Cyber Blue (HK) Limited

Application
For
Certification

FCC ID: UFDD302

IP CAMERA

Model: D302
Additional Model (radioshack): 4900319

WiFi Transceiver

Report No.: 140905011SZN-001

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-13]

Prepared and Checked by:

Sign on file

Hardy Suo
Assistant Engineer

Approved by:

Digitally signed by Andy Yan
Location: Intertek Testing Services

Andy Yan
Senior Project Engineer
Date: October 10, 2014

- The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
- This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to copy or distribute this report. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results referenced from this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.
- For Terms And Conditions of the services, it can be provided upon request.
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TRF no.: FCC 15C_Tx_b

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MEASUREMENT/TECHNICAL REPORT

IP CAMERA

Model: D302
Additional Model (radioshack): 4900319

FCC ID: UFDD302

This report concerns (check one) Original Grant ___X___ Class II Change ____

Equipment Type: DTS - Part 15 Digital Transmission Systems (WiFi transmitter portion)

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes _____ No ___X_

If yes, defer until : _____
date

Company Name agrees to notify the Commission by: _____
date

of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? Yes _____ No ___X___

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [10-01-13] Edition] provision.

Report prepared by:

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List of attached file

Exhibit type	File Description	Filename
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated Emission	radiated photos.pdf
Test Setup Photo	Conducted Emission	conducted photos.pdf
External Photo	External Photo	external photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
Operation Description	Technical Description	descri.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Cover Letter	Confidentiality Letter	request.pdf
Cover Letter	Letter of Agency	agency.pdf

EXHIBIT 1

SUMMARY OF TEST RESULTS

1.0 Summary of Test results

IP CAMERA

Model: D302

FCC ID: UFDD302

TEST	REFERENCE	RESULTS
Max. Output power	15.247(b)(3)	Pass
6 dB Bandwidth	15.247(a)(2)	Pass
Max. Power Density	15.247(e)	Pass
Out of Band Antenna Conducted Emission	15.247(d)	Pass
Radiated Emission in Restricted Bands	15.247(d)	Pass
AC Conducted Emission	15.207	Pass
Antenna Requirement	15.203	Pass (See Notes)

Notes: The EUT uses an Integral Antenna which in accordance to Section 15.203 is considered sufficient to comply with the provisions of this section.

EXHIBIT 2

GENERAL DESCRIPTION

2.0 General Description

2.1 Product Description

The Equipment Under Test (EUT) is a IP CAMERA with WiFi function operating at 2412-2462MHz for 802.11b/g/n-HT20, 11 channels with 5MHz channel spacing and 2422-2452MHz for 802.11n-HT40, 9 channels with 5MHz channel spacing. The EUT was powered by AC/DC adapter with input of 100-240Vac, 50/60Hz, 0.4A and output of 5Vdc, 1000mA. For more detailed features description, please refer to the user's manual.

Accessories:

(1)	AC/DC Adapter	Model: SC050100-US Input: AC 100-240V, 50/60Hz, 0.4A Output: DC 5.0V, 1000mA
(2)	USB Cable	Unshielded, Length 304cm

The Model: 4900319 is the same as the Model: D302 in hardware aspect, the electrical part are the same, they are differences in appearance, model number and brand name as trading purpose.

Type of Modulation: BPSK, QPSK, 16QAM, 64QAM, CCK, DQPSK, DBPSK.

Antenna Type: Integral Antenna.

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

2.2 Related Submittal(s) Grants

This is an application for certification of:
DTS- Part 15 Digital Transmission Systems (WiFi transmitter portion), and there is no corresponding unit for certification.

2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2009) and KDB 558074. Radiated emission measurement was performed in semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

2.4 Test Facility

The Semi-Anechoic chamber and shield room used to collect the radiated data and conducted data are **Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch** and located at 6F, Block D, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. China. This test facility and site measurement data have been fully placed on file with the FCC (Registration Number: 242492).

EXHIBIT 3

SYSTEM TEST CONFIGURATION

3.0 System Test Configuration

3.1 Justification

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables were manipulated to produce worst case emissions. The EUT was powered by AC/DC Adapter (Input: 120Vac, 60Hz, Output: 5Vdc, 1000mA) during the testing. Only the worst case data was reported.

The signal is maximized through rotation and placement in the three orthogonal axes. 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 unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

The rear of unit shall be flushed with the rear of the table.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

3.2 EUT Exercising Software

The EUT exercise program (provided by client) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The worst case configuration is used in all specified testing.

The parameters of test software setting:
During the test, Channel and power controlling software provided by the applicant was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the application and is going to be fixed on the firmware of the end product.

Power Parameters of IEEE 802.11b/g/n
On 802.11n (20MHz & 40MHz) mode, only one antenna is used for transmission.
We test all data rate and only the worst – case data is shown in the report.

3.3 Special Accessories

N/A.

3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

Uncertainty and Compliance – Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

3.5 Equipment Modification

Any modifications installed previous to testing by Cyber Blue (HK) Limited will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch.

3.6 Support Equipment List and Description

This product was tested in the following configuration:

Refer List:

Description	Manufacturer	Model No.
USB Cable	Cyber Blue	Unshielded, Length 304cm
TF Card	SanDisk	4G
Adapter	Cyber Blue	SC050100-US Input: AC 100~240V, 50/60Hz, 0.4A; Output: DC 5.0V, 1000mA

EXHIBIT 4

MEASUREMENT RESULTS

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302

4.0 **Measurement Results**

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b)(3):

The antenna power of the EUT was connected to the input of a broadband peak RF power meter. The power meter have a video bandwidth that is greater than DTS bandwidth and utilize a fast-responding diode detector. Power was read directly at the EUT antenna terminals with cable loss added.

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

IEEE 802.11b (Antenna Gain = 1.72dBi) (CCK, 1Mbps)		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412	14.30	26.92
Middle Channel: 2437	14.30	26.92
High Channel: 2462	14.70	29.51

IEEE 802.11g (Antenna Gain = 1.72dBi) (16QAM, 6Mbps)		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412	15.70	37.15
Middle Channel: 2437	16.30	42.66
High Channel: 2462	16.80	47.86

IEEE 802.11n-HT20 (Antenna Gain = 1.72dBi) (16QAM, 6.5Mbps)		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412	16.20	41.69
Middle Channel: 2437	16.70	46.77
High Channel: 2462	16.90	48.98

IEEE 802.11n-HT40 (Antenna Gain = 1.72dBi) (64QAM, 13.5Mbps)		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2422	14.10	25.70
Middle Channel: 2437	14.30	26.92
High Channel: 2452	14.50	28.18

Cable loss: 0.5 dB External Attenuation: 0 dB

Cable loss, external attenuation has been included in OFFSET function

EUT max. output level = 16.90dBm

For RF Exposure, the information is saved with filename: RF exposure.pdf.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302

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

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was set to 100 KHz according to FCC KDB 558074. 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 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

Limit: The 6 dB Bandwidth is at least 500 kHz.

IEEE 802.11b (CCK, 1Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2412	10.029
2437	10.029
2462	10.550

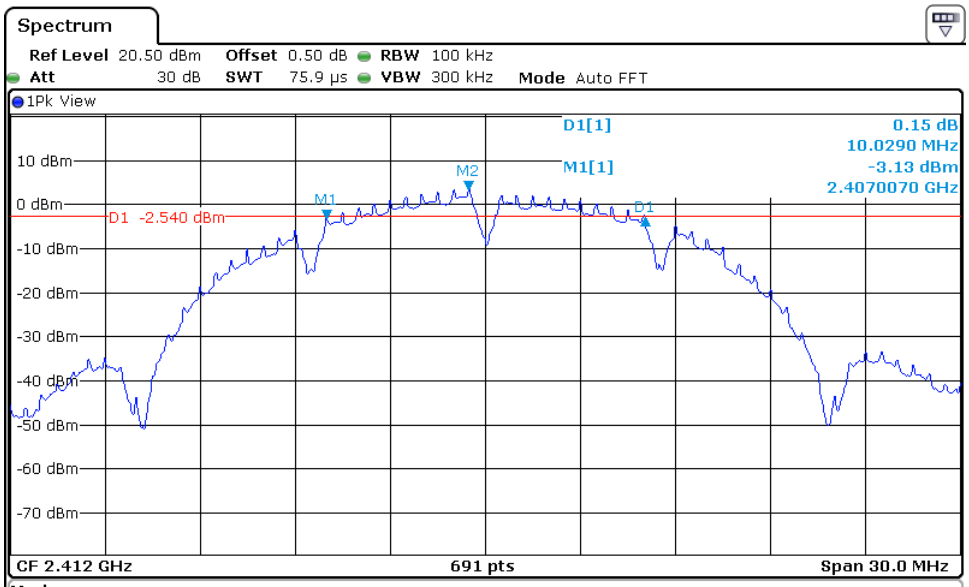
IEEE 802.11g (16QAM, 6Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2412	16.585
2437	16.585
2462	16.411

IEEE 802.11n-HT20 (16QAM, 6.5Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2412	17.800
2437	17.800
2462	17.670

IEEE 802.11n-HT40 (64QAM, 13.5Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2422	37.793
2437	37.699
2452	36.375

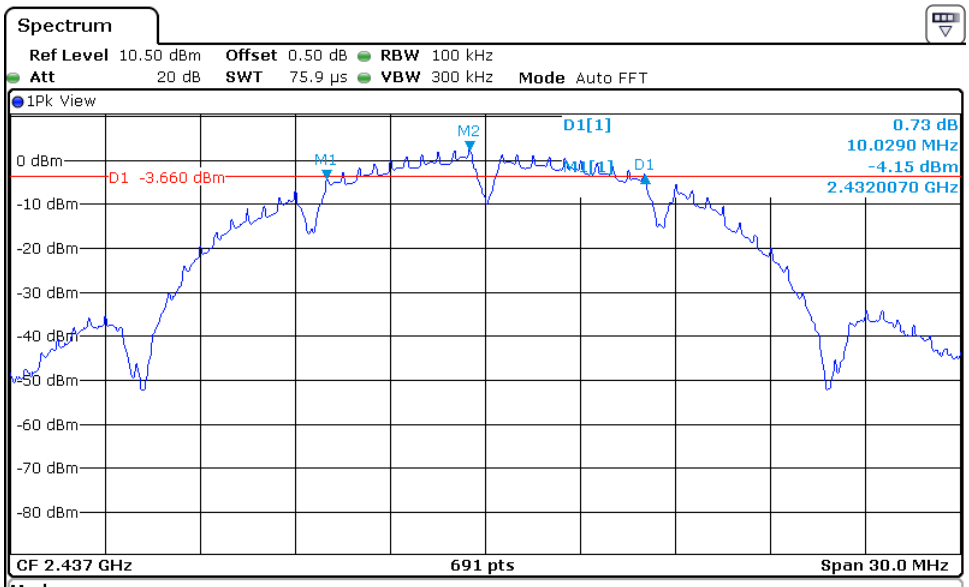
The test plots are attached as below.

802.11b



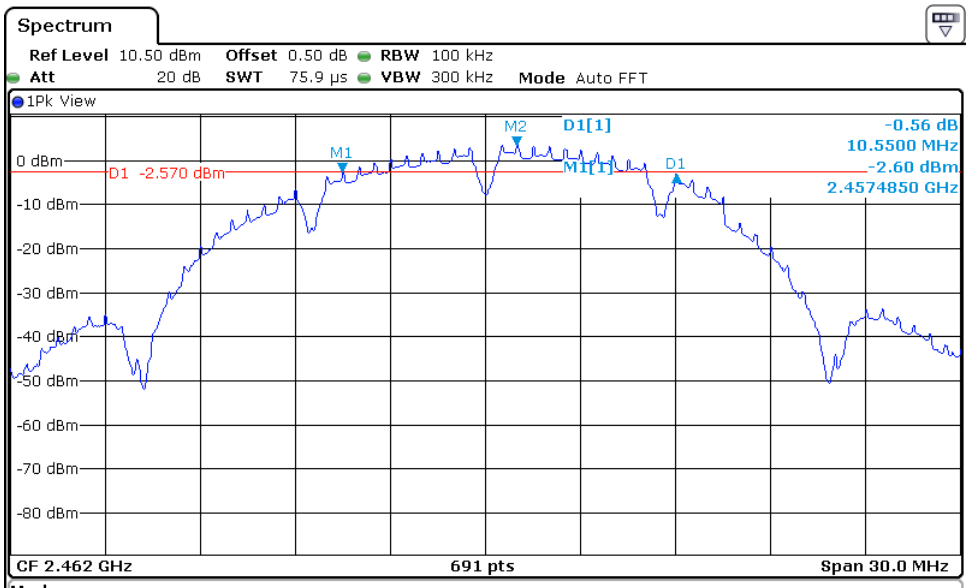
Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.407007 GHz	-3.13 dBm		
D1	M1	1	10.029 MHz	0.15 dB		
M2		1	2.411479 GHz	3.46 dBm		



Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.432007 GHz	-4.15 dBm		
D1	M1	1	10.029 MHz	0.73 dB		
M2		1	2.436522 GHz	2.34 dBm		



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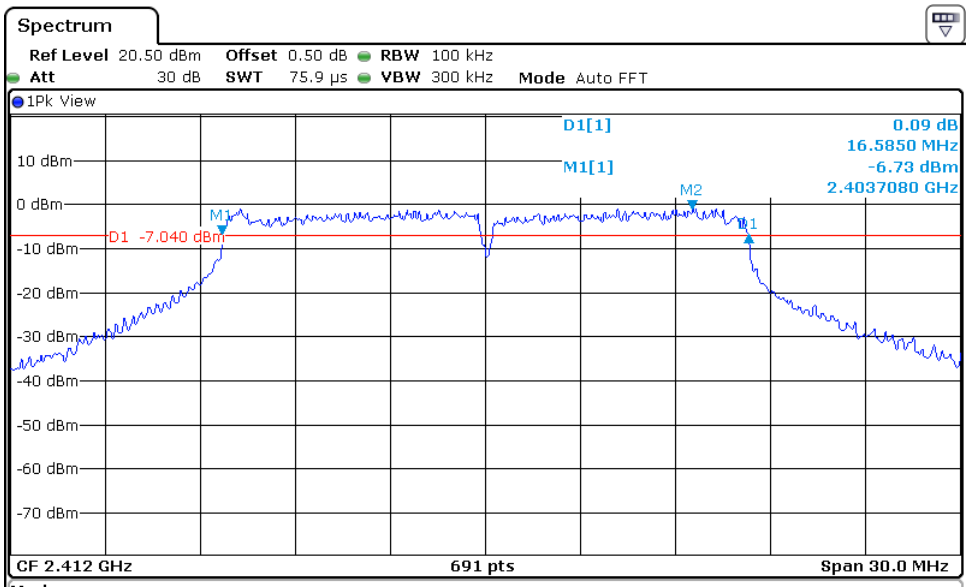
Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.457485 GHz	-2.60 dBm		
D1	M1	1	10.55 MHz	-0.56 dB		
M2		1	2.462999 GHz	3.43 dBm		

802.11g



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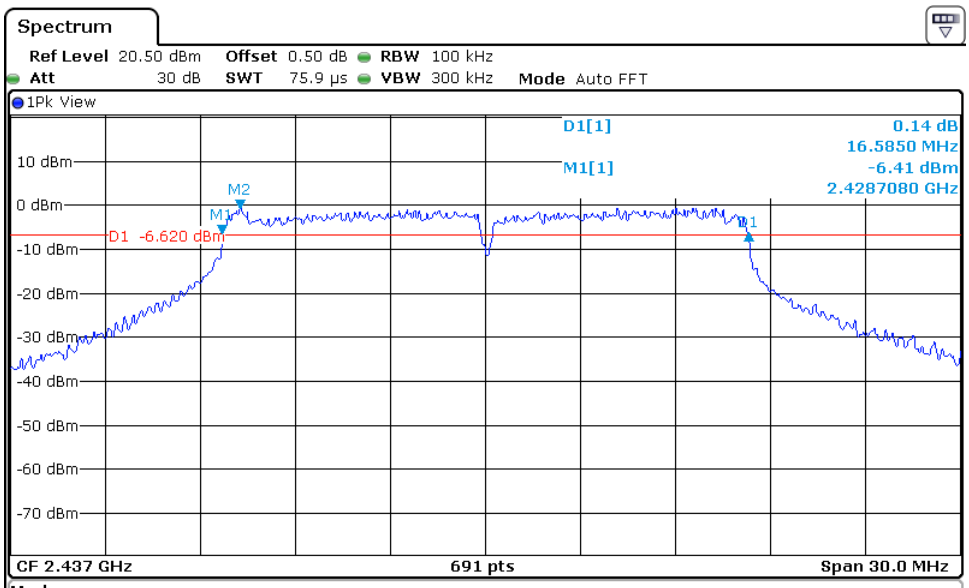
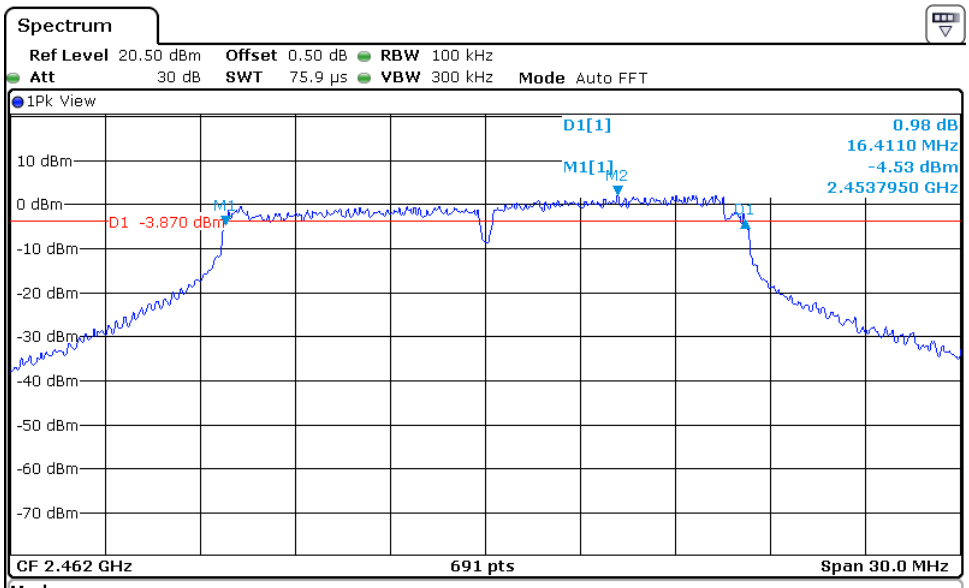
Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.403708 GHz	-6.73 dBm		
D1	M1	1	16.585 MHz	0.09 dB		
M2		1	2.418512 GHz	-1.04 dBm		



Marker

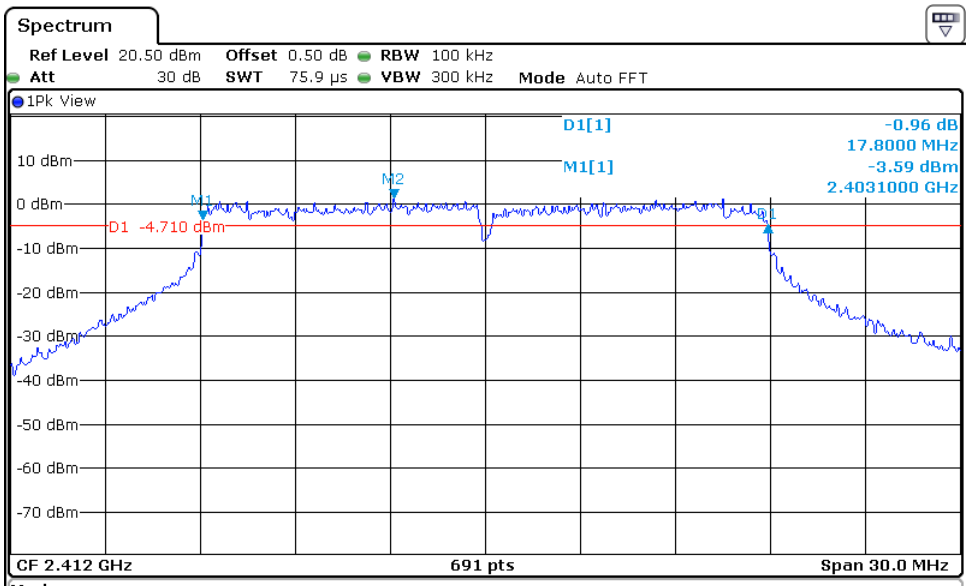
Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.428708 GHz	-6.41 dBm		
D1	M1	1	16.585 MHz	0.14 dB		
M2		1	2.429272 GHz	-0.62 dBm		



Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.453795 GHz	-4.53 dBm		
D1	M1	1	16.411 MHz	0.98 dB		
M2		1	2.466168 GHz	2.13 dBm		

802.11 n-HT20



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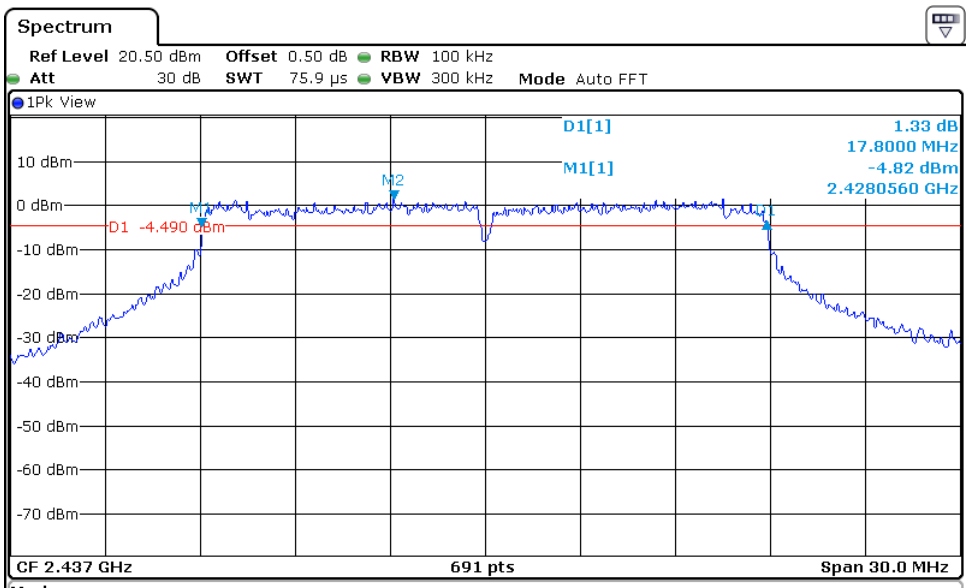
Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.4031 GHz	-3.59 dBm		
D1	M1	1	17.8 MHz	-0.96 dB		
M2		1	2.409135 GHz	1.29 dBm		



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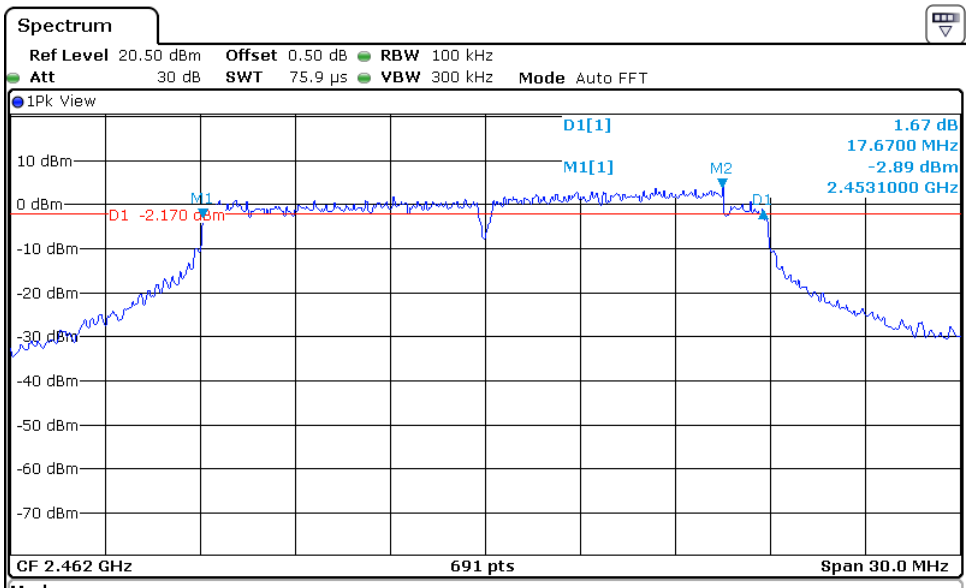
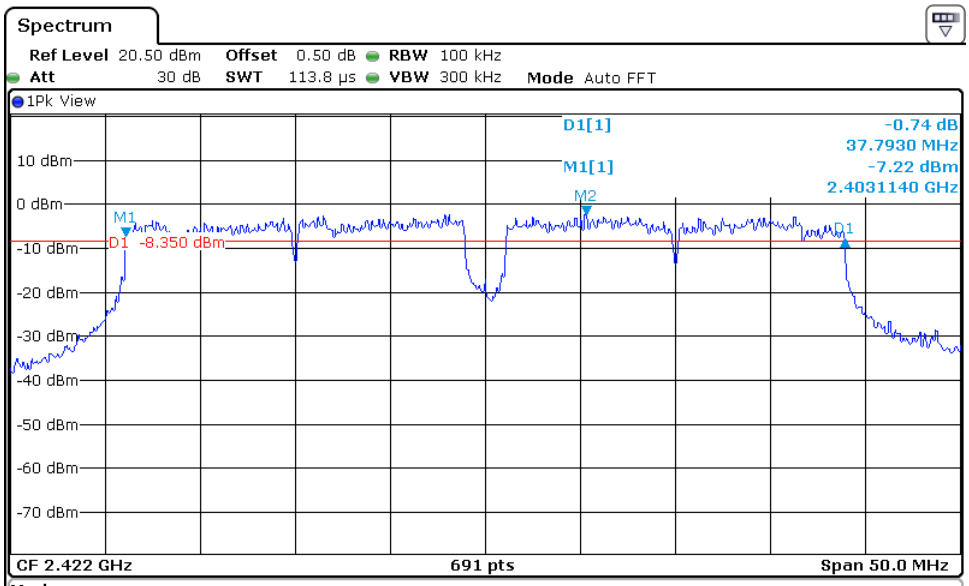
Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.428056 GHz	-4.82 dBm		
D1	M1	1	17.8 MHz	1.33 dB		
M2		1	2.434135 GHz	1.51 dBm		



Marker

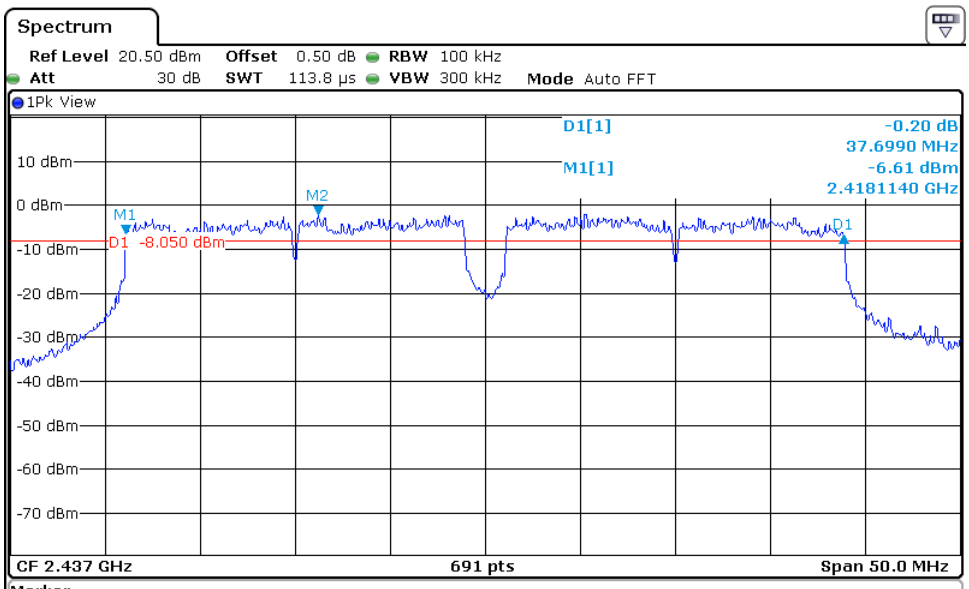
Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.4531 GHz	-2.89 dBm		
D1	M1	1	17.67 MHz	1.67 dB		
M2		1	2.469467 GHz	3.83 dBm		

802.11 n-HT40



Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.403114 GHz	-7.22 dBm		
D1	M1	1	37.793 MHz	-0.74 dB		
M2		1	2.427282 GHz	-2.35 dBm		



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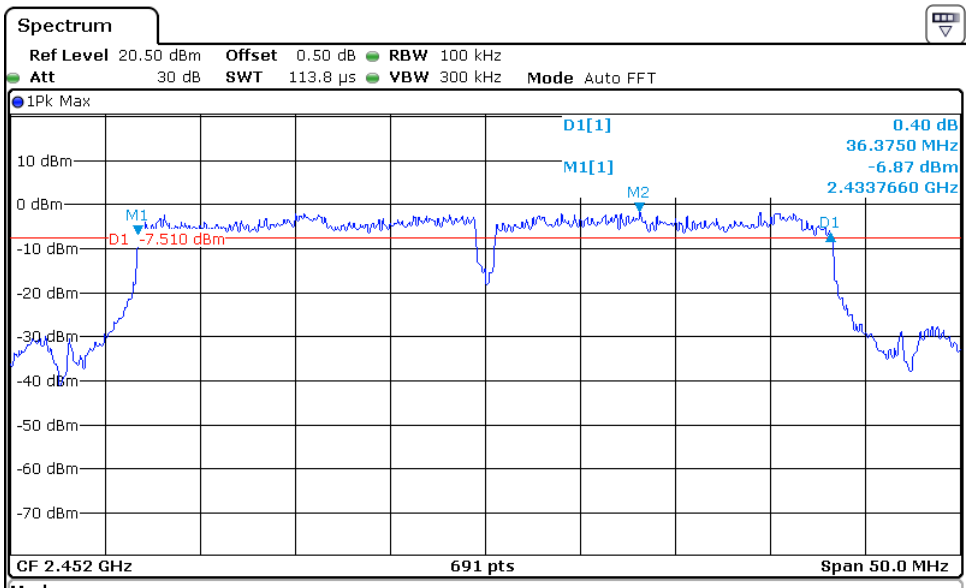
Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.418114 GHz	-6.61 dBm		
D1	M1	1	37.699 MHz	-0.20 dB		
M2		1	2.428245 GHz	-2.05 dBm		



Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.433766 GHz	-6.87 dBm		
D1	M1	1	36.375 MHz	0.40 dB		
M2		1	2.460104 GHz	-1.51 dBm		

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302

4.3 Maximum Power Density Reading, FCC Rule 15.247(e):

The Measurement Procedure PKPSD was set according to the FCC KDB 558074.

Antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

Limit: The Power Density does not exceed 8dBm/3 kHz.

IEEE 802.11b (CCK, 1Mbps)	
Frequency (MHz)	Power Density with RBW 100KHz
2412	2.72
2437	2.28
2462	3.14

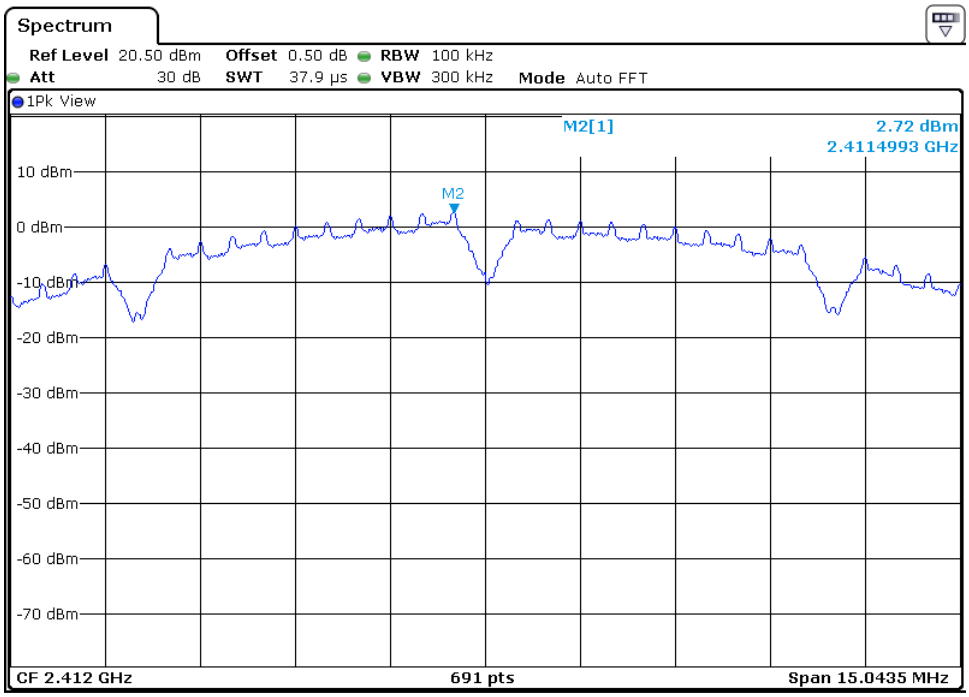
IEEE 802.11g (16QAM, 6Mbps)	
Frequency (MHz)	Power Density with RBW 100KHz
2412	-0.30
2437	0.24
2462	0.01

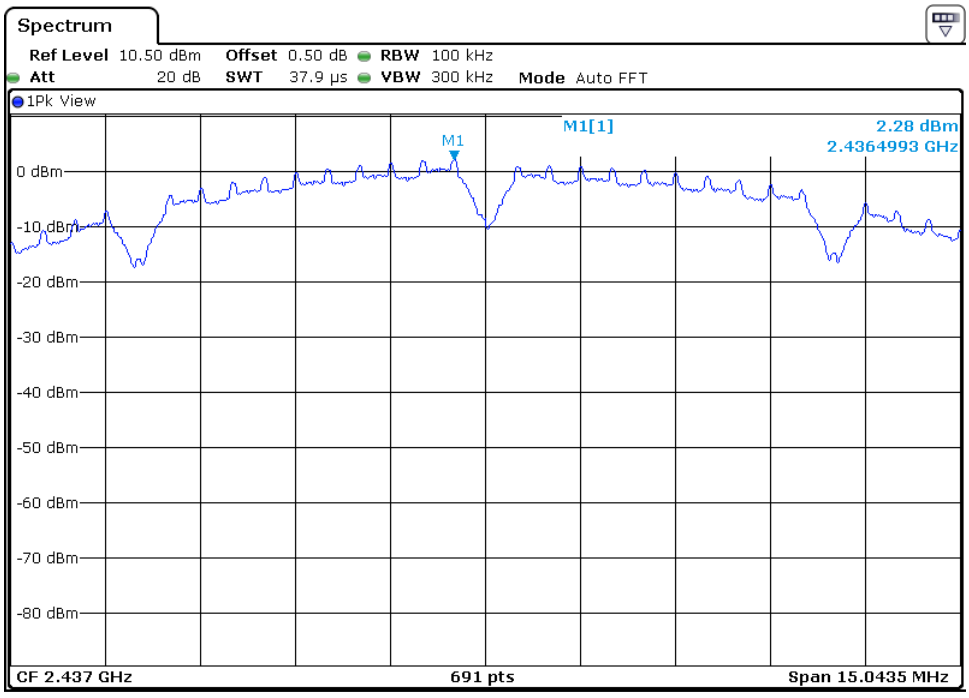
IEEE 802.11n-HT20 (16QAM, 6.5Mbps)	
Frequency (MHz)	Power Density with RBW 100KHz
2412	0.77
2437	0.11
2462	-0.30

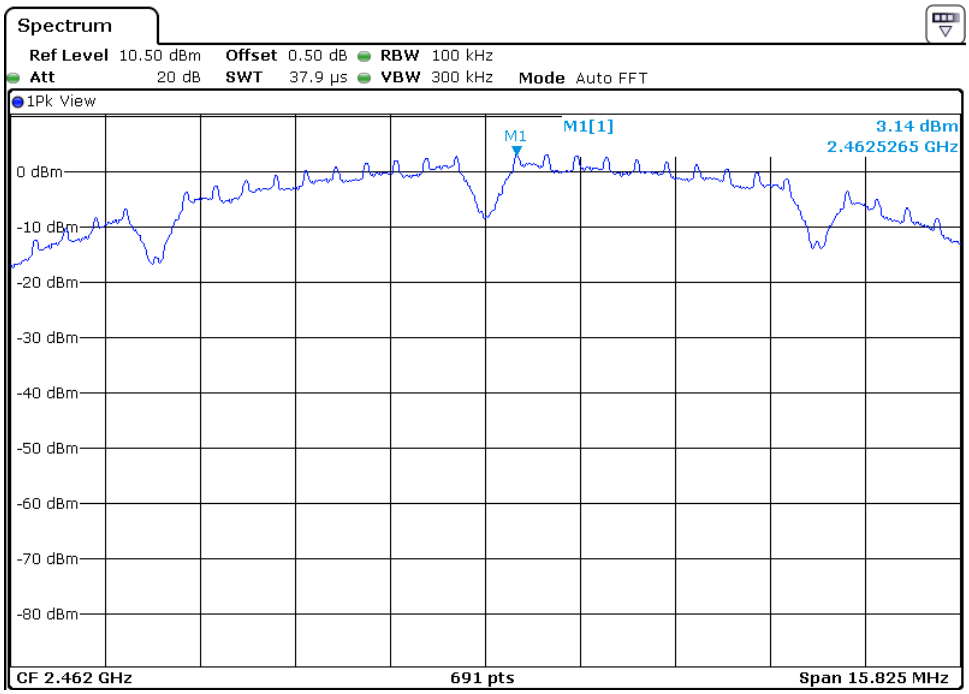
IEEE 802.11n-HT40 (64QAM, 13.5Mbps)	
Frequency (MHz)	Power Density with RBW 100KHz
2422	-4.20
2437	-4.00
2452	-3.93

The test plots are attached as below.

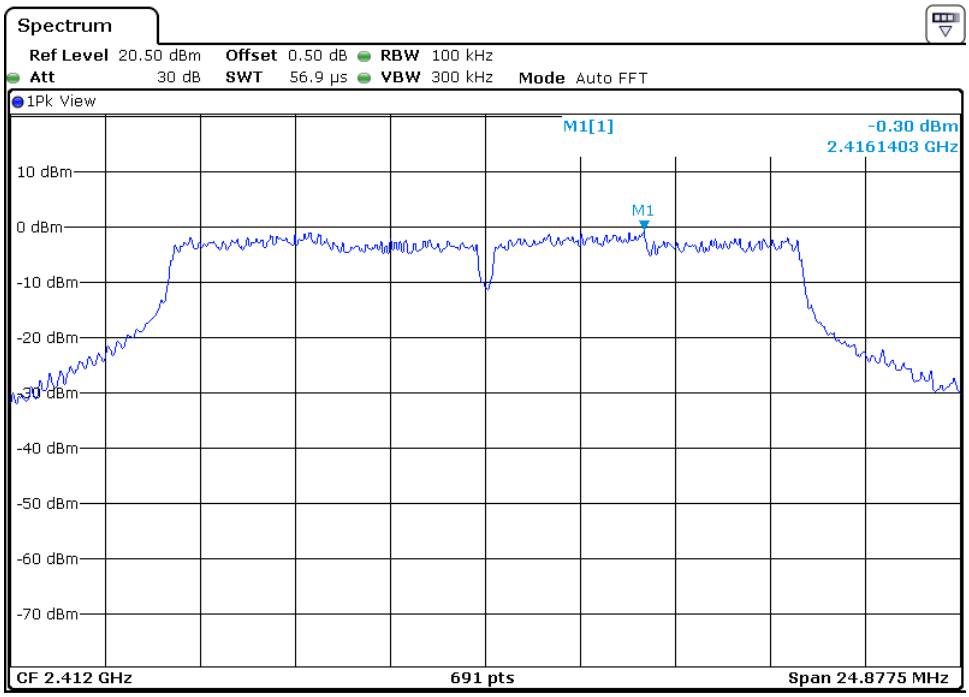
802.11b

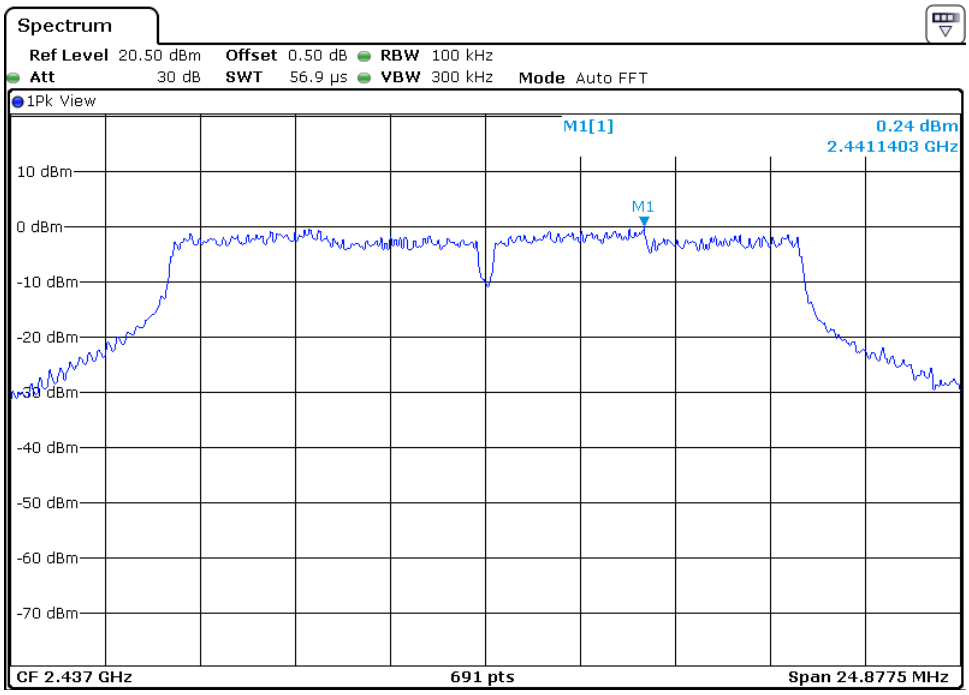

Spectrum
Ref Level 20.50 dBm Offset 0.50 dB RBW 100 kHz
Att 30 dB SWT 37.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
M2[1]
2.72 dBm
2.4114993 GHz
M2
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.412 GHz
691 pts
Span 15.0435 MHz

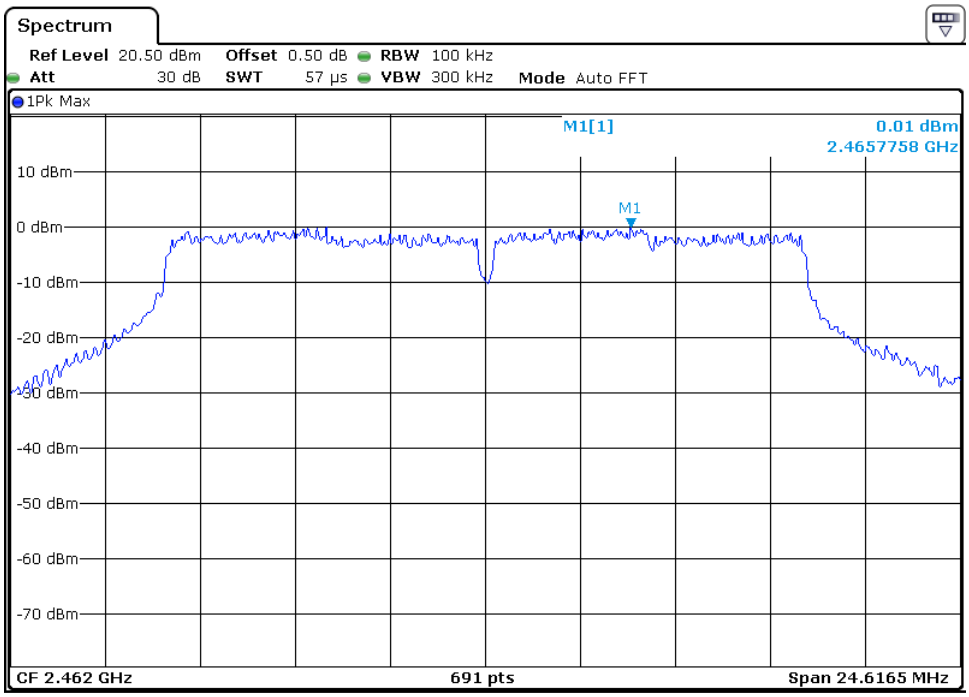

Spectrum
Ref Level 10.50 dBm Offset 0.50 dB RBW 100 kHz
Att 20 dB SWT 37.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1]
2.28 dBm
2.4364993 GHz
M1
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.437 GHz
691 pts
Span 15.0435 MHz


Spectrum
Ref Level 10.50 dBm Offset 0.50 dB RBW 100 kHz
Att 20 dB SWT 37.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1]
M1
3.14 dBm
2.4625265 GHz
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
-80 dBm
CF 2.462 GHz
691 pts
Span 15.825 MHz

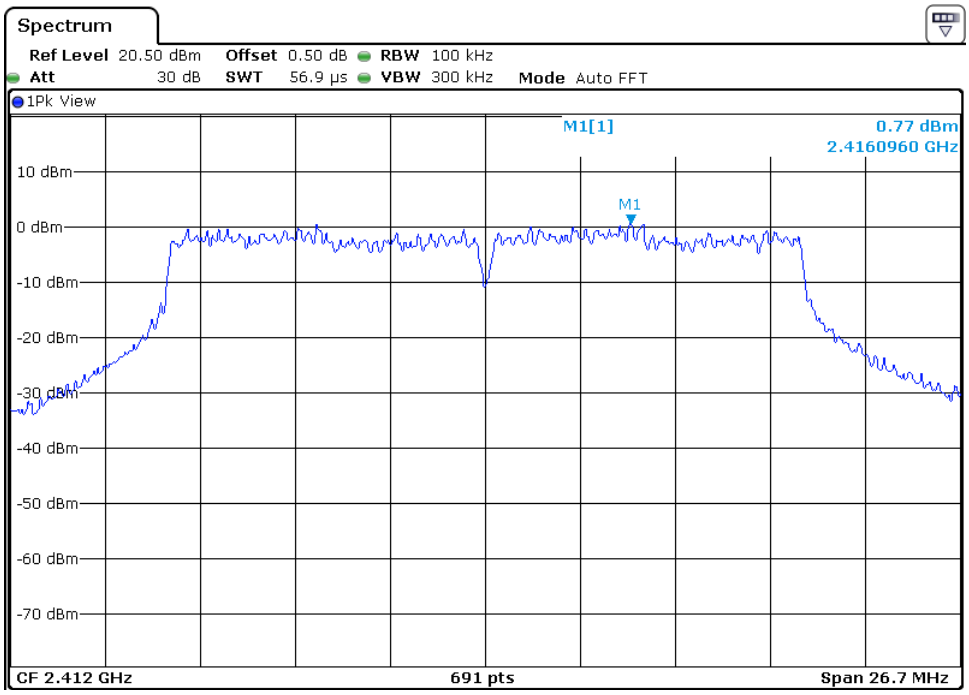
802.11g

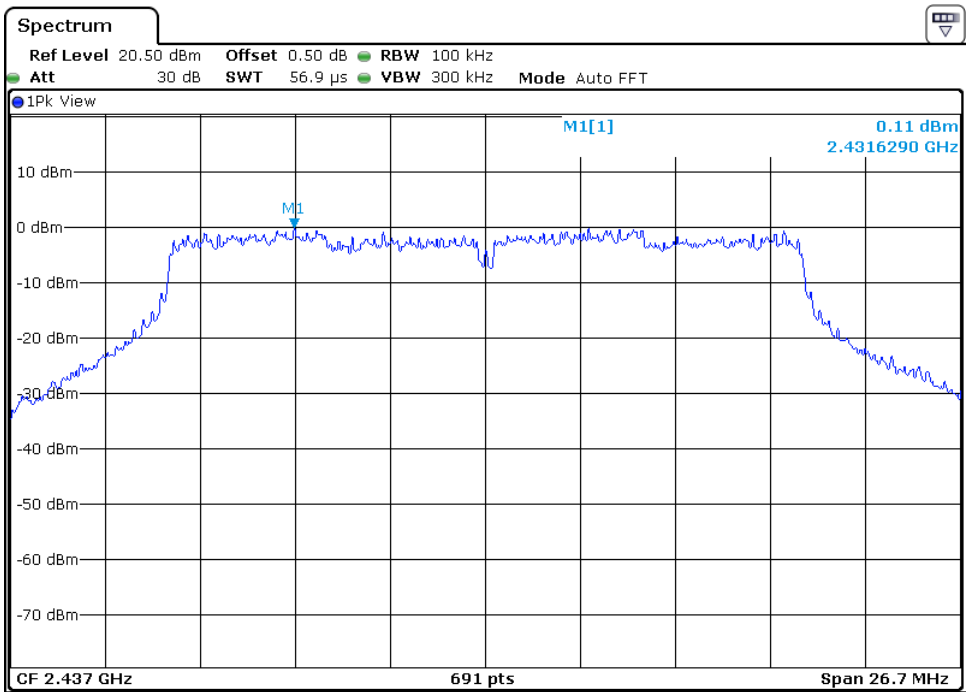

Spectrum
Ref Level 20.50 dBm Offset 0.50 dB RBW 100 kHz
Att 30 dB SWT 56.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1] -0.30 dBm
2.4161403 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.412 GHz
691 pts
Span 24.8775 MHz

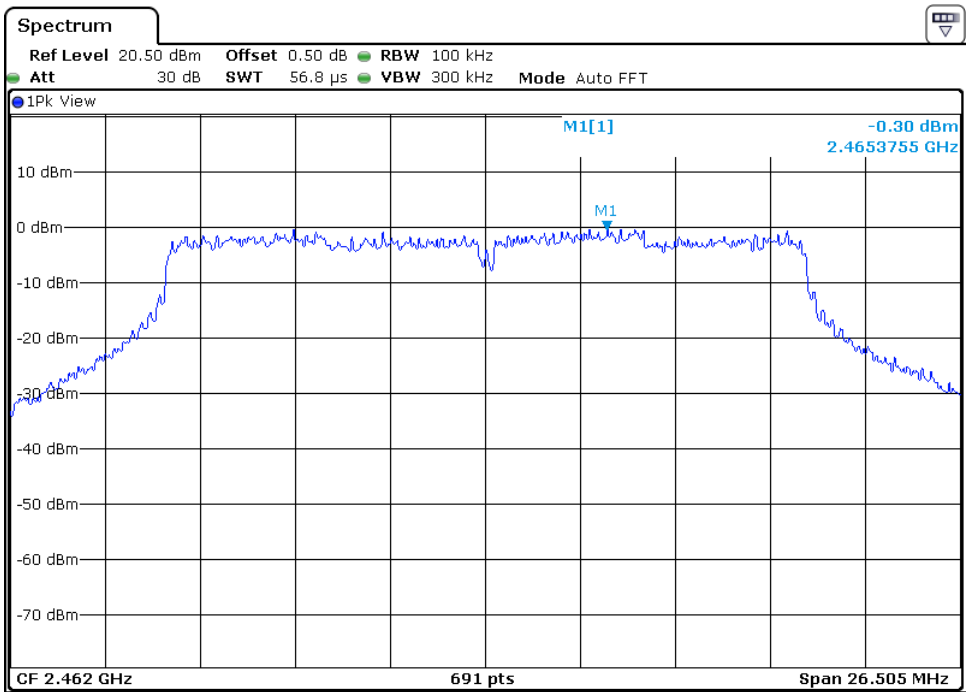

Spectrum
Ref Level 20.50 dBm Offset 0.50 dB RBW 100 kHz
Att 30 dB SWT 56.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1] 0.24 dBm
2.4411403 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.437 GHz
691 pts
Span 24.8775 MHz


Spectrum
Ref Level 20.50 dBm Offset 0.50 dB RBW 100 kHz
Att 30 dB SWT 57 µs VBW 300 kHz Mode Auto FFT
1Pk Max
M1[1] 0.01 dBm
2.4657758 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.462 GHz
691 pts
Span 24.6165 MHz

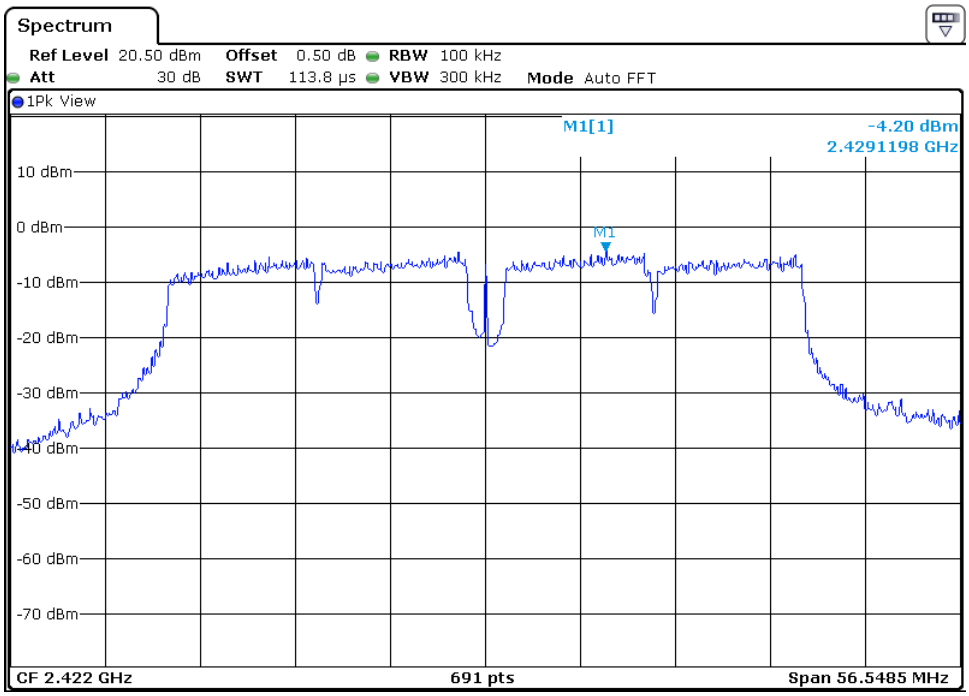
802.11 n-HT20

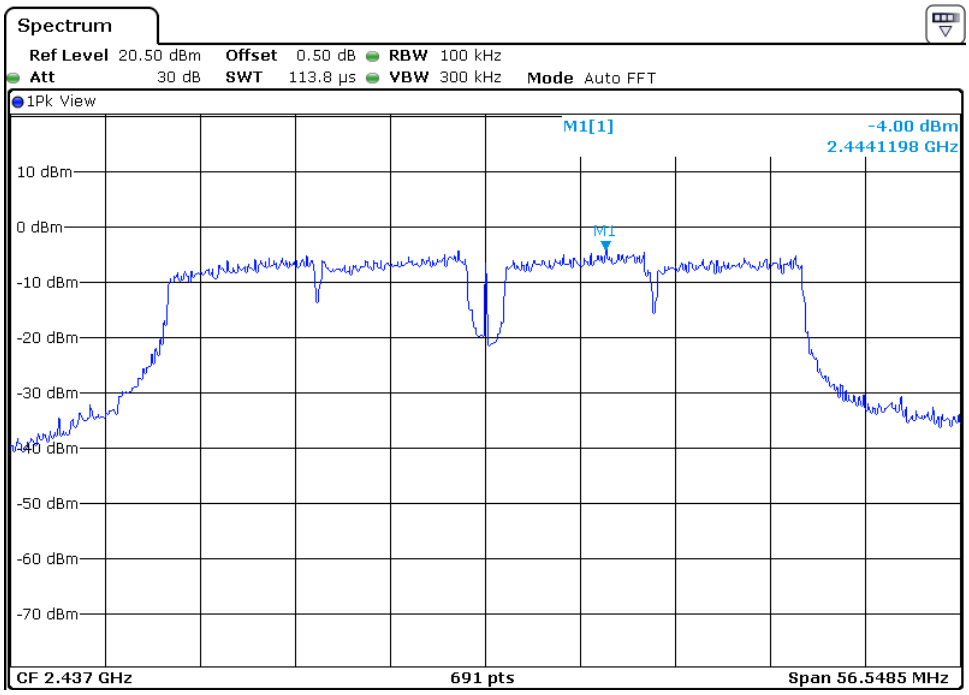

Spectrum
Ref Level 20.50 dBm Offset 0.50 dB RBW 100 kHz
Att 30 dB SWT 56.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1] 0.77 dBm
2.4160960 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.412 GHz
691 pts
Span 26.7 MHz

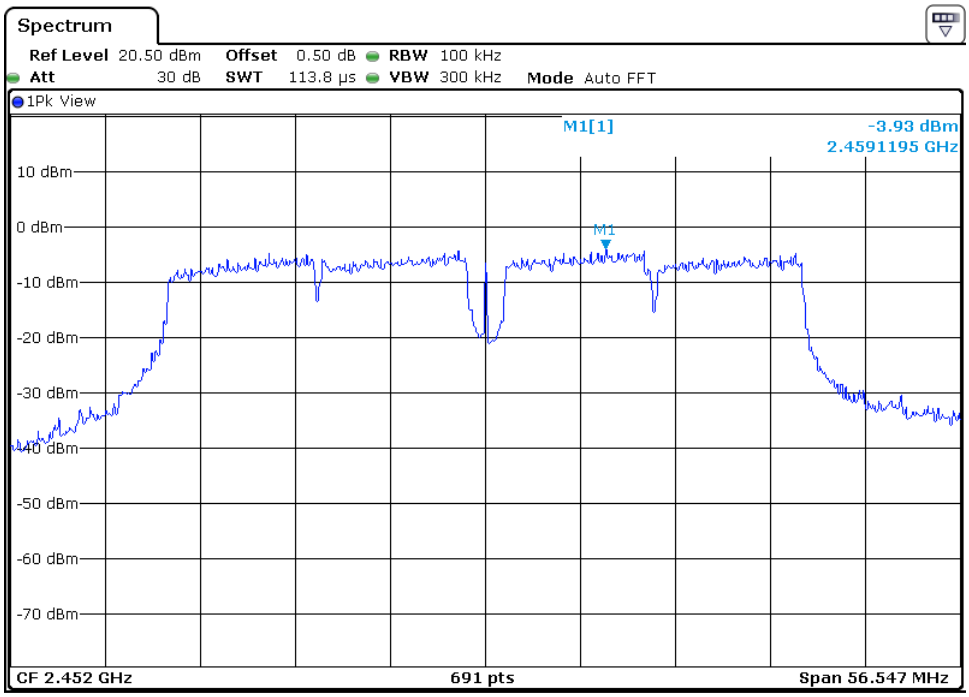

Spectrum
Ref Level 20.50 dBm Offset 0.50 dB RBW 100 kHz
Att 30 dB SWT 56.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1] 0.11 dBm
2.4316290 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.437 GHz
691 pts
Span 26.7 MHz


Spectrum
Ref Level 20.50 dBm Offset 0.50 dB RBW 100 kHz
Att 30 dB SWT 56.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1]
-0.30 dBm
2.4653755 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.462 GHz
691 pts
Span 26.505 MHz

802.11 n-HT40


Spectrum
Ref Level 20.50 dBm Offset 0.50 dB RBW 100 kHz
Att 30 dB SWT 113.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1] -4.20 dBm
2.4291198 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.422 GHz
691 pts
Span 56.5485 MHz


Spectrum
Ref Level 20.50 dBm Offset 0.50 dB RBW 100 kHz
Att 30 dB SWT 113.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1] -4.00 dBm
2.4441198 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.437 GHz
691 pts
Span 56.5485 MHz


Spectrum
Ref Level 20.50 dBm Offset 0.50 dB RBW 100 kHz
Att 30 dB SWT 113.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1] -3.93 dBm
2.4591195 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
CF 2.452 GHz
691 pts
Span 56.547 MHz

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302

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

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. The Measurement Procedure was set according to the FCC KDB 558074.

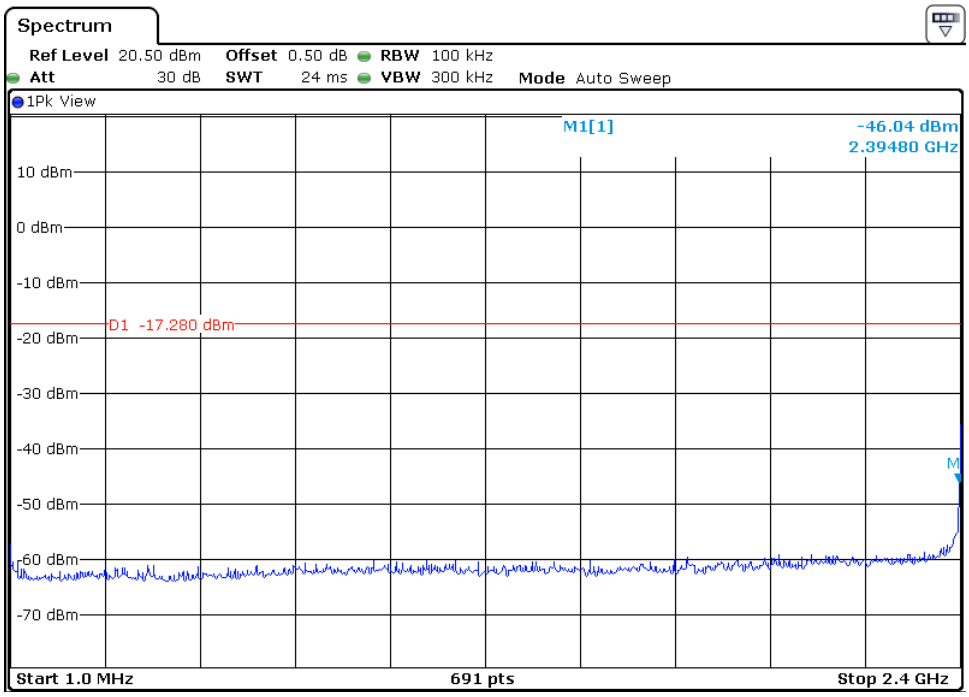
All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the passband.

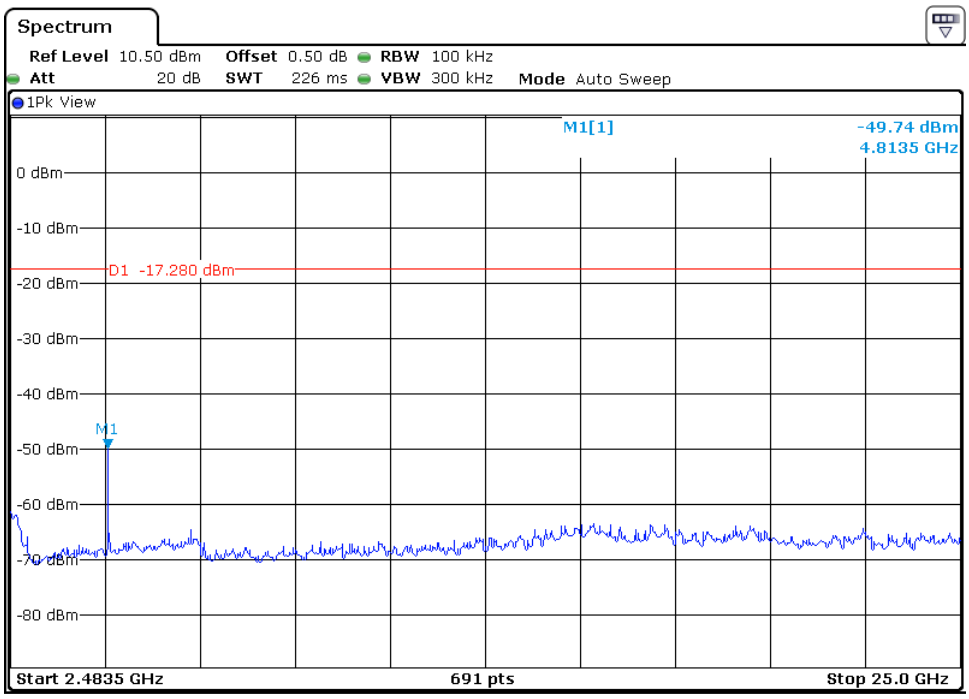
Refer to the attached test plots for out of band conducted emissions data with rate of 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n-HT20 and 13.5Mbps for 802.11n-HT40.

The test plots showed all spurious emission up to the tenth harmonic were measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

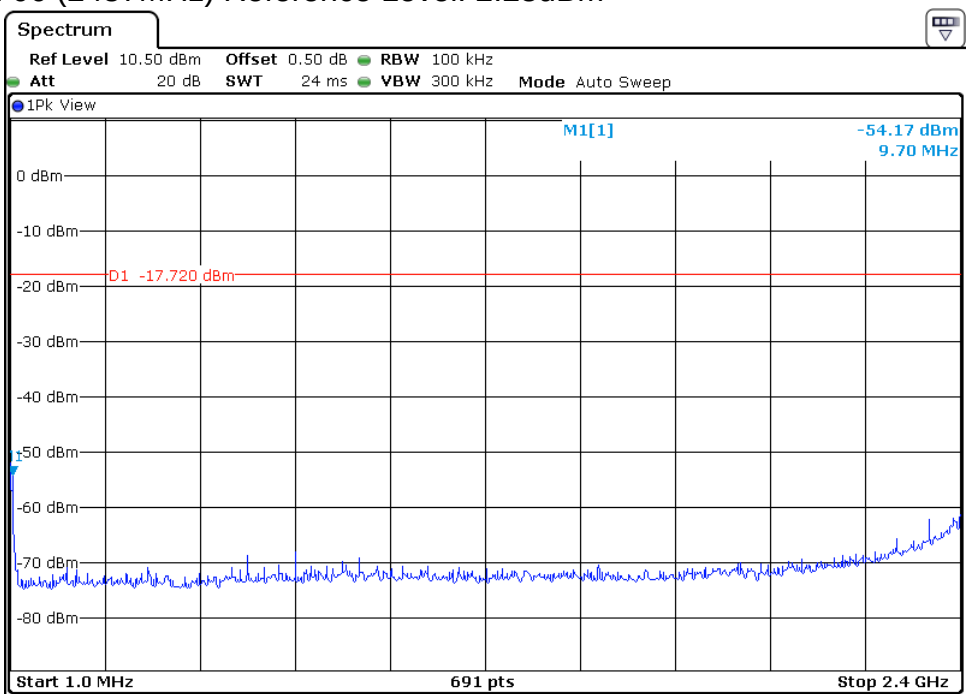
The test plots are attached as below.

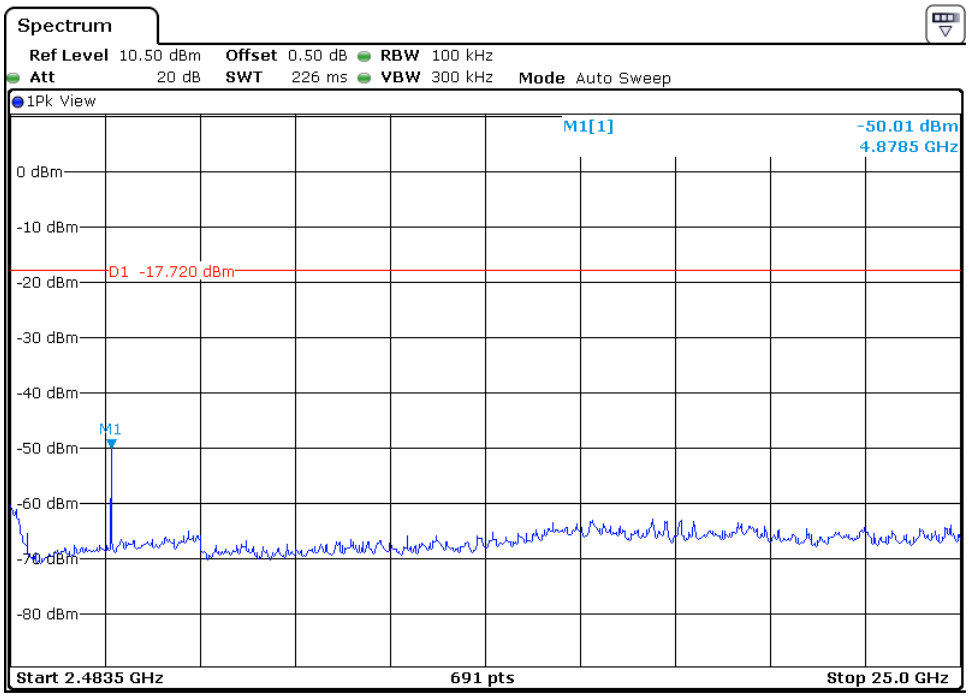
802.11b
Channel 01 (2412MHz) Reference Level: 2.72dBm



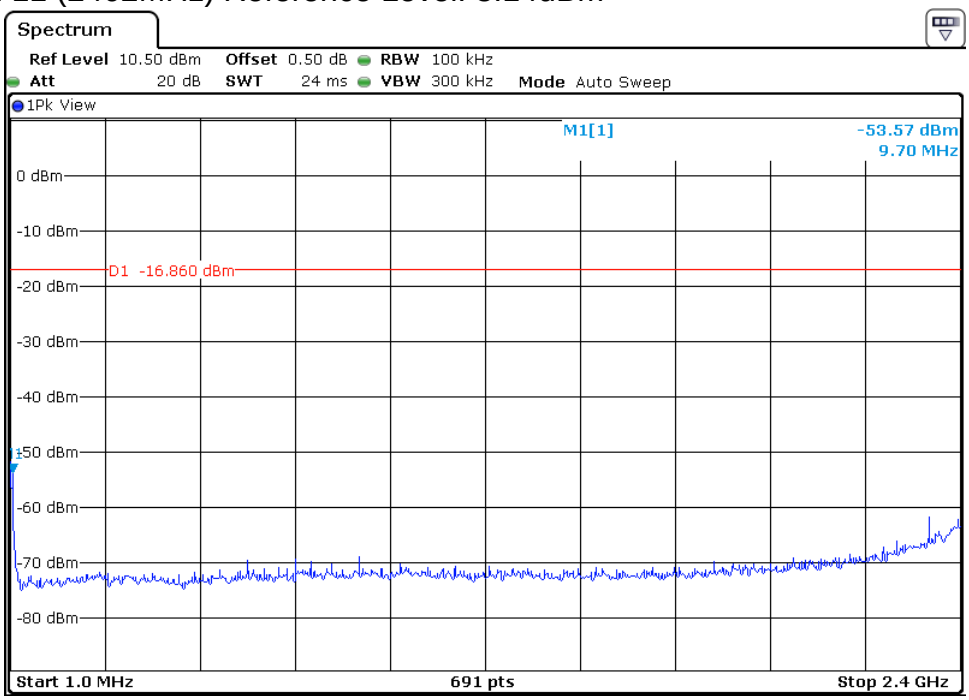


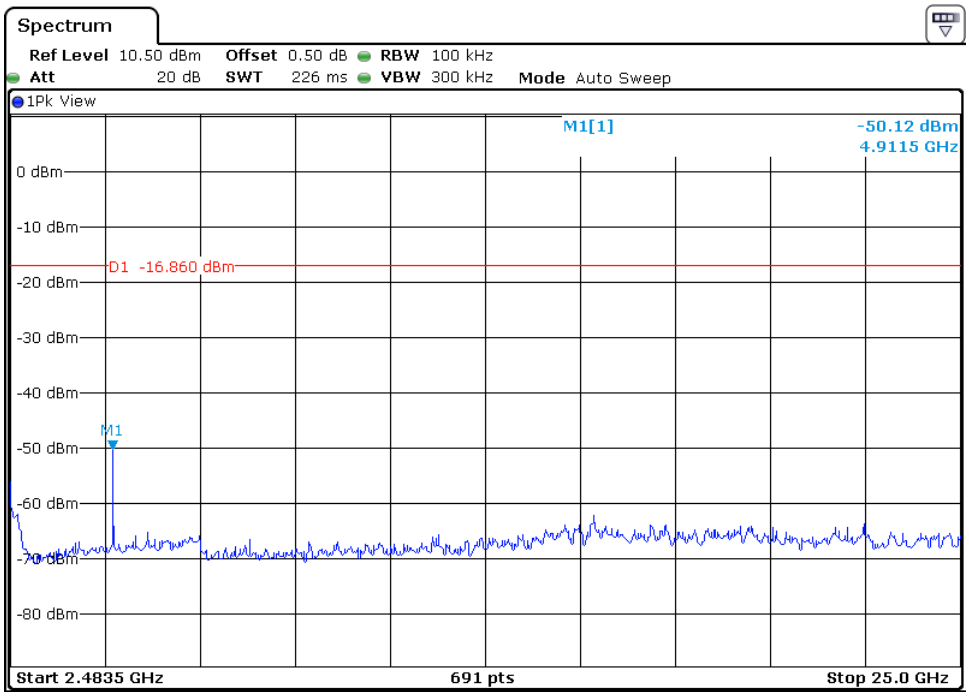
Channel 06 (2437MHz) Reference Level: 2.28dBm



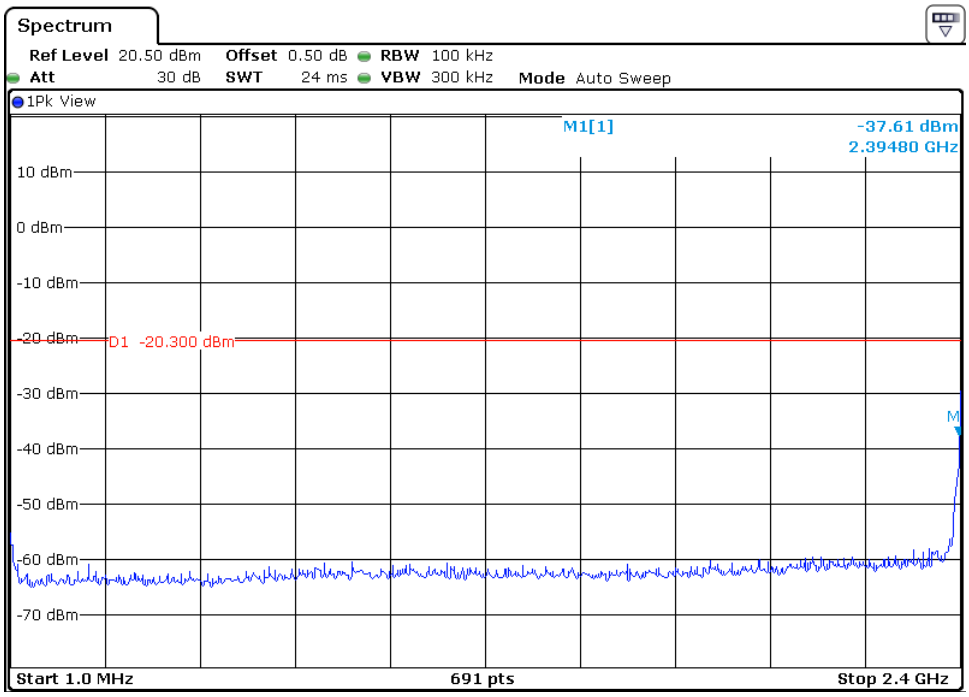


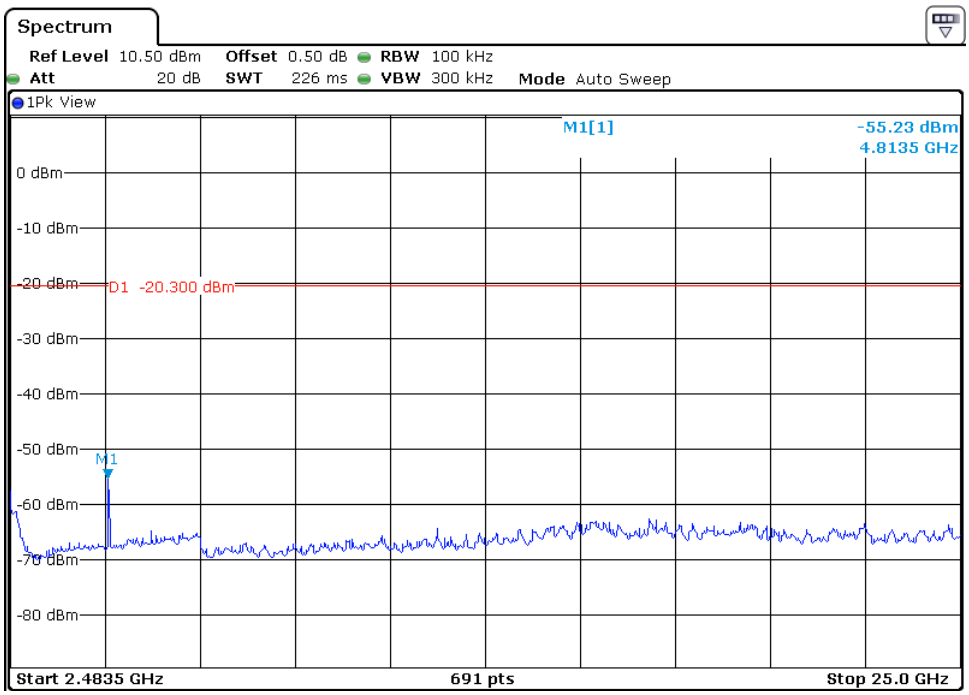
Channel 11 (2462MHz) Reference Level: 3.14dBm



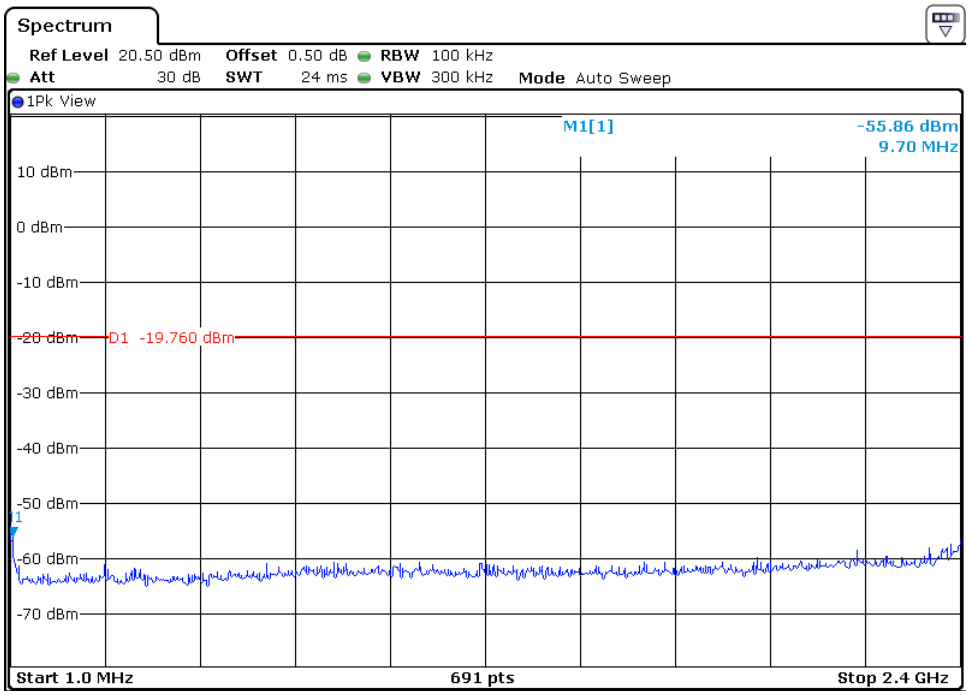


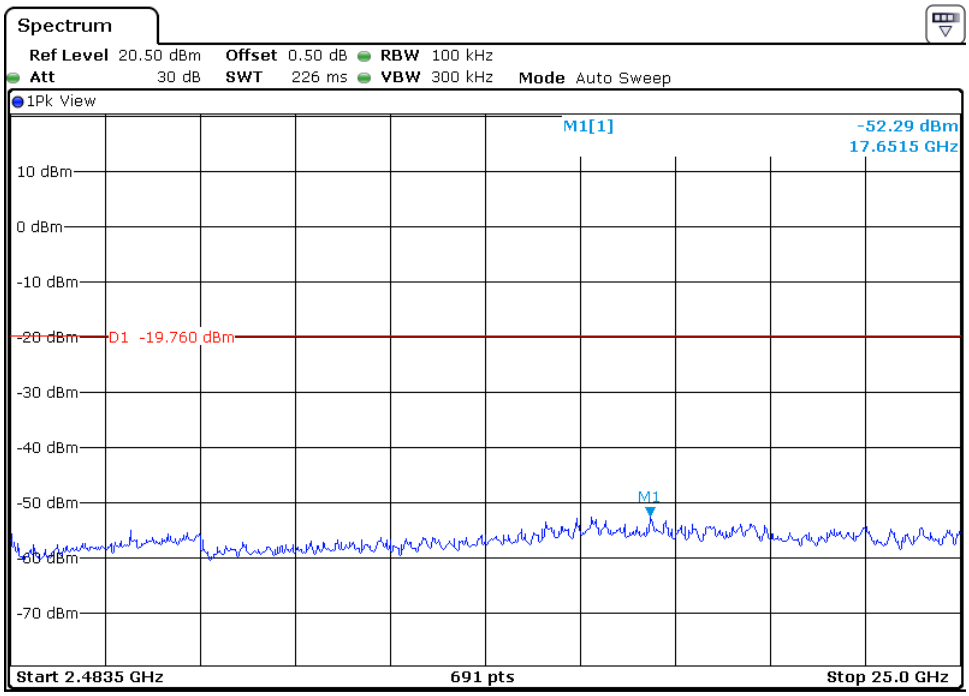
802.11g
Channel 01 (2412MHz) Reference Level: -0.30dBm



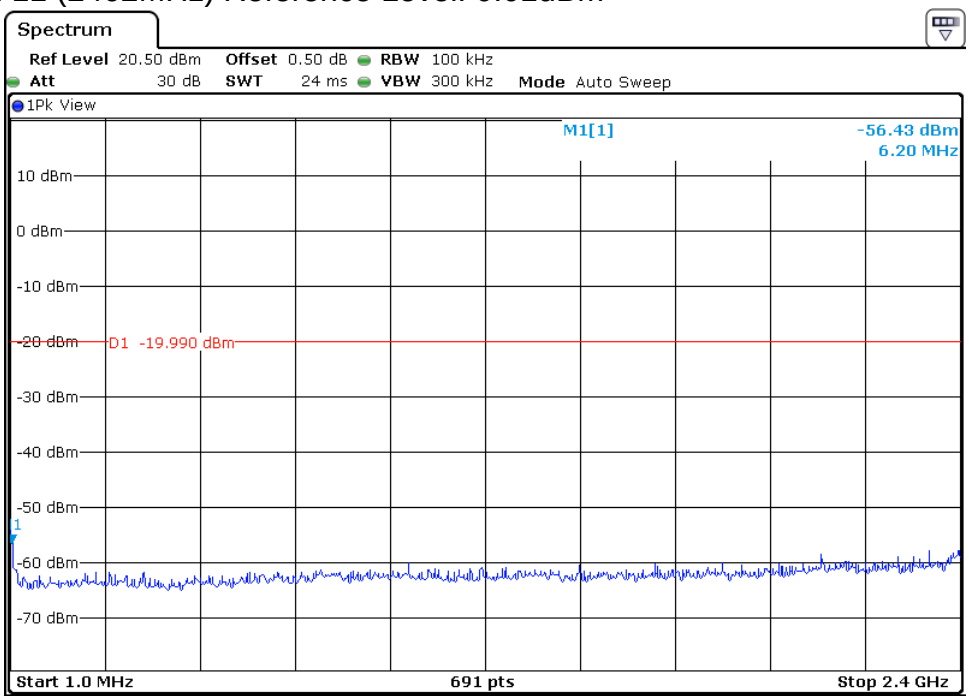


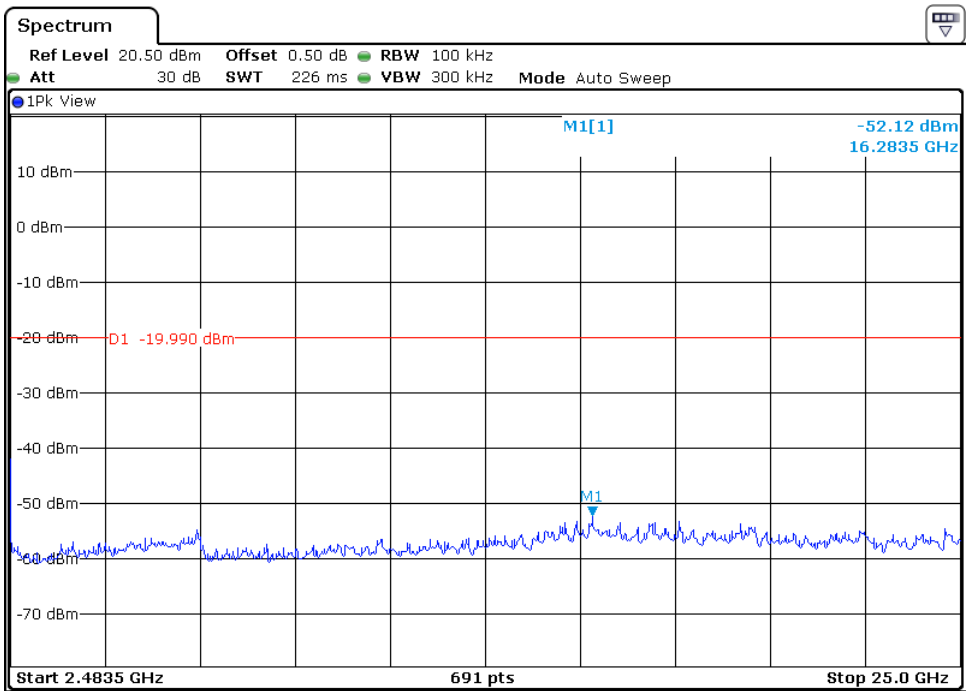
Channel 06 (2437MHz) Reference Level: 0.24dBm



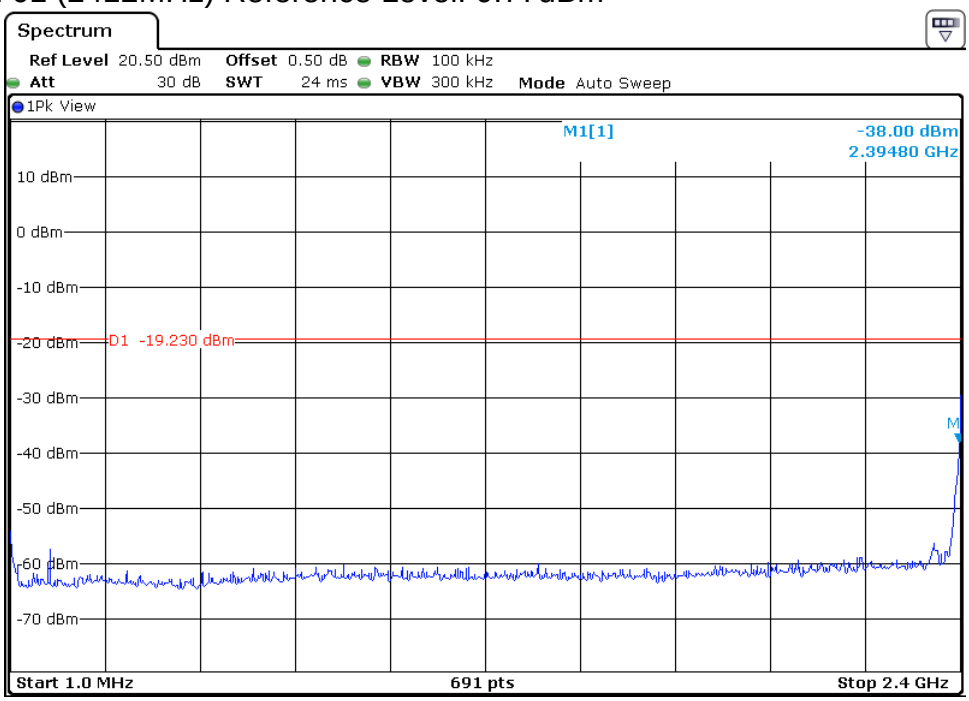


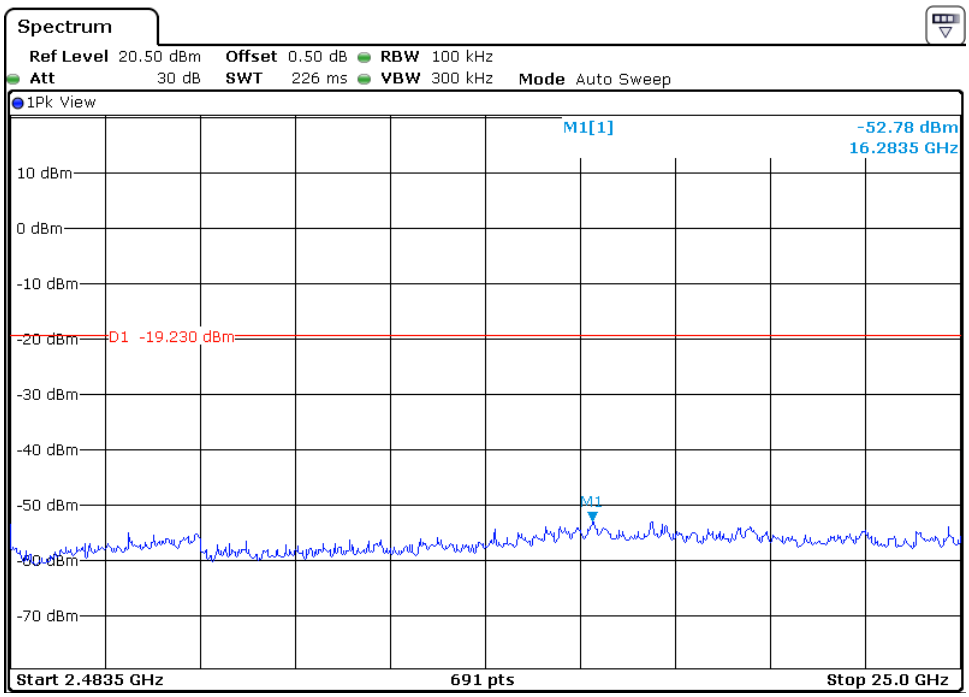
Channel 11 (2462MHz) Reference Level: 0.01dBm



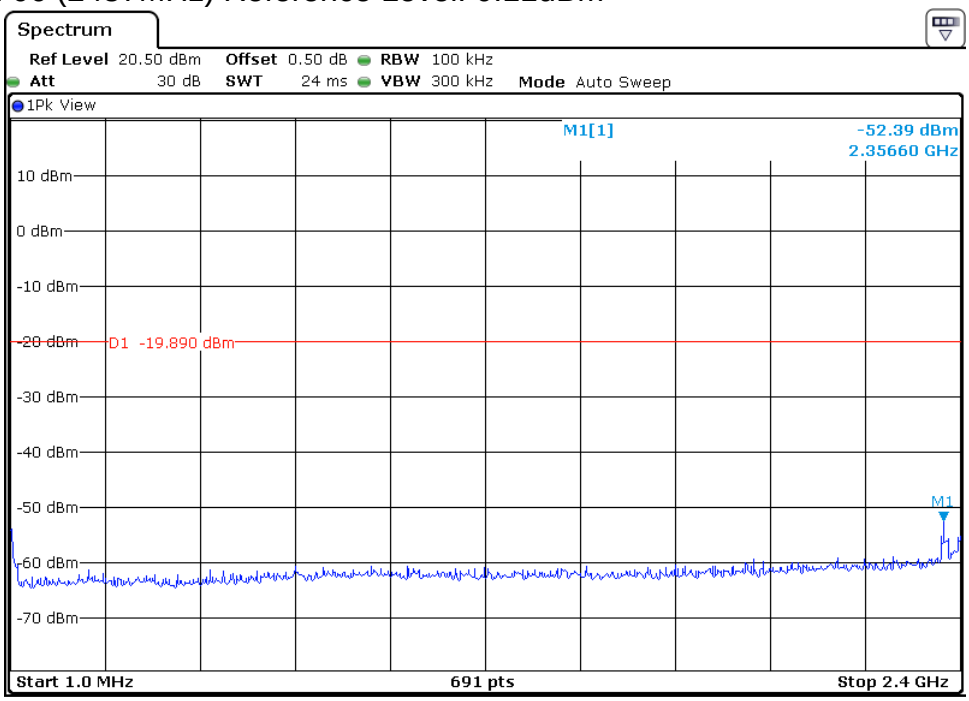


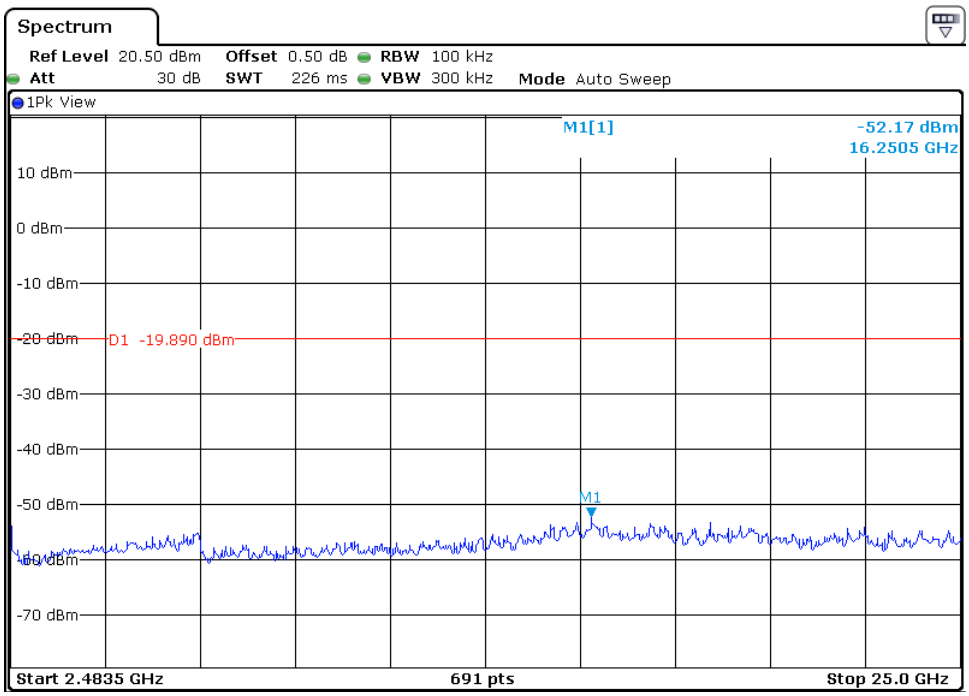
802.11 n-HT20
Channel 01 (2412MHz) Reference Level: 0.77dBm



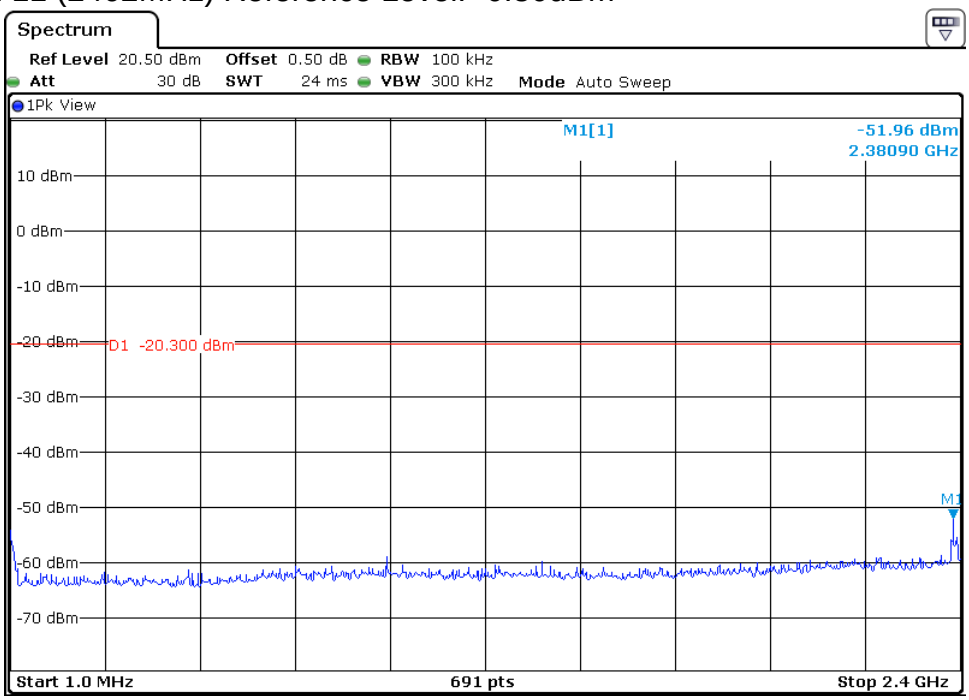


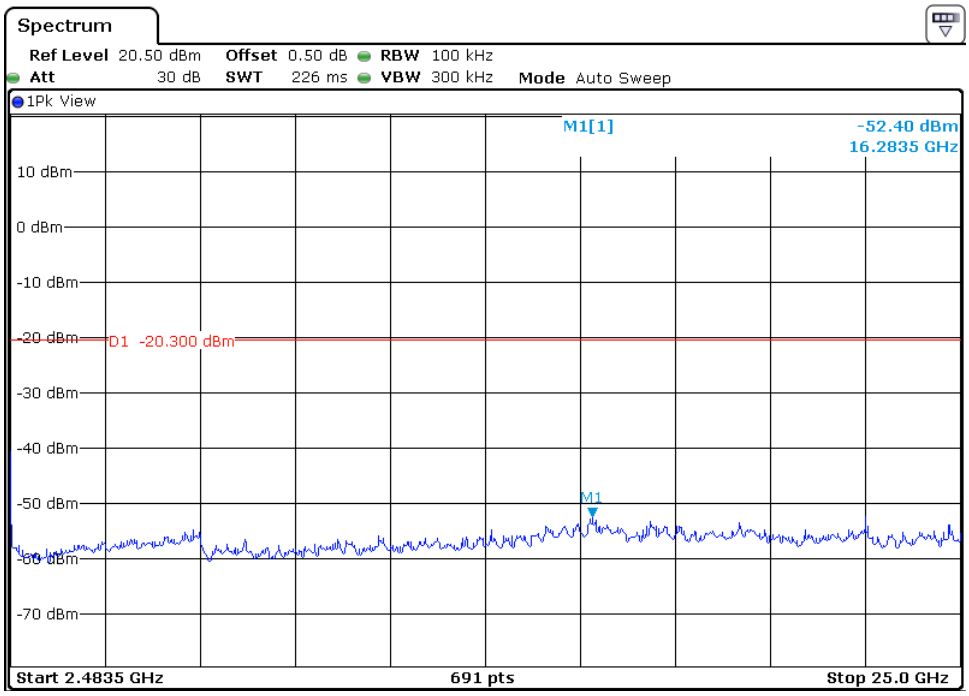
Channel 06 (2437MHz) Reference Level: 0.11dBm



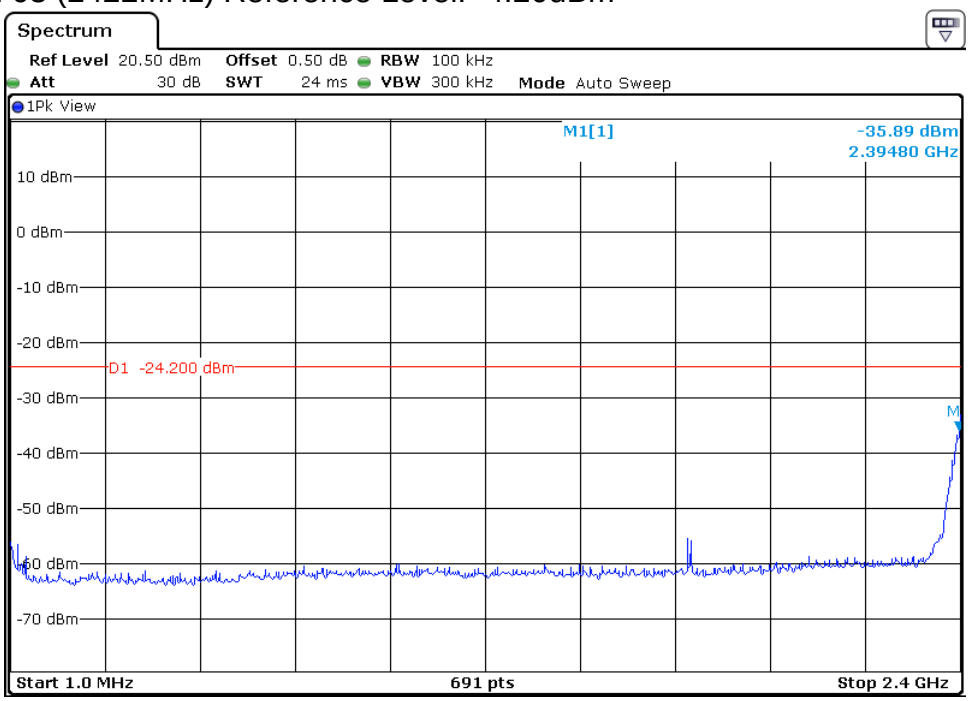


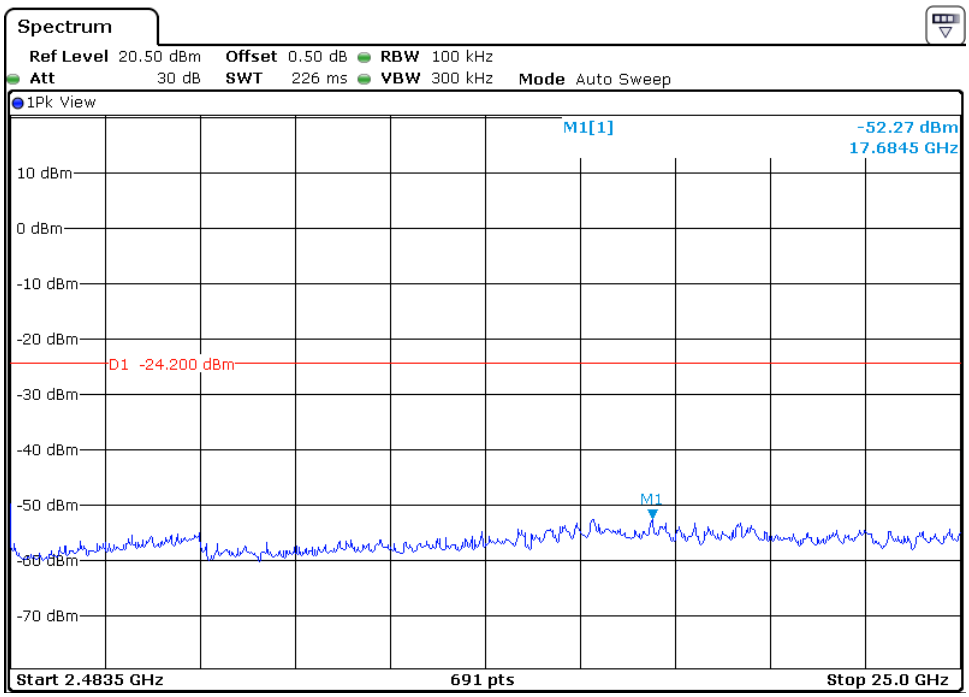
Channel 11 (2462MHz) Reference Level: -0.30dBm



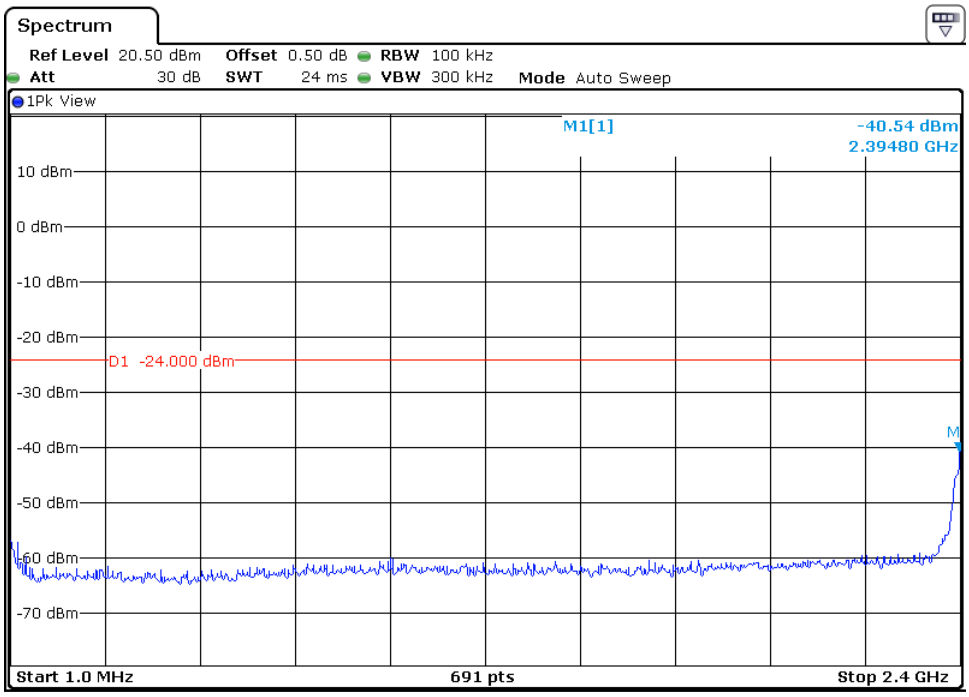


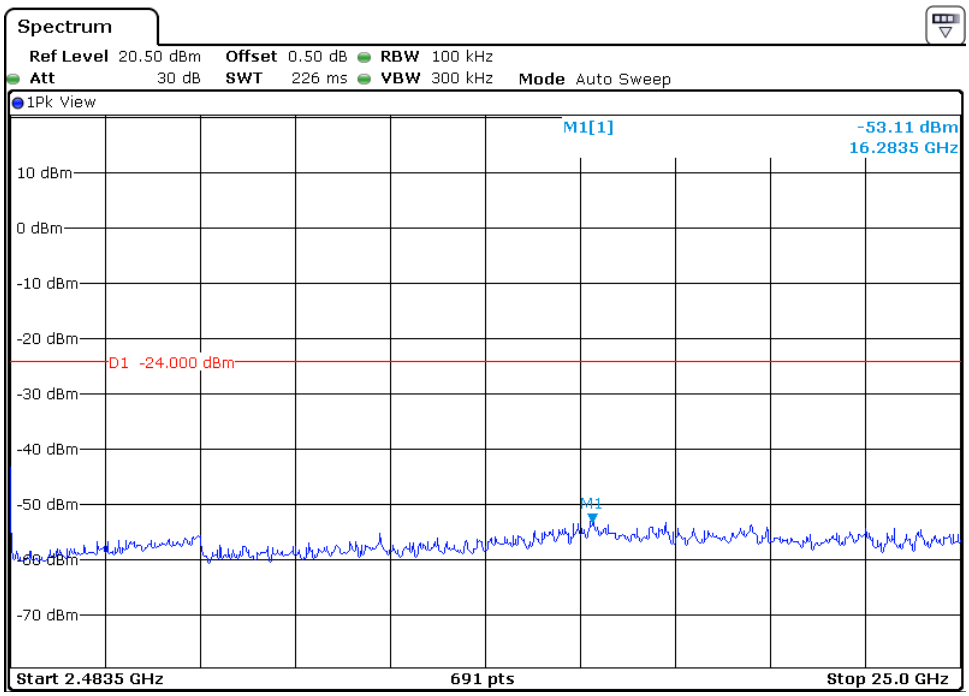
802.11 n-HT40
Channel 03 (2422MHz) Reference Level: -4.20dBm



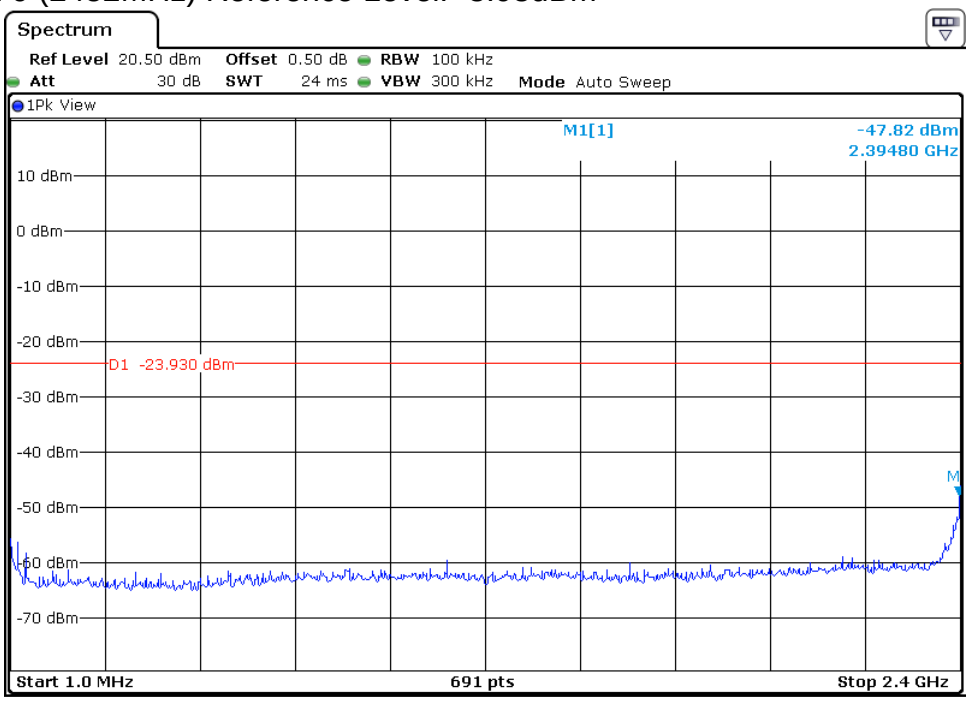


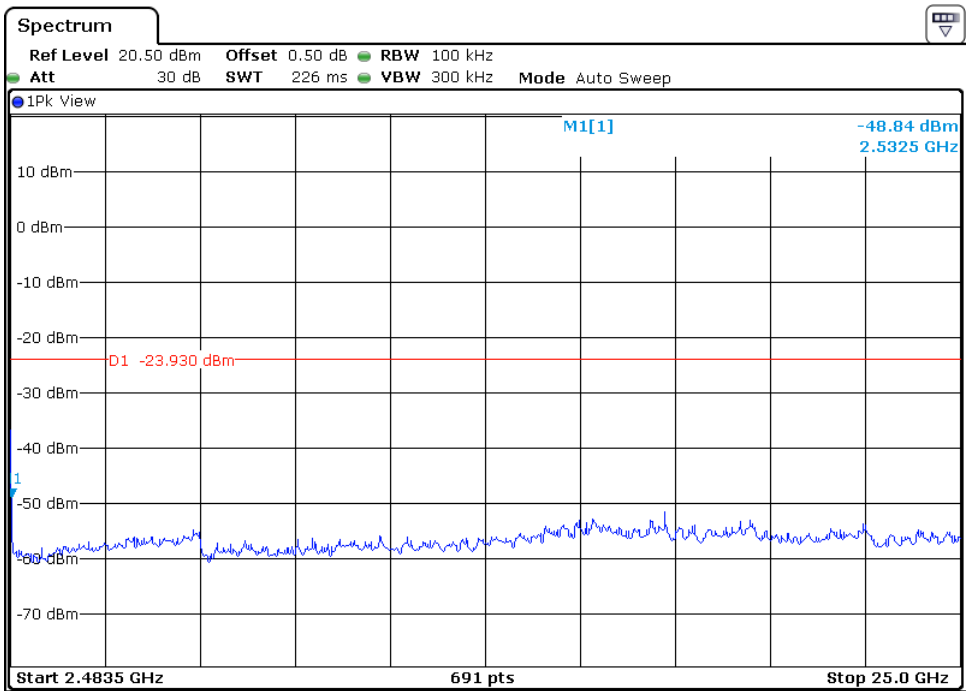
Channel 06 (2437MHz) Reference Level: -4.00dBm





Channel 9 (2452MHz) Reference Level: -3.93dBm





Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302

4.5 Out of Band Radiated Emissions (for emissions in 4.4 above that are less than 20dB below carrier), FCC Rule 15.247(d):

For out of band emissions that are close to or that exceed the 20dB attenuation requirement described in the specification, radiated measurements were performed at a 3m separation distance to determine whether these emissions complied with the general radiated emission requirement.

[×] Not required, since all emissions are more than 20dB below fundamental
[ ] See attached data sheet

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302

4.6 Transmitter Radiated Emissions in Restricted Bands, FCC Rule 15.35(b), (c):

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included. All measurements were performed with peak detection unless otherwise specified.

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302

4.7 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG + PD

Where FS = Field Strength in dBμV/m
RA = Receiver Amplitude (including preamplifier) in dBμV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
PD = Pulse Desensitization in dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG + PD

Example
Assume a receiver reading of 62.0 dBμV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB. The net field strength for comparison to the appropriate emission limit is 32 dBμV/m. This value in dBμV/m was converted to its corresponding level in μV/m.

RA = 62.0 dBμV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
PD = 0 dB
FS = 62 + 7.4 + 1.6 - 29 + 0 = 42 dBμV/m

Level in mV/m = Common Antilogarithm [(42 dBμV/m)/20] = 125.9 μV/m

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302

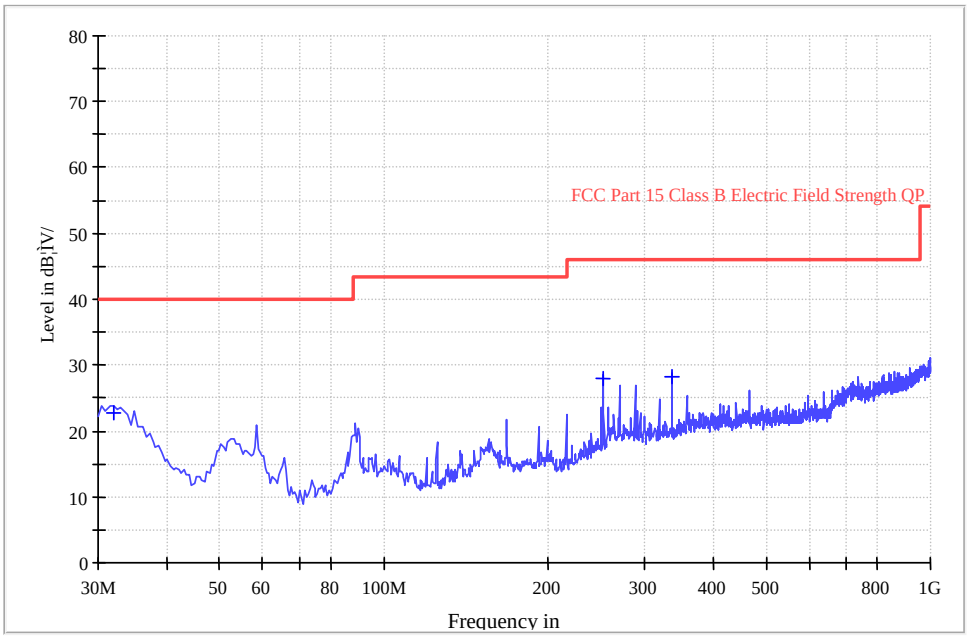
4.8 Radiated Spurious Emission

Worst Case Radiated Spurious Emission (802.11 b) at 4924.000MHz is passed by 4.6 dB margin.

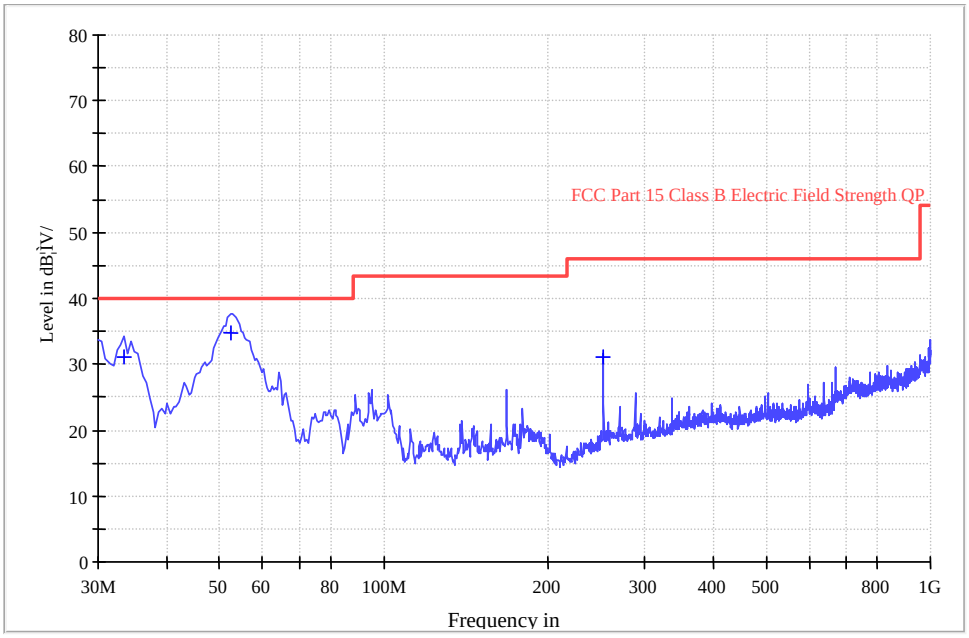
For the electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Worst Case Operating Mode: 802.11 n-HT20 (TX-Channel 01)

Horizontal



Vertical



Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	31.920	36.5	20.0	6.1	22.6	40.0	-17.4
Horizontal	252.120	37.7	20.0	10.3	28.0	46.0	-18.0
Horizontal	336.060	34.4	20.0	13.9	28.3	46.0	-17.7
Vertical	33.420	41.2	20.0	9.8	31.0	40.0	-9.0
Vertical	52.320	48.0	20.0	6.8	34.8	40.0	-5.2
Vertical	252.120	34.9	20.0	16.3	31.2	46.0	-14.8

NOTES:

1. Quasi-Peak detector is used except for others stated.

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. All emissions are below the QP limit.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Mode: 802.11b (TX-Channel 01)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	53.1	36.1	34.2	51.2	74.0	-22.8
Horizontal	*7236.000	56.0	36.8	36.9	56.1	74.0	-17.9
Horizontal	*2387.870	61.6	36.2	28.2	53.6	74.0	-20.4

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	46.3	36.1	34.2	44.4	54.0	-9.6
Horizontal	*7236.000	42.5	36.8	36.9	42.6	54.0	-11.4
Horizontal	*2387.870	49.7	36.2	28.2	41.7	54.0	-12.3

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Mode: 802.11b (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	56.2	36.1	34.6	54.7	74.0	-19.3
Horizontal	*7311.000	55.8	35.6	37.1	57.3	74.0	-16.7

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	47.2	36.1	34.6	45.7	54.0	-8.3
Horizontal	*7311.000	42.1	35.6	37.1	43.6	54.0	-10.4

NOTES:
1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Mode: 802.11b (TX-Channel 11)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4924.000	56.9	36.1	34.6	55.4	74.0	-18.6
Horizontal	*7386.000	54.6	35.6	37.2	56.2	74.0	-17.8
Horizontal	*2485.130	61.4	36.3	28.0	53.1	74.0	-20.9

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4924.000	50.9	36.1	34.6	49.4	54.0	-4.6
Horizontal	*7386.000	40.8	35.6	37.2	42.4	54.0	-11.6
Horizontal	*2485.130	51.0	36.3	28.0	42.7	54.0	-11.3

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Mode: 802.11g (TX-Channel 01)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	57.0	36.1	34.2	55.1	74.0	-18.9
Horizontal	*7236.000	55.1	36.8	36.9	55.2	74.0	-18.8
Horizontal	*2389.900	68.4	35.6	27.8	60.6	74.0	-13.4

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	46.8	36.1	34.2	44.9	54.0	-9.1
Horizontal	*7236.000	42.2	36.8	36.9	42.3	54.0	-11.7
Horizontal	*2389.900	54.6	35.6	27.8	46.8	54.0	-7.2

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Mode: 802.11g (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	58.7	36.1	34.6	57.2	74.0	-16.8
Horizontal	*7311.000	56.0	35.6	37.1	57.5	74.0	-16.5

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	45.3	36.1	34.6	43.8	54.0	-10.2
Horizontal	*7311.000	42.1	35.6	37.1	43.6	54.0	-10.4

NOTES:
1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Mode: 802.11g (TX-Channel 11)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4924.000	59.1	36.1	34.6	57.6	74.0	-16.4
Horizontal	*7386.000	53.8	35.6	37.2	55.4	74.0	-18.6
Horizontal	*2483.900	69.8	35.6	28.0	62.2	74.0	-11.8

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4924.000	47.9	36.1	34.6	46.4	54.0	-7.6
Horizontal	*7386.000	40.6	35.6	37.2	42.2	54.0	-11.8
Horizontal	*2483.900	54.9	35.6	28.0	47.3	54.0	-6.7

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Mode: 802.11 n-HT20 (TX-Channel 01)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	56.4	36.1	34.2	54.5	74.0	-19.5
Horizontal	*7236.000	52.5	36.8	36.9	52.6	74.0	-21.4
Horizontal	*2389.890	68.9	35.6	27.8	61.1	74.0	-12.9

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	43.3	36.1	34.2	41.4	54.0	-12.6
Horizontal	*7236.000	42.1	36.8	36.9	42.2	54.0	-11.8
Horizontal	*2389.890	55.4	35.6	27.8	47.6	54.0	-6.4

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Mode: 802.11 n-HT20 (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	59.5	36.1	34.2	57.6	74.0	-16.4
Horizontal	*7311.000	52.5	35.6	37.1	54.0	74.0	-20.0

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	47.5	36.1	34.2	45.6	54.0	-8.4
Horizontal	*7311.000	40.9	35.6	37.1	42.4	54.0	-11.6

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Mode: 802.11 n-HT20 (TX-Channel 11)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4924.000	56.8	36.1	34.6	55.3	74.0	-18.7
Horizontal	*7386.000	52.8	35.6	37.2	54.4	74.0	-19.6
Horizontal	*2483.820	70.3	35.6	27.8	62.5	74.0	-11.5

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4924.000	43.4	36.1	34.6	41.9	54.0	-12.1
Horizontal	*7386.000	40.7	35.6	37.2	42.3	54.0	-11.7
Horizontal	*2483.820	55.7	35.6	27.8	47.9	54.0	-6.1

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Mode: 802.11 n-HT40 (TX-Channel 03)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4844.000	52.7	36.1	34.2	50.8	74.0	-23.2
Horizontal	*7266.000	56.7	36.8	37.1	57.0	74.0	-17.0
Horizontal	*2389.860	71.2	35.6	27.7	63.3	74.0	-10.7

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4844.000	42.3	36.1	34.2	40.4	54.0	-13.6
Horizontal	*7266.000	42.9	36.8	37.1	43.2	54.0	-10.8
Horizontal	*2389.860	56.1	35.6	27.7	48.2	54.0	-5.8

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Mode: 802.11 n-HT40 (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	55.8	36.1	34.2	53.9	74.0	-20.1
Horizontal	*7311.000	55.7	35.6	37.1	57.2	74.0	-16.8

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	45.1	36.1	34.2	43.2	54.0	-10.8
Horizontal	*7311.000	41.9	35.6	37.1	43.4	54.0	-10.6

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Mode: 802.11 n-HT40 (TX-Channel 9)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4904.000	54.5	36.1	34.6	53.0	74.0	-21.0
Horizontal	*7356.000	55.6	35.6	37.0	57.0	74.0	-17.0
Horizontal	*2485.380	72.1	35.6	28.0	64.5	74.0	-9.5

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4904.000	45.0	36.1	34.6	43.5	54.0	-10.5
Horizontal	*7356.000	41.9	35.6	37.0	43.3	54.0	-10.7
Horizontal	*2485.380	55.9	35.6	28.0	48.3	54.0	-5.7

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

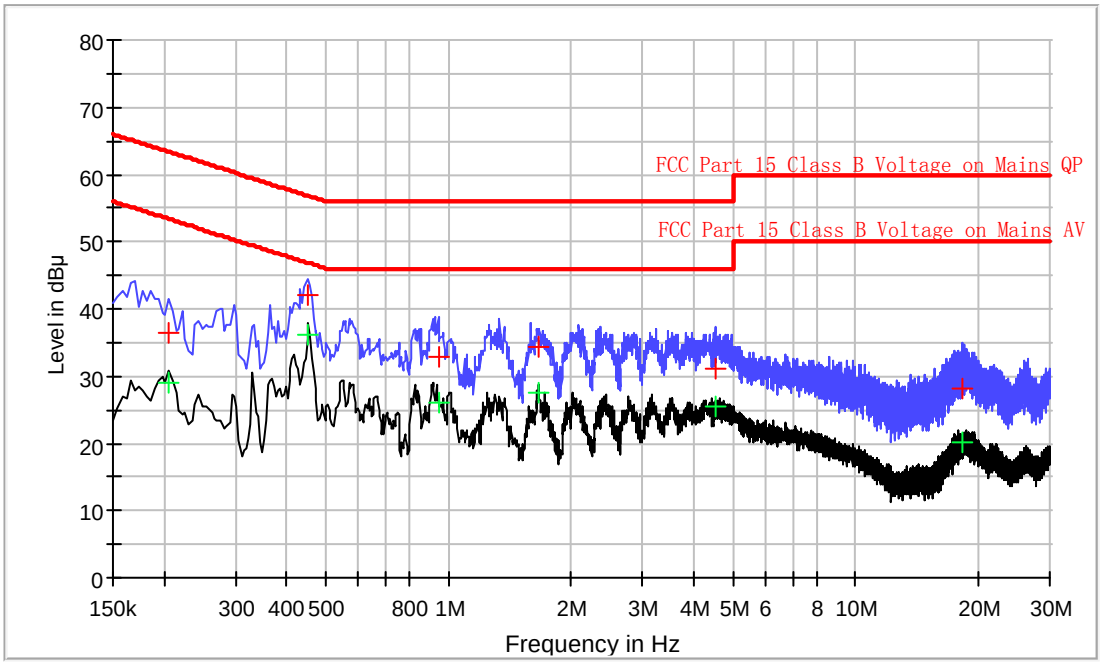
4.9 Conducted Emission

Worst Case Conducted emission at 0.454MHz is Passed by 10.6 dB margin

For electronic filing, the worst case conducted emission configuration photograph is saved with filename: conducted photos.pdf.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Worst Case Operating Mode: 802.11 n-HT20 (TX-Channel 01)

Conducted Emission Test - FCC



Result Table QP

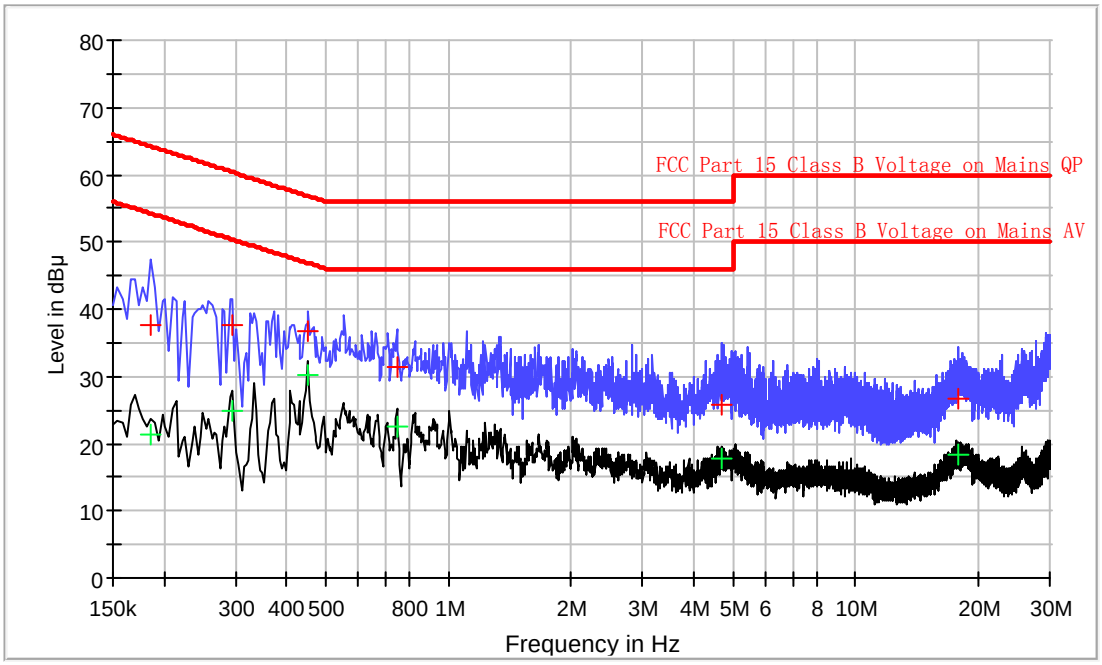
Frequency (MHz)	QuasiPeak (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.206	36.5	L1	9.8	26.9	63.4
0.454	42.1	L1	9.8	14.7	56.8
0.946	32.9	L1	9.9	23.1	56.0
1.666	34.3	L1	9.9	21.7	56.0
4.510	31.2	L1	9.8	26.9	63.4
18.338	28.2	L1	9.8	14.7	56.8

Result Table AV

Frequency (MHz)	Average (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.206	28.9	L1	9.8	24.5	53.4
0.454	36.2	L1	9.8	10.6	46.8
0.946	26.2	L1	9.9	19.8	46.0
1.666	27.7	L1	9.9	18.3	46.0
4.510	25.3	L1	10.0	20.7	46.0
18.338	20.1	L1	10.3	29.9	50.0

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302
Worst Case Operating Mode: 802.11n-HT20 (TX-Channel 01)

Conducted Emission Test - FCC



Result Table QP

Frequency (MHz)	QuasiPeak (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.186	37.5	N	10.0	26.7	64.2
0.294	37.6	N	10.1	22.8	60.4
0.450	36.7	N	10.1	20.2	56.9
0.746	31.3	N	10.2	24.7	56.0
4.686	25.9	N	10.3	30.1	56.0
17.974	26.6	N	10.5	33.4	60.0

Result Table AV

Frequency (MHz)	Average (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.186	21.3	N	10.0	32.9	54.2
0.294	24.8	N	10.1	25.6	50.4
0.450	30.1	N	10.1	16.8	46.9
0.746	22.6	N	10.2	23.4	46.0
4.686	17.6	N	10.3	28.4	46.0
17.974	18.5	N	10.5	31.5	50.0

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302

4.10 Radiated Emissions from Digital Section of Transceiver, FCC Ref: 15.109

[ ] Not required - No digital part

[ ] Test results are attached

[x] Included in the separated report.

Applicant: Cyber Blue (HK) Limited
Date of Test: September 24, 2014
Model: D302

4.11 Transmitter Duty Cycle Calculation and Measurements, FCC Rule 15.35(b), (c)

The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEP function on the analyzer was set to ZERO SPAN. The Transmitter ON time was determined from the resultant time-amplitude display:

	See attached spectrum analyzer chart (s) for Transmitter timing
	See Transmitter timing diagram provided by manufacturer
x	Not applicable, duty cycle was not used.

EXHIBIT 5

EQUIPMENT PHOTOGRAPHS

5.0 Equipment Photographs

For electronic filing, the photographs are saved with filename: external photos.doc & internal photos.pdf.

EXHIBIT 6

PRODUCT LABELLING

6.0 Product Labeling

For electronic filing, the FCC ID label artwork and location is saved with filename: label.pdf.

EXHIBIT 7

TECHNICAL SPECIFICATIONS

7.0 Technical Specifications

For electronic filing, the block diagram and circuit diagram are saved with filename: block.pdf and circuit.pdf respectively.

EXHIBIT 8

INSTRUCTION MANUAL

8.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

EXHIBIT 9

CONFIDENTIALITY REQUEST

9.0 Confidentiality Request

For electronic filing, the confidentiality request of the tested EUT is saved with filename: request.pdf.

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EXHIBIT 10

MISCELLANEOUS INFORMATION

10.0 Discussion of Pulse Desensitization

The determination of pulse desensitivity was made in accordance with Hewlett Packard Application Note 150-2, *Spectrum Analysis ... Pulsed RF.*

Pulse desensitivity is not applicable for this device since the transmitter transmits the RF signal continuously.

EXHIBIT 11

TEST EQUIPMENT LIST

11.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ182-02	RF Power Meter	Anritsu	ML2496A	1302005	21-May-2014	21-May-2015
SZ182-02-01	Power Sensor	Anritsu	MA2411B	1207429	21-May-2014	21-May-2015
SZ061-03	BiConiLog Antenna	ETS	3142C	00066460	28-Jun-2014	28-Jun-2015
SZ185-01	EMI Receiver	R&S	ESCI	100547	10-Mar-2014	10-Mar-2015
SZ061-09	Horn Antenna	ETS	3115	00092346	16-Nov-2013	16-Nov-2014
SZ061-07	Pyramidal Horn Antenna	ETS	3160-09	00083067	03-Sep-2014	03-Sep-2015
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	29-Apr-2014	29-Apr-2015
EM031-03	EXA Spectrum Analyzer	R&S	FSV40	101506	09-Jun-2014	09-Jun-2015
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	10-Mar-2014	10-Mar-2015
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	19-Apr-2014	19-Apr-2015
SZ062-02	RF Cable	RADIALL	RG 213U	--	19-Apr-2014	19-Oct-2014
SZ062-05	RF Cable	RADIALL	0.04-26.5GHz	--	19-Apr-2014	19-Oct-2014
SZ062-12	RF Cable	RADIALL	0.04-26.5GHz	--	19-Apr-2014	19-Oct-2014
SZ067-04	Notch Filter	Micro-Tronics	BRM50702-02	--	21-May-2014	21-May-2015
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	09-Nov-2013	09-Nov-2014
SZ187-01	Two-Line V-Network	R&S	ENV216	100072	09-Nov-2013	09-Nov-2014
SZ187-02	Two-Line V-Network	R&S	ENV216	100073	09-Nov-2013	09-Nov-2014
SZ188-03	Shielding Room	ETS	RFD-100	4100	23-Aug-2013	23-Aug-2014