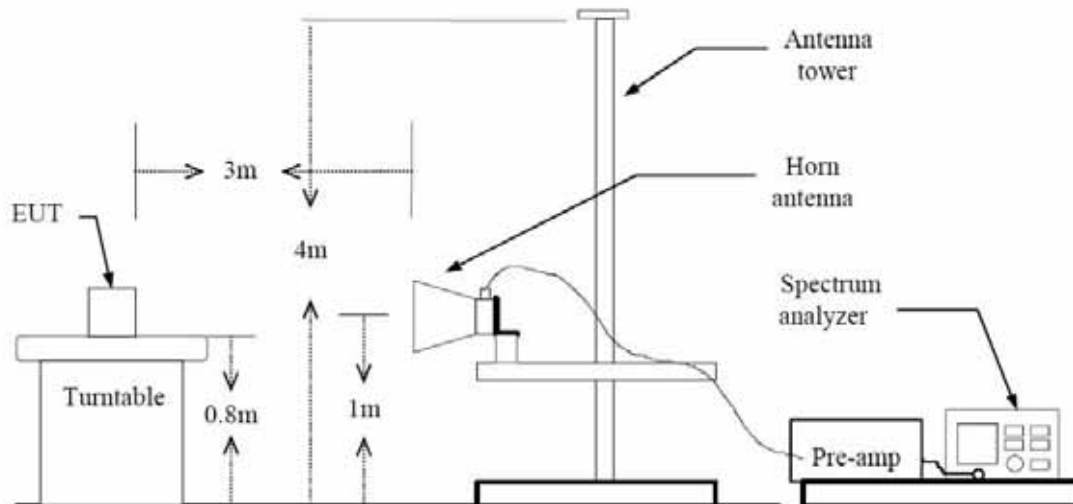
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



TEST PROCEDURE USED

ANSI C63.4(2003)

Method G)5) in KDB 789033, issued 09/26/2012 (Peak)

Method G)6)d) in KDB 789033, issued 09/26/2012 (Average)

. Spectrum setting:

- Peak.

1. RBW = 1 MHz

2. VBW \geq 3 MHz

3. Detector = Peak

4. Sweep Time = auto

5. Trace mode = max hold

6. Allow sweeps to continue until the trace stabilizes.

7. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately $1/x$, where x is the duty cycle.

- Average (Method VB :Averaging using reduced video bandwidth)

1. RBW = 1 MHz

2. VBW

2.1. If the EUT is configured to transmit with duty cycle \geq 98 percent, set VBW \leq RBW/100(i.e., 10 kHz) but not less than 10 Hz.

2.2. If the EUT duty cycle is $<$ 98 percent, set VBW \geq $1/T$, where T is the minimum transmission

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duration.

3. The analyzer is set to linear detector mode.
4. Detector = Peak.
5. Sweep time = auto.
6. Trace mode = max hold.
7. Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 percent duty cycle. For lower duty cycles, increase the minimym number of traces by a factor of 1/x, where x is the duty cycle.

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Test Report No. HCTR1304FR26-3	Date of Issue: May 07, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct	FCC ID: ZNFL05E

TEST RESULTS

9 kHz – 30MHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dBμV	dB /m	dB	(H/V)	dBμV/m	dBμV/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 9 kHz to the 30MHz.
2. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
3. Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB)
4. Limit line = specific Limits (dBuV) + Distance extrapolation factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

TEST RESULTS

Below 1 GHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dB μ V	dB /m	dB	(H/V)	dB μ V/m	dB μ V/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 30 MHz to the 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Above 1 GHz

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10360	55.78	9.33	V	65.11	68.2	3.09	PK
15540	45.25	14.61	V	59.86	74.0	14.14	PK
15540	33.90	14.61	V	48.51	54.0	5.49	AV
10360	53.48	9.33	H	62.81	68.2	5.39	PK
15540	45.61	14.61	H	60.22	74.0	13.78	PK
15540	33.87	14.61	H	48.48	54.0	5.52	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10400	54.94	10.13	V	65.07	68.2	3.13	PK
15600	45.37	14.60	V	59.97	74.0	14.03	PK
15600	34.04	14.60	V	48.64	54.0	5.36	AV
10400	53.07	10.13	H	63.20	68.2	5.00	PK
15600	46.03	14.60	H	60.63	74.0	13.37	PK
15600	34.00	14.60	H	48.60	54.0	5.40	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10480	55.19	10.20	V	65.39	68.2	2.81	PK
15720	46.81	13.47	V	60.28	74.0	13.72	PK
15720	35.16	13.47	V	48.63	54.0	5.37	AV
10480	53.38	10.20	H	63.58	68.2	4.62	PK
15720	47.36	13.47	H	60.83	74.0	13.17	PK
15720	35.18	13.47	H	48.65	54.0	5.35	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10360	55.83	9.33	V	65.16	68.2	3.04	PK
15540	45.33	14.61	V	59.94	74.0	14.06	PK
15540	34.01	14.61	V	48.62	54.0	5.38	AV
10360	54.61	9.33	H	63.94	68.2	4.26	PK
15540	45.54	14.61	H	60.15	74.0	13.85	PK
15540	33.88	14.61	H	48.49	54.0	5.51	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5200 MHz
Channel No.	40 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10400	55.17	10.13	V	65.30	68.2	2.90	PK
15600	45.42	14.60	V	60.02	74.0	13.98	PK
15600	34.13	14.60	V	48.73	54.0	5.27	AV
10400	54.42	10.13	H	64.55	68.2	3.65	PK
15600	46.12	14.60	H	60.72	74.0	13.28	PK
15600	33.97	14.60	H	48.57	54.0	5.43	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5240 MHz
Channel No.	48 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10480	56.13	10.20	V	66.33	68.2	1.87	PK
15720	46.41	13.47	V	59.88	74.0	14.12	PK
15720	35.17	13.47	V	48.64	54.0	5.36	AV
10480	54.53	10.20	H	64.73	68.2	3.47	PK
15720	46.98	13.47	H	60.45	74.0	13.55	PK
15720	35.19	13.47	H	48.66	54.0	5.34	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10380	54.79	9.33	V	64.12	68.2	4.08	PK
15570	45.78	14.61	V	60.39	74.0	13.61	PK
15570	33.83	14.61	V	48.44	54.0	5.56	AV
10380	53.39	9.33	H	62.72	68.2	5.48	PK
15570	45.18	14.61	H	59.79	74.0	14.21	PK
15570	33.82	14.61	H	48.43	54.0	5.57	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5230 MHz
Channel No.	46 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10460	55.01	10.13	V	65.14	68.2	3.06	PK
15690	46.06	14.60	V	60.66	74.0	13.34	PK
15690	34.90	14.60	V	49.50	54.0	4.50	AV
10460	53.28	10.13	H	63.41	68.2	4.79	PK
15690	46.43	14.60	H	61.03	74.0	12.97	PK
15690	34.91	14.60	H	49.51	54.0	4.49	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5260 MHz
Channel No.	52 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10520	55.15	10.38	V	65.53	68.2	2.67	PK
15780	46.12	14.38	V	60.50	74.0	13.50	PK
15780	35.02	14.38	V	49.40	54.0	4.60	AV
10520	53.82	10.38	H	64.20	68.2	4.00	PK
15780	46.80	14.38	H	61.18	74.0	12.82	PK
15780	34.97	14.38	H	49.35	54.0	4.65	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10600	56.49	10.39	V	66.88	68.2	1.32	PK
10600	42.50	10.39	V	52.89	54.0	1.11	AV
15900	44.74	14.00	V	58.74	74.0	15.26	PK
15900	33.52	14.00	V	47.52	54.0	6.48	AV
10600	51.39	10.39	H	61.78	68.2	6.42	PK
10600	40.37	10.39	H	50.76	54.0	3.24	AV
15900	45.03	14.00	H	59.03	74.0	14.97	PK
15900	33.51	14.00	H	47.51	54.0	6.49	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10640	53.45	10.50	V	63.95	74	10.05	PK
10640	42.70	10.50	V	53.20	54	0.80	AV
15960	44.94	14.27	V	59.21	74	14.79	PK
15960	33.33	14.27	V	47.60	54	6.40	AV
10640	53.94	10.50	H	64.44	74	9.56	PK
10640	40.50	10.50	H	51.00	54	3.00	AV
15960	44.68	14.27	H	58.95	74	15.05	PK
15960	33.30	14.27	H	47.57	54	6.43	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5260 MHz
Channel No.	52 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10520	52.34	10.38	V	62.72	68.2	5.48	PK
15780	46.17	14.38	V	60.55	74.0	13.45	PK
15780	35.12	14.38	V	49.50	54.0	4.50	AV
10520	54.54	10.38	H	64.92	68.2	3.28	PK
15780	46.97	14.38	H	61.35	74.0	12.65	PK
15780	35.03	14.38	H	49.41	54.0	4.59	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5300 MHz
Channel No.	60 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10600	54.79	10.39	V	65.18	68.2	3.02	PK
10600	41.88	10.39	V	52.27	54.0	1.73	AV
15900	44.54	14.00	V	58.54	74.0	15.46	PK
15900	33.60	14.00	V	47.60	54.0	6.40	AV
10600	53.18	10.39	H	63.57	68.2	4.63	PK
10600	40.36	10.39	H	50.75	54.0	3.25	AV
15900	45.21	14.00	H	59.21	74.0	14.79	PK
15900	33.48	14.00	H	47.48	54.0	6.52	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10640	54.72	10.50	V	65.22	74	8.78	PK
10640	42.04	10.50	V	52.54	54	1.46	AV
15960	44.39	14.27	V	58.66	74	15.34	PK
15960	33.36	14.27	V	47.63	54	6.37	AV
10640	53.06	10.50	H	63.56	74	10.44	PK
10640	40.30	10.50	H	50.80	54	3.20	AV
15960	43.98	14.27	H	58.25	74	15.75	PK
15960	33.32	14.27	H	47.59	54	6.41	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5270 MHz
Channel No.	54 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10540	54.20	10.55	V	64.75	68.2	3.45	PK
10540	40.94	10.55	V	51.49	54.0	2.51	AV
15810	46.34	14.26	V	60.60	74.0	13.40	PK
15810	34.42	14.26	V	48.68	54.0	5.32	AV
10540	52.61	10.55	H	63.16	68.2	5.04	PK
10540	39.70	10.55	H	50.25	54.0	3.75	AV
15810	45.99	14.26	H	60.25	74.0	13.75	PK
15810	34.45	14.26	H	48.71	54.0	5.29	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 2
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
10620	52.21	10.25	V	62.46	74	11.54	PK
10620	39.25	10.25	V	49.50	54	4.50	AV
15930	44.78	13.62	V	58.40	74	15.60	PK
15930	33.12	13.62	V	46.74	54	7.26	AV
10620	51.18	10.25	H	61.43	74	12.57	PK
10620	37.90	10.25	H	48.15	54	5.85	AV
15930	45.08	13.62	H	58.70	74	15.30	PK
15930	33.19	13.62	H	46.81	54	7.19	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11000	51.02	11.28	V	62.30	74.0	11.70	PK
11000	39.40	11.28	V	50.68	54.0	3.32	AV
16500	45.82	14.19	V	60.01	68.2	8.19	PK
16500	34.50	14.19	V	48.69	54.0	5.31	AV
11000	50.19	11.28	H	61.47	74.0	12.53	PK
11000	37.79	11.28	H	49.07	54.0	4.93	AV
16500	45.76	14.19	H	59.95	68.2	8.25	PK
16500	34.43	14.19	H	48.62	54.0	5.38	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5580 MHz
Channel No.	116 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11160	48.83	11.10	V	59.93	74.0	14.07	PK
11160	37.81	11.10	V	48.91	54.0	5.09	AV
16740	46.62	15.70	V	62.32	68.2	5.88	PK
16740	34.49	15.70	V	50.19	54.0	3.81	AV
11160	47.89	11.10	H	58.99	74.0	15.01	PK
11160	36.50	11.10	H	47.60	54.0	6.40	AV
16740	45.93	15.70	H	61.63	68.2	6.57	PK
16740	34.45	15.70	H	50.15	54.0	3.85	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5700 MHz
Channel No.	140 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11400	46.81	10.97	V	57.78	74.0	16.22	PK
11400	35.00	10.97	V	45.97	54.0	8.03	AV
17100	45.87	17.82	V	63.69	68.2	4.51	PK
17100	32.24	17.82	V	50.06	54.0	3.94	AV
11400	45.63	10.97	H	56.60	74.0	17.40	PK
11400	33.54	10.97	H	44.51	54.0	9.49	AV
17100	45.87	17.82	H	63.69	68.2	4.51	PK
17100	32.20	17.82	H	50.02	54.0	1.98	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11000	51.56	11.28	V	62.84	74.0	11.16	PK
11000	39.12	11.28	V	50.40	54.0	3.60	AV
16500	45.87	14.19	V	60.06	68.2	8.14	PK
16500	34.47	14.19	V	48.66	54.0	5.34	AV
11000	49.83	11.28	H	61.11	74.0	12.89	PK
11000	37.60	11.28	H	48.88	54.0	5.12	AV
16500	45.24	14.19	H	59.43	68.2	8.77	PK
16500	34.39	14.19	H	48.58	54.0	5.42	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5580 MHz
Channel No.	116 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11160	50.24	11.10	V	61.34	74.0	12.66	PK
11160	37.52	11.10	V	48.62	54.0	5.38	AV
16740	46.19	15.70	V	61.89	68.2	6.31	PK
16740	34.50	15.70	V	50.20	54.0	3.80	AV
11160	48.62	11.10	H	59.72	74.0	14.28	PK
11160	36.30	11.10	H	47.40	54.0	6.60	AV
16740	45.76	15.70	H	61.46	68.2	6.74	PK
16740	34.42	15.70	H	50.12	54.0	3.88	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6.5 Mbps
Operating Frequency	5700 MHz
Channel No.	140 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11400	46.48	10.97	V	57.45	74.0	16.55	PK
11400	34.60	10.97	V	45.57	54.0	8.43	AV
17100	45.54	17.82	V	63.36	68.2	4.84	PK
17100	32.38	17.82	V	50.20	54.0	3.80	AV
11400	45.52	10.97	H	56.49	74.0	17.51	PK
11400	33.10	10.97	H	44.07	54.0	9.93	AV
17100	45.96	17.82	H	63.78	68.2	4.42	PK
17100	33.17	17.82	H	50.99	54.0	3.01	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11020	48.07	11.28	V	59.35	74.0	14.65	PK
11020	35.06	11.28	V	46.34	54.0	7.66	AV
16530	46.31	8.83	V	55.14	68.2	13.06	PK
16530	34.20	8.83	V	43.03	54.0	10.97	AV
11020	46.76	11.28	H	58.04	74.0	15.96	PK
11020	34.21	11.28	H	45.49	54.0	8.51	AV
16530	45.49	8.83	H	54.32	68.2	13.88	PK
16530	34.21	8.83	H	43.04	54.0	10.96	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5580 MHz
Channel No.	110 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11100	46.08	11.56	V	57.64	74	16.36	PK
11100	34.13	11.56	V	45.69	54	8.31	AV
16650	45.57	14.98	V	60.55	74	13.45	PK
16650	34.13	14.98	V	49.11	54	4.89	AV
11100	44.94	11.56	H	56.50	74	17.50	PK
11100	33.06	11.56	H	44.62	54	9.38	AV
16650	45.34	14.98	H	60.32	74	13.68	PK
16650	34.17	14.98	H	49.15	54	4.85	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 3
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5670 MHz
Channel No.	134 Ch

Frequency [MHz]	Reading dBuV	AN.+CL-Amp G. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
11340	45.42	10.86	V	56.28	74	17.72	PK
11340	32.63	10.86	V	43.49	54	10.51	AV
17010	44.92	18.15	V	63.07	74	10.93	PK
17010	32.78	18.15	V	50.93	54	3.07	AV
11340	41.28	10.86	H	52.14	74	21.86	PK
11340	29.88	10.86	H	40.74	54	13.26	AV
17010	45.52	18.15	H	63.67	74	10.33	PK
17010	32.68	18.15	H	50.83	54	3.17	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done 802.11a, 802.11n test. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

8.6.2 RADIATED RESTRICTED BAND EDGE MEASUREMENTS

Test Requirements and limit, §15.247(d) §15.205, §15.209

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).

Band :	UNII 1
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5150	63.49	3.63	H	67.12	74	6.88	PK
5150	42.12	3.63	H	45.75	54	8.25	AV
5150	67.17	3.63	V	70.80	74	3.20	PK
5150	42.15	3.63	V	45.78	54	8.22	AV

Band :	UNII 2
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5350	61.04	4.45	H	65.49	74	8.51	PK
5350	39.30	4.45	H	43.75	54	10.25	AV
5350	61.61	4.45	V	66.06	74	7.94	PK
5350	39.35	4.45	V	43.80	54	10.20	AV

Band :	UNII 3
Operation Mode:	802.11 a
Transfer Rate:	6 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5460	58.15	5.54	H	63.69	68.2	4.51	PK
5460	38.72	5.54	H	44.26	54.0	9.74	AV
5460	58.16	5.54	V	63.70	68.2	4.50	PK
5460	38.68	5.54	V	44.22	54.0	9.78	AV

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + ATT
2. We have done 802.11a/n mode test. . Worst case of EUT is 6 Mbps in 802.11a.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5180 MHz
Channel No.	36 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5150	66.59	3.63	H	70.22	74	3.78	PK
5150	42.59	3.63	H	46.22	54	7.78	AV
5150	66.24	3.63	V	69.87	74	4.13	PK
5150	42.47	3.63	V	46.10	54	7.90	AV

Band :	UNII 2
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5320 MHz
Channel No.	64 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5350	59.49	4.45	H	63.94	74	10.06	PK
5350	39.44	4.45	H	43.89	54	10.11	AV
5350	59.32	4.45	V	63.77	74	10.23	PK
5350	39.37	4.45	V	43.82	54	10.18	AV

Band :	UNII 3
Operation Mode:	802.11 n_20 MHz BW
Transfer Rate:	6 Mbps
Operating Frequency	5500 MHz
Channel No.	100 Ch

Frequency [MHz]	Reading DBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5460	56.57	5.54	H	62.11	68.2	6.09	PK
5460	38.59	5.54	H	44.13	54.0	9.87	AV
5460	56.38	5.54	V	61.92	68.2	6.28	PK
5460	38.58	5.54	V	44.12	54.0	9.88	AV

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + ATT
2. We have done 802.11a/n mode test. . Worst case of EUT is 6 Mbps in 802.11a.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Band :	UNII 1
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5190 MHz
Channel No.	38 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5150	60.82	3.63	H	64.45	74	9.55	PK
5150	45.32	3.63	H	48.95	54	5.05	AV
5150	62.58	3.63	V	66.21	74	7.79	PK
5150	44.99	3.63	V	48.62	54	5.38	AV

Band :	UNII 2
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5310 MHz
Channel No.	62 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5350	57.81	4.45	H	60.6	74	13.4	PK
5350	41.52	4.45	H	44.58	54	9.42	AV
5350	60.62	4.45	V	62.97	74	11.03	PK
5350	41.91	4.45	V	45.62	54	8.38	AV

Band :	UNII 3
Operation Mode:	802.11n_40 MHz BW
Transfer Rate:	13.5 Mbps
Operating Frequency	5510 MHz
Channel No.	102 Ch

Frequency [MHz]	Reading dBuV	AN.+CL+AMP+ATT. [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
5460	56.15	5.54	H	58.55	68.2	9.65	PK
5460	39.74	5.54	H	44.82	54.0	9.18	AV
5460	60.22	5.54	V	59.88	68.2	8.32	PK
5460	41.55	5.54	V	45.69	54.0	8.31	AV

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + ATT
2. We have done 802.11a/n mode test. . Worst case of EUT is 6 Mbps in 802.11a.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

8.7 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, §15.207

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference groundplane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.
5. We are performed the AC Power Line Conducted Emission test for 58.5 Mbps, Ch.140 and 802.11n mode in UNII 3. Because 802.11n mode in UNII 3 is worst case.

RESULT PLOTS

Conducted Emissions (Line 1)

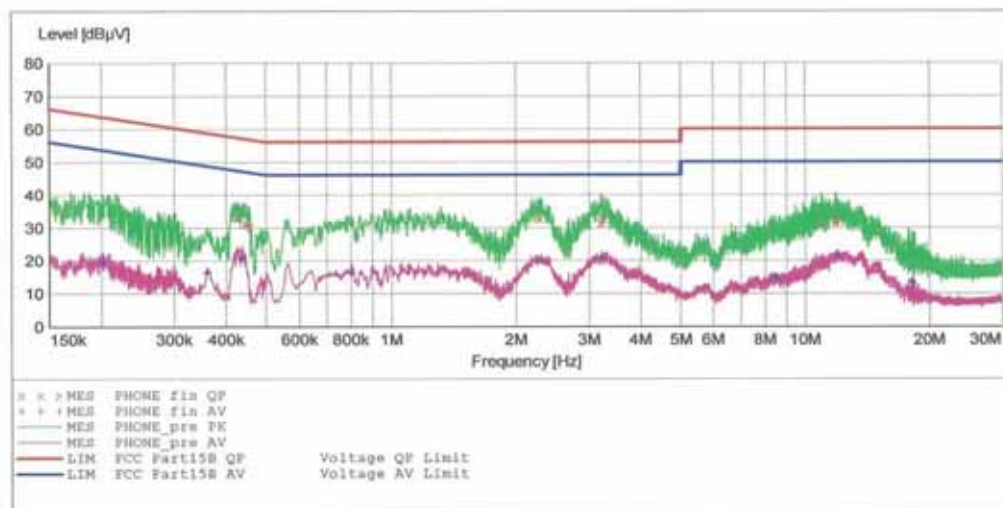
HCT

EMC

EUT: L-05E
Manufacturer: LG
Operating Condition: WLAN UNII MODE
Test Site: SHIELD ROOM
Operator: JS LEE
Test Specification: FCC PART 15 B
Comment: H

SCAN TABLE: "FCC PART 15 B(H)"

Short Description:			FCC PART 15 CLASS B			
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	1.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin QP"

4/12/2013 10:21PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.425010	33.20	9.8	57	24.2	---	---
0.445010	31.30	9.8	57	25.7	---	---
0.456010	30.40	9.8	57	26.4	---	---
2.280000	33.00	10.0	56	23.0	---	---
3.204000	31.60	10.1	56	24.4	---	---
3.240000	32.70	10.1	56	23.3	---	---
10.932000	31.20	10.6	60	28.8	---	---
11.864000	32.30	10.7	60	27.7	---	---
11.880000	31.70	10.7	60	28.3	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

4/12/2013 10:21PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.202010	19.30	9.7	54	34.2	---	---
0.359010	16.30	9.8	49	32.5	---	---
0.438010	20.70	9.8	47	26.4	---	---
0.800000	16.30	9.8	46	29.7	---	---
2.308000	19.90	10.0	46	26.1	---	---
3.220000	20.50	10.1	46	25.5	---	---
8.504000	14.50	10.4	50	35.5	---	---
11.940000	21.30	10.7	50	28.7	---	---
18.104000	13.20	11.5	50	36.8	---	---

Conducted Emissions (Line 2)

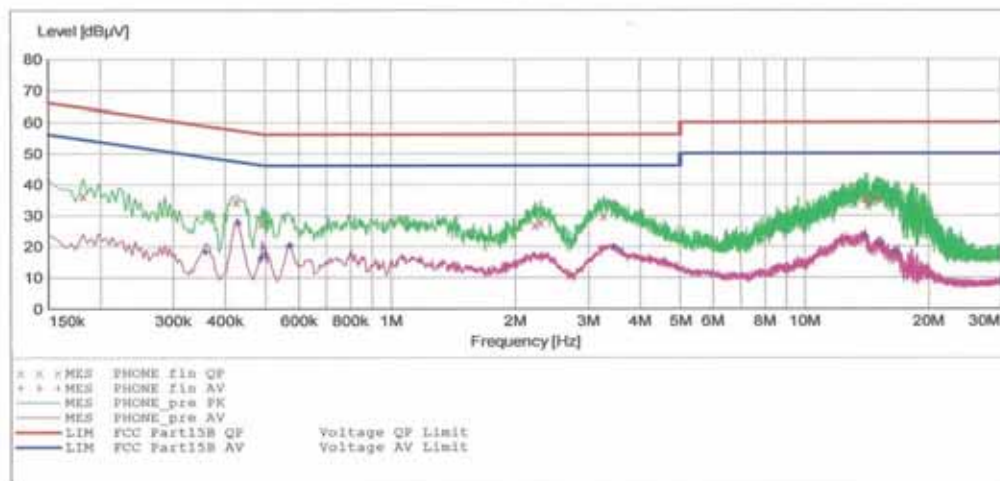
HCT

EMC

EUT: L-05E
 Manufacturer: LG
 Operating Condition: WLAN UNII MODE
 Test Site: SHIELD ROOM
 Operator: JS LEE
 Test Specification: FCC PART 15 CLASS B
 Comment: N

SCAN TABLE: "FCC PART 15 B(N)"

Short Description:			FCC PART 15 CLASS B				Transducer
Start	Stop	Step	Detector	Meas. Time	IF Bandw.		
Frequency	Frequency	Width					
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				



MEASUREMENT RESULT: "PHONE_fin QP"

4/12/2013 10:14PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.182010	36.20	9.9	64	28.1	---	---
0.426010	34.30	10.0	57	23.1	---	---
0.490010	27.40	10.0	56	28.7	---	---
2.240000	26.90	10.1	56	29.1	---	---
2.304000	27.60	10.2	56	28.4	---	---
3.276000	30.00	10.3	56	26.0	---	---
14.000000	35.40	11.1	60	24.6	---	---
14.204000	33.50	11.1	60	26.5	---	---
15.004000	35.30	11.2	60	24.7	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

4/12/2013 10:14PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.358010	18.10	9.9	49	30.7	---	---
0.430010	27.30	10.0	47	20.0	---	---
0.490010	16.50	10.0	46	29.6	---	---
0.500000	17.60	10.0	46	28.4	---	---
0.572000	20.20	10.0	46	25.8	---	---
3.440000	19.80	10.3	46	26.2	---	---
14.000000	23.40	11.1	50	26.6	---	---
15.196000	20.60	11.3	50	29.4	---	---
16.568000	18.20	11.5	50	31.8	---	---

9. LIST OF TEST EQUIPMENT

Manufacturer	Model / Equipment	Calibration Interval	Calibration Due	Serial No.
Rohde & Schwarz	ENV216/ LISN	Annual	02/06/2014	100073
Schwarzbeck	VULB 9160/ TRILOG Antenna	Biennial	05/03/2015	3125
Rohde & Schwarz	ESI 40 / EMI TEST RECEIVER	Annual	05/03/2013	831564103
Agilent	E4440A/ Spectrum Analyzer	Annual	05/02/2013	US45303008
Agilent	N9020A/ SIGNAL ANALYZER	Annual	07/31/2013	MY51110020
HD	MA240/ Antenna Position Tower	N/A	N/A	556
EMCO	1050/ Turn Table	N/A	N/A	114
HD GmbH	HD 100/ Controller	N/A	N/A	13
HD GmbH	KMS 560/ SlideBar	N/A	N/A	12
Rohde & Schwarz	SCU-18/ Signal Conditioning Unit	Annual	09/11/2013	10094
MITEQ	AMF-6B-180265-35-10P / POWER AMP	Annual	04/16/2014	667624
CERNEX	CBL26405040 / POWER AMP	Annual	04/16/2014	19660
Schwarzbeck	BBHA 9120D/ Horn Antenna	Biennial	10/17/2013	937
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	Biennial	10/30/2013	BBHA9170124
Rohde & Schwarz	FSP / Spectrum Analyzer	Annual	02/08/2014	839117/011
Agilent	E4416A /Power Meter	Annual	11/07/2013	GB41291412
Agilent	E9327A /POWER SENSOR	Annual	04/16/2014	MY4442009
Wainwright Instrument	WHF3.3/18G-10EF / High Pass Filter	Annual	05/02/2013	1
Wainwright Instrument	WHNX6.0/26.5G-6SS / High Pass Filter	Annual	04/16/2014	1
Wainwright Instrument	WHNX7.0/18G-8SS / High Pass Filter	Annual	04/16/2014	29
Wainwright Instrument	WRCJ2400/2483.5-2370/2520-60/14SS / Band Reject Filter	Annual	04/16/2014	1
Hewlett Packard	11636B/Power Divider	Annual	11/07/2013	11377
Hewlett Packard	11667B / Power Splitter	Annual	06/05/2013	05001
DIGITAL	EP-3010 /DC POWER SUPPLY	Annual	11/07/2013	3110117
ITECH	IT6720 / DC POWER SUPPLY	Annual	11/07/2013	010002156287001199
TESCOM	TC-3000C / BLUETOOTH TESTER	Annual	11/07/2013	3000C000276
Rohde & Schwarz	CBT / BLUETOOTH TESTER	Annual	05/02/2013	100422
EMCO	6502.LOOP ANTENNA	Biennial	01/11/2014	9009-2536
Agile	8493C / Attenuator(10 dB)	Annual	07/30/2013	76649
WEINSCHL	2-3 / Attenuator(3 dB)	Annual	11/07/2013	BR0617
CERNEX	CBLU1183540 / POWER AMP	Annual	07/27/2013	21691