

TEST REPORT

Report Number: 100028553MPK-001

Project Number: G100028553

May 31, 2010

Testing performed on the

Handheld Computer

Model Number: 7505

FCC ID: GM37505BTMW

IC ID: 2739D-7505BTMW

to

FCC Part 15 Subpart C (15.247)

RSS-210 Issue 7

FCC Part 15, Subpart B

Industry Canada ICES-003

For

Psion Teklogix Inc.

Test Performed by:

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Test Authorized by:

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Date: May 31, 2010

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1.0 Summary of Tests

FCC ID: GM37505BTMW
IC ID: 2739D-7505BTMW

Test summary for the Wi-Fi radio:

TEST	REFERENCE FCC Part 15 C	REFERENCE RSS-210 Issue 7	RESULTS
RF output power	15.247(b)	A8.4	Complies
6 dB Bandwidth	15.247(a)(2)	A8.2(a)	Complies
Power Density	15.247(e)	A8.2(b)	Complies
Out of Band Antenna Conducted Emission	15.247(d)	A8.5	Complies
Out of Band Radiated Emission (except emissions in restricted bands)	15.247(d)	A8.5	Complies
Radiated Emission in Restricted Bands	15.247(d), 15.209, 15.205	2.2	Complies
AC Conducted Emission	15.207	RSS-Gen	Complies
Radiated Emission from Digital Part and Receiver	15.109	ICES-003	Complies
Antenna Requirement	15.203	RSS-Gen	Complies. The EUT does not have an external antenna connector



Test summary for Bluetooth radio

TEST	REFERENCE FCC Part 15 C	REFERENCE RSS-210 Issue 7	RESULTS
RF output power	15.247(b)	A8.4	Complies
20-dB Bandwidth	15.247(a)(1)	A8.1(a)	Complies
Channel Separation	15.247(a)(1)	A8.1(b)	Complies
Number of Hopping Channels	15.247(a)(1)	A8.1(d)	Complies
Average Channel Occupancy Time	15.47(a)(1)	A8.1(d)	Complies
Out-of-band Antenna Conducted Emission	15.247(d)	A8.5	Complies
Out-of-Band Radiated Emission (except emissions in Restricted Bands)	15.247(d)	A8.5	Complies
Radiated Emission in Restricted Bands	15.247(d), 15.209, 15.205	2.2	Complies
AC Conducted Emission	15.207	RSS-GEN	Complies
Radiated Emission from Digital Parts and receiver	15.109	ICES-003	Complies
Antenna Requirement	15.203	RSS-Gen	Complies. The EUT does not have an external antenna connector



2.0 General Description

2.1 Product Description

The model 7505, hereinafter – Equipment Under Test (EUT), is a Handheld Computer. It consists of two transmitters. One transmitter is a Wi-Fi (IEEE 802.11b/g) transmitter operating at 2.4GHz and other is a Bluetooth (FHSS) transmitter operating at 2.4GHz.

The information about the Wi-Fi radio, installed in the model 7505, is presented below.

Applicant	Psion Teklogix Inc. 2100 Meadowvale Blvd. Mississauga, ON L5N 7J9 Canada Contact: Sada Dharwarkar Phone: 905/812-6200 Email: sada.dharwarkar@psionteklogix.com
Model Number	7505
FCC Identifier	GM37505BTMW
IC Identifier	2739D-7505BTMW
Use of Product	Handheld Computer
Modulation Technique	IEEE 802.11b/g (DSSS, OFDM)
Rated RF Output	56 mW (average)
Frequency Range	2412 – 2462 MHz
Type of modulation	IEEE 802.11b (1Mbps, 2Mbps, 5.5Mbps, 11Mbps), IEEE 802.11g (6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps)
Number of Channel(s)	11
Antenna(s) & Gain,	Type: PCB Max Gain: 2.1 dBi
Antenna Requirement	The EUT does not have an external antenna connector
Manufacturer Name & Address	Psion Teklogix Inc. 2100 Meadowvale Blvd. Mississauga, ON L5N 7J9 Canada Contact: Sada Dharwarkar Phone: 905/812-6200



The information about the Bluetooth radio, installed in the model 7505, is presented below.

Applicant	Psion Teklogix Inc. 2100 Meadowvale Blvd. Mississauga, ON L5N 7J9 Canada Contact: Sada Dharwarkar Phone: 905/812-6200
Manufacturer name & address	Psion Teklogix Inc. 2100 Meadowvale Blvd. Mississauga, ON L5N 7J9 Canada Contact: Sada Dharwarkar Phone: 905/812-6200
Model Number	7505
FCC Identifier	GM37505BTMW
IC	2739D-7505BTMW
Type of Transmission	Spread Spectrum, Frequency Hopping
Rated RF Output	0.50mW (average)
Frequency Range	2402-2480 MHz
Number of Channel(s)	79
Modulation Type	GFSK
Data Rate	1 Mbps
Antenna(s) type & Gain	Type: SMD Max Gain: 1.1dBi

EUT receive date: May 14, 2010

EUT receive condition: The EUT was received in good condition with no apparent damage.

Test start date: May 17, 2010

Test completion date: May 29, 2010

The test results in this report pertain only to the item tested.



2.2 Related Submittal(s) Grants

None.

2.3 Test Methodology

Antenna conducted measurements were performed according to the procedure “Measurement of Digital Transmission Systems Operating under Section 15.247”.

Both AC mains line-conducted and radiated emissions measurements were performed according to the procedures in ANSI C63.4 (2003). Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Data Sheet**" of this Application.

All other measurements were made in accordance with the procedures in part 2 of CFR 47.

2.4 Test Facility

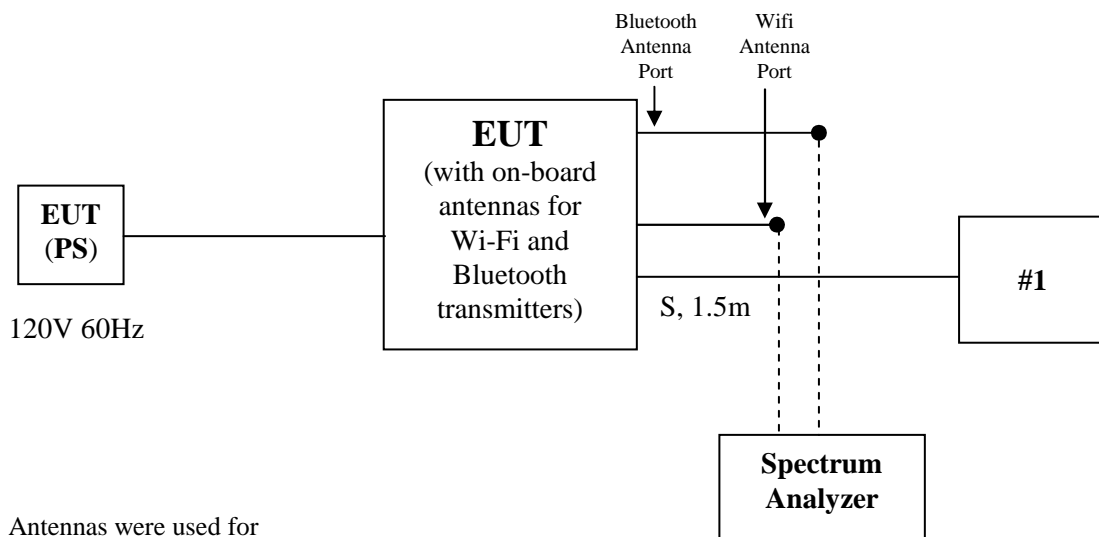
The open area test site and conducted measurement facility used to collect the radiated data is site 1 (10-m semi-anechoic chamber). This test facility and site measurement data have been fully placed on file with the FCC, IC and A2LA accredited.

3.0 System Test Configuration

3.1 Support Equipment

Description	Model No.	Serial No.
Sony Headphones	Not Labeled	Not Labeled

3.2 Block Diagram of Test Setup



Antennas were used for Radiated Measurements.
Antennas were removed and co-axial cables were installed for Conducted Measurements

PS: PHIHONG Power Adaptor, Model: PSA15R-050P

S = Shielded	F = With Ferrite
U = Unshielded	m = Length in Meters



3.3 Justification

For emission testing, the equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it).

Preliminary testing was performed for all modulation/data rate modes. The following modes were selected for final measurements: CCK 11 Mbps – for 802.11b; OFDM 54 Mbps – for 802.11g.

The handheld computer, model: 7505-BT, was previously tested and certified under FCC ID: GM3LBMA46LCS2169, IC ID: 2739D-7505L169.

The EUT, model: 7505, contains the same Bluetooth radio as the previously approved Model: 7505-BT. In addition, the model: 7505, has a second radio for Wi-Fi capability. All tests were performed on the Wi-Fi radio. The conducted and radiated spurious emissions tests on the Wi-Fi radio was performed when Bluetooth radio was simultaneously on. The conducted and radiated spurious emissions tests on the Bluetooth radio was performed in the presence of Wi-Fi radio simultaneously on. The digital parts emissions test was performed on the EUT when both transmitters were operating in receive mode.

This test report contains tests that were repeated on the Bluetooth radio from the model: 7505 for conducted output power and spurious emissions (conducted and radiated). Test data for the following tests are referred to the test report from the model: 7505-BT:

- 20-dB Bandwidth
- Channel Separation
- Number of hopping channels
- Average Channel Occupancy Time

3.4 Mode of Operation During Test

During testing, the transmitter was setup to transmit continuously at maximum RF power on low, middle and high channels.

3.5 Modifications Required for Compliance

Intertek installed no modifications during compliance testing in order to bring the product into compliance.

3.6 Additions, deviations and exclusions from standards

No additions, deviations or exclusions from the standard were made.



4.0 Measurement Results

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rule 15.247(b)

4.1.1 Requirement

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm).

For antennas with gains greater than 6 dBi, transmitter output level must be decreased by an amount equal to (GAIN - 6) dBm.

4.1.2 Procedure

Wi-Fi radio

The antenna port of the EUT was connected to the input of a spectrum analyzer to measure the Average Transmitter Output Power.

For conducted power measurement for FCC Part 15C testing, the procedure “**Measurement of Digital Transmission Systems Operating under Section 15.247**” is used. In particular – the **Power Output Option 2, Method #2**, - spectral trace averaging and sum the power across the 26-dB bandwidth of the signal.

The 26-dB bandwidth was measured and recorded (see the graphs in Appendix A). Then the average power was measured by using a spectrum analyzer built-in facility for “channel power” measurement. Cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

Bluetooth radio

The antenna port of the EUT was connected to the input of an average power meter to measure the average transmitter output power.



4.1.3 Test Result

The results are presented on the following plots 1.1 – 1.6 and summarized in the table below.

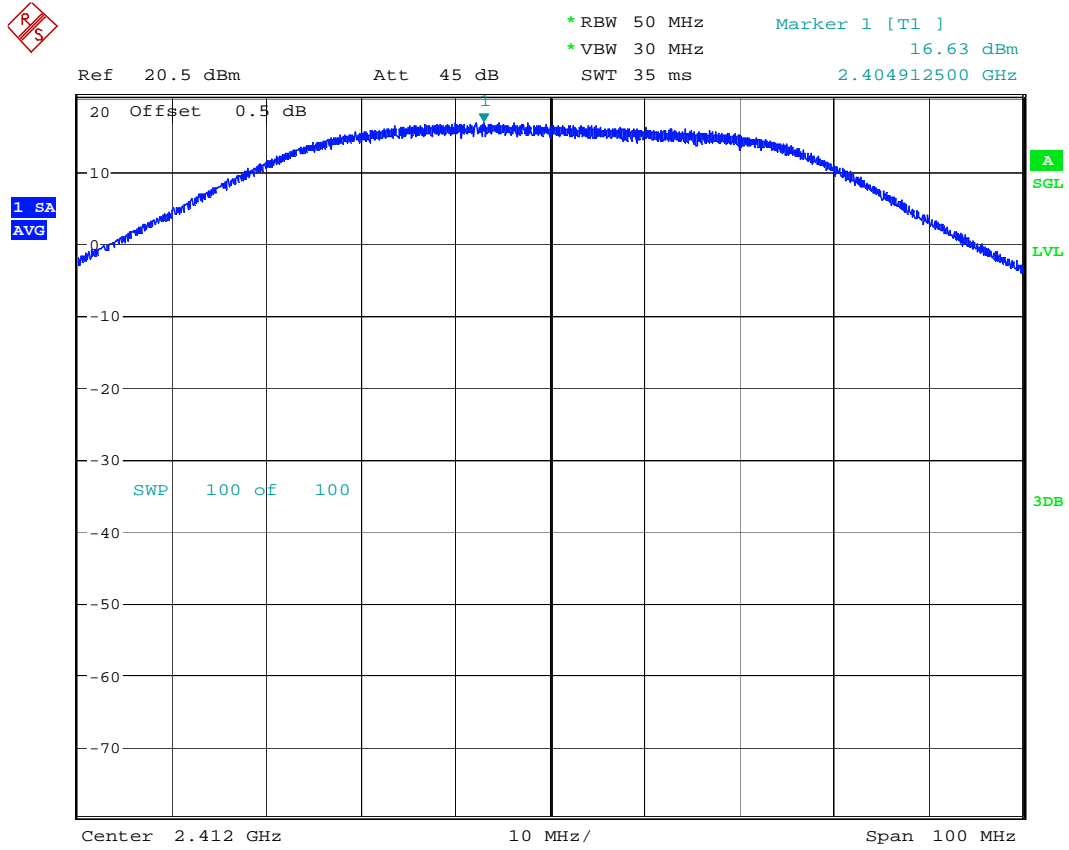
Wi-Fi radio

Channel	Frequency MHz	Standard	Data rate Mbps	26-dB Bandwidth MHz	Conducted power (average) dBm	Conducted power Limit dBm	Margin dB	Plot
1	2412	802.11b	11	16.83	16.63	30.0	-13.37	1.1
1	2412	802.11g	54	20.14	11.96	30.0	-18.04	1.2
6	2437	802.11b	11	16.97	17.34	30.0	-12.66	1.3
6	2437	802.11g	54	20.34	11.92	30.0	-18.08	1.4
11	2462	802.11b	11	16.97	17.48	30.0	-12.52	1.5
11	2462	802.11g	54	20.19	11.96	30.0	-18.04	1.6

Bluetooth radio

Channel	Frequency (MHz)	Conducted power (average) (dBm)	Conducted power Limit dBm	Margin dB
1	2402	-3.6	30	-33.6
40	2441	-3.1	30	-33.1
79	2480	-3.0	30	-33.0

Plot 1.1



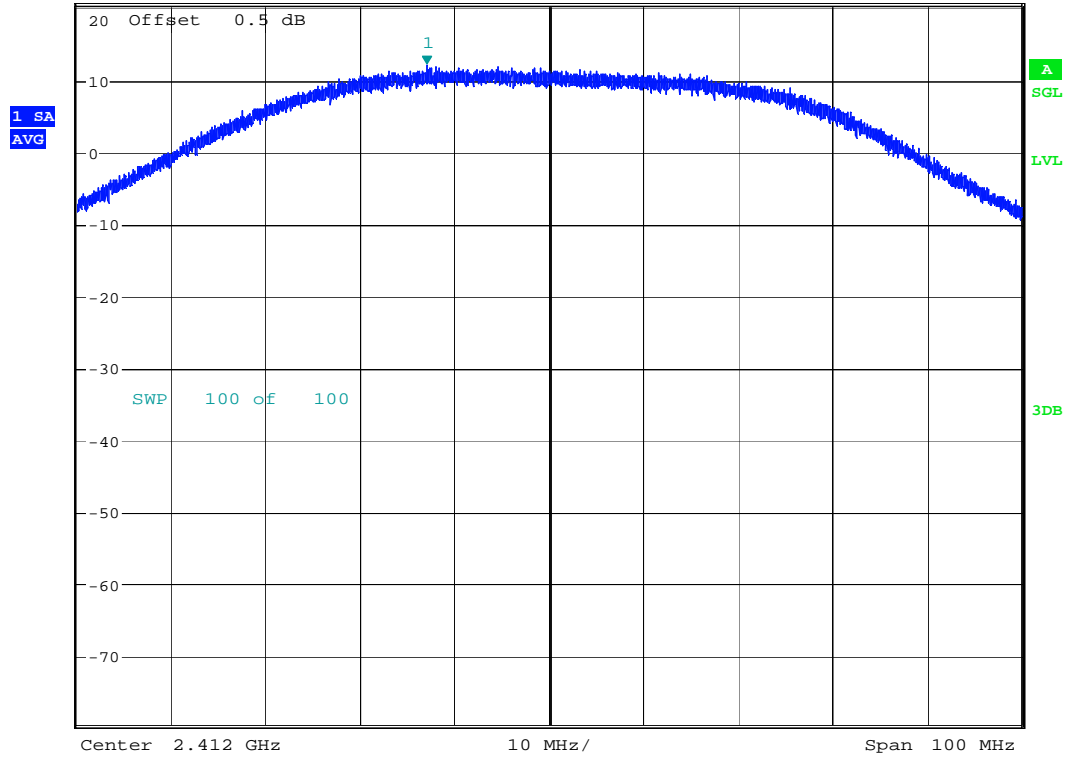
Power output, average, Ch1, 11Mbps

Date: 23.MAY.2010 22:04:22

Plot 1.2



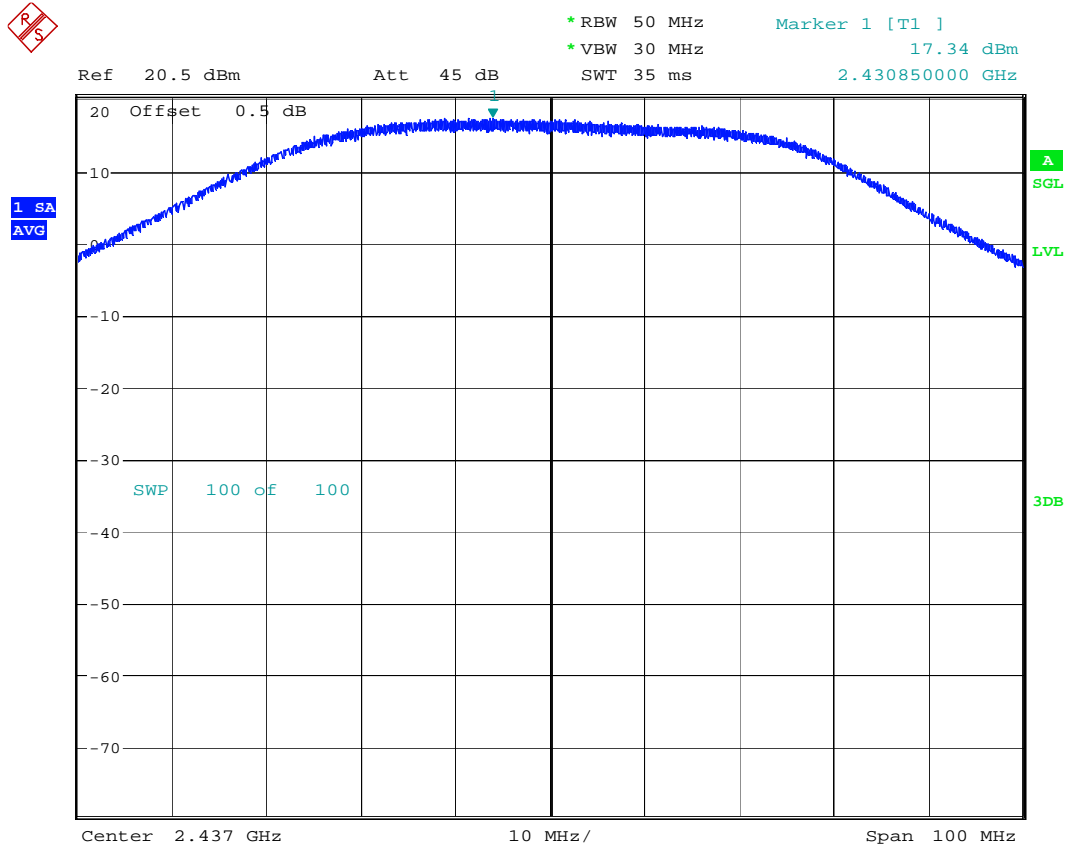
*RBW 50 MHz Marker 1 [T1]
 *VBW 30 MHz 11.96 dBm
 Ref 20.5 dBm Att 45 dB SWT 35 ms 2.399087500 GHz



Power output, average, Ch1, 54Mbps

Date: 23.MAY.2010 22:03:04

Plot 1.3



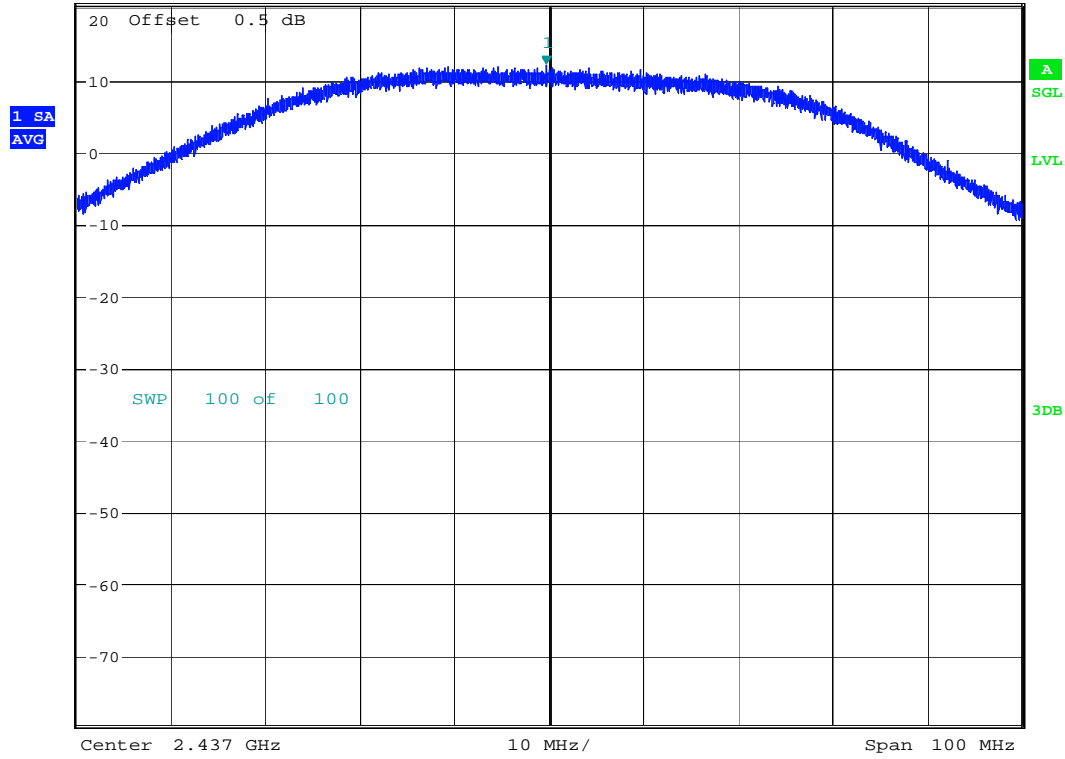
Power output, average, Ch6, 11Mbps

Date: 23.MAY.2010 22:07:03

Plot 1.4



*RBW 50 MHz Marker 1 [T1]
 *VBW 30 MHz 11.92 dBm
 Ref 20.5 dBm Att 45 dB SWT 35 ms 2.436662500 GHz



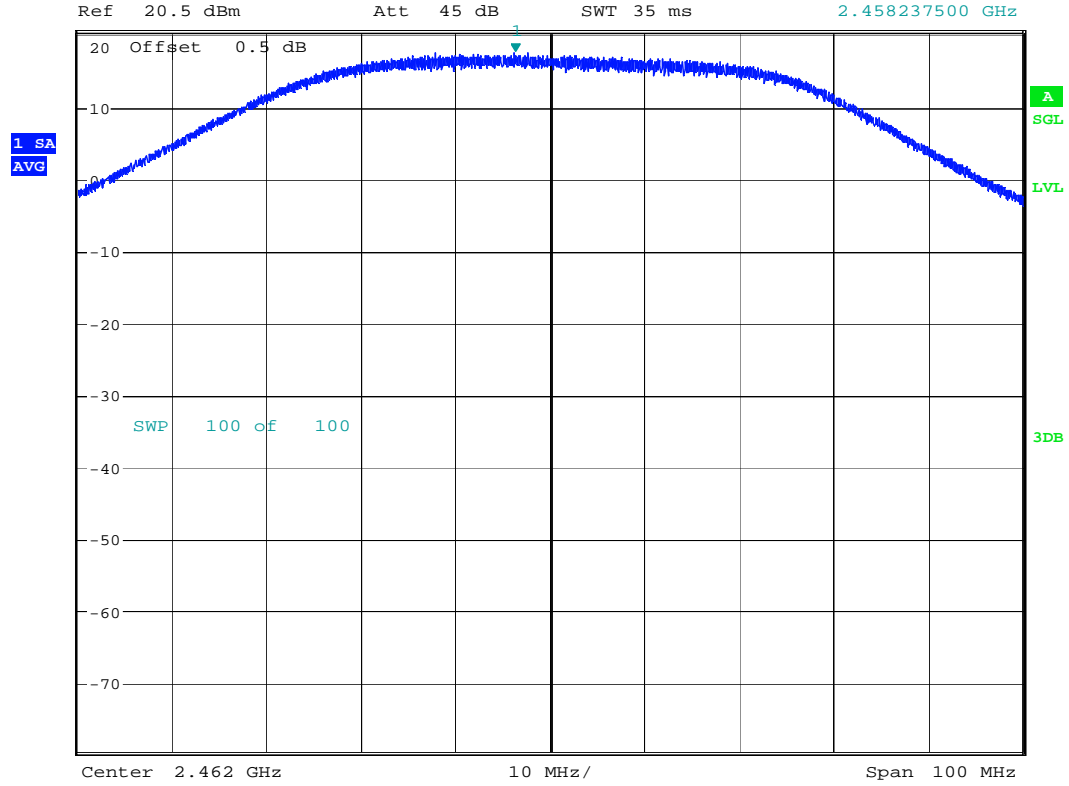
Power output, average, Ch6, 54Mbps

Date: 23.MAY.2010 22:09:18

Plot 1.5



*RBW 50 MHz Marker 1 [T1]
*VBW 30 MHz 17.48 dBm
SWT 35 ms 2.458237500 GHz



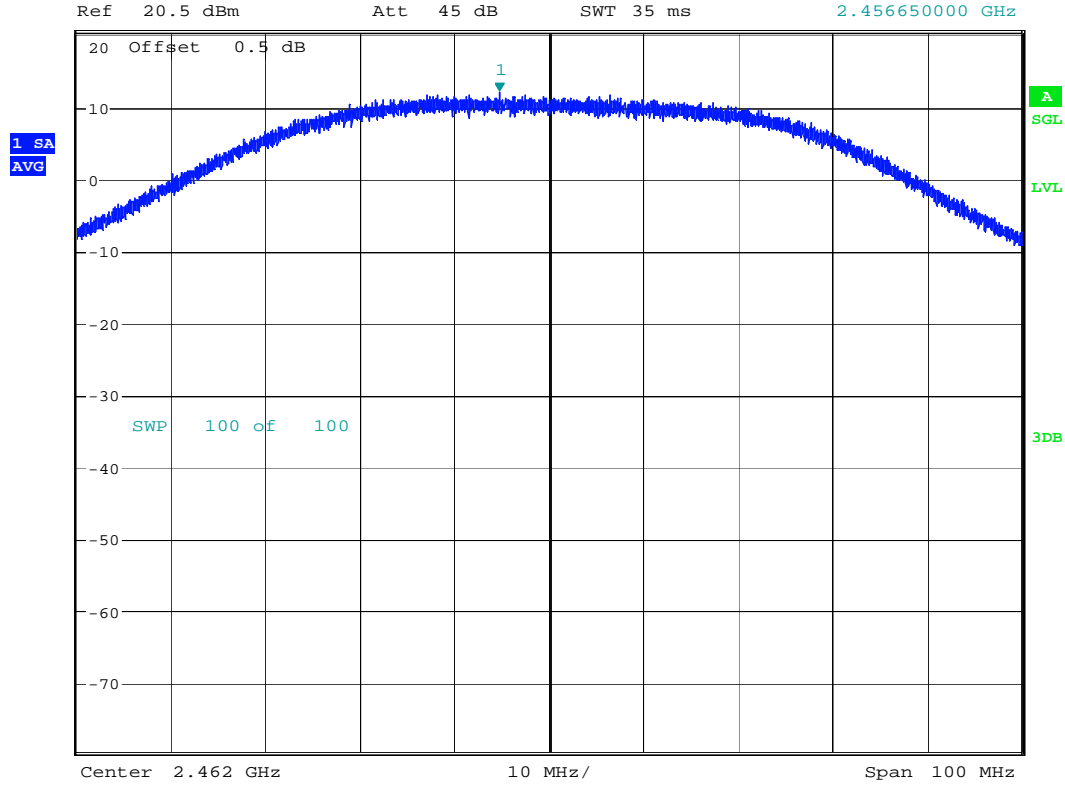
Power output, average, Ch11, 11Mbps

Date: 23.MAY.2010 22:11:53

Plot 1.6



*RBW 50 MHz Marker 1 [T1]
*VBW 30 MHz 11.96 dBm
SWT 35 ms 2.456650000 GHz



Power output, average, Ch11, 54Mbps

Date: 23.MAY.2010 22:21:21



4.2 6-dB RF Bandwidth,
FCC Rule 15.247(a)(2)

4.2.1 Requirement

The minimum 6-dB bandwidth shall be at least 500 kHz

4.2.2 Procedure

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was set to 100 kHz. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was taken, a DISPLAY line was drawn 6 dB lower than PEAK level. The 6-dB bandwidth was determined from where the channel output spectrum intersected the display line.

4.2.3 Test Result

The results are presented on the following plots 2.1 – 2.6 and summarized in the table below.

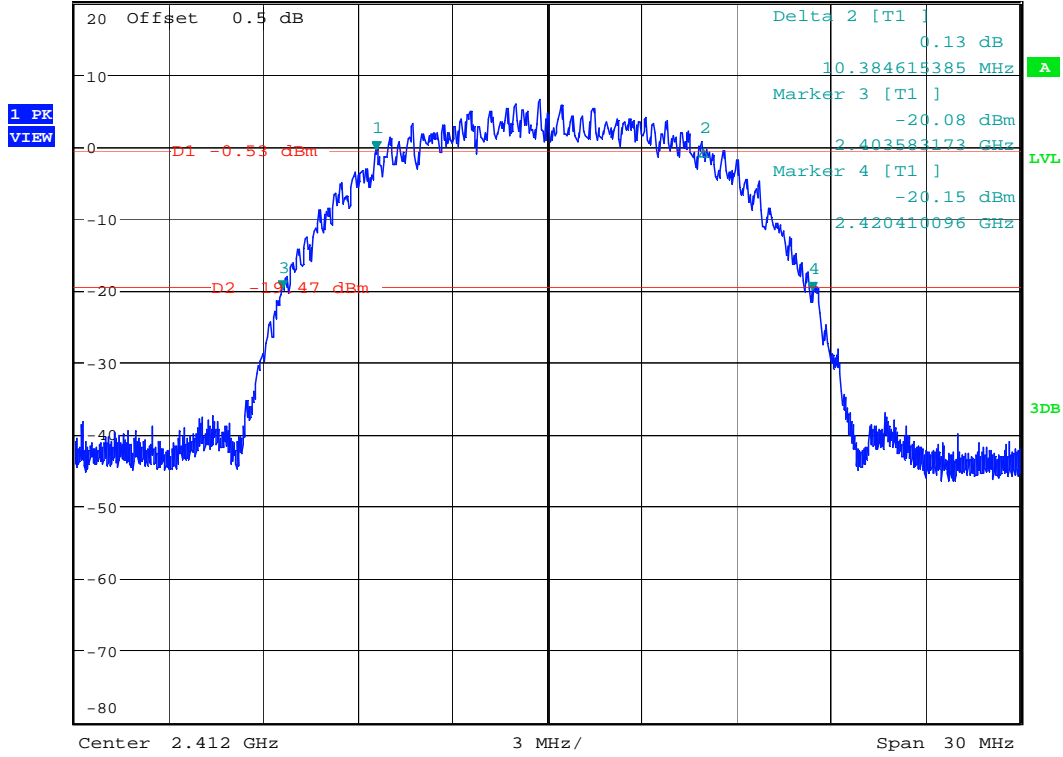
Wi-Fi radio

Channel	Frequency MHz	Standard	Date rate Mbps	6-dB Bandwidth MHz	Plot
1	2412	802.11b	11	10.38	2.1
1	2412	802.11g	54	16.46	2.2
6	2437	802.11b	11	9.90	2.3
6	2437	802.11g	54	16.52	2.4
11	2462	802.11b	11	9.90	2.5
11	2462	802.11g	54	16.51	2.6

Plot 2.1



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -0.75 dBm
 Ref 20 dBm Att 45 dB SWT 35 ms 2.406563942 GHz



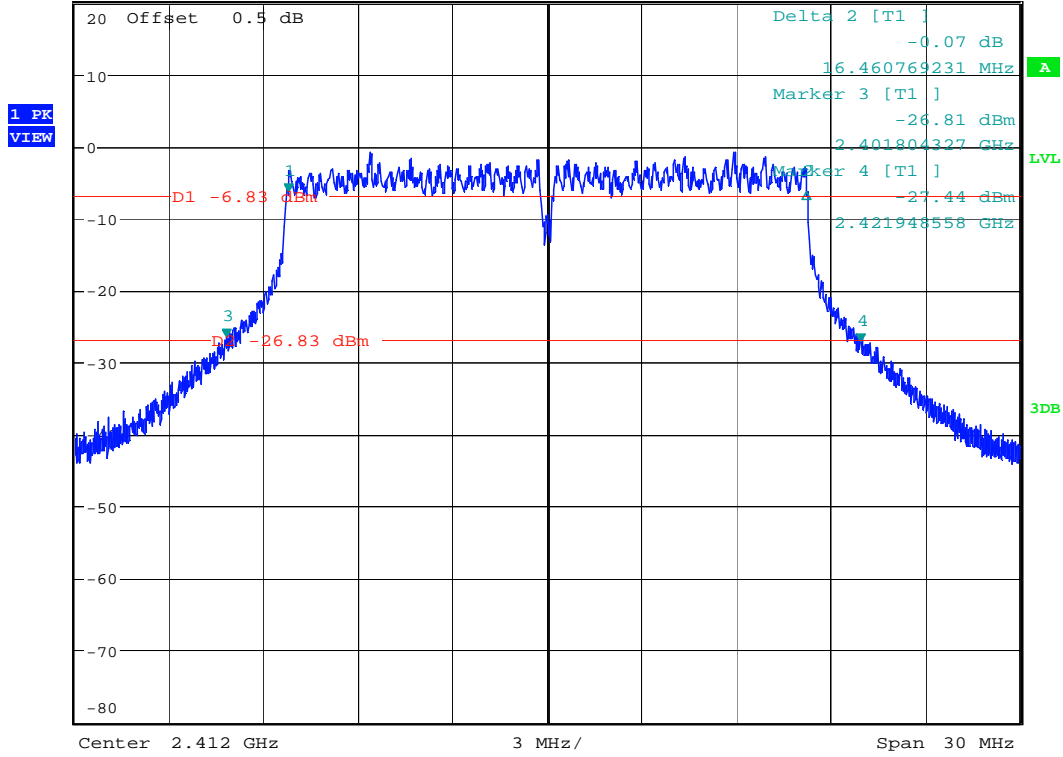
6-dB and 26-dB bandwidths, ch 1, 11 Mbps

Date: 23.MAY.2010 23:25:57

Plot 2.2



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -6.51 dBm
 Ref 20 dBm Att 45 dB SWT 35 ms 2.403757019 GHz



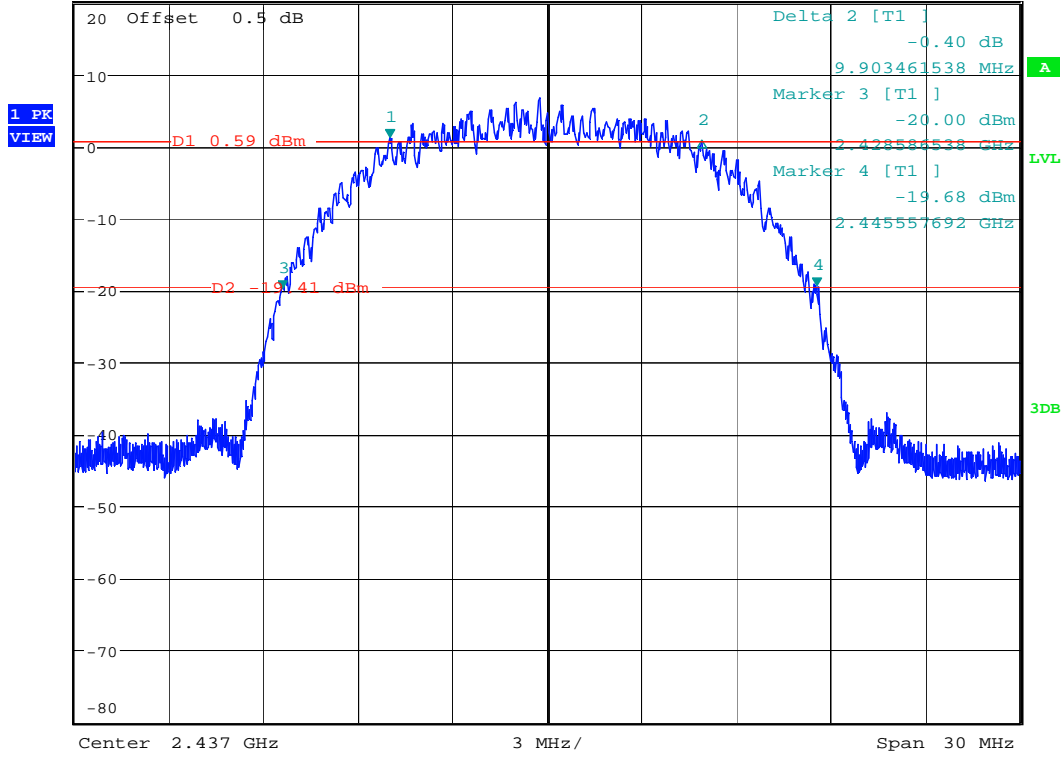
6-dB and 26-dB bandwidths, ch 1, 54 Mbps

Date: 23.MAY.2010 23:34:41

Plot 2.3



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz 0.95 dBm
 Ref 20 dBm Att 45 dB SWT 35 ms 2.432000385 GHz



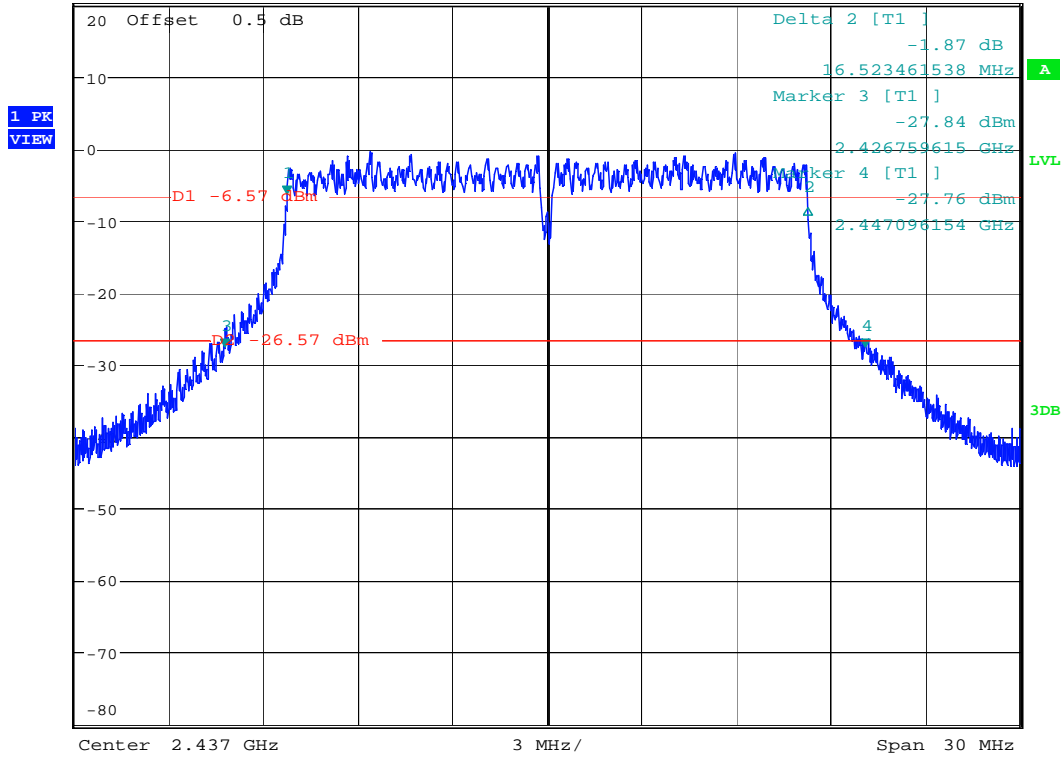
6-dB and 26-dB bandwidths, ch 6, 11 Mbps

Date: 23.MAY.2010 23:41:32

Plot 2.4



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -6.66 dBm
 Ref 20 dBm Att 45 dB SWT 35 ms 2.428745769 GHz



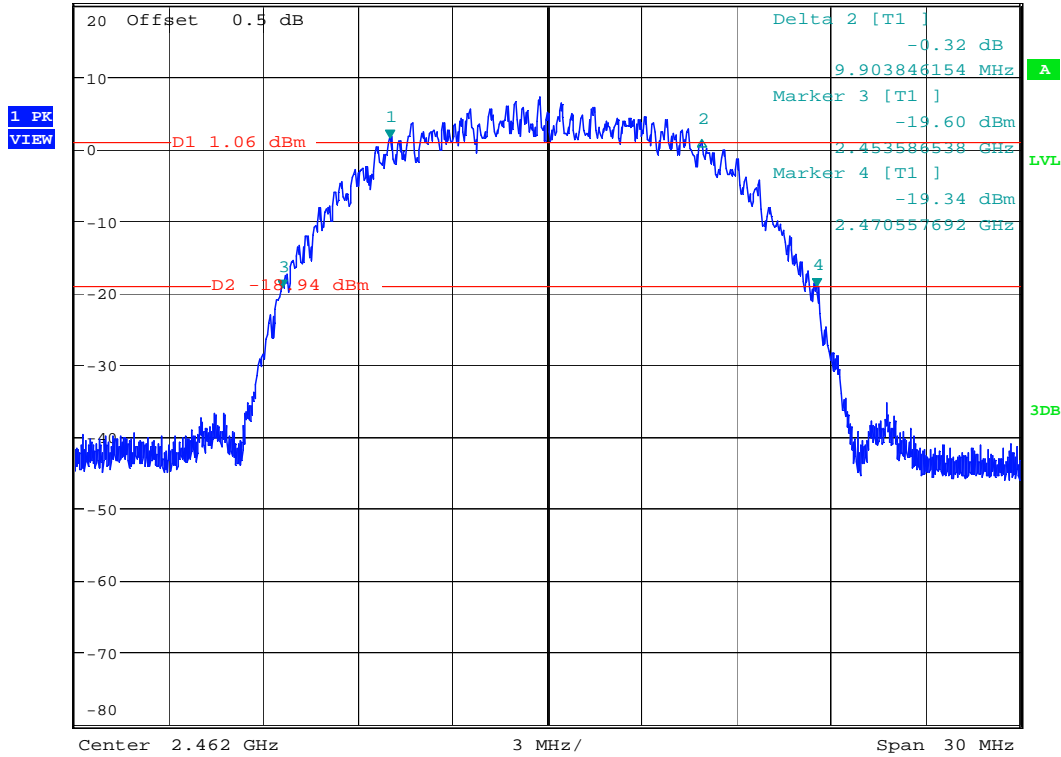
6-dB and 26-dB bandwidths, ch 6, 54 Mbps

Date: 23.MAY.2010 23:44:19

Plot 2.5



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz 1.25 dBm
 Ref 20 dBm Att 45 dB SWT 35 ms 2.456996635 GHz



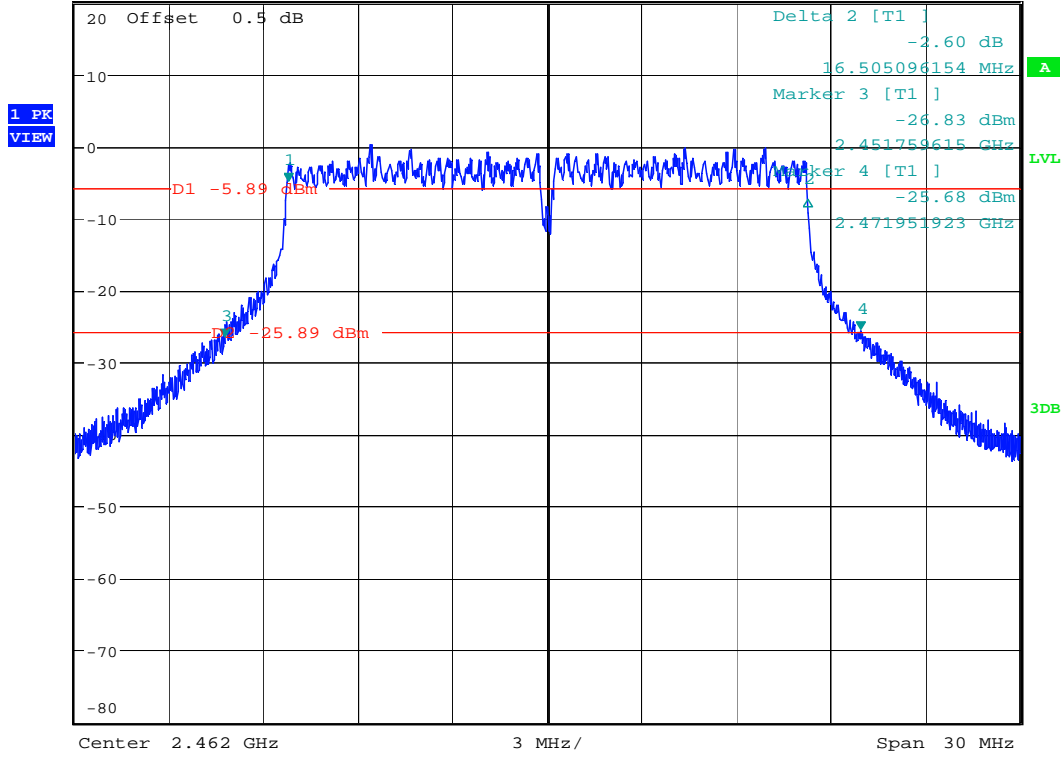
6-dB and 26-dB bandwidths, ch 11, 11 Mbps

Date: 23.MAY.2010 23:48:22

Plot 2.6



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -5.10 dBm
 Ref 20 dBm Att 45 dB SWT 35 ms 2.453760769 GHz



6-dB and 26-dB bandwidths, ch 11, 54 Mbps

Date: 23.MAY.2010 23:50:55



4.3 Power Spectral Density FCC Rule 15.247(e)

4.3.1 Requirement

The peak power spectral density (PSD) shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

4.3.2 Procedure

The antenna port of the EUT was connected to the input of a spectrum analyzer to measure the Average Transmitter Output Power.

For conducted power measurement for FCC Part 15C testing, the procedure “Measurement of Digital Transmission Systems Operating under Section 15.247” is used.

4.3.3 Test Result

The results are presented on the following plots 3.1 – 3.6 and summarized in the table below.

Wi-Fi radio

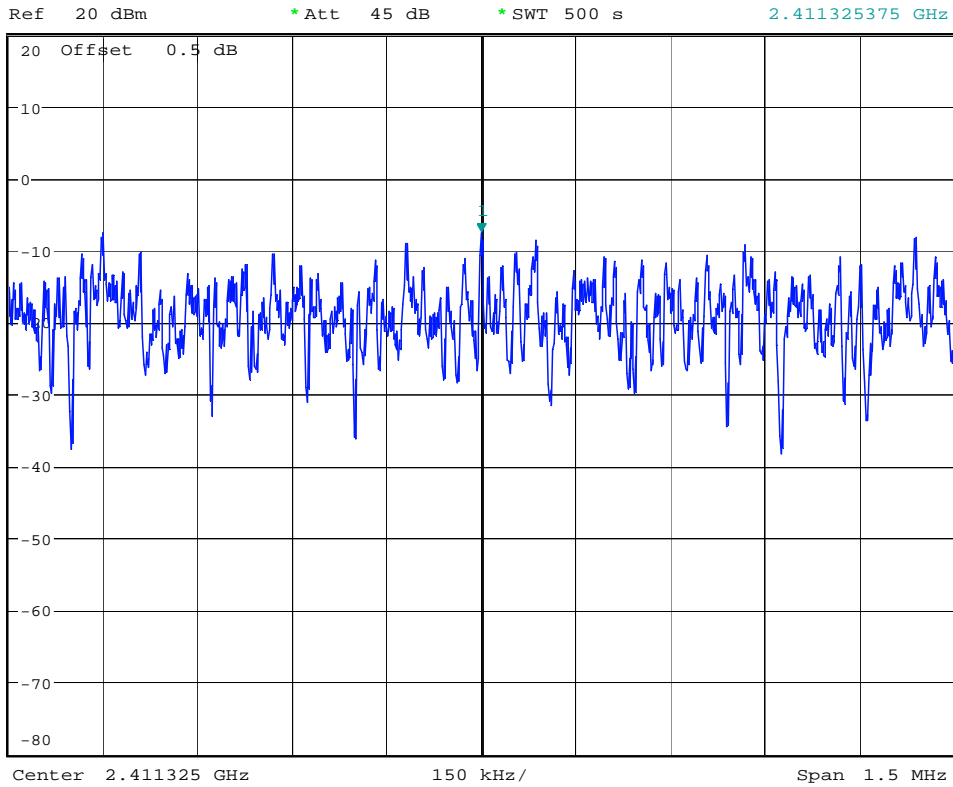
Channel	Frequency MHz	Standard	Data rate Mbps	PSD (average) dBm	PSD Limit dBm	Margin dB	Plot
1	2412	802.11b	11	-7.68	8.0	-15.68	3.1
1	2412	802.11g	54	-14.75	8.0	-22.75	3.2
6	2437	802.11b	11	-7.12	8.0	-15.12	3.3
6	2437	802.11g	54	-14.50	8.0	-22.5	3.4
11	2462	802.11b	11	-6.66	8.0	-14.66	3.5
11	2462	802.11g	54	-13.65	8.0	-21.65	3.6

The EUT passed by 14.66 dB

Plot 3.1



* RBW 3 kHz Marker 1 [T1]
* VBW 10 kHz -7.68 dBm
* SWT 500 s 2.411325375 GHz



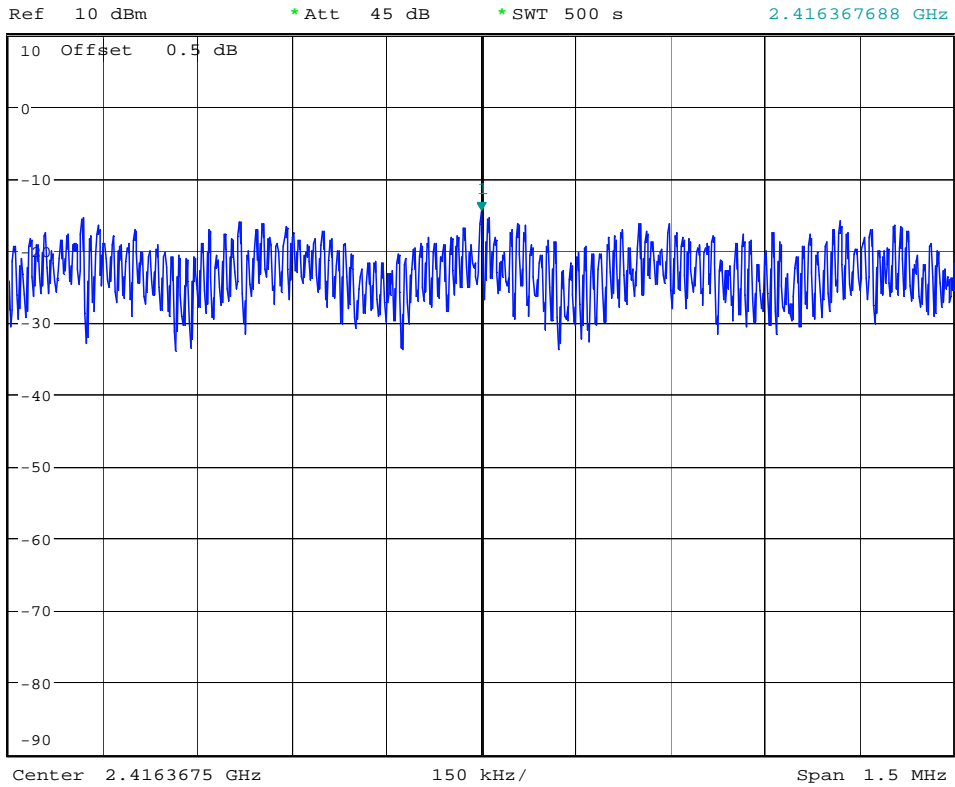
PSD, Ch 1, 11 Mbps

Date: 24.MAY.2010 11:28:07

Plot 3.2



* RBW 3 kHz Marker 1 [T1]
* VBW 10 kHz -14.75 dBm
* SWT 500 s 2.416367688 GHz



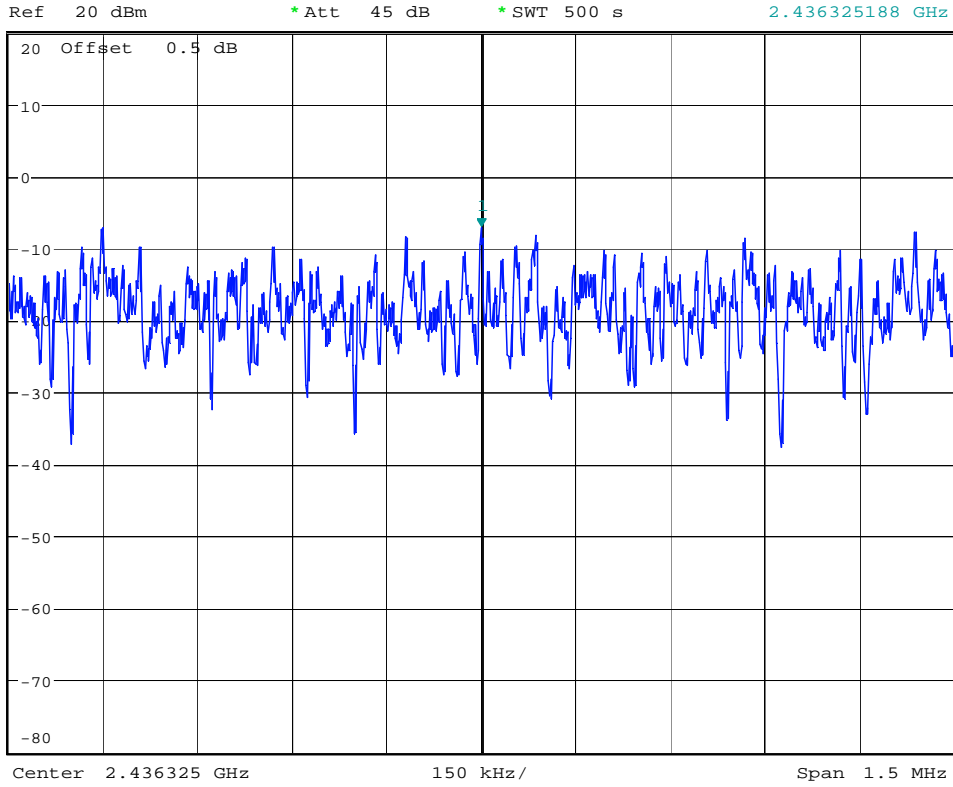
PSD, Ch 1, 54 Mbps

Date: 24.MAY.2010 11:39:05

Plot 3.3



*RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz -7.12 dBm
*SWT 500 s 2.436325188 GHz



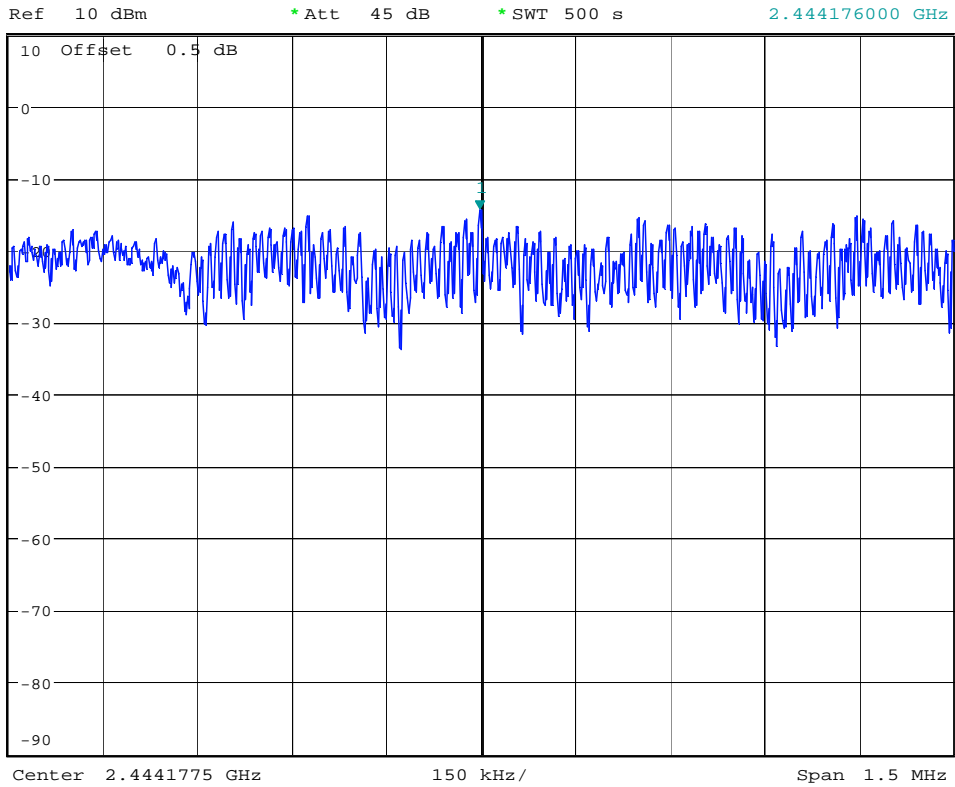
PSD, Ch 6, 11 Mbps

Date: 24.MAY.2010 11:50:07

Plot 3.4



*RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz -14.50 dBm
*SWT 500 s 2.444176000 GHz



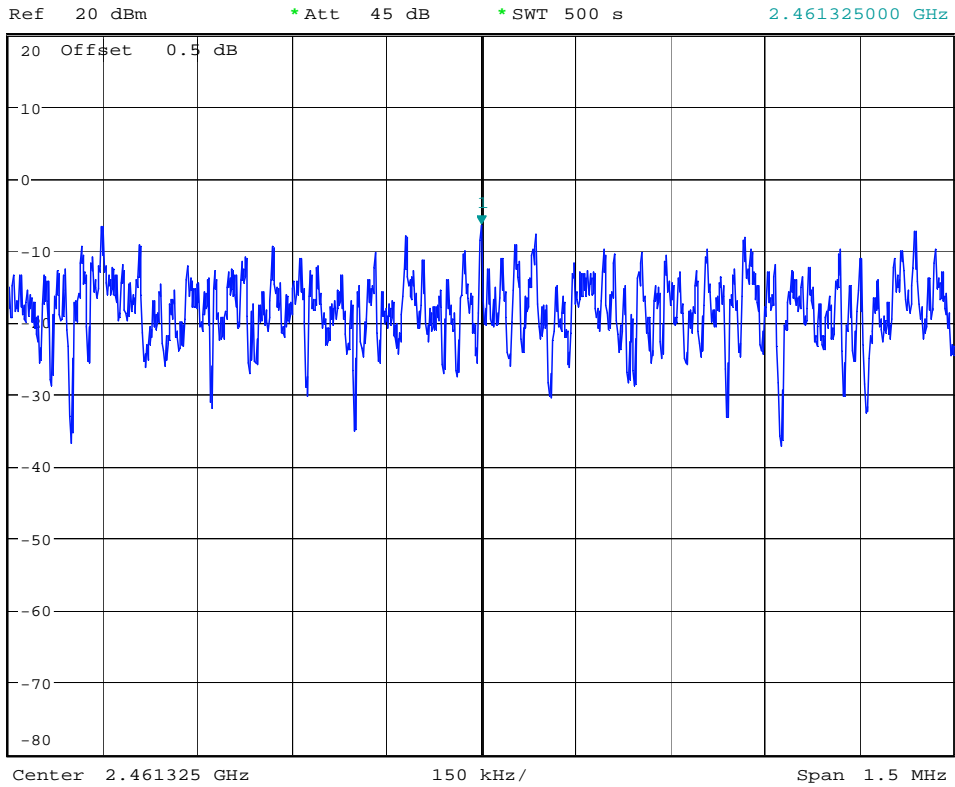
PSD, Ch 6, 54 Mbps

Date: 24.MAY.2010 12:01:08

Plot 3.5



*RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz -6.66 dBm
*SWT 500 s 2.461325000 GHz



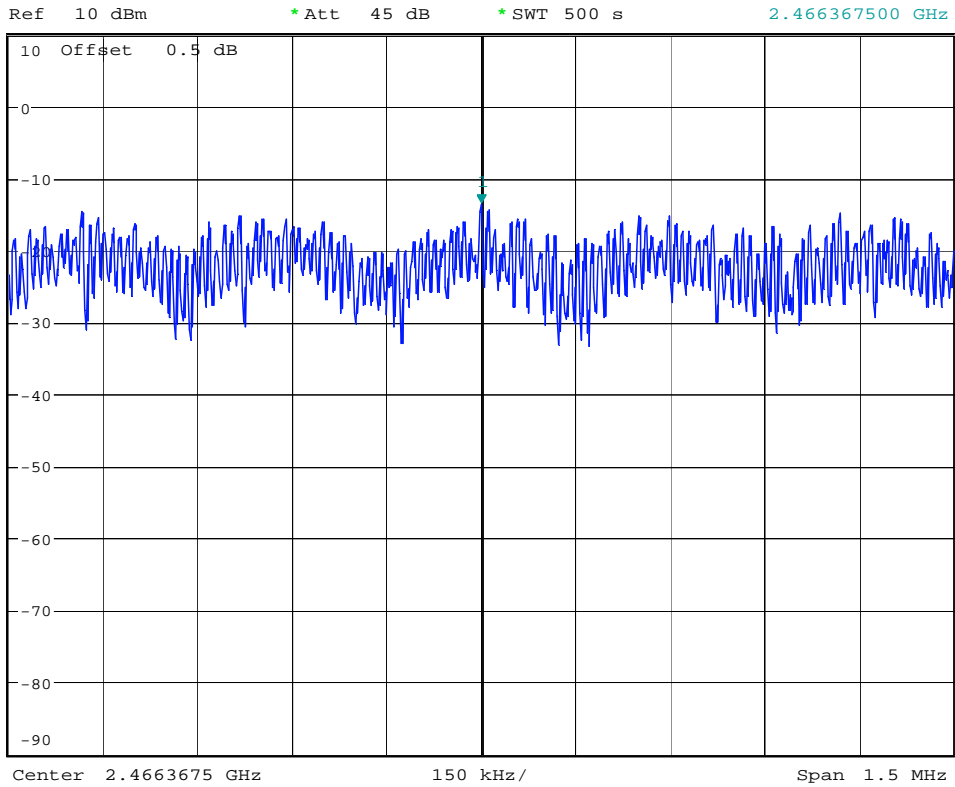
PSD, Ch 11, 11 Mbps

Date: 24.MAY.2010 12:11:10

Plot 3.6



*RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz -13.65 dBm
*SWT 500 s 2.466367500 GHz



PSD, Ch 11, 54 Mbps

Date: 24.MAY.2010 12:23:01



4.4 Out-of-Band Conducted Emissions, FCC Rule 15.247(d)

4.4.1 Requirement

In any 100 kHz bandwidths outside the EUT pass-band, the RF power shall be at least 20dB (peak) or 30 dB (average) below that of the maximum in-band 100 kHz emissions.

4.4.2 Procedure

A spectrum analyzer was connected to the antenna port of the transmitter. Analyzer Resolution Bandwidth was set to 100 kHz. For each channel investigated, the in-band and out-of-band emission measurements were performed using the peak detector. The out-of-band emissions were measured from 30 MHz to 25 GHz.

4.4.3 Test Result

Refer to the table below and plots of Wi-Fi radio when Bluetooth radio was simultaneously ON. The EUT is passed (see plots 4.1 to 4.18).

Wi-Fi radio

Frequency (MHz)	Channel	Standard	Data rate Mbps	Description	Plot
2412	1	802.11b	11	In-band	4.1
	1	802.11b	11	Scan 30 MHz – 25 GHz	4.2, 4.3
	1	802.11g	54	In-band	4.4
	1	802.11g	54	Scan 30 MHz – 25 GHz	4.5, 4.6
2437	6	802.11b	11	In-band	4.7
	6	802.11b	11	Scan 30 MHz – 25 GHz	4.8, 4.9
	6	802.11g	54	In-band	4.10
	6	802.11g	54	Scan 30 MHz – 25 GHz	4.11, 4.12
2462	11	802.11b	11	In-band	4.13
	11	802.11b	11	Scan 30 MHz – 25 GHz	4.14, 4.15
	11	802.11g	54	In-band	4.16
	11	802.11g	54	Scan 30 MHz – 25 GHz	4.17, 4.18

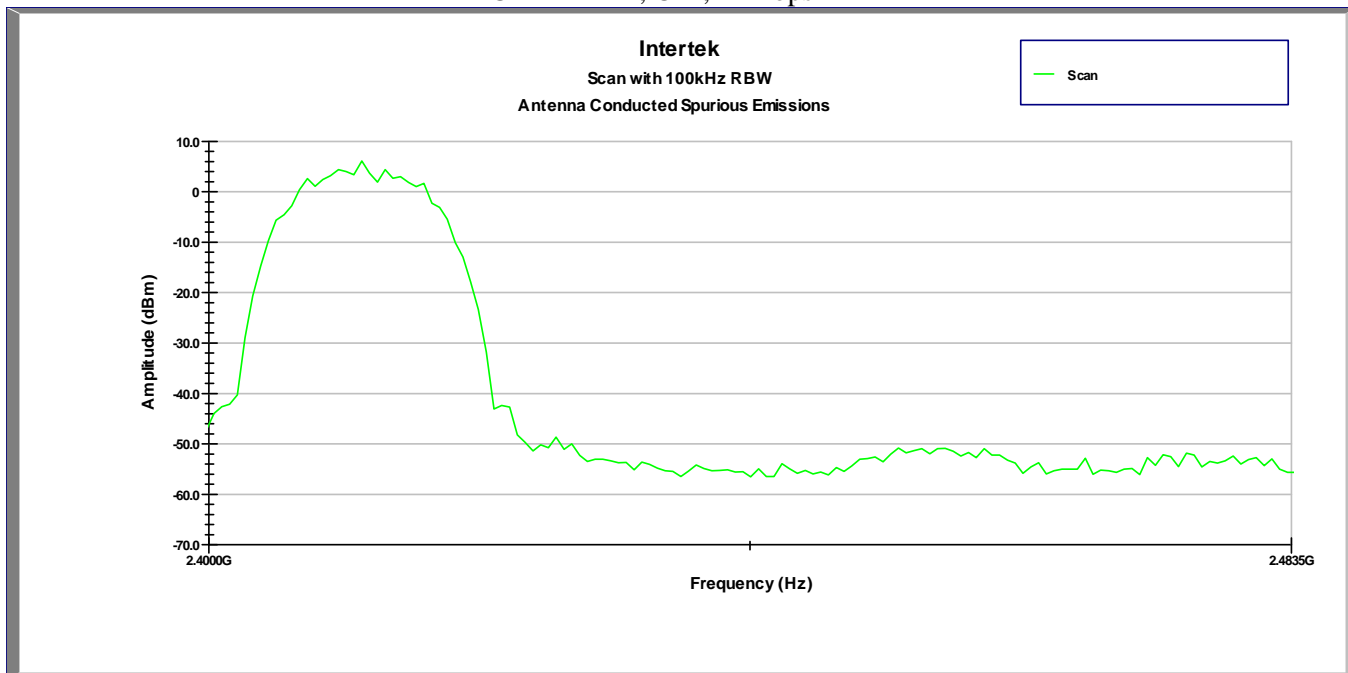


Refer to the table below and plots of Bluetooth radio when Wi-Fi radio was simultaneously ON. The EUT is passed (see plots 4.19 to 4.27).

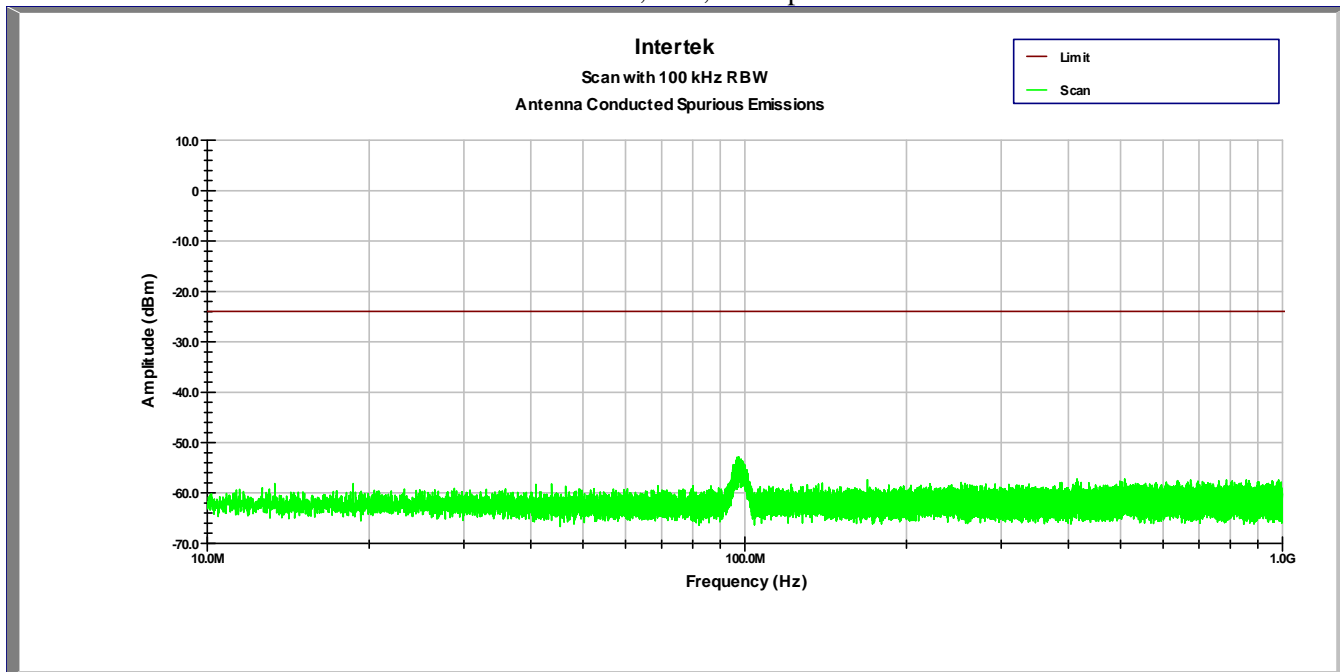
Bluetooth radio

Frequency (MHz)	Channel	Modulation	Description	Plot
2402	1	FHSS	In-band	4.19
	1	FHSS	Scan 30 MHz – 25 GHz	4.20, 4.21
2441	40	FHSS	In-band	4.22
	40	FHSS	Scan 30 MHz – 25 GHz	4.23, 4.24
2480	79	FHSS	In-band	4.25
	79	FHSS	Scan 30 MHz – 25 GHz	4.26, 4.27

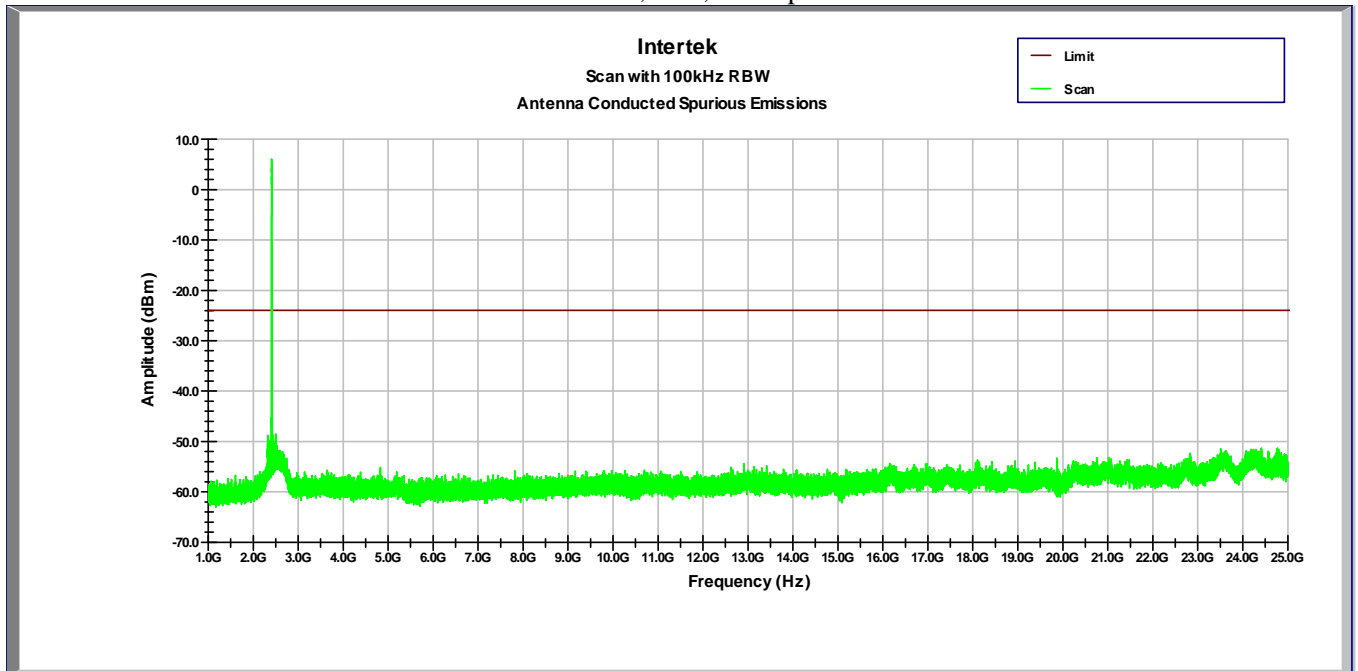
Plot 4.1
Tx @ 2412MHz, Ch1, 11Mbps



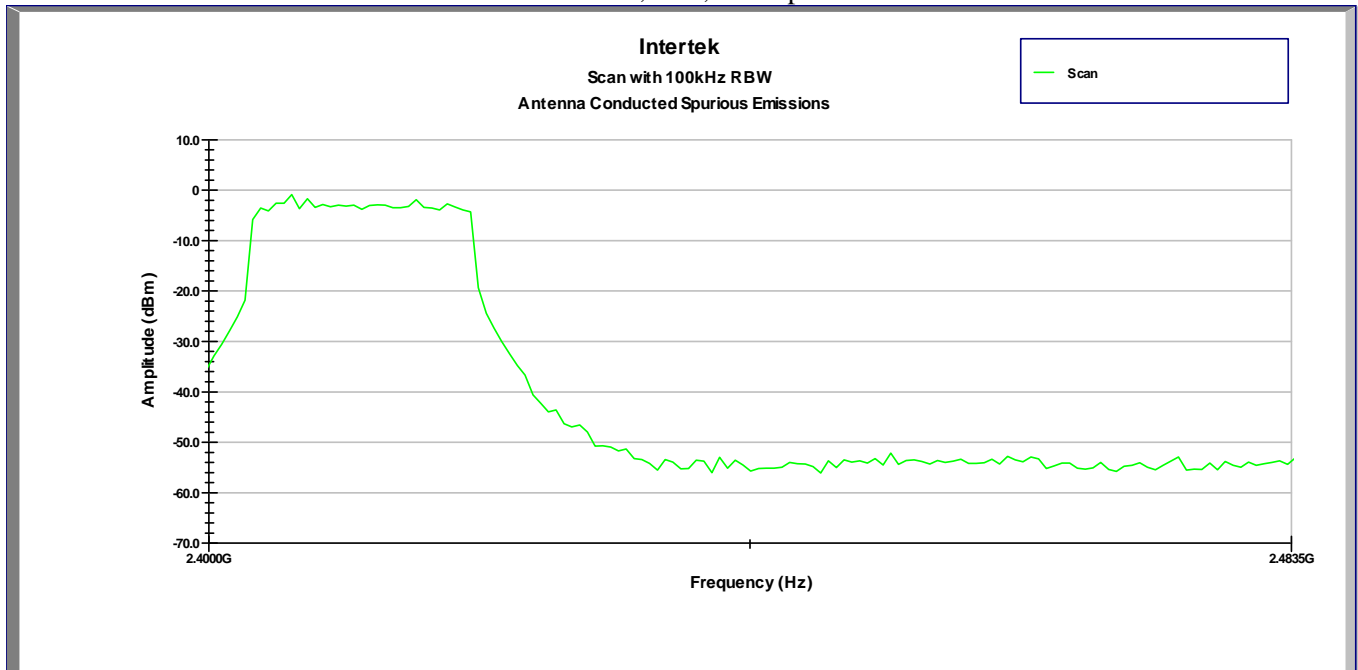
Plot 4.2
Tx @ 2412MHz, Ch1, 11Mbps



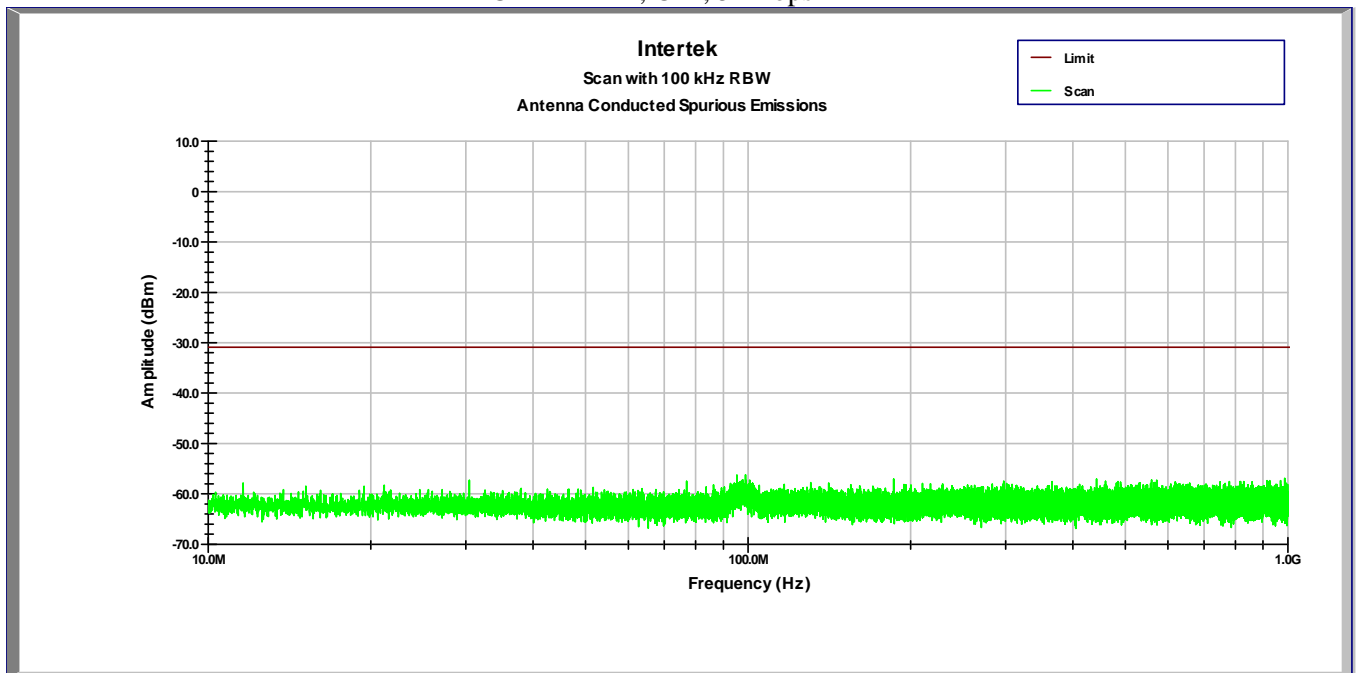
Plot 4.3
Tx @ 2412MHz, Ch1, 11Mbps



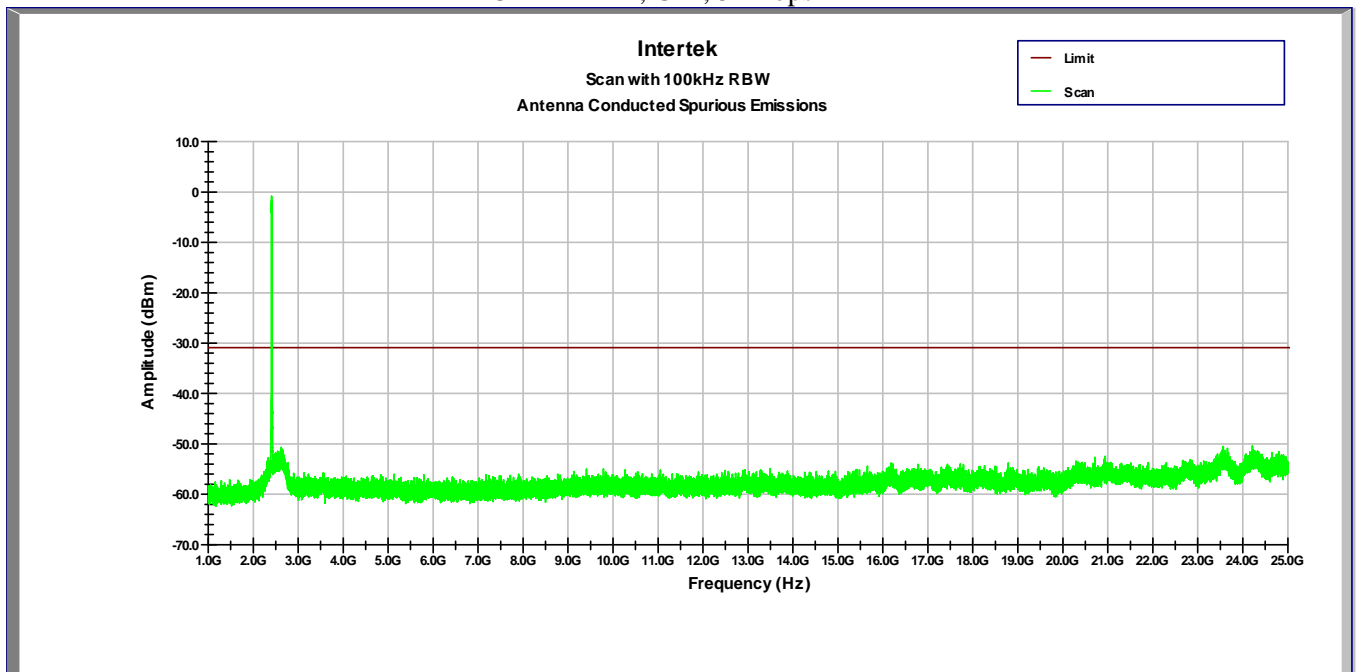
Plot 4.4
Tx @ 2412MHz, Ch1, 54Mbps



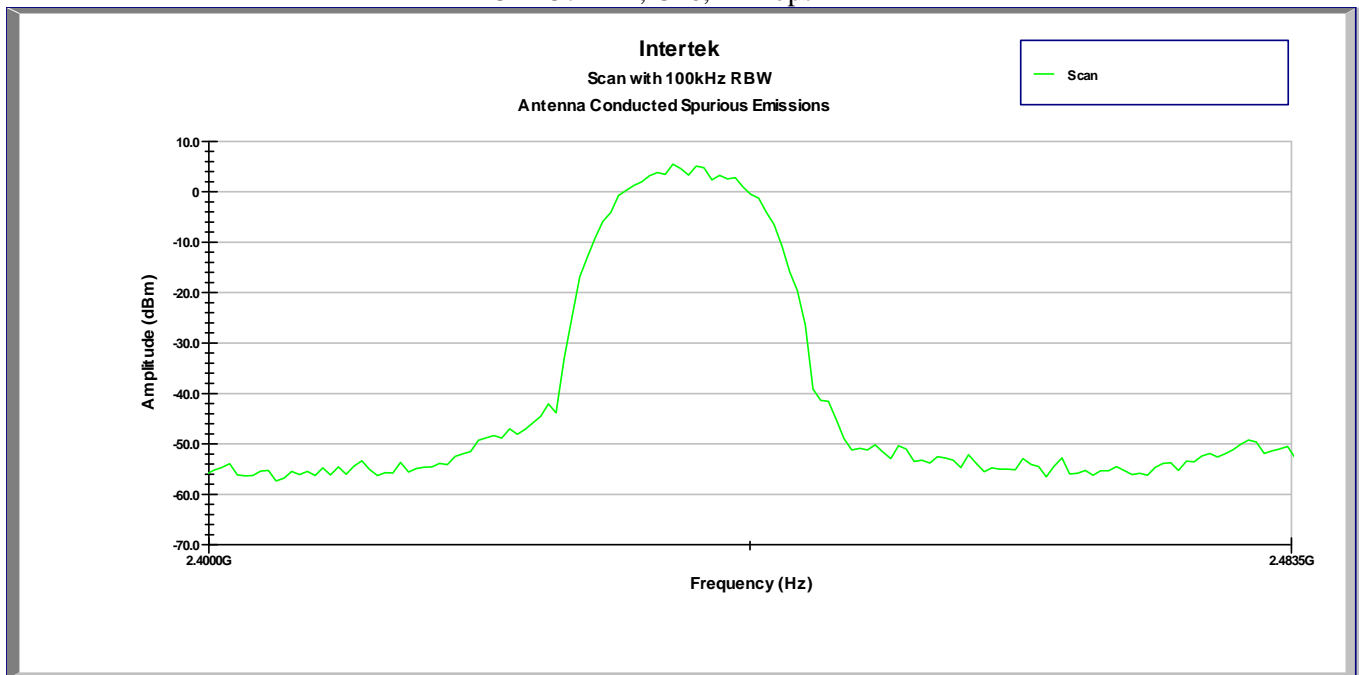
Plot 4.5
Tx @ 2412MHz, Ch1, 54Mbps



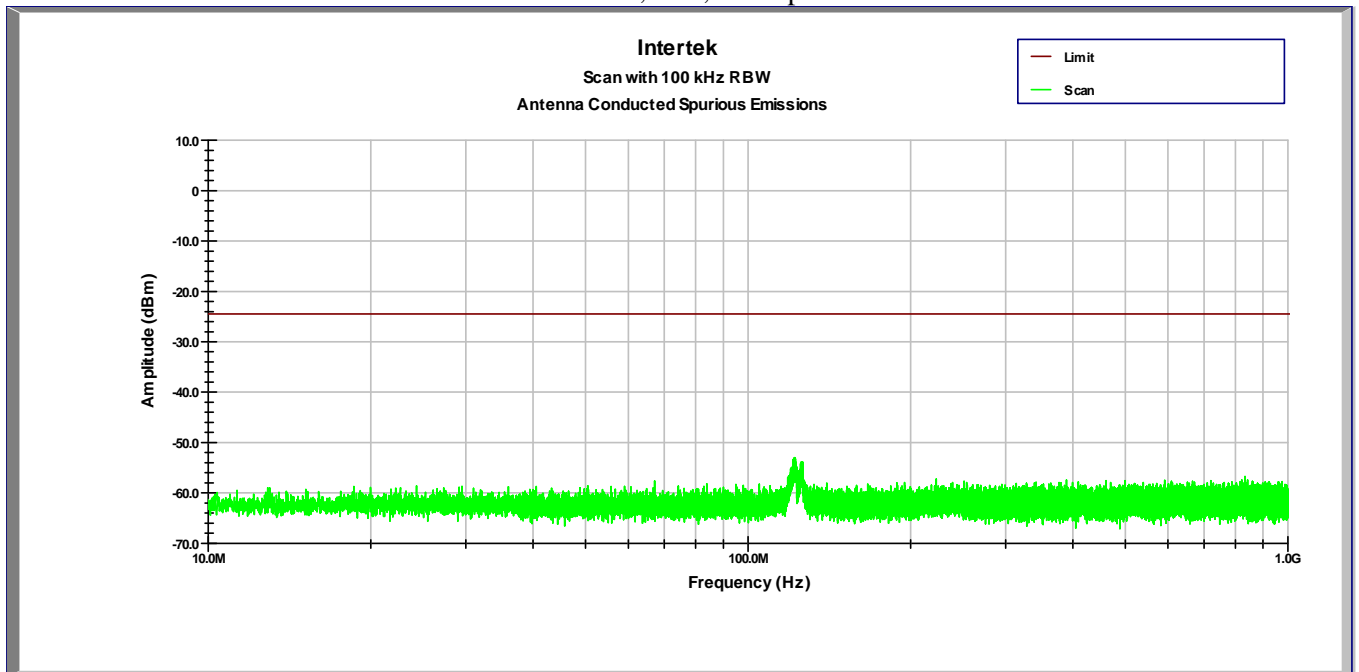
Plot 4.6
Tx @ 2412MHz, Ch1, 54Mbps



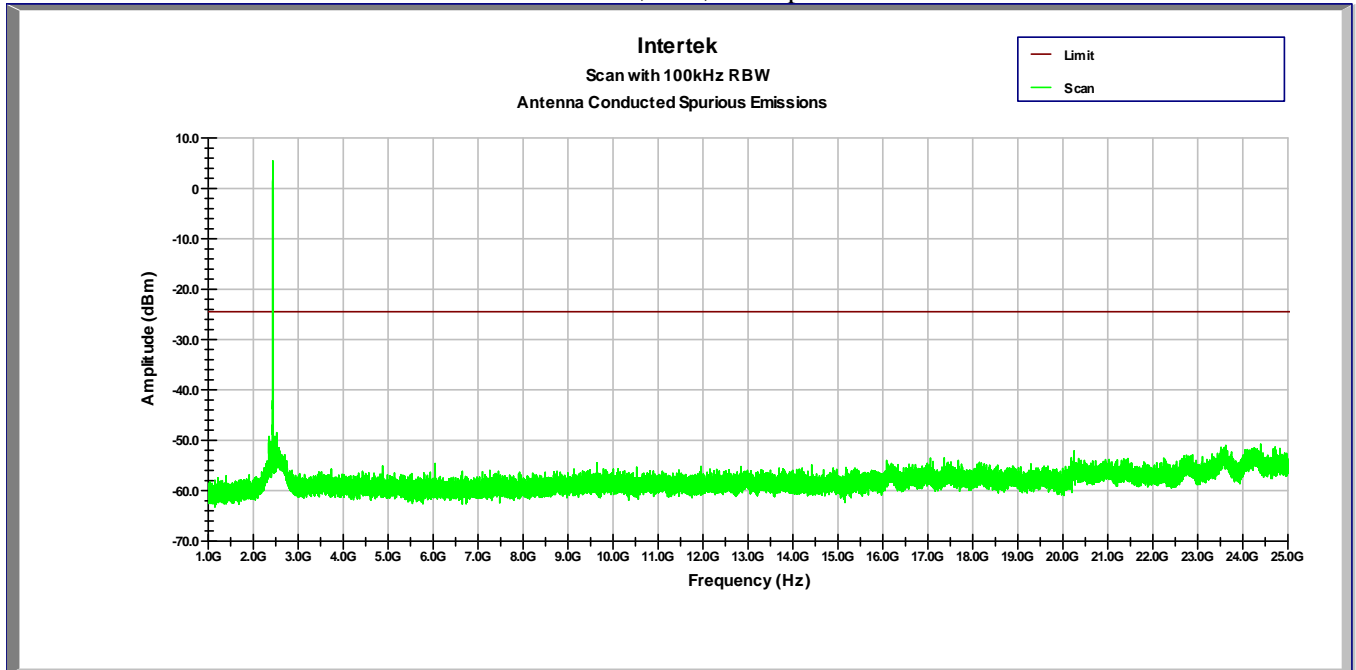
Plot 4.7
Tx @ 2437MHz, Ch6, 11Mbps



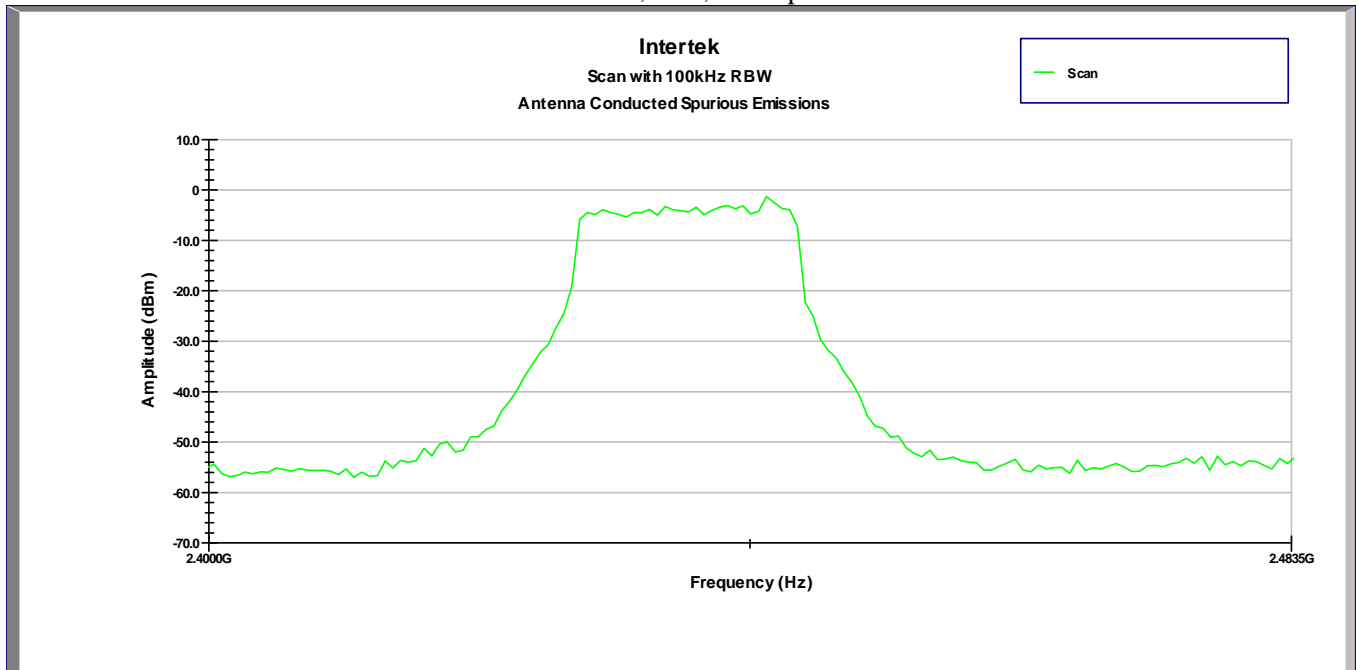
Plot 4.8
Tx @ 2437MHz, Ch6, 11Mbps



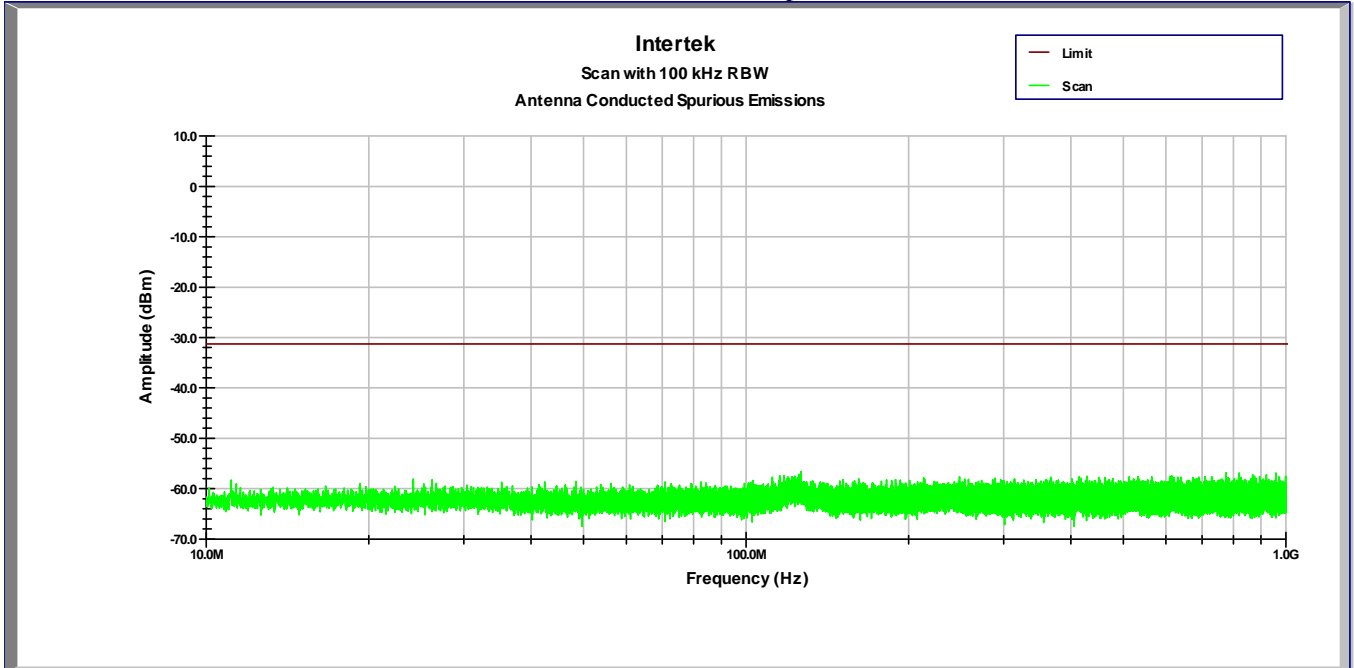
Plot 4.9
Tx @ 2437MHz, Ch6, 11Mbps



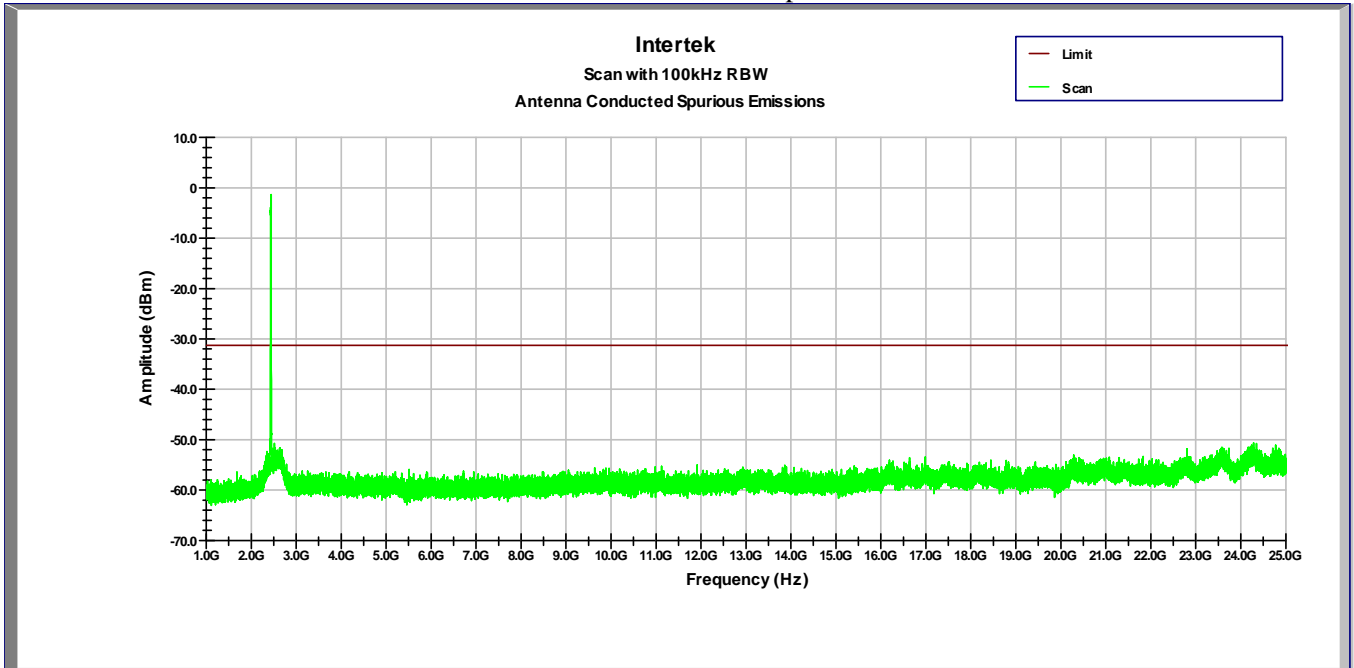
Plot 4.10
Tx @ 2437MHz, Ch6, 54Mbps



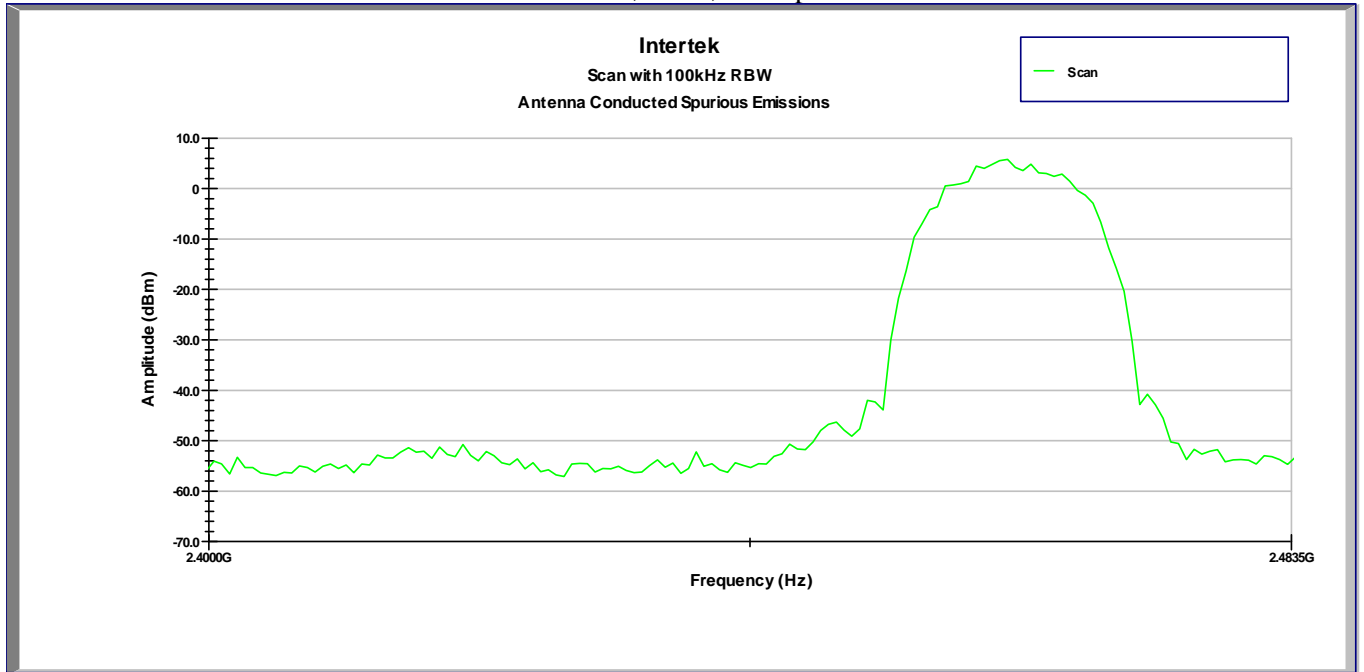
Plot 4.11
Tx @ 2437MHz, Ch6, 54Mbps



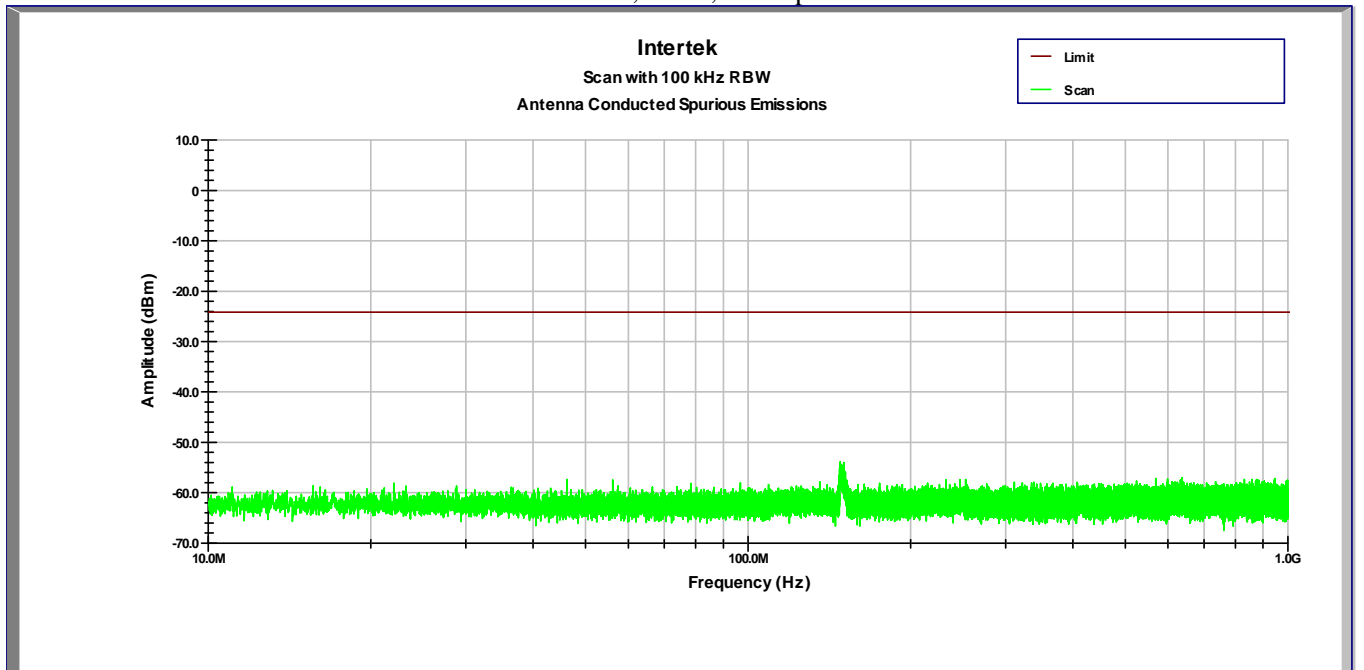
Plot 4.12
Tx @ 2437MHz, Ch6, 54Mbps



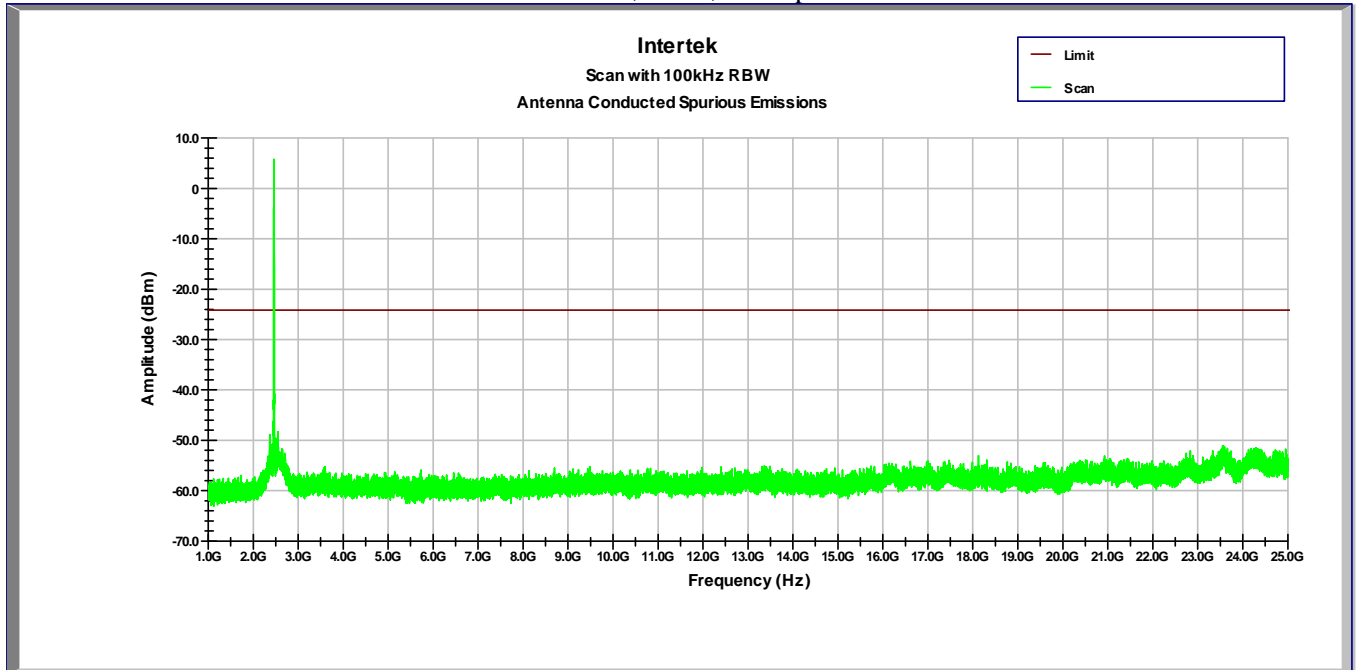
Plot 4.13
Tx @ 2462MHz, Ch11, 11Mbps



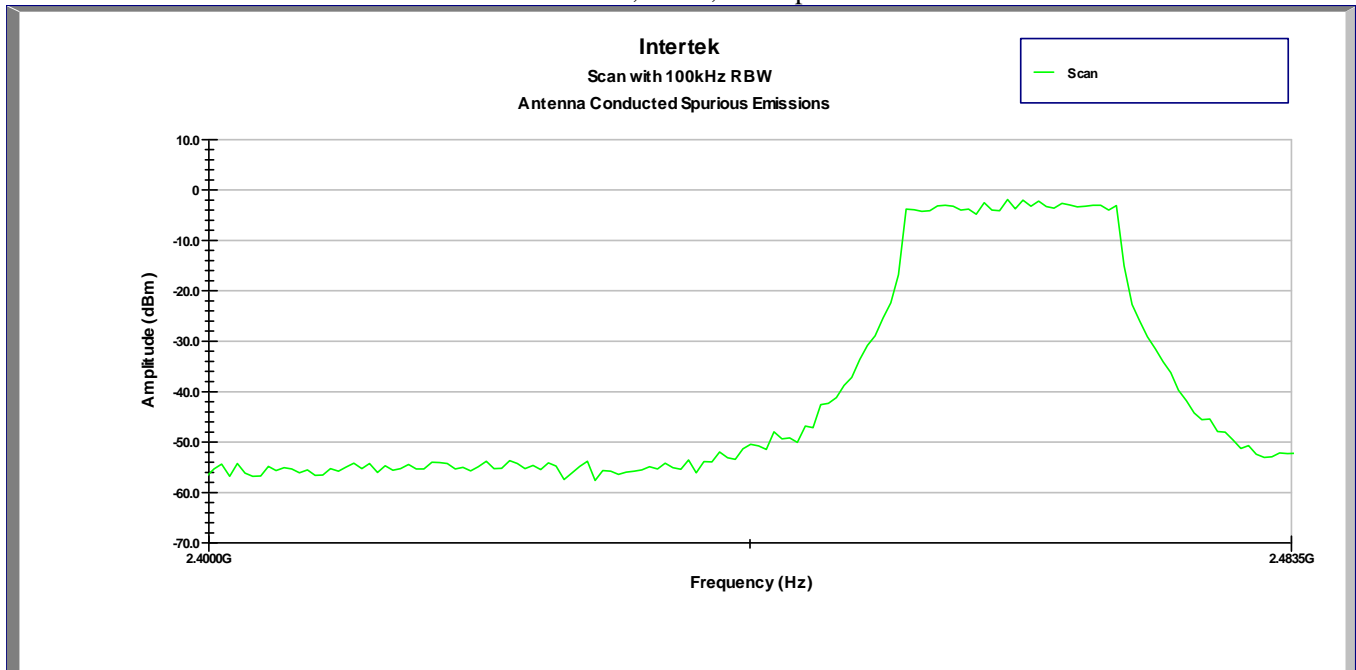
Plot 4.14
Tx @ 2462MHz, Ch11, 11Mbps



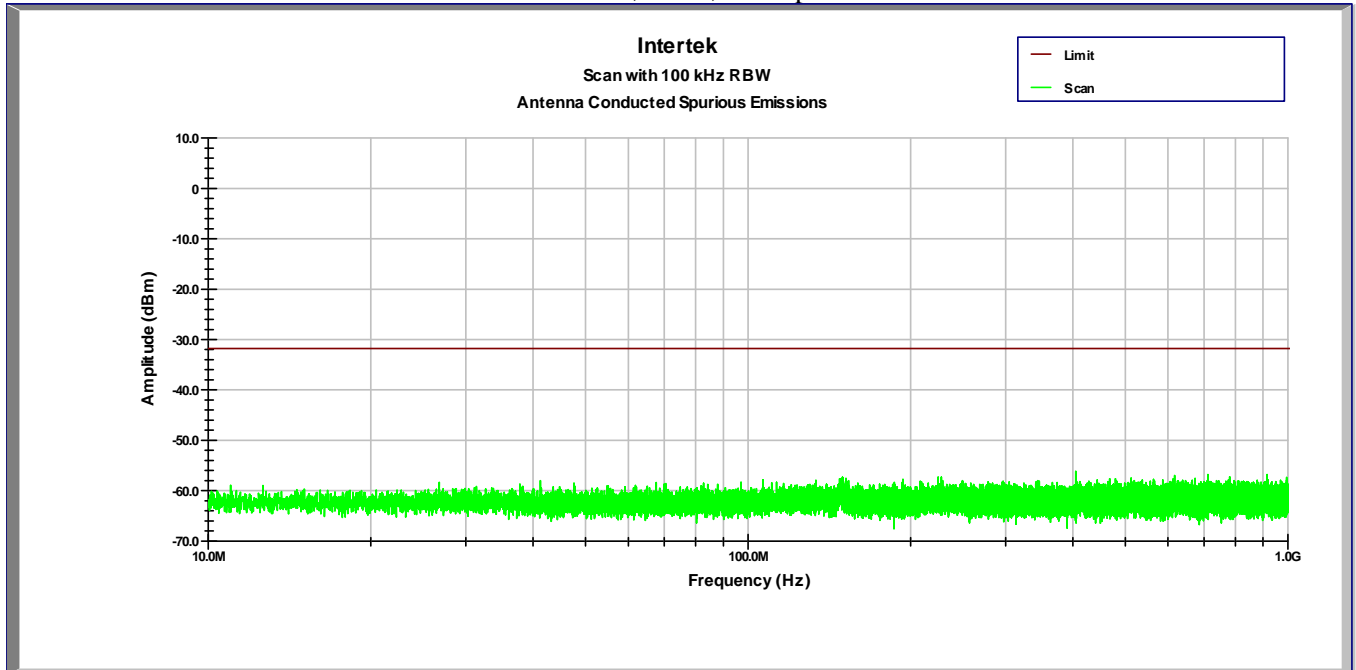
Plot 4.15
Tx @ 2462MHz, Ch11, 11Mbps



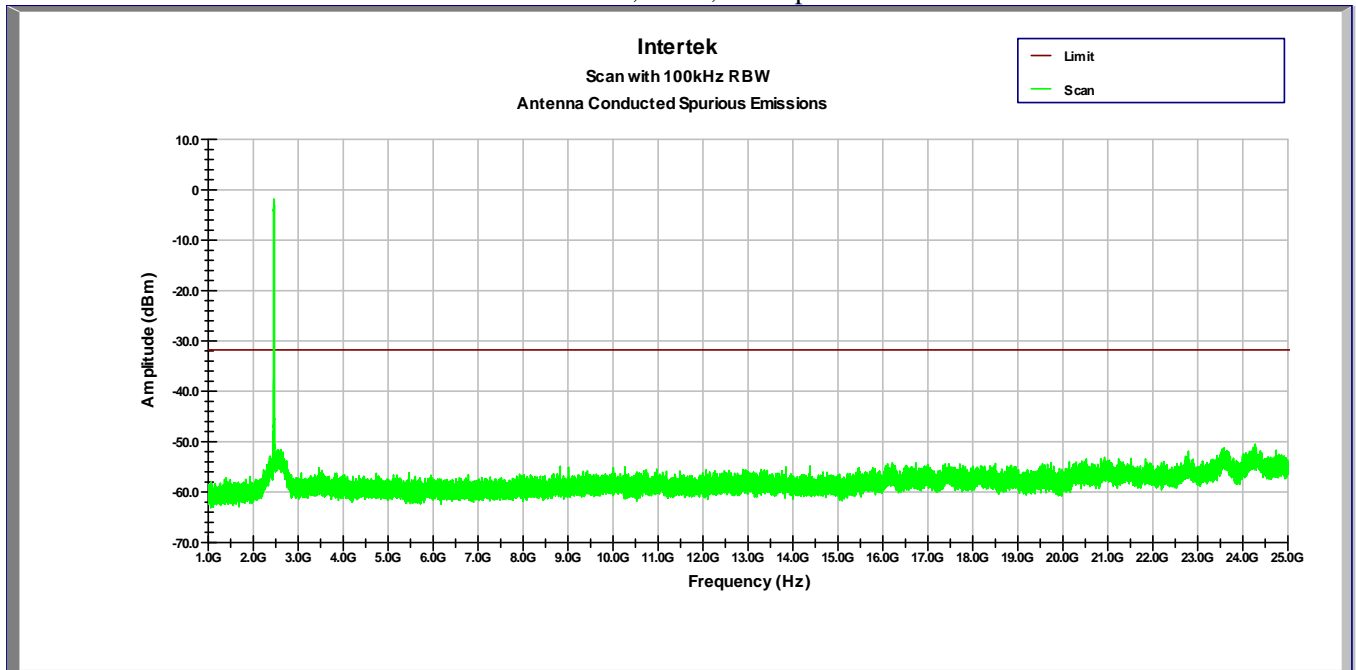
Plot 4.16
Tx @ 2462MHz, Ch11, 54Mbps



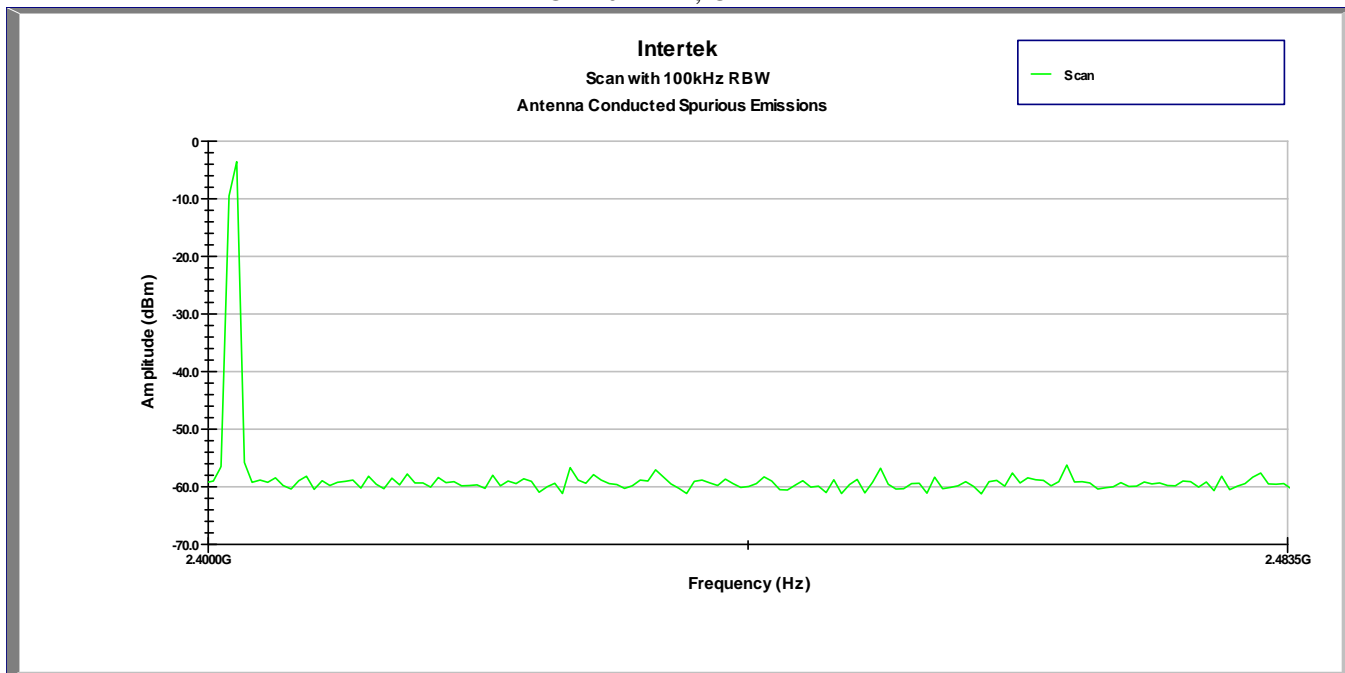
Plot 4.17
Tx @ 2462MHz, Ch11, 54Mbps



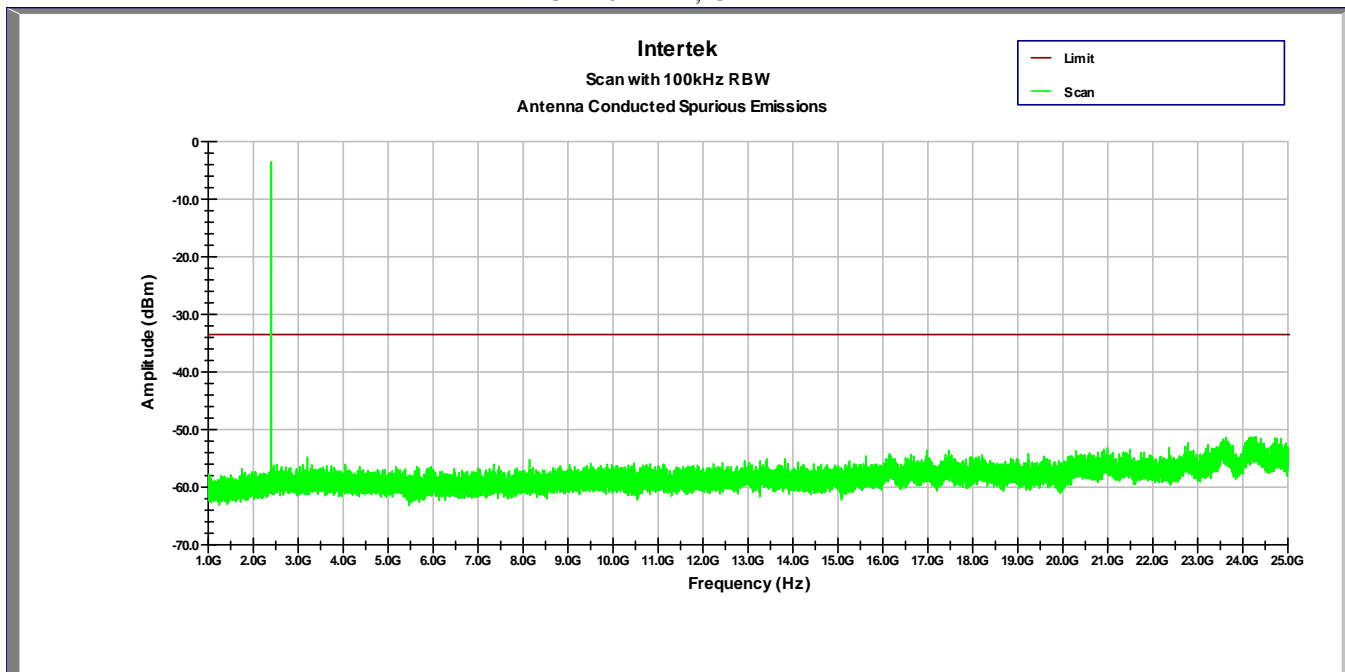
Plot 4.18
Tx @ 2462MHz, Ch11, 54Mbps



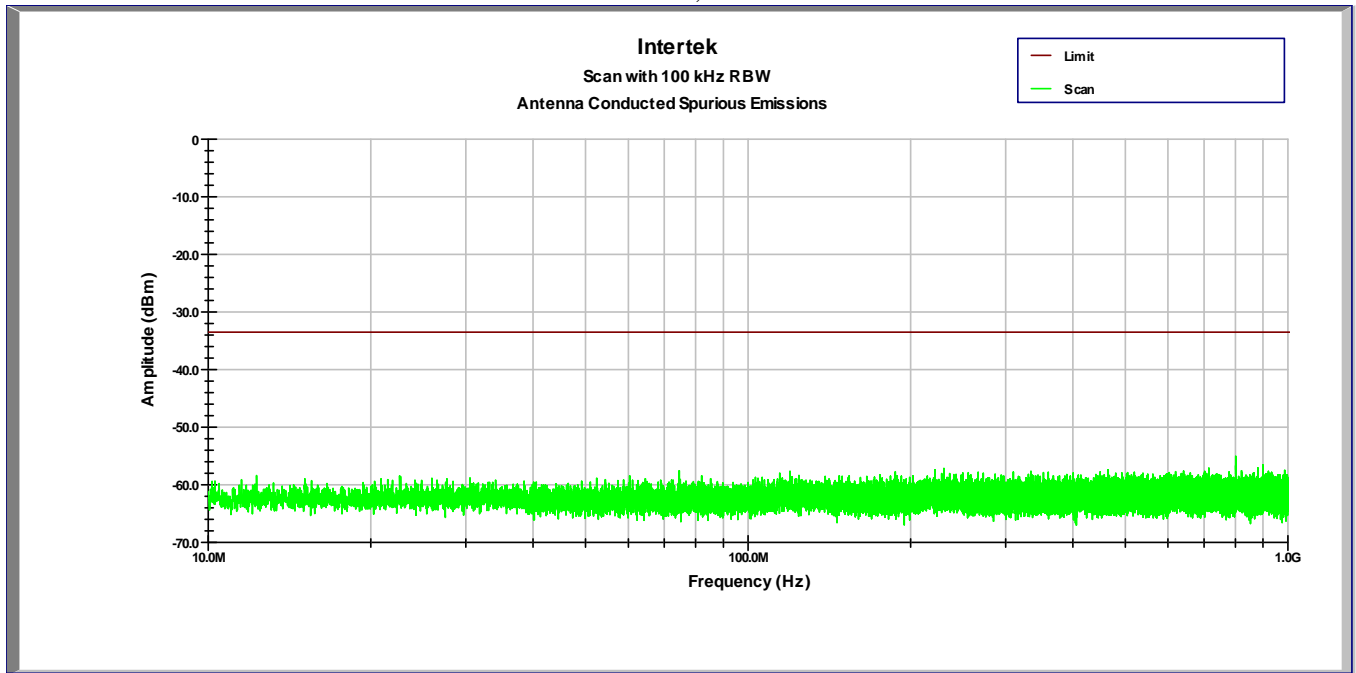
Plot 4.19
Tx @ 2402MHz, Ch1



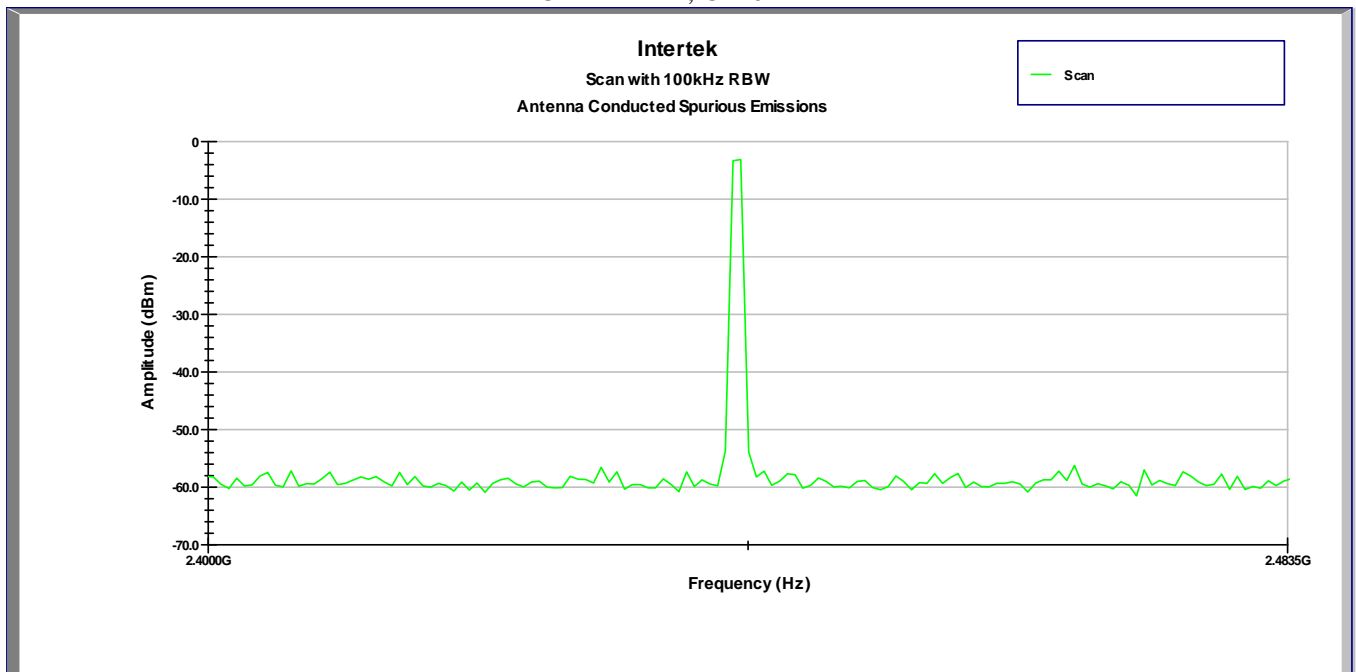
Plot 4.20
Tx @ 2402MHz, Ch1



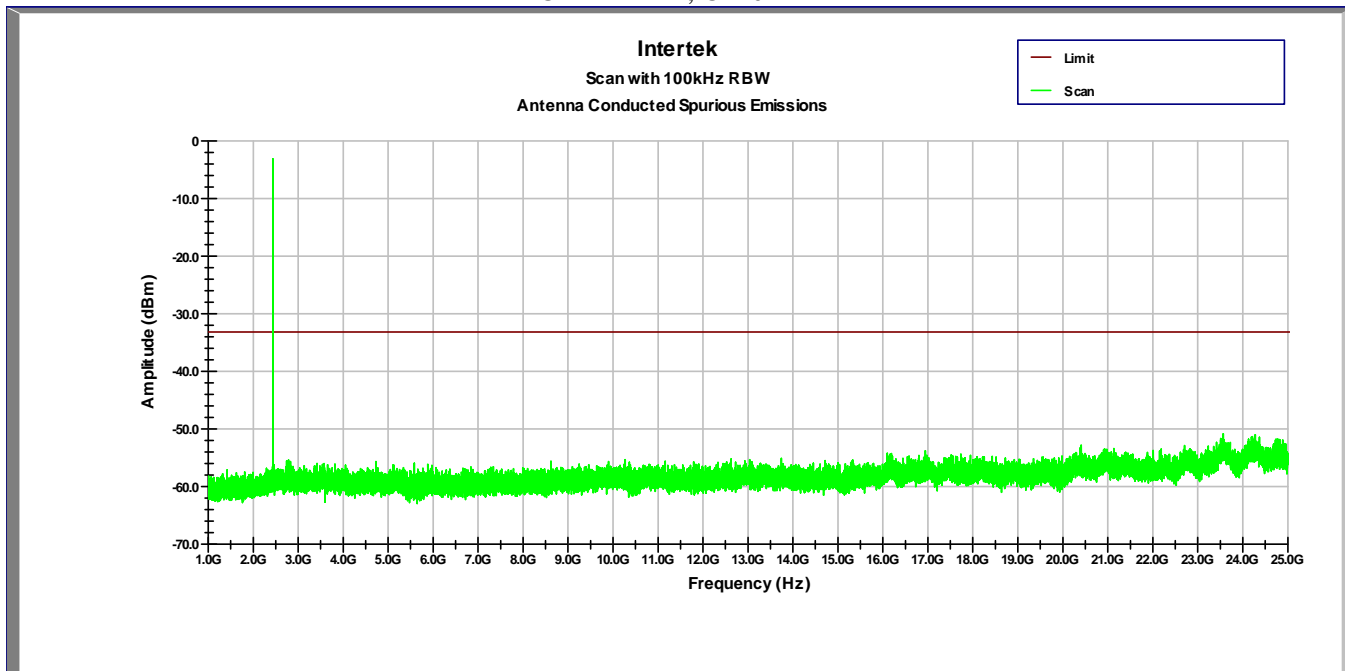
Plot 4.21
Tx @ 2402MHz, Ch1



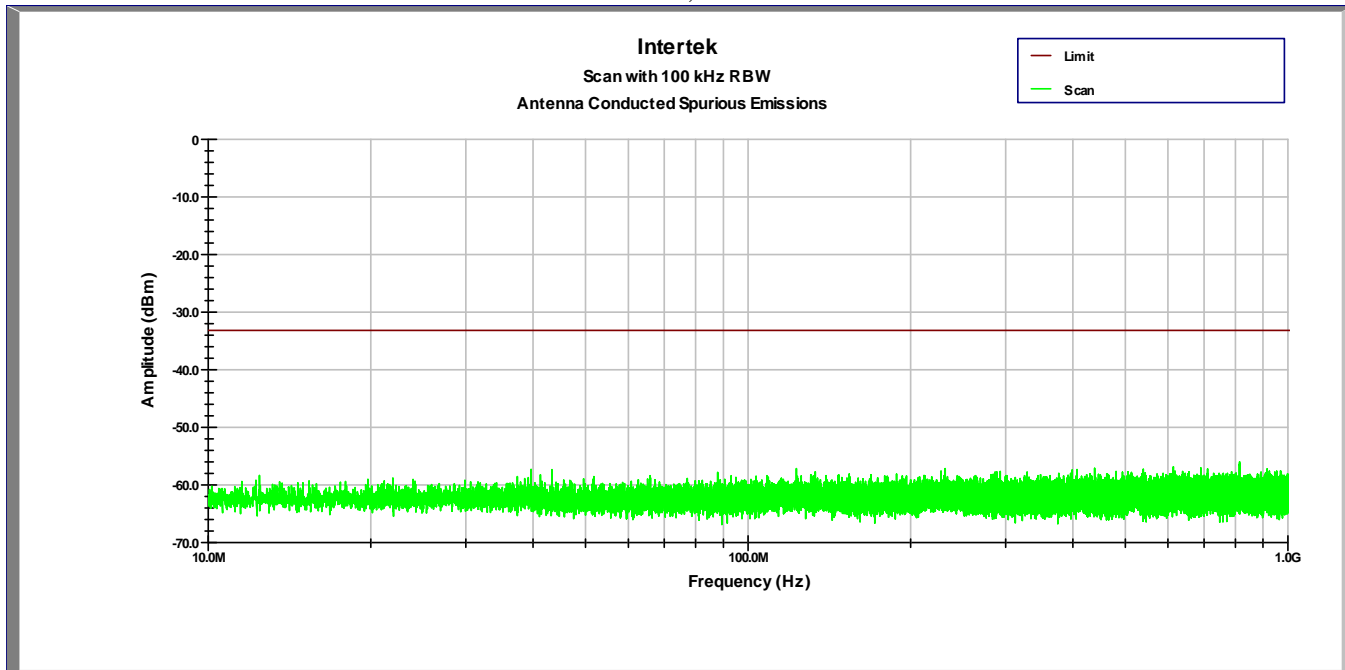
Plot 4.22
Tx @ 2441MHz, Ch40



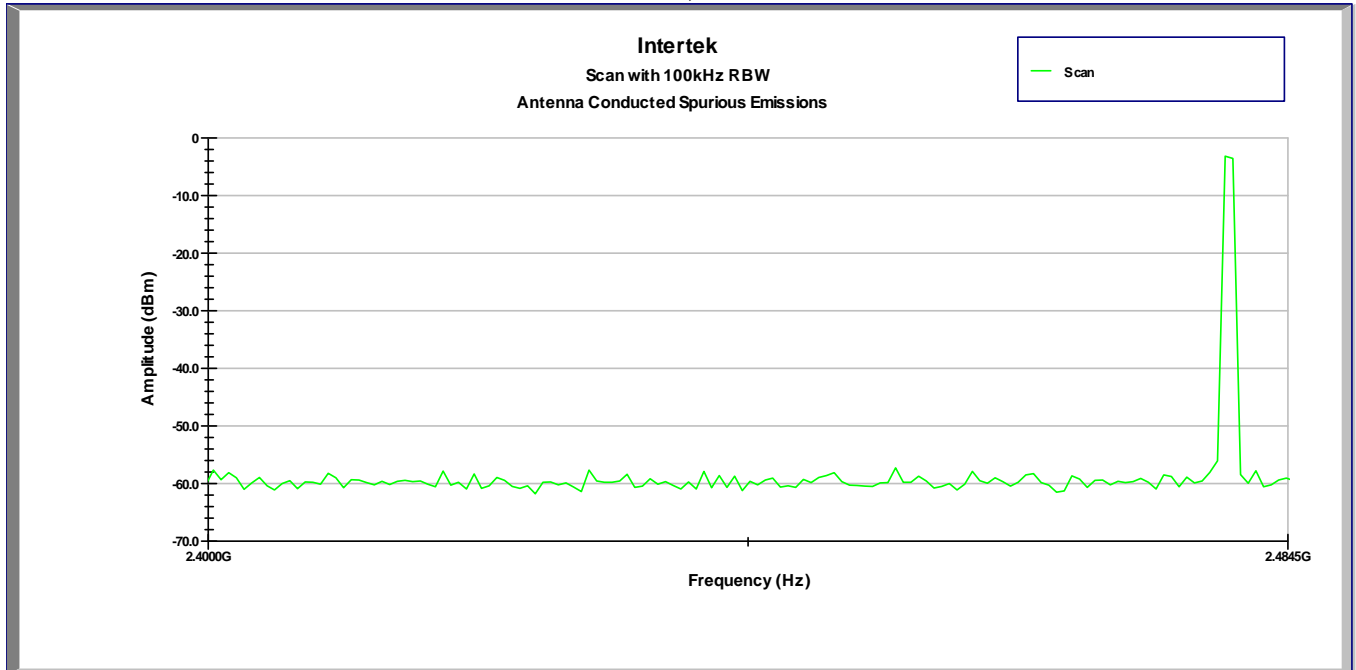
Plot 4.23
Tx @ 2441MHz, Ch40



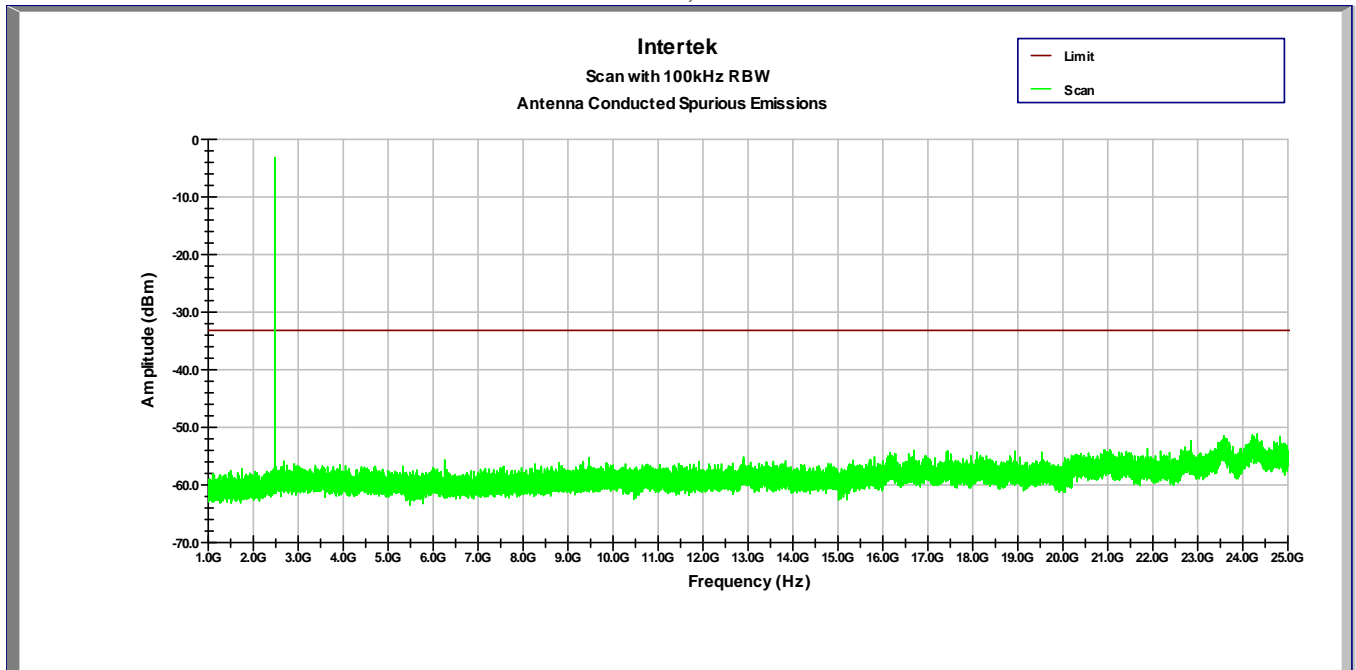
Plot 4.24
Tx @ 2441MHz, Ch40



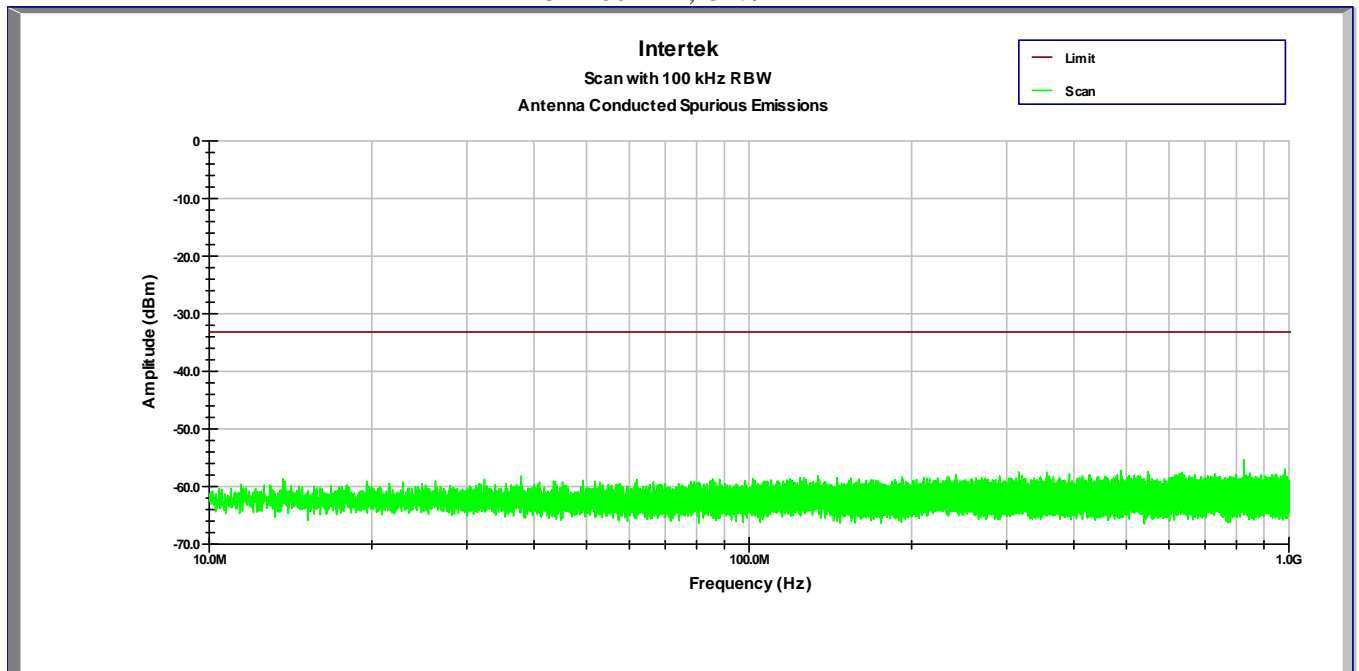
Plot 4.25
Tx @ 2480MHz, Ch79



Plot 4.26
Tx @ 2480MHz, Ch79



Plot 4.27
Tx @ 2480MHz, Ch79





4.5 Transmitter Radiated Emissions , FCC Rule 15.247(d), 15.209, 15.205

4.5.1 Requirement

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

For out of band radiated emissions (except for frequencies in restricted bands), in any 100 kHz bandwidths outside the EUT pass-band, the RF power shall be at least 20dB (peak) or 30 dB (average) below that of the maximum in-band 100 kHz emissions.

4.5.2 Procedure

Radiated emission measurements were performed from 30 MHz to 25,000 MHz. Spectrum Analyzer Resolution Bandwidth is 100 kHz or greater for frequencies 30 MHz to 1000 MHz, 1 MHz for frequencies above 1000 MHz.

The EUT is placed on a plastic turntable that is 80 cm in height. If the EUT attaches to peripherals, they are connected and operational (as typical as possible). During testing, all cables were manipulated to produce worst-case emissions. The signal is maximized through rotation. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters.

Radiated emissions are taken at three meters for frequencies above 1 GHz and at 10 meters for frequencies below 1 GHz.

Data is included of the worst-case configuration (the configuration which resulted in the highest emission levels).



4.5.3 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$FS = RA + AF + CF - AG$; if measurement is performed at a distance other than specified in the rule, a Distance Correction Factor (DCF) shall be added.

Where FS = Field Strength in dB(μ V/m)

RA = Receiver Amplitude (including preamplifier) in dB(μ V); AF = Antenna Factor in dB(1/m)

CF = Cable Attenuation Factor in dB; AG = Amplifier Gain in dB

Assume a receiver reading of 52.0 dB(μ V) is obtained. The antennas factor of 7.4 dB(1/m) and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving field strength of 32 dB(μ V/m). This value in dB(μ V/m) was converted to its corresponding level in μ V/m.

RA = 52.0 dB(μ V)

AF = 7.4 dB(1/m)

CF = 1.6 dB

AG = 29.0 dB

FS = 52.0+7.4+1.6-29.0 = 32 dB(μ V/m).

Level in μ V/m = Common Antilogarithm [(32 dB μ V/m)/20] = 39.8 μ V/m.

4.5.4 Test Result – bands: 2483.5 – 2500 MHz and 2310 – 2390 MHz

On the following graphs 6.1, 6.3, 6.5, 6.7, 6.9, 6.11, 6.13, 6.15 the antenna factor and cable loss are included in the spectrum analyzer reference level OFFSET. Therefore, the Marker Reading shows the Peak Field Strength at 3m distance.

On the following graphs 6.2, 6.4, 6.6, 6.8, 6.10, 6.12, 6.14, 6.16 the antenna factor and cable loss are included in the spectrum analyzer reference level OFFSET. Therefore, the Marker Reading shows the Average Field Strength at 3m distance.

The EUT passed the test by 7.2 dB.

Plot 5.1

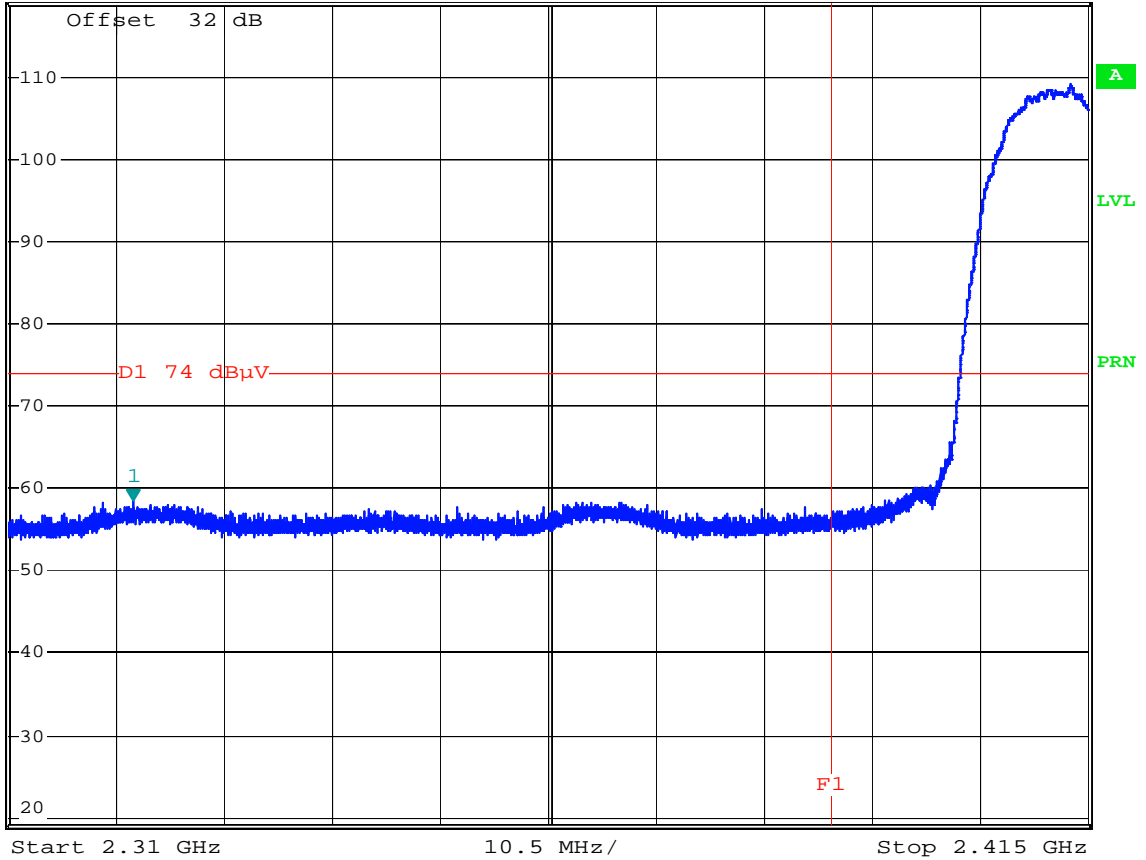


*RBW 1 MHz Marker 1 [T1]
 *VBW 1 MHz 58.46 dBμV
 SWT 40 ms 2.322258750 GHz

Ref 119 dBμV

*Att 0 dB

1 PK
MAXH



Comment: FS on the band-edge, 2412MHz 11 Mbps, peak
 Date: 28.MAY.2010 15:51:50

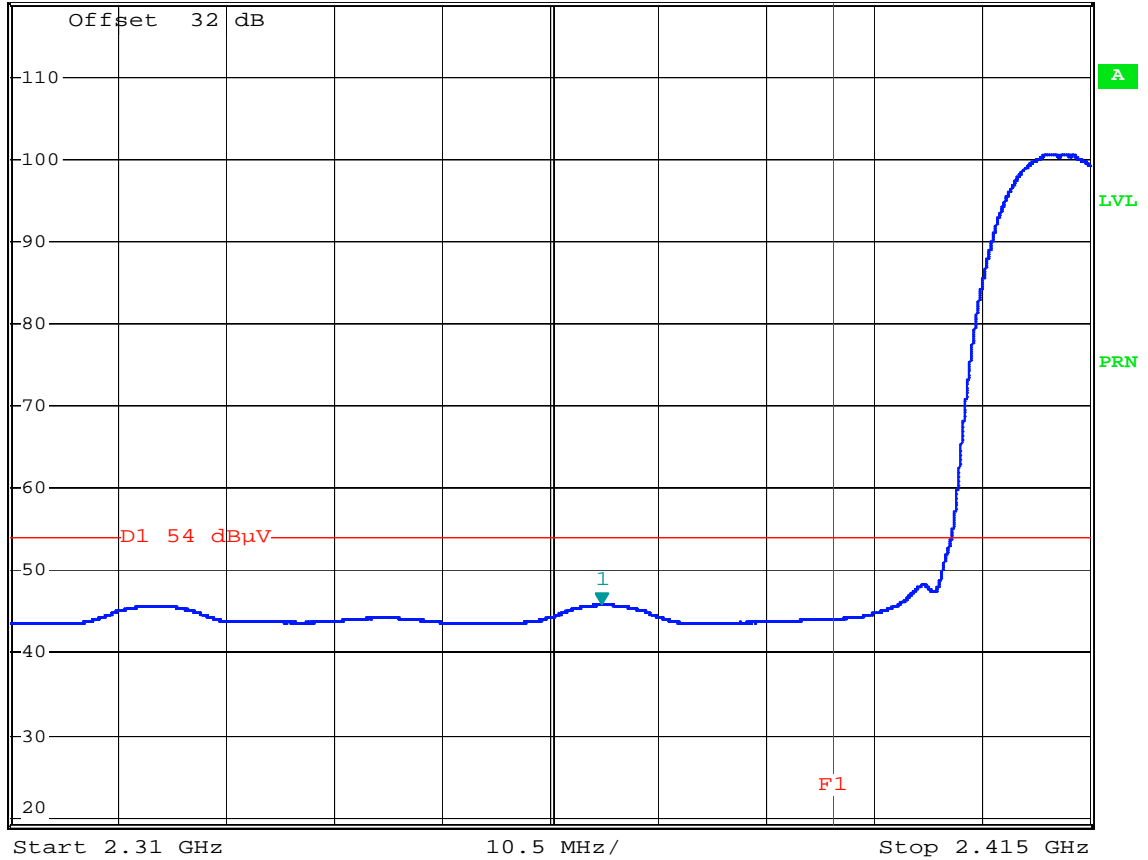
Plot 5.2



*RBW 1 MHz Marker 1 [T1]
 *VBW 10 Hz 45.86 dBμV
 SWT 27 s 2.367592500 GHz

Ref 119 dBμV *Att 0 dB

1 PK
 MAXH



Comment: FS on the band-edge, 2412MHz 11 Mbps, ave
 Date: 28.MAY.2010 15:54:18

Plot 5.3

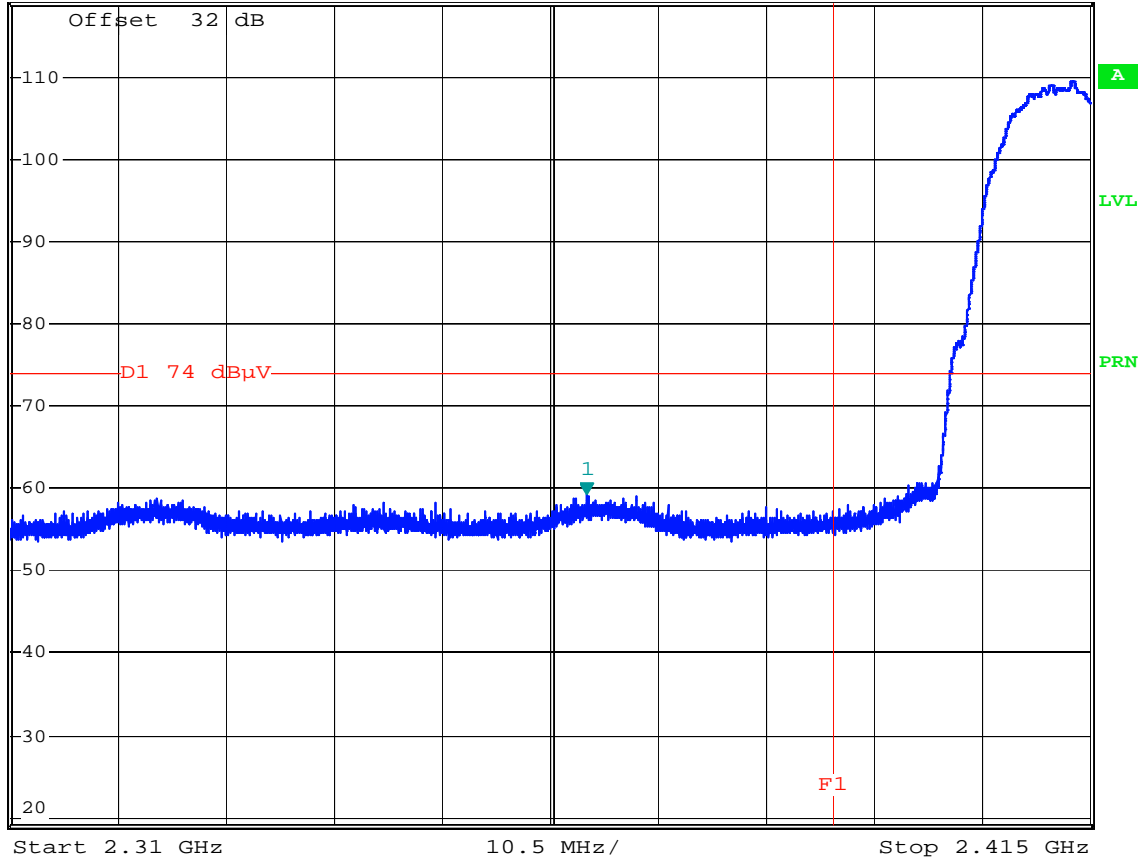


*RBW 1 MHz Marker 1 [T1]
 *VBW 1 MHz 59.35 dBµV
 SWT 40 ms 2.366109375 GHz

Ref 119 dBµV

*Att 0 dB

1 PK
 MAXH



Comment: FS on the band-edge, 2412MHz 11 Mbps;Bluetooth 2402MHz, peak
 Date: 28.MAY.2010 16:01:06

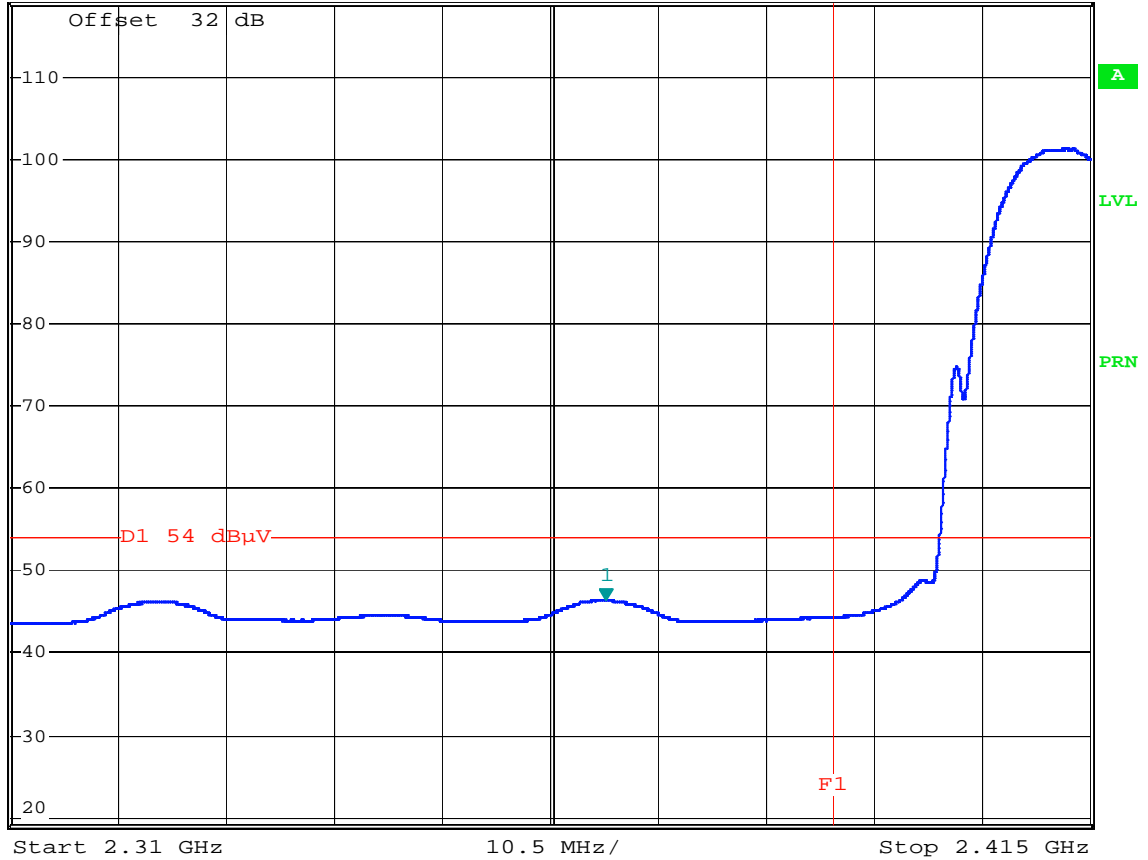
Plot 5.4



*RBW 1 MHz Marker 1 [T1]
 *VBW 10 Hz 46.40 dBμV
 SWT 27 s 2.367999375 GHz

Ref 119 dBμV *Att 0 dB

1 PK
 MAXH



Comment: FS on the band-edge, 2412MHz 11 Mbps;Bluetooth 2402MHz, ave
 Date: 28.MAY.2010 16:02:07

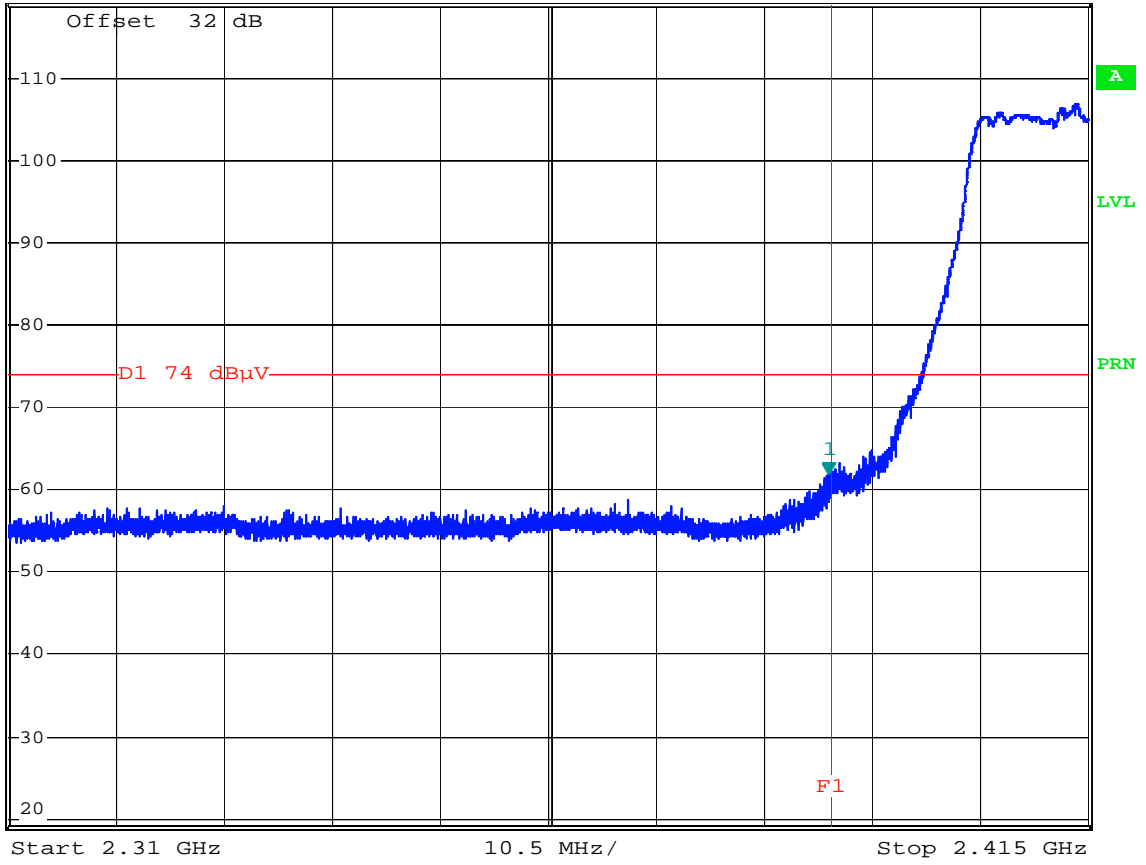
Plot 5.5



*RBW 1 MHz Marker 1 [T1]
 *VBW 1 MHz 61.97 dBμV
 SWT 40 ms 2.389826250 GHz

Ref 119 dBμV *Att 0 dB

1 PK
 MAXH



Comment: FS on the band-edge, 2412MHz 54 Mbps, peak
 Date: 28.MAY.2010 16:10:16

Plot 5.6

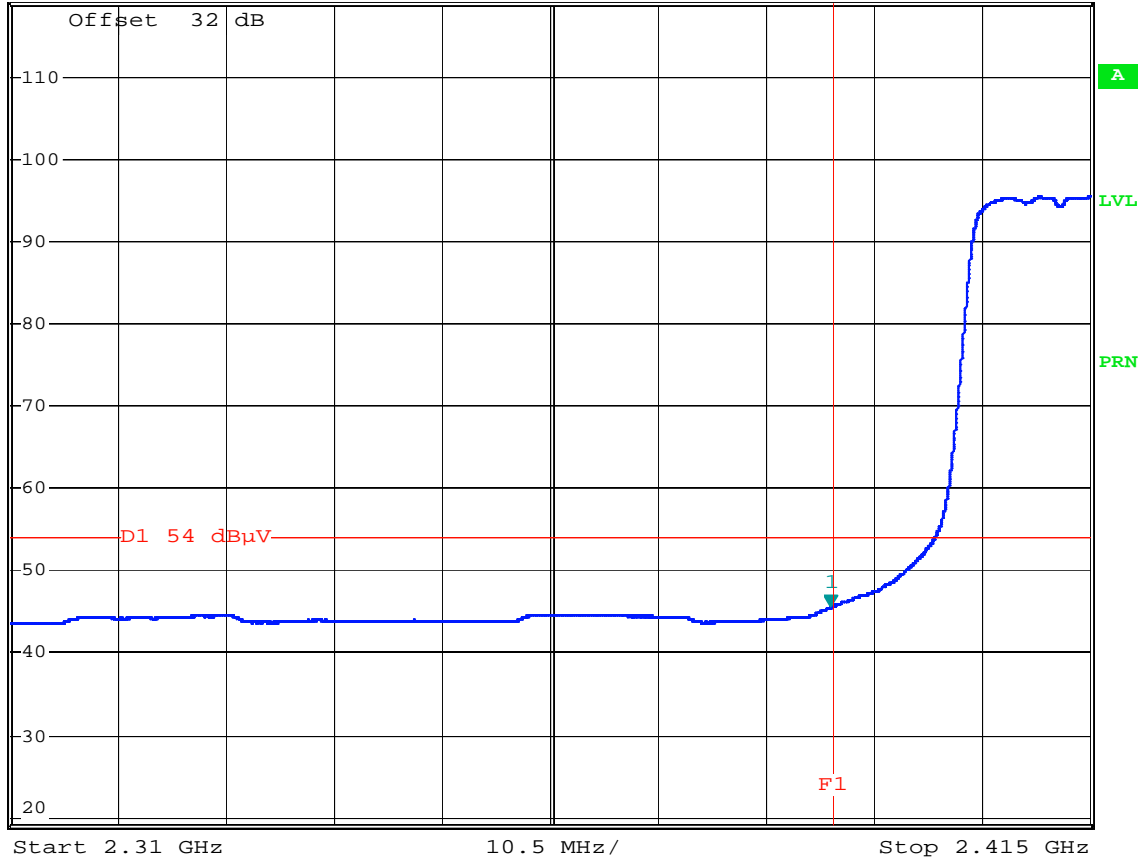


*RBW 1 MHz Marker 1 [T1]
 *VBW 10 Hz 45.55 dBμV
 SWT 27 s 2.389826250 GHz

Ref 119 dBμV

*Att 0 dB

1 PK
 MAXH



Comment: FS on the band-edge, 2412MHz 54 Mbps, ave
 Date: 28.MAY.2010 16:11:52

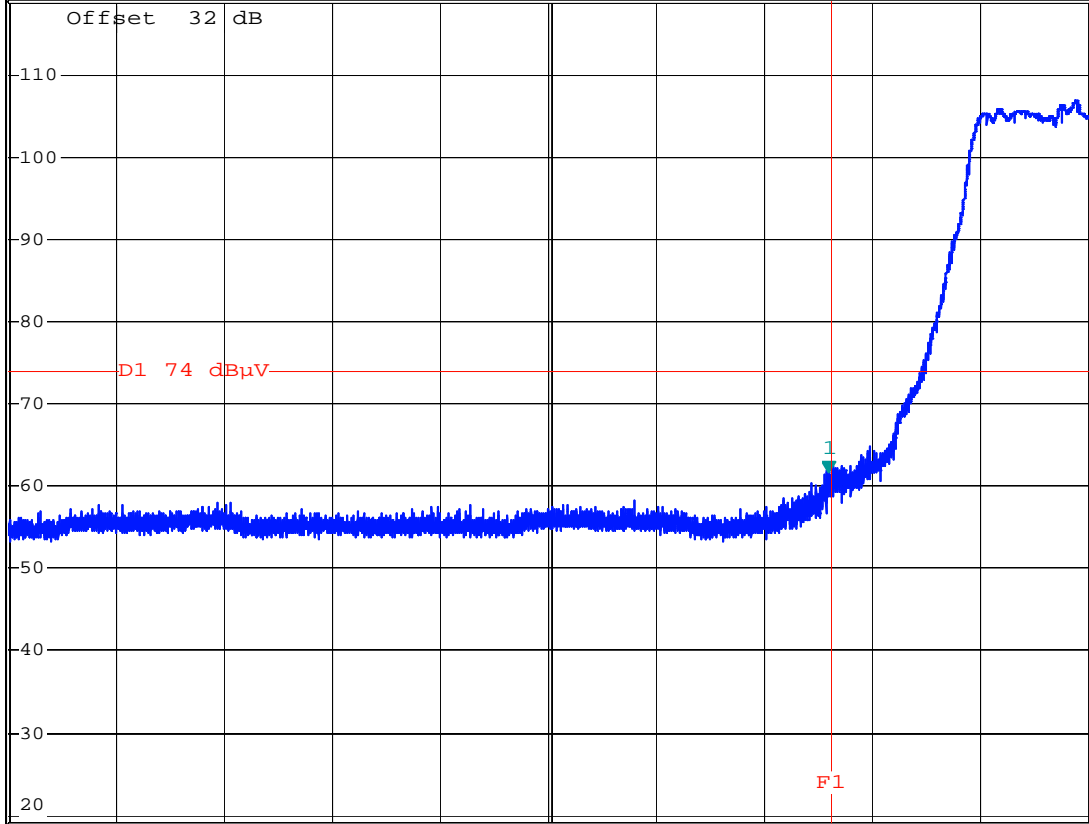
Plot 5.7



*RBW 1 MHz Marker 1 [T1]
 *VBW 1 MHz 61.57 dBμV
 SWT 40 ms 2.389826250 GHz

Ref 119 dBμV *Att 0 dB

1 PK
 MAXH



Start 2.31 GHz 10.5 MHz/ Stop 2.415 GHz

Comment: FS on the band-edge, 2412MHz 54 Mbps;Bluetooth 2402MHz, peak
 Date: 28.MAY.2010 16:16:03

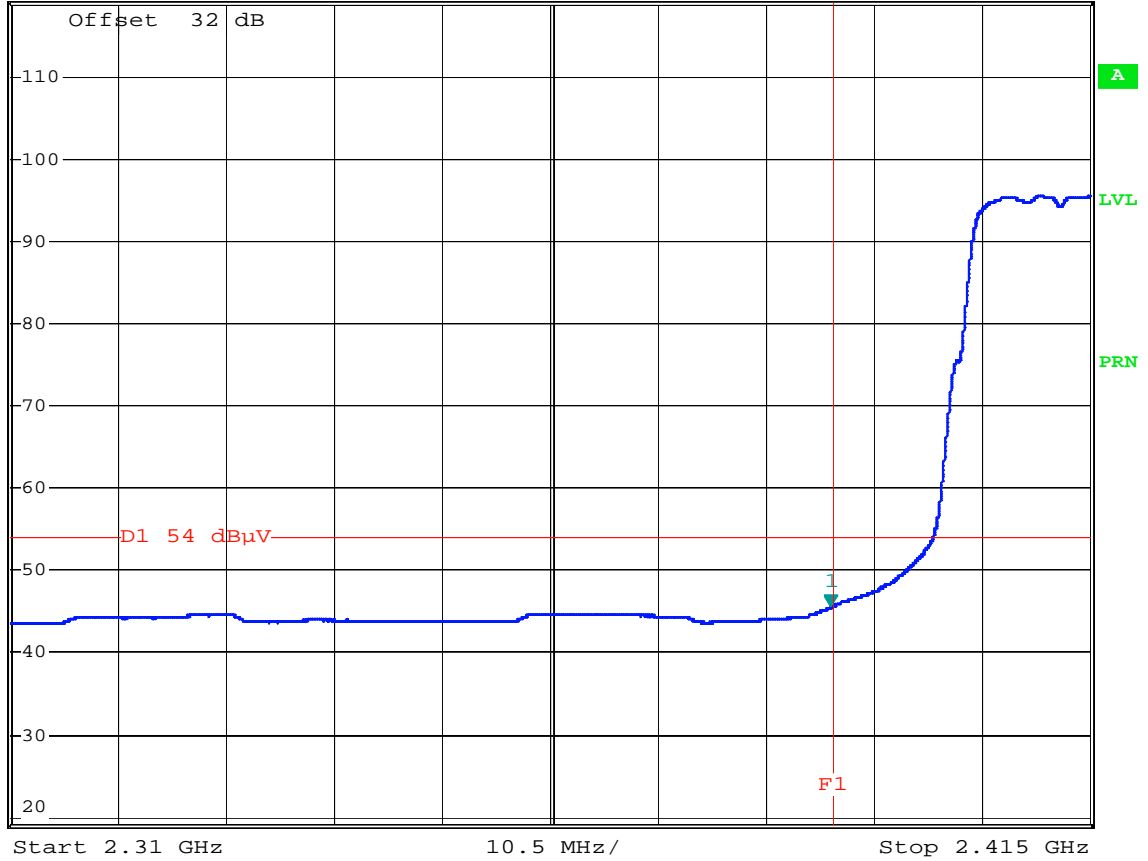
Plot 5.8



*RBW 1 MHz Marker 1 [T1]
 *VBW 10 Hz 45.58 dBμV
 SWT 27 s 2.389826250 GHz

Ref 119 dBμV *Att 0 dB

1 PK
 MAXH

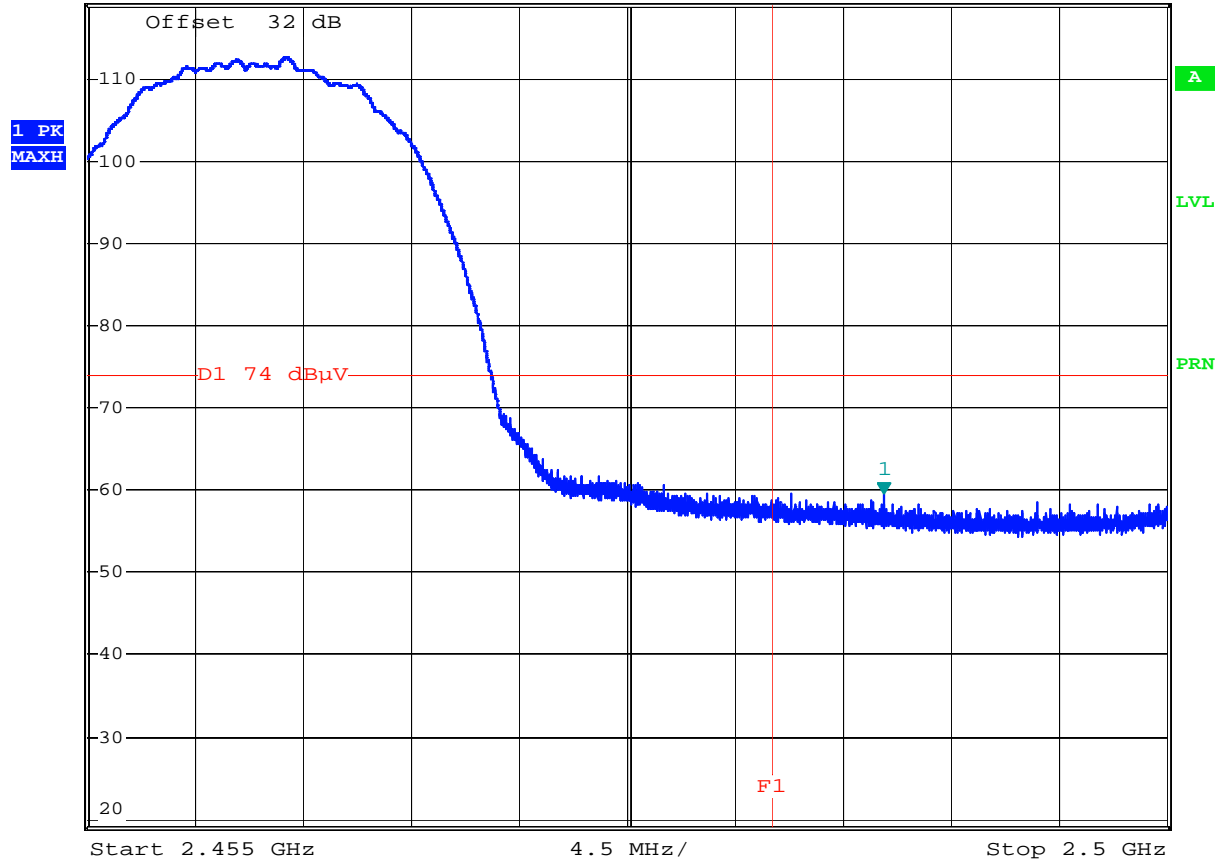


Comment: FS on the band-edge, 2412MHz 54 Mbps;Bluetooth 2402MHz, ave
 Date: 28.MAY.2010 16:17:01

Plot 5.9



*RBW 1 MHz Marker 1 [T1]
 *VBW 1 MHz 59.53 dBµV
 Ref 119 dBµV *Att 0 dB SWT 40 ms 2.488215625 GHz



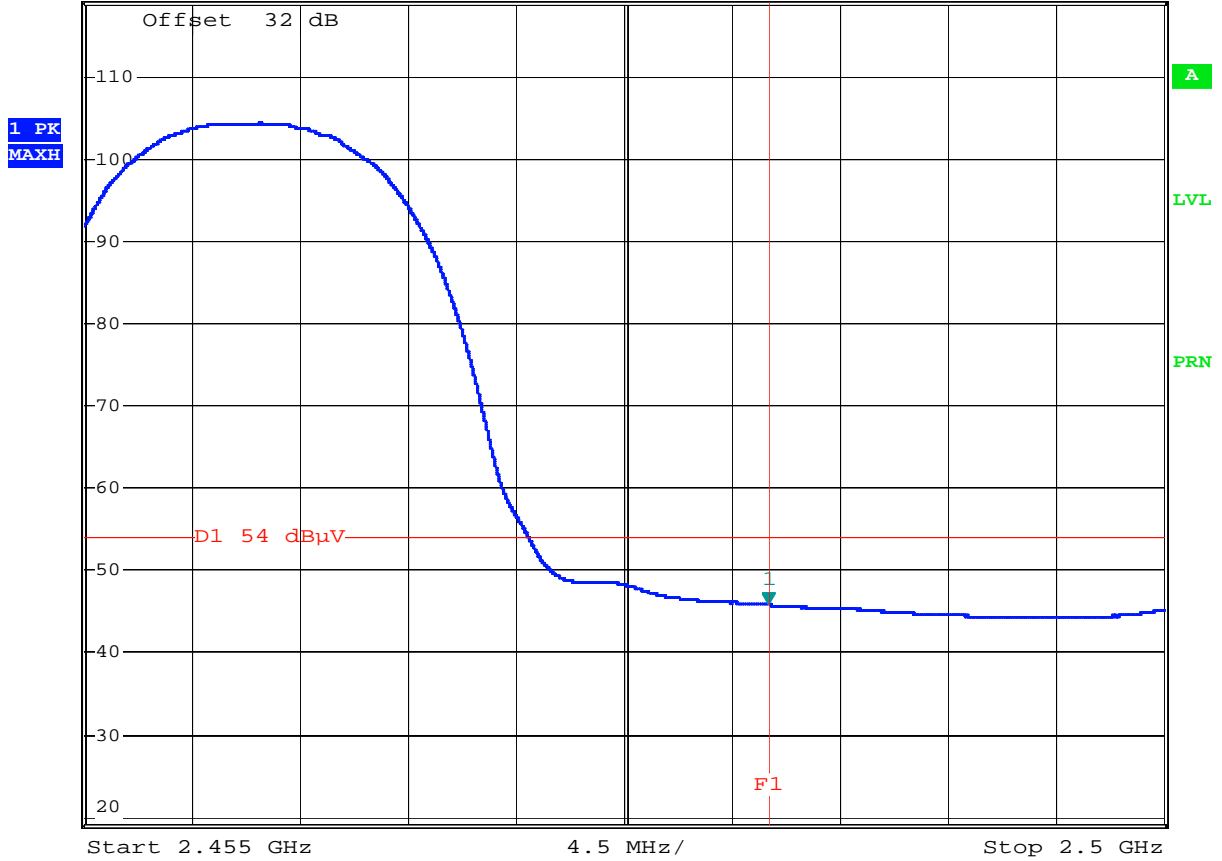
Comment: FS on the band-edge, 2462MHz 11 Mbps, peak
 Date: 28.MAY.2010 16:23:31

Plot 5.10



*RBW 1 MHz Marker 1 [T1]
 *VBW 10 Hz 45.78 dBμV
 SWT 11.5 s 2.483535625 GHz

Ref 119 dBμV *Att 0 dB

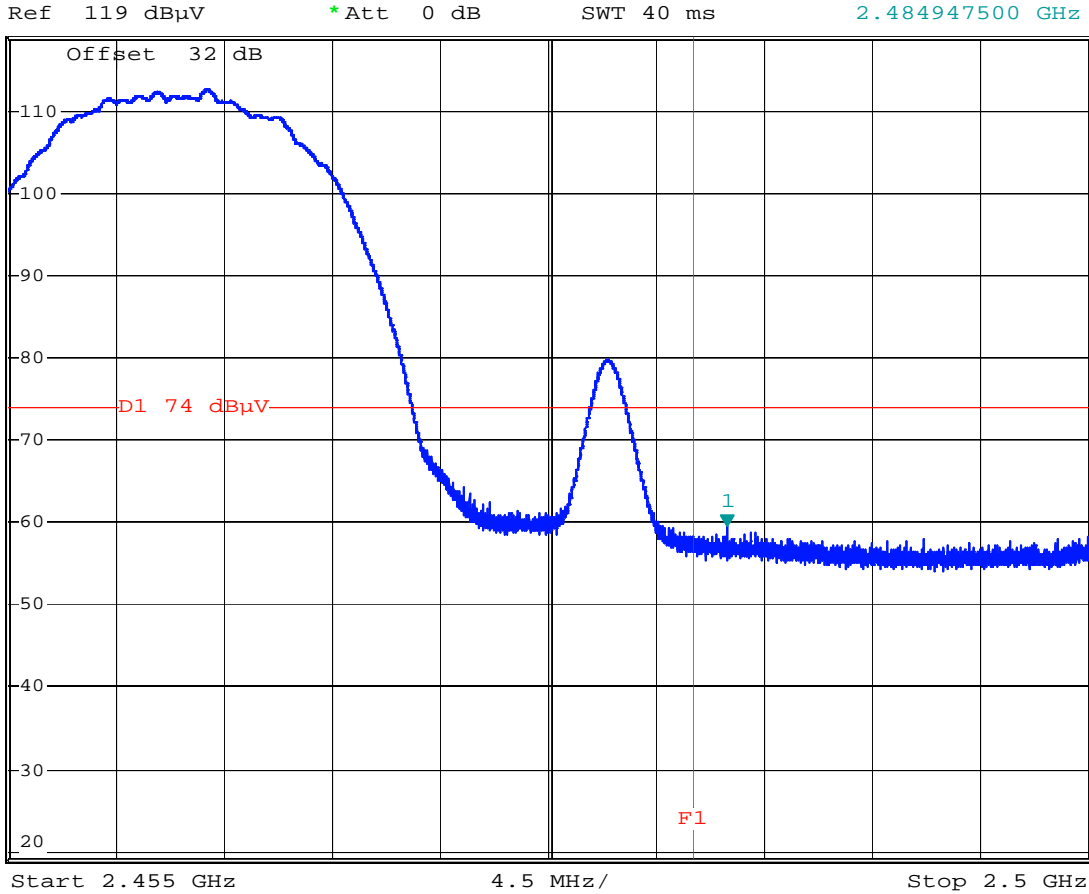


Comment: FS on the band-edge, 2462MHz 11 Mbps, ave
 Date: 28.MAY.2010 16:24:57

Plot 5.11



*RBW 1 MHz Marker 1 [T1]
 *VBW 1 MHz 59.48 dBμV
 SWT 40 ms 2.484947500 GHz



Comment: FS on the band-edge, 2462MHz 11 Mbps;Bluetooth 2480MHz, peak
 Date: 28.MAY.2010 16:28:32

Plot 5.12

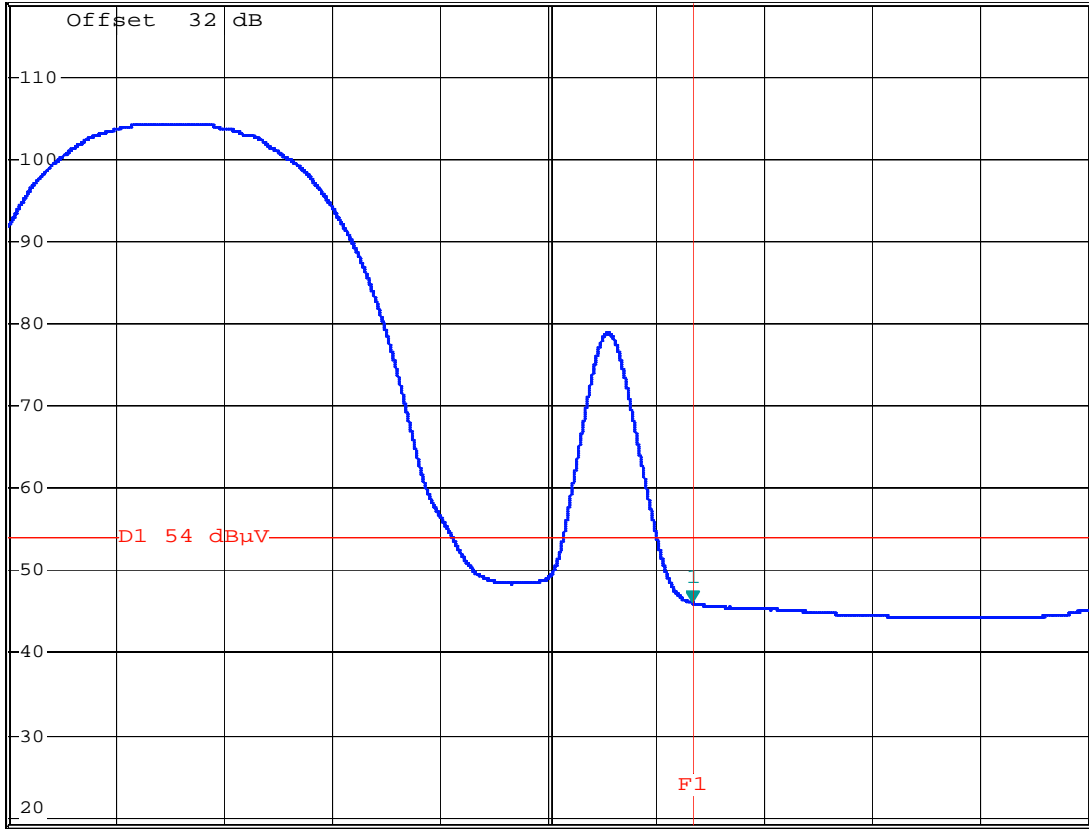


*RBW 1 MHz Marker 1 [T1]
 *VBW 10 Hz 46.05 dBμV
 SWT 11.5 s 2.483507500 GHz

Ref 119 dBμV

*Att 0 dB

1 PK
MAXH



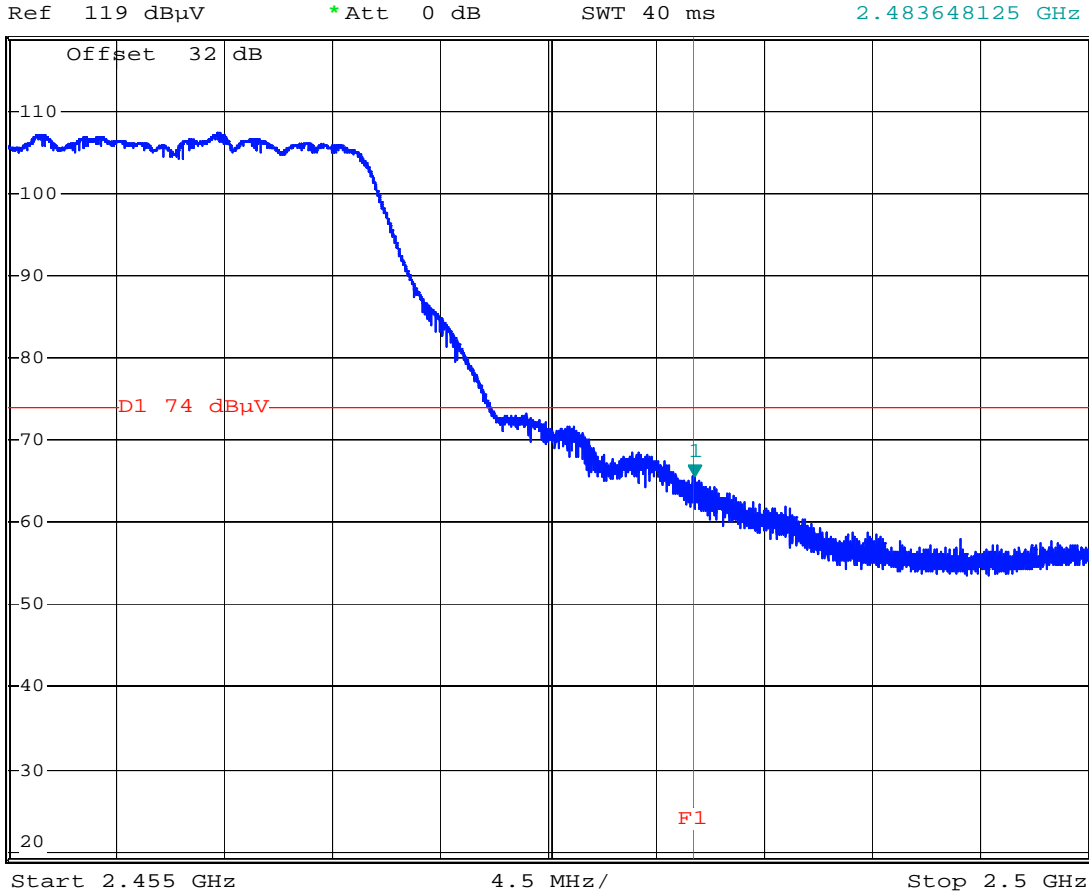
Start 2.455 GHz 4.5 MHz/ Stop 2.5 GHz

Comment: FS on the band-edge, 2462MHz 11 Mbps;Bluetooth 2480MHz, ave
 Date: 28.MAY.2010 16:29:41

Plot 5.13



*RBW 1 MHz Marker 1 [T1]
 *VBW 1 MHz 65.49 dBμV
 SWT 40 ms 2.483648125 GHz

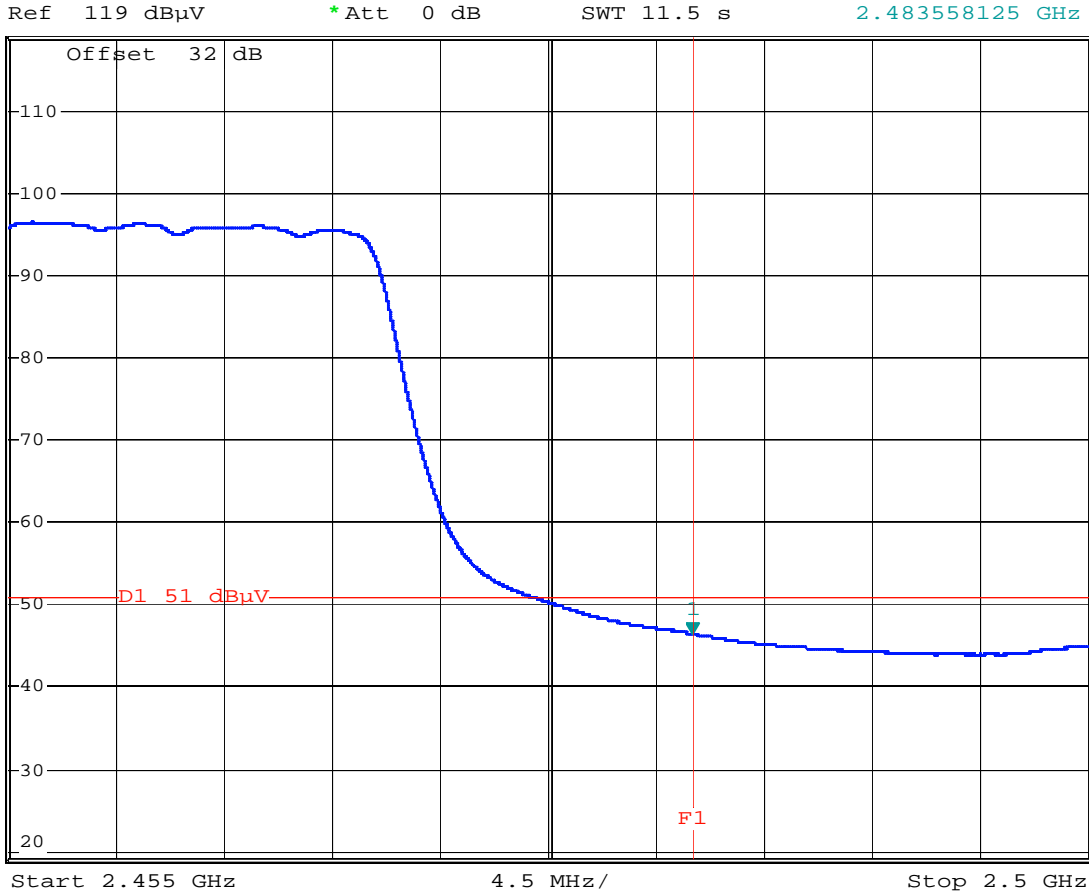


Comment: FS on the band-edge, 2462MHz 54 Mbps, peak
 Date: 28.MAY.2010 16:35:40

Plot 5.14



*RBW 1 MHz Marker 1 [T1]
 *VBW 10 Hz 46.38 dBμV
 SWT 11.5 s 2.483558125 GHz

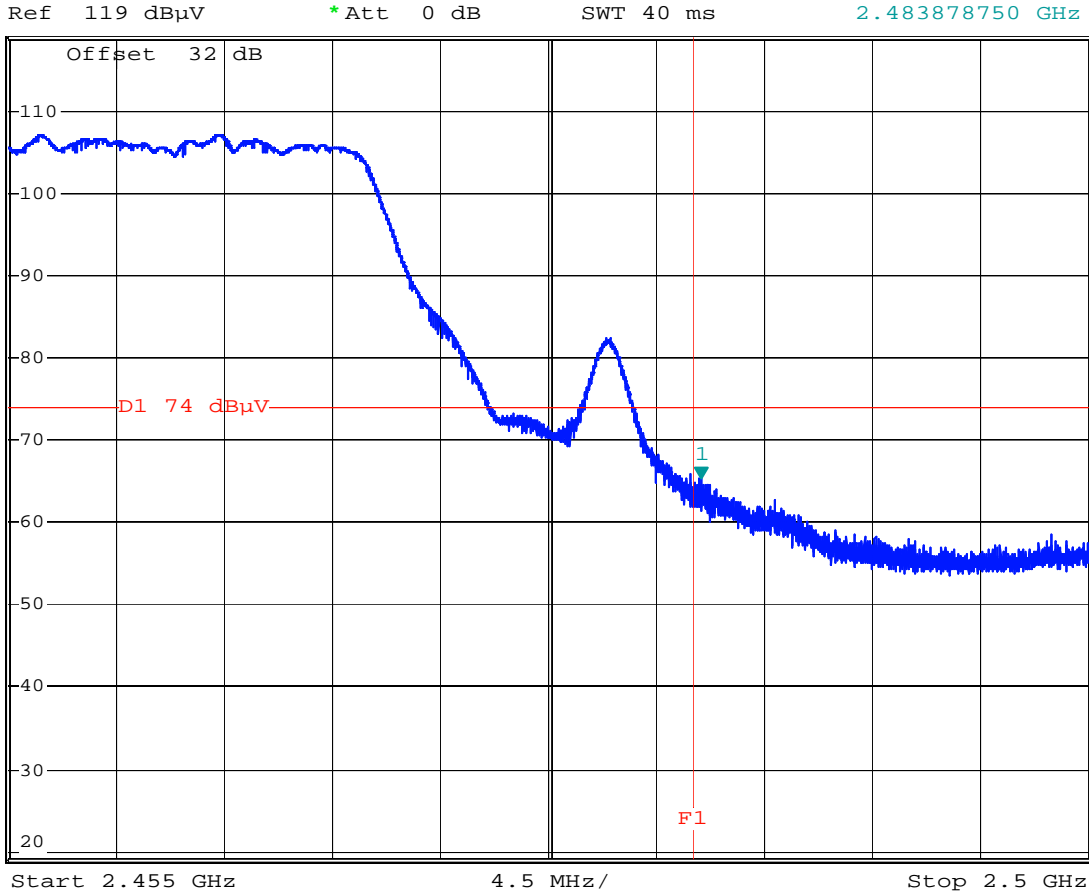


Comment: FS on the band-edge, 2462MHz 54 Mbps, ave
 Date: 28.MAY.2010 16:36:35

Plot 5.15



*RBW 1 MHz Marker 1 [T1]
 *VBW 1 MHz 65.27 dBµV
 SWT 40 ms 2.483878750 GHz

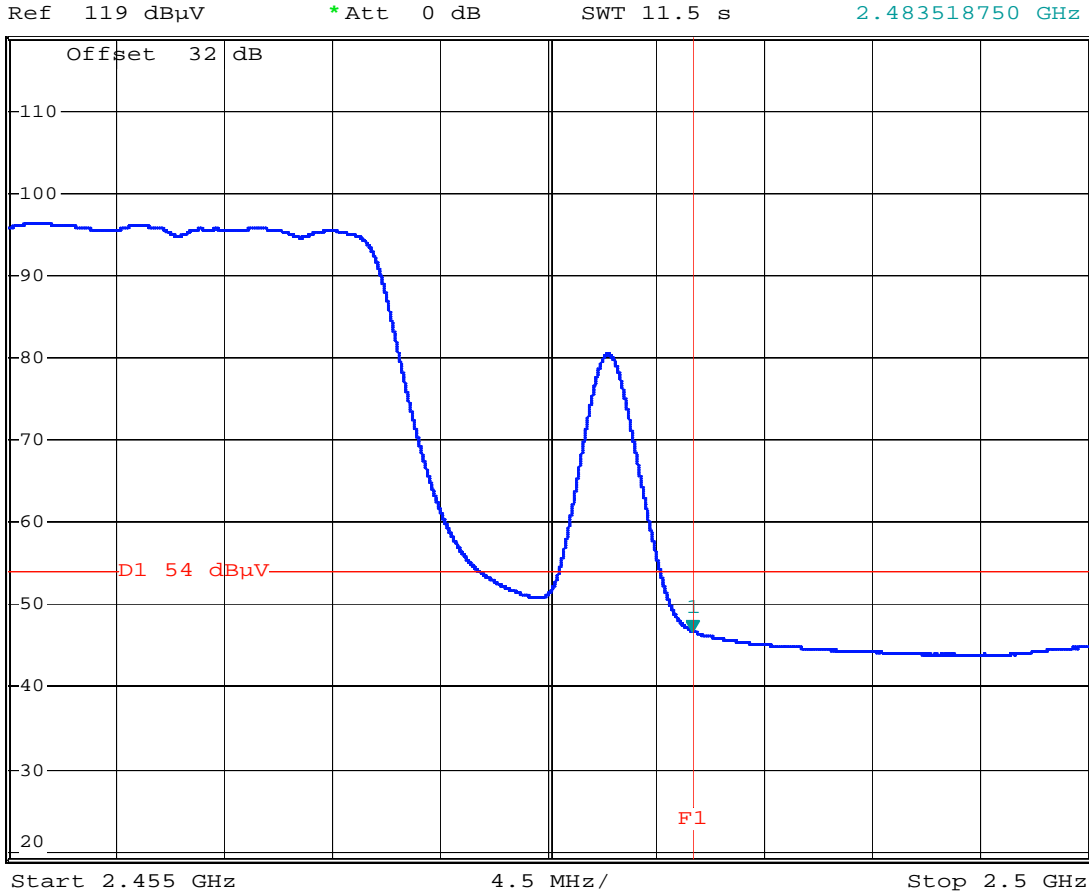


Comment: FS on the band-edge, 2462MHz 54 Mbps;Bluetooth 2480MHz, peak
 Date: 28.MAY.2010 16:39:21

Plot 5.16



*RBW 1 MHz Marker 1 [T1]
 *VBW 10 Hz 46.76 dBμV
 SWT 11.5 s 2.483518750 GHz



Comment: FS on the band-edge, 2462MHz 54 Mbps;Bluetooth 2480MHz, ave
 Date: 28.MAY.2010 16:40:09



4.5.5 Test Result - other restricted bands

The data on the following pages lists the significant emission frequencies, the limit and the margin of compliance for the worst-case configuration.

Results	Complies by 16.1dB
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Temperature: 20.0 C	Company: Psion Teklogix Inc.
Humidity: 50.0 %	Model: 7505
May 29, 2010	Engineer: KK
Wi-Fi radio, Data rate: 11 Mbps	

Measured at 3m

Frequency MHz	Detector	SA reading dB(uV)	Corr. Factor * dB	Antenna factor dB(1/m)	FS at 3m dB(uV/m)	FS Limit dB(uV/m)	Margin dB
Ch: 1, 2412 MHz							
4824.0	Peak	38.8	29.2	32.5	42.1	74.0	-31.9
7236.0	Peak	34.3	26.6	35.8	43.5	74.0	-30.5
12060.0	Peak	34.5	25.8	38.7	47.4	74.0	-26.6
4824.0	Average	25.9	29.2	32.5	29.2	54.0	-24.8
7236.0	Average	21.4	26.6	35.8	30.6	54.0	-23.4
12060.0	Average	21.5	25.8	38.7	34.4	54.0	-19.6
Ch: 6, 2437 MHz							
4874.0	Peak	38.3	29.5	32.6	41.4	74.0	-32.6
7311.0	Peak	34.3	26.0	36.1	44.4	74.0	-29.6
12185.0	Peak	35.2	26.1	38.8	47.9	74.0	-26.1
4874.0	Average	25.2	29.5	32.6	28.3	54.0	-25.7
7311.0	Average	21.7	26.0	36.1	31.8	54.0	-22.2
12185.0	Average	22.3	26.1	38.8	35.0	54.0	-19.0
Ch: 11, 2462 MHz							
4924.0	Peak	41.6	29.5	32.7	44.8	74.0	-29.2
7386.0	Peak	35.1	26.7	36.1	44.5	74.0	-29.5
12310.0	Peak	34.1	26.3	38.8	46.6	74.0	-27.4
4924.0	Average	27.8	29.5	32.7	31.0	54.0	-23.0
7386.0	Average	21.6	26.7	36.1	31.0	54.0	-23.0
12310.0	Average	21.4	26.3	38.8	33.9	54.0	-20.1

- a) RBW = 1 MHz, VBW = 1 MHz – for peak measurements
RBW = 1MHz, VBW = 100 Hz – for average measurements
- b) *Correction Factor: Pre-amplifier gain + Cable loss + HP-Filter loss
- c) All other emissions are 20 dB below the limit.



Temperature: 20.0 C	Company: Psion Teklogix Inc.
Humidity: 50.0 %	Model: 7505
May 29, 2010	Engineer: KK
Bluetooth radio, FHSS	

Measured at 3m

Frequency MHz	Detector	SA reading dB(uV)	Corr. Factor * dB	Antenna factor dB(1/m)	FS at 3m dB(uV/m)	FS Limit dB(uV/m)	Margin dB
Ch: 1, 2402 MHz							
4804.0	Peak	41.3	29.1	32.4	44.6	74.0	-29.4
12010.0	Peak	34.1	25.7	38.7	47.1	74.0	-26.9
4804.0	Average	34.3	29.2	32.4	37.5	74.0	-36.5
12010.0	Average	21.3	25.8	38.7	34.2	54.0	-19.8
Ch: 40, 2441 MHz							
4882.0	Peak	41.9	29.4	32.6	45.1	74.0	-28.9
7323.0	Peak	36.1	26.2	36.2	46.1	74.0	-27.9
12205.0	Peak	33.9	25.9	38.6	46.6	74.0	-27.4
4882.0	Average	34.7	29.4	32.6	37.9	54.0	-16.1
7323.0	Average	24.3	26.2	36.2	34.3	54.0	-19.7
12205.0	Average	20.9	25.9	38.6	33.6	54.0	-20.4
Ch: 79, 2480 MHz							
4960.0	Peak	41.4	29.4	32.7	44.7	74.0	-29.3
7440.0	Peak	36.2	26.5	36.1	45.8	74.0	-28.2
12400.0	Peak	34.2	26.1	38.5	46.6	74.0	-27.4
4960.0	Average	34.2	29.4	32.7	37.5	54.0	-16.5
7440.0	Average	25.3	26.5	36.1	34.9	54.0	-19.1
12400.0	Average	21.3	26.1	38.5	33.7	54.0	-20.3

- a) RBW = 1 MHz, VBW = 1 MHz - for peak measurements
RBW = 1MHz, VBW = 100 Hz - for average measurements
- b) *Correction Factor: Pre-amplifier gain + Cable loss + HP-Filter loss
- c) All other emissions are 20 dB below the limit.



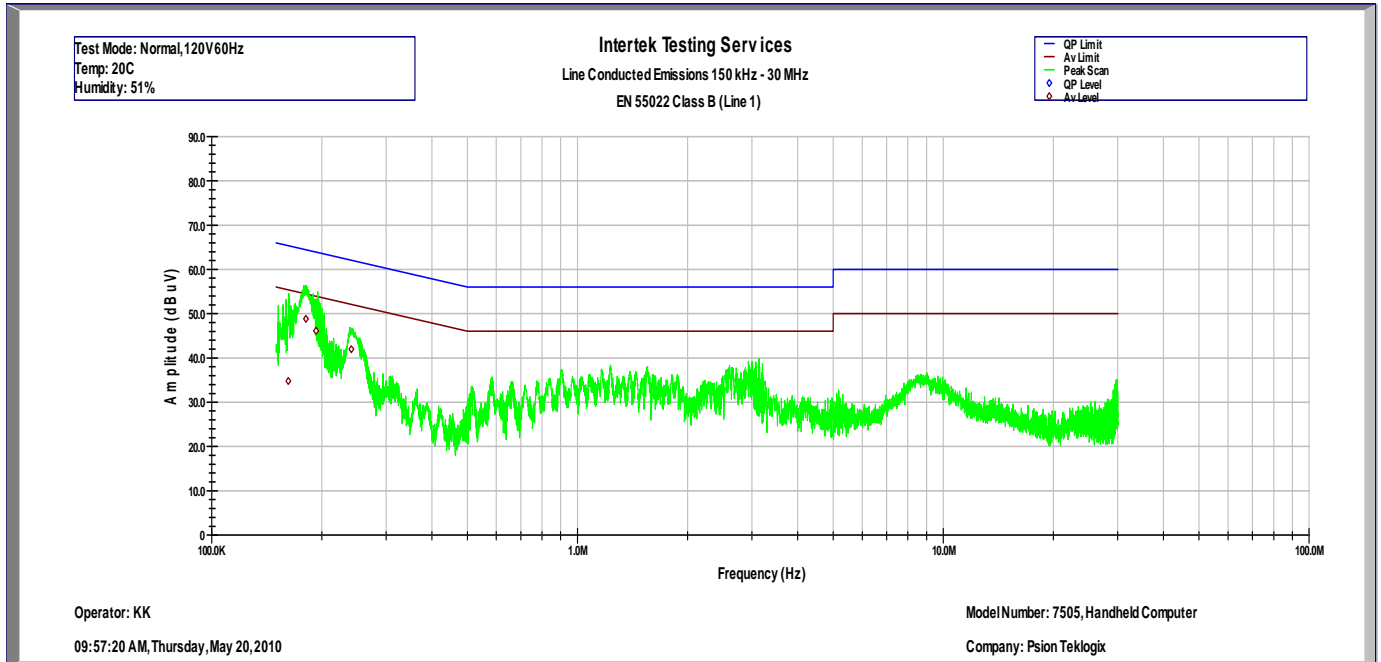
4.6 AC Line Conducted Emission,
FCC Rule 15.207

4.6.1 Procedure

AC line conducted emission test was performed according the ANSI C63.4 standard. The EUT was connected to AC Line through the LISN.

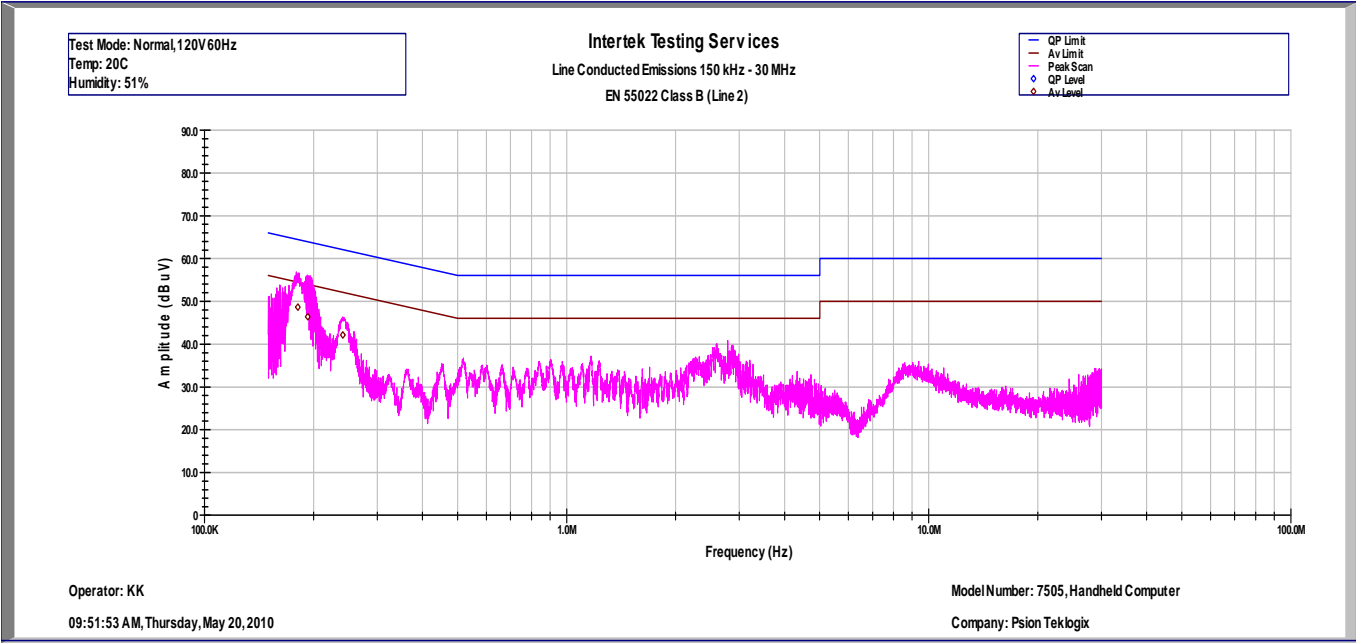
4.6.2 Test Result

Results	Complies by 6.3dB
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Intertek						
Line Conducted Emissions 150 kHz - 30 MHz						
EN 55022 Class B (Line 1)						
Operator: KK			Model Number: 7505, Handheld Computer			
May 20, 2010			Company: Psion Teklogix Inc.			
Frequency	Pk Level	Av Level	Av Limit	QP Limit	Av Margin	QP Margin
Hz	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)
162000	54.5	34.8	55.7	65.7	-20.9	-11.2
181000	56.3	48.8	55.1	65.1	-6.3	-8.8
193000	54.9	46.1	54.8	64.8	-8.7	-9.9
241000	46.5	41.9	53.4	63.4	-11.5	-16.9

Test Mode: Normal, 120V 60Hz
Temperature: 20 C
Humidity: 51 %



Intertek						
Line Conducted Emissions 150 kHz - 30 MHz						
EN 55022 Class B (Line 2)						
Operator: KK			Model Number: 7505, Handheld Computer			
May 20, 2010			Company: Psion Teklogix Inc.			
<hr/>						
Frequency	Pk Level	Av Level	Av Limit	QP Limit	Av Margin	QP Margin
Hz	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)
181000	56.8	48.6	55.1	65.1	-6.5	-8.3
193000	56.0	46.4	54.8	64.8	-8.4	-8.8
241000	46.2	42.1	53.4	63.4	-11.3	-17.2

Test Mode: Normal, 120V 60Hz
Temperature: 20 C
Humidity: 51 %



4.7 Radiated Emissions from Digital Parts and Receiver
FCC Ref: 15.109

Test Limit

*Limits for Electromagnetic Radiated Emissions, FCC Section 15.109(b) and ICES 003 **

Frequency (MHz)	Class A at 10m dB(μ V/m)	Class B at 3m dB(μ V/m)
30-88	39	40.0
88-216	43.5	43.5
216-960	46.4	46.0
Above 960	49.5	54.0

* According to FCC Part 15.109(g) an alternative to the radiated emission limits shown above, digital devices may be shown to comply with the limit of CISPR Pub. 22

Test Procedure

Measurements are conducted with a quasi-peak detector instrument in the frequency range of 30 MHz to 1000 MHz and with the average detector instrument in the frequency range above 1000 MHz. The measuring receiver meets the requirements of Section One of CISPR 16 and the measuring antenna correlates to a balanced dipole.

Measurements of the radiated field are made with the antenna located at a distance of 10 meters from the EUT. If the field-strength measurements at 10m cannot be made because of high ambient noise level or for other reasons, measurements of Class B equipment may be made at a closer distance, for example 3m. An inverse proportionality factor of 20 dB per decade should be used to normalize the measured data to the specified distance for determining compliance.

The antenna is adjusted between 1m and 4m in height above the ground plane for maximum meter reading at each test frequency.

The antenna-to-EUT azimuth is varied during the measurement to find the maximum field-strength readings.

The antenna-to-EUT polarization (horizontal and vertical) is varied during the measurements to find the maximum field-strength readings.



The EUT, where intended for tabletop use, is placed on a table whose top is 0.8m above the ground plane. The table is constructed of non-conductive materials. Its dimensions are 1m by 1.5m, but may be extended for a larger EUT.

Floor standing EUTs are placed on a horizontal metal ground plane and isolated from the ground plane by 3 to 12 mm of insulating material.

Equipment setup for radiated disturbance tests followed the guidelines of ANSI C63.4 (2003).

Example Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor to from the measured reading, followed by subtracting the Amplifier Gain (if any) and Distance Correction Factor (if any). The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - PA - DCF$$

Where

FS = Field Strength in dB ($\mu\text{V}/\text{m}$)

RA = Receiver Amplitude (including preamplifier) in dB (μV)

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB (1/m)

AG = Amplifier Gain in dB

DCF=Distance Correction Factor in dB

(Formula: $DCF = 20\log_{10}(\text{measurement distance}/\text{specification distance})$)

Assume a receiver reading of 52.0 dB (μV) is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB and DCF of 10.5 dB (DCF in this example: $20\log_{10}(10/3)$) is subtracted, giving field strength of 21.5 dB ($\mu\text{V}/\text{m}$).

$$RA = 52.0 \text{ dB } (\mu\text{V})$$

$$AF = 7.4 \text{ dB } (1/\text{m})$$

$$CF = 1.6 \text{ dB}$$

$$AG = 29.0 \text{ dB}$$

$$DCF=10.5 \text{ dB}$$

$$FS = RF + AF + CF - AG - DCF$$

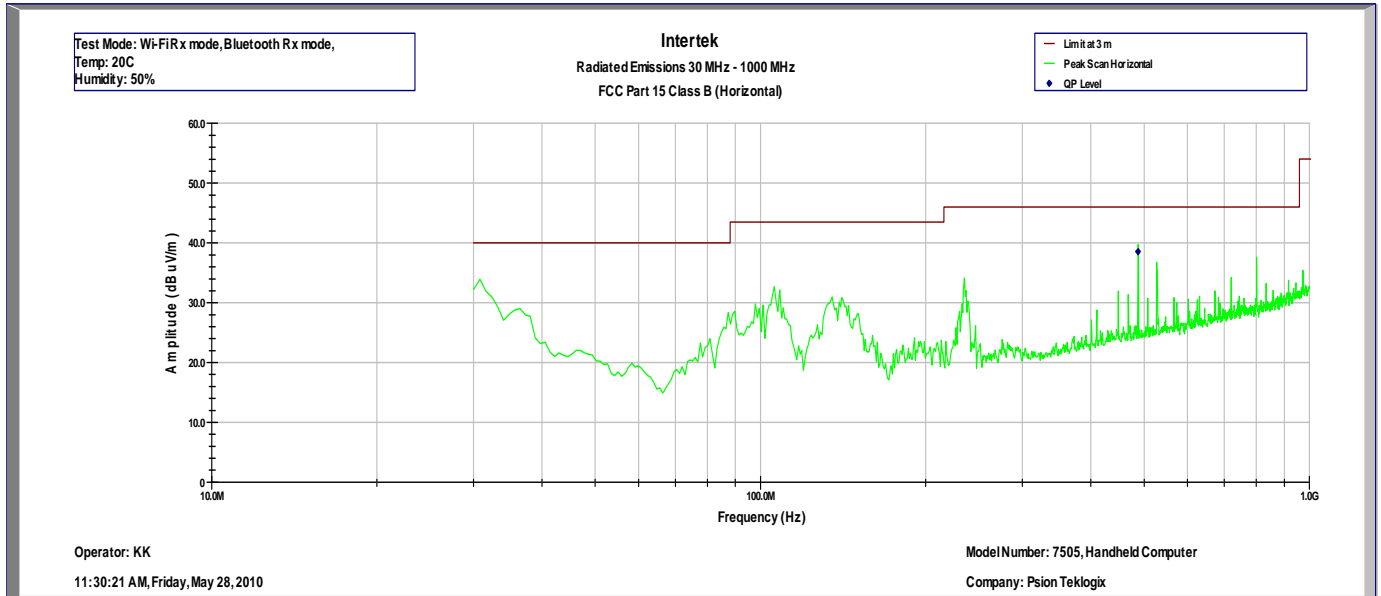
$$FS = 52.0 + 7.4 + 1.6 - 29.0 - 10.5$$

$$FS = 21.5 \text{ dB } (\mu\text{V}/\text{m})$$

Test Results

Radiated emission measurements were performed from 30 MHz to 10000 MHz. Spectrum Analyzer Resolution Bandwidth is 100 kHz or greater below 1000 MHz and 1 MHz - above 1000 MHz.

The EUT passed by 4.8 dB for Class B.



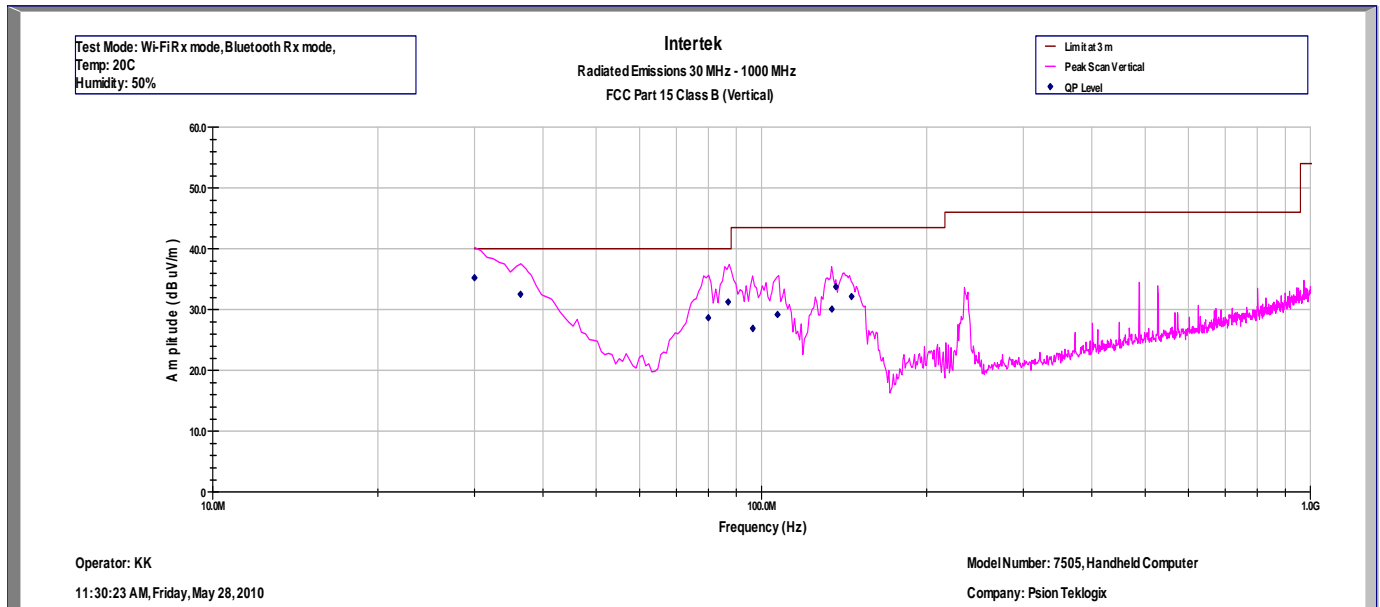
Intertek Testing Services
Radiated Emissions 30 MHz - 1000 MHz
FCC Part 15 Class B (QP-Horizontal)

Operator: KK
May 28, 2010

Model: 7505, Handheld Computer
Company: Psion Teklogix Inc.

Frequency (MHz)	Peak FS dB(uV/m)	Limit@3m dB(uV/m)	Margin dB	RA dB(uV)	CF dB	AG dB	DCF dB	AF dB(1/m)
487.488	38.5	46.0	-7.5	40.2	2.6	32.1	10.5	17.3

Test Mode: Wi-Fi Rx mode, Bluetooth Rx mode
Temperature: 20 C
Humidity : 50 %



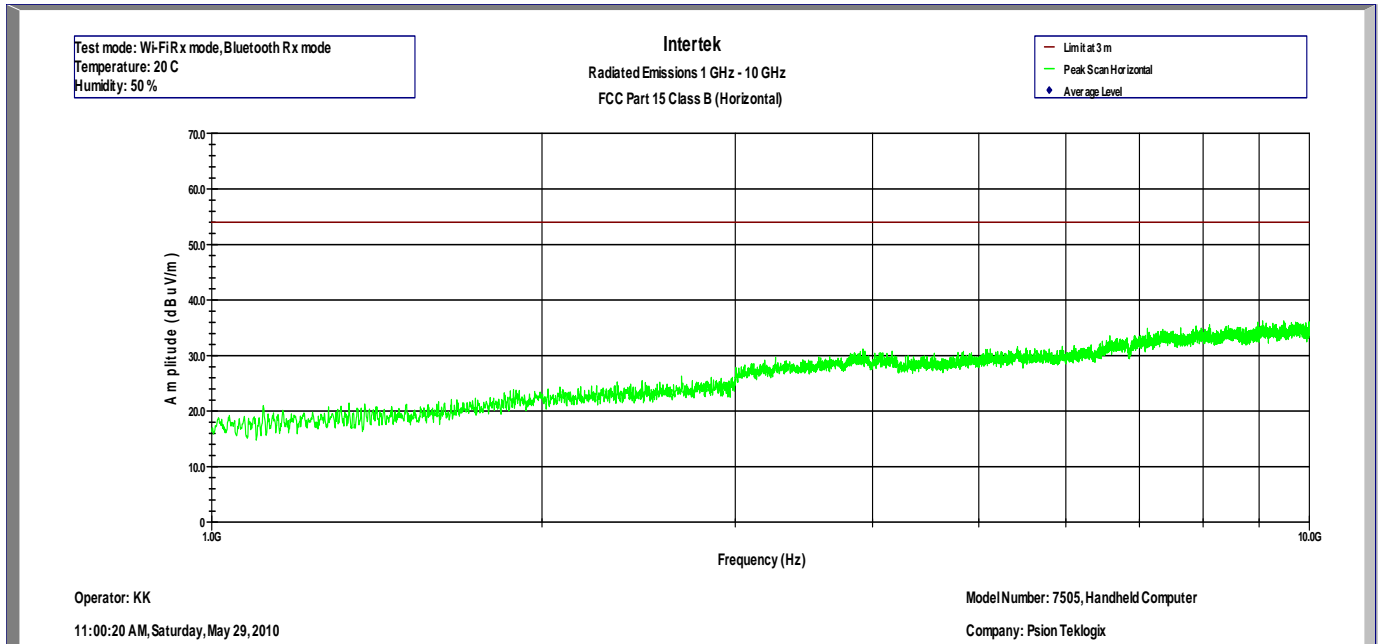
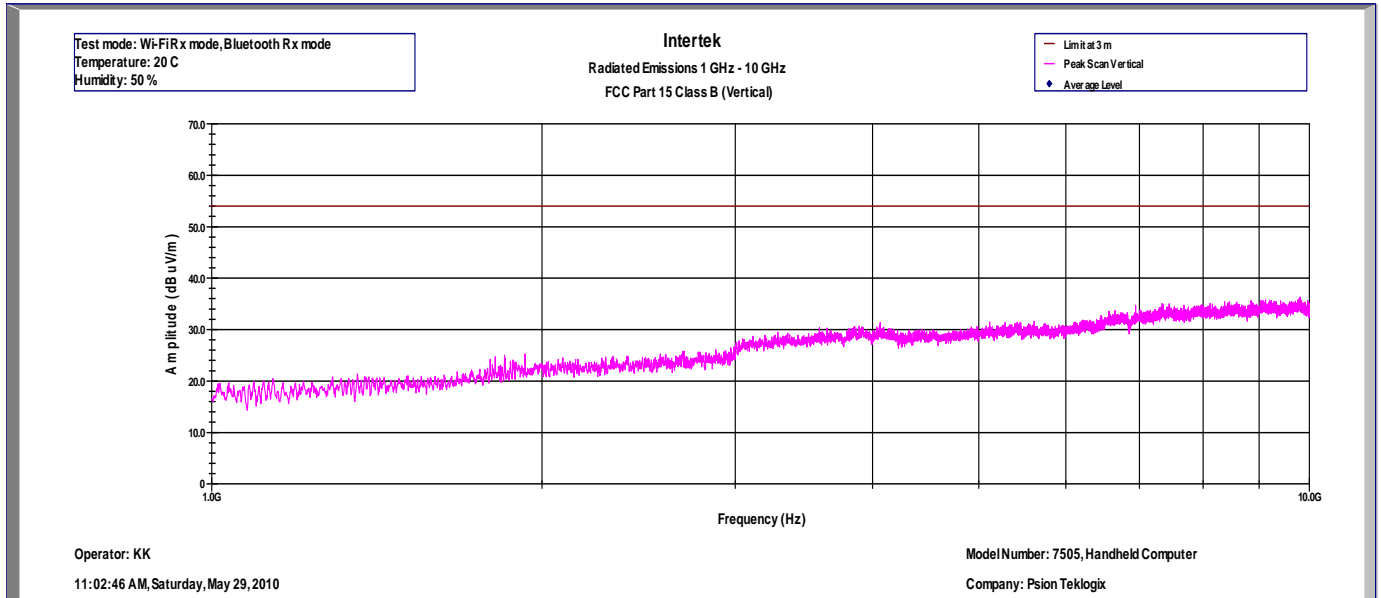
Intertek Testing Services
Radiated Emissions 30 MHz - 1000 MHz
FCC Part 15 Class B (QP-Vertical)

Operator: KK
May 28, 2010

Model: 7505, Handheld Computer
Company: Psion Teklogix Inc.

Frequency (MHz)	Peak FS dB(uV/m)	Limit@3m dB(uV/m)	Margin dB	RA dB(uV)	CF dB	AG dB	DCF dB	AF dB(1/m)
30.0	35.3	40.0	-4.8	39.1	0.6	32.1	10.5	17.1
36.4	32.5	40.0	-7.5	36.3	0.7	32.1	10.5	17.1
80	28.7	40.0	-11.3	41.3	1.0	32.0	10.5	7.9
86.96	31.3	40.0	-8.7	42.8	1.1	32.0	10.5	8.9
96.4	26.9	43.5	-16.6	37.2	1.1	32.0	10.5	10.1
106.97	29.2	43.5	-14.3	38.8	1.2	32.0	10.5	10.7
134.4	30.1	43.5	-13.4	40.2	1.3	32.0	10.5	10.0
136.67	33.8	43.5	-9.7	44.3	1.4	32.0	10.5	9.6
145.9	32.2	43.5	-11.3	43.9	1.4	32.0	10.5	8.4

Test Mode: Wi-Fi Rx mode, Bluetooth Rx mode
Temperature: 20 C
Humidity : 50 %





5.0 List of Test Equipment

Measurement equipment used for emission compliance testing utilized the equipment on the following list:

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. INTERVAL	CAL. DUE
RF Filter Section	Hewlett Packard	85460A	3448A00267	12	12/04/10
EMI Receiver	Hewlett Packard	8546A	3710A00373	12	12/04/10
BI-Log Antenna	Antenna Research	LPB-2513/A	1154	12	06/23/10
Pre-Amplifier	Sonoma	310N	185634	12	11/19/10
Spectrum Analyzer	R & S	FSP40	100030	12	10/16/11
Spectrum Analyzer	R & S	FSU	200482	12	03/18/11
Pre-Amplifier	Miteq	AMF-4D-001180-24-10P	799159	12	07/28/10
Horn Antenna	EMCO	3115	9509-3712	12	11/03/10
Vector Signal Generator	R & S	SMU200A	102499	12	04/28/11
LISN	FCC	FCC-LISN-50-50-M-H	2011	12	09/25/10
Power meter	Agilent	E4416A	GB41292577	12	06/05/10

No Calibration required



6.0 RF Exposure evaluation

SAR test was performed. Refer to RF Exposure exhibit.



7.0 Document History

Revision/ Job Number	Writer Initials	Date	Change
1.0 / G100028553	KK	May 31, 2010	Original document



Appendix A – 26-dB Bandwidth and Occupied Bandwidth

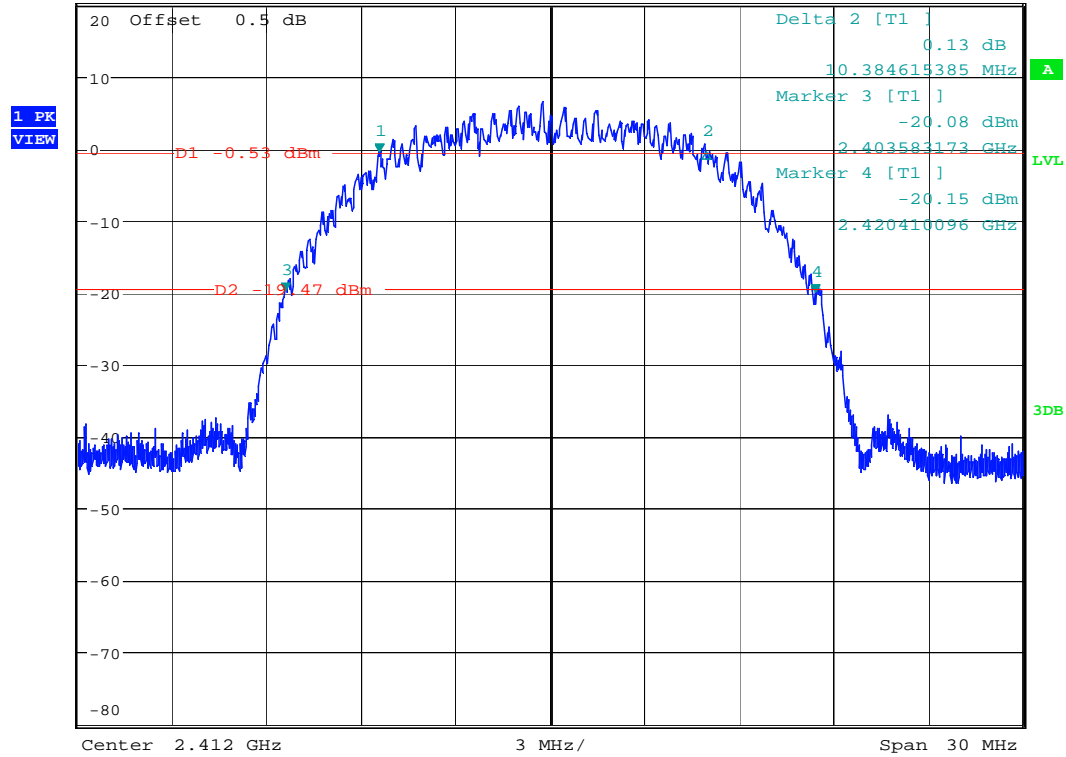
Wi-Fi radio

Channel	Frequency MHz	Standard	Date rate Mbps	26-dB Bandwidth MHz	Occupied Bandwidth MHz	Plot
1	2412	802.11b	11	16.83	13.57	A1, A7
1	2412	802.11g	54	20.14	16.45	A2, A8
6	2437	802.11b	11	16.97	13.56	A3, A9
6	2437	802.11g	54	20.34	16.44	A4, A10
11	2462	802.11b	11	16.97	13.56	A5, A11
11	2462	802.11g	54	20.19	16.45	A6, A12

Plot A1



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -0.75 dBm
 Ref 20 dBm Att 45 dB SWT 35 ms 2.406563942 GHz



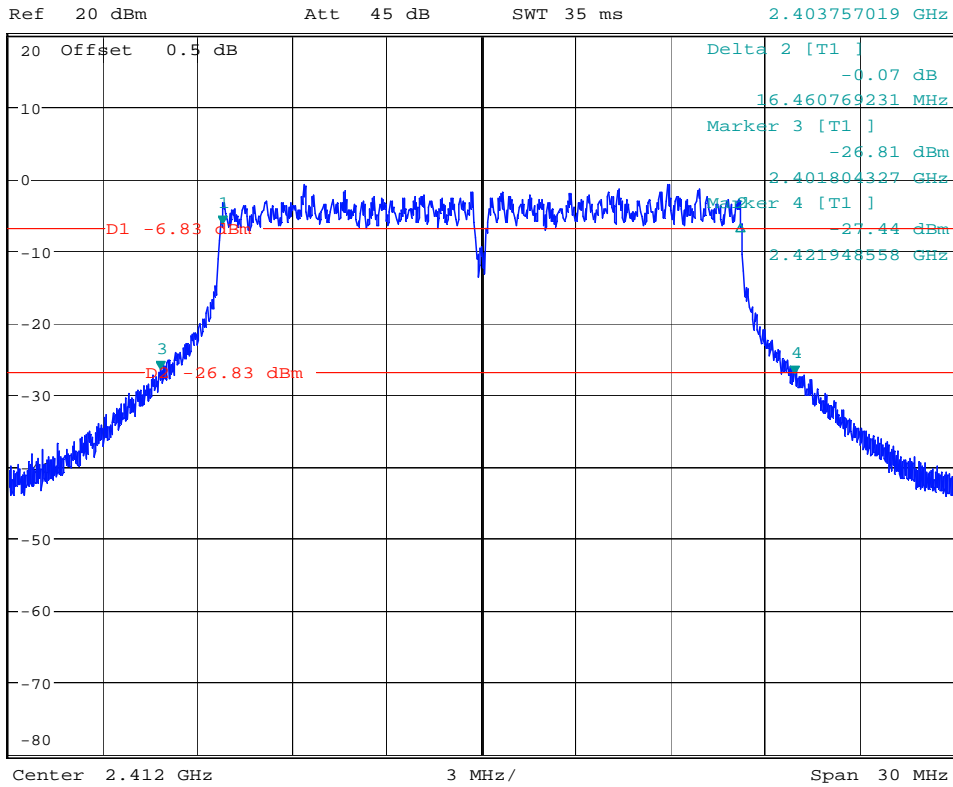
6-dB and 26-dB bandwidths, ch 1, 11 Mbps

Date: 23.MAY.2010 23:25:57

Plot A2



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -6.51 dBm
 2.403757019 GHz



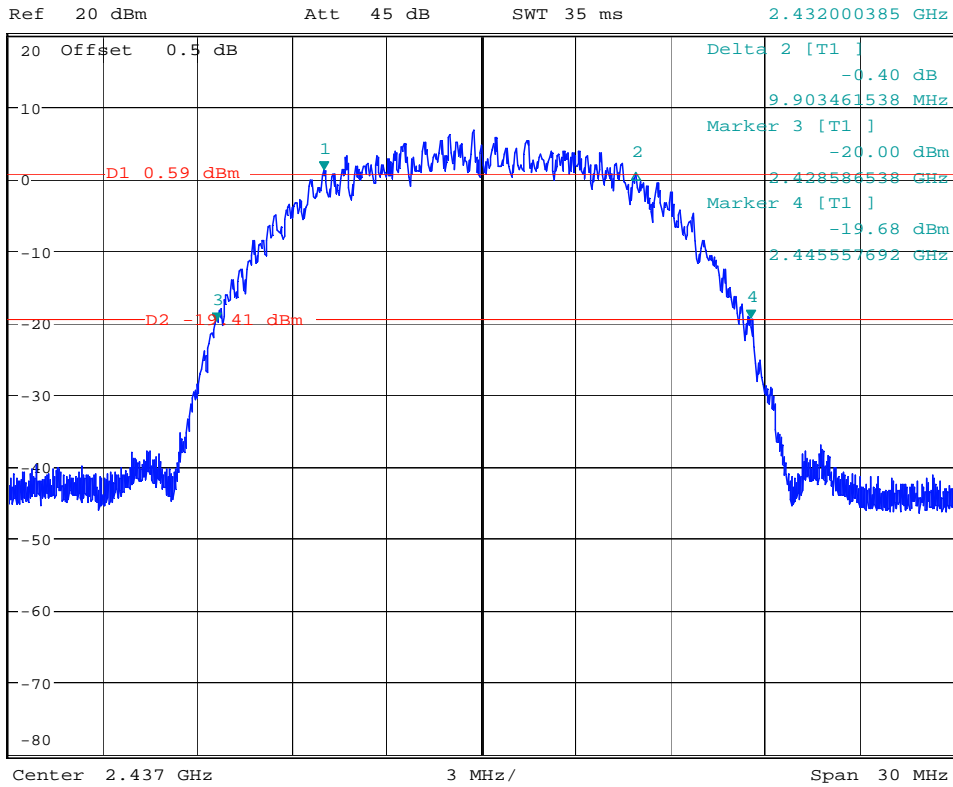
6-dB and 26-dB bandwidths, ch 1, 54 Mbps

Date: 23.MAY.2010 23:34:41

Plot A3



*RBW 100 kHz Marker 1 [T1] 0.95 dBm
 *VBW 100 kHz 2.432000385 GHz



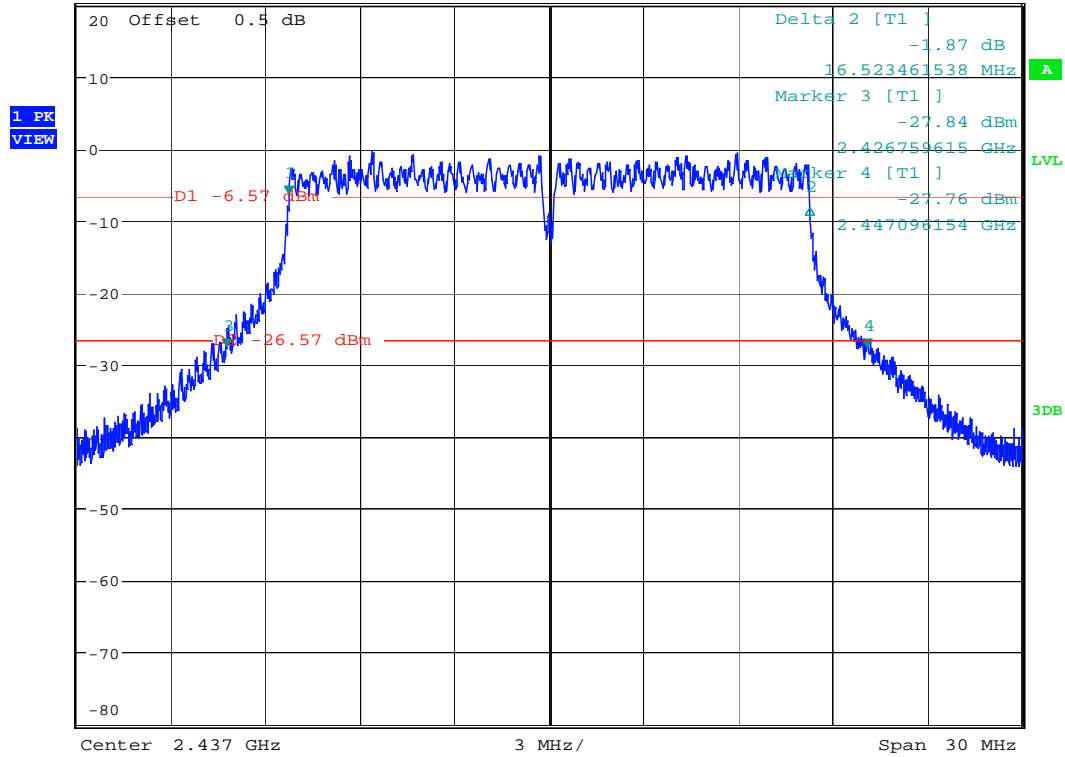
6-dB and 26-dB bandwidths, ch 6, 11 Mbps

Date: 23.MAY.2010 23:41:32

Plot A4



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -6.66 dBm
 Ref 20 dBm Att 45 dB SWT 35 ms 2.428745769 GHz



6-dB and 26-dB bandwidths, ch 6, 54 Mbps

Date: 23.MAY.2010 23:44:19

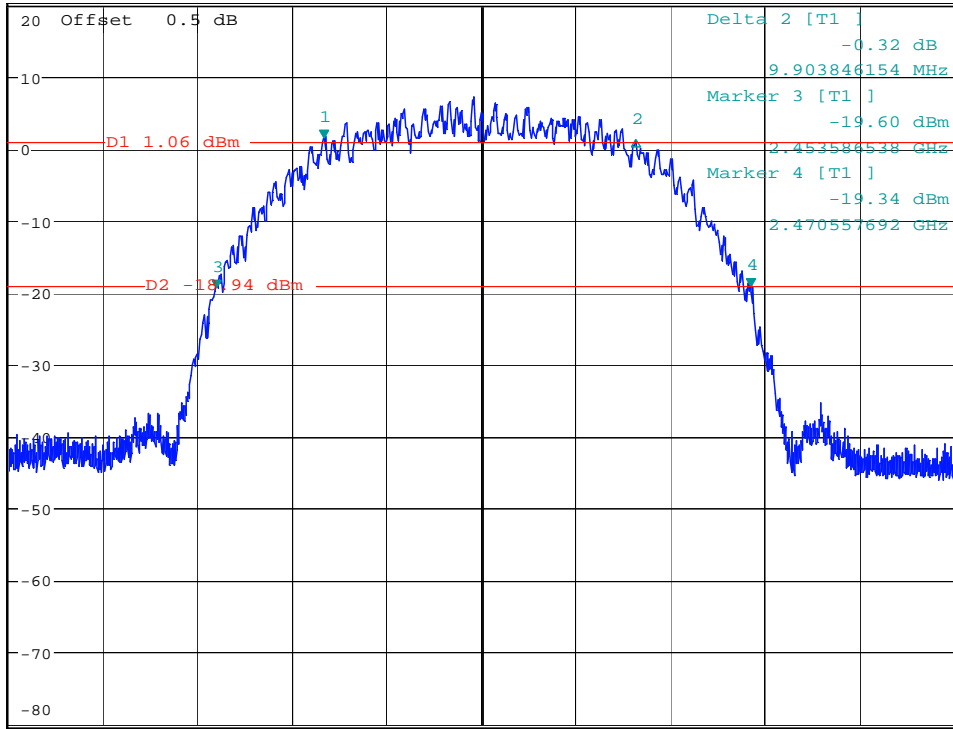
Plot A5



*RBW 100 kHz Marker 1 [T1] 1.25 dBm
 *VBW 100 kHz 2.456996635 GHz

Ref 20 dBm Att 45 dB SWT 35 ms

1 PK
VIEW



Center 2.462 GHz 3 MHz/ Span 30 MHz

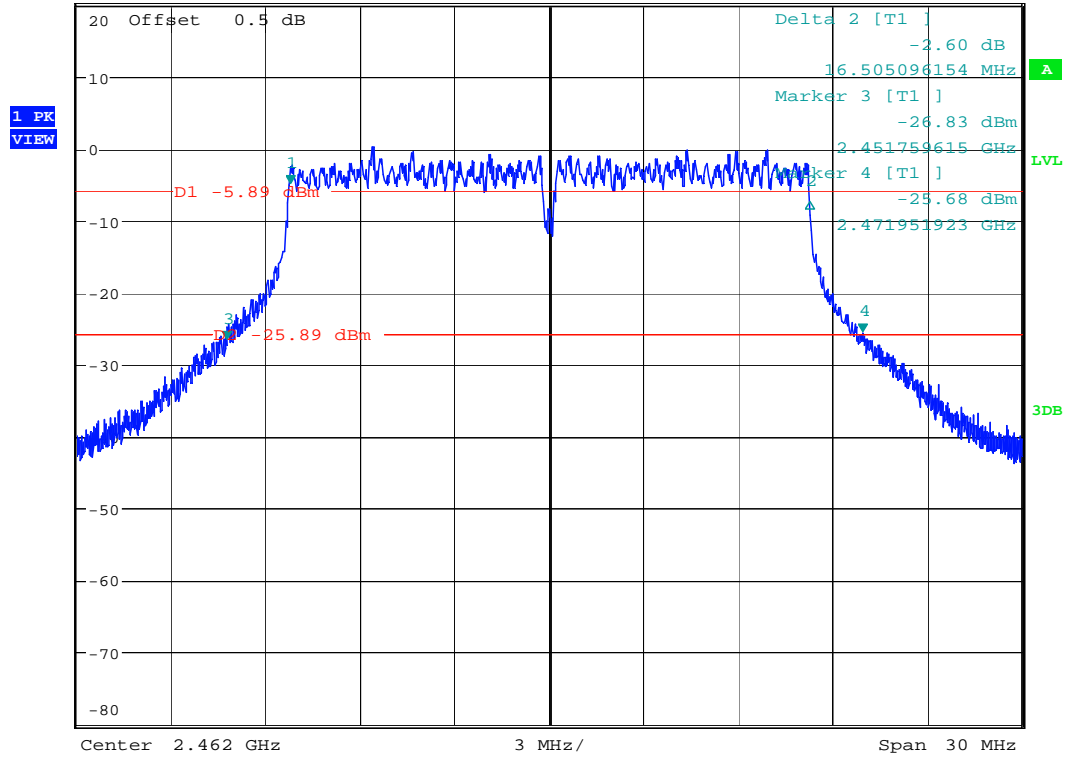
6-dB and 26-dB bandwidths, ch 11, 11 Mbps

Date: 23.MAY.2010 23:48:22

Plot A6



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -5.10 dBm
 Ref 20 dBm Att 45 dB SWT 35 ms 2.453760769 GHz



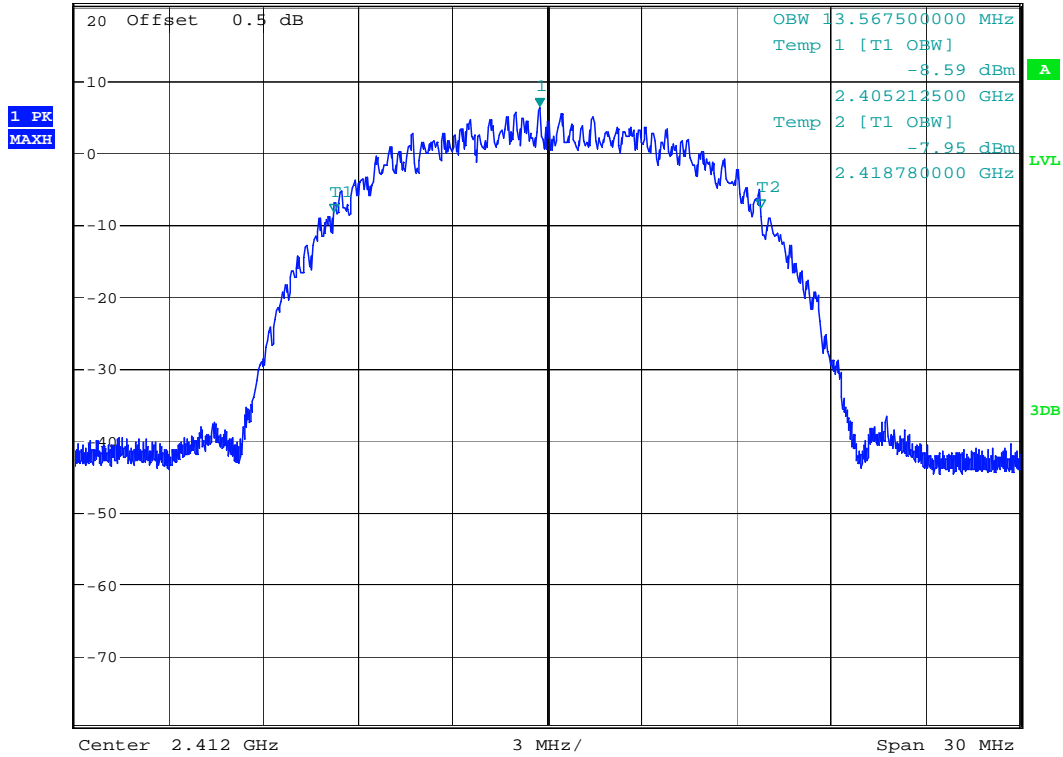
6-dB and 26-dB bandwidths, ch 11, 54 Mbps

Date: 23.MAY.2010 23:50:55

Plot A7



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz 6.16 dBm
 Ref 20.5 dBm *Att 45 dB SWT 35 ms 2.411756250 GHz



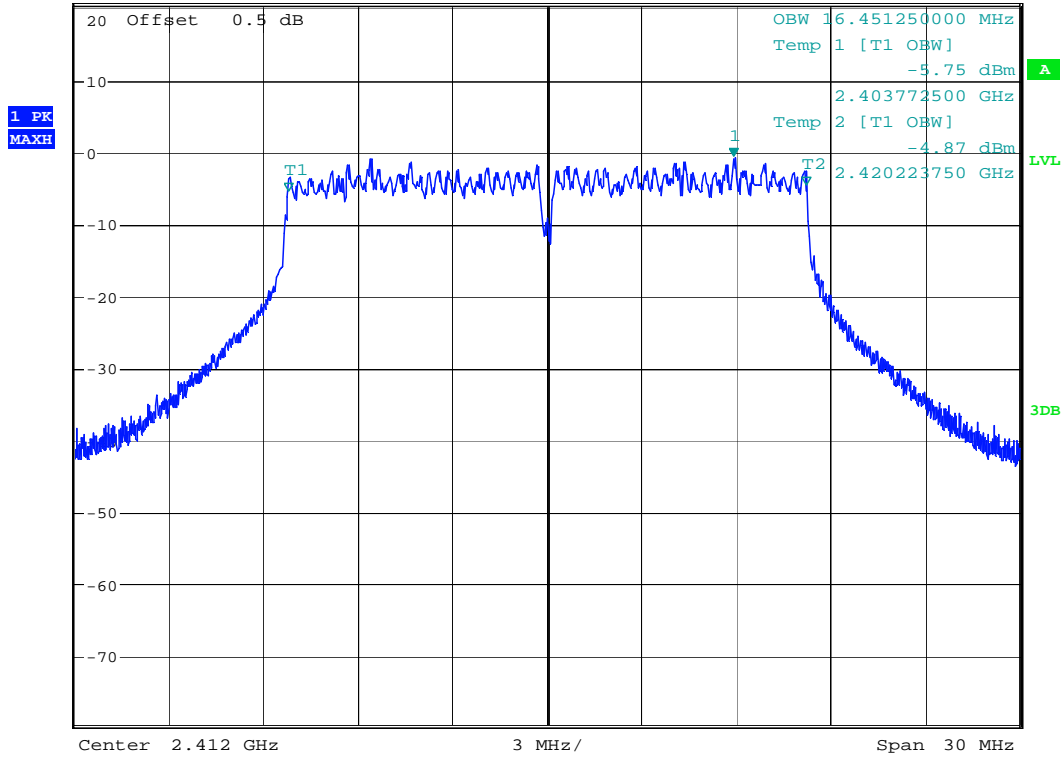
Occupied bandwidth, Ch 1, 11 Mbps

Date: 24.MAY.2010 11:02:01

Plot A8



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -0.82 dBm
 Ref 20.5 dBm *Att 45 dB SWT 35 ms 2.417928750 GHz



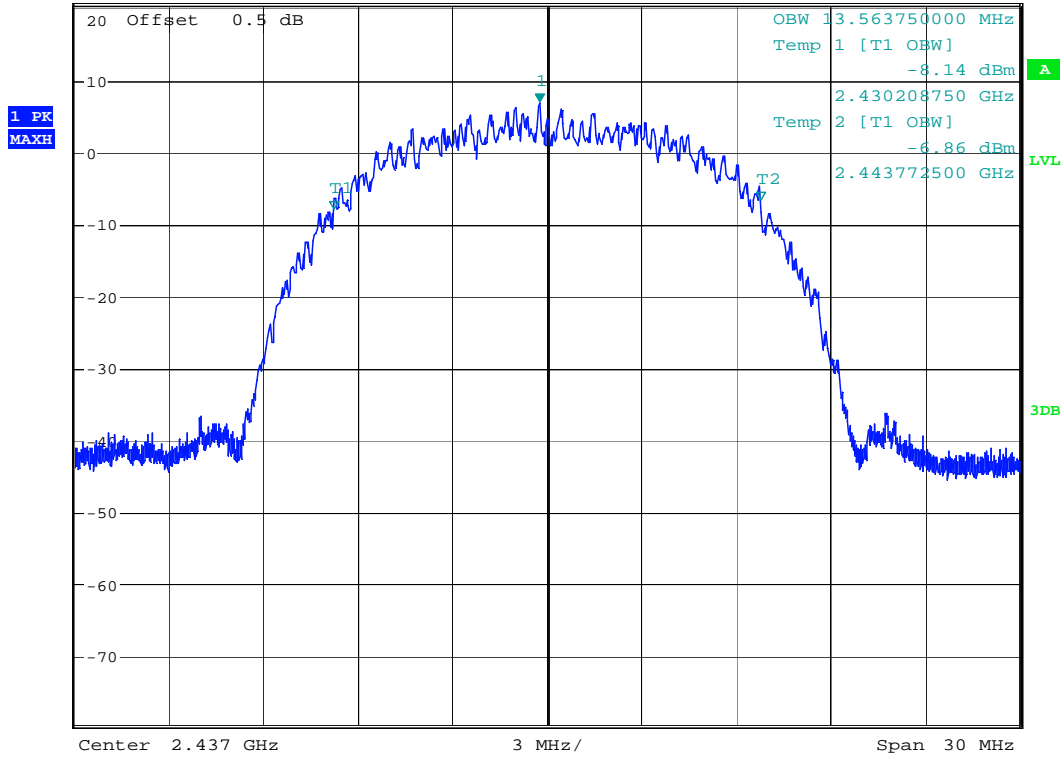
Occupied bandwidth, Ch 1, 54 Mbps

Date: 24.MAY.2010 11:03:55

Plot A9



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz 6.72 dBm
 Ref 20.5 dBm *Att 45 dB SWT 35 ms 2.436756250 GHz



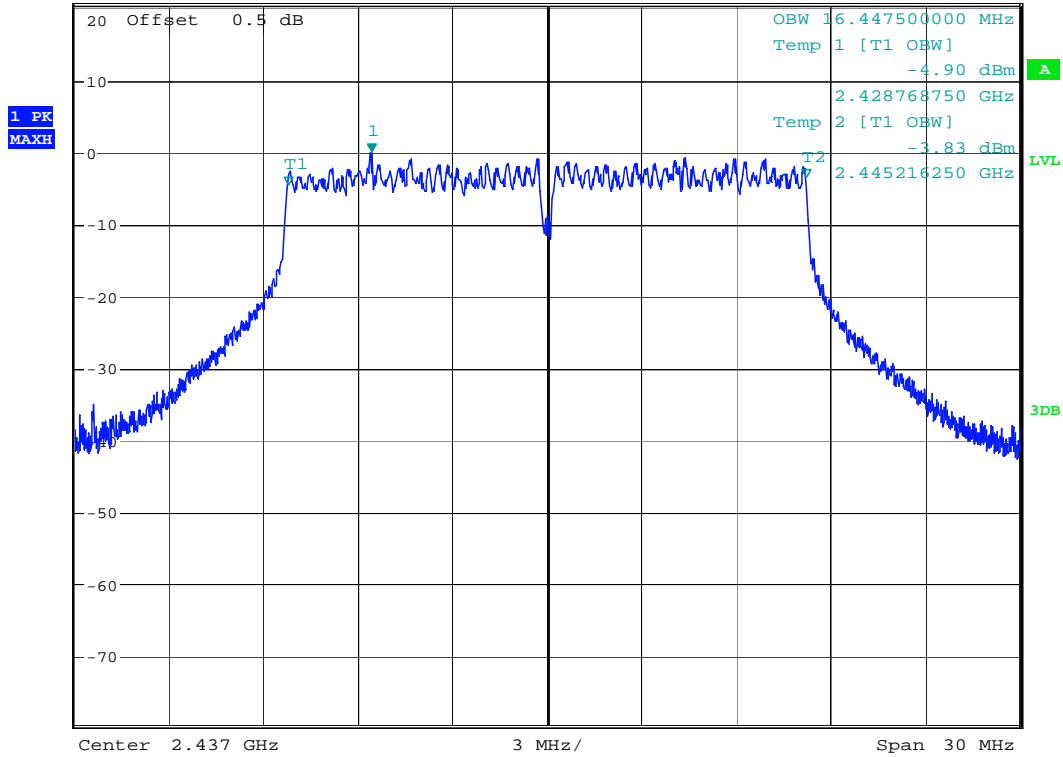
Occupied bandwidth, Ch 6, 11 Mbps

Date: 24.MAY.2010 11:06:19

Plot A10



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -0.14 dBm
 Ref 20.5 dBm *Att 45 dB SWT 35 ms 2.431401250 GHz



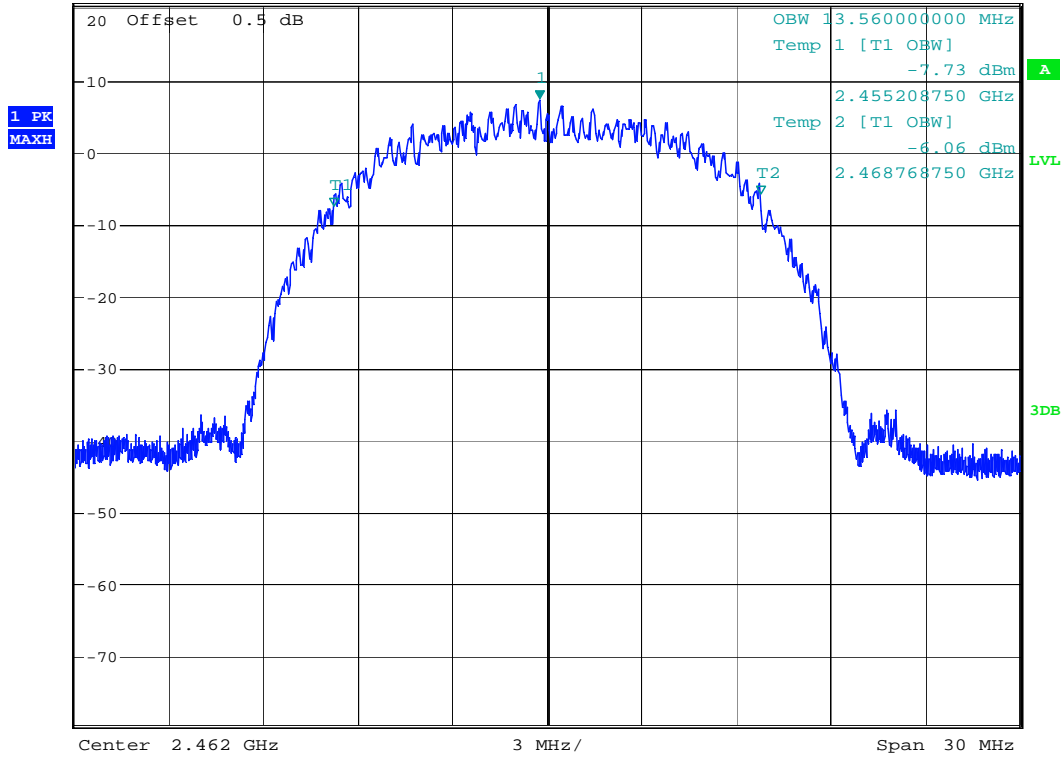
Occupied bandwidth, Ch 6, 54 Mbps

Date: 24.MAY.2010 11:07:52

Plot A11



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz 7.20 dBm
 Ref 20.5 dBm *Att 45 dB SWT 35 ms 2.461752500 GHz



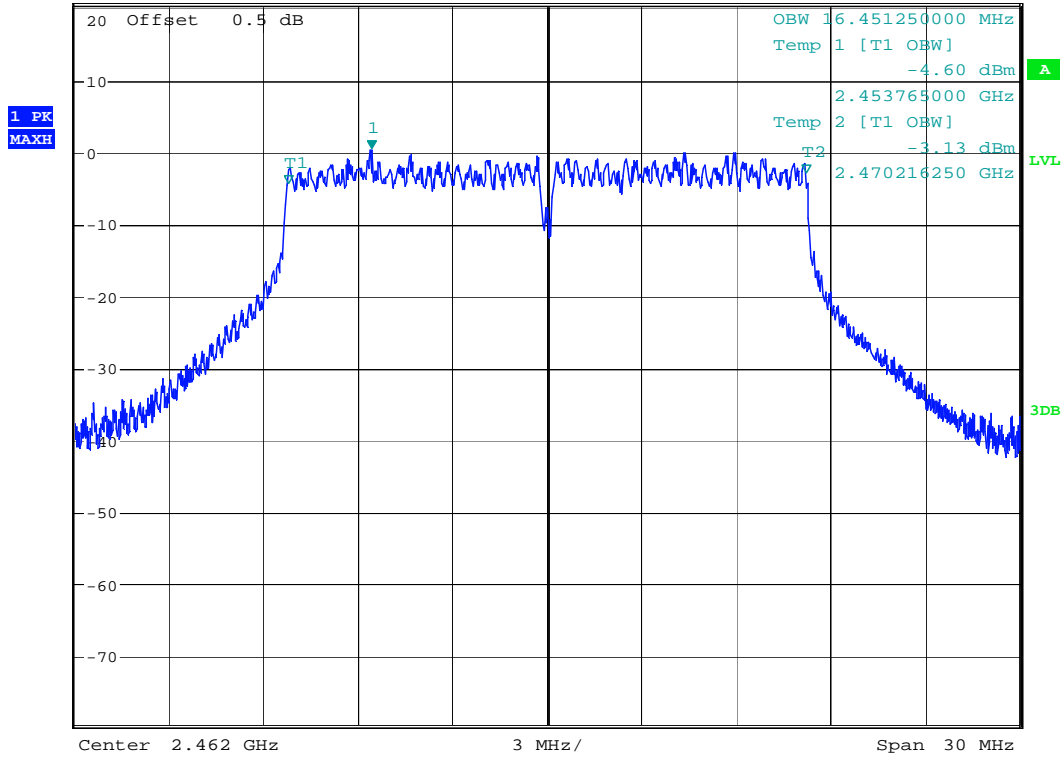
Occupied bandwidth, Ch 11, 11 Mbps

Date: 24.MAY.2010 11:09:48

Plot A12



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz 0.20 dBm
 Ref 20.5 dBm *Att 45 dB SWT 35 ms 2.456408750 GHz



Occupied bandwidth, Ch 11, 54 Mbps

Date: 24.MAY.2010 11:11:00