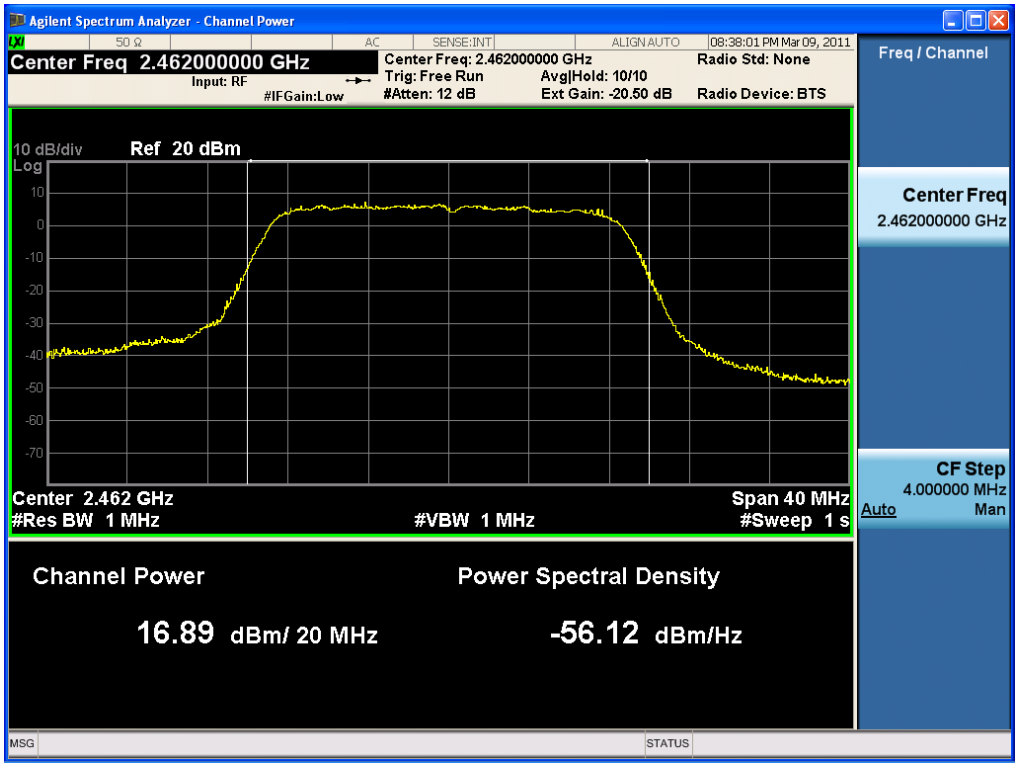
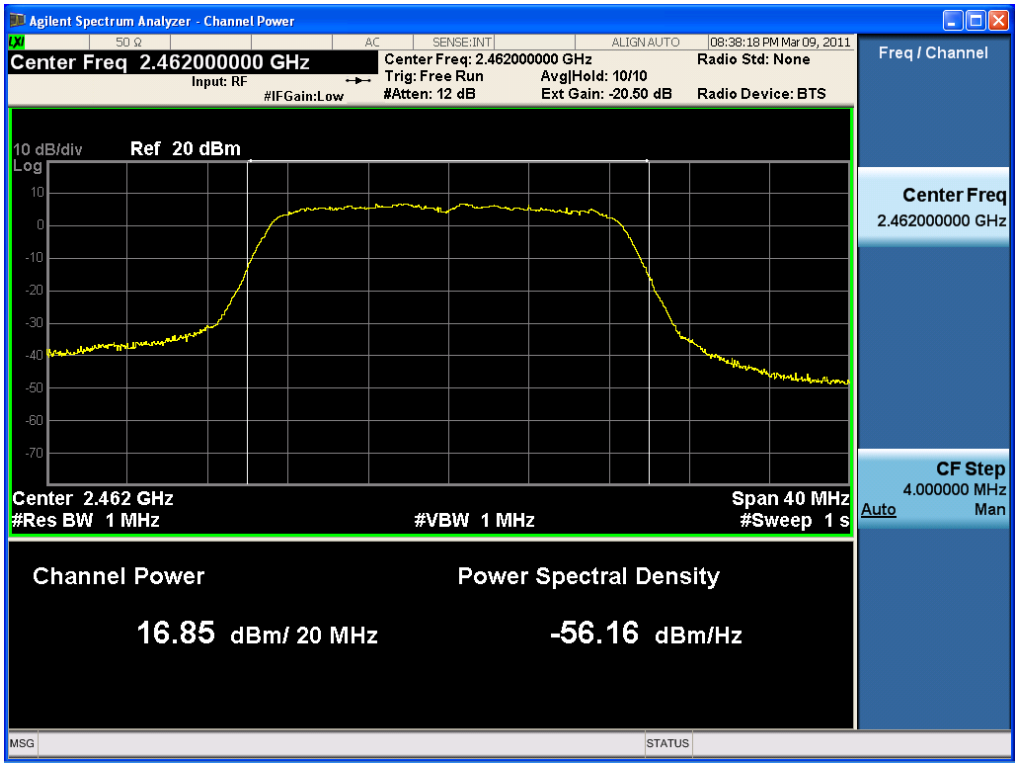
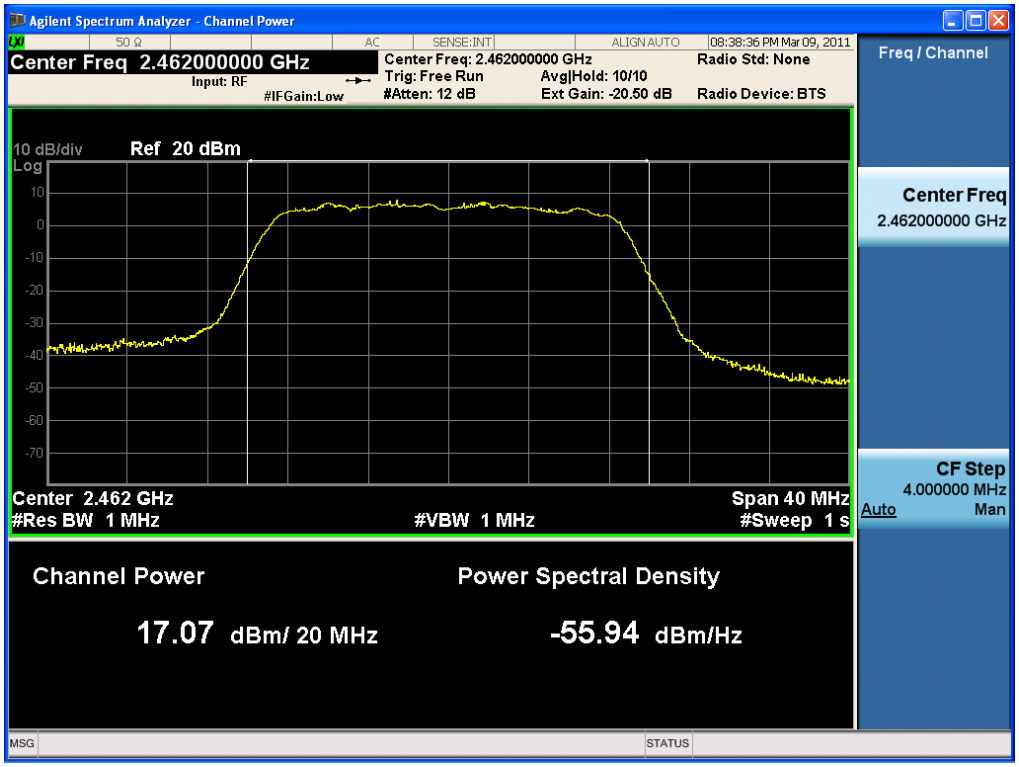
Conducted Output Power (802.11n_20 MHz -CH 11) 39Mbps



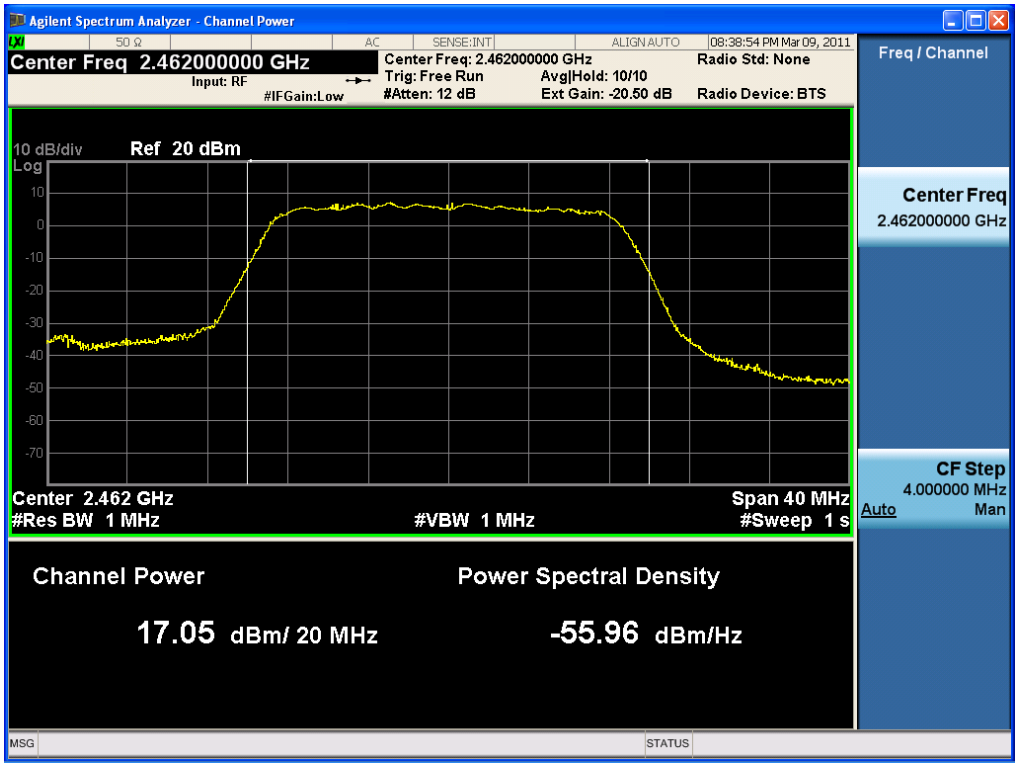
Conducted Output Power (802.11n_20 MHz -CH 11) 52Mbps



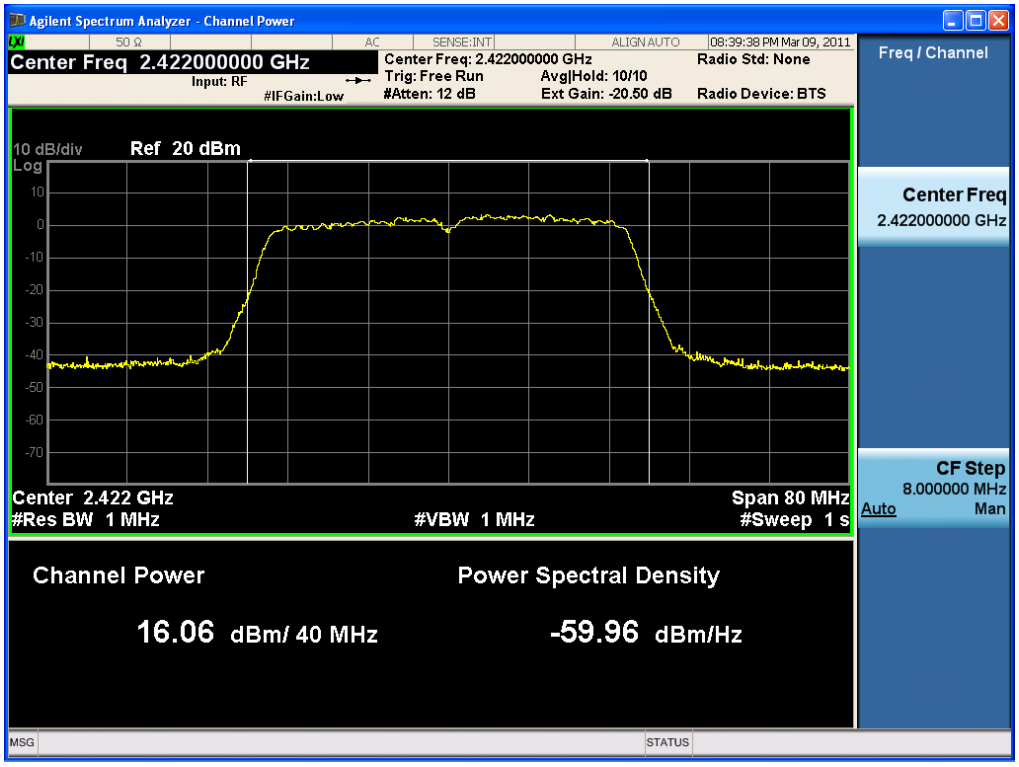
Conducted Output Power (802.11n_20 MHz -CH 11) 58.5Mbps



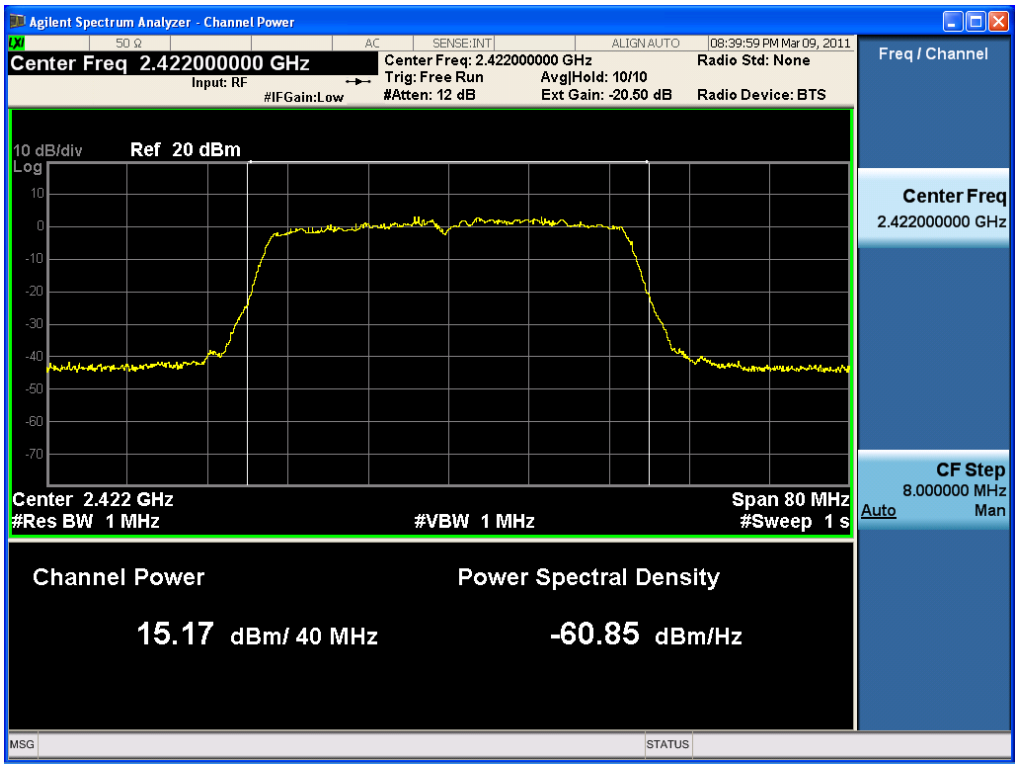
Conducted Output Power (802.11n_20 MHz -CH 11) 65Mbps



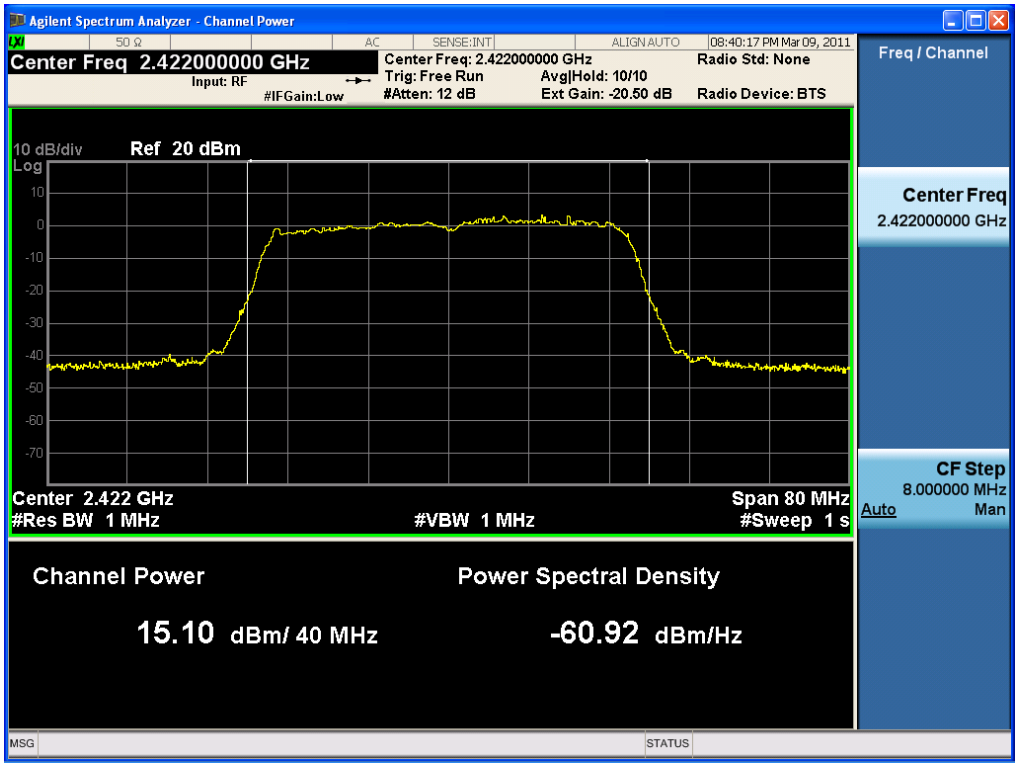
Conducted Output Power (802.11n_40 MHz-CH 1) 13Mbps



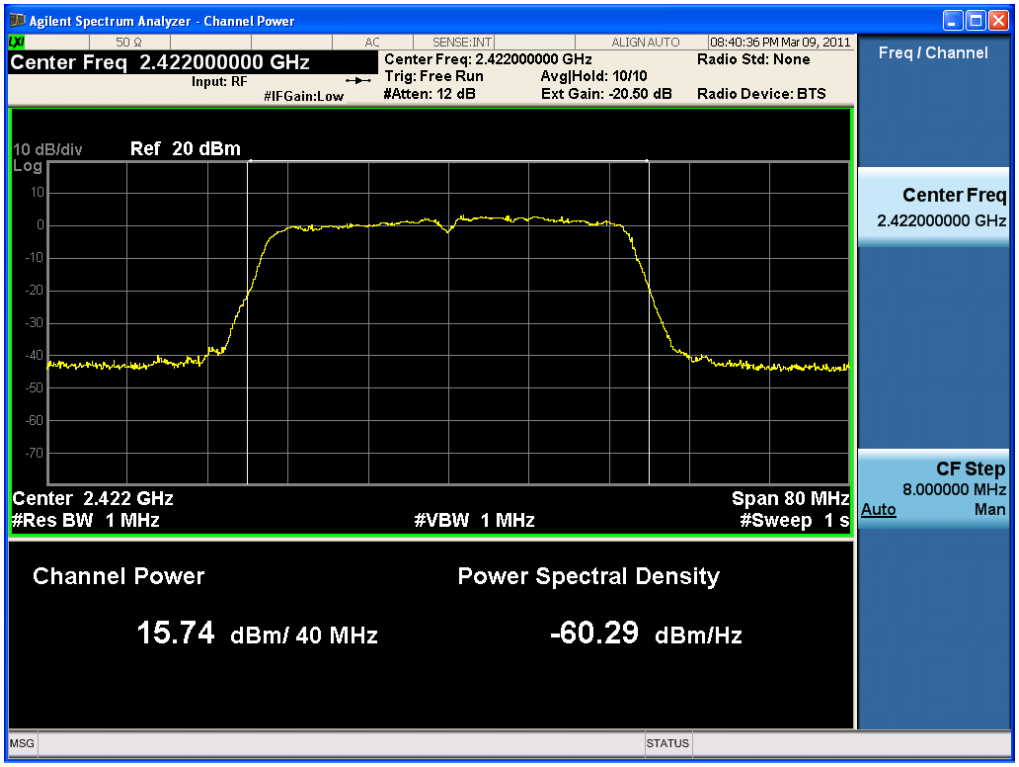
Conducted Output Power (802.11n_40 MHz -CH 1) 23Mbps



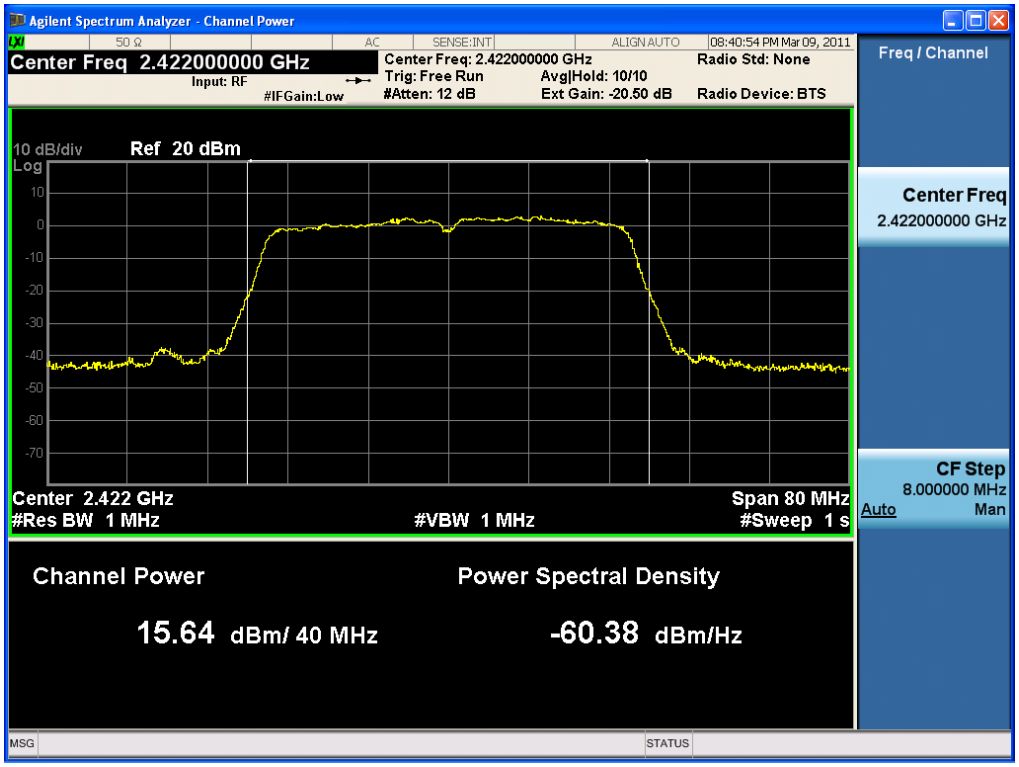
Conducted Output Power (802.11n_40 MHz -CH 1) 39Mbps



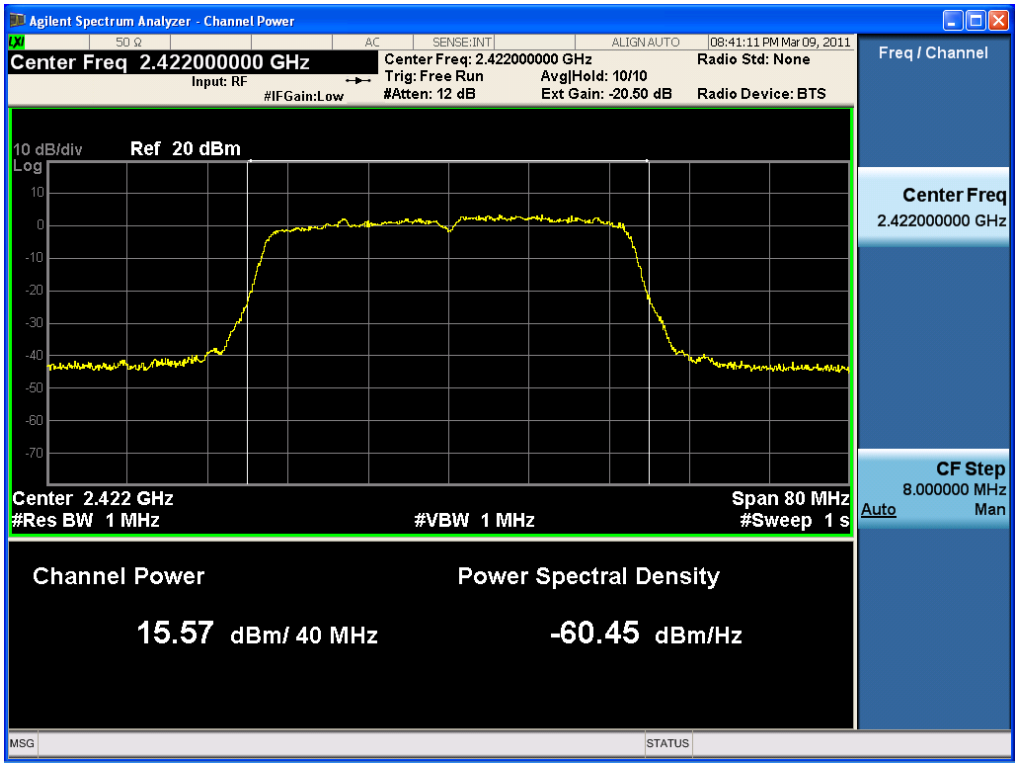
Conducted Output Power (802.11n_40 MHz -CH 1) 52Mbps



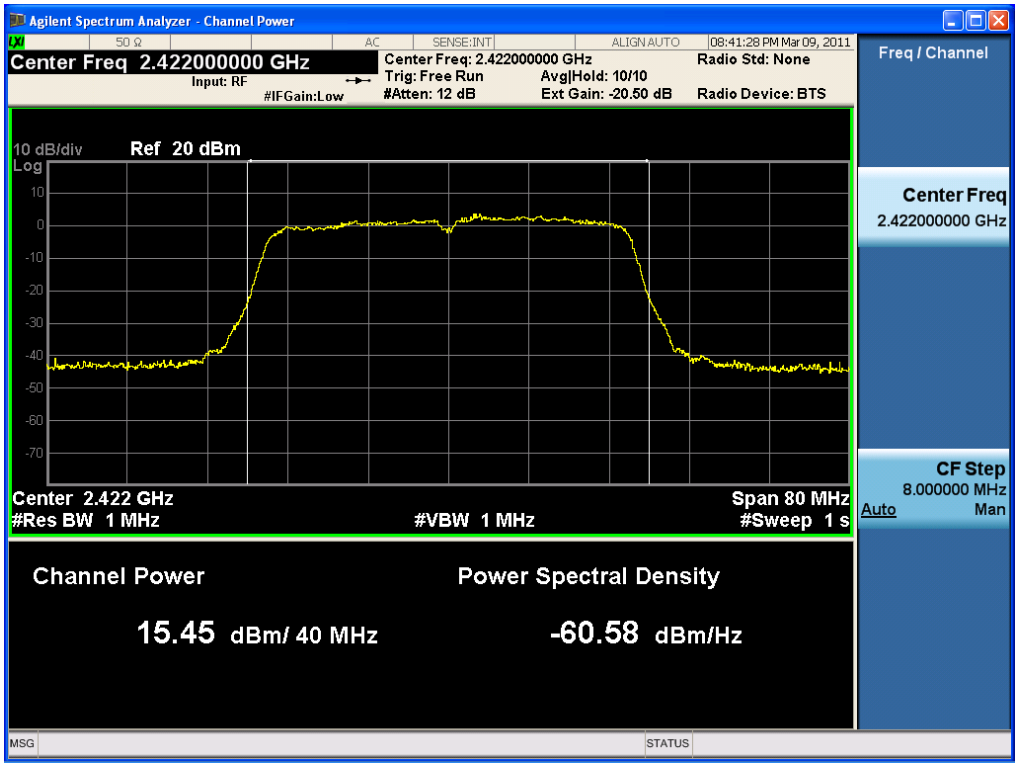
Conducted Output Power (802.11n_40 MHz -CH 1) 78Mbps



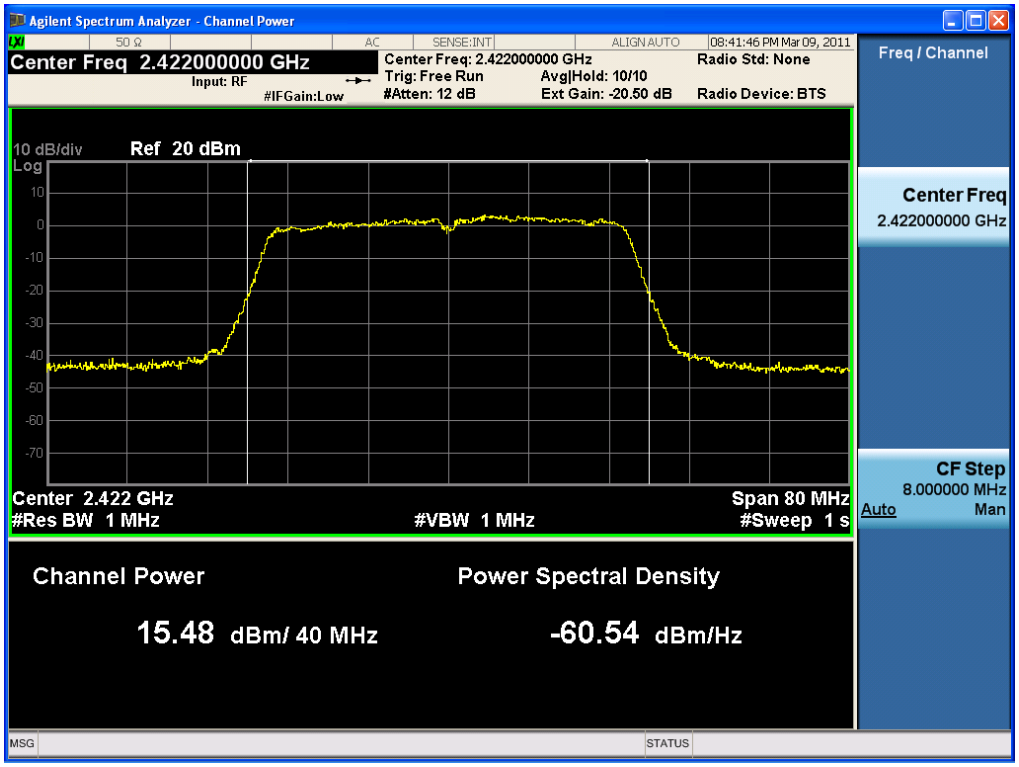
Conducted Output Power (802.11n_40 MHz -CH 1) 104Mbps



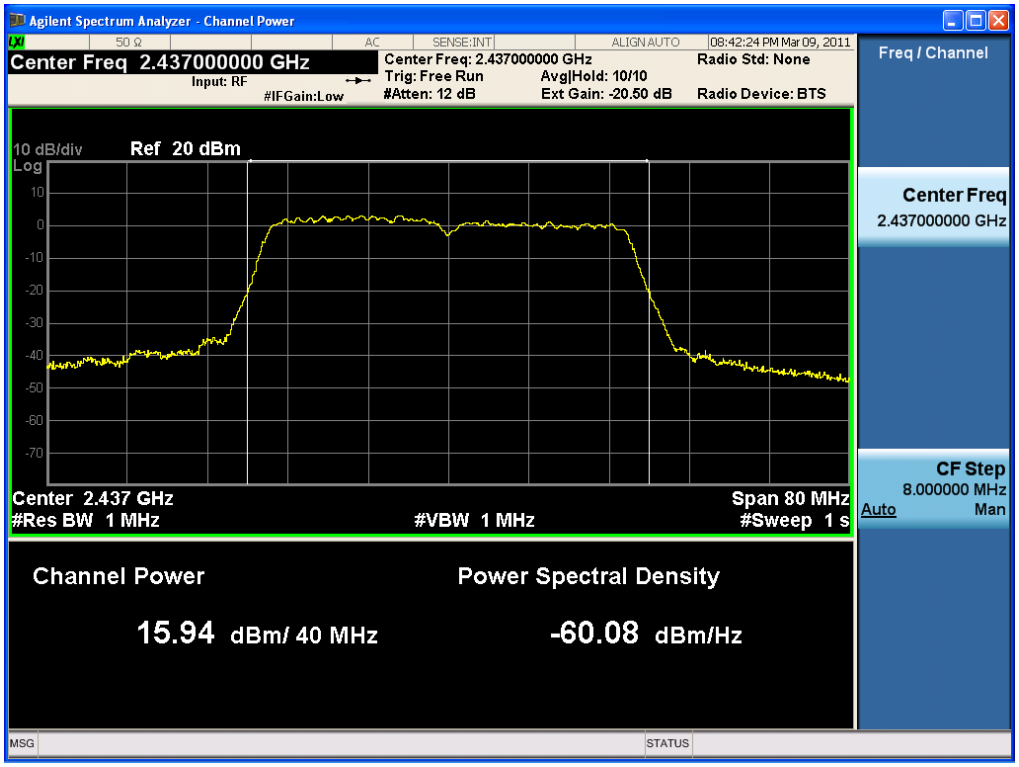
Conducted Output Power (802.11n_40 MHz -CH 1) 117Mbps



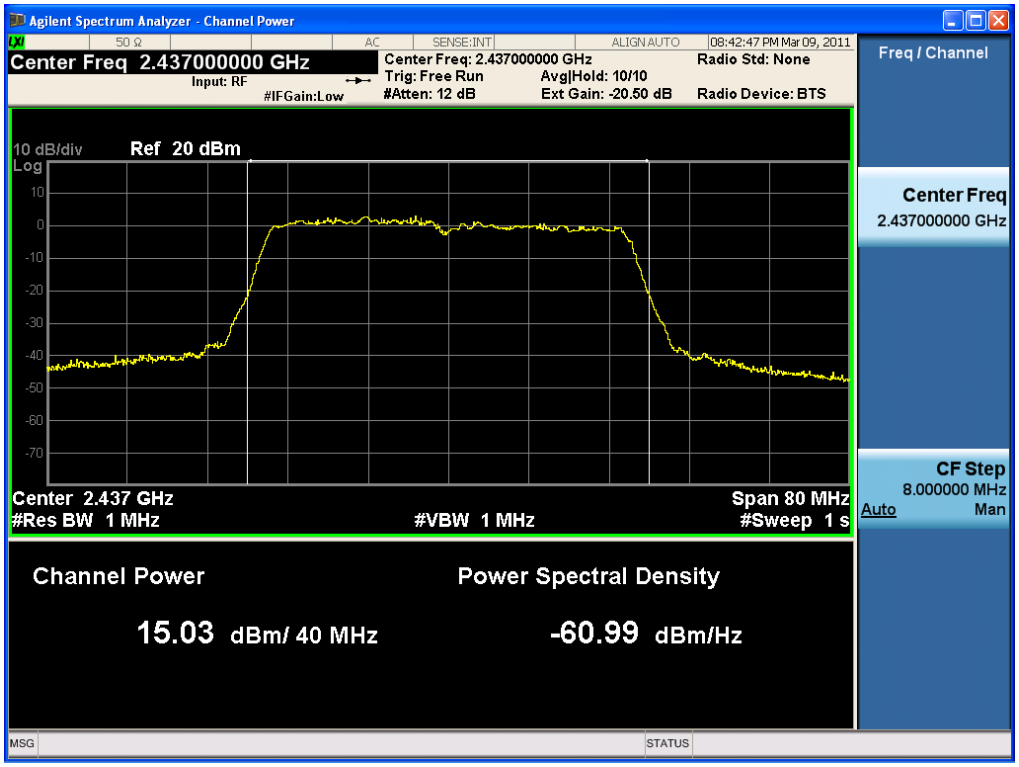
Conducted Output Power (802.11n_40 MHz -CH 1) 130Mbps



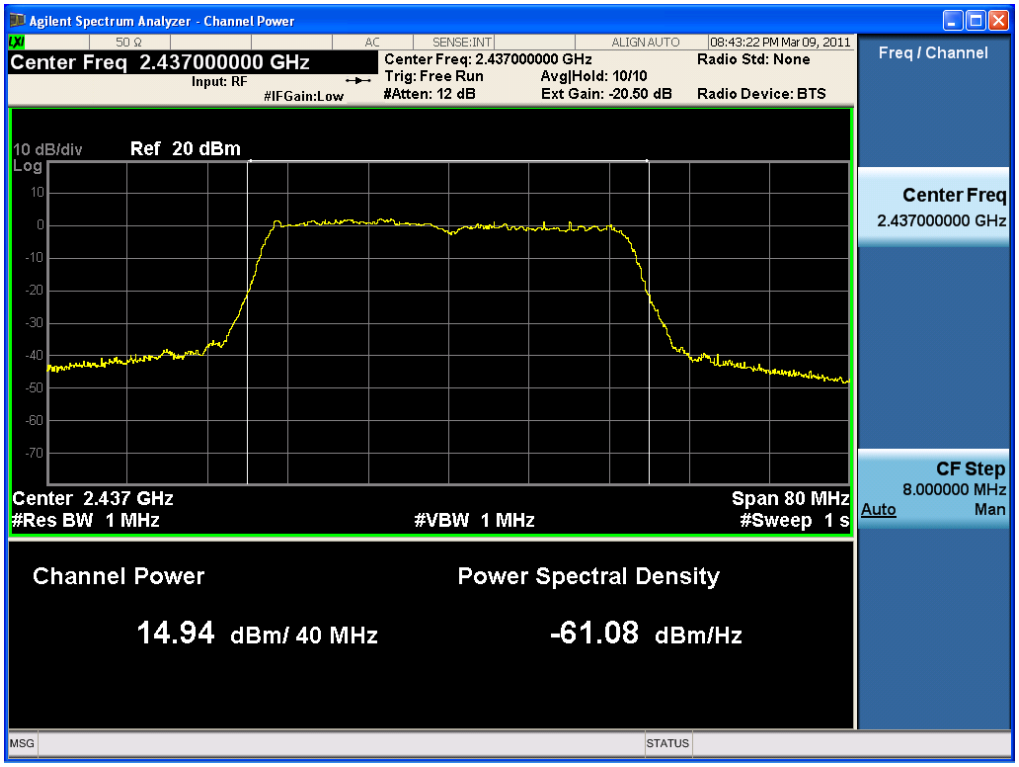
Conducted Output Power (802.11n_40 MHz -CH 4) 13Mbps



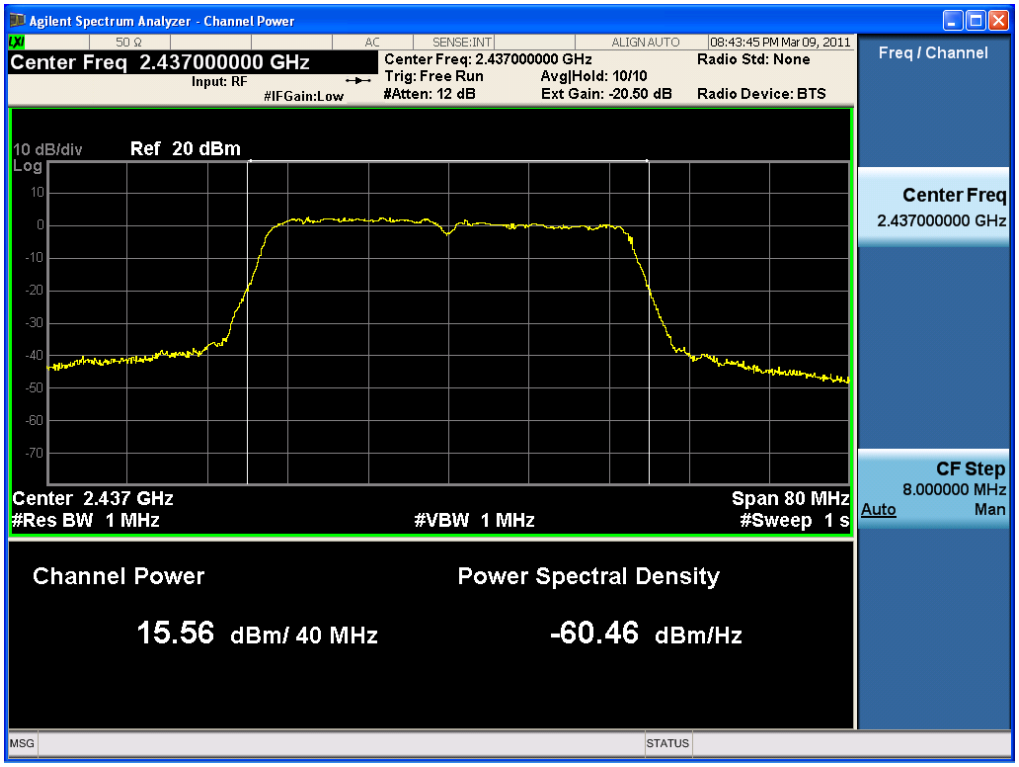
Conducted Output Power (802.11n_40 MHz -CH 4) 23Mbps



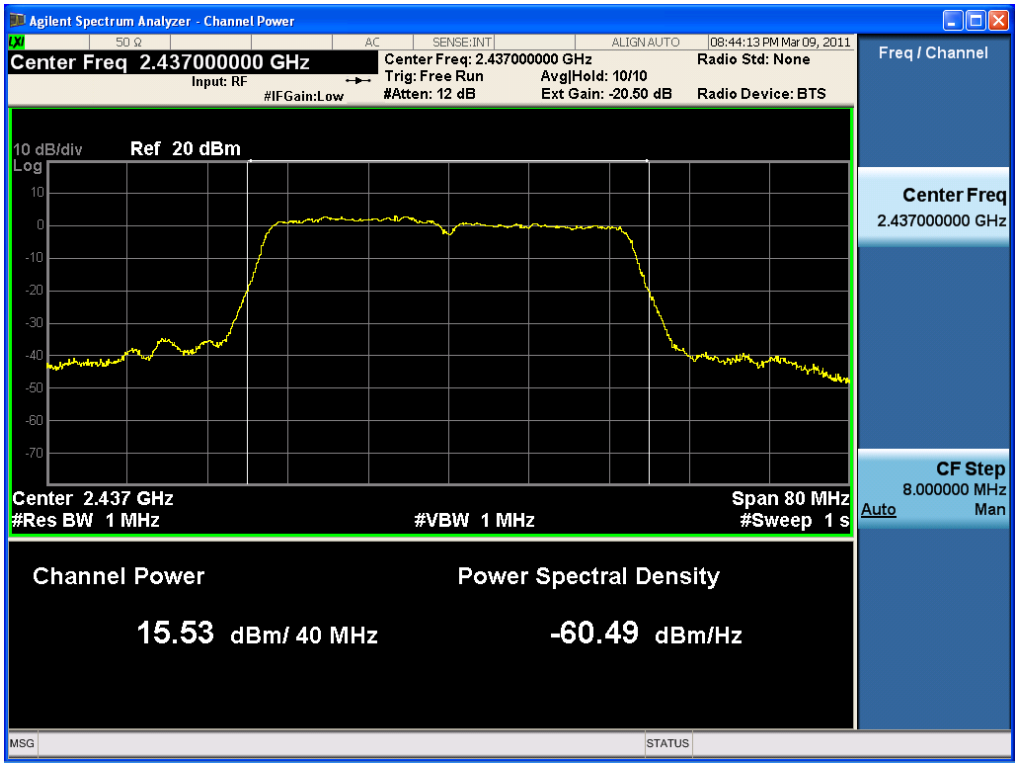
Conducted Output Power (802.11n_40 MHz -CH 4) 39Mbps



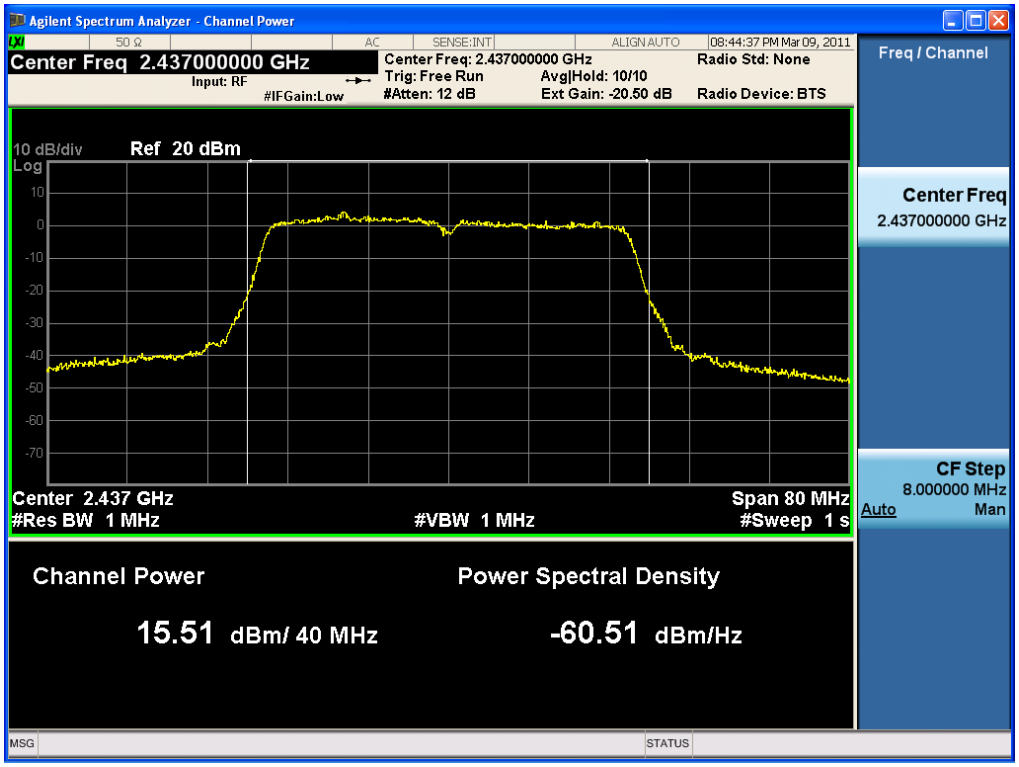
Conducted Output Power (802.11n_40 MHz -CH 4) 52Mbps



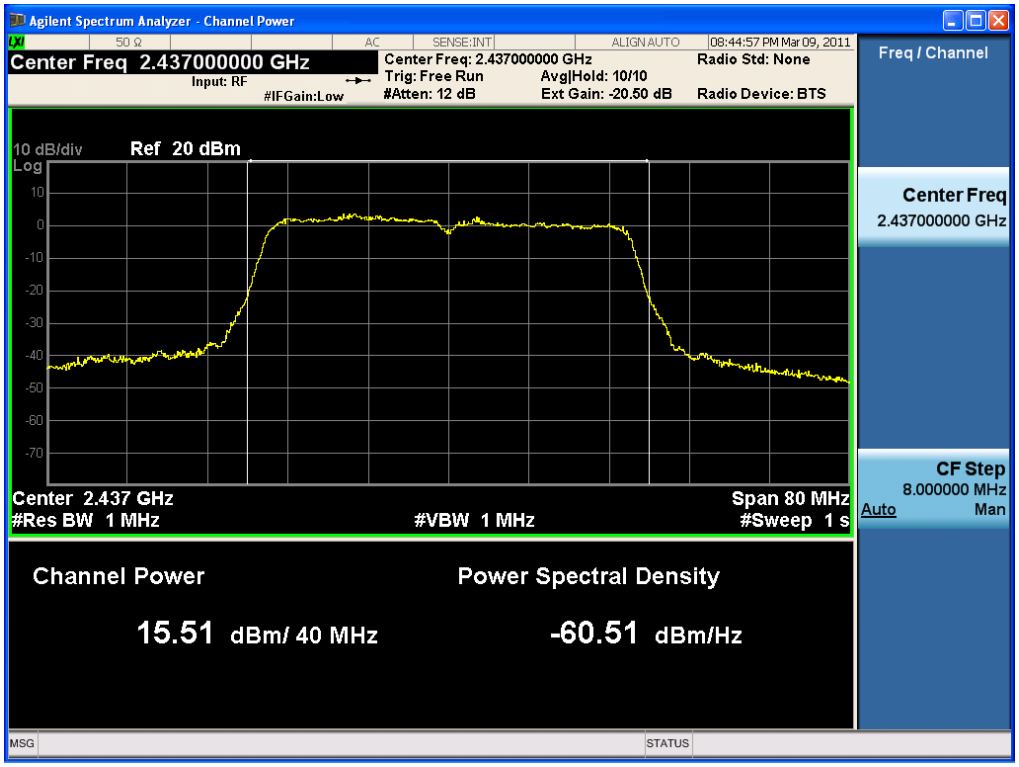
Conducted Output Power (802.11n_40 MHz -CH 4) 78Mbps



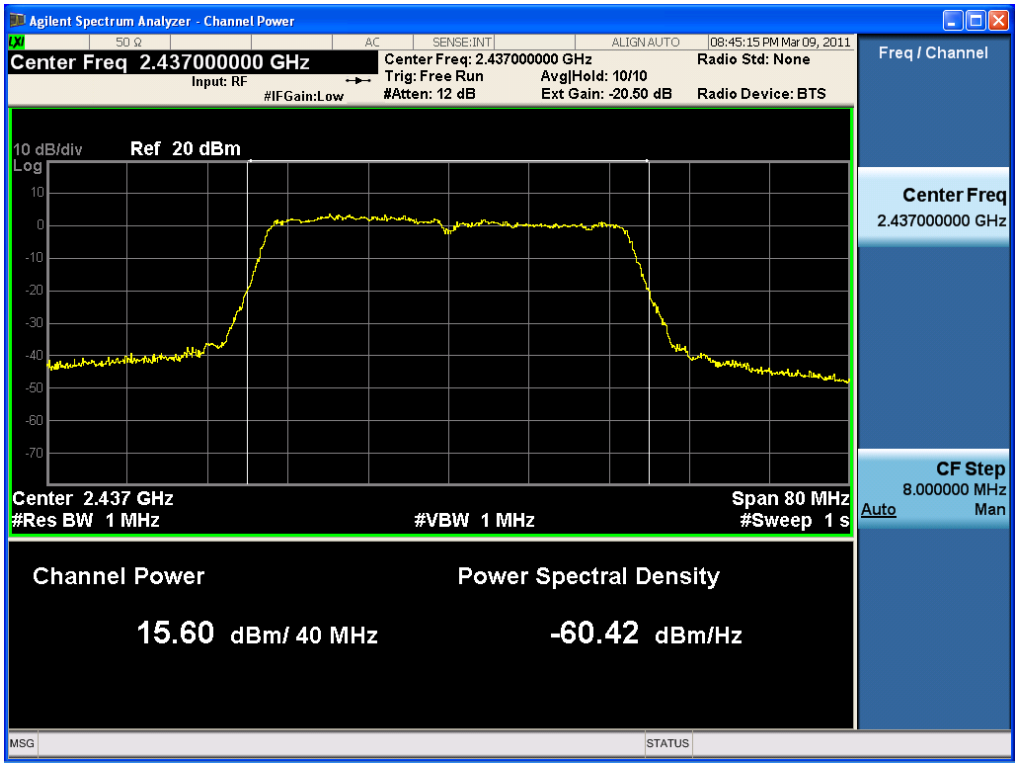
Conducted Output Power (802.11n_40 MHz -CH 4) 104Mbps



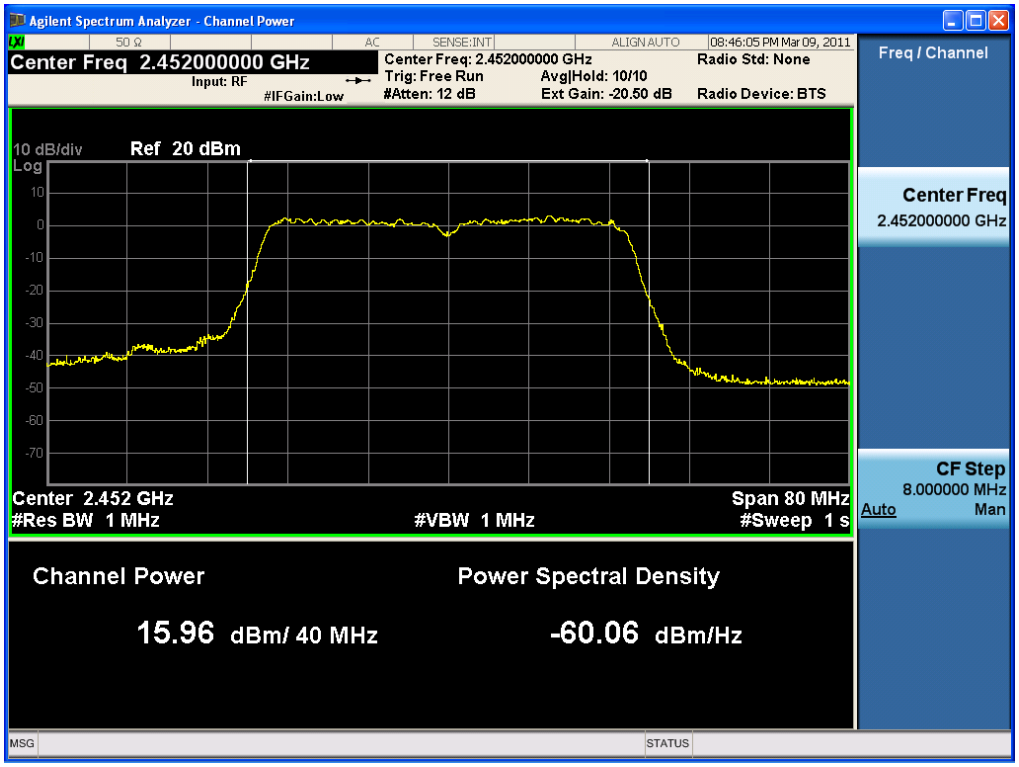
Conducted Output Power (802.11n_40 MHz -CH 4) 117Mbps



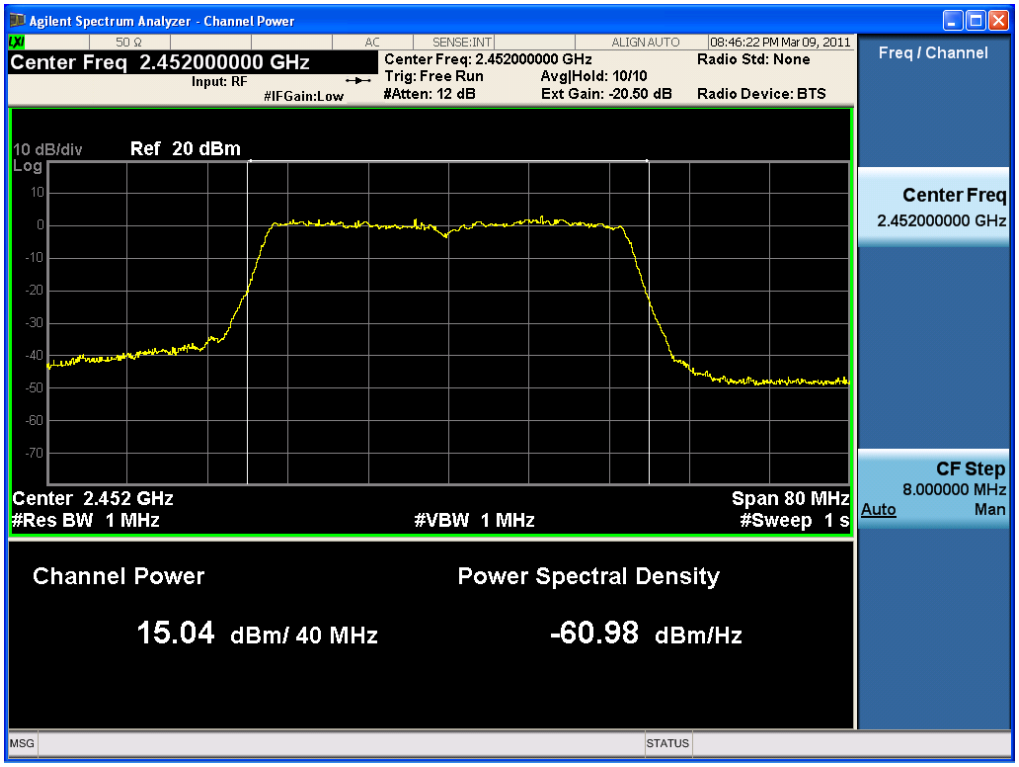
Conducted Output Power (802.11n_40 MHz -CH 4) 130Mbps



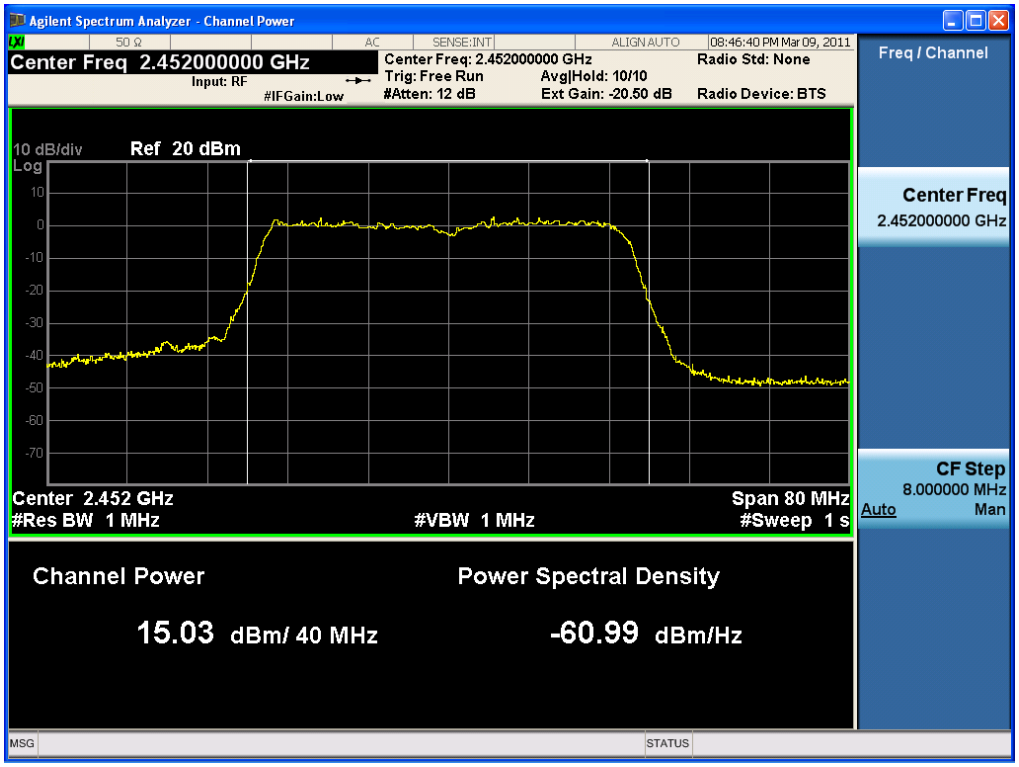
Conducted Output Power (802.11n_40 MHz -CH 7) 13Mbps



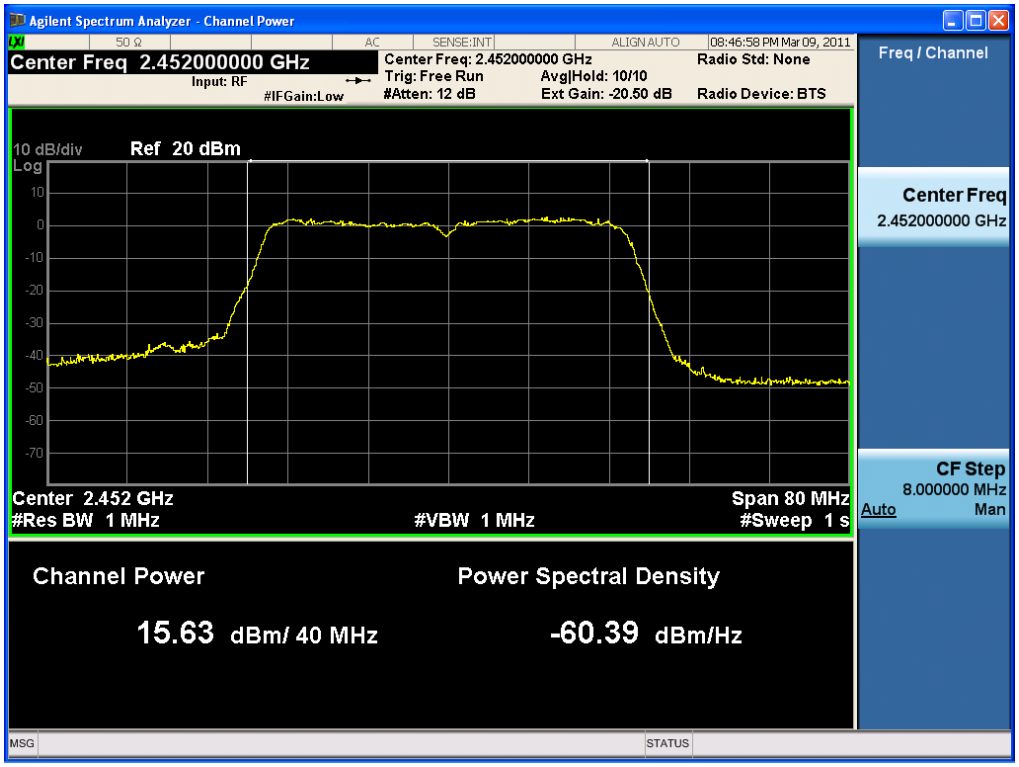
Conducted Output Power (802.11n_40 MHz -CH 7) 23Mbps



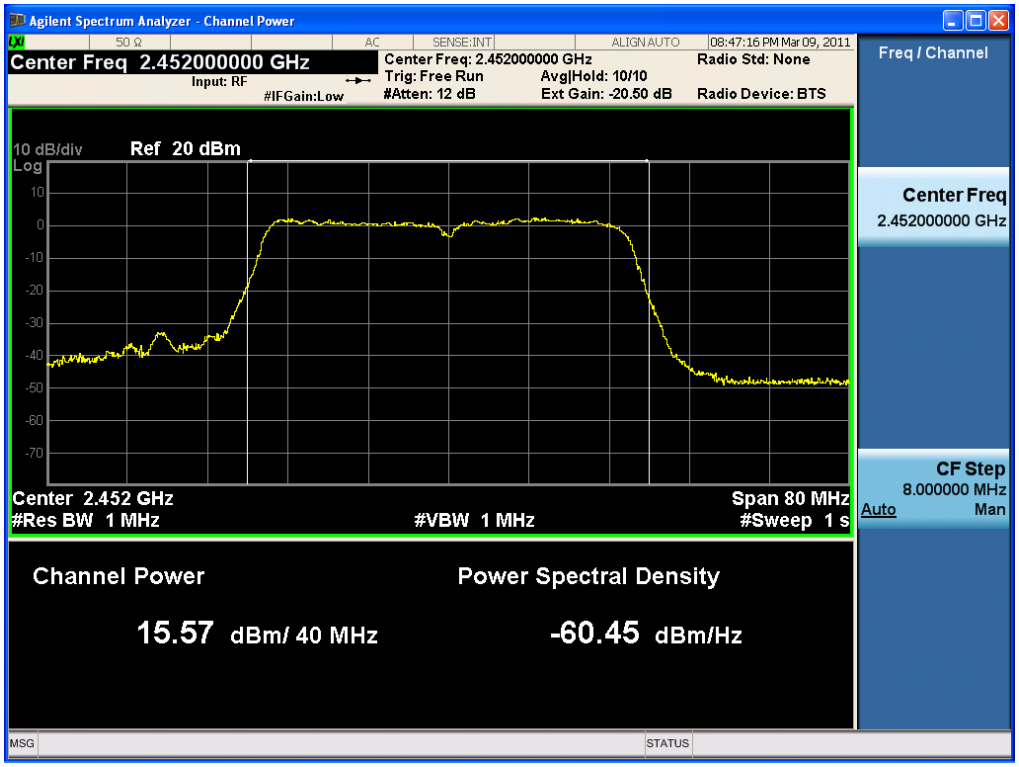
Conducted Output Power (802.11n_40 MHz -CH 7) 39Mbps



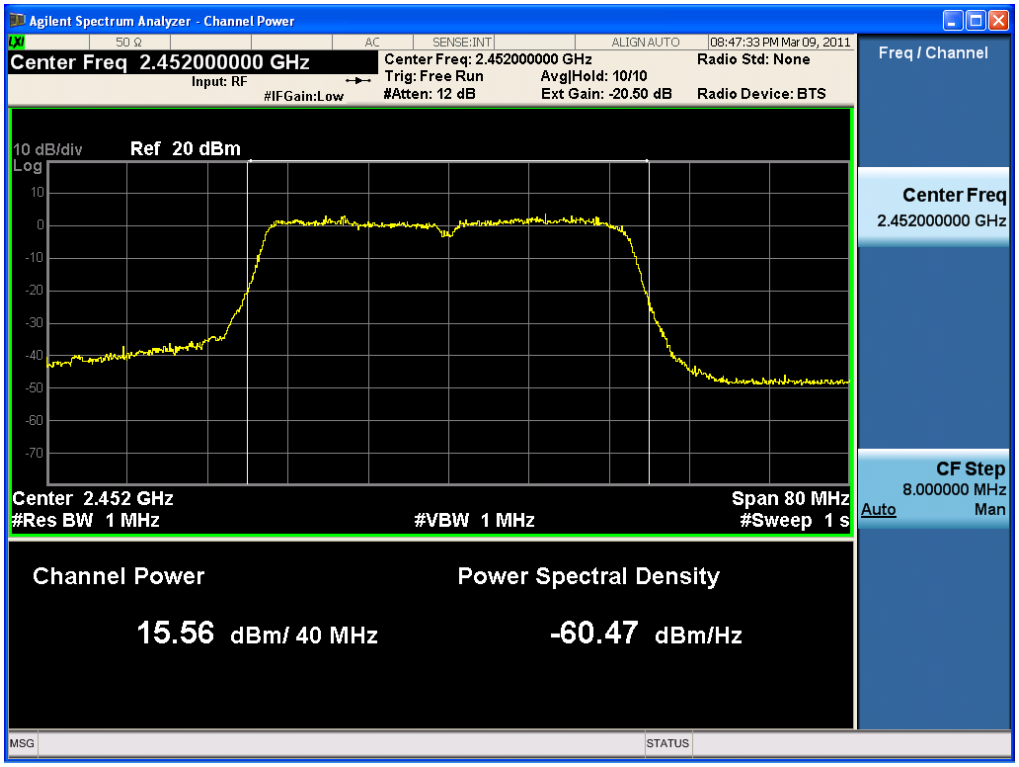
Conducted Output Power (802.11n_40 MHz -CH 7) 52Mbps



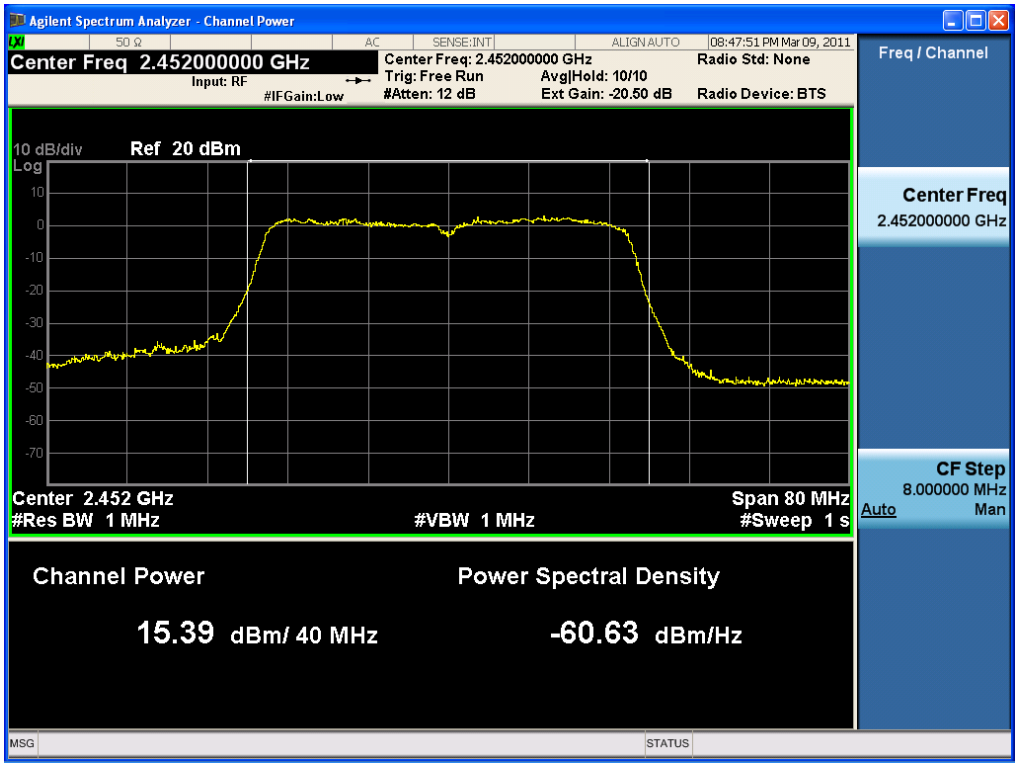
Conducted Output Power (802.11n_40 MHz -CH 7) 78Mbps



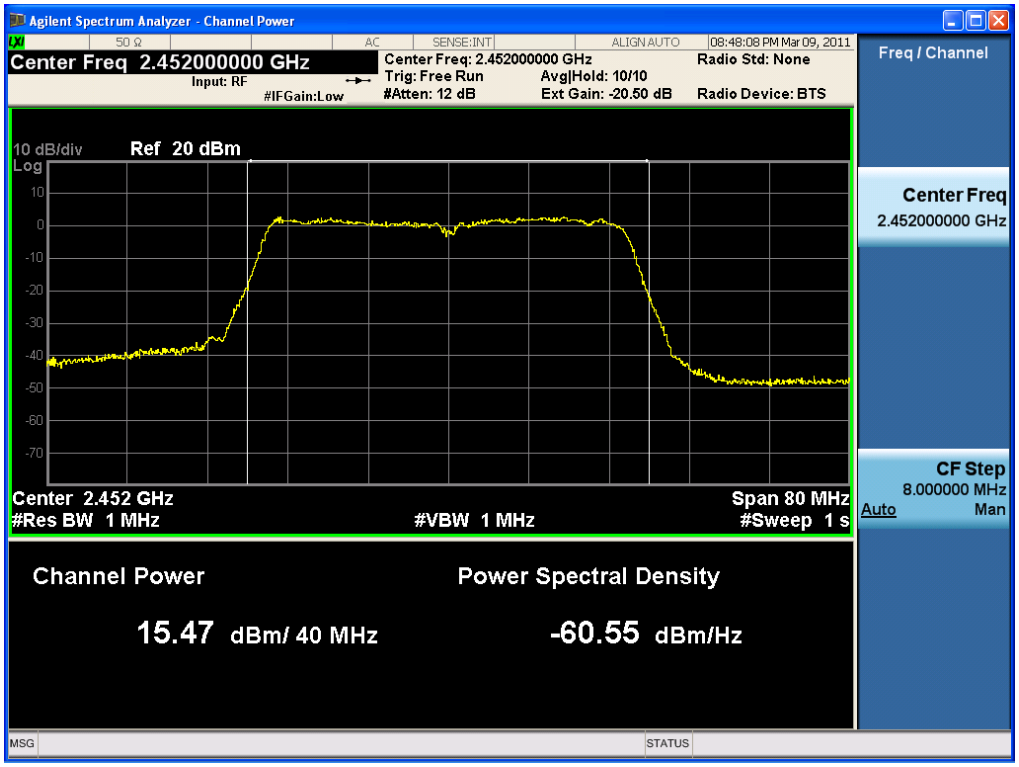
Conducted Output Power (802.11n_40 MHz -CH 7) 104Mbps



Conducted Output Power (802.11n_40 MHz -CH 7) 117Mbps

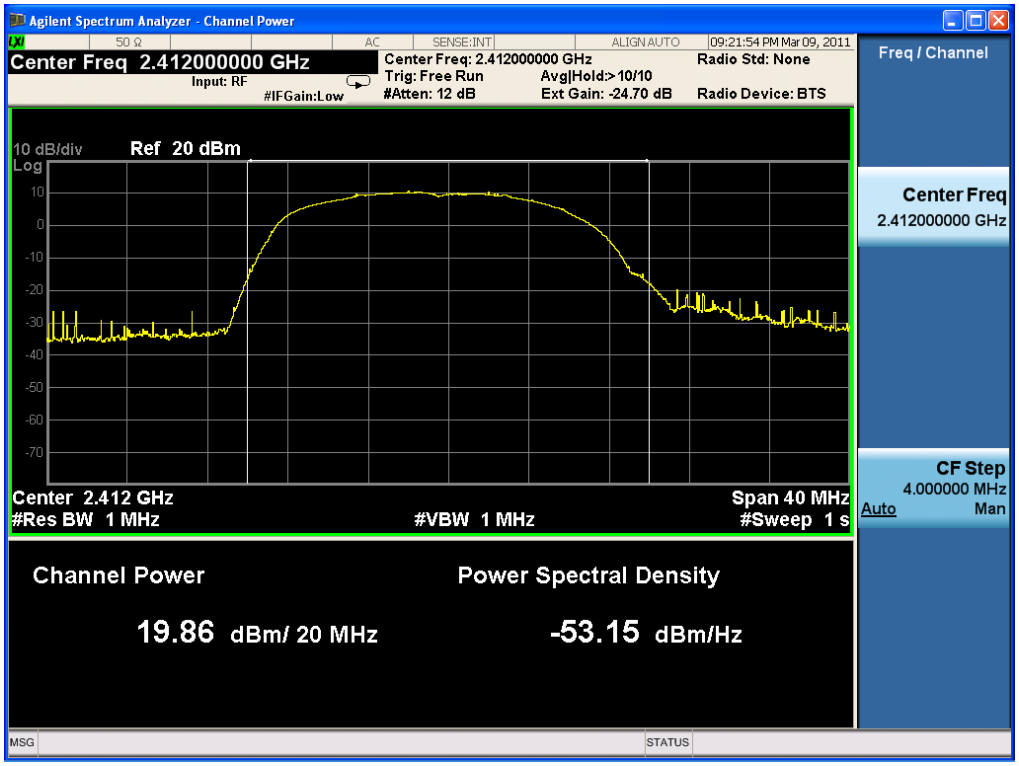


Conducted Output Power (802.11n_40 MHz -CH 7) 130Mbps

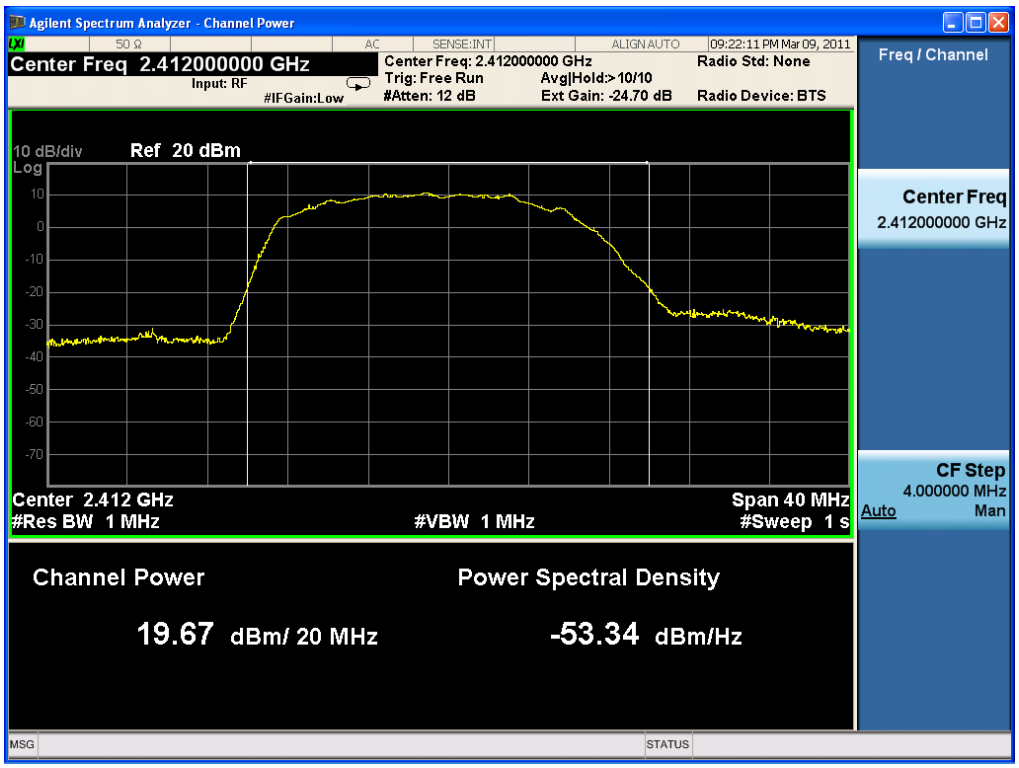


- Port 0 & 1

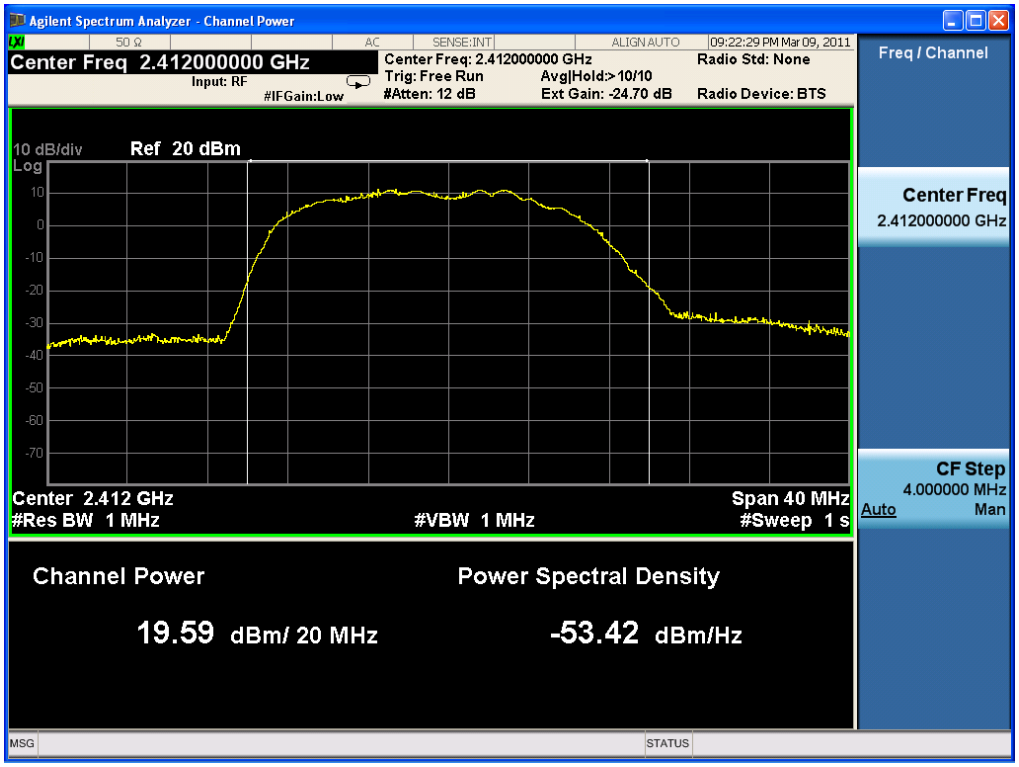
Conducted Output Power (802.11n_20 MHz -CH 1) 6.5Mbps



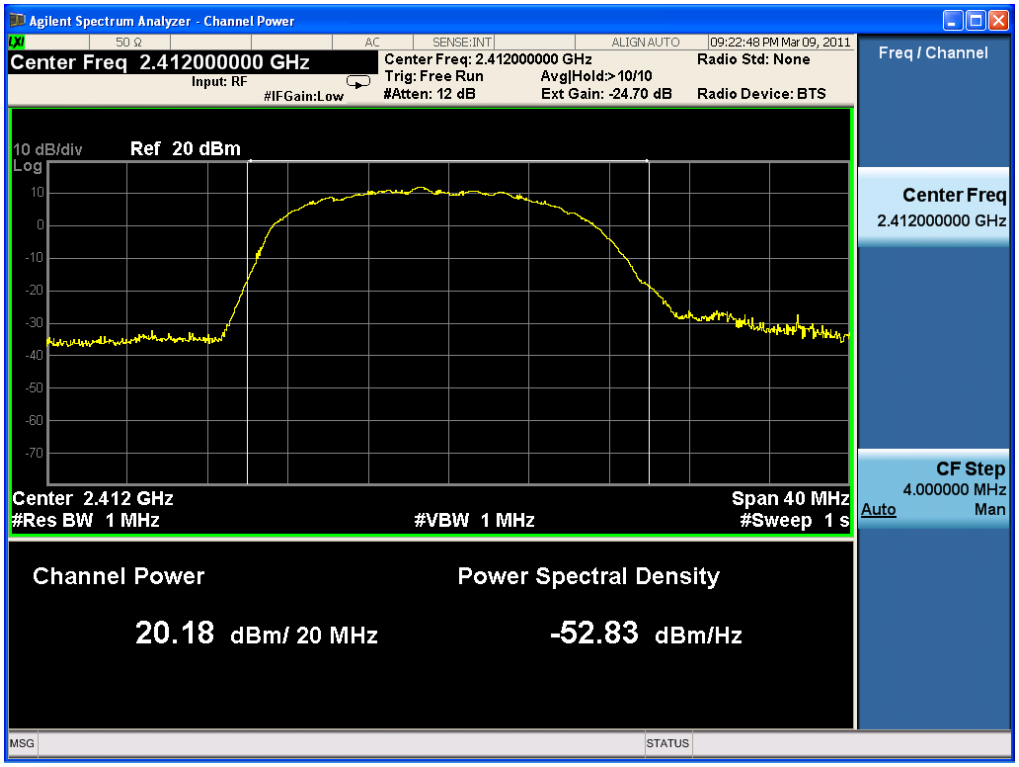
Conducted Output Power (802.11n_20 MHz -CH 1) 13Mbps



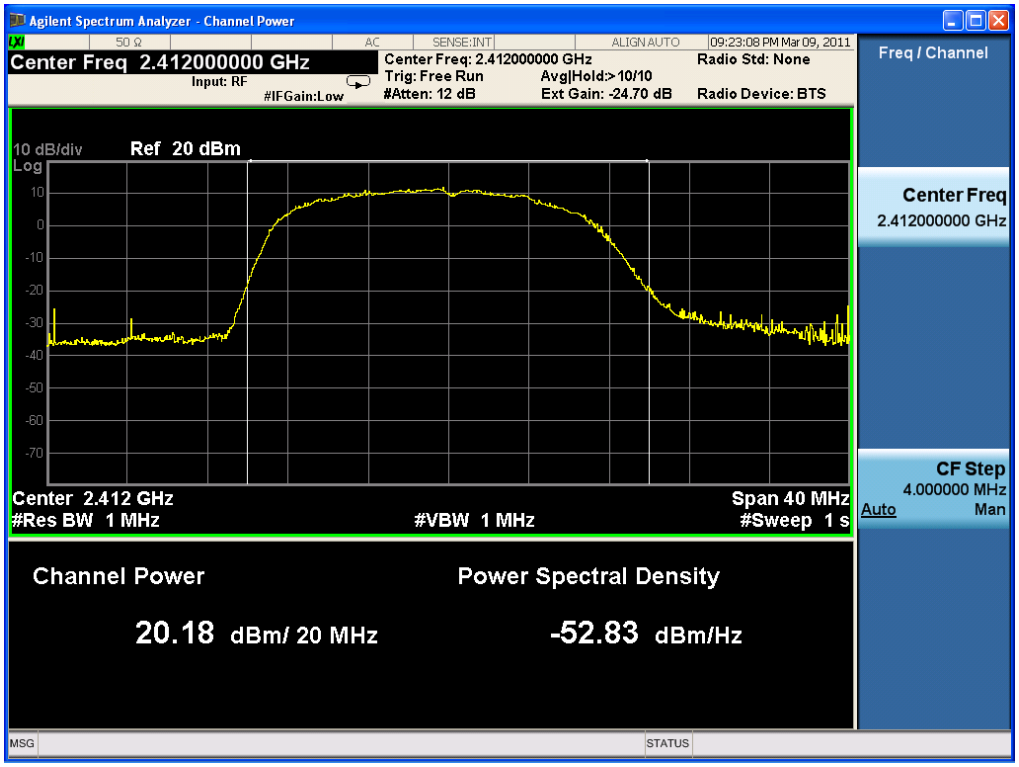
Conducted Output Power (802.11n_20 MHz -CH 1) 19.5Mbps



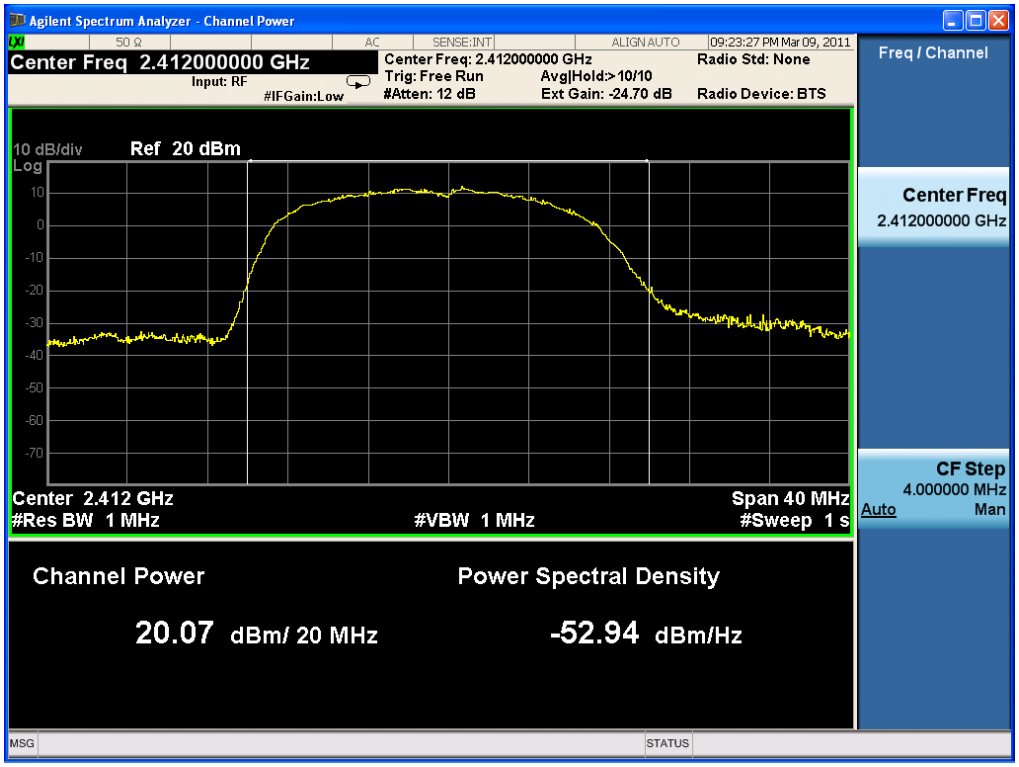
Conducted Output Power (802.11n_20 MHz -CH 1) 26Mbps



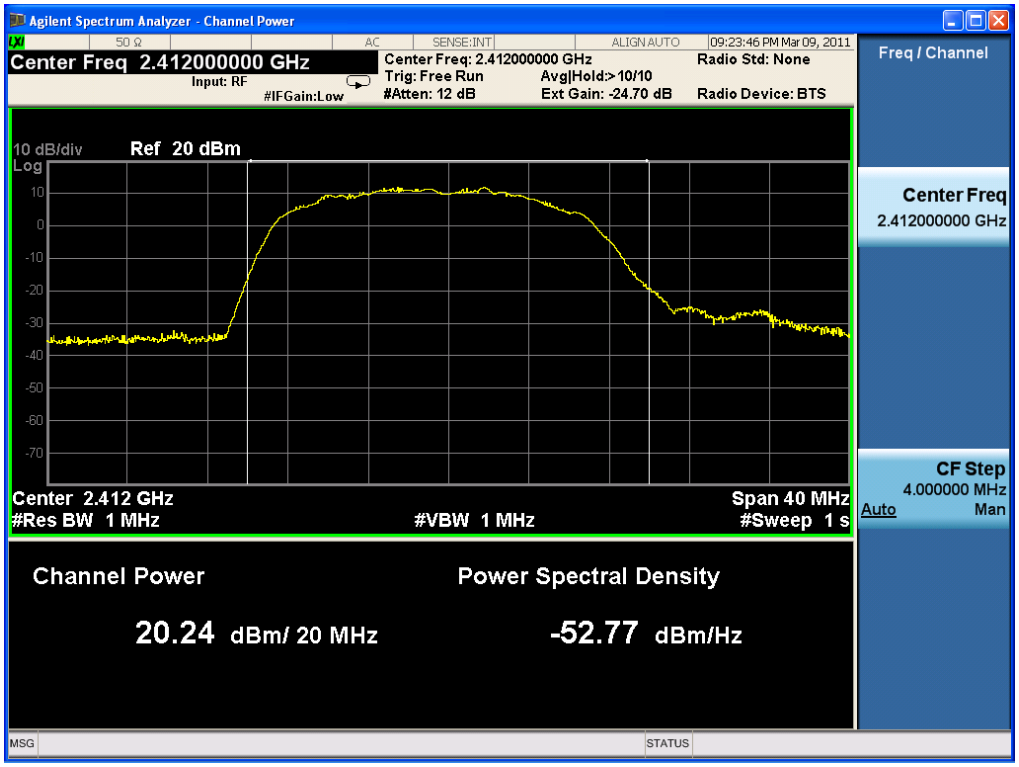
Conducted Output Power (802.11n_20 MHz -CH 1) 39Mbps



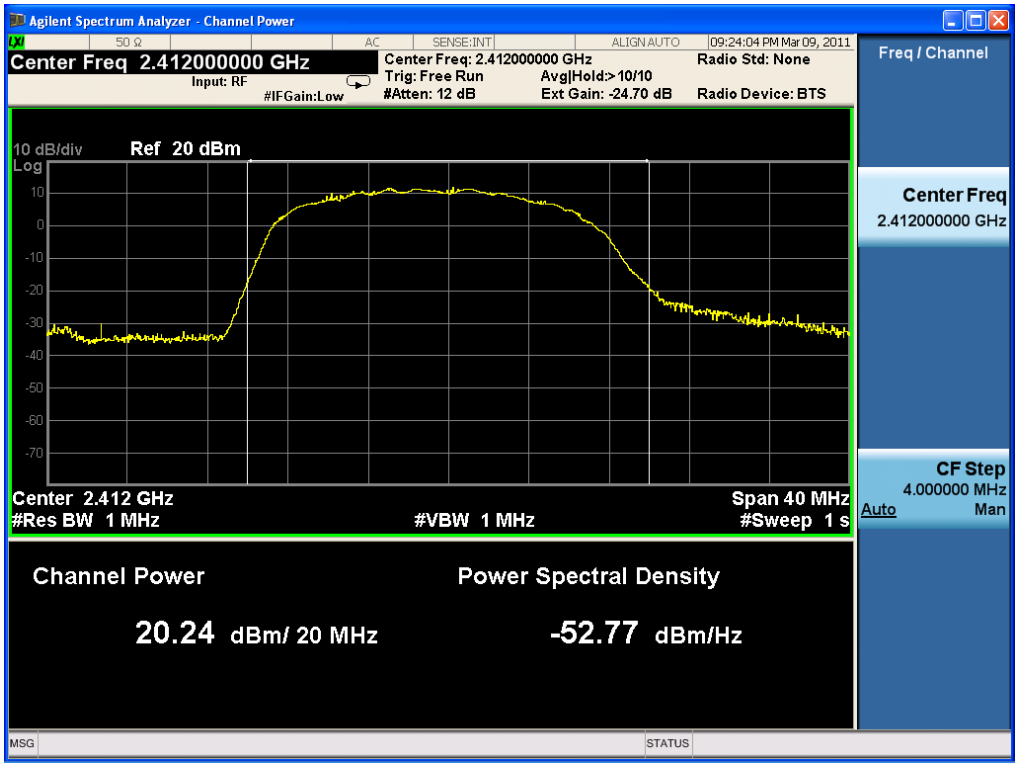
Conducted Output Power (802.11n_20 MHz -CH 1) 52Mbps



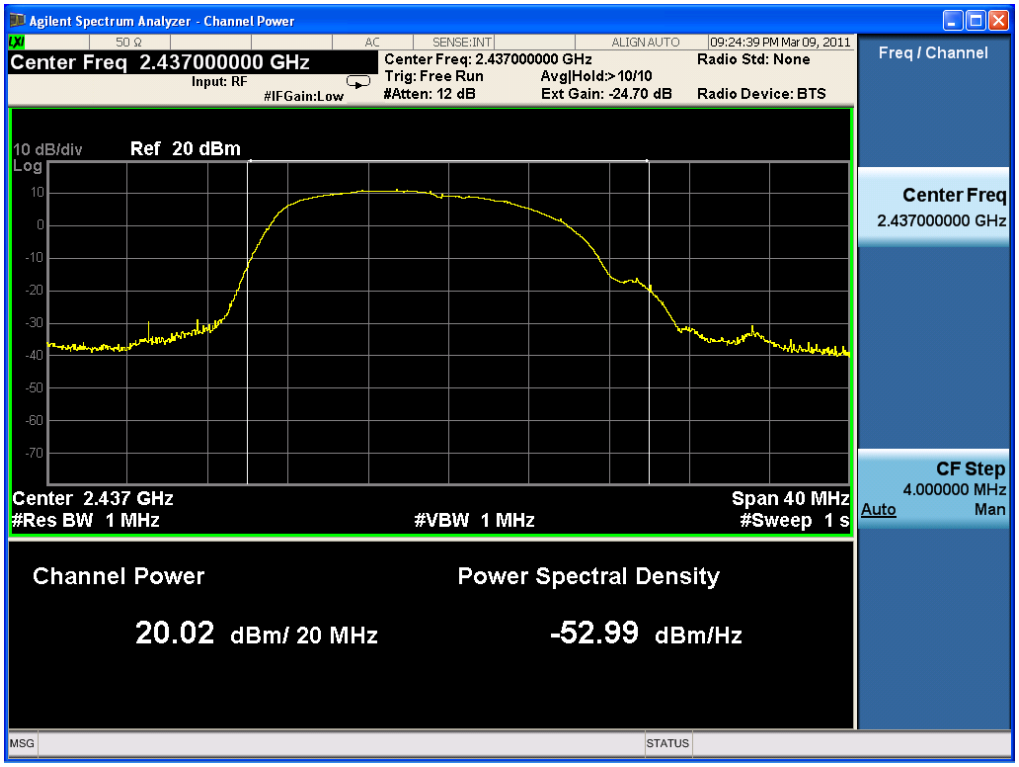
Conducted Output Power (802.11n_20 MHz -CH 1) 58.5Mbps



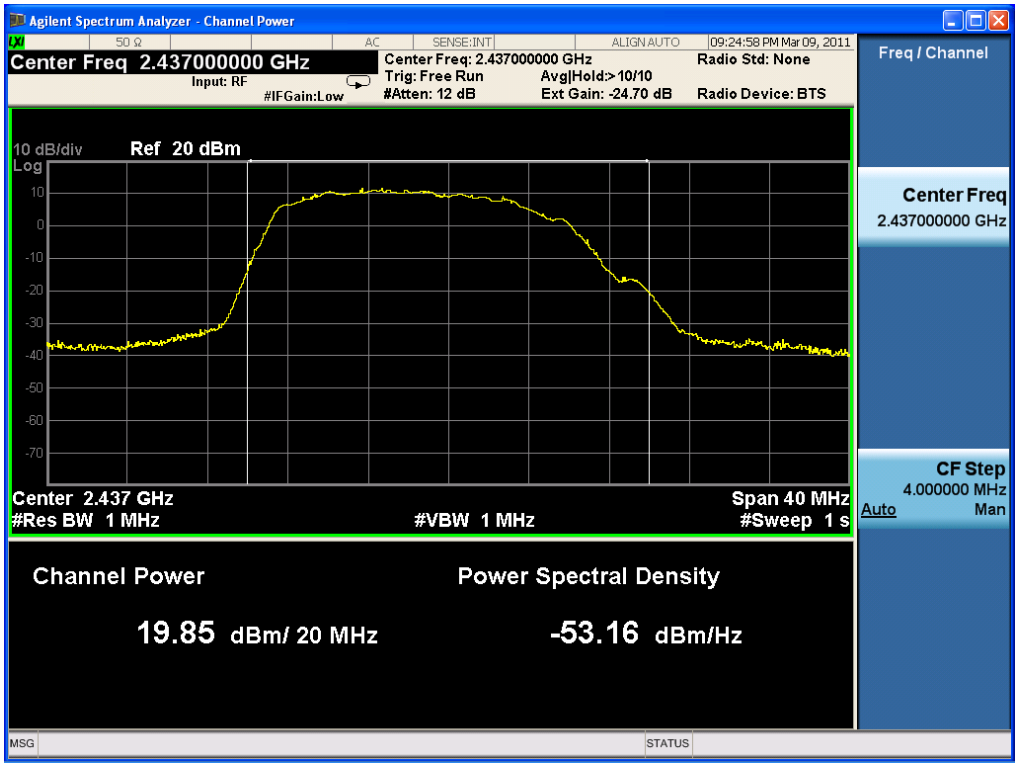
Conducted Output Power (802.11n_20 MHz -CH 1) 65Mbps



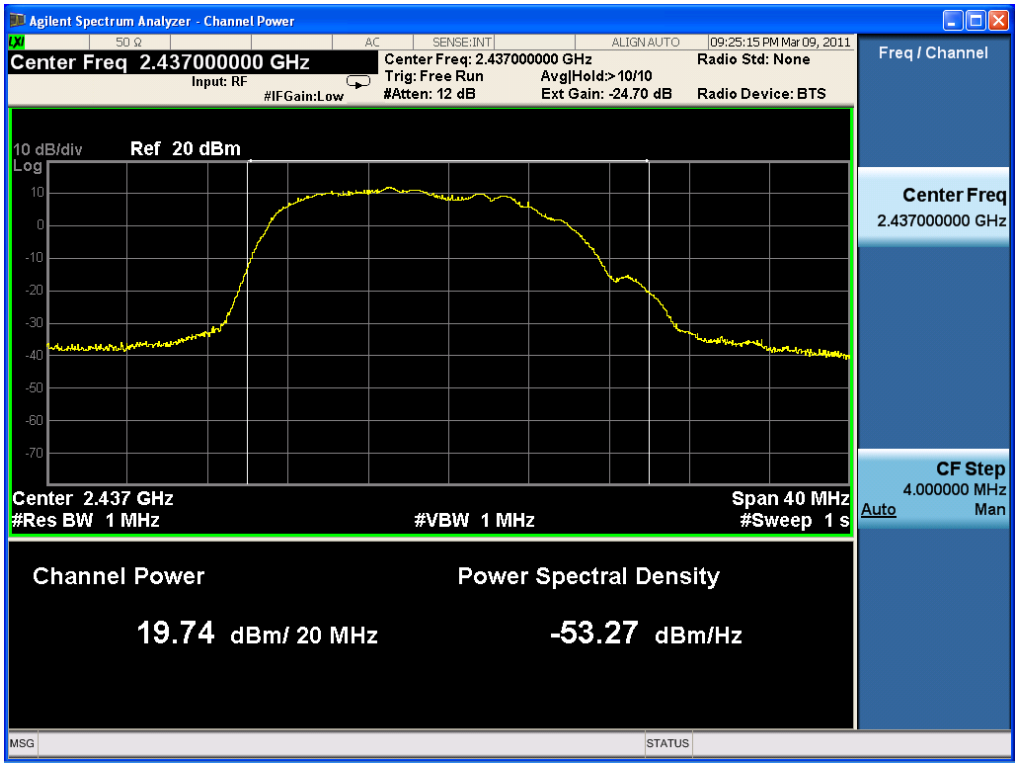
Conducted Output Power (802.11n_20 MHz -CH 6) 6.5Mbps



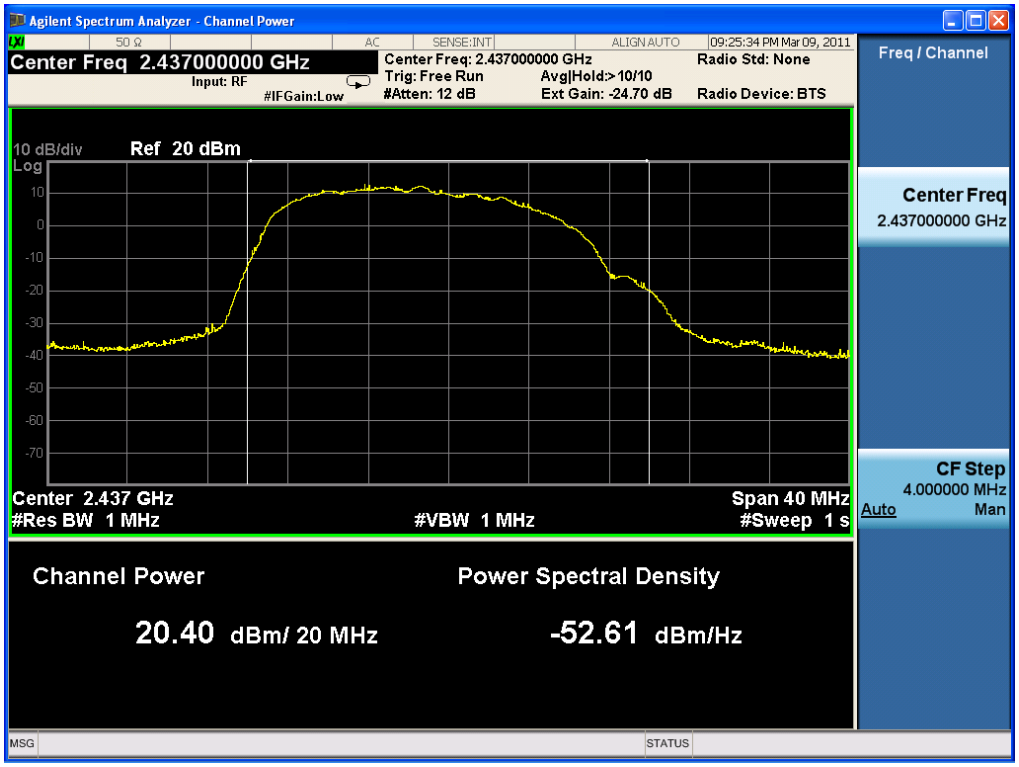
Conducted Output Power (802.11n_20 MHz -CH 6) 13Mbps



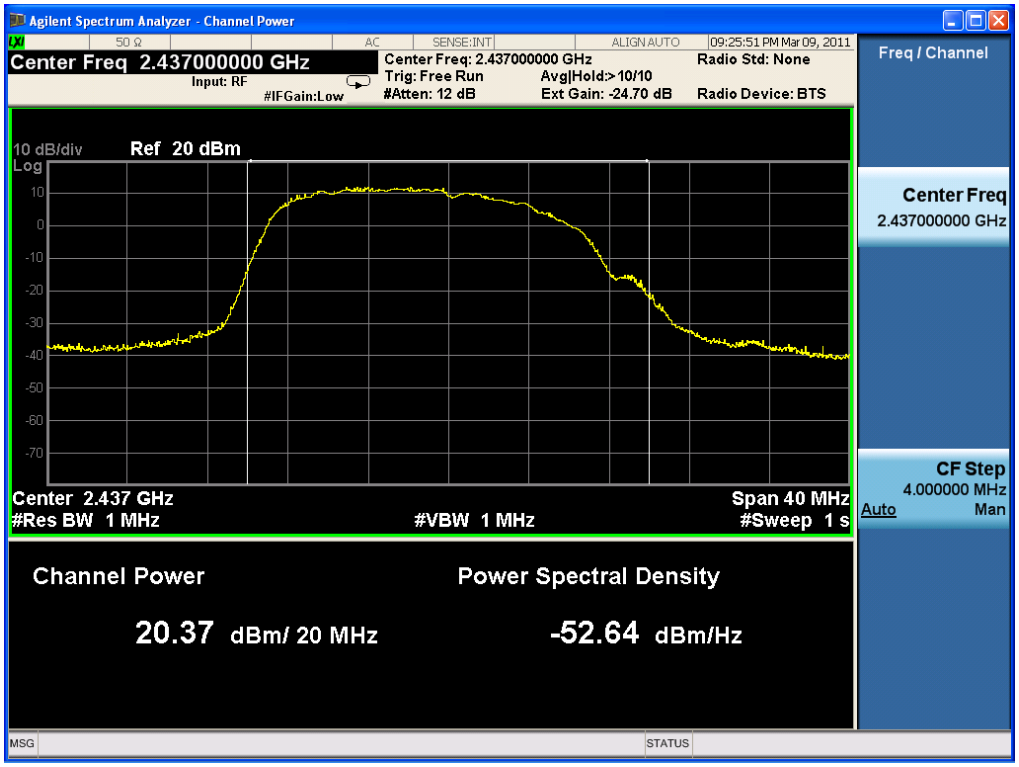
Conducted Output Power (802.11n_20 MHz -CH 6) 19.5Mbps



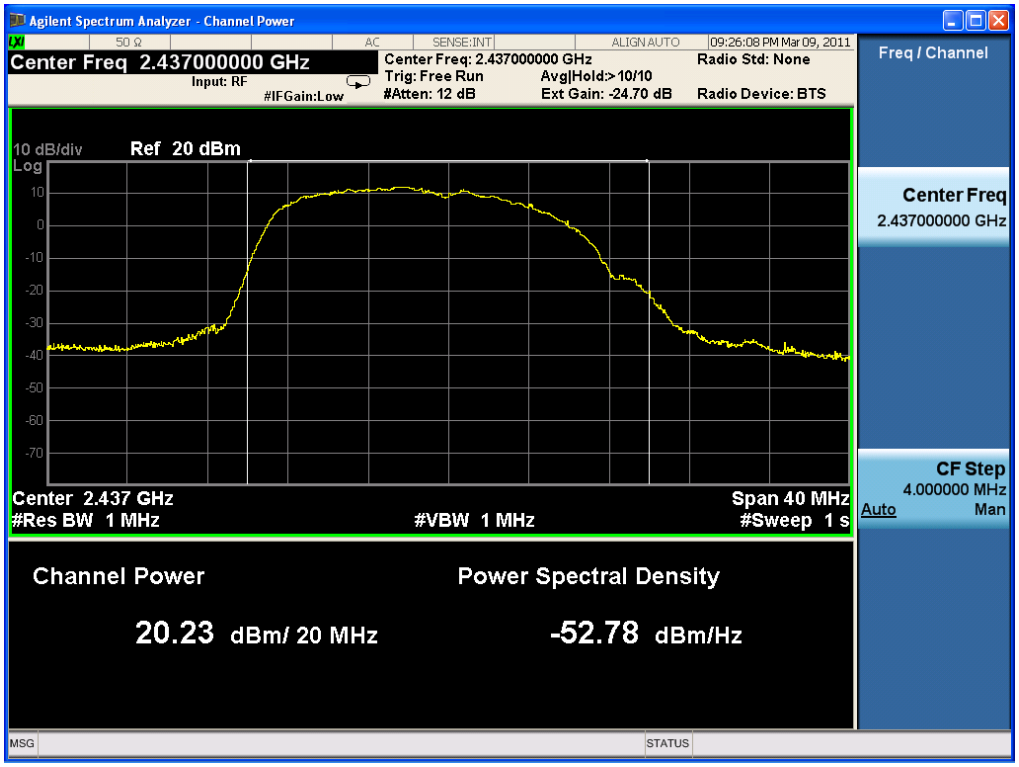
Conducted Output Power (802.11n_20 MHz -CH 6) 26Mbps



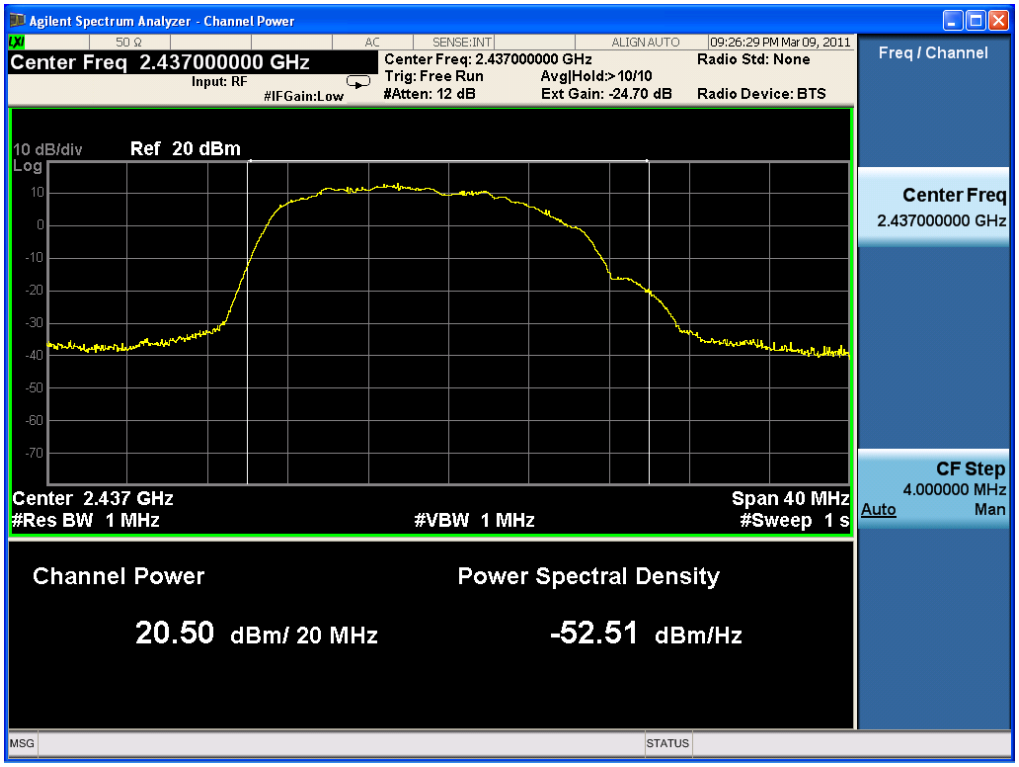
Conducted Output Power (802.11n_20 MHz -CH 6) 39Mbps



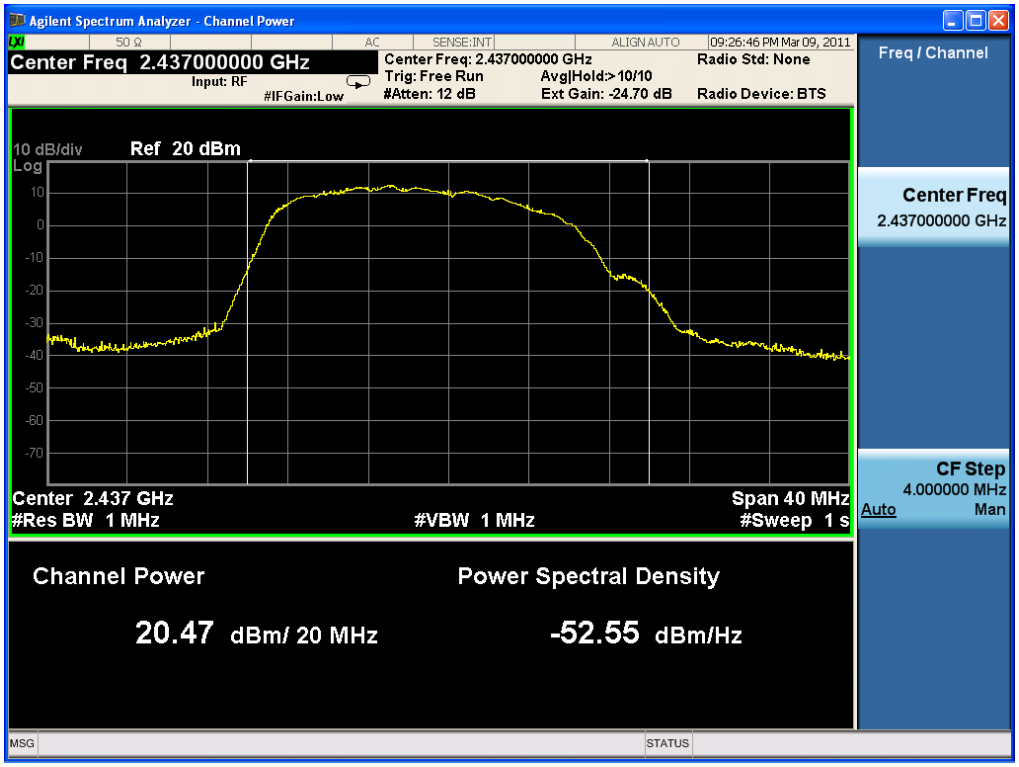
Conducted Output Power (802.11n_20 MHz -CH 6) 52Mbps



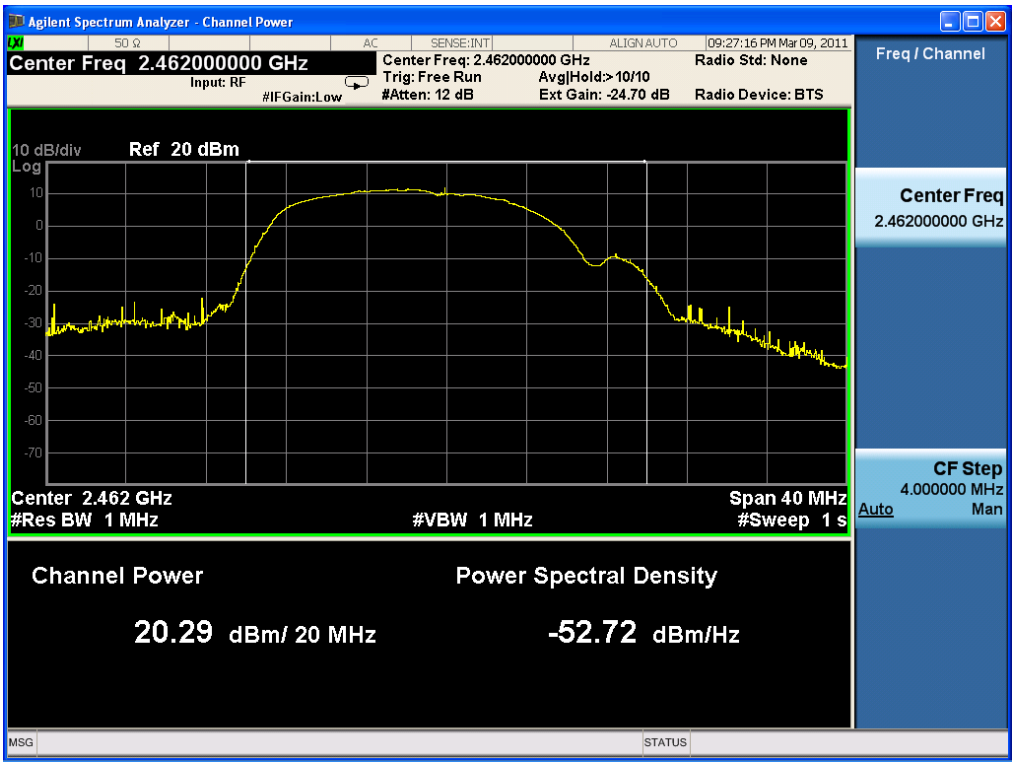
Conducted Output Power (802.11n_20 MHz -CH 6) 58.5Mbps



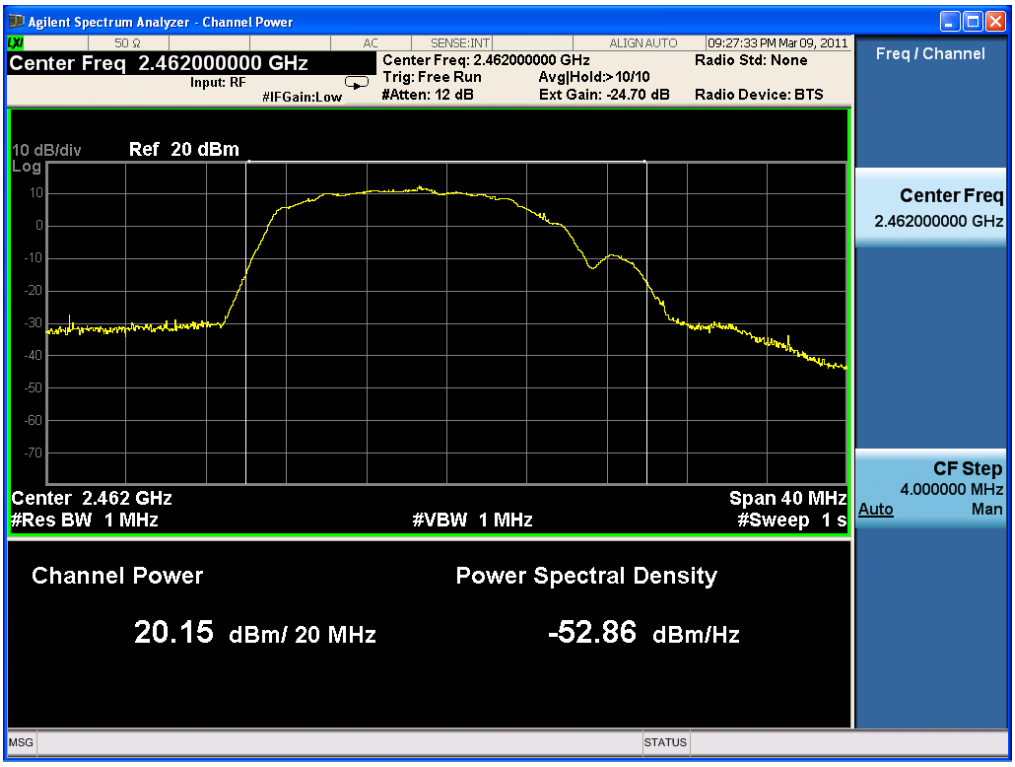
Conducted Output Power (802.11n_20 MHz -CH 6) 65Mbps



Conducted Output Power (802.11n_20 MHz -CH 11) 6.5Mbps

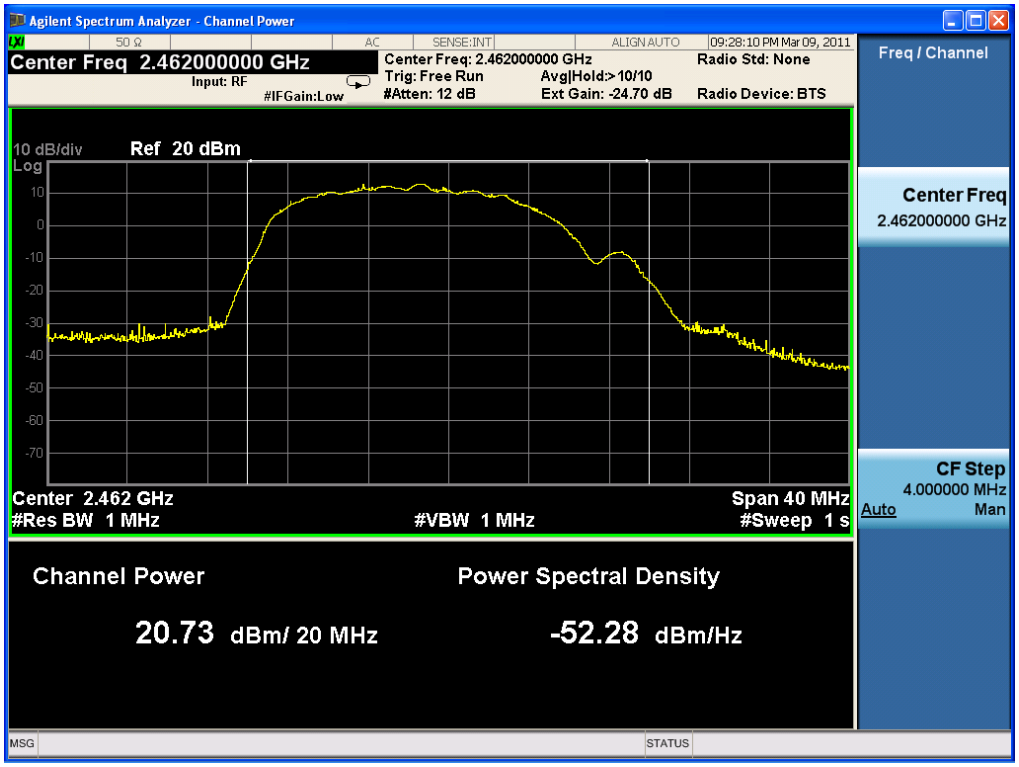


Conducted Output Power (802.11n_20 MHz -CH 11) 13Mbps

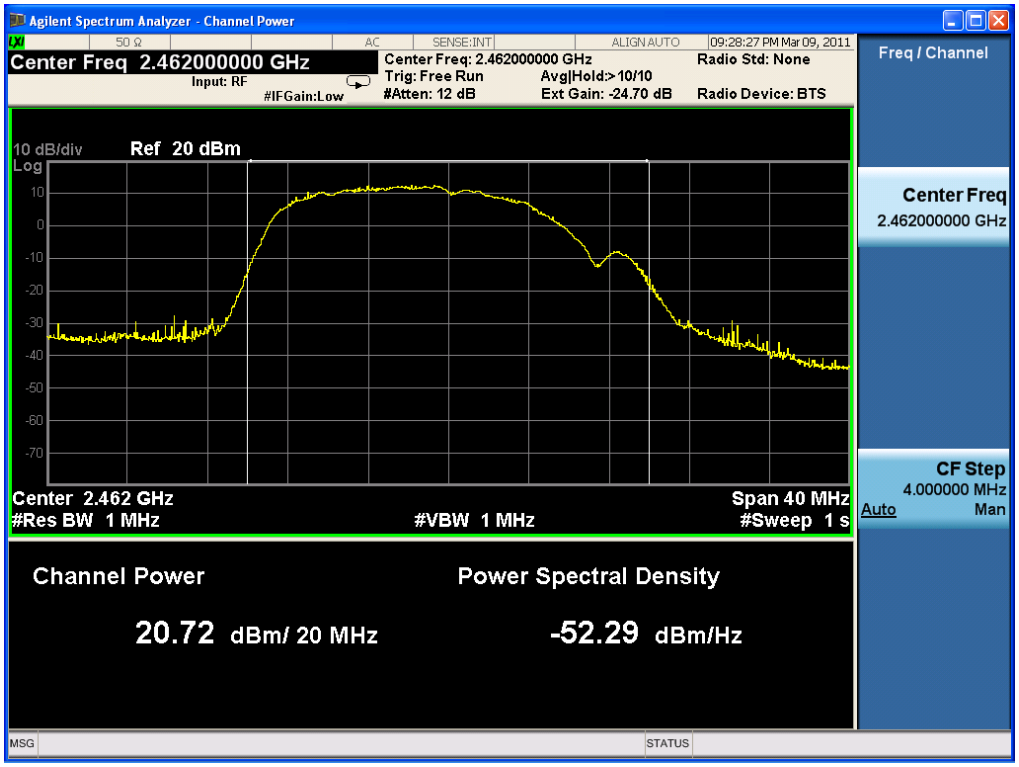


Conducted Output Power (802.11n_20 MHz -CH 11) 19.5Mbps

Conducted Output Power (802.11n_20 MHz -CH 11) 26Mbps



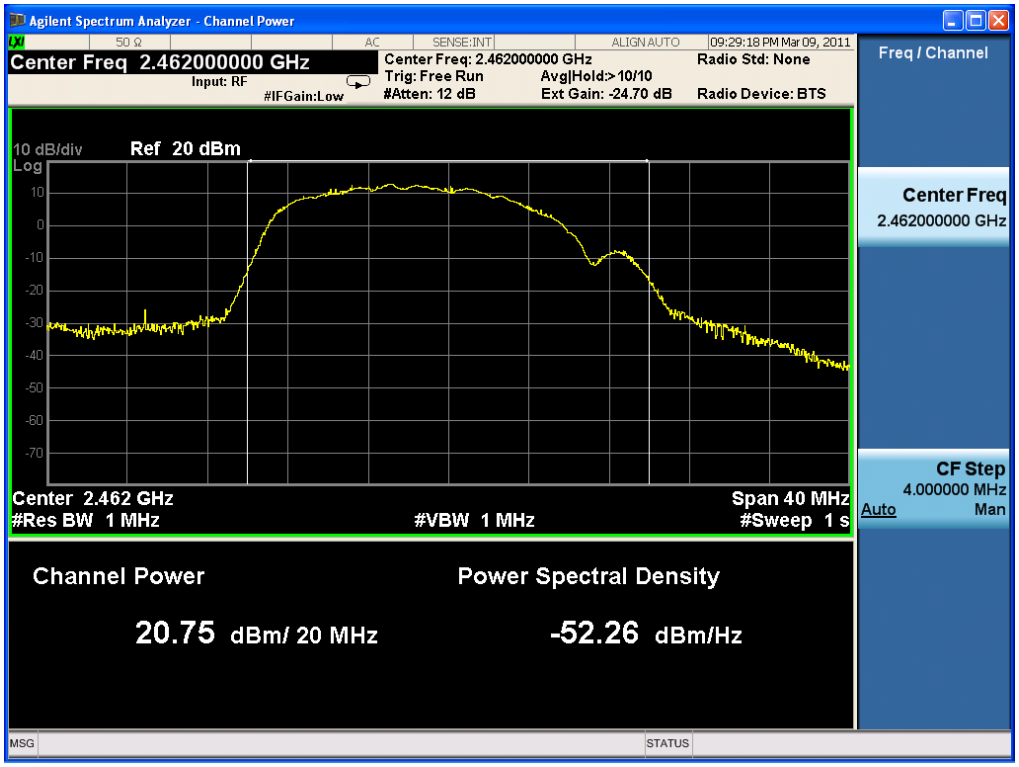
Conducted Output Power (802.11n_20 MHz -CH 11) 39Mbps



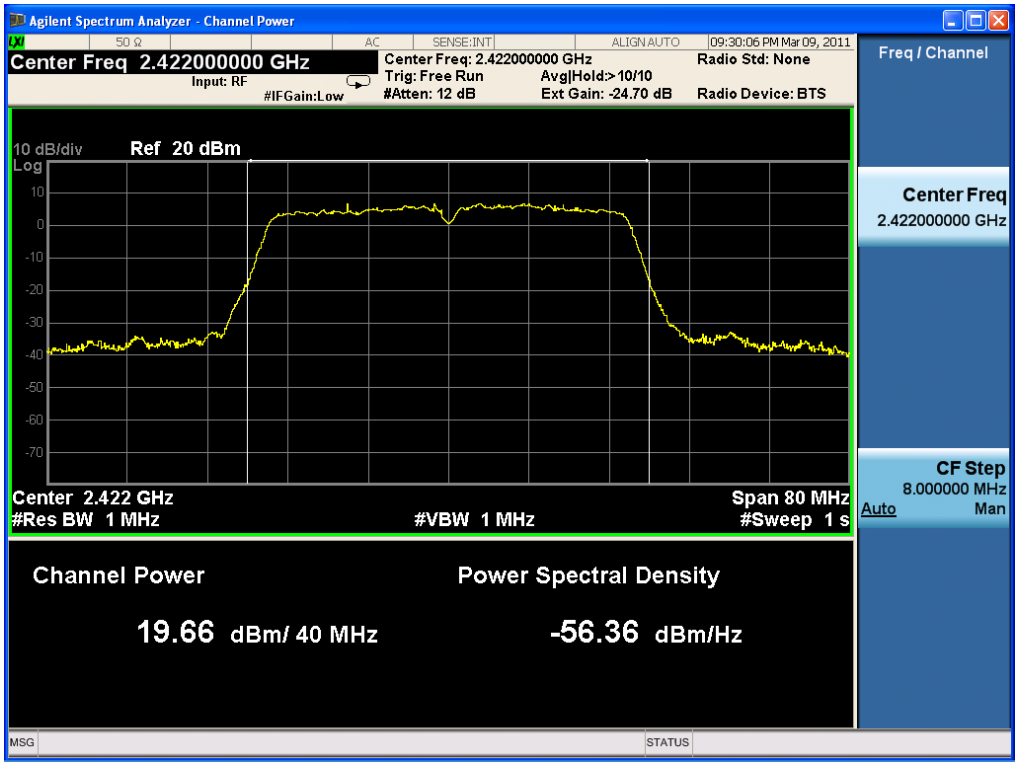
Conducted Output Power (802.11n_20 MHz -CH 11) 52Mbps

Conducted Output Power (802.11n_20 MHz -CH 11) 58.5Mbps

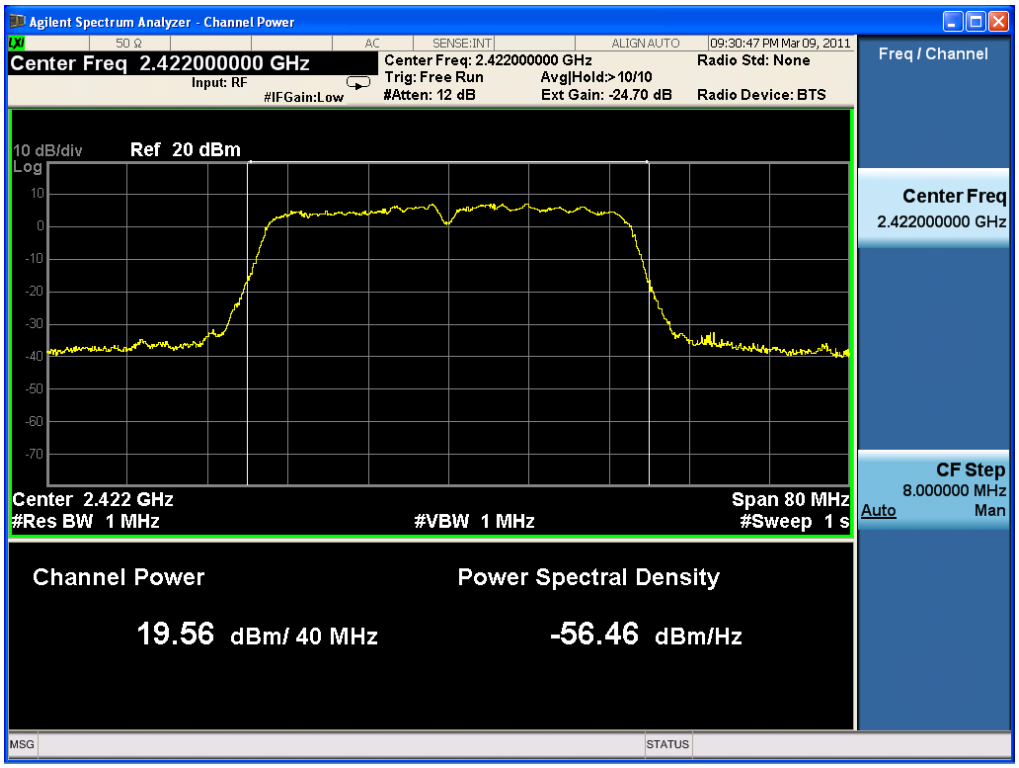
Conducted Output Power (802.11n_20 MHz -CH 11) 65Mbps



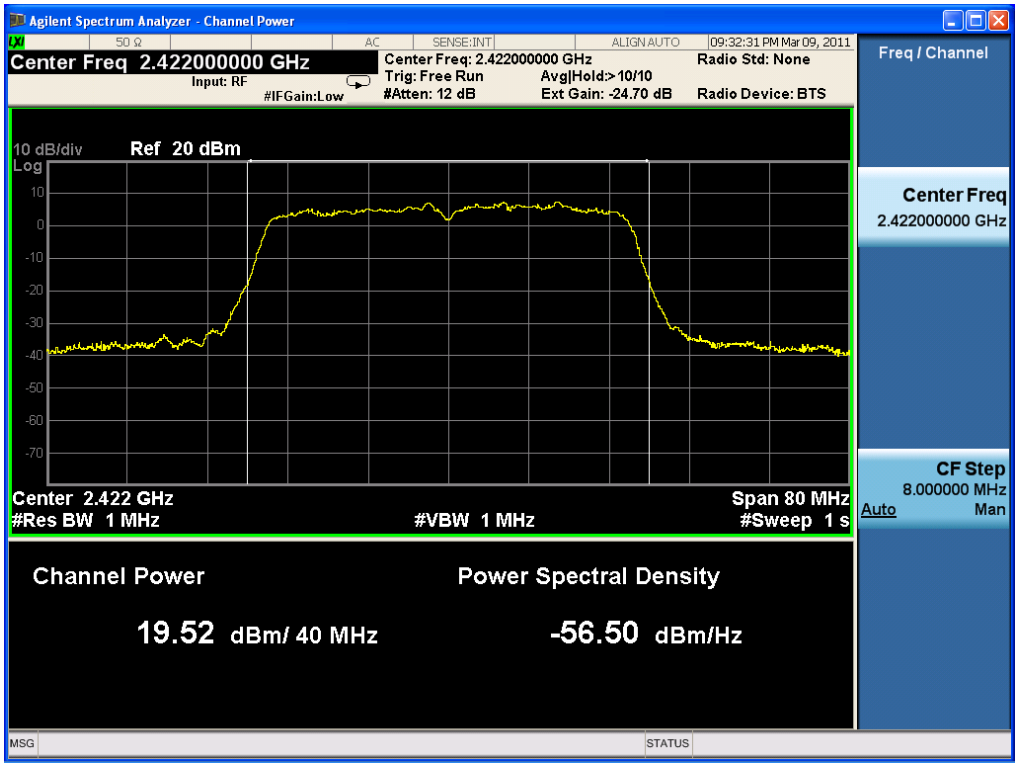
Conducted Output Power (802.11n_40 MHz-CH 1) 13Mbps



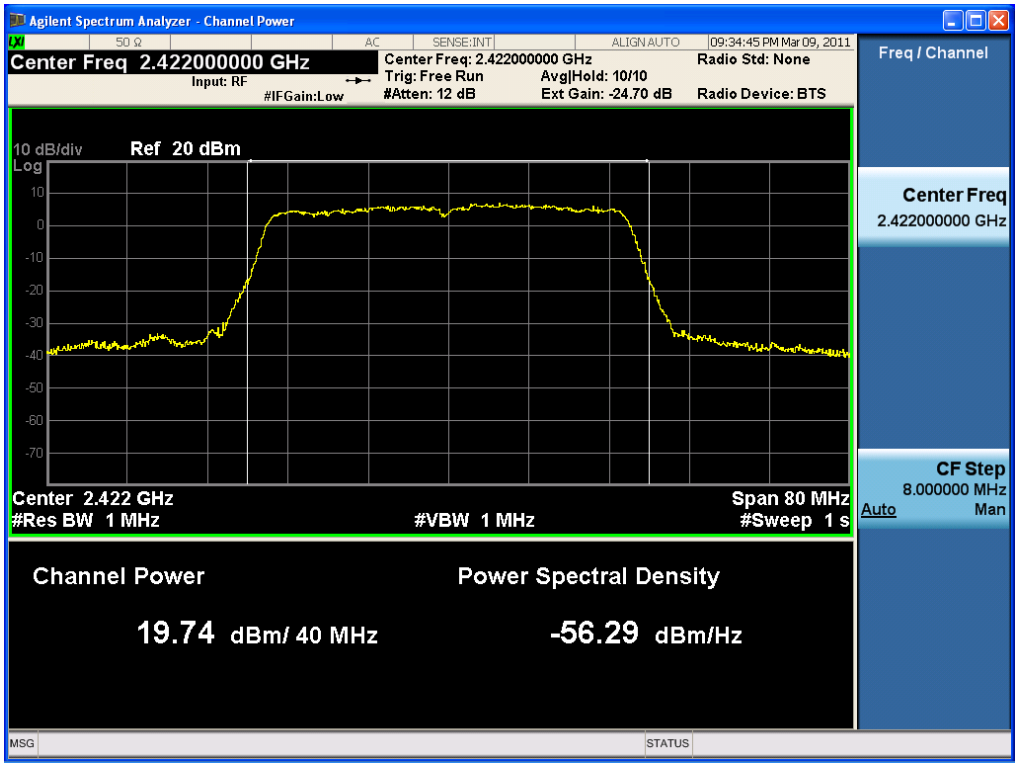
Conducted Output Power (802.11n_40 MHz -CH 1) 23Mbps



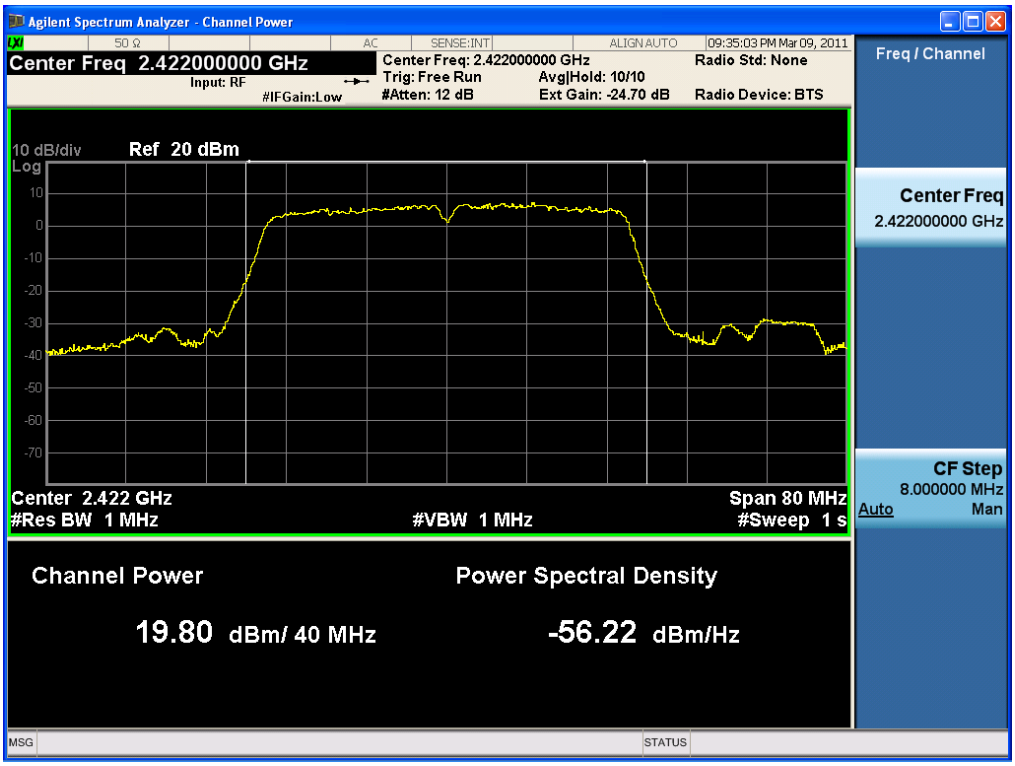
Conducted Output Power (802.11n_40 MHz -CH 1) 39Mbps



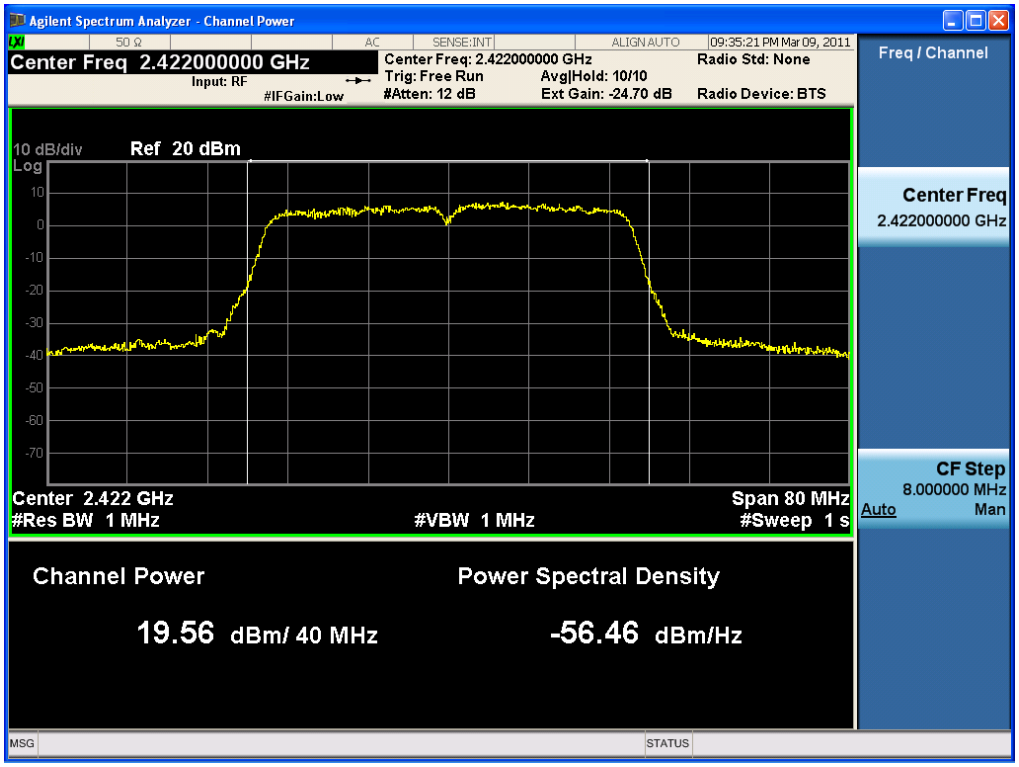
Conducted Output Power (802.11n_40 MHz -CH 1) 52Mbps



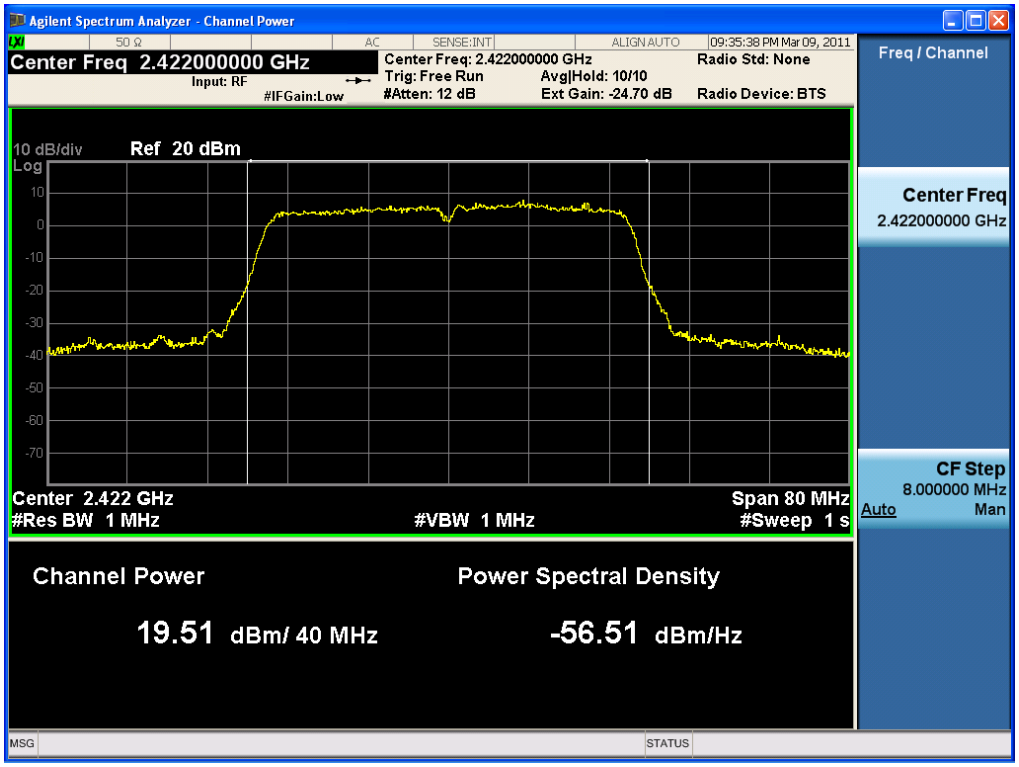
Conducted Output Power (802.11n_40 MHz -CH 1) 78Mbps



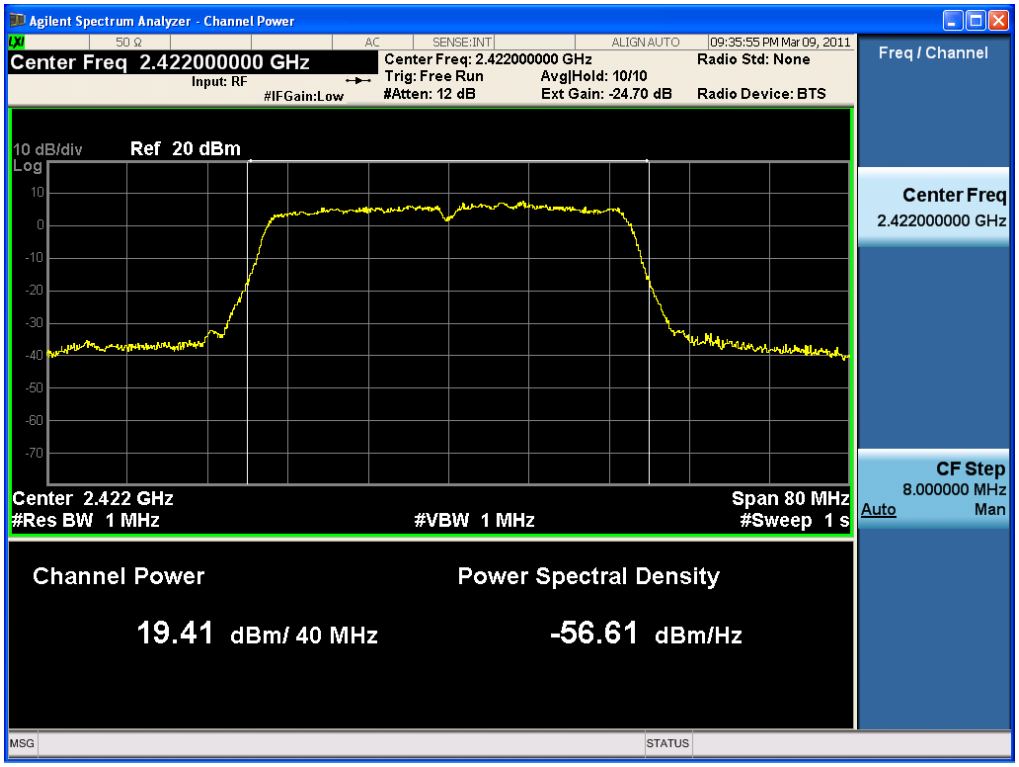
Conducted Output Power (802.11n_40 MHz -CH 1) 104Mbps



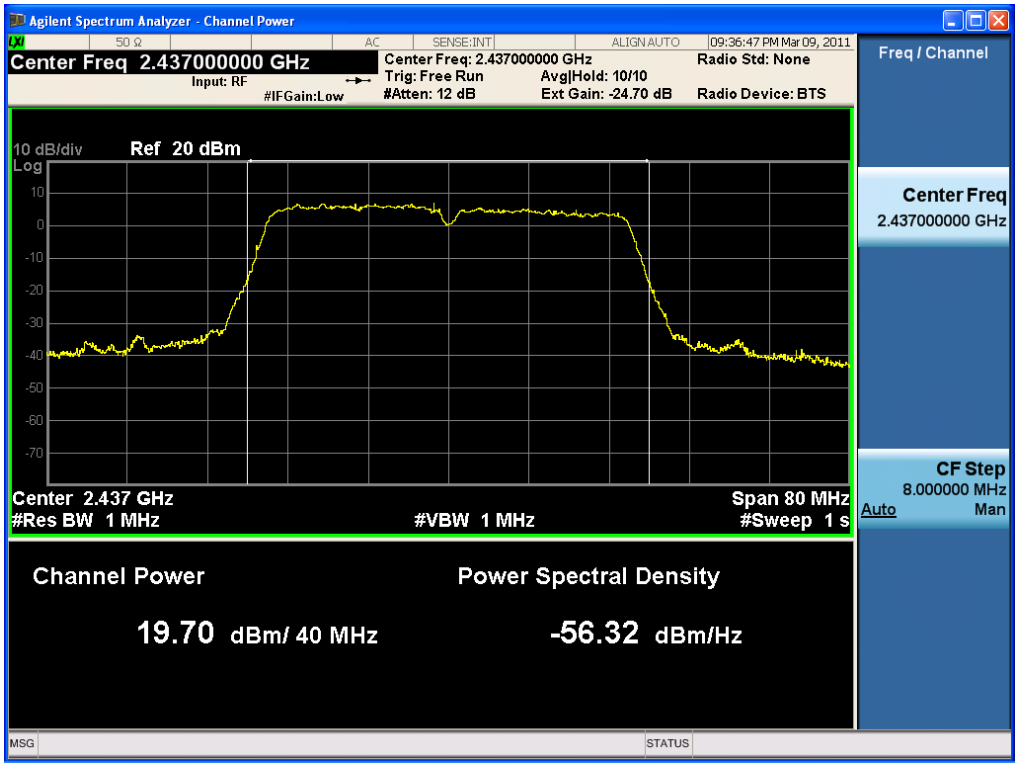
Conducted Output Power (802.11n_40 MHz -CH 1) 117Mbps



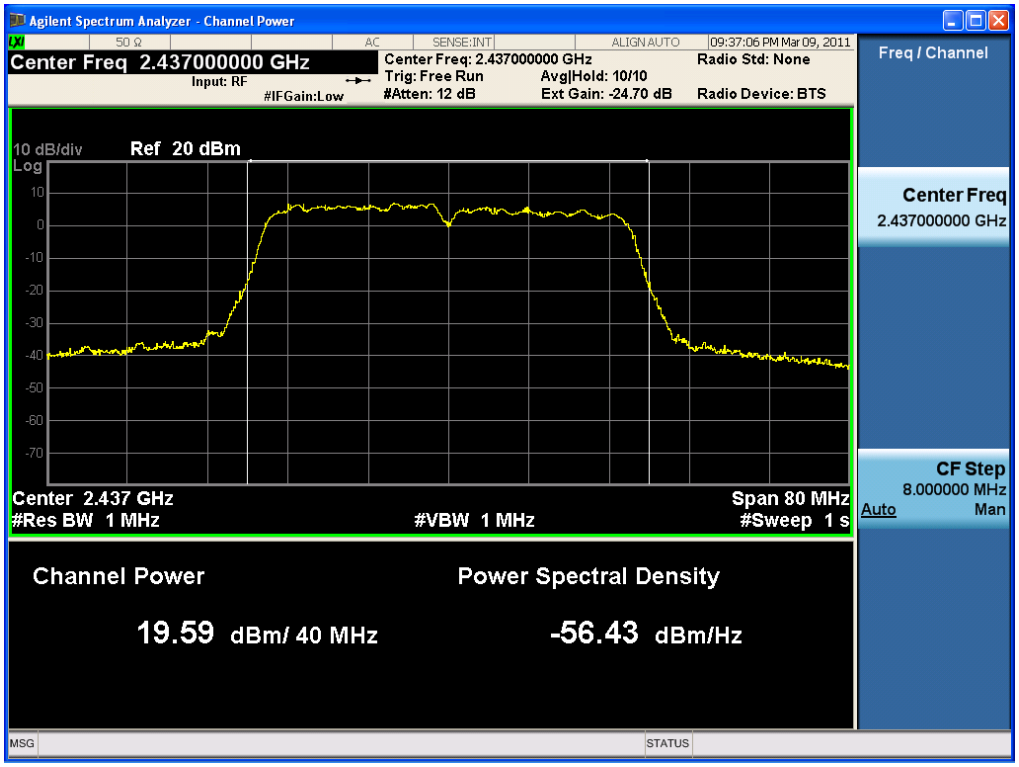
Conducted Output Power (802.11n_40 MHz -CH 1) 130Mbps



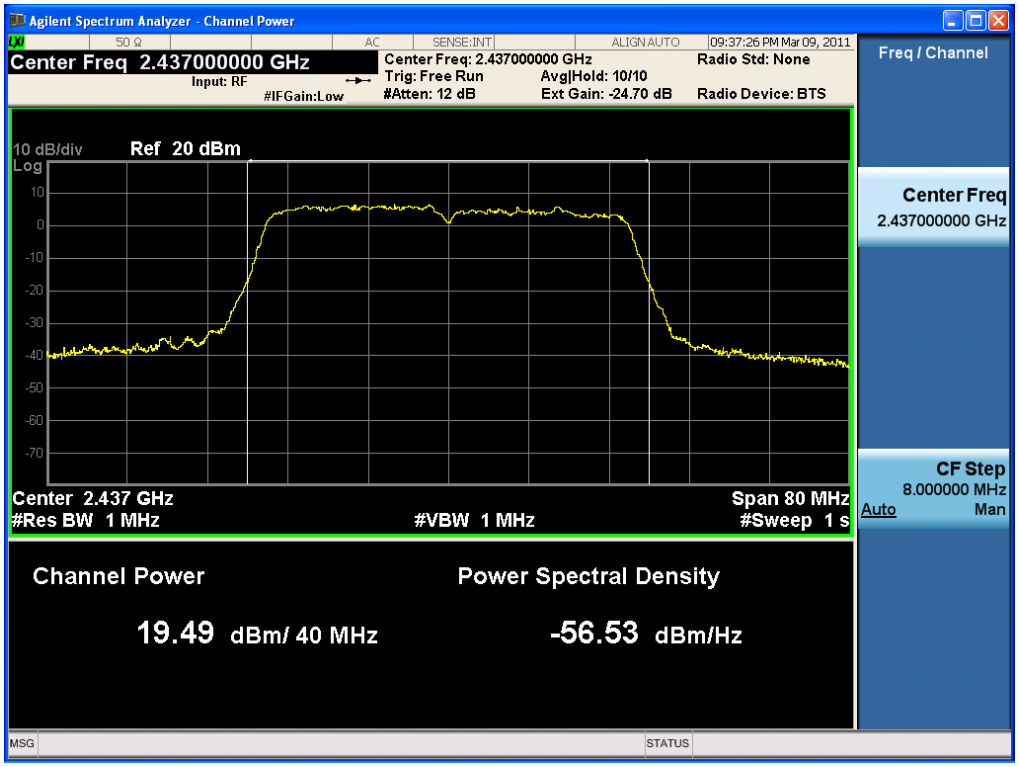
Conducted Output Power (802.11n_40 MHz -CH 4) 13Mbps



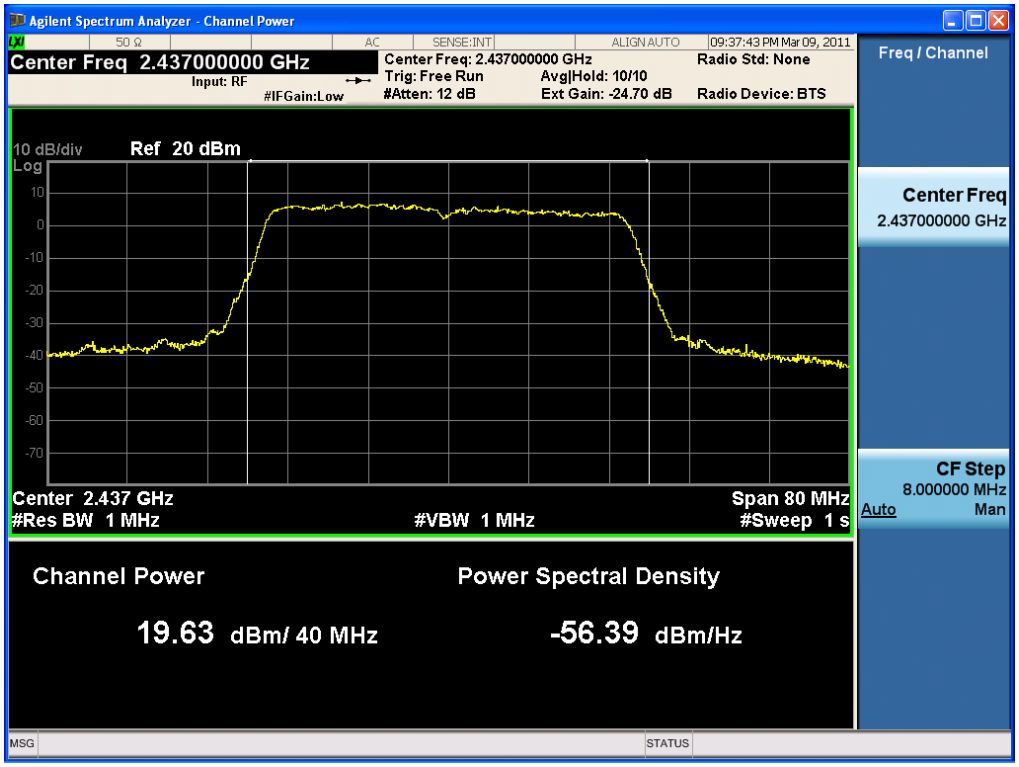
Conducted Output Power (802.11n_40 MHz -CH 4) 23Mbps



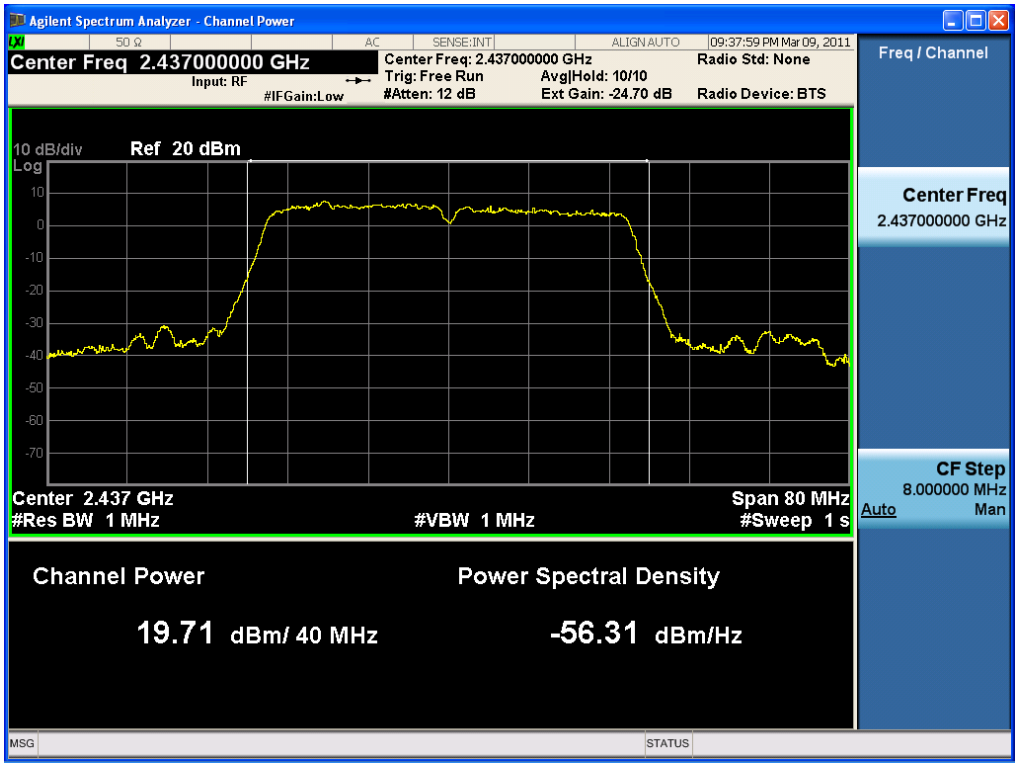
Conducted Output Power (802.11n_40 MHz -CH 4) 39Mbps



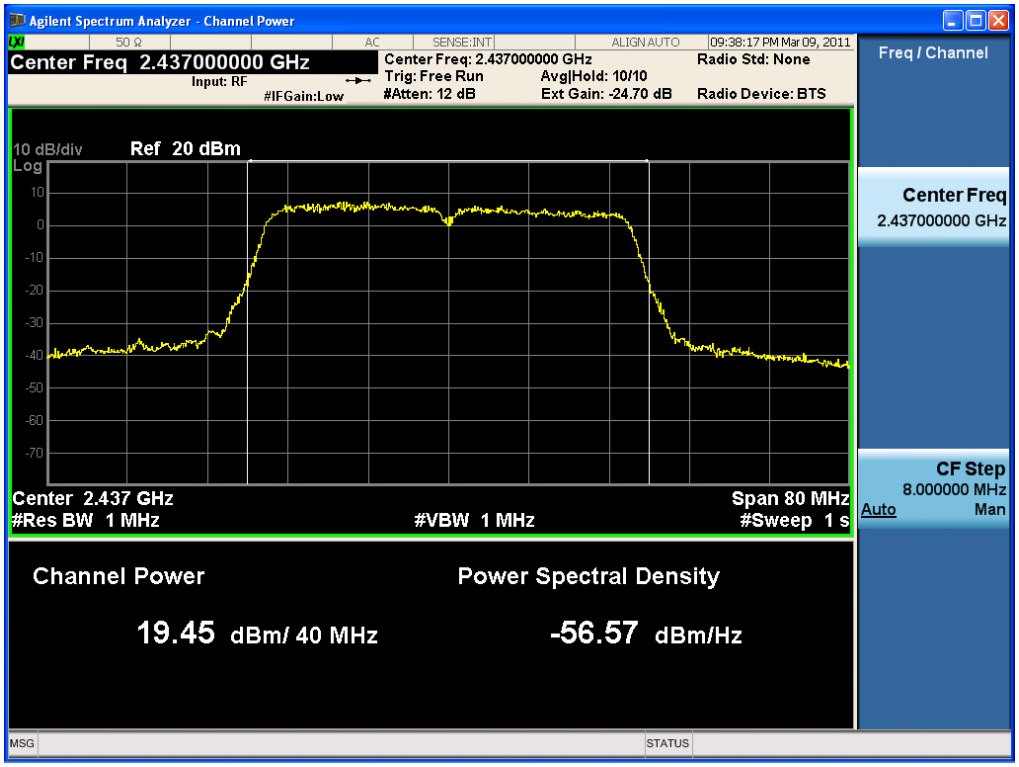
Conducted Output Power (802.11n_40 MHz -CH 4) 52Mbps



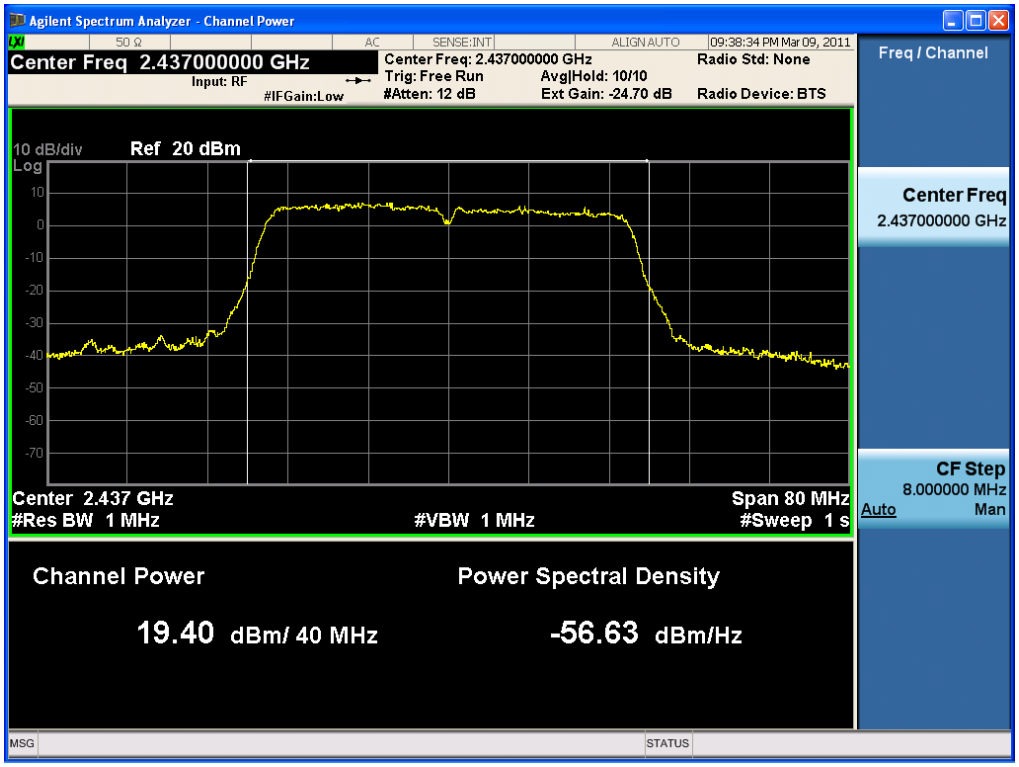
Conducted Output Power (802.11n_40 MHz -CH 4) 78Mbps



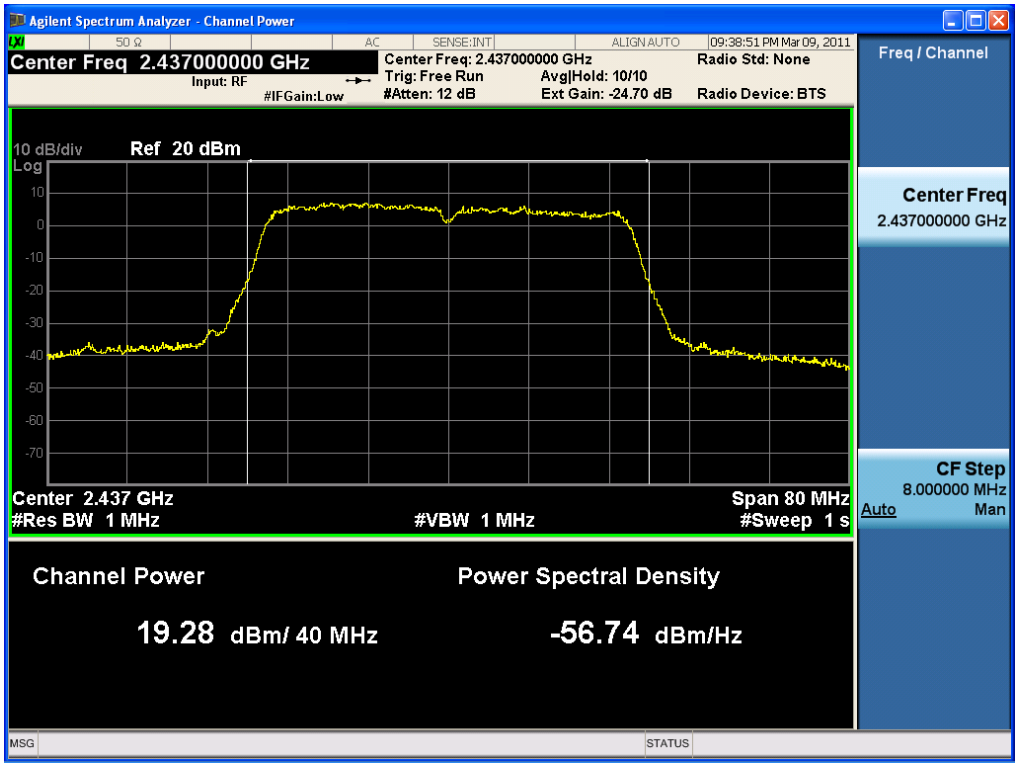
Conducted Output Power (802.11n_40 MHz -CH 4) 104Mbps



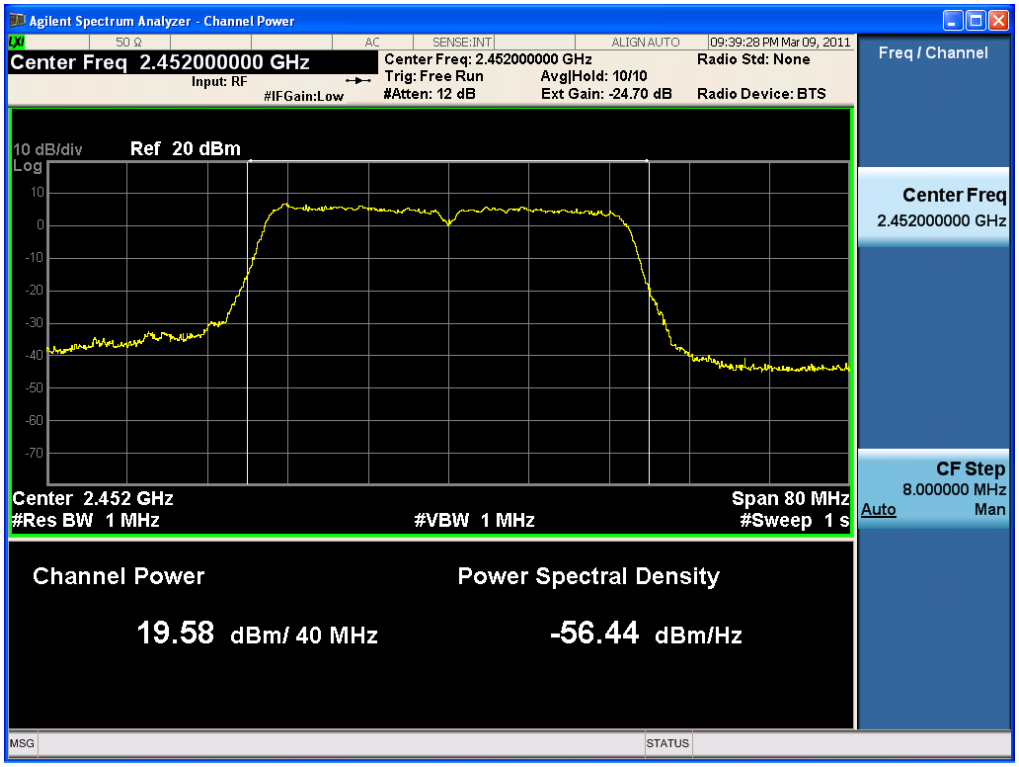
Conducted Output Power (802.11n_40 MHz -CH 4) 117Mbps



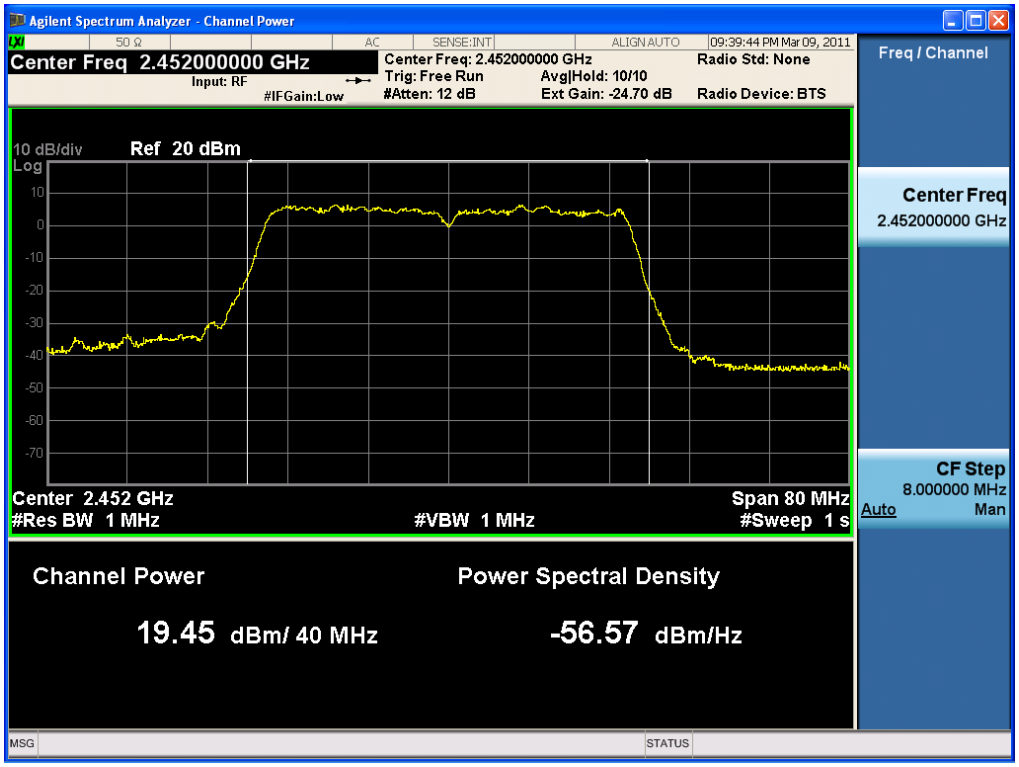
Conducted Output Power (802.11n_40 MHz -CH 4) 130Mbps



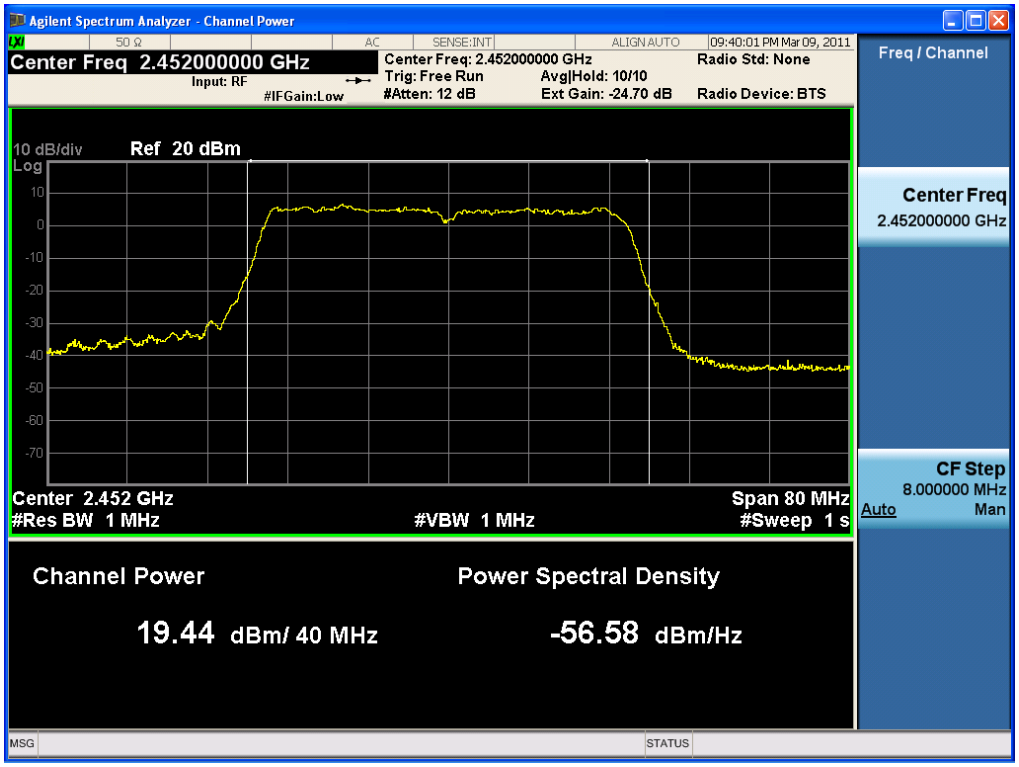
Conducted Output Power (802.11n_40 MHz -CH 7) 13Mbps



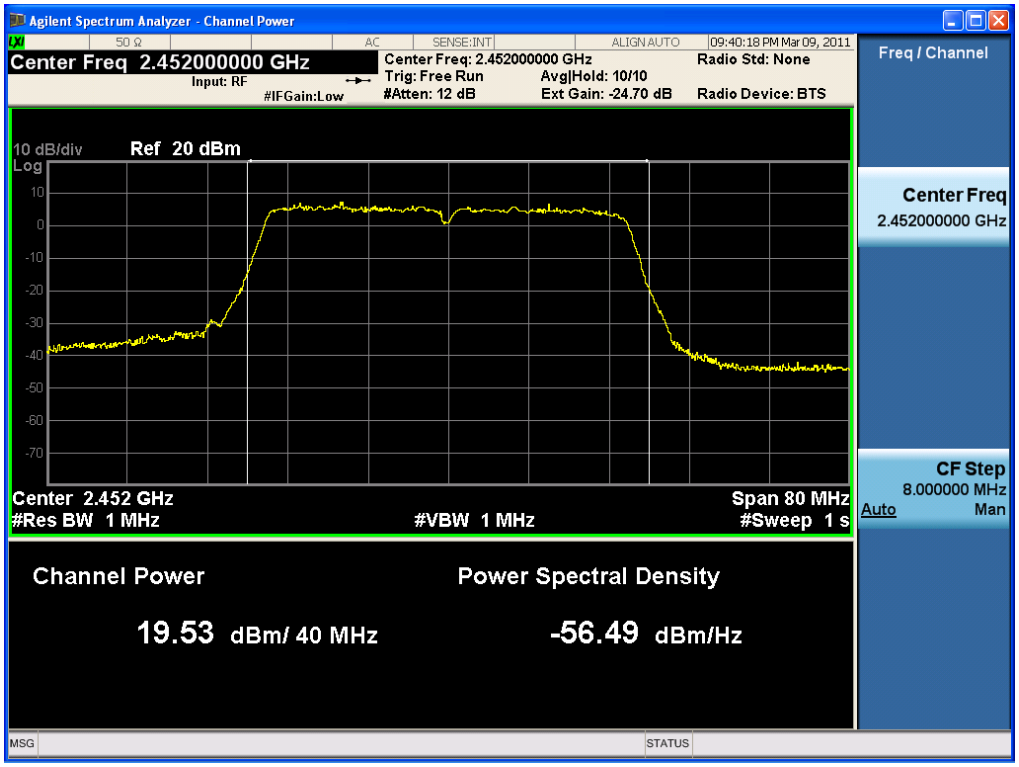
Conducted Output Power (802.11n_40 MHz -CH 7) 23Mbps



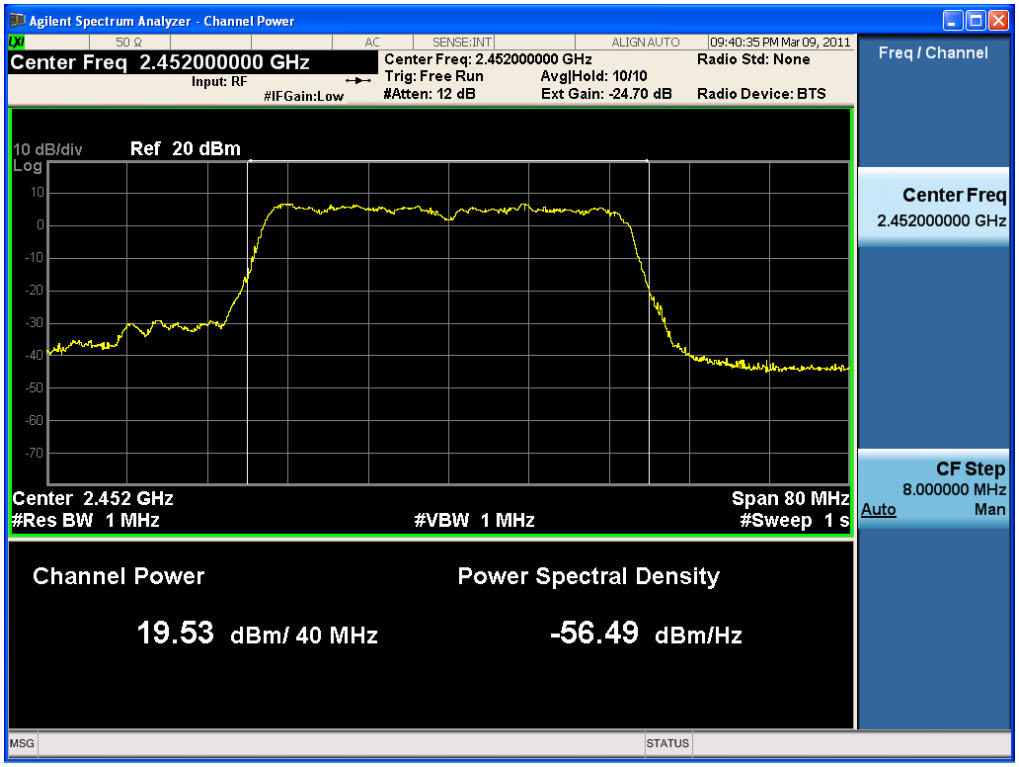
Conducted Output Power (802.11n_40 MHz -CH 7) 39Mbps



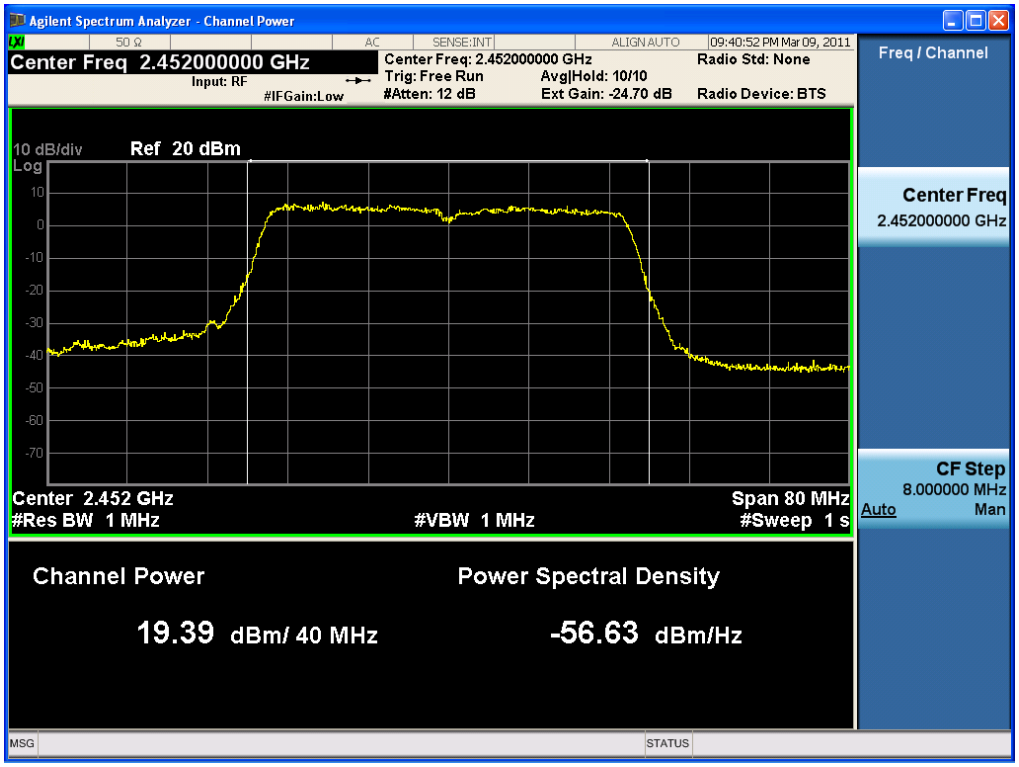
Conducted Output Power (802.11n_40 MHz -CH 7) 52Mbps



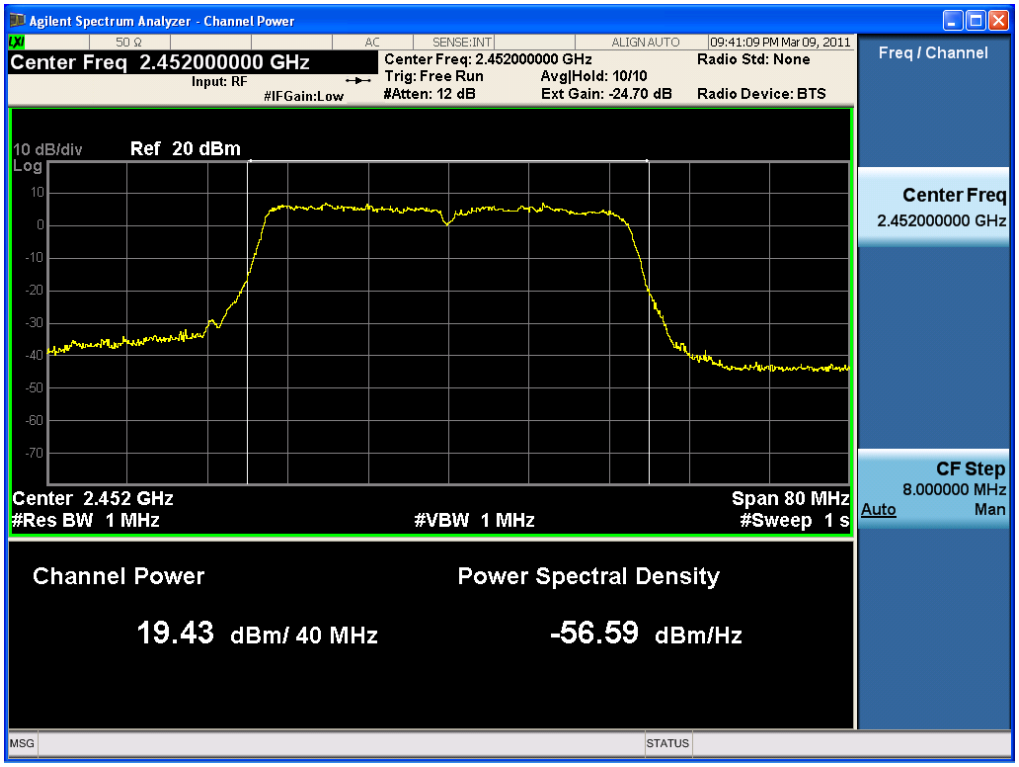
Conducted Output Power (802.11n_40 MHz -CH 7) 78Mbps



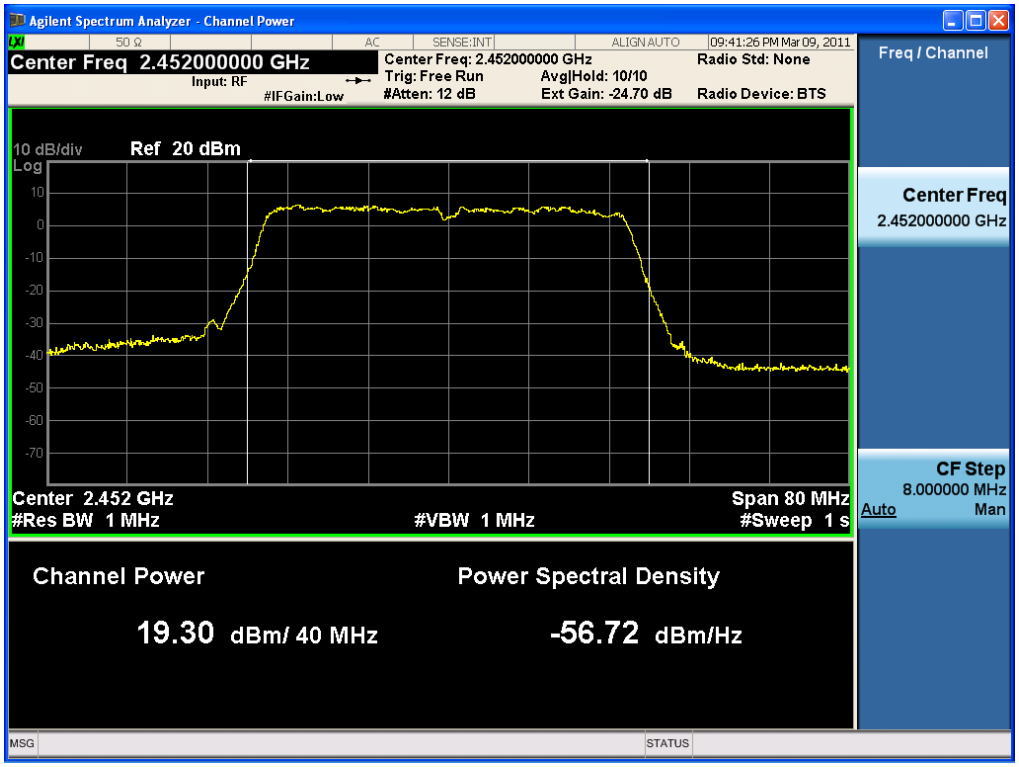
Conducted Output Power (802.11n_40 MHz -CH 7) 104Mbps



Conducted Output Power (802.11n_40 MHz -CH 7) 117Mbps



Conducted Output Power (802.11n_40 MHz -CH 7) 130Mbps



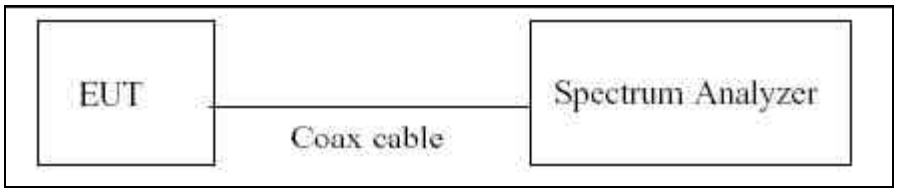
7.3 POWER SPECTRAL DENSITY (802.11b/g/n)

Test Requirements and limit, §15.247(e)

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.

Minimum Standard – The transmitter power density average over 1-second interval shall not be greater than 8dBm in any 3kHz BW.

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

The spectrum analyzer is set to :

1. Span = 300 kHz
2. RBW = 3 kHz (7dB/div)
3. VBW = 3 kHz
4. Sweep = 100 sec
5. Detector Mode = Peak

▣ TEST RESULTS

- Port 1

Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result	
			Power Density (dBm)	Pass/Fail
2412	1	802.11b	-14.358	Pass
2437	6		-12.854	Pass
2462	11		-13.371	Pass
2412	1	802.11g	-18.321	Pass
2437	6		-18.474	Pass
2462	11		-18.017	Pass
2412	1	802.11n (20 MHz)	-17.275	Pass
2437	6		-19.027	Pass
2462	11		-17.817	Pass
2422	1	802.11n (40 MHz)	-22.361	Pass
2437	4		-22.636	Pass
2452	7		-24.611	Pass

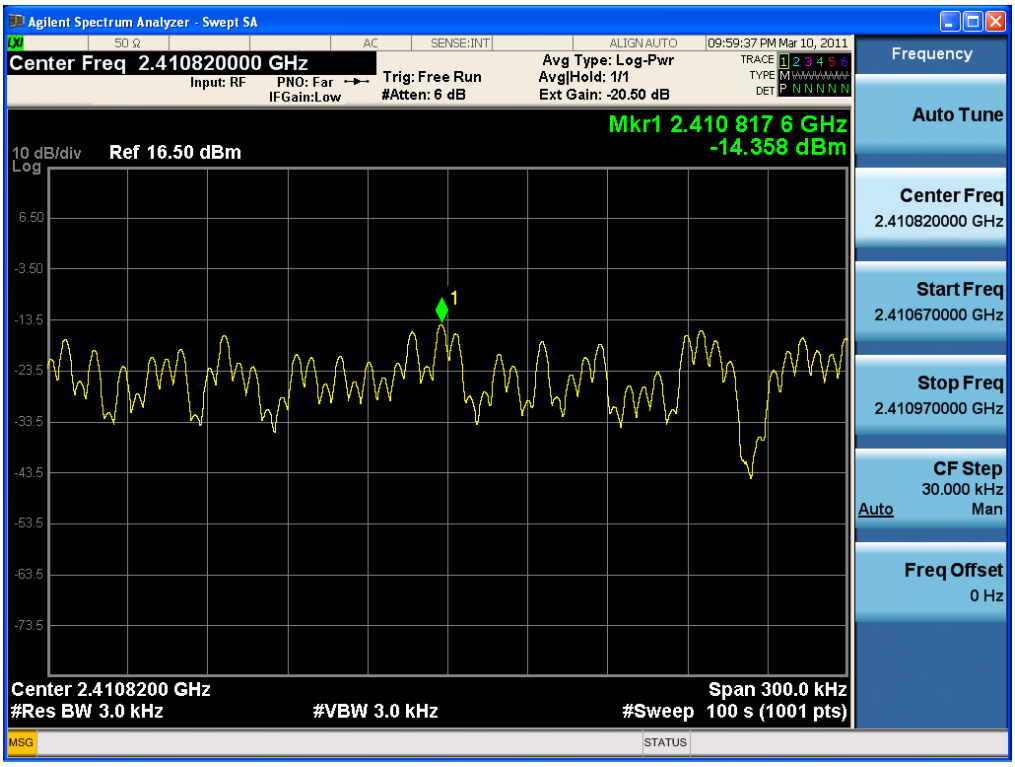
- Port 0 & 1
Conducted Power Density Measurements

Frequency (MHz)	Channel No.	Mode	Test Result	
			Power Density (dBm)	Pass/Fail
2412	1	802.11n (20 MHz)	-13.385	Pass
2437	6		-12.835	Pass
2462	11		-11.450	Pass
2422	1	802.11n (40 MHz)	-18.553	Pass
2437	4		-17.857	Pass
2452	7		-18.715	Pass

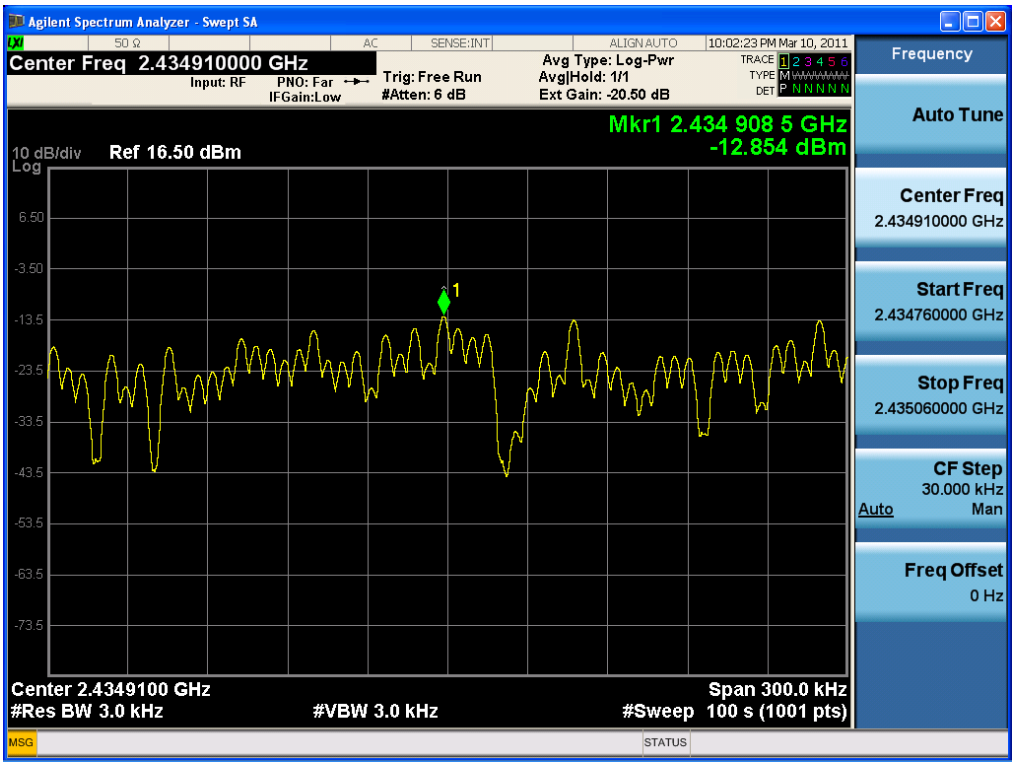
▣ RESULT PLOTS

- Port 1

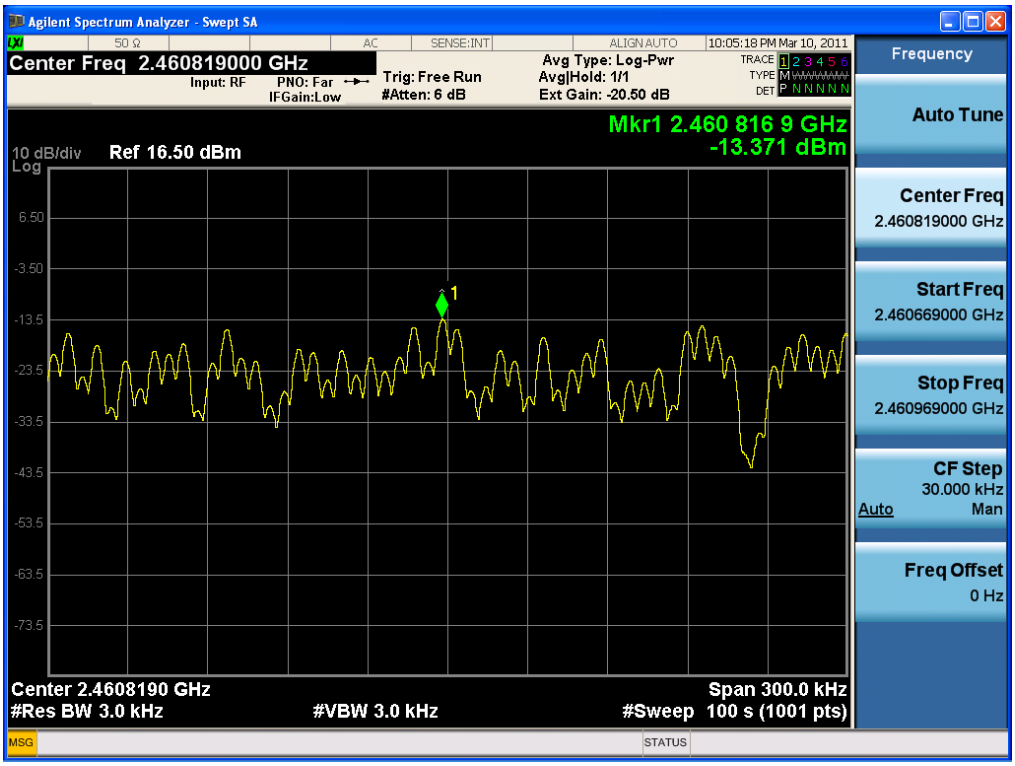
Power Spectral Density (802.11b-CH 1)



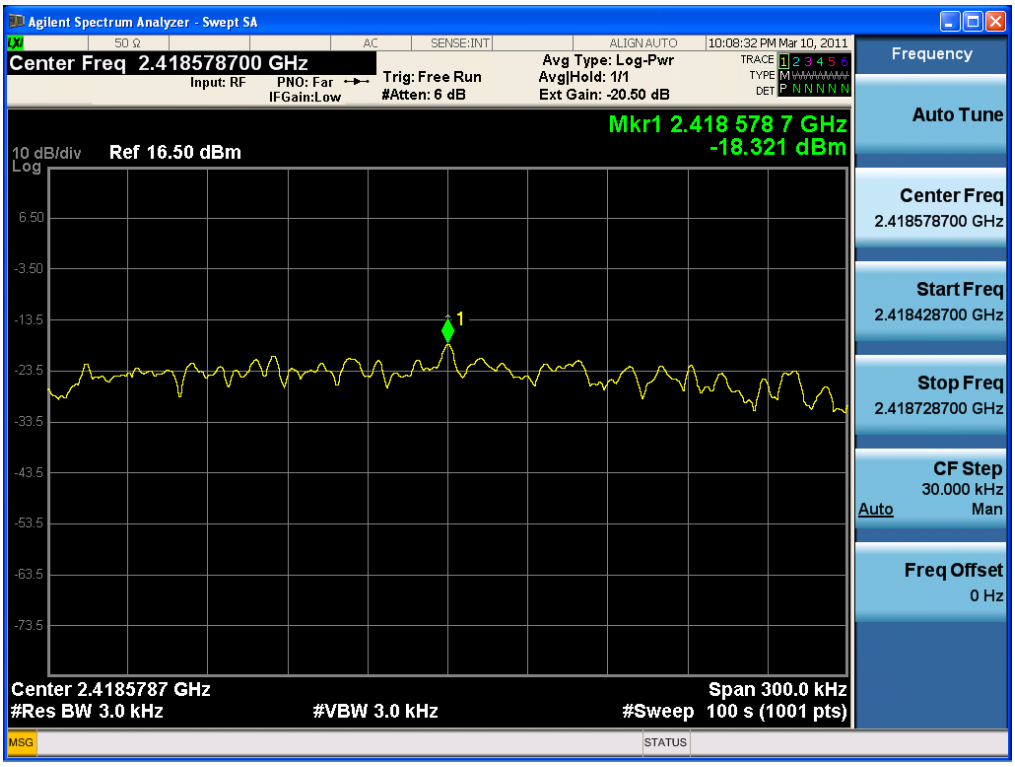
Power Spectral Density (802.11b-CH 6)



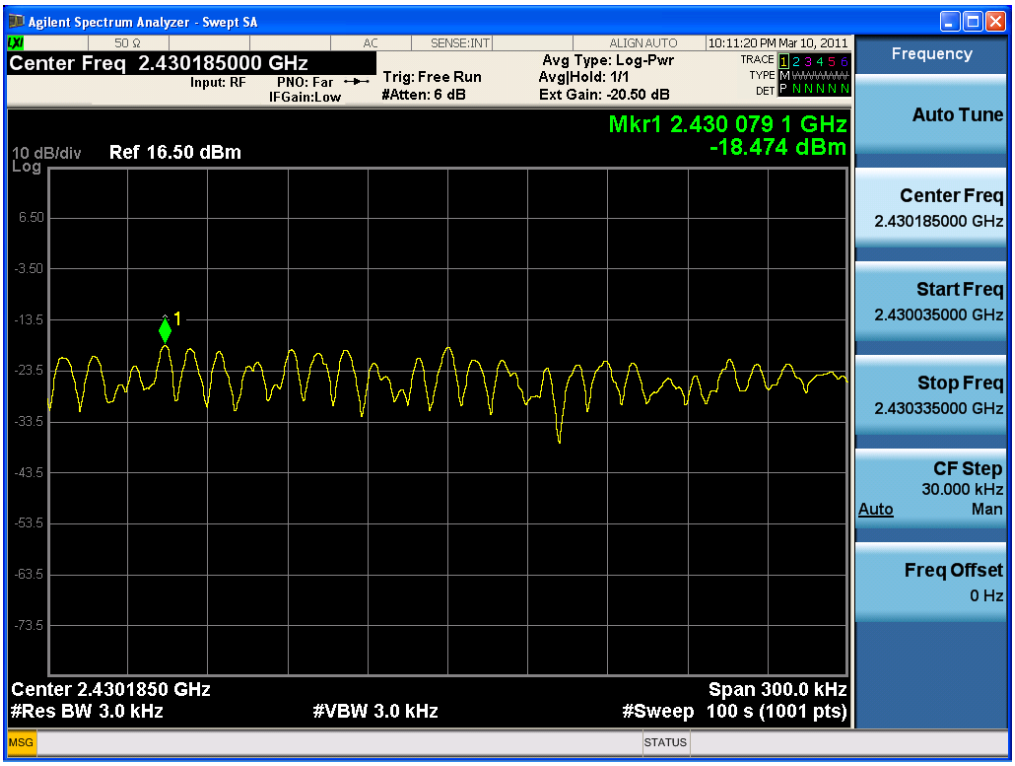
Power Spectral Density (802.11b-CH 11)



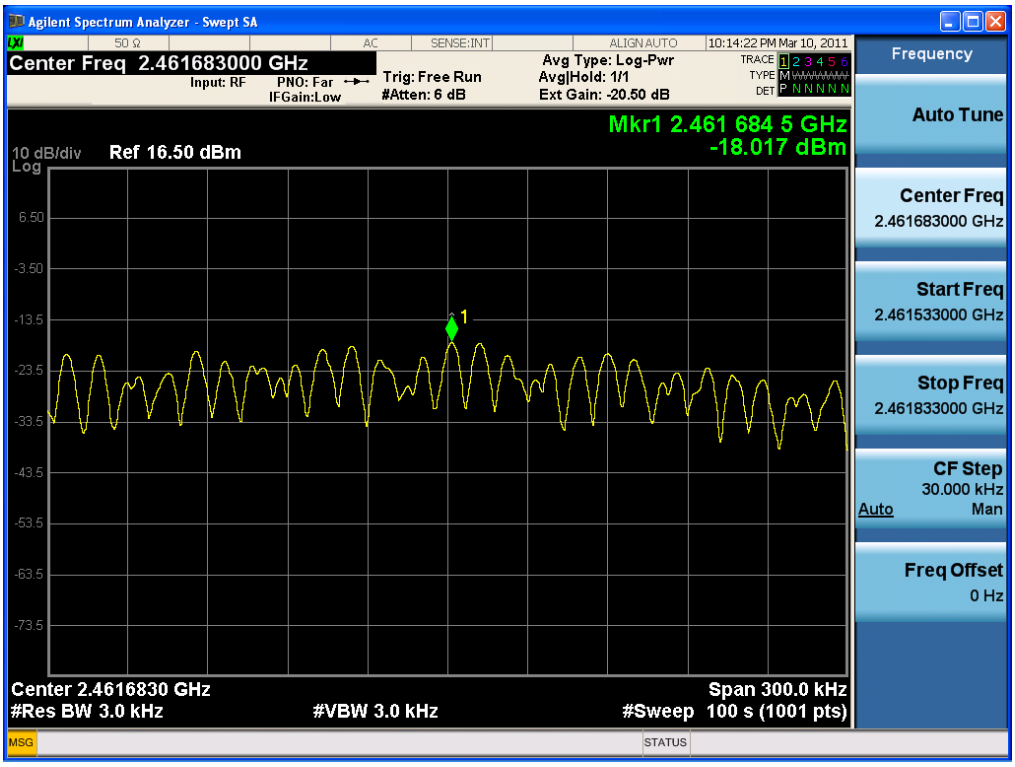
Power Spectral Density (802.11g-CH 1)



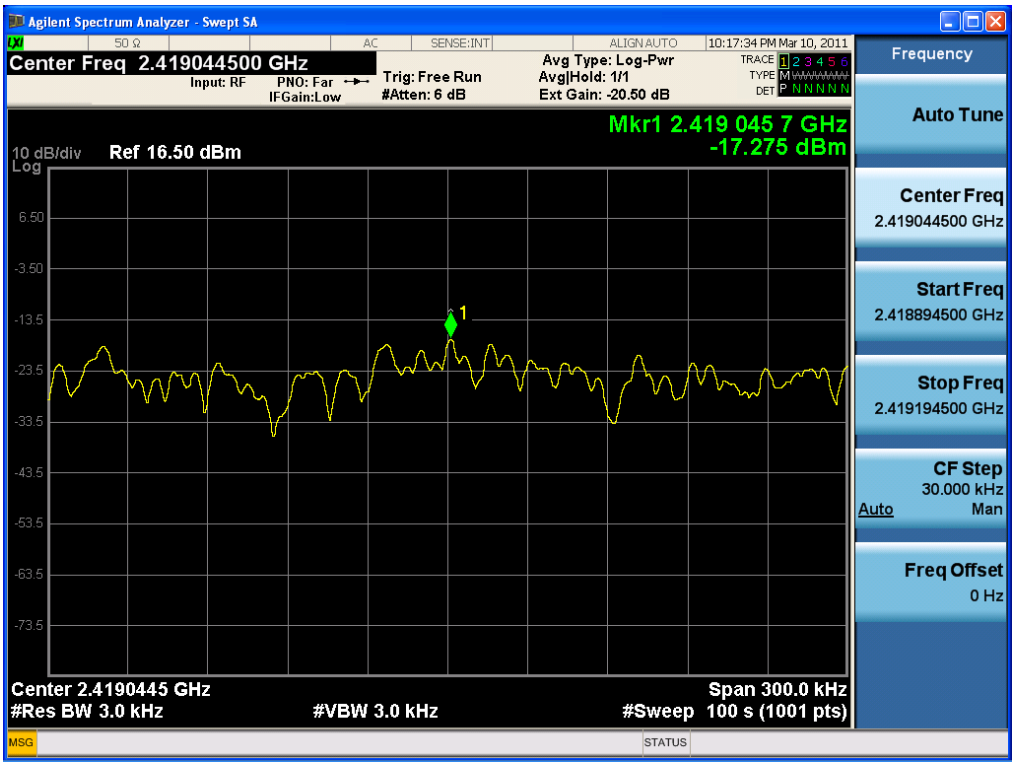
Power Spectral Density (802.11g-CH 6)



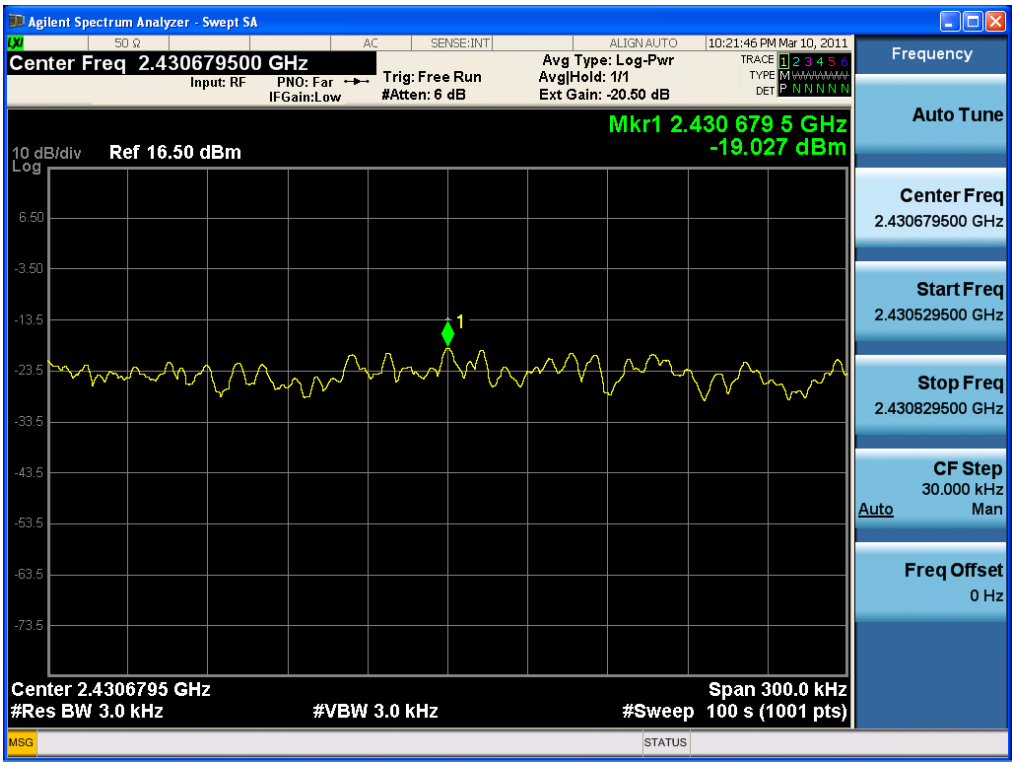
Power Spectral Density (802.11g-CH11)



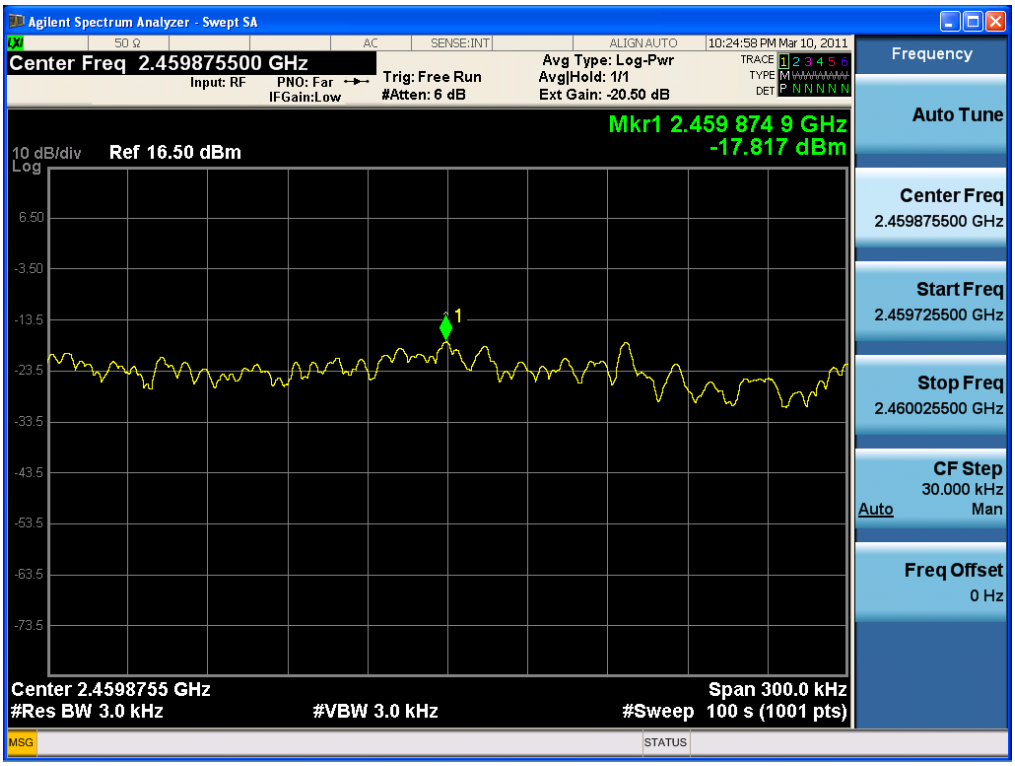
Power Spectral Density (802.11n-CH 1) – 20 MHz



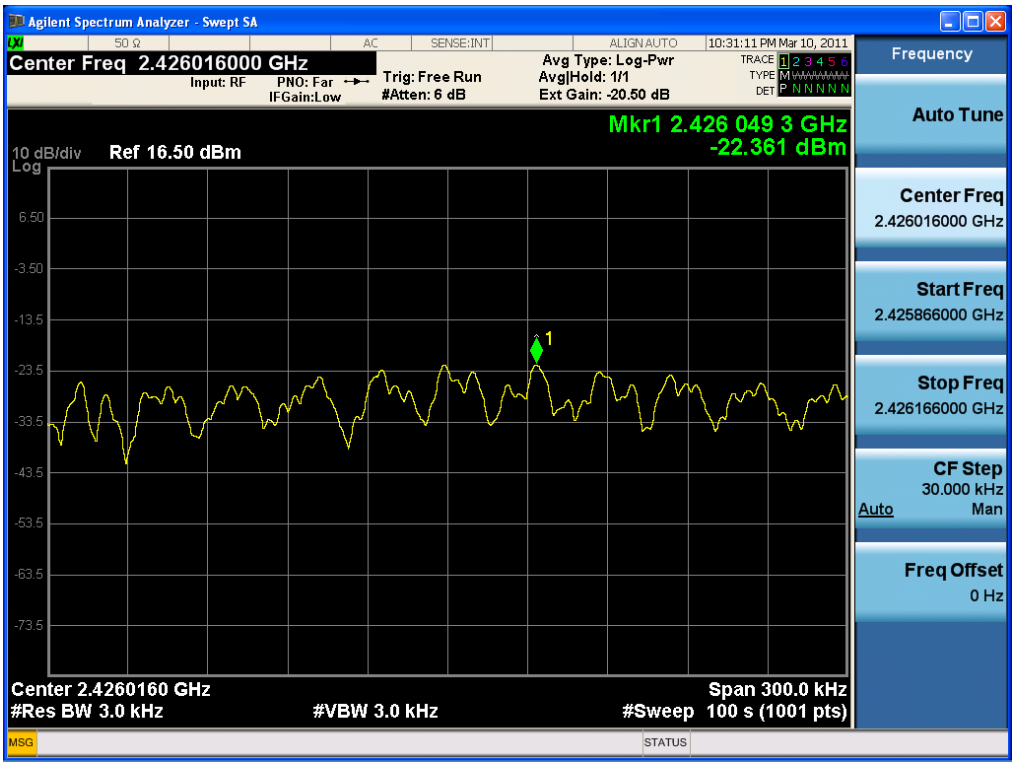
Power Spectral Density (802.11n-CH 6) – 20 MHz



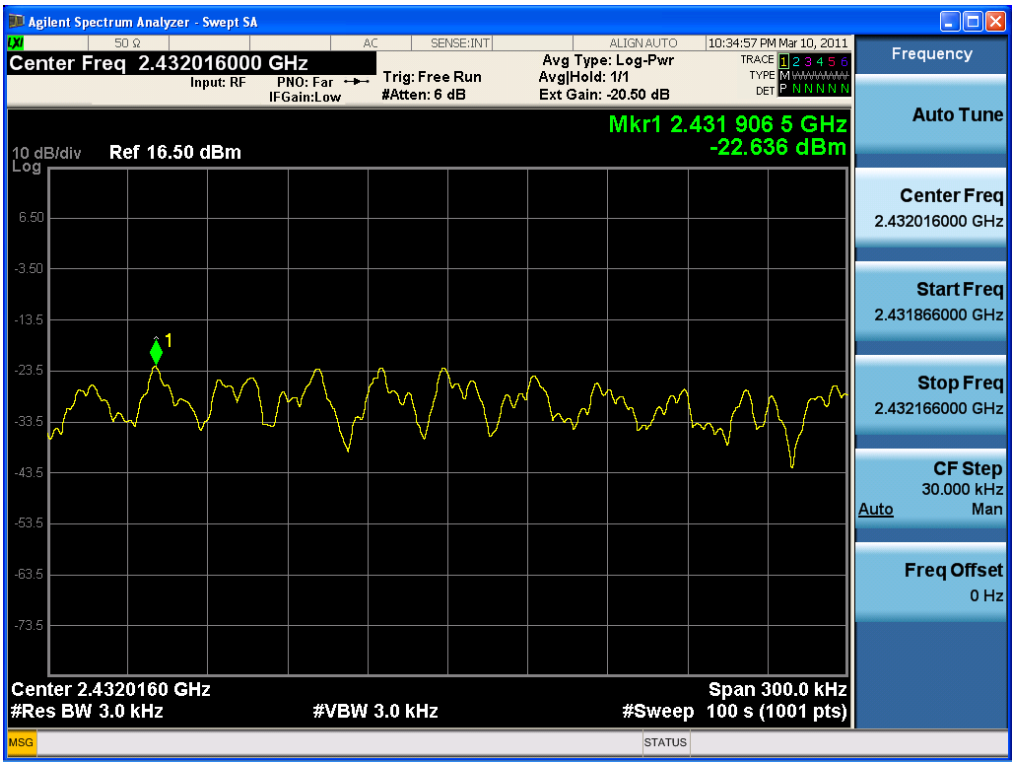
Power Spectral Density (802.11n-CH11) – 20 MHz



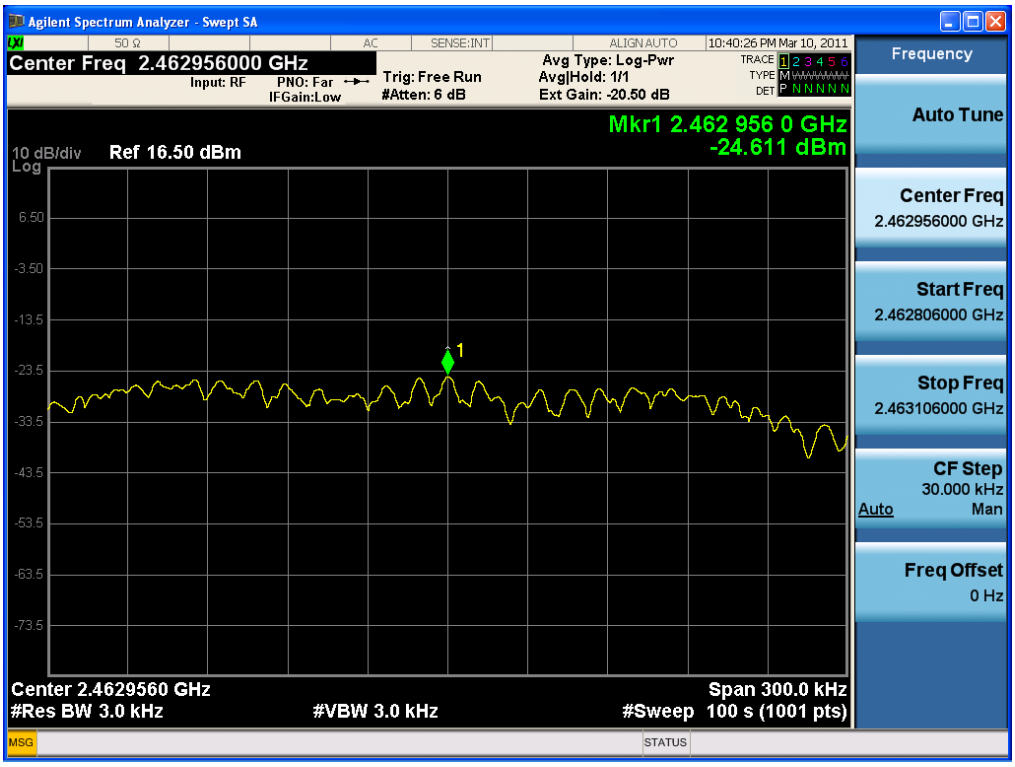
Power Spectral Density (802.11n-CH 1) – 40 MHz



Power Spectral Density (802.11n-CH 4) – 40 MHz

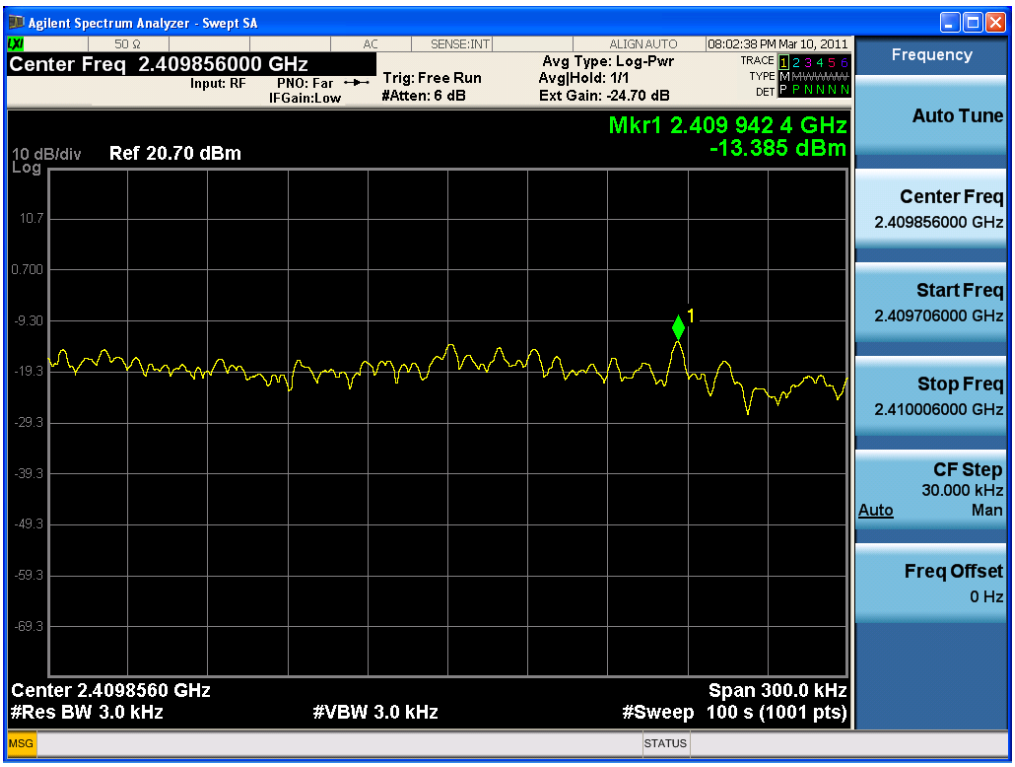


Power Spectral Density (802.11n-CH 7) – 40 MHz

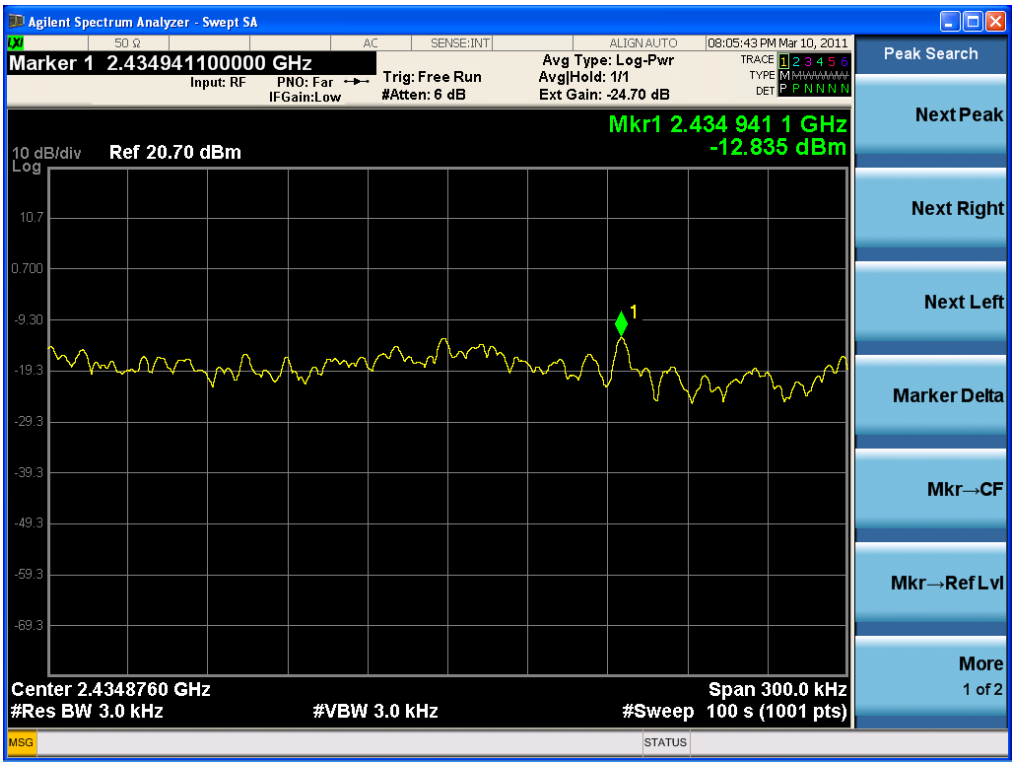


- Port 0 & 1

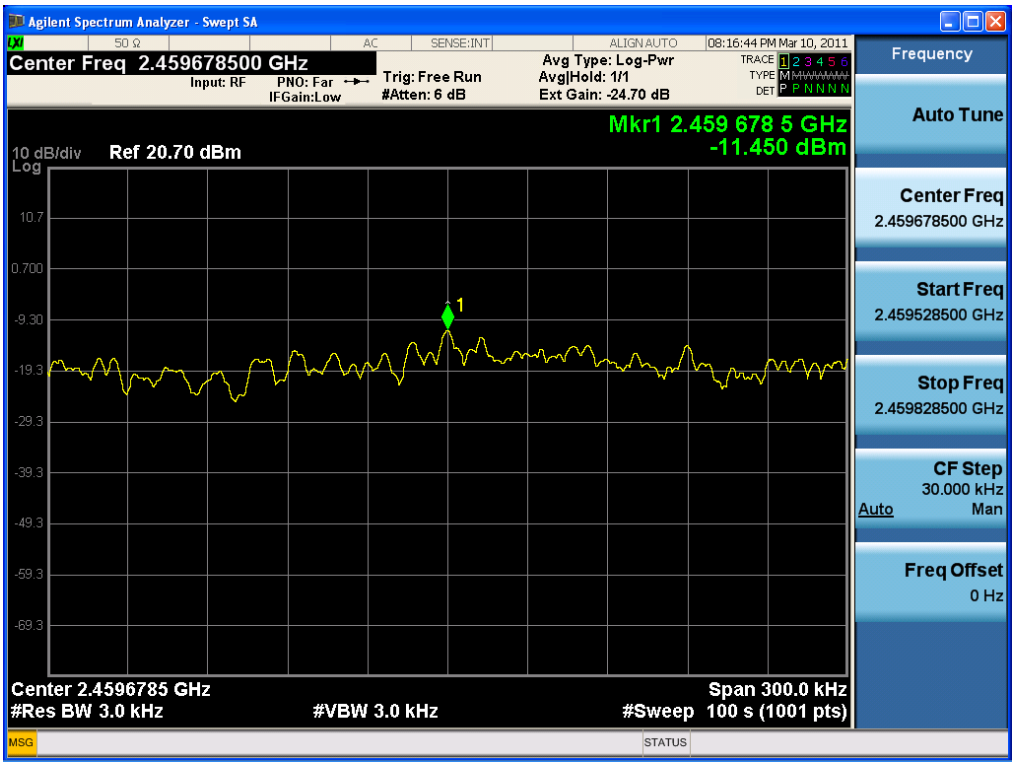
Power Spectral Density (802.11n-CH 1) – 20 MHz



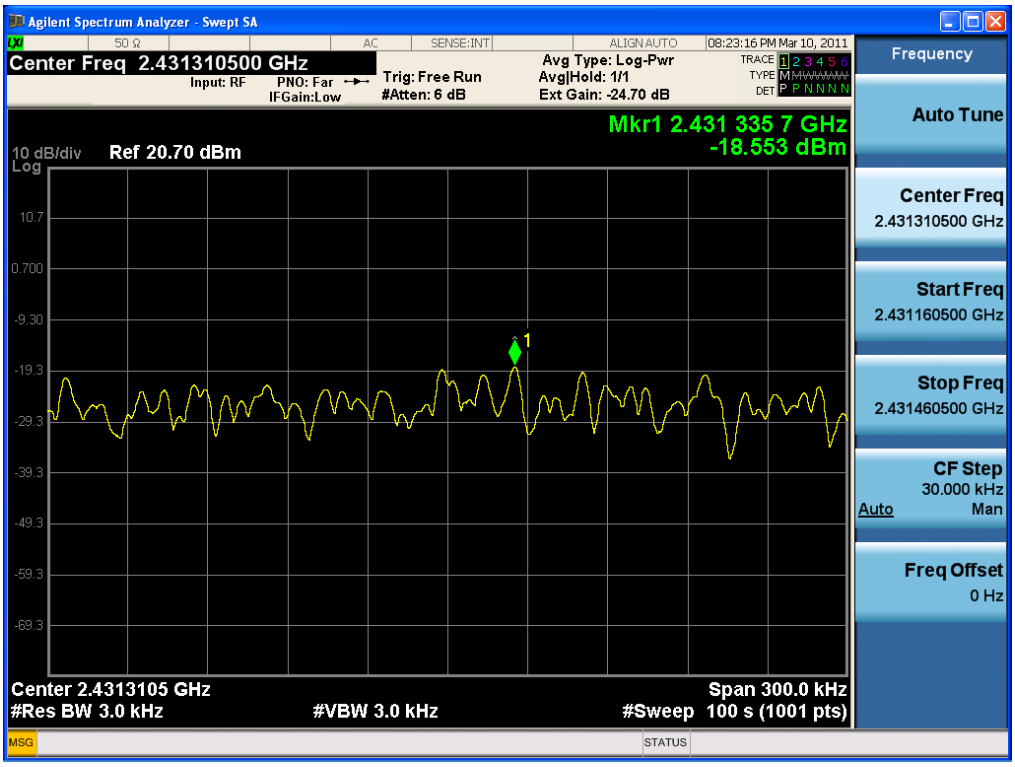
Power Spectral Density (802.11n-CH 6) – 20 MHz



Power Spectral Density (802.11n-CH11) – 20 MHz

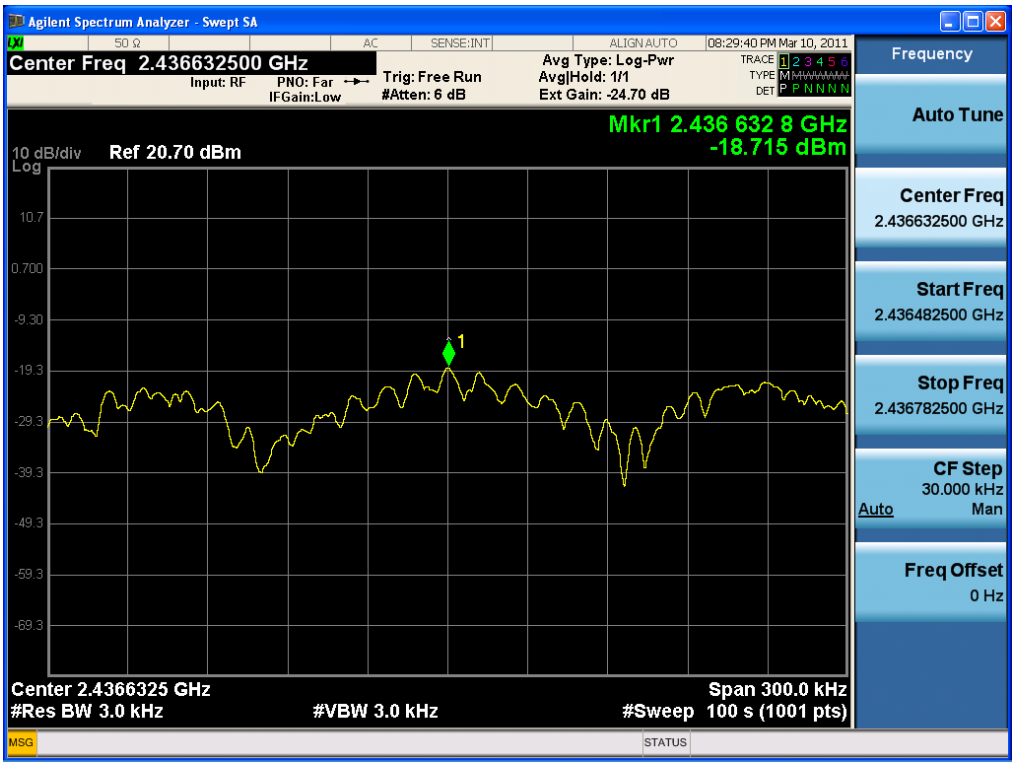


Power Spectral Density (802.11n-CH 1) – 40 MHz



Power Spectral Density (802.11n-CH 4) – 40 MHz

Power Spectral Density (802.11n-CH 7) – 40 MHz

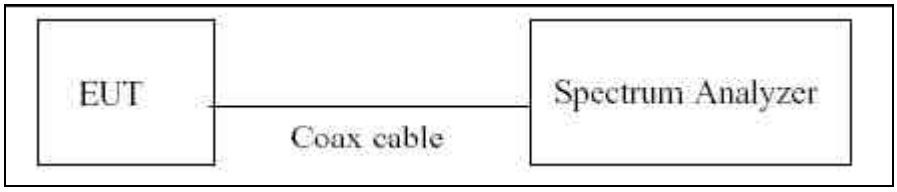


7.4 OUT OF BAND EMISSIONS AT THE BAND EDGE/ CONDUCTED SPURIOUS EMISSIONS

Test Requirements and limit, §15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB 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 §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in§ 15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

▣ TEST CONFIGURATION



▣ TEST PROCEDURE

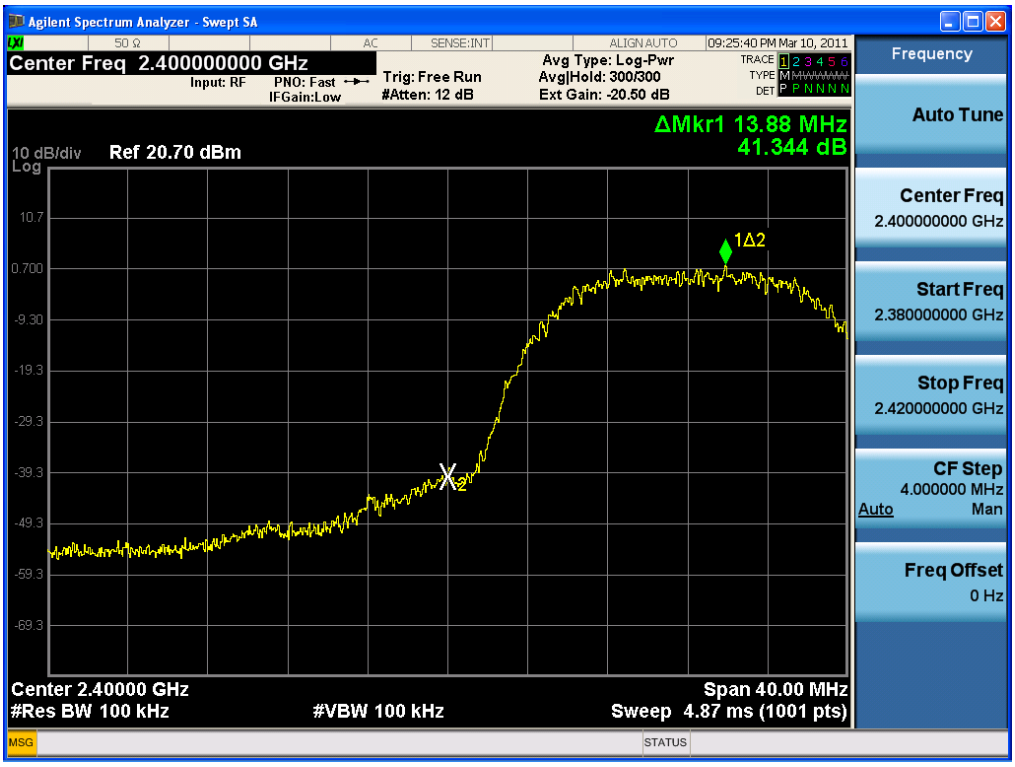
The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.
Detector Mode is set to a peak detector Mode.

Measurements are made over the 30 MHz to 26 GHz range with the transmitter set to the lowest, middle, and highest channels.

▣ RESULT PLOTS

- Port 1

BandEdge (802.11b-CH1)



BandEdge (802.11b-CH11)