

TEST REPORT FROM RFI GLOBAL SERVICES LTD

Test of: OWS451x

FCC ID: PVH0941

IC Certification Number: 5325A-0941

To: FCC Part 15.407: 2011 Subpart E, RSS-210 Issue 8 December
2010 and RSS-Gen Issue 3 December 2010

Test Report Serial No:
RFI-RPT-RP78718JD33C V3.0

Version 3.0 Supersedes All Previous Versions

This Test Report Is Issued Under The Authority Of Chris Guy, Head of Global Approvals: 	
Checked By:	Steven White
Signature:	
Date of Issue:	18 November 2011

This report is issued in Adobe Acrobat portable document format (PDF). It is only a valid copy of the report if it is being viewed in PDF format with the following security options not allowed: Changing the document, Selecting text and graphics, Adding or changing notes and form fields.

This report may not be reproduced other than in full, except with the prior written approval of RFI Global Services Ltd. The results in this report apply only to the sample(s) tested.

RFI Global Services Ltd

Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire RG23 8BG
Telephone: +44 (0)1256 312000 Facsimile: +44 (0)1256 312001
Email: info@rfi-global.com Website: www.rfi-global.com

Registered in England and Wales. Company number: 2117901

This page has been left intentionally blank.

Table of Contents

1. Customer Information	4
2. Summary of Testing	5
2.1. General Information	5
2.2. Summary of Test Results	6
2.3. Methods and Procedures	6
2.4. Deviations from the Test Specification	6
3. Equipment Under Test (EUT)	7
3.1. Identification of Equipment Under Test (EUT)	7
3.2. Description of EUT	7
3.3. Modifications Incorporated in the EUT	7
3.4. Additional Information Related to Testing	8
3.5. Support Equipment	8
4. Operation and Monitoring of the EUT during Testing	9
4.1. Operating Modes	9
4.2. Configuration and Peripherals	9
5. Measurements, Examinations and Derived Results	10
5.1. General Comments	10
5.2. Test Results	11
5.2.1. Receiver/Idle Mode AC Conducted Spurious Emissions	11
5.2.2. Receiver/Idle Mode Radiated Spurious Emissions	13
5.2.3. Transmit mode AC Conducted Spurious Emissions	18
5.2.4. Transmitter 26 dB Emission Bandwidth	20
5.2.5. Transmitter 99% Emission Bandwidth	48
5.2.6. Conducted Maximum Peak Output Power	76
5.2.7. Transmitter Maximum Equivalent Isotropically Radiated Power	113
5.2.8. Transmitter Peak Power Spectral Density	118
5.2.9. Transmitter Peak Excursion	146
5.2.10. Transmitter Out of Band Radiated Emissions (5.260-5.320 GHz band)	174
5.2.11. Transmitter Out of Band Radiated Emissions (5.500-5.700 GHz band)	178
5.2.12. Transmitter Band Edge Radiated Emissions	182
5.2.13. Transmitter Frequency Stability (Temperature Variation)	219
6. Measurement Uncertainty	226
Appendix 1. Test Equipment Used	227

1. Customer Information

Company Name:	connectBlue AB
Address:	Norra Vallgatan 64 3V Malmö Sweden SE-211 22

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR15.407
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2011: Part 15 Subpart E (Unlicensed National Information Infrastructure Devices) - Section 15.407
Specification Reference:	47CFR15.107 and 47CFR15.109
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2011: Part 15 Subpart B (Unintentional Radiators) - Sections 15.107 and 15.109
Specification Reference:	47CFR15.207 and 47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2011: Part 15 Subpart C (Intentional Radiators) - Sections 15.207 and 15.209
Specification Reference:	RSS-GEN Issue 3 December 2010
Specification Title:	General Requirements and Information for the Certification of Radio communication Equipment
Specification Reference:	RSS-210 Issue 8 December 2010
Specification Title:	Low-power Licence-exempt Radio communication Devices (All Frequency Bands): Category I Equipment.
Site Registration:	FCC: 209735; Industry Canada: 3245B-2
Location of Testing:	RFI Global Services Ltd, Wade Road, Basingstoke, Hampshire, RG24 8AH.
Test Dates:	7 October 2010 to 14 th November 2011

Note: Testing of this unit commenced with RSS Gen Issue 2 and RSS 210 Issue 7 standards. These transitioned into RSS Gen Issue 3 and RSS 210 Issue 8 during testing. A comparison between the-relevant versions of the standards showed no changes to those parts applicable to the testing performed. Therefore all measurements within this report are applicable to the later versions of the standards.

2.2. Summary of Test Results

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.107(a)	RSS-Gen 7.2.4	Receiver/Idle Mode AC Conducted Emissions	
Part 15.109	RSS-Gen 4.10/6.1	Receiver/Idle Mode Radiated Spurious Emissions	
Part 15.207	RSS-Gen 7.2.4	Transmitter AC Conducted Emissions	
Part 15.403(i)	-	Transmitter 26 dB Emission Bandwidth	
Part 2.1049	RSS-Gen 4.6.1 / RSS-210 A9.2	Transmitter 99% Emission Bandwidth	
Part 15.407(a)	-	Transmitter Maximum Conducted Output Power (5.15-5.25 GHz band)	
-	RSS-Gen 4.8 / RSS-210 A9.2 (2) & (3)	Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP)	
Part 15.407(a)	-	Transmitter Peak Power Spectral Density	
-	RSS-210 A9.2 (2) & (3)	Transmitter EIRP Spectral Density	
Part 15.407(a)	-	Transmitter Peak Excursion	
Part 15.407(b)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A9.3 (2 & 3)	Transmitter Out of Band Radiated Emissions	
Part 15.407(b)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A9.3 (2 & 3)	Transmitter Band Edge Radiated Emissions	
Part 15.407(g)	RSS-Gen 4.7 RSS-210 A9.5(5)	Transmitter Frequency Stability (Temperature & Voltage Variation)	
Key to Results  = Complied  = Did not comply			

2.3. Methods and Procedures

Reference:	ANSI C63.4 (2009)
Title:	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
Reference:	ANSI C63.10 (2009)
Title:	American National Standard for Testing Unlicensed Wireless Devices

2.4. Deviations from the Test Specification

For the measurements contained within this test report, there were no deviations from, additions to, or exclusions from the test specification identified above.

3. Equipment Under Test (EUT)

3.1. Identification of Equipment Under Test (EUT)

Brand Name:	connectBlue AB
Model Name or Number:	OWS451x
Serial Number:	Not stated
Hardware Version Number:	cB-0941-02
Software Version Number:	2.4 2.1.9 RPS / ows451 pcti firmware 2.2.0 release.cbz
FCC ID:	PVH0941
IC Certification Number:	5325A-0941
Antenna:	ProAnt Inside WLAN, gain 3dBi

3.2. Description of EUT

The equipment under test was a WLAN module with an external antenna port which provided a wireless communication link using IEEE802.11a/n WLAN.

- ProAnt Inside WLAN

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Technology Tested:	Unlicensed National Information Infrastructure Devices (U-NII)/License-exempt local area network (LE-LAN)		
Type of Unit:	Transceiver		
Channel Spacing:	20 MHz		
Modulation:	OFDM		
Data Rate:	802.11a: 6,9,12,18,24,36,48,54 Mbps 802.11n: 6.5,13,19.5,26,39,52,58.5,65 Mbps		
Power Supply Requirement(s):	Nominal	3.3V min, 5.0 V nom, 5.5V max	
Antenna Gain:	3dBi		
Transmit & Receive Frequency Range:	5260 MHz to 5320 MHz		
Transmit & Receive Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	52	5260
	Middle	56	5280
	Top	64	5320
Transmit & Receive Frequency Range:	5500 MHz to 5700 MHz		
Transmit & Receive Channels Tested:	Channel ID	Channel Number	Channel Frequency (MHz)
	Bottom	100	5500
	Middle	120	5600
	Top	140	5700

3.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

Description:	Dell
Brand Name:	Laptop
Model Name or Number:	Latitude D610

Description:	Connect Blue AB
Brand Name:	Development Board
Model Name or Number:	0068-01-002440

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

The EUT was tested in the following operating mode(s):

- Receiver/Idle mode.
- Continuously transmitting at maximum power on the bottom, centre and top channels as required using the highest and lowest data rates of each modulation scheme.

4.2. Configuration and Peripherals

The EUT was tested in the following configuration(s):

- Controlled using a bespoke application on the laptop PC supplied by the client. The application was used to enable continuous transmission and idle mode (enabled but not transmitting) and to select the test channels, data rates and modulation schemes as required.
- Transmitter spurious emissions were performed with the EUT in the mode which gave the highest Maximum Peak Output Power level, as this was deemed to be worst case.
- All other tests were performed at the highest and lowest data rate of each modulation scheme as required.

5. Measurements, Examinations and Derived Results

5.1. General Comments

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to *Section 6; Measurement Uncertainty* for details.

5.2. Test Results

5.2.1. Receiver/Idle Mode AC Conducted Spurious Emissions

Test Summary:

Test Engineer:	Nicholas Jones	Test Date:	09 May 2011
Test Sample:	ID 8		

FCC/IC Part:	15.107(a) and RSS-Gen 7.2.4
Test Method Used:	As detailed in ANSI C63.10 Section 6.2 referencing ANSI C63.4

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	30

Results: Quasi Peak

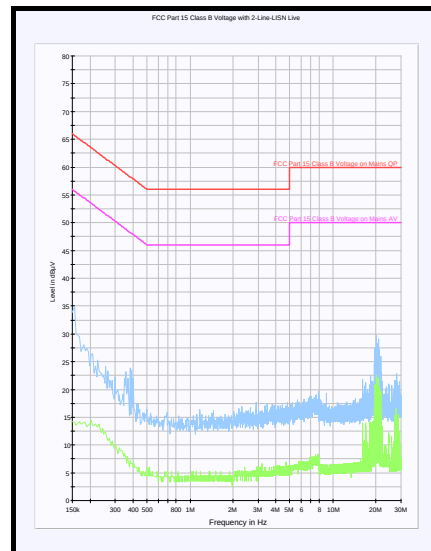
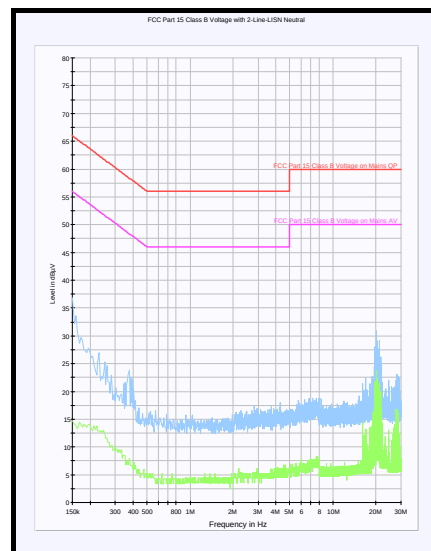
Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
Refer to Note 1					

Results: Average

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
Refer to Note 1					

Note(s):

1. All results were 20dB below the limit line and hence no final measurements were taken.

Receiver/Idle Mode AC Conducted Spurious Emissions (continued)**Idle/LIVE****Idle/NEUTRAL**

Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying tables.

5.2.2. Receiver/Idle Mode Radiated Spurious Emissions**Test Summary:**

Test Engineer:	Nick Steele & Andrew Edwards	Test Date:	07 October 2010
Test Sample:	ID 8		

FCC/IC Part:	15.109 and RSS-Gen 4.10/6.1
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4
Frequency Range:	30 MHz to 1000 MHz

Environmental Conditions:

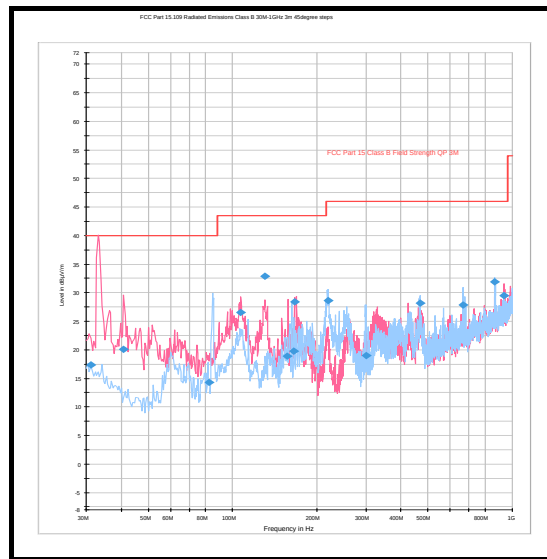
Temperature (°C):	26
Relative Humidity (%):	30

Results: Quasi Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
40.679	Vertical	20.1	40.0	19.9	Complied
106.762	Vertical	26.5	43.5	17.0	Complied
130.119	Vertical	32.8	43.5	10.7	Complied
167.206	Vertical	28.3	43.5	15.2	Complied
218.932	Horizontal	28.7	46.0	17.3	Complied
467.302	Horizontal	28.1	46.0	17.9	Complied
664.956	Horizontal	27.9	46.0	18.1	Complied
867.914	Horizontal	31.9	46.0	14.1	Complied
932.419	Vertical	29.5	46.0	16.5	Complied

Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. The emission at 33MHz was an ambient and not coming from the EUT, after further investigation.
3. All other emissions shown on the pre-scan plot were investigated and found to be ambient or >20 dB below the applicable limit or below the measurement system noise floor.

Receiver/Idle Mode Radiated Spurious Emissions (continued)

Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying table.

Receiver/Idle Mode Radiated Spurious Emissions (continued)**Test Summary:**

Test Engineer:	Nick Steele & Andrew Edwards	Test Date:	16 November 2010, 28 November 2010 & 01 December 2010
Test Sample Serial No:	ID 8		

FCC/IC Part:	15.109 and RSS-Gen 4.10/6.1
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
Frequency Range:	1 GHz to 30 GHz

Environmental Conditions:

Temperature (°C):	21 to 23
Relative Humidity (%):	23 to 26

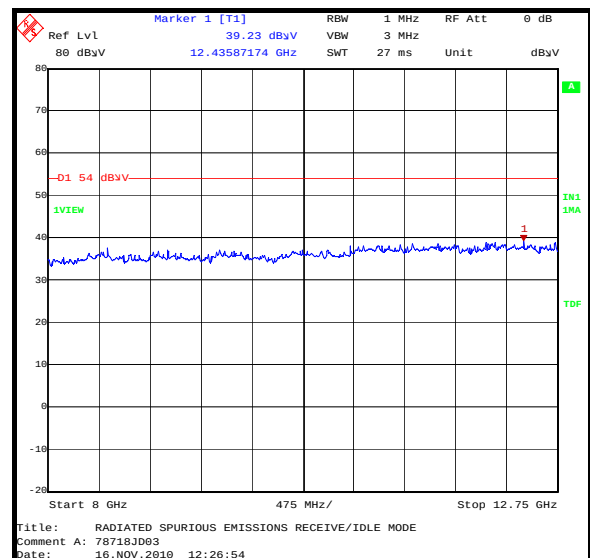
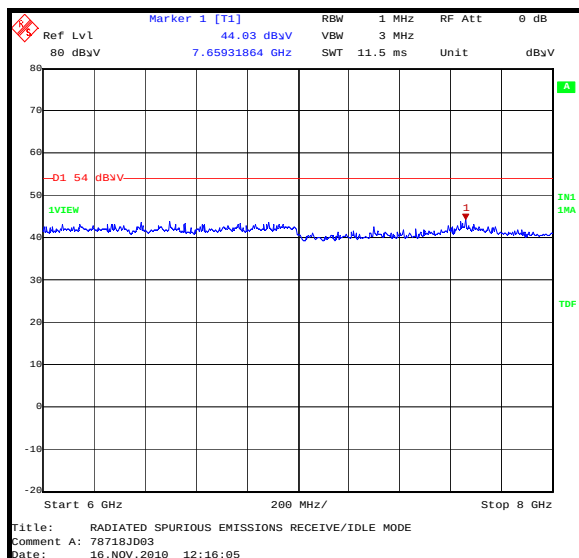
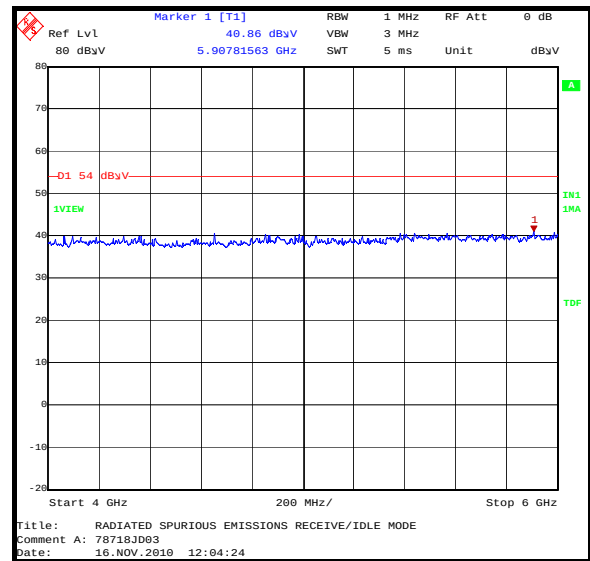
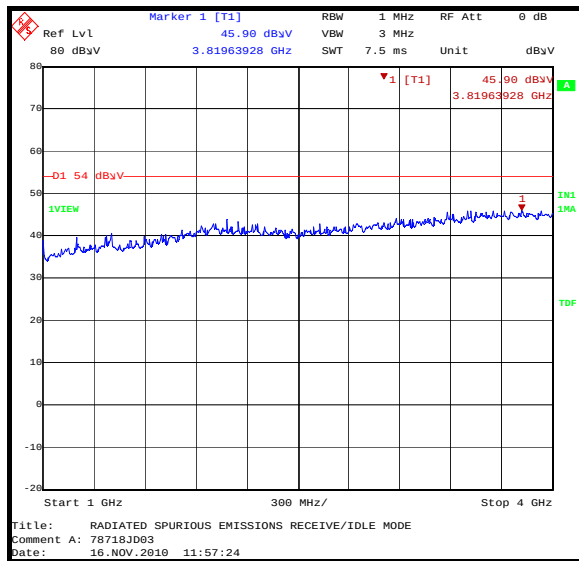
Results:

Frequency (GHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
25.171343	Vertical	50.0	*54.0	4.0	Complied

Note(s):

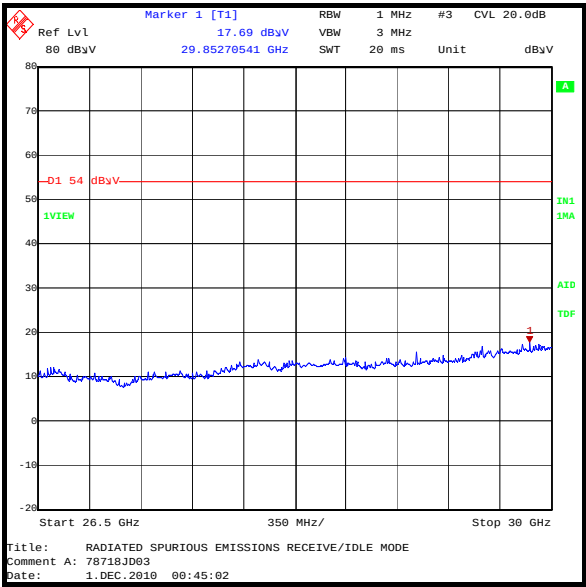
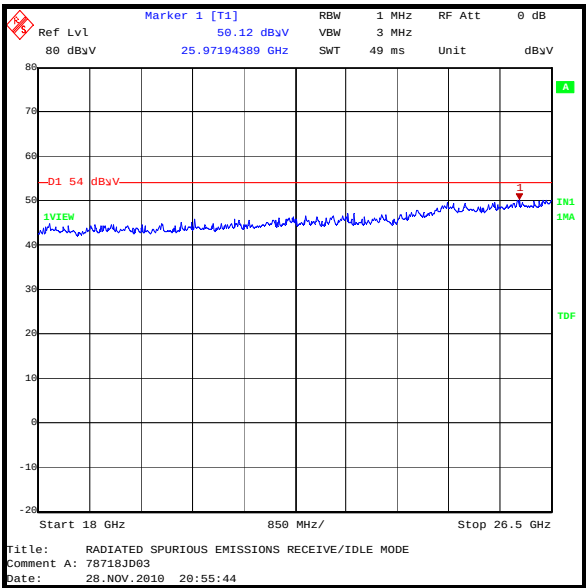
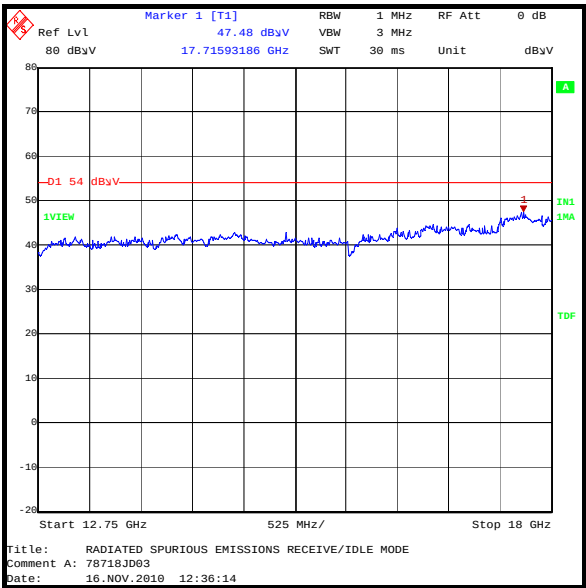
1. The final measured value, for the given emission, in the table above incorporates the calibrated and cable loss.
2. No spurious emissions were detected above the noise floor of the measuring receiver therefore the highest peak noise floor reading of the measuring receiver was recorded as shown in the table above.
3. Pre-scans above 1 GHz were performed in a fully anechoic chamber (RFI Asset Number K0002) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber (RFI Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

* The average limit was compared to the peak level as opposed to being compared to the peak limit because this is the more stringent limit.

Receiver/Idle Mode Radiated Spurious Emissions (continued)

Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Receiver/Idle Mode Radiated Spurious Emissions (continued)



Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

5.2.3. Transmit mode AC Conducted Spurious Emissions**Test Summary:**

Test Engineer:	Nicholas Jones	Test Date:	09 May 2011
Test Sample Serial No:	ID 8		

FCC/IC Part:	15.207 and RSS-Gen 7.2.4
Test Method Used:	As detailed in ANSI C63.10 Section 6.2 referencing ANSI C63.4

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	28

Results: Quasi Peak

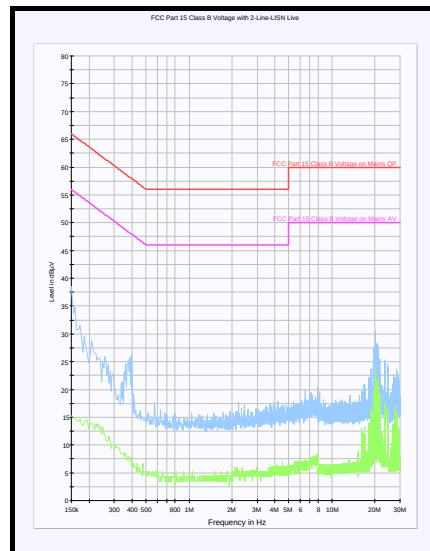
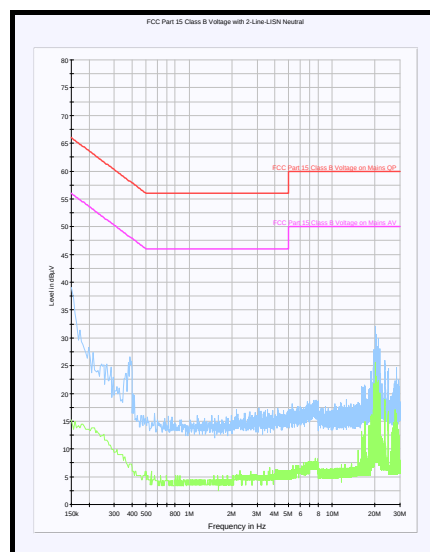
Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
Refer to Note 1					

Results: Average

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
Refer to Note 1					

Note(s):

All emissions were at least 20dB below the relevant spurious emissions limit.

Transmitter AC Conducted Spurious Emissions (continued)**Transmit/LIVE****Transmit/NEUTRAL**

Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying table.

5.2.4. Transmitter 26 dB Emission Bandwidth**Test Summary:**

Test Engineer:	David Lakeland	Test Date:	06 June 2011
Test Sample Serial No:	ID 3		

FCC Part:	15.403(i)
Test Method Used:	A spectrum analyzer was used to perform this measurement employing a peak detector function. The measurement bandwidth was approximately 1% or greater than the emission bandwidth and the 26dBc bandwidth reported. Tested in accordance with method detailed in public notice DA-02-2138 for emission bandwidth.

Environmental Conditions:

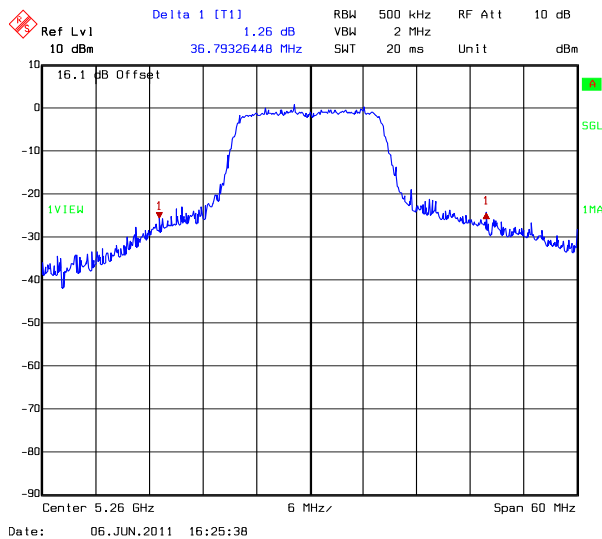
Temperature (°C):	22
Relative Humidity (%):	28

Transmitter 26 dB Emission Bandwidth (continued)**Results:**

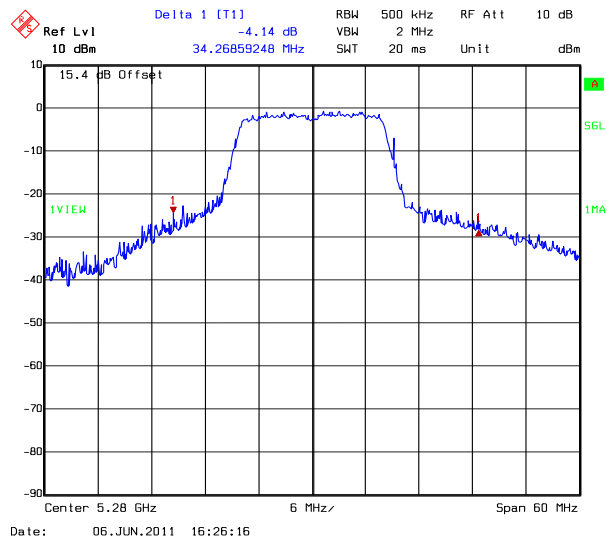
Channel	Frequency (MHz)	Modulation Scheme	Data Rate (MB/s)	26 dB Emission Bandwidth (MHz)
Bottom	5260	BPSK	6	36.8
Middle	5280	BPSK	6	34.3
Top	5320	BPSK	6	36.0
Bottom	5260	BPSK	9	38.2
Middle	5280	BPSK	9	37.4
Top	5320	BPSK	9	38.1
Bottom	5260	QPSK	12	29.2
Middle	5280	QPSK	12	28.6
Top	5320	QPSK	12	32.8
Bottom	5260	QPSK	18	28.6
Middle	5280	QPSK	18	28.3
Top	5320	QPSK	18	28.3
Bottom	5260	16QAM	24	24.8
Middle	5280	16QAM	24	28.9
Top	5320	16QAM	24	31.9
Bottom	5260	16QAM	36	30.8
Middle	5280	16QAM	36	28.0
Top	5320	16QAM	36	30.7
Bottom	5260	64QAM	48	24.6
Middle	5280	64QAM	48	25.3
Top	5320	64QAM	48	25.7
Bottom	5260	64QAM	54	28.3
Middle	5280	64QAM	54	28.9
Top	5320	64QAM	54	32.6
Bottom	5500	BPSK	6	34.7
Middle	5600	BPSK	6	34.9
Top	5700	BPSK	6	27.2
Bottom	5500	BPSK	9	35.4
Middle	5600	BPSK	9	29.1
Top	5700	BPSK	9	27.7
Bottom	5500	QPSK	12	30.5
Middle	5600	QPSK	12	28.0
Top	5700	QPSK	12	23.4
Bottom	5500	QPSK	18	30.4

Channel	Frequency (MHz)	Modulation Scheme	Data Rate (MB/s)	26 dB Emission Bandwidth (MHz)
Middle	5600	QPSK	18	26.9
Top	5700	QPSK	18	22.7
Bottom	5500	16QAM	24	32.1
Middle	5600	16QAM	24	28.9
Top	5700	16QAM	24	24.6
Bottom	5500	16QAM	36	31.0
Middle	5600	16QAM	36	25.1
Top	5700	16QAM	36	23.8
Bottom	5500	64QAM	48	32.3
Middle	5600	64QAM	48	25.4
Top	5700	64QAM	48	22.0
Bottom	5500	64QAM	54	32.1
Middle	5600	64QAM	54	25.4
Top	5700	64QAM	54	21.9
Bottom	5260	BPSK	6.5	37.4
Middle	5280	BPSK	6.5	40.8
Top	5320	BPSK	6.5	39.7
Bottom	5260	QPSK	13	32.3
Middle	5280	QPSK	13	32.1
Top	5320	QPSK	13	33.9
Bottom	5260	QPSK	19.5	29.5
Middle	5280	QPSK	19.5	32.6
Top	5320	QPSK	19.5	34.1
Bottom	5260	16QAM	26	28.7
Middle	5280	16QAM	26	32.3
Top	5320	16QAM	26	31.7
Bottom	5260	16QAM	39	31.5
Middle	5280	16QAM	39	30.9
Top	5320	16QAM	39	32.1
Bottom	5260	64QAM	52	30.8
Middle	5280	64QAM	52	31.0
Top	5320	64QAM	52	32.6
Bottom	5260	64QAM	58.5	30.9
Middle	5280	64QAM	58.5	29.5
Top	5320	64QAM	58.5	34.1
Bottom	5260	64QAM	65	31.7
Middle	5280	64QAM	65	32.7

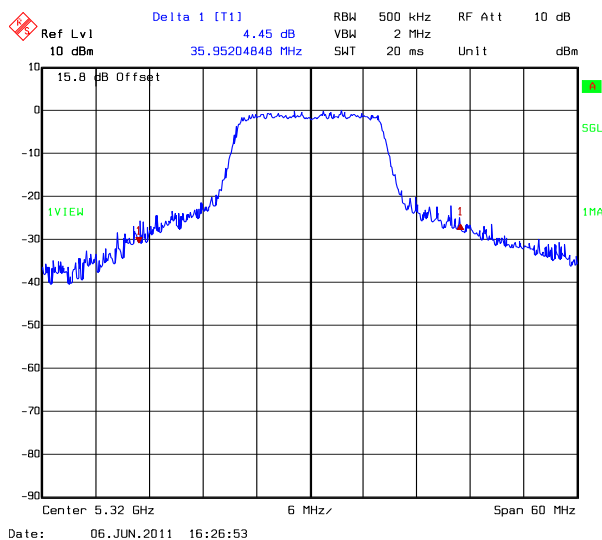
Channel	Frequency (MHz)	Modulation Scheme	Data Rate (MB/s)	26 dB Emission Bandwidth (MHz)
Top	5320	64QAM	65	34.0
Bottom	5500	BPSK	6.5	38.7
Middle	5600	BPSK	6.5	38.0
Top	5700	BPSK	6.5	29.8
Bottom	5500	QPSK	13	34.3
Middle	5600	QPSK	13	29.3
Top	5700	QPSK	13	27.5
Bottom	5500	QPSK	19.5	33.1
Middle	5600	QPSK	19.5	25.6
Top	5700	QPSK	19.5	24.3
Bottom	5500	16QAM	26	30.2
Middle	5600	16QAM	26	30.8
Top	5700	16QAM	26	25.4
Bottom	5500	16QAM	39	31.7
Middle	5600	16QAM	39	30.3
Top	5700	16QAM	39	26.1
Bottom	5500	64QAM	52	34.6
Middle	5600	64QAM	52	28.6
Top	5700	64QAM	52	25.5
Bottom	5500	64QAM	58.5	32.8
Middle	5600	64QAM	58.5	27.5
Top	5700	64QAM	58.5	23.7
Bottom	5500	64QAM	65	30.5
Middle	5600	64QAM	65	31.9
Top	5700	64QAM	65	24.6

Transmitter 26 dB Emission Bandwidth (continued)**Plots:**

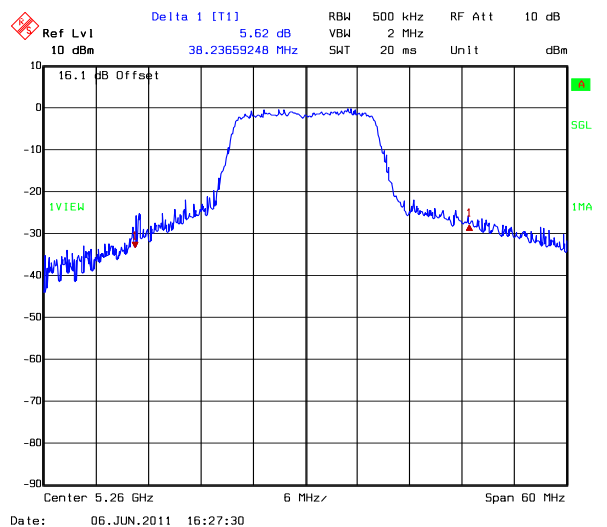
26dB_Bandwidth_UNII_2_802_11A_6MBS_BottomChannel



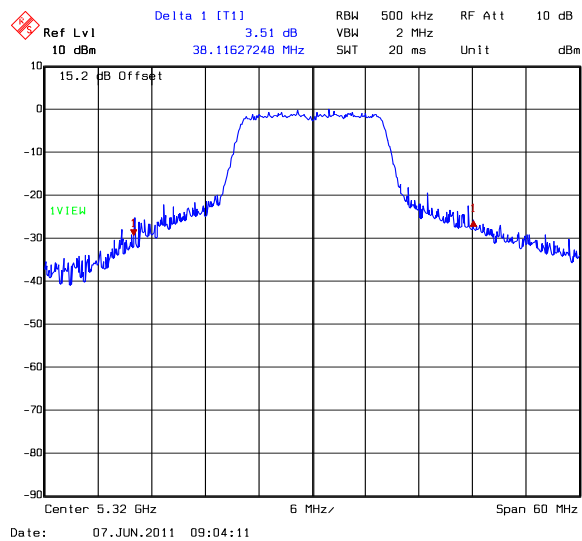
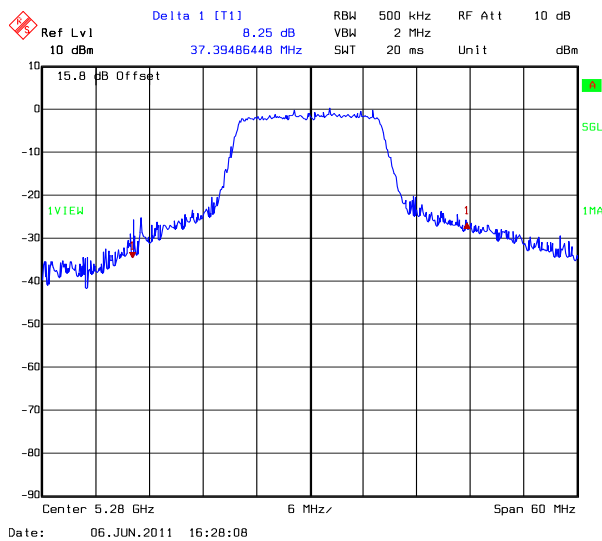
26dB_Bandwidth_UNII_2_802_11A_6MBS_MiddleChannel



26dB_Bandwidth_UNII_2_802_11A_6MBS_TopChannel

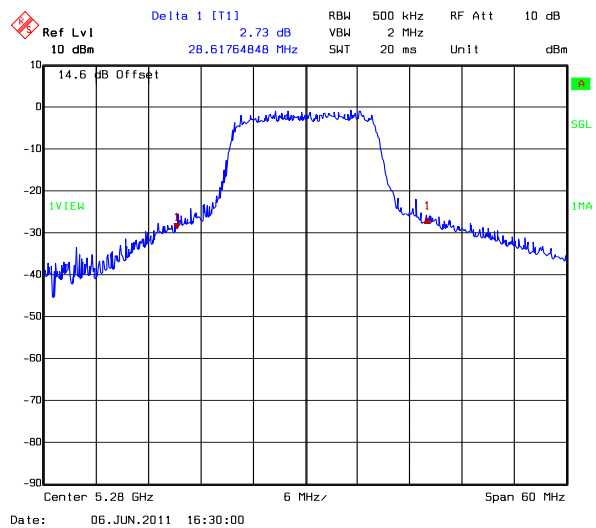
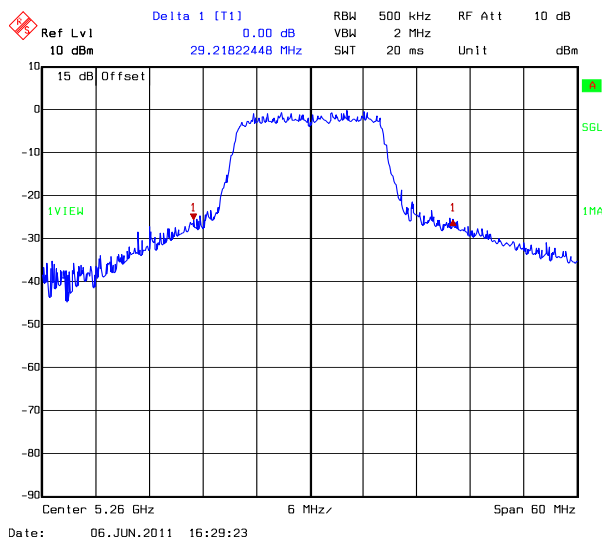


26dB_Bandwidth_UNII_2_802_11A_9MBS_BottomChannel

Transmitter 26 dB Emission Bandwidth (continued)

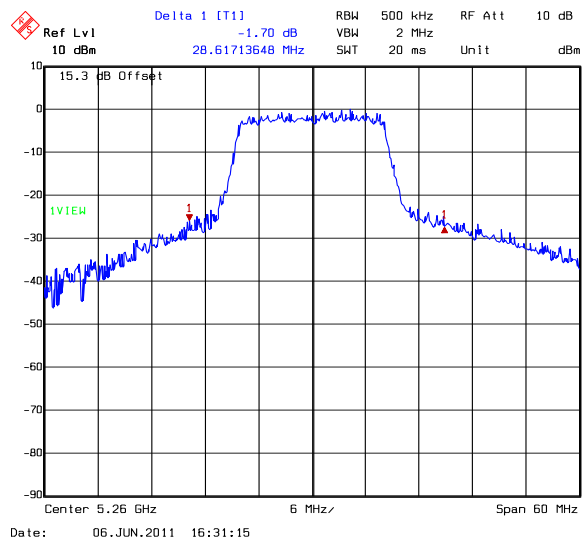
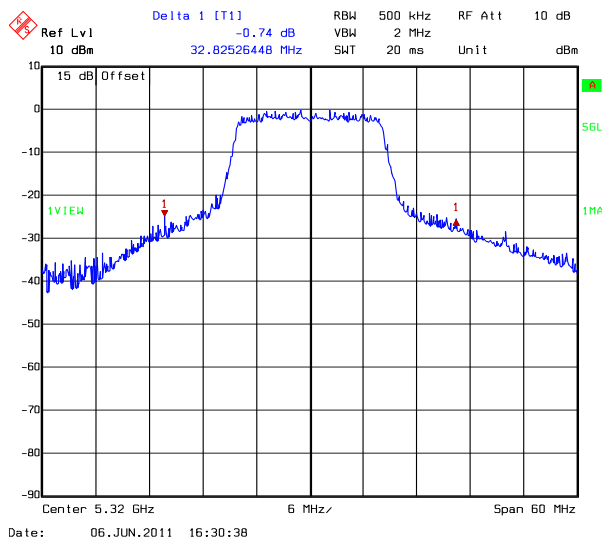
26dB_Bandwidth_UNII_2_802_11A_9MBS_MiddleChannel

26dB_Bandwidth_UNII_2_802_11A_9MBS_TopChannel



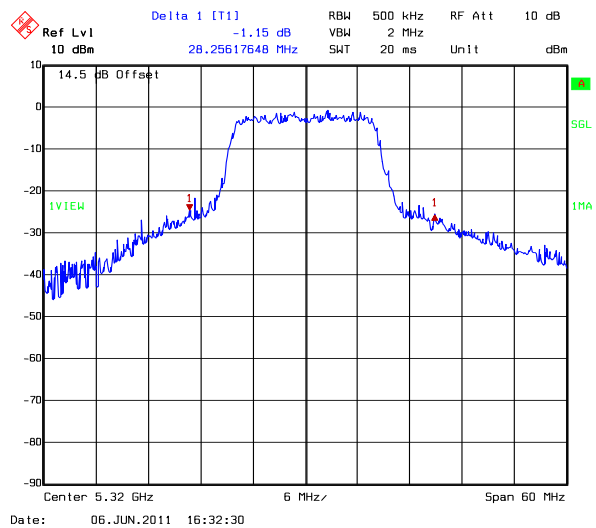
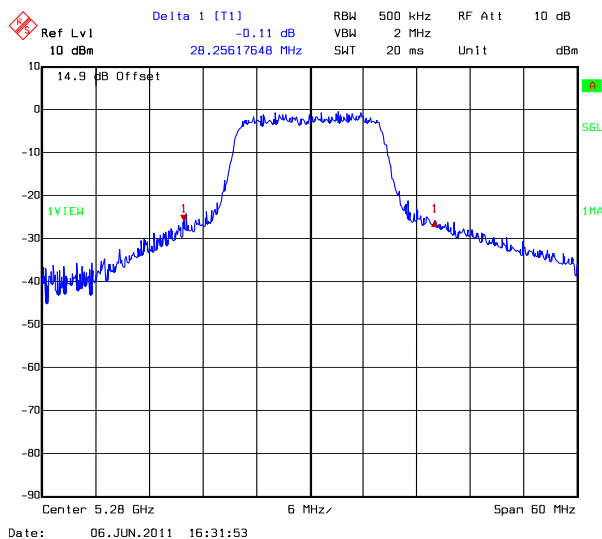
26dB_Bandwidth_UNII_2_802_11A_12MBS_BottomChannel

26dB_Bandwidth_UNII_2_802_11A_12MBS_MiddleChannel

Transmitter 26 dB Emission Bandwidth (continued)

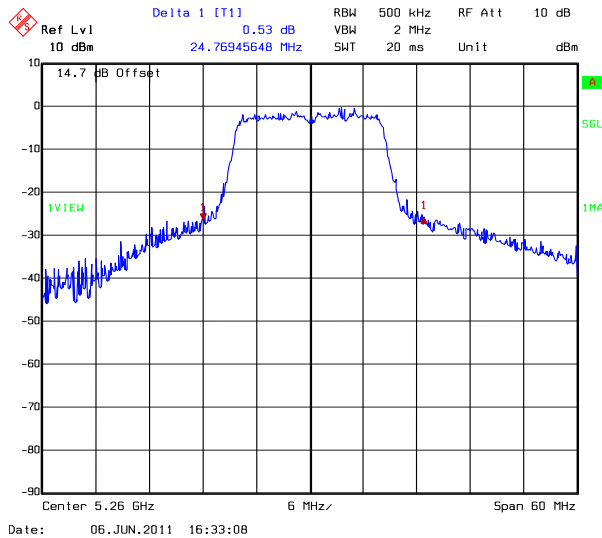
26dB_Bandwidth_UNII_2_802_11A_12MBS_TopChannel

26dB_Bandwidth_UNII_2_802_11A_18MBS_BottomChannel

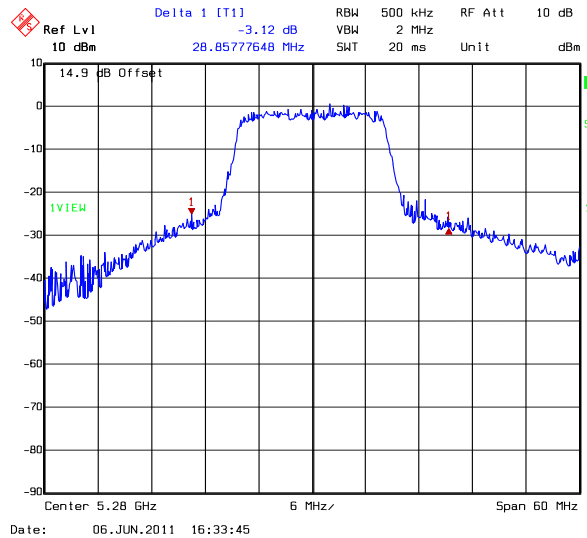


26dB_Bandwidth_UNII_2_802_11A_18MBS_MiddleChannel

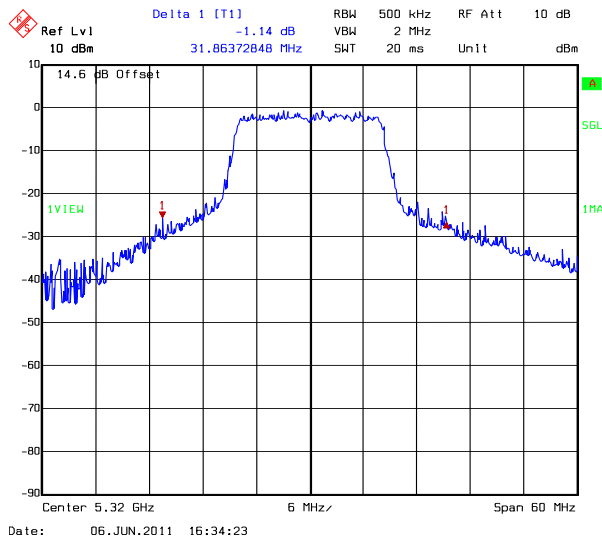
26dB_Bandwidth_UNII_2_802_11A_18MBS_TopChannel

Transmitter 26 dB Emission Bandwidth (continued)

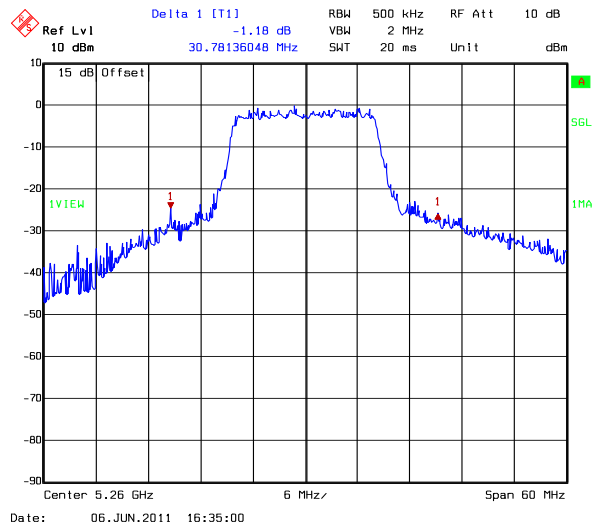
26dB_Bandwidth_UNII_2_802_11A_24MBS_BottomChannel



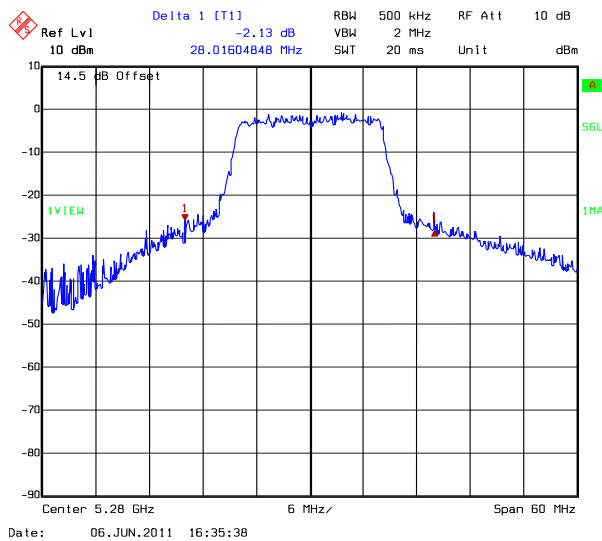
26dB_Bandwidth_UNII_2_802_11A_24MBS_MiddleChannel



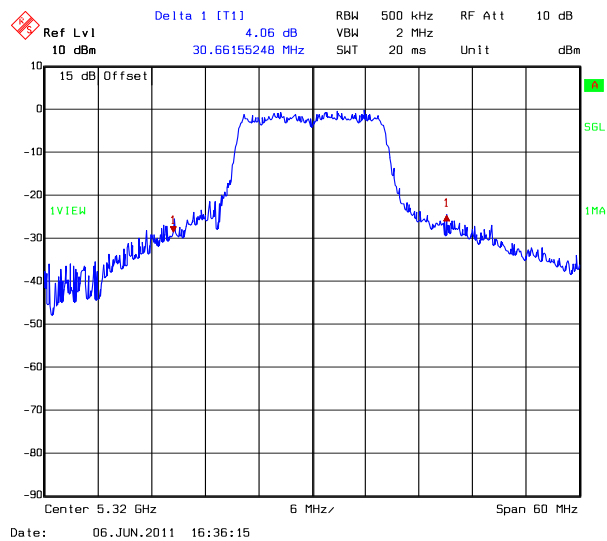
26dB_Bandwidth_UNII_2_802_11A_24MBS_TopChannel



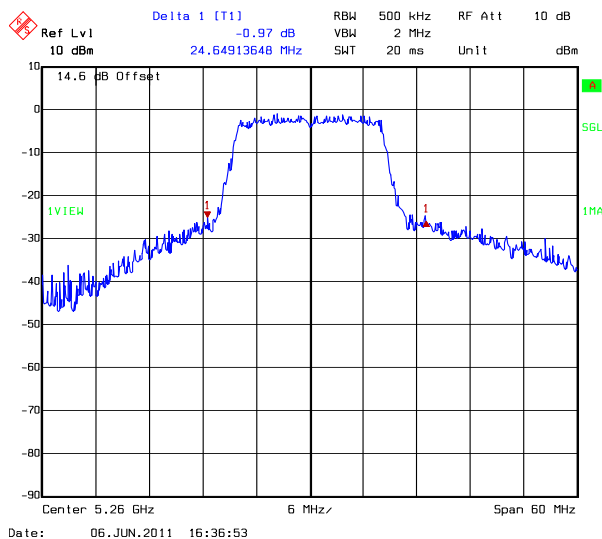
26dB_Bandwidth_UNII_2_802_11A_36MBS_BottomChannel

Transmitter 26 dB Emission Bandwidth (continued)

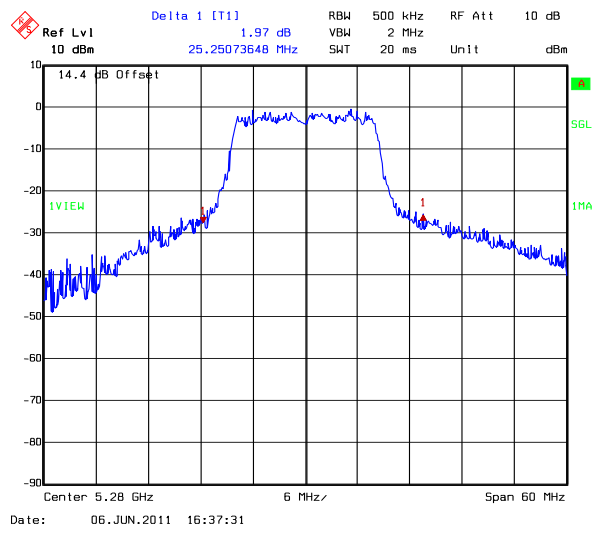
26dB_Bandwidth_UNII_2_802_11A_36MBS_MiddleChannel



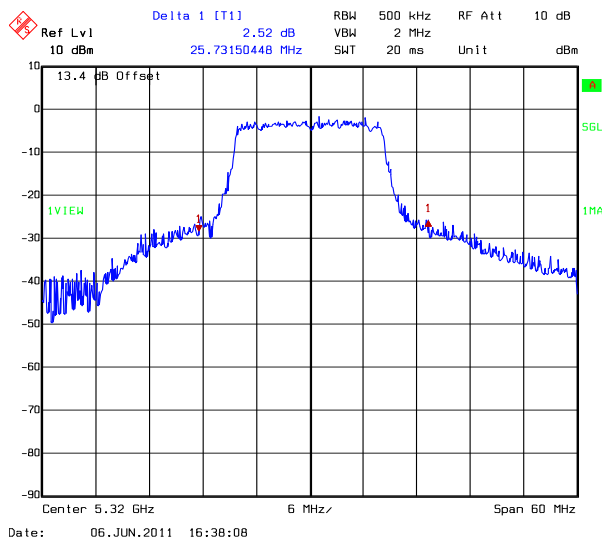
26dB_Bandwidth_UNII_2_802_11A_36MBS_TopChannel



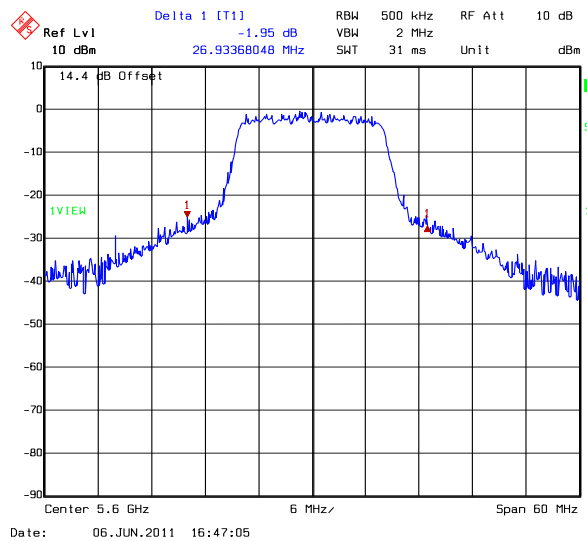
26dB_Bandwidth_UNII_2_802_11A_48MBS_BottomChannel



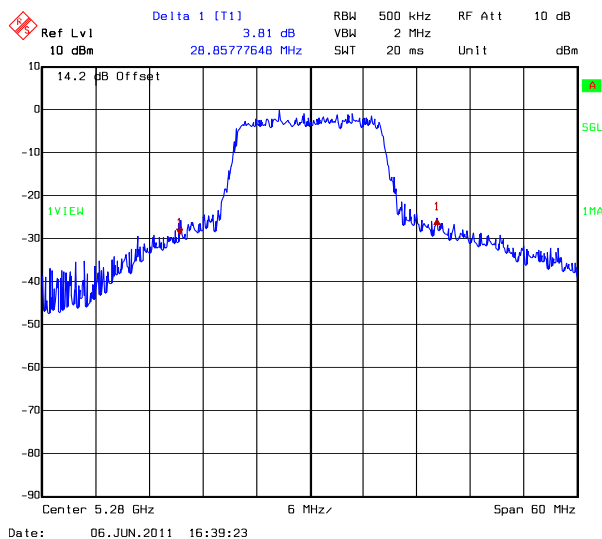
26dB_Bandwidth_UNII_2_802_11A_48MBS_MiddleChannel

Transmitter 26 dB Emission Bandwidth (continued)

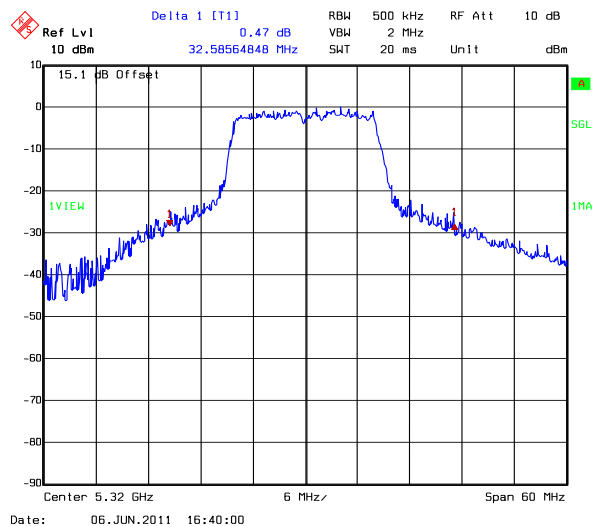
26dB_Bandwidth_UNII_2_802_11A_48MBS_TopChannel



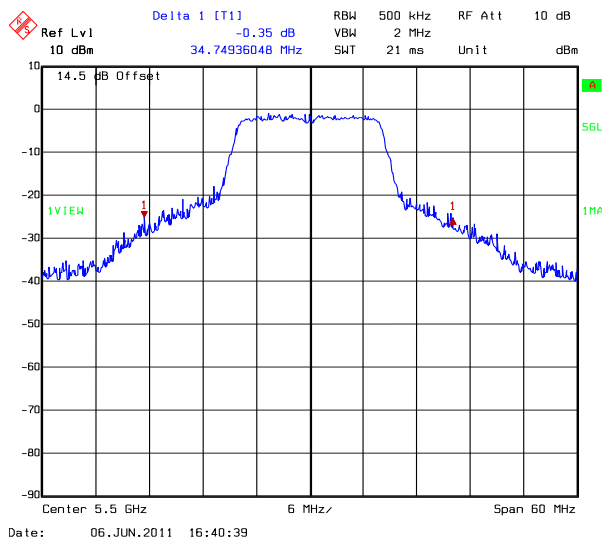
26dB_Bandwidth_UNII_2_802_11A_54MBS_BottomChannel



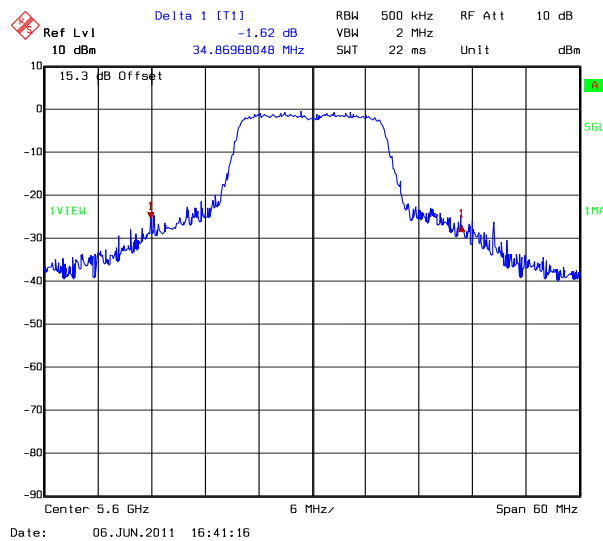
26dB_Bandwidth_UNII_2_802_11A_54MBS_MiddleChannel



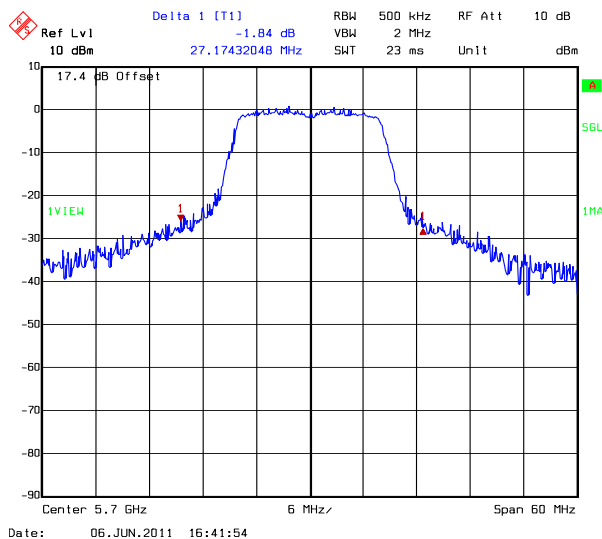
26dB_Bandwidth_UNII_2_802_11A_54MBS_TopChannel

Transmitter 26 dB Emission Bandwidth (continued)

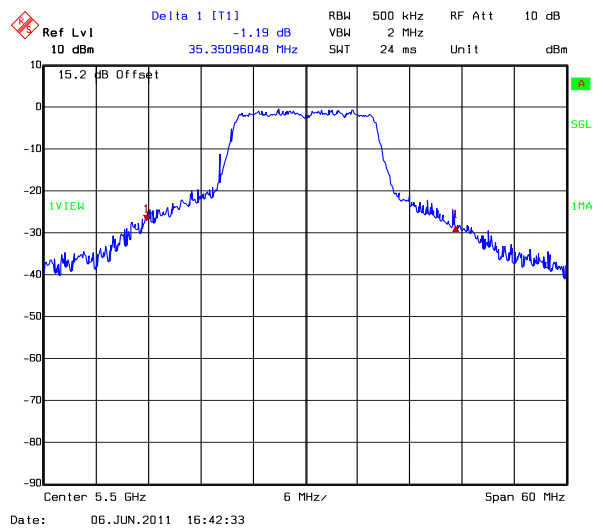
26dB_Bandwidth_UNII_3_802_11A_6MBS_BottomChannel



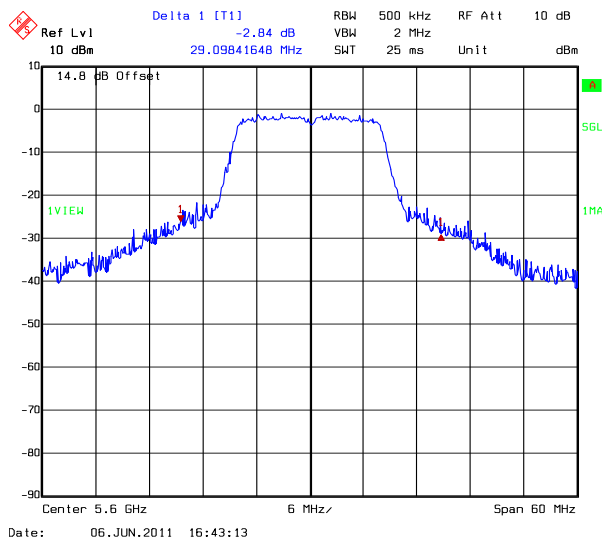
26dB_Bandwidth_UNII_3_802_11A_6MBS_MiddleChannel



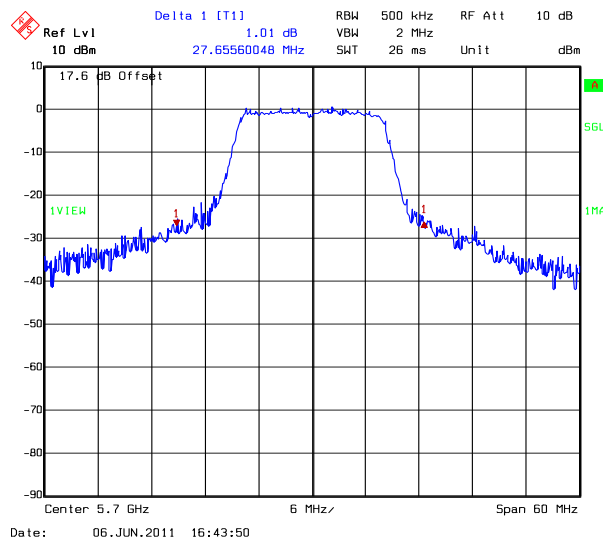
26dB_Bandwidth_UNII_3_802_11A_6MBS_TopChannel



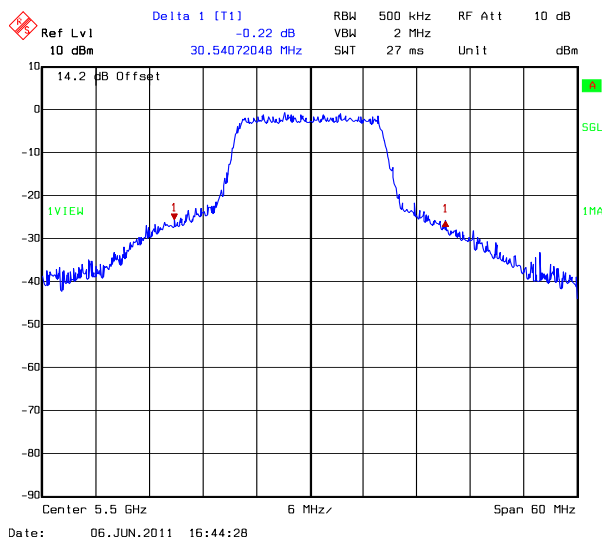
26dB_Bandwidth_UNII_3_802_11A_9MBS_BottomChannel

Transmitter 26 dB Emission Bandwidth (continued)

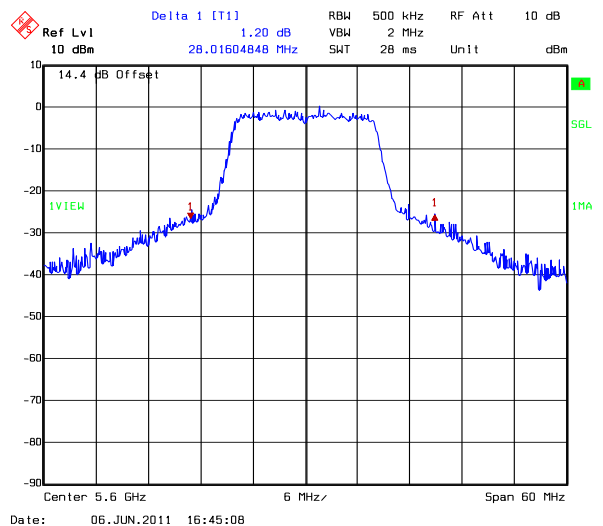
26dB_Bandwidth_UNII_3_802_11A_9MBS_MiddleChannel



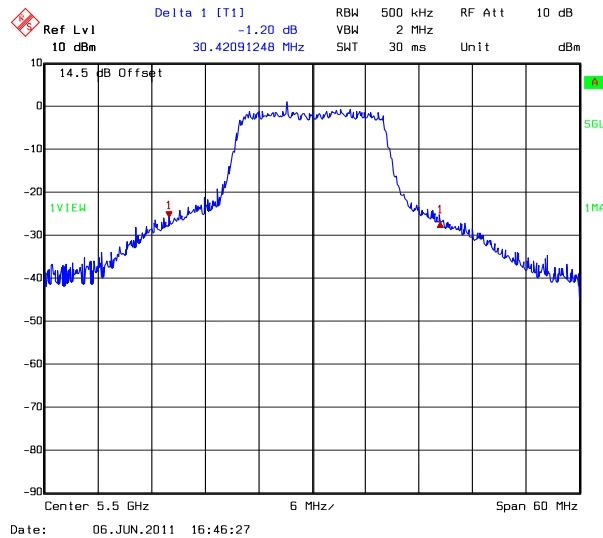
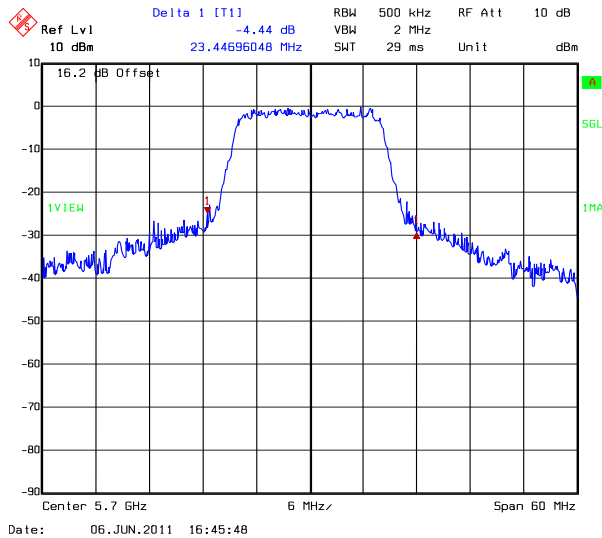
26dB_Bandwidth_UNII_3_802_11A_9MBS_TopChannel



26dB_Bandwidth_UNII_3_802_11A_12MBS_BottomChannel

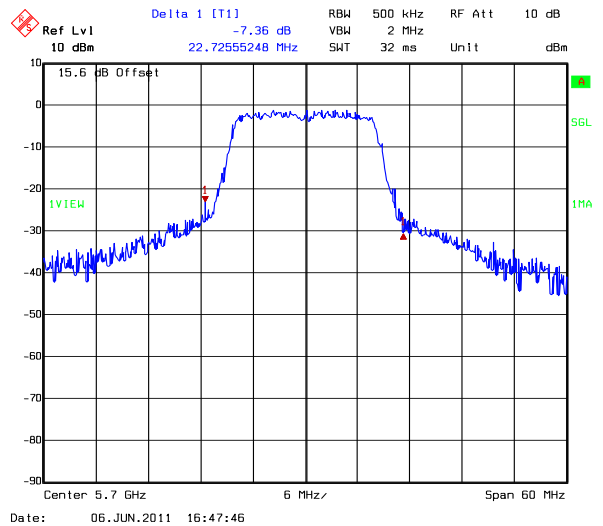
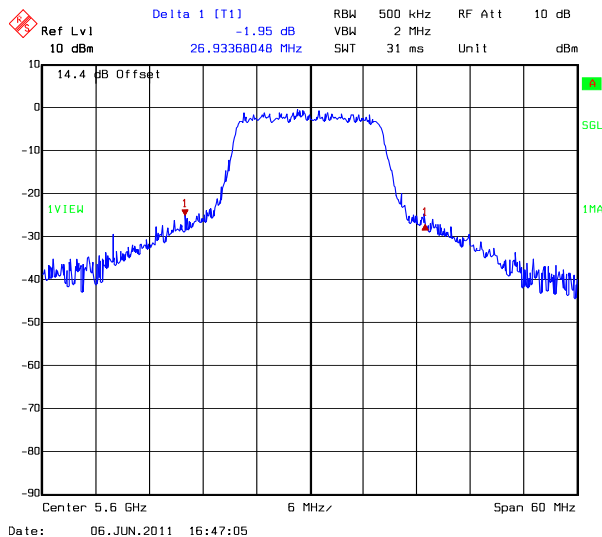


26dB_Bandwidth_UNII_3_802_11A_12MBS_MiddleChannel

Transmitter 26 dB Emission Bandwidth (continued)

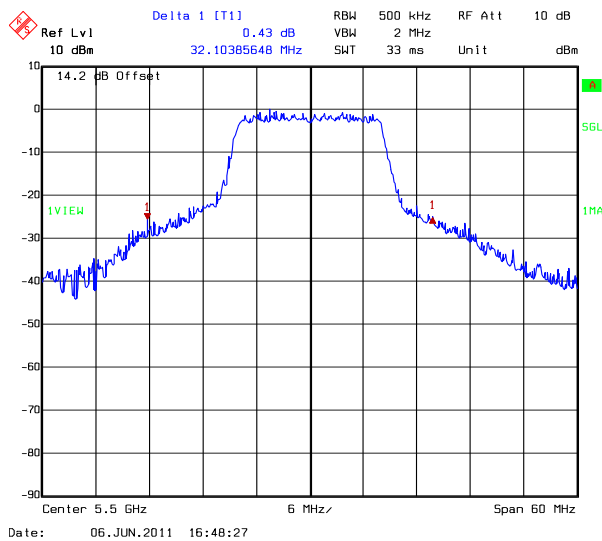
26dB_Bandwidth_UNII_3_802_11A_12MBS_TopChannel

26dB_Bandwidth_UNII_3_802_11A_18MBS_BottomChannel

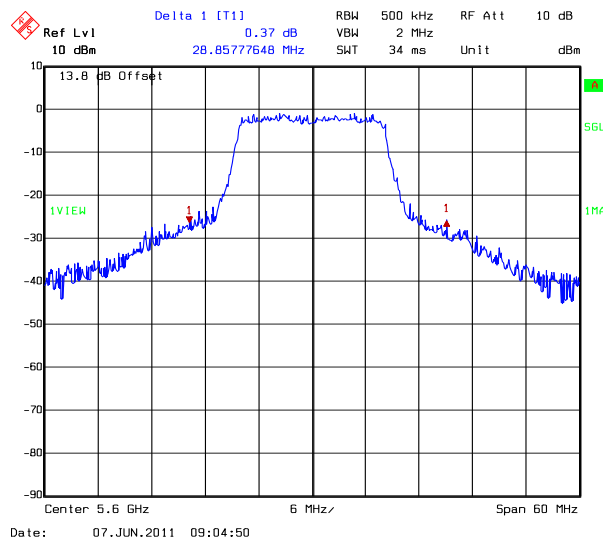


26dB_Bandwidth_UNII_3_802_11A_18MBS_MiddleChannel

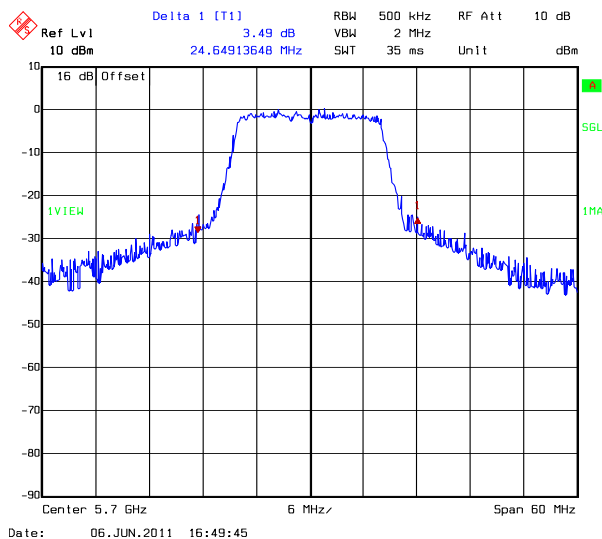
26dB_Bandwidth_UNII_3_802_11A_18MBS_TopChannel

Transmitter 26 dB Emission Bandwidth (continued)

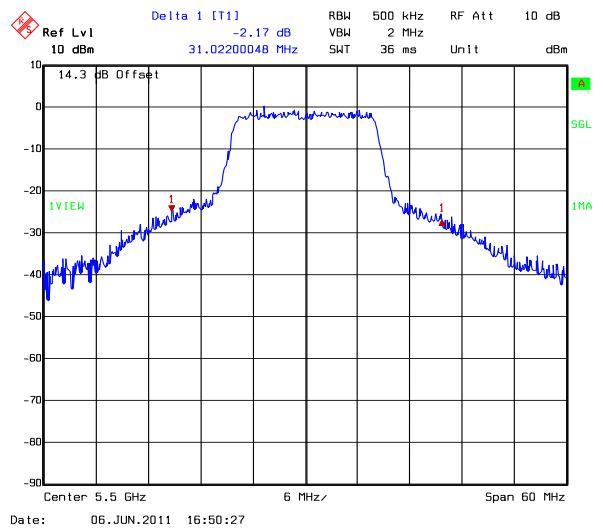
26dB_Bandwidth_UNII_3_802_11A_24MBS_BottomChannel



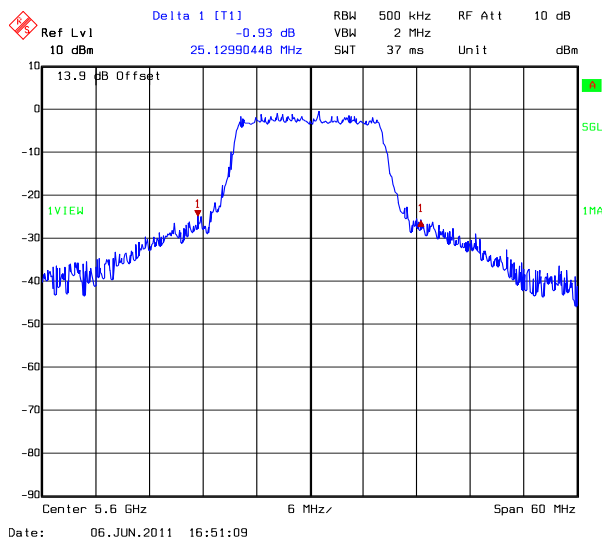
26dB_Bandwidth_UNII_3_802_11A_24MBS_MiddleChannel



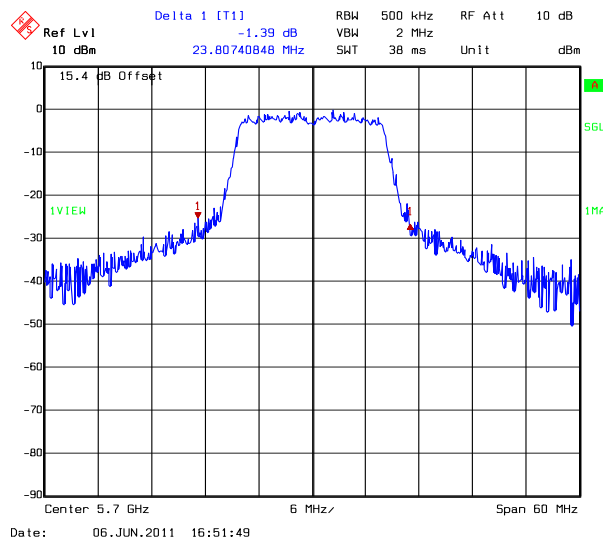
26dB_Bandwidth_UNII_3_802_11A_24MBS_TopChannel



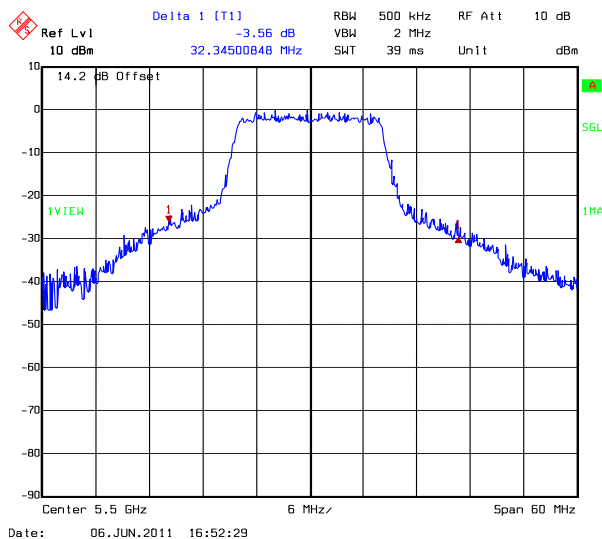
26dB_Bandwidth_UNII_3_802_11A_36MBS_BottomChannel

Transmitter 26 dB Emission Bandwidth (continued)

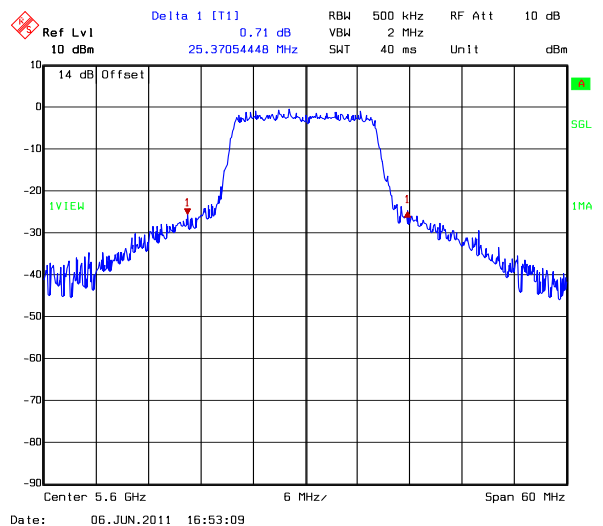
26dB_Bandwidth_UNII_3_802_11A_36MBS_MiddleChannel



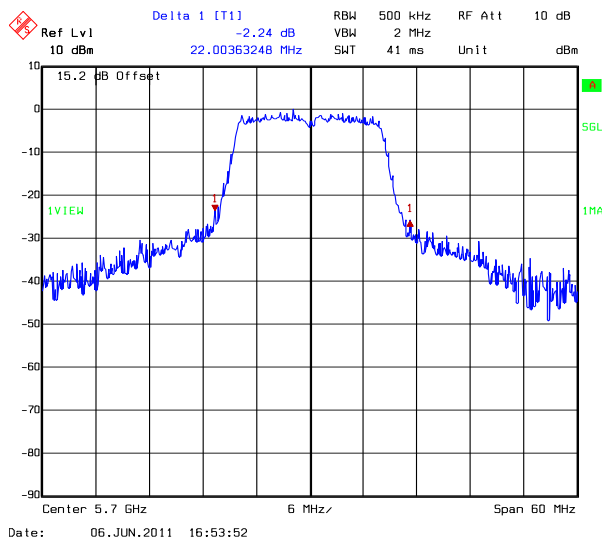
26dB_Bandwidth_UNII_3_802_11A_36MBS_TopChannel



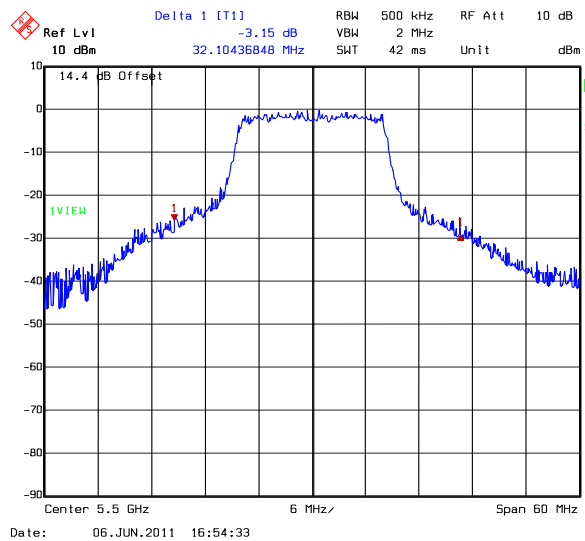
26dB_Bandwidth_UNII_3_802_11A_48MBS_BottomChannel



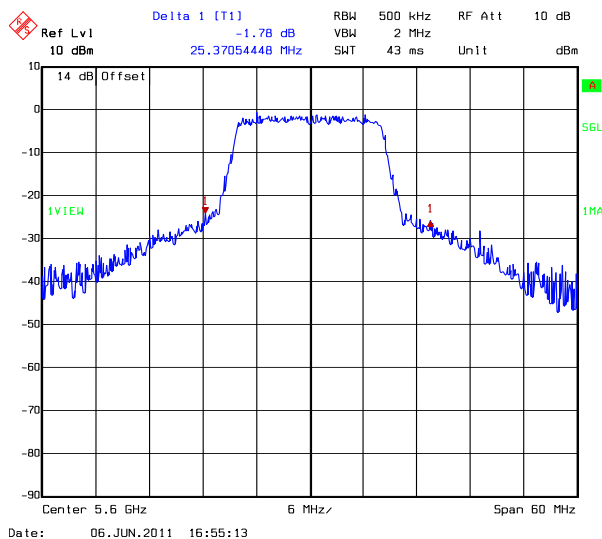
26dB_Bandwidth_UNII_3_802_11A_48MBS_MiddleChannel

Transmitter 26 dB Emission Bandwidth (continued)

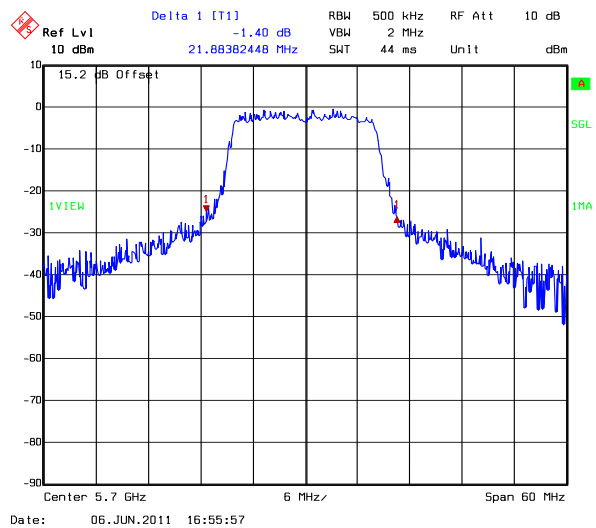
26dB_Bandwidth_UNII_3_802_11A_48MBS_TopChannel



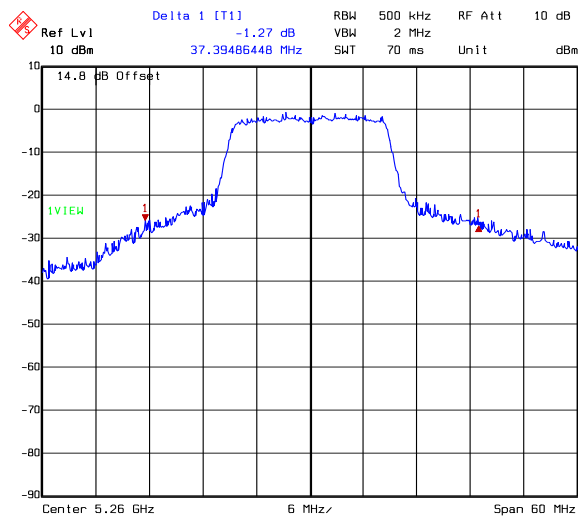
26dB_Bandwidth_UNII_3_802_11A_54MBS_BottomChannel



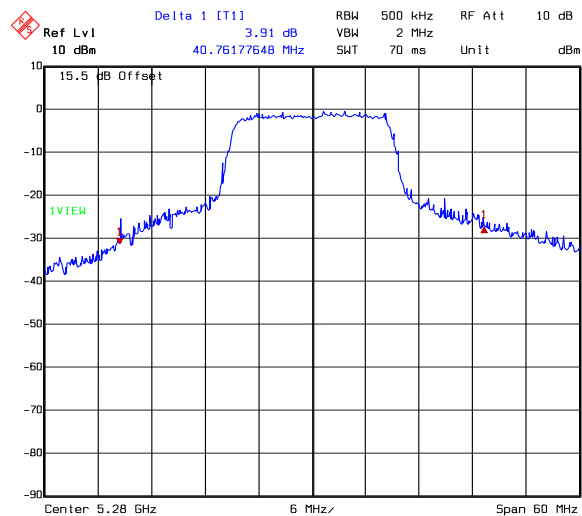
26dB_Bandwidth_UNII_3_802_11A_54MBS_MiddleChannel



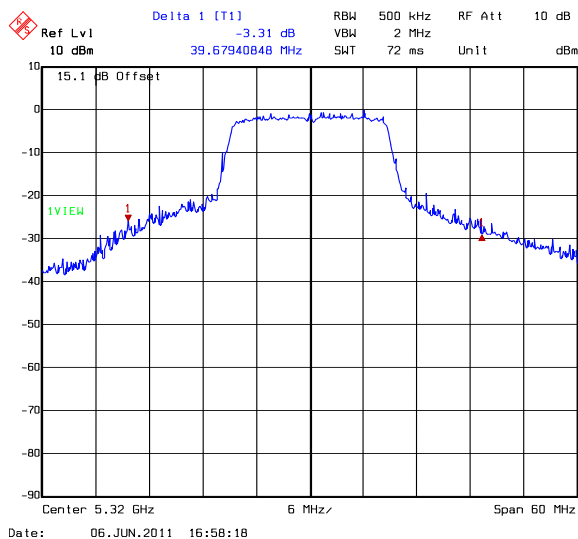
26dB_Bandwidth_UNII_3_802_11A_54MBS_TopChannel

Transmitter 26 dB Emission Bandwidth (continued)

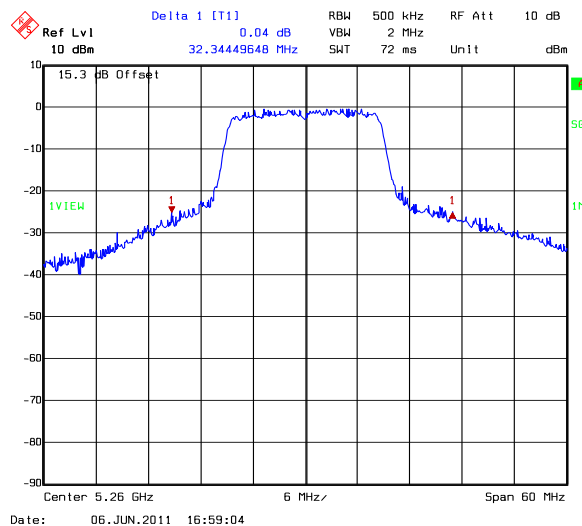
26dB_Bandwidth_UNII_2_802_11N_6_5MBS_BottomChannel



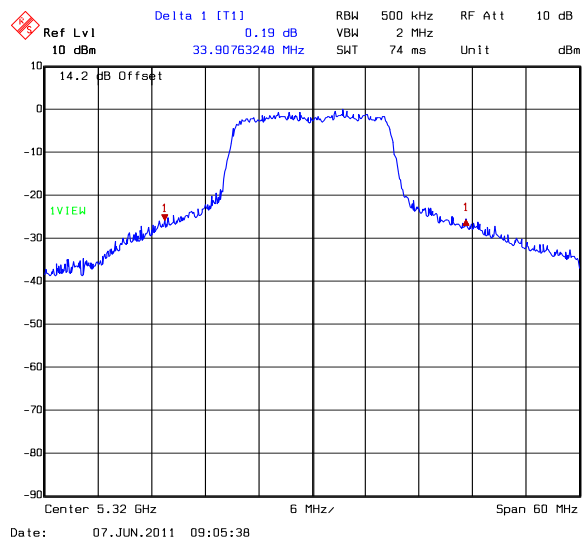
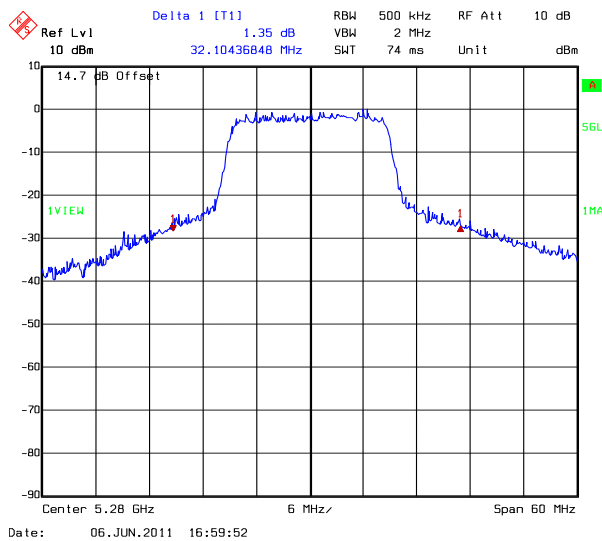
26dB_Bandwidth_UNII_2_802_11N_6_5MBS_MiddleChannel



26dB_Bandwidth_UNII_2_802_11N_6_5MBS_TopChannel

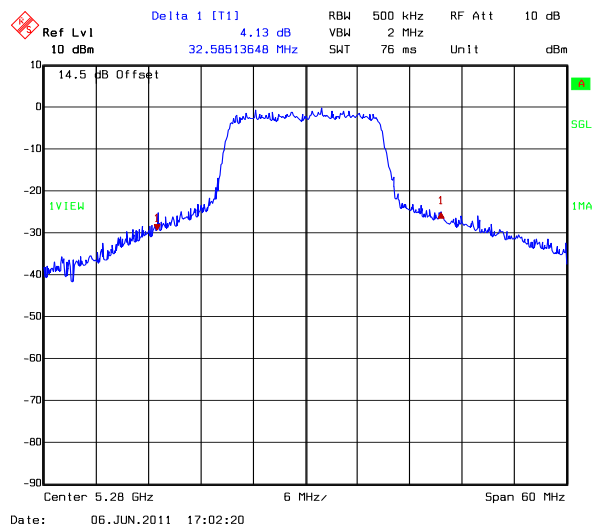
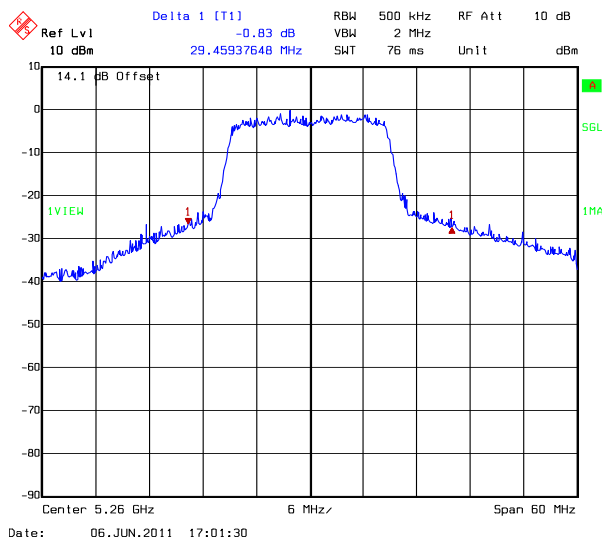


26dB_Bandwidth_UNII_2_802_11N_13MBS_BottomChannel

Transmitter 26 dB Emission Bandwidth (continued)

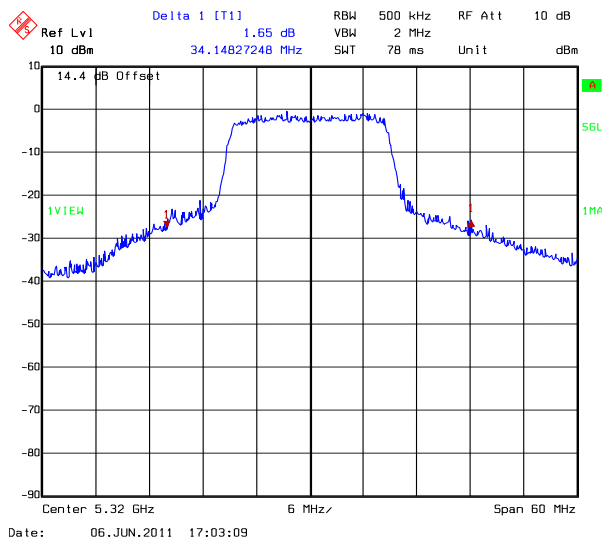
26dB_Bandwidth_UNII_2_802_11N_13MBS_MiddleChannel

26dB_Bandwidth_UNII_2_802_11N_13MBS_TopChannel

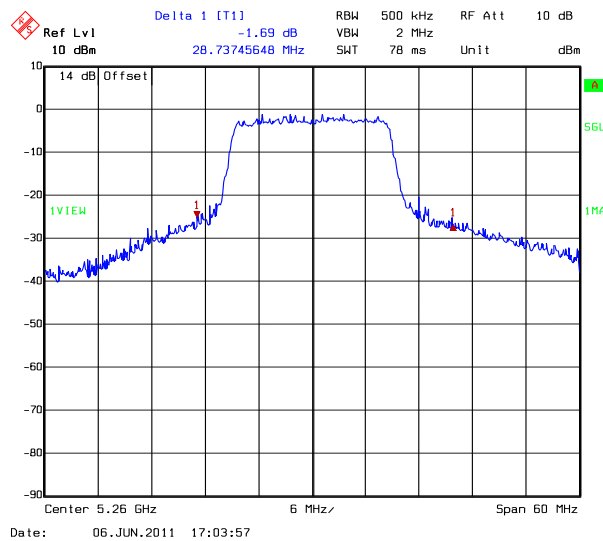


26dB_Bandwidth_UNII_2_802_11N_19_5MBS_BottomChannel

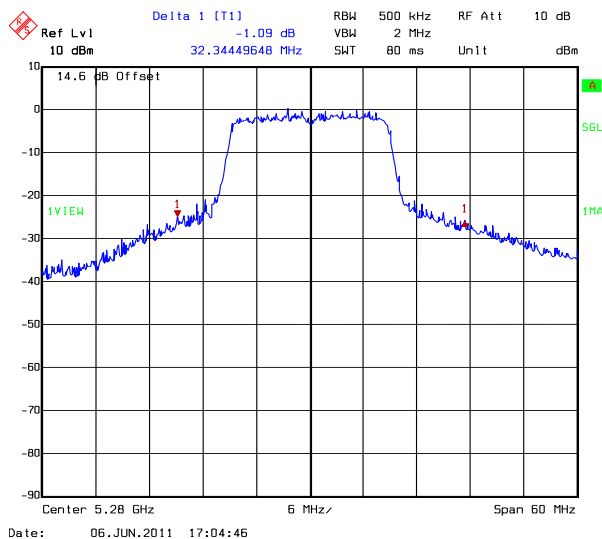
26dB_Bandwidth_UNII_2_802_11N_19_5MBS_MiddleChannel

Transmitter 26 dB Emission Bandwidth (continued)

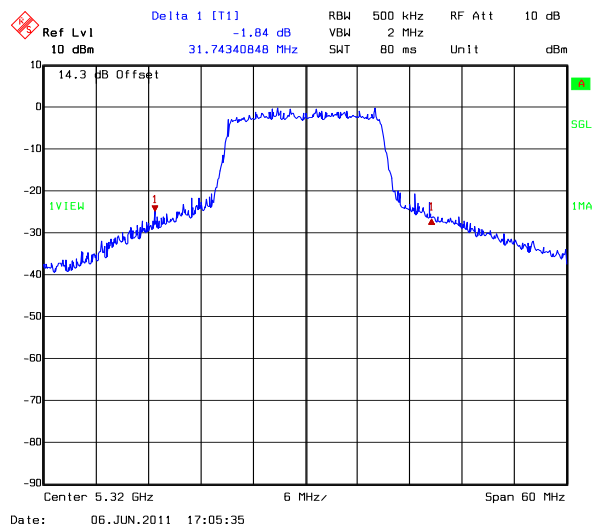
26dB_Bandwidth_UNII_2_802_11N_19_5MBS_TopChannel



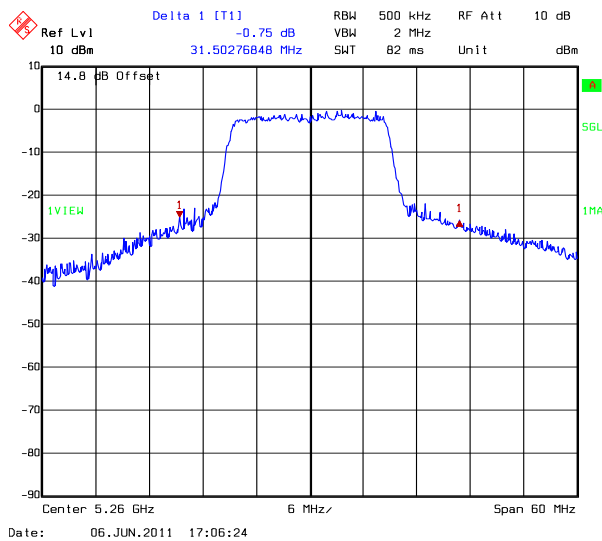
26dB_Bandwidth_UNII_2_802_11N_26MBS_BottomChannel



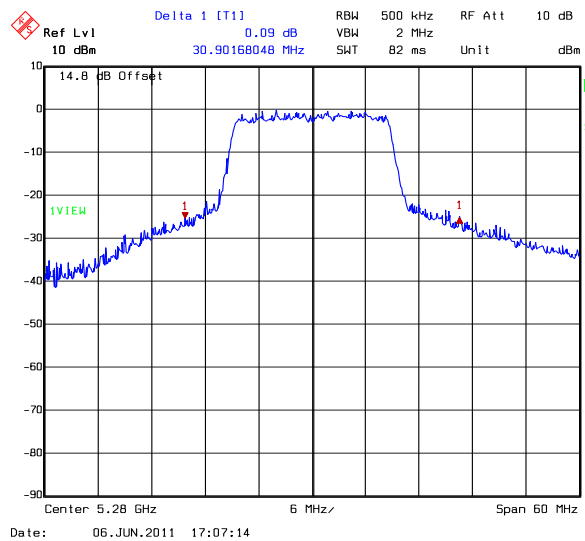
26dB_Bandwidth_UNII_2_802_11N_26MBS_MiddleChannel



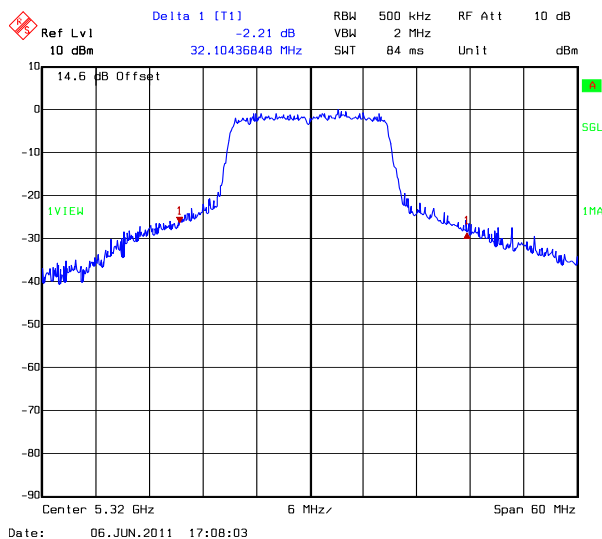
26dB_Bandwidth_UNII_2_802_11N_26MBS_TopChannel

Transmitter 26 dB Emission Bandwidth (continued)

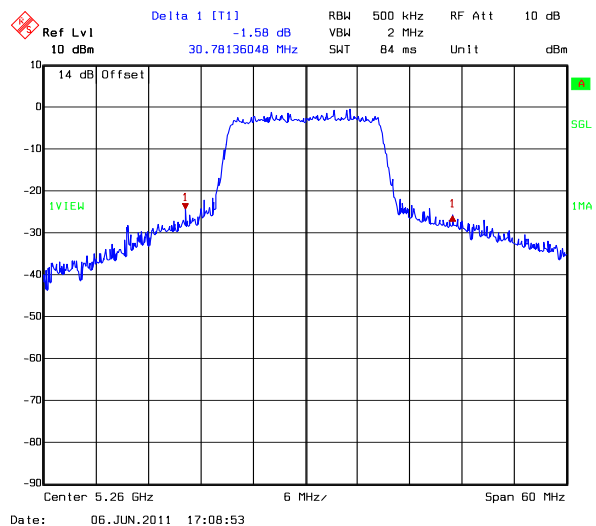
26dB_Bandwidth_UNII_2_802_11N_39MBS_BottomChannel



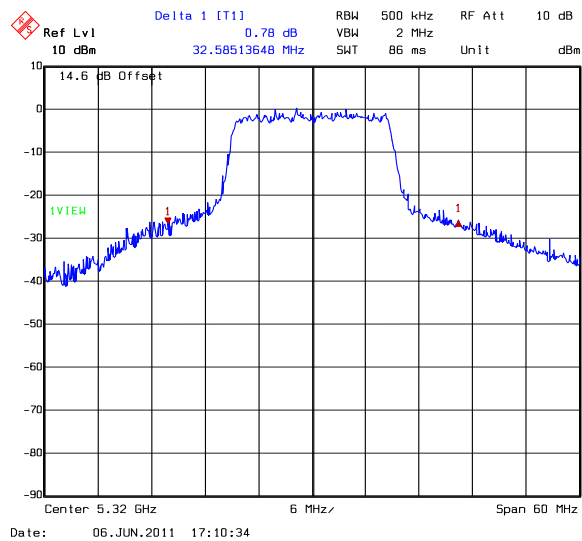
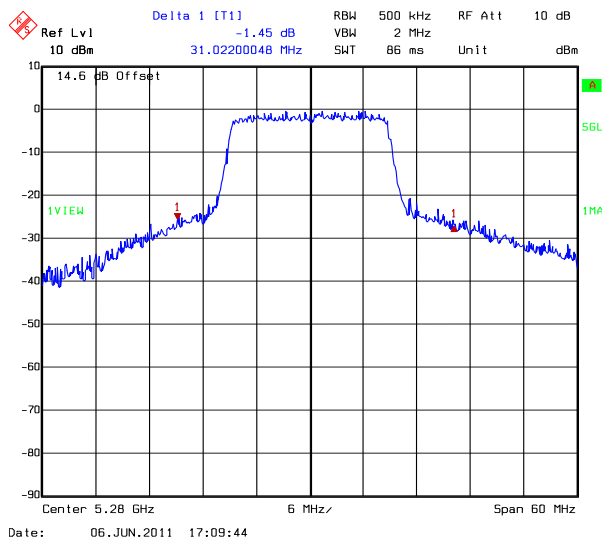
26dB_Bandwidth_UNII_2_802_11N_39MBS_MiddleChannel



26dB_Bandwidth_UNII_2_802_11N_39MBS_TopChannel

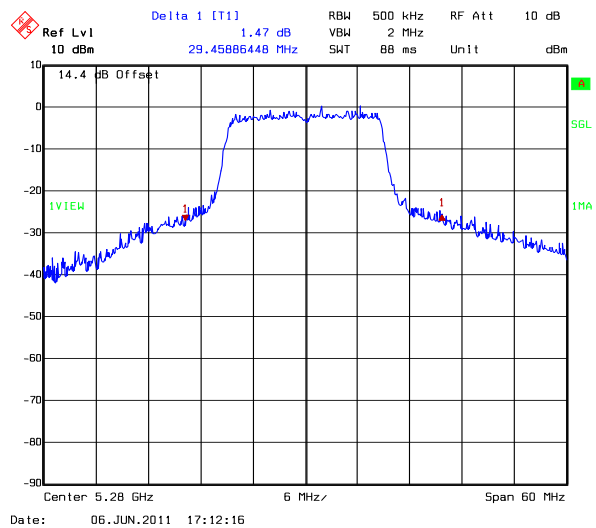
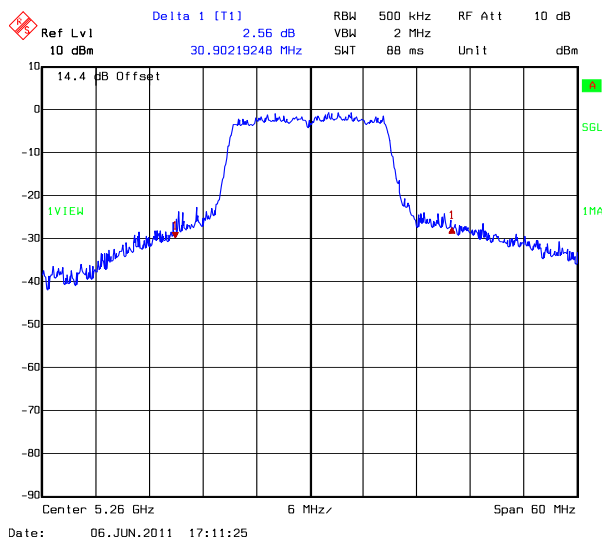


26dB_Bandwidth_UNII_2_802_11N_52MBS_BottomChannel

Transmitter 26 dB Emission Bandwidth (continued)

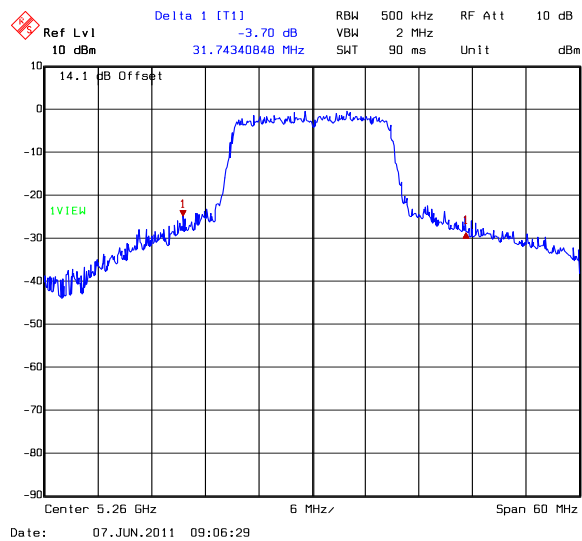
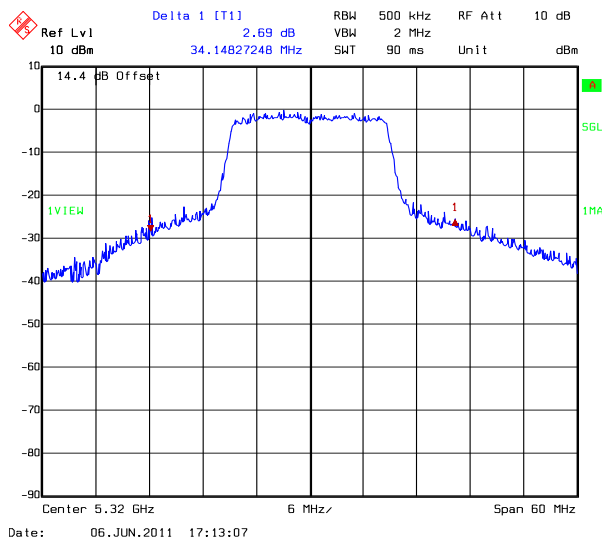
26dB_Bandwidth_UNII_2_802_11N_52MBS_MiddleChannel

26dB_Bandwidth_UNII_2_802_11N_52MBS_TopChannel



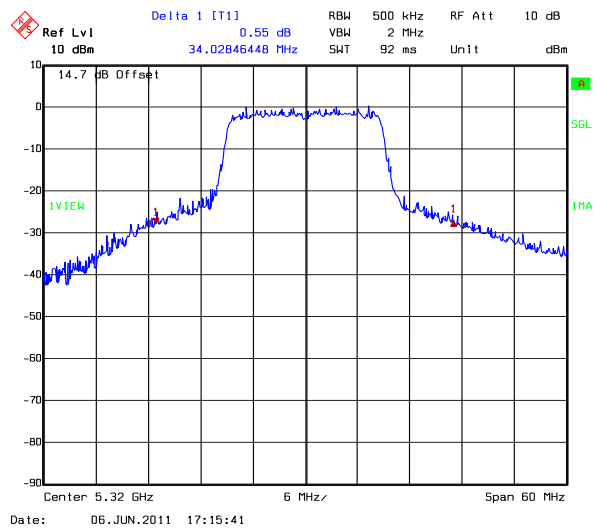
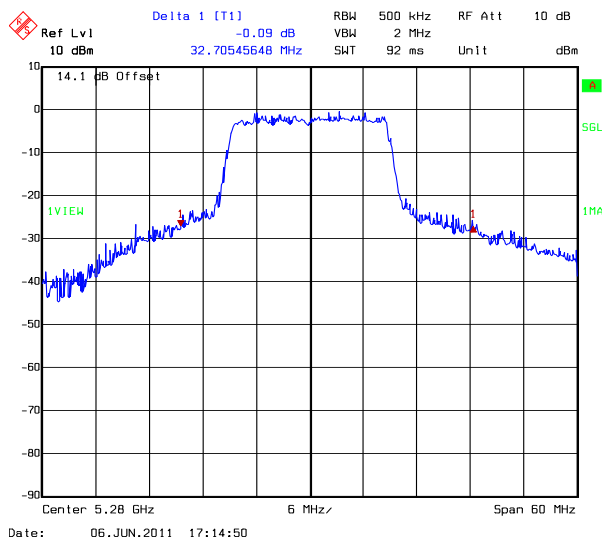
26dB_Bandwidth_UNII_2_802_11N_58_5MBS_BottomChannel

26dB_Bandwidth_UNII_2_802_11N_58_5MBS_MiddleChannel

Transmitter 26 dB Emission Bandwidth (continued)

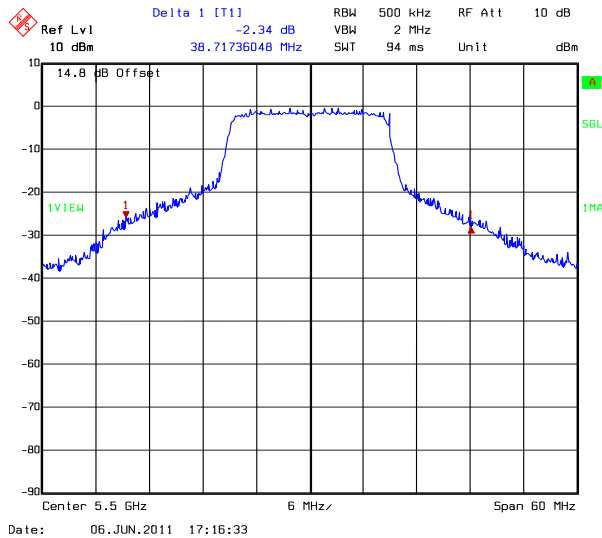
26dB_Bandwidth_UNII_2_802_11N_58_5MBS_TopChannel

26dB_Bandwidth_UNII_2_802_11N_65MBS_BottomChannel

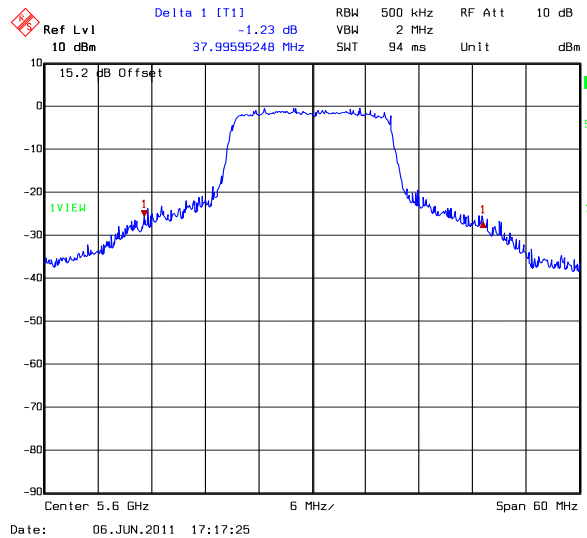


26dB_Bandwidth_UNII_2_802_11N_65MBS_MiddleChannel

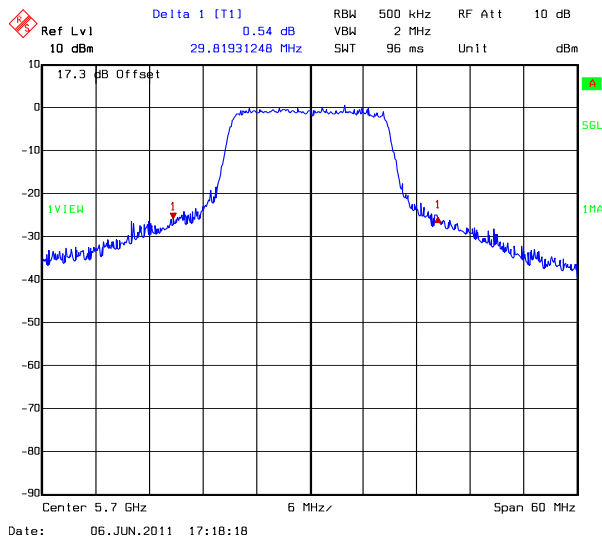
26dB_Bandwidth_UNII_2_802_11N_65MBS_TopChannel

Transmitter 26 dB Emission Bandwidth (continued)

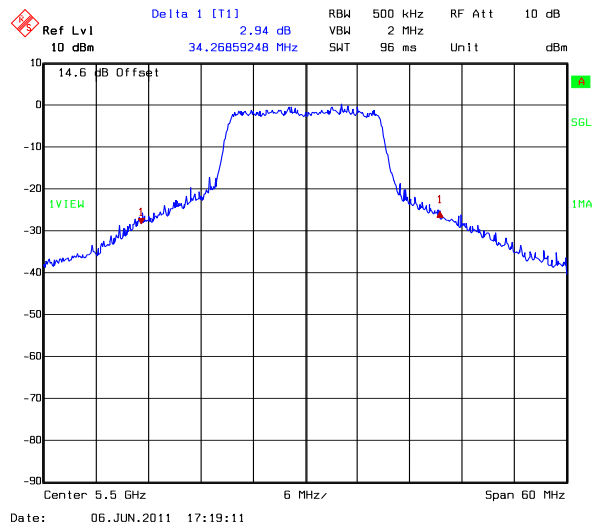
26dB_Bandwidth_UNII_3_802_11N_6_5MBS_BottomChannel



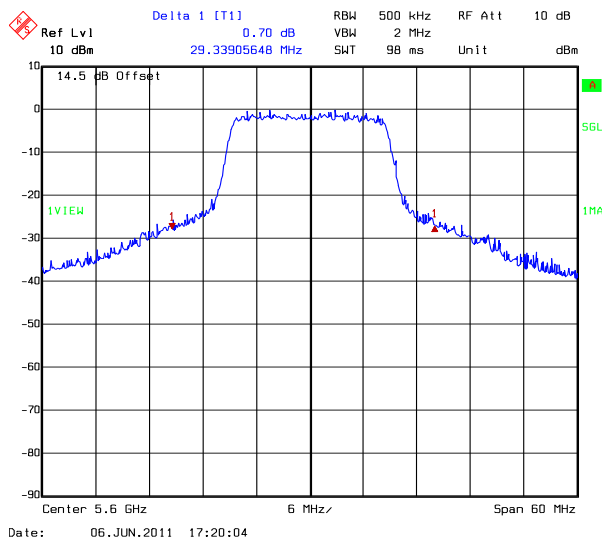
26dB_Bandwidth_UNII_3_802_11N_6_5MBS_MiddleChannel



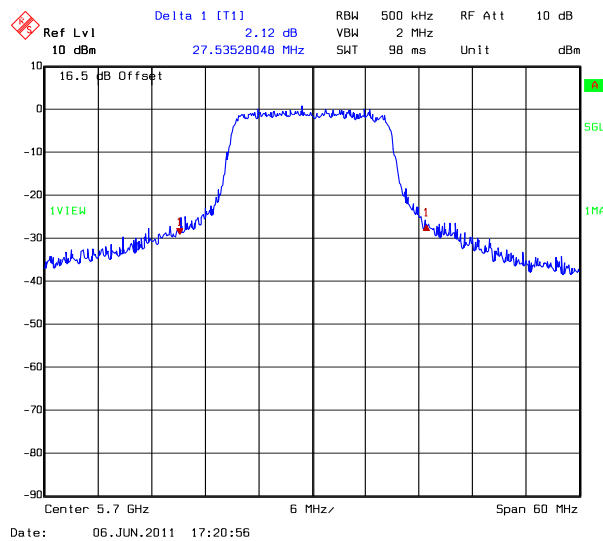
26dB_Bandwidth_UNII_3_802_11N_6_5MBS_TopChannel



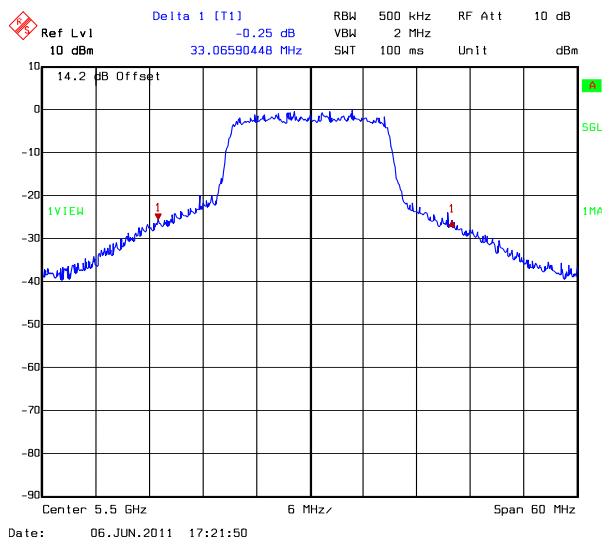
26dB_Bandwidth_UNII_3_802_11N_13MBS_BottomChannel

Transmitter 26 dB Emission Bandwidth (continued)

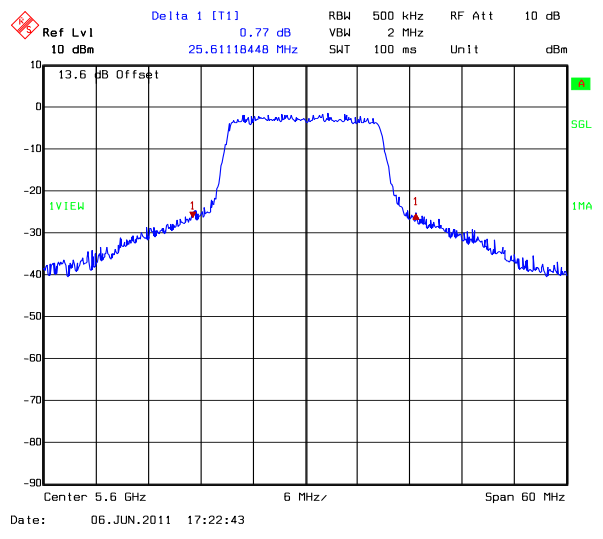
26dB_Bandwidth_UNII_3_802_11N_13MBS_MiddleChannel



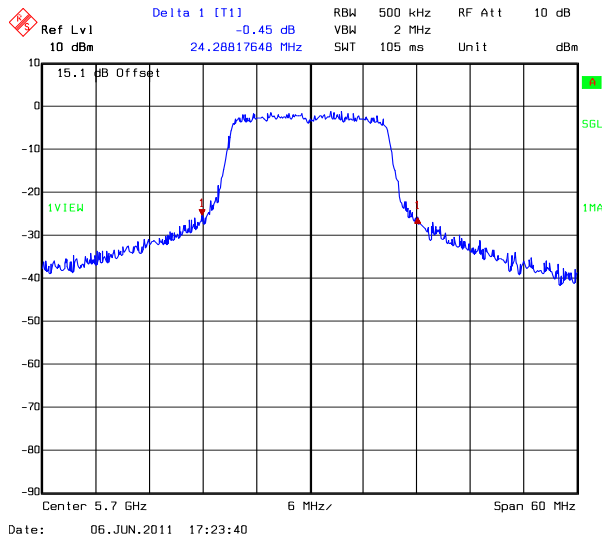
26dB_Bandwidth_UNII_3_802_11N_13MBS_TopChannel



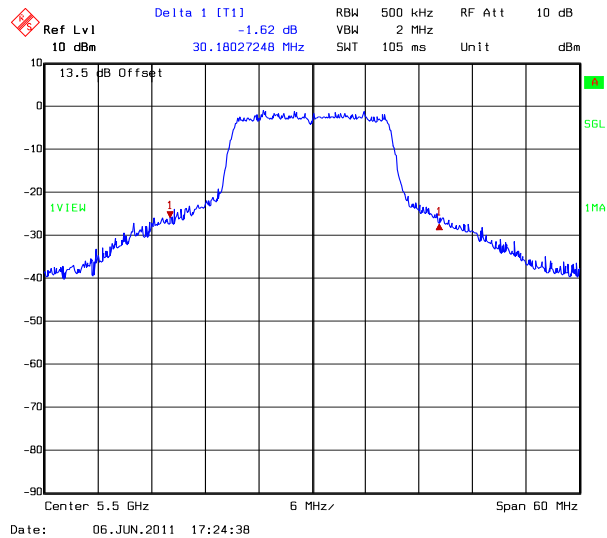
26dB_Bandwidth_UNII_3_802_11N_19_5MBS_BottomChannel



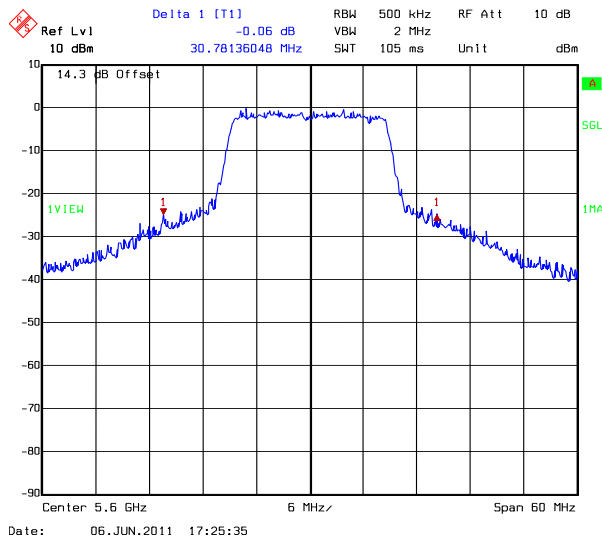
26dB_Bandwidth_UNII_3_802_11N_19_5MBS_MiddleChannel

Transmitter 26 dB Emission Bandwidth (continued)

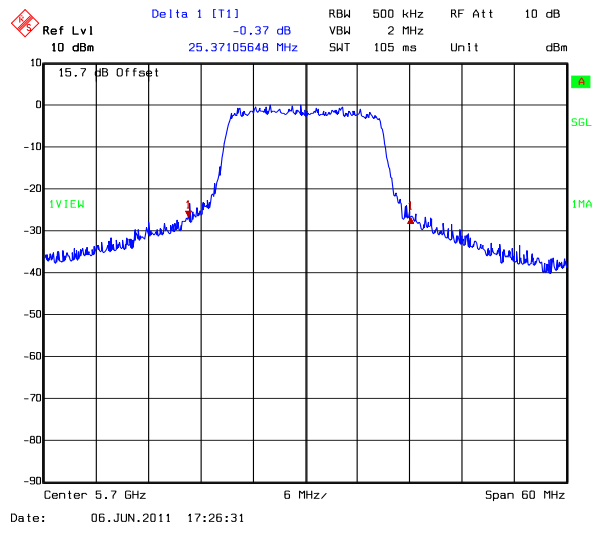
26dB_Bandwidth_UNII_3_802_11N_19_5MBS_TopChannel



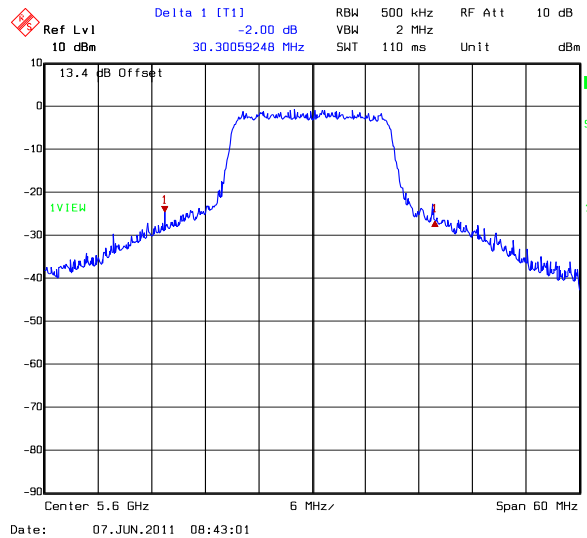
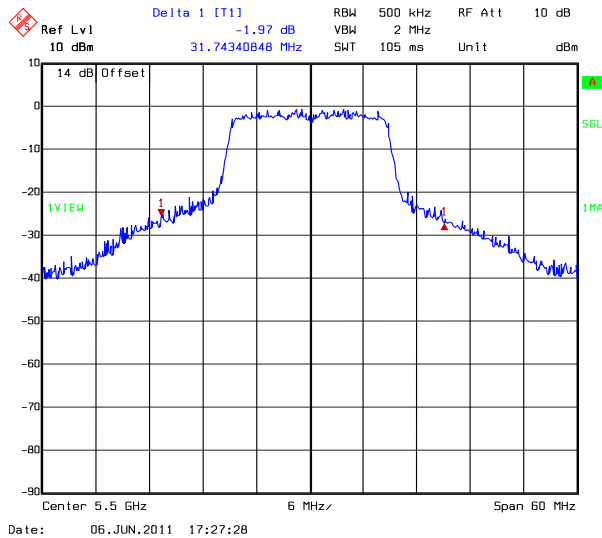
26dB_Bandwidth_UNII_3_802_11N_26MBS_BottomChannel



26dB_Bandwidth_UNII_3_802_11N_26MBS_MiddleChannel

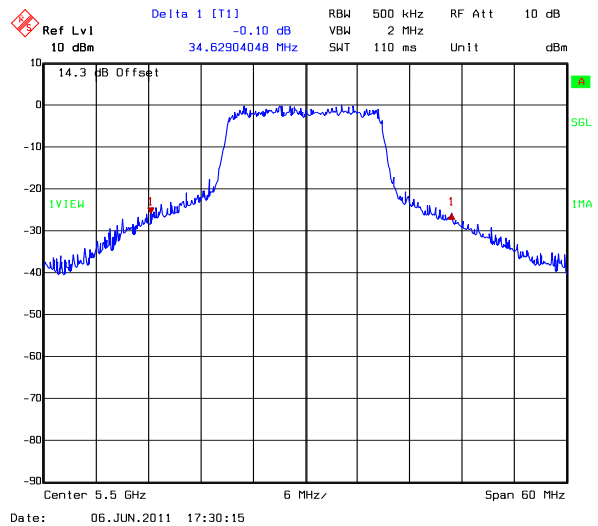
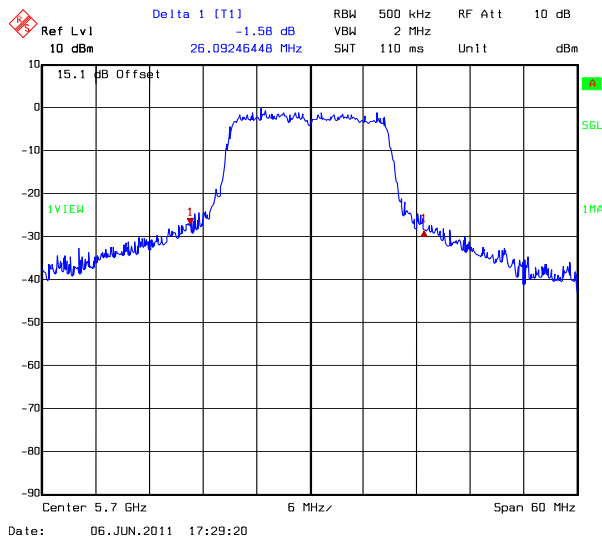


26dB_Bandwidth_UNII_3_802_11N_26MBS_TopChannel

Transmitter 26 dB Emission Bandwidth (continued)

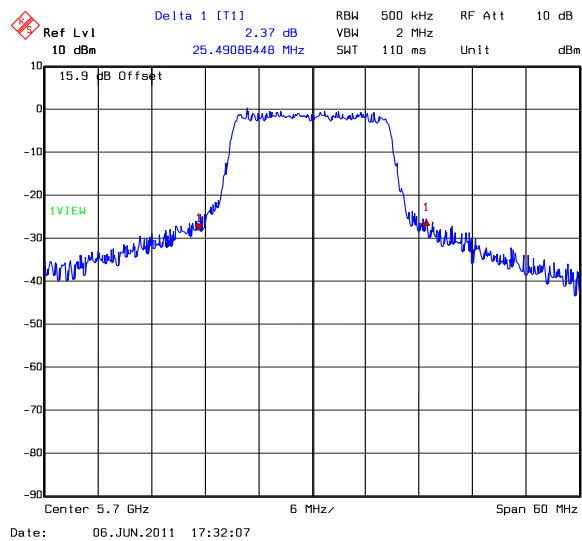
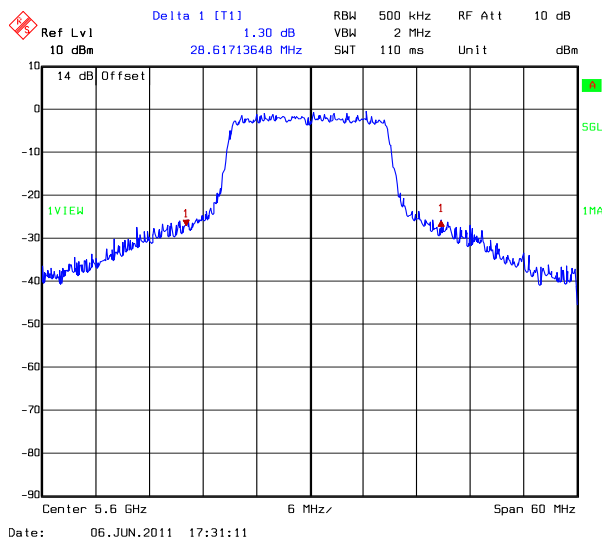
26dB_Bandwidth_UNII_3_802_11N_39MBS_BottomChannel

26dB_Bandwidth_UNII_3_802_11N_39MBS_MiddleChannel



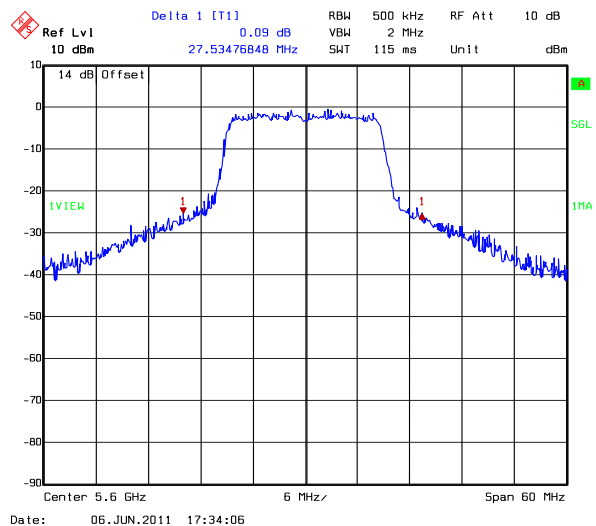
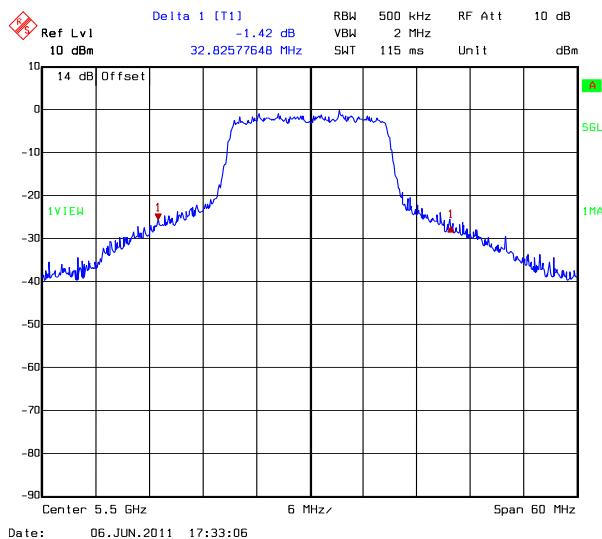
26dB_Bandwidth_UNII_3_802_11N_39MBS_TopChannel

26dB_Bandwidth_UNII_3_802_11N_52MBS_BottomChannel

Transmitter 26 dB Emission Bandwidth (continued)

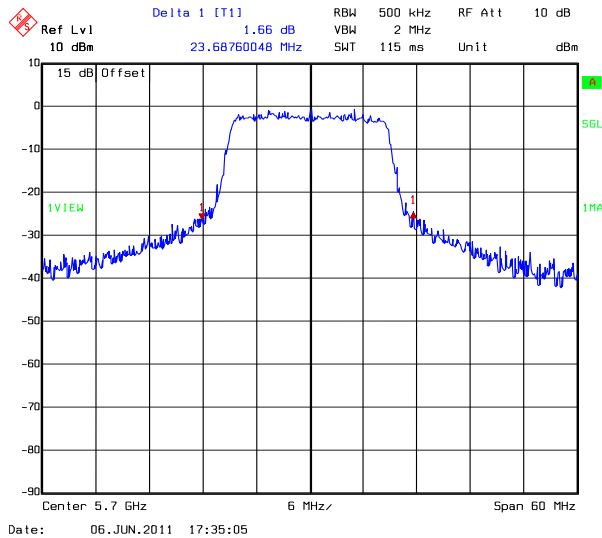
26dB_Bandwidth_UNII_3_802_11N_52MBS_MiddleChannel

26dB_Bandwidth_UNII_3_802_11N_52MBS_TopChannel

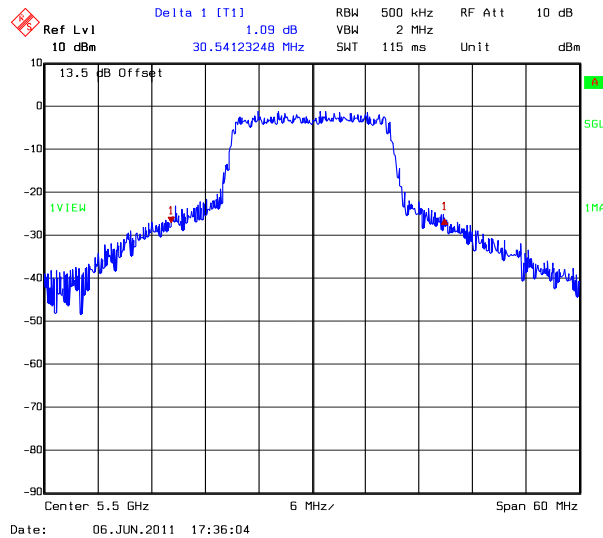


26dB_Bandwidth_UNII_3_802_11N_58_5MBS_BottomChannel

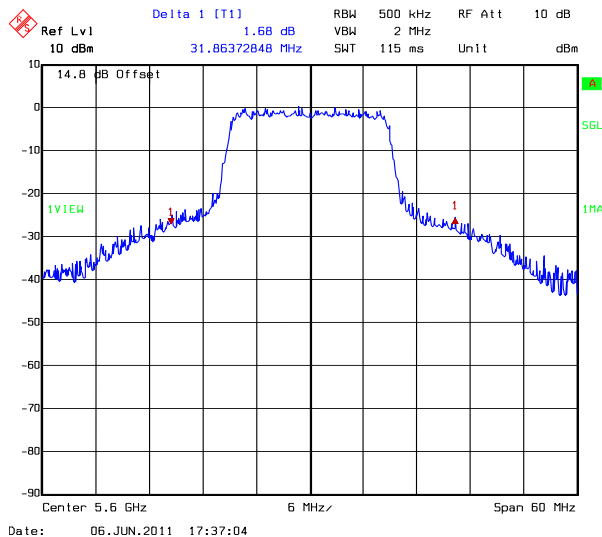
26dB_Bandwidth_UNII_3_802_11N_58_5MBS_MiddleChannel

Transmitter 26 dB Emission Bandwidth (continued)

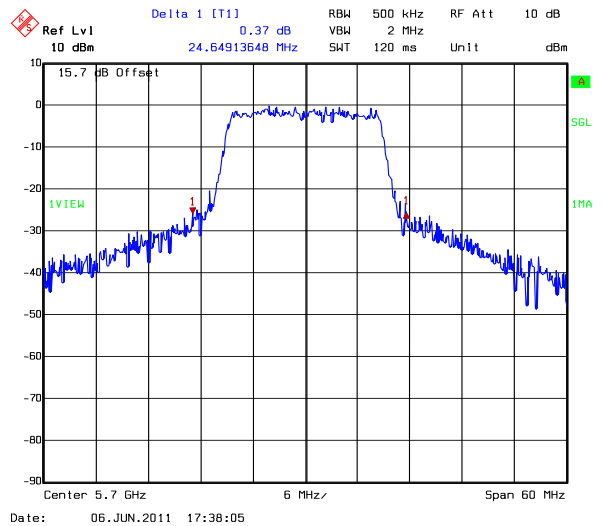
26dB_Bandwidth_UNII_3_802_11N_58_5MBS_TopChannel



26dB_Bandwidth_UNII_3_802_11N_65MBS_BottomChannel



26dB_Bandwidth_UNII_3_802_11N_65MBS_MiddleChannel



26dB_Bandwidth_UNII_3_802_11N_65MBS_TopChannel

5.2.5. Transmitter 99% Emission Bandwidth**Test Summary:**

Test Engineer:	David Lakeland	Test Date:	08 June 2011
Test Sample Serial No:	ID 3		

RSS Reference:	RSS-Gen 4.6.1 / RSS-210 A9.2
Test Method Used:	As detailed in RSS-Gen 4.6.1 Note: RBW was set to a maximum of 1% of the 26dB emission bandwidth or the next highest bandwidth up that the analyser supported. A larger bandwidth gave rise to a greater system noise floor which distorting the final result.

Environmental Conditions:

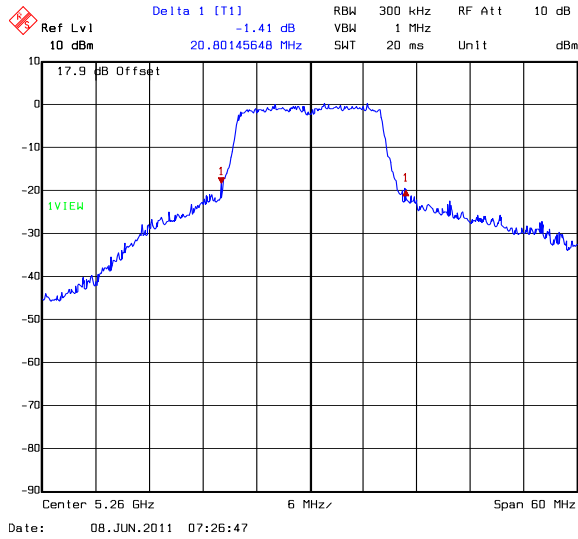
Temperature (°C):	20
Relative Humidity (%):	28

Transmitter 99% Emission Bandwidth (continued)**Results:**

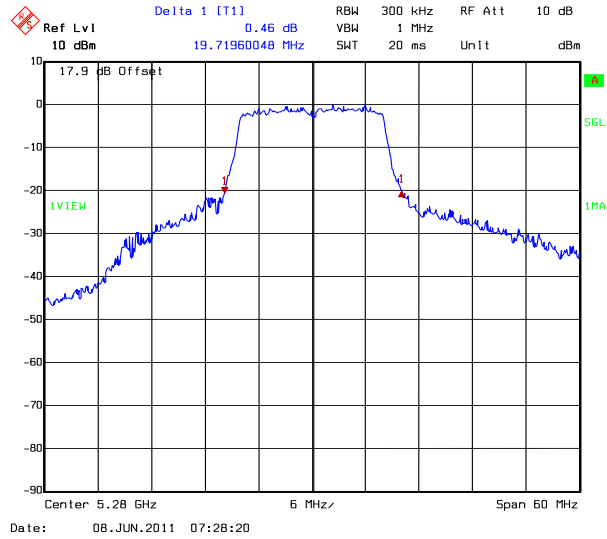
Channel	Frequency (MHz)	Modulation Scheme	Data Rate (MB/s)	99% Emission Bandwidth (MHz)
Bottom	5260	BPSK	6	20.8
Middle	5280	BPSK	6	19.7
Top	5320	BPSK	6	20.0
Bottom	5260	BPSK	9	20.0
Middle	5280	BPSK	9	19.7
Top	5320	BPSK	9	19.7
Bottom	5260	QPSK	12	19.6
Middle	5280	QPSK	12	19.4
Top	5320	QPSK	12	19.8
Bottom	5260	QPSK	18	19.4
Middle	5280	QPSK	18	19.5
Top	5320	QPSK	18	19.7
Bottom	5260	16QAM	24	19.5
Middle	5280	16QAM	24	19.4
Top	5320	16QAM	24	19.6
Bottom	5260	16QAM	36	19.5
Middle	5280	16QAM	36	19.5
Top	5320	16QAM	36	19.5
Bottom	5260	64QAM	48	19.1
Middle	5280	64QAM	48	19.8
Top	5320	64QAM	48	19.1
Bottom	5260	64QAM	54	19.1
Middle	5280	64QAM	54	19.6
Top	5320	64QAM	54	19.5
Bottom	5500	BPSK	6	20.2
Middle	5600	BPSK	6	20.0
Top	5700	BPSK	6	20.1
Bottom	5500	BPSK	9	20.8
Middle	5600	BPSK	9	19.8
Top	5700	BPSK	9	20.3
Bottom	5500	QPSK	12	20.2
Middle	5600	QPSK	12	19.6
Top	5700	QPSK	12	19.2
Bottom	5500	QPSK	18	20.2

Channel	Frequency (MHz)	Modulation Scheme	Data Rate (MB/s)	99% Emission Bandwidth (MHz)
Middle	5600	QPSK	18	19.8
Top	5700	QPSK	18	19.1
Bottom	5500	16QAM	24	19.8
Middle	5600	16QAM	24	19.4
Top	5700	16QAM	24	19.1
Bottom	5500	16QAM	36	19.5
Middle	5600	16QAM	36	19.2
Top	5700	16QAM	36	19.4
Bottom	5500	64QAM	48	19.2
Middle	5600	64QAM	48	19.5
Top	5700	64QAM	48	19.1
Bottom	5500	64QAM	54	19.8
Middle	5600	64QAM	54	19.4
Top	5700	64QAM	54	19.2
Bottom	5260	BPSK	6.5	20.9
Middle	5280	BPSK	6.5	20.8
Top	5320	BPSK	6.5	20.7
Bottom	5260	QPSK	13	20.3
Middle	5280	QPSK	13	20.4
Top	5320	QPSK	13	20.7
Bottom	5260	QPSK	19.5	20.4
Middle	5280	QPSK	19.5	20.6
Top	5320	QPSK	19.5	20.9
Bottom	5260	16QAM	26	20.6
Middle	5280	16QAM	26	20.3
Top	5320	16QAM	26	20.3
Bottom	5260	16QAM	39	20.4
Middle	5280	16QAM	39	20.1
Top	5320	16QAM	39	20.3
Bottom	5260	64QAM	52	20.4
Middle	5280	64QAM	52	20.4
Top	5320	64QAM	52	20.6
Bottom	5260	64QAM	58.5	20.1
Middle	5280	64QAM	58.5	20.1
Top	5320	64QAM	58.5	20.1
Bottom	5260	64QAM	65	20.8
Middle	5280	64QAM	65	20.0

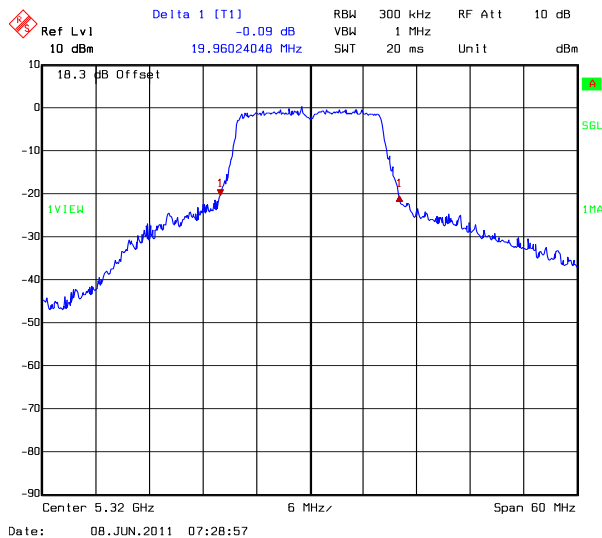
Channel	Frequency (MHz)	Modulation Scheme	Data Rate (MB/s)	99% Emission Bandwidth (MHz)
Top	5320	64QAM	65	21.4
Bottom	5500	BPSK	6.5	23.3
Middle	5600	BPSK	6.5	20.6
Top	5700	BPSK	6.5	20.3
Bottom	5500	QPSK	13	20.6
Middle	5600	QPSK	13	20.2
Top	5700	QPSK	13	20.2
Bottom	5500	QPSK	19.5	21.0
Middle	5600	QPSK	19.5	20.9
Top	5700	QPSK	19.5	20.3
Bottom	5500	16QAM	26	20.3
Middle	5600	16QAM	26	20.1
Top	5700	16QAM	26	20.2
Bottom	5500	16QAM	39	20.3
Middle	5600	16QAM	39	20.3
Top	5700	16QAM	39	19.8
Bottom	5500	64QAM	52	20.7
Middle	5600	64QAM	52	20.2
Top	5700	64QAM	52	20.2
Bottom	5500	64QAM	58.5	20.6
Middle	5600	64QAM	58.5	20.2
Top	5700	64QAM	58.5	20.0
Bottom	5500	64QAM	65	20.0
Middle	5600	64QAM	65	20.1
Top	5700	64QAM	65	20.2

Transmitter 99% Emission Bandwidth (continued)

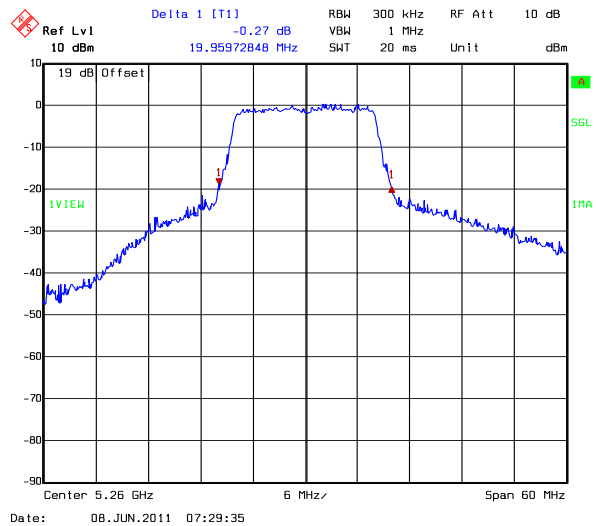
99pct_Bandwidth_UNII_2_802_11A_6MBS_BottomChannel



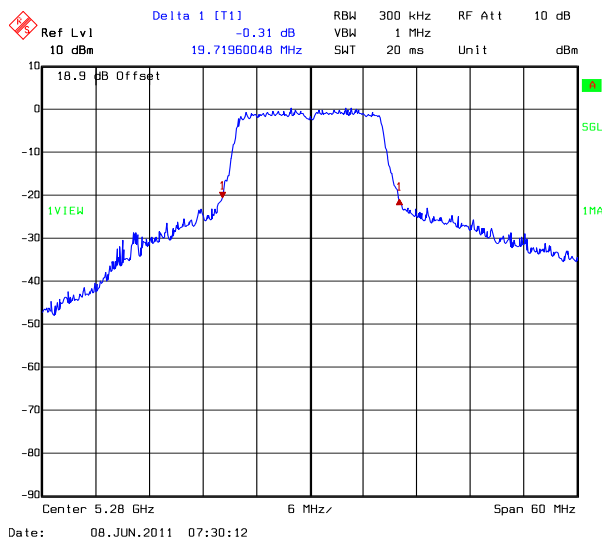
99pct_Bandwidth_UNII_2_802_11A_6MBS_MiddleChannel



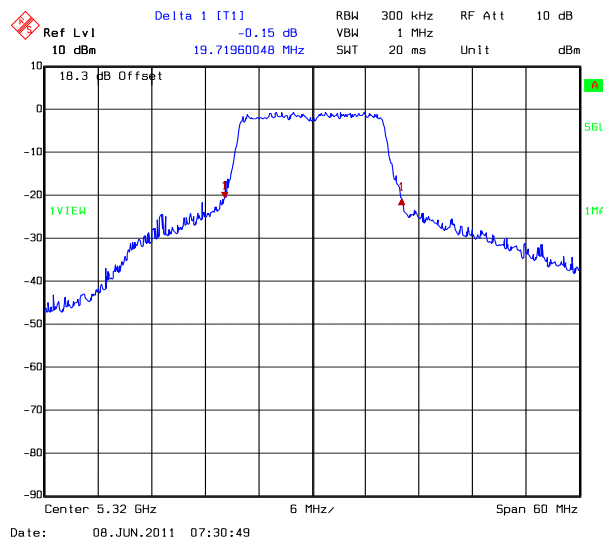
99pct_Bandwidth_UNII_2_802_11A_6MBS_TopChannel



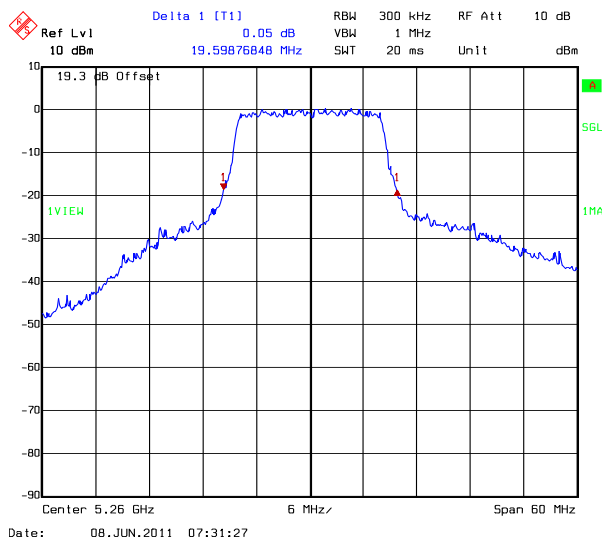
99pct_Bandwidth_UNII_2_802_11A_9MBS_BottomChannel

Transmitter 99% Emission Bandwidth (continued)

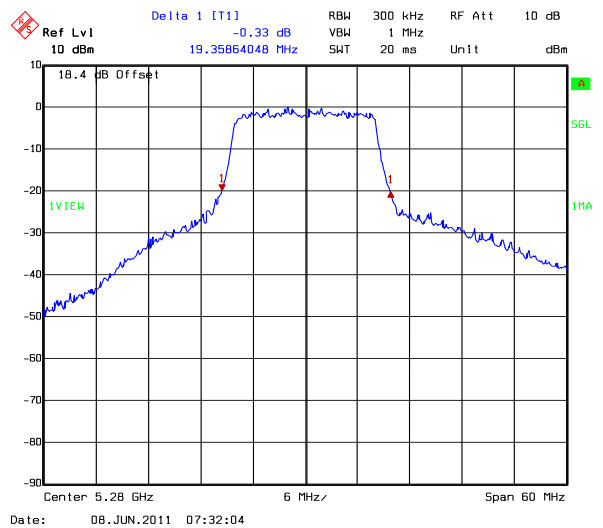
99pct_Bandwidth_UNII_2_802_11A_9MBS_MiddleChannel



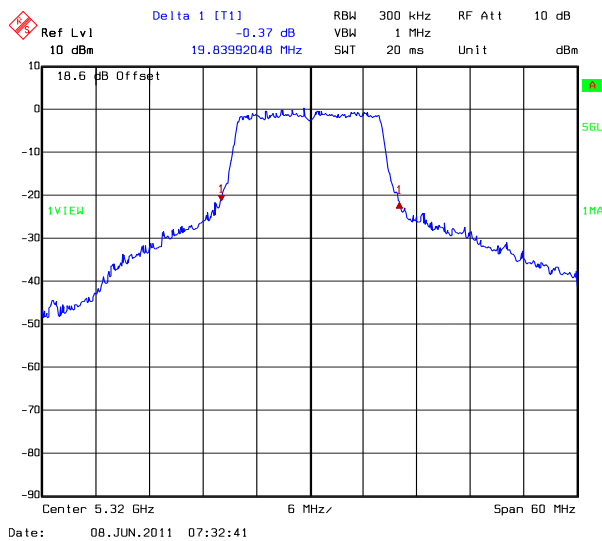
99pct_Bandwidth_UNII_2_802_11A_9MBS_TopChannel



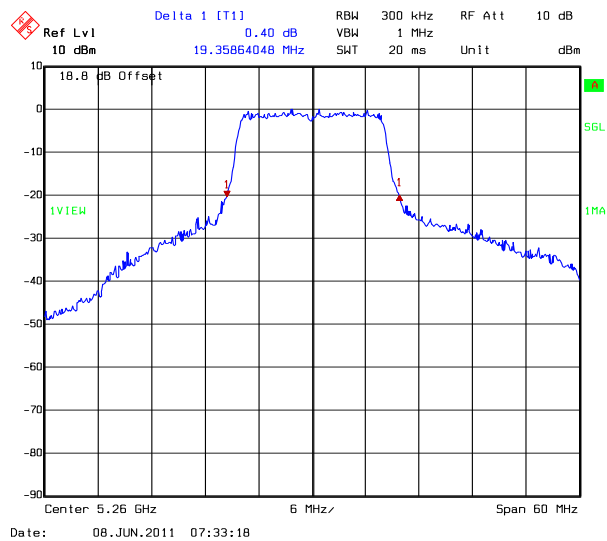
99pct_Bandwidth_UNII_2_802_11A_12MBS_BottomChannel



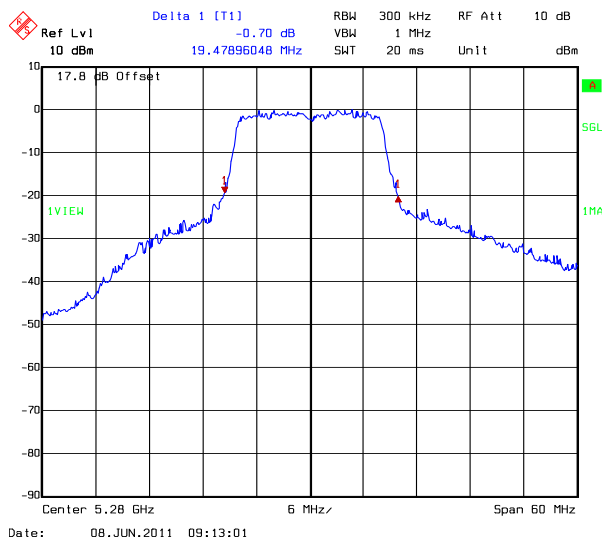
99pct_Bandwidth_UNII_2_802_11A_12MBS_MiddleChannel

Transmitter 99% Emission Bandwidth (continued)

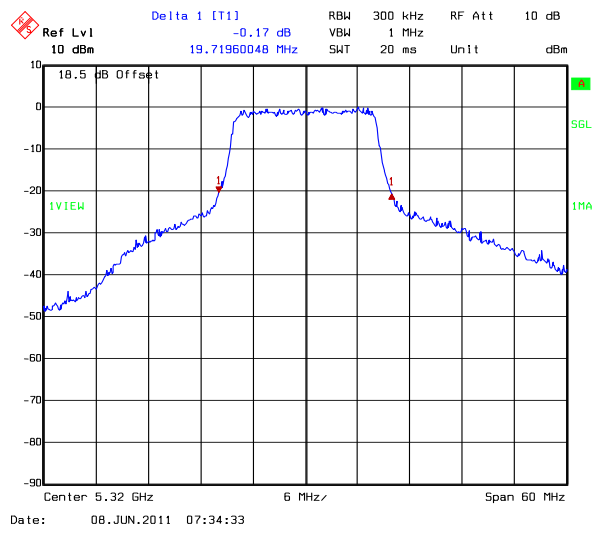
99pct_Bandwidth_UNII_2_802_11A_12MBS_TopChannel



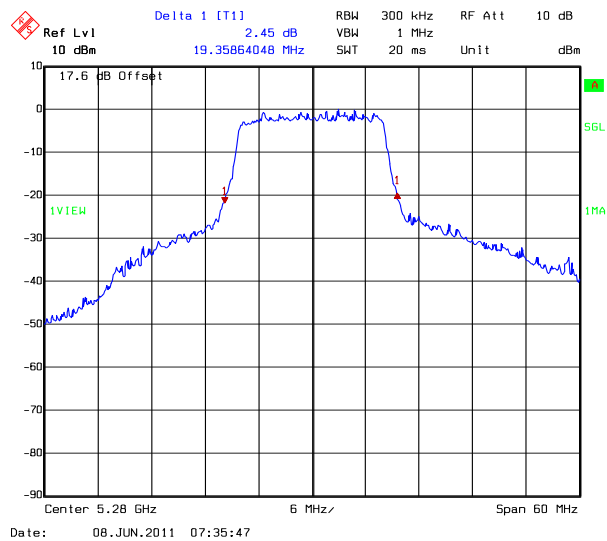
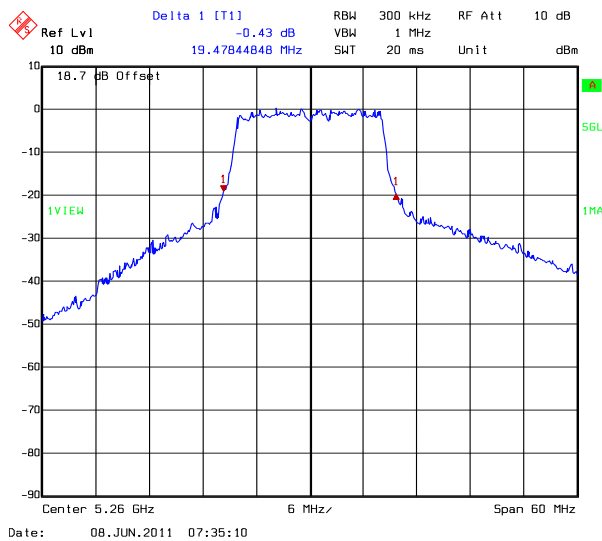
99pct_Bandwidth_UNII_2_802_11A_18MBS_BottomChannel



99pct_Bandwidth_UNII_2_802_11A_18MBS_MiddleChannel

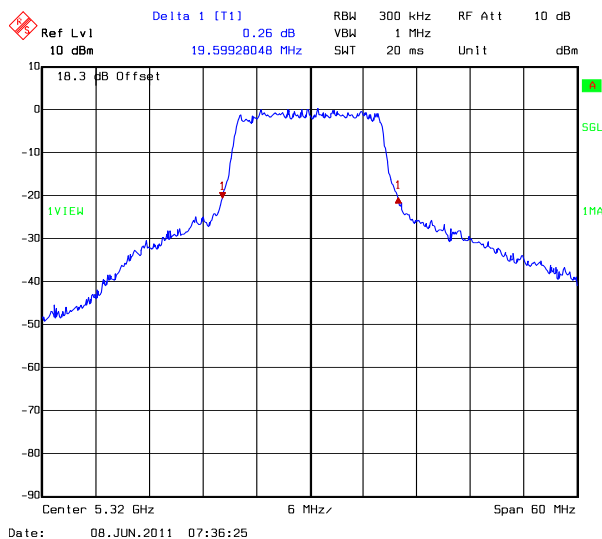


99pct_Bandwidth_UNII_2_802_11A_18MBS_TopChannel

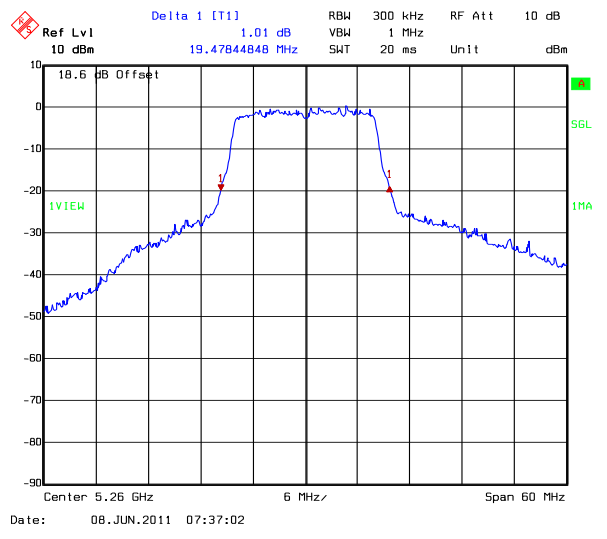
Transmitter 99% Emission Bandwidth (continued)

99pct_Bandwidth_UNII_2_802_11A_24MBS_BottomChannel

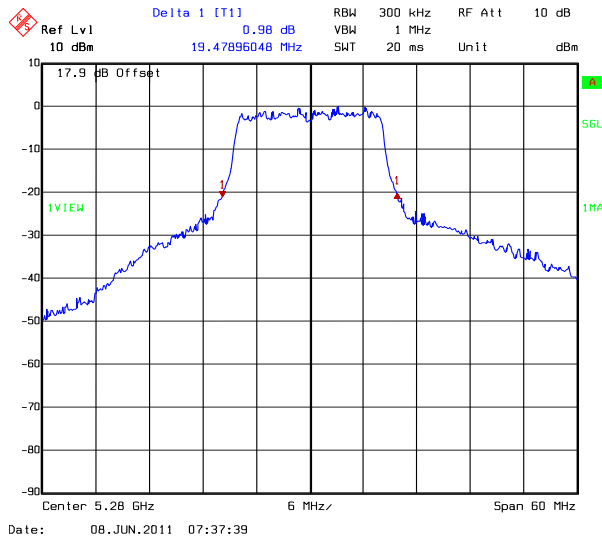
99pct_Bandwidth_UNII_2_802_11A_24MBS_MiddleChannel



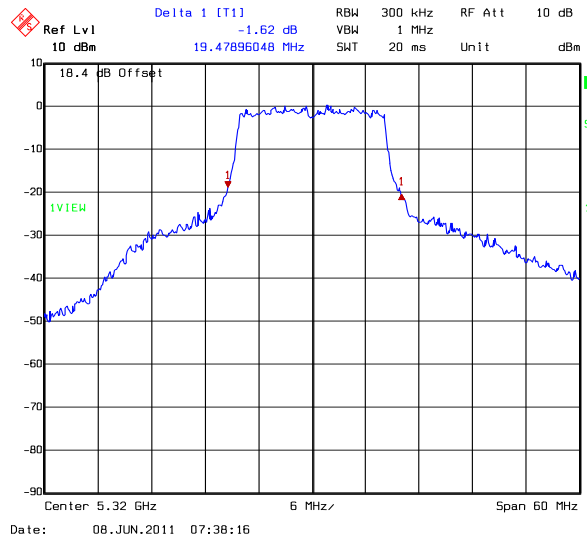
99pct_Bandwidth_UNII_2_802_11A_24MBS_TopChannel



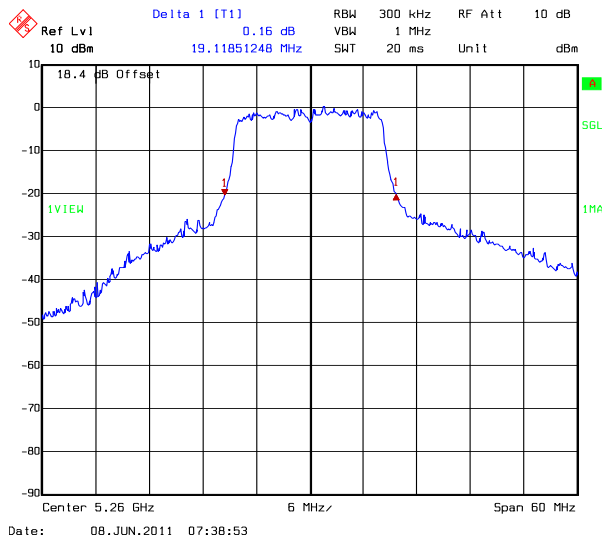
99pct_Bandwidth_UNII_2_802_11A_36MBS_BottomChannel

Transmitter 99% Emission Bandwidth (continued)

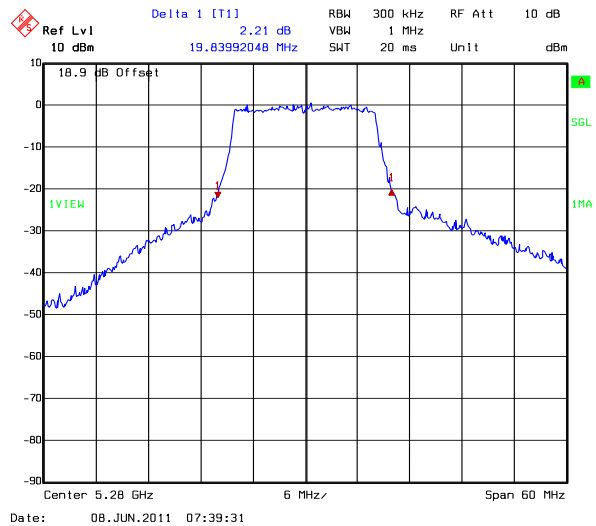
99pct_Bandwidth_UNII_2_802_11A_36MBS_MiddleChannel



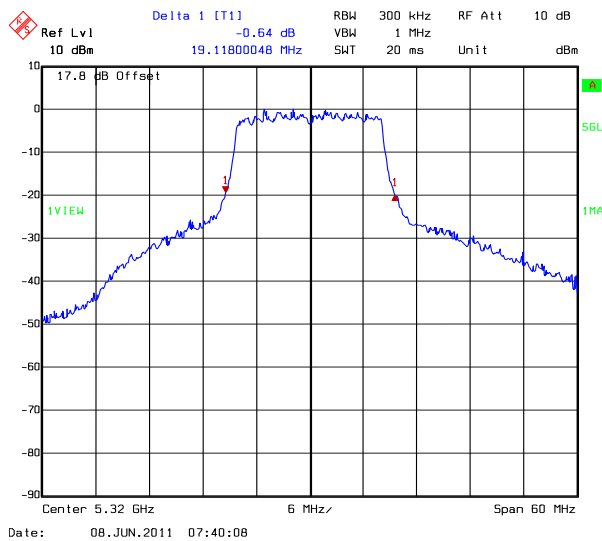
99pct_Bandwidth_UNII_2_802_11A_36MBS_TopChannel



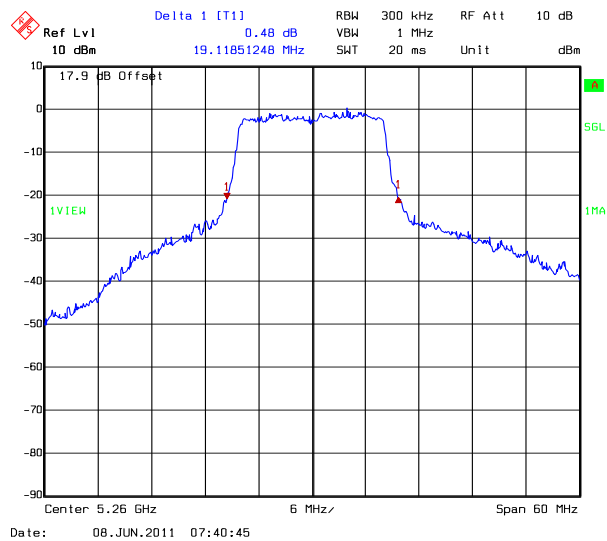
99pct_Bandwidth_UNII_2_802_11A_48MBS_BottomChannel



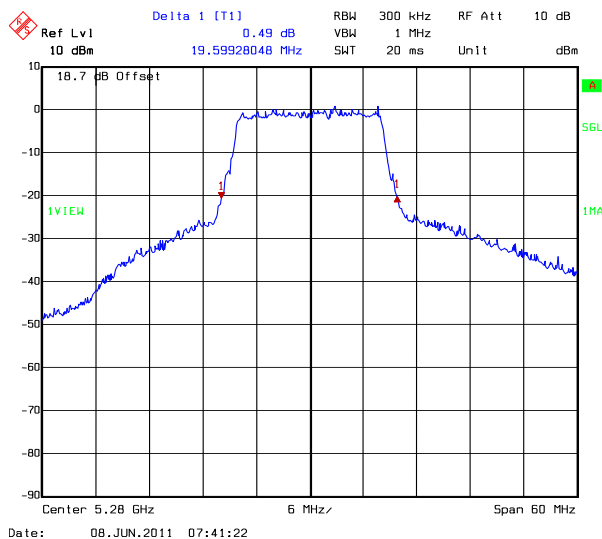
99pct_Bandwidth_UNII_2_802_11A_48MBS_MiddleChannel

Transmitter 99% Emission Bandwidth (continued)

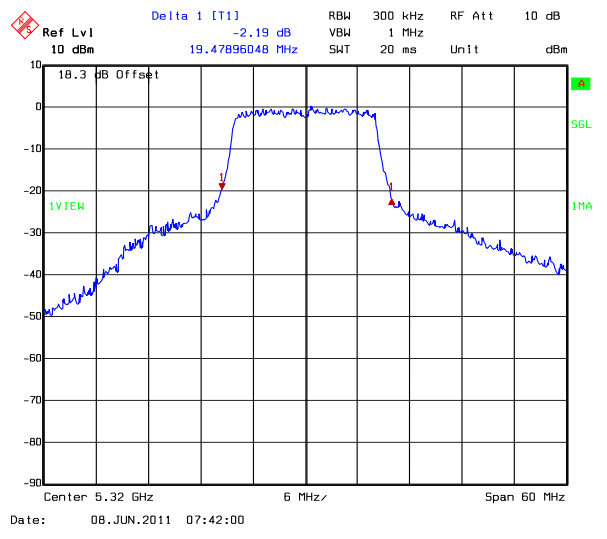
99pct_Bandwidth_UNII_2_802_11A_48MBS_TopChannel



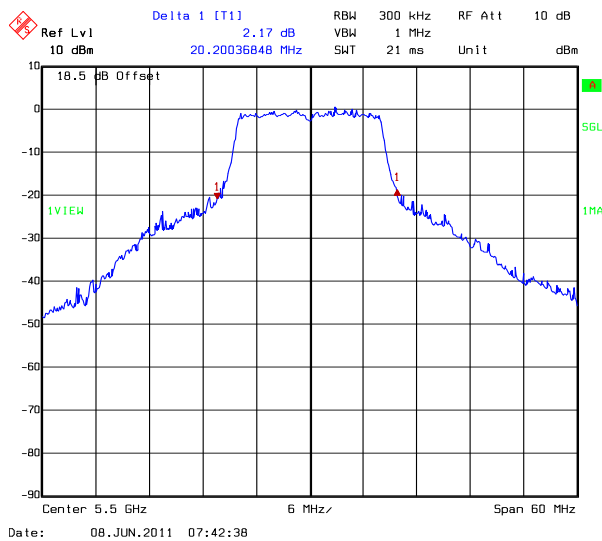
99pct_Bandwidth_UNII_2_802_11A_54MBS_BottomChannel



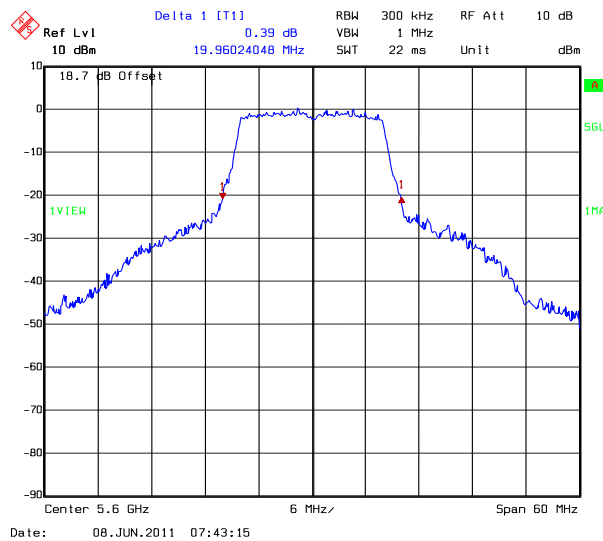
99pct_Bandwidth_UNII_2_802_11A_54MBS_MiddleChannel



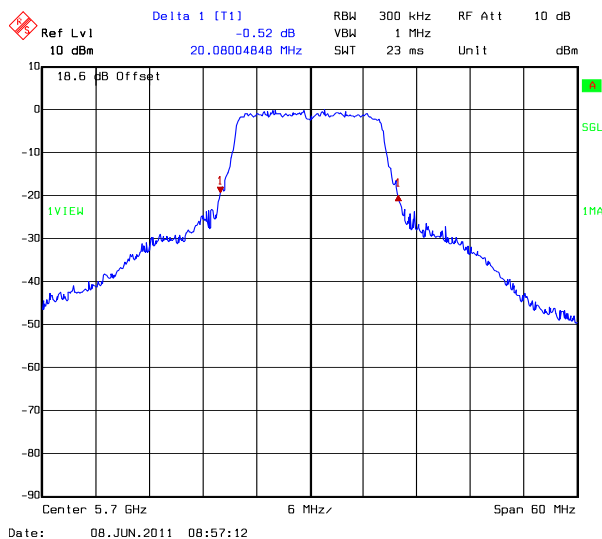
99pct_Bandwidth_UNII_2_802_11A_54MBS_TopChannel

Transmitter 99% Emission Bandwidth (continued)

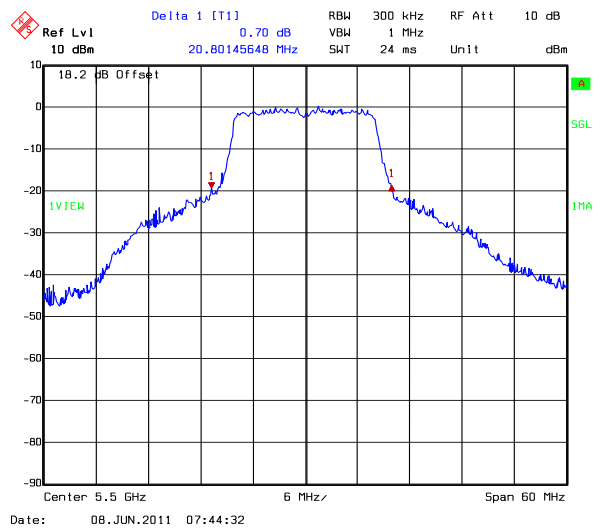
99pct_Bandwidth_UNII_3_802_11A_6MBS_BottomChannel



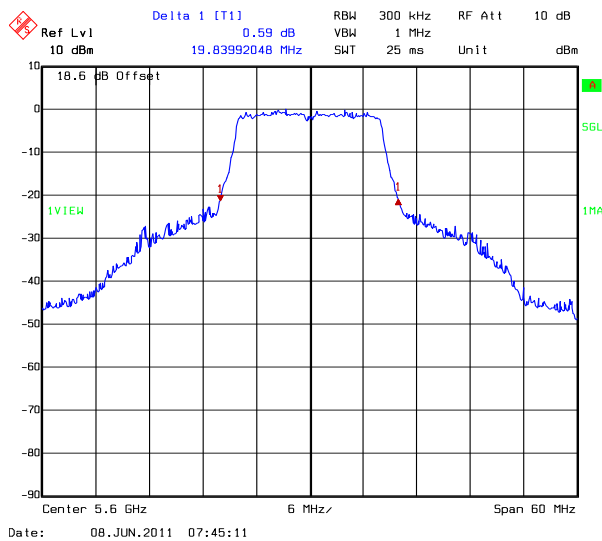
99pct_Bandwidth_UNII_3_802_11A_6MBS_MiddleChannel



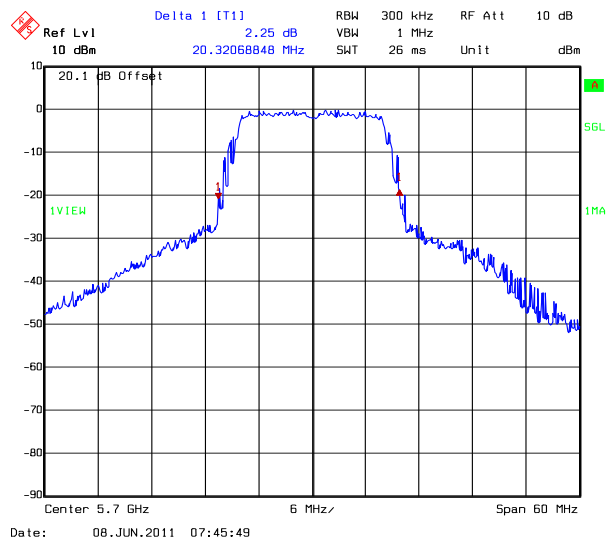
99pct_Bandwidth_UNII_3_802_11A_6MBS_TopChannel



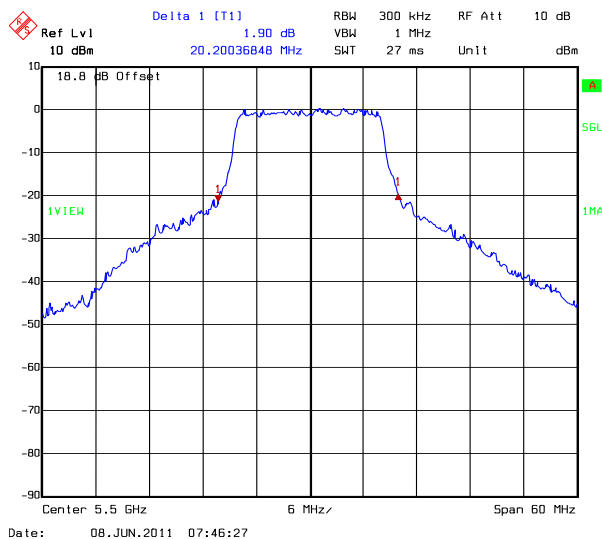
99pct_Bandwidth_UNII_3_802_11A_9MBS_BottomChannel

Transmitter 99% Emission Bandwidth (continued)

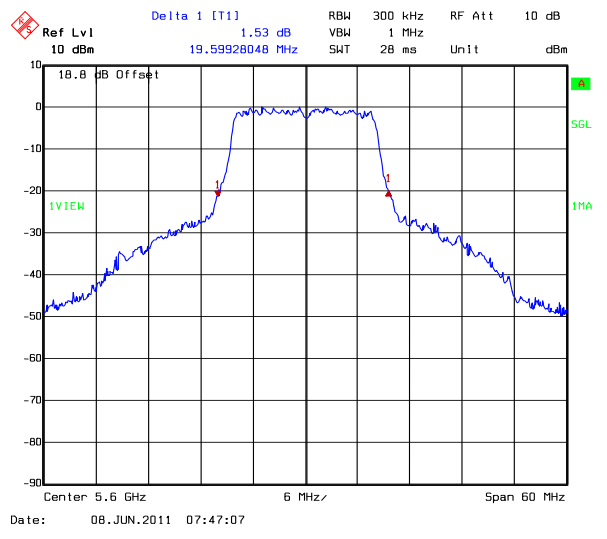
99pct_Bandwidth_UNII_3_802_11A_9MBS_MiddleChannel



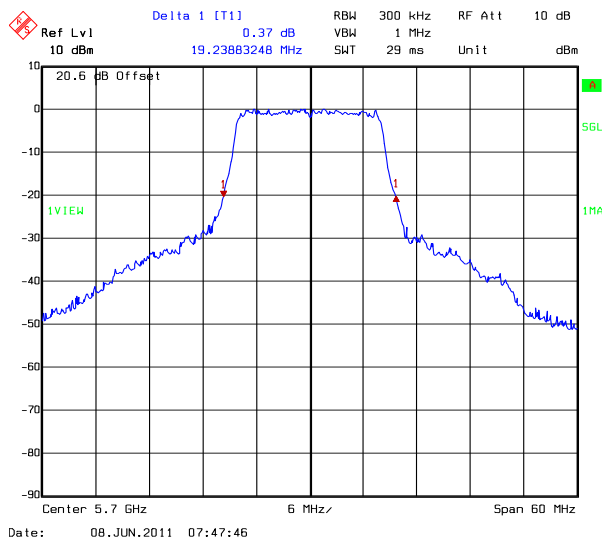
99pct_Bandwidth_UNII_3_802_11A_9MBS_TopChannel



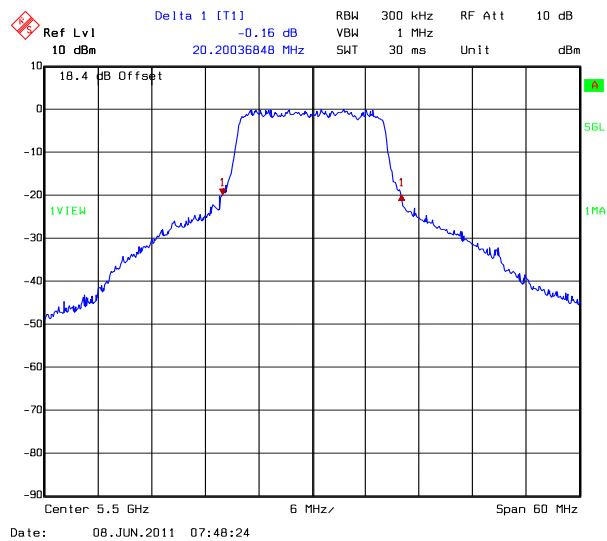
99pct_Bandwidth_UNII_3_802_11A_12MBS_BottomChannel



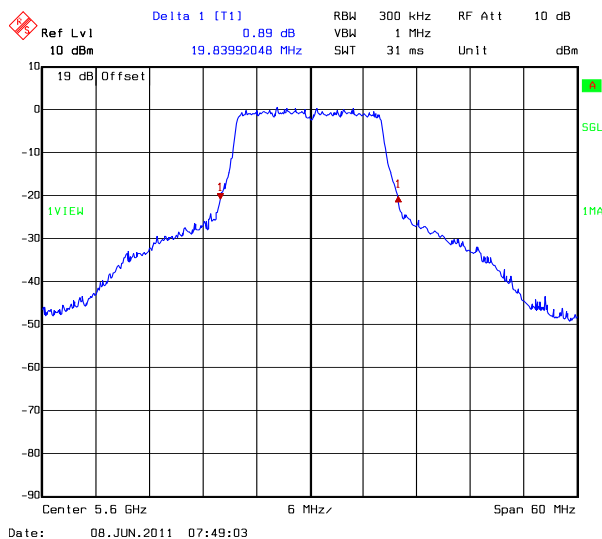
99pct_Bandwidth_UNII_3_802_11A_12MBS_MiddleChannel

Transmitter 99% Emission Bandwidth (continued)

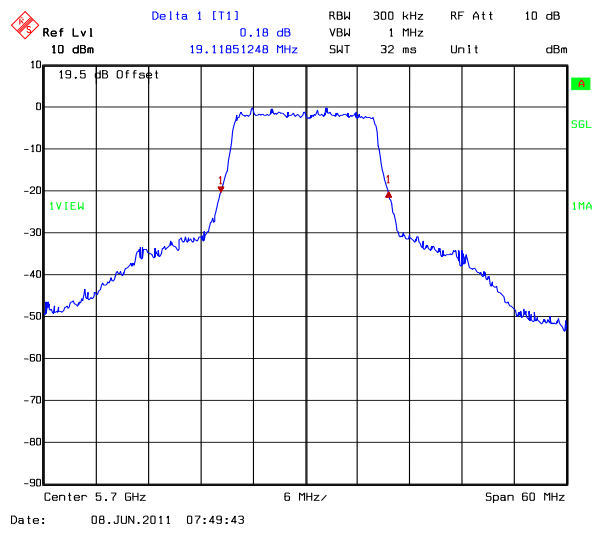
99pct_Bandwidth_UNII_3_802_11A_12MBS_TopChannel



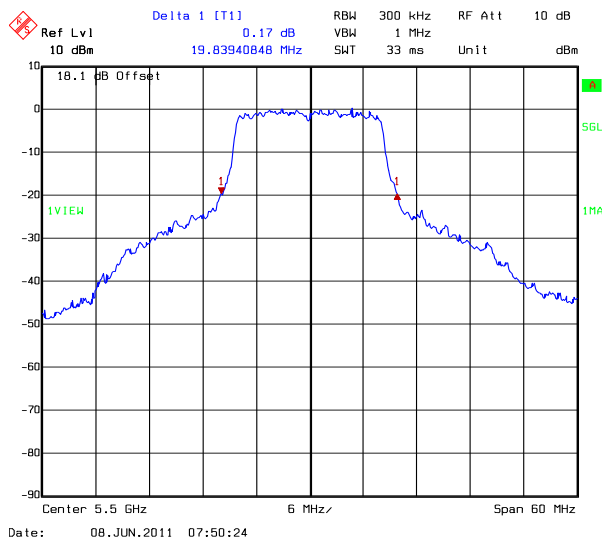
99pct_Bandwidth_UNII_3_802_11A_18MBS_BottomChannel



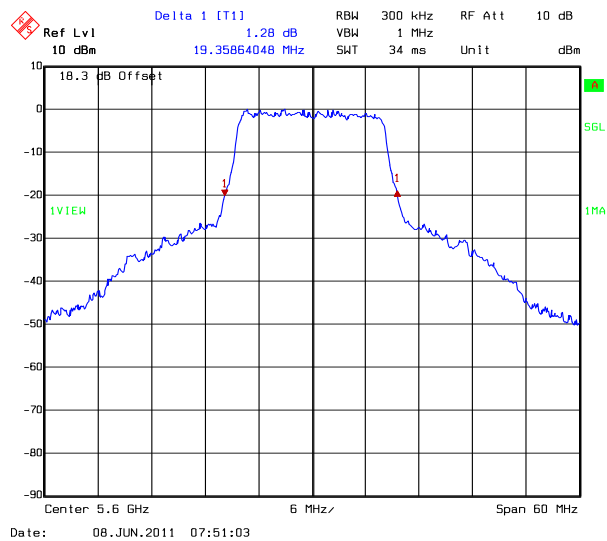
99pct_Bandwidth_UNII_3_802_11A_18MBS_MiddleChannel



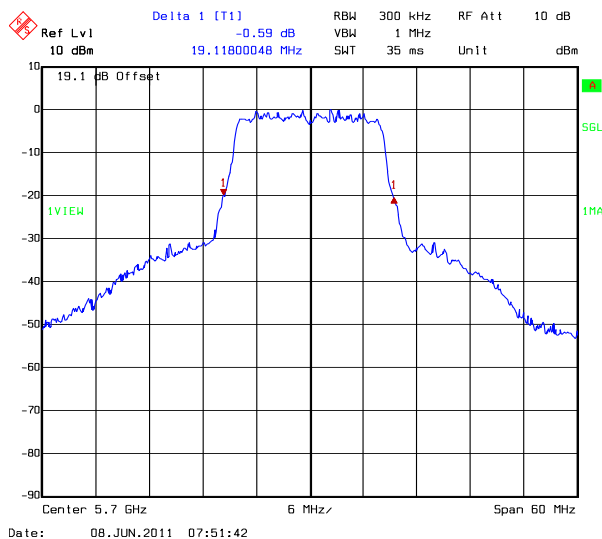
99pct_Bandwidth_UNII_3_802_11A_18MBS_TopChannel

Transmitter 99% Emission Bandwidth (continued)

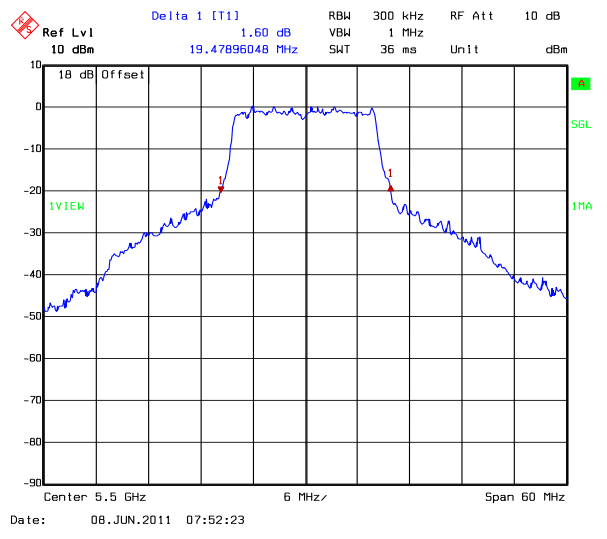
99pct_Bandwidth_UNII_3_802_11A_24MBS_BottomChannel



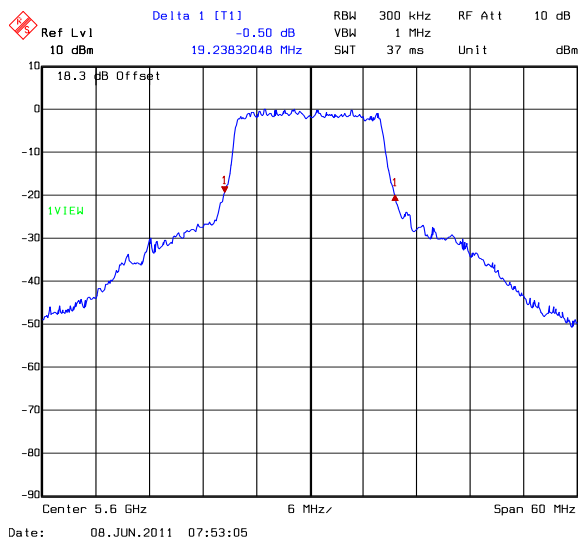
99pct_Bandwidth_UNII_3_802_11A_24MBS_MiddleChannel



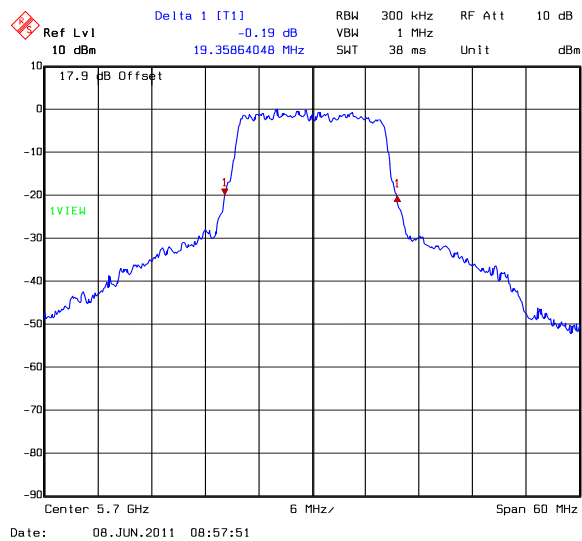
99pct_Bandwidth_UNII_3_802_11A_24MBS_TopChannel



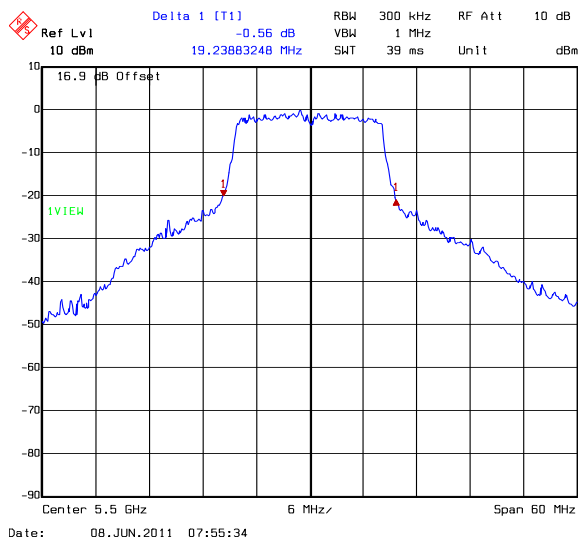
99pct_Bandwidth_UNII_3_802_11A_36MBS_BottomChannel

Transmitter 99% Emission Bandwidth (continued)

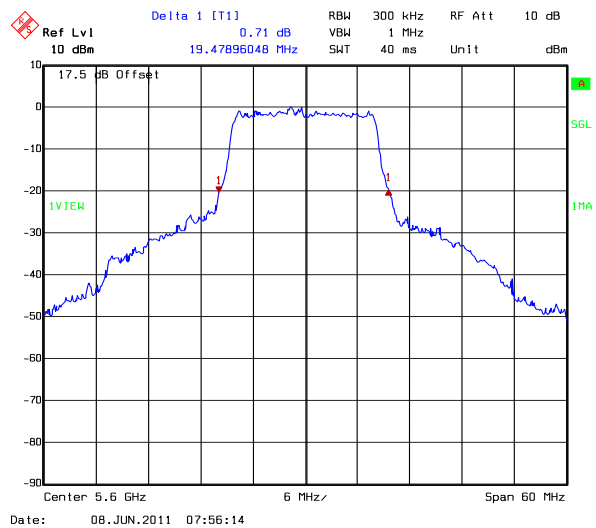
99pct_Bandwidth_UNII_3_802_11A_36MBS_MiddleChannel



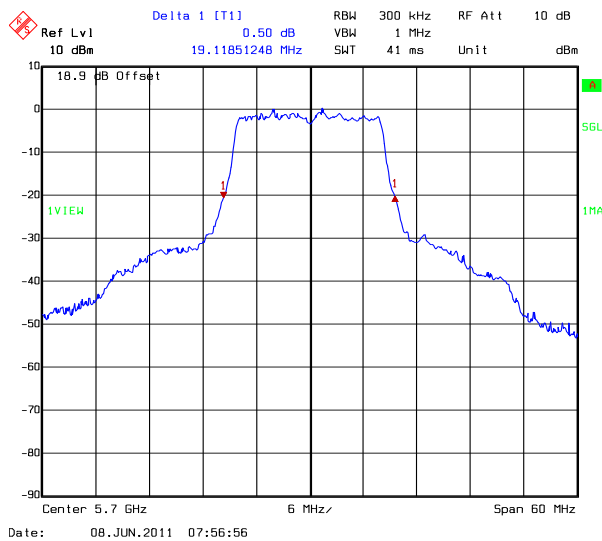
99pct_Bandwidth_UNII_3_802_11A_36MBS_TopChannel



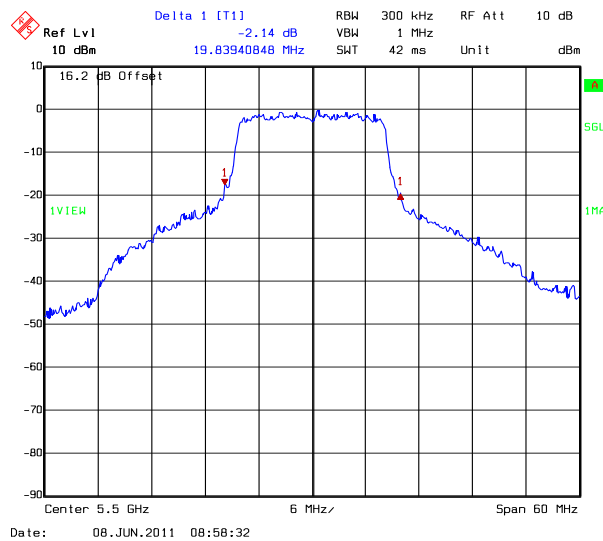
99pct_Bandwidth_UNII_3_802_11A_48MBS_BottomChannel



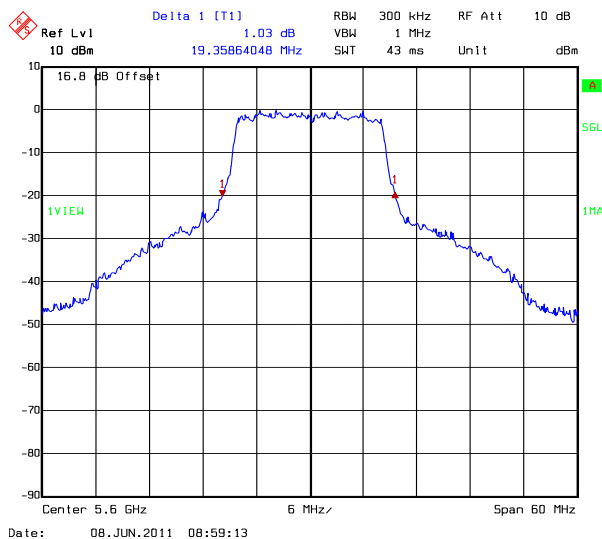
99pct_Bandwidth_UNII_3_802_11A_48MBS_MiddleChannel

Transmitter 99% Emission Bandwidth (continued)

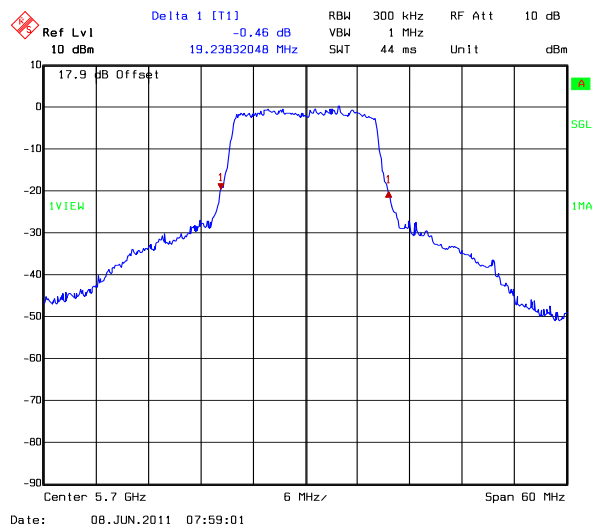
99pct_Bandwidth_UNII_3_802_11A_48MBS_TopChannel



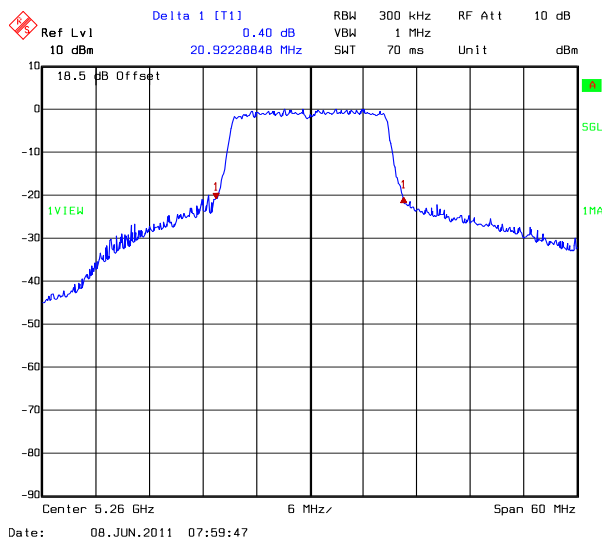
99pct_Bandwidth_UNII_3_802_11A_54MBS_BottomChannel



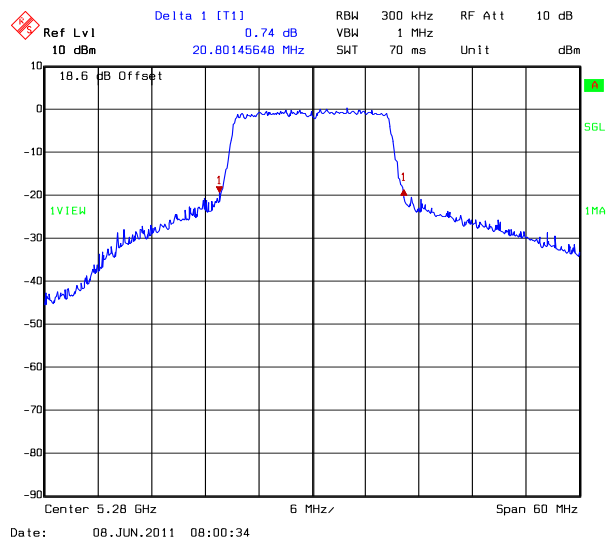
99pct_Bandwidth_UNII_3_802_11A_54MBS_MiddleChannel



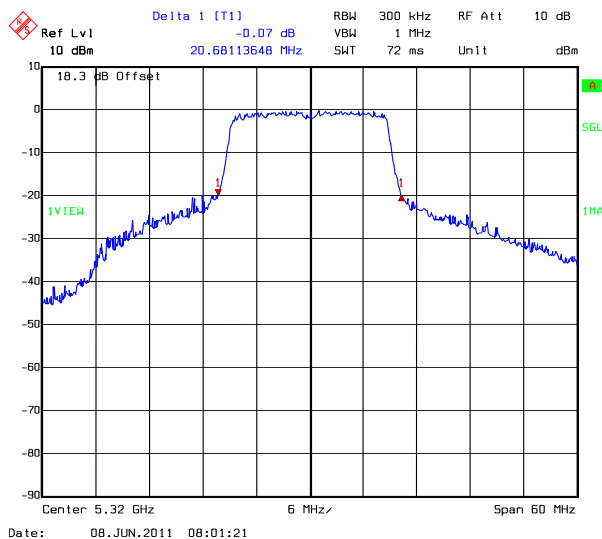
99pct_Bandwidth_UNII_3_802_11A_54MBS_TopChannel

Transmitter 99% Emission Bandwidth (continued)

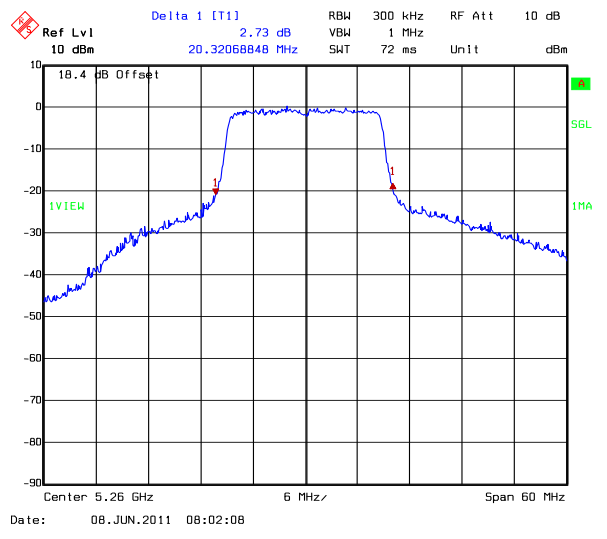
99pct_Bandwidth_UNII_2_802_11N_6_5MBS_BottomChannel



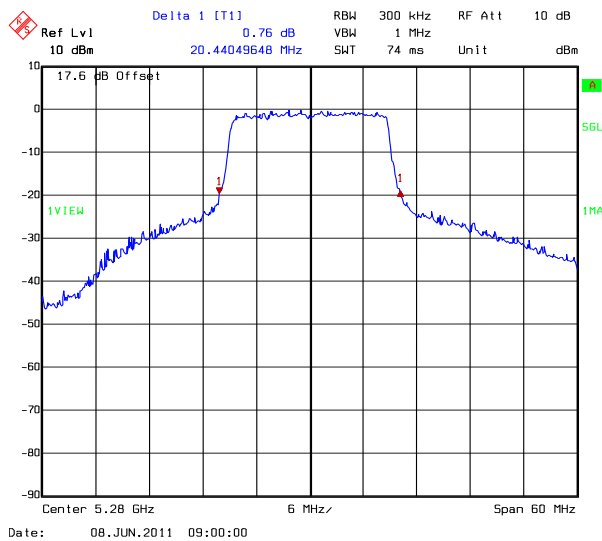
99pct_Bandwidth_UNII_2_802_11N_6_5MBS_MiddleChannel



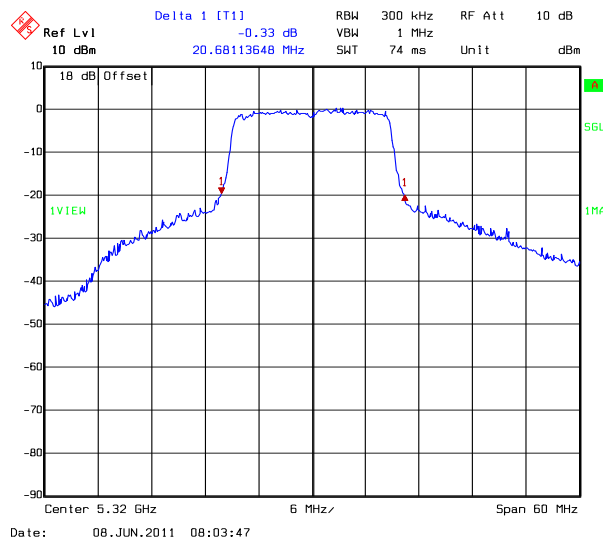
99pct_Bandwidth_UNII_2_802_11N_6_5MBS_TopChannel



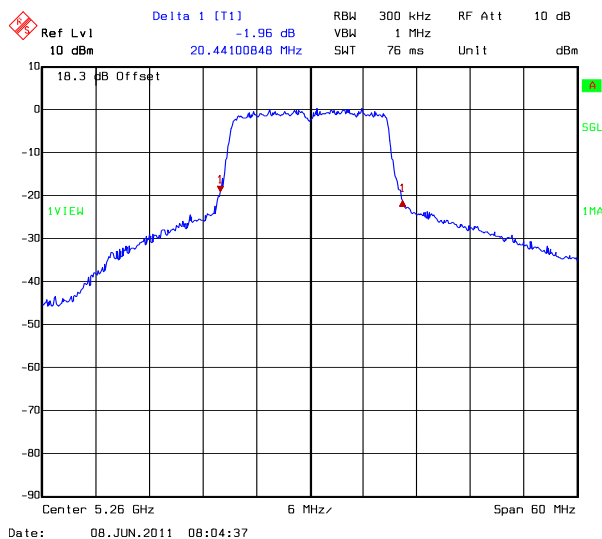
99pct_Bandwidth_UNII_2_802_11N_13MBS_BottomChannel

Transmitter 99% Emission Bandwidth (continued)

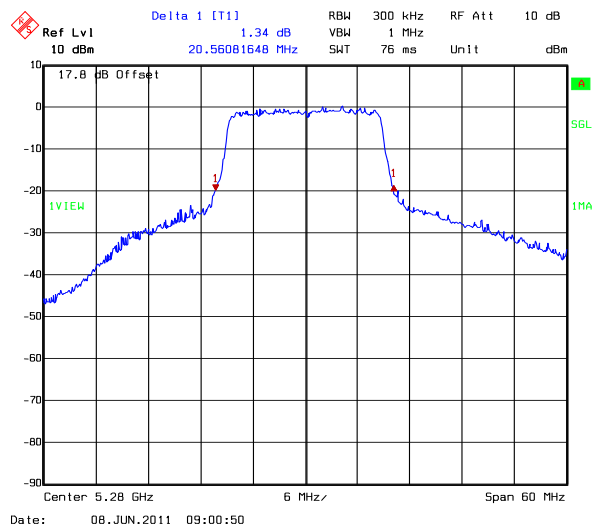
99pct_Bandwidth_UNII_2_802_11N_13MBS_MiddleChannel



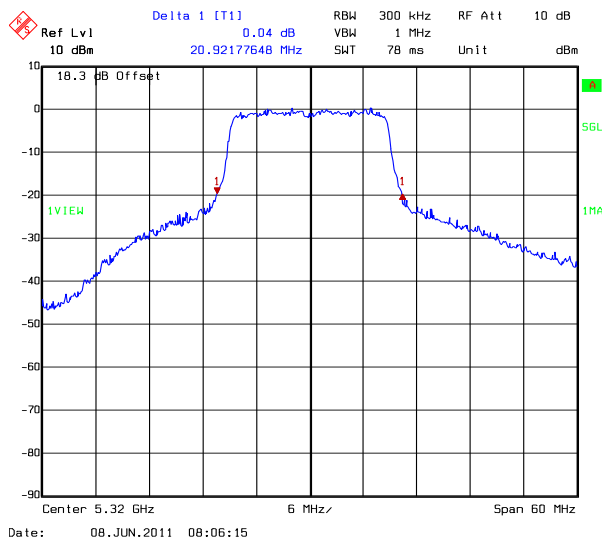
99pct_Bandwidth_UNII_2_802_11N_13MBS_TopChannel



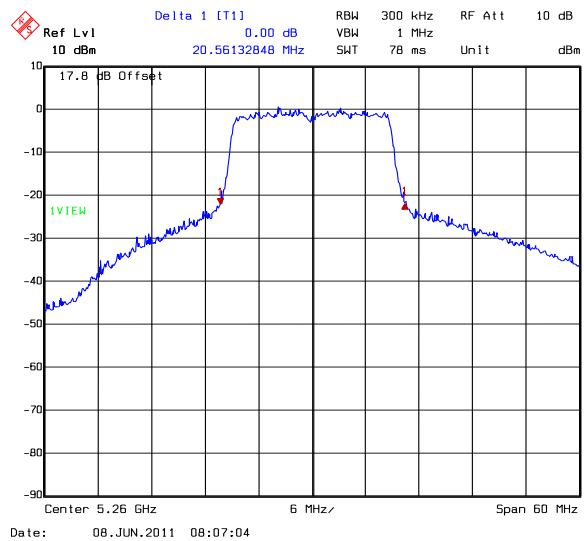
99pct_Bandwidth_UNII_2_802_11N_19_5MBS_BottomChannel



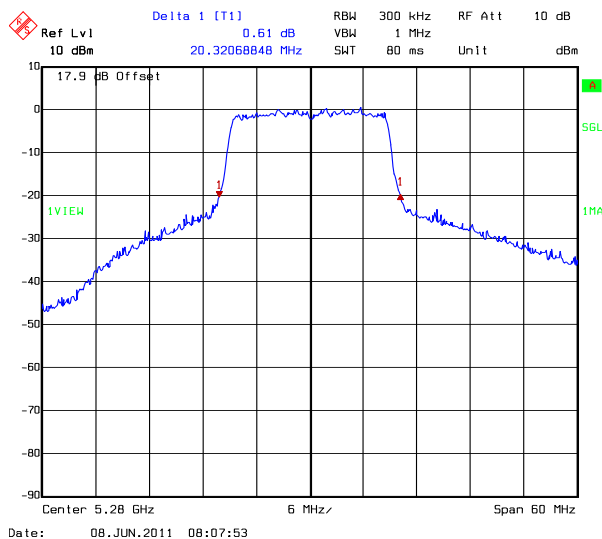
99pct_Bandwidth_UNII_2_802_11N_19_5MBS_MiddleChannel

Transmitter 99% Emission Bandwidth (continued)

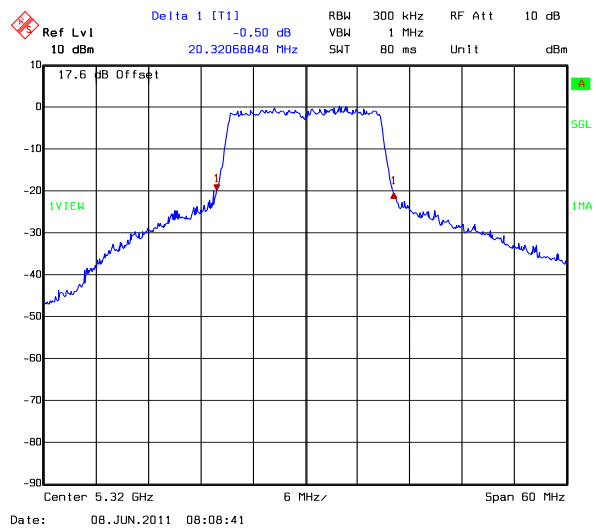
99pct_Bandwidth_UNII_2_802_11N_19_5MBS_TopChannel



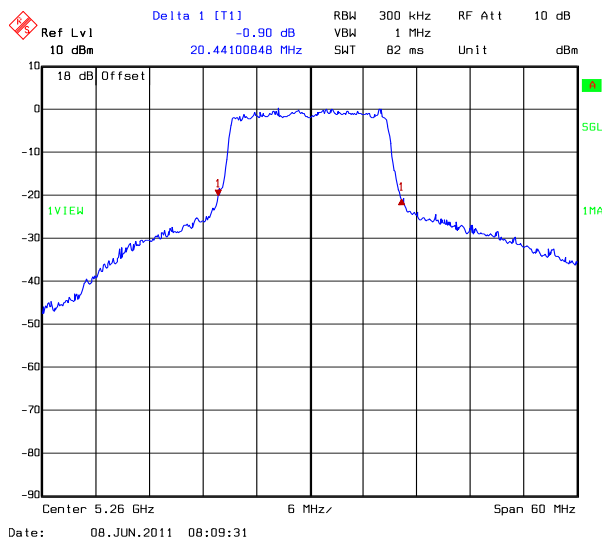
99pct_Bandwidth_UNII_2_802_11N_26MBS_BottomChannel



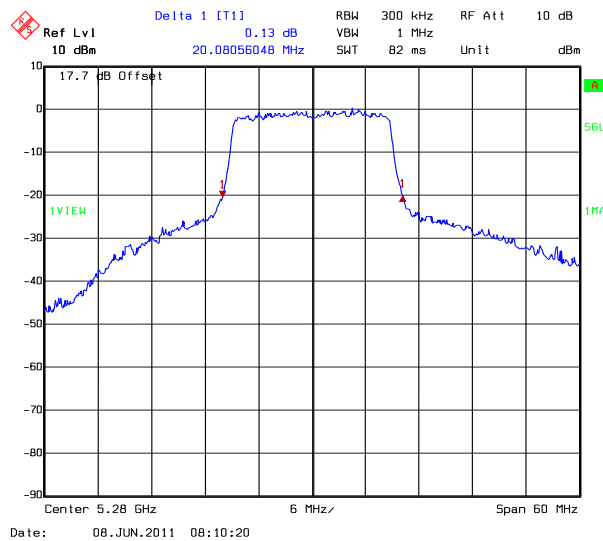
99pct_Bandwidth_UNII_2_802_11N_26MBS_MiddleChannel



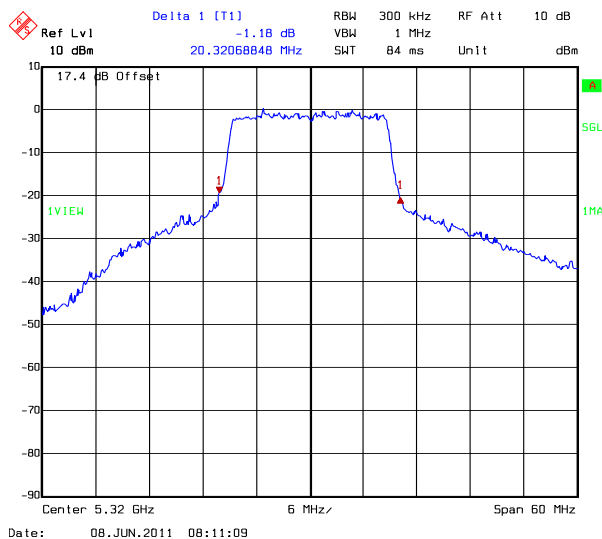
99pct_Bandwidth_UNII_2_802_11N_26MBS_TopChannel

Transmitter 99% Emission Bandwidth (continued)

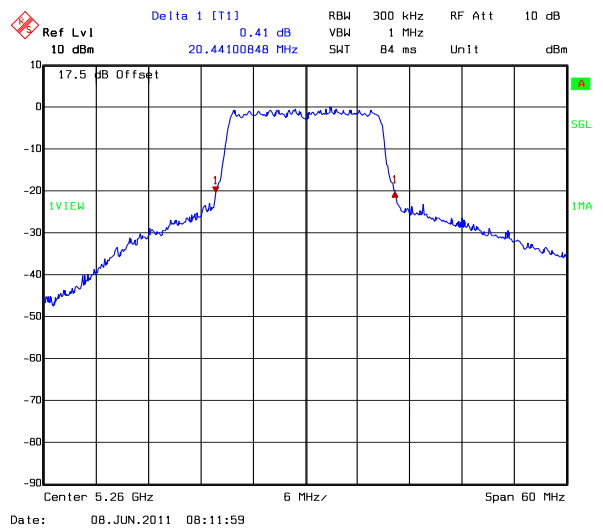
99pct_Bandwidth_UNII_2_802_11N_39MBS_BottomChannel



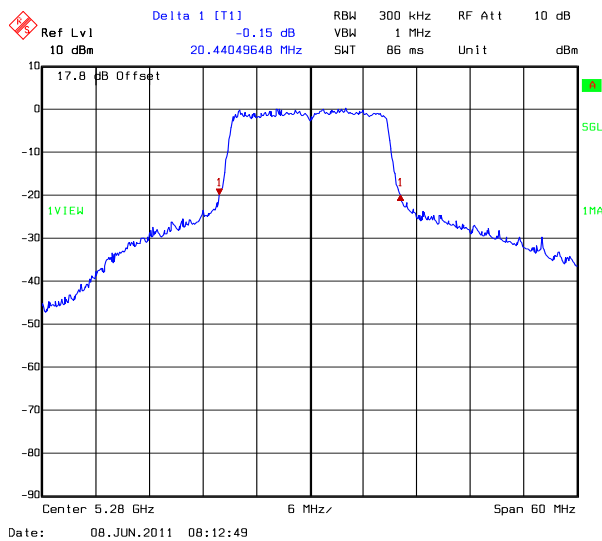
99pct_Bandwidth_UNII_2_802_11N_39MBS_MiddleChannel



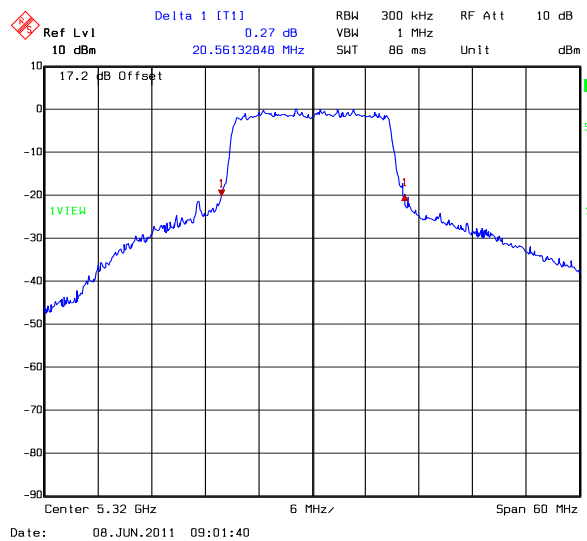
99pct_Bandwidth_UNII_2_802_11N_39MBS_TopChannel



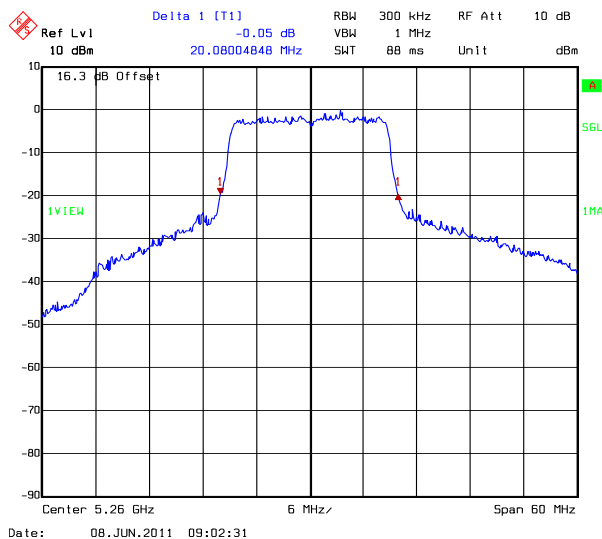
99pct_Bandwidth_UNII_2_802_11N_52MBS_BottomChannel

Transmitter 99% Emission Bandwidth (continued)

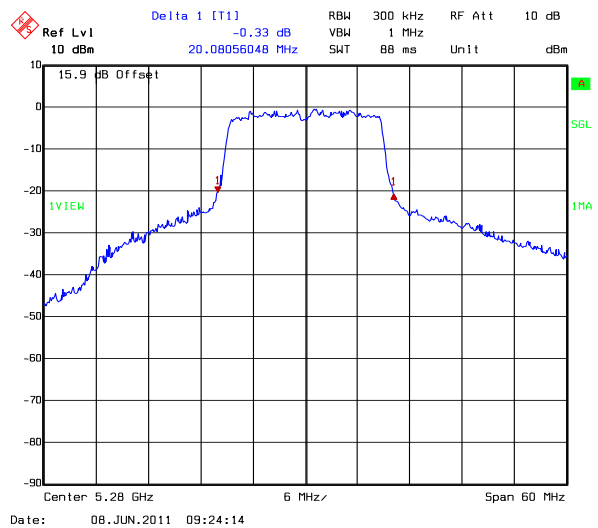
99pct_Bandwidth_UNII_2_802_11N_52MBS_MiddleChannel



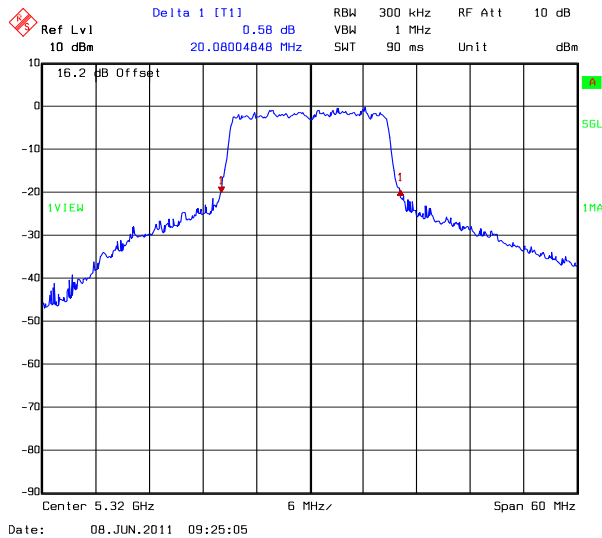
99pct_Bandwidth_UNII_2_802_11N_52MBS_TopChannel



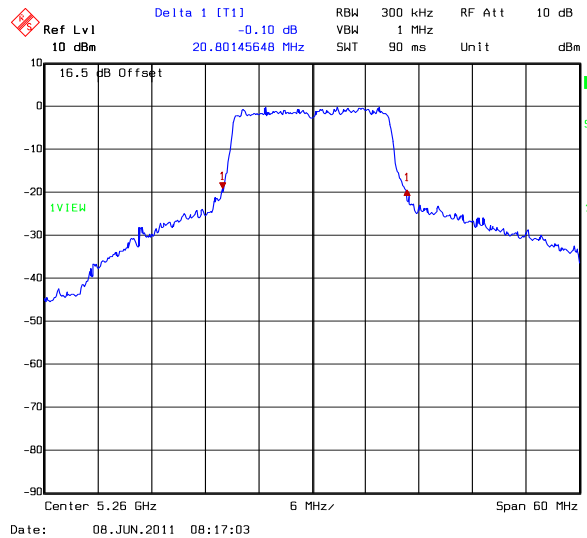
99pct_Bandwidth_UNII_2_802_11N_58_5MBS_BottomChannel



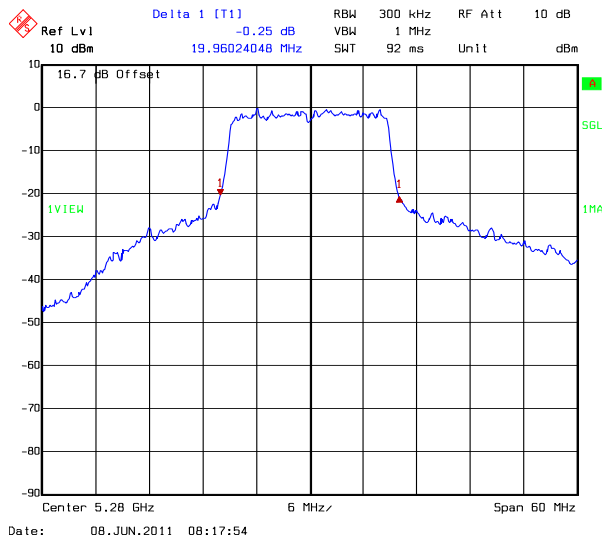
99pct_Bandwidth_UNII_2_802_11N_58_5MBS_MiddleChannel

Transmitter 99% Emission Bandwidth (continued)

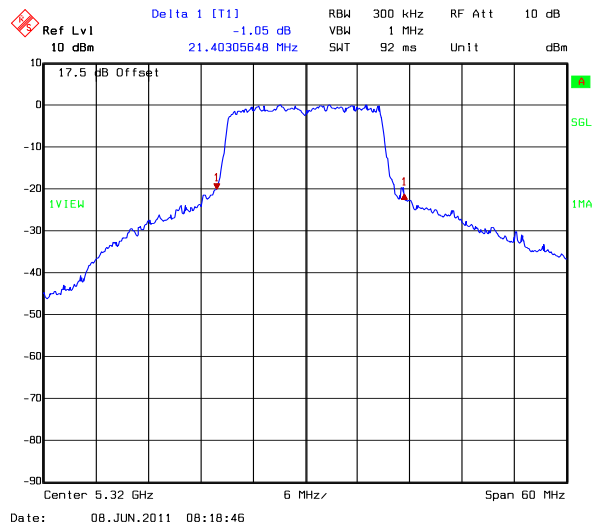
99pct_Bandwidth_UNII_2_802_11N_58_5MBS_TopChannel



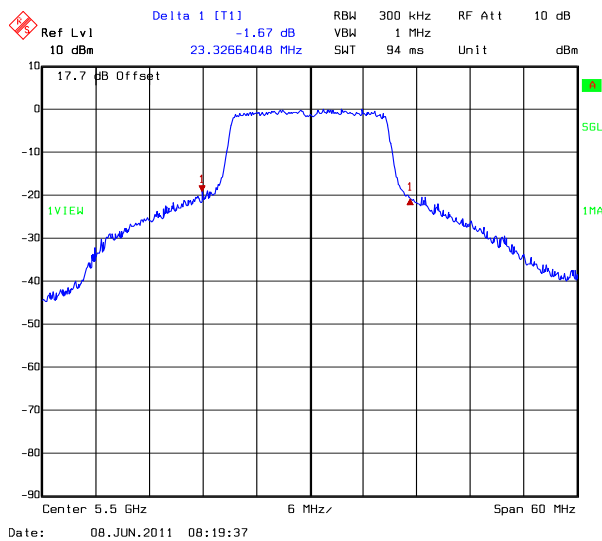
99pct_Bandwidth_UNII_2_802_11N_65MBS_BottomChannel



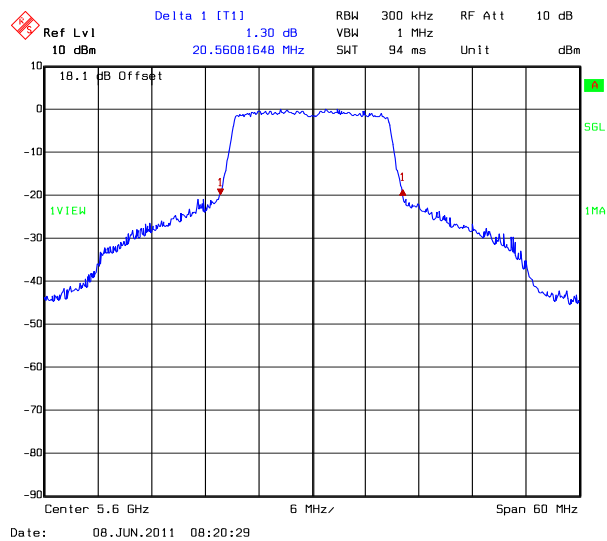
99pct_Bandwidth_UNII_2_802_11N_65MBS_MiddleChannel



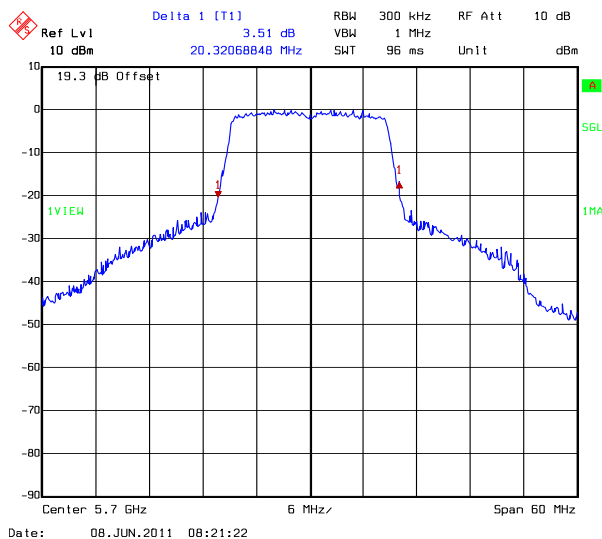
99pct_Bandwidth_UNII_2_802_11N_65MBS_TopChannel

Transmitter 99% Emission Bandwidth (continued)

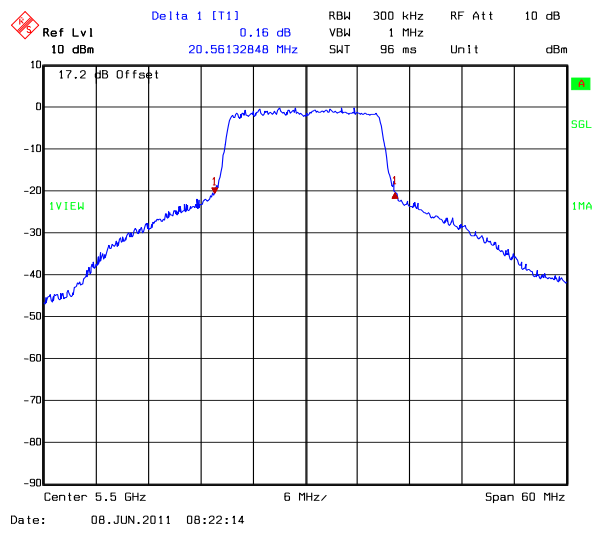
99pct_Bandwidth_UNII_3_802_11N_6_5MBS_BottomChannel



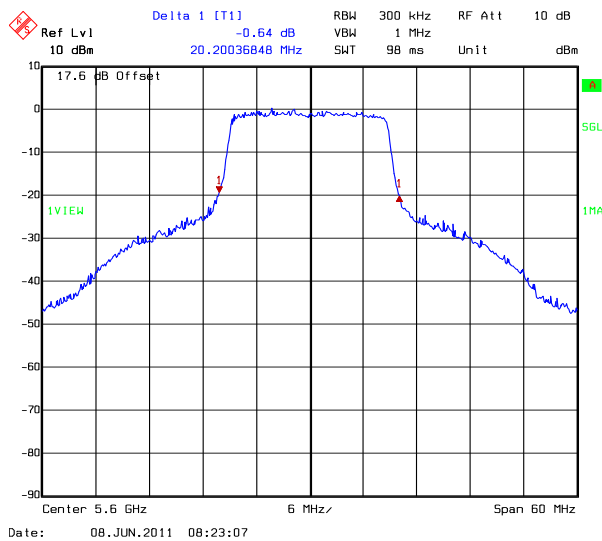
99pct_Bandwidth_UNII_3_802_11N_6_5MBS_MiddleChannel



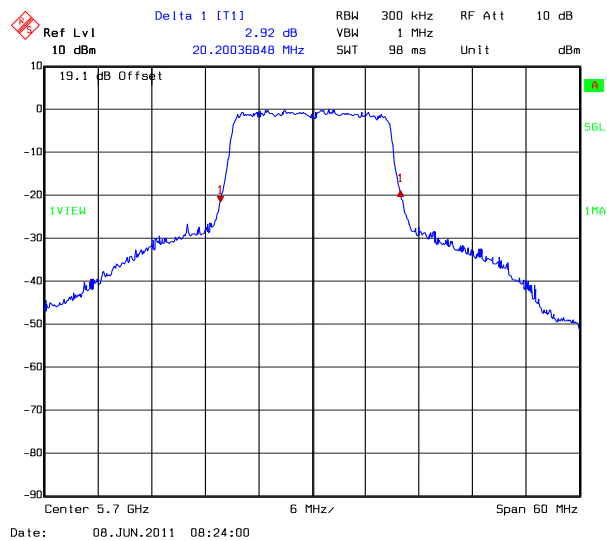
99pct_Bandwidth_UNII_3_802_11N_6_5MBS_TopChannel



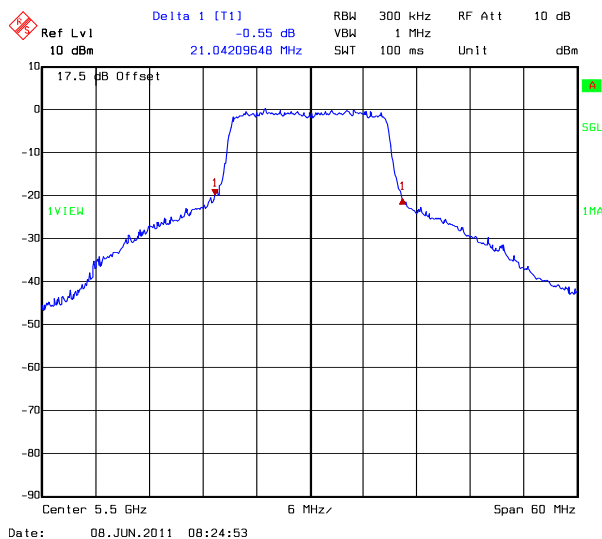
99pct_Bandwidth_UNII_3_802_11N_13MBS_BottomChannel

Transmitter 99% Emission Bandwidth (continued)

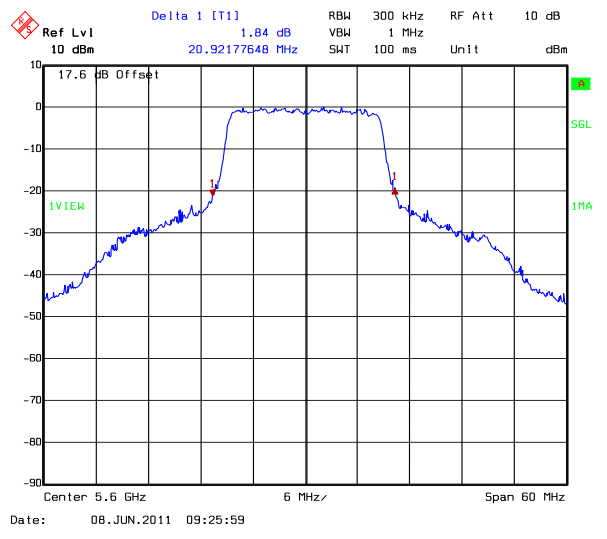
99pct_Bandwidth_UNII_3_802_11N_13MBS_MiddleChannel



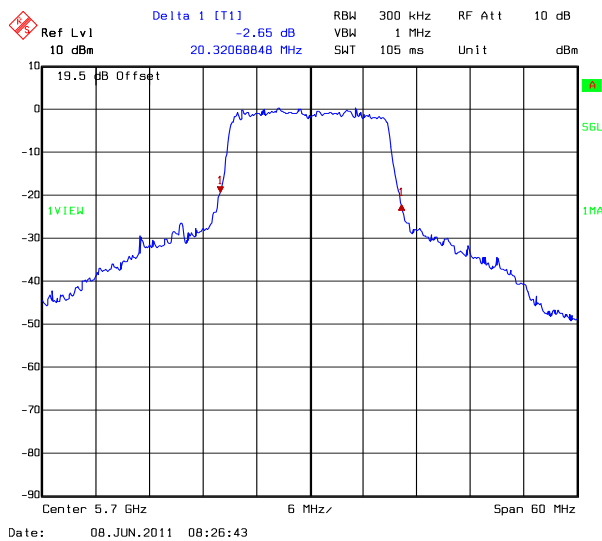
99pct_Bandwidth_UNII_3_802_11N_13MBS_TopChannel



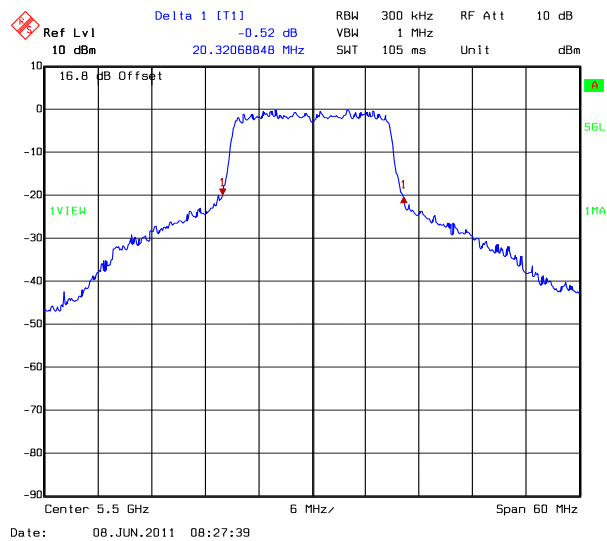
99pct_Bandwidth_UNII_3_802_11N_19_5MBS_BottomChannel



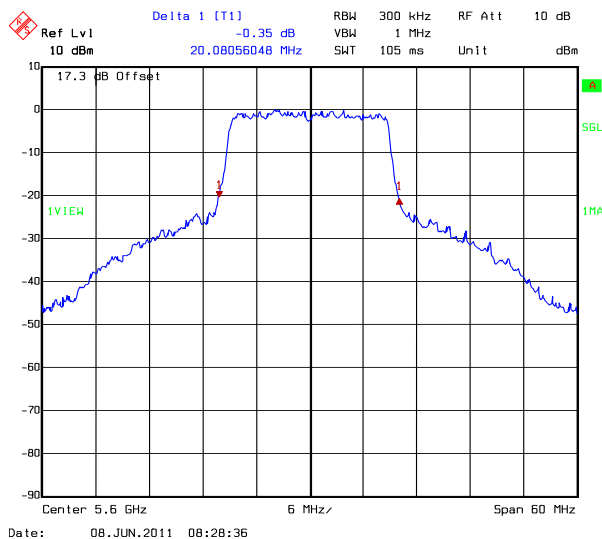
99pct_Bandwidth_UNII_3_802_11N_19_5MBS_MiddleChannel

Transmitter 99% Emission Bandwidth (continued)

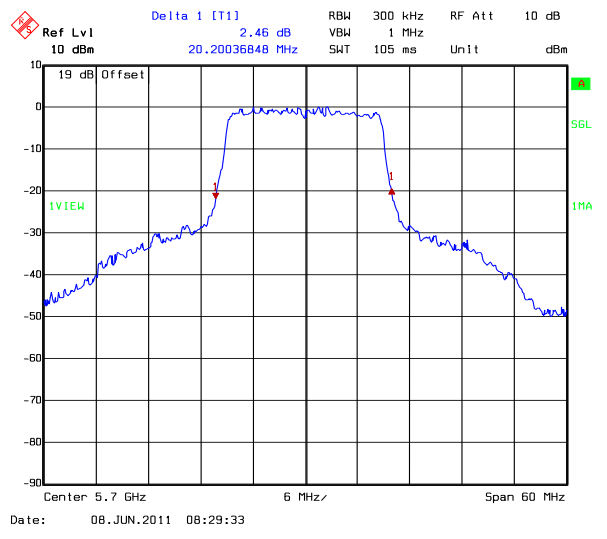
99pct_Bandwidth_UNII_3_802_11N_19_5MBS_TopChannel



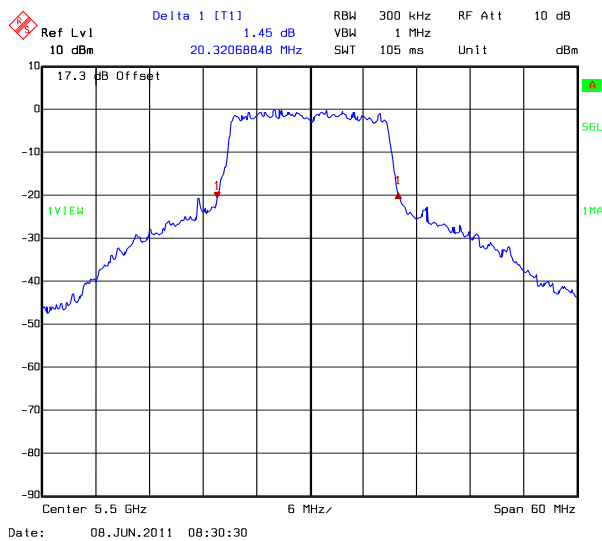
99pct_Bandwidth_UNII_3_802_11N_26MBS_BottomChannel



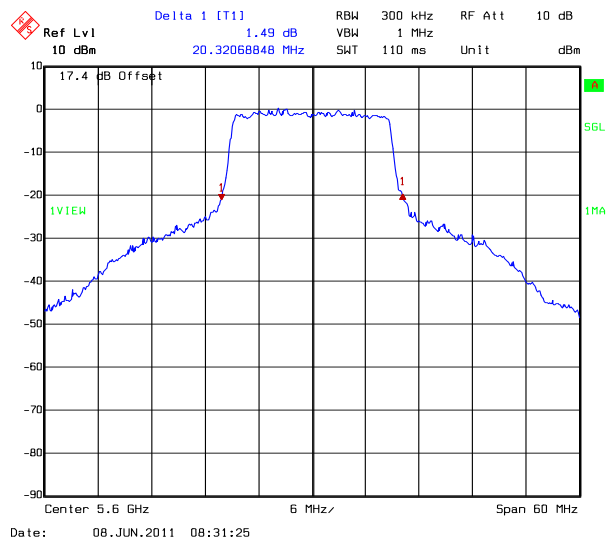
99pct_Bandwidth_UNII_3_802_11N_26MBS_MiddleChannel



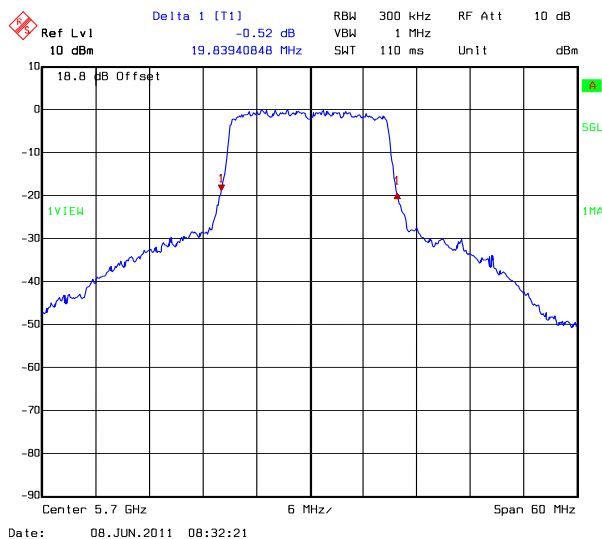
99pct_Bandwidth_UNII_3_802_11N_26MBS_TopChannel

Transmitter 99% Emission Bandwidth (continued)

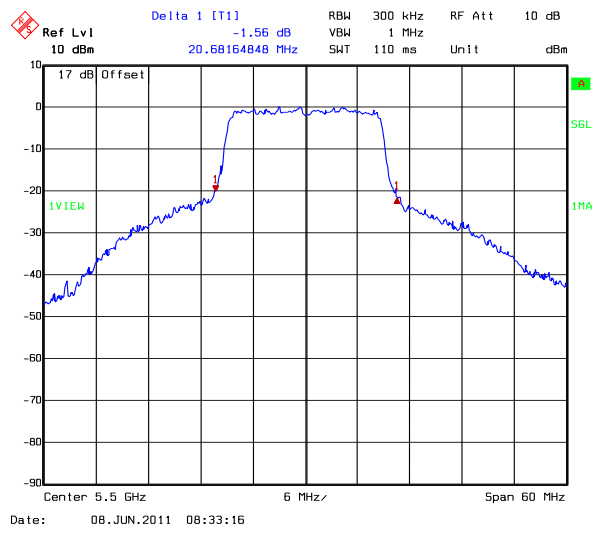
99pct_Bandwidth_UNII_3_802_11N_39MBS_BottomChannel



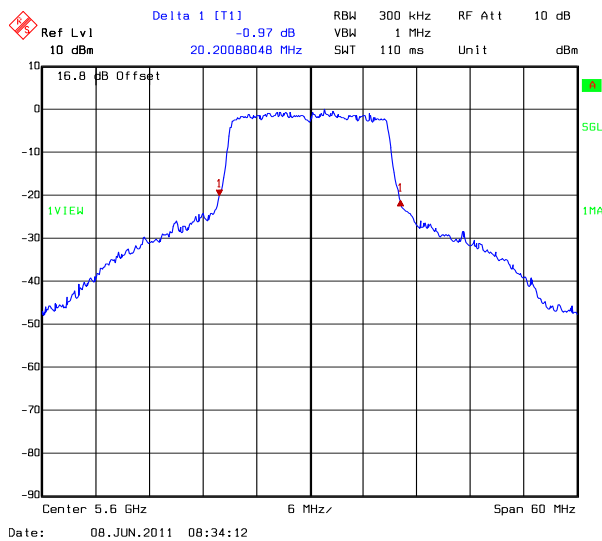
99pct_Bandwidth_UNII_3_802_11N_39MBS_MiddleChannel



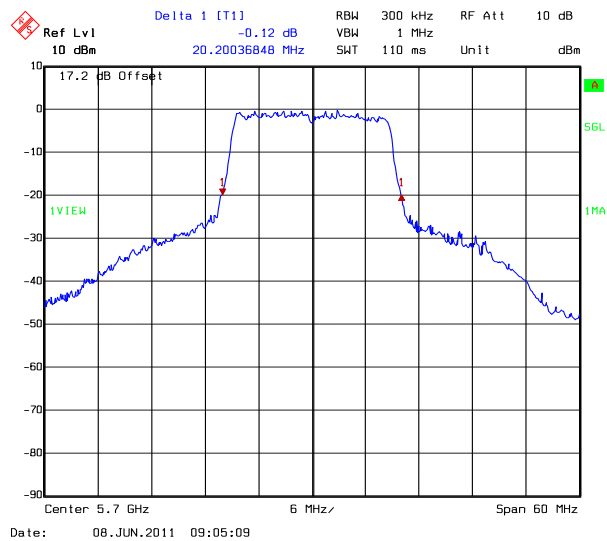
99pct_Bandwidth_UNII_3_802_11N_39MBS_TopChannel



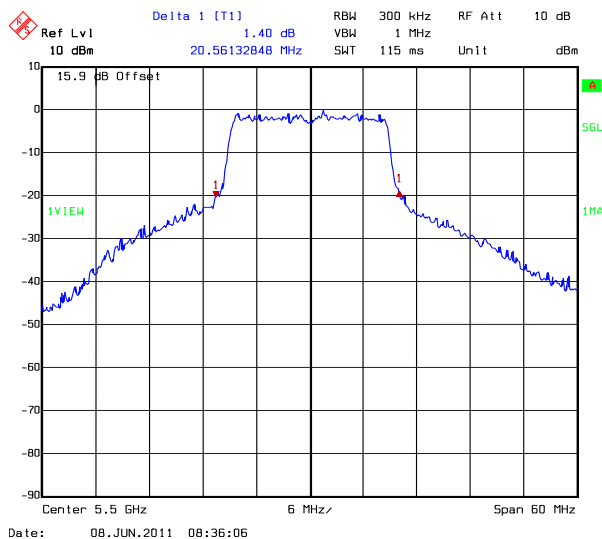
99pct_Bandwidth_UNII_3_802_11N_52MBS_BottomChannel

Transmitter 99% Emission Bandwidth (continued)

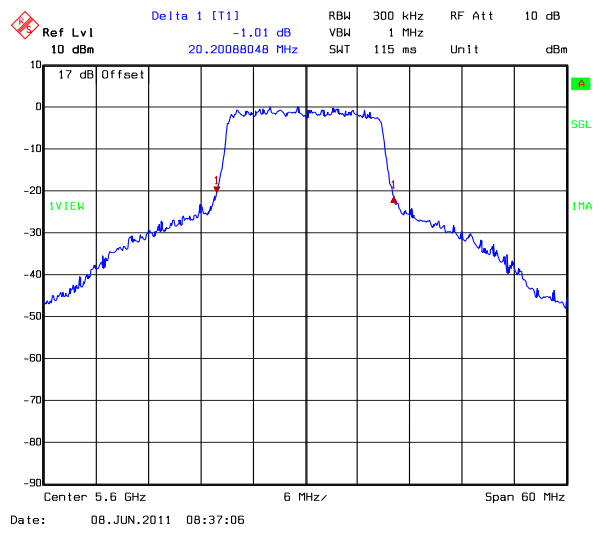
99pct_Bandwidth_UNII_3_802_11N_52MBS_MiddleChannel



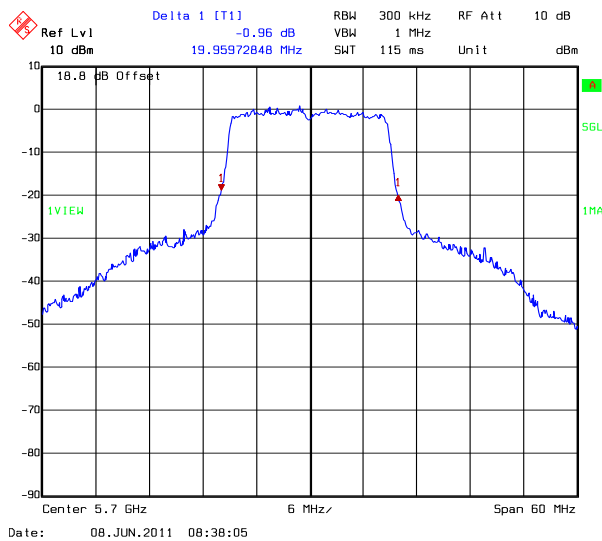
99pct_Bandwidth_UNII_3_802_11N_52MBS_TopChannel



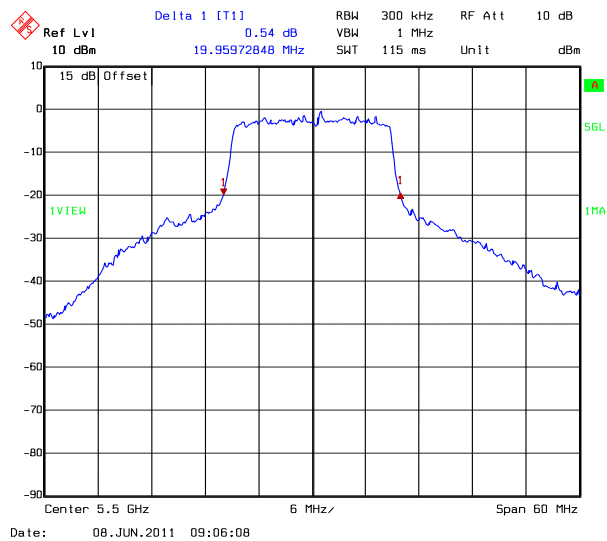
99pct_Bandwidth_UNII_3_802_11N_58_5MBS_BottomChannel



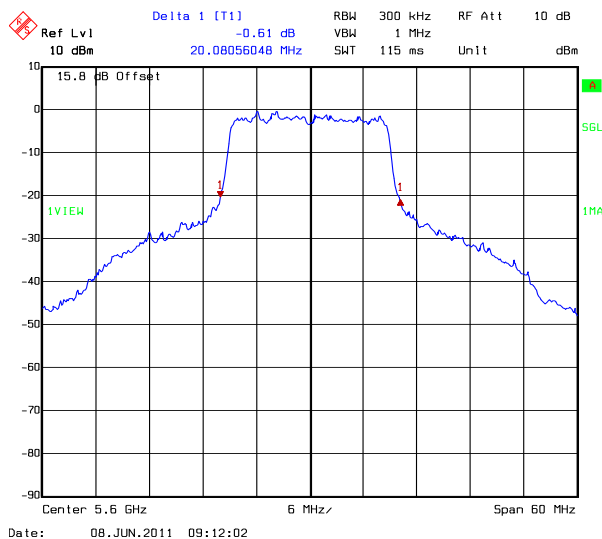
99pct_Bandwidth_UNII_3_802_11N_58_5MBS_MiddleChannel

Transmitter 99% Emission Bandwidth (continued)

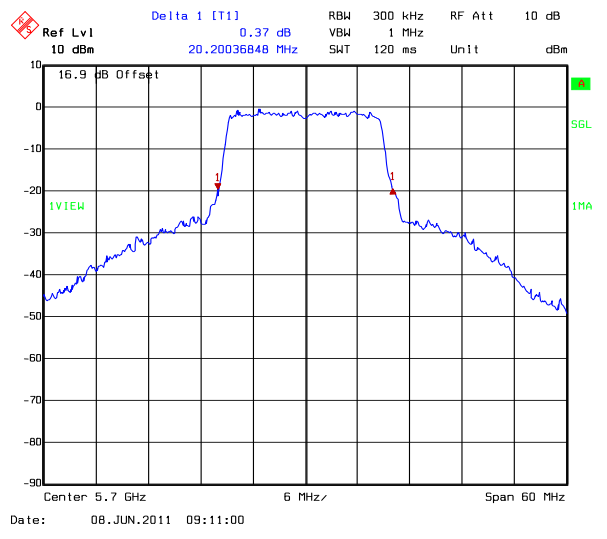
99pct_Bandwidth_UNII_3_802_11N_58_5MBS_TopChannel



99pct_Bandwidth_UNII_3_802_11N_65MBS_BottomChannel



99pct_Bandwidth_UNII_3_802_11N_65MBS_MiddleChannel



99pct_Bandwidth_UNII_3_802_11N_65MBS_TopChannel

5.2.6. Conducted Maximum Peak Output Power**Test Summary:**

Test Engineer:	Crawford Lindsay	Test Date:	21 October 2011
Test Sample Serial No:	Id3		

FCC Reference:	FCC 15.407(a)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.3.1 Method 1

Environmental Conditions:

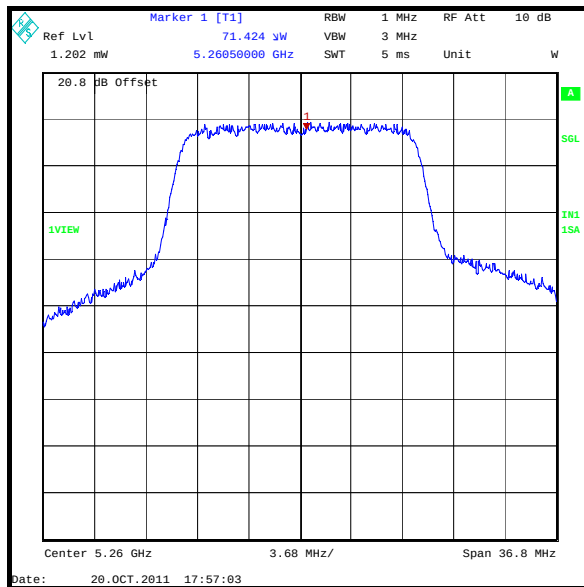
Temperature (°C):	25
Relative Humidity (%):	26

Notes:

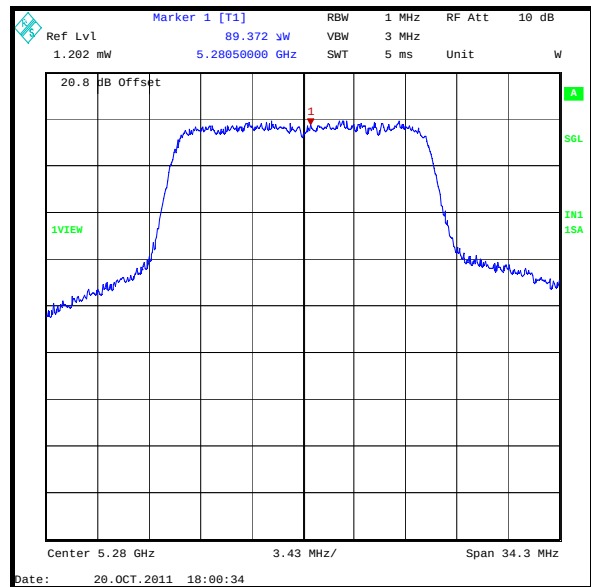
- The limit was the lesser of 24 dBm or $11 \text{ dBm} + 10 \times \text{Log (B)}$ where B is the emission bandwidth measured above.
The smallest emissions bandwidth recorded was 21.9dBm, which results in limit of 24.4dBm, 0.4dBm greater than the maximum 24dBm allowed. 24dBm has therefore been selected as the limit.
- The gain of the proposed antenna is 3 dBi.

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.260 to 5.320 GHz**

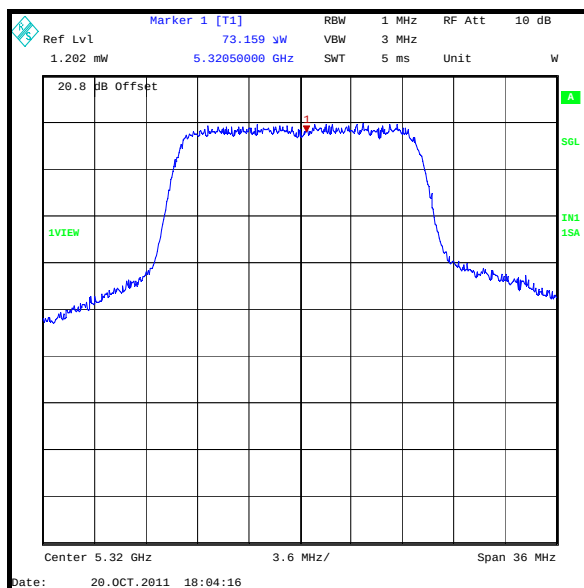
Channel	Frequency (MHz)	Modulation Scheme	Data Rate (Mbps)	Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5260	BPSK	6	6.4	24	17.6	Complied
Middle	5280	BPSK	6	6.3	24	17.7	Complied
Top	5320	BPSK	6	6.9	24	17.1	Complied
Bottom	5260	BPSK	9	5.2	24	18.8	Complied
Middle	5280	BPSK	9	5.8	24	18.2	Complied
Top	5320	BPSK	9	6.8	24	17.2	Complied
Bottom	5260	QPSK	12	5.3	24	18.7	Complied
Middle	5280	QPSK	12	6.1	24	17.9	Complied
Top	5320	QPSK	12	6.8	24	17.2	Complied
Bottom	5260	QPSK	18	5.4	24	18.6	Complied
Middle	5280	QPSK	18	7.2	24	16.8	Complied
Top	5320	QPSK	18	7.7	24	16.3	Complied
Bottom	5260	16QAM	24	5.6	24	18.4	Complied
Middle	5280	16QAM	24	5.9	24	18.1	Complied
Top	5320	16QAM	24	6.8	24	17.2	Complied
Bottom	5260	16QAM	36	5.3	24	18.7	Complied
Middle	5280	16QAM	36	5.8	24	18.2	Complied
Top	5320	16QAM	36	6.8	24	17.2	Complied
Bottom	5260	64QAM	48	5.3	24	18.7	Complied
Middle	5280	64QAM	48	6.0	24	18.0	Complied
Top	5320	64QAM	48	7.1	24	16.9	Complied
Bottom	5260	64QAM	54	5.6	24	18.4	Complied
Middle	5280	64QAM	54	6.1	24	17.9	Complied
Top	5320	64QAM	54	7.1	24	16.9	Complied

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.260 to 5.320 GHz**

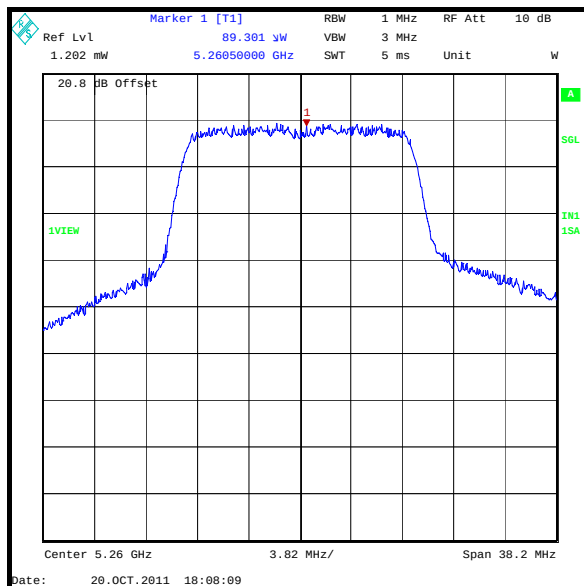
Channel Power UNII 2 802.11a 6 Mbps Bottom Channel



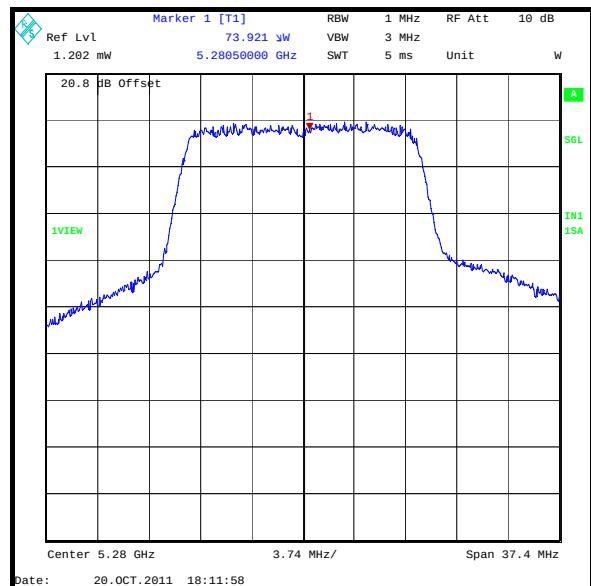
Channel Power UNII 2 802.11a 6 Mbps Middle Channel



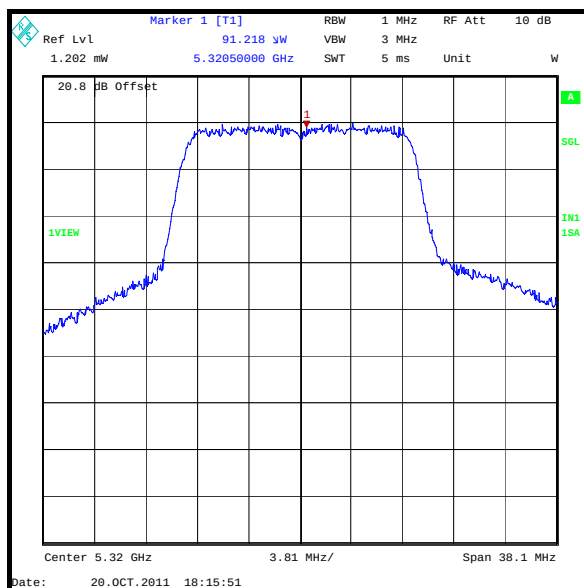
Channel Power UNII 2 802.11a 6 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.260 to 5.320 GHz**

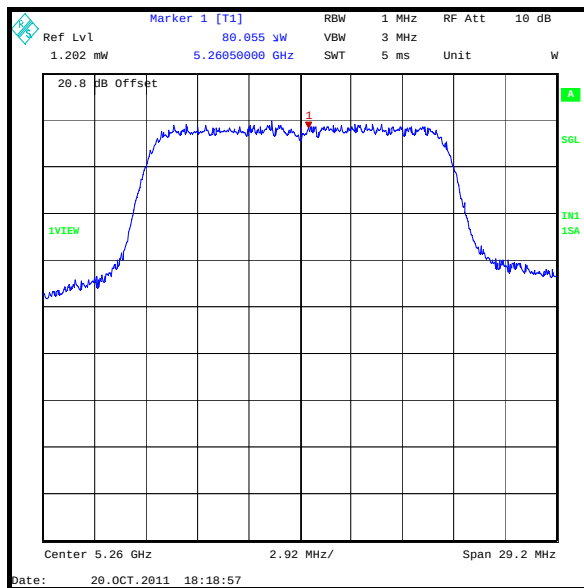
Channel Power UNII 2 802.11a 9 Mbps Bottom Channel



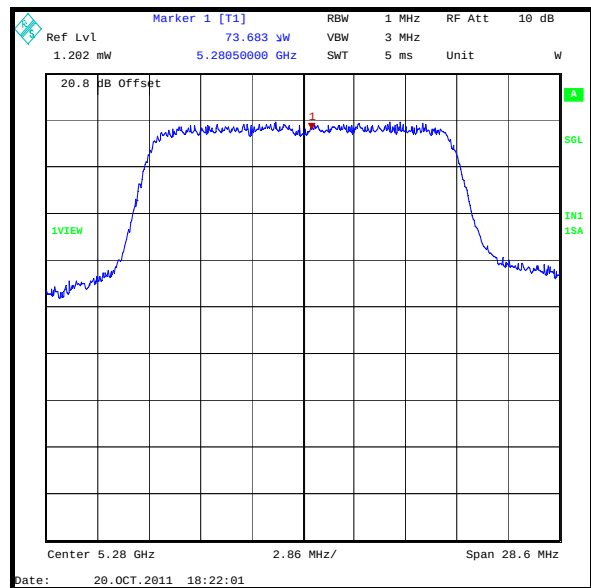
Channel Power UNII 2 802.11a 9 Mbps Middle Channel



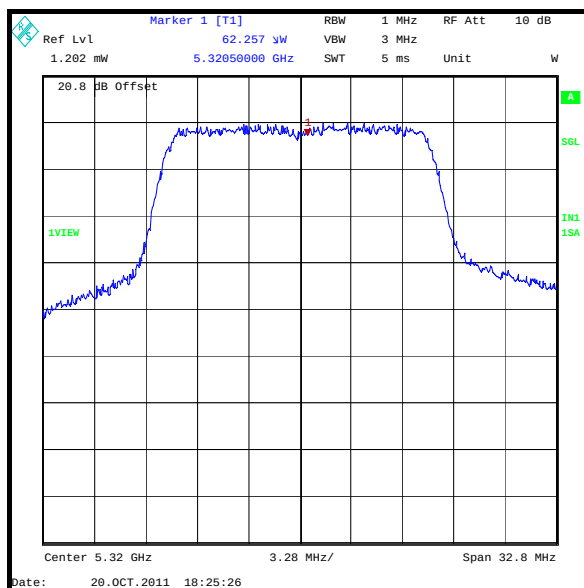
Channel Power UNII 2 802.11a 9 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.260 to 5.320 GHz**

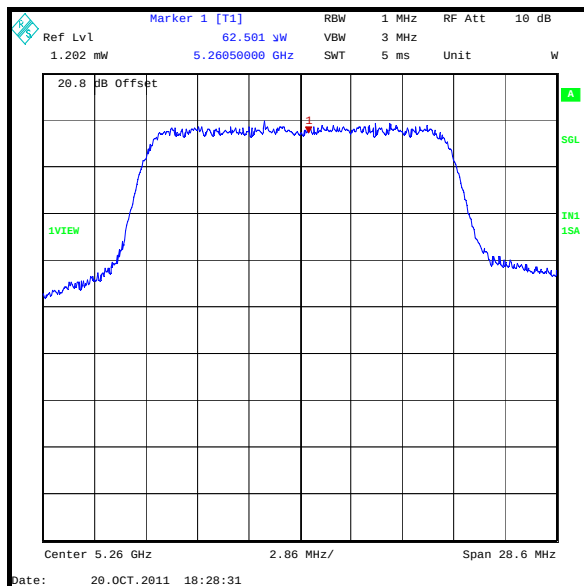
Channel Power UNII 2 802.11a 12 Mbps Bottom Channel



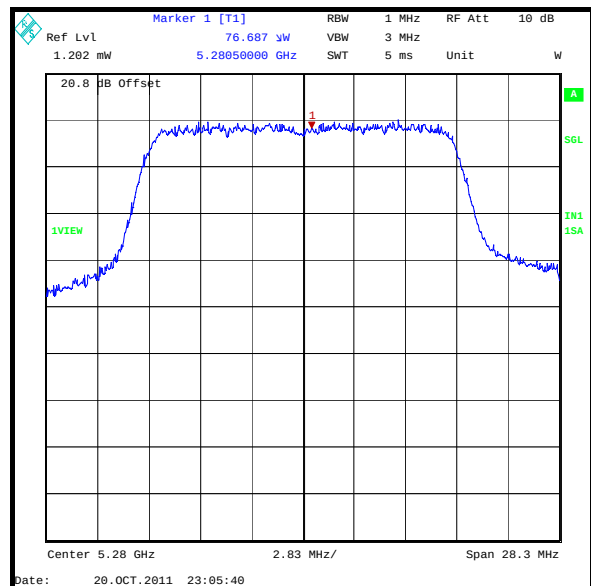
Channel Power UNII 2 802.11a 12 Mbps Middle Channel



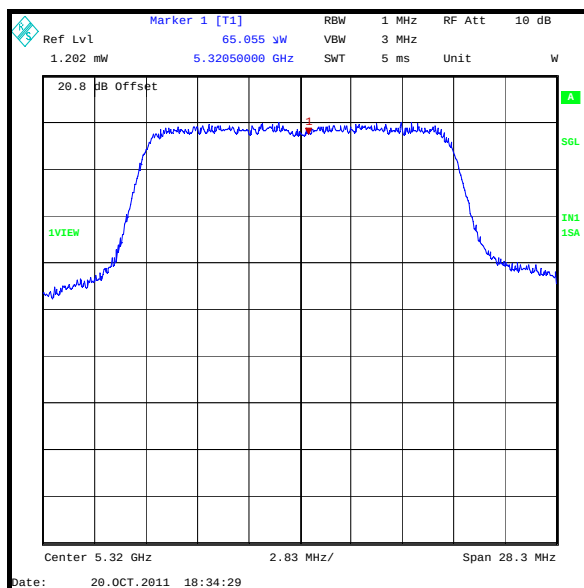
Channel Power UNII 2 802.11a 12 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.260 to 5.320 GHz**

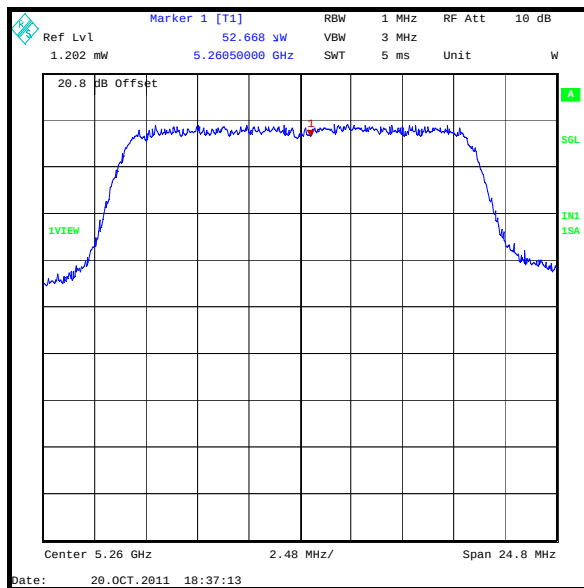
Channel Power UNII 2 802.11a 18 Mbps Bottom Channel



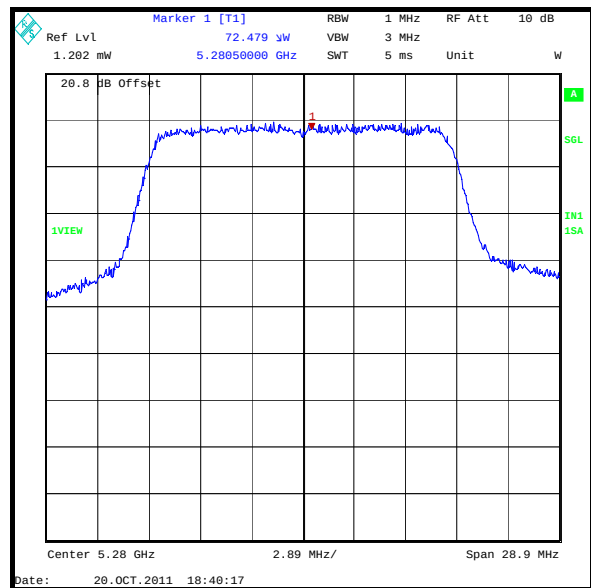
Channel Power UNII 2 802.11a 18 Mbps Middle Channel



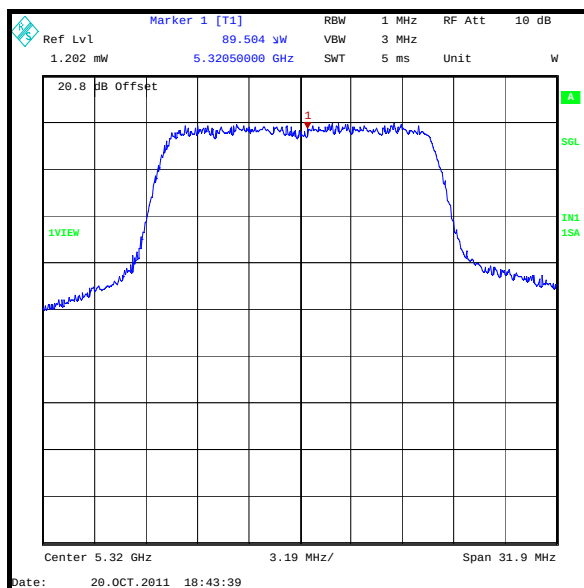
Channel Power UNII 2 802.11a 18 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.260 to 5.320 GHz**

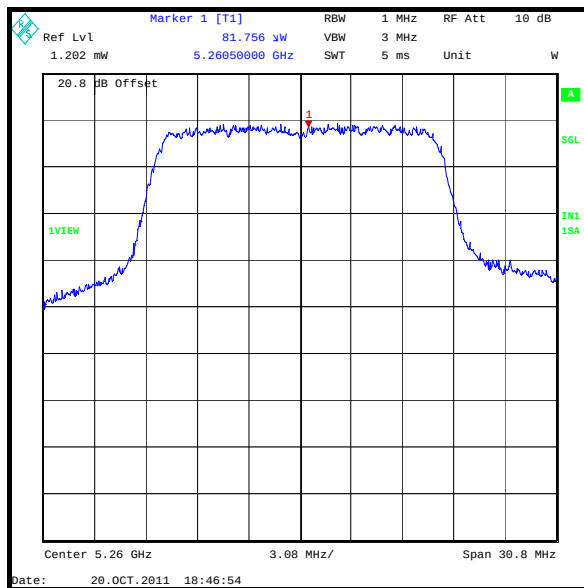
Channel Power UNII 2 802.11a 24 Mbps Bottom Channel



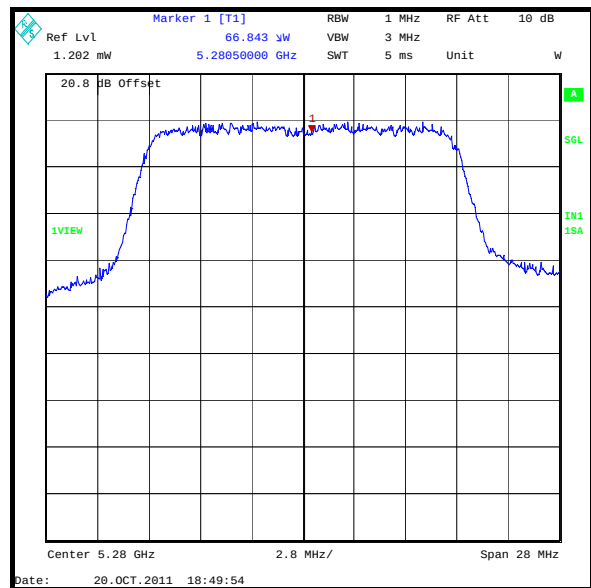
Channel Power UNII 2 802.11a 24 Mbps Middle Channel



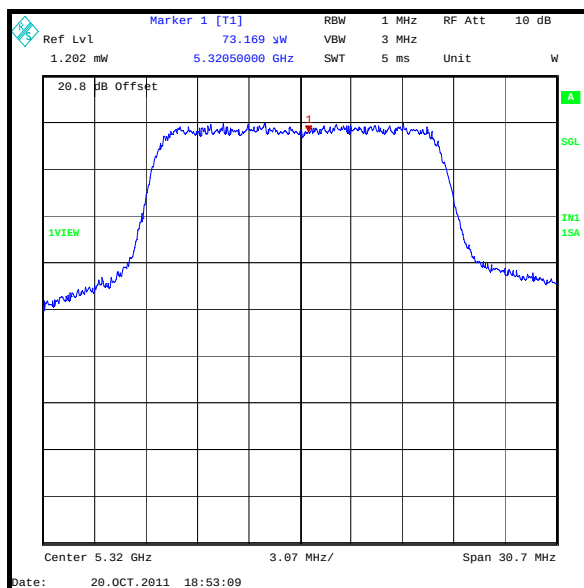
Channel Power UNII 2 802.11a 24 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.260 to 5.320 GHz**

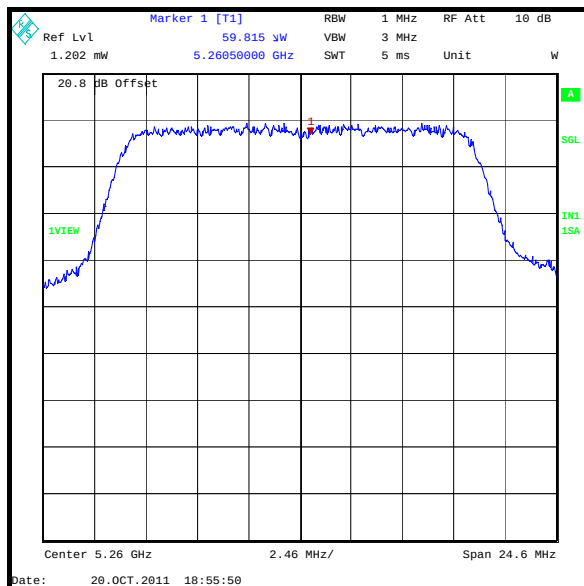
Channel Power UNII 2 802.11a 36 Mbps Bottom Channel



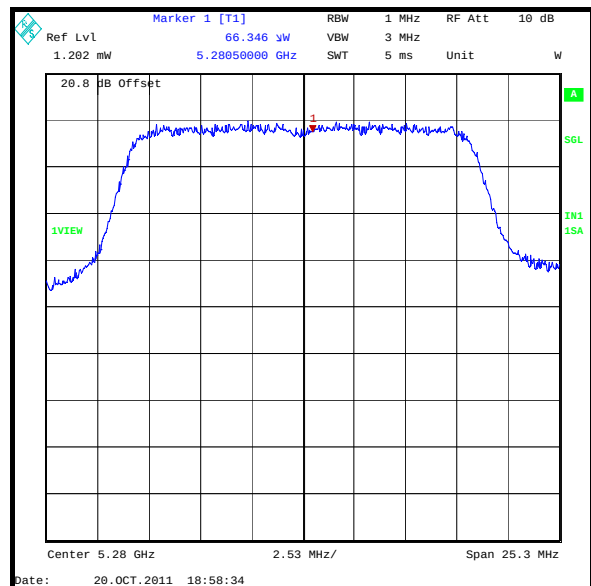
Channel Power UNII 2 802.11a 36 Mbps Middle Channel



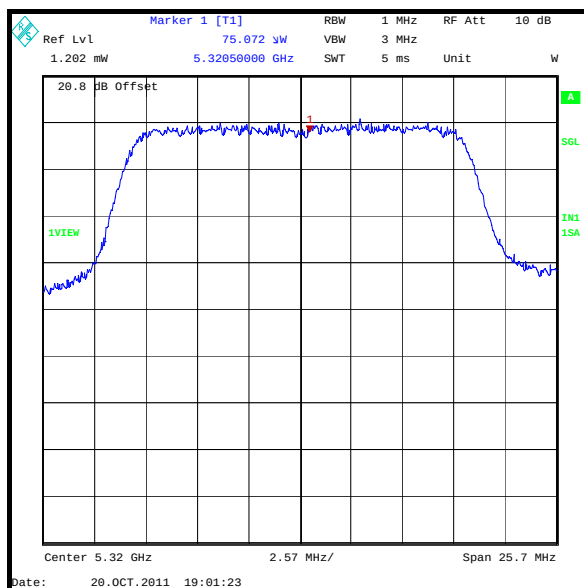
Channel Power UNII 2 802.11a 36 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.260 to 5.320 GHz**

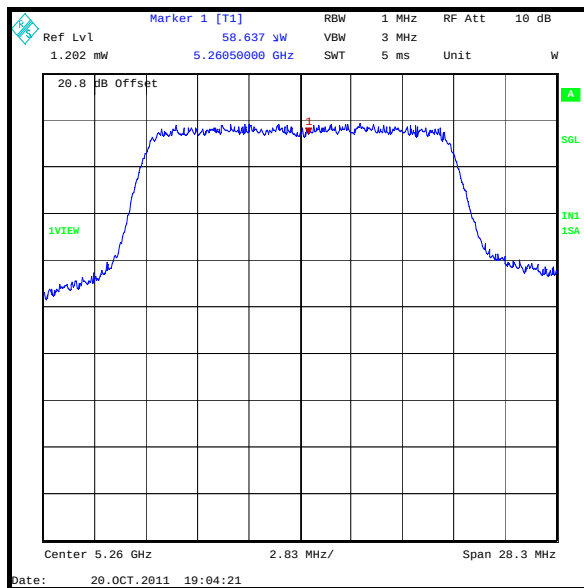
Channel Power UNII 2 802.11a 48 Mbps Bottom Channel



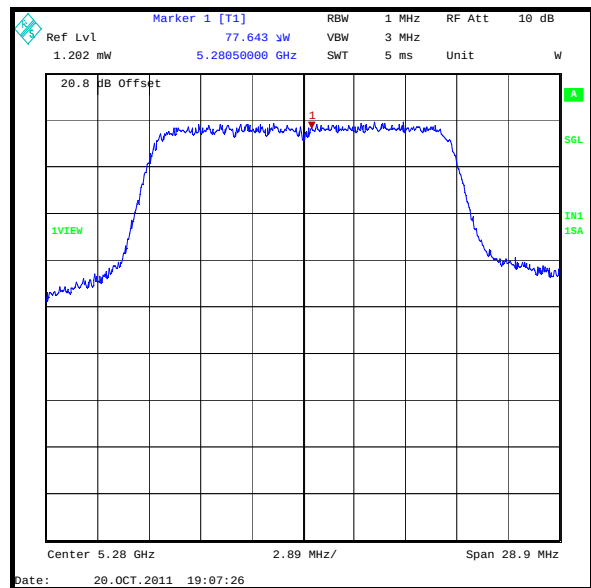
Channel Power UNII 2 802.11a 48 Mbps Middle Channel



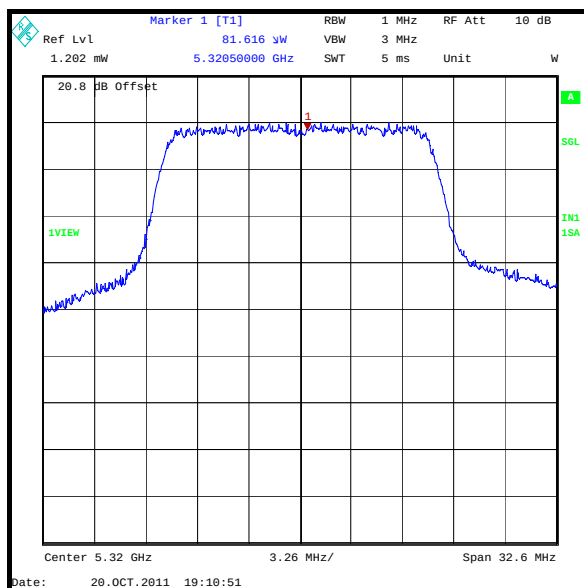
Channel Power UNII 2 802.11a 48 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.260 to 5.320 GHz**

Channel Power UNII 2 802.11a 54 Mbps Bottom Channel



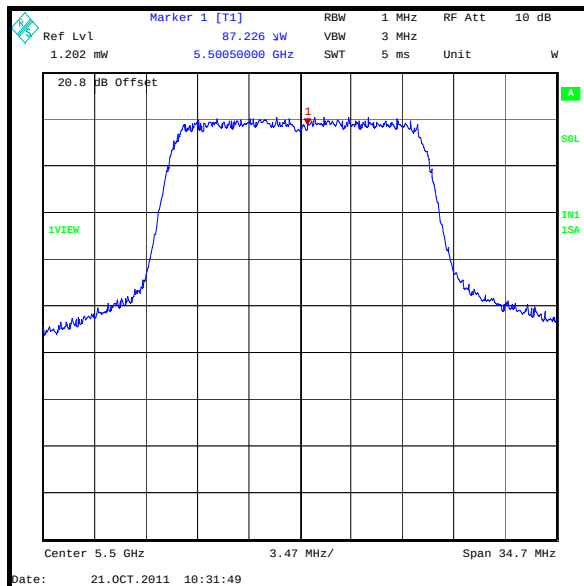
Channel Power UNII 2 802.11a 54 Mbps Middle Channel



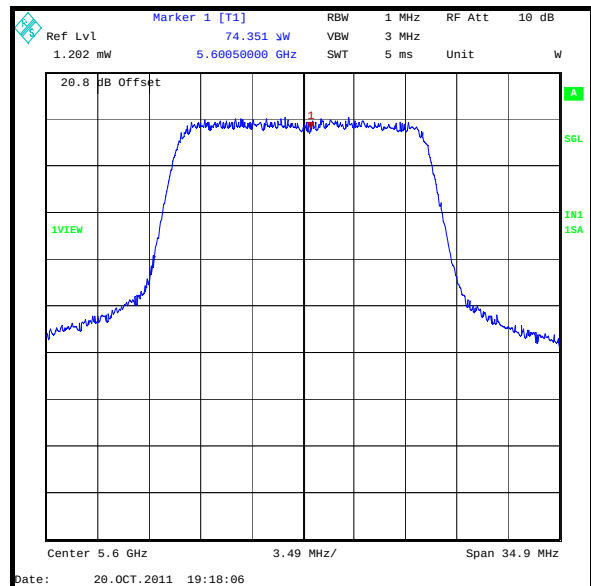
Channel Power UNII 2 802.11a 54 Mbps Top Channel

Transmitter Maximum Output Power (continued)**Results - 802.11a 5.500 to 5.700 GHz**

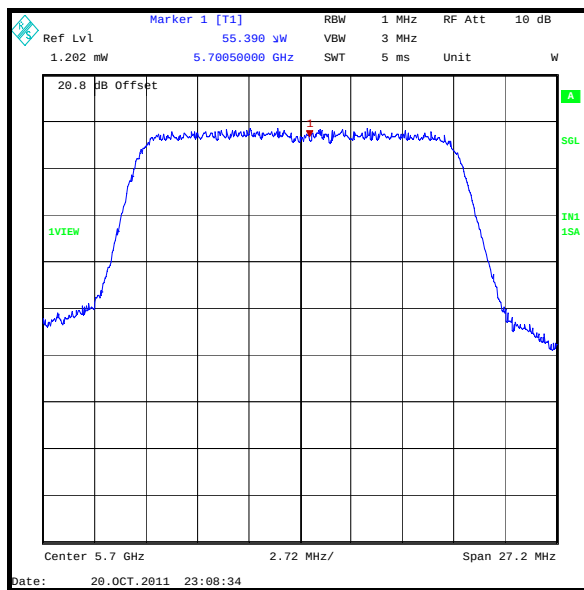
Channel	Frequency (MHz)	Modulation Scheme	Data Rate (Mbps)	Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5500	BPSK	6	8.7	24	15.3	Complied
Middle	5600	BPSK	6	7.6	24	16.4	Complied
Top	5700	BPSK	6	3.9	24	20.1	Complied
Bottom	5500	BPSK	9	9.2	24	14.8	Complied
Middle	5600	BPSK	9	7.5	24	16.5	Complied
Top	5700	BPSK	9	4.1	24	19.9	Complied
Bottom	5500	QPSK	12	8.7	24	15.3	Complied
Middle	5600	QPSK	12	7.5	24	16.5	Complied
Top	5700	QPSK	12	3.8	24	20.2	Complied
Bottom	5500	QPSK	18	8.4	24	15.6	Complied
Middle	5600	QPSK	18	7.2	24	16.8	Complied
Top	5700	QPSK	18	3.5	24	20.5	Complied
Bottom	5500	16QAM	24	7.9	24	16.1	Complied
Middle	5600	16QAM	24	7.0	24	17.0	Complied
Top	5700	16QAM	24	3.2	24	20.8	Complied
Bottom	5500	16QAM	36	8.1	24	15.9	Complied
Middle	5600	16QAM	36	6.9	24	17.1	Complied
Top	5700	16QAM	36	3.1	24	20.9	Complied
Bottom	5500	64QAM	48	7.6	24	16.4	Complied
Middle	5600	64QAM	48	6.7	24	17.3	Complied
Top	5700	64QAM	48	3.9	24	20.1	Complied
Bottom	5500	64QAM	54	8.7	24	15.3	Complied
Middle	5600	64QAM	54	7.0	24	17.0	Complied
Top	5700	64QAM	54	3.5	24	20.5	Complied

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.500 to 5.700 GHz**

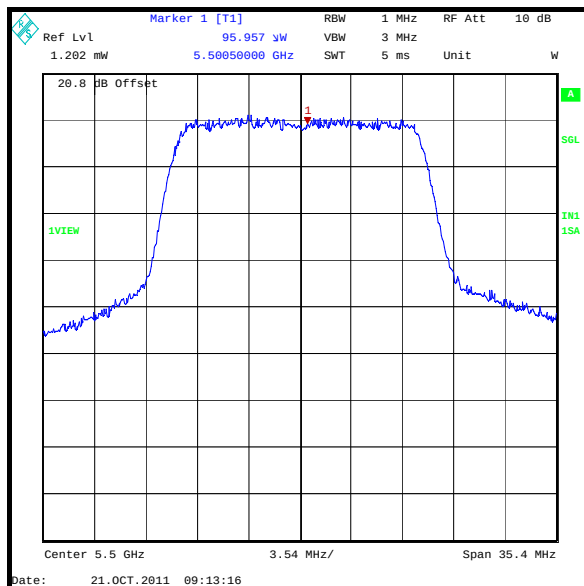
Channel Power UNII 3 802.11a 6 Mbps Bottom Channel



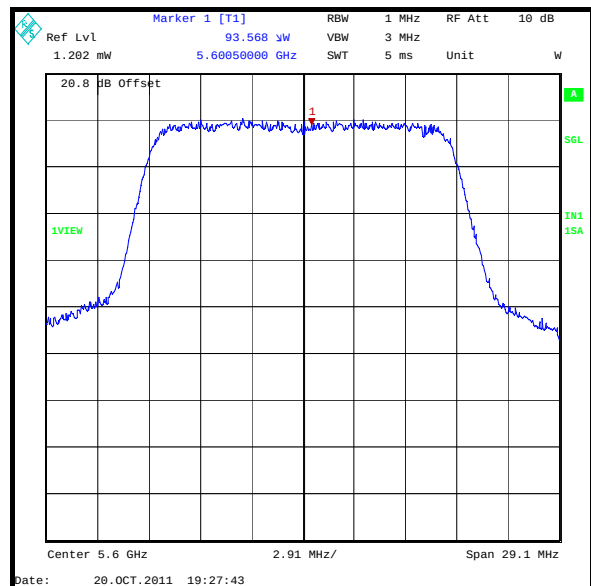
Channel Power UNII 3 802.11a 6 Mbps Middle Channel



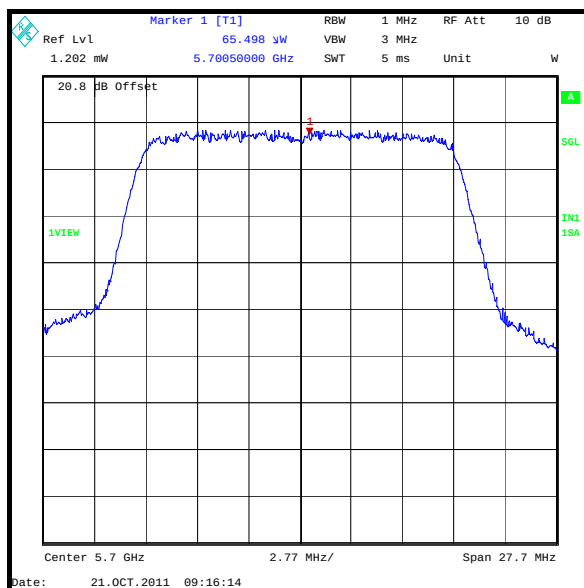
Channel Power UNII 3 802.11a 6 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.500 to 5.700 GHz**

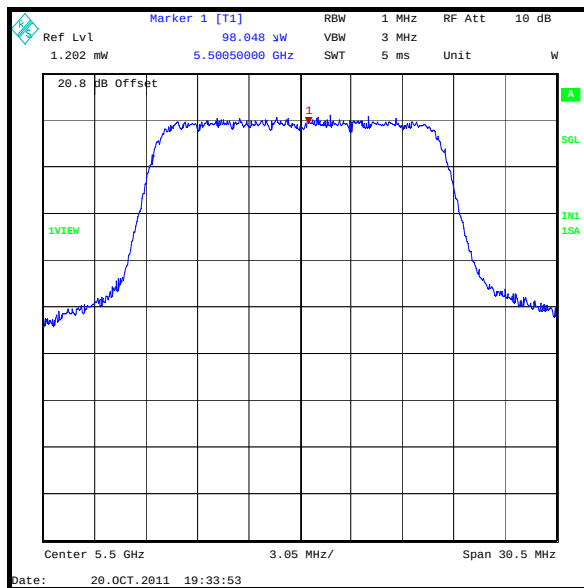
Channel Power UNII 3 802.11a 9 Mbps Bottom Channel



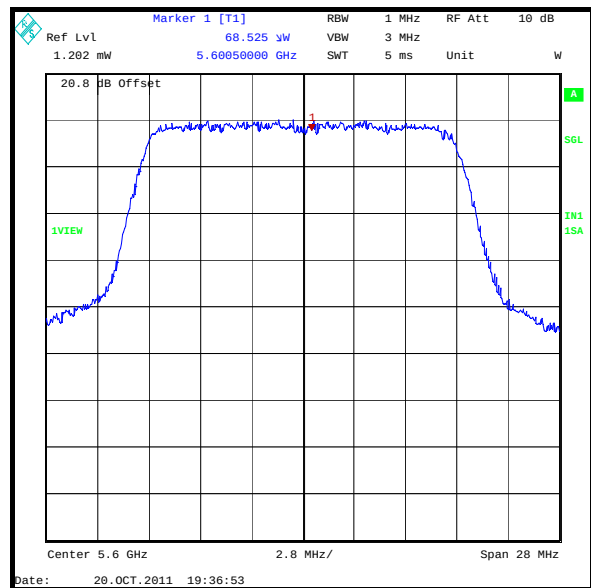
Channel Power UNII 3 802.11a 9 Mbps Middle Channel



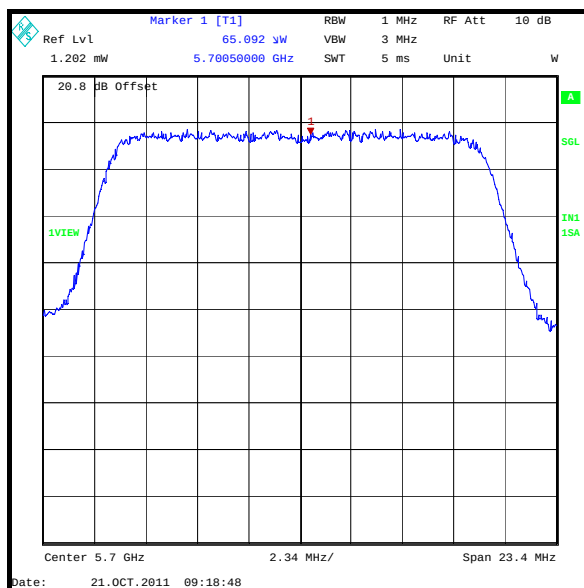
Channel Power UNII 3 802.11a 9 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.500 to 5.700 GHz**

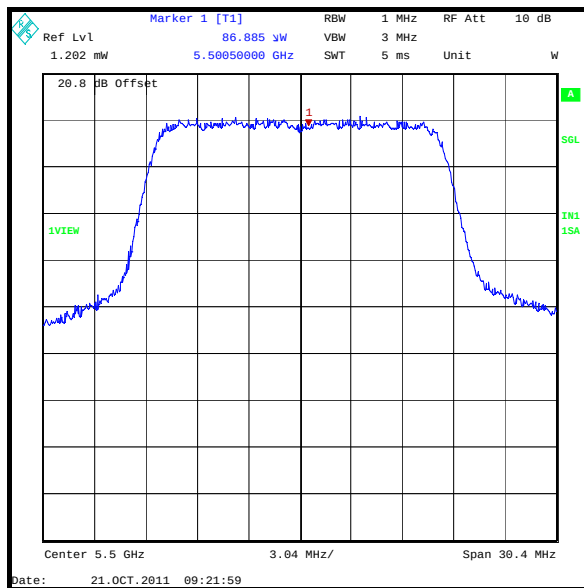
Channel Power UNII 3 802.11a 12 Mbps Bottom Channel



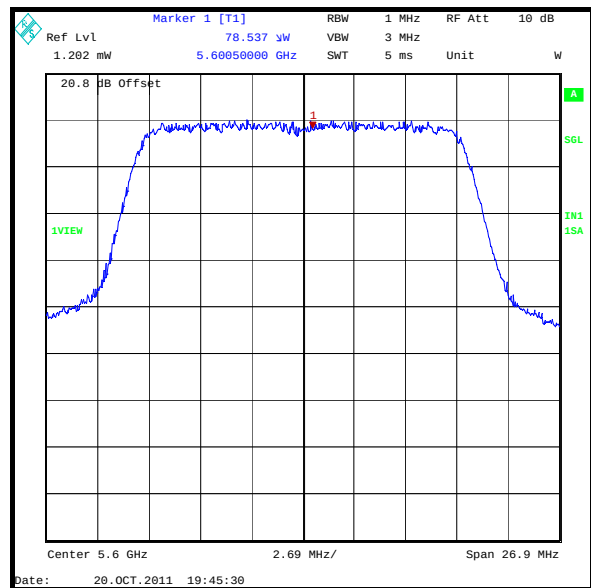
Channel Power UNII 3 802.11a 12 Mbps Middle Channel



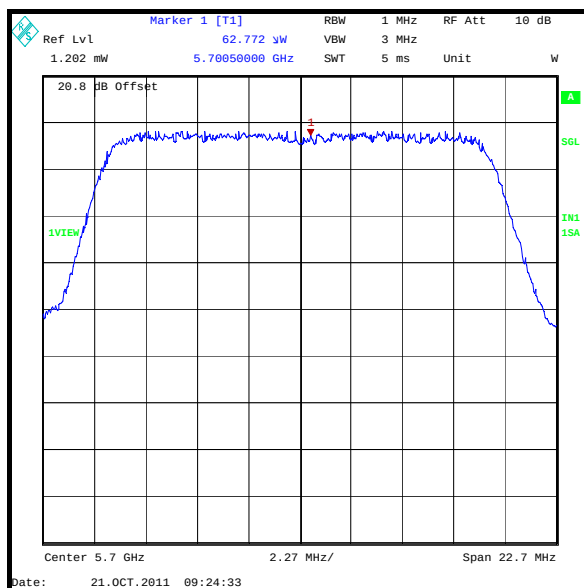
Channel Power UNII 3 802.11a 12 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.500 to 5.700 GHz**

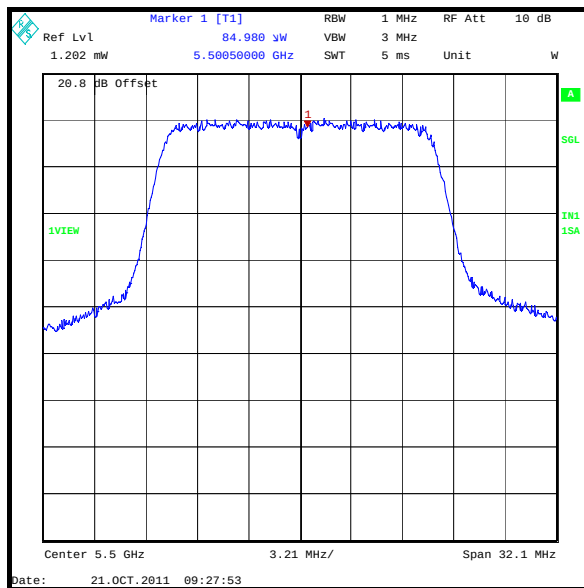
Channel Power UNII 3 802.11a 18 Mbps Bottom Channel



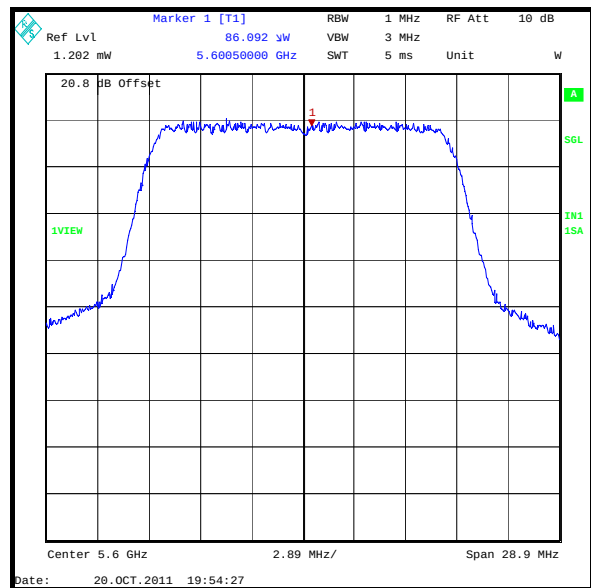
Channel Power UNII 3 802.11a 18 Mbps Middle Channel



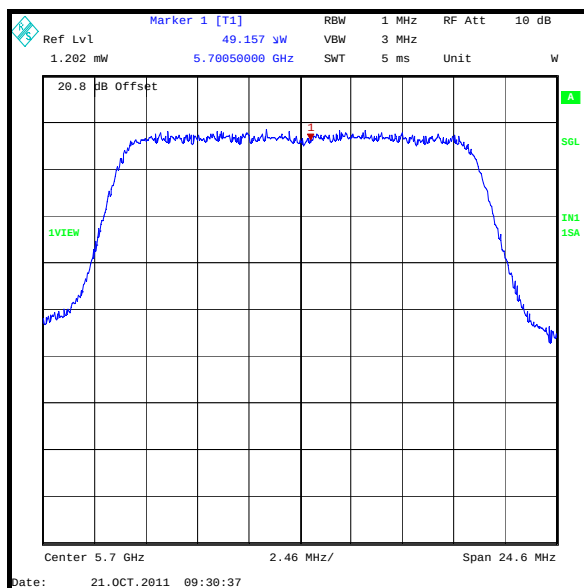
Channel Power UNII 3 802.11a 18 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.500 to 5.700 GHz**

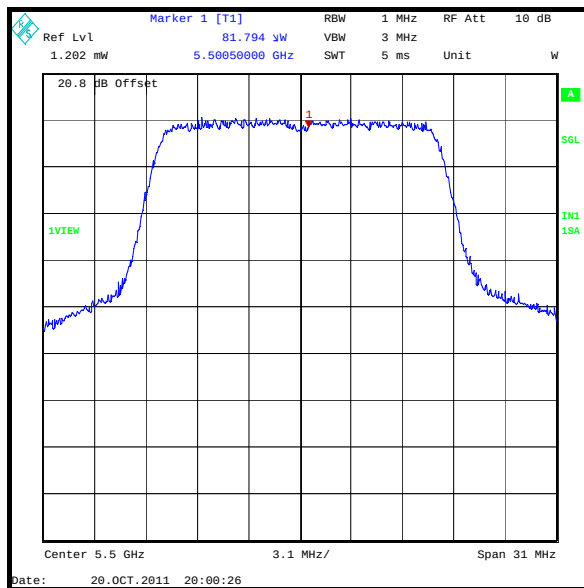
Channel Power UNII 3 802.11a 24 Mbps Bottom Channel



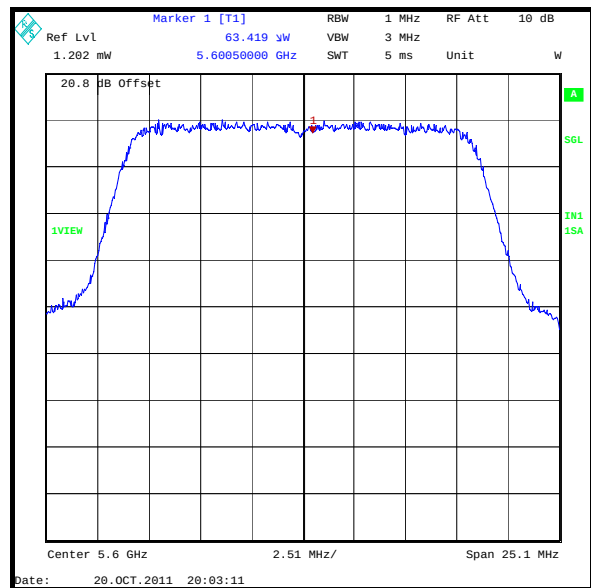
Channel Power UNII 3 802.11a 24 Mbps Middle Channel



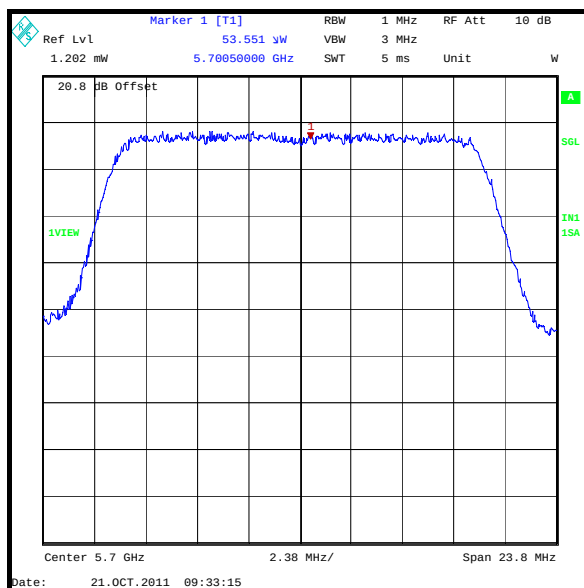
Channel Power UNII 3 802.11a 24 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.500 to 5.700 GHz**

Channel Power UNII 3 802.11a 36 Mbps Bottom Channel



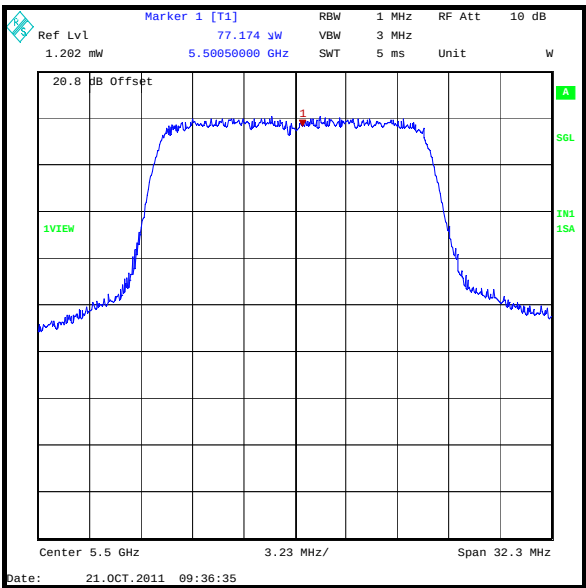
Channel Power UNII 3 802.11a 36 Mbps Middle Channel



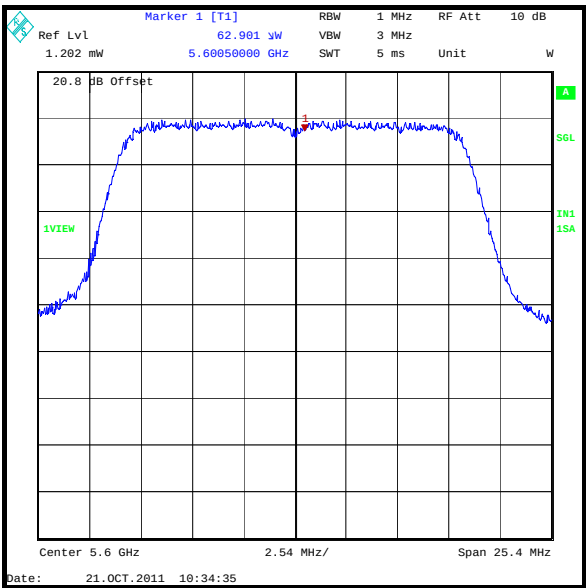
Channel Power UNII 3 802.11a 36 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)

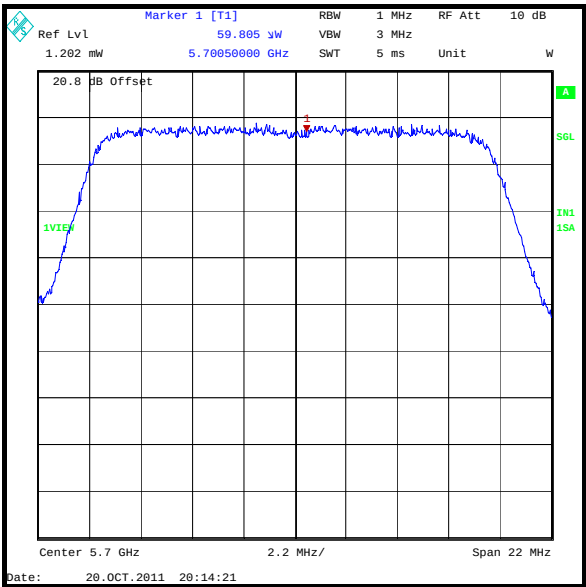
Results - 802.11a 5.500 to 5.700 GHz



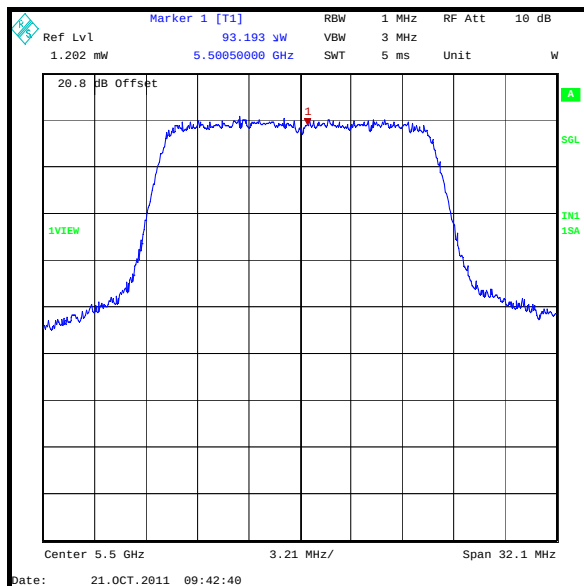
Channel Power UNII 3 802.11a 48 Mbps Bottom Channel



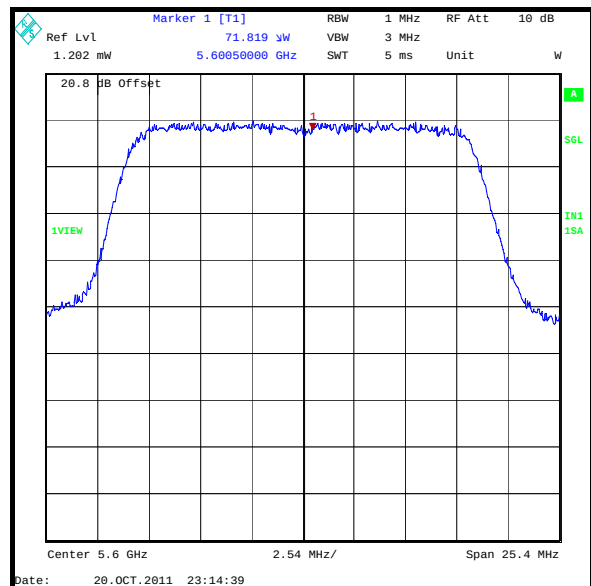
Channel Power UNII 3 802.11a 48 Mbps Middle Channel



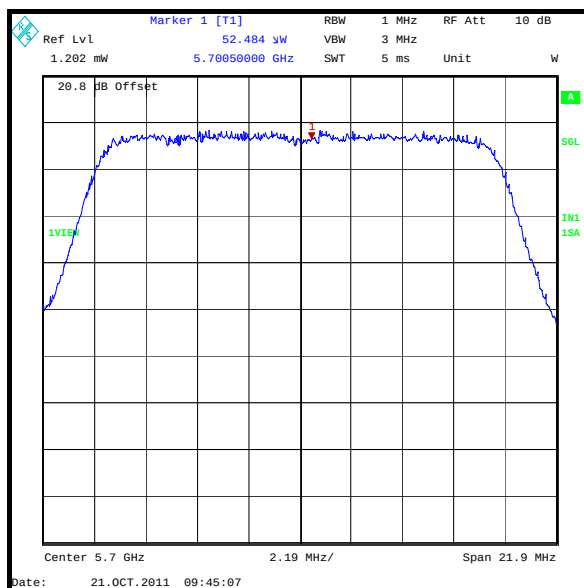
Channel Power UNII 3 802.11a 48 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11a 5.500 to 5.700 GHz**

Channel Power UNII 3 802.11a 54 Mbps Bottom Channel



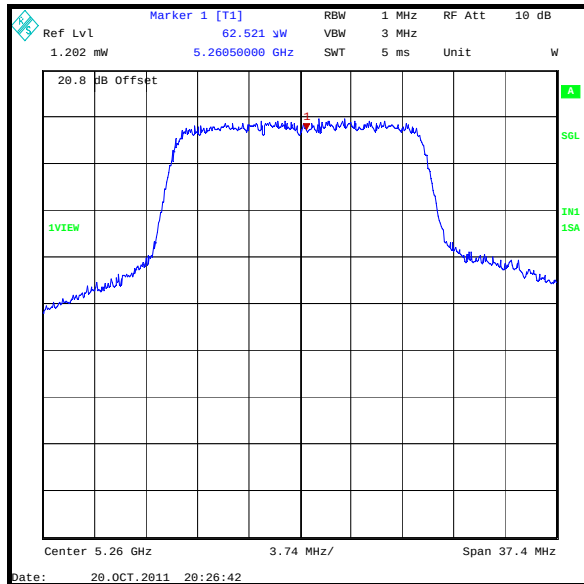
Channel Power UNII 3 802.11a 54 Mbps Middle Channel



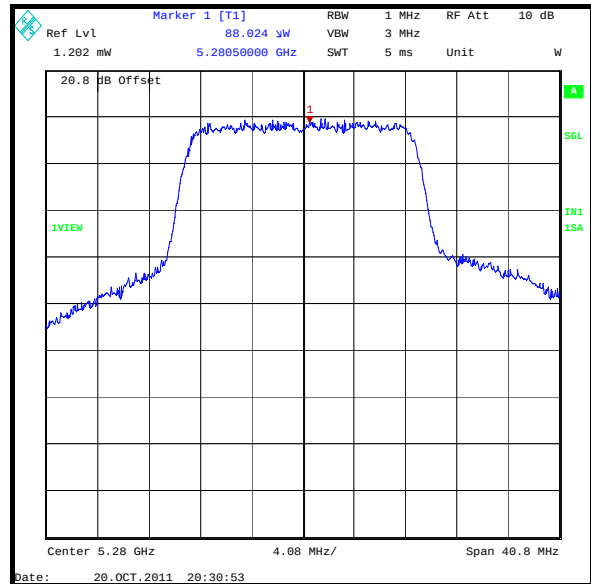
Channel Power UNII 3 802.11a 54 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.260 to 5.320 GHz**

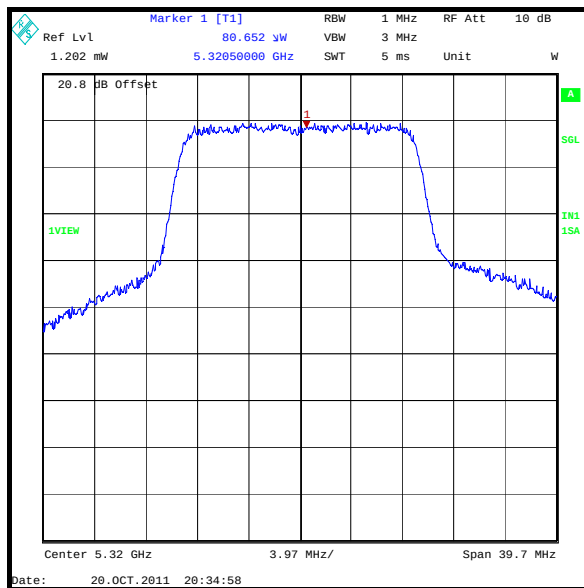
Channel	Frequency (MHz)	Modulation Scheme	Data Rate (Mbps)	Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5260	BPSK	6.5	7.2	24	16.8	Complied
Middle	5280	BPSK	6.5	6.8	24	17.2	Complied
Top	5320	BPSK	6.5	7.5	24	16.5	Complied
Bottom	5260	QPSK	13	5.9	24	18.1	Complied
Middle	5280	QPSK	13	6.5	24	17.5	Complied
Top	5320	QPSK	13	7.3	24	16.7	Complied
Bottom	5260	QPSK	19.5	5.8	24	18.2	Complied
Middle	5280	QPSK	19.5	6.5	24	17.5	Complied
Top	5320	QPSK	19.5	7.3	24	16.7	Complied
Bottom	5260	16QAM	26	5.8	24	18.2	Complied
Middle	5280	16QAM	26	6.2	24	17.8	Complied
Top	5320	16QAM	26	8.0	24	16.0	Complied
Bottom	5260	16QAM	39	5.8	24	18.2	Complied
Middle	5280	16QAM	39	6.2	24	17.8	Complied
Top	5320	16QAM	39	7.1	24	16.9	Complied
Bottom	5260	64QAM	52	5.7	24	18.3	Complied
Middle	5280	64QAM	52	6.3	24	17.7	Complied
Top	5320	64QAM	52	7.4	24	16.6	Complied
Bottom	5260	64QAM	58.5	5.6	24	18.4	Complied
Middle	5280	64QAM	58.5	6.2	24	17.8	Complied
Top	5320	64QAM	58.5	7.1	24	16.9	Complied
Bottom	5260	64QAM	65	7.5	24	16.5	Complied
Middle	5280	64QAM	65	6.6	24	17.4	Complied
Top	5320	64QAM	65	7.5	24	16.5	Complied

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.260 to 5.320 GHz**

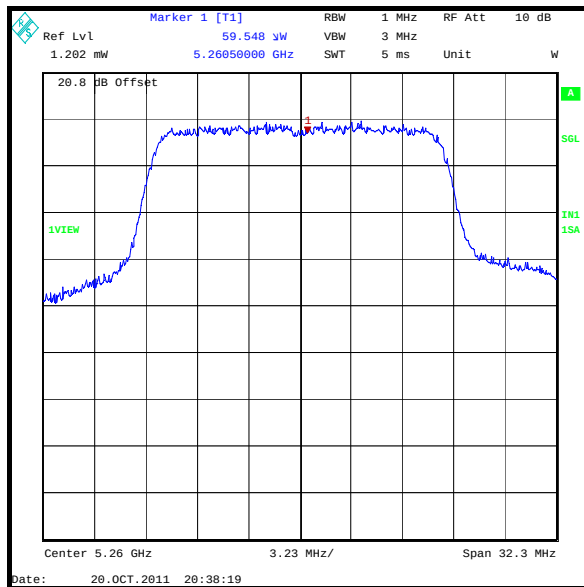
Channel Power UNII 2 802.11n 6.5 Mbps Bottom Channel



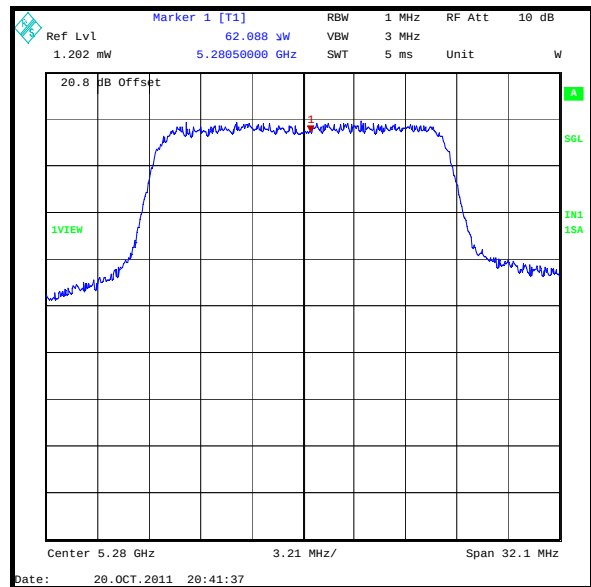
Channel Power UNII 2 802.11n 6.5 Mbps Middle Channel



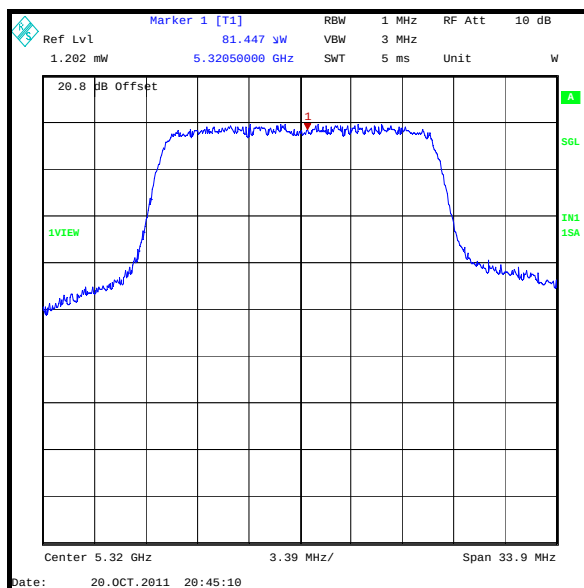
Channel Power UNII 2 802.11n 6.5 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.260 to 5.320 GHz**

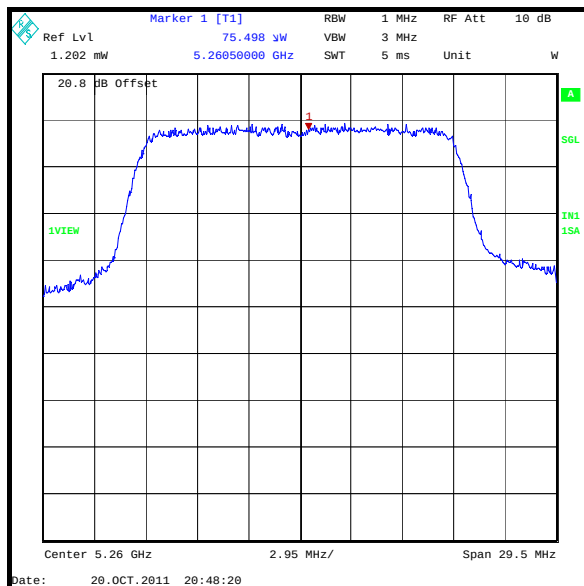
Channel Power UNII 2 802.11n 13 Mbps Bottom Channel



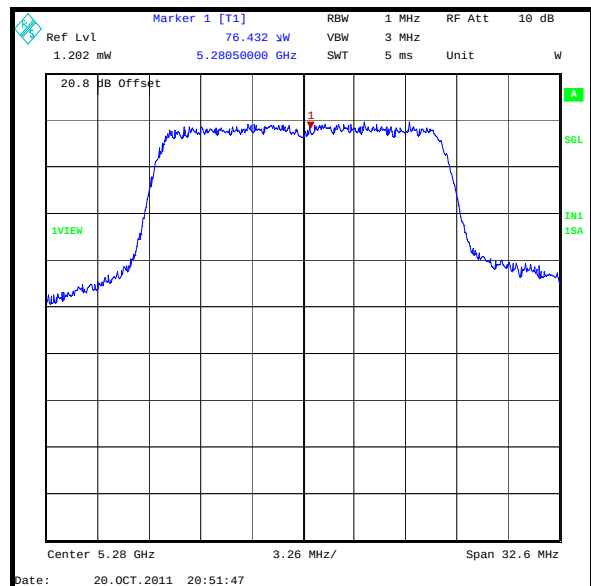
Channel Power UNII 2 802.11n 13 Mbps Middle Channel



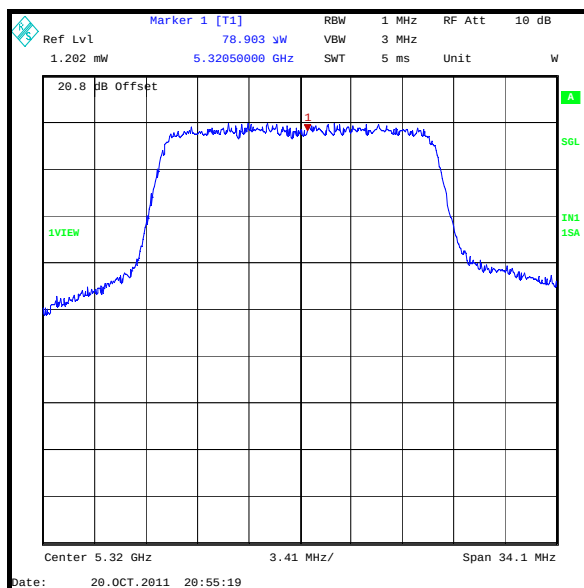
Channel Power UNII 2 802.11n 13 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.260 to 5.320 GHz**

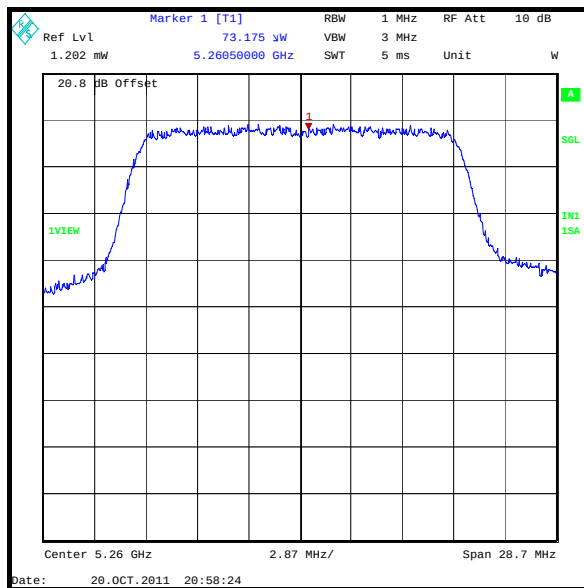
Channel Power UNII 2 802.11n 19.5 Mbps Bottom Channel



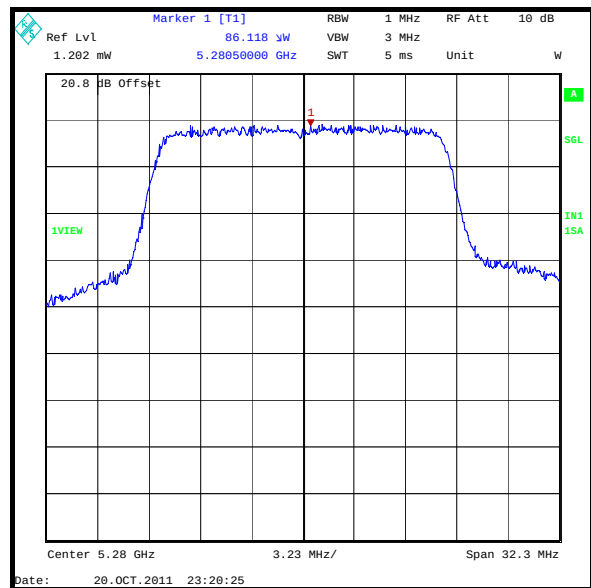
Channel Power UNII 2 802.11n 19.5 Mbps Middle Channel



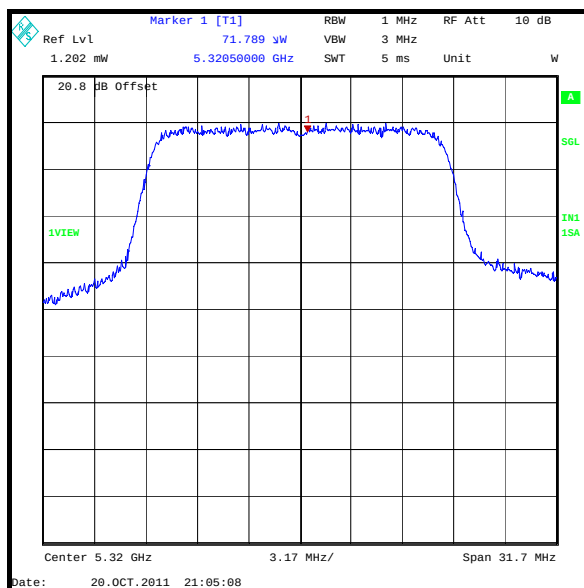
Channel Power UNII 2 802.11n 19.5 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.260 to 5.320 GHz**

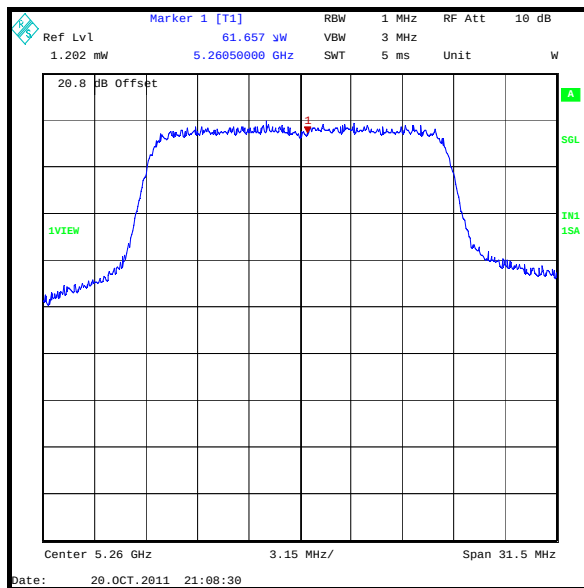
Channel Power UNII 2 802.11n 26 Mbps Bottom Channel



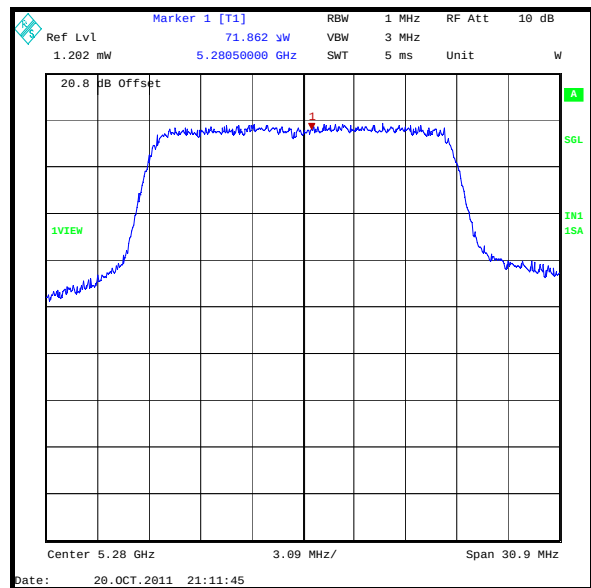
Channel Power UNII 2 802.11n 26 Mbps Middle Channel



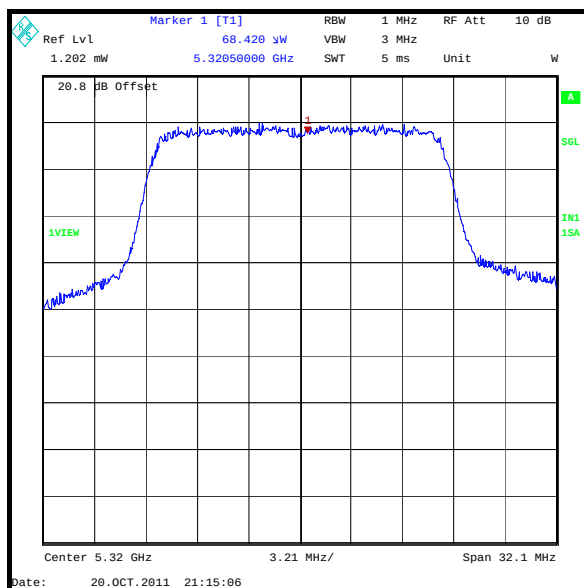
Channel Power UNII 2 802.11n 26 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.260 to 5.320 GHz**

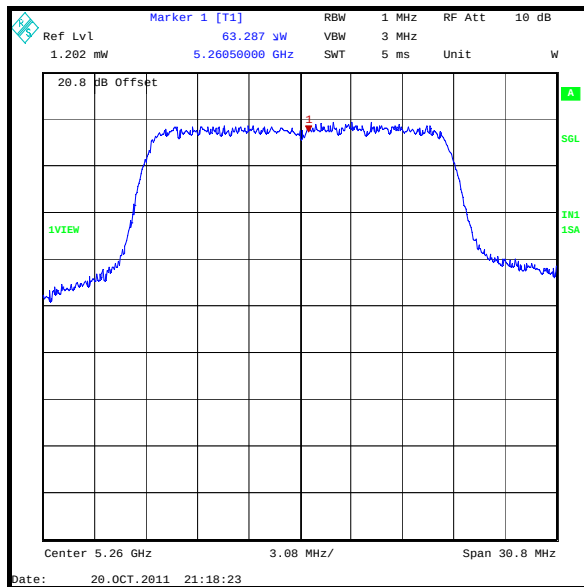
Channel Power UNII 2 802.11n 39 Mbps Bottom Channel



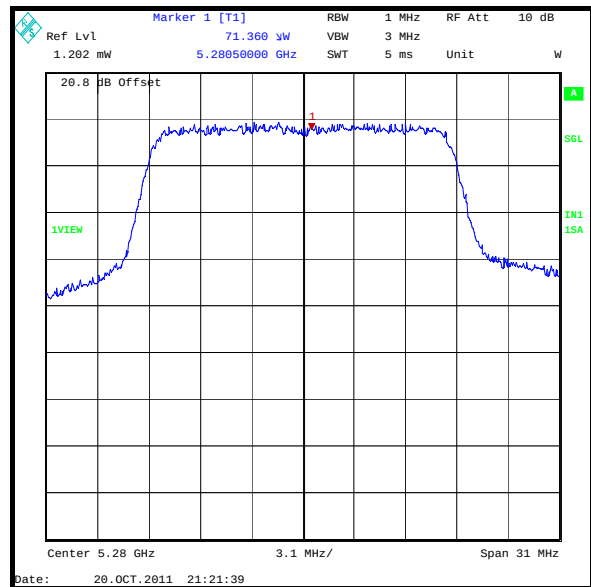
Channel Power UNII 2 802.11n 39 Mbps Middle Channel



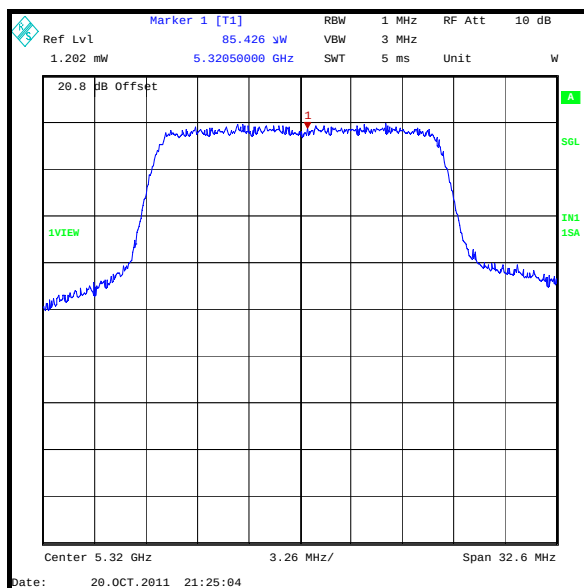
Channel Power UNII 2 802.11n 39 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.260 to 5.320 GHz**

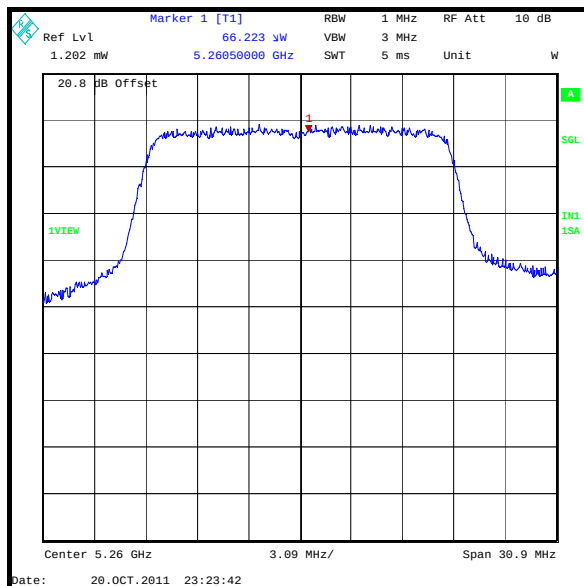
Channel Power UNII 2 802.11n 52 Mbps Bottom Channel



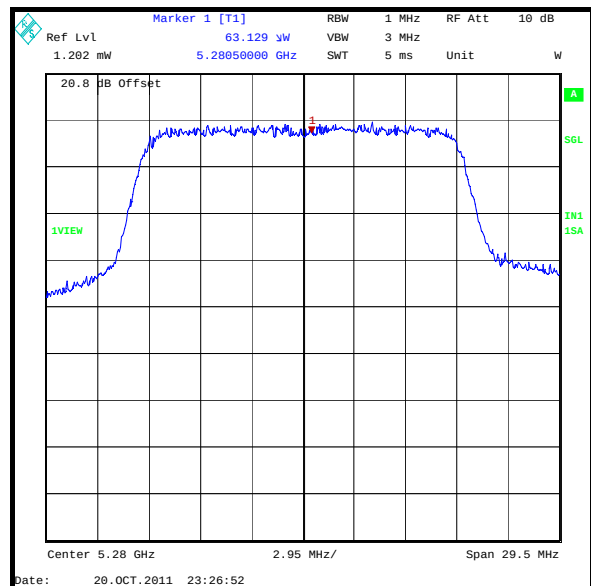
Channel Power UNII 2 802.11n 52 Mbps Middle Channel



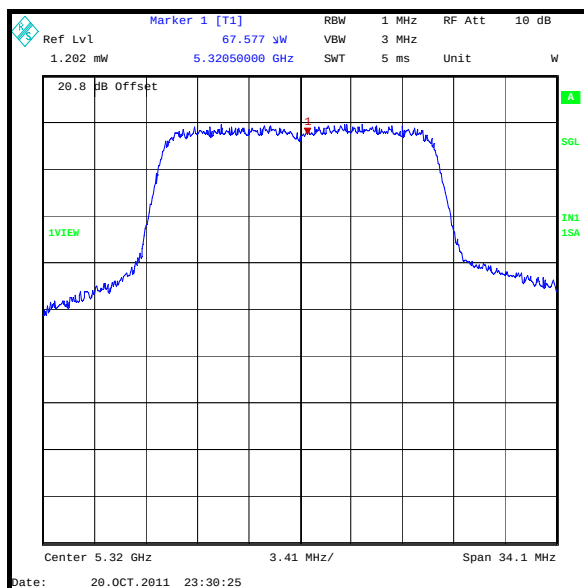
Channel Power UNII 2 802.11n 52 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.260 to 5.320 GHz**

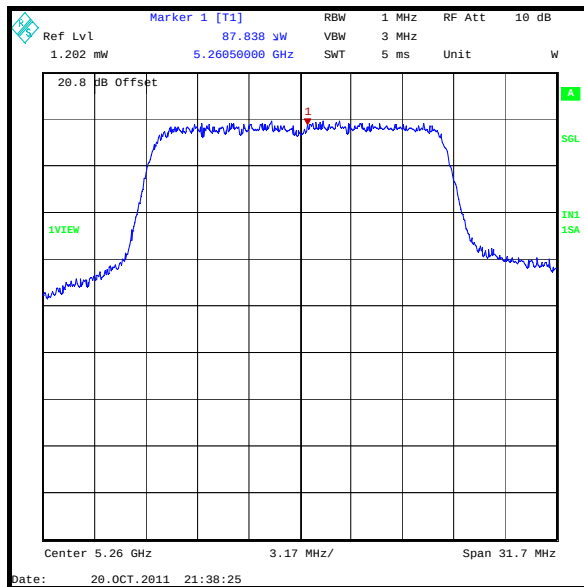
Channel Power UNII 2 802.11n 58.5 Mbps Bottom Channel



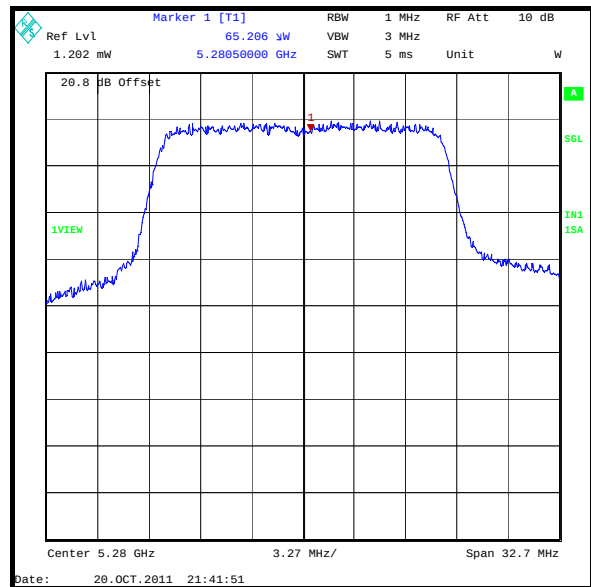
Channel Power UNII 2 802.11n 58.5 Mbps Middle Channel



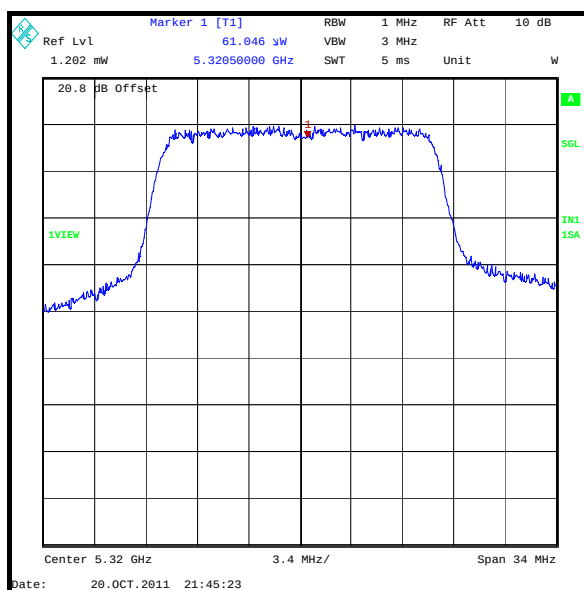
Channel Power UNII 2 802.11n 58.5 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.260 to 5.320 GHz**

Channel Power UNII 2 802.11n 65 Mbps Bottom Channel



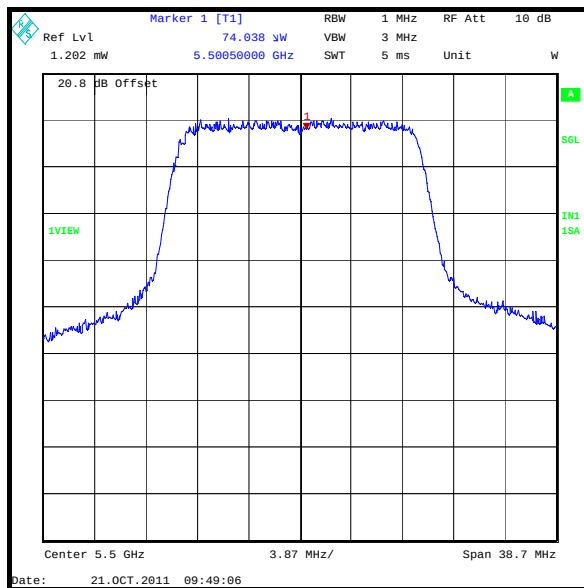
Channel Power UNII 2 802.11n 65 Mbps Middle Channel



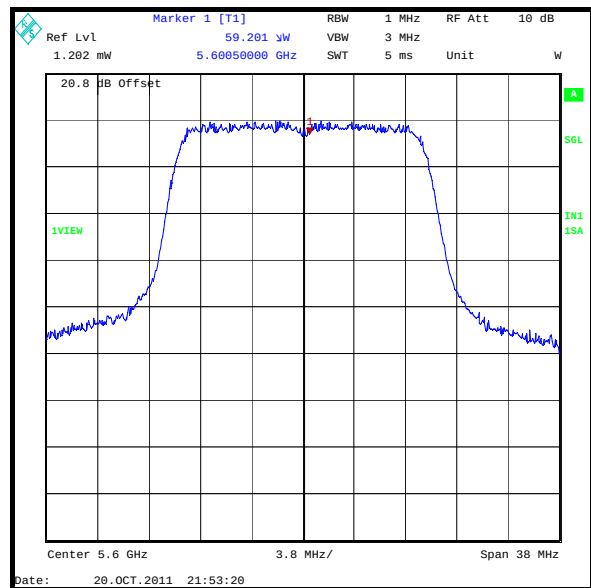
Channel Power UNII 2 802.11n 65 Mbps Top Channel

Transmitter Maximum Output Power (continued)**Results - 802.11n 5.500 to 5.700 GHz**

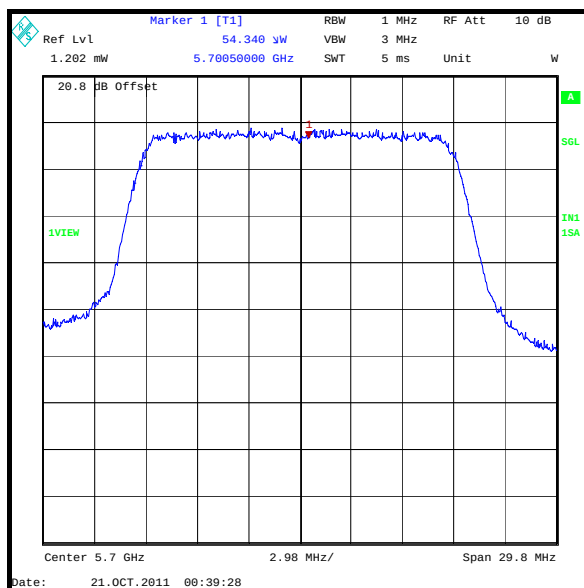
Channel	Frequency (MHz)	Modulation Scheme	Data Rate (Mbps)	Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5500	BPSK	6.5	8.3	24	15.7	Complied
Middle	5600	BPSK	6.5	7.5	24	16.5	Complied
Top	5700	BPSK	6.5	5.6	24	18.4	Complied
Bottom	5500	QPSK	13	9.7	24	14.3	Complied
Middle	5600	QPSK	13	7.7	24	16.3	Complied
Top	5700	QPSK	13	4.4	24	19.6	Complied
Bottom	5500	QPSK	19.5	8.5	24	15.5	Complied
Middle	5600	QPSK	19.5	7.8	24	16.2	Complied
Top	5700	QPSK	19.5	4.3	24	19.7	Complied
Bottom	5500	16QAM	26	8.3	24	15.7	Complied
Middle	5600	16QAM	26	7.2	24	16.8	Complied
Top	5700	16QAM	26	3.8	24	20.2	Complied
Bottom	5500	16QAM	39	8.2	24	15.8	Complied
Middle	5600	16QAM	39	7.3	24	16.7	Complied
Top	5700	16QAM	39	3.5	24	20.5	Complied
Bottom	5500	64QAM	52	8.1	24	15.9	Complied
Middle	5600	64QAM	52	7.5	24	16.5	Complied
Top	5700	64QAM	52	4.6	24	19.4	Complied
Bottom	5500	64QAM	58.5	8.4	24	15.6	Complied
Middle	5600	64QAM	58.5	7.1	24	16.9	Complied
Top	5700	64QAM	58.5	4.5	24	19.5	Complied
Bottom	5500	64QAM	65	8.1	24	15.9	Complied
Middle	5600	64QAM	65	7.8	24	16.2	Complied
Top	5700	64QAM	65	3.5	24	20.5	Complied

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.500 to 5.700 GHz**

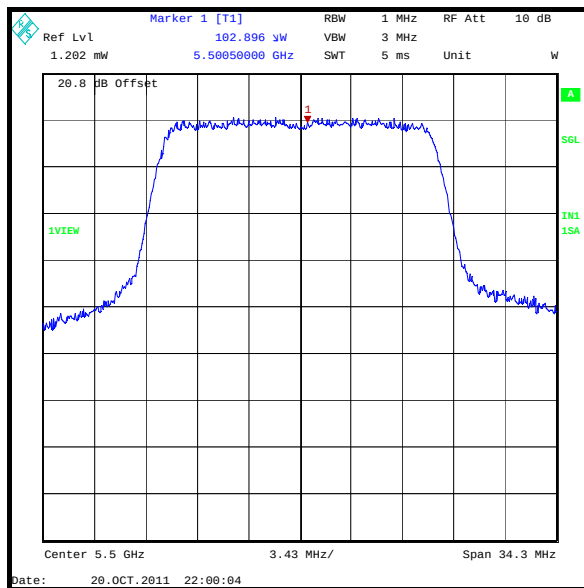
Channel Power UNII 3 802.11n 6.5 Mbps Bottom Channel



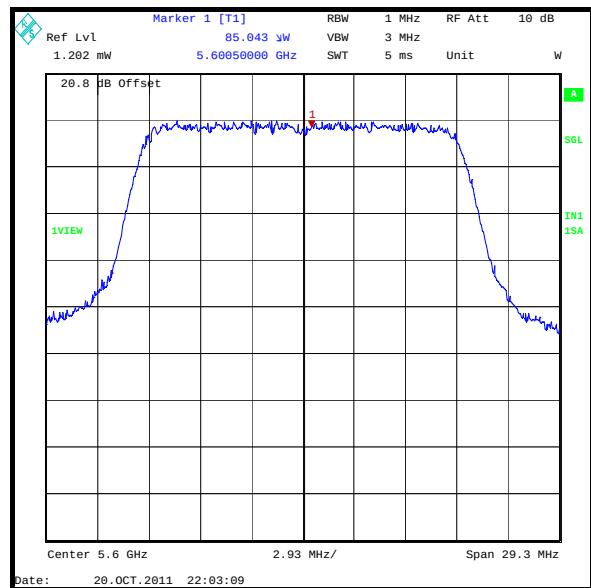
Channel Power UNII 3 802.11n 6.5 Mbps Middle Channel



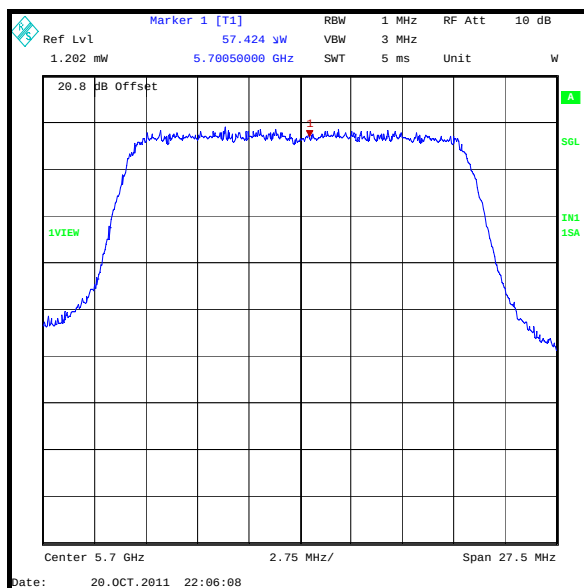
Channel Power UNII 3 802.11n 6.5 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.500 to 5.700 GHz**

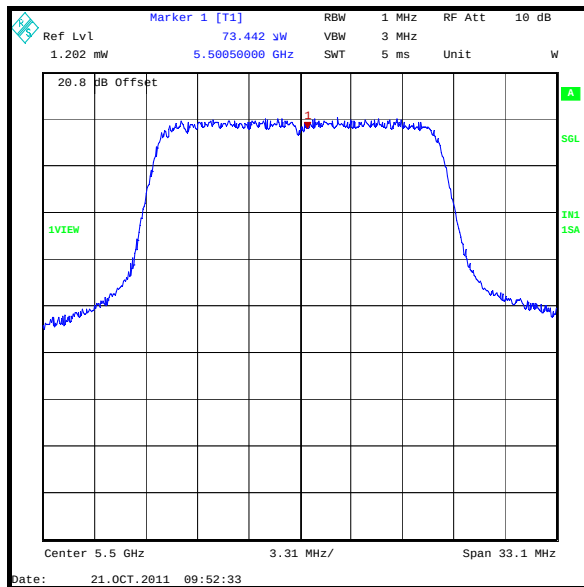
Channel Power UNII 3 802.11n 13 Mbps Bottom Channel



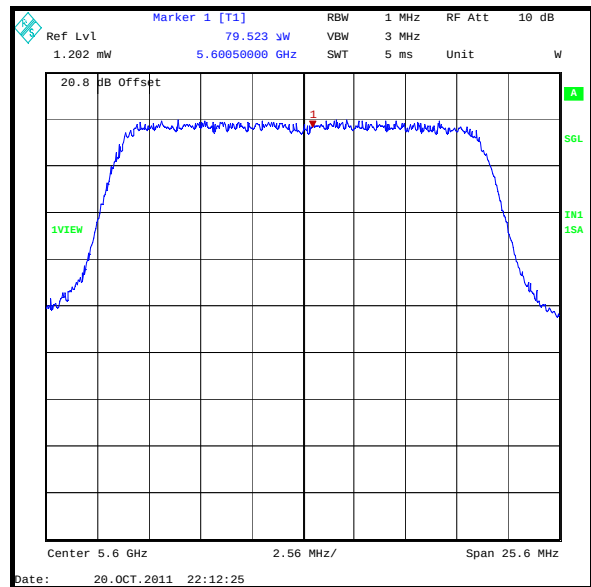
Channel Power UNII 3 802.11n 13 Mbps Middle Channel



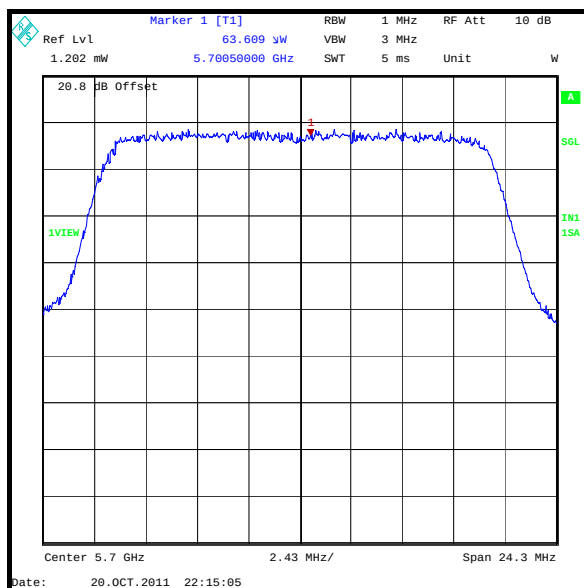
Channel Power UNII 3 802.11n 13 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.500 to 5.700 GHz**

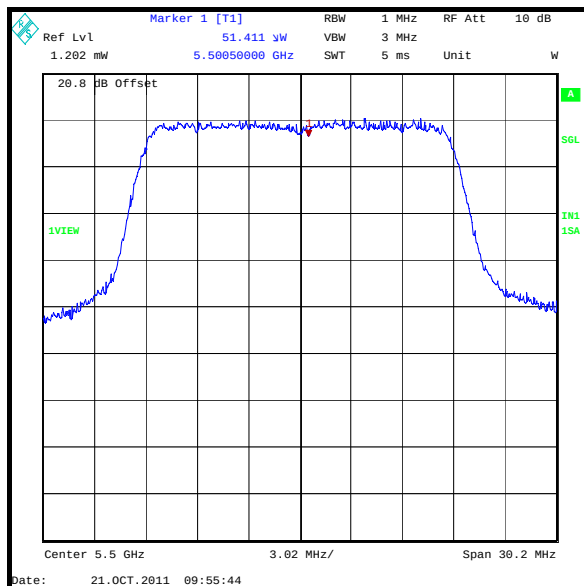
Channel Power UNII 3 802.11n 19.5 Mbps Bottom Channel



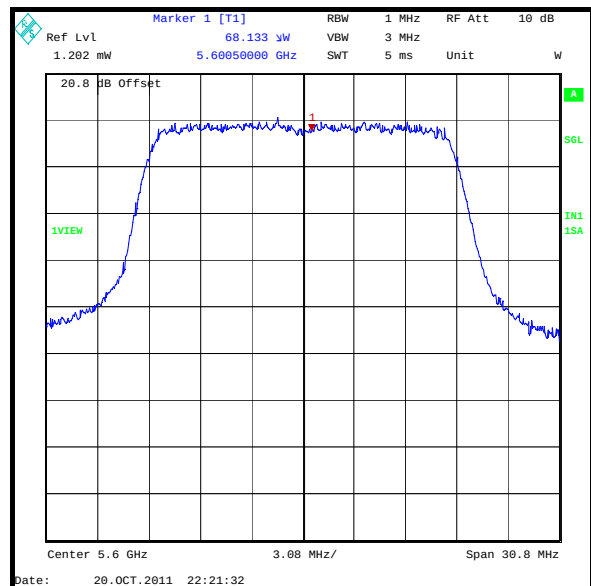
Channel Power UNII 3 802.11n 19.5 Mbps Middle Channel



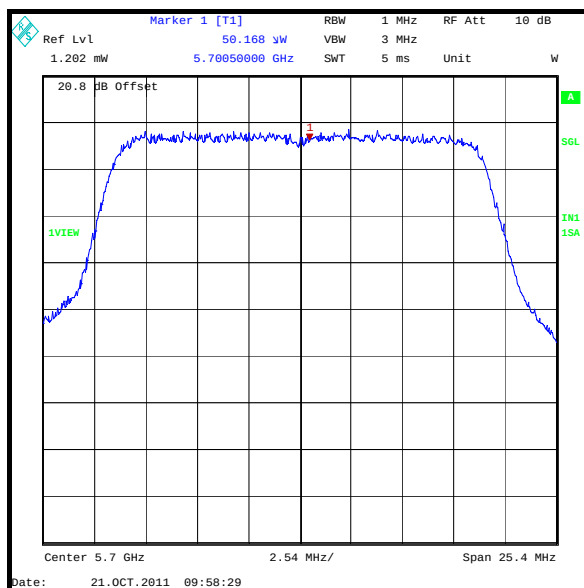
Channel Power UNII 3 802.11n 19.5 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.500 to 5.700 GHz**

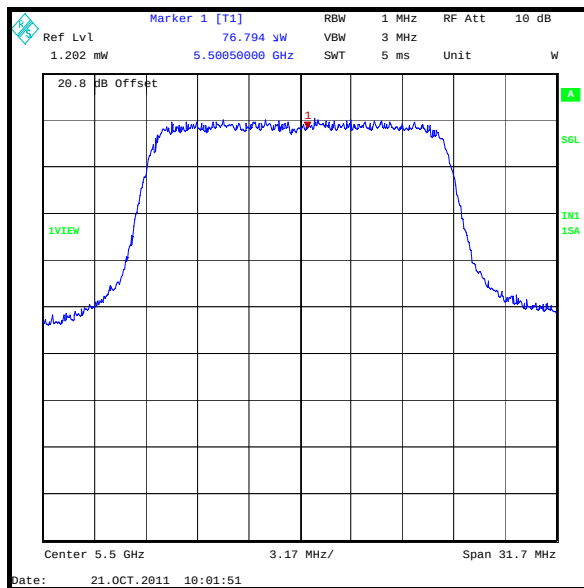
Channel Power UNII 3 802.11n 26 Mbps Bottom Channel



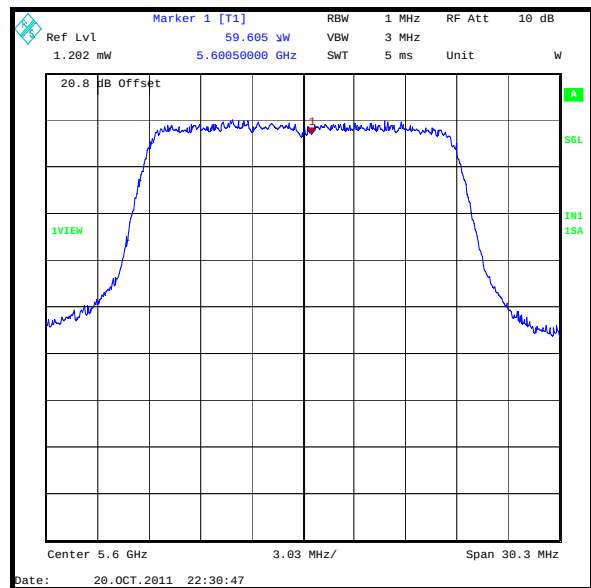
Channel Power UNII 3 802.11n 26 Mbps Middle Channel



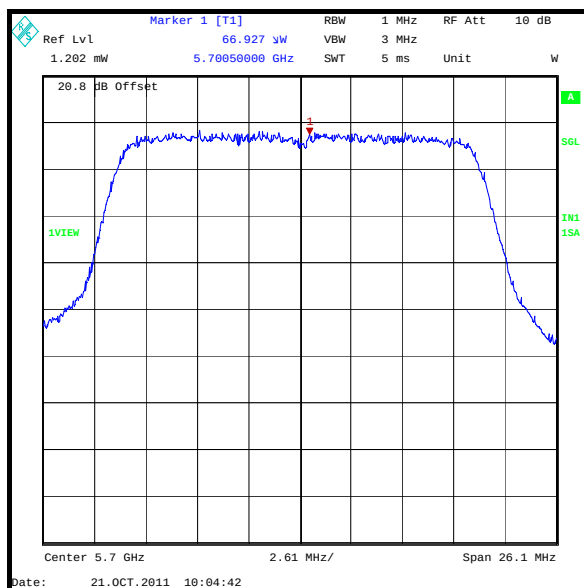
Channel Power UNII 3 802.11n 26 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.500 to 5.700 GHz**

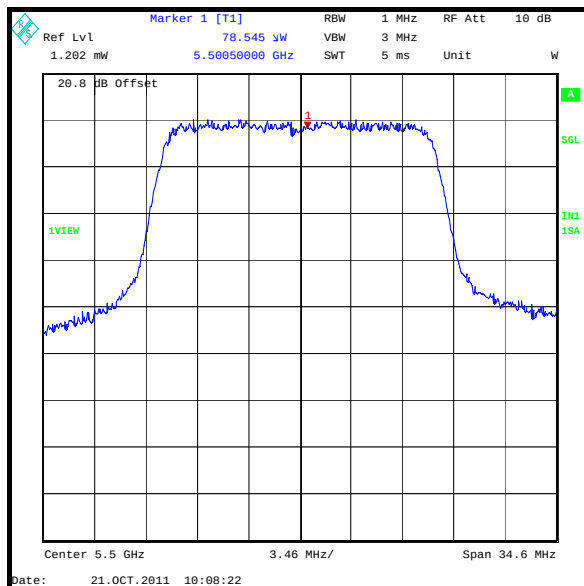
Channel Power UNII 3 802.11n 39 Mbps Bottom Channel



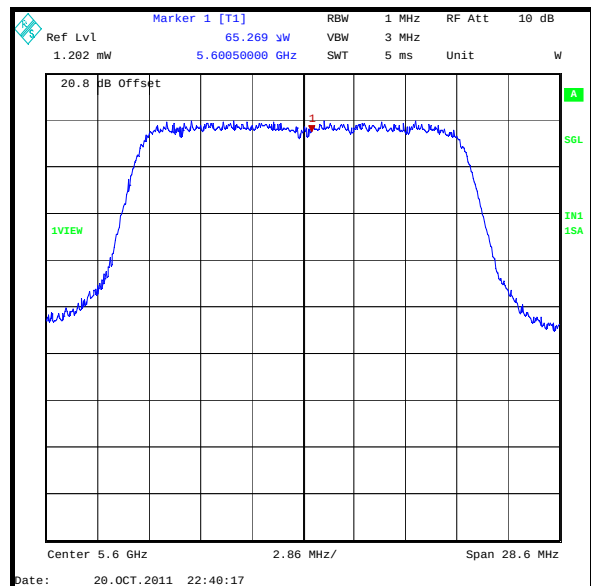
Channel Power UNII 3 802.11n 39 Mbps Middle Channel



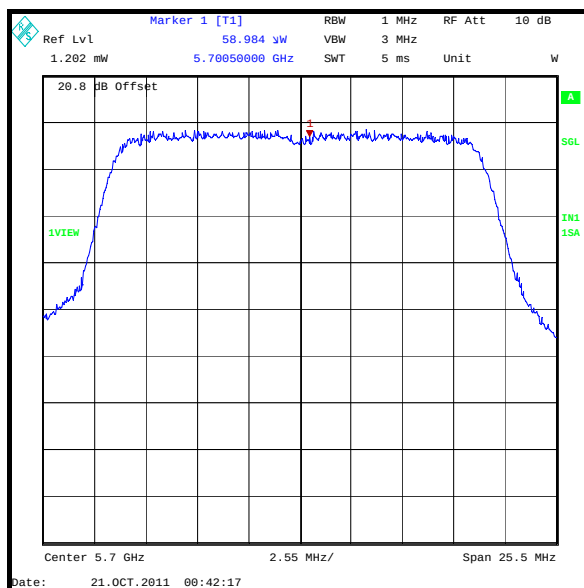
Channel Power UNII 3 802.11n 39 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.500 to 5.700 GHz**

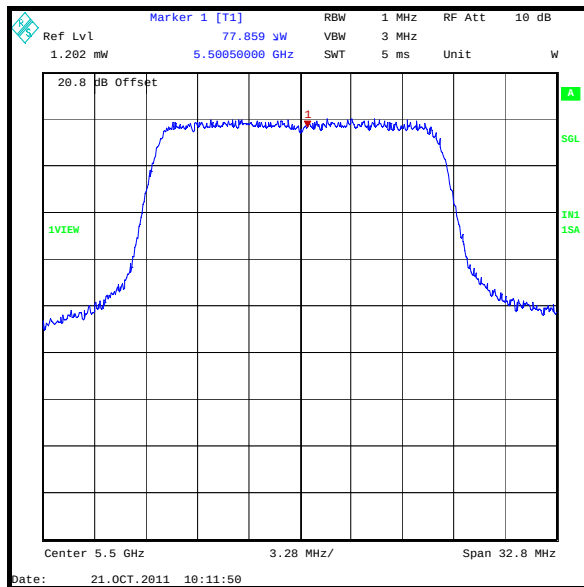
Channel Power UNII 3 802.11n 52 Mbps Bottom Channel



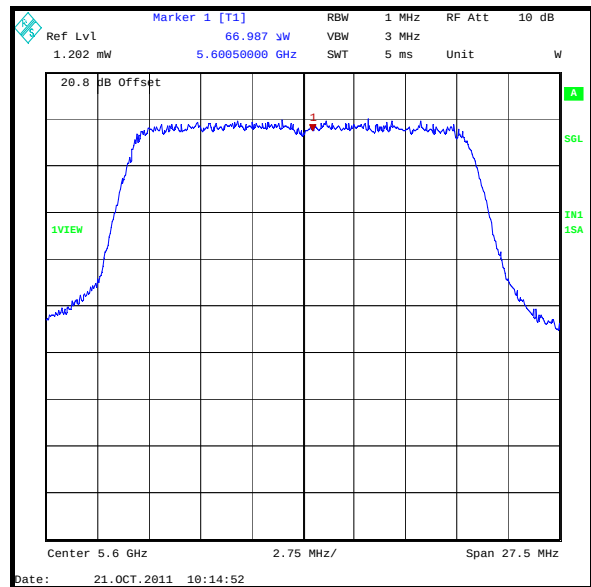
Channel Power UNII 3 802.11n 52 Mbps Middle Channel



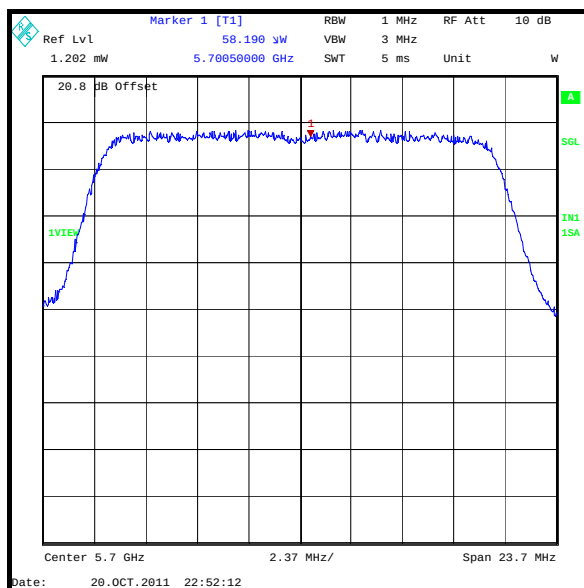
Channel Power UNII 3 802.11n 52 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.500 to 5.700 GHz**

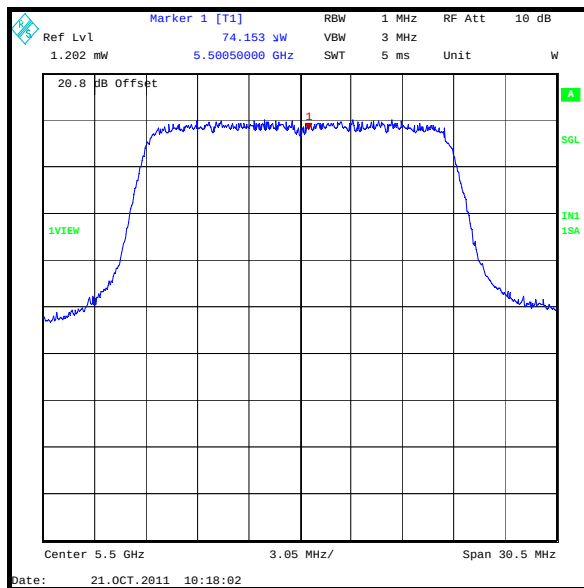
Channel Power UNII 3 802.11n 58.5 Mbps Bottom Channel



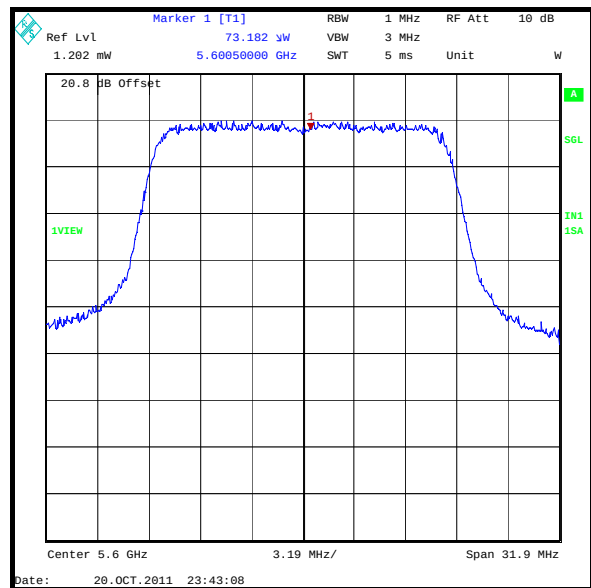
Channel Power UNII 3 802.11n 58.5 Mbps Middle Channel



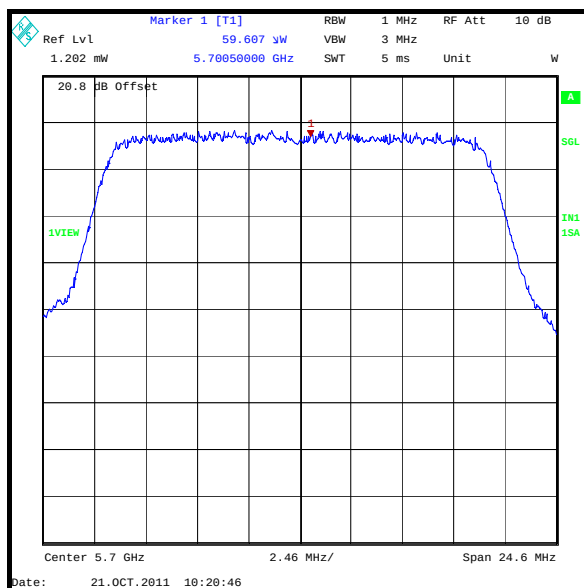
Channel Power UNII 3 802.11n 58.5 Mbps Top Channel

Transmitter Maximum Peak Output Power (continued)**Results - 802.11n 5.500 to 5.700 GHz**

Channel Power UNII 3 802.11n 65 Mbps Bottom Channel



Channel Power UNII 3 802.11n 65 Mbps Middle Channel



Channel Power UNII 3 802.11n 65 Mbps Top Channel

5.2.7.Transmitter Maximum Equivalent Isotropically Radiated Power**Test Summary:**

Test Engineer:	<i>Crawford Lindsay</i>	Test Date:	21 October 2011
Test Sample Serial No:	<i>Id 3</i>		

RSS Reference:	RSS-210 A9.2 (2) & (3)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.3.1 Method 1

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	26

Transmitter Maximum Equivalent Isotropically Radiated Power (continued)**Results - 802.11a 5.260 to 5.320 GHz**

Channel	Mod Scheme	Data Rate	Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Fixed Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6	6.4	3.0	9.4	23.0	13.6	Complied
Middle	BPSK	6	6.3	3.0	9.3	23.0	13.7	Complied
Top	BPSK	6	6.9	3.0	9.9	23.0	13.1	Complied
Bottom	BPSK	9	5.2	3.0	8.2	23.0	14.8	Complied
Middle	BPSK	9	5.8	3.0	8.8	23.0	14.2	Complied
Top	BPSK	9	6.8	3.0	9.8	23.0	13.2	Complied
Bottom	QPSK	12	5.3	3.0	8.3	23.0	14.7	Complied
Middle	QPSK	12	6.1	3.0	9.1	23.0	13.9	Complied
Top	QPSK	12	6.8	3.0	9.8	23.0	13.2	Complied
Bottom	QPSK	18	5.4	3.0	8.4	23.0	14.6	Complied
Middle	QPSK	18	7.2	3.0	10.2	23.0	12.8	Complied
Top	QPSK	18	7.7	3.0	10.7	23.0	12.3	Complied
Bottom	16QAM	24	5.6	3.0	8.6	23.0	14.4	Complied
Middle	16QAM	24	5.9	3.0	8.9	23.0	14.1	Complied
Top	16QAM	24	6.8	3.0	9.8	23.0	13.2	Complied
Bottom	16QAM	36	5.3	3.0	8.3	23.0	14.7	Complied
Middle	16QAM	36	5.8	3.0	8.8	23.0	14.2	Complied
Top	16QAM	36	6.8	3.0	9.8	23.0	13.2	Complied
Bottom	64QAM	48	5.3	3.0	8.3	23.0	14.7	Complied
Middle	64QAM	48	6.0	3.0	9	23.0	14.0	Complied
Top	64QAM	48	7.1	3.0	10.1	23.0	12.9	Complied
Bottom	64QAM	54	5.6	3.0	8.6	23.0	14.4	Complied
Middle	64QAM	54	6.1	3.0	9.1	23.0	13.9	Complied
Top	64QAM	54	7.1	3.0	10.1	23.0	12.9	Complied

Note(s):

1. The limit is the lesser of 200 mW (23.0 dBm) or 10 dBm + 10 log B, where B is the 99% emission bandwidth in MHz.
2. For the smallest 99% bandwidth of 19.1 MHz, the limit equates to 22.8 dBm. However as the pass margin is in excess of 10 dB for all test case, the fixed limit of 23.0 dBm is detailed in the above table for the sake of simplicity.
3. The declared antenna gain in dBi for the ProAnt Inside WLAN antenna was added to the measured conducted power to obtain the EIRP.

$$EIRP = \text{Conducted power} + \text{Antenna Gain in dBm}$$

Transmitter Maximum Equivalent Isotropically Radiated Power (continued)**Results - 802.11n 5.260 to 5.320 GHz**

Channel	Mod Scheme	Data Rate	Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Fixed Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6.5	7.2	3.0	10.2	23.0	12.8	Complied
Middle	BPSK	6.5	6.8	3.0	9.8	23.0	13.2	Complied
Top	BPSK	6.5	7.5	3.0	10.5	23.0	12.5	Complied
Bottom	QPSK	13	5.9	3.0	8.9	23.0	14.1	Complied
Middle	QPSK	13	6.5	3.0	9.5	23.0	13.5	Complied
Top	QPSK	13	7.3	3.0	10.3	23.0	12.7	Complied
Bottom	QPSK	19.5	5.8	3.0	8.8	23.0	14.2	Complied
Middle	QPSK	19.5	6.5	3.0	9.5	23.0	13.5	Complied
Top	QPSK	19.5	7.3	3.0	10.3	23.0	12.7	Complied
Bottom	16QAM	26	5.8	3.0	8.8	23.0	14.2	Complied
Middle	16QAM	26	6.2	3.0	9.2	23.0	13.8	Complied
Top	16QAM	26	8.0	3.0	11.0	23.0	12.0	Complied
Bottom	16QAM	39	5.8	3.0	8.8	23.0	14.2	Complied
Middle	16QAM	39	6.2	3.0	9.2	23.0	13.8	Complied
Top	16QAM	39	7.1	3.0	10.1	23.0	12.9	Complied
Bottom	64QAM	52	5.7	3.0	8.7	23.0	14.3	Complied
Middle	64QAM	52	6.3	3.0	9.3	23.0	13.7	Complied
Top	64QAM	52	7.4	3.0	10.4	23.0	12.6	Complied
Bottom	64QAM	58.5	5.6	3.0	8.6	23.0	14.4	Complied
Middle	64QAM	58.5	6.2	3.0	9.2	23.0	13.8	Complied
Top	64QAM	58.5	7.1	3.0	10.1	23.0	12.9	Complied
Bottom	64QAM	65	7.5	3.0	10.5	23.0	12.5	Complied
Middle	64QAM	65	6.6	3.0	9.6	23.0	13.4	Complied
Top	64QAM	65	7.5	3.0	10.5	23.0	12.5	Complied

Note(s):

1. The limit is the lesser of 200 mW (23.0 dBm) or 10 dBm + 10 log B, where B is the 99% emission bandwidth in MHz.
2. For the smallest 99% bandwidth of 19.1 MHz, the limit equates to 22.8 dBm. However as the pass margin is in excess of 10 dB for all test case, the fixed limit of 23.0 dBm is detailed in the above table for the sake of simplicity.
3. The declared antenna gain in dBi for the ProAnt Inside WLAN antenna was added to the measured conducted power to obtain the EIRP.

$$EIRP = \text{Conducted power} + \text{Antenna Gain in dBm}$$

Transmitter Maximum Equivalent Isotropically Radiated Power (continued)**Results - 802.11a 5.500 to 5.700 GHz**

Channel	Mod Scheme	Data Rate	Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Fixed Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6	8.7	3.0	11.7	23.0	11.3	Complied
Middle	BPSK	6	7.6	3.0	10.6	23.0	12.4	Complied
Top	BPSK	6	3.9	3.0	6.9	23.0	16.1	Complied
Bottom	BPSK	9	9.2	3.0	12.2	23.0	10.8	Complied
Middle	BPSK	9	7.5	3.0	10.5	23.0	12.5	Complied
Top	BPSK	9	4.1	3.0	7.1	23.0	15.9	Complied
Bottom	QPSK	12	8.7	3.0	11.7	23.0	11.3	Complied
Middle	QPSK	12	7.5	3.0	10.5	23.0	12.5	Complied
Top	QPSK	12	3.8	3.0	6.8	23.0	16.2	Complied
Bottom	QPSK	18	8.4	3.0	11.4	23.0	11.4	Complied
Middle	QPSK	18	7.2	3.0	10.2	23.0	12.8	Complied
Top	QPSK	18	3.5	3.0	6.5	23.0	16.5	Complied
Bottom	16QAM	24	7.9	3.0	10.9	23.0	12.1	Complied
Middle	16QAM	24	7.0	3.0	10.0	23.0	13.0	Complied
Top	16QAM	24	3.2	3.0	6.2	23.0	16.8	Complied
Bottom	16QAM	36	8.1	3.0	11.1	23.0	11.9	Complied
Middle	16QAM	36	6.9	3.0	9.9	23.0	13.1	Complied
Top	16QAM	36	3.1	3.0	6.1	23.0	16.9	Complied
Bottom	64QAM	48	7.6	3.0	10.6	23.0	12.4	Complied
Middle	64QAM	48	6.7	3.0	9.7	23.0	13.3	Complied
Top	64QAM	48	3.9	3.0	6.9	23.0	16.1	Complied
Bottom	64QAM	54	8.7	3.0	11.7	23.0	11.3	Complied
Middle	64QAM	54	7.0	3.0	10.0	23.0	13.0	Complied
Top	64QAM	54.0	3.5	3.0	6.5	23.0	16.5	Complied

Note(s):

1. The limit is the lesser of 200 mW (23.0 dBm) or 10 dBm + 10 log B, where B is the 99% emission bandwidth in MHz.
2. For the smallest 99% bandwidth of 19.1 MHz, the limit equates to 22.8 dBm. However as the pass margin is in excess of 10 dB for all test case, the fixed limit of 23.0 dBm is detailed in the above table for the sake of simplicity.
3. The declared antenna gain in dBi for the ProAnt Inside WLAN antenna was added to the measured conducted power to obtain the EIRP.

$$EIRP = \text{Conducted power} + \text{Antenna Gain in dBm}$$

Transmitter Maximum Equivalent Isotropically Radiated Power (continued)**Results - 802.11n 5.500 to 5.700 GHz**

Channel	Mod Scheme	Data Rate	Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Fixed Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6.5	8.3	3.0	11.3	23.0	11.7	Complied
Middle	BPSK	6.5	7.5	3.0	10.5	23.0	12.5	Complied
Top	BPSK	6.5	5.6	3.0	8.6	23.0	14.4	Complied
Bottom	QPSK	13	9.7	3.0	12.7	23.0	10.3	Complied
Middle	QPSK	13	7.7	3.0	10.7	23.0	12.3	Complied
Top	QPSK	13	4.4	3.0	7.4	23.0	15.6	Complied
Bottom	QPSK	19.5	8.5	3.0	11.5	23.0	11.5	Complied
Middle	QPSK	19.5	7.8	3.0	10.8	23.0	12.2	Complied
Top	QPSK	19.5	4.3	3.0	7.3	23.0	15.7	Complied
Bottom	16QAM	26	8.3	3.0	11.3	23.0	11.7	Complied
Middle	16QAM	26	7.2	3.0	10.2	23.0	12.8	Complied
Top	16QAM	26	3.8	3.0	6.8	23.0	16.2	Complied
Bottom	16QAM	39	8.2	3.0	11.2	23.0	11.8	Complied
Middle	16QAM	39	7.3	3.0	10.3	23.0	12.7	Complied
Top	16QAM	39	3.5	3.0	6.5	23.0	16.5	Complied
Bottom	64QAM	52	8.1	3.0	11.1	23.0	11.9	Complied
Middle	64QAM	52	7.5	3.0	10.5	23.0	12.5	Complied
Top	64QAM	52	4.6	3.0	7.6	23.0	15.4	Complied
Bottom	64QAM	58.5	8.4	3.0	11.4	23.0	11.6	Complied
Middle	64QAM	58.5	7.1	3.0	10.1	23.0	12.9	Complied
Top	64QAM	58.5	4.5	3.0	7.5	23.0	15.5	Complied
Bottom	64QAM	65	8.1	3.0	11.1	23.0	11.9	Complied
Middle	64QAM	65	7.8	3.0	10.8	23.0	12.2	Complied
Top	64QAM	65	3.5	3.0	6.5	23.0	16.5	Complied

Note(s):

1. The limit is the lesser of 200 mW (23.0 dBm) or 10 dBm + 10 log B, where B is the 99% emission bandwidth in MHz.
2. For the smallest 99% bandwidth of 19.1 MHz, the limit equates to 22.8 dBm. However as the pass margin is in excess of 10 dB for all test case, the fixed limit of 23.0 dBm is detailed in the above table for the sake of simplicity.
3. The declared antenna gain in dBi for the ProAnt Inside WLAN antenna was added to the measured conducted power to obtain the EIRP.

$$EIRP = \text{Conducted power} + \text{Antenna Gain in dBm}$$