

EMC Test Report – Supplemental Information

FCC Part 15, Subpart E

Model: PROXMB82

FCC ID: HZB-PROXMB82

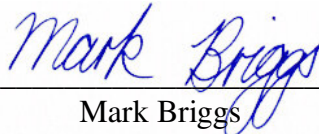
APPLICANT: Proxim Wireless Corporation
1561 Buckeye Drive
Milpitas, CA 95035, USA

TEST SITE(S): Elliott Laboratories
684 W. Maude Avenue
Sunnyvale, CA 94085

REPORT DATE: January 14, 2010

FINAL TEST DATES: January 13, 2010

AUTHORIZED SIGNATORY:



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Testing Cert #2016-01

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SCOPE

This addendum provides test data to support the FCC's interim requirements for devices intended to operate in the 5470-5725 MHz, specifically the requirement that master devices demonstrate that their 20dB bandwidth falls outside of the 5600-5650MHz band. Measurements have been made in all operating modes (802.11a, 802.11n HT20 and 802.11n HT40) on the channels immediately above and below the 5600-5650 MHz sub-band in accordance with these requirements.

STATEMENT OF COMPLIANCE

The tested sample of Proxim Wireless Corporation model PROXMB82 complied with the requirements of the following regulations:

FCC Part 15, Subpart E requirements for UNII Devices
FCC KDB 443999

Maintenance of compliance is the responsibility of the manufacturer. Any modifications to the product should be assessed to determine their potential impact on the compliance status of the device with respect to the standards detailed in this test report.

The test results recorded herein are based on a single type test of Proxim Wireless Corporation model PROXMB82 and therefore apply only to the tested sample. The sample was selected and prepared by Ivaylo Tankov of Proxim Wireless Corporation.

DEVIATIONS FROM THE STANDARDS

No deviations were made from the published requirements listed in the scope of this report.

TEST RESULTS SUMMARY**UNII / LELAN DEVICES****Operation in the 5.47 – 5.725 GHz Band**

FCC Rule Part	Description	Measured Value	Limit / Requirement	Result
FCC KDB 443999	20dB Bandwidth	20dB bandwidth for all modes is outside the range 5589.35 MHz to 5650.50 MHz	The 20dB bandwidth shall not fall in the 5600-5650MHz sub-band	Complies

EQUIPMENT UNDER TEST (EUT) DETAILS**GENERAL**

The Proxim Wireless Corporation model PROXMB82 is an 802.11abgn 3x3 wireless module intended for use in host systems designed and marketed by Proxim Wireless Corporation.

The sample was received on January 13, 2010 and tested on January 13, 2010. The EUT consisted of the following component(s):

Company	Model	Description	Serial Number	FCC ID
Proxim Corporation	PROXMB82	802.11abgn 3x3 module	None	HZB-PROXMB82

MODIFICATIONS

No modifications were made to the EUT during the time the product was at Elliott.

EUT OPERATION

During testing, the EUT was configured to continuously transmit at the maximum (highest) power setting.

TEST SITE

GENERAL INFORMATION

Final test measurements were taken on January 13, 2010.

MEASUREMENT INSTRUMENTATION

RECEIVER SYSTEM

A spectrum analyzer is utilized because it provides visibility of the entire spectrum along with the precision and versatility required to support engineering analysis. Average measurements above 1000MHz are performed on the spectrum analyzer using the linear-average method with a resolution bandwidth of 1 MHz and a video bandwidth of 10 Hz, unless the signal is pulsed in which case the average (or video) bandwidth of the measuring instrument is reduced to onset of pulse desensitization and then increased.

INSTRUMENT CONTROL COMPUTER

The Spectrum Monitor provides a visual display of the signal being measured. In addition, the controller or a personal computer run automated data collection programs which control the receivers. This provides added accuracy since all site correction factors, such as cable loss and antenna factors are added automatically.

FILTERS/ATTENUATORS

External filters and precision attenuators are often connected between the receiving antenna or LISN and the receiver. This eliminates saturation effects and non-linear operation due to high amplitude transient events.

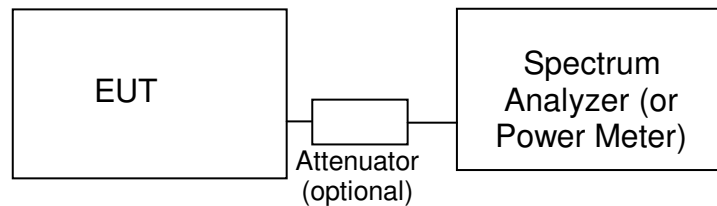
INSTRUMENT CALIBRATION

All test equipment is regularly checked to ensure that performance is maintained in accordance with the manufacturer's specifications. All antennas are calibrated at regular intervals with respect to tuned half-wave dipoles. An exhibit of this report contains the list of test equipment used and calibration information.

TEST PROCEDURES

CONDUCTED EMISSIONS FROM ANTENNA PORT

Direct measurements of power, bandwidth and power spectral density are performed, where possible, with the antenna port of the EUT connected to either the power meter or spectrum analyzer via a suitable attenuator and/or filter. These are used to ensure that the front end of the measurement instrument is not overloaded by the fundamental transmission.



Test Configuration for Antenna Port Measurements

Measurement bandwidths (video and resolution) are set in accordance with the relevant standards and Elliott's test procedures for the type of radio being tested. When power measurements are made using a resolution bandwidth less than the signal bandwidth the power is calculated by summing the power across the signal bandwidth using either the analyzer channel power function or by capturing the trace data and calculating the power using software. In both cases the summed power is corrected to account for the equivalent noise bandwidth (ENBW) of the resolution bandwidth used.

If power averaging is used (typically for certain digital modulation techniques), the EUT is configured to transmit continuously. Power averaging is performed using either the built-in function of the analyzer or, if the analyzer does not feature power averaging, using external software. In both cases the average power is calculated over a number of sweeps (typically 100). When the EUT cannot be configured to continuously transmit then either the analyzer is configured to perform a gated sweep to ensure that the power is averaged over periods that the device is transmitting or power averaging is disabled and a max-hold feature is used.

If a power meter is used to make output power measurements the sensor head type (peak or average) is stated in the test data table.

BANDWIDTH MEASUREMENTS

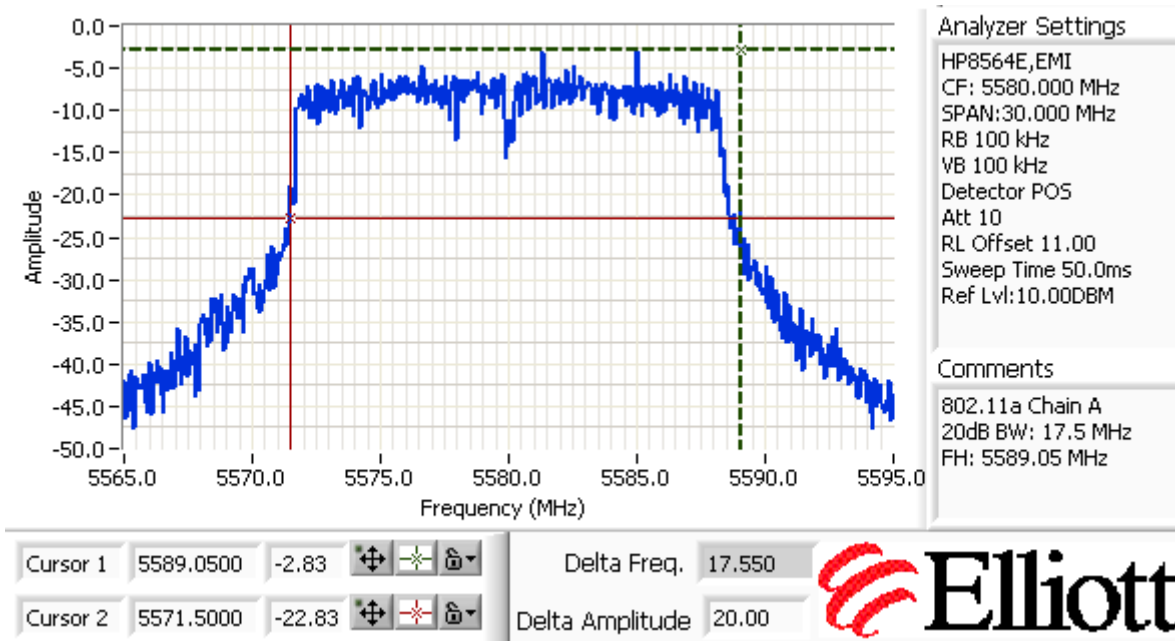
The 6dB, 20dB and/or 26dB signal bandwidth is measured in using the bandwidths recommended by ANSI C63.4.

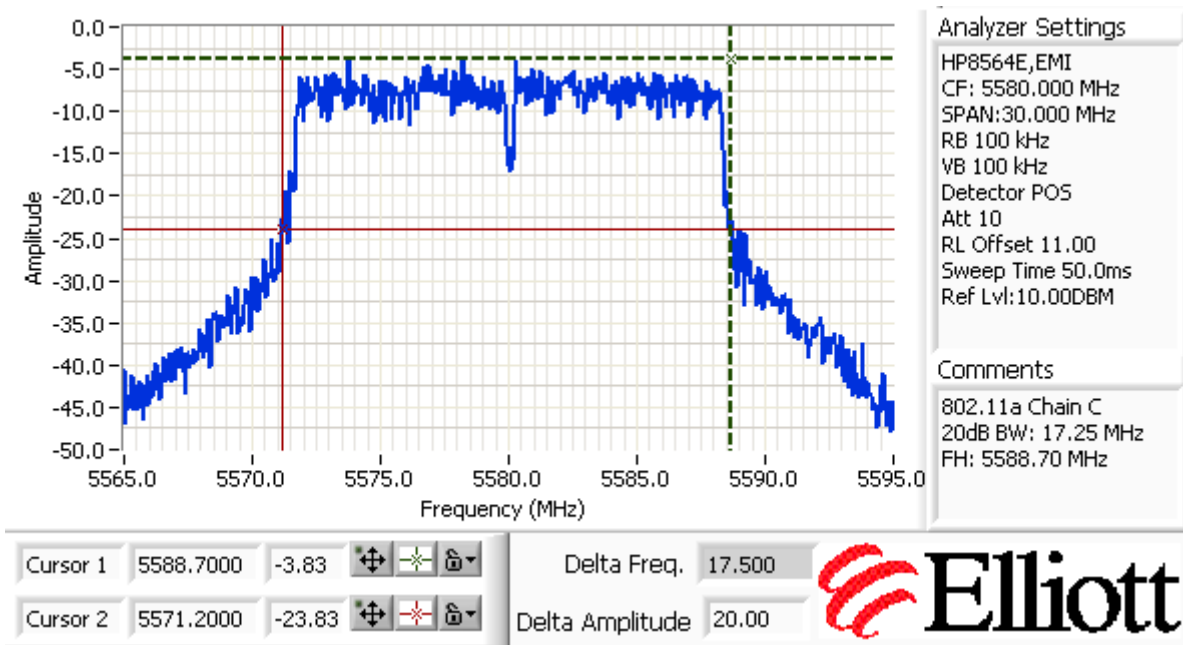
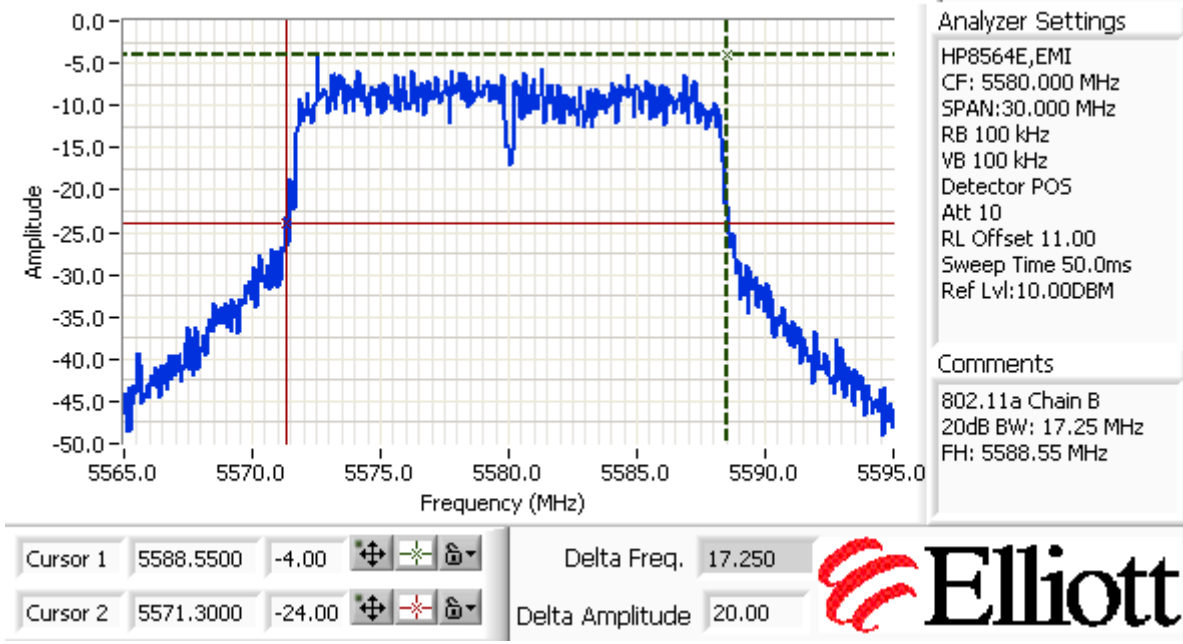
Appendix A Test Data

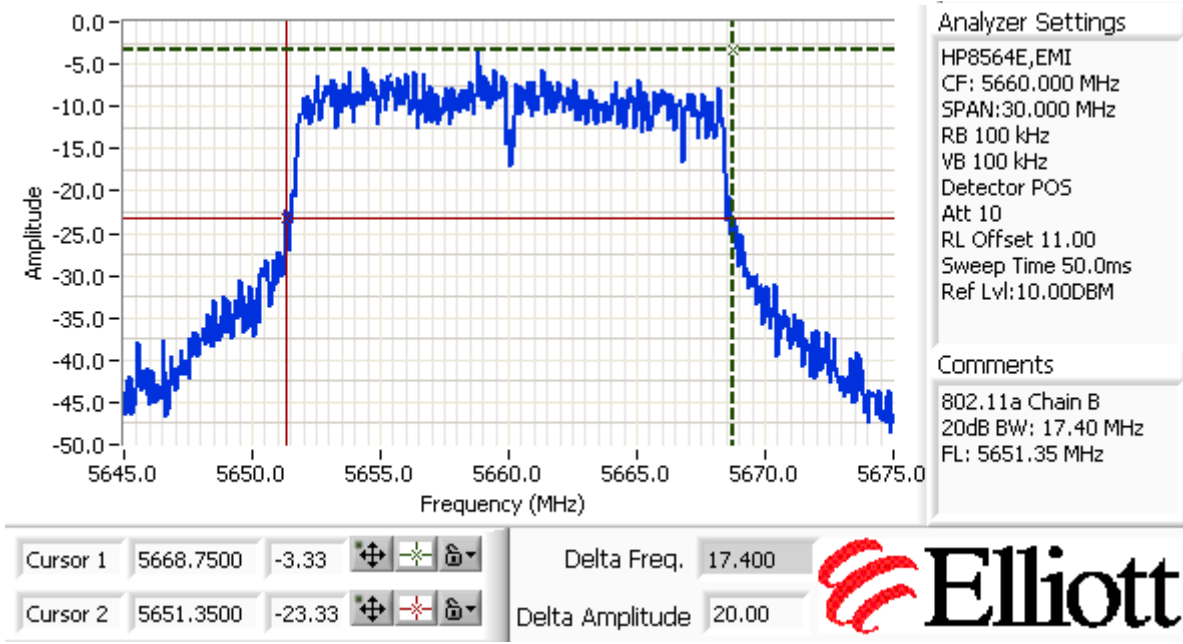
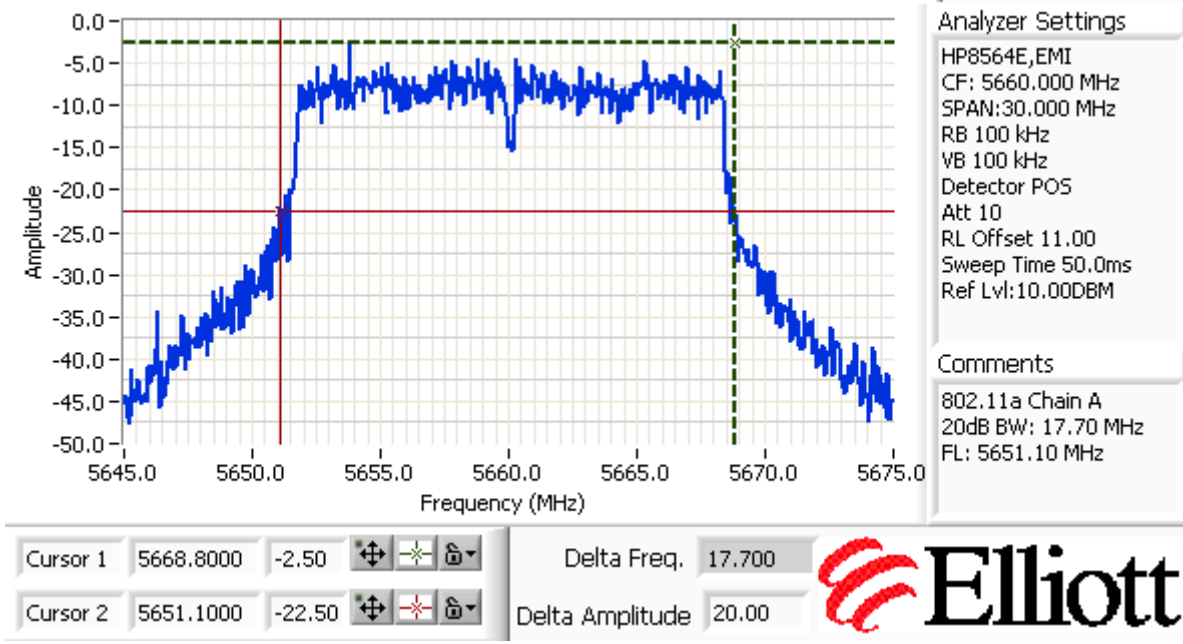
The plots below show the 20dB bandwidth for 802.11a, 802.11n HT20 and 802.11nHT40 operating modes. In all cases the 20dB bandwidth for the channels located immediately above and immediately below the 5600-5650 MHz band did not spill into the 5600-5650 MHz frequency range. The summary tables list the upper bound (F_H) and lower bound (F_L) of the 20dB bandwidth.

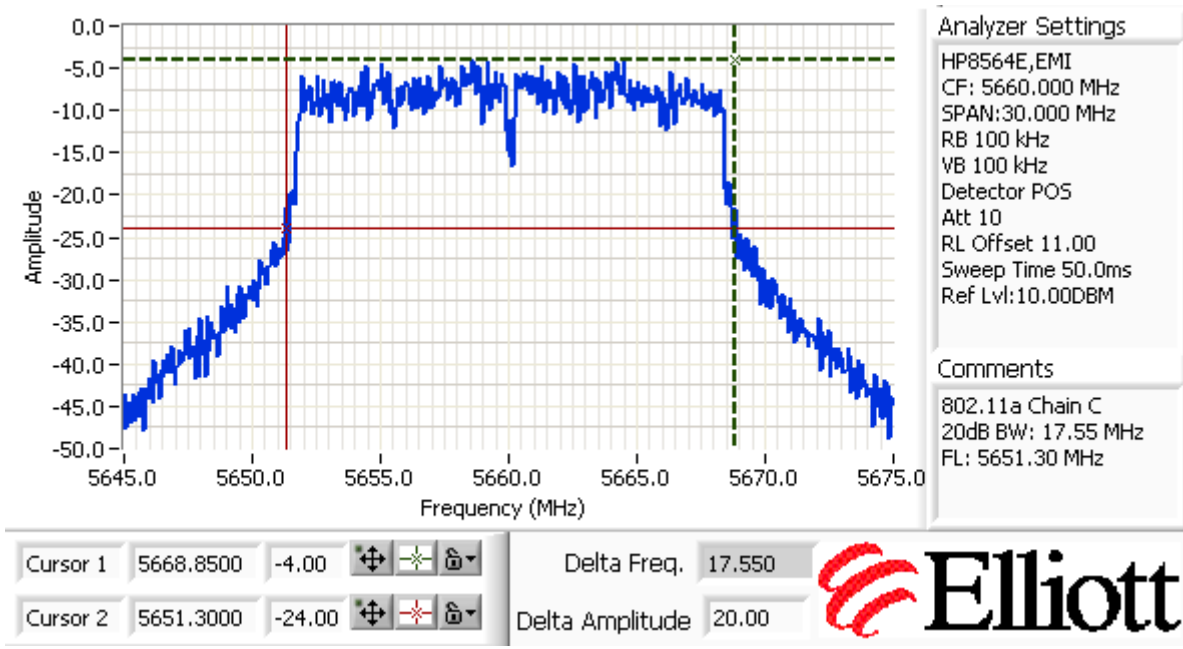
20dB BANDWIDTH – 802.11a

Channel Number	Frequency	Chain	20dB Bandwidth	
			F_L (MHz)	F_H (MHz)
116	5580 MHz	A		5589.05
		B		5588.55
		C		5588.70
132	5660 MHz	A	5651.10	
		B	5651.35	
		C	5651.30	



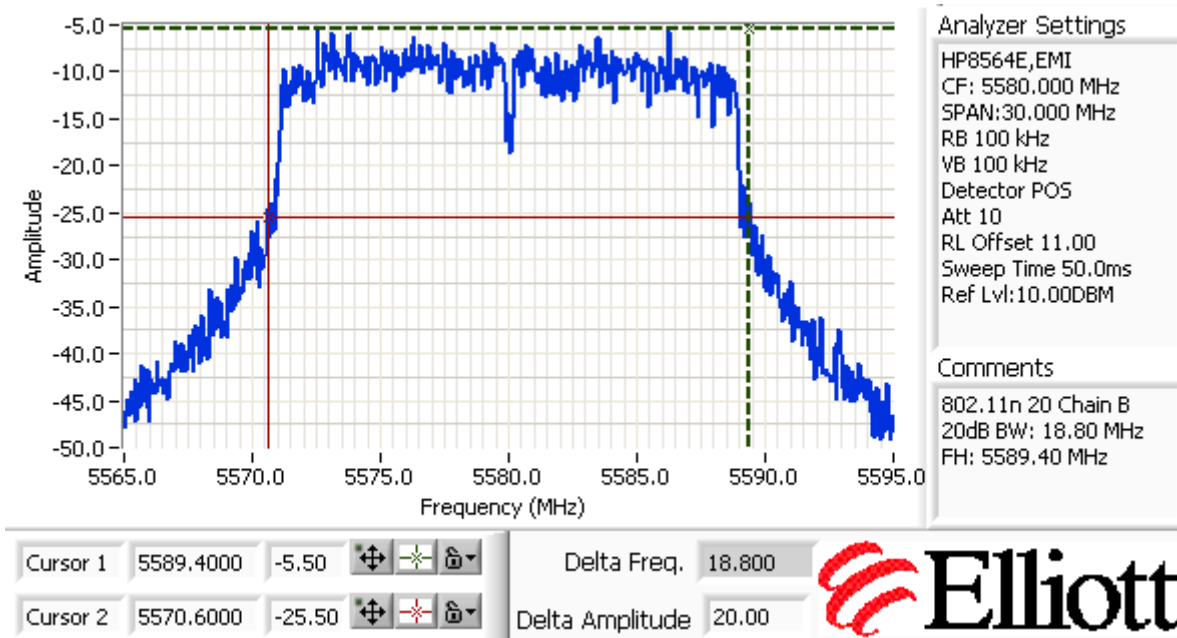
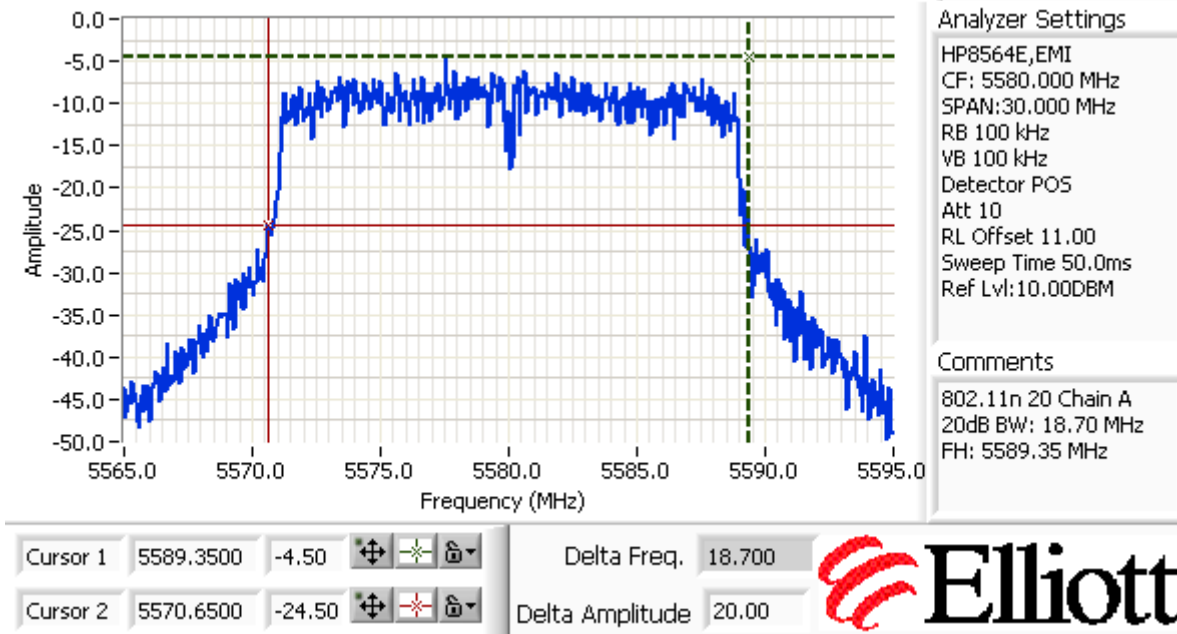


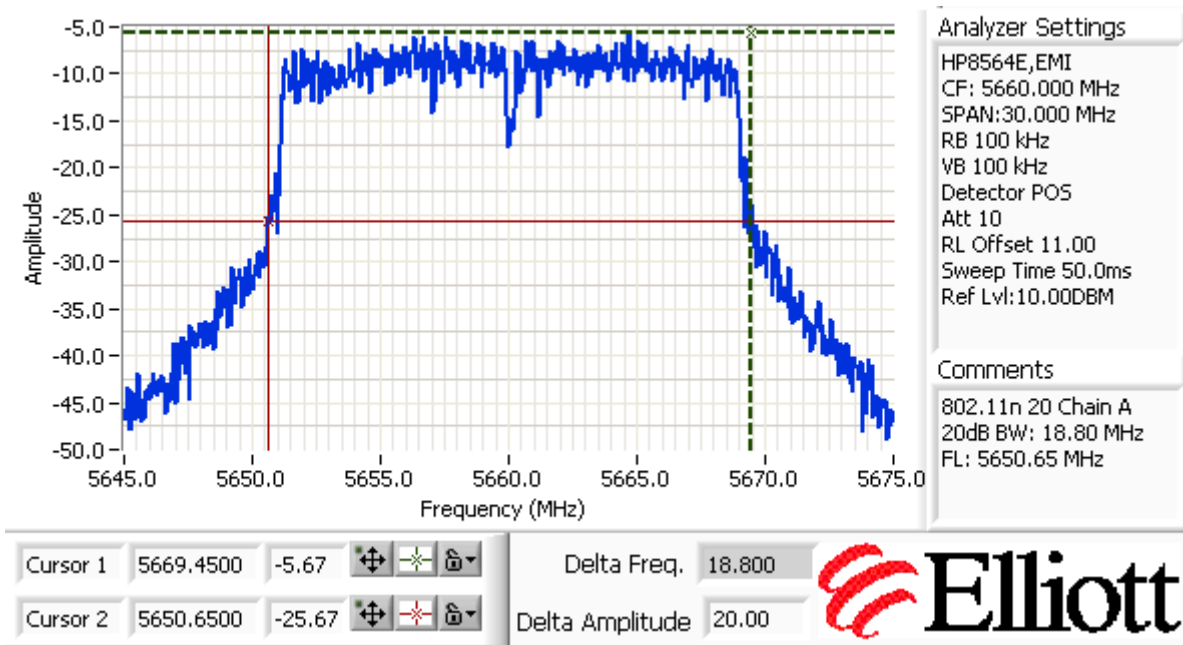
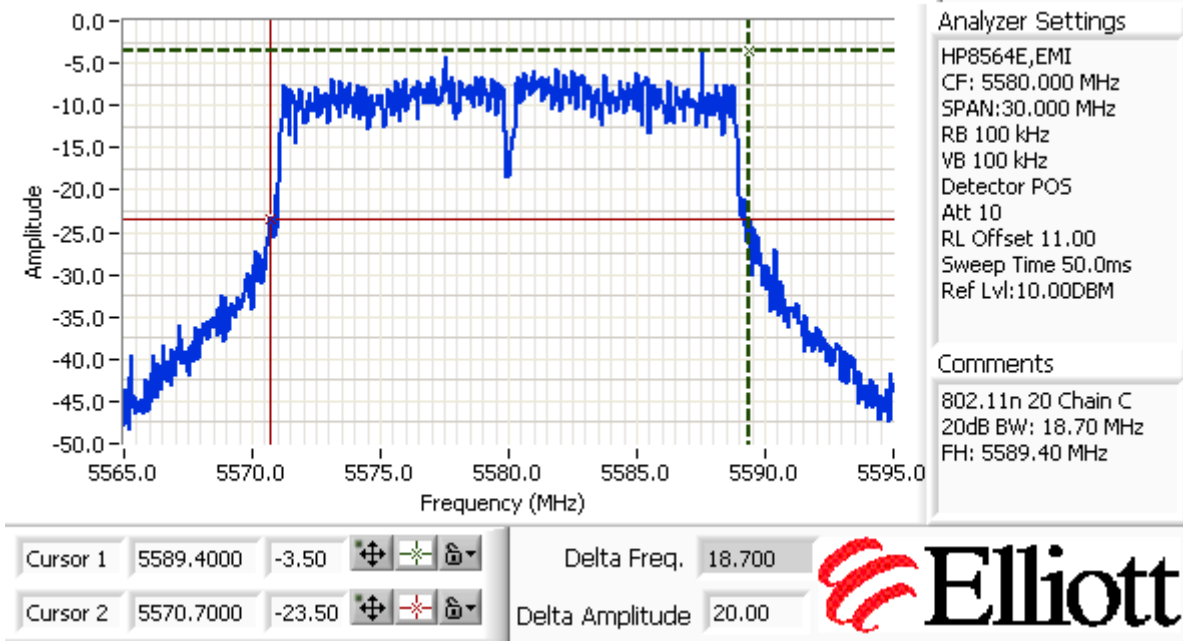


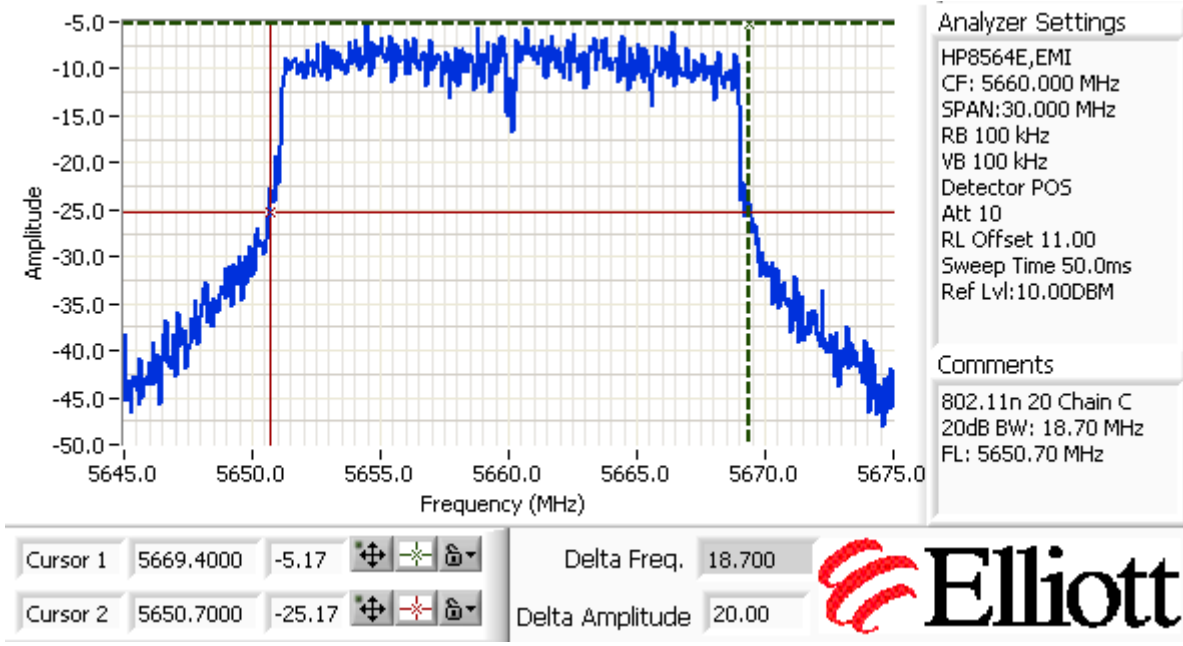
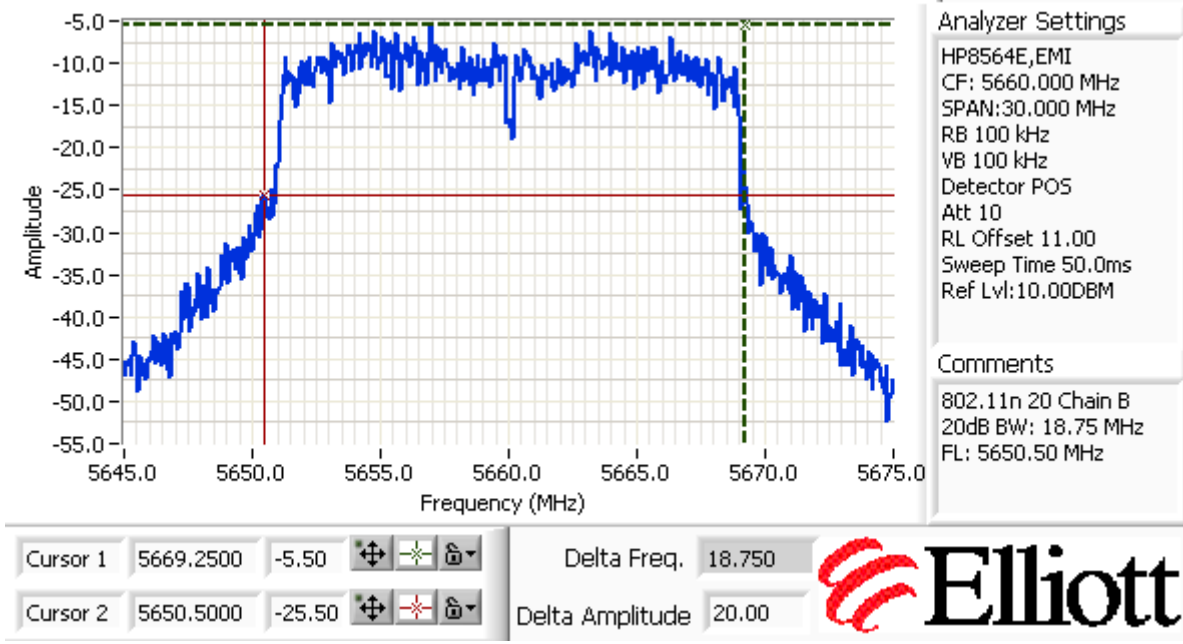


20dB BANDWIDTH – 802.11n HT20

Channel		Chain	20dB Bandwidth	
Number	Frequency		F _L (MHz)	F _H (MHz)
116	5580 MHz	A		5589.35
		B		5589.40
		C		5589.40
132	5660 MHz	A	5650.65	
		B	5650.50	
		C	5650.70	







20dB BANDWIDTH – 802.11n HT40

Channel Number	Frequency	Chain	20dB Bandwidth	
			F _L (MHz)	F _H (MHz)
110	5550 MHz	A		5569.00
		B		5568.83
		C		5568.67
134	5670 MHz	A	5651.50	
		B	5651.42	
		C	5651.58	

