TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: OWS451x

FCC ID: PVH0941

IC Certification Number: 5325A-0941

To: FCC Part 15.247: 2010 Subpart C, RSS-GEN Issue 3 December 2010
and RSS-210 Issue 8 December 2010

Test Report Serial No:
RFI-RPT-RP78718JD07E V1.0

This Test Report Is Issued Under The Authority Of Chris Guy, Head of Global Approvals: 	
Checked By:	Nigel Davison
Signature: 	
Date of Issue:	19 May 2011

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1. Customer Information

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

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR15.247
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 15 Subpart C (Intentional Radiators) - Section 15.247
Specification Reference:	47CFR15.109
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 15 Subpart B (Unintentional Radiators) – Section 15.109
Specification Reference:	47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications) 2010: Part 15 Subpart C (Intentional Radiators) – Section 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:	10 May 2011 to 19 May 2011

2.2. Summary of Test Results

Antenna: NanoBlue-IP04

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.109	RSS-Gen 4.10/6.1	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 15.247(b)(3)	RSS-Gen 4.8 RSS-210 A8.4(4)	Transmitter Maximum Peak Output Power	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Radiated Emissions	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Radiated Emissions	✓

Key to Results

✓ = Complied ✗ = Did not comply

Antenna: WCR-2400-IP04

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.109	RSS-Gen 4.10/6.1	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 15.247(b)(3)	RSS-Gen 4.8 RSS-210 A8.4(4)	Transmitter Maximum Peak Output Power	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Radiated Emissions	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Radiated Emissions	✓
Key to Results ✓ = Complied ✗ = Did not comply			

Antenna: WCR-2400-SMA

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.109	RSS-Gen 4.10/6.1	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 15.247(b)(3)	RSS-Gen 4.8 RSS-210 A8.4(4)	Transmitter Maximum Peak Output Power	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Radiated Emissions	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Radiated Emissions	✓
Key to Results ✓ = Complied ✗ = Did not comply			

Antenna: Outside 2400

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.109	RSS-Gen 4.10/6.1	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 15.247(b)(3)	RSS-Gen 4.8 RSS-210 A8.4(4)	Transmitter Maximum Peak Output Power	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Radiated Emissions	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Radiated Emissions	✓
Key to Results ✓ = Complied ✗ = Did not comply			

Antenna: EX-IT 2400-RP-SMA 28-001

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.109	RSS-Gen 4.10/6.1	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 15.247(b)(3)	RSS-Gen 4.8 RSS-210 A8.4(4)	Transmitter Maximum Peak Output Power	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Radiated Emissions	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Radiated Emissions	✓
Key to Results ✓ = Complied ✗ = Did not comply			

Antenna: EX-IT 2400-MHF 28-001

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.109	RSS-Gen 4.10/6.1	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 15.247(b)(3)	RSS-Gen 4.8 RSS-210 A8.4(4)	Transmitter Maximum Peak Output Power	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Radiated Emissions	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Radiated Emissions	✓
Key to Results ✓ = Complied ✗ = Did not comply			

Antenna: EX-IT 2400-MHF 70-001

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.109	RSS-Gen 4.10/6.1	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 15.247(b)(3)	RSS-Gen 4.8 RSS-210 A8.4(4)	Transmitter Maximum Peak Output Power	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Radiated Emissions	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Radiated Emissions	✓
Key to Results ✓ = Complied ✗ = Did not comply			

Antenna: EX-IT 2400-SMA 70-002

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.109	RSS-Gen 4.10/6.1	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 15.247(b)(3)	RSS-Gen 4.8 RSS-210 A8.4(4)	Transmitter Maximum Peak Output Power	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Radiated Emissions	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Radiated Emissions	✓
Key to Results ✓ = Complied ✗ = Did not comply			

Antenna: Plantec m70cxr

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.109	RSS-Gen 4.10/6.1	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 15.247(b)(3)	RSS-Gen 4.8 RSS-210 A8.4(4)	Transmitter Maximum Peak Output Power	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Radiated Emissions	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Radiated Emissions	✓
Key to Results ✓ = Complied ✗ = Did not comply			

Antenna: PSTG0-2400HS

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.109	RSS-Gen 4.10/6.1	Receiver/Idle Mode Radiated Spurious Emissions	✓
Part 15.247(b)(3)	RSS-Gen 4.8 RSS-210 A8.4(4)	Transmitter Maximum Peak Output Power	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Radiated Emissions	✓
Part 15.247(d)/ 15.209(a)	RSS-Gen 4.9 RSS-210 A8.5	Transmitter Band Edge Radiated Emissions	✓
Key to Results ✓ = Complied ✗ = Did not comply			

Note: Where FCC clause references are made within this report also read the equivalent IC reference.

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_2.1.0_release.cbz
FCC ID:	PVH0941
IC Certification ID:	5325A-0941

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 IEEE802.11b/g/n WLAN.

- NanoBlue-IP04
- WCR-2400-IP04
- WCR-2400-SMA
- Outside 2400
- Ex-IT 2400-RP-SMA 28-001
- Ex-IT 2400-MHF 28-001
- EX-IT 2400 MHF 70-001
- Ex-IT 2400-SMA 70-002
- PlanTec m70cxr
- PSTG0-2400HS

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:	WLAN		
Type of Unit:	Transceiver		
Modulation Type:	BPSK; 64QAM		
Data Rate:	802.11b (DSSS): 1,2,5.5,11 Mbps 802.11g (OFDM): 6,9,12,18,24,36,48,54 Mbps 802.11n (OFDM): 6.5,13,19.5,26,39,52,58.5,65 Mbps		
Power Supply Requirement(s):	Nominal	5.0 V	
	Minimum	3.3V	
	Maximum	5.5V	
Maximum Conducted Peak Power Output:	17.4 dBm		
Transmit Frequency Range:	2412 MHz to 2462 MHz		
Transmit Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	1	2412
	Middle	6	2437
	Top	11	2462
Receive Frequency Range:	2412 MHz to 2462 MHz		
Receive Channels Tested:	**Channel ID**	**Channel Number**	**Channel Frequency (MHz)**
	Bottom	1	2412
	Middle	6	2437
	Top	11	2462

3.5. Support Equipment

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

Brand Name:	Dell
Description:	Laptop
Model Name or Number:	Latitude D610
Serial Number:	CN-0G5152-48643-48A-4478

Brand Name:	Connect Blue AB
Description:	Development Board
Model Name or Number:	CB-0903-03
Serial 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 Receiver/Idle mode – the highest channel was selected and the unit placed into a receive/idle mode. The emissions profile was similar to the top, middle and bottom channels, hence final measurements were performed on the top channel only.
- Continuously transmitting at maximum power on the bottom, centre and top channels as required using the data rates the client has stated within their proposal form:
    - 802.11b: 1,2,5.5,11 Mbps
    - 802.11g: 6,9,12,18,24,36,48,54 Mbps
    - 802.11n: 6.5,13,19.5,26,39,52,58.5,65 Mbps

4.2. Configuration and Peripherals

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

- Connected to a development board, which was power by a 5V DC power supply that was connected to 120V mains. The development board was then connected via a serial cable to a laptop, which contained a bespoke application which was 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 transmitting with a data rate of 65Mbps, as this was found to have the highest power level and therefore deemed to be worst case.

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 - NanoBlue-IP04 Antenna:

5.2.1. Receiver/Idle Mode Radiated Spurious Emissions

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	17 May 2011
Test Sample IMEI:	ID:1		
Antenna:	NanoBlue-IP04		

FCC/IC Part:	15.109 and RSS-Gen 4.10 / RSS-Gen 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):	24
Relative Humidity (%):	23

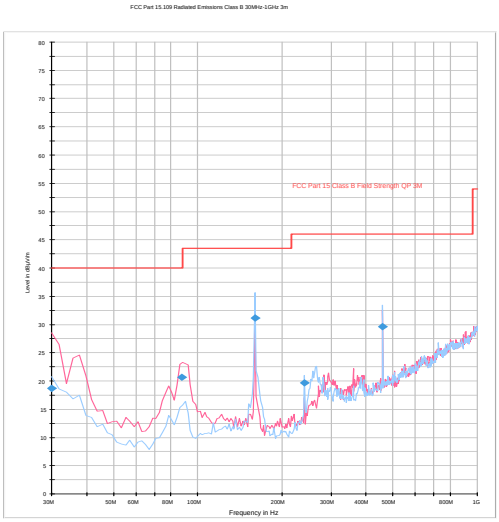
Results: Quasi Peak

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
30.076	Vertical	18.7	40.0	21.3	Complied
87.887	Vertical	20.7	40.0	19.3	Complied
159.995	Horizontal	31.1	43.5	12.4	Complied
240.002	Horizontal	19.7	46.0	26.3	Complied
458.805	Horizontal	29.6	46.0	16.4	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. 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	**Test Date:**	17 May 2011
Test Sample IMEI:	ID:1		
Antenna:	NanoBlue-IP04		

FCC/IC Part:	15.109 and RSS-Gen 4.10 / RSS-Gen 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 12.75 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	25

Results:

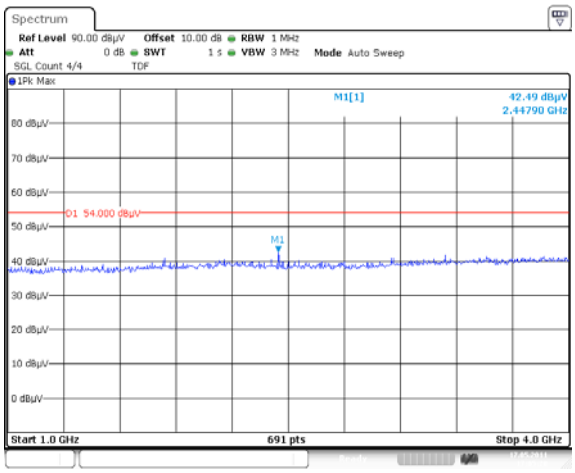
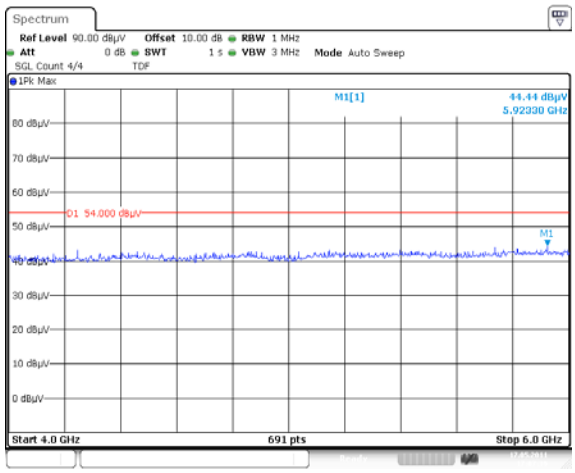
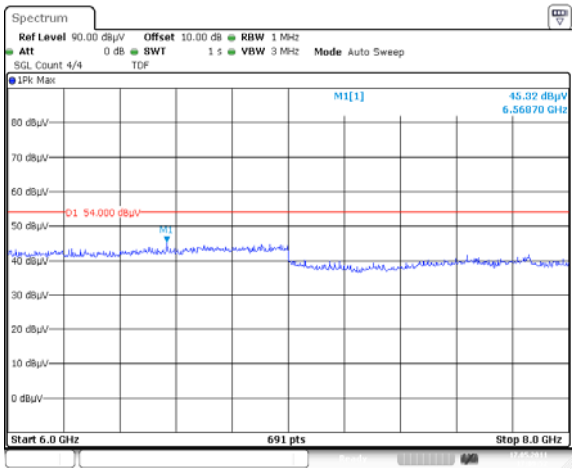
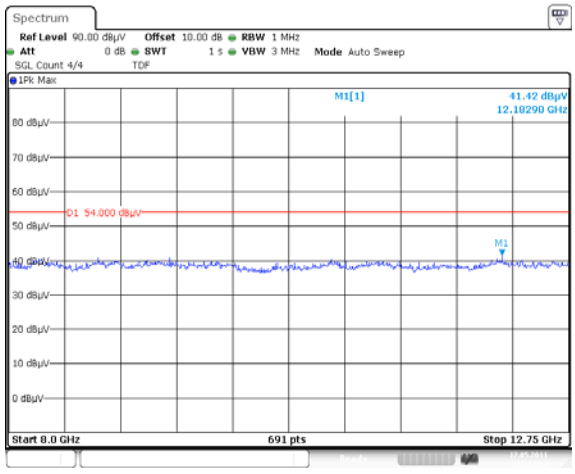
Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
6568.7	Vertical	45.3	*54.0	8.7	Complied

Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. 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.

* 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)

	
Radiated_Peak_1GHz_4GHz	Radiated_Peak_4GHz_6GHz
	
Radiated_Peak_6GHz_8GHz	Radiated_Peak_8GHz_12.75GHz

5.2.2. Transmitter Maximum Peak Output Power

Test Summary:

Test Engineer:	David Lakeland	**Test Date:**	11 May 2011
Test Sample:	ID:1		

FCC Part:	15.247(b)(3)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.2

Note: Test method used – power meter

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	29

Results: 802.11b

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	1	17.4	30	12.6	Complied
Middle	2437	BPSK	1	17.1	30	12.9	Complied
Top	2462	BPSK	1	16.3	30	13.7	Complied
Bottom	2412	QPSK	2	16.8	30	13.2	Complied
Middle	2437	QPSK	2	16.5	30	13.5	Complied
Top	2462	QPSK	2	16.2	30	13.8	Complied
Bottom	2412	QPSK	5.5	16.8	30	13.2	Complied
Middle	2437	QPSK	5.5	16.5	30	13.6	Complied
Top	2462	QPSK	5.5	16.1	30	13.9	Complied
Bottom	2412	QPSK	11	16.7	30	13.3	Complied
Middle	2437	QPSK	11	16.5	30	13.6	Complied
Top	2462	QPSK	11	16.2	30	13.9	Complied

Transmitter Maximum Peak Output Power (continued)

Results: 802.11g

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	6	15.2	30	14.8	Complied
Middle	2437	BPSK	6	14.9	30	15.1	Complied
Top	2462	BPSK	6	14.6	30	15.4	Complied
Bottom	2412	BPSK	9	15.2	30	14.8	Complied
Middle	2437	BPSK	9	15.1	30	14.9	Complied
Top	2462	BPSK	9	15.1	30	14.9	Complied
Bottom	2412	QPSK	12	15.4	30	14.6	Complied
Middle	2437	QPSK	12	15.0	30	15.0	Complied
Top	2462	QPSK	12	14.7	30	15.3	Complied
Bottom	2412	QPSK	18	15.3	30	14.7	Complied
Middle	2437	QPSK	18	15.1	30	14.9	Complied
Top	2462	QPSK	18	14.7	30	15.3	Complied
Bottom	2412	16QAM	24	15.3	30	14.7	Complied
Middle	2437	16QAM	24	15.0	30	15.0	Complied
Top	2462	16QAM	24	14.7	30	15.3	Complied
Bottom	2412	16QAM	36	15.4	30	14.6	Complied
Middle	2437	16QAM	36	15.0	30	15.0	Complied
Top	2462	16QAM	36	14.7	30	15.3	Complied
Bottom	2412	16QAM	48	15.4	30	14.6	Complied
Middle	2437	16QAM	48	15.1	30	14.9	Complied
Top	2462	16QAM	48	14.8	30	15.3	Complied
Bottom	2412	64QAM	54	15.7	30	14.3	Complied
Middle	2437	64QAM	54	15.1	30	14.9	Complied
Top	2462	64QAM	54	14.7	30	15.3	Complied

Transmitter Maximum Peak Output Power (continued)

Results: 802.11n

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	6.5	15.6	30	14.4	Complied
Middle	2437	BPSK	6.5	15.3	30	14.7	Complied
Top	2462	BPSK	6.5	15.0	30	15.0	Complied
Bottom	2412	QPSK	13	15.5	30	14.6	Complied
Middle	2437	QPSK	13	15.2	30	14.8	Complied
Top	2462	QPSK	13	14.9	30	15.1	Complied
Bottom	2412	QPSK	19.5	15.4	30	14.6	Complied
Middle	2437	QPSK	19.5	14.9	30	15.1	Complied
Top	2462	QPSK	19.5	14.8	30	15.3	Complied
Bottom	2412	16QAM	26	15.3	30	14.7	Complied
Middle	2437	16QAM	26	15.1	30	14.9	Complied
Top	2462	16QAM	26	14.8	30	15.2	Complied
Bottom	2412	16QAM	39	15.6	30	14.4	Complied
Middle	2437	16QAM	39	15.6	30	14.4	Complied
Top	2462	16QAM	39	14.9	30	15.1	Complied
Bottom	2412	64QAM	52	15.4	30	14.6	Complied
Middle	2437	64QAM	52	15.2	30	14.8	Complied
Top	2462	64QAM	52	15.6	30	14.4	Complied
Bottom	2412	64QAM	58.5	16.3	30	13.7	Complied
Middle	2437	64QAM	58.5	15.4	30	14.6	Complied
Top	2462	64QAM	58.5	15.0	30	15.1	Complied
Bottom	2412	64QAM	65	16.0	30	14.0	Complied
Middle	2437	64QAM	65	15.4	30	14.6	Complied
Top	2462	64QAM	65	16.1	30	13.9	Complied

5.2.3. Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP)

FCC Part:	15.247(b)(3)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.2

Results: 802.11b

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	1	2	17.4	19.4	36.0	16.6	Complied
Middle	BPSK	1	2	17.1	19.1	36.0	16.9	Complied
Top	BPSK	1	2	16.3	18.3	36.0	17.7	Complied
Bottom	QPSK	2	2	16.8	18.8	36.0	17.2	Complied
Middle	QPSK	2	2	16.5	18.5	36.0	17.5	Complied
Top	QPSK	2	2	16.2	18.2	36.0	17.8	Complied
Bottom	QPSK	5.5	2	16.8	18.8	36.0	17.2	Complied
Middle	QPSK	5.5	2	16.5	18.5	36.0	17.5	Complied
Top	QPSK	5.5	2	16.1	18.1	36.0	17.9	Complied
Bottom	QPSK	11	2	16.7	18.7	36.0	17.3	Complied
Middle	QPSK	11	2	16.5	18.5	36.0	17.5	Complied
Top	QPSK	11	2	16.2	18.2	36.0	17.8	Complied

Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP) (Continued)

Results: 802.11g

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6	2	15.2	17.2	36.0	18.8	Complied
Middle	BPSK	6	2	14.9	16.9	36.0	19.1	Complied
Top	BPSK	6	2	14.6	16.6	36.0	19.4	Complied
Bottom	BPSK	9	2	15.2	17.2	36.0	18.8	Complied
Middle	BPSK	9	2	15.1	17.1	36.0	18.9	Complied
Top	BPSK	9	2	15.1	17.1	36.0	18.9	Complied
Bottom	QPSK	12	2	15.4	17.4	36.0	18.6	Complied
Middle	QPSK	12	2	15.0	17.0	36.0	19.0	Complied
Top	QPSK	12	2	14.7	16.7	36.0	19.3	Complied
Bottom	QPSK	18	2	15.3	17.3	36.0	18.7	Complied
Middle	QPSK	18	2	15.1	17.1	36.0	18.9	Complied
Top	QPSK	18	2	14.7	16.7	36.0	19.3	Complied
Bottom	16QAM	24	2	15.3	17.3	36.0	18.7	Complied
Middle	16QAM	24	2	15.0	17.0	36.0	19.0	Complied
Top	16QAM	24	2	14.7	16.7	36.0	19.3	Complied
Bottom	16QAM	36	2	15.4	17.4	36.0	18.6	Complied
Middle	16QAM	36	2	15.0	17.0	36.0	19.0	Complied
Top	16QAM	36	2	14.7	16.7	36.0	19.3	Complied
Bottom	16QAM	48	2	15.4	17.4	36.0	18.6	Complied
Middle	16QAM	48	2	15.1	17.1	36.0	18.9	Complied
Top	16QAM	48	2	14.8	16.8	36.0	19.2	Complied
Bottom	64QAM	54	2	15.7	17.7	36.0	18.3	Complied
Middle	64QAM	54	2	15.1	17.1	36.0	18.9	Complied
Top	64QAM	54	2	14.7	16.7	36.0	19.3	Complied

Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP) (Continued)

Results: 802.11n

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6.5	2	15.6	17.6	36.0	18.4	Complied
Middle	BPSK	6.5	2	15.3	17.3	36.0	18.7	Complied
Top	BPSK	6.5	2	15.0	17.0	36.0	19.0	Complied
Bottom	QPSK	13	2	15.5	17.5	36.0	18.5	Complied
Middle	QPSK	13	2	15.2	17.2	36.0	18.8	Complied
Top	QPSK	13	2	14.9	16.9	36.0	19.1	Complied
Bottom	QPSK	19.5	2	15.4	17.4	36.0	18.6	Complied
Middle	QPSK	19.5	2	14.9	16.9	36.0	19.1	Complied
Top	QPSK	19.5	2	14.8	16.8	36.0	19.2	Complied
Bottom	16QAM	26	2	15.3	17.3	36.0	18.7	Complied
Middle	16QAM	26	2	15.1	17.1	36.0	18.9	Complied
Top	16QAM	26	2	14.8	16.8	36.0	19.2	Complied
Bottom	16QAM	39	2	15.6	17.6	36.0	18.4	Complied
Middle	16QAM	39	2	15.6	17.6	36.0	18.4	Complied
Top	16QAM	39	2	14.9	16.9	36.0	19.1	Complied
Bottom	64QAM	52	2	15.4	17.4	36.0	18.6	Complied
Middle	64QAM	52	2	15.2	17.2	36.0	18.8	Complied
Top	64QAM	52	2	15.6	17.6	36.0	18.4	Complied
Bottom	64QAM	58.5	2	16.3	18.3	36.0	17.7	Complied
Middle	64QAM	58.5	2	15.4	17.4	36.0	18.6	Complied
Top	64QAM	58.5	2	15.0	17.0	36.0	19.0	Complied
Bottom	64QAM	65	2	16.0	18.0	36.0	18.0	Complied
Middle	64QAM	65	2	15.4	17.4	36.0	18.6	Complied
Top	64QAM	65	2	16.1	18.1	36.0	17.9	Complied

5.2.4. Transmitter Radiated Emissions

Test Summary:

Test Engineer:	Andrew Edwards	**Test Date:**	17 May 2011
Test Sample Serial No:	ID:1		
Antenna:	NanoBlue-IP04		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
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):	23
Relative Humidity (%):	23

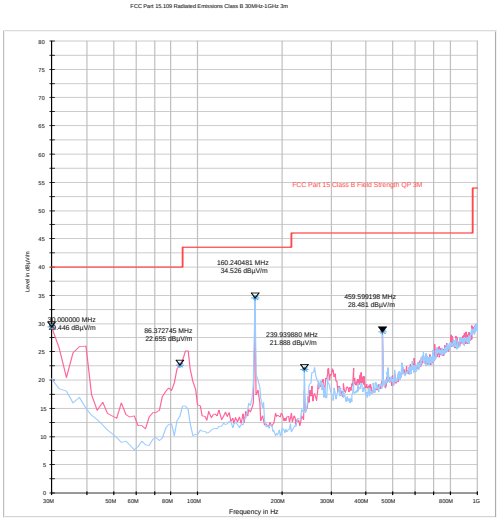
Results: Top Channel

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
30.076	Vertical	18.7	40.000	21.300	Complied
87.887	Vertical	20.7	40.000	19.300	Complied
159.995	Horizontal	31.1	43.500	12.400	Complied
240.002	Horizontal	19.7	46.000	26.300	Complied
458.805	Horizontal	29.6	46.000	16.400	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 preliminary scans showed similar emission levels below 1 GHz, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the top channel only.
3. All other emissions were at least 20 dB below the appropriate limit or below the noise floor of the measurement system.

Transmitter Radiated Emissions (continued)



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

Transmitter Radiated Emissions (continued)

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	17 and19 May 2011
Test Sample Serial No:	ID:1		
Antenna:	NanoBlue-IP04		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
Frequency Range	1 GHz to 26.5 GHz

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	27

Results:

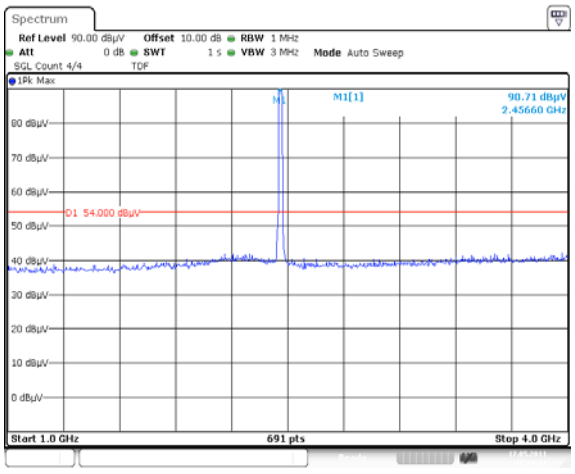
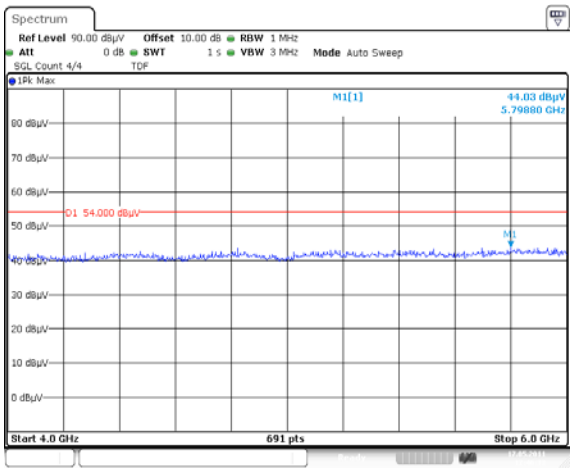
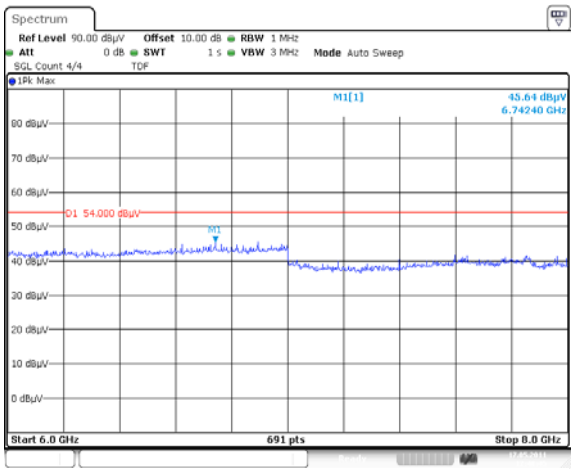
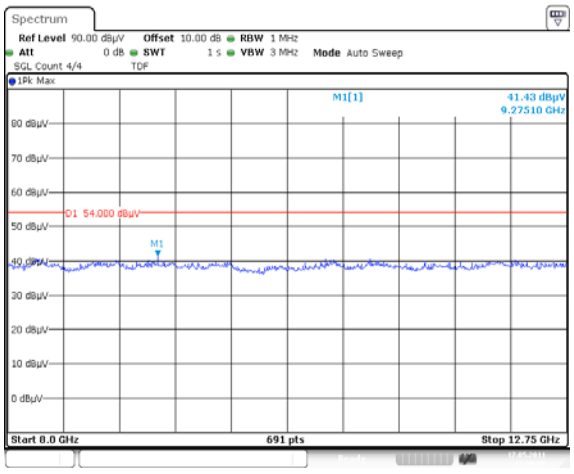
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
16529.8	Vertical	45.8	*54.0	8.2	Complied

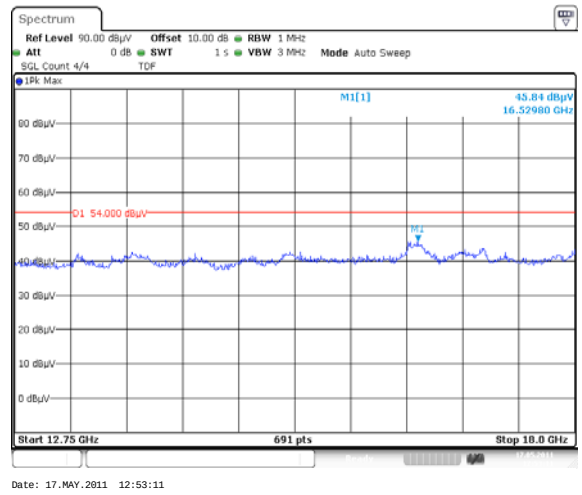
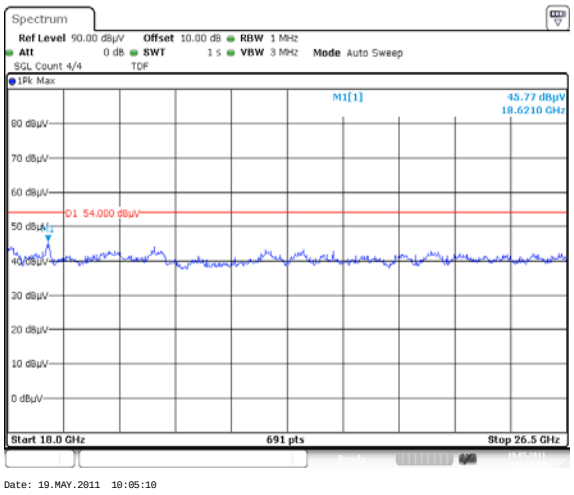
Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss
2. 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.
3. 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.
4. The emission shown on the 1 GHz to 4 GHz plot is the EUT fundamental.

* 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.

Transmitter Radiated Emissions (continued)

	
Radiated_Peak_1GHz_4GHz	Radiated_Peak_4GHz_6GHz
	
Radiated_Peak_6GHz_8GHz	Radiated_Peak_8GHz_12.75GHz

	
Radiated_Peak_12.75GHz_18GHz	Radiated_Peak_18GHz_26.5GHz

5.2.5. Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	10 May and 18 May 2011
Test Sample Serial No:	ID:1		
Antenna:	NanoBlue-IP04		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
Test Method Used:	As detailed in ANSI C63.10 Section 6.9.2

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	30

Results: Peak and Average 802.11b

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	1	BPSK	43.4	*68.1	24.7	Complied
2483.5	1	BPSK	50.0	74.0	24.0	Complied
2483.5	1	BPSK	39.1	54.0	14.9	Complied
2400.0	2	QPSK	43.8	*68.1	24.3	Complied
2483.5	2	QPSK	49.5	74.0	24.5	Complied
2483.5	2	QPSK	39.1	54.0	14.9	Complied
2400.0	5.5	CCK	42.2	*68.0	25.8	Complied
2483.5	5.5	CCK	51.5	74.0	22.5	Complied
2483.5	5.5	CCK	38.9	54.0	15.1	Complied
2400.0	11	CCK	42.8	*68.5	25.7	Complied
2483.5	11	CCK	50.2	74.0	23.8	Complied
2483.5	11	CCK	39.1	54.0	14.9	Complied

Transmitter Band Edge Radiated Emissions (continued)

Results: Peak and Average 802.11g

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	6	BPSK	50.2	*62.2	12.0	Complied
2483.5	6	BPSK	53.3	74.0	20.7	Complied
2483.5	6	BPSK	39.7	54.0	14.3	Complied
2400.0	9	BPSK	49.3	*62.2	12.9	Complied
2483.5	9	BPSK	51.5	74.0	22.5	Complied
2483.5	9	BPSK	39.6	54.0	14.4	Complied
2400.0	12	QPSK	48.2	*62.5	14.3	Complied
2483.5	12	QPSK	51.0	74.0	23.0	Complied
2483.5	12	QPSK	39.6	54.0	14.4	Complied
2400.0	18	QPSK	49.1	*62.2	13.1	Complied
2483.5	18	QPSK	50.8	74.0	23.2	Complied
2483.5	18	QPSK	39.6	54.0	14.4	Complied
2400.0	24	16QAM	50.3	*63.0	12.7	Complied
2483.5	24	16QAM	52.0	74.0	22.0	Complied
2483.5	24	16QAM	39.6	54.0	14.4	Complied
2400.0	36	16QAM	49.4	*63.4	14.0	Complied
2483.5	36	16QAM	52.0	74.0	22.0	Complied
2483.5	36	16QAM	39.6	54.0	14.4	Complied
2400.0	48	64QAM	49.5	*63.8	14.3	Complied
2483.5	48	64QAM	52.3	74.0	21.7	Complied
2483.5	48	64QAM	39.6	54.0	14.4	Complied
2400.0	54	64QAM	49.7	*64.2	14.5	Complied
2483.5	54	64QAM	51.2	74.0	22.8	Complied
2483.5	54	64QAM	39.6	54.0	14.4	Complied

Transmitter Band Edge Radiated Emissions (continued)

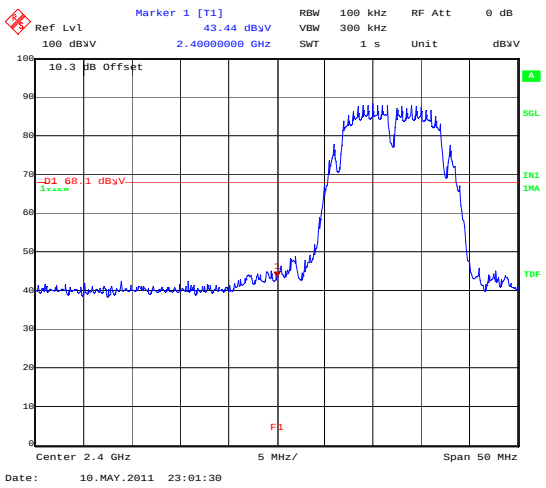
Results: Peak and Average 802.11n

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	6.5	BPSK	52.7	*67.6	14.9	Complied
2483.5	6.5	BPSK	51.5	74.0	22.5	Complied
2483.5	6.5	BPSK	40.6	54.0	13.4	Complied
2400.0	13	BPSK	52.4	*67.5	15.1	Complied
2483.5	13	BPSK	51.9	74.0	22.1	Complied
2483.5	13	BPSK	40.6	54.0	13.4	Complied
2400.0	19.5	QPSK	51.9	*67.9	16.0	Complied
2483.5	19.5	QPSK	53.4	74.0	20.6	Complied
2483.5	19.5	QPSK	40.7	54.0	13.3	Complied
2400.0	26	QPSK	54.5	*68.5	14.0	Complied
2483.5	26	QPSK	52.9	74.0	21.1	Complied
2483.5	26	QPSK	40.6	54.0	13.4	Complied
2400.0	39	16QAM	52.2	*68.1	15.9	Complied
2483.5	39	16QAM	56.1	74.0	17.9	Complied
2483.5	39	16QAM	40.7	54.0	13.3	Complied
2400.0	52	16QAM	53.5	*68.7	15.2	Complied
2483.5	52	16QAM	52.1	74.0	21.9	Complied
2483.5	52	16QAM	40.7	54.0	13.3	Complied
2400.0	58.5	64QAM	53.2	*69.2	16.0	Complied
2483.5	58.5	64QAM	55.9	74.0	18.1	Complied
2483.5	58.5	64QAM	40.7	54.0	13.3	Complied
2400.0	65	64QAM	54.3	*69.1	14.8	Complied
2483.5	65	64QAM	52.3	74.0	21.7	Complied
2483.5	65	64QAM	40.8	54.0	13.2	Complied

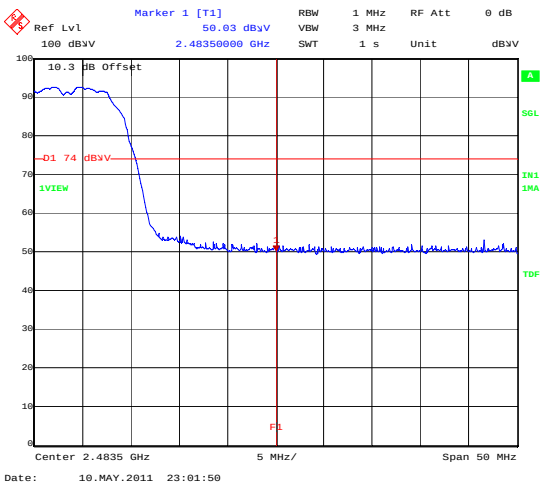
Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. * -20 dBc limit.

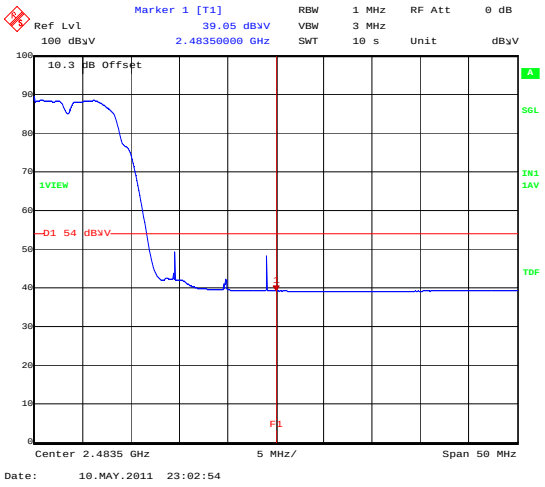
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_1MBS_BottomChannel

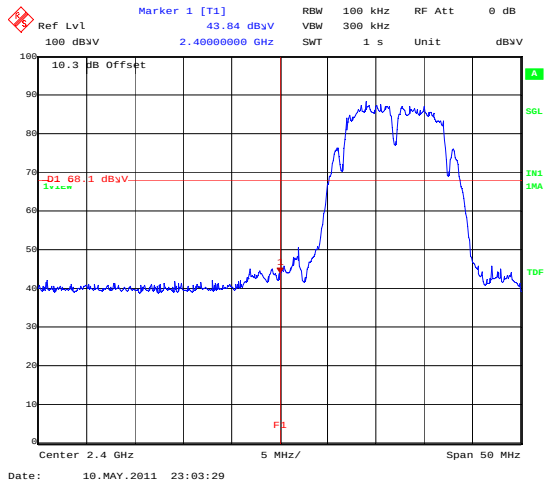


BandEdge_802_11B_1MBS_TopChannel

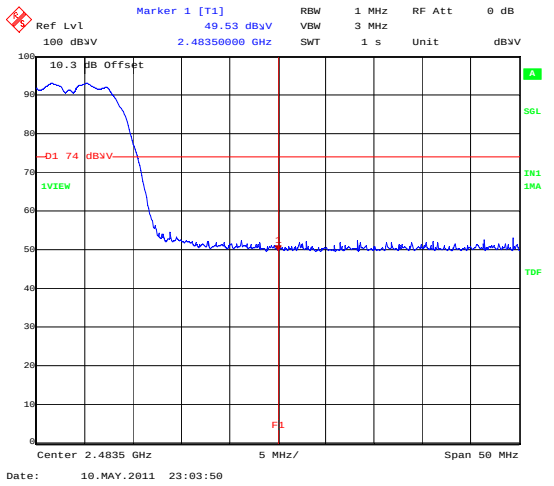


BandEdge_802_11B_1MBS_TopChannelAVG

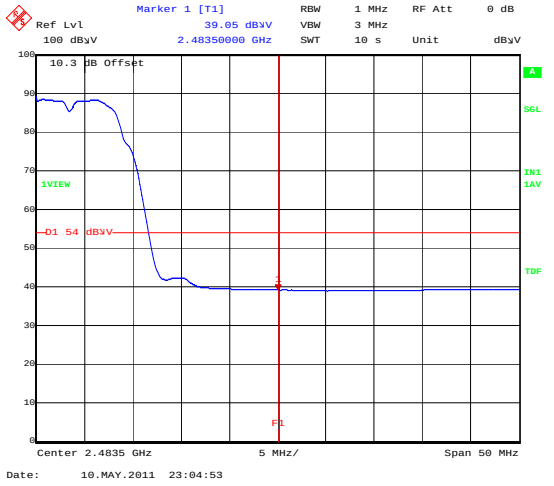
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_2MBS_BottomChannel

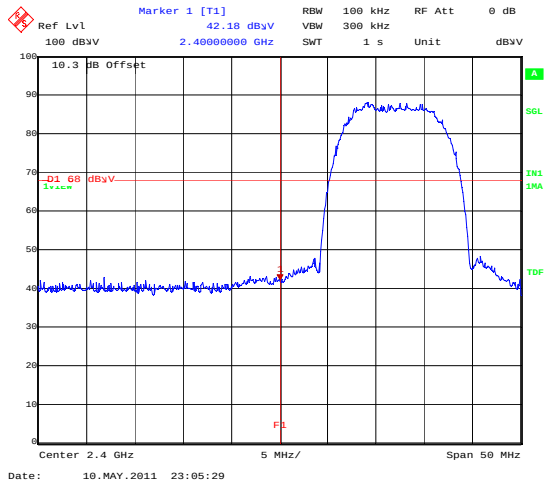


BandEdge_802_11B_2MBS_TopChannel

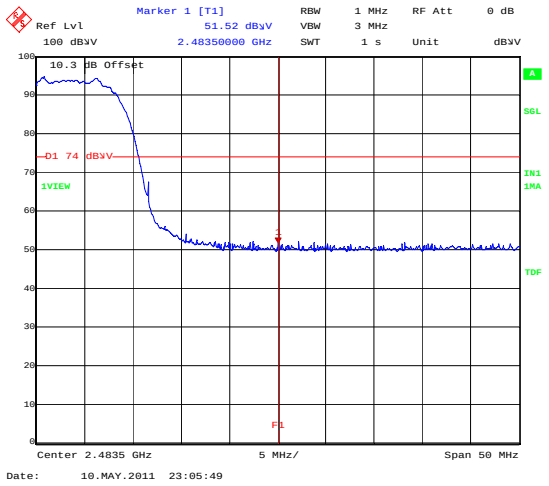


BandEdge_802_11B_2MBS_TopChannelAVG

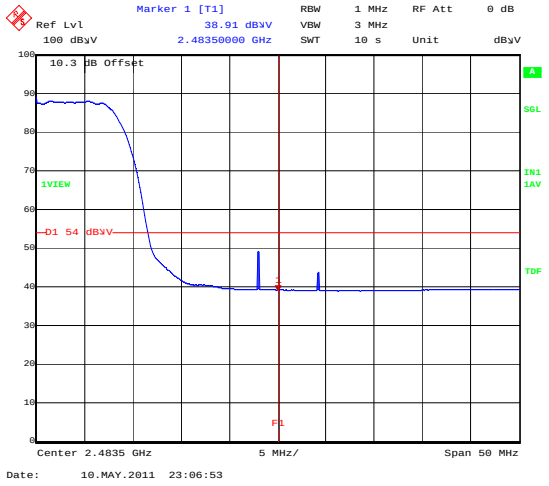
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_5.5MBS_BottomChannel

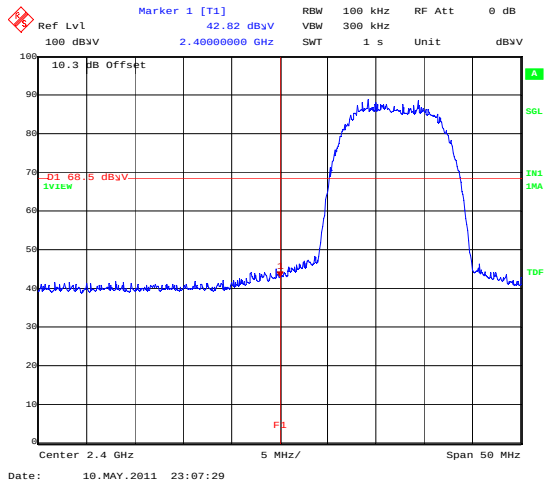


BandEdge_802_11B_5.5MBS_TopChannel

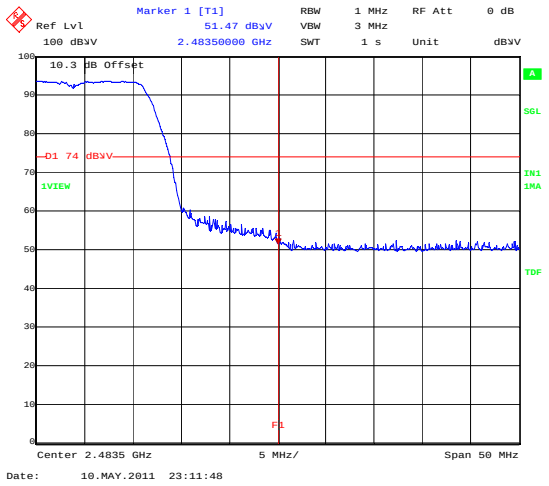


BandEdge_802_11B_5.5MBS_TopChannelAVG

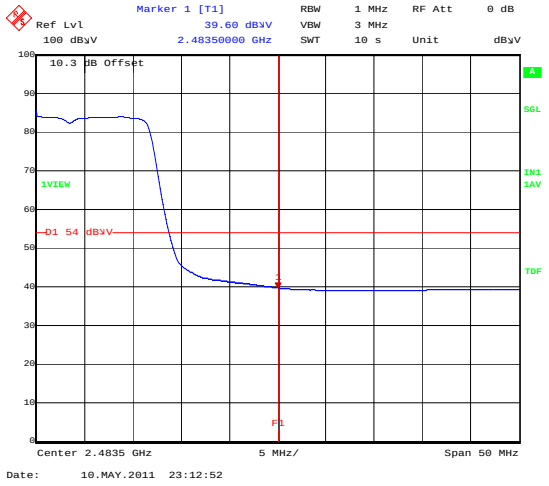
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_11MBS_BottomChannel

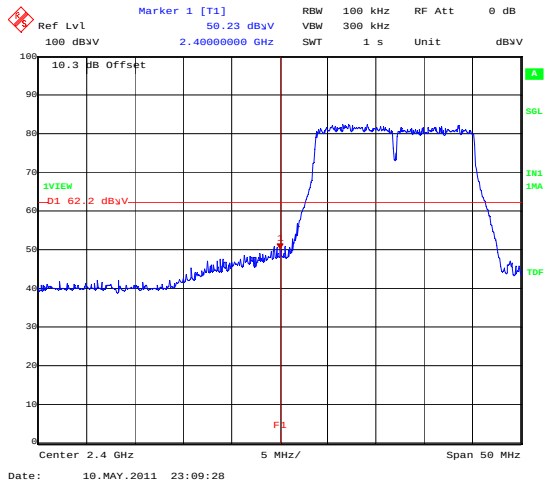


BandEdge_802_11B_11MBS_TopChannel

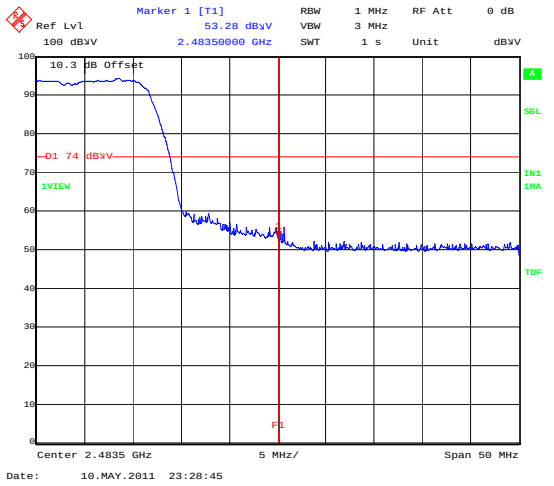


BandEdge_802_11B_11MBS_TopChannelAVG

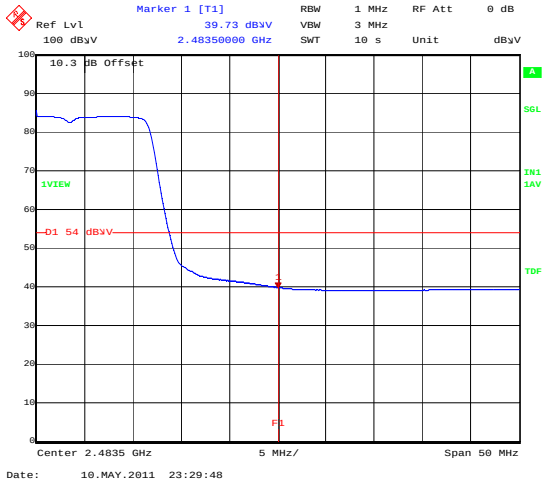
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_6MBS_BottomChannel

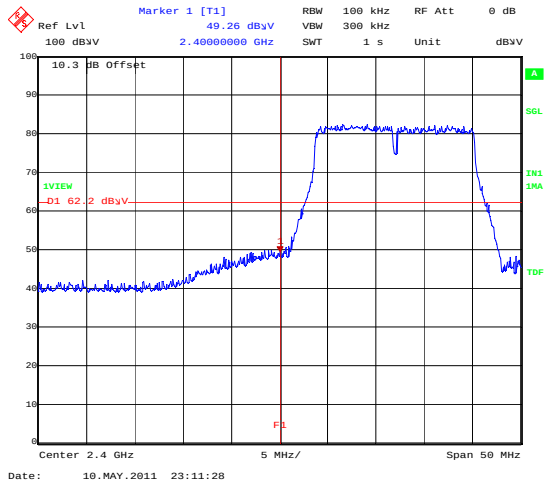


BandEdge_802_11G_6MBS_TopChannel

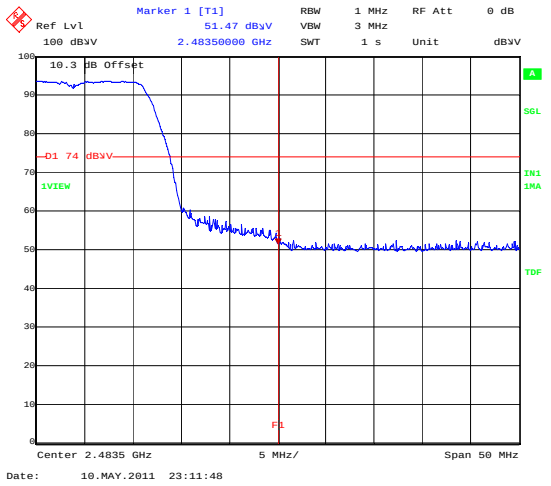


BandEdge_802_11G_6MBS_TopChannelAVG

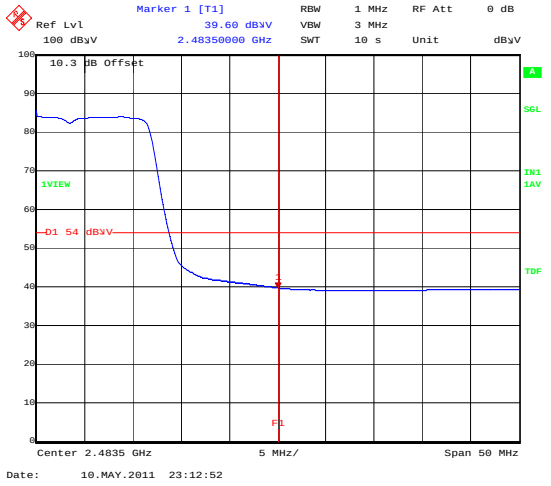
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_9MBS_BottomChannel

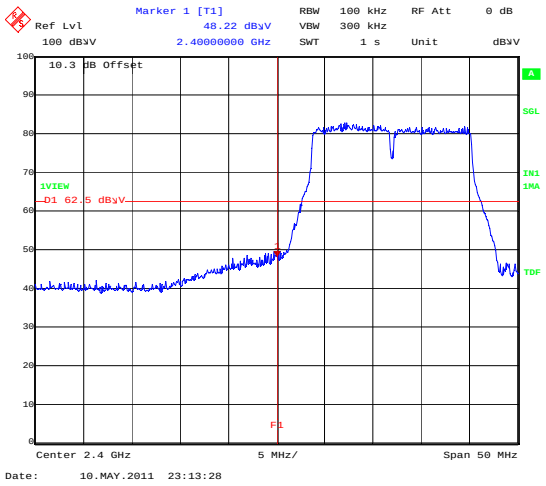


BandEdge_802_11G_9MBS_TopChannel

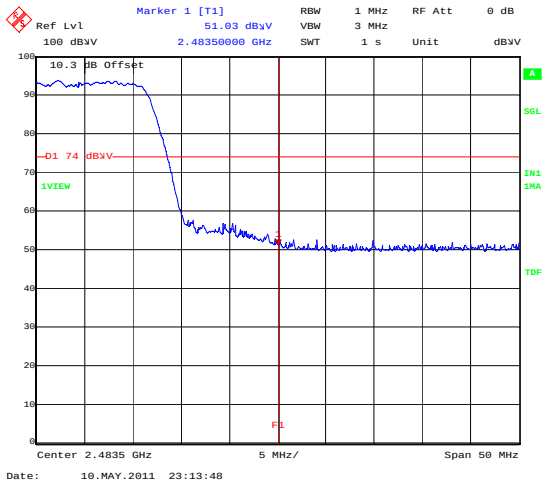


BandEdge_802_11G_9MBS_TopChannelAVG

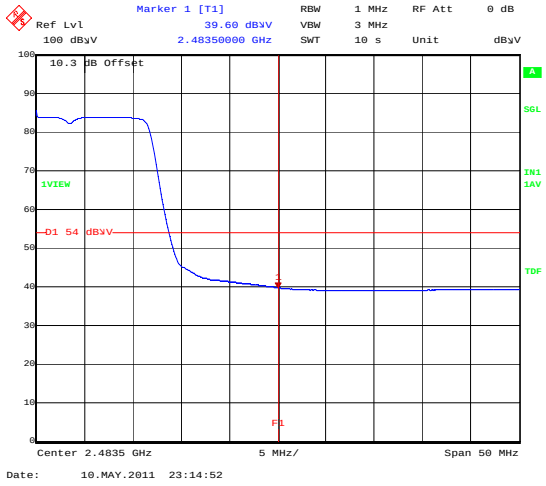
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_12MBS_BottomChannel

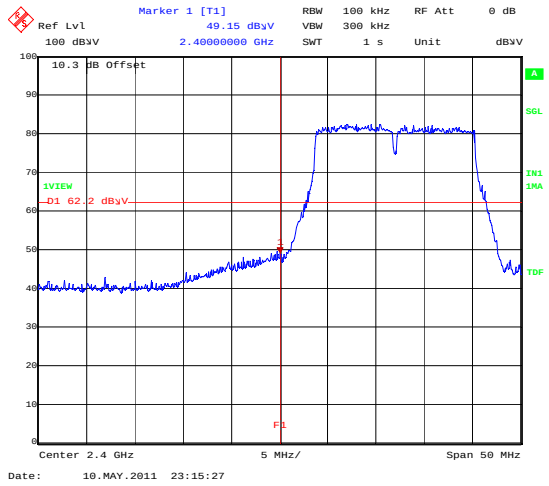


BandEdge_802_11G_12MBS_TopChannel

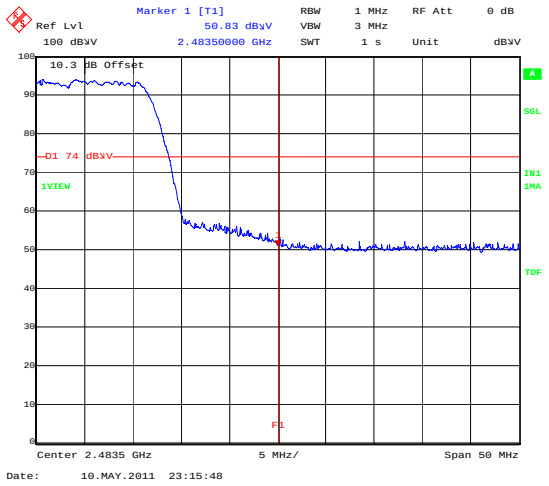


BandEdge_802_11G_12MBS_TopChannelAVG

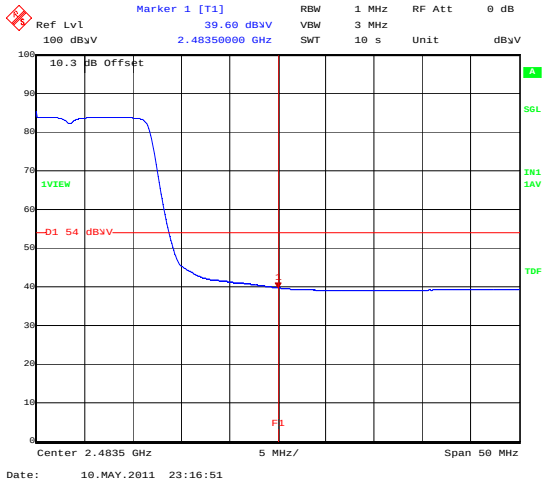
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_18MBS_BottomChannel

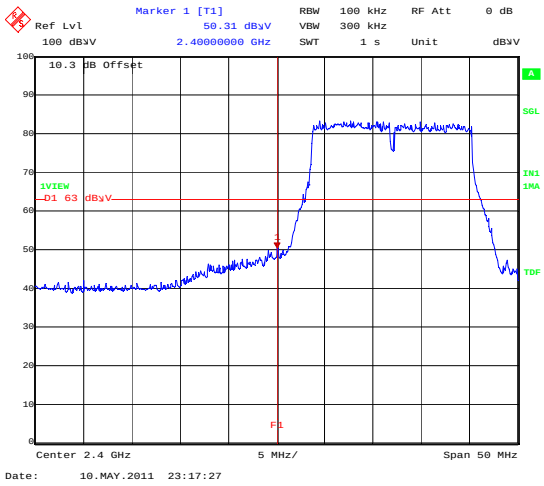


BandEdge_802_11G_18MBS_TopChannel

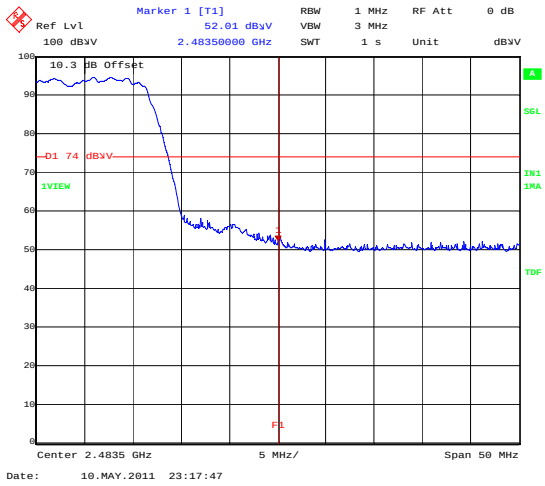


BandEdge_802_11G_18MBS_TopChannelAVG

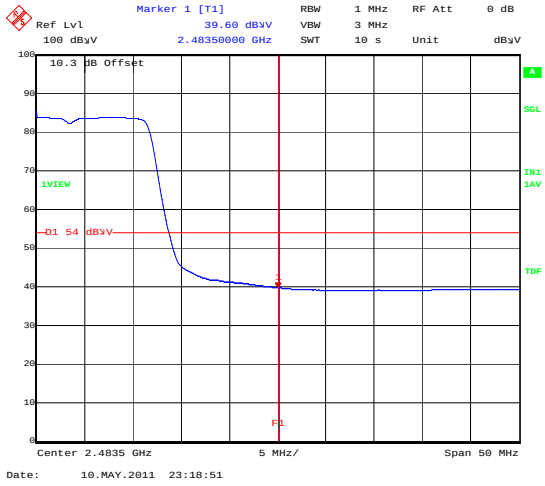
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_24MBS_BottomChannel

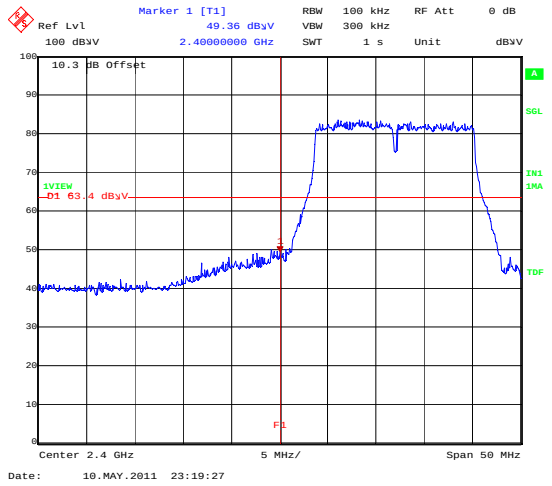


BandEdge_802_11G_24MBS_TopChannel

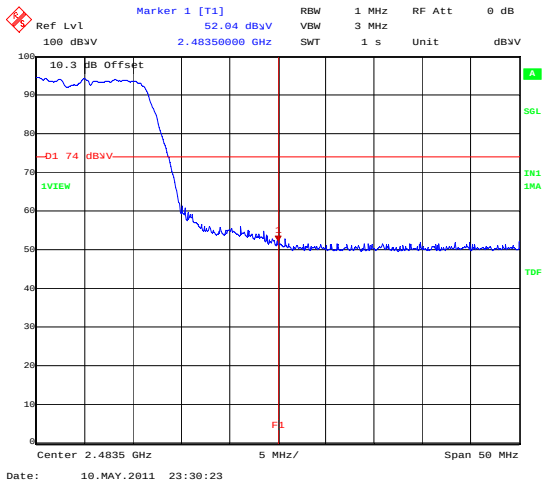


BandEdge_802_11G_24MBS_TopChannelAVG

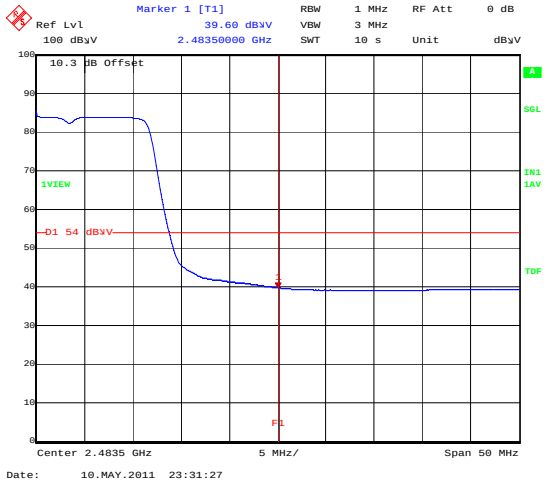
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_36MBS_BottomChannel

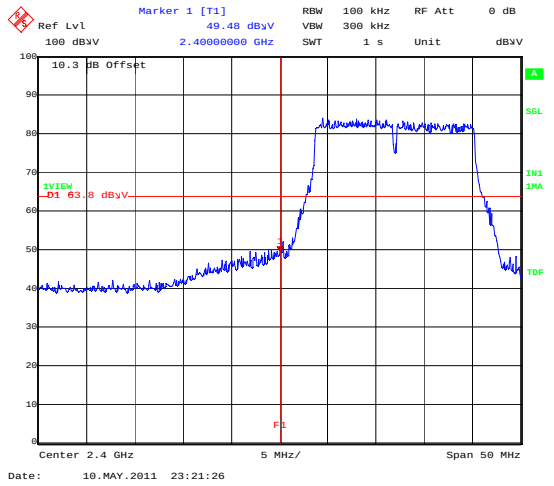


BandEdge_802_11G_36MBS_TopChannel

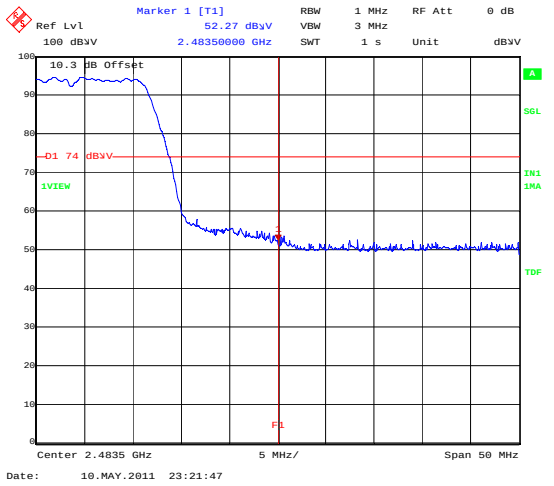


BandEdge_802_11G_36MBS_TopChannelAVG

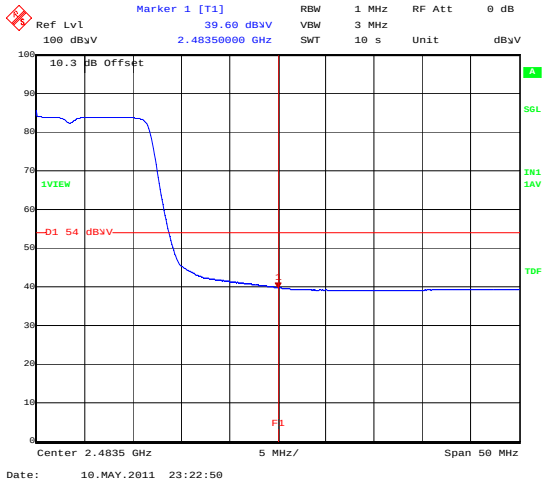
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_48MBS_BottomChannel

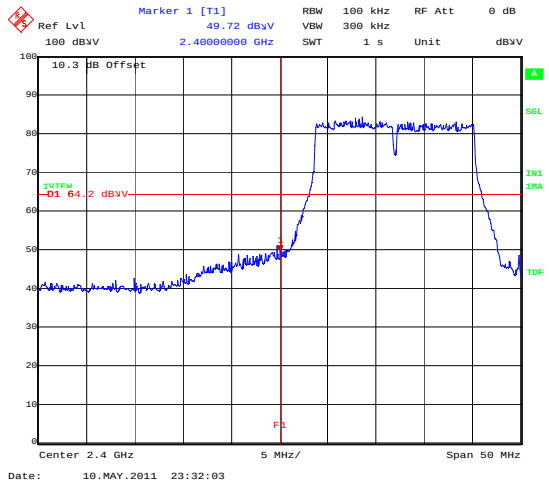


BandEdge_802_11G_48MBS_TopChannel

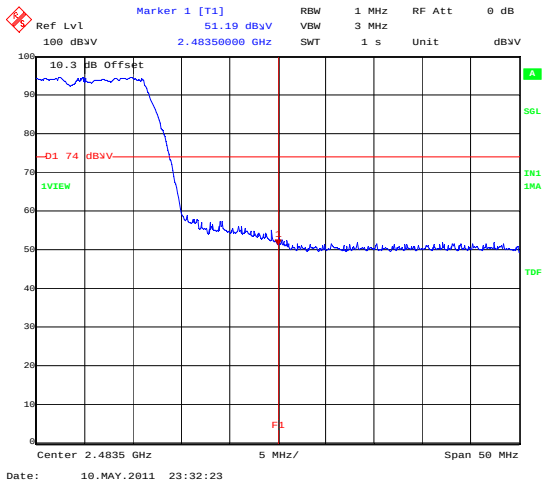


BandEdge_802_11G_48MBS_TopChannelAVG

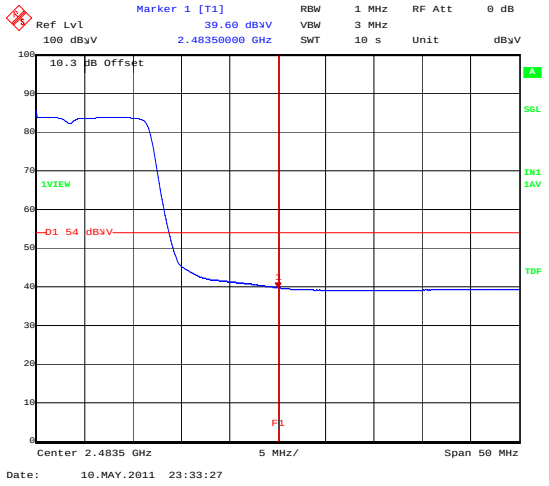
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_54MBS_BottomChannel

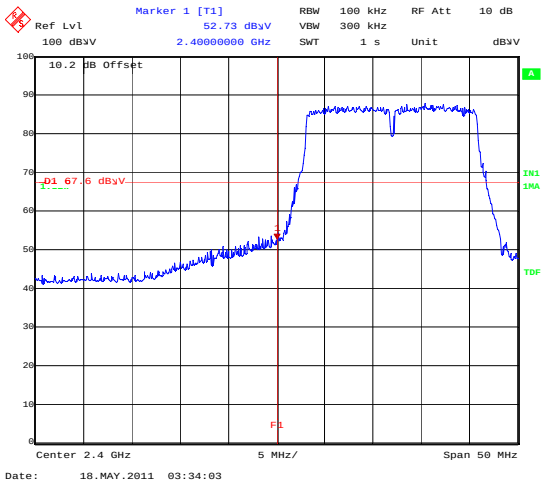


BandEdge_802_11G_54MBS_TopChannel

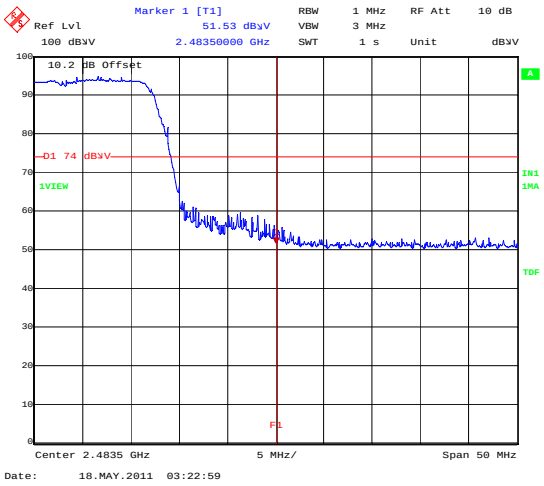


BandEdge_802_11G_54MBS_TopChannelAVG

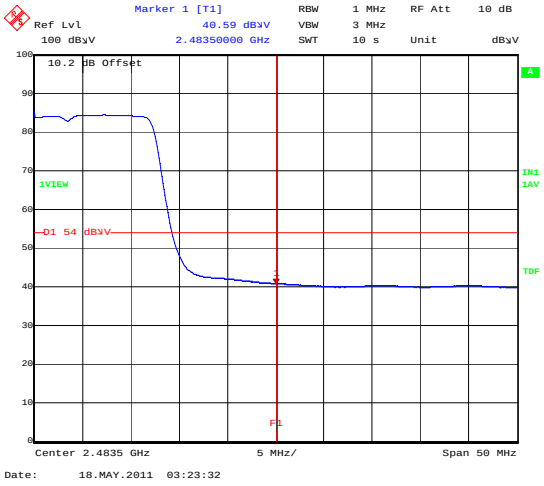
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_6.5MBS_BotChannel

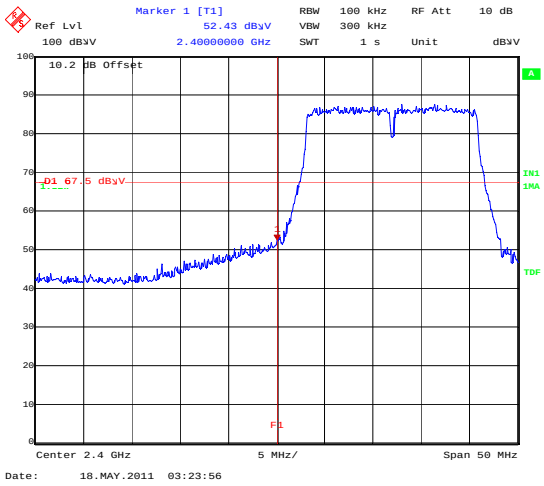


BandEdge_802_11N_6.5MBS_TopChannel

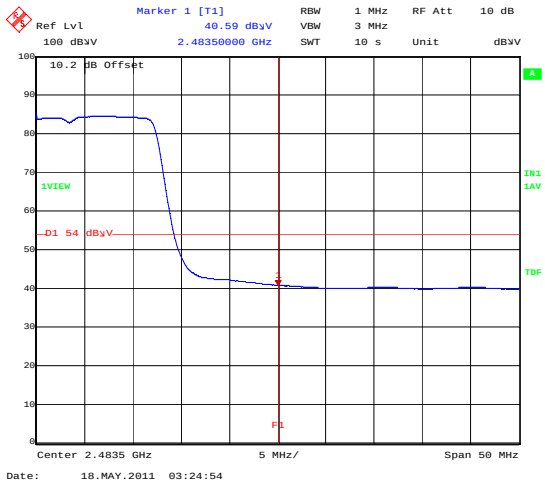


BandEdge_802_11N_6.5MBS_TopChannelAVG

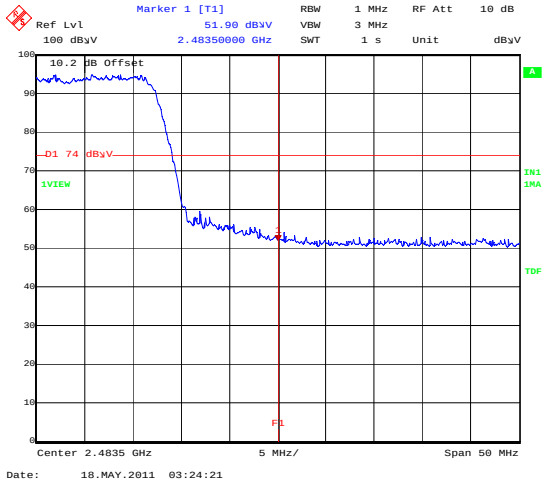
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_13MBS_BotChannel

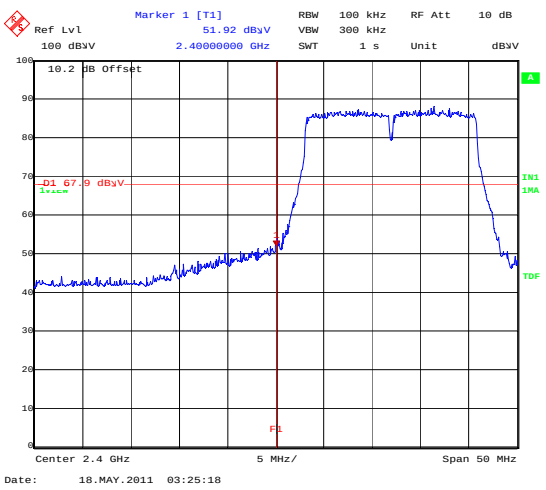


BandEdge_802_11N_13MBS_TopChannel

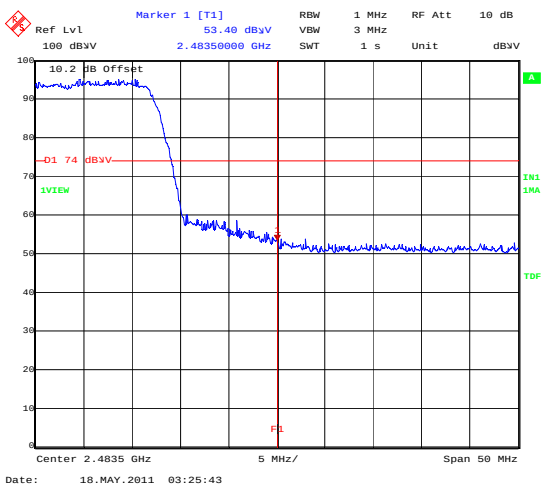


BandEdge_802_11N_13MBS_TopChannelAVG

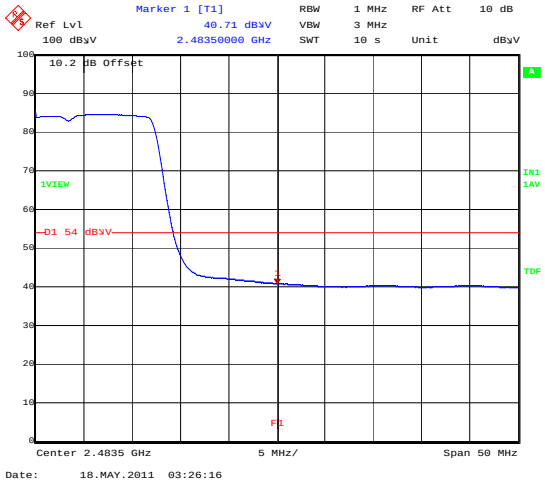
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_19.5MBS_BotChannel

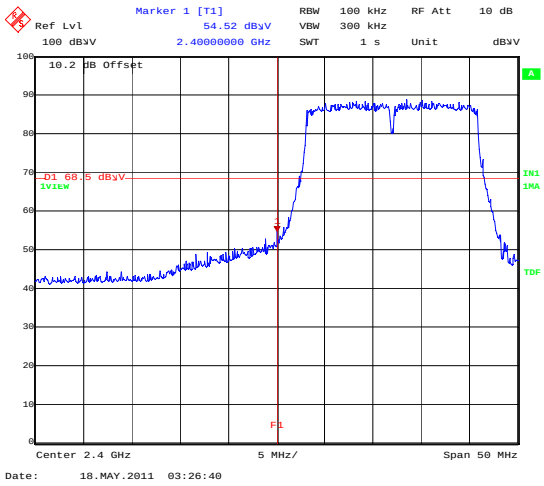


BandEdge_802_11N_19.5MBS_TopChannel

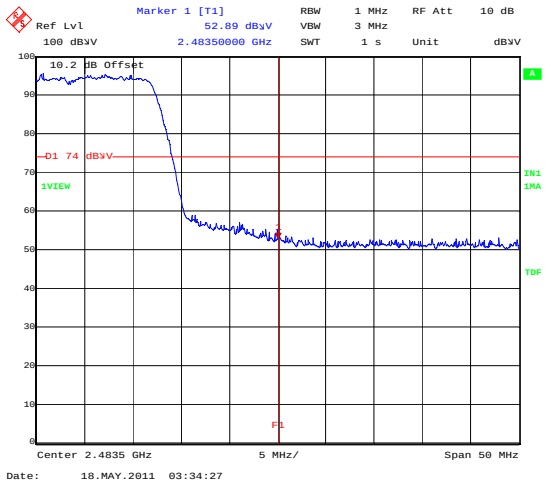


BandEdge_802_11N_19.5MBS_TopChannelAVG

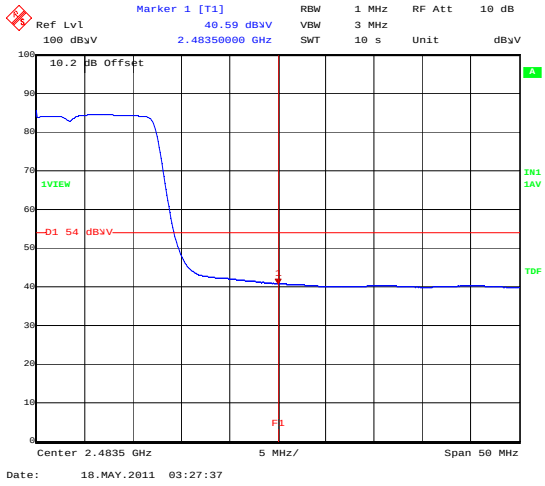
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_26MBS_BotChannel

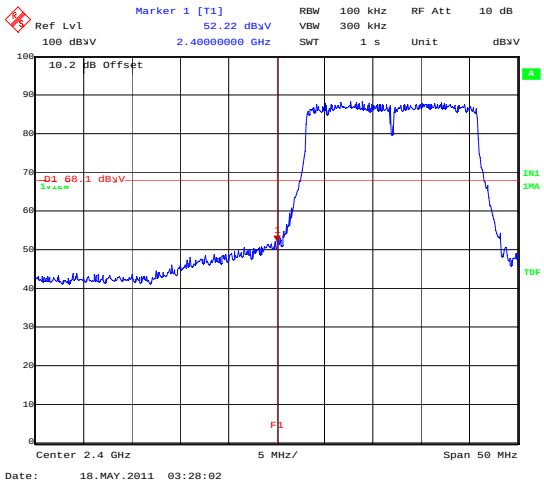


BandEdge_802_11N_26MBS_TopChannel

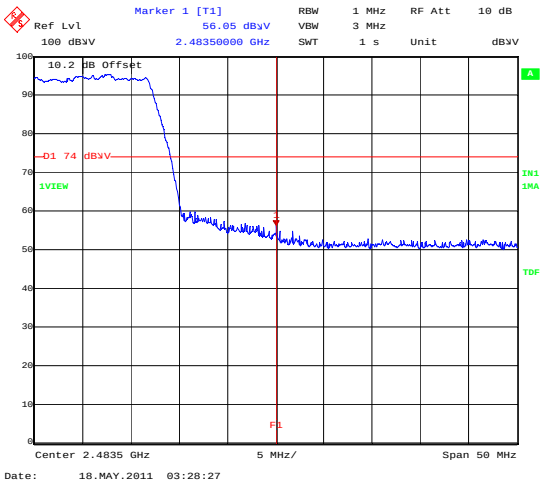


BandEdge_802_11N_26MBS_TopChannelAVG

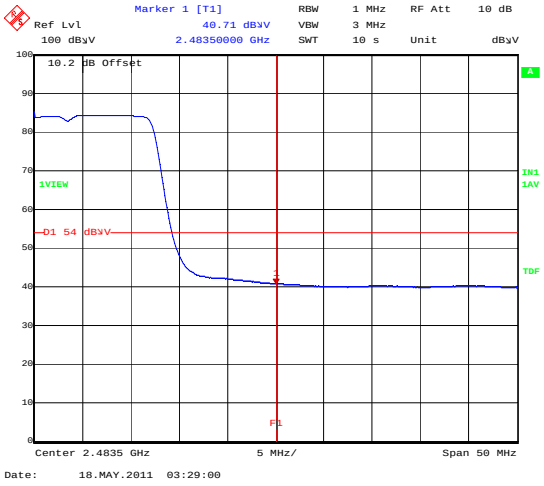
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_39MBS_BotChannel

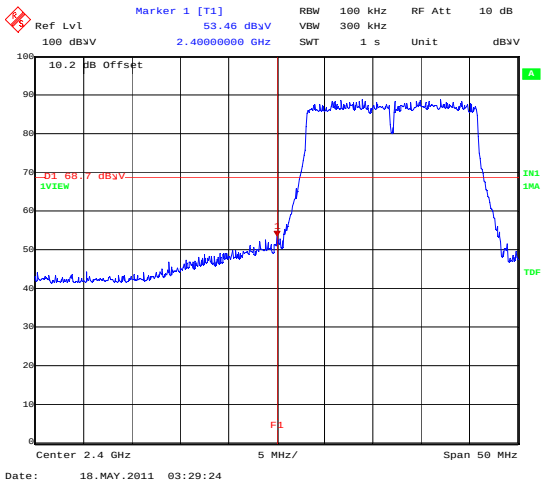


BandEdge_802_11N_39MBS_TopChannel

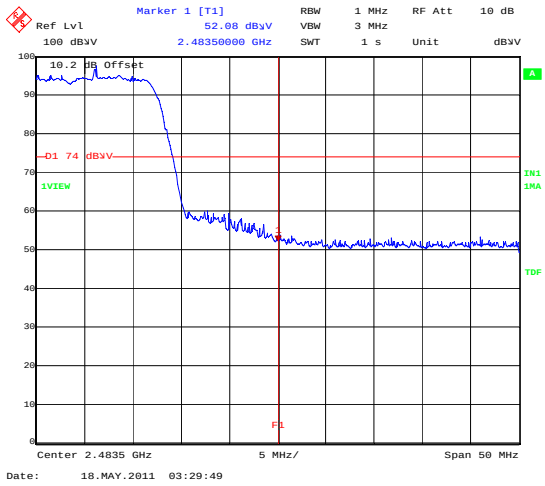


BandEdge_802_11N_39MBS_TopChannelAVG

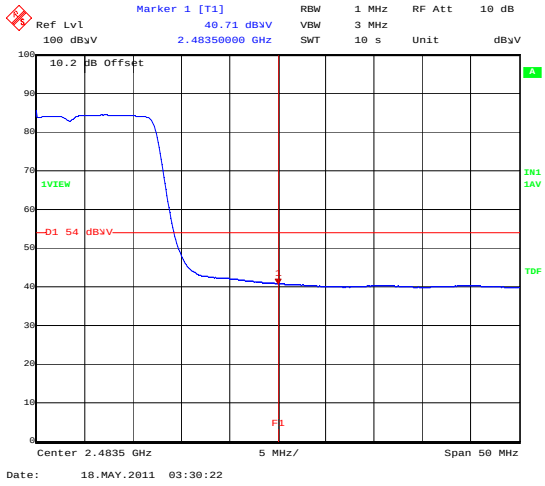
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_52MBS_BotChannel

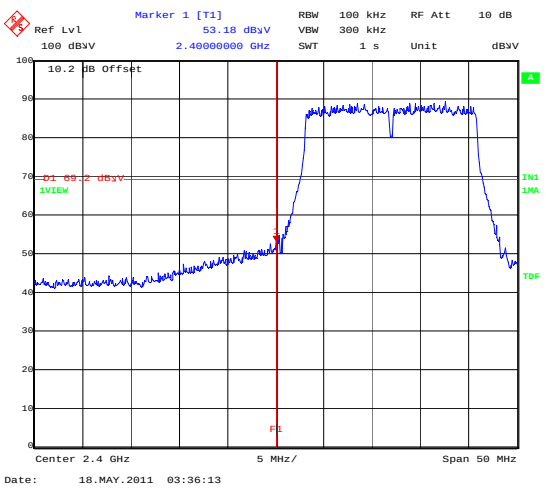


BandEdge_802_11N_52MBS_TopChannel

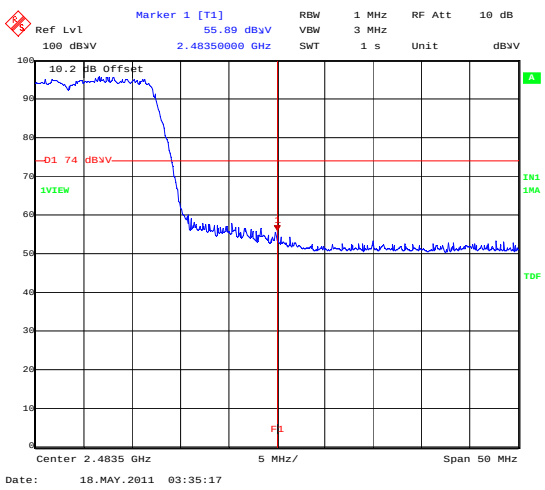


BandEdge_802_11N_52MBS_TopChannelAVG

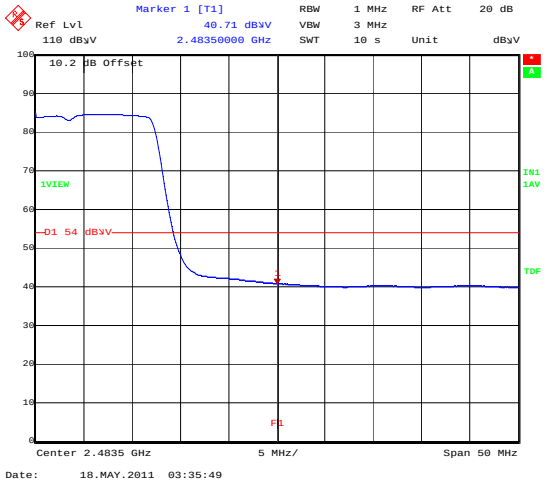
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_58.5MBS_BotChannel

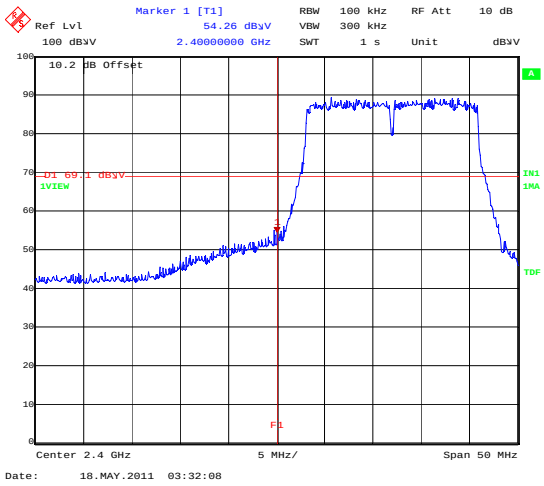


BandEdge_802_11N_58.5MBS_TopChannel

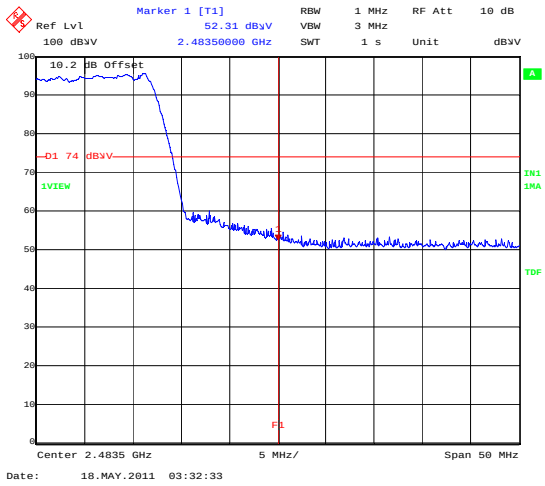


BandEdge_802_11N_58.5MBS_TopChannelAVG

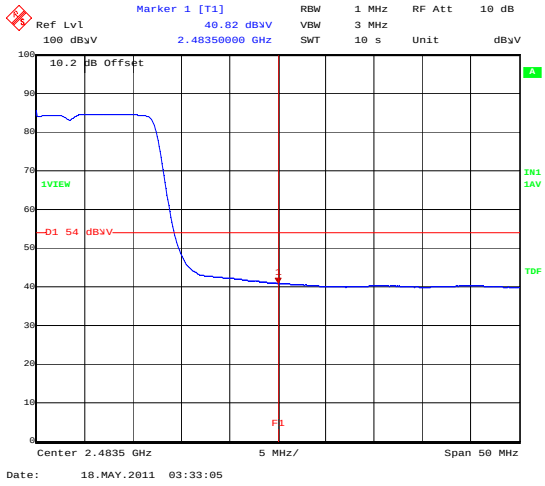
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_65MBS_BotChannel



BandEdge_802_11N_65MBS_TopChannel



BandEdge_802_11N_65MBS_TopChannelAVG

5.3. Test Results - WCR-2400-IP04 Antenna:

5.3.1. Receiver/Idle Mode Radiated Spurious Emissions

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	17 May 2011
Test Sample IMEI:	ID:1		
Antenna:	WCR-2400-IP04		

FCC/IC Part:	15.109 and RSS-Gen 4.10 / RSS-Gen 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):	24
Relative Humidity (%):	23

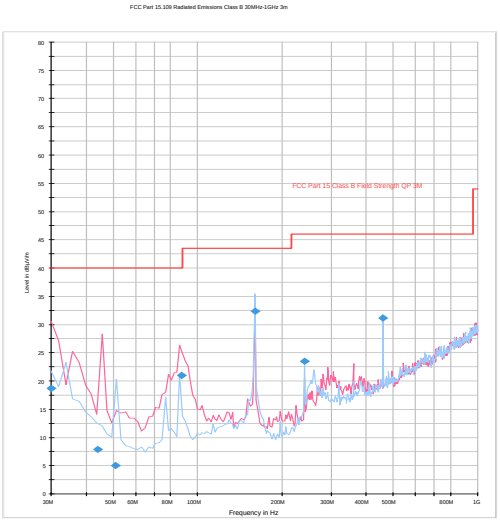
Results: Quasi Peak

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
30.076	Vertical	18.7	40.0	21.3	Complied
87.887	Vertical	20.7	40.0	19.3	Complied
159.995	Horizontal	31.1	43.5	12.4	Complied
240.002	Horizontal	19.7	46.0	26.3	Complied
458.805	Horizontal	29.6	46.0	16.4	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. 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	**Test Date:**	17 May 2011
Test Sample IMEI:	ID:1		
Antenna:	WCR-2400-IP04		

FCC/IC Part:	15.109 and RSS-Gen 4.10 / RSS-Gen 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 12.75 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	25

Results:

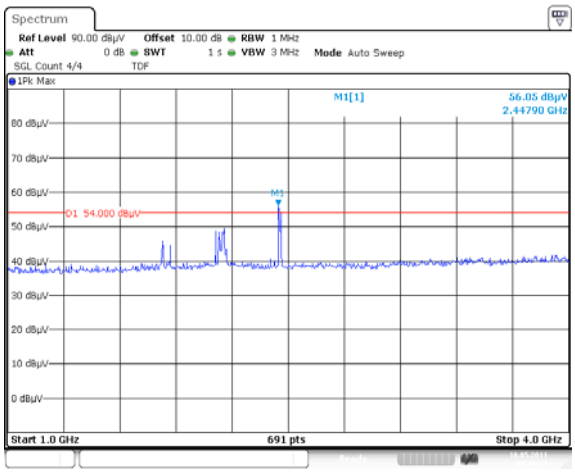
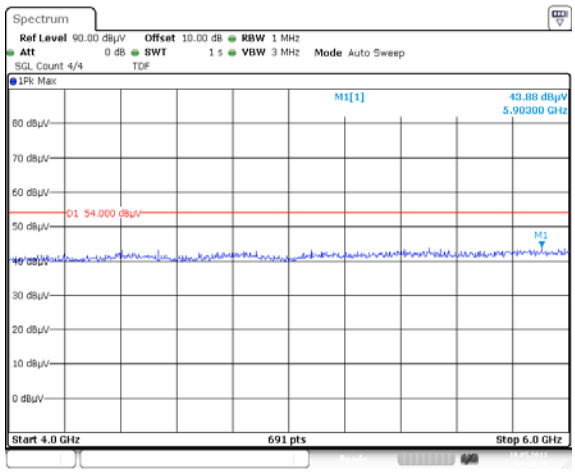
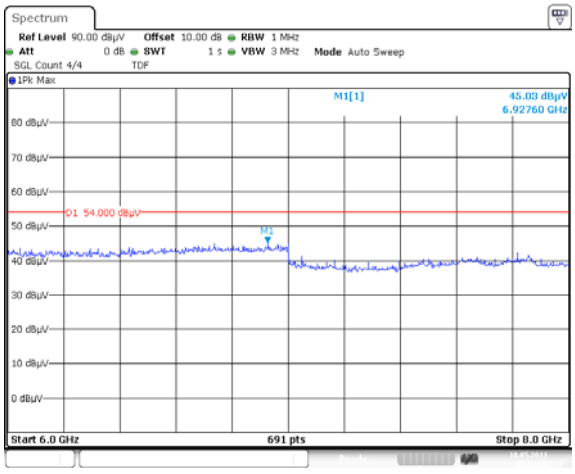
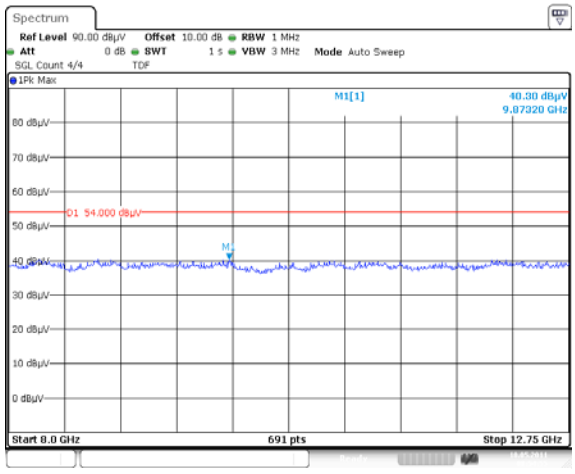
Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
6927.6	Vertical	45.0	*54.0	9.0	Complied

Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. 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.

* 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)

	
Radiated_Peak_1GHz_4GHz	Radiated_Peak_4GHz_6GHz
	
Radiated_Peak_6GHz_8GHz	Radiated_Peak_8GHz_12.75GHz

5.3.2. Transmitter Maximum Peak Output Power

Test Summary:

Test Engineer:	David Lakeland	**Test Date:**	11 May 2011
Test Sample:	ID:1		

FCC Part:	15.247(b)(3)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.2

Note: Test method used – power meter

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	29

Results: 802.11b

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	1	17.4	30	12.6	Complied
Middle	2437	BPSK	1	17.1	30	12.9	Complied
Top	2462	BPSK	1	16.3	30	13.7	Complied
Bottom	2412	QPSK	2	16.8	30	13.2	Complied
Middle	2437	QPSK	2	16.5	30	13.5	Complied
Top	2462	QPSK	2	16.2	30	13.8	Complied
Bottom	2412	QPSK	5.5	16.8	30	13.2	Complied
Middle	2437	QPSK	5.5	16.5	30	13.6	Complied
Top	2462	QPSK	5.5	16.1	30	13.9	Complied
Bottom	2412	QPSK	11	16.7	30	13.3	Complied
Middle	2437	QPSK	11	16.5	30	13.6	Complied
Top	2462	QPSK	11	16.2	30	13.9	Complied

Transmitter Maximum Peak Output Power (continued)

Results: 802.11g

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	6	15.2	30	14.8	Complied
Middle	2437	BPSK	6	14.9	30	15.1	Complied
Top	2462	BPSK	6	14.6	30	15.4	Complied
Bottom	2412	BPSK	9	15.2	30	14.8	Complied
Middle	2437	BPSK	9	15.1	30	14.9	Complied
Top	2462	BPSK	9	15.1	30	14.9	Complied
Bottom	2412	QPSK	12	15.4	30	14.6	Complied
Middle	2437	QPSK	12	15.0	30	15.0	Complied
Top	2462	QPSK	12	14.7	30	15.3	Complied
Bottom	2412	QPSK	18	15.3	30	14.7	Complied
Middle	2437	QPSK	18	15.1	30	14.9	Complied
Top	2462	QPSK	18	14.7	30	15.3	Complied
Bottom	2412	16QAM	24	15.3	30	14.7	Complied
Middle	2437	16QAM	24	15.0	30	15.0	Complied
Top	2462	16QAM	24	14.7	30	15.3	Complied
Bottom	2412	16QAM	36	15.4	30	14.6	Complied
Middle	2437	16QAM	36	15.0	30	15.0	Complied
Top	2462	16QAM	36	14.7	30	15.3	Complied
Bottom	2412	16QAM	48	15.4	30	14.6	Complied
Middle	2437	16QAM	48	15.1	30	14.9	Complied
Top	2462	16QAM	48	14.8	30	15.3	Complied
Bottom	2412	64QAM	54	15.7	30	14.3	Complied
Middle	2437	64QAM	54	15.1	30	14.9	Complied
Top	2462	64QAM	54	14.7	30	15.3	Complied

Transmitter Maximum Peak Output Power (continued)

Results: 802.11n

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	6.5	15.6	30	14.4	Complied
Middle	2437	BPSK	6.5	15.3	30	14.7	Complied
Top	2462	BPSK	6.5	15.0	30	15.0	Complied
Bottom	2412	QPSK	13	15.5	30	14.6	Complied
Middle	2437	QPSK	13	15.2	30	14.8	Complied
Top	2462	QPSK	13	14.9	30	15.1	Complied
Bottom	2412	QPSK	19.5	15.4	30	14.6	Complied
Middle	2437	QPSK	19.5	14.9	30	15.1	Complied
Top	2462	QPSK	19.5	14.8	30	15.3	Complied
Bottom	2412	16QAM	26	15.3	30	14.7	Complied
Middle	2437	16QAM	26	15.1	30	14.9	Complied
Top	2462	16QAM	26	14.8	30	15.2	Complied
Bottom	2412	16QAM	39	15.6	30	14.4	Complied
Middle	2437	16QAM	39	15.6	30	14.4	Complied
Top	2462	16QAM	39	14.9	30	15.1	Complied
Bottom	2412	64QAM	52	15.4	30	14.6	Complied
Middle	2437	64QAM	52	15.2	30	14.8	Complied
Top	2462	64QAM	52	15.6	30	14.4	Complied
Bottom	2412	64QAM	58.5	16.3	30	13.7	Complied
Middle	2437	64QAM	58.5	15.4	30	14.6	Complied
Top	2462	64QAM	58.5	15.0	30	15.1	Complied
Bottom	2412	64QAM	65	16.0	30	14.0	Complied
Middle	2437	64QAM	65	15.4	30	14.6	Complied
Top	2462	64QAM	65	16.1	30	13.9	Complied

5.3.3. Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP)

FCC Part:	15.247(b)(3)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.2

Results: 802.11b

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	1	2	17.4	19.4	36.0	16.6	Complied
Middle	BPSK	1	2	17.1	19.1	36.0	16.9	Complied
Top	BPSK	1	2	16.3	18.3	36.0	17.7	Complied
Bottom	QPSK	2	2	16.8	18.8	36.0	17.2	Complied
Middle	QPSK	2	2	16.5	18.5	36.0	17.5	Complied
Top	QPSK	2	2	16.2	18.2	36.0	17.8	Complied
Bottom	QPSK	5.5	2	16.8	18.8	36.0	17.2	Complied
Middle	QPSK	5.5	2	16.5	18.5	36.0	17.5	Complied
Top	QPSK	5.5	2	16.1	18.1	36.0	17.9	Complied
Bottom	QPSK	11	2	16.7	18.7	36.0	17.3	Complied
Middle	QPSK	11	2	16.5	18.5	36.0	17.5	Complied
Top	QPSK	11	2	16.2	18.2	36.0	17.8	Complied

Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP) (Continued)

Results: 802.11g

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6	2	15.2	17.2	36.0	18.8	Complied
Middle	BPSK	6	2	14.9	16.9	36.0	19.1	Complied
Top	BPSK	6	2	14.6	16.6	36.0	19.4	Complied
Bottom	BPSK	9	2	15.2	17.2	36.0	18.8	Complied
Middle	BPSK	9	2	15.1	17.1	36.0	18.9	Complied
Top	BPSK	9	2	15.1	17.1	36.0	18.9	Complied
Bottom	QPSK	12	2	15.4	17.4	36.0	18.6	Complied
Middle	QPSK	12	2	15.0	17.0	36.0	19.0	Complied
Top	QPSK	12	2	14.7	16.7	36.0	19.3	Complied
Bottom	QPSK	18	2	15.3	17.3	36.0	18.7	Complied
Middle	QPSK	18	2	15.1	17.1	36.0	18.9	Complied
Top	QPSK	18	2	14.7	16.7	36.0	19.3	Complied
Bottom	16QAM	24	2	15.3	17.3	36.0	18.7	Complied
Middle	16QAM	24	2	15.0	17.0	36.0	19.0	Complied
Top	16QAM	24	2	14.7	16.7	36.0	19.3	Complied
Bottom	16QAM	36	2	15.4	17.4	36.0	18.6	Complied
Middle	16QAM	36	2	15.0	17.0	36.0	19.0	Complied
Top	16QAM	36	2	14.7	16.7	36.0	19.3	Complied
Bottom	16QAM	48	2	15.4	17.4	36.0	18.6	Complied
Middle	16QAM	48	2	15.1	17.1	36.0	18.9	Complied
Top	16QAM	48	2	14.8	16.8	36.0	19.2	Complied
Bottom	64QAM	54	2	15.7	17.7	36.0	18.3	Complied
Middle	64QAM	54	2	15.1	17.1	36.0	18.9	Complied
Top	64QAM	54	2	14.7	16.7	36.0	19.3	Complied

Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP) (Continued)

Results: 802.11n

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6.5	2	15.6	17.6	36.0	18.4	Complied
Middle	BPSK	6.5	2	15.3	17.3	36.0	18.7	Complied
Top	BPSK	6.5	2	15.0	17.0	36.0	19.0	Complied
Bottom	QPSK	13	2	15.5	17.5	36.0	18.5	Complied
Middle	QPSK	13	2	15.2	17.2	36.0	18.8	Complied
Top	QPSK	13	2	14.9	16.9	36.0	19.1	Complied
Bottom	QPSK	19.5	2	15.4	17.4	36.0	18.6	Complied
Middle	QPSK	19.5	2	14.9	16.9	36.0	19.1	Complied
Top	QPSK	19.5	2	14.8	16.8	36.0	19.2	Complied
Bottom	16QAM	26	2	15.3	17.3	36.0	18.7	Complied
Middle	16QAM	26	2	15.1	17.1	36.0	18.9	Complied
Top	16QAM	26	2	14.8	16.8	36.0	19.2	Complied
Bottom	16QAM	39	2	15.6	17.6	36.0	18.4	Complied
Middle	16QAM	39	2	15.6	17.6	36.0	18.4	Complied
Top	16QAM	39	2	14.9	16.9	36.0	19.1	Complied
Bottom	64QAM	52	2	15.4	17.4	36.0	18.6	Complied
Middle	64QAM	52	2	15.2	17.2	36.0	18.8	Complied
Top	64QAM	52	2	15.6	17.6	36.0	18.4	Complied
Bottom	64QAM	58.5	2	16.3	18.3	36.0	17.7	Complied
Middle	64QAM	58.5	2	15.4	17.4	36.0	18.6	Complied
Top	64QAM	58.5	2	15.0	17.0	36.0	19.0	Complied
Bottom	64QAM	65	2	16.0	18.0	36.0	18.0	Complied
Middle	64QAM	65	2	15.4	17.4	36.0	18.6	Complied
Top	64QAM	65	2	16.1	18.1	36.0	17.9	Complied

5.3.4. Transmitter Radiated Emissions

Test Summary:

Test Engineer:	Andrew Edwards	**Test Date:**	17 May 2011
Test Sample Serial No:	ID:1		
Antenna:	WCR-2400-IP04		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
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):	23
Relative Humidity (%):	23

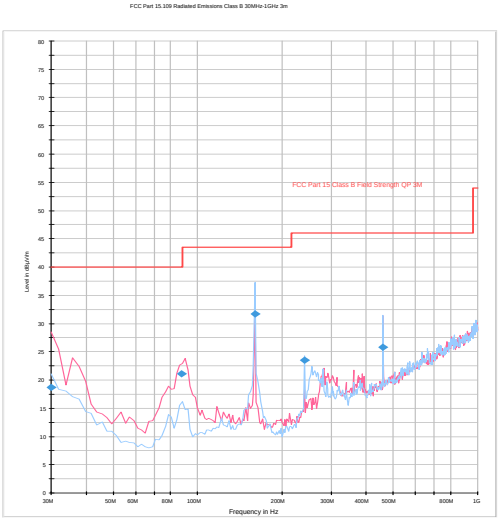
Results: Top Channel

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
30.076	Vertical	18.7	40.000	21.300	Complied
87.887	Vertical	20.7	40.000	19.300	Complied
159.995	Horizontal	31.1	43.500	12.400	Complied
240.002	Horizontal	19.7	46.000	26.300	Complied
458.805	Horizontal	29.6	46.000	16.400	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 preliminary scans showed similar emission levels below 1 GHz, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the top channel only.
3. All other emissions were at least 20 dB below the appropriate limit or below the noise floor of the measurement system.

Transmitter Radiated Emissions (continued)



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

Transmitter Radiated Emissions (continued)

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	17 and19 May 2011
Test Sample Serial No:	ID:1		
Antenna:	WCR-2400-IP04		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
Frequency Range	1 GHz to 26.5 GHz

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	27

Results:

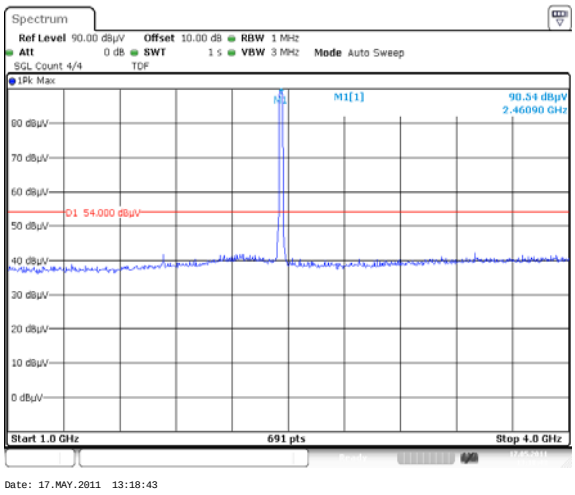
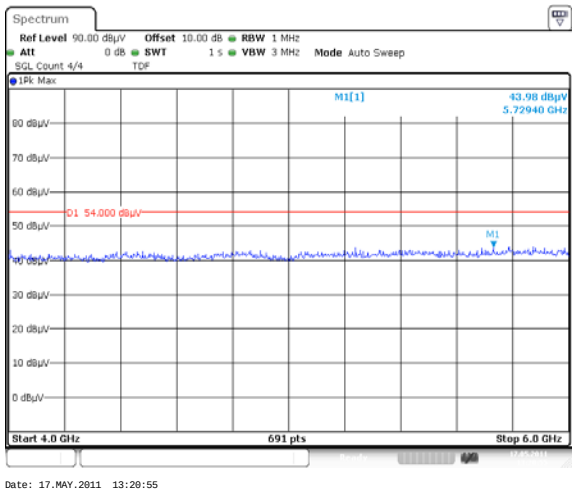
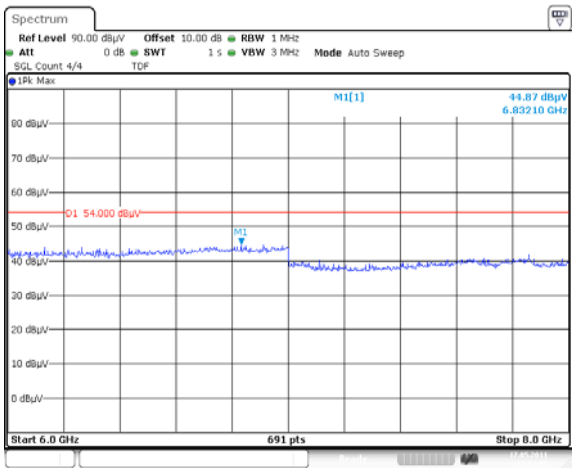
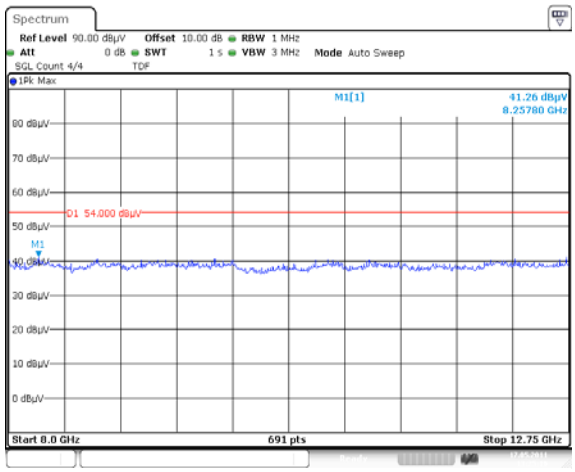
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
16560.2	Vertical	45.4	*54.0	8.6	Complied

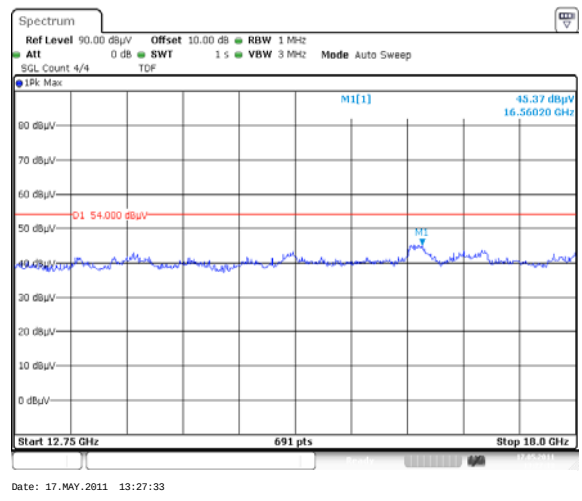
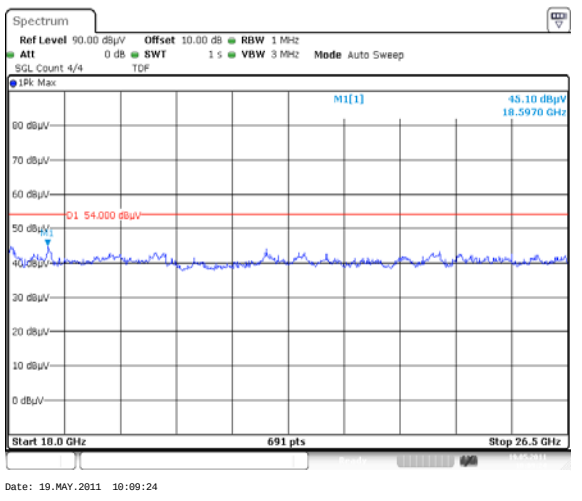
Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss
2. 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.
3. 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.
4. The emission shown on the 1 GHz to 4 GHz plot is the EUT fundamental.

* 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.

Transmitter Radiated Emissions (continued)

	
Radiated_Peak_1GHz_4GHz	Radiated_Peak_4GHz_6GHz
	
Radiated_Peak_6GHz_8GHz	Radiated_Peak_8GHz_12.75GHz

	
Radiated_Peak_12.75GHz_18GHz	Radiated_Peak_18GHz_26.5GHz

5.3.5. Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	10 May and 18 May 2011
Test Sample Serial No:	ID:1		
Antenna:	WCR-2400-IP04		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
Test Method Used:	As detailed in ANSI C63.10 Section 6.9.2

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	30

Results: Peak and Average 802.11b

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	1	BPSK	51.2	*76.1	24.9	Complied
2483.5	1	BPSK	50.9	74.0	23.1	Complied
2483.5	1	BPSK	39.9	54.0	14.1	Complied
2400.0	2	QPSK	51.9	*76.1	24.2	Complied
2483.5	2	QPSK	51.4	74.0	22.6	Complied
2483.5	2	QPSK	42.8	54.0	11.2	Complied
2400.0	5.5	CCK	48.4	*76.6	28.2	Complied
2483.5	5.5	CCK	51.4	74.0	22.6	Complied
2483.5	5.5	CCK	39.7	54.0	14.3	Complied
2400.0	11	CCK	51.0	*76.3	25.3	Complied
2483.5	11	CCK	50.8	74.0	23.2	Complied
2483.5	11	CCK	39.7	54.0	14.3	Complied

Transmitter Band Edge Radiated Emissions (continued)

Results: Peak and Average 802.11g

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	6	BPSK	59.3	*70.7	11.4	Complied
2483.5	6	BPSK	57.0	74.0	17.0	Complied
2483.5	6	BPSK	41.9	54.0	12.1	Complied
2400.0	9	BPSK	61.6	*71.5	9.9	Complied
2483.5	9	BPSK	57.8	74.0	16.2	Complied
2483.5	9	BPSK	41.9	54.0	12.1	Complied
2400.0	12	QPSK	58.9	*71.3	12.4	Complied
2483.5	12	QPSK	57.1	74.0	16.9	Complied
2483.5	12	QPSK	42.1	54.0	11.9	Complied
2400.0	18	QPSK	59.8	*71.0	11.2	Complied
2483.5	18	QPSK	56.3	74.0	17.7	Complied
2483.5	18	QPSK	41.9	54.0	12.1	Complied
2400.0	24	16QAM	60.4	*72.1	11.7	Complied
2483.5	24	16QAM	57.0	74.0	17.0	Complied
2483.5	24	16QAM	41.9	54.0	12.1	Complied
2400.0	36	16QAM	58.9	*72.1	13.2	Complied
2483.5	36	16QAM	55.6	74.0	18.4	Complied
2483.5	36	16QAM	41.9	54.0	12.1	Complied
2400.0	48	64QAM	58.3	*72.3	14.0	Complied
2483.5	48	64QAM	56.6	74.0	17.4	Complied
2483.5	48	64QAM	41.9	54.0	12.1	Complied
2400.0	54	64QAM	60.6	*72.5	11.9	Complied
2483.5	54	64QAM	57.1	74.0	16.9	Complied
2483.5	54	64QAM	41.9	54.0	12.1	Complied

Transmitter Band Edge Radiated Emissions (continued)

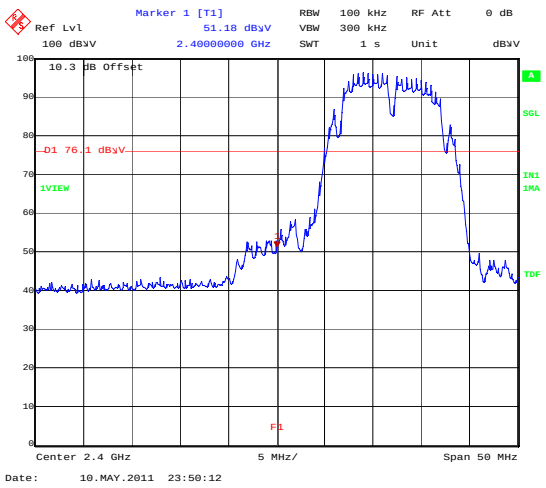
Results: Peak and Average 802.11n

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	6.5	BPSK	54.9	*68.1	13.2	Complied
2483.5	6.5	BPSK	53.3	74.0	20.7	Complied
2483.5	6.5	BPSK	40.9	54.0	13.1	Complied
2400.0	13	BPSK	54.2	*68.8	14.6	Complied
2483.5	13	BPSK	52.9	74.0	21.1	Complied
2483.5	13	BPSK	40.9	54.0	13.1	Complied
2400.0	19.5	QPSK	55.8	*68.3	12.5	Complied
2483.5	19.5	QPSK	52.8	74.0	21.2	Complied
2483.5	19.5	QPSK	40.9	54.0	13.1	Complied
2400.0	26	QPSK	54.8	*70.1	15.3	Complied
2483.5	26	QPSK	54.2	74.0	19.8	Complied
2483.5	26	QPSK	40.9	54.0	13.1	Complied
2400.0	39	16QAM	55.5	*69.5	14.0	Complied
2483.5	39	16QAM	54.8	74.0	19.2	Complied
2483.5	39	16QAM	40.9	54.0	13.1	Complied
2400.0	52	16QAM	54.8	*70.2	15.4	Complied
2483.5	52	16QAM	52.8	74.0	21.2	Complied
2483.5	52	16QAM	40.9	54.0	13.1	Complied
2400.0	58.5	64QAM	55.7	*69.9	14.2	Complied
2483.5	58.5	64QAM	53.9	74.0	20.1	Complied
2483.5	58.5	64QAM	41.2	54.0	12.8	Complied
2400.0	65	64QAM	56.1	*70.3	14.2	Complied
2483.5	65	64QAM	53.2	74.0	20.8	Complied
2483.5	65	64QAM	41.0	54.0	13.0	Complied

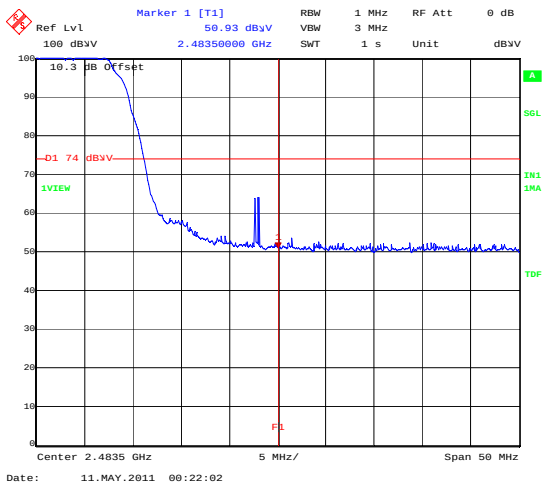
Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. * -20 dBc limit.

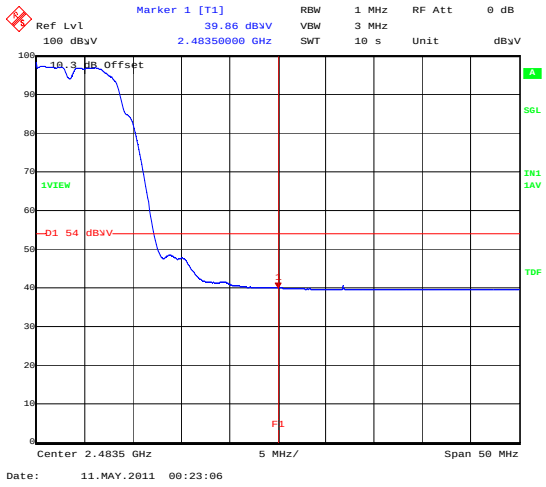
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_1MBS_BottomChannel

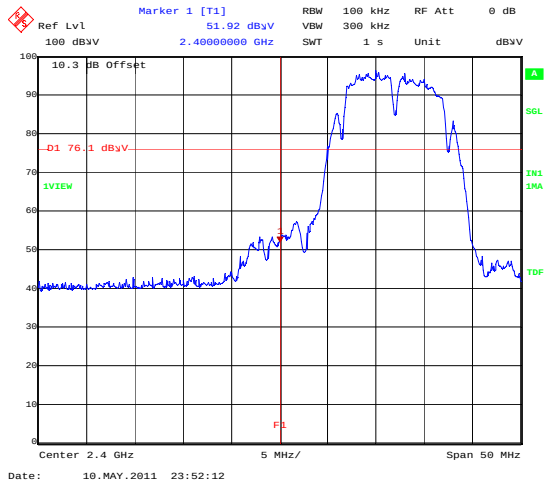


BandEdge_802_11B_1MBS_TopChannel

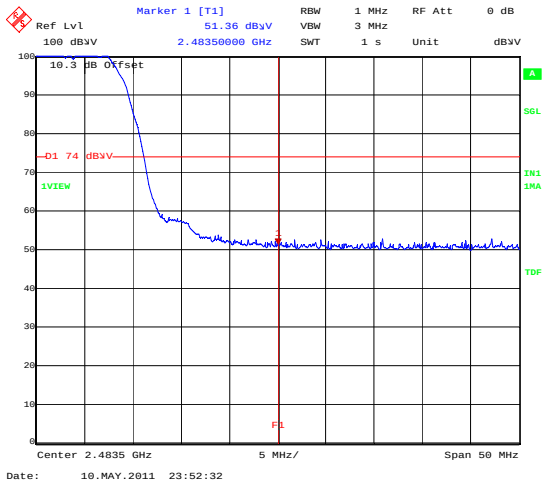


BandEdge_802_11B_1MBS_TopChannelAVG

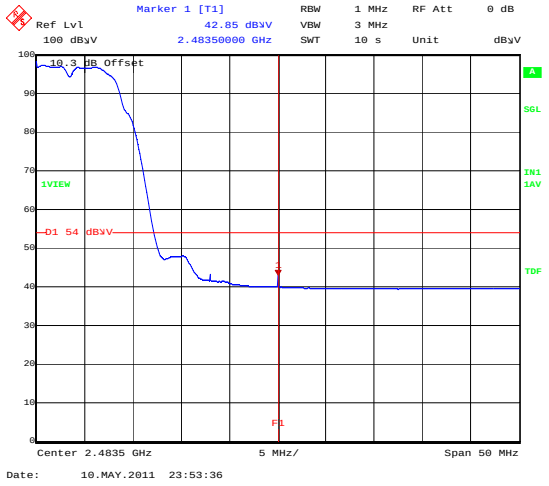
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_2MBS_BottomChannel

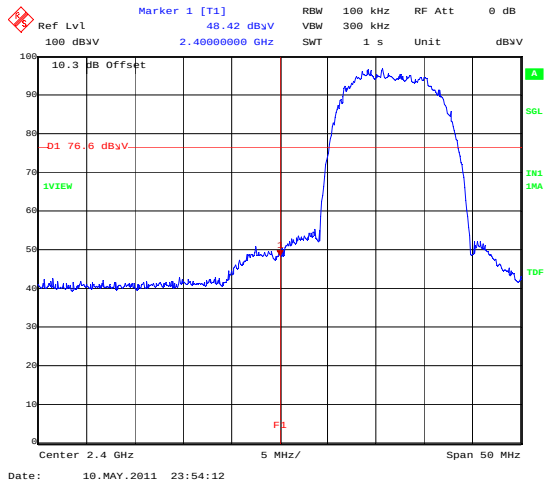


BandEdge_802_11B_2MBS_TopChannel

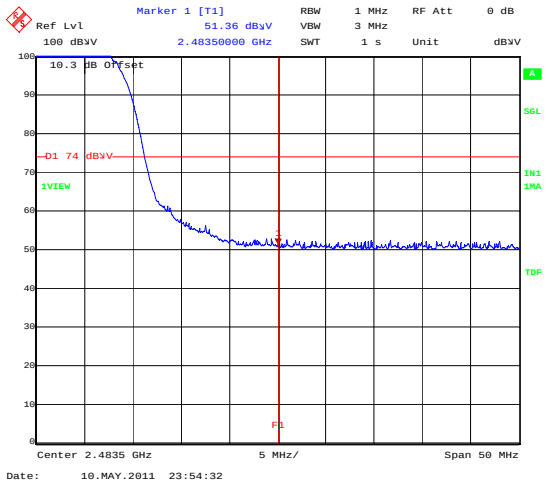


BandEdge_802_11B_2MBS_TopChannelAVG

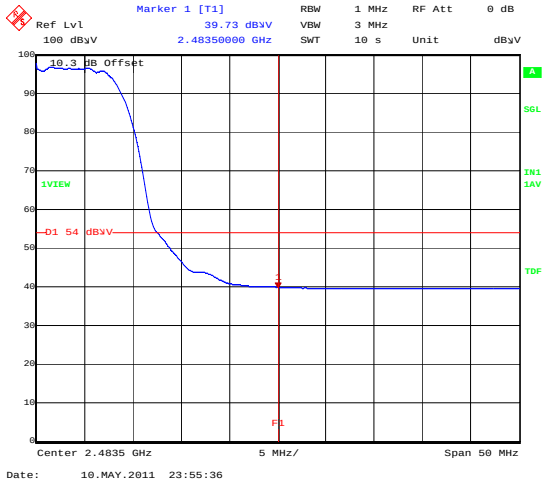
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_5.5MBS_BottomChannel

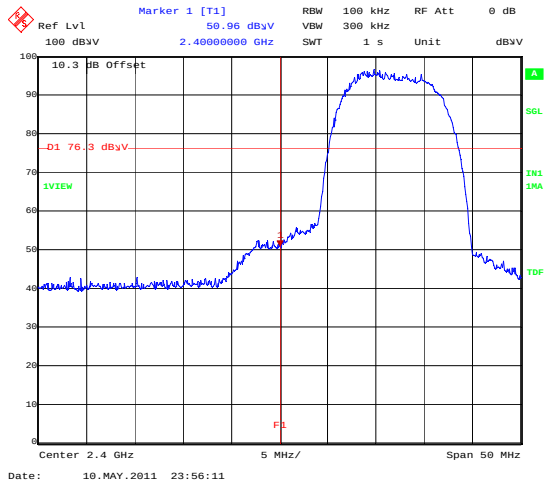


BandEdge_802_11B_5.5MBS_TopChannel

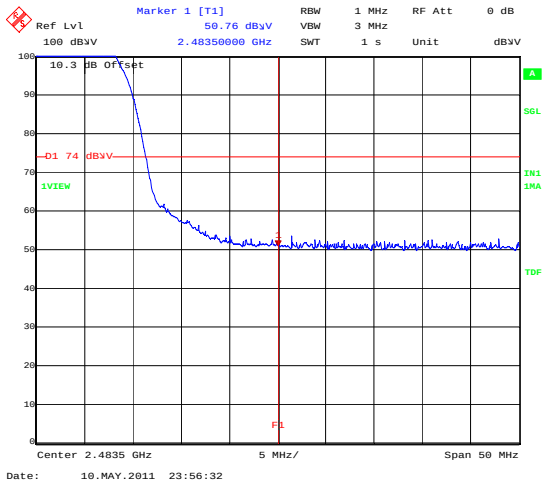


BandEdge_802_11B_5.5MBS_TopChannelAVG

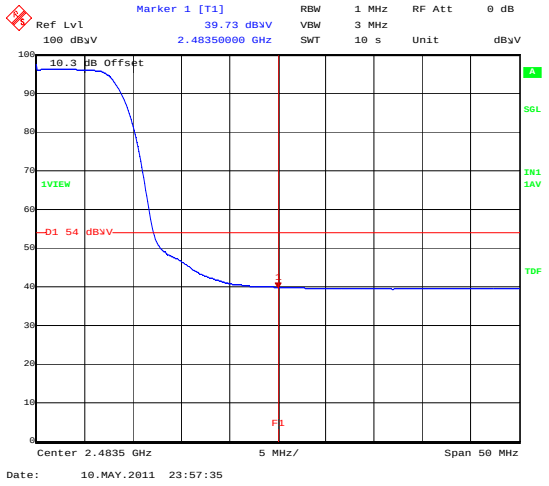
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_11MBS_BottomChannel

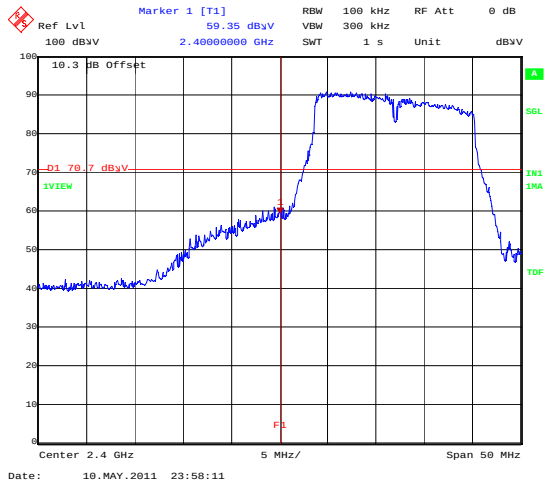


BandEdge_802_11B_11MBS_TopChannel

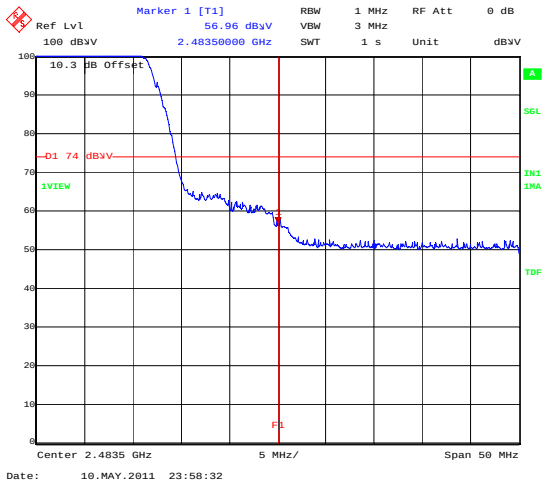


BandEdge_802_11B_11MBS_TopChannelAVG

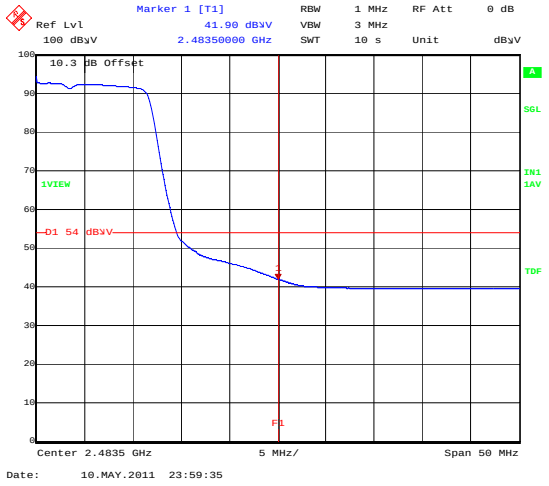
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_6MBS_BottomChannel

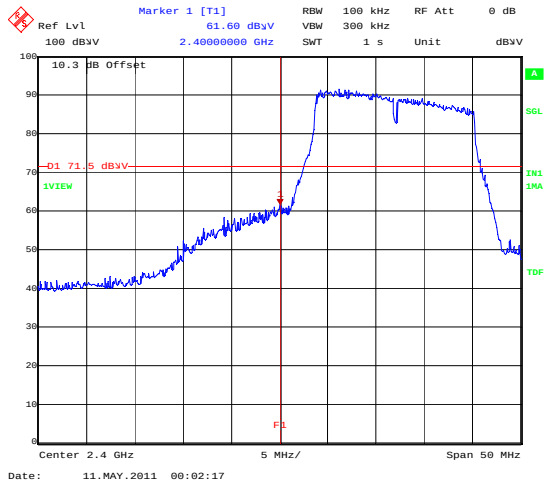


BandEdge_802_11G_6MBS_TopChannel

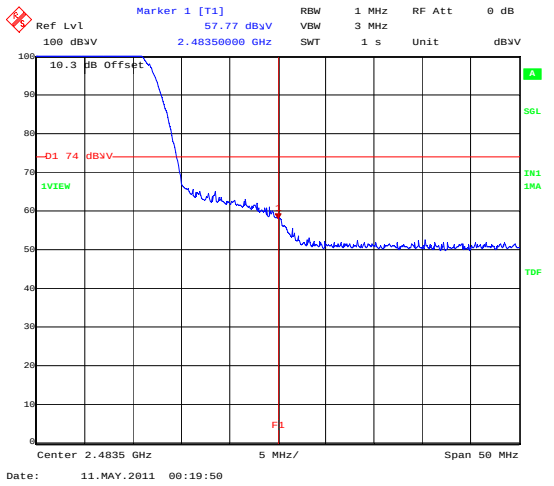


BandEdge_802_11G_6MBS_TopChannelAVG

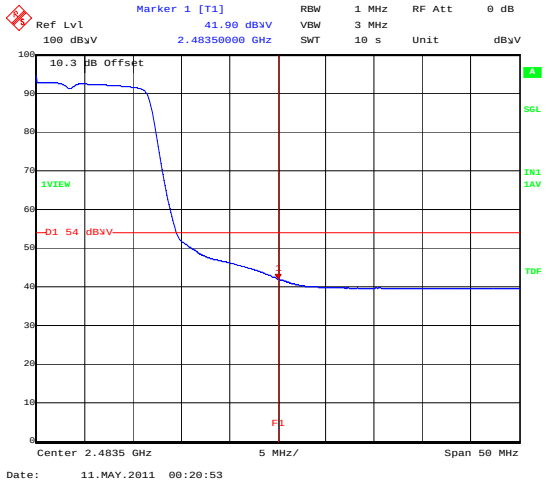
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_9MBS_BottomChannel

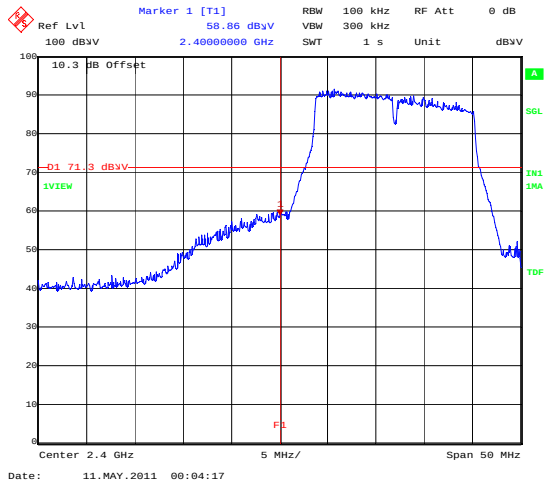


BandEdge_802_11G_9MBS_TopChannel

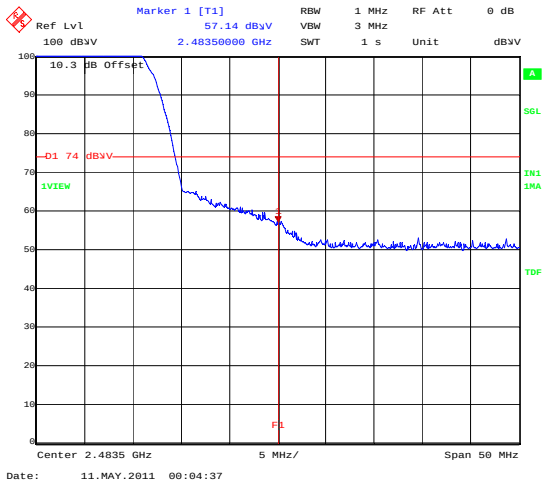


BandEdge_802_11G_9MBS_TopChannelAVG

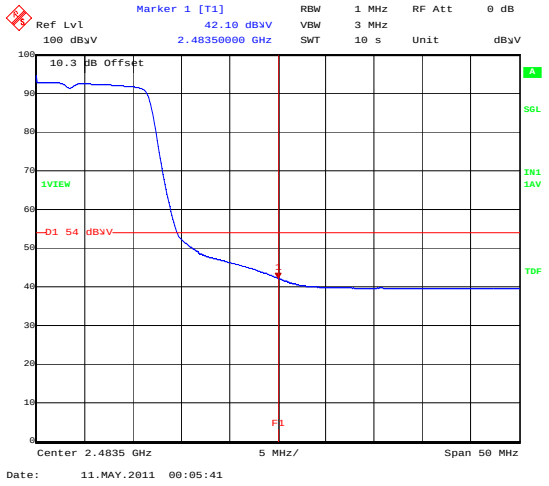
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_12MBS_BottomChannel

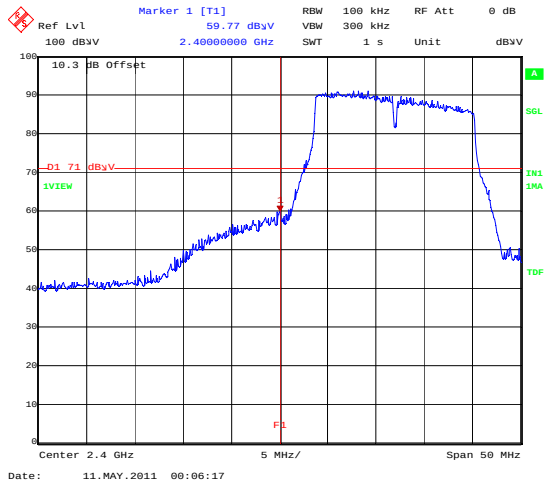


BandEdge_802_11G_12MBS_TopChannel

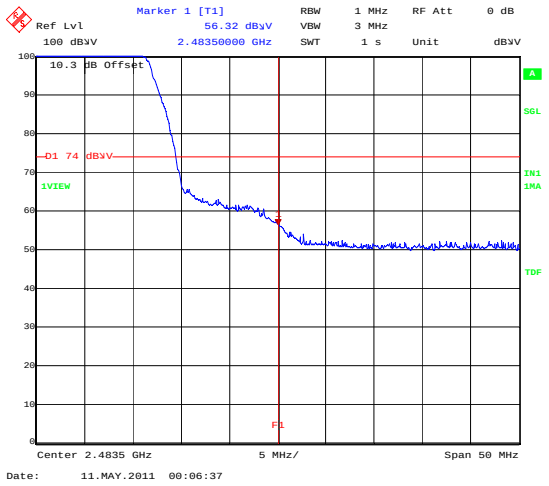


BandEdge_802_11G_12MBS_TopChannelAVG

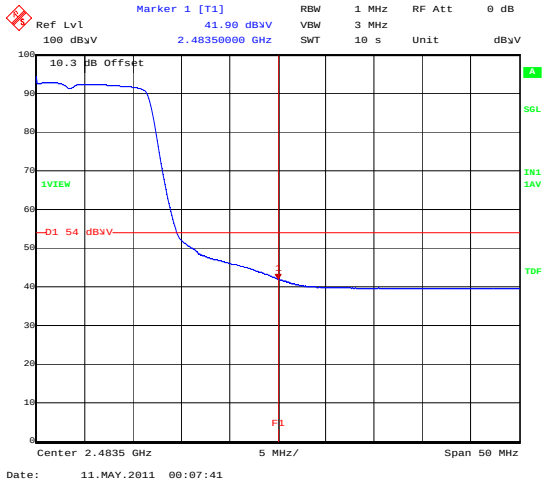
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_18MBS_BottomChannel

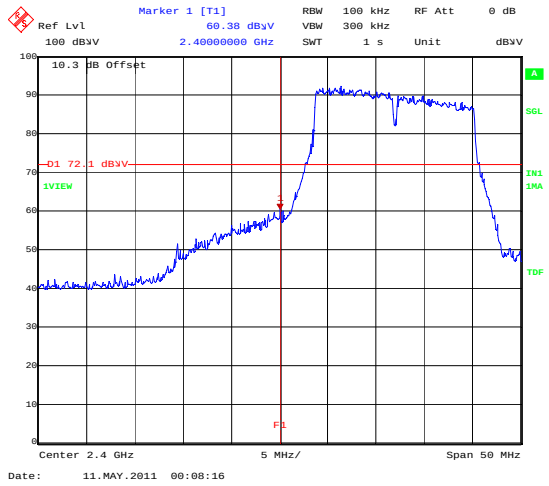


BandEdge_802_11G_18MBS_TopChannel

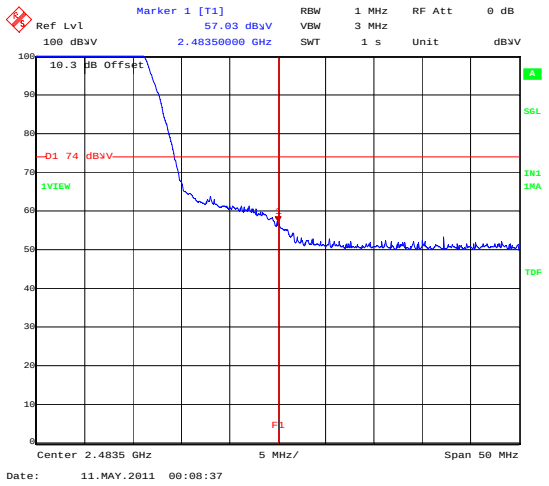


BandEdge_802_11G_18MBS_TopChannelAVG

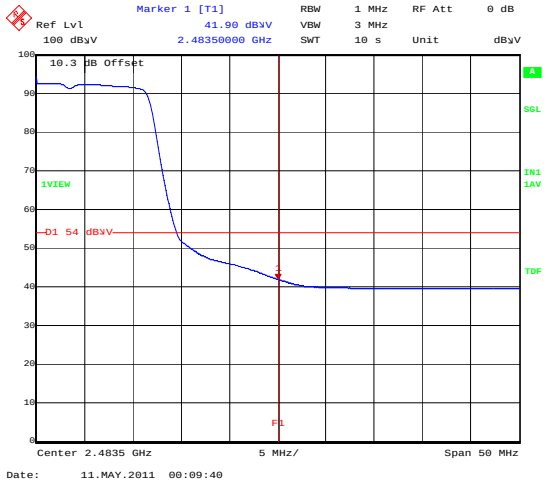
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_24MBS_BottomChannel

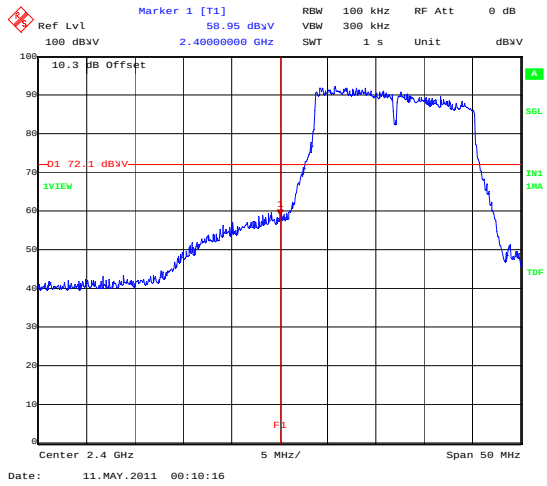


BandEdge_802_11G_24MBS_TopChannel

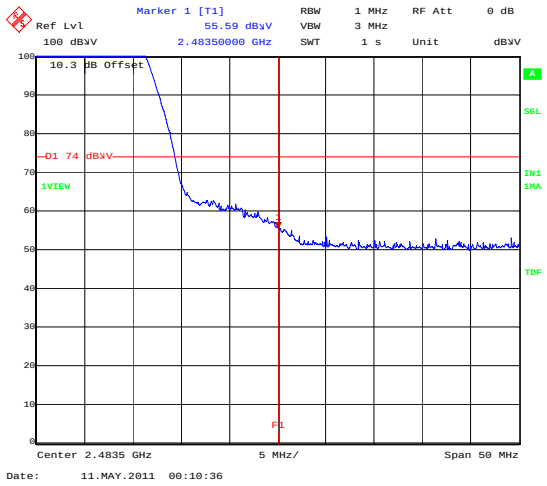


BandEdge_802_11G_24MBS_TopChannelAVG

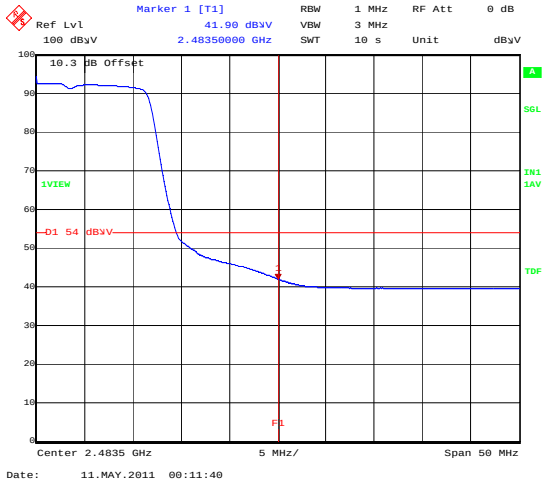
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_36MBS_BottomChannel

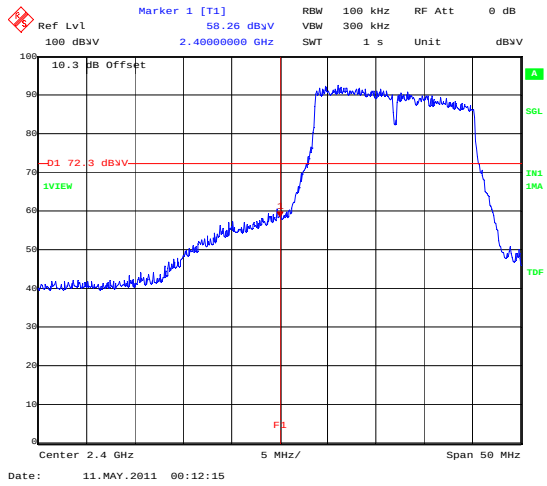


BandEdge_802_11G_36MBS_TopChannel

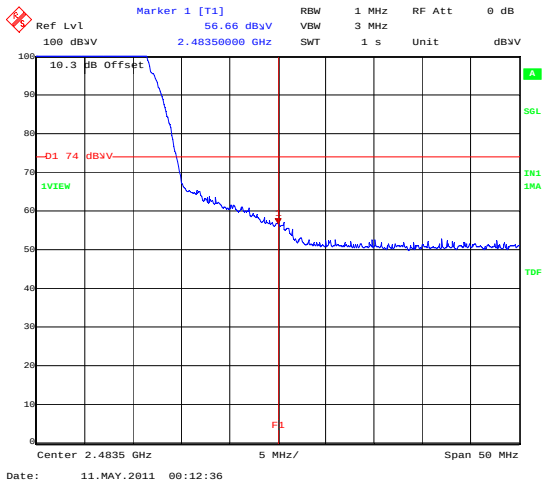


BandEdge_802_11G_36MBS_TopChannelAVG

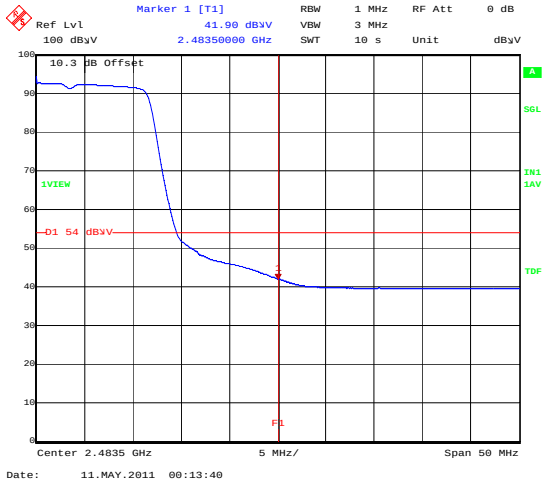
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_48MBS_BottomChannel

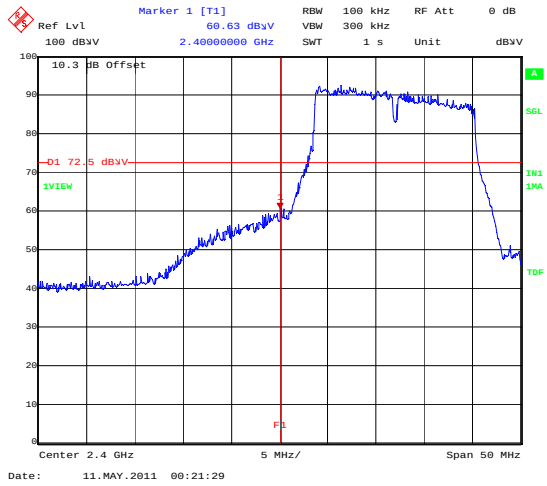


BandEdge_802_11G_48MBS_TopChannel

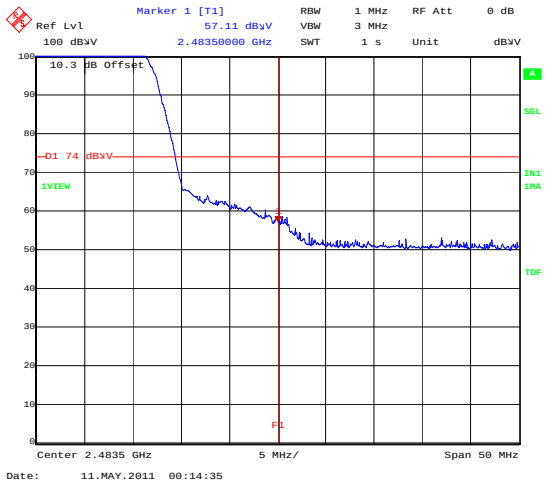


BandEdge_802_11G_48MBS_TopChannelAVG

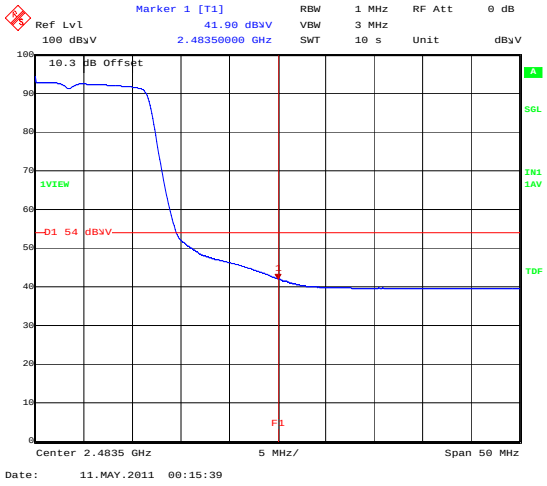
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_54MBS_BottomChannel

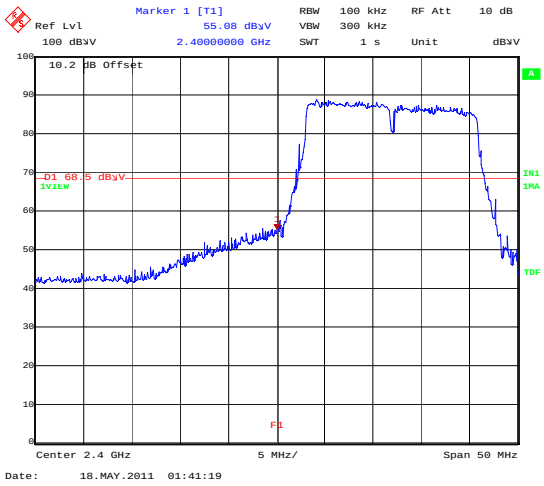


BandEdge_802_11G_54MBS_TopChannel

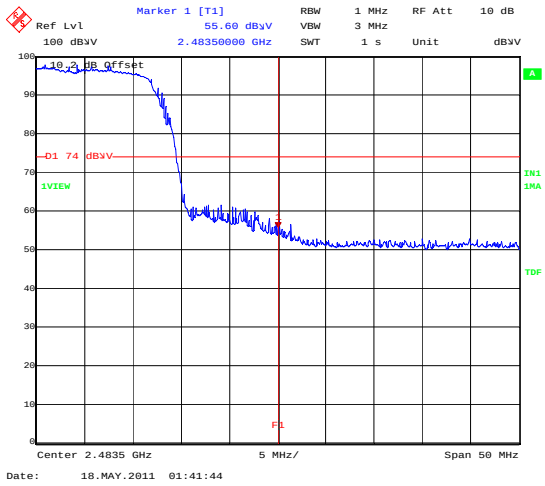


BandEdge_802_11G_54MBS_TopChannelAVG

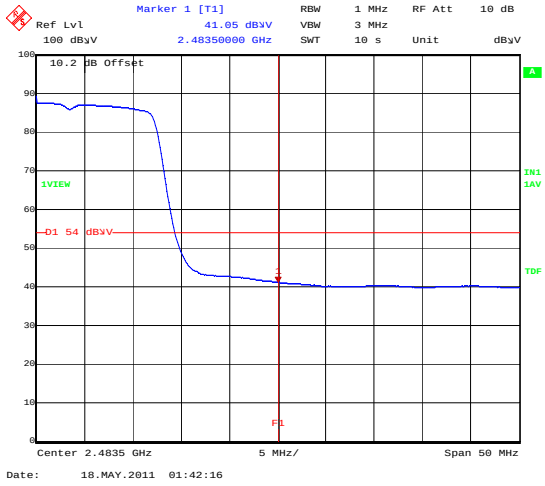
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_6.5MBS_BotChannel

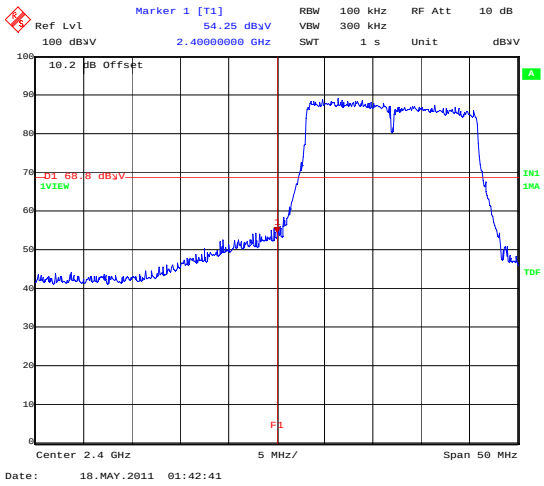


BandEdge_802_11N_6.5MBS_TopChannel

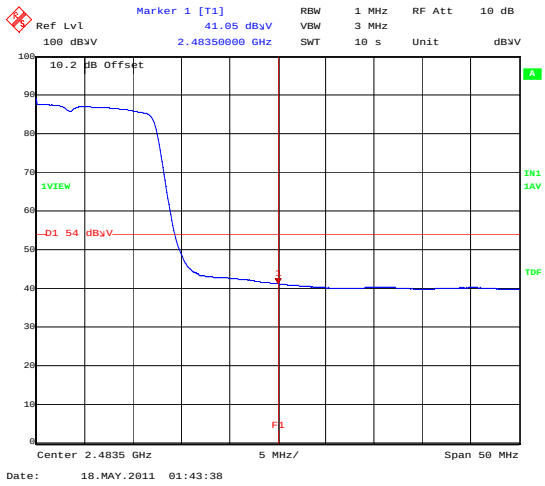


BandEdge_802_11N_6.5MBS_TopChannelAVG

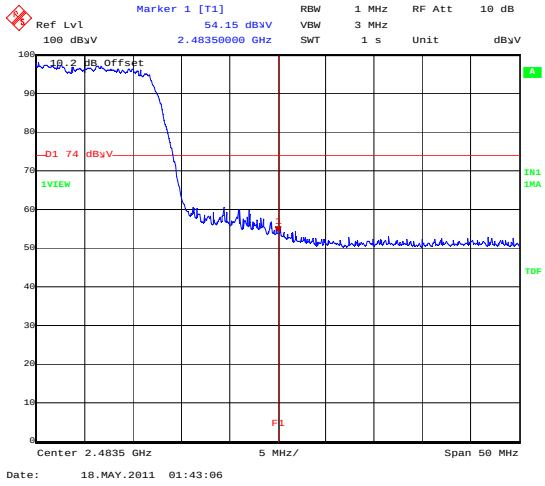
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_13MBS_BotChannel

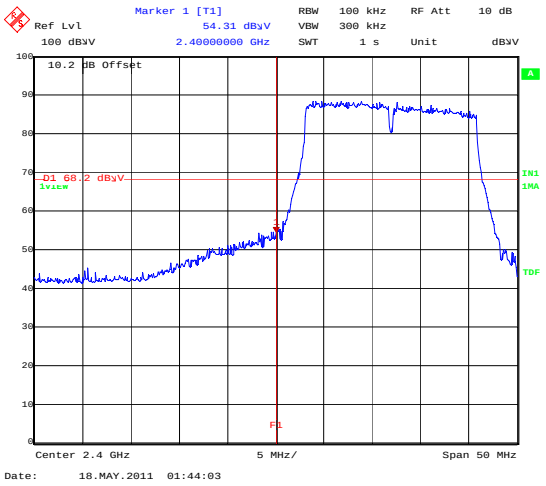


BandEdge_802_11N_13MBS_TopChannel

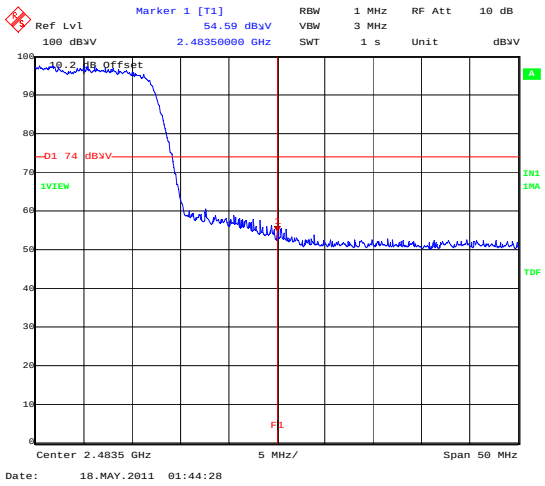


BandEdge_802_11N_13MBS_TopChannelAVG

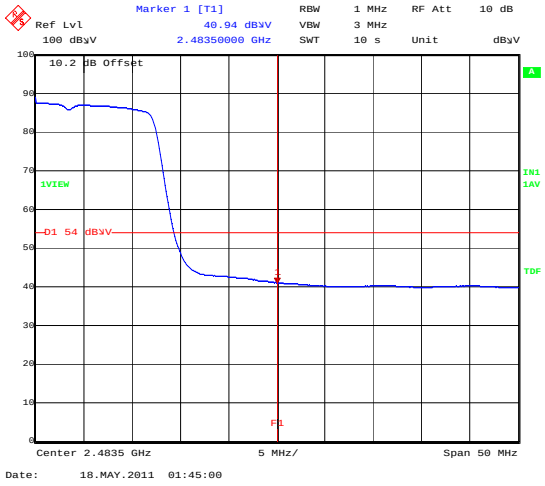
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_19.5MBS_BotChannel

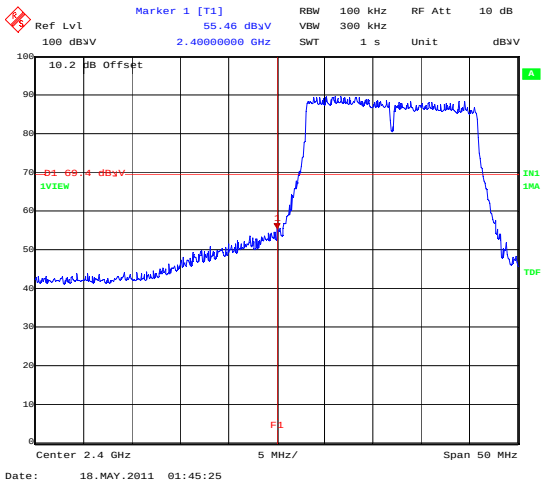


BandEdge_802_11N_19.5MBS_TopChannel

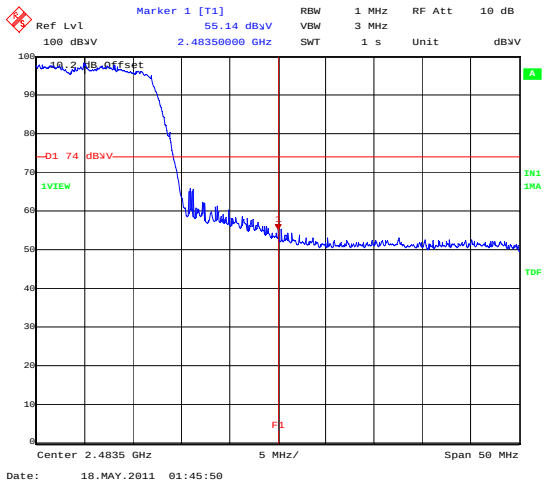


BandEdge_802_11N_19.5MBS_TopChannelAVG

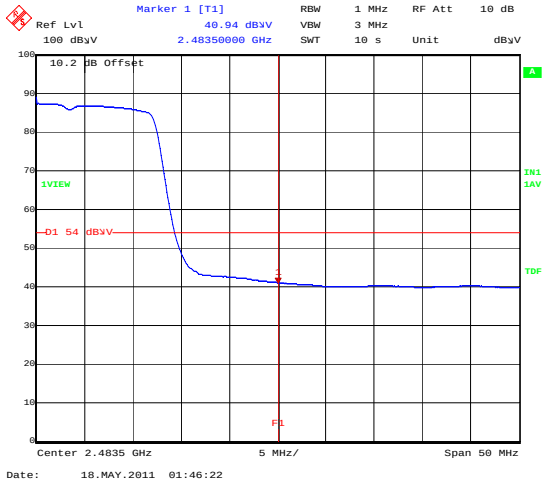
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_26MBS_BotChannel

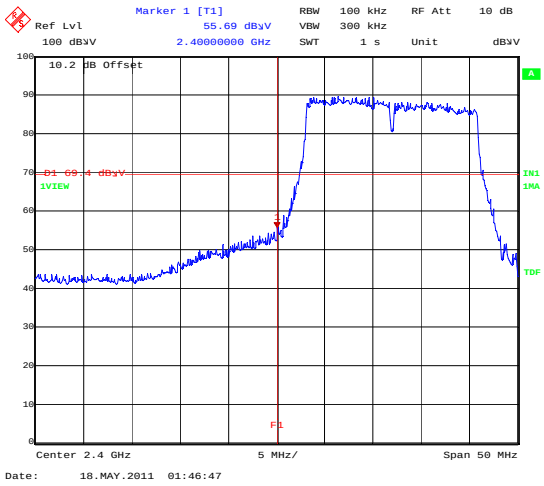


BandEdge_802_11N_26MBS_TopChannel

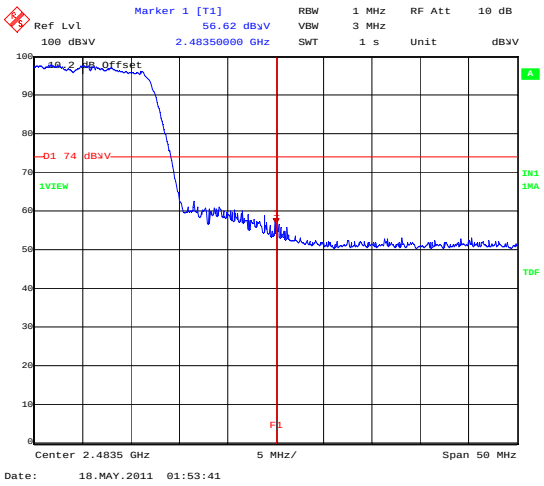


BandEdge_802_11N_26MBS_TopChannelAVG

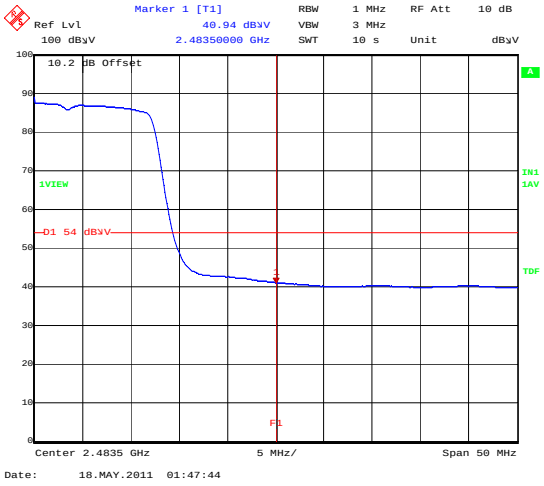
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_39MBS_BotChannel

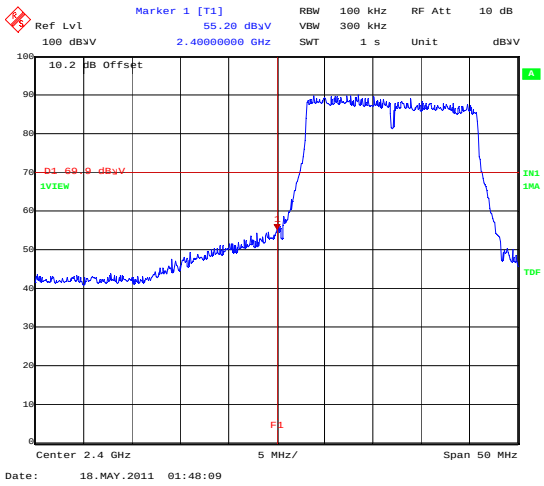


BandEdge_802_11N_39MBS_TopChannel

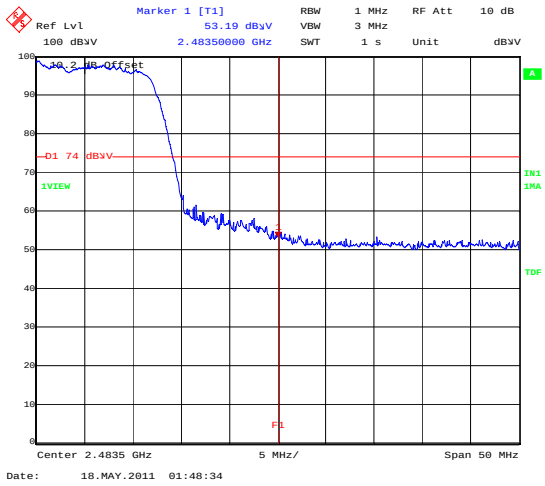


BandEdge_802_11N_39MBS_TopChannelAVG

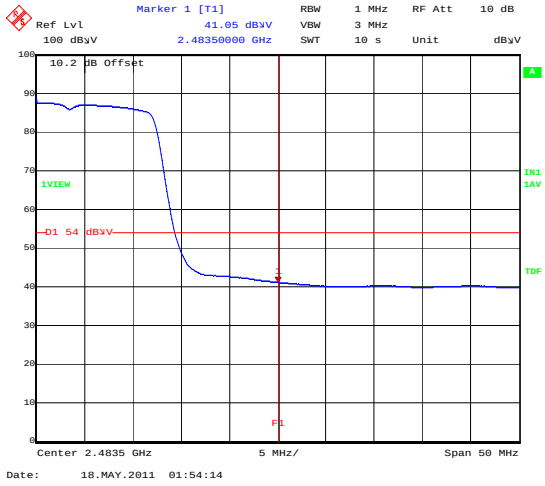
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_52MBS_BotChannel

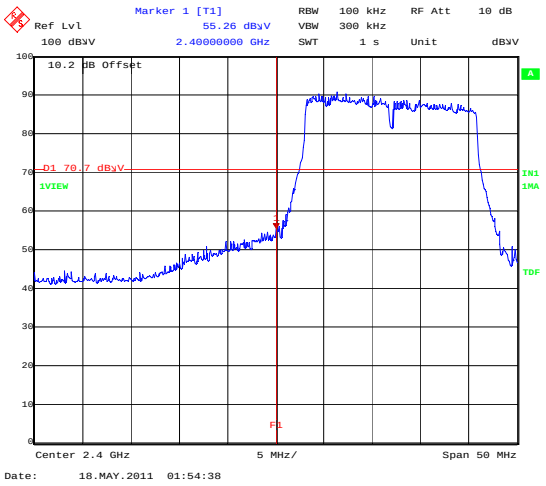


BandEdge_802_11N_52MBS_TopChannel

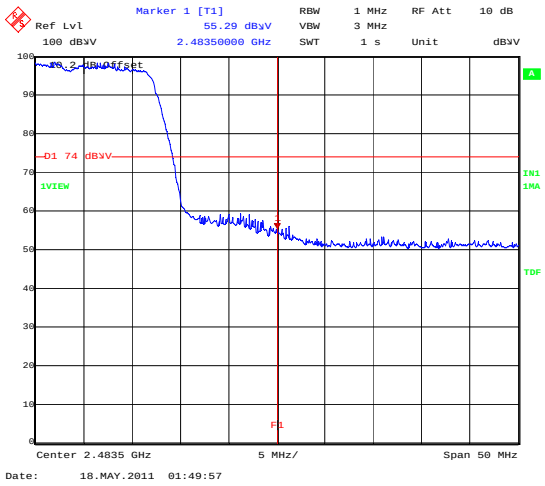


BandEdge_802_11N_52MBS_TopChannelAVG

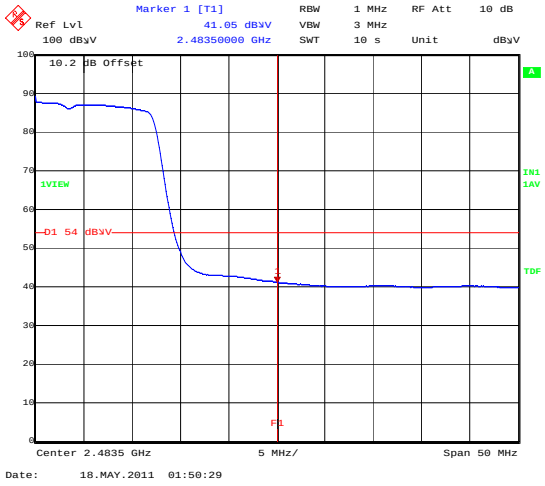
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_58.5MBS_BotChannel

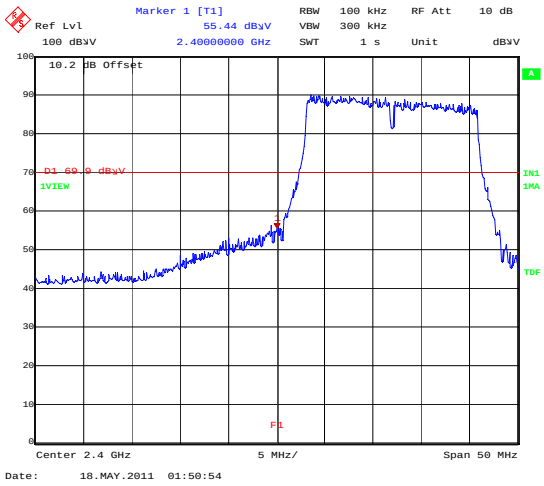


BandEdge_802_11N_58.5MBS_TopChannel

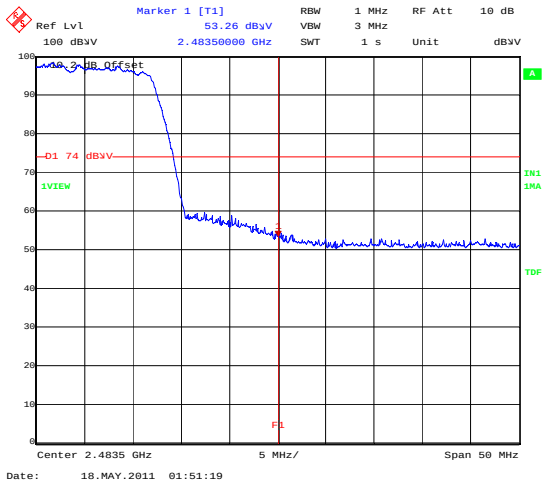


BandEdge_802_11N_58.5MBS_TopChannelAVG

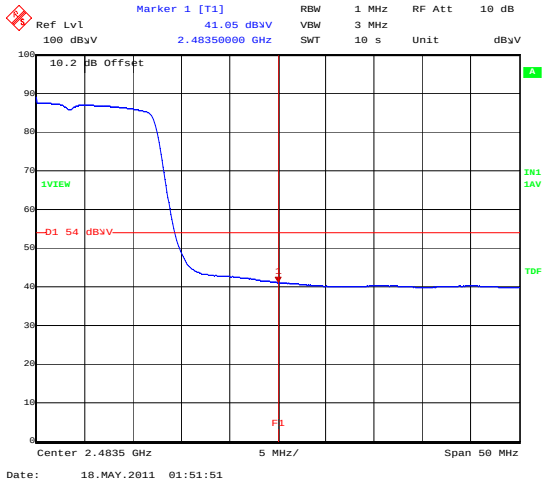
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_65MBS_BotChannel



BandEdge_802_11N_65MBS_TopChannel



BandEdge_802_11N_65MBS_TopChannelAVG

5.4. Test Results - WCR-2400-SMA Antenna

5.4.1. Receiver/Idle Mode Radiated Spurious Emissions

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	17 May 2011
Test Sample IMEI:	ID:1		
Antenna:	WCR-2400-SMA		

FCC/IC Part:	15.109 and RSS-Gen 4.10 / RSS-Gen 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):	24
Relative Humidity (%):	23

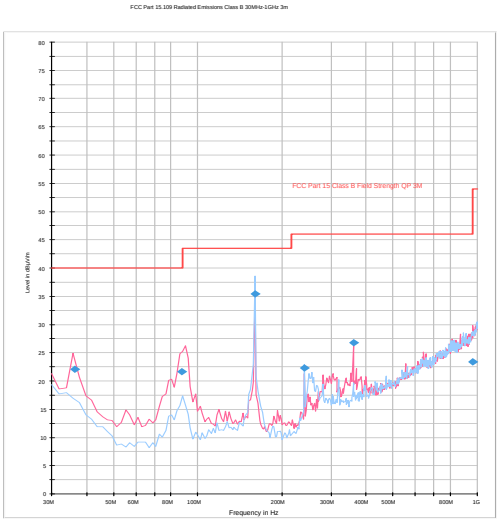
Results: Quasi Peak

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
36.259	Vertical	22.1	40.0	17.9	Complied
87.926	Vertical	21.7	40.0	18.3	Complied
159.995	Horizontal	35.4	43.5	8.1	Complied
239.973	Horizontal	22.3	46.0	23.7	Complied
360.004	Vertical	26.8	46.0	19.2	Complied
961.049	Horizontal	23.4	54.0	30.6	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. 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	**Test Date:**	17 May 2011
Test Sample IMEI:	ID:1		
Antenna:	WCR-2400-SMA		

FCC/IC Part:	15.109 and RSS-Gen 4.10 / RSS-Gen 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 12.75 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	25

Results:

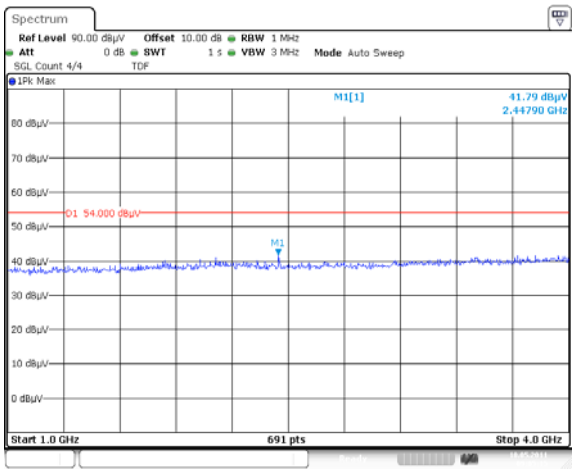
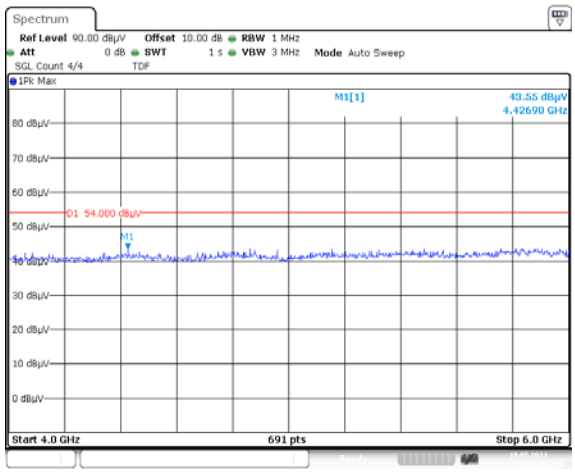
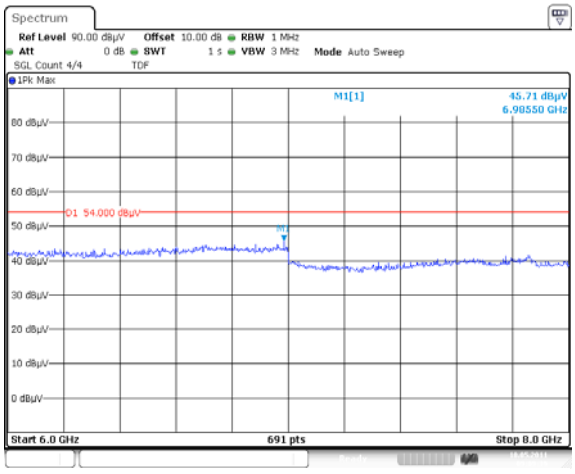
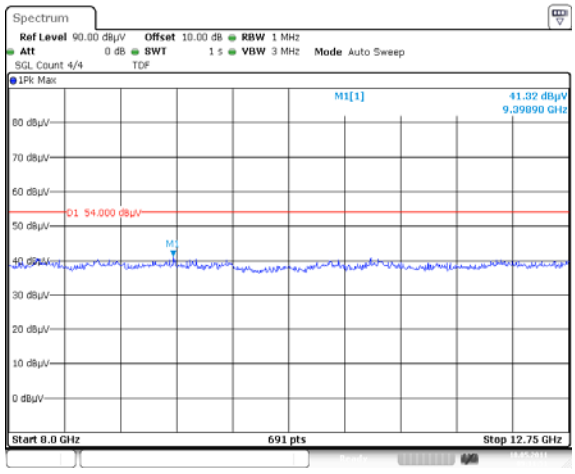
Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
6985.5	Vertical	45.7	*54.0	8.3	Complied

Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. 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.

* 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)

	
Radiated_Peak_1GHz_4GHz	Radiated_Peak_4GHz_6GHz
	
Radiated_Peak_6GHz_8GHz	Radiated_Peak_8GHz_12.75GHz

5.4.2. Transmitter Maximum Peak Output Power

Test Summary:

Test Engineer:	David Lakeland	**Test Date:**	11 May 2011
Test Sample:	ID:1		

FCC Part:	15.247(b)(3)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.2

Note: Test method used – power meter

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	29

Results: 802.11b

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	1	17.4	30	12.6	Complied
Middle	2437	BPSK	1	17.1	30	12.9	Complied
Top	2462	BPSK	1	16.3	30	13.7	Complied
Bottom	2412	QPSK	2	16.8	30	13.2	Complied
Middle	2437	QPSK	2	16.5	30	13.5	Complied
Top	2462	QPSK	2	16.2	30	13.8	Complied
Bottom	2412	QPSK	5.5	16.8	30	13.2	Complied
Middle	2437	QPSK	5.5	16.5	30	13.6	Complied
Top	2462	QPSK	5.5	16.1	30	13.9	Complied
Bottom	2412	QPSK	11	16.7	30	13.3	Complied
Middle	2437	QPSK	11	16.5	30	13.6	Complied
Top	2462	QPSK	11	16.2	30	13.9	Complied

Transmitter Maximum Peak Output Power (continued)

Results: 802.11g

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	6	15.2	30	14.8	Complied
Middle	2437	BPSK	6	14.9	30	15.1	Complied
Top	2462	BPSK	6	14.6	30	15.4	Complied
Bottom	2412	BPSK	9	15.2	30	14.8	Complied
Middle	2437	BPSK	9	15.1	30	14.9	Complied
Top	2462	BPSK	9	15.1	30	14.9	Complied
Bottom	2412	QPSK	12	15.4	30	14.6	Complied
Middle	2437	QPSK	12	15.0	30	15.0	Complied
Top	2462	QPSK	12	14.7	30	15.3	Complied
Bottom	2412	QPSK	18	15.3	30	14.7	Complied
Middle	2437	QPSK	18	15.1	30	14.9	Complied
Top	2462	QPSK	18	14.7	30	15.3	Complied
Bottom	2412	16QAM	24	15.3	30	14.7	Complied
Middle	2437	16QAM	24	15.0	30	15.0	Complied
Top	2462	16QAM	24	14.7	30	15.3	Complied
Bottom	2412	16QAM	36	15.4	30	14.6	Complied
Middle	2437	16QAM	36	15.0	30	15.0	Complied
Top	2462	16QAM	36	14.7	30	15.3	Complied
Bottom	2412	16QAM	48	15.4	30	14.6	Complied
Middle	2437	16QAM	48	15.1	30	14.9	Complied
Top	2462	16QAM	48	14.8	30	15.3	Complied
Bottom	2412	64QAM	54	15.7	30	14.3	Complied
Middle	2437	64QAM	54	15.1	30	14.9	Complied
Top	2462	64QAM	54	14.7	30	15.3	Complied

Transmitter Maximum Peak Output Power (continued)

Results: 802.11n

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	6.5	15.6	30	14.4	Complied
Middle	2437	BPSK	6.5	15.3	30	14.7	Complied
Top	2462	BPSK	6.5	15.0	30	15.0	Complied
Bottom	2412	QPSK	13	15.5	30	14.6	Complied
Middle	2437	QPSK	13	15.2	30	14.8	Complied
Top	2462	QPSK	13	14.9	30	15.1	Complied
Bottom	2412	QPSK	19.5	15.4	30	14.6	Complied
Middle	2437	QPSK	19.5	14.9	30	15.1	Complied
Top	2462	QPSK	19.5	14.8	30	15.3	Complied
Bottom	2412	16QAM	26	15.3	30	14.7	Complied
Middle	2437	16QAM	26	15.1	30	14.9	Complied
Top	2462	16QAM	26	14.8	30	15.2	Complied
Bottom	2412	16QAM	39	15.6	30	14.4	Complied
Middle	2437	16QAM	39	15.6	30	14.4	Complied
Top	2462	16QAM	39	14.9	30	15.1	Complied
Bottom	2412	64QAM	52	15.4	30	14.6	Complied
Middle	2437	64QAM	52	15.2	30	14.8	Complied
Top	2462	64QAM	52	15.6	30	14.4	Complied
Bottom	2412	64QAM	58.5	16.3	30	13.7	Complied
Middle	2437	64QAM	58.5	15.4	30	14.6	Complied
Top	2462	64QAM	58.5	15.0	30	15.1	Complied
Bottom	2412	64QAM	65	16.0	30	14.0	Complied
Middle	2437	64QAM	65	15.4	30	14.6	Complied
Top	2462	64QAM	65	16.1	30	13.9	Complied

5.4.3. Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP)

FCC Part:	15.247(b)(3)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.2

Results: 802.11b

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	1	2	17.4	19.4	36.0	16.6	Complied
Middle	BPSK	1	2	17.1	19.1	36.0	16.9	Complied
Top	BPSK	1	2	16.3	18.3	36.0	17.7	Complied
Bottom	QPSK	2	2	16.8	18.8	36.0	17.2	Complied
Middle	QPSK	2	2	16.5	18.5	36.0	17.5	Complied
Top	QPSK	2	2	16.2	18.2	36.0	17.8	Complied
Bottom	QPSK	5.5	2	16.8	18.8	36.0	17.2	Complied
Middle	QPSK	5.5	2	16.5	18.5	36.0	17.5	Complied
Top	QPSK	5.5	2	16.1	18.1	36.0	17.9	Complied
Bottom	QPSK	11	2	16.7	18.7	36.0	17.3	Complied
Middle	QPSK	11	2	16.5	18.5	36.0	17.5	Complied
Top	QPSK	11	2	16.2	18.2	36.0	17.8	Complied

Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP) (Continued)

Results: 802.11g

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6	2	15.2	17.2	36.0	18.8	Complied
Middle	BPSK	6	2	14.9	16.9	36.0	19.1	Complied
Top	BPSK	6	2	14.6	16.6	36.0	19.4	Complied
Bottom	BPSK	9	2	15.2	17.2	36.0	18.8	Complied
Middle	BPSK	9	2	15.1	17.1	36.0	18.9	Complied
Top	BPSK	9	2	15.1	17.1	36.0	18.9	Complied
Bottom	QPSK	12	2	15.4	17.4	36.0	18.6	Complied
Middle	QPSK	12	2	15.0	17.0	36.0	19.0	Complied
Top	QPSK	12	2	14.7	16.7	36.0	19.3	Complied
Bottom	QPSK	18	2	15.3	17.3	36.0	18.7	Complied
Middle	QPSK	18	2	15.1	17.1	36.0	18.9	Complied
Top	QPSK	18	2	14.7	16.7	36.0	19.3	Complied
Bottom	16QAM	24	2	15.3	17.3	36.0	18.7	Complied
Middle	16QAM	24	2	15.0	17.0	36.0	19.0	Complied
Top	16QAM	24	2	14.7	16.7	36.0	19.3	Complied
Bottom	16QAM	36	2	15.4	17.4	36.0	18.6	Complied
Middle	16QAM	36	2	15.0	17.0	36.0	19.0	Complied
Top	16QAM	36	2	14.7	16.7	36.0	19.3	Complied
Bottom	16QAM	48	2	15.4	17.4	36.0	18.6	Complied
Middle	16QAM	48	2	15.1	17.1	36.0	18.9	Complied
Top	16QAM	48	2	14.8	16.8	36.0	19.2	Complied
Bottom	64QAM	54	2	15.7	17.7	36.0	18.3	Complied
Middle	64QAM	54	2	15.1	17.1	36.0	18.9	Complied
Top	64QAM	54	2	14.7	16.7	36.0	19.3	Complied

Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP) (Continued)

Results: 802.11n

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6.5	2	15.6	17.6	36.0	18.4	Complied
Middle	BPSK	6.5	2	15.3	17.3	36.0	18.7	Complied
Top	BPSK	6.5	2	15.0	17.0	36.0	19.0	Complied
Bottom	QPSK	13	2	15.5	17.5	36.0	18.5	Complied
Middle	QPSK	13	2	15.2	17.2	36.0	18.8	Complied
Top	QPSK	13	2	14.9	16.9	36.0	19.1	Complied
Bottom	QPSK	19.5	2	15.4	17.4	36.0	18.6	Complied
Middle	QPSK	19.5	2	14.9	16.9	36.0	19.1	Complied
Top	QPSK	19.5	2	14.8	16.8	36.0	19.2	Complied
Bottom	16QAM	26	2	15.3	17.3	36.0	18.7	Complied
Middle	16QAM	26	2	15.1	17.1	36.0	18.9	Complied
Top	16QAM	26	2	14.8	16.8	36.0	19.2	Complied
Bottom	16QAM	39	2	15.6	17.6	36.0	18.4	Complied
Middle	16QAM	39	2	15.6	17.6	36.0	18.4	Complied
Top	16QAM	39	2	14.9	16.9	36.0	19.1	Complied
Bottom	64QAM	52	2	15.4	17.4	36.0	18.6	Complied
Middle	64QAM	52	2	15.2	17.2	36.0	18.8	Complied
Top	64QAM	52	2	15.6	17.6	36.0	18.4	Complied
Bottom	64QAM	58.5	2	16.3	18.3	36.0	17.7	Complied
Middle	64QAM	58.5	2	15.4	17.4	36.0	18.6	Complied
Top	64QAM	58.5	2	15.0	17.0	36.0	19.0	Complied
Bottom	64QAM	65	2	16.0	18.0	36.0	18.0	Complied
Middle	64QAM	65	2	15.4	17.4	36.0	18.6	Complied
Top	64QAM	65	2	16.1	18.1	36.0	17.9	Complied

5.4.4. Transmitter Radiated Emissions

Test Summary:

Test Engineer:	Andrew Edwards	**Test Date:**	17 May 2011
Test Sample Serial No:	ID:1		
Antenna:	WCR-2400-SMA		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
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):	23
Relative Humidity (%):	23

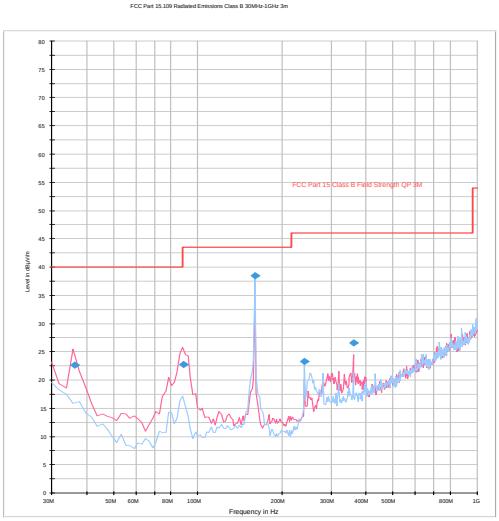
Results: Top Channel

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
36.230861	Vertical	22.7	40.000	17.300	Complied
88.840881	Vertical	22.7	43.500	20.800	Complied
159.985571	Horizontal	38.4	43.500	5.100	Complied
239.992786	Horizontal	23.3	46.000	22.700	Complied
359.975150	Vertical	26.6	46.000	19.400	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 preliminary scans showed similar emission levels below 1 GHz, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the top channel only.
3. All other emissions were at least 20 dB below the appropriate limit or below the noise floor of the measurement system.

Transmitter Radiated Emissions (continued)



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

Transmitter Radiated Emissions (continued)

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	17 and19 May 2011
Test Sample Serial No:	ID:1		
Antenna:	WCR-2400-SMA		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
Frequency Range	1 GHz to 26.5 GHz

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	27

Results:

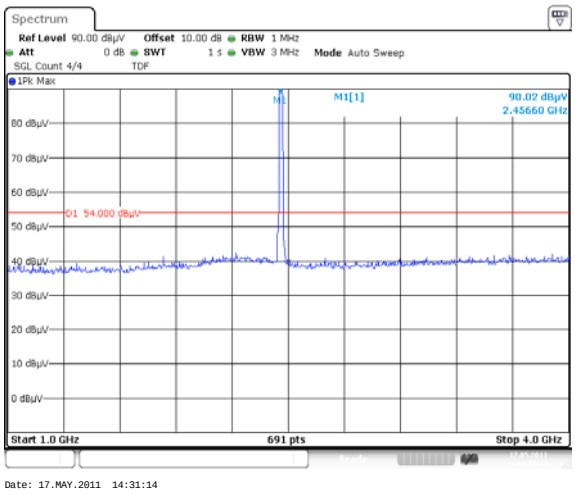
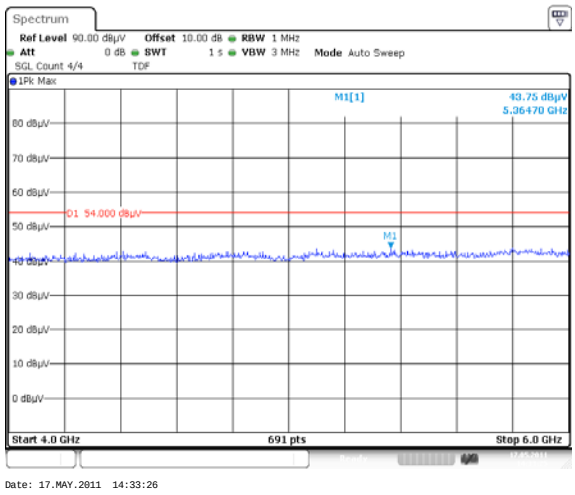
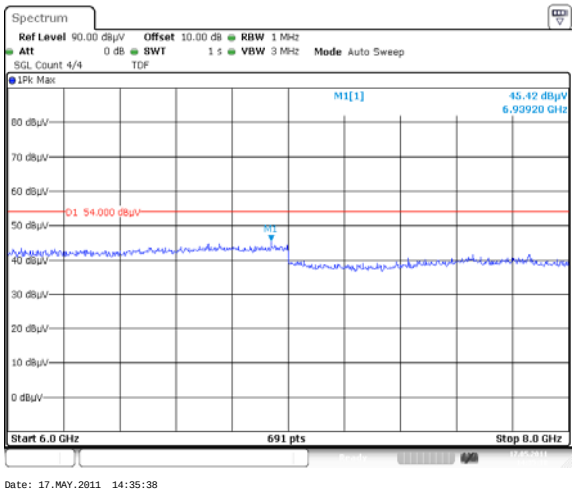
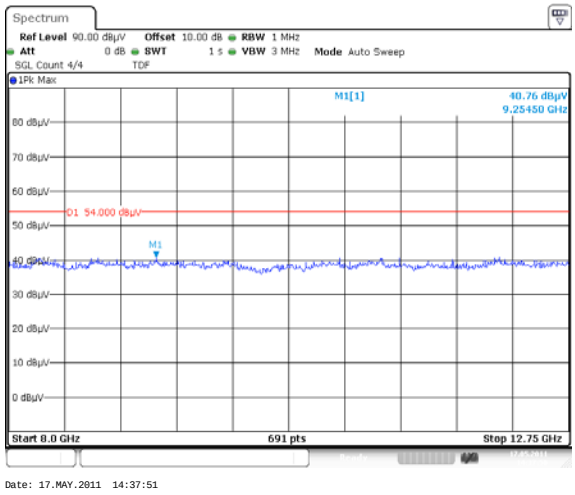
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
16522.3	Vertical	46.2	*54.0	7.8	Complied

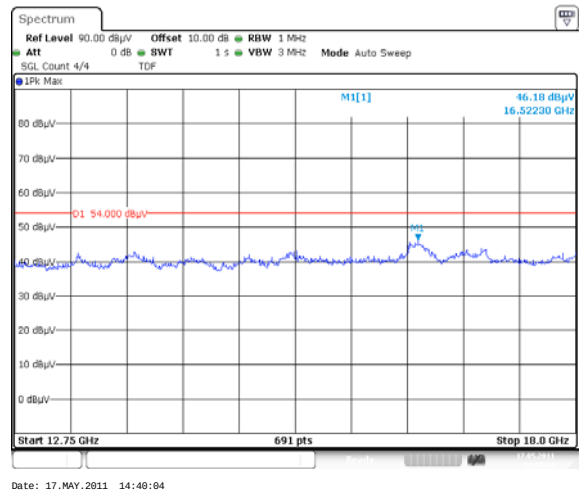
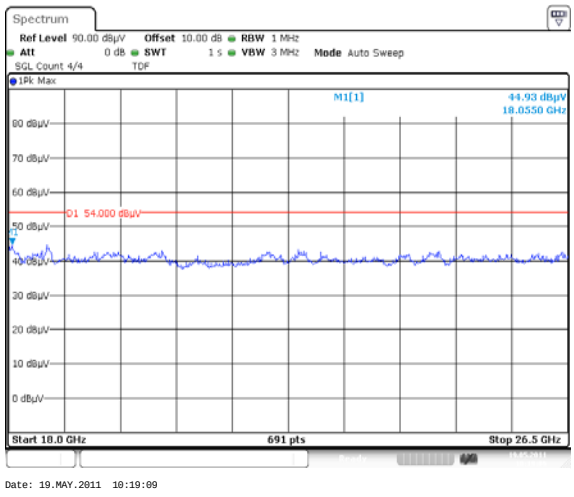
Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss
2. 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.
3. 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.
4. The emission shown on the 1 GHz to 4 GHz plot is the EUT fundamental.

* 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.

Transmitter Radiated Emissions (continued)

	
Radiated_Peak_1GHz_4GHz	Radiated_Peak_4GHz_6GHz
	
Radiated_Peak_6GHz_8GHz	Radiated_Peak_8GHz_12.75GHz

	
Radiated_Peak_12.75GHz_18GHz	Radiated_Peak_18GHz_26.5GHz

5.4.5. Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	10 May and 18 May 2011
Test Sample Serial No:	ID:1		
Antenna:	WCR-2400-SMA		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
Test Method Used:	As detailed in ANSI C63.10 Section 6.9.2

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	30

Results: Peak and Average 802.11b

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	1	BPSK	48.2	*72.4	24.2	Complied
2483.5	1	BPSK	50.9	74.0	23.1	Complied
2483.5	1	BPSK	39.9	54.0	14.1	Complied
2400.0	2	QPSK	47.5	*72.6	25.1	Complied
2483.5	2	QPSK	51.4	74.0	22.6	Complied
2483.5	2	QPSK	39.6	54.0	14.4	Complied
2400.0	5.5	CCK	44.7	*72.3	27.6	Complied
2483.5	5.5	CCK	51.0	74.0	23.0	Complied
2483.5	5.5	CCK	39.6	54.0	14.4	Complied
2400.0	11	CCK	47.0	*72.3	25.3	Complied
2483.5	11	CCK	50.7	74.0	23.3	Complied
2483.5	11	CCK	39.6	54.0	14.4	Complied

Transmitter Band Edge Radiated Emissions (continued)

Results: Peak and Average 802.11g

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	6	BPSK	54.8	*67.1	12.3	Complied
2483.5	6	BPSK	58.1	74.0	15.9	Complied
2483.5	6	BPSK	41.9	54.0	12.1	Complied
2400.0	9	BPSK	56.0	*67.5	11.5	Complied
2483.5	9	BPSK	54.6	74.0	19.4	Complied
2483.5	9	BPSK	41.9	54.0	12.1	Complied
2400.0	12	QPSK	53.8	*67.5	13.7	Complied
2483.5	12	QPSK	57.0	74.0	17.0	Complied
2483.5	12	QPSK	41.8	54.0	12.2	Complied
2400.0	18	QPSK	56.3	*67.4	11.1	Complied
2483.5	18	QPSK	56.2	74.0	17.8	Complied
2483.5	18	QPSK	42.0	54.0	12.0	Complied
2400.0	24	16QAM	54.2	*68.5	14.3	Complied
2483.5	24	16QAM	57.0	74.0	17.0	Complied
2483.5	24	16QAM	41.9	54.0	12.1	Complied
2400.0	36	16QAM	54.6	*68.9	14.3	Complied
2483.5	36	16QAM	56.6	74.0	17.4	Complied
2483.5	36	16QAM	41.7	54.0	12.3	Complied
2400.0	48	64QAM	55.6	*69.1	13.5	Complied
2483.5	48	64QAM	56.1	74.0	17.9	Complied
2483.5	48	64QAM	41.8	54.0	12.2	Complied
2400.0	54	64QAM	55.0	*68.5	13.5	Complied
2483.5	54	64QAM	57.5	74.0	16.5	Complied
2483.5	54	64QAM	41.9	54.0	12.1	Complied

Transmitter Band Edge Radiated Emissions (continued)

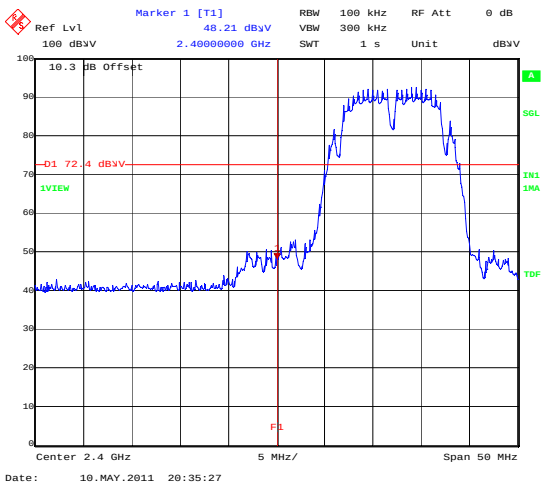
Results: Peak and Average 802.11n

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	6.5	BPSK	54.9	*68.1	13.2	Complied
2483.5	6.5	BPSK	53.3	74.0	20.7	Complied
2483.5	6.5	BPSK	40.9	54.0	13.1	Complied
2400.0	13	BPSK	54.2	*68.8	14.6	Complied
2483.5	13	BPSK	40.9	54.0	13.1	Complied
2483.5	13	BPSK	52.9	74.0	21.1	Complied
2400.0	19.5	QPSK	55.8	*68.3	12.5	Complied
2483.5	19.5	QPSK	52.8	74.0	21.2	Complied
2483.5	19.5	QPSK	40.9	54.0	13.1	Complied
2400.0	26	QPSK	54.8	*70.1	15.3	Complied
2483.5	26	QPSK	54.2	74.0	19.8	Complied
2483.5	26	QPSK	40.9	54.0	13.1	Complied
2400.0	39	16QAM	55.5	*69.5	14.0	Complied
2483.5	39	16QAM	54.8	74.0	19.2	Complied
2483.5	39	16QAM	40.9	54.0	13.1	Complied
2400.0	52	16QAM	54.8	*70.2	15.4	Complied
2483.5	52	16QAM	52.8	74.0	21.2	Complied
2483.5	52	16QAM	40.9	54.0	13.1	Complied
2400.0	58.5	64QAM	55.6	*69.9	14.3	Complied
2483.5	58.5	64QAM	53.9	74.0	20.1	Complied
2483.5	58.5	64QAM	41.1	54.0	12.9	Complied
2400.0	65	64QAM	56.1	*70.3	14.2	Complied
2483.5	65	64QAM	53.2	74.0	20.8	Complied
2483.5	65	64QAM	41.0	54.0	13.0	Complied

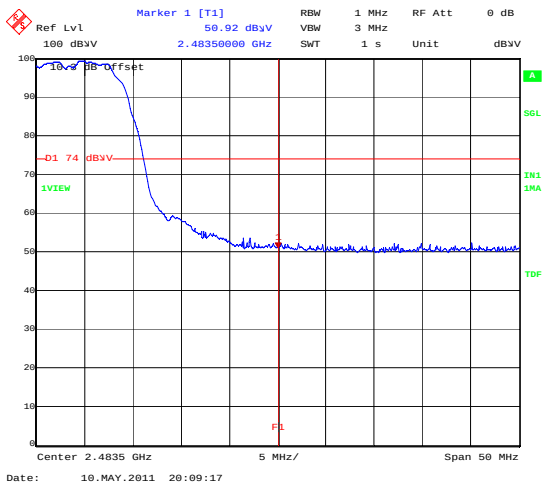
Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. * -20 dBc limit.

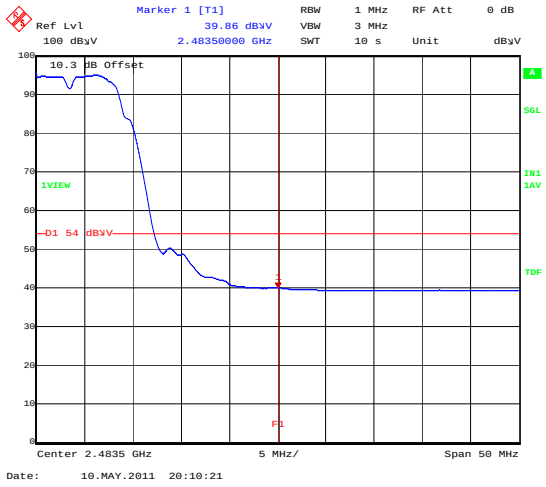
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_1MBS_BottomChannel

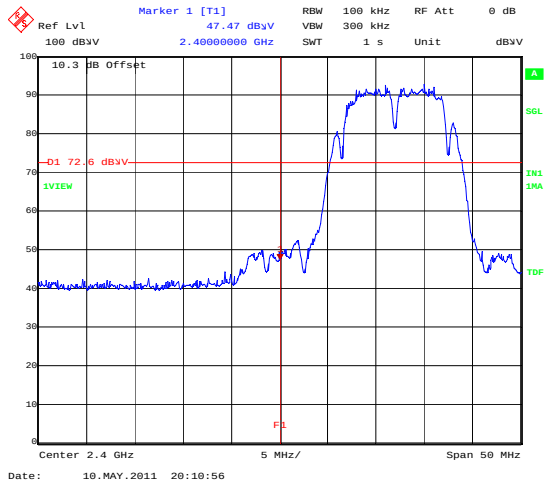


BandEdge_802_11B_1MBS_TopChannel

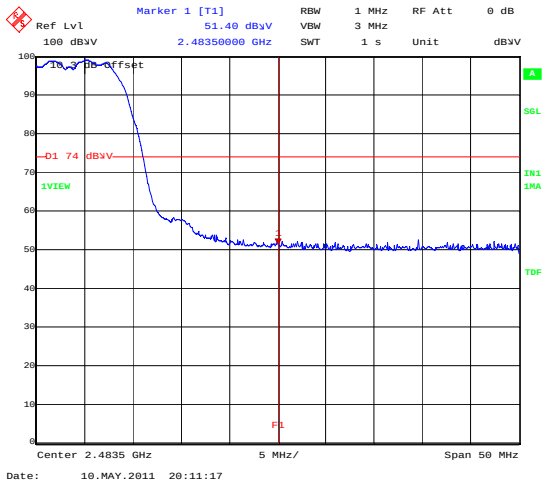


BandEdge_802_11B_1MBS_TopChannelAVG

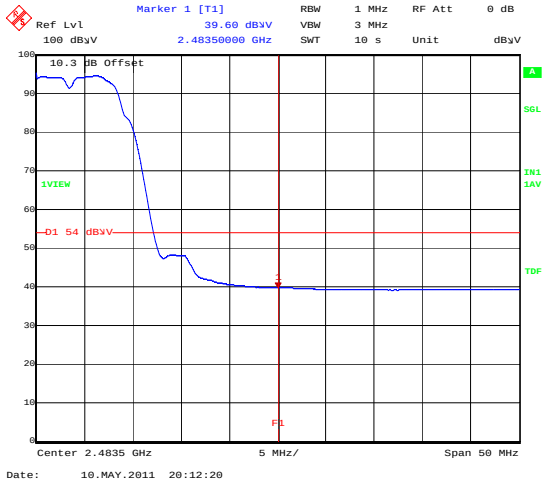
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_2MBS_BottomChannel

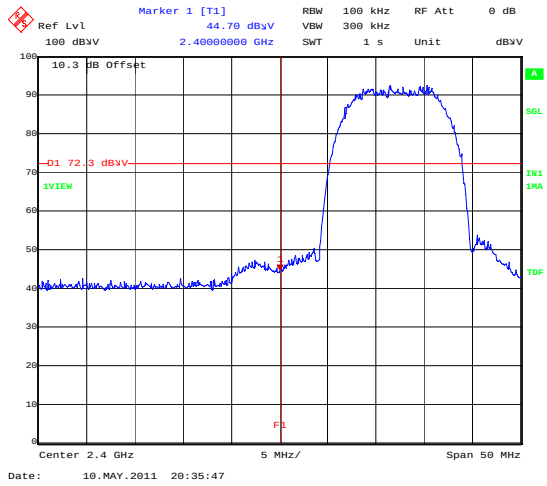


BandEdge_802_11B_2MBS_TopChannel

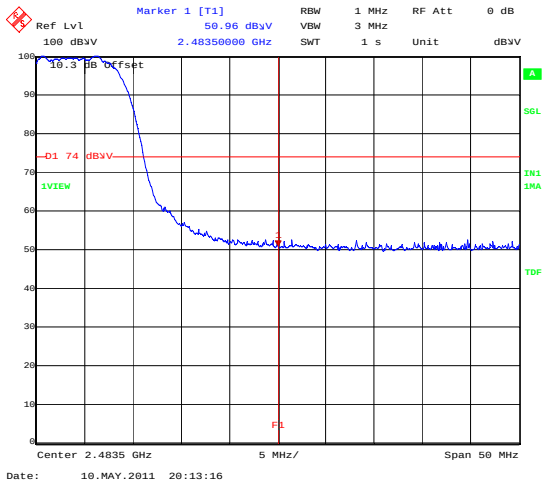


BandEdge_802_11B_2MBS_TopChannelAVG

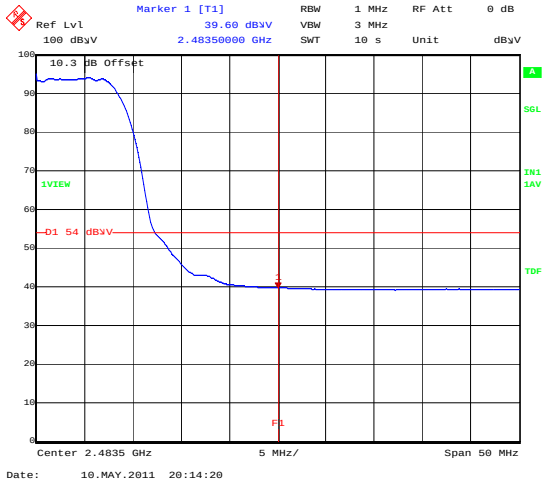
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_5.5MBS_BottomChannel

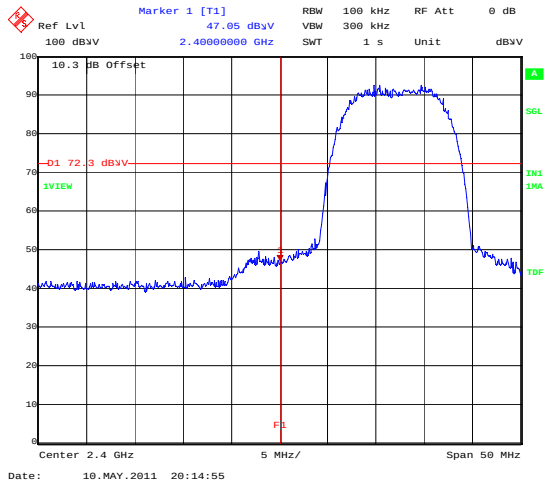


BandEdge_802_11B_5.5MBS_TopChannel

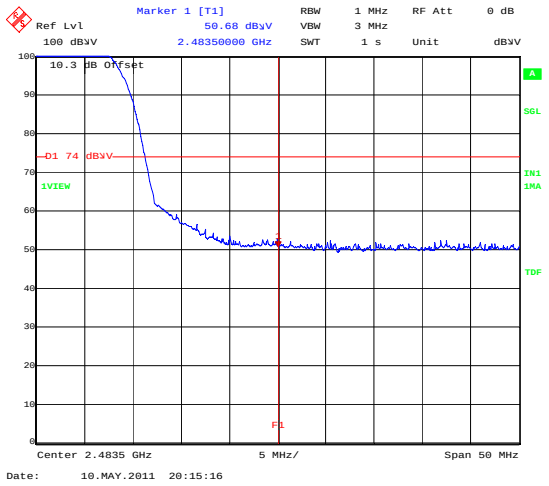


BandEdge_802_11B_5.5MBS_TopChannelAVG

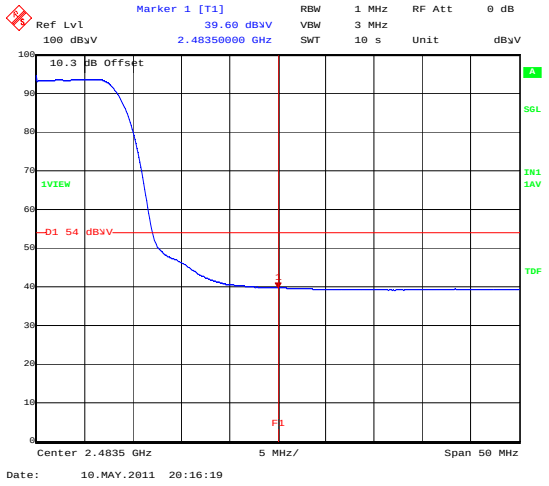
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_11MBS_BottomChannel

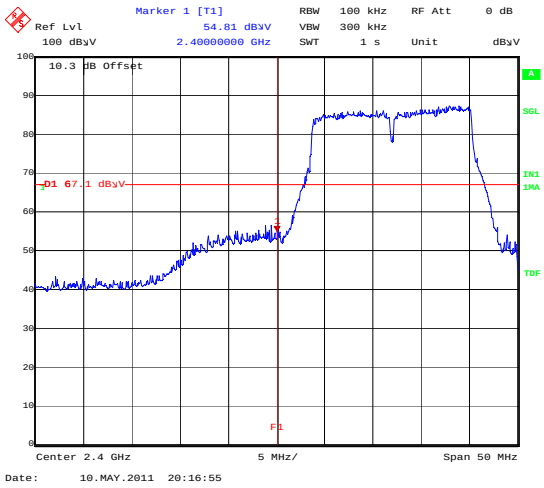


BandEdge_802_11B_11MBS_TopChannel

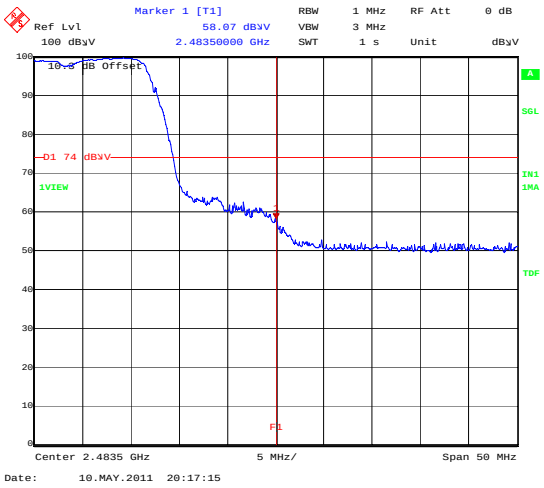


BandEdge_802_11B_11MBS_TopChannelAVG

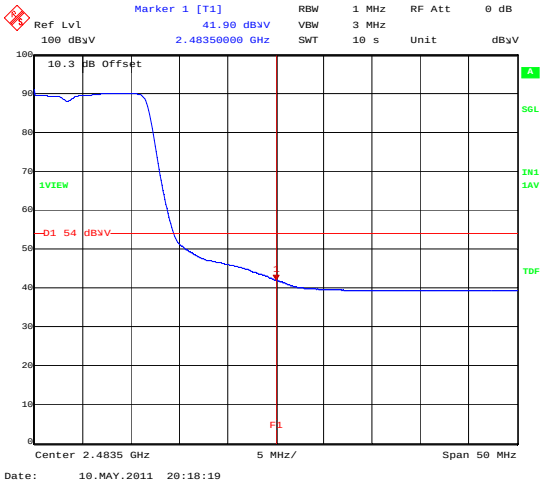
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_6MBS_BottomChannel

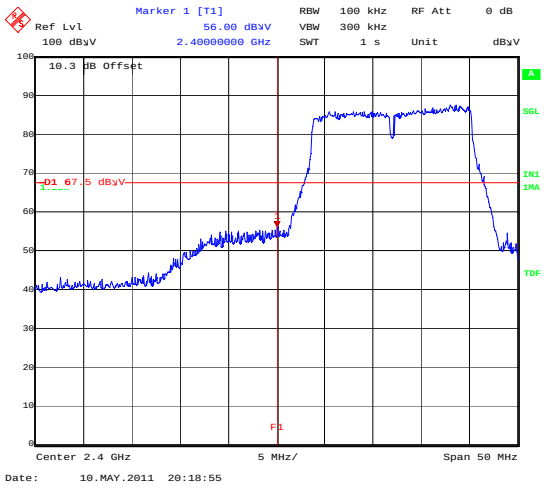


BandEdge_802_11G_6MBS_TopChannel

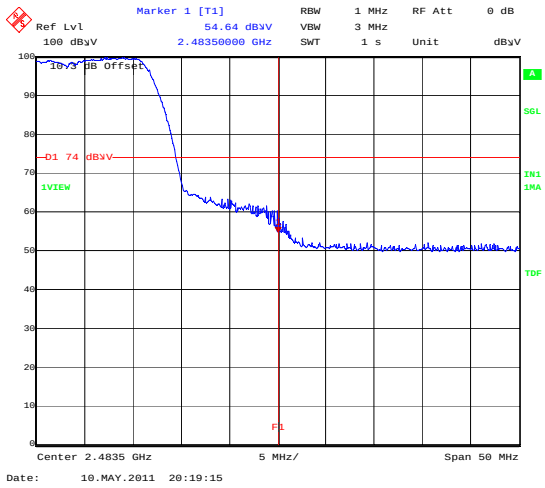


BandEdge_802_11G_6MBS_TopChannelAVG

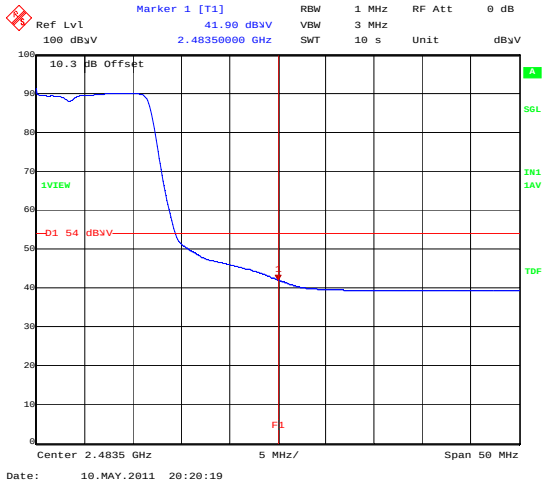
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_9MBS_BottomChannel

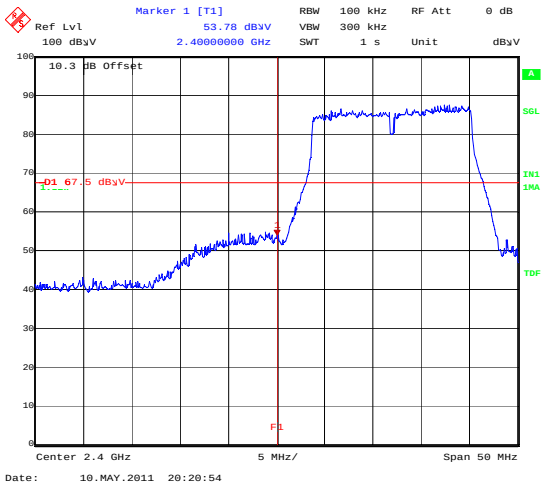


BandEdge_802_11G_9MBS_TopChannel

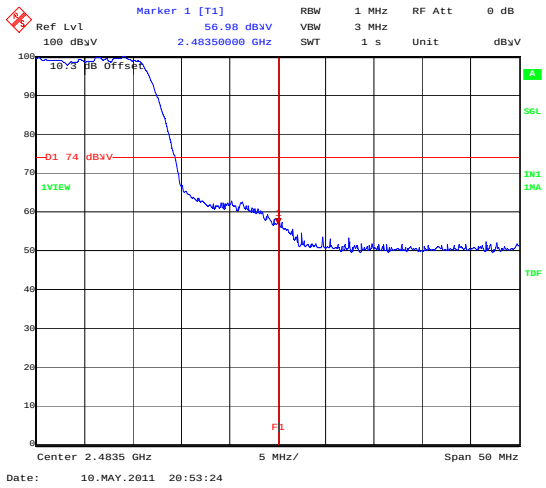


BandEdge_802_11G_9MBS_TopChannelAVG

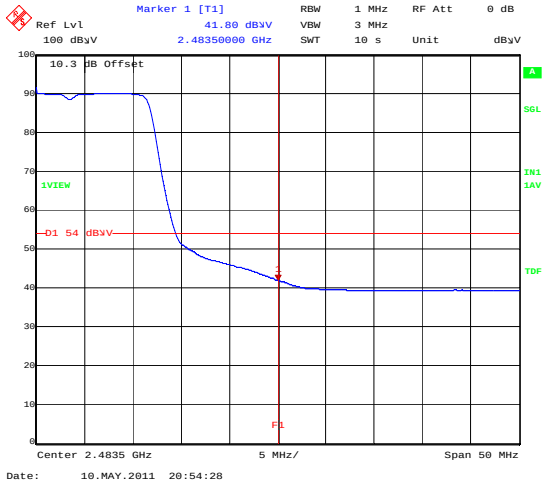
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_12MBS_BottomChannel

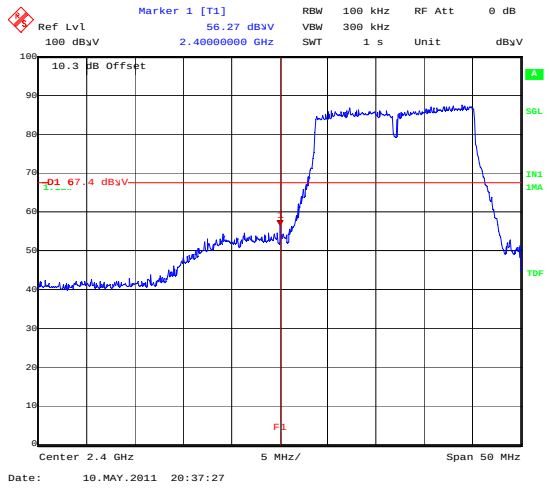


BandEdge_802_11G_12MBS_TopChannel

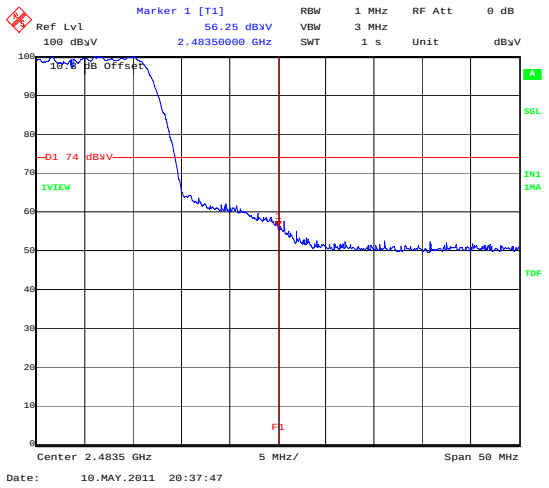


BandEdge_802_11G_12MBS_TopChannelAVG

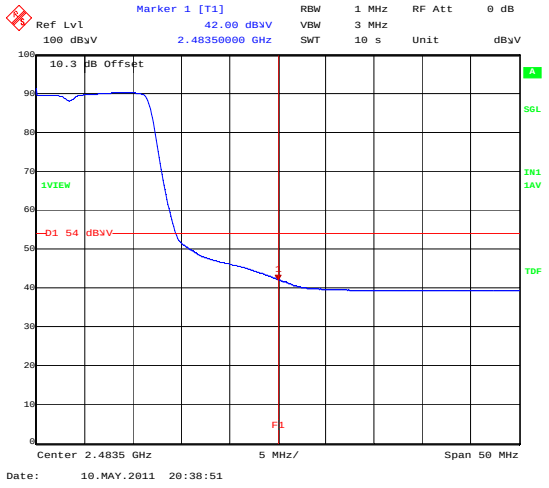
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_18MBS_BottomChannel

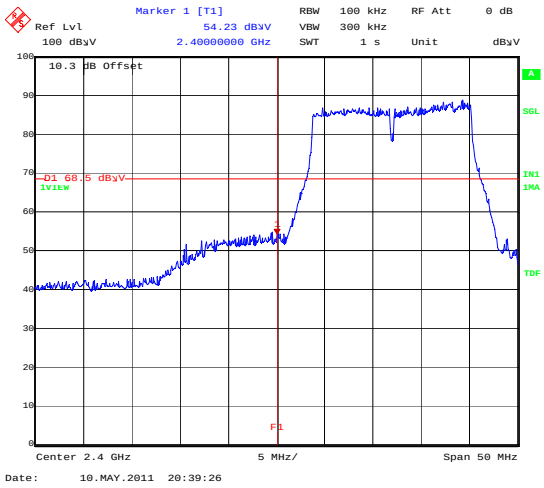


BandEdge_802_11G_18MBS_TopChannel

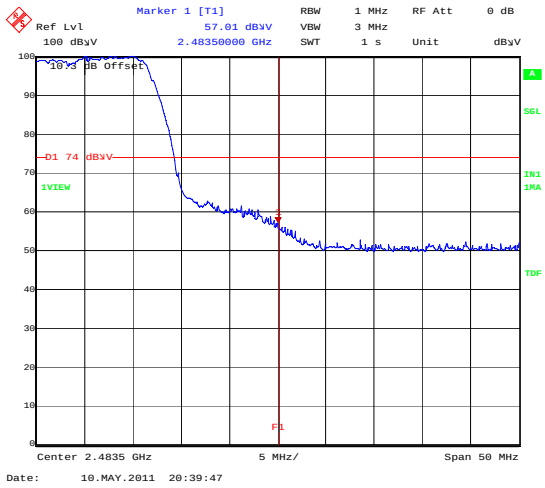


BandEdge_802_11G_18MBS_TopChannelAVG

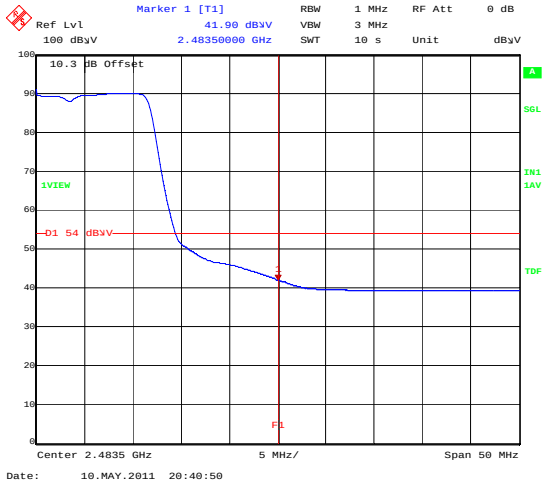
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_24MBS_BottomChannel

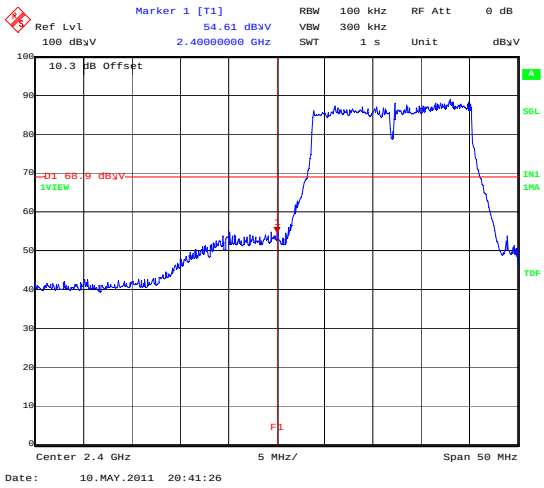


BandEdge_802_11G_24MBS_TopChannel

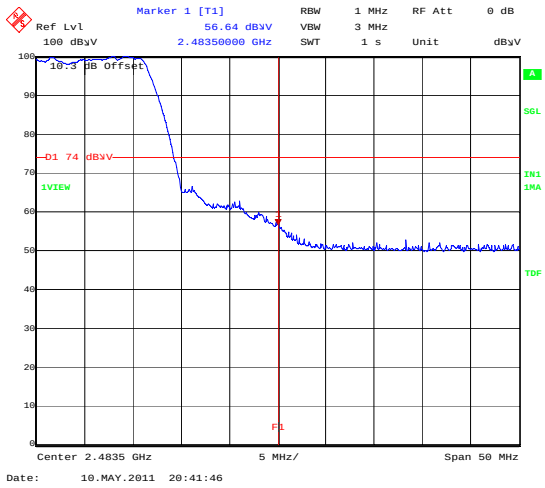


BandEdge_802_11G_24MBS_TopChannelAVG

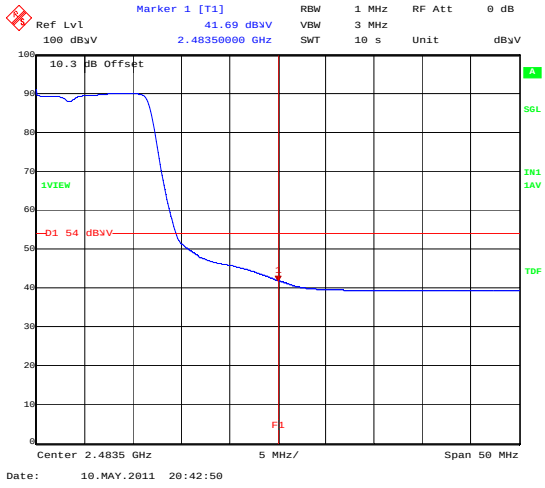
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_36MBS_BottomChannel

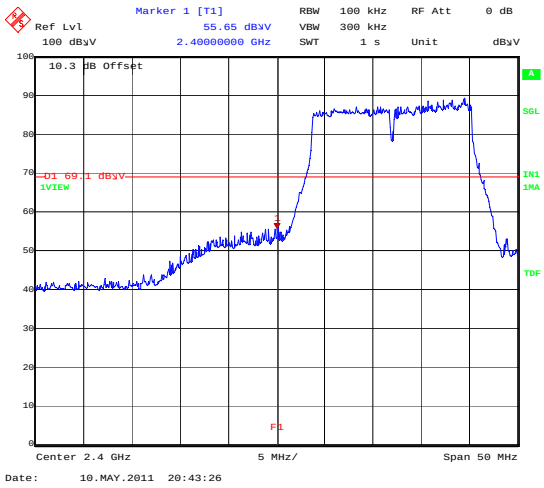


BandEdge_802_11G_36MBS_TopChannel

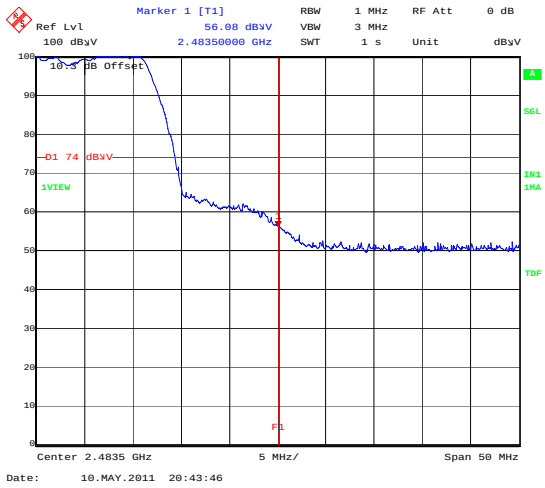


BandEdge_802_11G_36MBS_TopChannelAVG

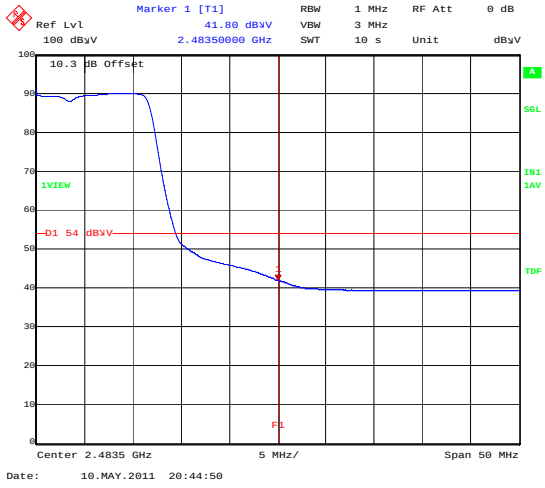
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_48MBS_BottomChannel

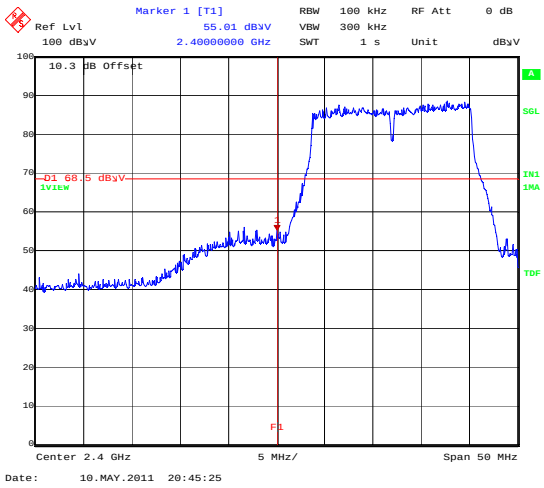


BandEdge_802_11G_48MBS_TopChannel

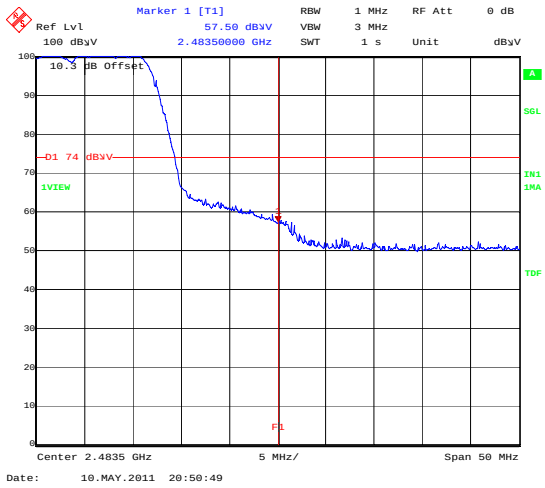


BandEdge_802_11G_48MBS_TopChannelAVG

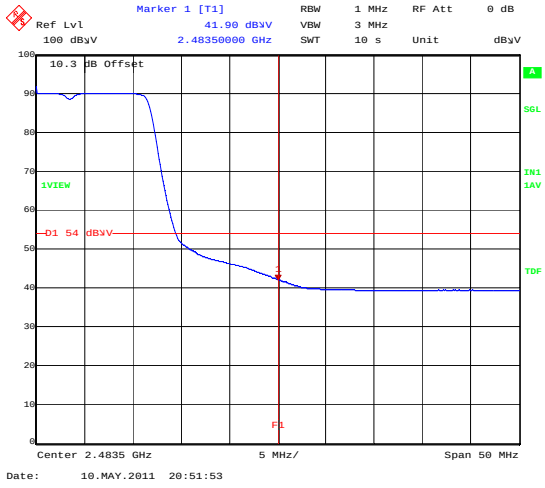
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_54MBS_BottomChannel

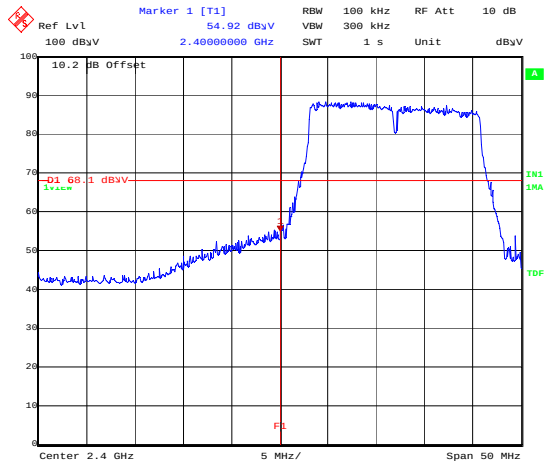


BandEdge_802_11G_54MBS_TopChannel

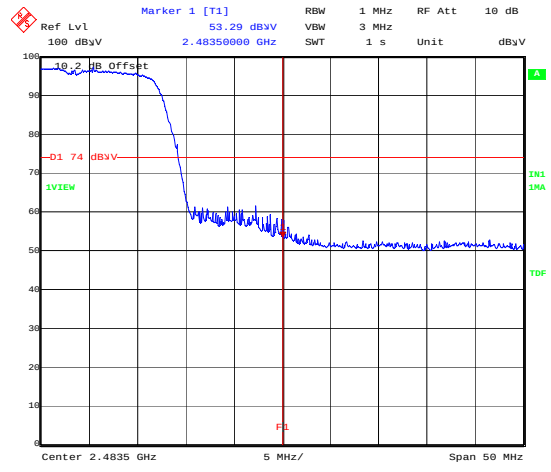


BandEdge_802_11G_54MBS_TopChannelAVG

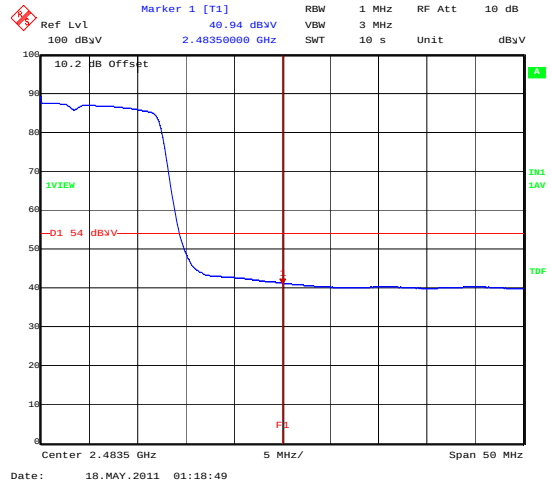
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_6.5MBS_BotChannel

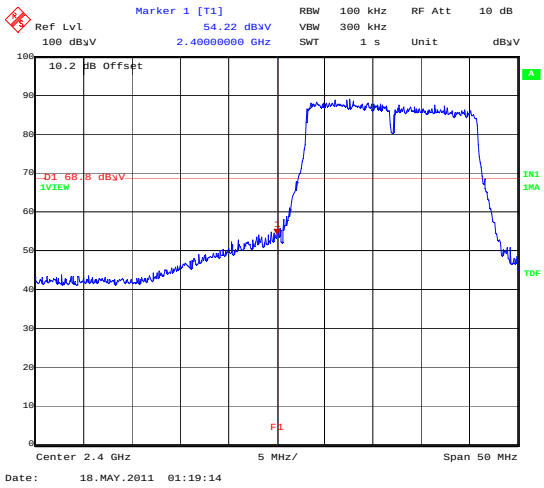


BandEdge_802_11N_6.5MBS_TopChannel

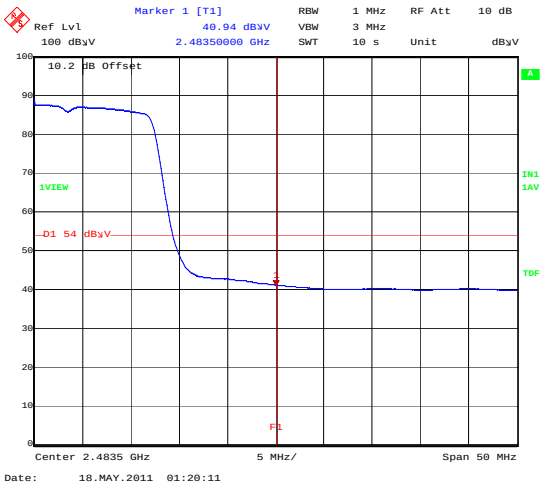


BandEdge_802_11N_6.5MBS_TopChannelAVG

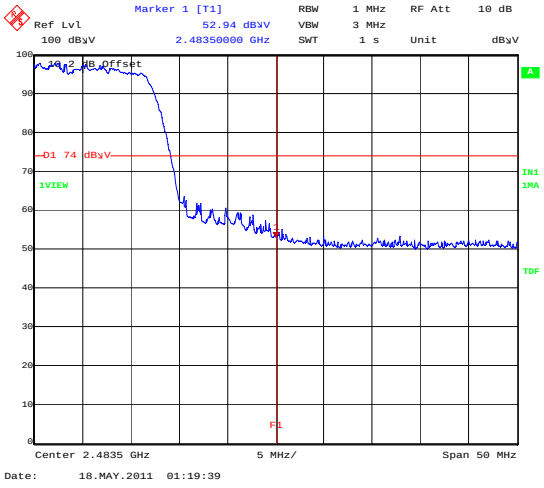
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_13MBS_BotChannel

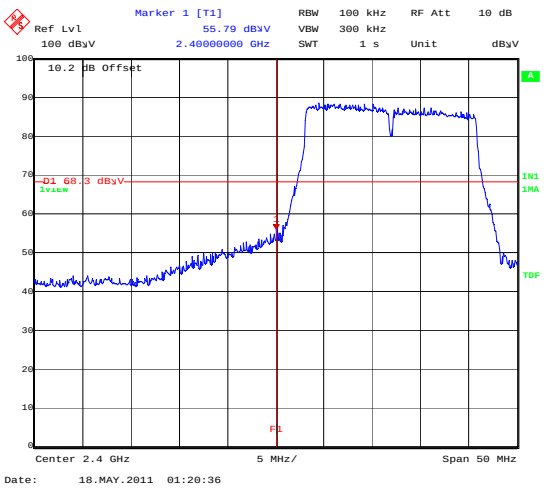


BandEdge_802_11N_13MBS_TopChannel

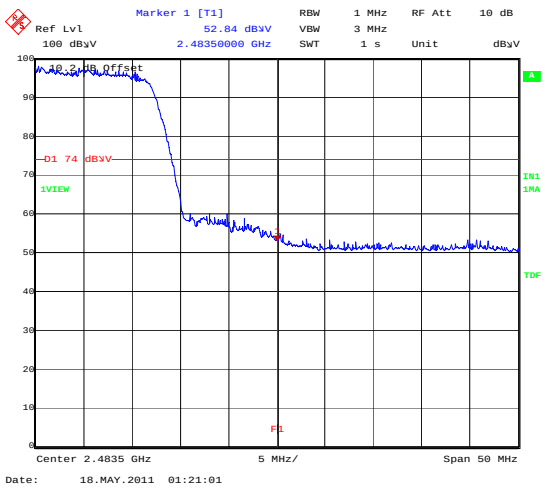


BandEdge_802_11N_13MBS_TopChannelAVG

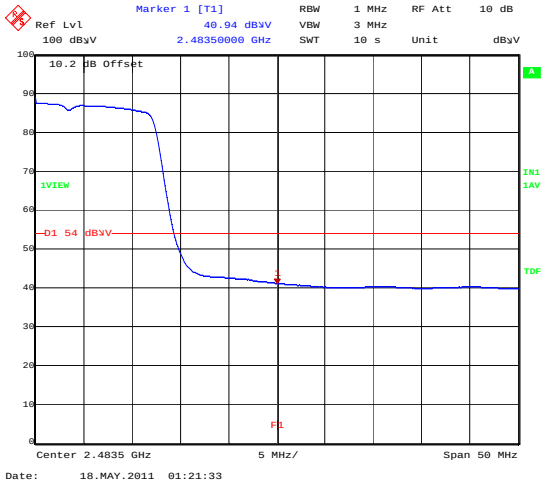
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_19.5MBS_BotChannel

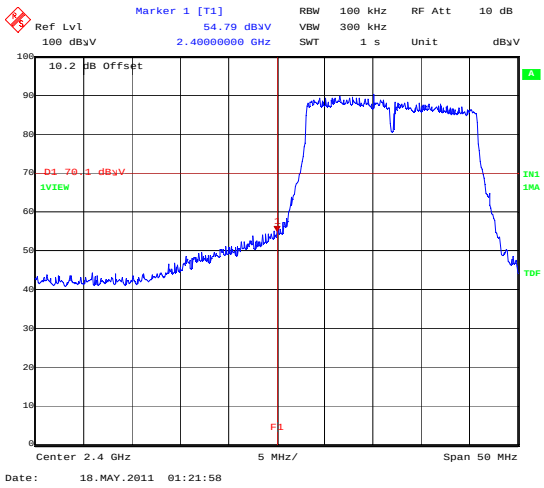


BandEdge_802_11N_19.5MBS_TopChannel

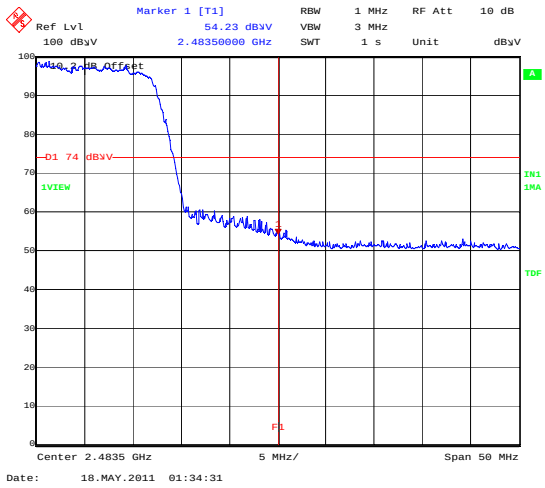


BandEdge_802_11N_19.5MBS_TopChannelAVG

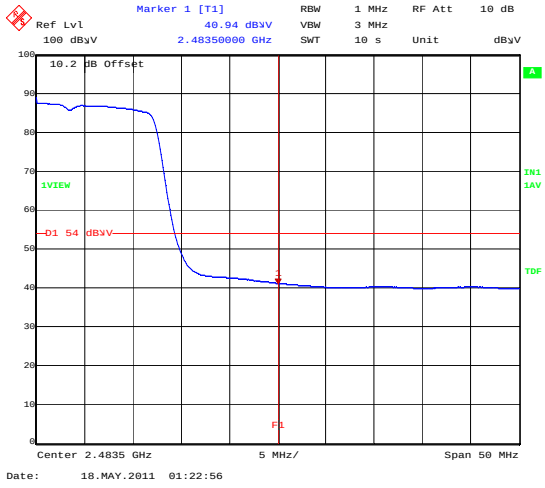
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_26MBS_BotChannel

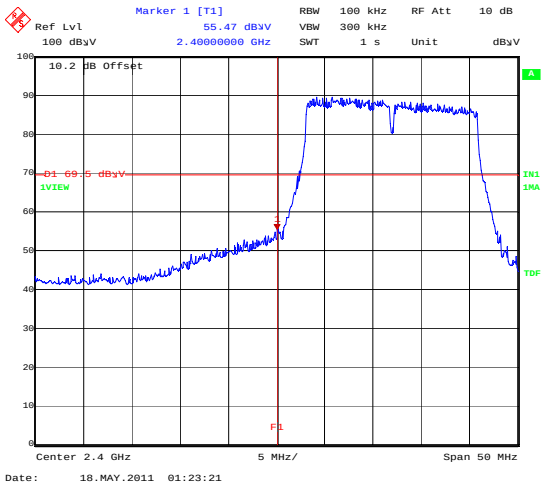


BandEdge_802_11N_26MBS_TopChannel

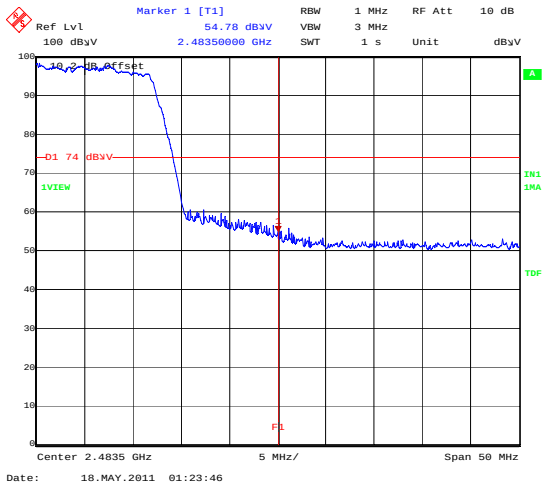


BandEdge_802_11N_26MBS_TopChannelAVG

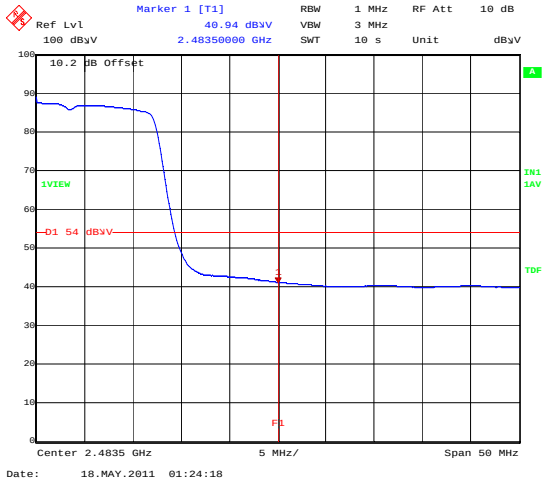
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_39MBS_BotChannel

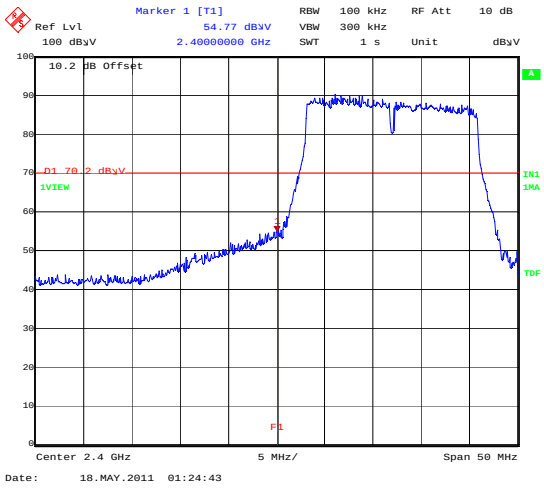


BandEdge_802_11N_39MBS_TopChannel

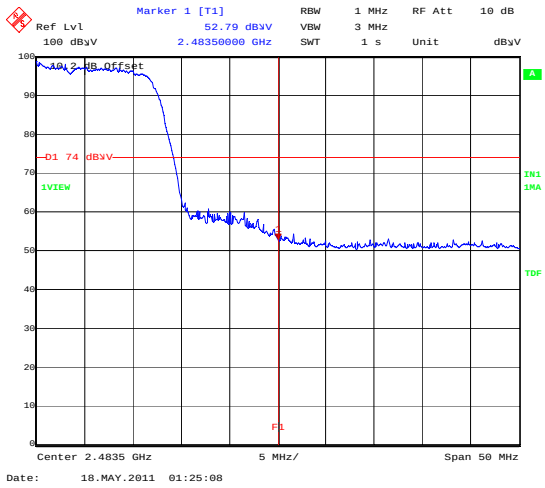


BandEdge_802_11N_39MBS_TopChannelAVG

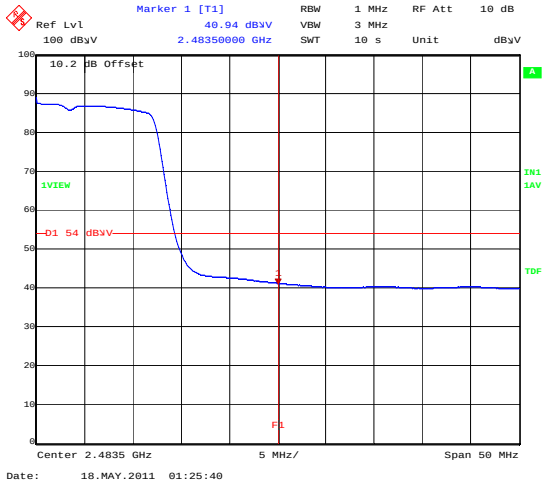
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_52MBS_BotChannel

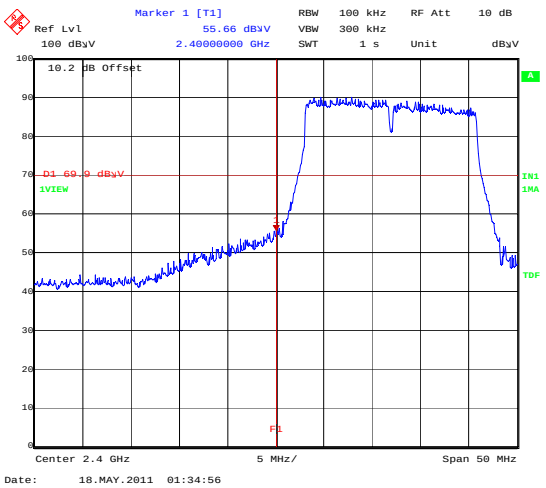


BandEdge_802_11N_52MBS_TopChannel

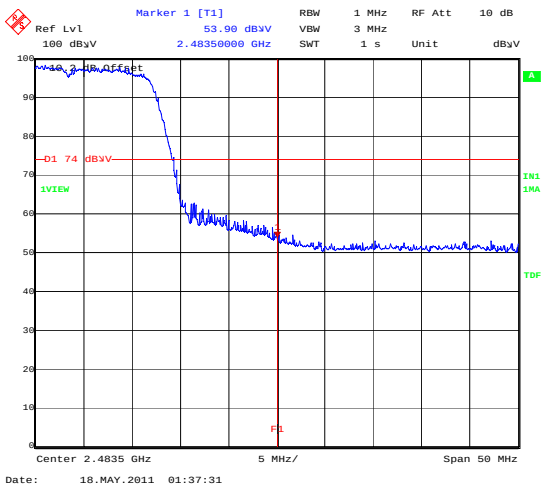


BandEdge_802_11N_52MBS_TopChannelAVG

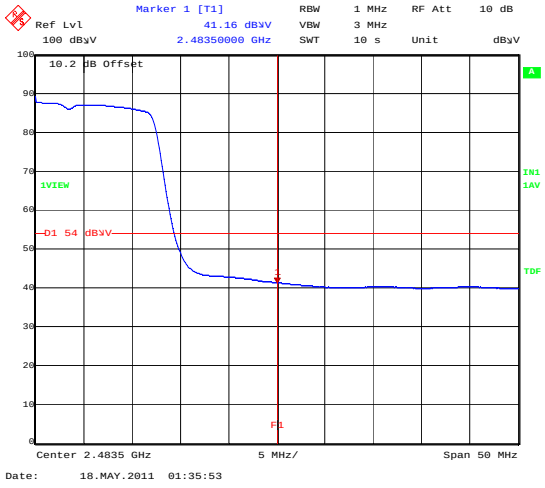
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_58.5MBS_BotChannel

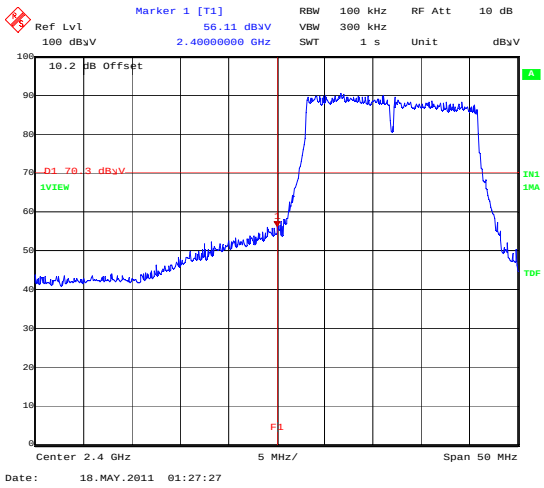


BandEdge_802_11N_58.5MBS_TopChannel

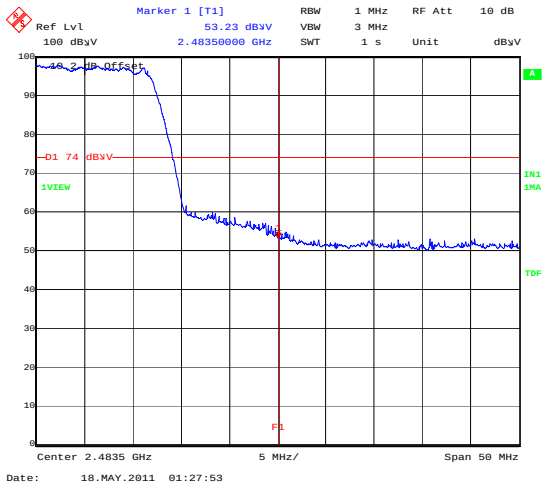


BandEdge_802_11N_58.5MBS_TopChannelAVG

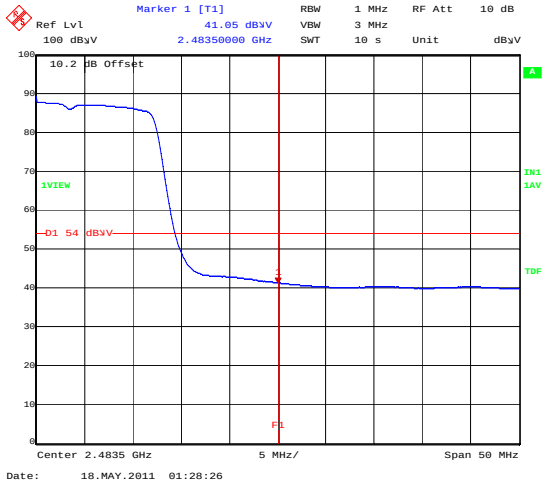
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_65MBS_BotChannel



BandEdge_802_11N_65MBS_TopChannel



BandEdge_802_11N_65MBS_TopChannelAVG

5.5. Test Results – Outside 2400 Antenna:

5.5.1. Receiver/Idle Mode Radiated Spurious Emissions

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	17 May 2011
Test Sample IMEI:	ID:1		
Antenna:	Outside 2400		

FCC/IC Part:	15.109 and RSS-Gen 4.10 / RSS-Gen 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):	24
Relative Humidity (%):	23

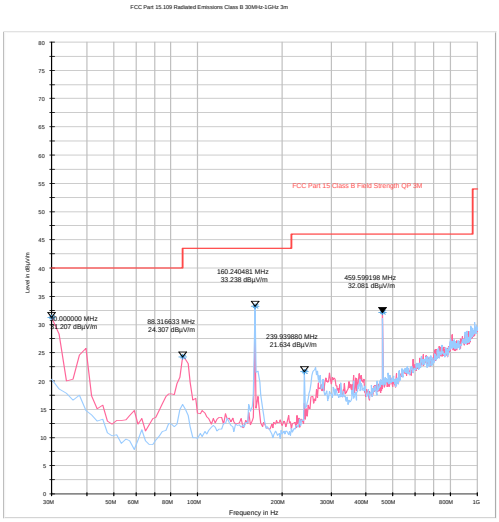
Results: Quasi Peak

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
30.076	Vertical	18.7	40.0	21.3	Complied
87.887	Vertical	20.7	40.0	19.3	Complied
159.995	Horizontal	31.1	43.5	12.4	Complied
240.002	Horizontal	19.7	46.0	26.3	Complied
458.805	Horizontal	29.6	46.0	16.4	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. 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	**Test Date:**	17 May 2011
Test Sample IMEI:	ID:1		
Antenna:	Outside 2400		

FCC/IC Part:	15.109 and RSS-Gen 4.10 / RSS-Gen 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 12.75 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	25

Results:

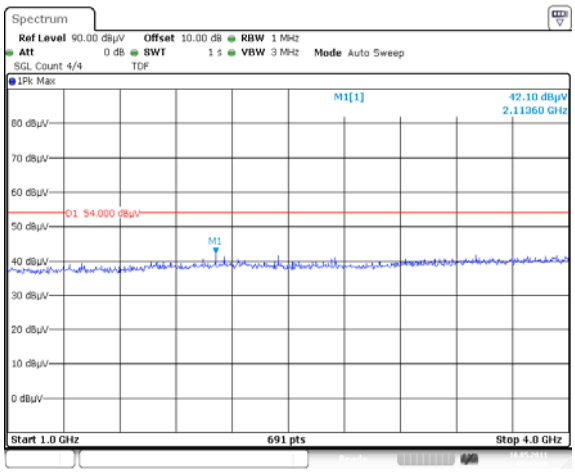
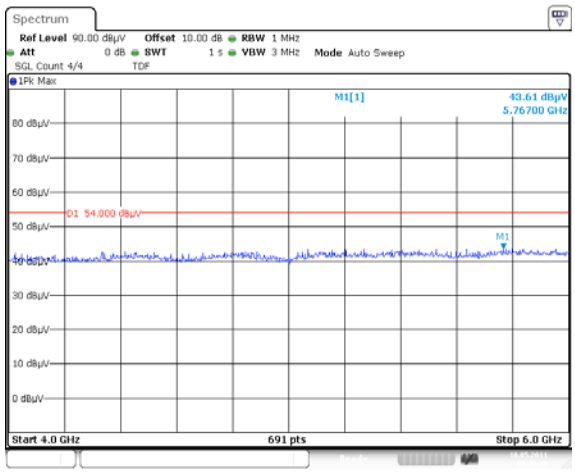
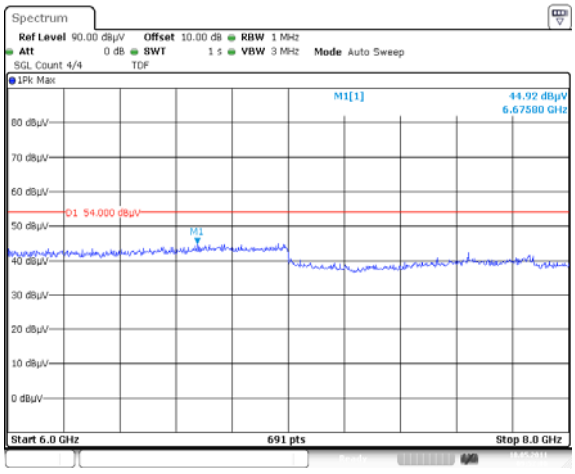
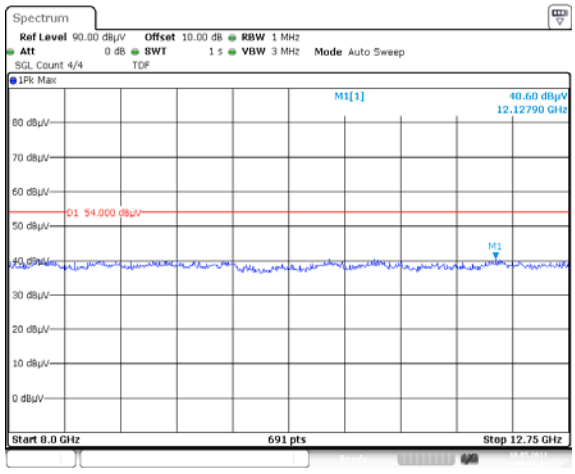
Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
6675.8	Vertical	44.9	*54.0	9.1	Complied

Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. 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.

* 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)

	
Radiated_Peak_1GHz_4GHz	Radiated_Peak_4GHz_6GHz
	
Radiated_Peak_6GHz_8GHz	Radiated_Peak_8GHz_12.75GHz

5.5.2. Transmitter Maximum Peak Output Power

Test Summary:

Test Engineer:	David Lakeland	**Test Date:**	11 May 2011
Test Sample:	ID:1		

FCC Part:	15.247(b)(3)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.2

Note: Test method used – power meter

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	29

Results: 802.11b

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	1	17.4	30	12.6	Complied
Middle	2437	BPSK	1	17.1	30	12.9	Complied
Top	2462	BPSK	1	16.3	30	13.7	Complied
Bottom	2412	QPSK	2	16.8	30	13.2	Complied
Middle	2437	QPSK	2	16.5	30	13.5	Complied
Top	2462	QPSK	2	16.2	30	13.8	Complied
Bottom	2412	QPSK	5.5	16.8	30	13.2	Complied
Middle	2437	QPSK	5.5	16.5	30	13.6	Complied
Top	2462	QPSK	5.5	16.1	30	13.9	Complied
Bottom	2412	QPSK	11	16.7	30	13.3	Complied
Middle	2437	QPSK	11	16.5	30	13.6	Complied
Top	2462	QPSK	11	16.2	30	13.9	Complied

Transmitter Maximum Peak Output Power (continued)

Results: 802.11g

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	6	15.2	30	14.8	Complied
Middle	2437	BPSK	6	14.9	30	15.1	Complied
Top	2462	BPSK	6	14.6	30	15.4	Complied
Bottom	2412	BPSK	9	15.2	30	14.8	Complied
Middle	2437	BPSK	9	15.1	30	14.9	Complied
Top	2462	BPSK	9	15.1	30	14.9	Complied
Bottom	2412	QPSK	12	15.4	30	14.6	Complied
Middle	2437	QPSK	12	15.0	30	15.0	Complied
Top	2462	QPSK	12	14.7	30	15.3	Complied
Bottom	2412	QPSK	18	15.3	30	14.7	Complied
Middle	2437	QPSK	18	15.1	30	14.9	Complied
Top	2462	QPSK	18	14.7	30	15.3	Complied
Bottom	2412	16QAM	24	15.3	30	14.7	Complied
Middle	2437	16QAM	24	15.0	30	15.0	Complied
Top	2462	16QAM	24	14.7	30	15.3	Complied
Bottom	2412	16QAM	36	15.4	30	14.6	Complied
Middle	2437	16QAM	36	15.0	30	15.0	Complied
Top	2462	16QAM	36	14.7	30	15.3	Complied
Bottom	2412	16QAM	48	15.4	30	14.6	Complied
Middle	2437	16QAM	48	15.1	30	14.9	Complied
Top	2462	16QAM	48	14.8	30	15.3	Complied
Bottom	2412	64QAM	54	15.7	30	14.3	Complied
Middle	2437	64QAM	54	15.1	30	14.9	Complied
Top	2462	64QAM	54	14.7	30	15.3	Complied

Transmitter Maximum Peak Output Power (continued)

Results: 802.11n

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	6.5	15.6	30	14.4	Complied
Middle	2437	BPSK	6.5	15.3	30	14.7	Complied
Top	2462	BPSK	6.5	15.0	30	15.0	Complied
Bottom	2412	QPSK	13	15.5	30	14.6	Complied
Middle	2437	QPSK	13	15.2	30	14.8	Complied
Top	2462	QPSK	13	14.9	30	15.1	Complied
Bottom	2412	QPSK	19.5	15.4	30	14.6	Complied
Middle	2437	QPSK	19.5	14.9	30	15.1	Complied
Top	2462	QPSK	19.5	14.8	30	15.3	Complied
Bottom	2412	16QAM	26	15.3	30	14.7	Complied
Middle	2437	16QAM	26	15.1	30	14.9	Complied
Top	2462	16QAM	26	14.8	30	15.2	Complied
Bottom	2412	16QAM	39	15.6	30	14.4	Complied
Middle	2437	16QAM	39	15.6	30	14.4	Complied
Top	2462	16QAM	39	14.9	30	15.1	Complied
Bottom	2412	64QAM	52	15.4	30	14.6	Complied
Middle	2437	64QAM	52	15.2	30	14.8	Complied
Top	2462	64QAM	52	15.6	30	14.4	Complied
Bottom	2412	64QAM	58.5	16.3	30	13.7	Complied
Middle	2437	64QAM	58.5	15.4	30	14.6	Complied
Top	2462	64QAM	58.5	15.0	30	15.1	Complied
Bottom	2412	64QAM	65	16.0	30	14.0	Complied
Middle	2437	64QAM	65	15.4	30	14.6	Complied
Top	2462	64QAM	65	16.1	30	13.9	Complied

5.5.3. Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP)

FCC Part:	15.247(b)(3)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.2

Results: 802.11b

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	1	3	17.4	20.4	36.0	15.6	Complied
Middle	BPSK	1	3	17.1	20.1	36.0	15.9	Complied
Top	BPSK	1	3	16.3	19.3	36.0	16.7	Complied
Bottom	QPSK	2	3	16.8	19.8	36.0	16.2	Complied
Middle	QPSK	2	3	16.5	19.5	36.0	16.5	Complied
Top	QPSK	2	3	16.2	19.2	36.0	16.8	Complied
Bottom	QPSK	5.5	3	16.8	19.8	36.0	16.2	Complied
Middle	QPSK	5.5	3	16.5	19.5	36.0	16.5	Complied
Top	QPSK	5.5	3	16.1	19.1	36.0	16.9	Complied
Bottom	QPSK	11	3	16.7	19.7	36.0	16.3	Complied
Middle	QPSK	11	3	16.5	19.5	36.0	16.5	Complied
Top	QPSK	11	3	16.2	19.2	36.0	16.8	Complied

Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP) (Continued)

Results: 802.11g

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6	3	15.2	18.2	36.0	17.8	Complied
Middle	BPSK	6	3	14.9	17.9	36.0	18.1	Complied
Top	BPSK	6	3	14.6	17.6	36.0	18.4	Complied
Bottom	BPSK	9	3	15.2	18.2	36.0	17.8	Complied
Middle	BPSK	9	3	15.1	18.1	36.0	17.9	Complied
Top	BPSK	9	3	15.1	18.1	36.0	17.9	Complied
Bottom	QPSK	12	3	15.4	18.4	36.0	17.6	Complied
Middle	QPSK	12	3	15.0	18.0	36.0	18.0	Complied
Top	QPSK	12	3	14.7	17.7	36.0	18.3	Complied
Bottom	QPSK	18	3	15.3	18.3	36.0	17.7	Complied
Middle	QPSK	18	3	15.1	18.1	36.0	17.9	Complied
Top	QPSK	18	3	14.7	17.7	36.0	18.3	Complied
Bottom	16QAM	24	3	15.3	18.3	36.0	17.7	Complied
Middle	16QAM	24	3	15.0	18.0	36.0	18.0	Complied
Top	16QAM	24	3	14.7	17.7	36.0	18.3	Complied
Bottom	16QAM	36	3	15.4	18.4	36.0	17.6	Complied
Middle	16QAM	36	3	15.0	18.0	36.0	18.0	Complied
Top	16QAM	36	3	14.7	17.7	36.0	18.3	Complied
Bottom	16QAM	48	3	15.4	18.4	36.0	17.6	Complied
Middle	16QAM	48	3	15.1	18.1	36.0	17.9	Complied
Top	16QAM	48	3	14.8	17.8	36.0	18.2	Complied
Bottom	64QAM	54	3	15.7	18.7	36.0	17.3	Complied
Middle	64QAM	54	3	15.1	18.1	36.0	17.9	Complied
Top	64QAM	54	3	14.7	17.7	36.0	18.3	Complied

Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP) (Continued)

Results: 802.11n

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6.5	3	15.6	18.6	36.0	17.4	Complied
Middle	BPSK	6.5	3	15.3	18.3	36.0	17.7	Complied
Top	BPSK	6.5	3	15.0	18.0	36.0	18.0	Complied
Bottom	QPSK	13	3	15.5	18.5	36.0	17.5	Complied
Middle	QPSK	13	3	15.2	18.2	36.0	17.8	Complied
Top	QPSK	13	3	14.9	17.9	36.0	18.1	Complied
Bottom	QPSK	19.5	3	15.4	18.4	36.0	17.6	Complied
Middle	QPSK	19.5	3	14.9	17.9	36.0	18.1	Complied
Top	QPSK	19.5	3	14.8	17.8	36.0	18.2	Complied
Bottom	16QAM	26	3	15.3	18.3	36.0	17.7	Complied
Middle	16QAM	26	3	15.1	18.1	36.0	17.9	Complied
Top	16QAM	26	3	14.8	17.8	36.0	18.2	Complied
Bottom	16QAM	39	3	15.6	18.6	36.0	17.4	Complied
Middle	16QAM	39	3	15.6	18.6	36.0	17.4	Complied
Top	16QAM	39	3	14.9	17.9	36.0	18.1	Complied
Bottom	64QAM	52	3	15.4	18.4	36.0	17.6	Complied
Middle	64QAM	52	3	15.2	18.2	36.0	17.8	Complied
Top	64QAM	52	3	15.6	18.6	36.0	17.4	Complied
Bottom	64QAM	58.5	3	16.3	19.3	36.0	16.7	Complied
Middle	64QAM	58.5	3	15.4	18.4	36.0	17.6	Complied
Top	64QAM	58.5	3	15.0	18.0	36.0	18.0	Complied
Bottom	64QAM	65	3	16.0	19.0	36.0	17.0	Complied
Middle	64QAM	65	3	15.4	18.4	36.0	17.6	Complied
Top	64QAM	65	3	16.1	19.1	36.0	16.9	Complied

5.5.4. Transmitter Radiated Emissions

Test Summary:

Test Engineer:	Andrew Edwards	**Test Date:**	17 May 2011
Test Sample Serial No:	ID:1		
Antenna:	Outside 2400		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
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):	23
Relative Humidity (%):	23

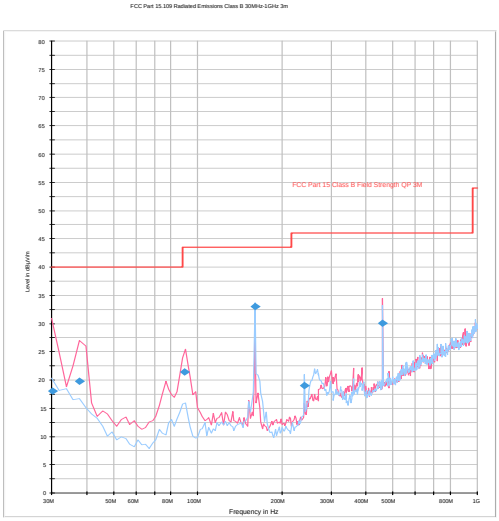
Results: Top Channel

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
30.076	Vertical	18.7	40.000	21.300	Complied
87.887	Vertical	20.7	40.000	19.300	Complied
159.995	Horizontal	31.1	43.500	12.400	Complied
240.002	Horizontal	19.7	46.000	26.300	Complied
458.805	Horizontal	29.6	46.000	16.400	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 preliminary scans showed similar emission levels below 1 GHz, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the top channel only.
3. All other emissions were at least 20 dB below the appropriate limit or below the noise floor of the measurement system.

Transmitter Radiated Emissions (continued)



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

Transmitter Radiated Emissions (continued)

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	17 and19 May 2011
Test Sample Serial No:	ID:1		
Antenna:	Outside 2400		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
Frequency Range	1 GHz to 26.5 GHz

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	27

Results:

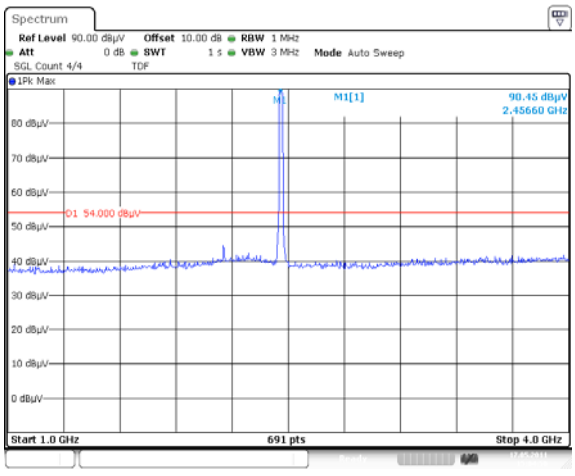
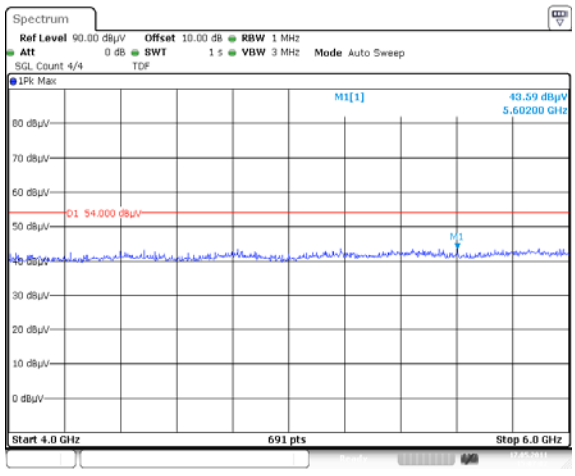
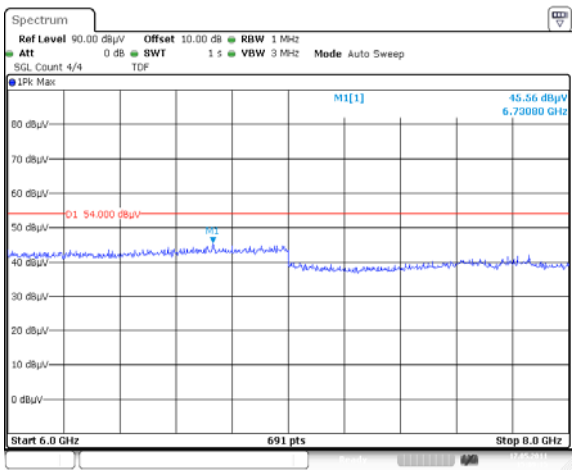
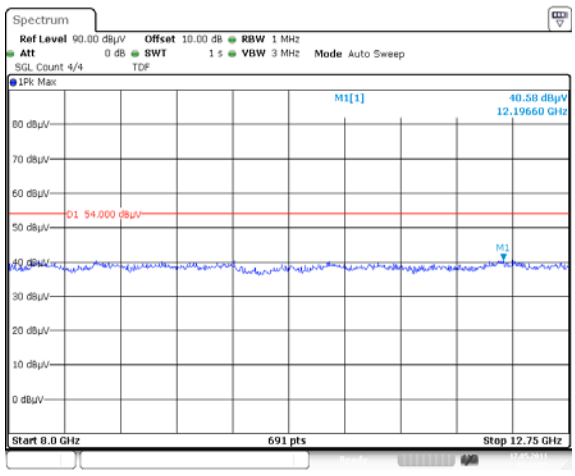
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
6730.8	Vertical	45.6	*54.0	8.4	Complied

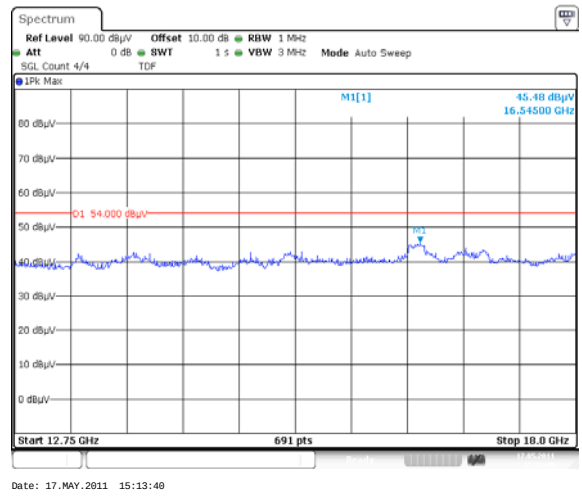
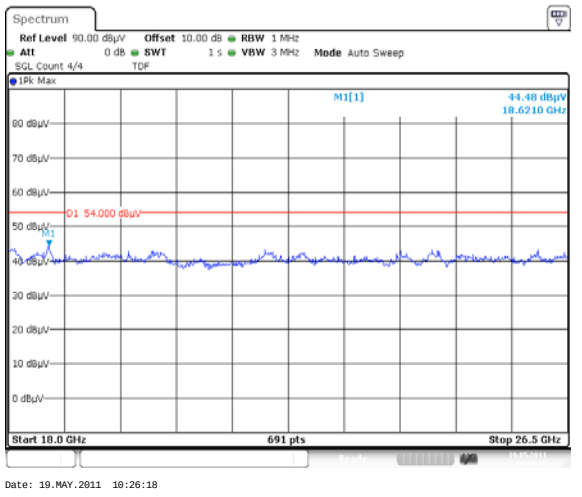
Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss
2. 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.
3. 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.
4. The emission shown on the 1 GHz to 4 GHz plot is the EUT fundamental.

* 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.

Transmitter Radiated Emissions (continued)

	
Radiated_Peak_1GHz_4GHz	Radiated_Peak_4GHz_6GHz
	
Radiated_Peak_6GHz_8GHz	Radiated_Peak_8GHz_12.75GHz

	
Radiated_Peak_12.75GHz_18GHz	Radiated_Peak_18GHz_26.5GHz

5.5.5. Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	10 May and 18 May 2011
Test Sample Serial No:	ID:1		
Antenna:	Outside 2400		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
Test Method Used:	As detailed in ANSI C63.10 Section 6.9.2

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	30

Results: Peak and Average 802.11b

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	1	BPSK	46.1	*70.5	24.4	Complied
2483.5	1	BPSK	51.1	74.0	22.9	Complied
2483.5	1	BPSK	39.5	54.0	14.5	Complied
2400.0	2	QPSK	46.5	*70.6	24.1	Complied
2483.5	2	QPSK	50.4	74.0	23.6	Complied
2483.5	2	QPSK	39.5	54.0	14.5	Complied
2400.0	5.5	CCK	42.9	*71.3	28.4	Complied
2483.5	5.5	CCK	50.9	74.0	23.1	Complied
2483.5	5.5	CCK	39.5	54.0	14.5	Complied
2400.0	11	CCK	46.7	*70.9	24.2	Complied
2483.5	11	CCK	51.1	74.0	22.9	Complied
2483.5	11	CCK	39.5	54.0	14.5	Complied

Transmitter Band Edge Radiated Emissions (continued)

Results: Peak and Average 802.11g

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	6	BPSK	55.0	*64.9	9.9	Complied
2483.5	6	BPSK	55.6	74.0	18.4	Complied
2483.5	6	BPSK	40.6	54.0	13.4	Complied
2400.0	9	BPSK	53.5	*64.9	11.4	Complied
2483.5	9	BPSK	55.5	74.0	18.5	Complied
2483.5	9	BPSK	40.6	54.0	13.4	Complied
2400.0	12	QPSK	52.3	*65.0	12.7	Complied
2483.5	12	QPSK	54.8	74.0	19.2	Complied
2483.5	12	QPSK	40.6	54.0	13.4	Complied
2400.0	18	QPSK	52.7	*64.9	12.2	Complied
2483.5	18	QPSK	54.3	74.0	19.7	Complied
2483.5	18	QPSK	40.5	54.0	13.5	Complied
2400.0	24	16QAM	52.5	*65.9	13.4	Complied
2483.5	24	16QAM	52.6	74.0	21.4	Complied
2483.5	24	16QAM	40.6	54.0	13.4	Complied
2400.0	36	16QAM	53.1	*66.5	13.4	Complied
2483.5	36	16QAM	53.6	74.0	20.4	Complied
2483.5	36	16QAM	40.6	54.0	13.4	Complied
2400.0	48	64QAM	54.2	*66.5	12.3	Complied
2483.5	48	64QAM	54.2	74.0	19.8	Complied
2483.5	48	64QAM	40.6	54.0	13.4	Complied
2400.0	54	64QAM	52.6	*66.5	13.9	Complied
2483.5	54	64QAM	55.4	74.0	18.6	Complied
2483.5	54	64QAM	40.7	54.0	9.9	Complied

Transmitter Band Edge Radiated Emissions (continued)

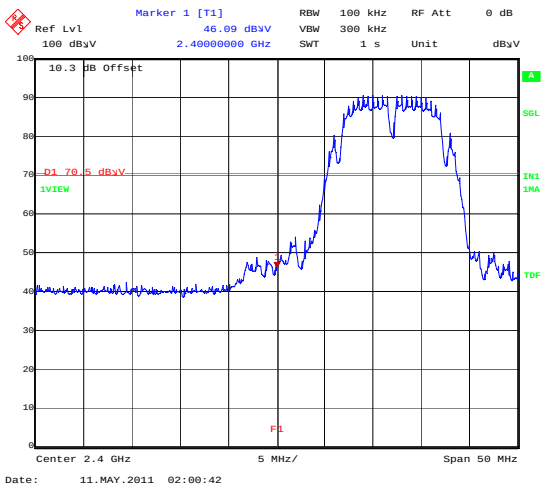
Results: Peak and Average 802.11n

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	6.5	BPSK	56.6	*68.5	11.9	Complied
2483.5	6.5	BPSK	56.2	74.0	17.8	Complied
2483.5	6.5	BPSK	40.9	54.0	13.1	Complied
2400.0	13	BPSK	56.6	*69.2	12.6	Complied
2483.5	13	BPSK	41.0	74.0	33.0	Complied
2483.5	13	BPSK	53.4	54.0	0.6	Complied
2400.0	19.5	QPSK	54.8	*69.1	14.3	Complied
2483.5	19.5	QPSK	53.2	74.0	20.8	Complied
2483.5	19.5	QPSK	40.9	54.0	13.1	Complied
2400.0	26	QPSK	55.4	*69.7	14.3	Complied
2483.5	26	QPSK	53.3	74.0	20.7	Complied
2483.5	26	QPSK	40.9	54.0	13.1	Complied
2400.0	39	16QAM	54.5	*69.7	15.2	Complied
2483.5	39	16QAM	54.0	74.0	20.0	Complied
2483.5	39	16QAM	40.9	54.0	13.1	Complied
2400.0	52	16QAM	55.3	*70.5	15.2	Complied
2483.5	52	16QAM	53.9	74.0	20.1	Complied
2483.5	52	16QAM	40.9	54.0	13.1	Complied
2400.0	58.5	64QAM	54.7	*69.7	15.0	Complied
2483.5	58.5	64QAM	53.7	74.0	20.3	Complied
2483.5	58.5	64QAM	41.0	54.0	13.0	Complied
2400.0	65	64QAM	55.2	*70.1	14.9	Complied
2483.5	65	64QAM	55.2	74.0	18.8	Complied
2483.5	65	64QAM	40.9	54.0	13.1	Complied

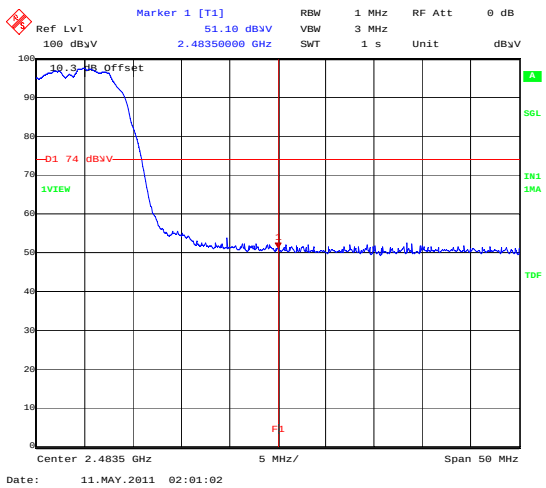
Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. * -20 dBc limit.

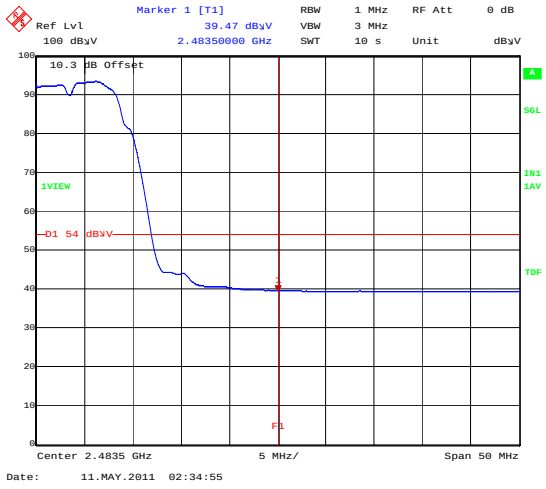
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_1MBS_BottomChannel

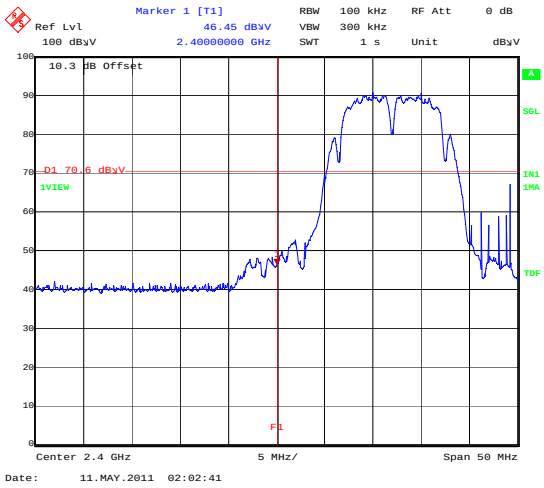


BandEdge_802_11B_1MBS_TopChannel

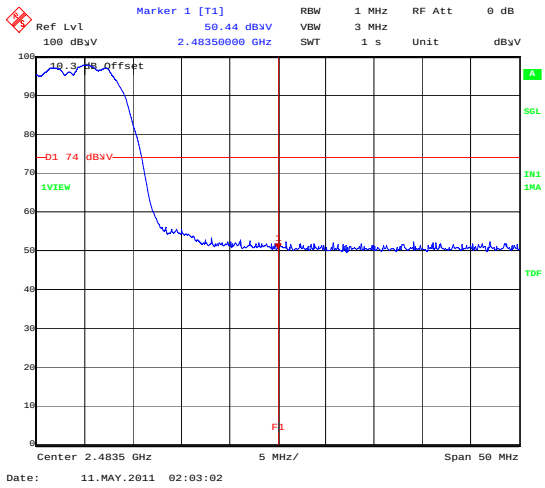


BandEdge_802_11B_1MBS_TopChannelAVG

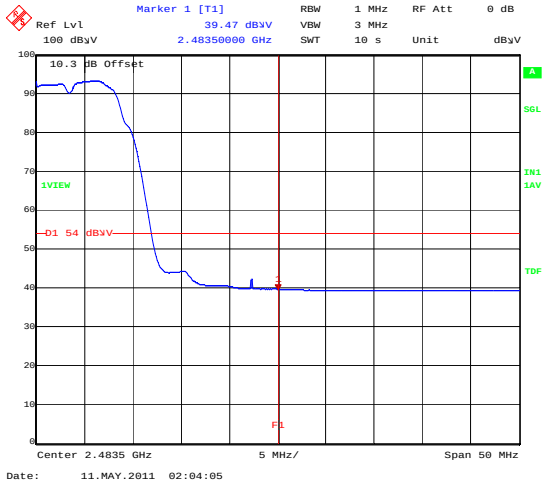
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_2MBS_BottomChannel

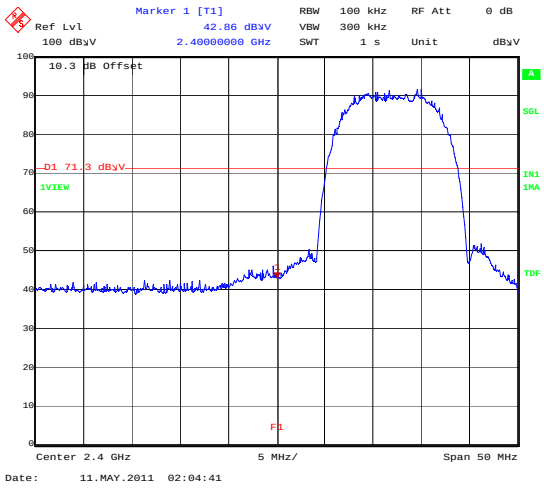


BandEdge_802_11B_2MBS_TopChannel

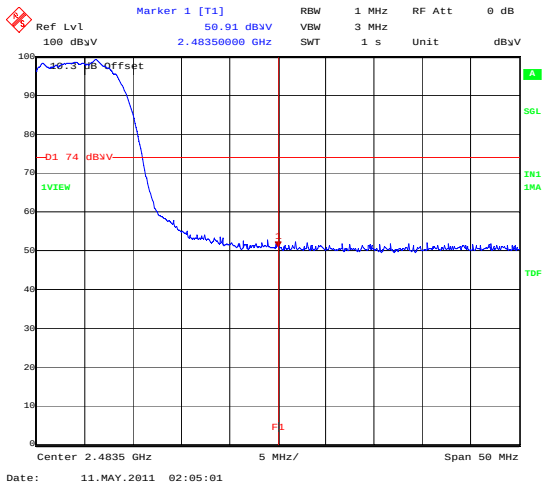


BandEdge_802_11B_2MBS_TopChannelAVG

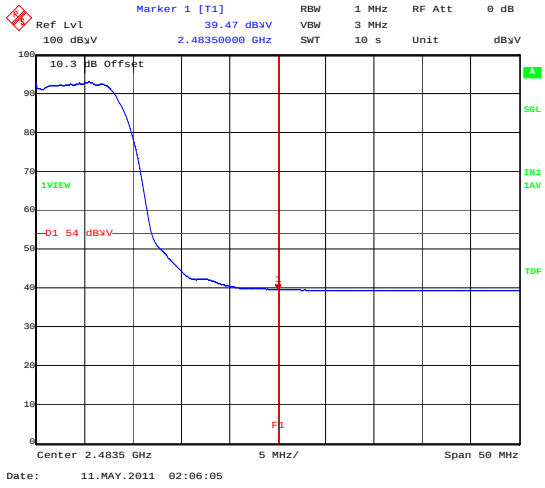
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_5.5MBS_BottomChannel

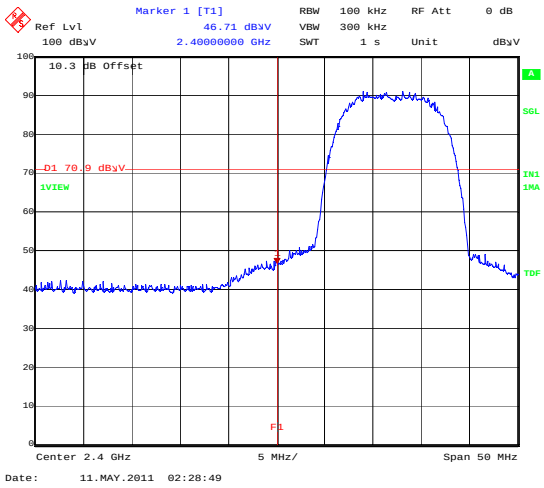


BandEdge_802_11B_5.5MBS_TopChannel

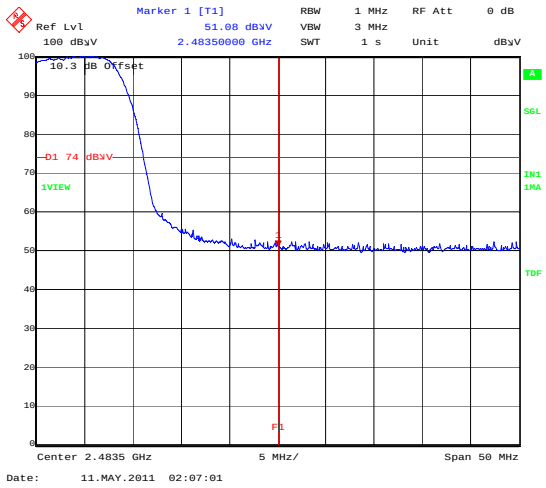


BandEdge_802_11B_5.5MBS_TopChannelAVG

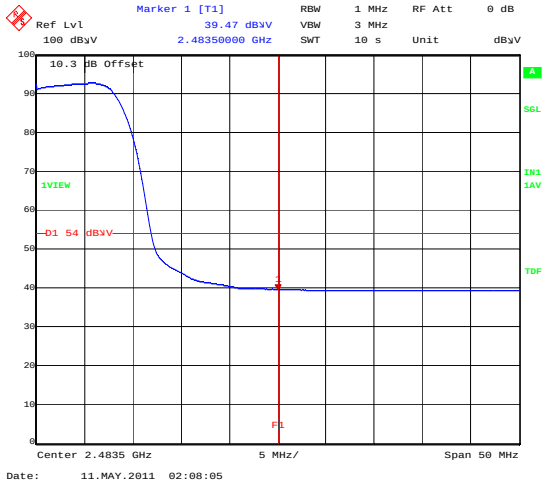
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_11MBS_BottomChannel

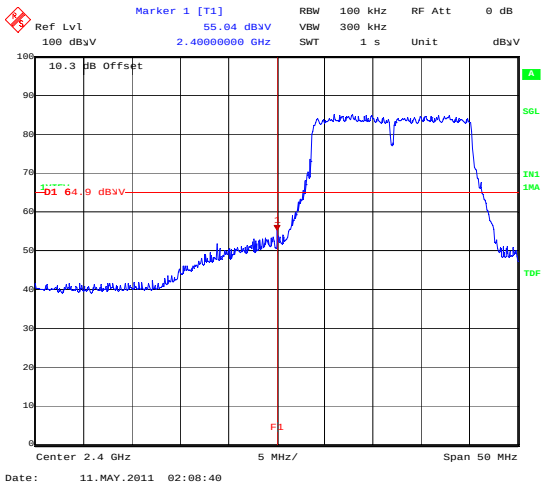


BandEdge_802_11B_11MBS_TopChannel

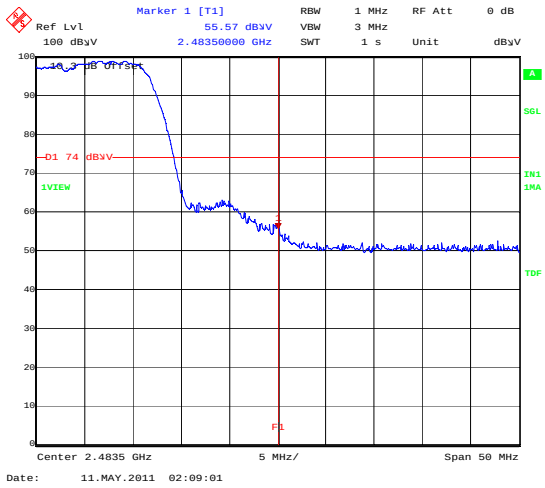


BandEdge_802_11B_11MBS_TopChannelAVG

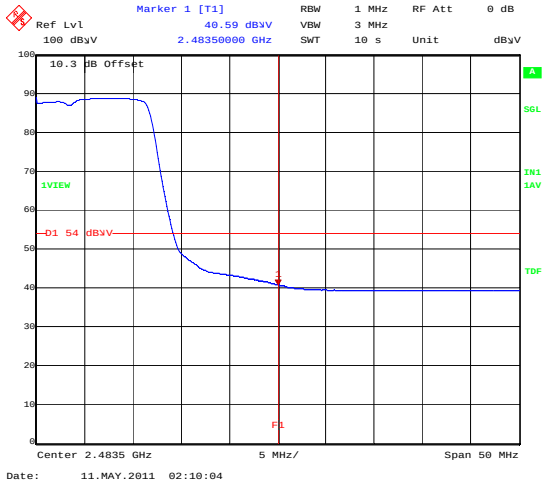
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_6MBS_BottomChannel

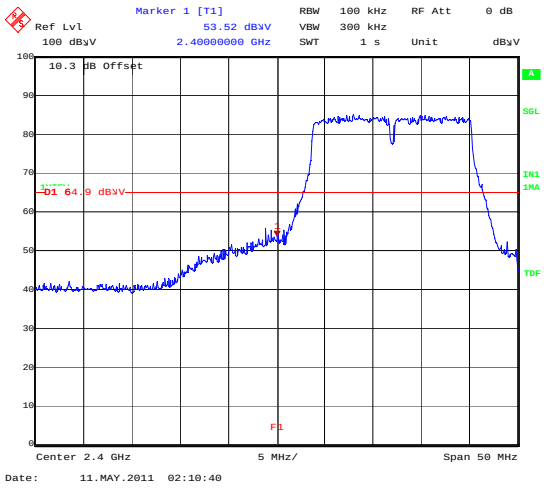


BandEdge_802_11G_6MBS_TopChannel

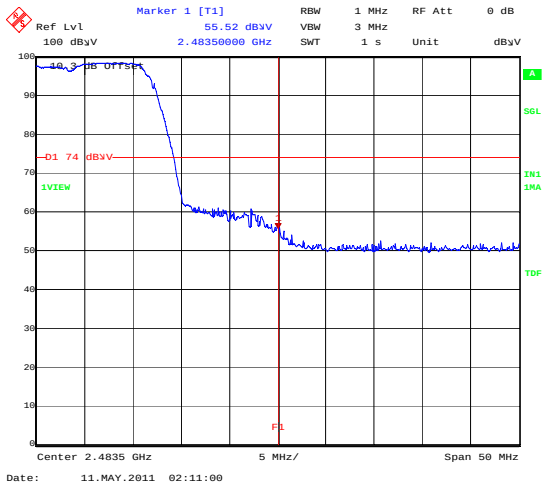


BandEdge_802_11G_6MBS_TopChannelAVG

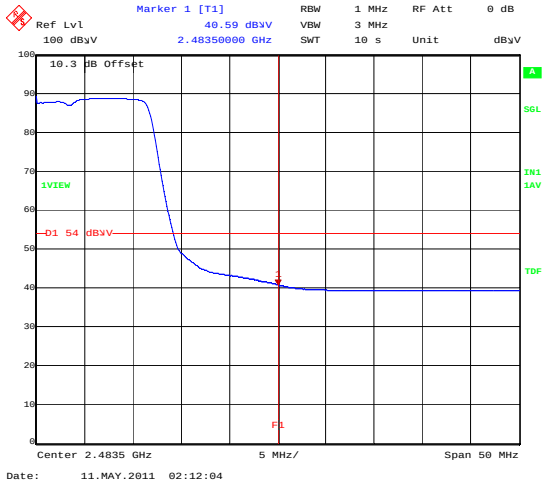
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_9MBS_BottomChannel

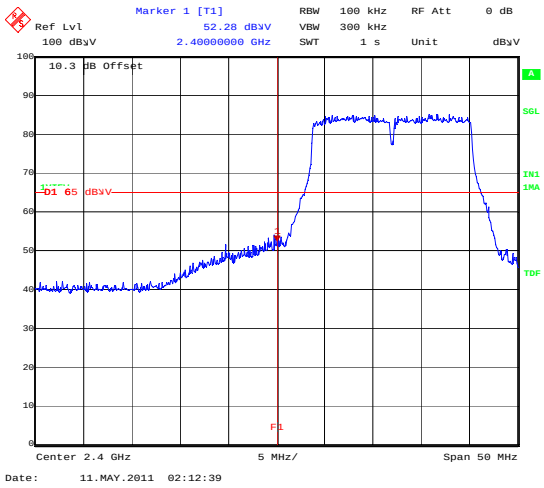


BandEdge_802_11G_9MBS_TopChannel

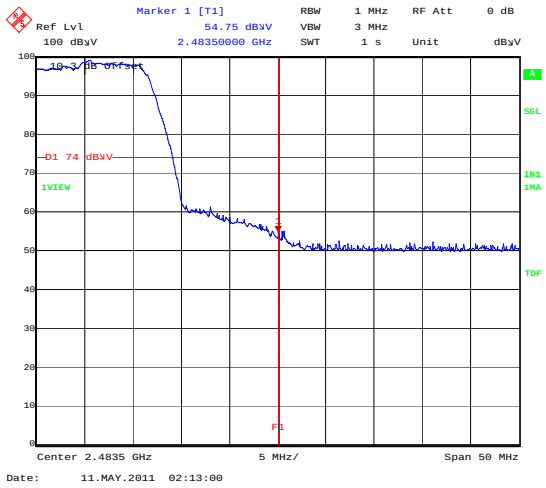


BandEdge_802_11G_9MBS_TopChannelAVG

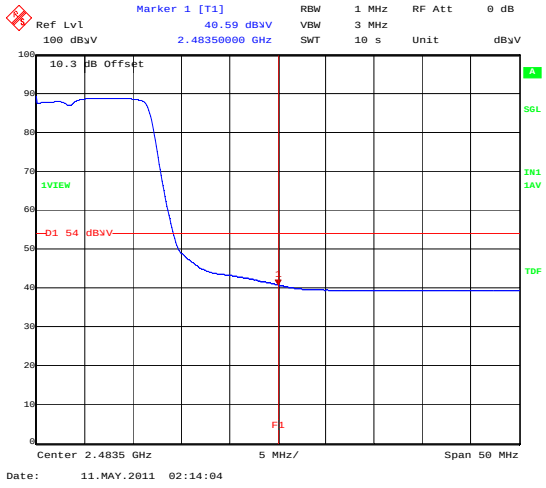
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_12MBS_BottomChannel

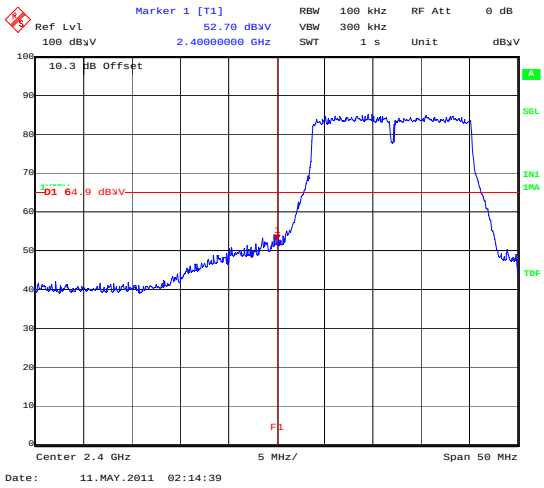


BandEdge_802_11G_12MBS_TopChannel

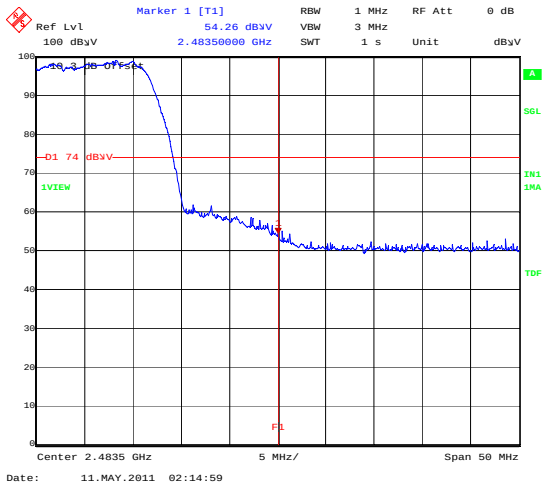


BandEdge_802_11G_12MBS_TopChannelAVG

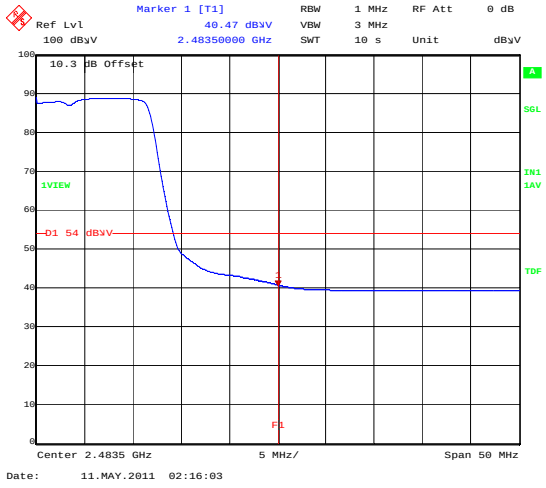
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_18MBS_BottomChannel

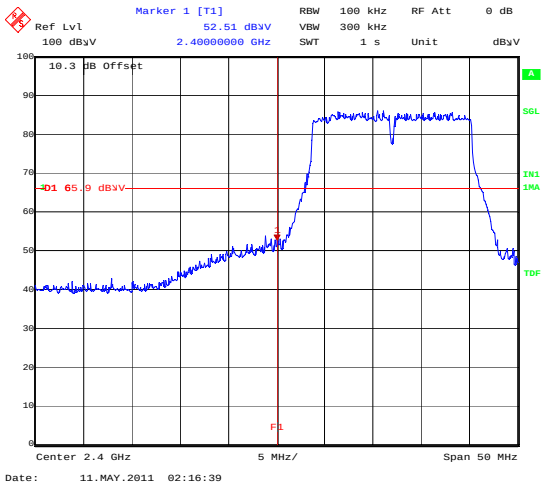


BandEdge_802_11G_18MBS_TopChannel

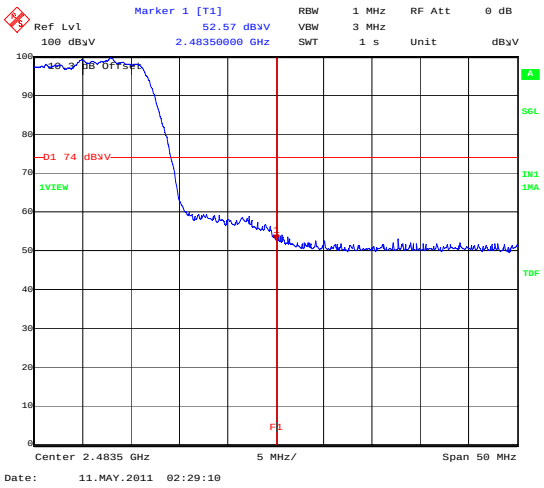


BandEdge_802_11G_18MBS_TopChannelAVG

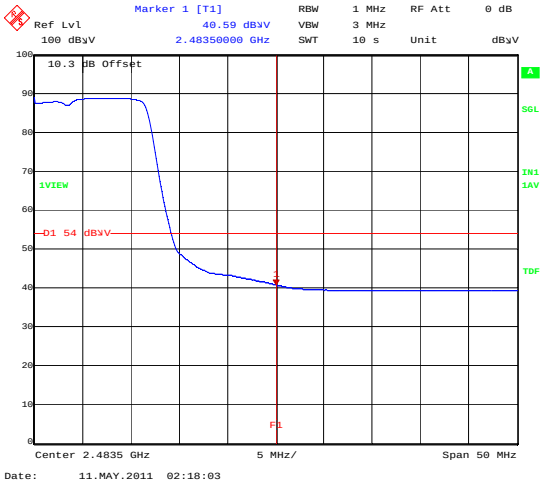
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_24MBS_BottomChannel

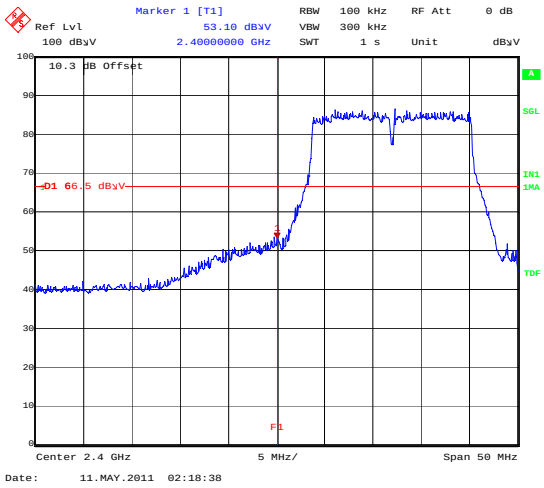


BandEdge_802_11G_24MBS_TopChannel

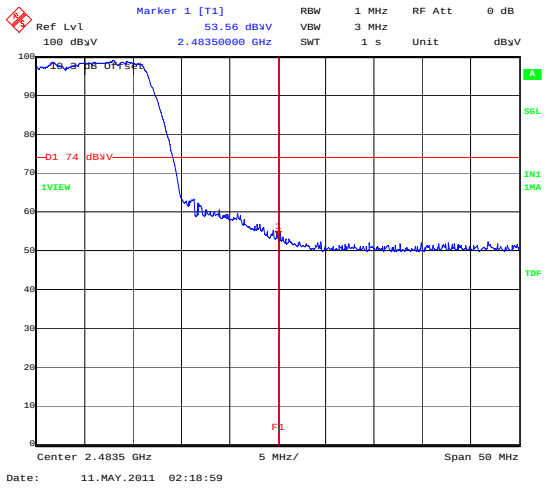


BandEdge_802_11G_24MBS_TopChannelAVG

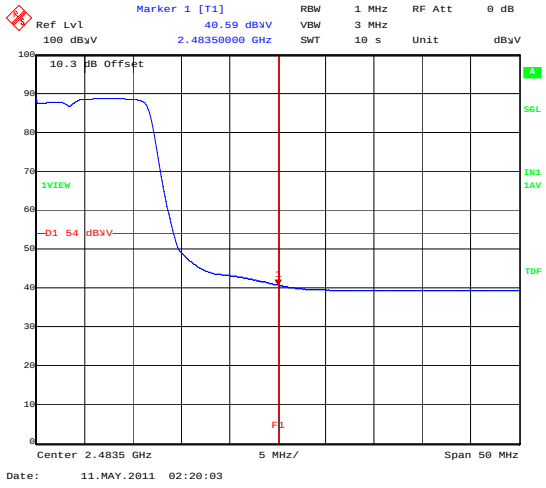
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_36MBS_BottomChannel

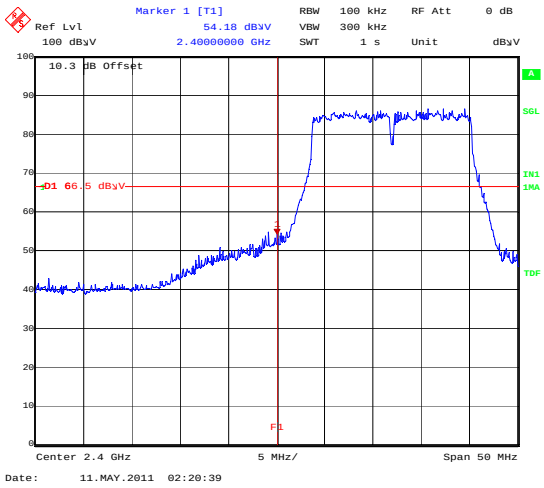


BandEdge_802_11G_36MBS_TopChannel

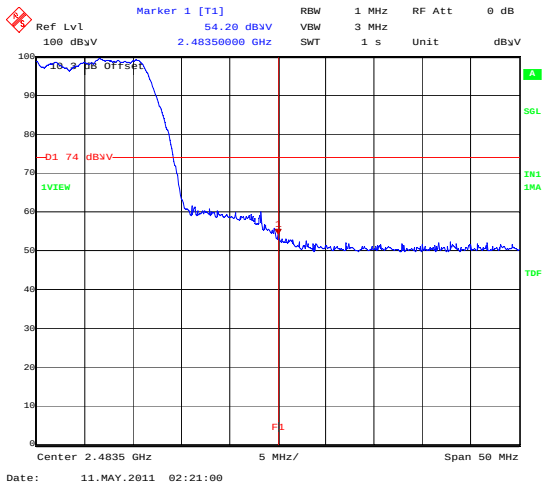


BandEdge_802_11G_36MBS_TopChannelAVG

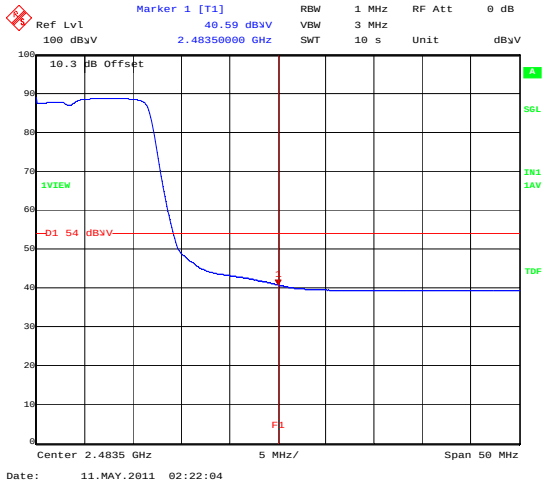
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_48MBS_BottomChannel

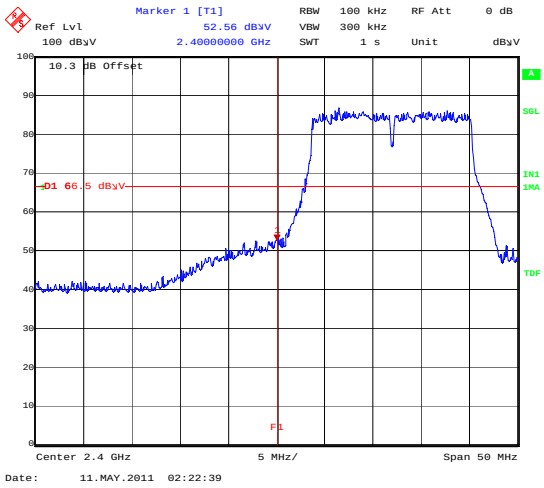


BandEdge_802_11G_48MBS_TopChannel

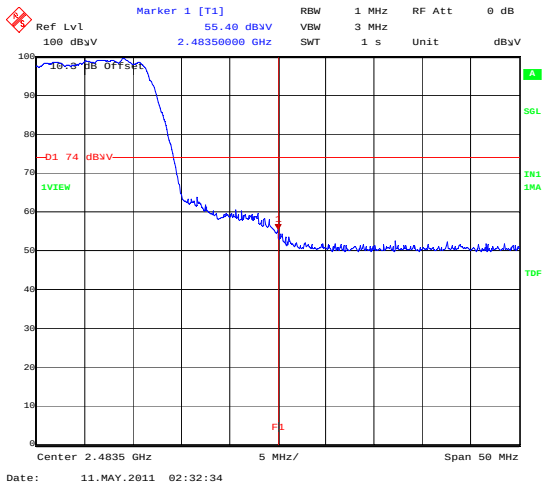


BandEdge_802_11G_48MBS_TopChannelAVG

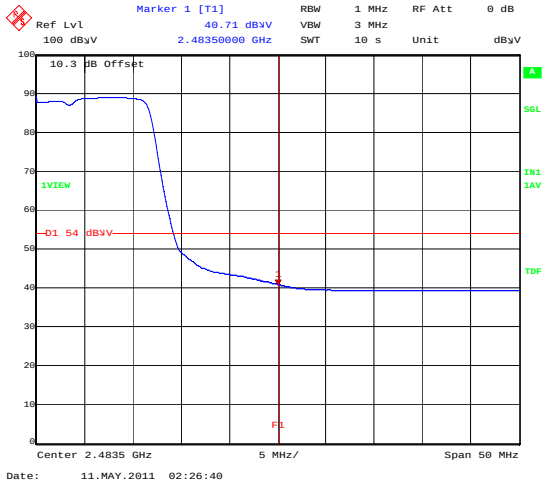
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11G_54MBS_BottomChannel

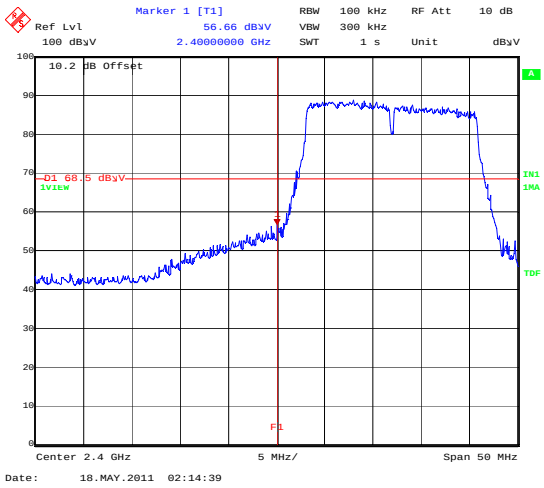


BandEdge_802_11G_54MBS_TopChannel

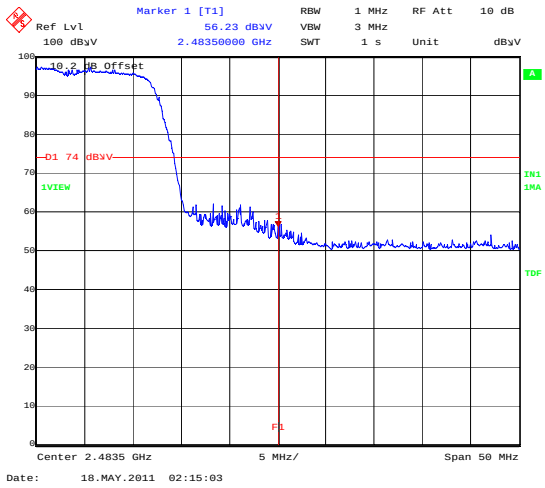


BandEdge_802_11G_54MBS_TopChannelAVG

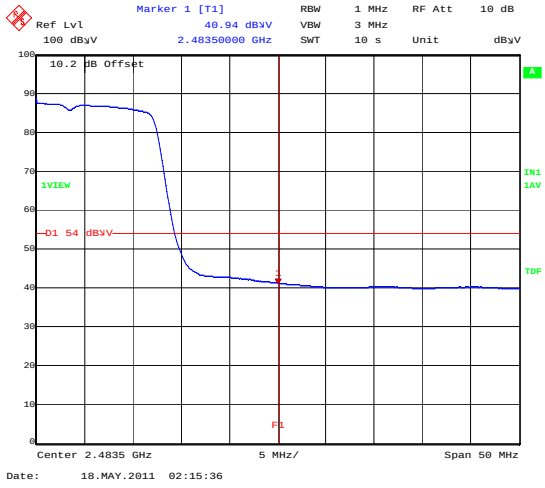
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_6.5MBS_BotChannel

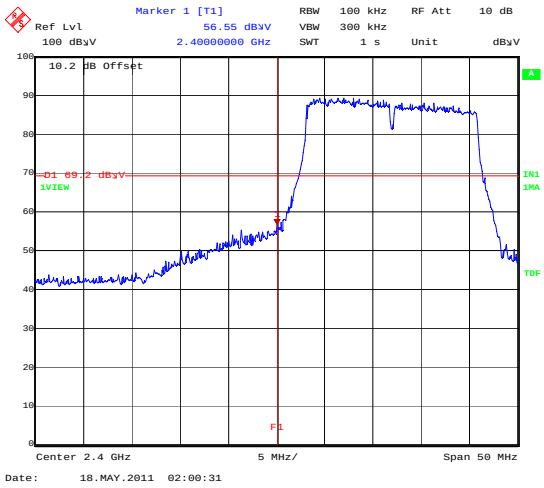


BandEdge_802_11N_6.5MBS_TopChannel

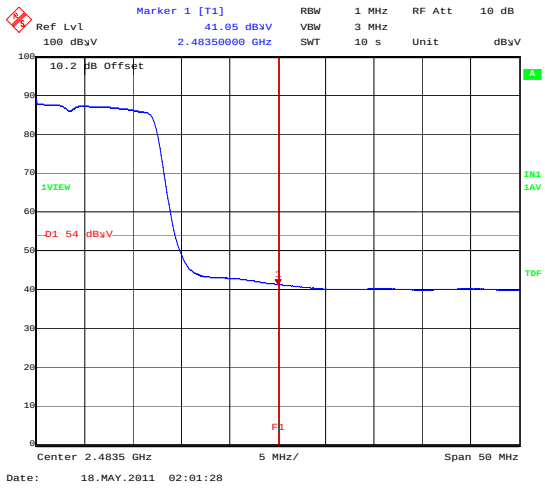


BandEdge_802_11N_6.5MBS_TopChannelAVG

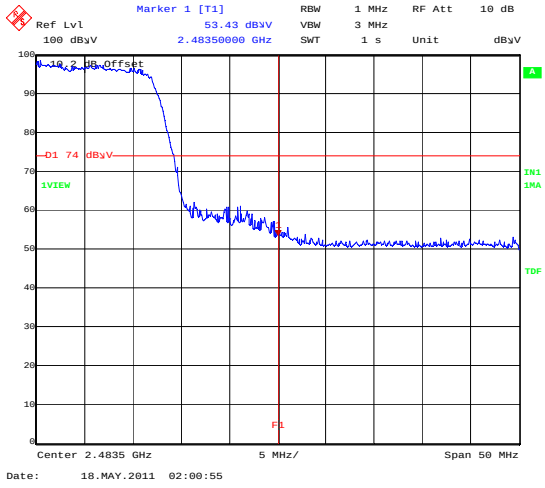
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_13MBS_BotChannel

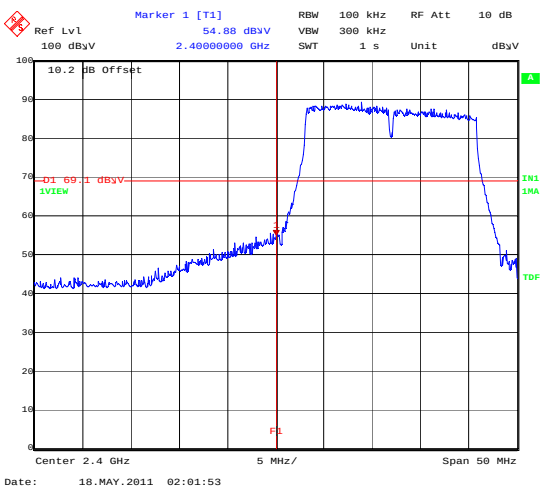


BandEdge_802_11N_13MBS_TopChannel

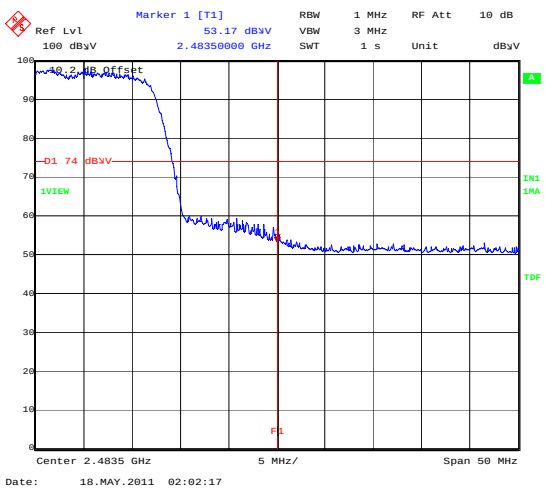


BandEdge_802_11N_13MBS_TopChannelAVG

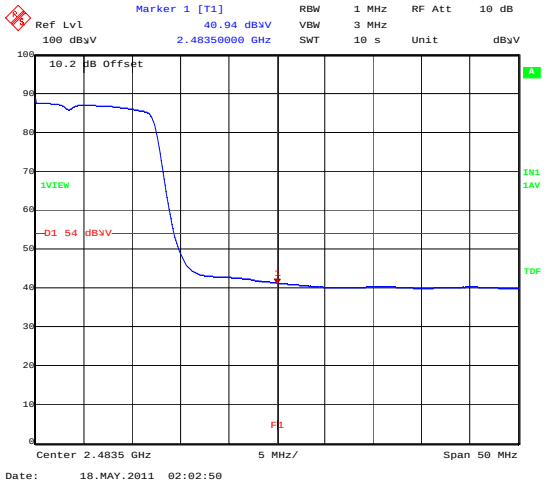
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_19.5MBS_BotChannel

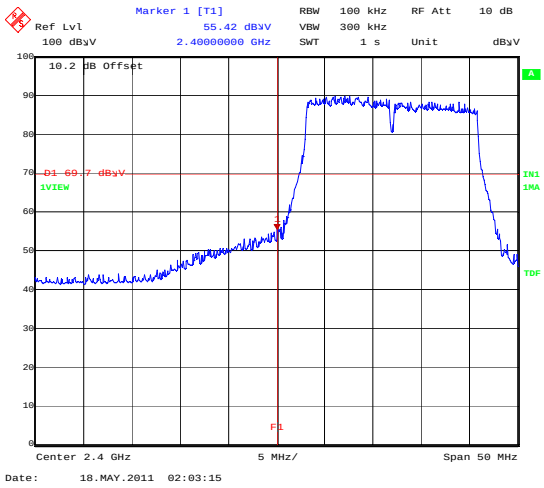


BandEdge_802_11N_19.5MBS_TopChannel

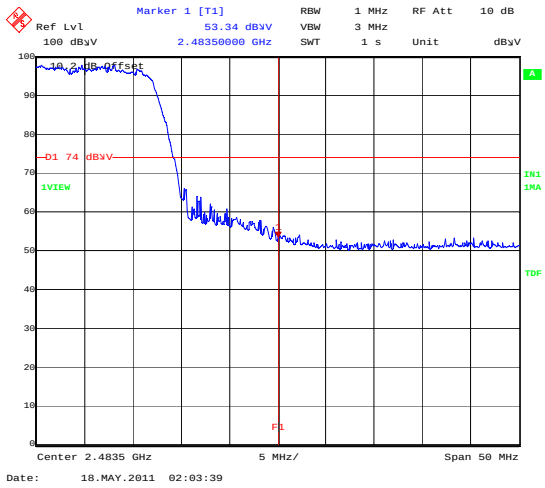


BandEdge_802_11N_19.5MBS_TopChannelAVG

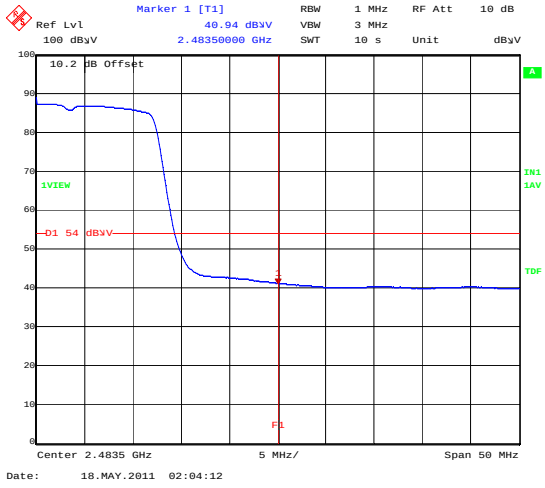
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_26MBS_BotChannel

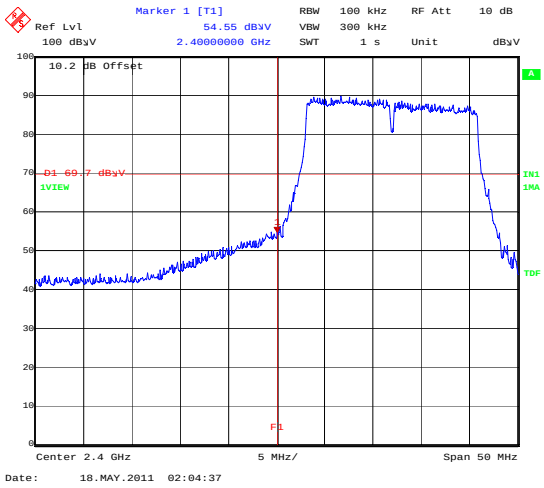


BandEdge_802_11N_26MBS_TopChannel

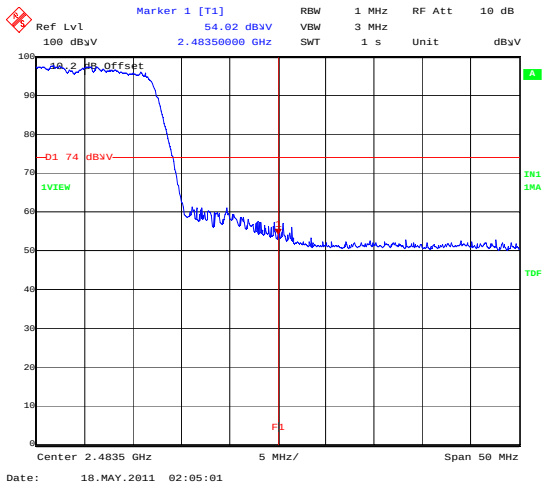


BandEdge_802_11N_26MBS_TopChannelAVG

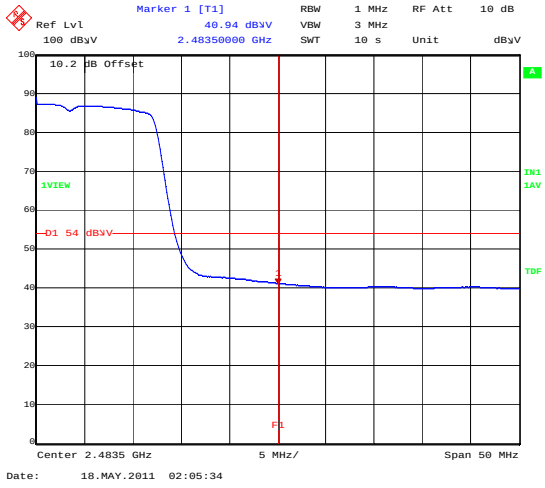
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_39MBS_BotChannel

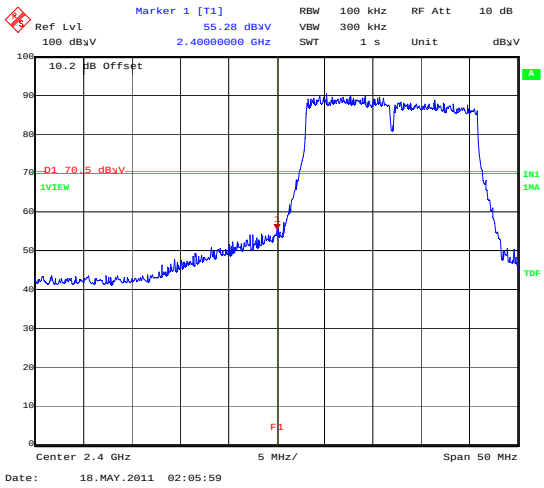


BandEdge_802_11N_39MBS_TopChannel

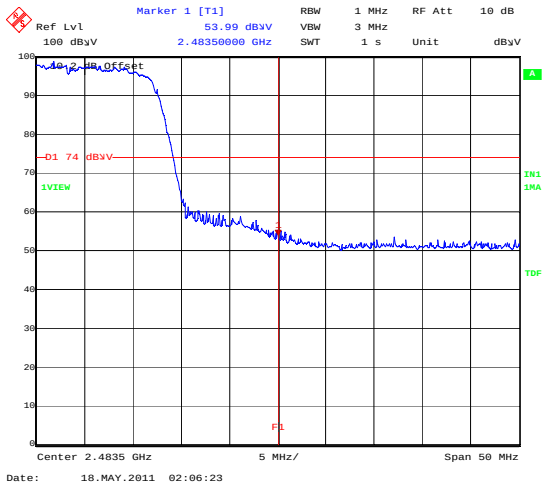


BandEdge_802_11N_39MBS_TopChannelAVG

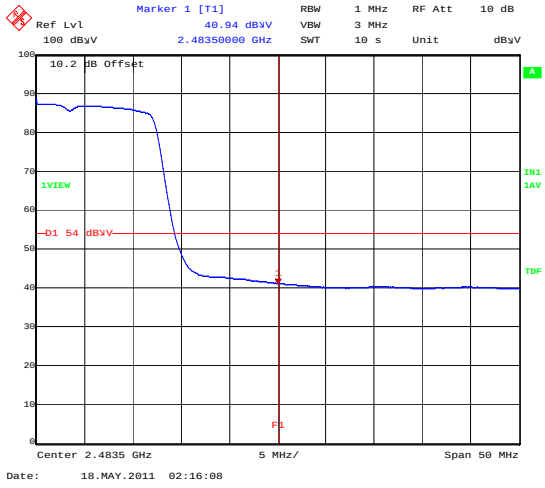
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_52MBS_BotChannel

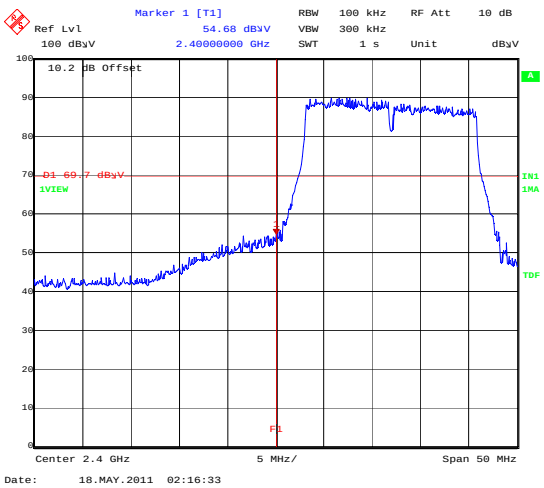


BandEdge_802_11N_52MBS_TopChannel

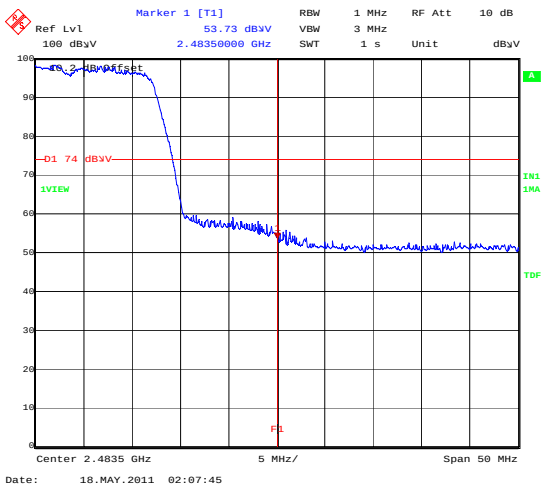


BandEdge_802_11N_52MBS_TopChannelAVG

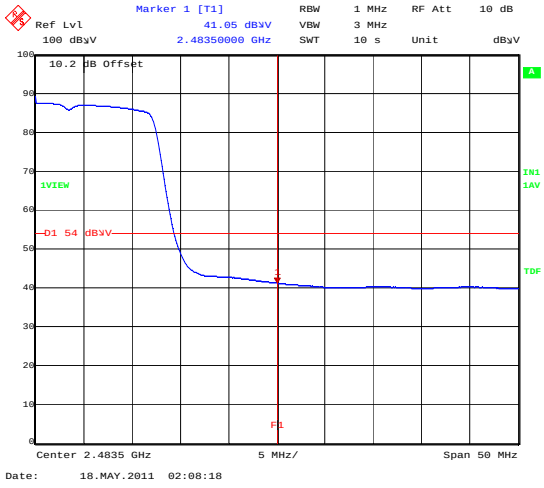
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_58.5MBS_BotChannel

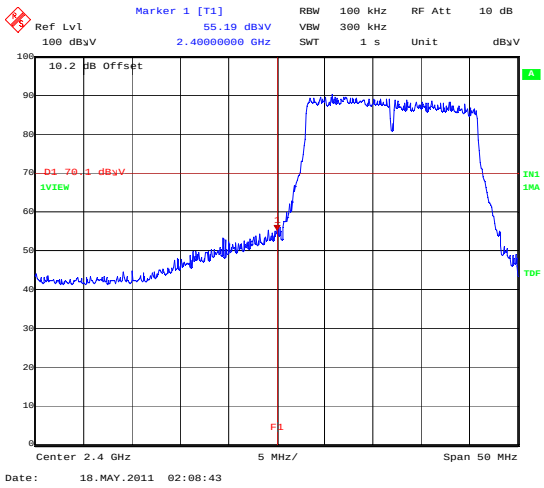


BandEdge_802_11N_58.5MBS_TopChannel

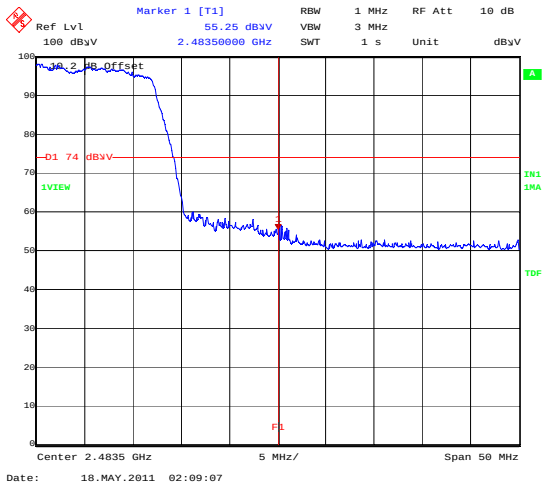


BandEdge_802_11N_58.5MBS_TopChannelAVG

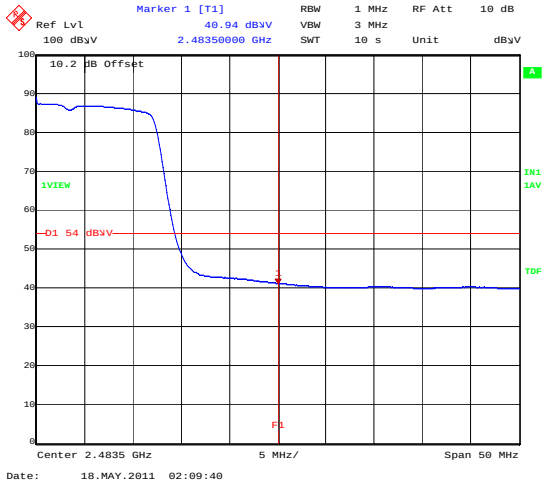
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11N_65MBS_BotChannel



BandEdge_802_11N_65MBS_TopChannel



BandEdge_802_11N_65MBS_TopChannelAVG

5.6. Test Results – EX-IT 2400-RP-SMA 28-001 Antenna:

5.6.1. Receiver/Idle Mode Radiated Spurious Emissions

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	17 May 2011
Test Sample IMEI:	ID:1		
Antenna:	EX-IT 2400-RP-SMA 28-001		

FCC/IC Part:	15.109 and RSS-Gen 4.10 / RSS-Gen 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):	24
Relative Humidity (%):	23

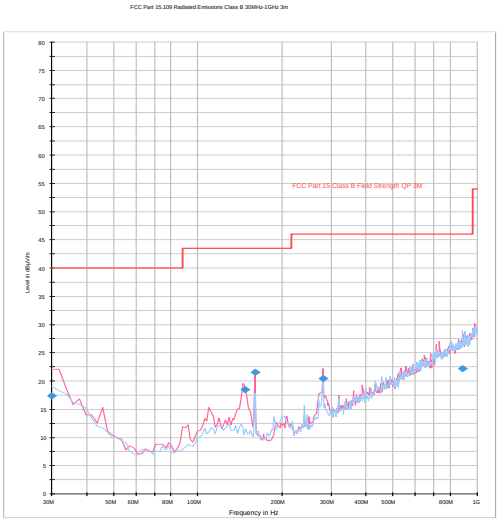
Results: Quasi Peak

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
30.057	Vertical	17.4	40.0	22.6	Complied
147.089	Vertical	18.5	43.5	25.0	Complied
160.004	Vertical	21.6	43.5	21.9	Complied
280.025	Vertical	20.5	46.0	25.5	Complied
886.162	Horizontal	22.1	46.0	23.9	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. 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	**Test Date:**	17 May 2011
Test Sample IMEI:	ID:1		
Antenna:	EX-IT 2400-RP-SMA 28-001		

FCC/IC Part:	15.109 and RSS-Gen 4.10 / RSS-Gen 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 12.75 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	25

Results:

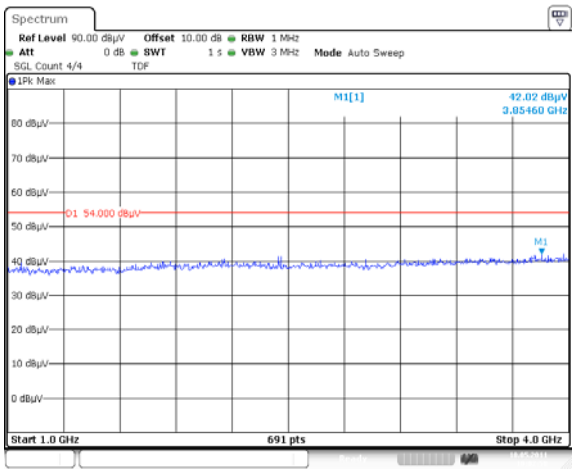
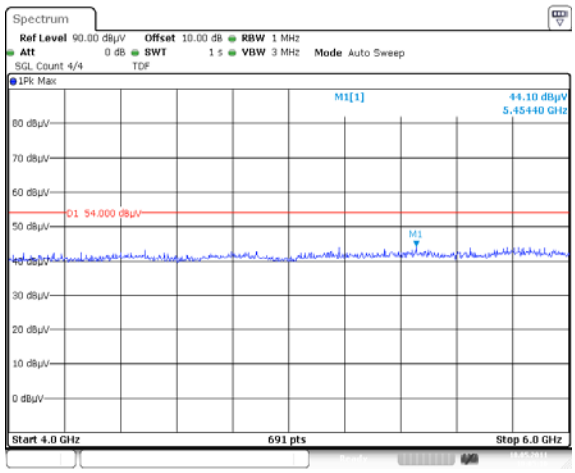
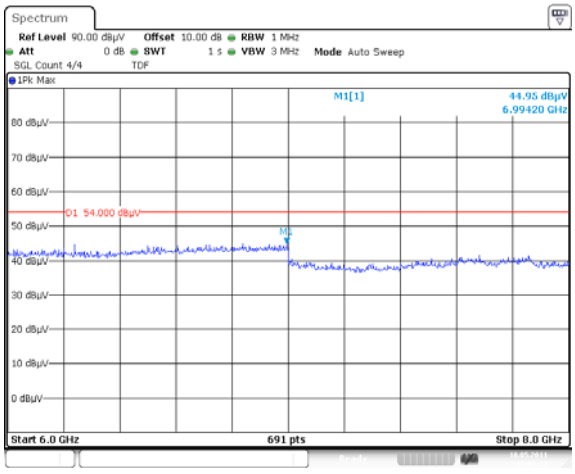
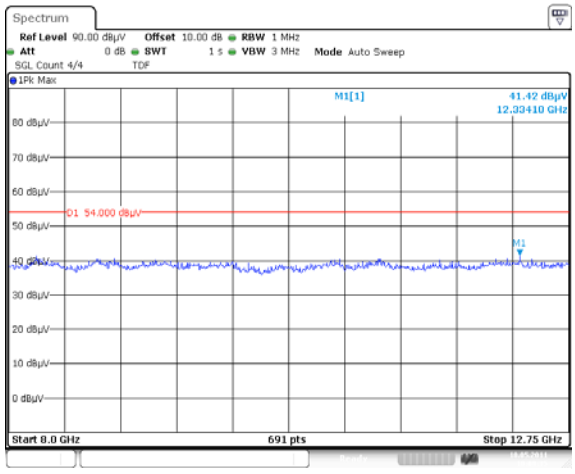
Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
6994.2	Vertical	44.9	*54.0	9.1	Complied

Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. 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.

* 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)

	
Radiated_Peak_1GHz_4GHz	Radiated_Peak_4GHz_6GHz
	
Radiated_Peak_6GHz_8GHz	Radiated_Peak_8GHz_12.75GHz

5.6.2. Transmitter Maximum Peak Output Power

Test Summary:

Test Engineer:	David Lakeland	**Test Date:**	11 May 2011
Test Sample:	ID:1		

FCC Part:	15.247(b)(3)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.2

Note: Test method used – power meter

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	29

Results: 802.11b

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	1	17.4	30	12.6	Complied
Middle	2437	BPSK	1	17.1	30	12.9	Complied
Top	2462	BPSK	1	16.3	30	13.7	Complied
Bottom	2412	QPSK	2	16.8	30	13.2	Complied
Middle	2437	QPSK	2	16.5	30	13.5	Complied
Top	2462	QPSK	2	16.2	30	13.8	Complied
Bottom	2412	QPSK	5.5	16.8	30	13.2	Complied
Middle	2437	QPSK	5.5	16.5	30	13.6	Complied
Top	2462	QPSK	5.5	16.1	30	13.9	Complied
Bottom	2412	QPSK	11	16.7	30	13.3	Complied
Middle	2437	QPSK	11	16.5	30	13.6	Complied
Top	2462	QPSK	11	16.2	30	13.9	Complied

Transmitter Maximum Peak Output Power (continued)

Results: 802.11g

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	6	15.2	30	14.8	Complied
Middle	2437	BPSK	6	14.9	30	15.1	Complied
Top	2462	BPSK	6	14.6	30	15.4	Complied
Bottom	2412	BPSK	9	15.2	30	14.8	Complied
Middle	2437	BPSK	9	15.1	30	14.9	Complied
Top	2462	BPSK	9	15.1	30	14.9	Complied
Bottom	2412	QPSK	12	15.4	30	14.6	Complied
Middle	2437	QPSK	12	15.0	30	15.0	Complied
Top	2462	QPSK	12	14.7	30	15.3	Complied
Bottom	2412	QPSK	18	15.3	30	14.7	Complied
Middle	2437	QPSK	18	15.1	30	14.9	Complied
Top	2462	QPSK	18	14.7	30	15.3	Complied
Bottom	2412	16QAM	24	15.3	30	14.7	Complied
Middle	2437	16QAM	24	15.0	30	15.0	Complied
Top	2462	16QAM	24	14.7	30	15.3	Complied
Bottom	2412	16QAM	36	15.4	30	14.6	Complied
Middle	2437	16QAM	36	15.0	30	15.0	Complied
Top	2462	16QAM	36	14.7	30	15.3	Complied
Bottom	2412	16QAM	48	15.4	30	14.6	Complied
Middle	2437	16QAM	48	15.1	30	14.9	Complied
Top	2462	16QAM	48	14.8	30	15.3	Complied
Bottom	2412	64QAM	54	15.7	30	14.3	Complied
Middle	2437	64QAM	54	15.1	30	14.9	Complied
Top	2462	64QAM	54	14.7	30	15.3	Complied

Transmitter Maximum Peak Output Power (continued)

Results: 802.11n

Channel	Frequency (MHz)	Mod Scheme	Data Rate (Mbps)	Conducted Peak Power (dBm)	Conducted Limit (dBm)	Margin (dB)	Result
Bottom	2412	BPSK	6.5	15.6	30	14.4	Complied
Middle	2437	BPSK	6.5	15.3	30	14.7	Complied
Top	2462	BPSK	6.5	15.0	30	15.0	Complied
Bottom	2412	QPSK	13	15.5	30	14.6	Complied
Middle	2437	QPSK	13	15.2	30	14.8	Complied
Top	2462	QPSK	13	14.9	30	15.1	Complied
Bottom	2412	QPSK	19.5	15.4	30	14.6	Complied
Middle	2437	QPSK	19.5	14.9	30	15.1	Complied
Top	2462	QPSK	19.5	14.8	30	15.3	Complied
Bottom	2412	16QAM	26	15.3	30	14.7	Complied
Middle	2437	16QAM	26	15.1	30	14.9	Complied
Top	2462	16QAM	26	14.8	30	15.2	Complied
Bottom	2412	16QAM	39	15.6	30	14.4	Complied
Middle	2437	16QAM	39	15.6	30	14.4	Complied
Top	2462	16QAM	39	14.9	30	15.1	Complied
Bottom	2412	64QAM	52	15.4	30	14.6	Complied
Middle	2437	64QAM	52	15.2	30	14.8	Complied
Top	2462	64QAM	52	15.6	30	14.4	Complied
Bottom	2412	64QAM	58.5	16.3	30	13.7	Complied
Middle	2437	64QAM	58.5	15.4	30	14.6	Complied
Top	2462	64QAM	58.5	15.0	30	15.1	Complied
Bottom	2412	64QAM	65	16.0	30	14.0	Complied
Middle	2437	64QAM	65	15.4	30	14.6	Complied
Top	2462	64QAM	65	16.1	30	13.9	Complied

5.6.3. Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP)

FCC Part:	15.247(b)(3)
Test Method Used:	As detailed in ANSI C63.10 Section 6.10.2

Results: 802.11b

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	1	3	17.4	20.4	36.0	15.6	Complied
Middle	BPSK	1	3	17.1	20.1	36.0	15.9	Complied
Top	BPSK	1	3	16.3	19.3	36.0	16.7	Complied
Bottom	QPSK	2	3	16.8	19.8	36.0	16.2	Complied
Middle	QPSK	2	3	16.5	19.5	36.0	16.5	Complied
Top	QPSK	2	3	16.2	19.2	36.0	16.8	Complied
Bottom	QPSK	5.5	3	16.8	19.8	36.0	16.2	Complied
Middle	QPSK	5.5	3	16.5	19.5	36.0	16.5	Complied
Top	QPSK	5.5	3	16.1	19.1	36.0	16.9	Complied
Bottom	QPSK	11	3	16.7	19.7	36.0	16.3	Complied
Middle	QPSK	11	3	16.5	19.5	36.0	16.5	Complied
Top	QPSK	11	3	16.2	19.2	36.0	16.8	Complied

Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP) (Continued)

Results: 802.11g

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6	3	15.2	18.2	36.0	17.8	Complied
Middle	BPSK	6	3	14.9	17.9	36.0	18.1	Complied
Top	BPSK	6	3	14.6	17.6	36.0	18.4	Complied
Bottom	BPSK	9	3	15.2	18.2	36.0	17.8	Complied
Middle	BPSK	9	3	15.1	18.1	36.0	17.9	Complied
Top	BPSK	9	3	15.1	18.1	36.0	17.9	Complied
Bottom	QPSK	12	3	15.4	18.4	36.0	17.6	Complied
Middle	QPSK	12	3	15.0	18.0	36.0	18.0	Complied
Top	QPSK	12	3	14.7	17.7	36.0	18.3	Complied
Bottom	QPSK	18	3	15.3	18.3	36.0	17.7	Complied
Middle	QPSK	18	3	15.1	18.1	36.0	17.9	Complied
Top	QPSK	18	3	14.7	17.7	36.0	18.3	Complied
Bottom	16QAM	24	3	15.3	18.3	36.0	17.7	Complied
Middle	16QAM	24	3	15.0	18.0	36.0	18.0	Complied
Top	16QAM	24	3	14.7	17.7	36.0	18.3	Complied
Bottom	16QAM	36	3	15.4	18.4	36.0	17.6	Complied
Middle	16QAM	36	3	15.0	18.0	36.0	18.0	Complied
Top	16QAM	36	3	14.7	17.7	36.0	18.3	Complied
Bottom	16QAM	48	3	15.4	18.4	36.0	17.6	Complied
Middle	16QAM	48	3	15.1	18.1	36.0	17.9	Complied
Top	16QAM	48	3	14.8	17.8	36.0	18.2	Complied
Bottom	64QAM	54	3	15.7	18.7	36.0	17.3	Complied
Middle	64QAM	54	3	15.1	18.1	36.0	17.9	Complied
Top	64QAM	54	3	14.7	17.7	36.0	18.3	Complied

Transmitter Maximum Equivalent Isotropically Radiated Power (EIRP) (Continued)

Results: 802.11n

Channel	Mod Scheme	Data Rate (Mbps)	Antenna Gain (dBi)	Conducted Peak Power (dBm)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
Bottom	BPSK	6.5	3	15.6	18.6	36.0	17.4	Complied
Middle	BPSK	6.5	3	15.3	18.3	36.0	17.7	Complied
Top	BPSK	6.5	3	15.0	18.0	36.0	18.0	Complied
Bottom	QPSK	13	3	15.5	18.5	36.0	17.5	Complied
Middle	QPSK	13	3	15.2	18.2	36.0	17.8	Complied
Top	QPSK	13	3	14.9	17.9	36.0	18.1	Complied
Bottom	QPSK	19.5	3	15.4	18.4	36.0	17.6	Complied
Middle	QPSK	19.5	3	14.9	17.9	36.0	18.1	Complied
Top	QPSK	19.5	3	14.8	17.8	36.0	18.2	Complied
Bottom	16QAM	26	3	15.3	18.3	36.0	17.7	Complied
Middle	16QAM	26	3	15.1	18.1	36.0	17.9	Complied
Top	16QAM	26	3	14.8	17.8	36.0	18.2	Complied
Bottom	16QAM	39	3	15.6	18.6	36.0	17.4	Complied
Middle	16QAM	39	3	15.6	18.6	36.0	17.4	Complied
Top	16QAM	39	3	14.9	17.9	36.0	18.1	Complied
Bottom	64QAM	52	3	15.4	18.4	36.0	17.6	Complied
Middle	64QAM	52	3	15.2	18.2	36.0	17.8	Complied
Top	64QAM	52	3	15.6	18.6	36.0	17.4	Complied
Bottom	64QAM	58.5	3	16.3	19.3	36.0	16.7	Complied
Middle	64QAM	58.5	3	15.4	18.4	36.0	17.6	Complied
Top	64QAM	58.5	3	15.0	18.0	36.0	18.0	Complied
Bottom	64QAM	65	3	16.0	19.0	36.0	17.0	Complied
Middle	64QAM	65	3	15.4	18.4	36.0	17.6	Complied
Top	64QAM	65	3	16.1	19.1	36.0	16.9	Complied

5.6.4. Transmitter Radiated Emissions

Test Summary:

Test Engineer:	Andrew Edwards	**Test Date:**	17 May 2011
Test Sample Serial No:	ID:1		
Antenna:	EX-IT 2400-RP-SMA 28-001		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
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):	23
Relative Humidity (%):	23

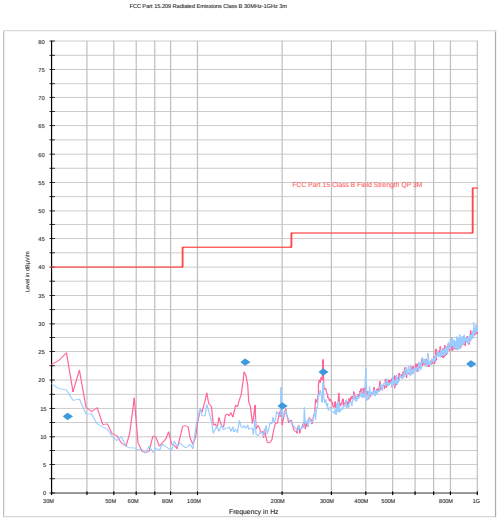
Results: Top Channel

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
34.075351	Vertical	13.6	40.000	26.400	Complied
146.965932	Vertical	23.2	43.500	20.300	Complied
199.988777	Horizontal	15.4	43.500	28.100	Complied
279.987174	Vertical	21.4	46.000	24.600	Complied
944.575551	Vertical	22.8	46.000	23.200	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 preliminary scans showed similar emission levels below 1 GHz, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the top channel only.
3. All other emissions were at least 20 dB below the appropriate limit or below the noise floor of the measurement system.

Transmitter Radiated Emissions (continued)



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

Transmitter Radiated Emissions (continued)

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	17 and19 May 2011
Test Sample Serial No:	ID:1		
Antenna:	EX-IT 2400-RP-SMA 28-001		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
Frequency Range	1 GHz to 26.5 GHz

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	27

Results:

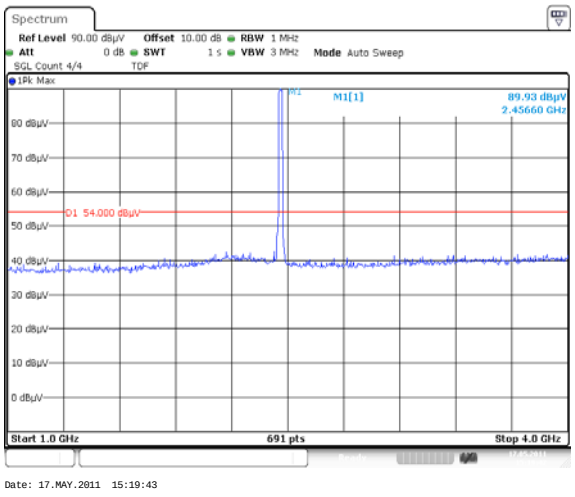
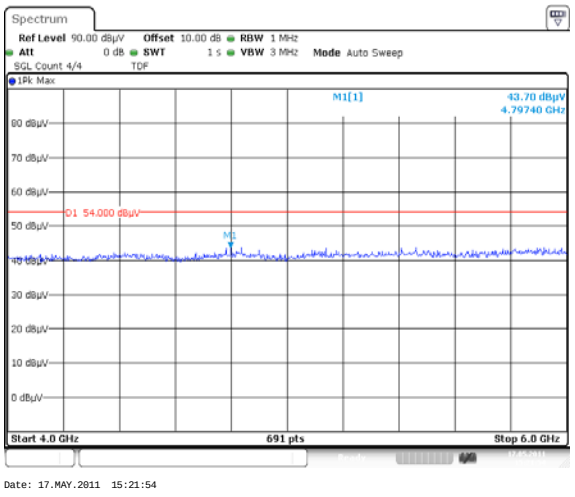
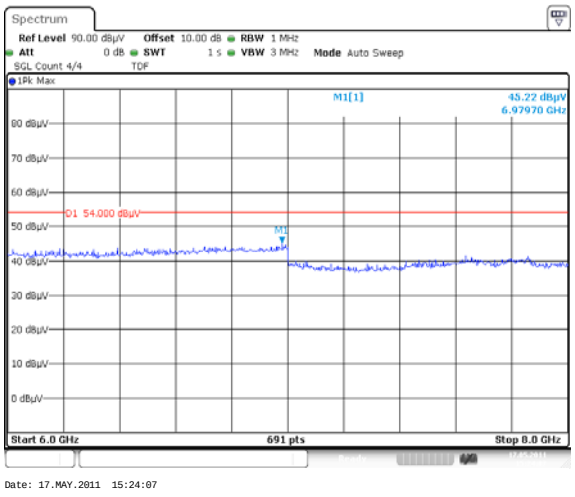
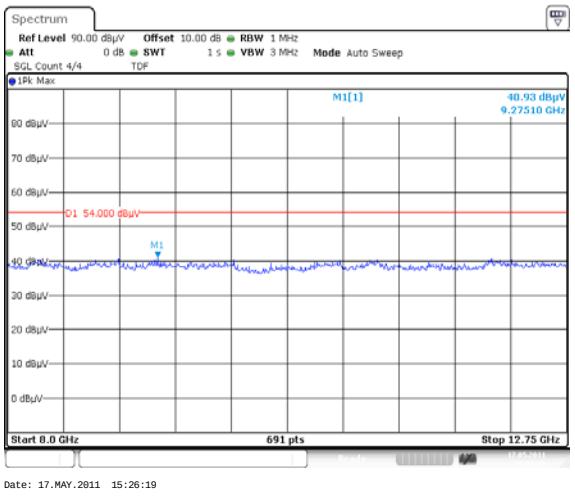
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
16461.5	Vertical	46.0	*54.0	8.0	Complied

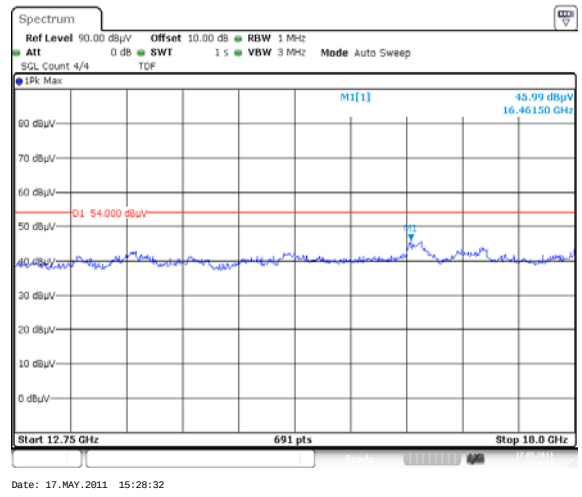
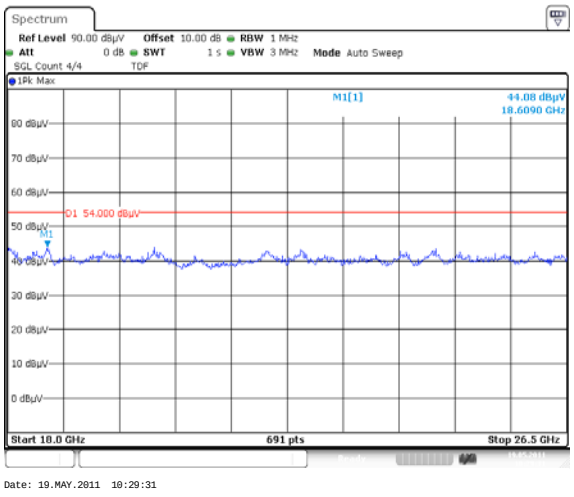
Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss
2. 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.
3. 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.
4. The emission shown on the 1 GHz to 4 GHz plot is the EUT fundamental.

* 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.

Transmitter Radiated Emissions (continued)

	
Radiated_Peak_1GHz_4GHz	Radiated_Peak_4GHz_6GHz
	
Radiated_Peak_6GHz_8GHz	Radiated_Peak_8GHz_12.75GHz

	
Radiated_Peak_12.75GHz_18GHz	Radiated_Peak_18GHz_26.5GHz

5.6.5. Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineer:	Nigel Davison	**Test Date:**	10 May and 18 May 2011
Test Sample Serial No:	ID:1		
Antenna:	EX-IT 2400-RP-SMA 28-001		

FCC/IC Part:	15.247(d), 15.209(a), RSS-Gen 4.9 and RSS-210 A8.5
Test Method Used:	As detailed in ANSI C63.10 Section 6.9.2

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	30

Results: Peak and Average 802.11b

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	1	BPSK	46.1	*72.1	26.0	Complied
2483.5	1	BPSK	50.8	74.0	23.2	Complied
2483.5	1	BPSK	39.3	54.0	14.7	Complied
2400.0	2	QPSK	46.3	*71.7	25.4	Complied
2483.5	2	QPSK	51.5	74.0	22.5	Complied
2483.5	2	QPSK	39.5	54.0	14.5	Complied
2400.0	5.5	CCK	43.6	*72.1	28.5	Complied
2483.5	5.5	CCK	50.9	74.0	23.1	Complied
2483.5	5.5	CCK	39.3	54.0	14.7	Complied
2400.0	11	CCK	45.5	*71.5	26.0	Complied
2483.5	11	CCK	50.6	74.0	23.4	Complied
2483.5	11	CCK	39.3	54.0	14.7	Complied

Transmitter Band Edge Radiated Emissions (continued)

Results: Peak and Average 802.11g

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	6	BPSK	52.9	*66.0	13.1	Complied
2483.5	6	BPSK	55.7	74.0	18.3	Complied
2483.5	6	BPSK	40.4	54.0	13.6	Complied
2400.0	9	BPSK	54.4	*66.4	12.0	Complied
2483.5	9	BPSK	54.0	74.0	20.0	Complied
2483.5	9	BPSK	40.4	54.0	13.6	Complied
2400.0	12	QPSK	52.7	*65.8	13.1	Complied
2483.5	12	QPSK	53.1	74.0	20.9	Complied
2483.5	12	QPSK	40.4	54.0	13.6	Complied
2400.0	18	QPSK	54.7	*66.4	11.7	Complied
2483.5	18	QPSK	53.3	74.0	20.7	Complied
2483.5	18	QPSK	40.4	54.0	13.6	Complied
2400.0	24	16QAM	52.5	*66.7	14.2	Complied
2483.5	24	16QAM	52.7	74.0	21.3	Complied
2483.5	24	16QAM	40.7	54.0	13.3	Complied
2400.0	36	16QAM	52.6	*67.3	14.7	Complied
2483.5	36	16QAM	53.2	74.0	20.8	Complied
2483.5	36	16QAM	40.4	54.0	13.6	Complied
2400.0	48	64QAM	53.7	*67.4	13.7	Complied
2483.5	48	64QAM	52.5	74.0	21.5	Complied
2483.5	48	64QAM	40.4	54.0	13.6	Complied
2400.0	54	64QAM	52.9	*67.5	14.6	Complied
2483.5	54	64QAM	53.2	74.0	20.8	Complied
2483.5	54	64QAM	40.5	54.0	13.5	Complied

Transmitter Band Edge Radiated Emissions (continued)

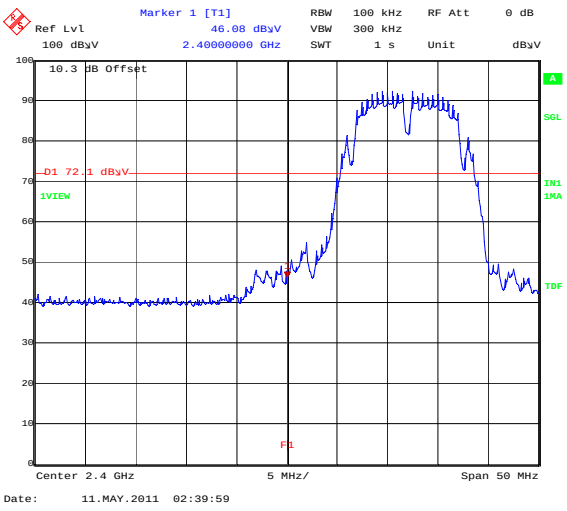
Results: Peak and Average 802.11n

Frequency (MHz)	Data Rate Mbps	Modulation Type	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2400.0	6.5	BPSK	53.8	*65.8	12.0	Complied
2483.5	6.5	BPSK	56.0	74.0	18.0	Complied
2483.5	6.5	BPSK	41.2	54.0	12.8	Complied
2400.0	13	BPSK	53.9	*65.4	11.5	Complied
2483.5	13	BPSK	54.6	74.0	19.4	Complied
2483.5	13	BPSK	41.3	54.0	12.7	Complied
2400.0	19.5	QPSK	52.9	*66.2	13.3	Complied
2483.5	19.5	QPSK	55.8	74.0	18.2	Complied
2483.5	19.5	QPSK	41.2	54.0	12.8	Complied
2400.0	26	QPSK	54.1	*66.8	12.7	Complied
2483.5	26	QPSK	54.0	74.0	20.0	Complied
2483.5	26	QPSK	41.3	54.0	12.7	Complied
2400.0	39	16QAM	54.0	*66.6	12.6	Complied
2483.5	39	16QAM	55.6	74.0	18.4	Complied
2483.5	39	16QAM	41.2	54.0	12.8	Complied
2400.0	52	16QAM	53.5	*66.9	13.4	Complied
2483.5	52	16QAM	55.2	74.0	18.8	Complied
2483.5	52	16QAM	41.3	54.0	12.7	Complied
2400.0	58.5	64QAM	54.1	*67.5	13.4	Complied
2483.5	58.5	64QAM	58.4	74.0	15.6	Complied
2483.5	58.5	64QAM	41.3	54.0	12.7	Complied
2400.0	65	64QAM	53.7	*67.7	14.0	Complied
2483.5	65	64QAM	54.8	74.0	19.2	Complied
2483.5	65	64QAM	41.4	54.0	12.6	Complied

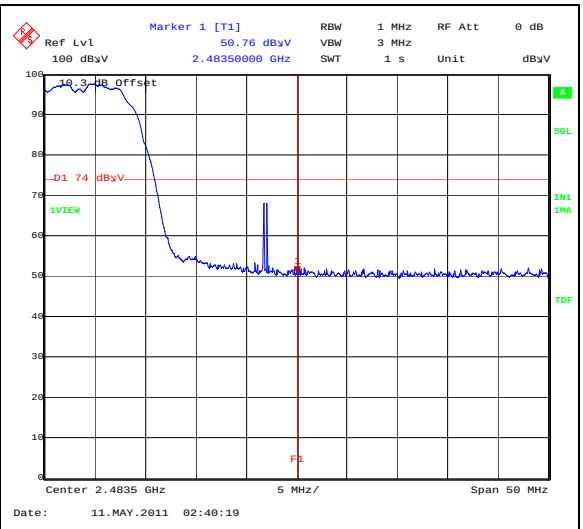
Note(s):

1. The final measured value, for the given emission, in the table above incorporates the calibrated antenna factor and cable loss.
2. * -20 dBc limit.

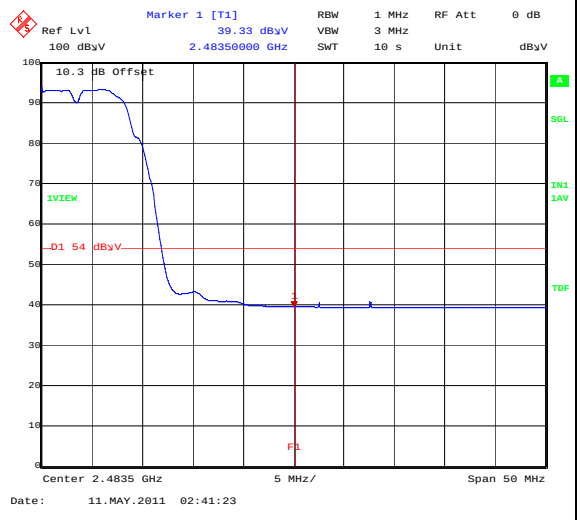
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_1MBS_BottomChannel

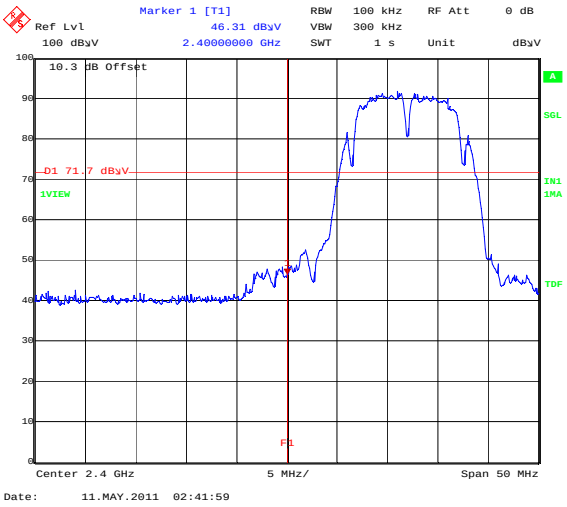


BandEdge_802_11B_1MBS_TopChannel

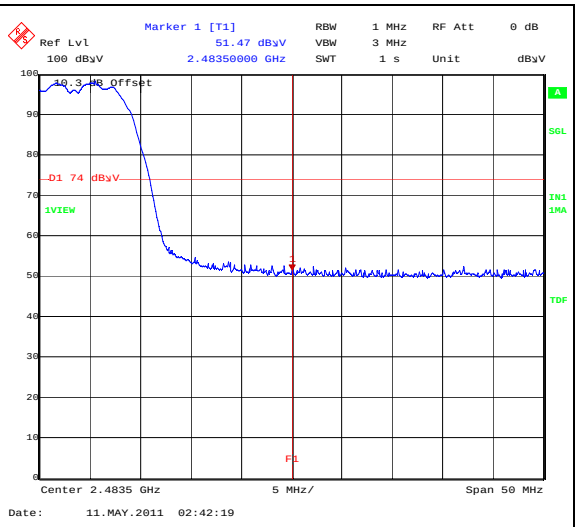


BandEdge_802_11B_1MBS_TopChannelAVG

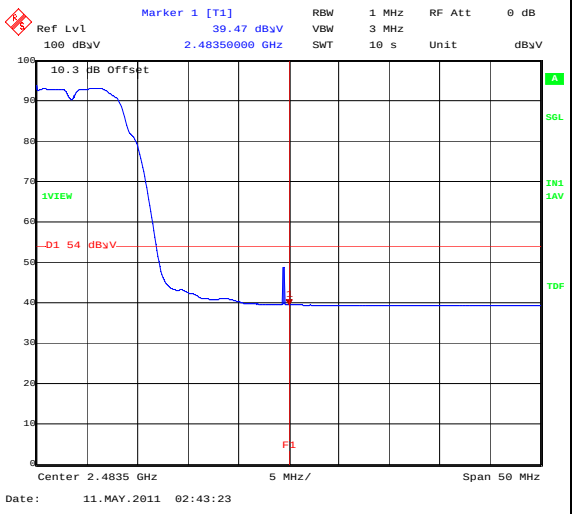
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_2MBS_BottomChannel

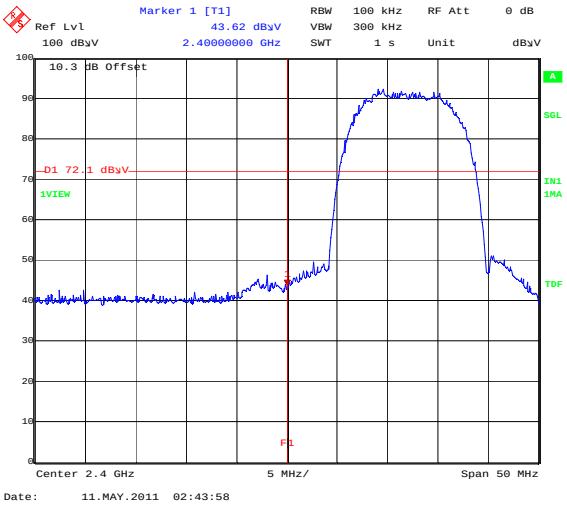


BandEdge_802_11B_2MBS_TopChannel

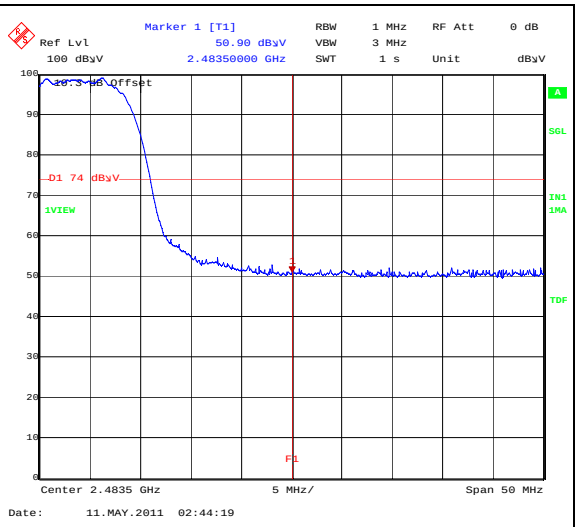


BandEdge_802_11B_2MBS_TopChannelAVG

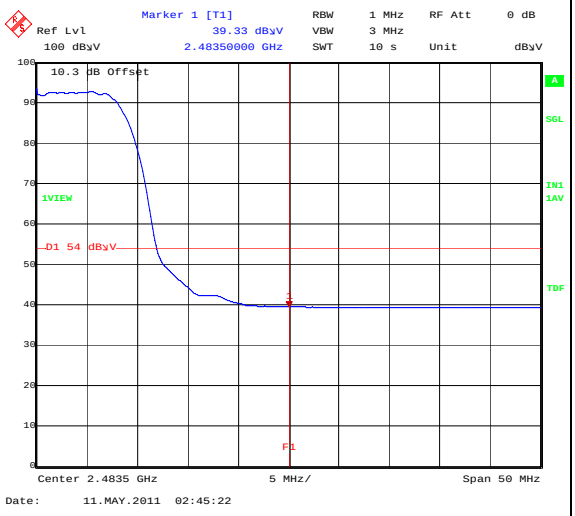
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_5.5MBS_BottomChannel

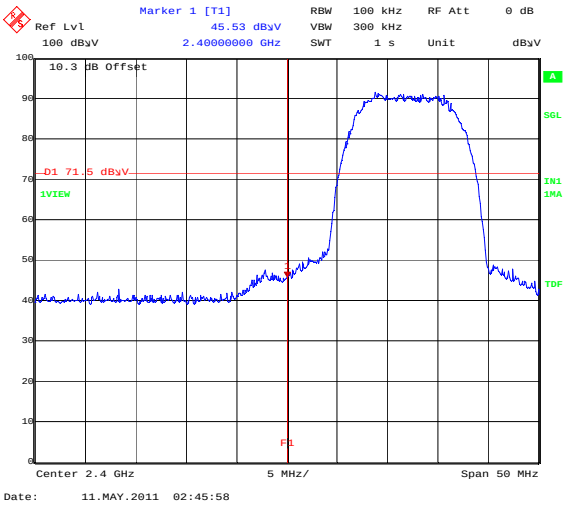


BandEdge_802_11B_5.5MBS_TopChannel

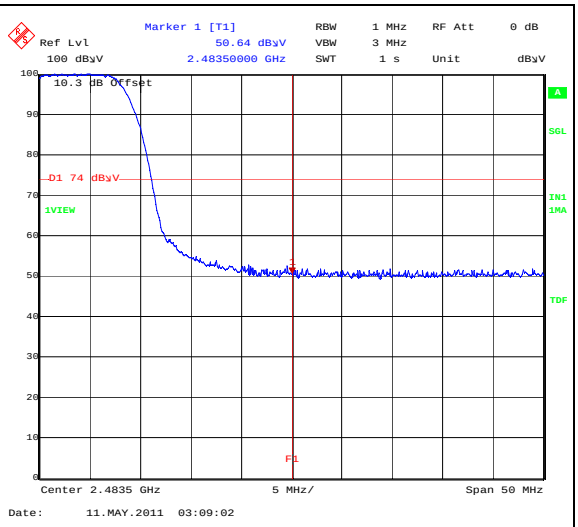


BandEdge_802_11B_5.5MBS_TopChannelAVG

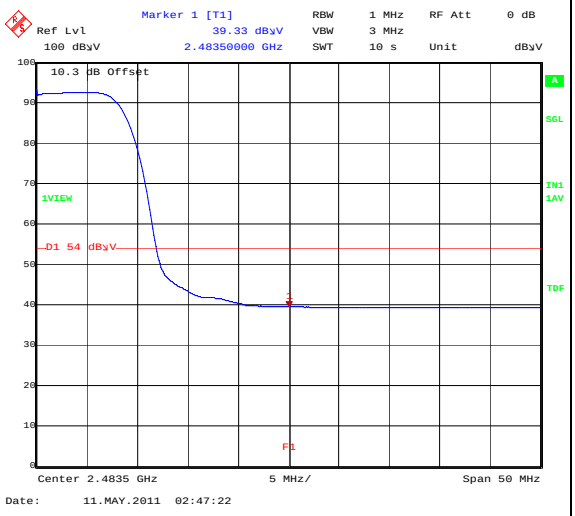
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_11MBS_BottomChannel

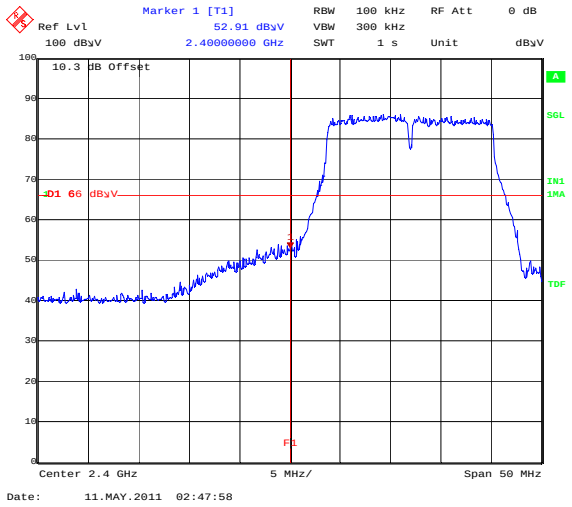


BandEdge_802_11B_11MBS_TopChannel

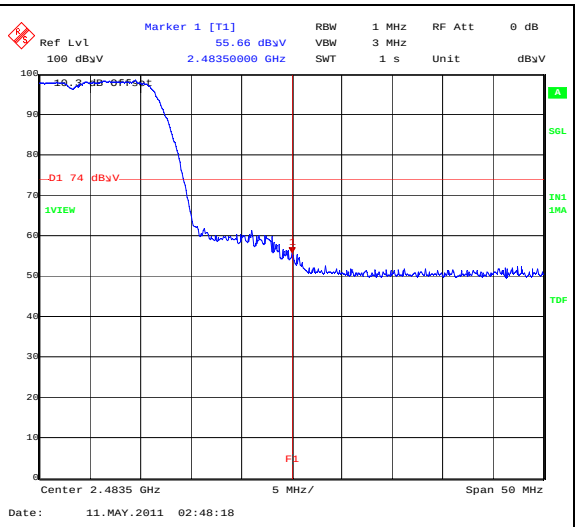


BandEdge_802_11B_11MBS_TopChannelAVG

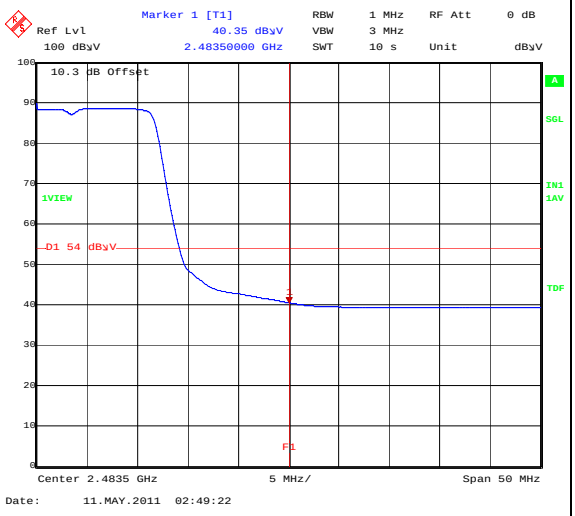
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_6MBS_BottomChannel

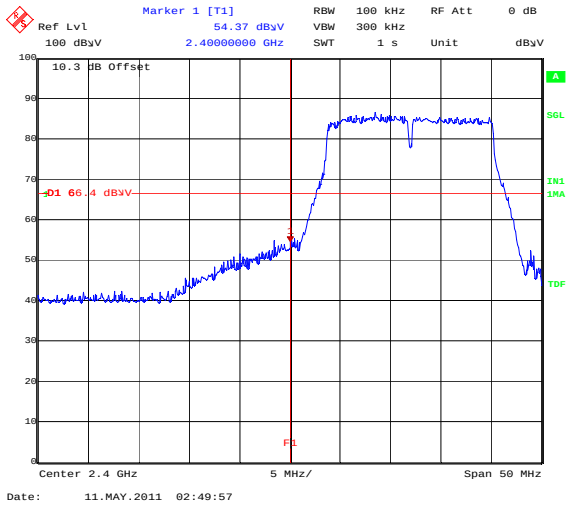


BandEdge_802_11B_6MBS_TopChannel

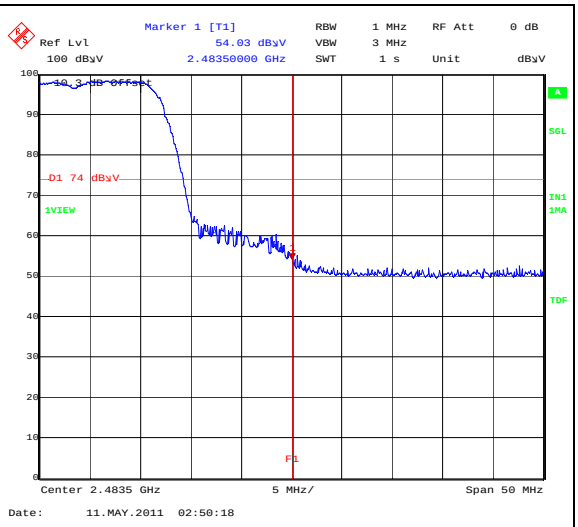


BandEdge_802_11B_6MBS_TopChannelAVG

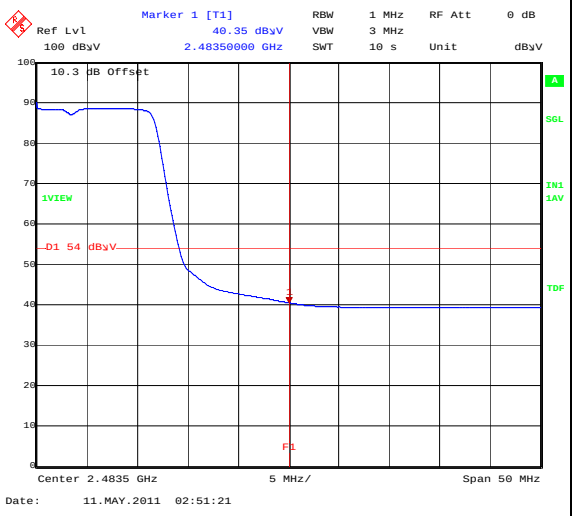
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_9MBS_BottomChannel

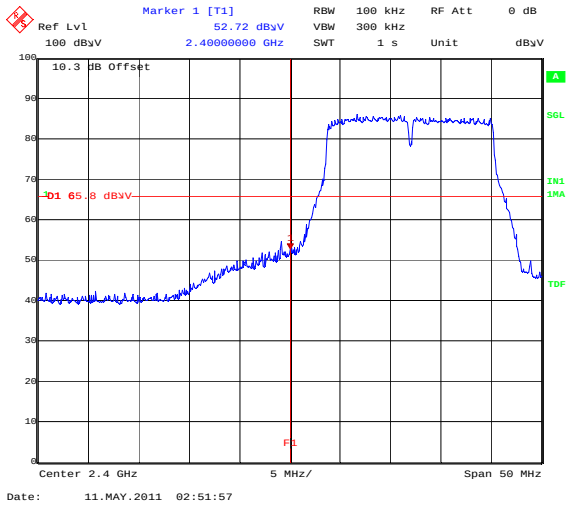


BandEdge_802_11B_9MBS_TopChannel

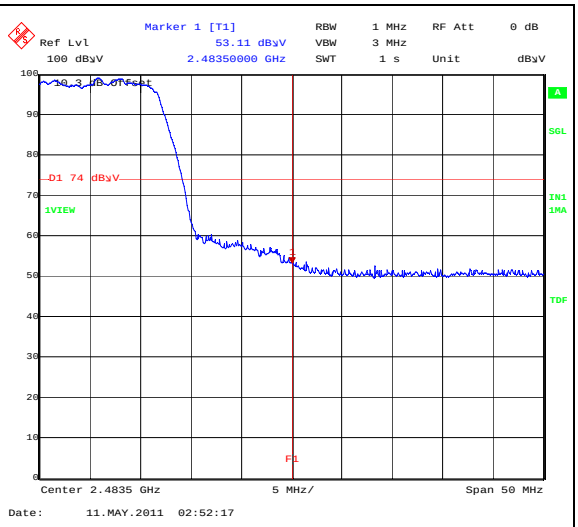


BandEdge_802_11B_9MBS_TopChannelAVG

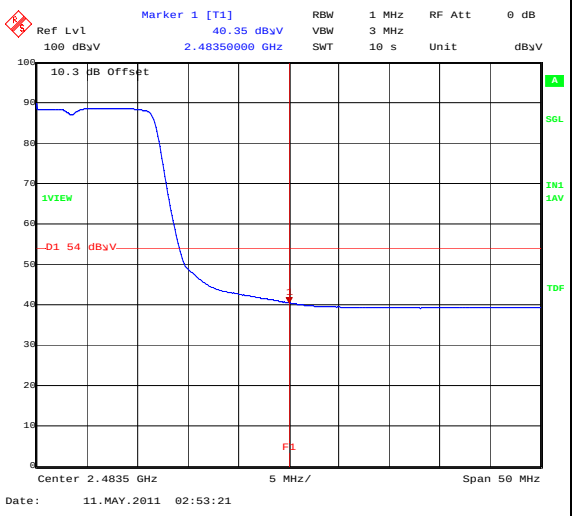
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_12MBS_BottomChannel

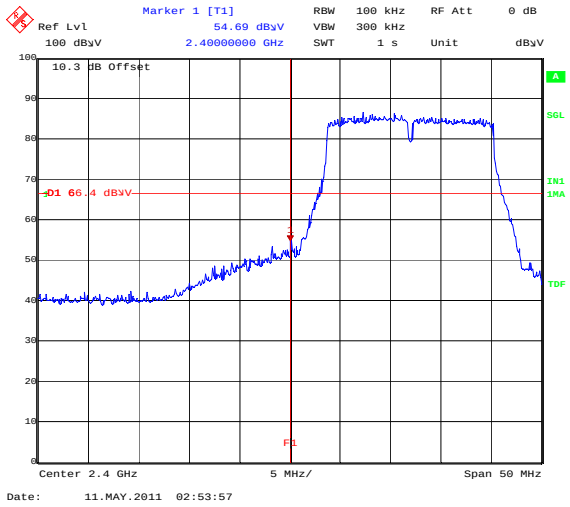


BandEdge_802_11B_12MBS_TopChannel

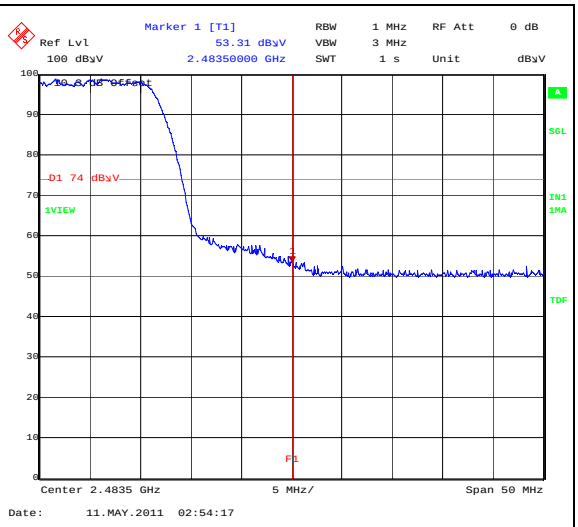


BandEdge_802_11B_12MBS_TopChannelAVG

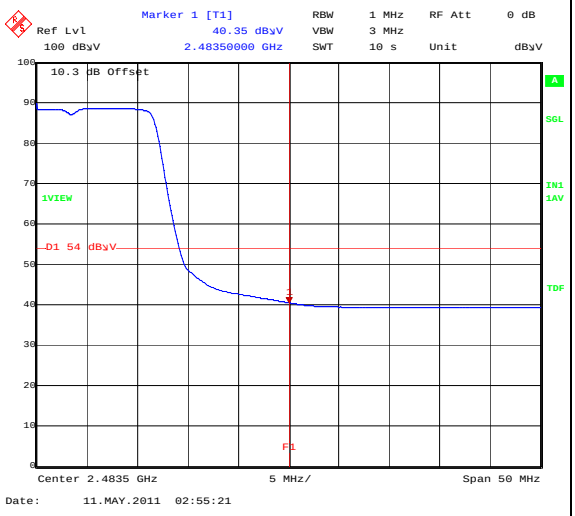
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_18MBS_BottomChannel

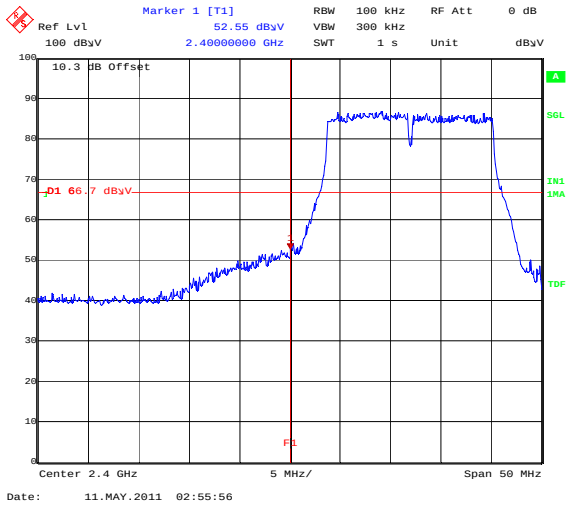


BandEdge_802_11B_18MBS_TopChannel

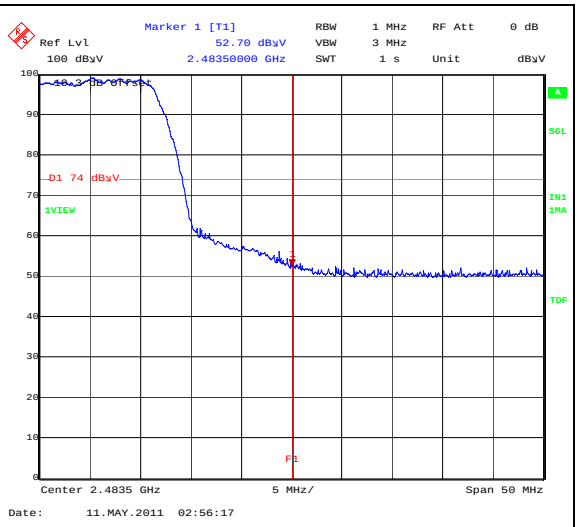


BandEdge_802_11B_18MBS_TopChannelAVG

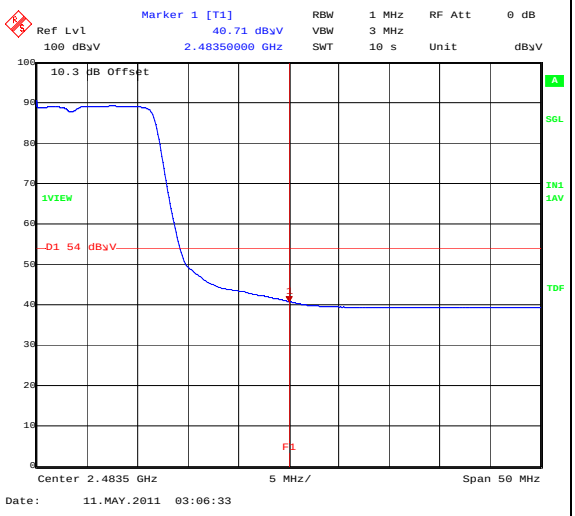
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_24MBS_BottomChannel

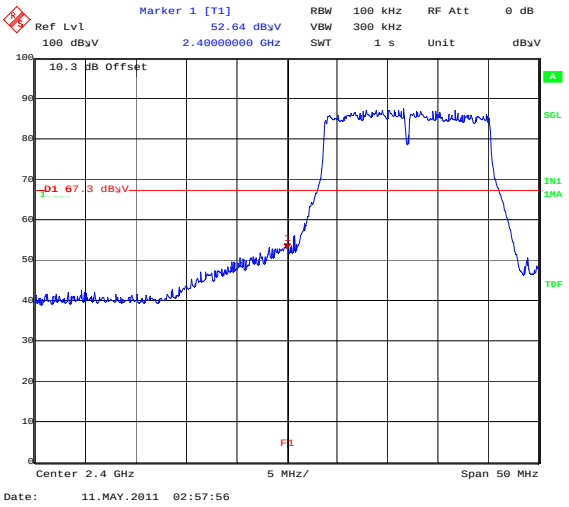


BandEdge_802_11B_24MBS_TopChannel

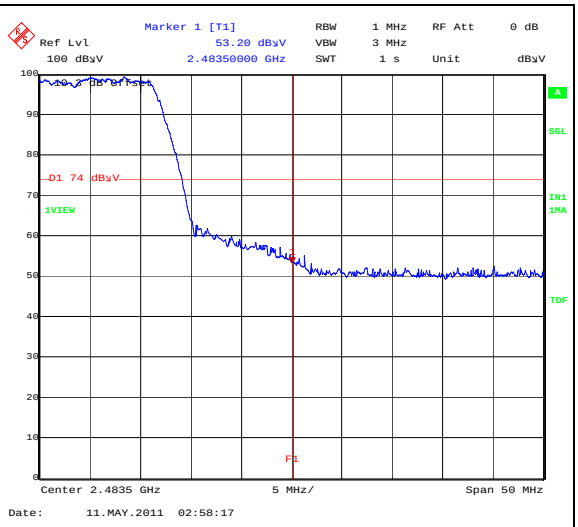


BandEdge_802_11B_24MBS_TopChannelAVG

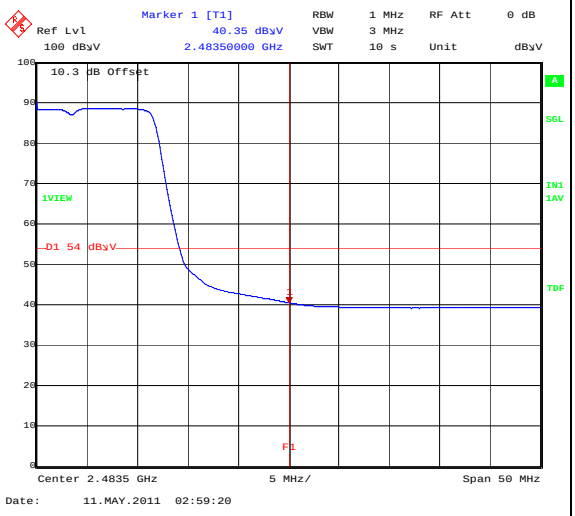
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_36MBS_BottomChannel

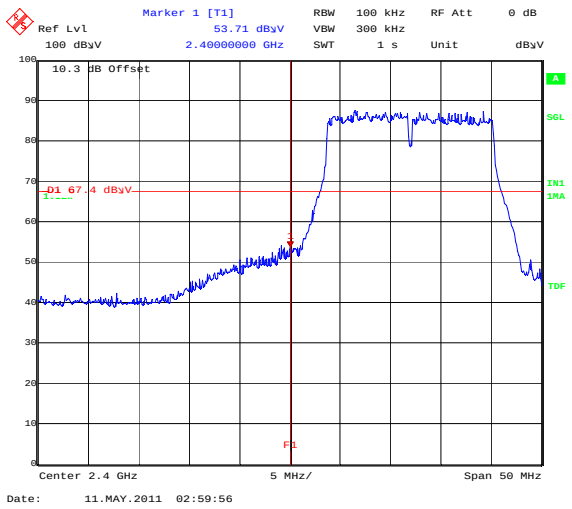


BandEdge_802_11B_36MBS_TopChannel

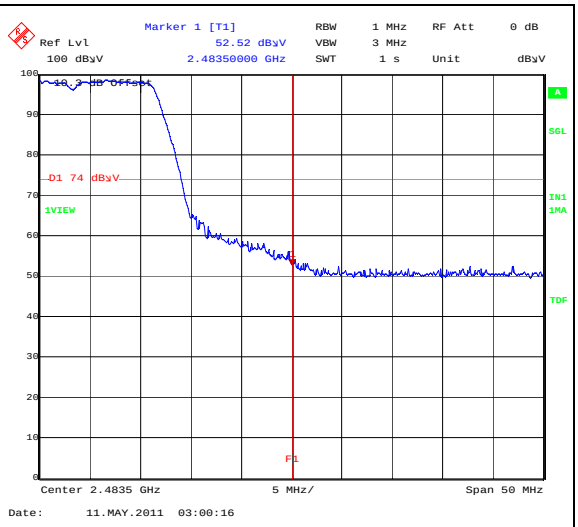


BandEdge_802_11B_36MBS_TopChannelAVG

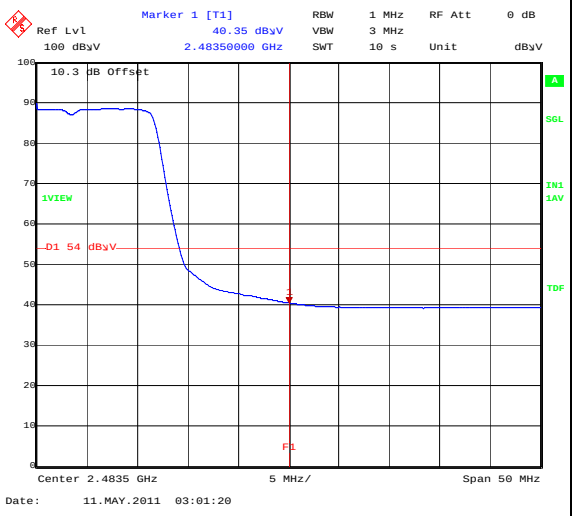
Transmitter Band Edge Radiated Emissions (continued)



BandEdge_802_11B_48MBS_BottomChannel

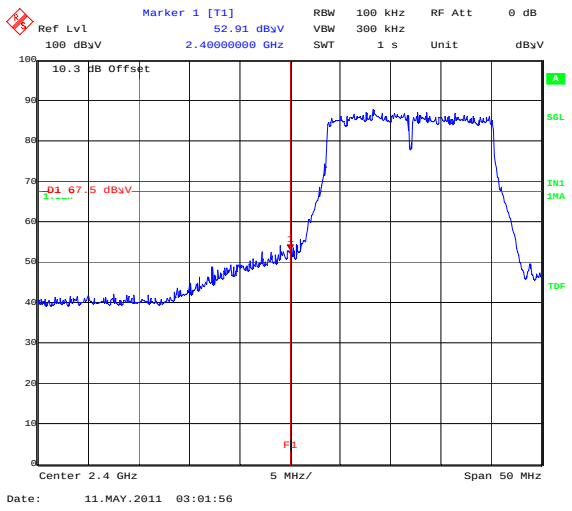


BandEdge_802_11B_48MBS_TopChannel

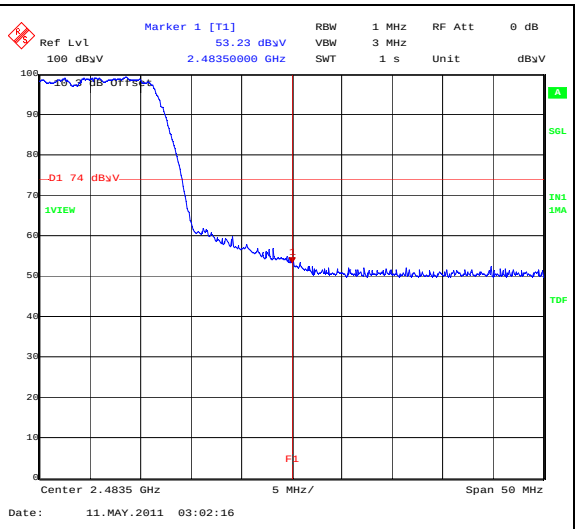


BandEdge_802_11B_48MBS_TopChannelAVG

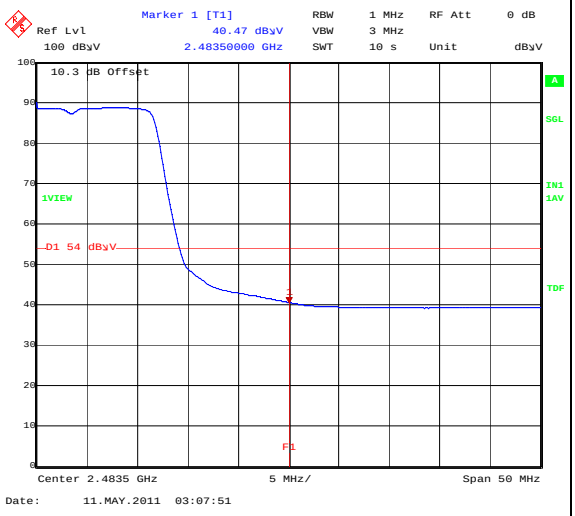
Transmitter Band Edge Radiated Emissions (continued)



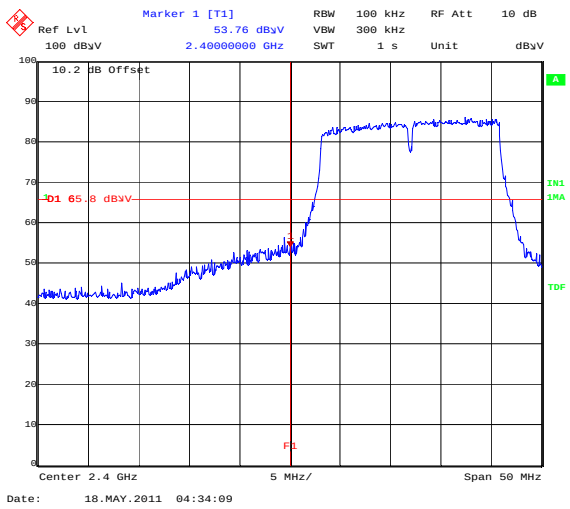
BandEdge_802_11B_54MBS_BottomChannel



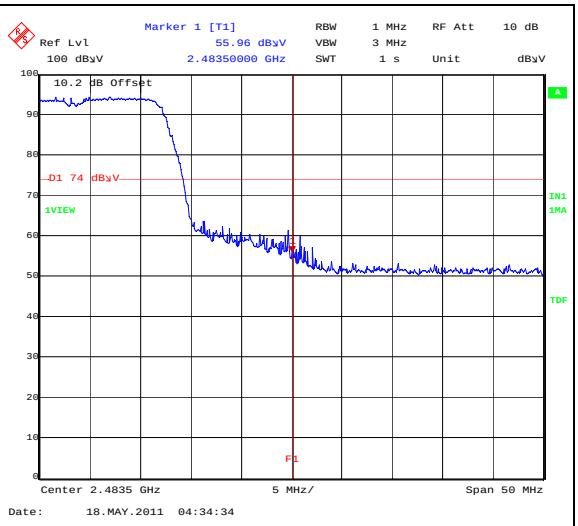
BandEdge_802_11B_54MBS_TopChannel



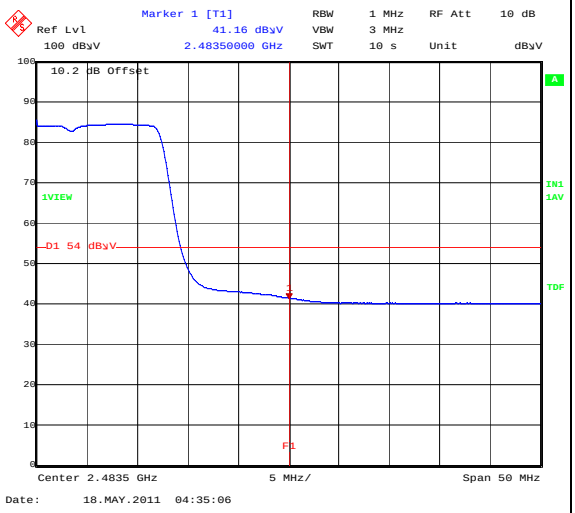
BandEdge_802_11B_54MBS_TopChannelAVG



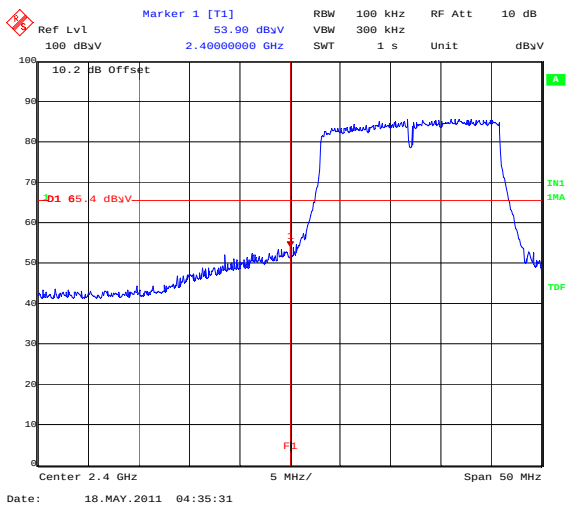
BandEdge_802_11N_6.5MBS_BotChannel



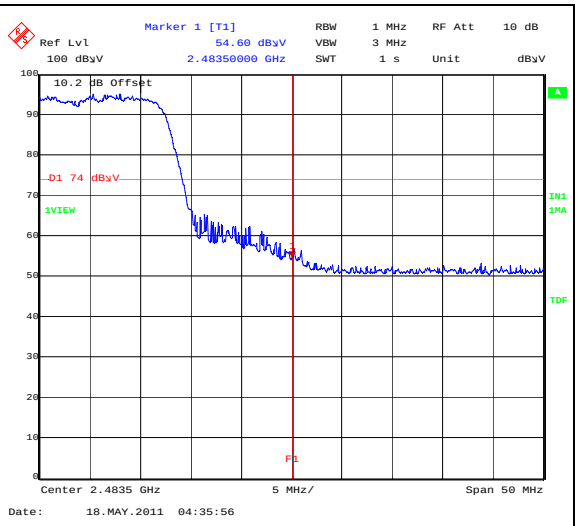
BandEdge_802_11N_6.5MBS_TopChannel



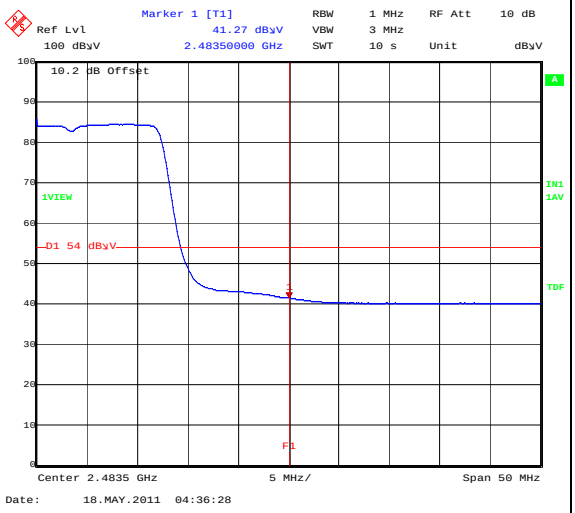
BandEdge_802_11N_6.5MBS_TopChannelAVG



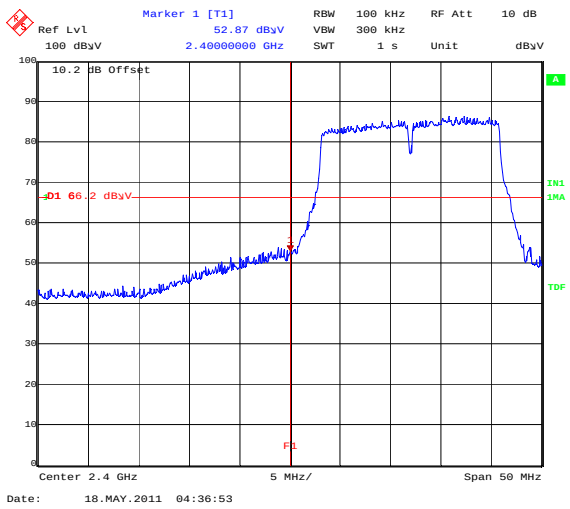
BandEdge_802_11N_13MBS_BotChannel



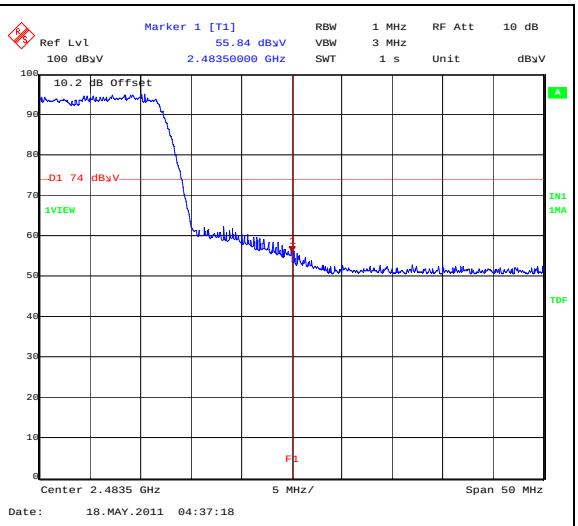
BandEdge_802_11N_13MBS_TopChannell



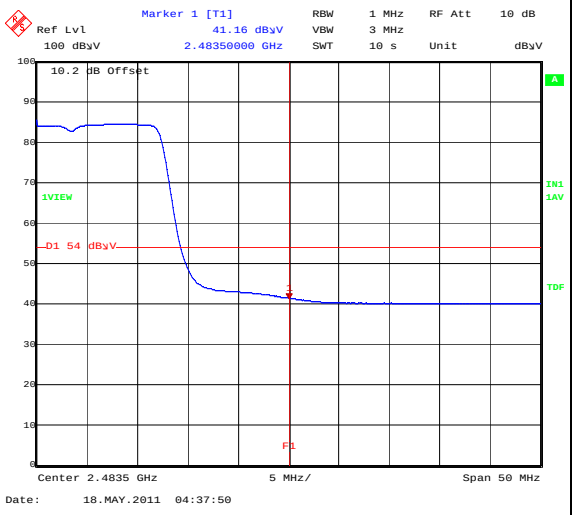
BandEdge_802_11N_13MBS_TopChannelAVG



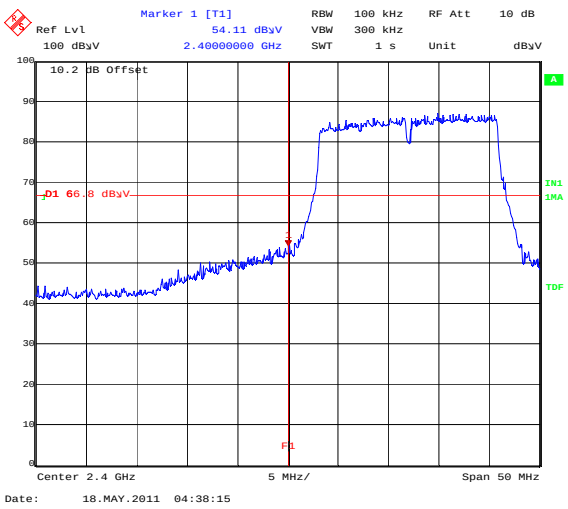
BandEdge_802_11N_19.5MBS_BotChannel



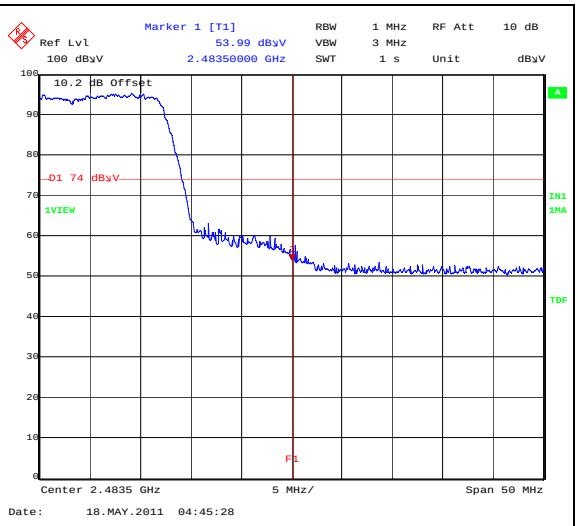
BandEdge_802_11N_19.5MBS_TopChannel



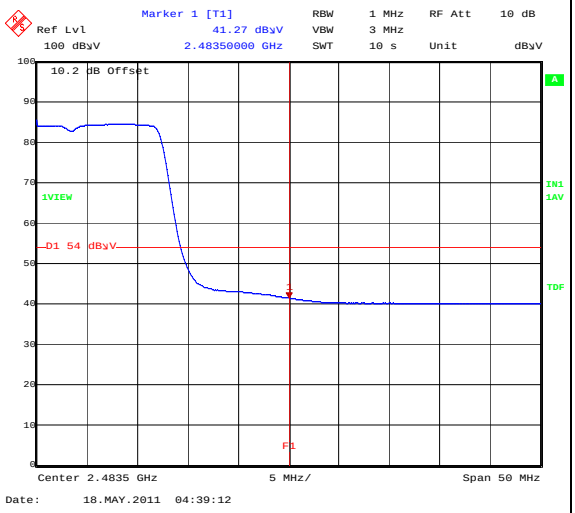
BandEdge_802_11N_19.5MBS_TopChannelAVG



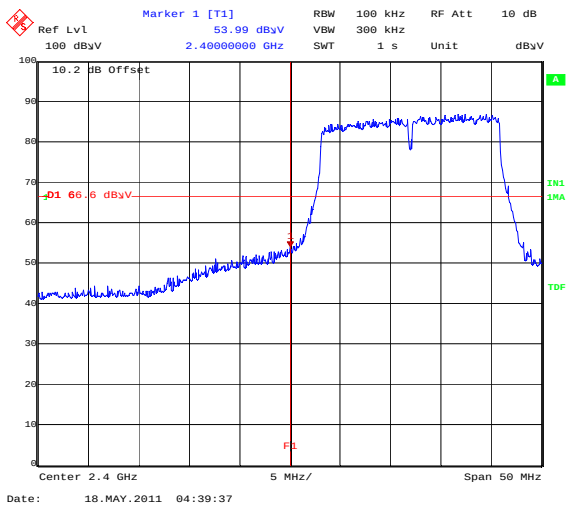
BandEdge_802_11N_26MBS_BotChannel



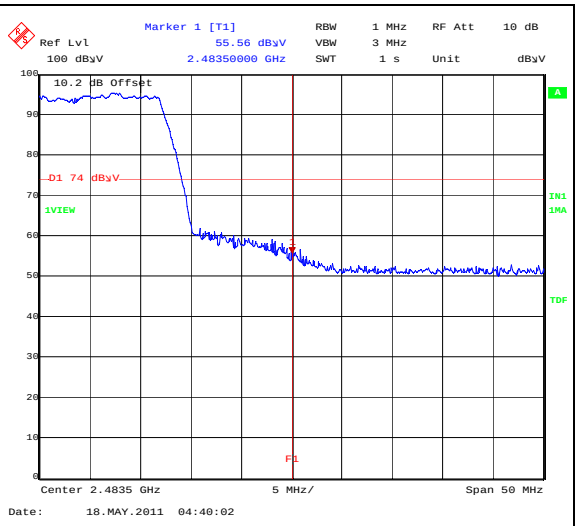
BandEdge_802_11N_26MBS_TopChannel



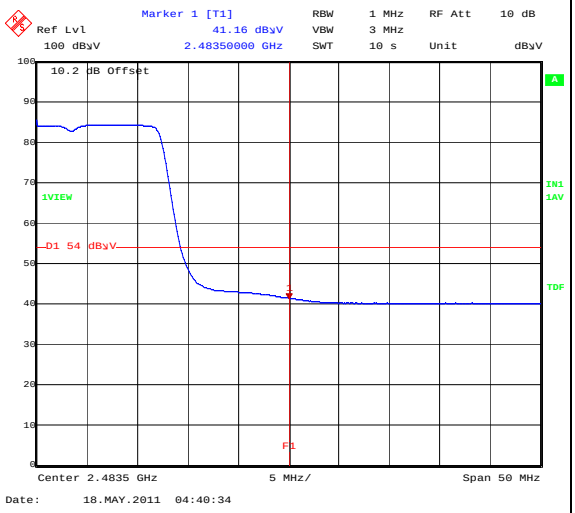
BandEdge_802_11N_26MBS_TopChannelAVG



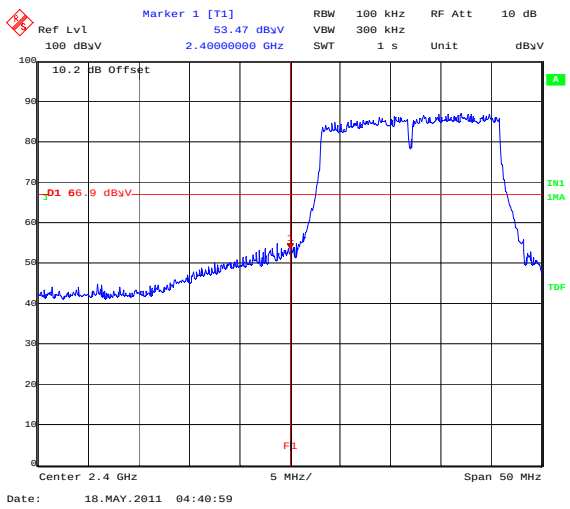
BandEdge_802_11N_39MBS_BotChannel



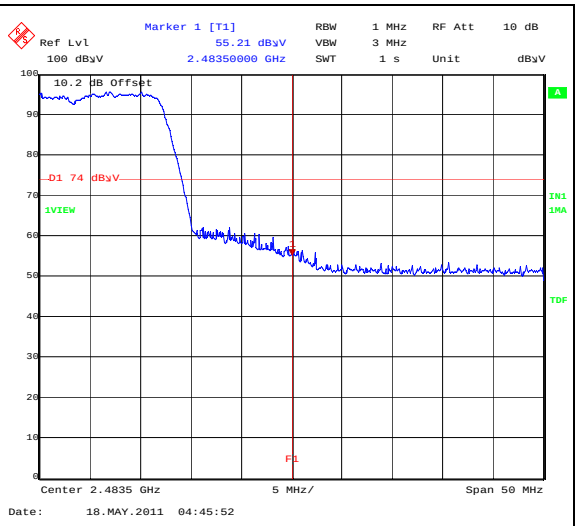
BandEdge_802_11N_39MBS_TopChannel



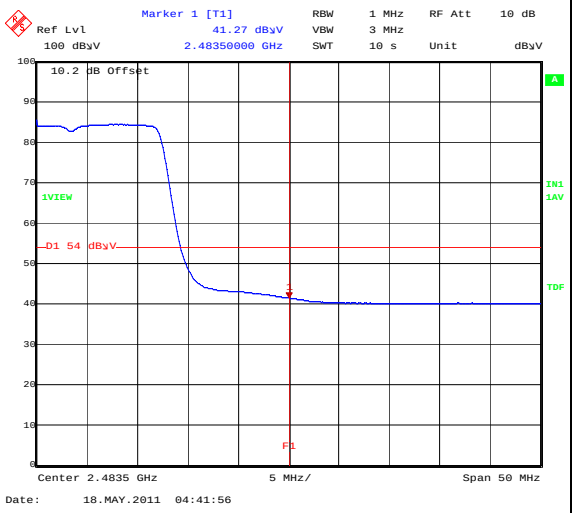
BandEdge_802_11N_39MBS_TopChannelAVG



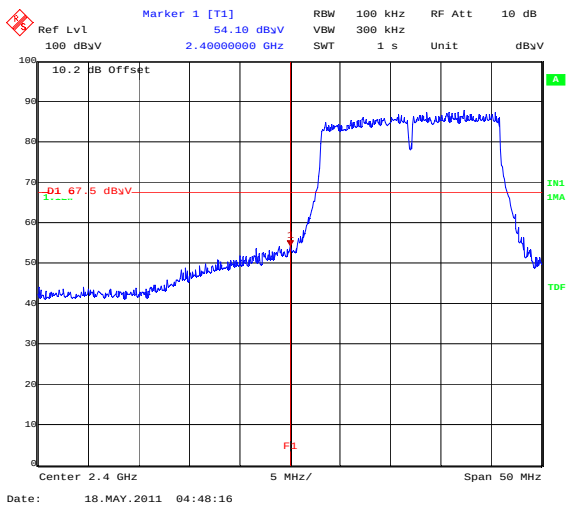
BandEdge_802_11N_52MBS_BotChannel



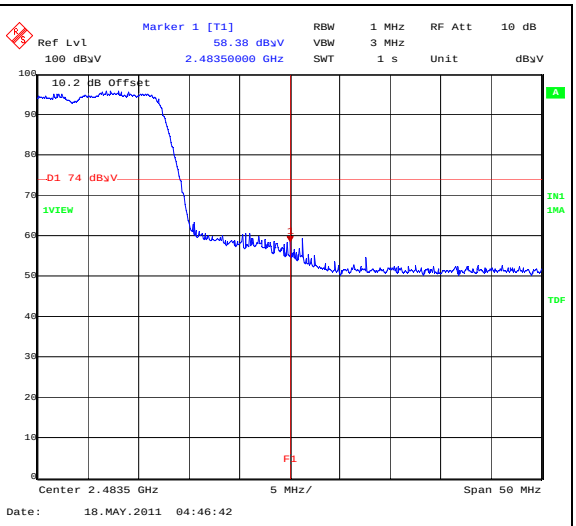
BandEdge_802_11N_52MBS_TopChannel



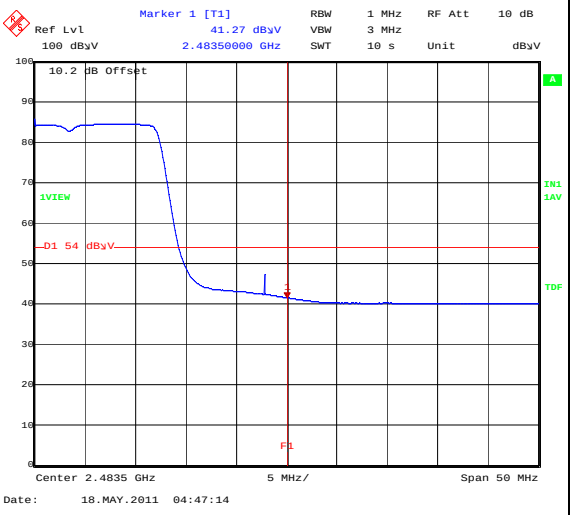
BandEdge_802_11N_52MBS_TopChannelAVG



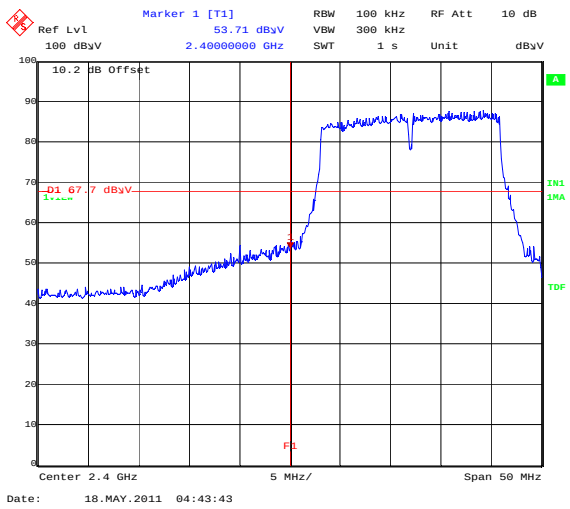
BandEdge_802_11N_58.5MBS_BotChannel



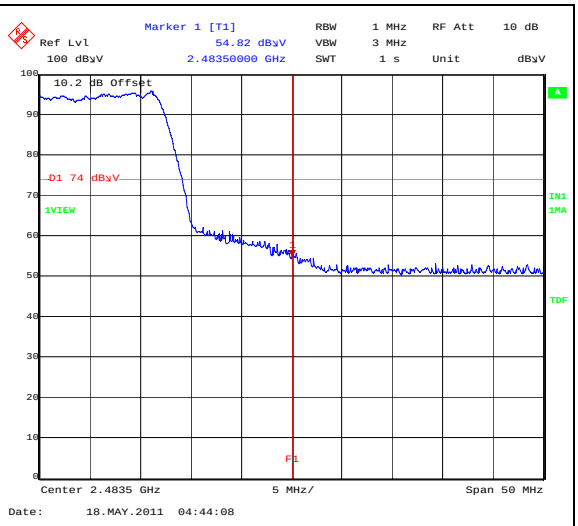
BandEdge_802_11N_58.5MBS_TopChannel



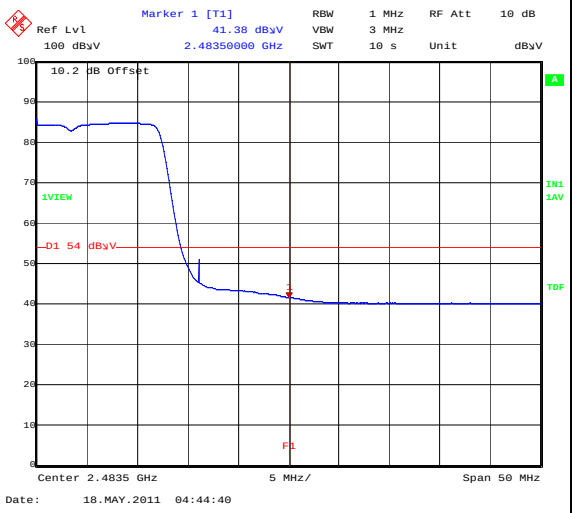
BandEdge_802_11N_58.5MBS_TopChannelAVG



BandEdge_802_11N_65MBS_BotChannel



BandEdge_802_11N_65MBS_TopChannel



BandEdge_802_11N_65MBS_TopChannelAVG