FCC RF Test Report

APPLICANT	:	**Microstrip LLC**
EQUIPMENT	:	**Digital Media Receiver**
MODEL NAME	:	**DW84JL**
FCC ID	:	**2ANZL-2474**
STANDARD	:	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	:	**(DTS) Digital Transmission System**

The testing was completed on Jun. 21, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR7D0544-01D	Rev. 01	Initial issue of report	May 11, 2018
FR7D0544-01D	Rev. 02	Revising the test procedures description for 99% OB in section 3.1.3 and test data in appendix a, and revising the frequency typo in appendix d.	Jun. 22, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass
3.1	-	99% Bandwidth	-	Pass
3.2	15.247(b)	Power Output Measurement	≤ 30dBm	Pass
3.3	15.247(e)	Power Spectral Density	≤ 8dBm/3kHz	Pass
3.4	15.247(d)	Conducted Band Edges	≤ 20dBc	Pass
		Conducted Spurious Emission		Pass
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass
3.6	15.207	AC Conducted Emission	15.207(a)	Pass
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass

1 General Description

1.1 Applicant

Microstrip LLC
83 Wooster Heights Rd, Suite 125, Danbury, Connecticut, 06810

1.2 Product Feature of Equipment Under Test

Product Feature	
Equipment	Digital Media Receiver
Model Name	DW84JL
FCC ID	2ANZL-2474
EUT supports Radios application	Zigbee WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE

1.3 Product Specification of Equipment Under Test

<table>
<tr><th colspan="2">Standards-related Product Specification</th></tr>
<tr><td>Tx/Rx Channel Frequency Range</td><td>2412 MHz ~ 2472MHz</td></tr>
<tr><td>Maximum (Peak) Output Power to antenna</td><td><Ant. 1>
802.11b : 23.79 dBm (0.2393 W)
802.11g : 25.81 dBm (0.3811 W)
802.11n HT20 : 25.81 dBm (0.3811 W)
<Ant. 2>
802.11b : 23.88 dBm (0.2443 W)
802.11g : 25.75 dBm (0.3758 W)
802.11n HT20 : 25.87 dBm (0.3864 W)
MIMO <Ant. 1+2>
802.11g : 28.19 dBm (0.6592 W)
802.11n HT20 : 28.63 dBm (0.7295 W)</td></tr>
<tr><td>99% Occupied Bandwidth</td><td><Ant. 1>
802.11b : 11.30MHz
802.11g : 17.35MHz
802.11n HT20 : 18.25MHz
<Ant. 2>
802.11b : 11.30MHz
802.11g : 17.25MHz
802.11n HT20 : 18.25MHz
MIMO <Ant. 1>
802.11g : 17.25MHz
802.11n HT20 : 18.20MHz
MIMO <Ant. 2>
802.11g : 17.20MHz
802.11n HT20 : 18.20MHz</td></tr>
<tr><td>Antenna Type / Gain</td><td>Ant. 1 : Fixed internal Antenna with gain 2.8 dBi
Ant. 2 : Fixed internal Antenna with gain 2.0 dBi</td></tr>
<tr><td>Antenna Function Description</td><td><table><tr><td></td><td>Ant. 1</td><td>Ant. 2</td></tr><tr><td>802.11 b/g/n</td><td>V</td><td>V</td></tr><tr><td>802.11 g/n MIMO</td><td>V</td><td>V</td></tr></table></td></tr>
<tr><td>Type of Modulation</td><td>802.11b : DSSS (DBPSK / DQPSK / CCK)
802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)</td></tr>
</table>

Note: MIMO Ant. 1+2 is a calculated result from sum of the power MIMO Ant. 1 and MIMO Ant. 2

1.4 Modification of EUT

No modifications are made to the EUT during all test items.

1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton Site No.**	
	TH05-HY	CO05-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH11-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

1.6 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	8	2447
	2	2417	9	2452
	3	2422	10	2457
	4	2427	11	2462
	5	2432	12	2467
	6	2437	13	2472
	7	2442		

2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

Single Antenna

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0

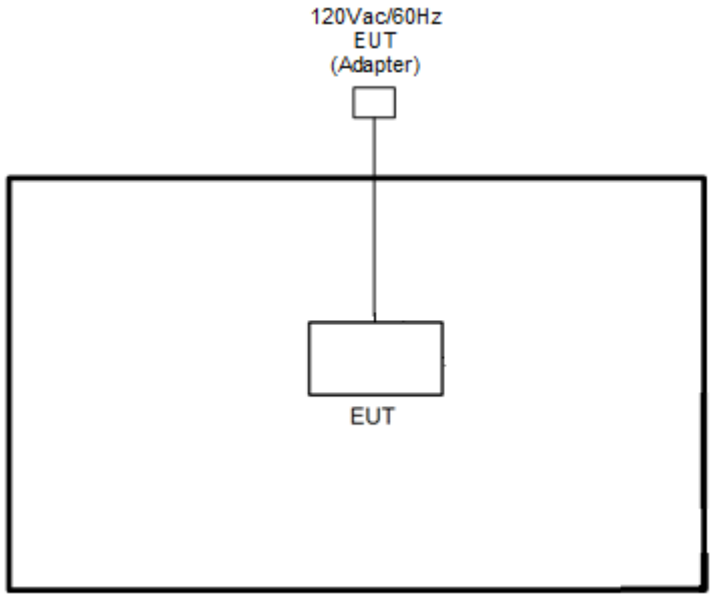
MIMO Antenna

Modulation	Data Rate
802.11g	6 Mbps
802.11n HT20	MCS0

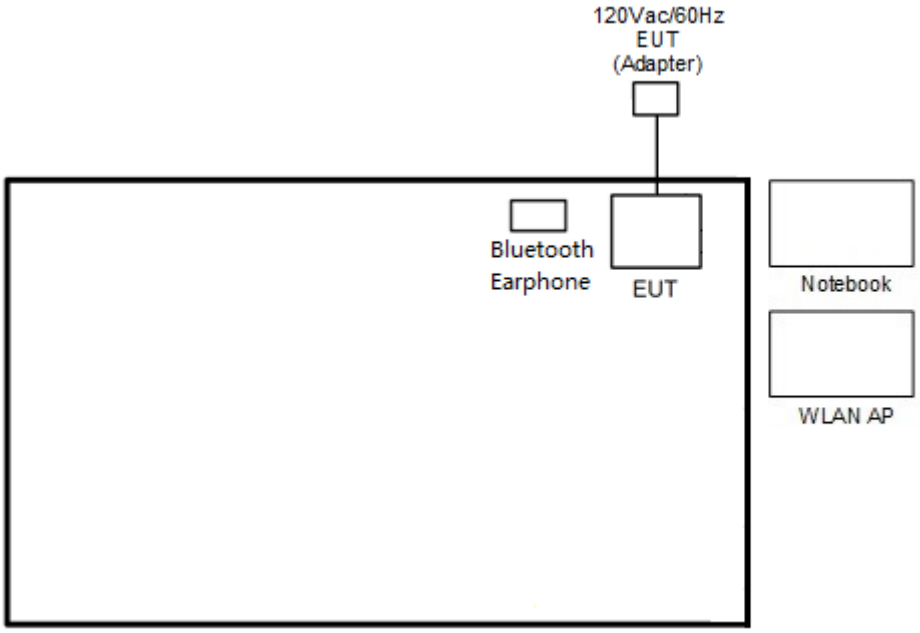
Test Cases	
AC Conducted Emission	Mode 1 :Bluetooth Link + WLAN (2.4GHz) Link + Music Streaming + Adapter

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
2.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
3.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2.5 EUT Operation Test Setup

The RF test items, utility “special software tool” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

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

3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

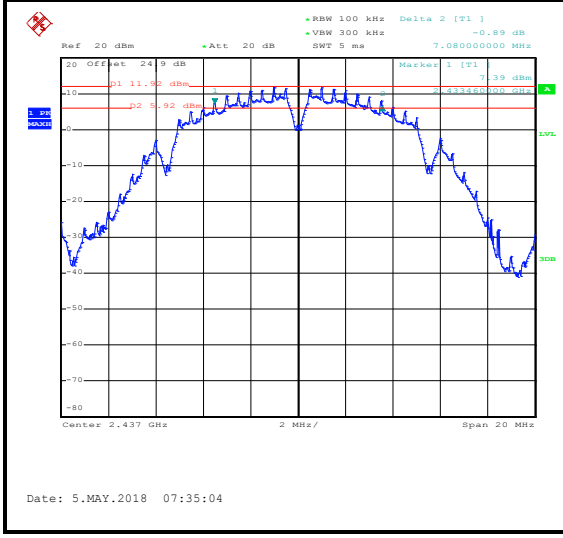
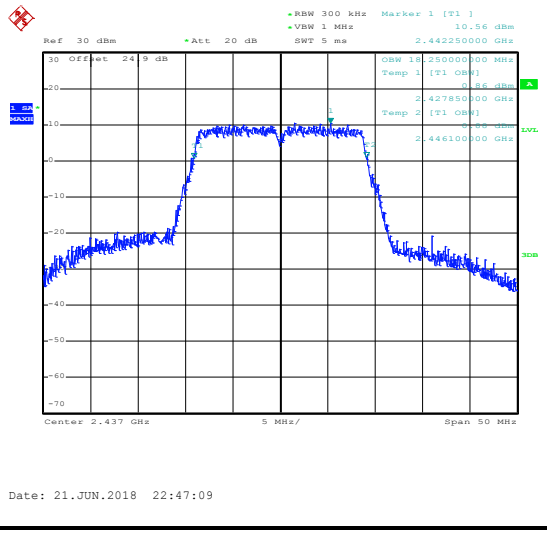
3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v04.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) ≥ 3 * RBW.
6. Measure and record the results in the test report.

3.1.4 Test Setup

3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A.

Minimum 6dB Bandwidth	Maximum 99% Occupied Bandwidth
	

Note : The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

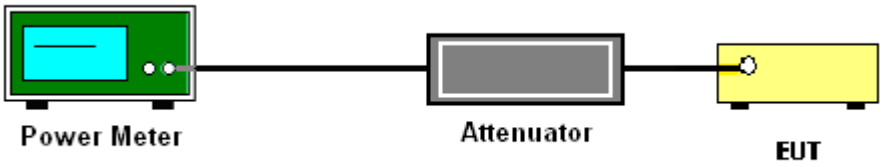
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04 section 9.1.3 PKPM1 Peak power meter method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Please refer to Appendix A.

3.2.6 Test Result of Average output Power (Reporting Only)

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

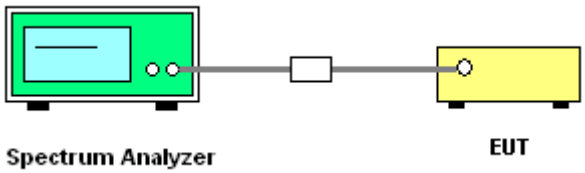
   If measurements performed using method (2) plus 10 log (N) exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

   Method (1): Measure and sum the spectra across the outputs.

   The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

   Method (2): Measure and add 10 log (N) dB, where N is the number of outputs. (N=2)

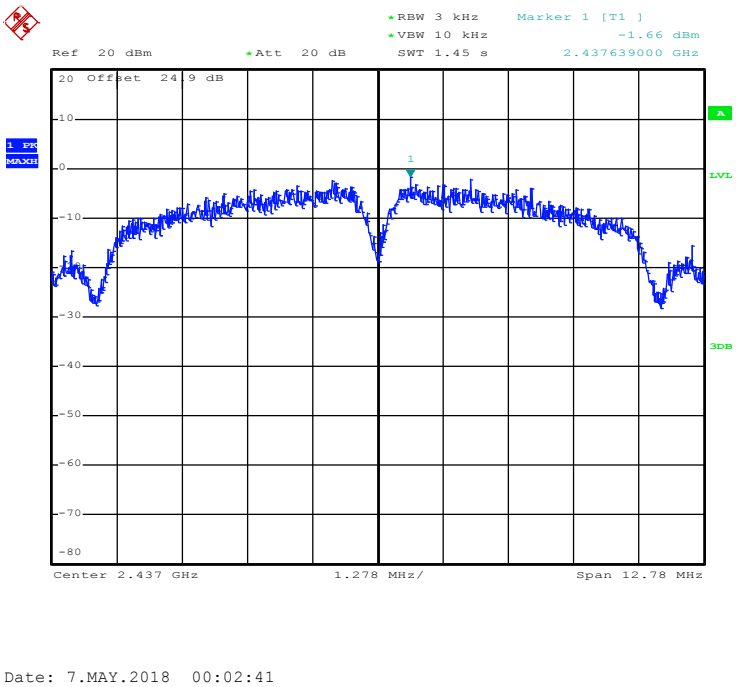
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Density (dBm/3kHz) for Ant. 2



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement.

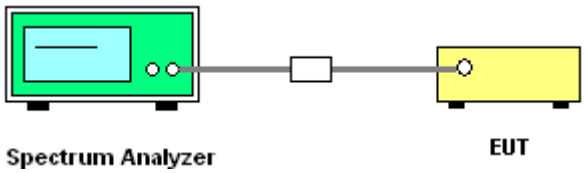
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup

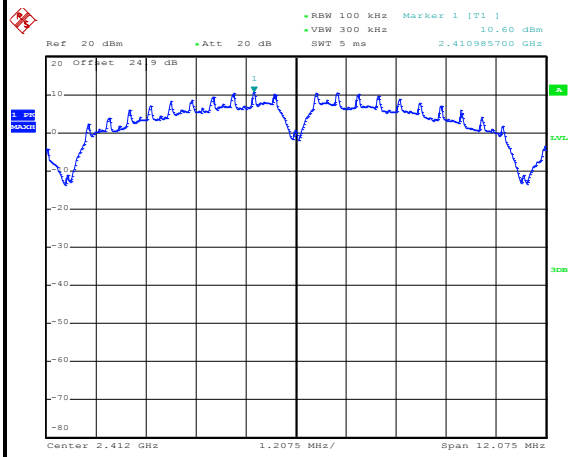


3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Number of TX = 1, Ant. 1 (Measured)

Test Mode :	802.11b	Test Channel :	01

100kHz PSD reference Level



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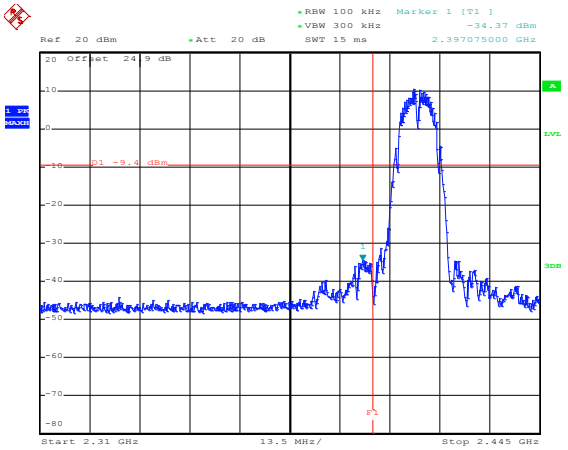
Channel Plot



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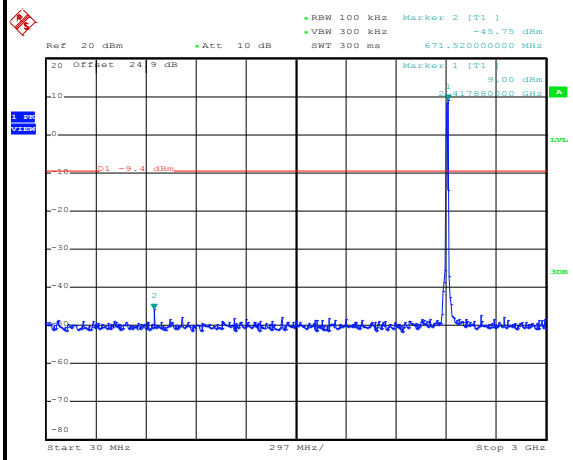
Spurious Emission 30MHz~3GHz



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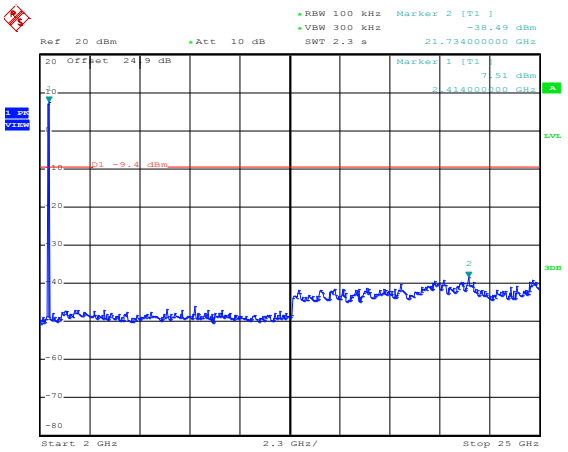
Spurious Emission 2GHz~25GHz



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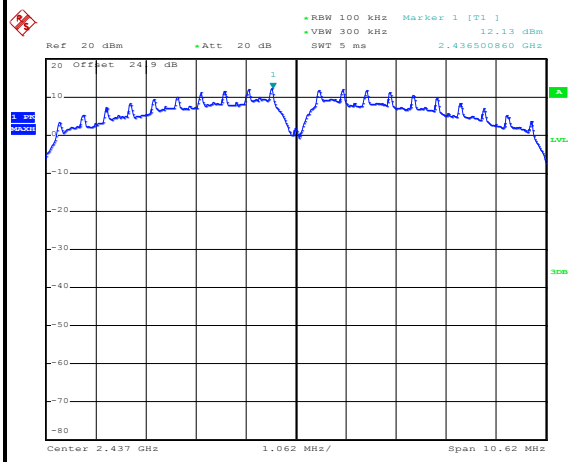
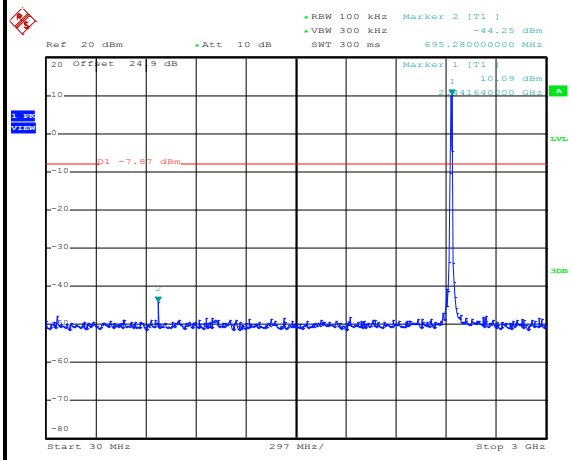
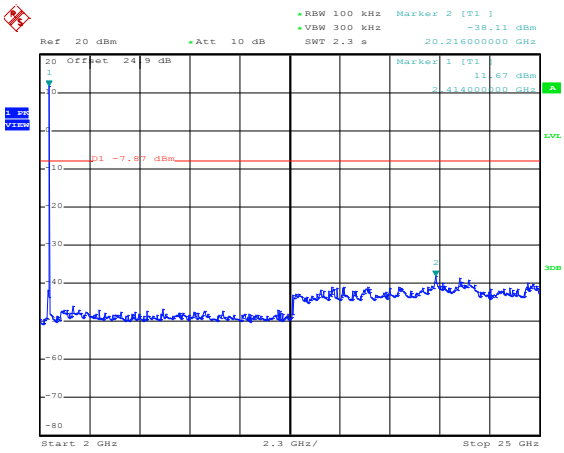
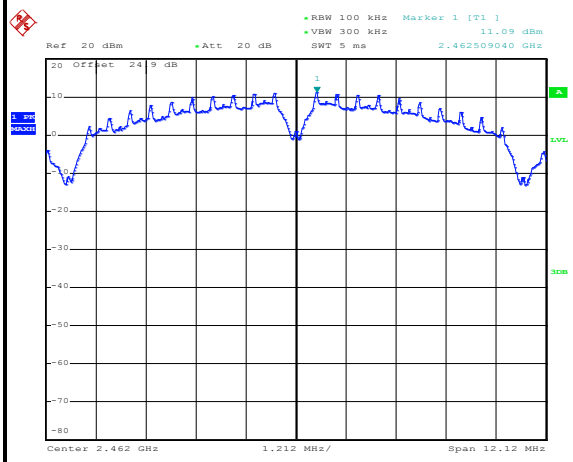
Test Mode :	802.11b	Test Channel :	06

100kHz PSD reference Level	Channel Plot
 Date: 5.MAY.2018 07:35:38	
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
 Date: 5.MAY.2018 07:35:58	 Date: 5.MAY.2018 07:36:15

Test Mode :	802.11b	Test Channel :	11

100kHz PSD reference Level



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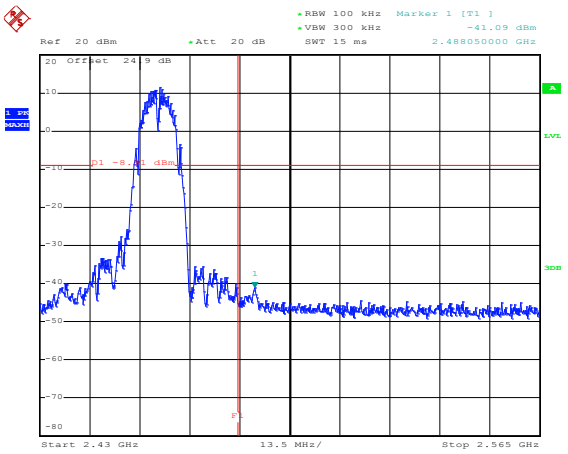
Channel Plot



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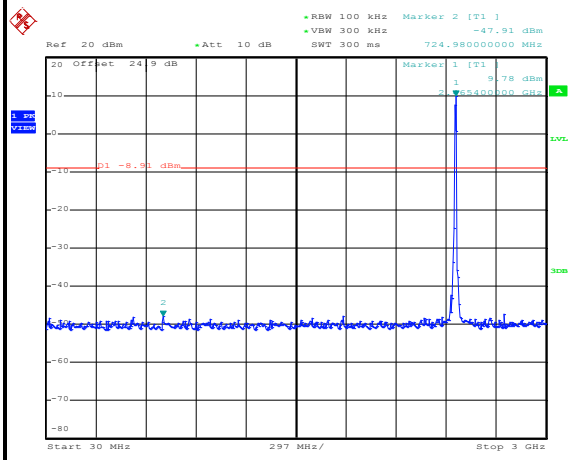
Spurious Emission 30MHz~3GHz



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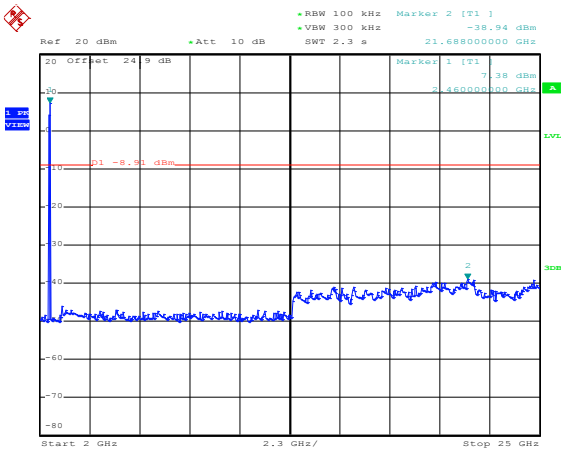
Spurious Emission 2GHz~25GHz



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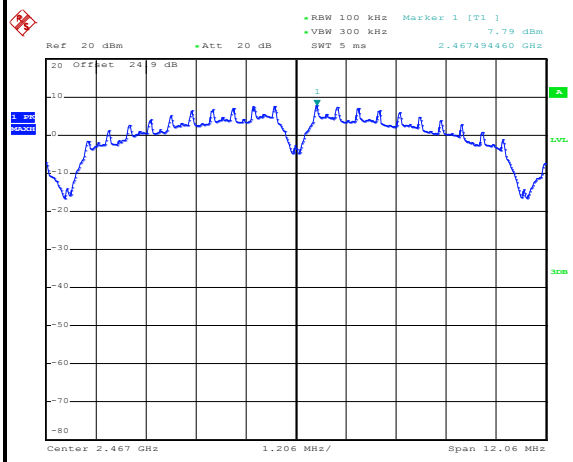
100kHz PSD reference Level



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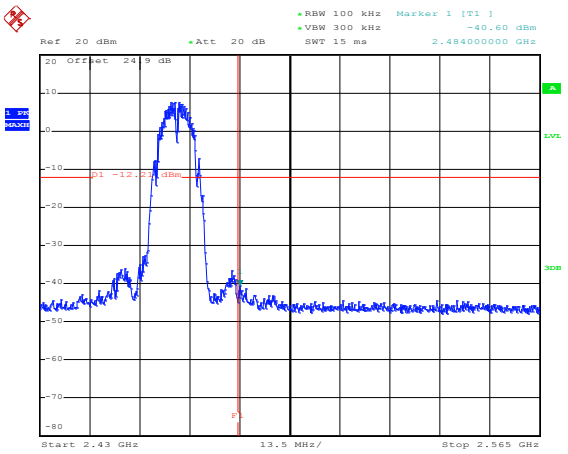
Channel Plot



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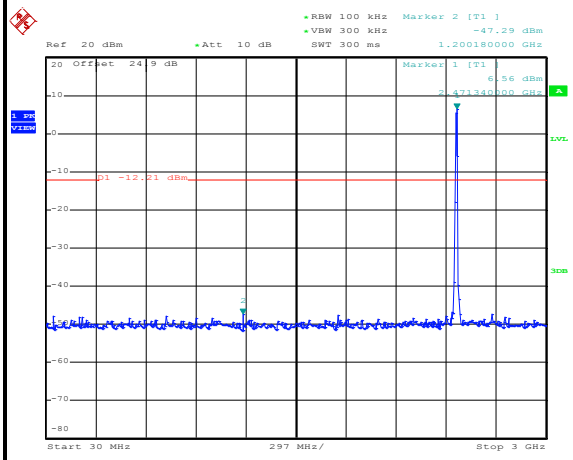
Spurious Emission 30MHz~3GHz



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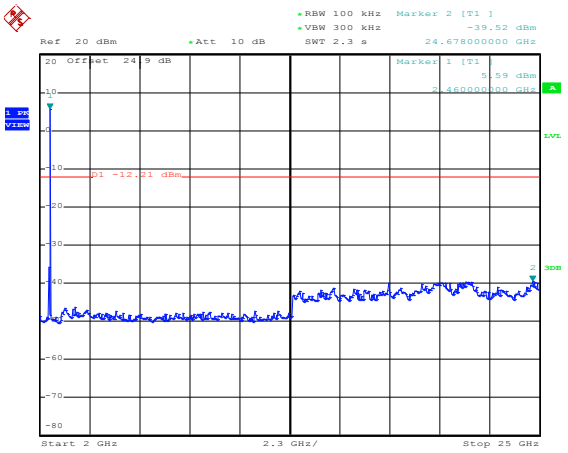
Spurious Emission 2GHz~25GHz



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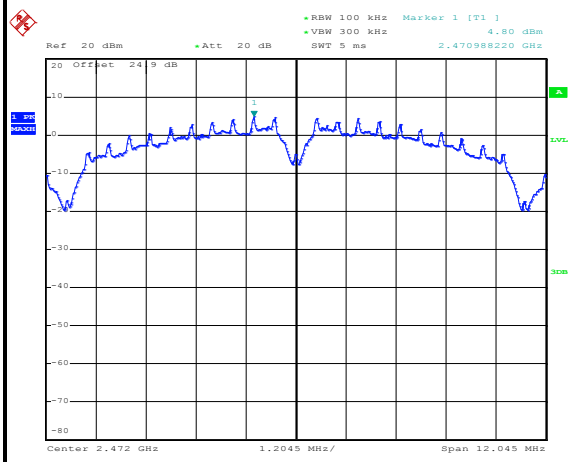
Test Mode :	802.11b	Test Channel :	13

100kHz PSD reference Level



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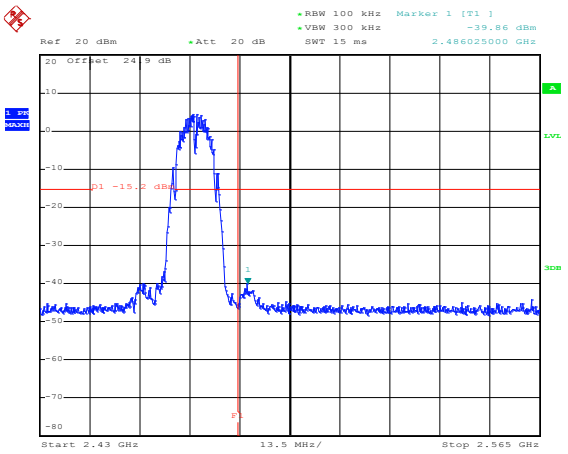
Channel Plot



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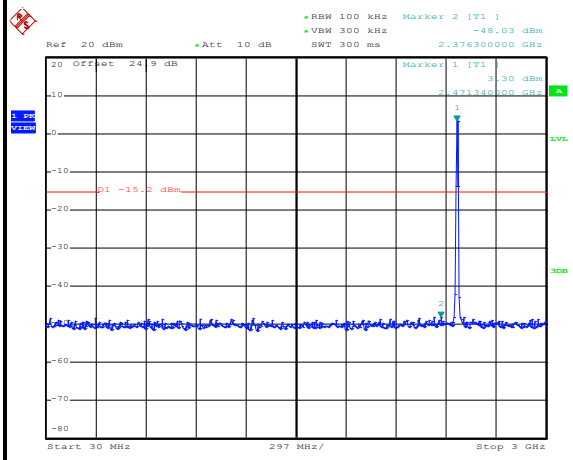
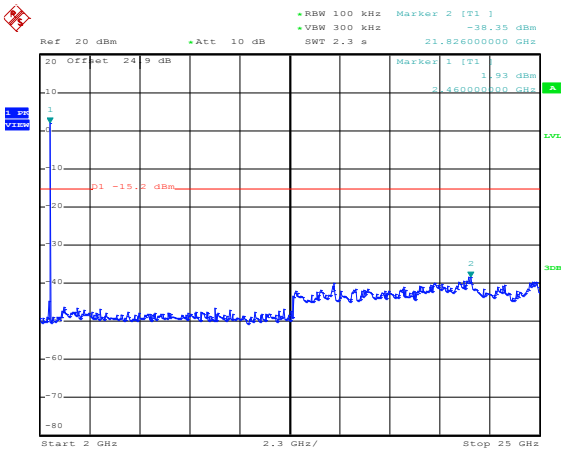
Spurious Emission 30MHz~3GHz



Date: 5.MAY.2018 07:51:58

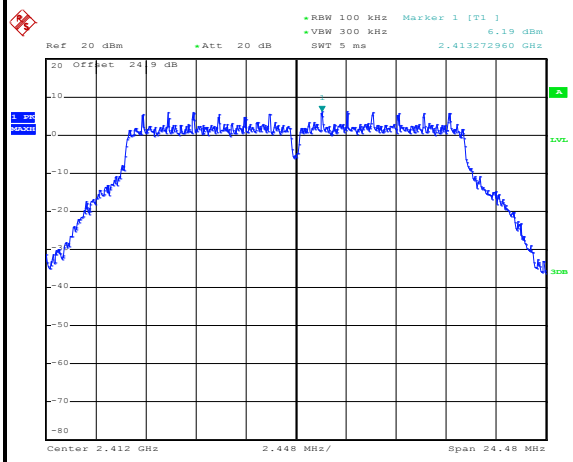
Spurious Emission 2GHz~25GHz



Date: 5.MAY.2018 07:52:28

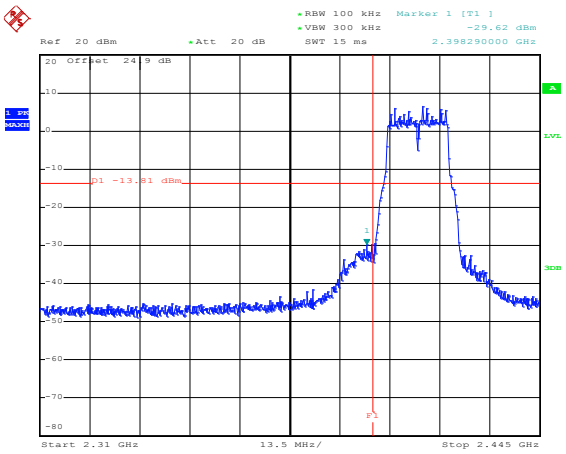
Test Mode :	802.11g	Test Channel :	01

100kHz PSD reference Level



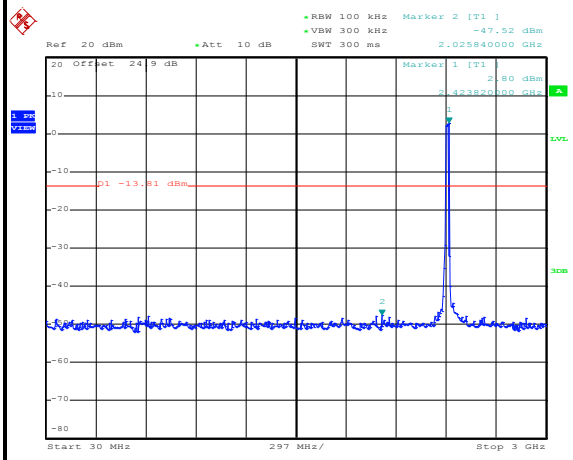
Date: 7.MAY.2018 00:20:57

Channel Plot



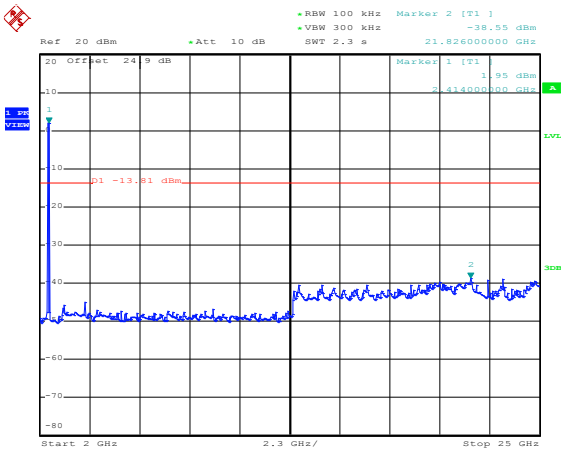
Date: 7.MAY.2018 00:21:13

Spurious Emission 30MHz~3GHz



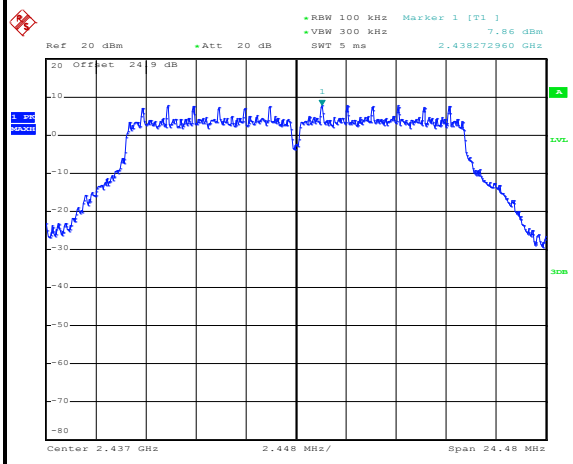
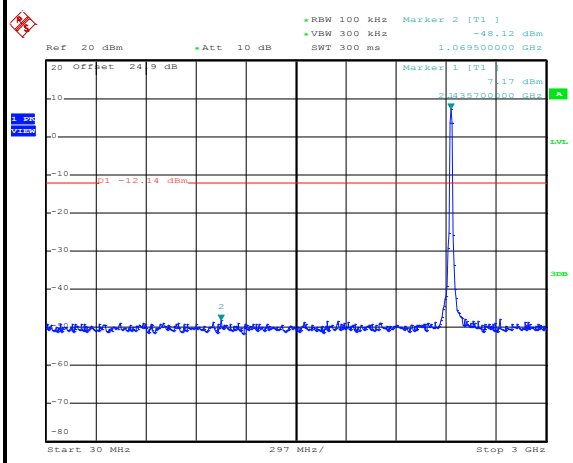
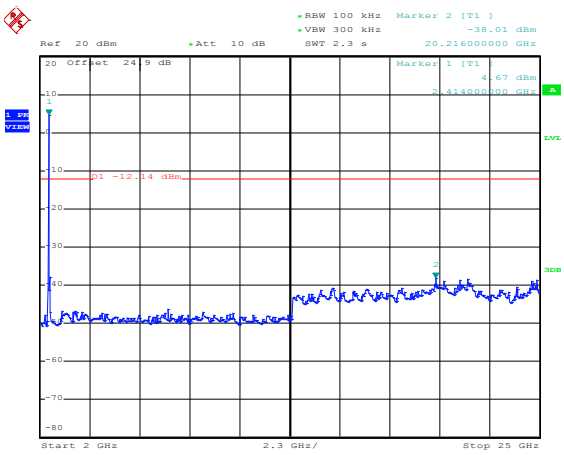
Date: 7.MAY.2018 00:21:34

Spurious Emission 2GHz~25GHz



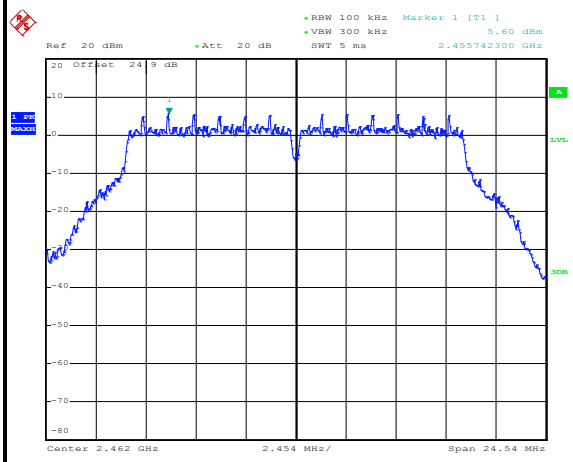
Date: 7.MAY.2018 00:21:54

Test Mode :	802.11g	Test Channel :	06

100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

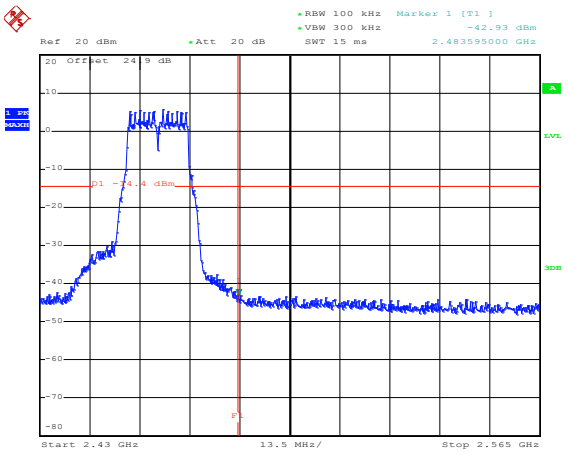
Test Mode :	802.11g	Test Channel :	11

100kHz PSD reference Level



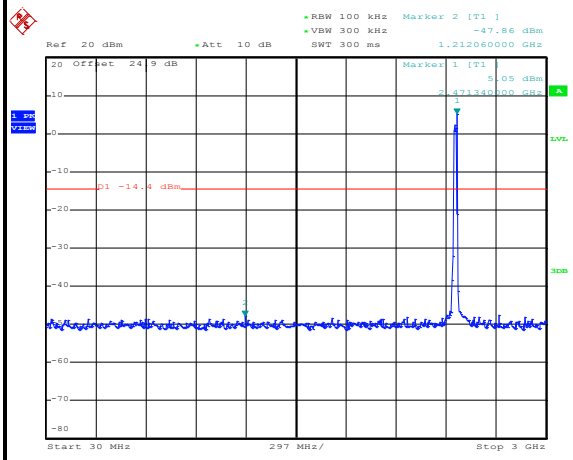
Date: 7.MAY.2018 00:29:50

Channel Plot



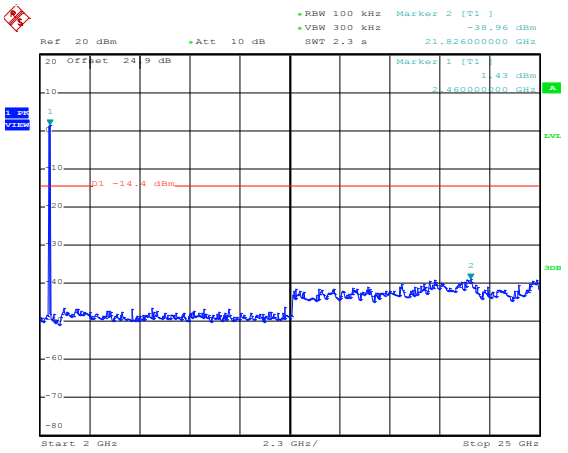
Date: 7.MAY.2018 00:30:39

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 00:31:08

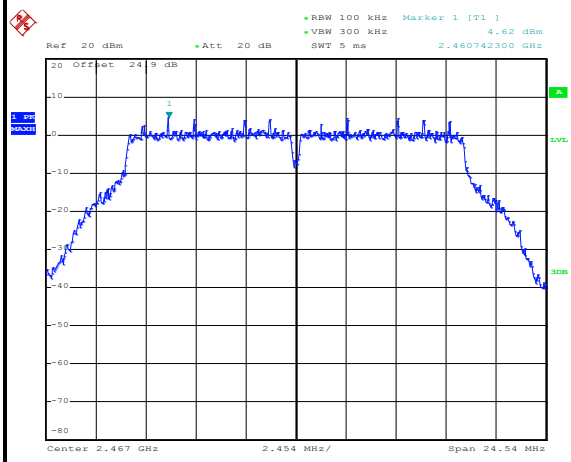
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 00:31:27

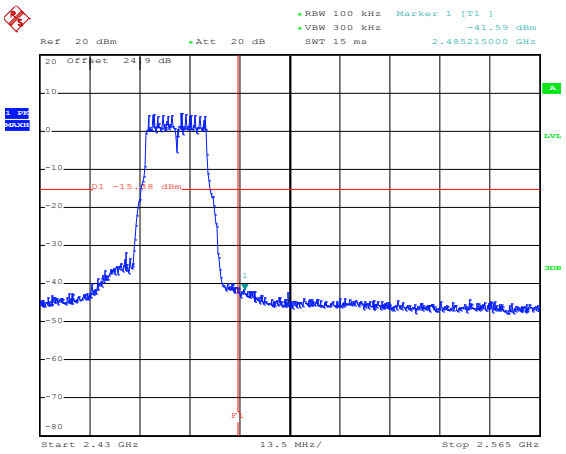
Test Mode :	802.11g	Test Channel :	12

100kHz PSD reference Level



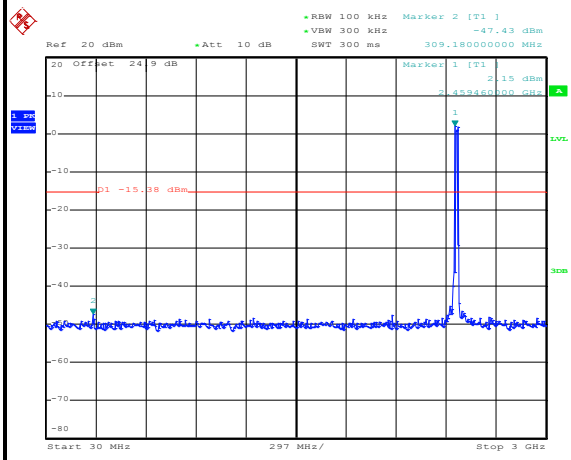
Date: 7.MAY.2018 00:34:19

Channel Plot



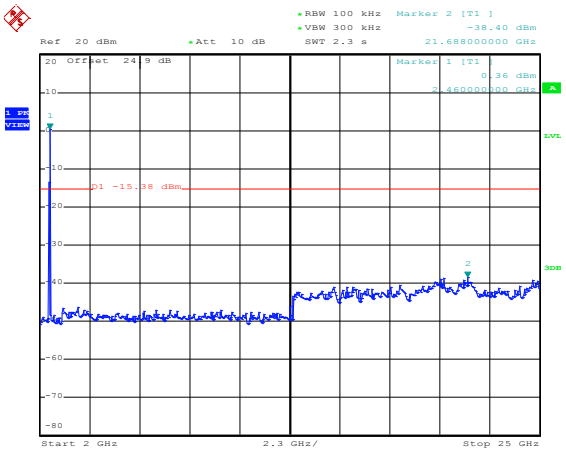
Date: 7.MAY.2018 00:35:35

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 00:36:08

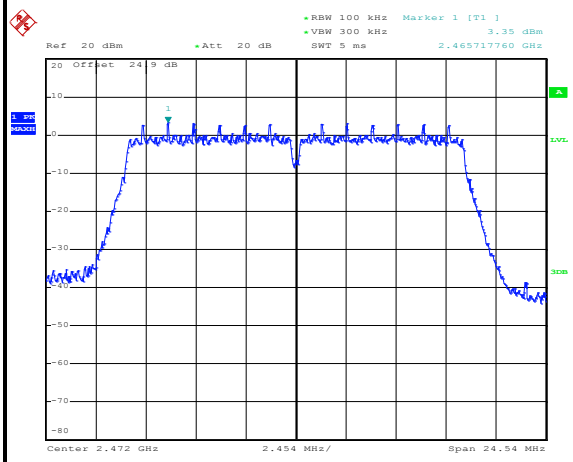
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 00:36:31

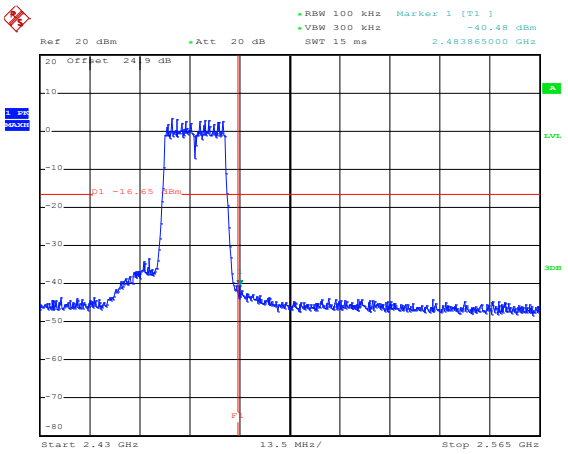
Test Mode :	802.11g	Test Channel :	13

100kHz PSD reference Level



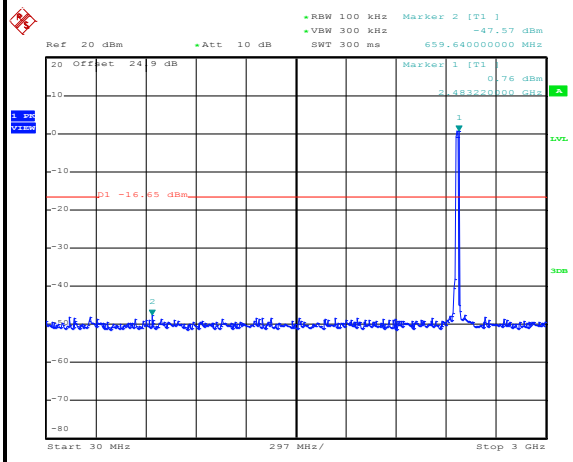
Date: 7.MAY.2018 00:38:59

Channel Plot



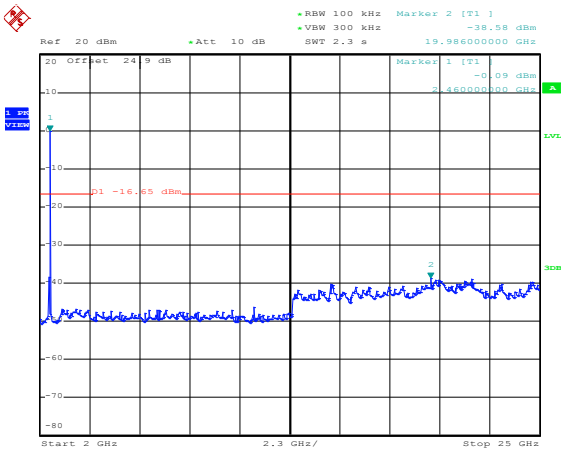
Date: 7.MAY.2018 00:39:52

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 00:40:14

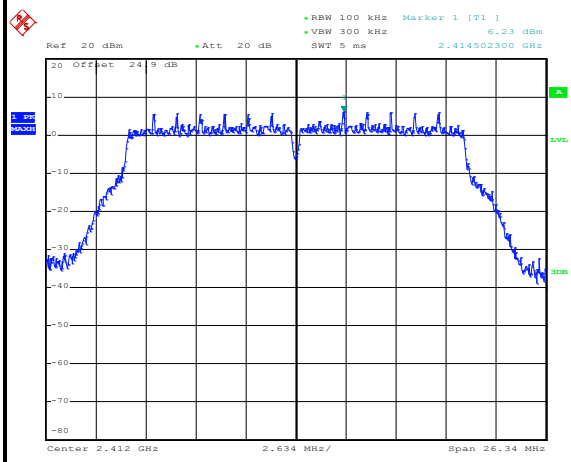
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 00:40:29

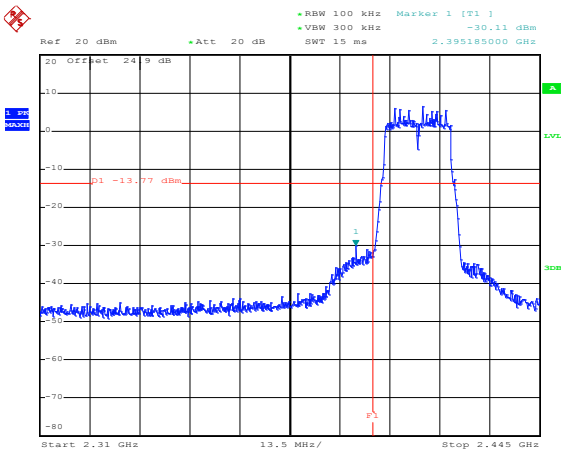
Test Mode :	802.11n HT20	Test Channel :	01

100kHz PSD reference Level



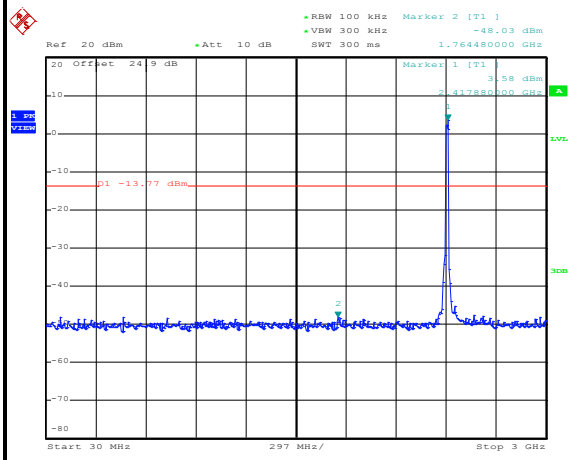
Date: 7.MAY.2018 02:06:59

Channel Plot



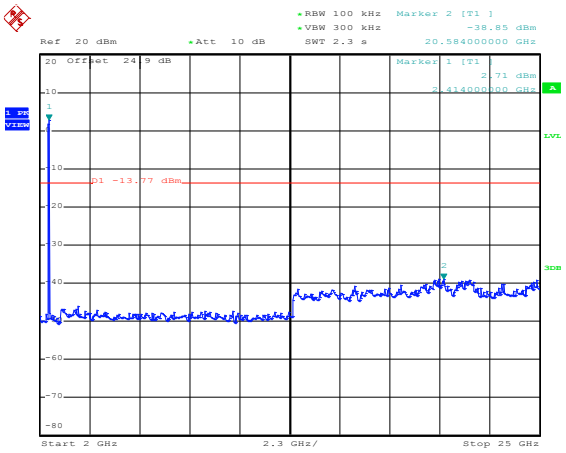
Date: 7.MAY.2018 02:07:29

Spurious Emission 30MHz~3GHz



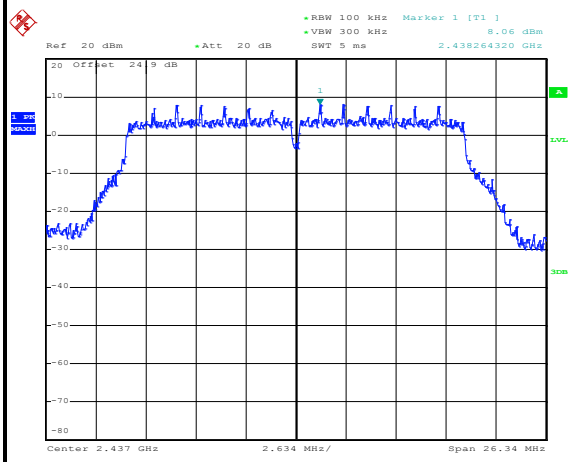
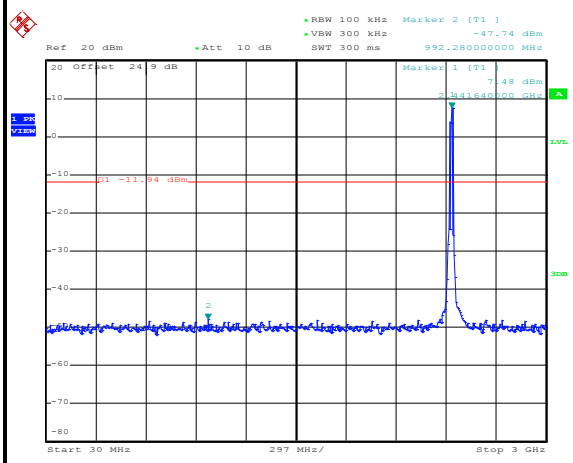
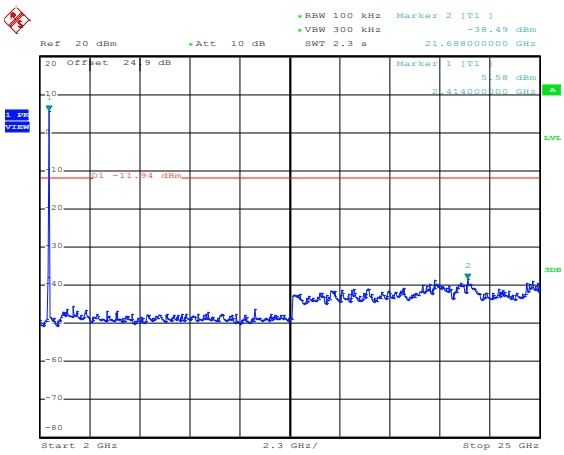
Date: 7.MAY.2018 02:07:51

Spurious Emission 2GHz~25GHz



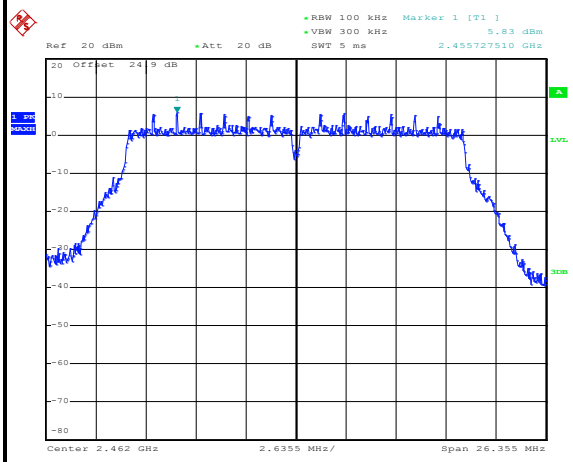
Date: 7.MAY.2018 02:08:13

Test Mode :	802.11n HT20	Test Channel :	06

100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

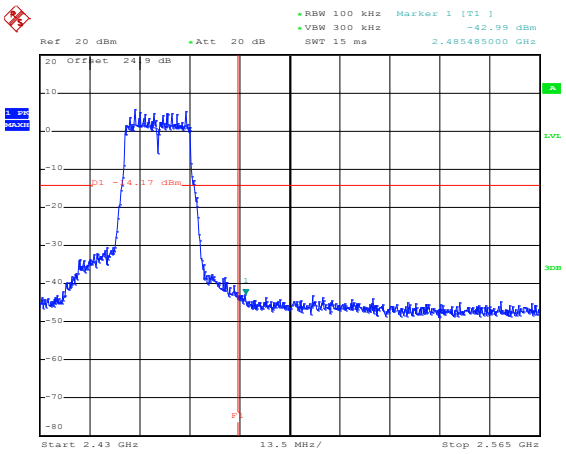
Test Mode :	802.11n HT20	Test Channel :	11

100kHz PSD reference Level



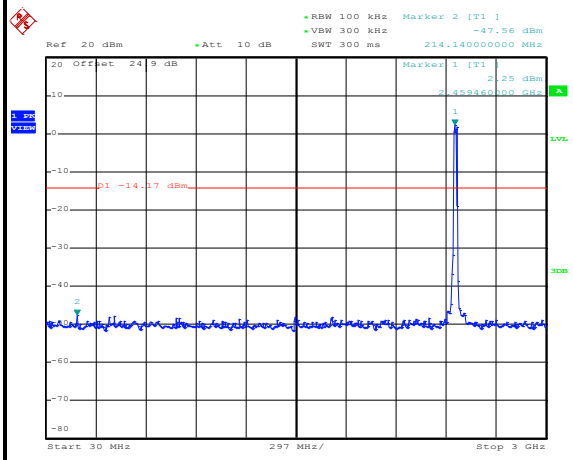
Date: 7.MAY.2018 02:13:48

Channel Plot



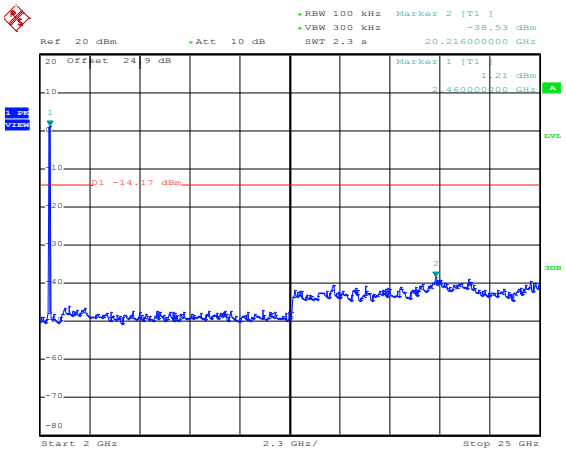
Date: 7.MAY.2018 02:14:02

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 02:14:55

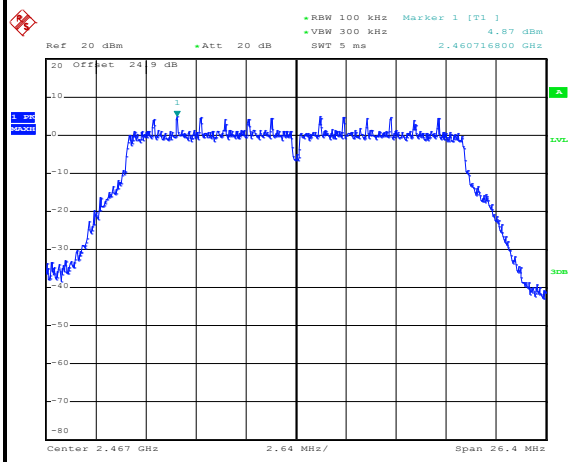
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 02:15:18

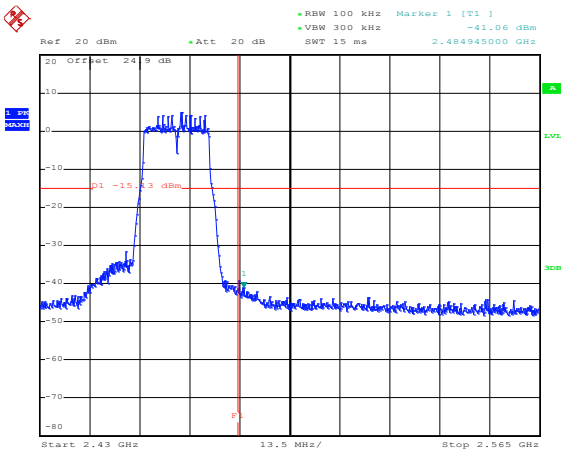
Test Mode :	802.11n HT20	Test Channel :	12

100kHz PSD reference Level



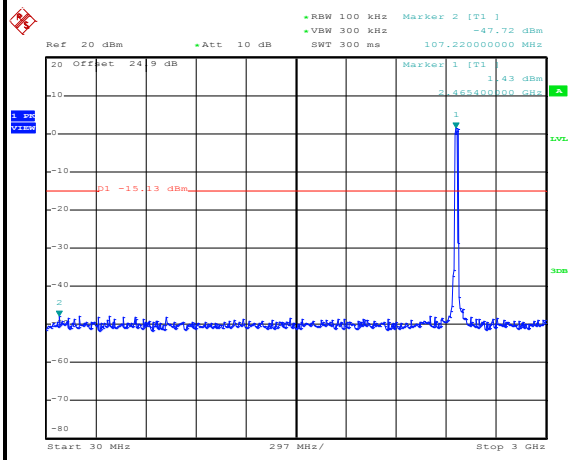
Date: 7.MAY.2018 02:17:37

Channel Plot



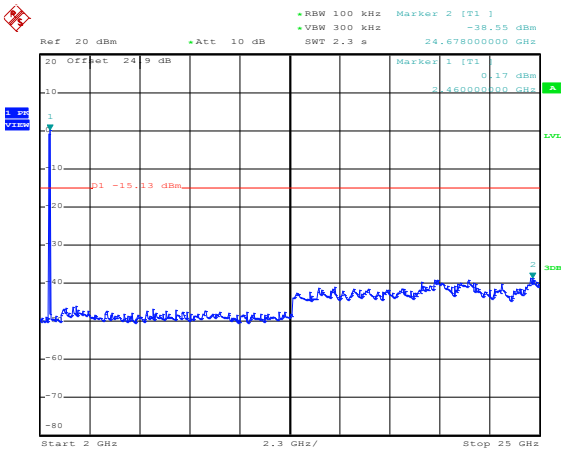
Date: 7.MAY.2018 02:18:22

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 02:18:49

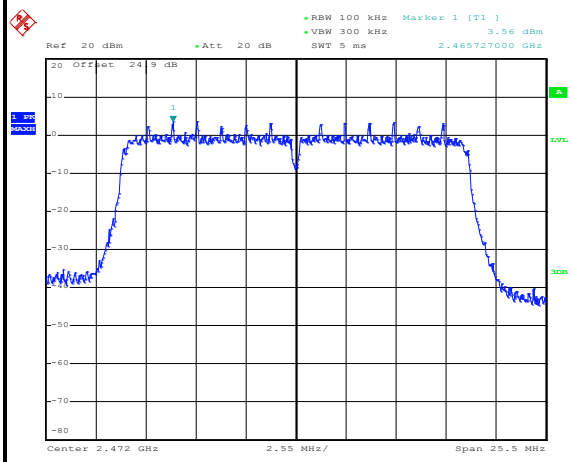
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 02:19:08

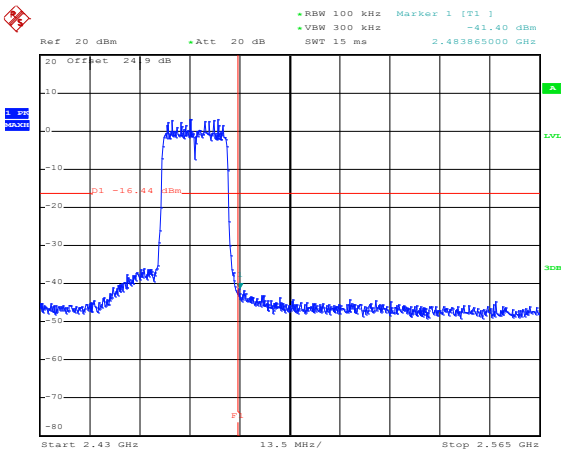
Test Mode :	802.11n HT20	Test Channel :	13

100kHz PSD reference Level



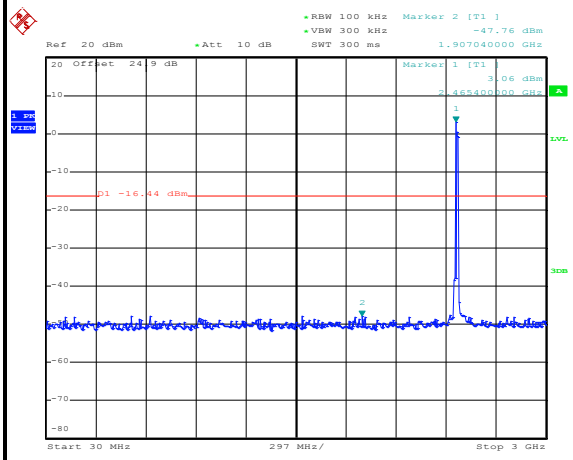
Date: 7.MAY.2018 02:21:51

Channel Plot



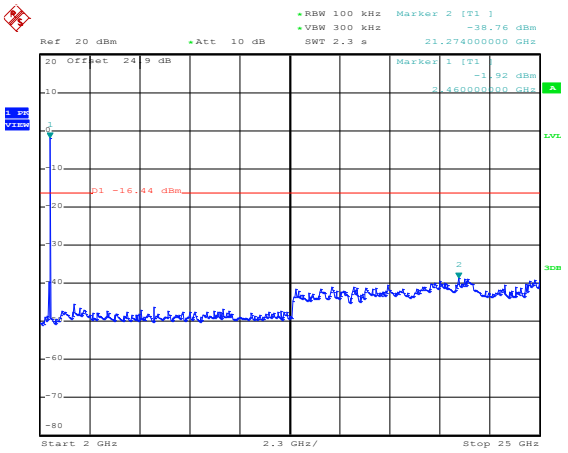
Date: 7.MAY.2018 02:22:05

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 02:23:43

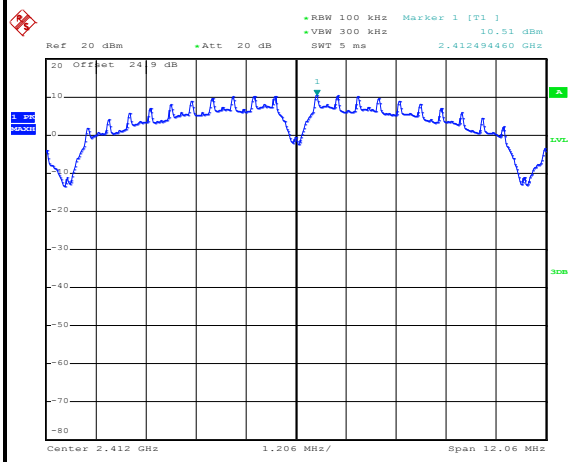
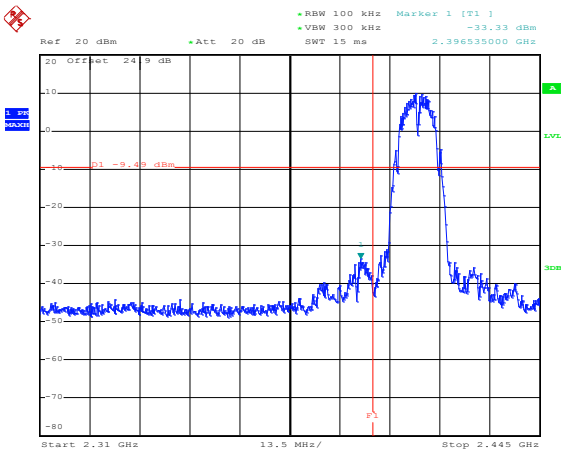
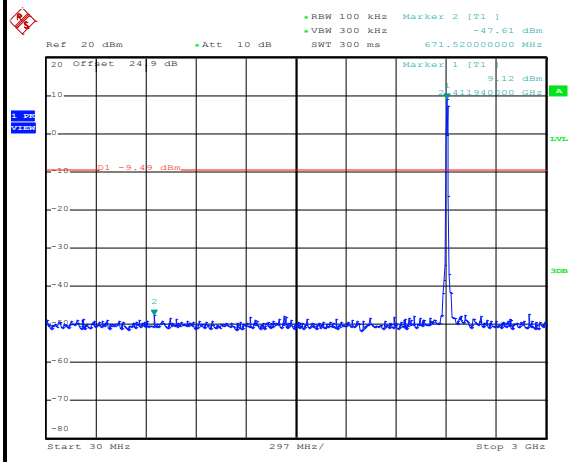
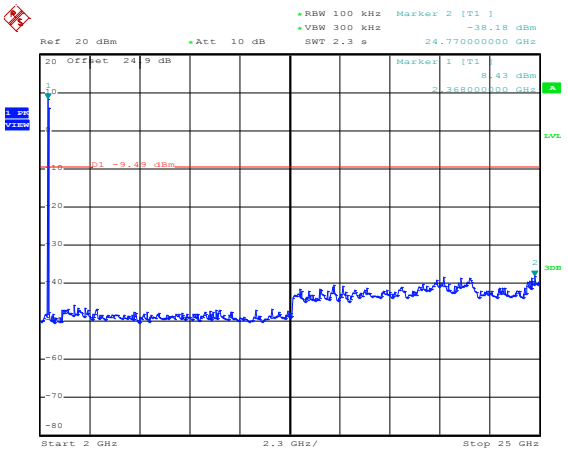
Spurious Emission 2GHz~25GHz



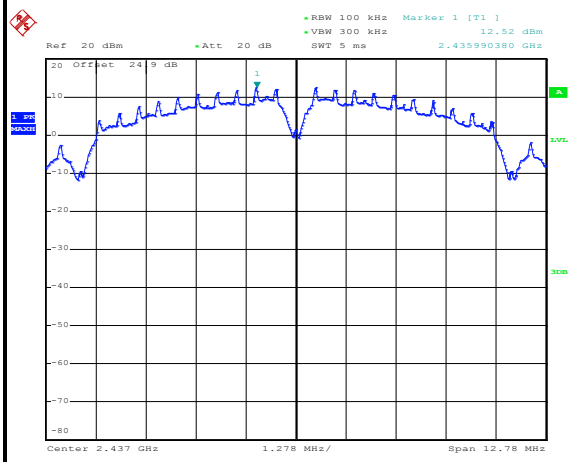
Date: 7.MAY.2018 02:24:03

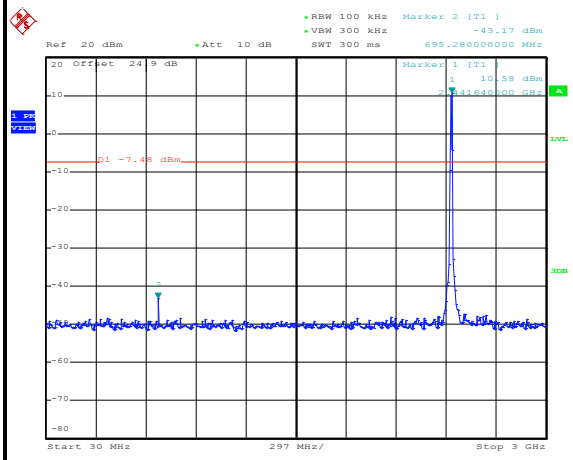
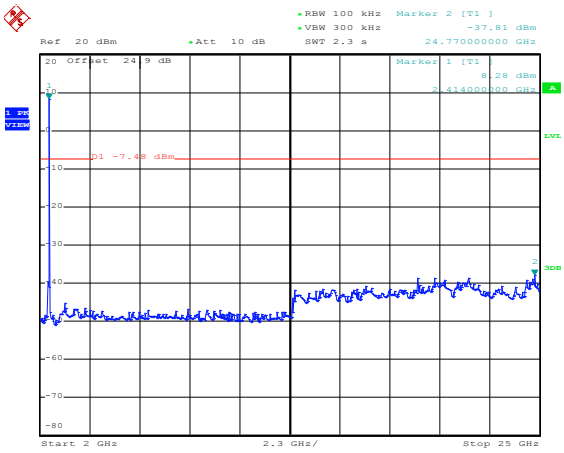
Number of TX = 1, Ant. 2 (Measured)

Test Mode :	802.11b	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 6.MAY.2018 23:59:30	Date: 6.MAY.2018 23:59:46
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 00:00:12	Date: 7.MAY.2018 00:00:34

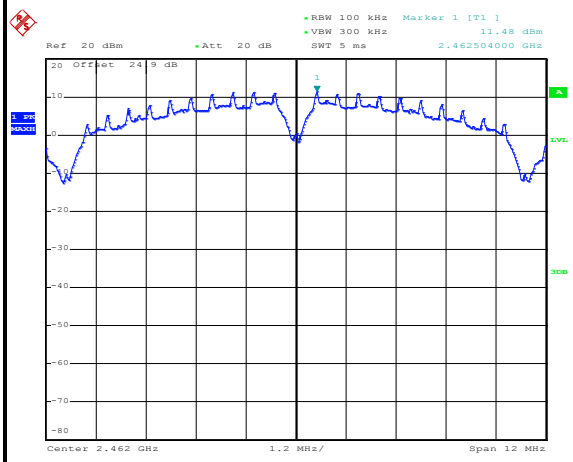
Test Mode :	802.11b	Test Channel :	06

100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 00:02:57	

Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	
Date: 7.MAY.2018 00:03:21	Date: 7.MAY.2018 00:03:38

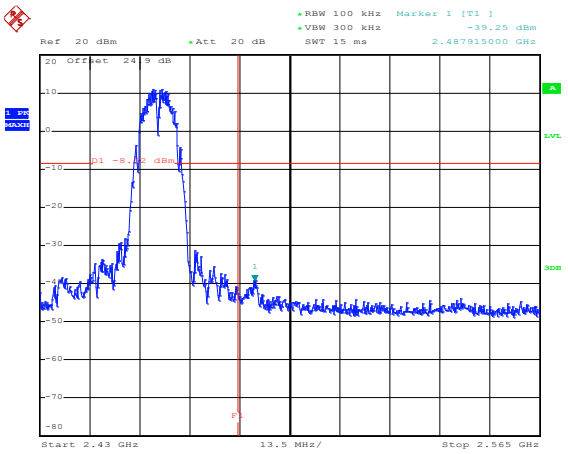
Test Mode :	802.11b	Test Channel :	11

100kHz PSD reference Level



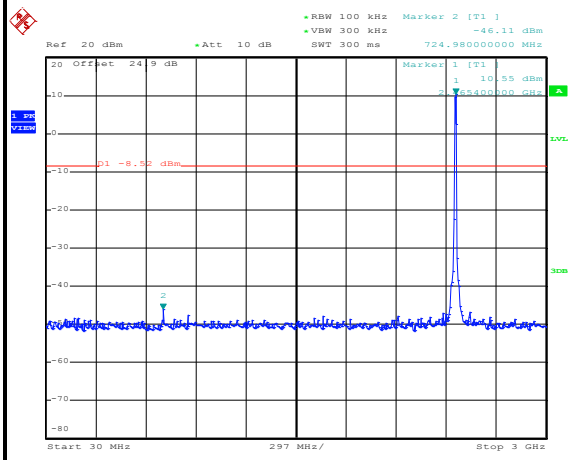
Date: 7.MAY.2018 00:06:07

Channel Plot



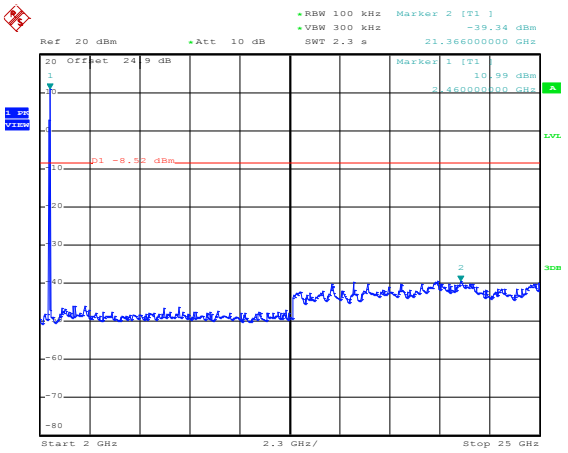
Date: 7.MAY.2018 00:06:23

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 00:06:41

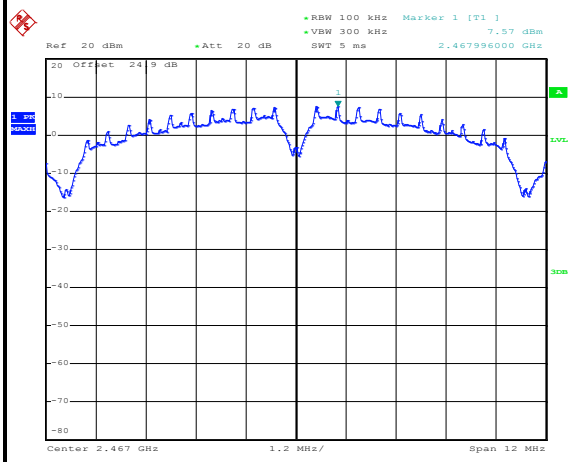
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 00:06:59

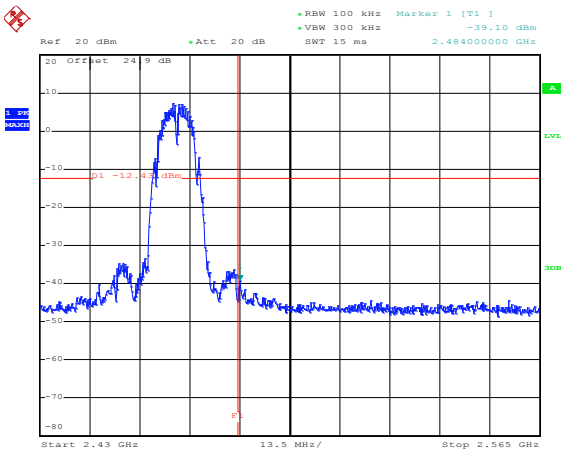
Test Mode :	802.11b	Test Channel :	12

100kHz PSD reference Level



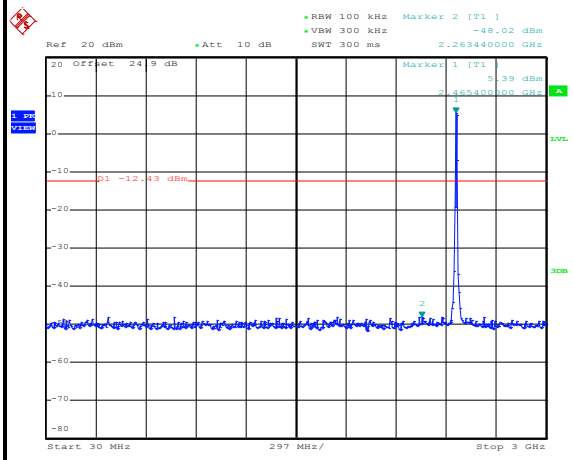
Date: 7.MAY.2018 00:10:08

Channel Plot



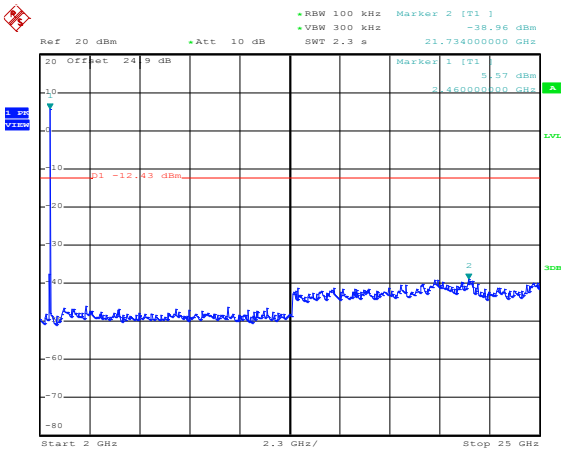
Date: 7.MAY.2018 00:10:53

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 00:11:45

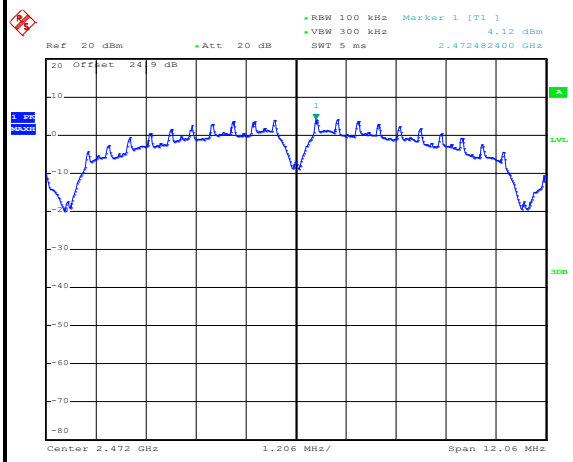
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 00:12:10

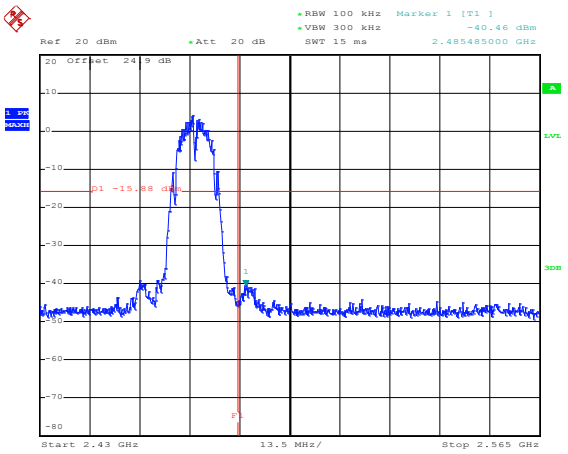
Test Mode :	802.11b	Test Channel :	13

100kHz PSD reference Level



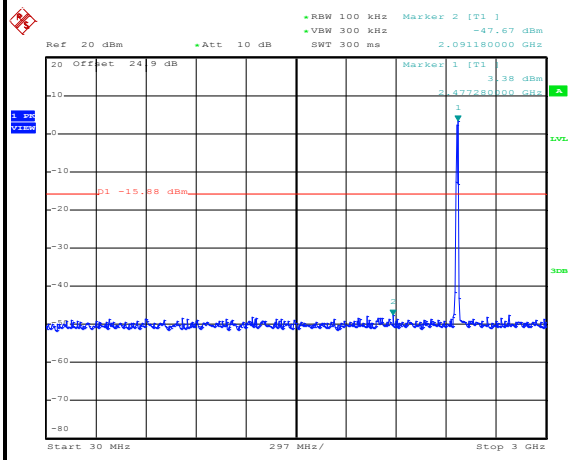
Date: 7.MAY.2018 00:15:37

Channel Plot



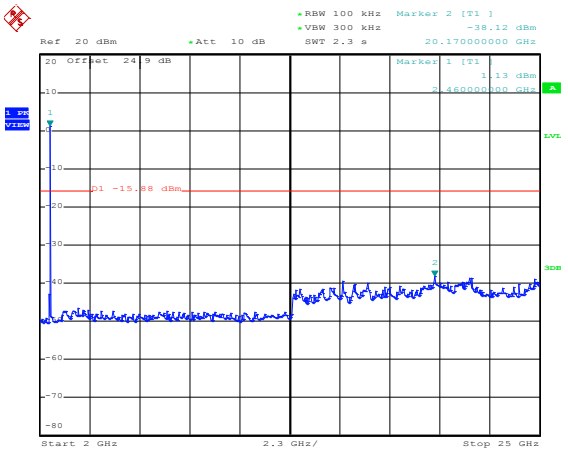
Date: 7.MAY.2018 00:16:24

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 00:16:53

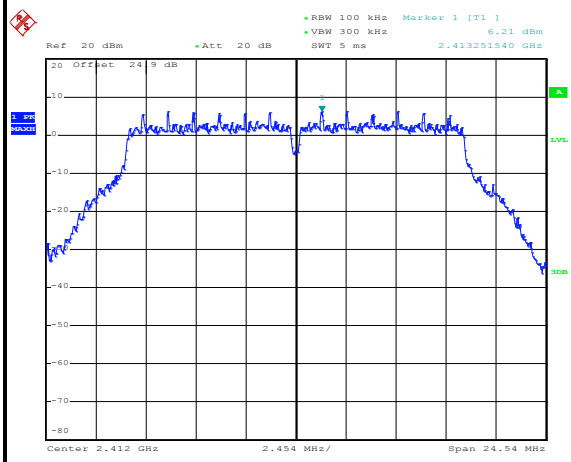
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 00:17:19

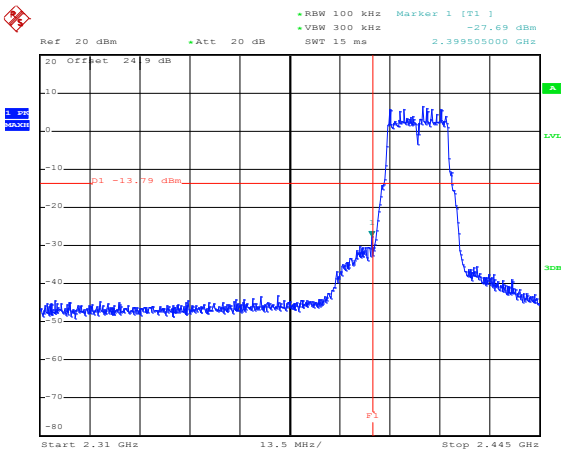
Test Mode :	802.11g	Test Channel :	01

100kHz PSD reference Level



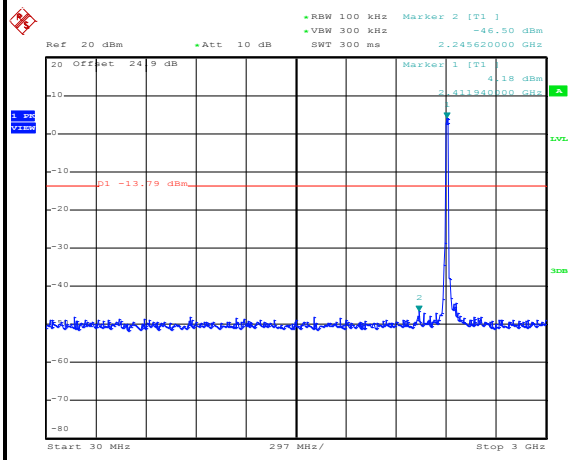
Date: 7.MAY.2018 00:45:42

Channel Plot



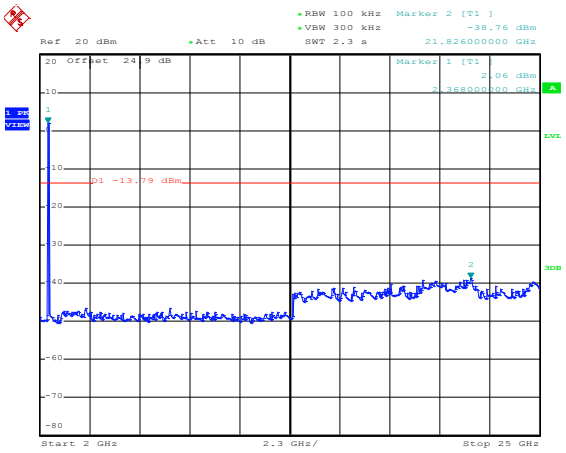
Date: 7.MAY.2018 00:45:57

Spurious Emission 30MHz~3GHz



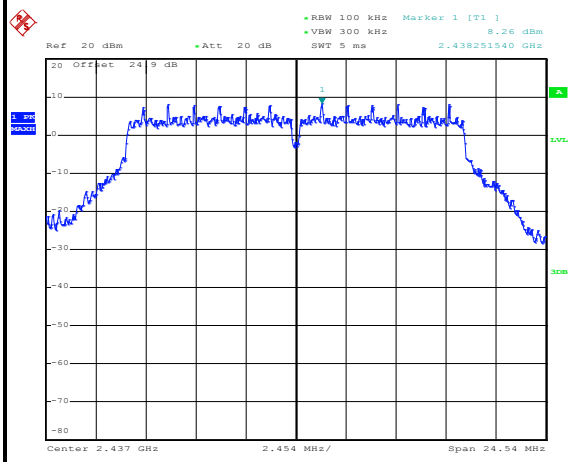
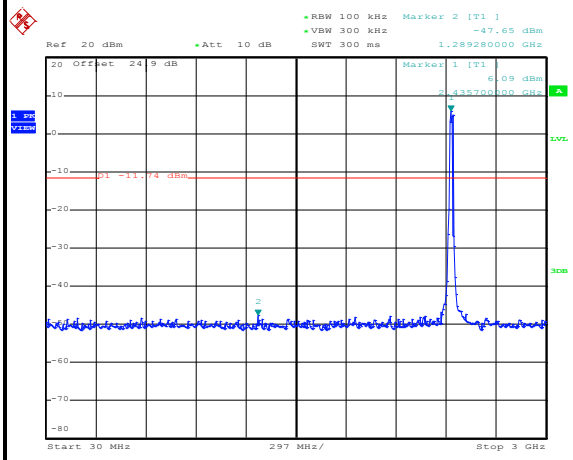
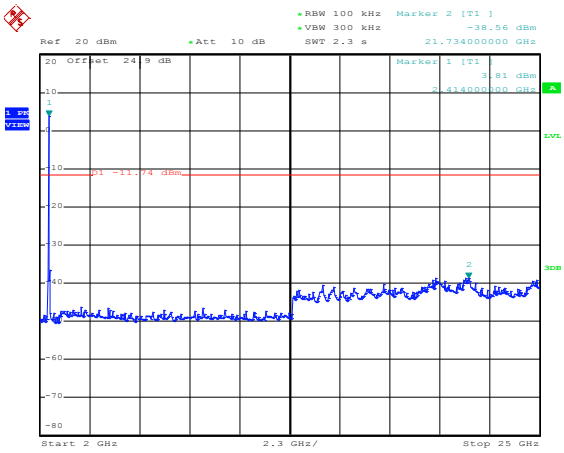
Date: 7.MAY.2018 00:46:16

Spurious Emission 2GHz~25GHz



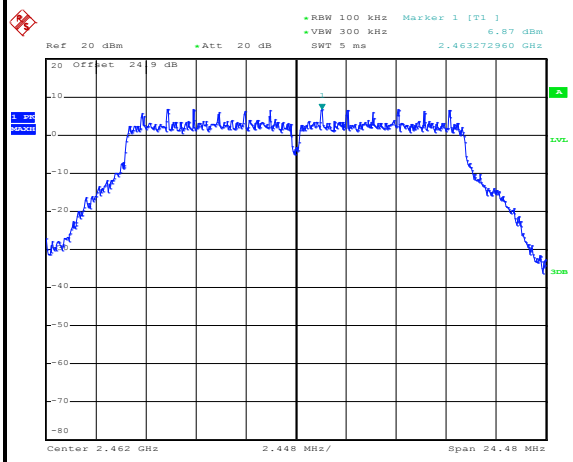
Date: 7.MAY.2018 00:46:33

Test Mode :	802.11g	Test Channel :	06

100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

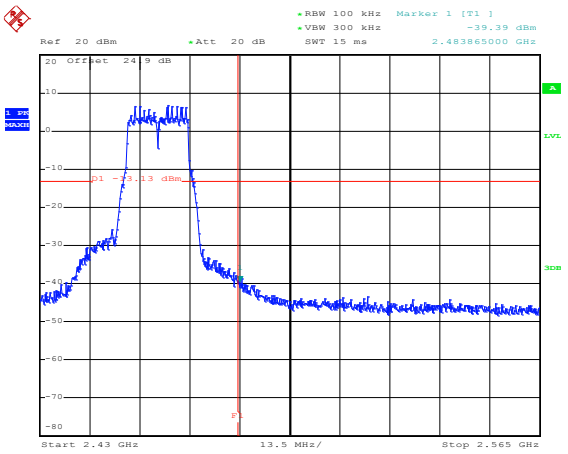
Test Mode :	802.11g	Test Channel :	11

100kHz PSD reference Level



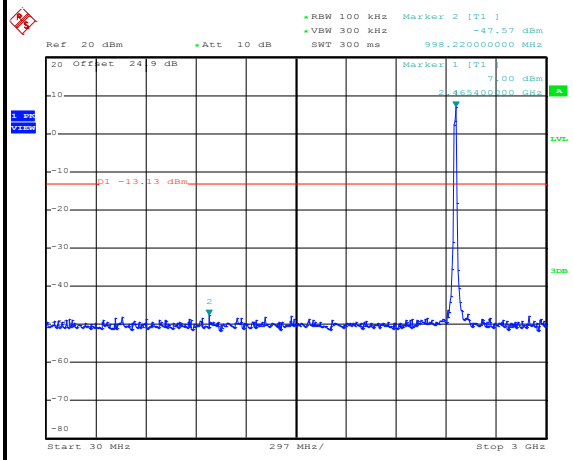
Date: 7.MAY.2018 00:51:56

Channel Plot



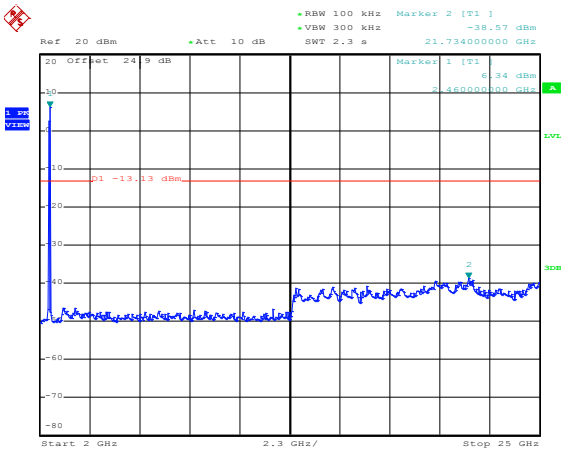
Date: 7.MAY.2018 00:52:16

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 00:52:37

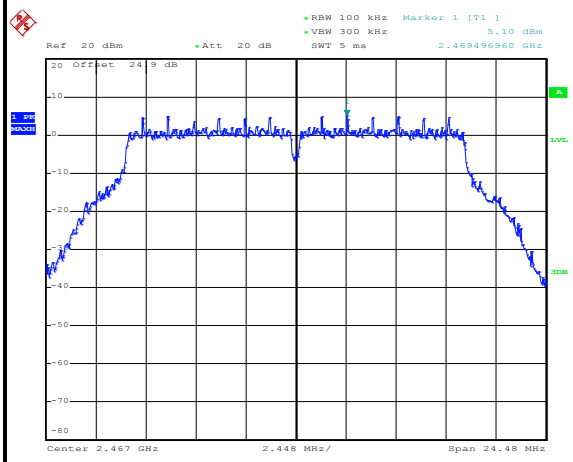
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 00:53:10

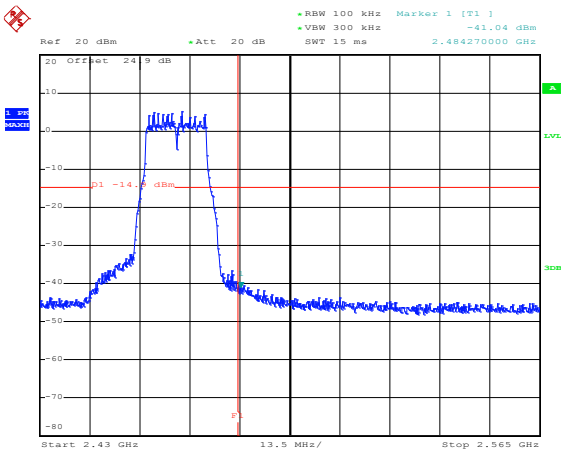
Test Mode :	802.11g	Test Channel :	12

100kHz PSD reference Level



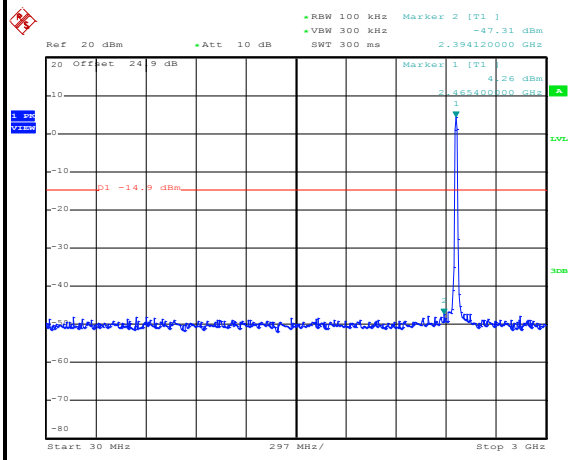
Date: 7.MAY.2018 00:55:35

Channel Plot



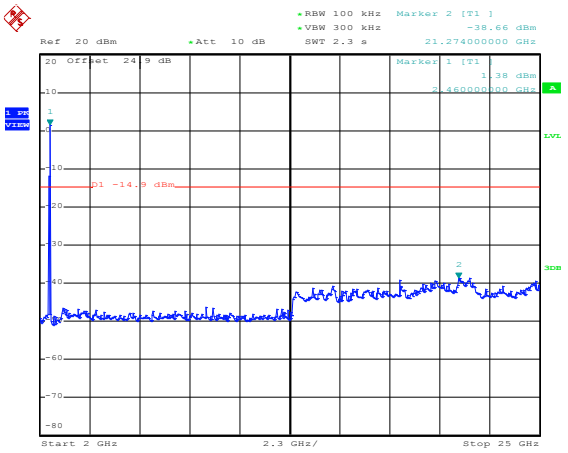
Date: 7.MAY.2018 00:56:21

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 00:57:21

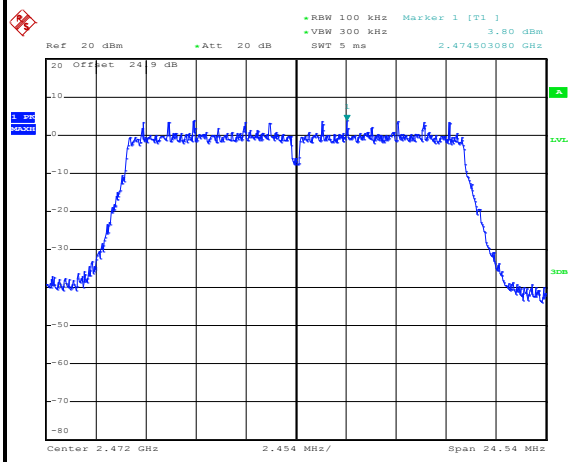
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 00:57:39

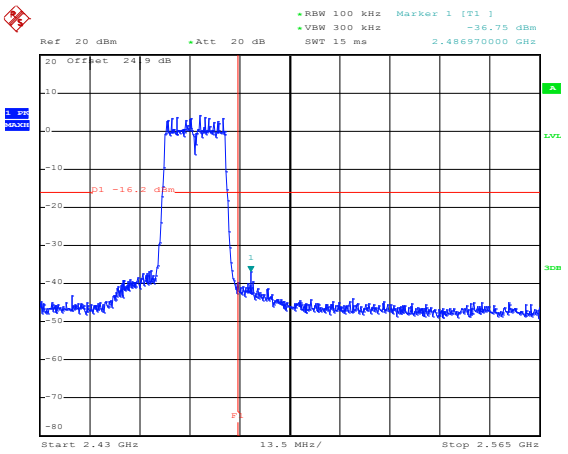
Test Mode :	802.11g	Test Channel :	13

100kHz PSD reference Level



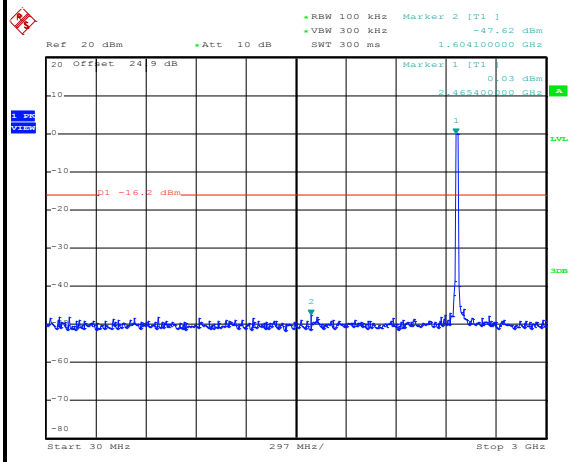
Date: 7.MAY.2018 01:00:03

Channel Plot



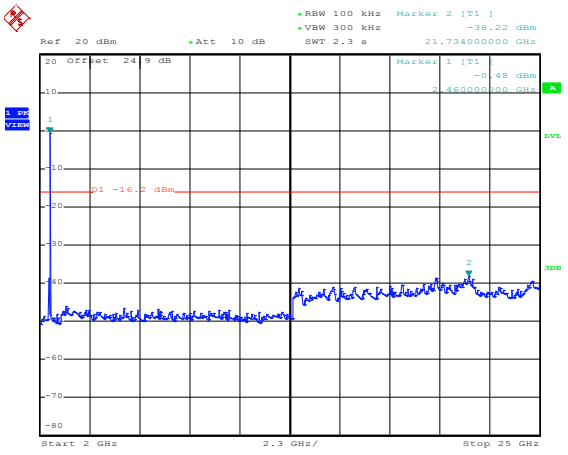
Date: 7.MAY.2018 01:00:34

Spurious Emission 30MHz~3GHz



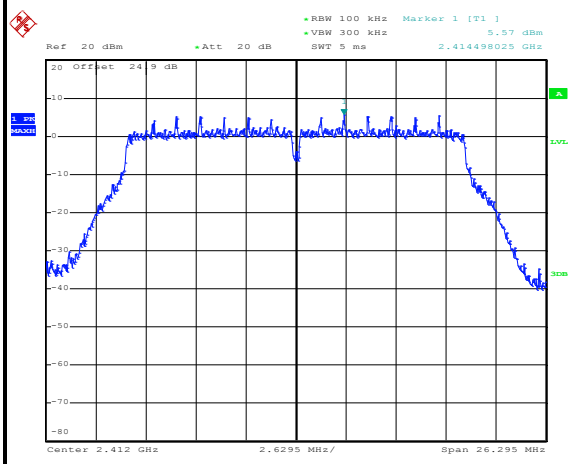
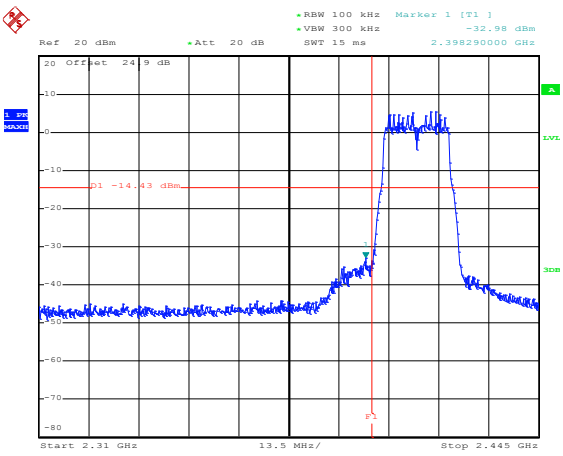
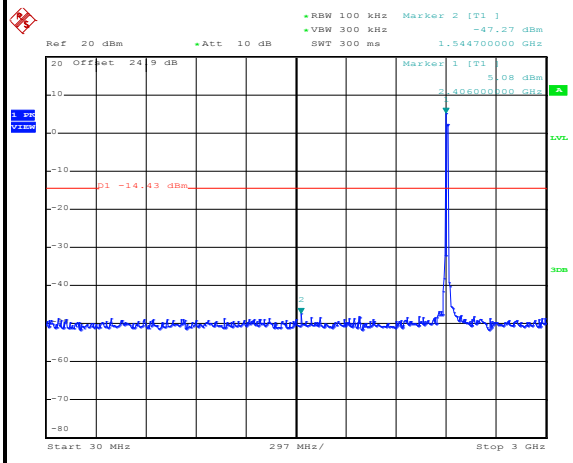
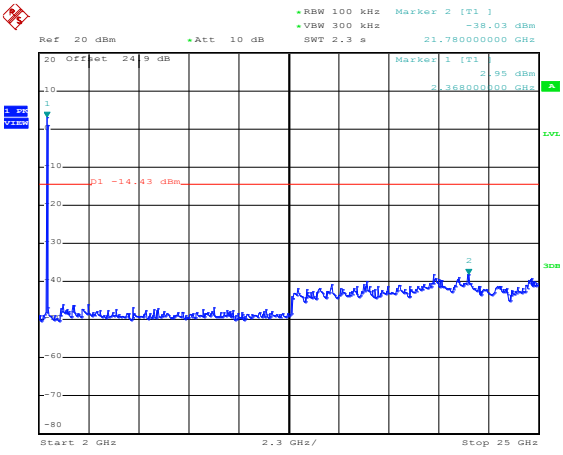
Date: 7.MAY.2018 01:00:58

Spurious Emission 2GHz~25GHz

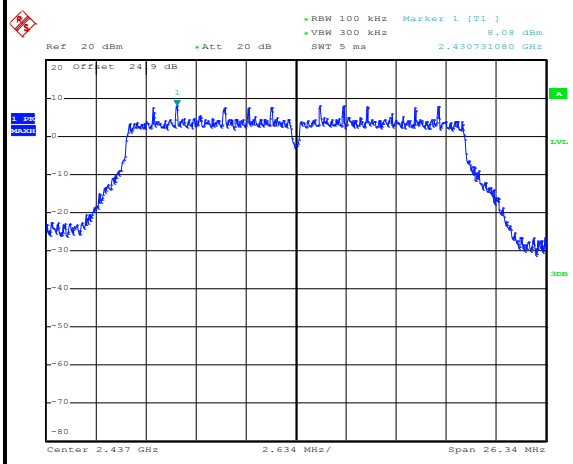
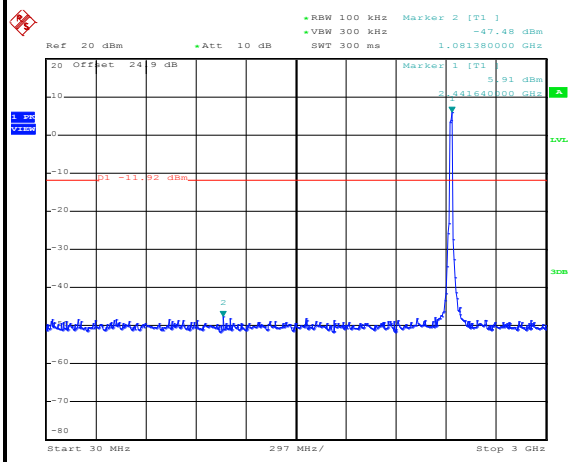
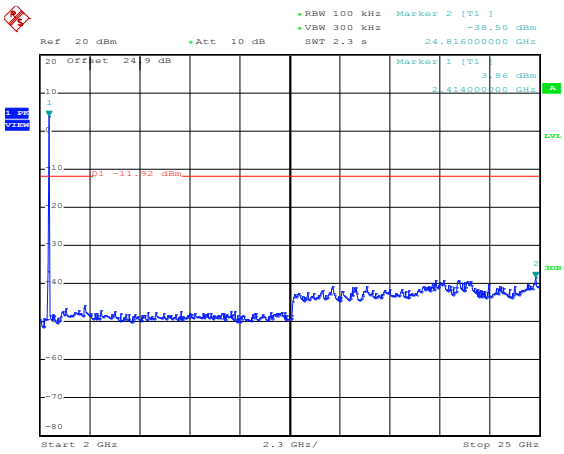


Date: 7.MAY.2018 01:01:18

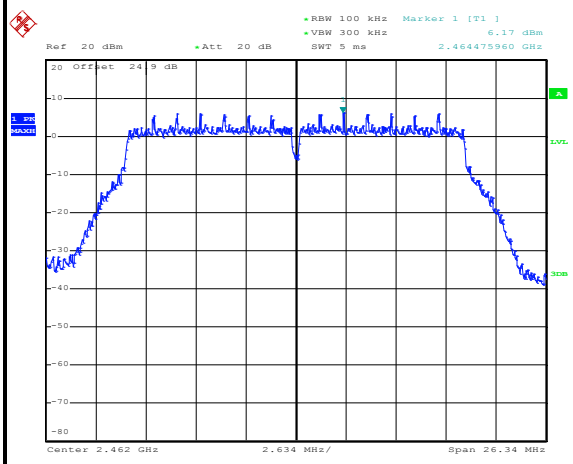
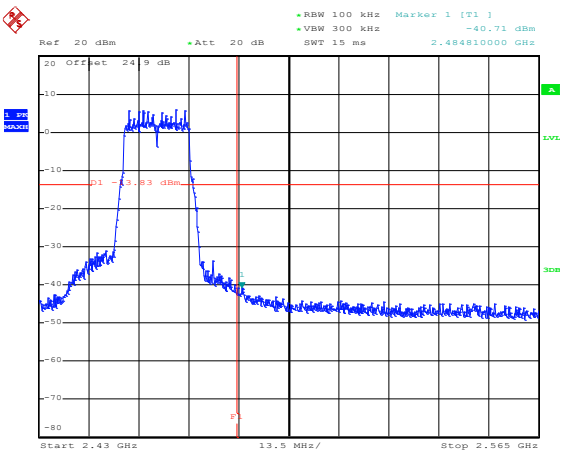
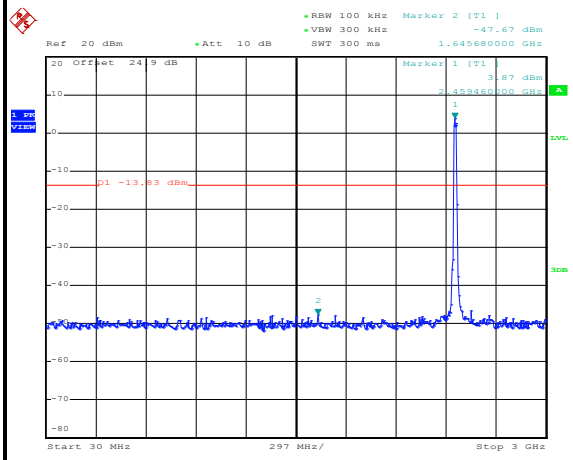
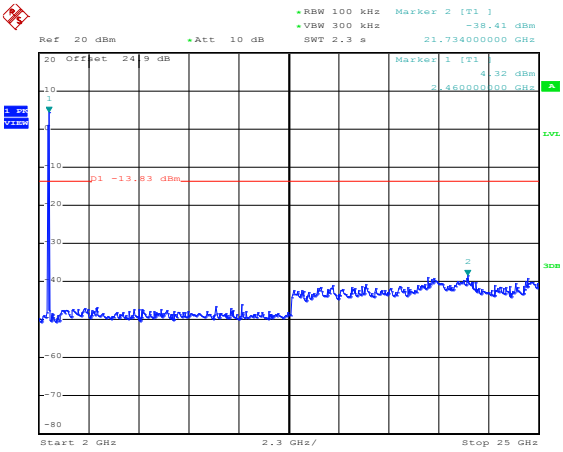
Test Mode :	802.11n HT20	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 02:28:19	Date: 7.MAY.2018 02:28:34
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 02:28:56	Date: 7.MAY.2018 02:29:15

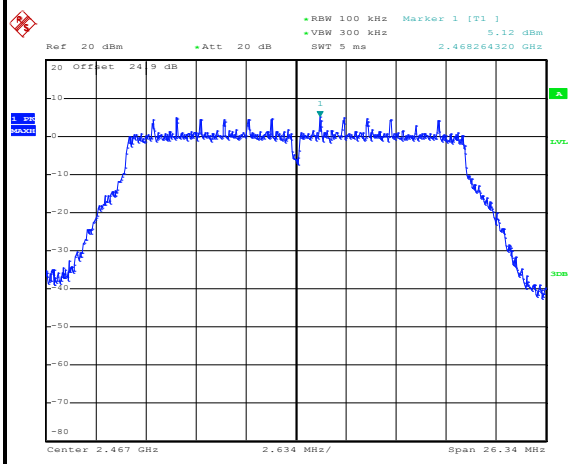
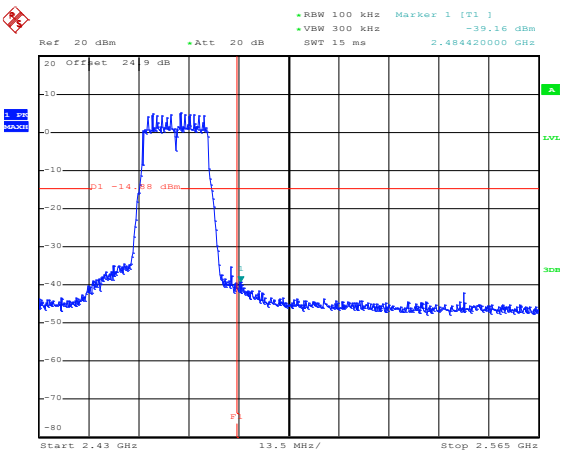
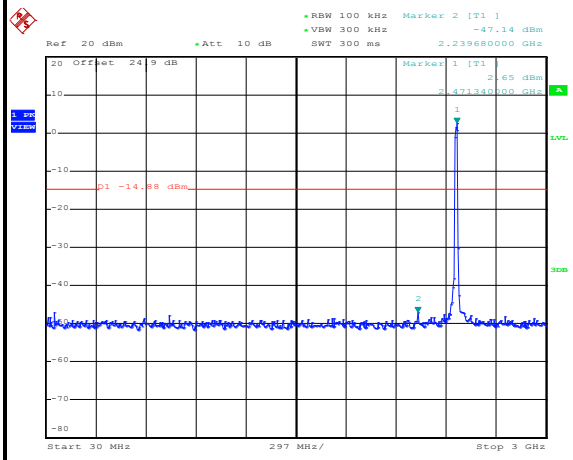
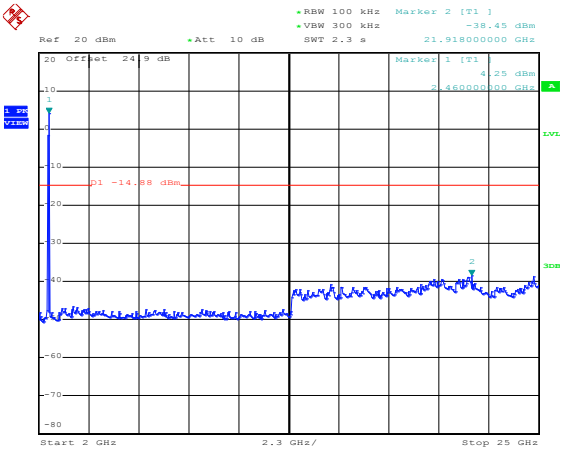
Test Mode :	802.11n HT20	Test Channel :	06

100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

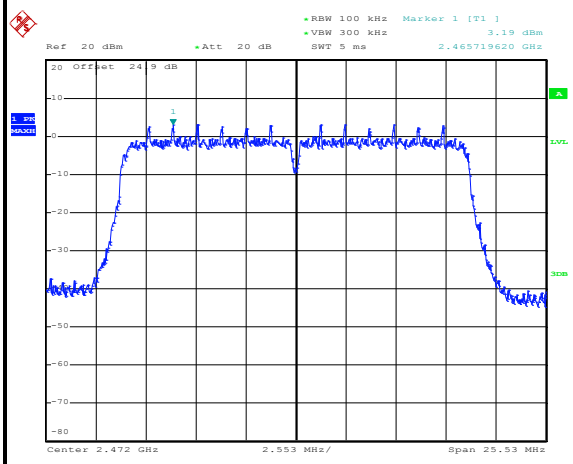
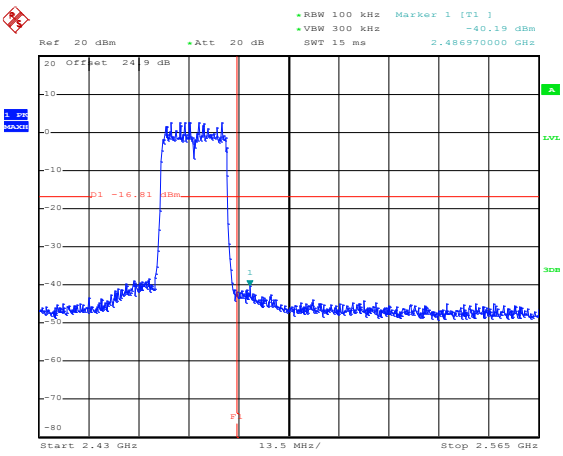
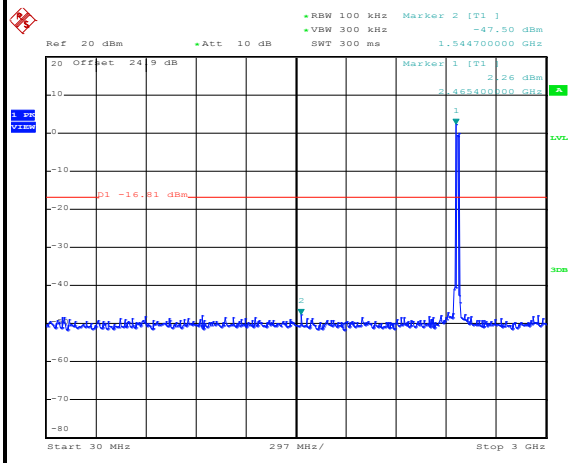
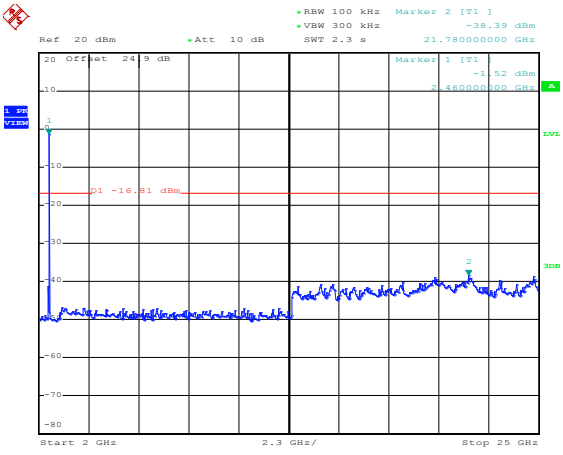
Test Mode :	802.11n HT20	Test Channel :	11

100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 02:56:06	Date: 7.MAY.2018 02:56:21
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 02:57:15	Date: 7.MAY.2018 02:57:44

Test Mode :	802.11n HT20	Test Channel :	12

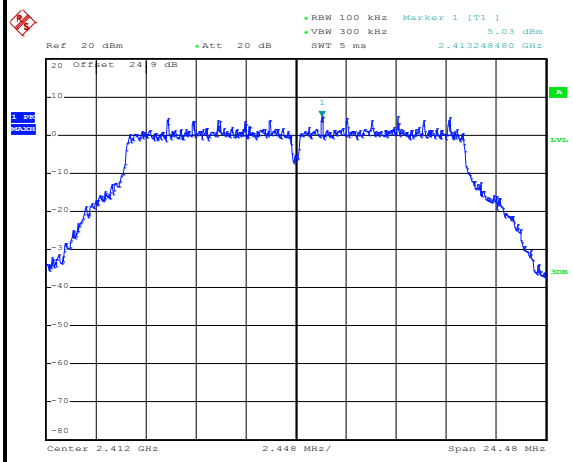
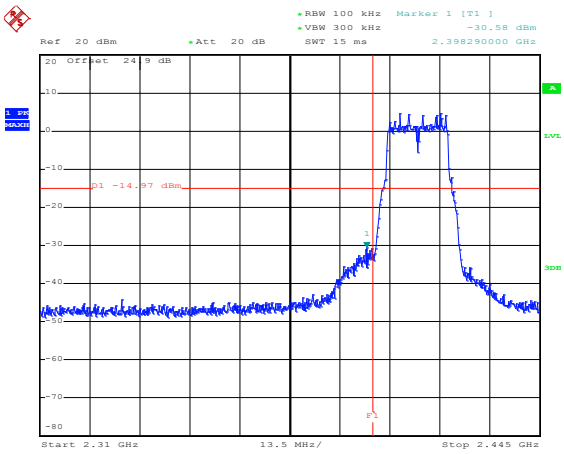
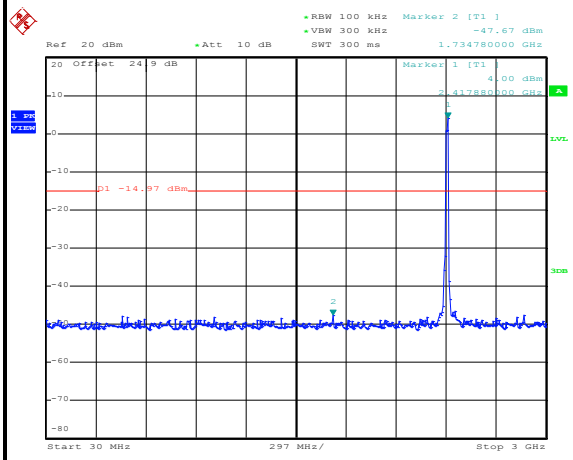
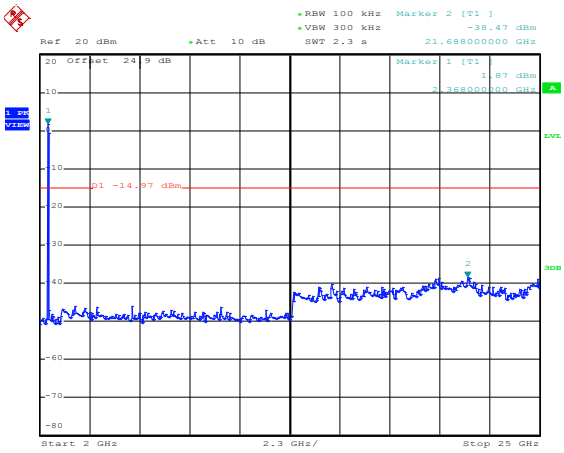
100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 02:43:43	Date: 7.MAY.2018 02:47:03
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 02:48:05	Date: 7.MAY.2018 02:48:24

Test Mode :	802.11n HT20	Test Channel :	13

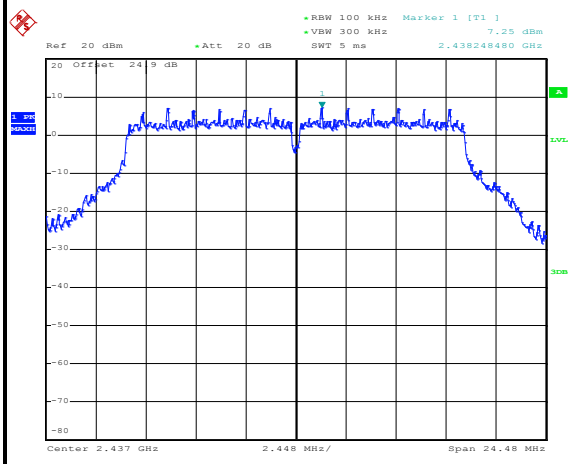
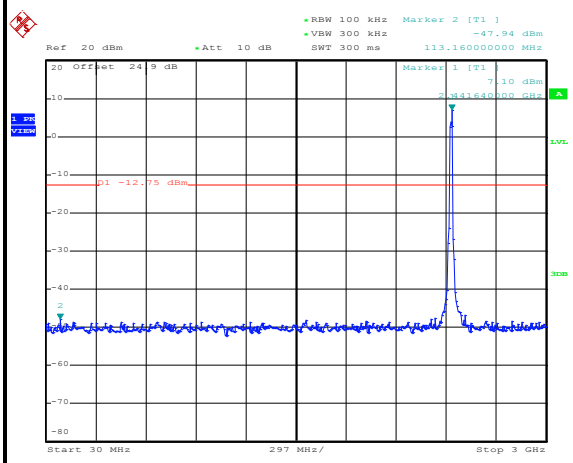
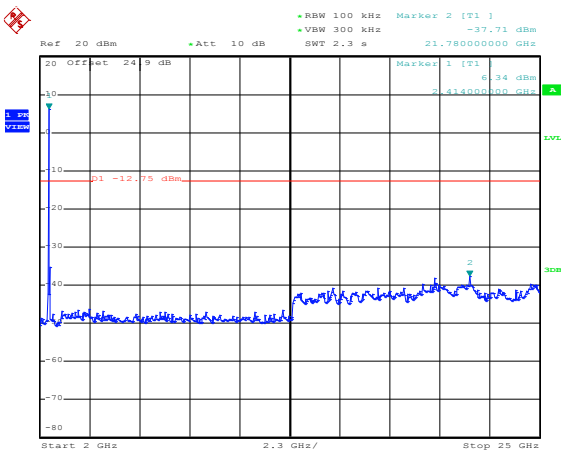
100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 02:50:54	Date: 7.MAY.2018 02:51:29
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 02:51:49	Date: 7.MAY.2018 02:52:06

Number of TX = 2, Ant. 1 (Measured)

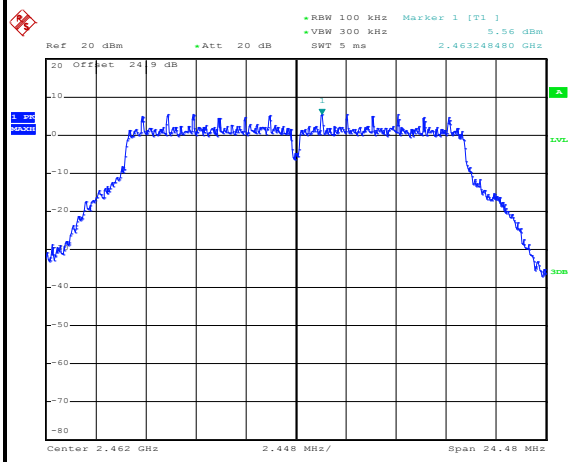
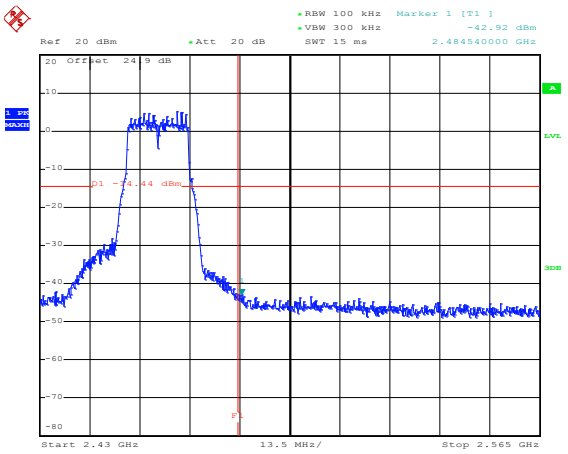
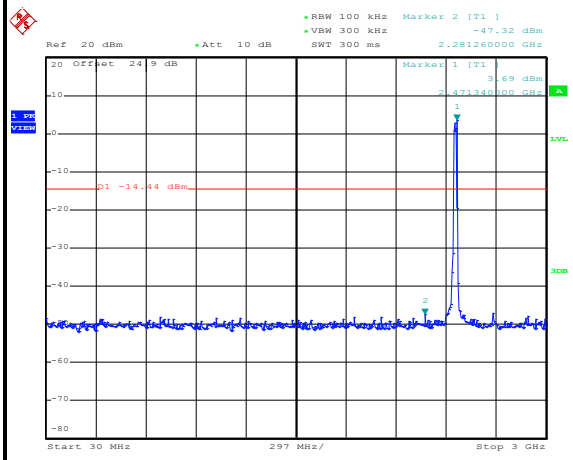
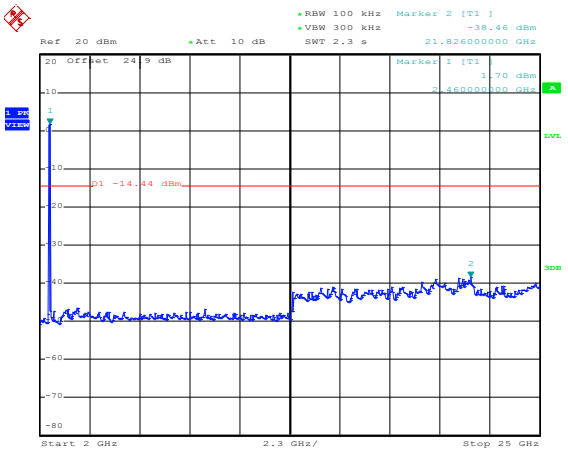
Test Mode :	802.11g	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 01:09:08	Date: 7.MAY.2018 01:09:21
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 01:09:44	Date: 7.MAY.2018 01:10:02

Test Mode :	802.11g	Test Channel :	06

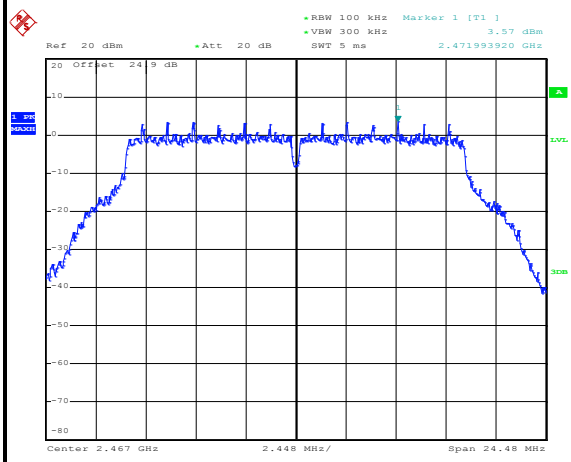
100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

Test Mode :	802.11g	Test Channel :	11

100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 01:35:10	Date: 7.MAY.2018 01:35:38
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 01:35:55	Date: 7.MAY.2018 01:36:12

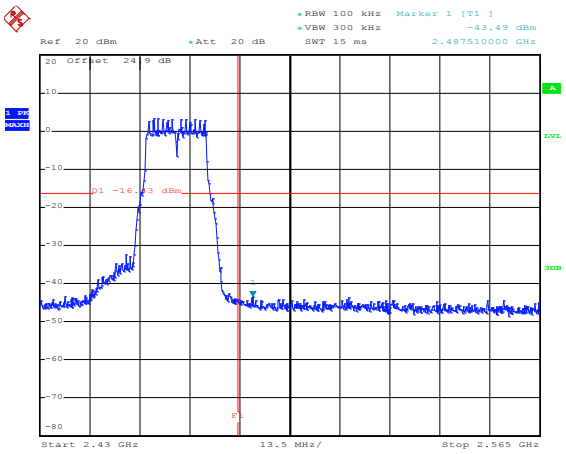
Test Mode :	802.11g	Test Channel :	12

100kHz PSD reference Level



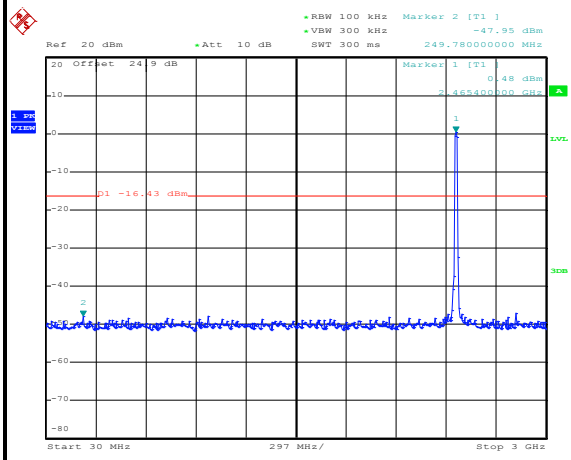
Date: 7.MAY.2018 01:42:02

Channel Plot



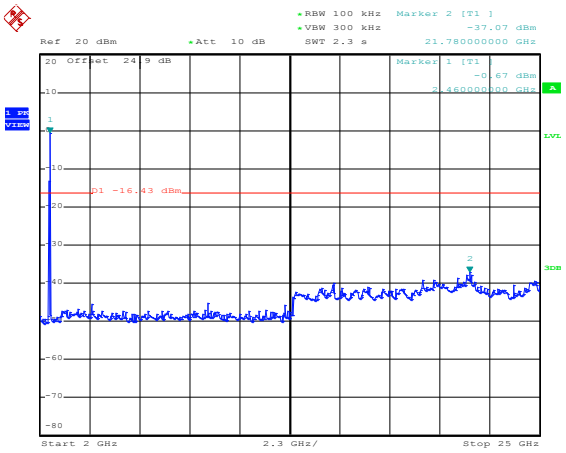
Date: 7.MAY.2018 01:42:46

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 01:43:14

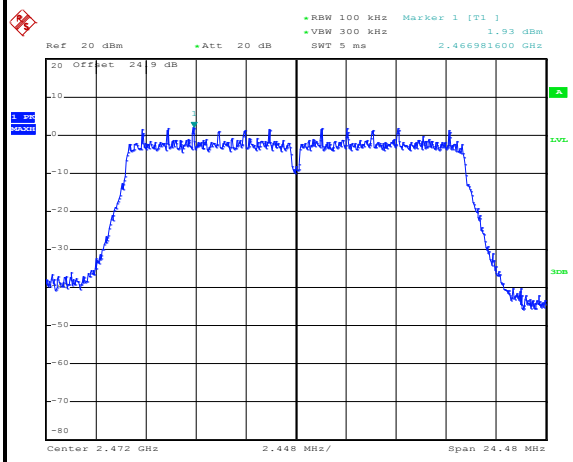
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 01:43:36

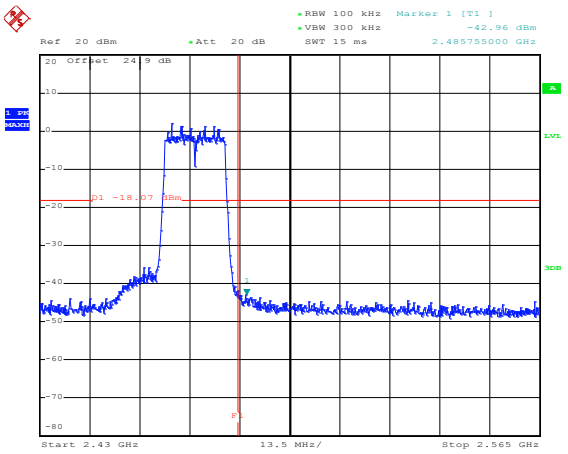
Test Mode :	802.11g	Test Channel :	13

100kHz PSD reference Level



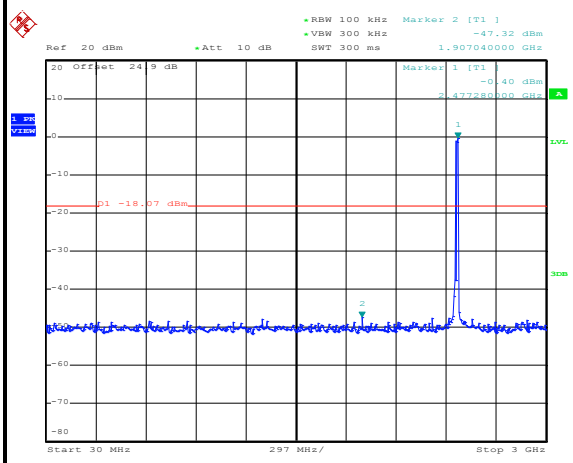
Date: 7.MAY.2018 01:51:33

Channel Plot



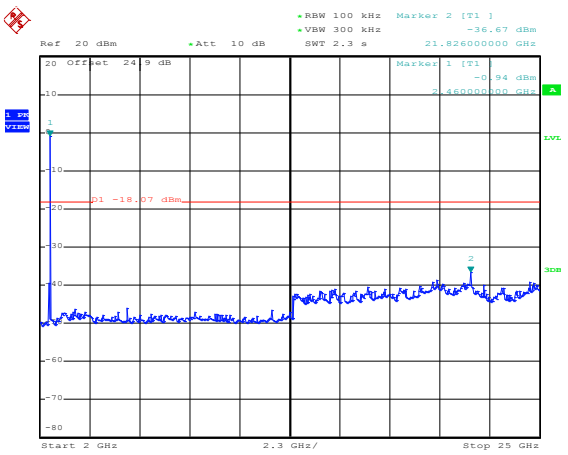
Date: 7.MAY.2018 01:51:49

Spurious Emission 30MHz~3GHz



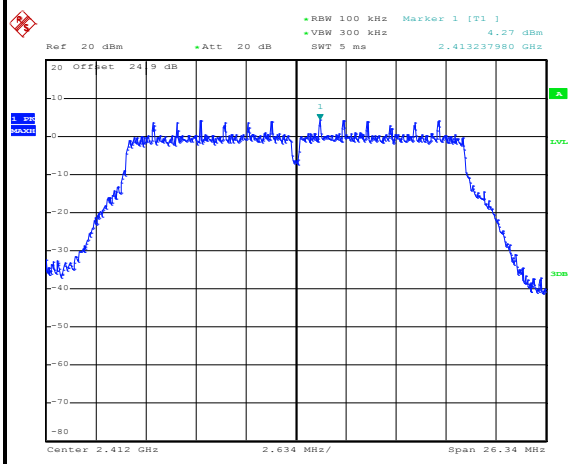
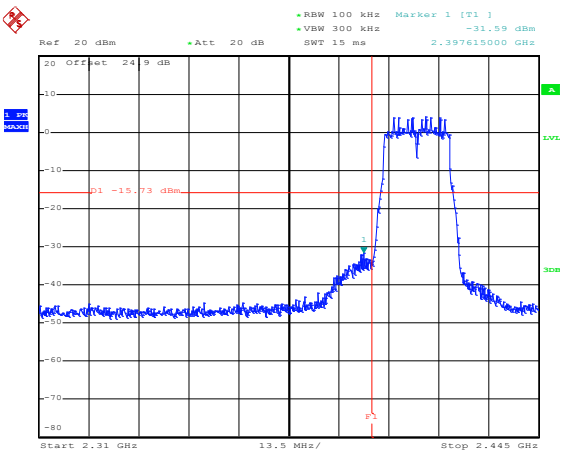
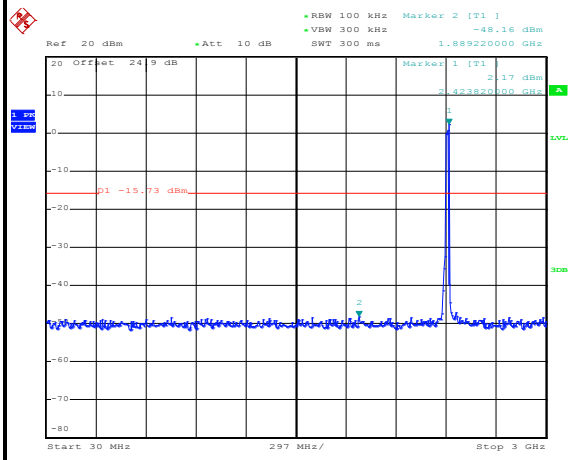
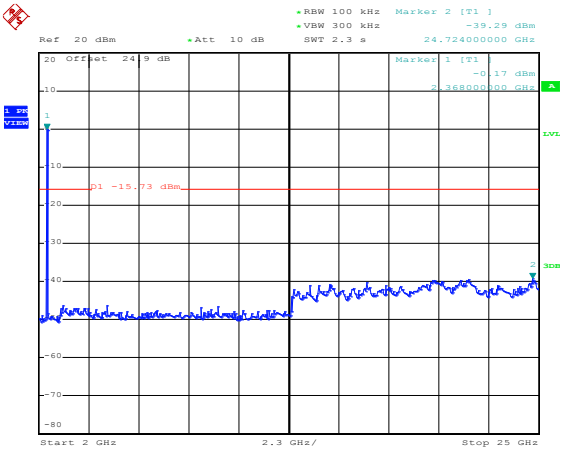
Date: 7.MAY.2018 01:52:15

Spurious Emission 2GHz~25GHz

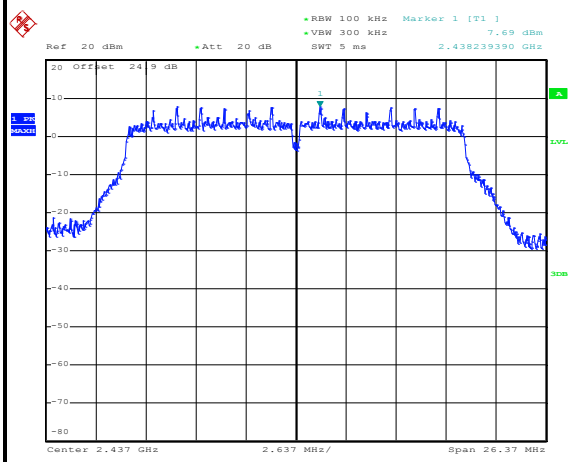
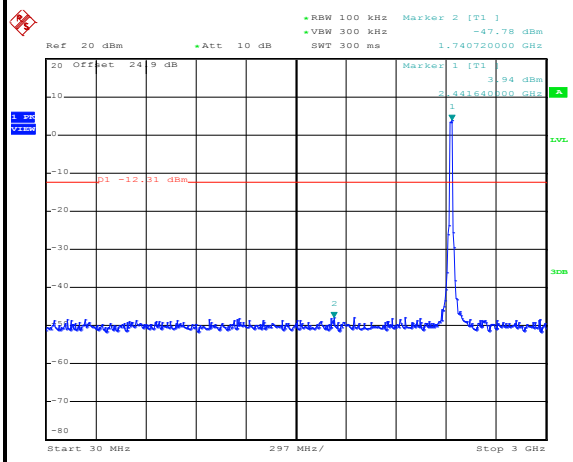
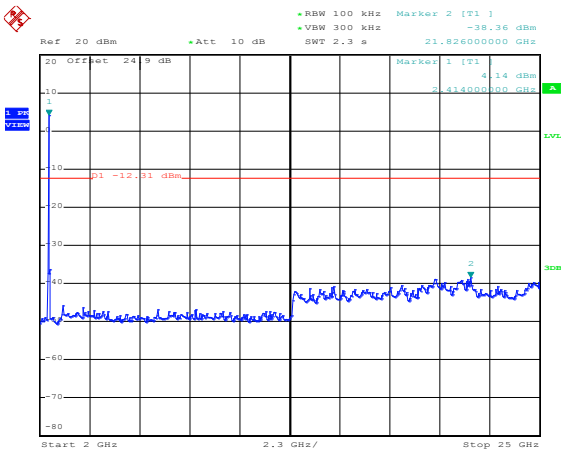


Date: 7.MAY.2018 01:52:33

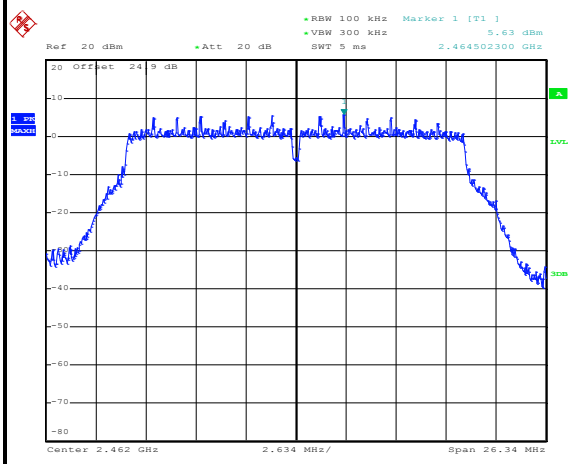
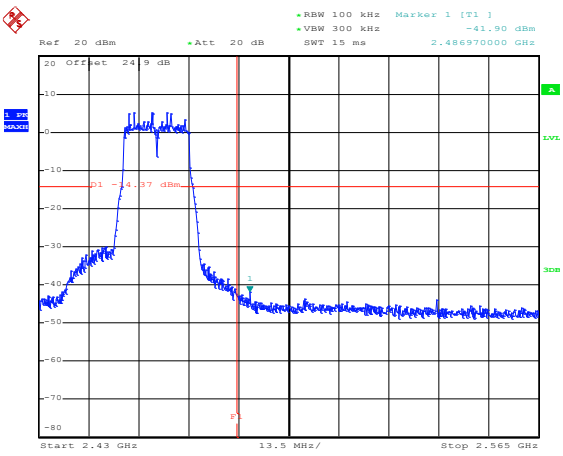
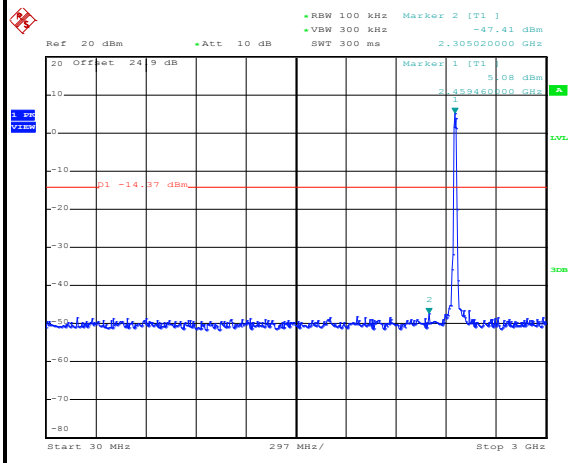
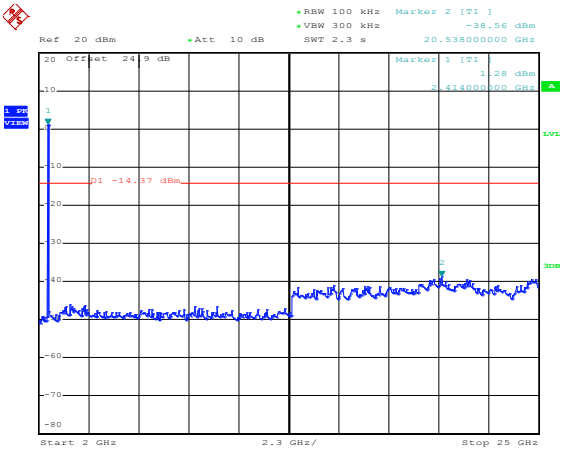
Test Mode :	802.11n HT20	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 03:00:38	Date: 7.MAY.2018 03:00:56
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 03:01:15	Date: 7.MAY.2018 03:01:33

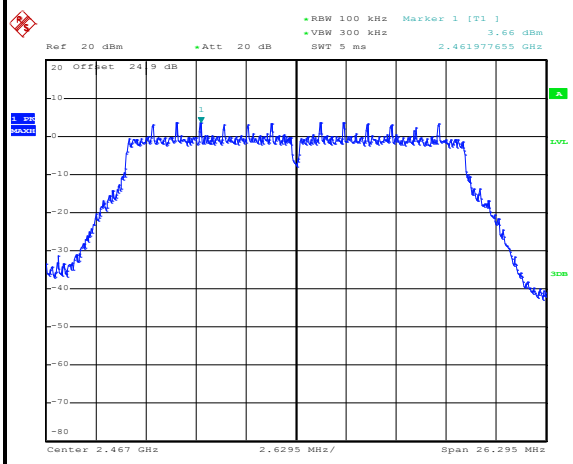
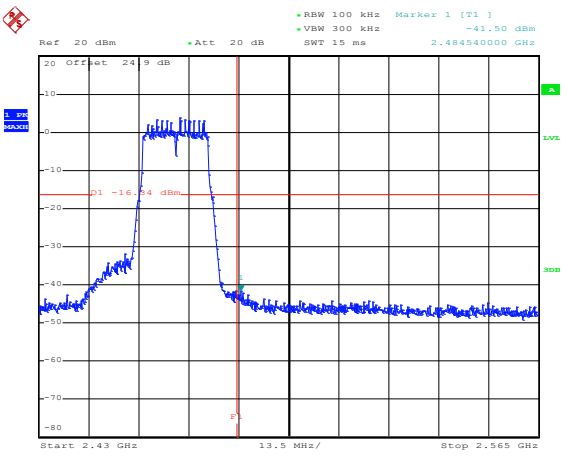
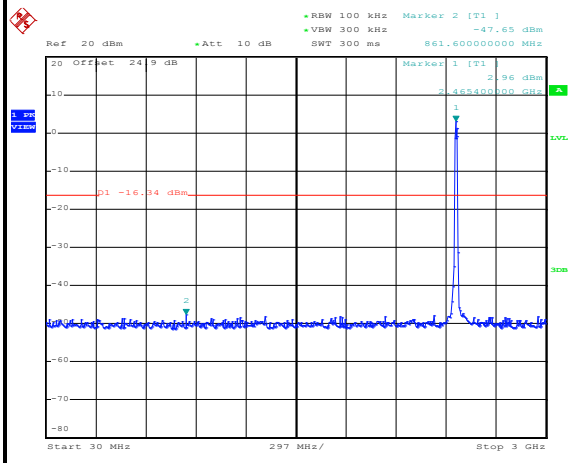
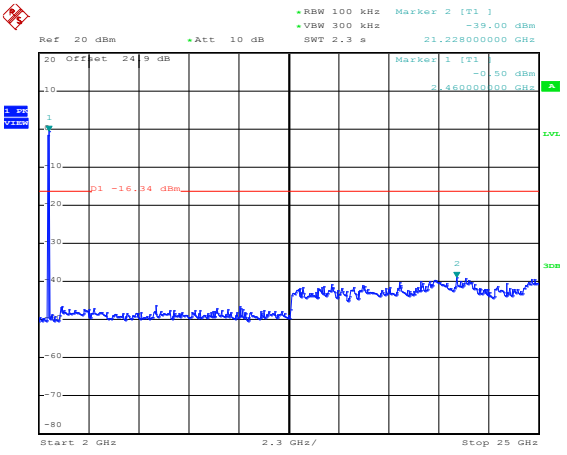
Test Mode :	802.11n HT20	Test Channel :	06

100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

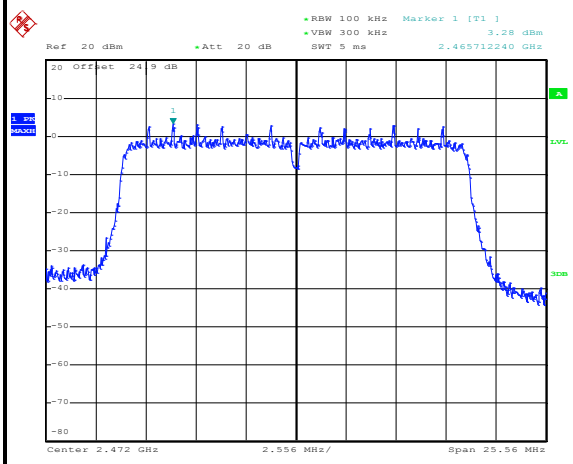
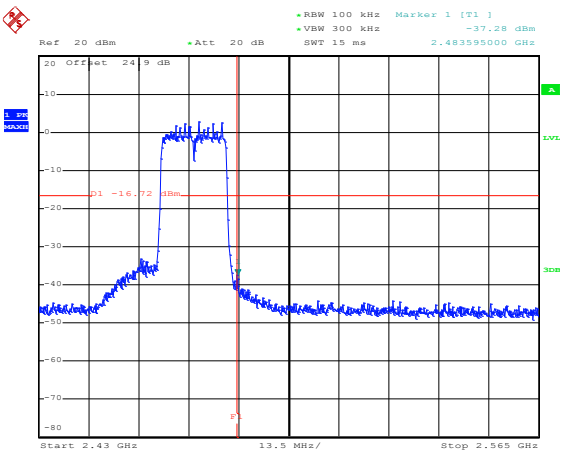
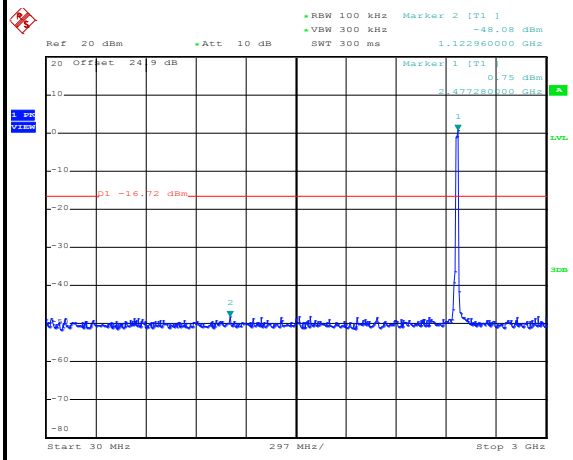
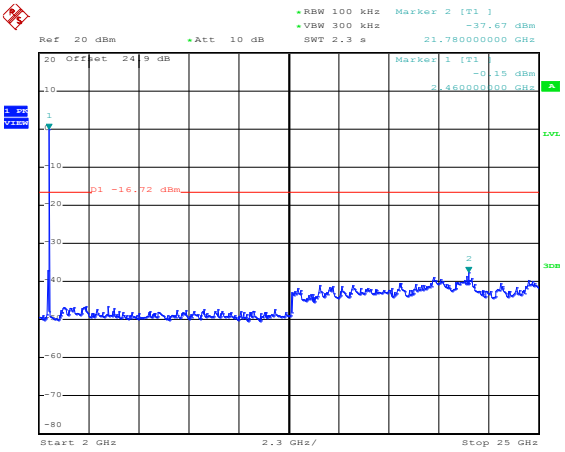
Test Mode :	802.11n HT20	Test Channel :	11

100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 03:15:28	Date: 7.MAY.2018 03:15:42
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 03:16:09	Date: 7.MAY.2018 03:16:31

Test Mode :	802.11n HT20	Test Channel :	12

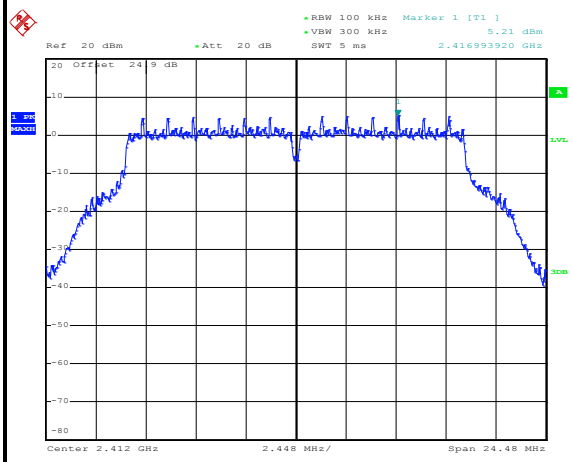
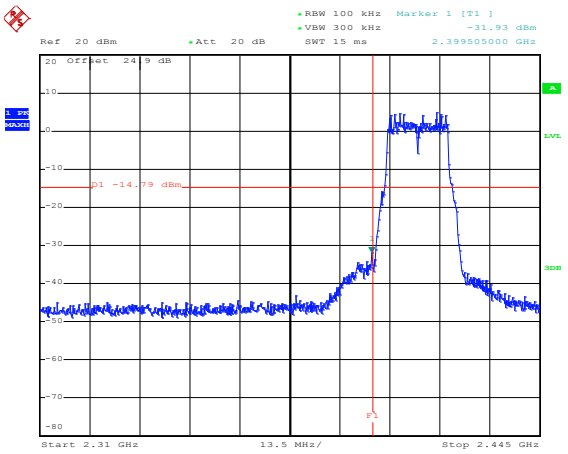
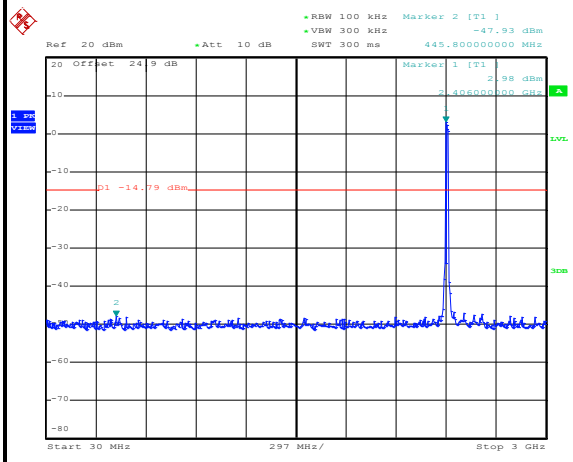
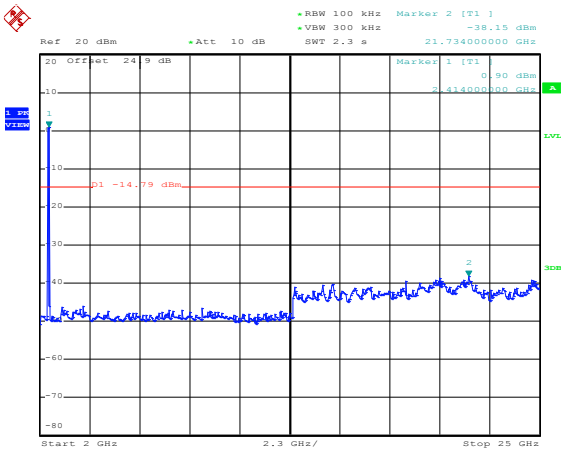
100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 03:31:01	Date: 7.MAY.2018 03:31:40
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 03:32:12	Date: 7.MAY.2018 03:32:30

Test Mode :	802.11n HT20	Test Channel :	13

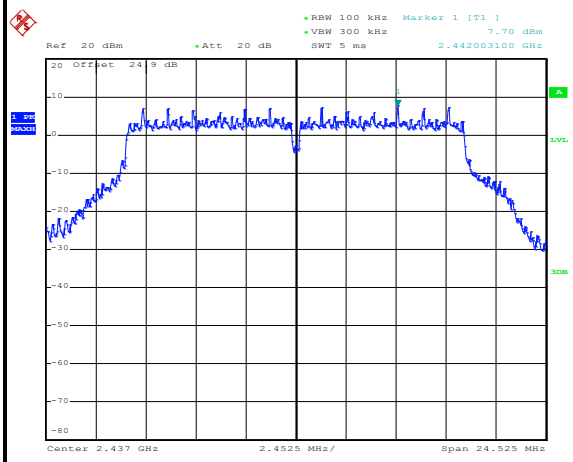
100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 03:39:07	Date: 7.MAY.2018 03:39:28
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 03:39:51	Date: 7.MAY.2018 03:40:09

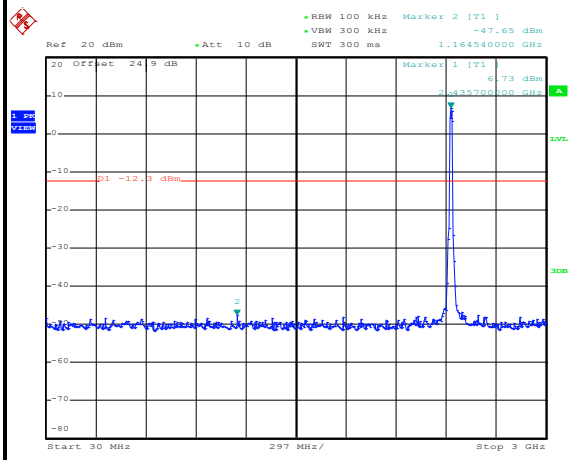
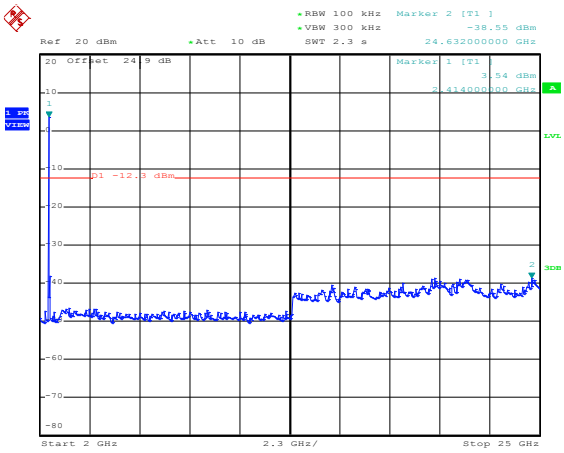
Number of TX = 2, Ant. 2 (Measured)

Test Mode :	802.11g	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 01:11:49	Date: 7.MAY.2018 01:12:06
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 01:13:13	Date: 7.MAY.2018 01:13:31

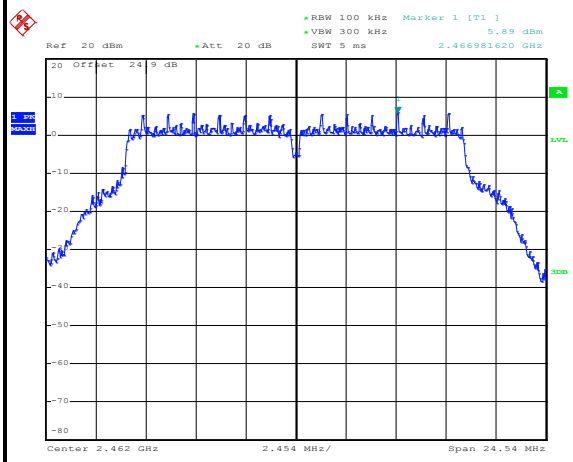
Test Mode :	802.11g	Test Channel :	06

100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 01:32:22	

Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	
Date: 7.MAY.2018 01:32:41	Date: 7.MAY.2018 01:33:00

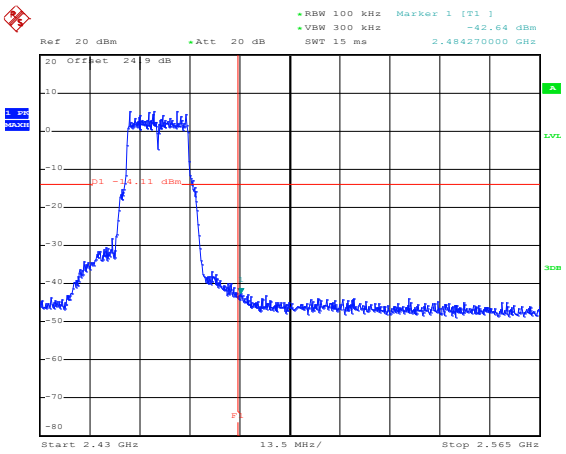
Test Mode :	802.11g	Test Channel :	11

100kHz PSD reference Level



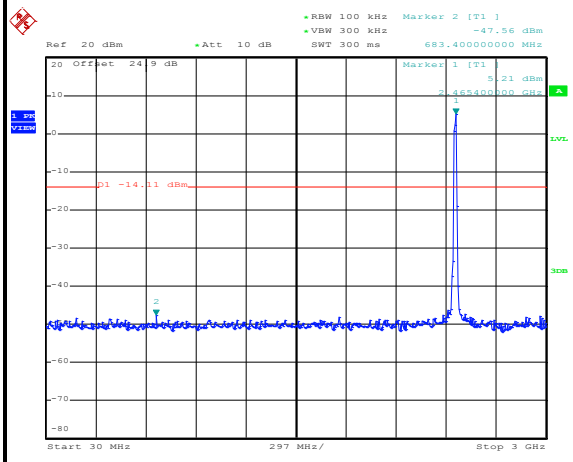
Date: 7.MAY.2018 01:38:12

Channel Plot



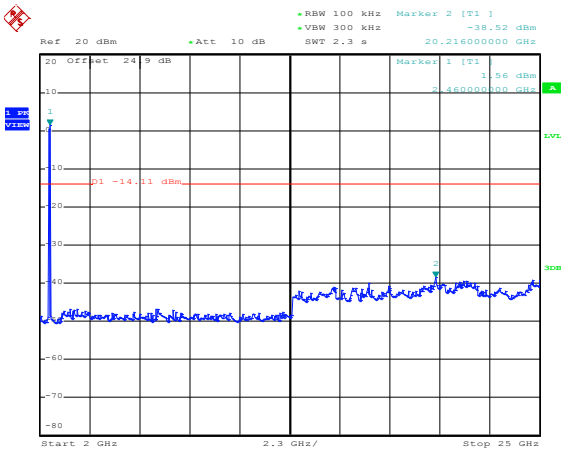
Date: 7.MAY.2018 01:38:27

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 01:38:49

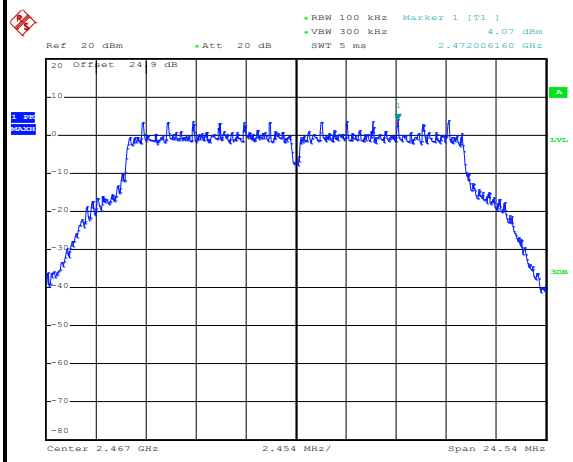
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 01:39:07

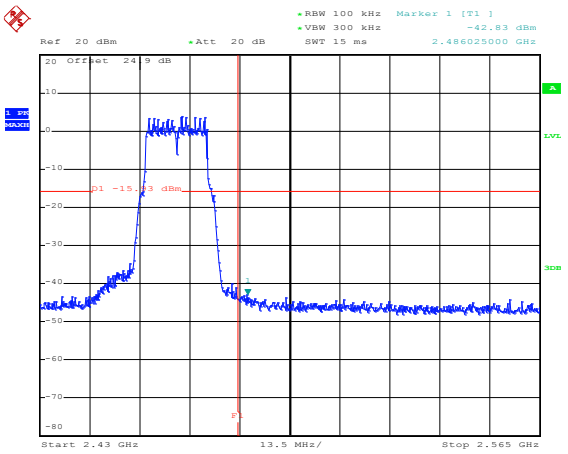
Test Mode :	802.11g	Test Channel :	12

100kHz PSD reference Level



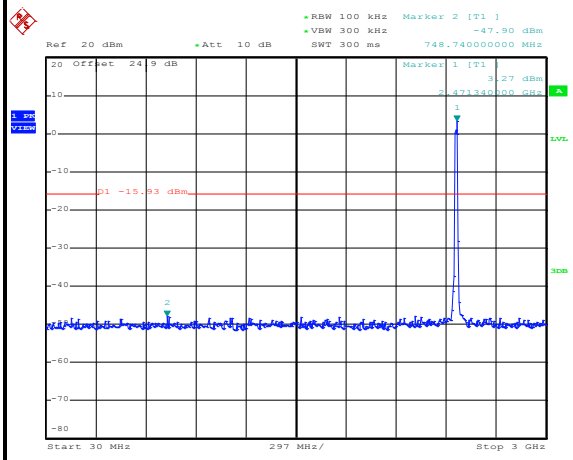
Date: 7.MAY.2018 01:45:41

Channel Plot



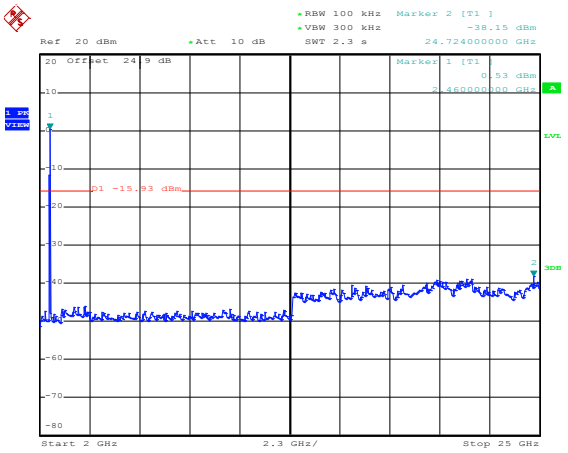
Date: 7.MAY.2018 01:47:48

Spurious Emission 30MHz~3GHz



Date: 7.MAY.2018 01:48:16

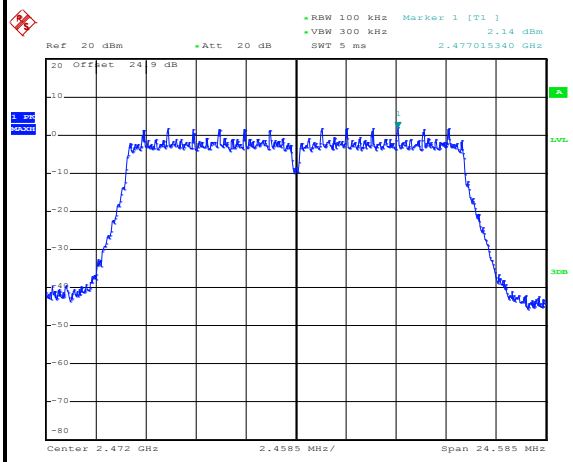
Spurious Emission 2GHz~25GHz



Date: 7.MAY.2018 01:48:35

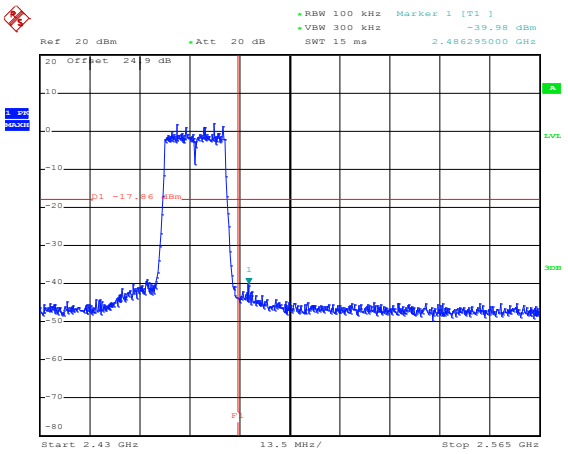
Test Mode :	802.11g	Test Channel :	13

100kHz PSD reference Level



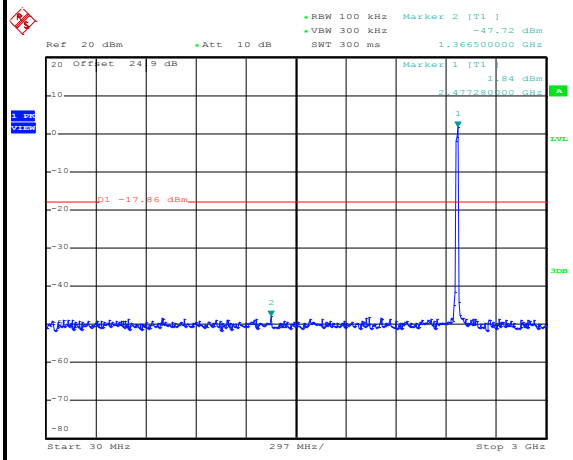
Date: 7.MAY.2018 01:55:27

Channel Plot



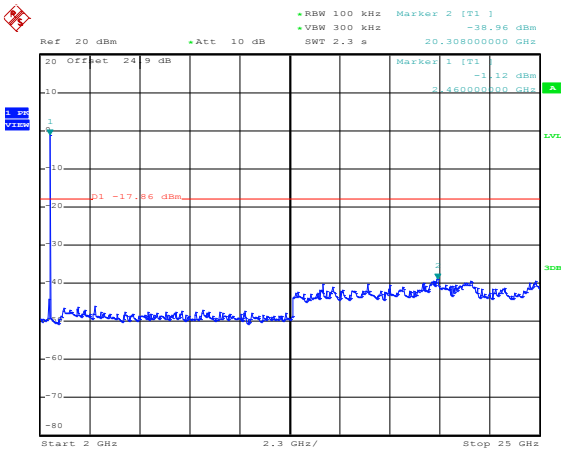
Date: 7.MAY.2018 01:55:56

Spurious Emission 30MHz~3GHz



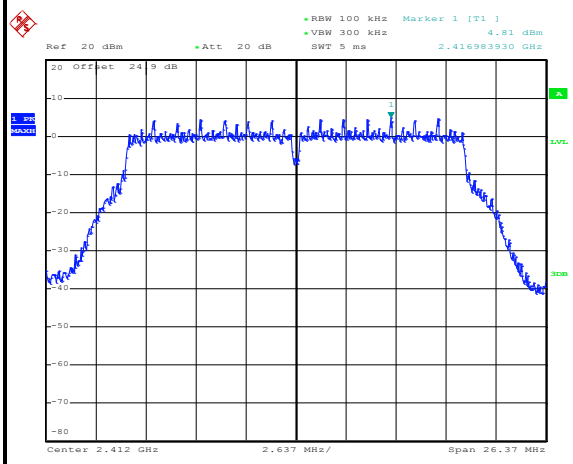
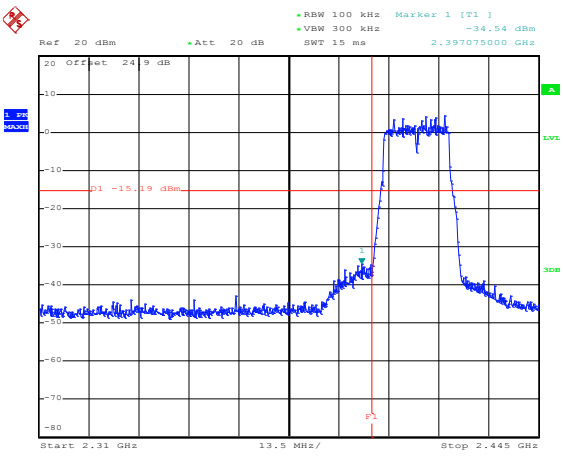
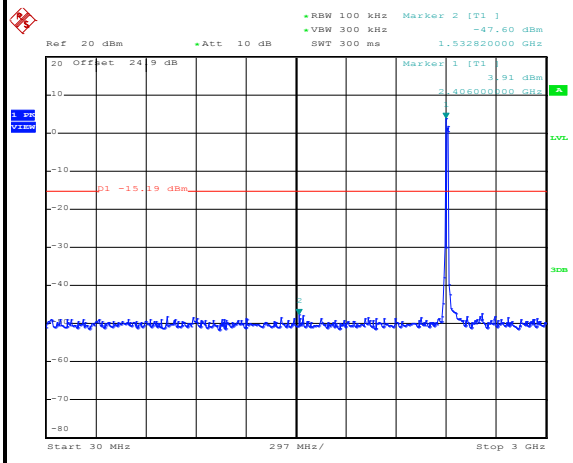
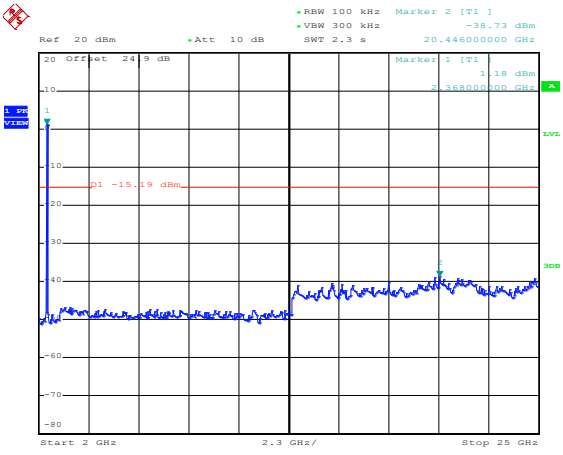
Date: 7.MAY.2018 01:56:19

Spurious Emission 2GHz~25GHz

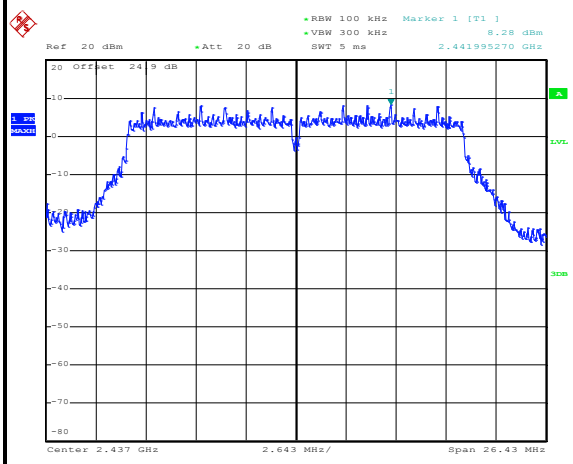
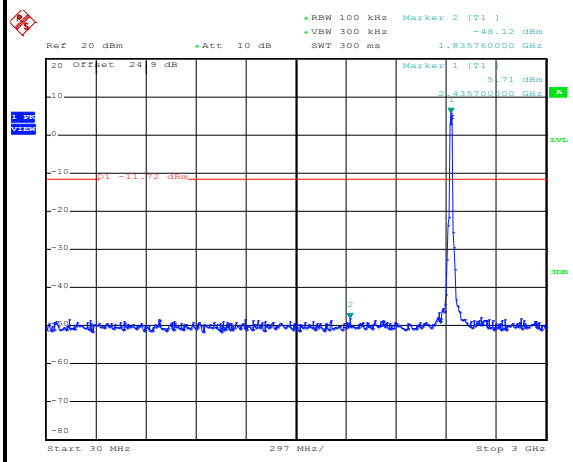
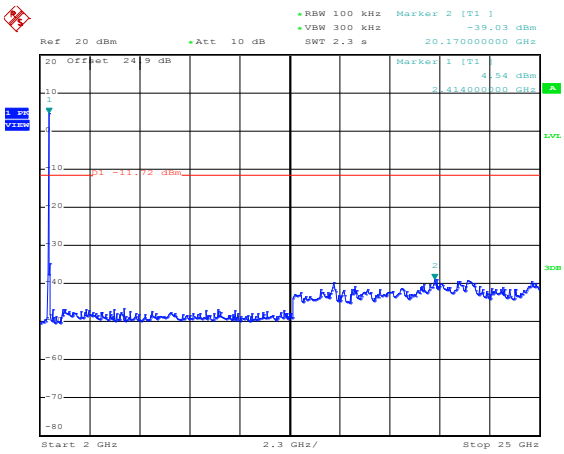


Date: 7.MAY.2018 01:56:38

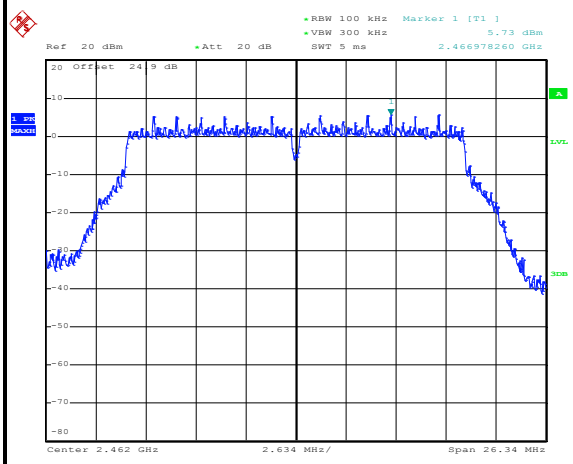
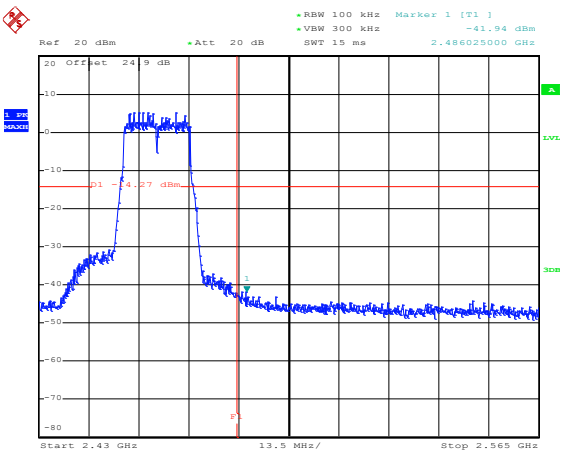
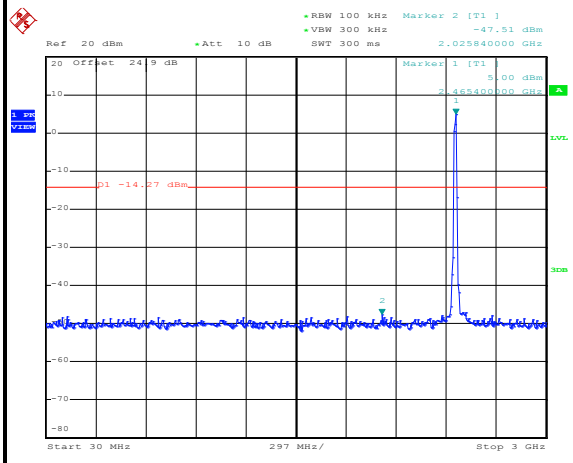
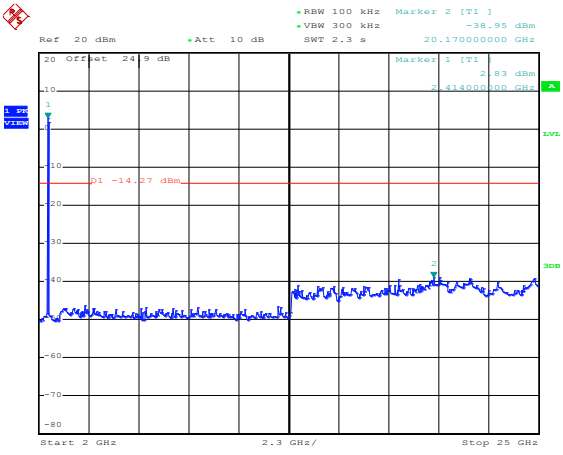
Test Mode :	802.11n HT20	Test Channel :	01

100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 03:03:44	Date: 7.MAY.2018 03:03:56
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 03:04:21	Date: 7.MAY.2018 03:04:43

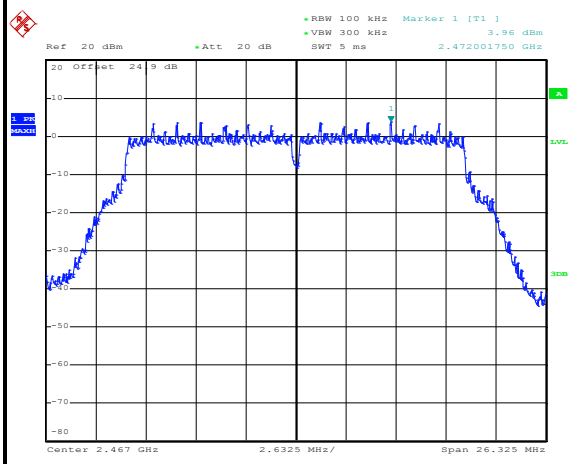
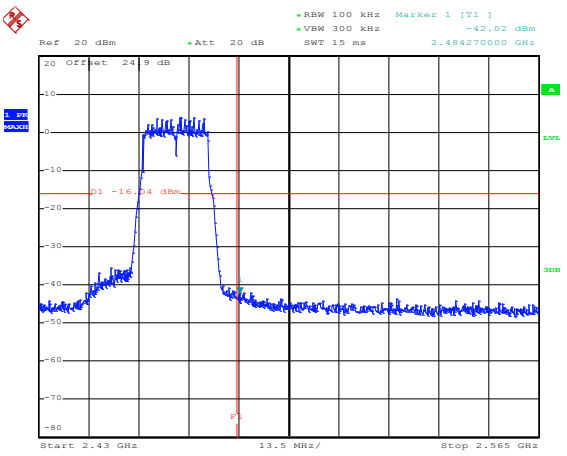
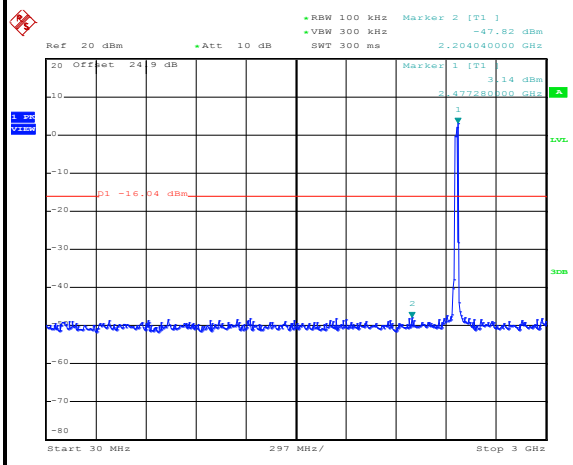
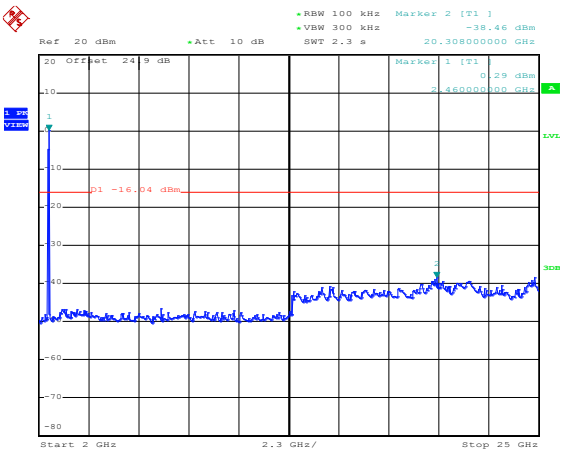
Test Mode :	802.11n HT20	Test Channel :	06

100kHz PSD reference Level	Channel Plot
	
Spurious Emission 30MHz~3GHz	Spurious Emission 2GHz~25GHz
	

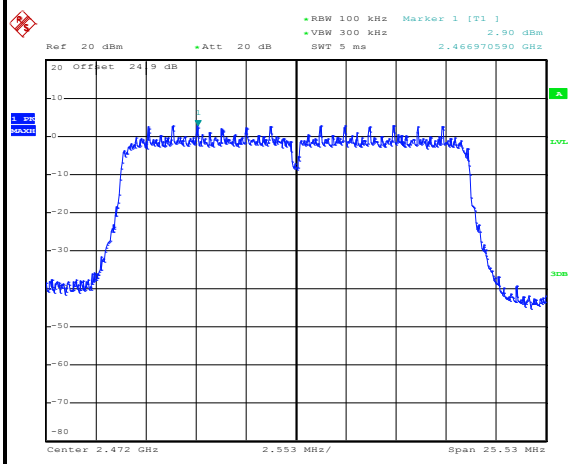
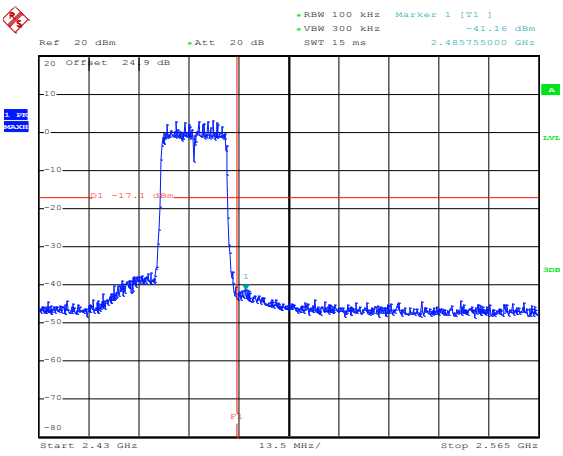
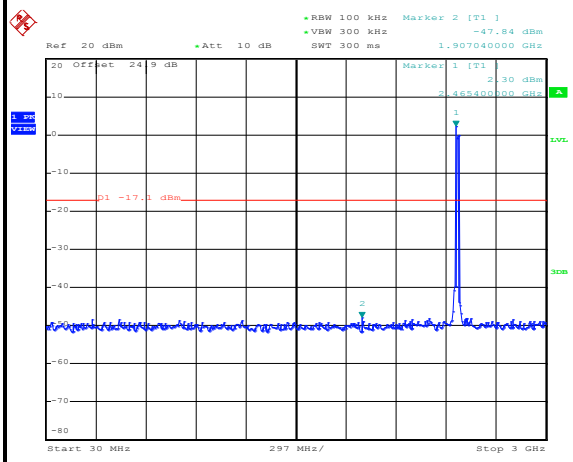
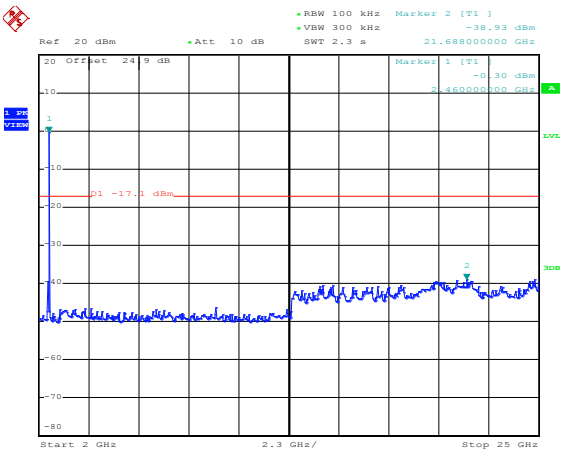
Test Mode :	802.11n HT20	Test Channel :	11

100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 03:18:36	Date: 7.MAY.2018 03:19:04
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 03:19:21	Date: 7.MAY.2018 03:19:47

Test Mode :	802.11n HT20	Test Channel :	12

100kHz PSD reference Level	Channel Plot
 Date: 7.MAY.2018 03:34:56	 Date: 7.MAY.2018 03:35:38
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
 Date: 7.MAY.2018 03:36:21	 Date: 7.MAY.2018 03:36:39

Test Mode :	802.11n HT20	Test Channel :	13

100kHz PSD reference Level	Channel Plot
	
Date: 7.MAY.2018 03:42:09	Date: 7.MAY.2018 03:42:41
Spurious Emission 30MHz~3GHz	**Spurious Emission 2GHz~25GHz**
	
Date: 7.MAY.2018 03:43:04	Date: 7.MAY.2018 03:43:21

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.5.2 Measuring Instruments

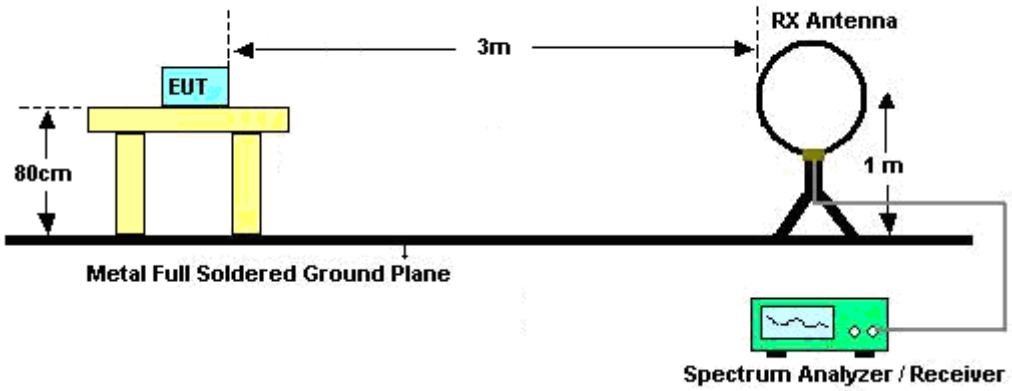
The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

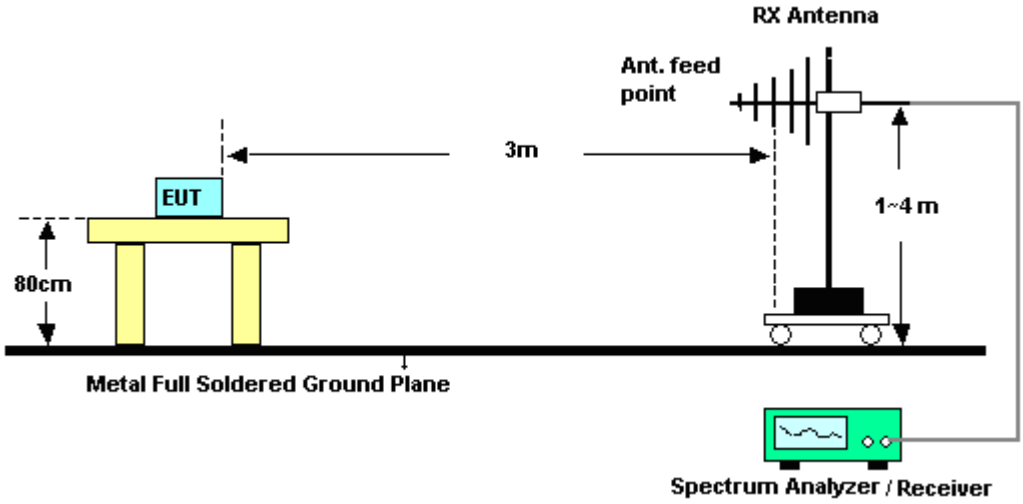
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

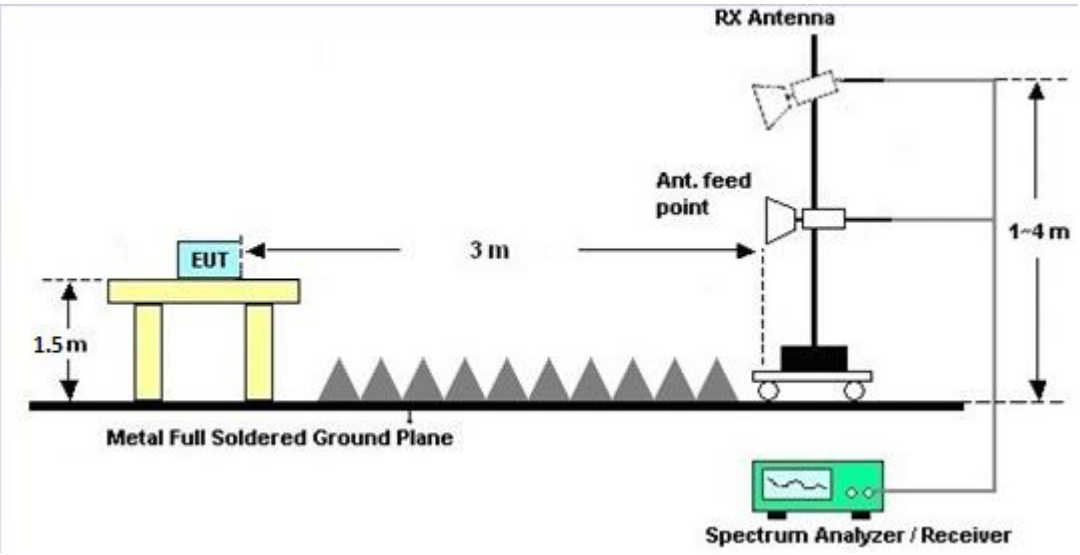
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.5.7 Duty Cycle

Please refer to Appendix E.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix C and D.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

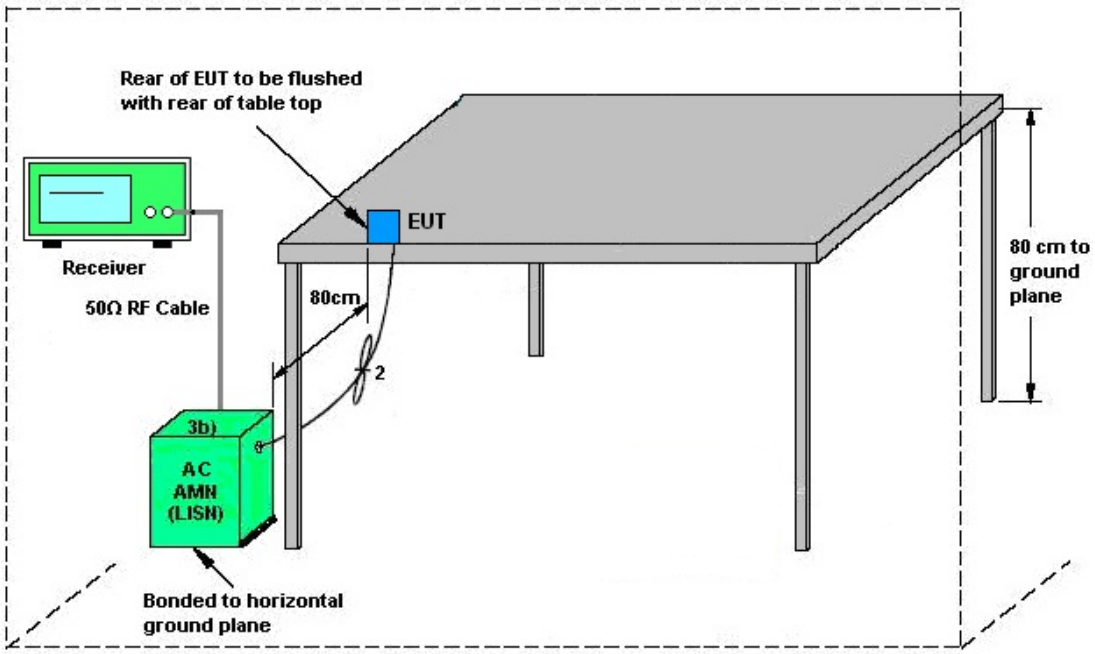
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.

3.6.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting Antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached Antenna or of an Antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = 10 log(N_{ANT}/N_{SS}=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain G_{ANT} is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain “DG” is calculated as following table.

<CDD Modes>

			DG for Power	DG for PSD	Power Limit Reduction	PSD Limit Reduction
	Ant. 1 (dBi)	Ant. 2 (dBi)	(dBi)	(dBi)	(dB)	(dB)
2.4 GHz	2.80	2.00	2.80	5.42	0.00	0.00

Power Limit Reduction = DG(Power) – 6dBi, (min = 0)

PSD Limit Reduction = DG(PSD) – 6dBi, (min = 0)

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 26, 2017	Apr. 17, 2018~ Jun. 21, 2018	Sep. 25, 2018	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Sep. 26, 2017	Apr. 17, 2018~ Jun. 21, 2018	Sep. 25, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz ~ 30GHz	Nov. 13, 2017	Apr. 17, 2018~ Jun. 21, 2018	Nov. 12, 2018	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Mar. 01, 2018	Apr. 17, 2018~ Jun. 21, 2018	Feb. 28, 2019	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Apr. 22, 2018	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	3.6GHz	Dec. 08, 2017	Apr. 22, 2018	Dec. 07, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 30, 2017	Apr. 22, 2018	Nov. 29, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 08, 2017	Apr. 22, 2018	Dec. 07, 2018	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Apr. 22, 2018	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 03, 2018	Apr. 22, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 03, 2018	Apr. 22, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 18, 2017	Apr. 20, 2018 ~ May 03, 2018	Jul. 17, 2018	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Jan. 16, 2018	Apr. 20, 2018 ~ May 03, 2018	Jan. 15, 2019	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D&N-6-06	35414&AT-N0602	30MHz~1GHz	Oct. 14, 2017	Apr. 20, 2018 ~ May 03, 2018	Oct. 13, 2018	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 16, 2017	Apr. 20, 2018 ~ May 03, 2018	Oct. 15, 2018	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Nov. 23, 2017	Apr. 20, 2018 ~ May 03, 2018	Nov. 22, 2018	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Jan. 16, 2018	Apr. 20, 2018 ~ May 03, 2018	Jan. 15, 2020	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Oct. 19, 2017	Apr. 20, 2018 ~ May 03, 2018	Oct. 18, 2018	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Apr. 20, 2018 ~ May 03, 2018	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Apr. 20, 2018 ~ May 03, 2018	N/A	Radiation (03CH11-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1590074	1GHz~18GHz	May 22, 2017	Apr. 20, 2018 ~ May 03, 2018	May 21, 2018	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 27, 2017	Apr. 20, 2018 ~ May 03, 2018	Nov. 26, 2018	Radiation (03CH11-HY)
Preamplifier	Jet-Power	JPA0118-55-303	1710001800054001	1GHz~18GHz	Apr. 16, 2018	Apr. 20, 2018 ~ May 03, 2018	Apr. 15, 2019	Radiation (03CH11-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4	9K-30M	Mar. 20, 2018	Apr. 20, 2018 ~ May 03, 2018	Mar. 19, 2019	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4	30M-18G	Mar. 15, 2018	Apr. 20, 2018 ~ May 03, 2018	Mar. 14, 2019	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2589/2	30M-18G	Mar. 15, 2018	Apr. 20, 2018 ~ May 03, 2018	Mar. 14, 2019	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60SS	SN3	2.7G High Pass	Sep. 18, 2017	Apr. 20, 2018 ~ May 03, 2018	Sep. 17, 2018	Radiation (03CH11-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN11	1G Low Pass	Sep. 18, 2017	Apr. 20, 2018 ~ May 03, 2018	Sep. 17, 2018	Radiation (03CH11-HY)
Test Software	Audix	E3 6.2009-8-24	RK-001042	N/A	N/A	Apr. 20, 2018 ~ May 03, 2018	N/A	Radiation (03CH11-HY)

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.7**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.2**

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.5**

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.2**

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Rebecca Li / Luffy Lin	Temperature:	21~25	°C
Test Date:	2018/4/17~ 2018/06/21	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2		
11b	1Mbps	1	1	2412	11.20	11.30	8.05	8.04	0.50	Pass
11b	1Mbps	1	6	2437	11.30	11.30	7.08	8.52	0.50	Pass
11b	1Mbps	1	11	2462	11.05	11.20	8.08	8.00	0.50	Pass
11b	1Mbps	1	12	2467	11.00	11.10	8.04	8.00	0.50	Pass
11b	1Mbps	1	13	2472	11.10	11.20	8.03	8.04	0.50	Pass
11g	6Mbps	1	1	2412	17.25	17.15	16.32	16.36	0.50	Pass
11g	6Mbps	1	6	2437	17.25	17.25	16.32	16.36	0.50	Pass
11g	6Mbps	1	11	2462	17.10	17.20	16.36	16.32	0.50	Pass
11g	6Mbps	1	12	2467	17.35	17.10	16.36	16.32	0.50	Pass
11g	6Mbps	1	13	2472	16.65	16.65	16.36	16.36	0.50	Pass
HT20	MCS0	1	1	2412	18.15	18.15	17.56	17.53	0.50	Pass
HT20	MCS0	1	6	2437	18.25	18.25	17.56	17.56	0.50	Pass
HT20	MCS0	1	11	2462	18.20	18.20	17.57	17.56	0.50	Pass
HT20	MCS0	1	12	2467	18.25	18.25	17.60	17.56	0.50	Pass
HT20	MCS0	1	13	2472	17.45	17.45	17.00	17.02	0.50	Pass
11g	6Mbps	2	1	2412	17.10	17.10	16.32	16.32	0.50	Pass
11g	6Mbps	2	6	2437	17.25	17.20	16.32	16.35	0.50	Pass
11g	6Mbps	2	11	2462	17.15	17.05	16.32	16.36	0.50	Pass
11g	6Mbps	2	12	2467	17.15	17.05	16.32	16.36	0.50	Pass
11g	6Mbps	2	13	2472	16.60	16.60	16.32	16.39	0.50	Pass
HT20	MCS0	2	1	2412	18.10	18.10	17.56	17.58	0.50	Pass
HT20	MCS0	2	6	2437	18.20	18.20	17.58	17.62	0.50	Pass
HT20	MCS0	2	11	2462	18.20	18.05	17.56	17.56	0.50	Pass
HT20	MCS0	2	12	2467	18.10	18.05	17.53	17.55	0.50	Pass
HT20	MCS0	2	13	2472	17.45	17.45	17.04	17.02	0.50	Pass

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	22.35	21.76	-	30.00	30.00	2.80	2.00	25.15	23.76	36.00	36.00	Pass
11b	1Mbps	1	6	2437	23.79	23.88	-	30.00	30.00	2.80	2.00	26.59	25.88	36.00	36.00	Pass
11b	1Mbps	1	11	2462	22.56	23.01	-	30.00	30.00	2.80	2.00	25.36	25.01	36.00	36.00	Pass
11b	1Mbps	1	12	2467	19.33	19.12	-	30.00	30.00	2.80	2.00	22.13	21.12	36.00	36.00	Pass
11b	1Mbps	1	13	2472	16.49	15.71	-	30.00	30.00	2.80	2.00	19.29	17.71	36.00	36.00	Pass
11g	6Mbps	1	1	2412	24.35	24.73	-	30.00	30.00	2.80	2.00	27.15	26.73	36.00	36.00	Pass
11g	6Mbps	1	6	2437	25.81	25.75	-	30.00	30.00	2.80	2.00	28.61	27.75	36.00	36.00	Pass
11g	6Mbps	1	11	2462	23.96	25.11	-	30.00	30.00	2.80	2.00	26.76	27.11	36.00	36.00	Pass
11g	6Mbps	1	12	2467	22.66	23.52	-	30.00	30.00	2.80	2.00	25.46	25.52	36.00	36.00	Pass
11g	6Mbps	1	13	2472	22.56	23.21	-	30.00	30.00	2.80	2.00	25.36	25.21	36.00	36.00	Pass
HT20	MCS0	1	1	2412	24.06	23.62	-	30.00	30.00	2.80	2.00	26.86	25.62	36.00	36.00	Pass
HT20	MCS0	1	6	2437	25.81	25.87	-	30.00	30.00	2.80	2.00	28.61	27.87	36.00	36.00	Pass
HT20	MCS0	1	11	2462	24.02	24.49	-	30.00	30.00	2.80	2.00	26.82	26.49	36.00	36.00	Pass
HT20	MCS0	1	12	2467	22.78	23.56	-	30.00	30.00	2.80	2.00	25.58	25.56	36.00	36.00	Pass
HT20	MCS0	1	13	2472	23.11	22.68	-	30.00	30.00	2.80	2.00	25.91	24.68	36.00	36.00	Pass
11g	6Mbps	2	1	2412	22.80	23.25	26.04	30.00		2.80		28.84		36.00		Pass
11g	6Mbps	2	6	2437	25.01	25.34	28.19	30.00		2.80		30.99		36.00		Pass
11g	6Mbps	2	11	2462	23.52	23.92	26.73	30.00		2.80		29.53		36.00		Pass
11g	6Mbps	2	12	2467	21.75	22.16	24.97	30.00		2.80		27.77		36.00		Pass
11g	6Mbps	2	13	2472	20.81	21.02	23.93	30.00		2.80		26.73		36.00		Pass
HT20	MCS0	2	1	2412	22.72	22.76	25.75	30.00		2.80		28.55		36.00		Pass
HT20	MCS0	2	6	2437	25.67	25.56	28.63	30.00		2.80		31.43		36.00		Pass
HT20	MCS0	2	11	2462	24.16	24.24	27.21	30.00		2.80		30.01		36.00		Pass
HT20	MCS0	2	12	2467	22.00	22.12	25.07	30.00		2.80		27.87		36.00		Pass
HT20	MCS0	2	13	2472	22.26	22.57	25.43	30.00		2.80		28.23		36.00		Pass

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Average Output Power

2.4GHz Band									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant 1	Ant 2	Ant 1	Ant 2	SUM
11b	1Mbps	1	1	2412	0.06	0.09	19.34	18.84	
11b	1Mbps	1	6	2437	0.06	0.09	20.73	20.85	
11b	1Mbps	1	11	2462	0.06	0.09	19.97	20.11	
11b	1Mbps	1	12	2467	0.06	0.09	16.18	15.94	
11b	1Mbps	1	13	2472	0.06	0.09	13.01	12.70	
11g	6Mbps	1	1	2412	0.32	0.32	17.53	18.01	
11g	6Mbps	1	6	2437	0.32	0.32	19.43	19.57	
11g	6Mbps	1	11	2462	0.32	0.32	17.04	18.49	-
11g	6Mbps	1	12	2467	0.32	0.32	15.97	16.70	
11g	6Mbps	1	13	2472	0.32	0.32	14.78	15.46	
HT20	MCS0	1	1	2412	0.34	0.38	17.40	16.77	
HT20	MCS0	1	6	2437	0.34	0.38	19.26	19.69	
HT20	MCS0	1	11	2462	0.34	0.38	17.06	17.77	
HT20	MCS0	1	12	2467	0.34	0.38	15.99	16.31	
HT20	MCS0	1	13	2472	0.34	0.38	14.96	14.44	
11g	6Mbps	2	1	2412	0.32	0.32	16.06	16.33	19.21
11g	6Mbps	2	6	2437	0.32	0.32	18.55	18.97	21.78
11g	6Mbps	2	11	2462	0.32	0.32	16.97	17.11	20.05
11g	6Mbps	2	12	2467	0.32	0.32	14.98	15.34	18.17
11g	6Mbps	2	13	2472	0.32	0.32	13.55	13.40	16.49
HT20	MCS0	2	1	2412	0.34	0.34	15.62	15.73	18.69
HT20	MCS0	2	6	2437	0.34	0.34	19.43	19.63	22.54
HT20	MCS0	2	11	2462	0.34	0.34	17.02	17.07	20.06
HT20	MCS0	2	12	2467	0.34	0.34	14.86	15.00	17.94
HT20	MCS0	2	13	2472	0.34	0.34	14.25	14.40	17.34

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	-3.66	-3.03	-	2.80	2.00	8.00	8.00	Pass
11b	1Mbps	1	6	2437	-1.66	-1.66	-	2.80	2.00	8.00	8.00	Pass
11b	1Mbps	1	11	2462	-2.60	-3.13	-	2.80	2.00	8.00	8.00	Pass
11b	1Mbps	1	12	2467	-6.49	-7.16	-	2.80	2.00	8.00	8.00	Pass
11b	1Mbps	1	13	2472	-9.71	-8.73	-	2.80	2.00	8.00	8.00	Pass
11g	6Mbps	1	1	2412	-7.76	-7.41	-	2.80	2.00	8.00	8.00	Pass
11g	6Mbps	1	6	2437	-5.47	-4.95	-	2.80	2.00	8.00	8.00	Pass
11g	6Mbps	1	11	2462	-8.85	-6.42	-	2.80	2.00	8.00	8.00	Pass
11g	6Mbps	1	12	2467	-9.49	-8.48	-	2.80	2.00	8.00	8.00	Pass
11g	6Mbps	1	13	2472	-10.28	-10.85	-	2.80	2.00	8.00	8.00	Pass
HT20	MCS0	1	1	2412	-8.28	-8.47	-	2.80	2.00	8.00	8.00	Pass
HT20	MCS0	1	6	2437	-6.89	-6.24	-	2.80	2.00	8.00	8.00	Pass
HT20	MCS0	1	11	2462	-9.11	-8.63	-	2.80	2.00	8.00	8.00	Pass
HT20	MCS0	1	12	2467	-9.03	-9.87	-	2.80	2.00	8.00	8.00	Pass
HT20	MCS0	1	13	2472	-9.14	-11.81	-	2.80	2.00	8.00	8.00	Pass
11g	6Mbps	2	1	2412	-8.27	-9.21	-5.26	5.42		8.00		Pass
11g	6Mbps	2	6	2437	-6.97	-6.42	-3.41	5.42		8.00		Pass
11g	6Mbps	2	11	2462	-9.03	-7.85	-4.84	5.42		8.00		Pass
11g	6Mbps	2	12	2467	-10.73	-10.27	-7.26	5.42		8.00		Pass
11g	6Mbps	2	13	2472	-11.89	-11.37	-8.36	5.42		8.00		Pass
HT20	MCS0	2	1	2412	-10.14	-10.57	-7.13	5.42		8.00		Pass
HT20	MCS0	2	6	2437	-6.69	-5.80	-2.79	5.42		8.00		Pass
HT20	MCS0	2	11	2462	-9.30	-8.48	-5.47	5.42		8.00		Pass
HT20	MCS0	2	12	2467	-11.05	-10.54	-7.53	5.42		8.00		Pass
HT20	MCS0	2	13	2472	-11.75	-11.86	-8.74	5.42		8.00		Pass

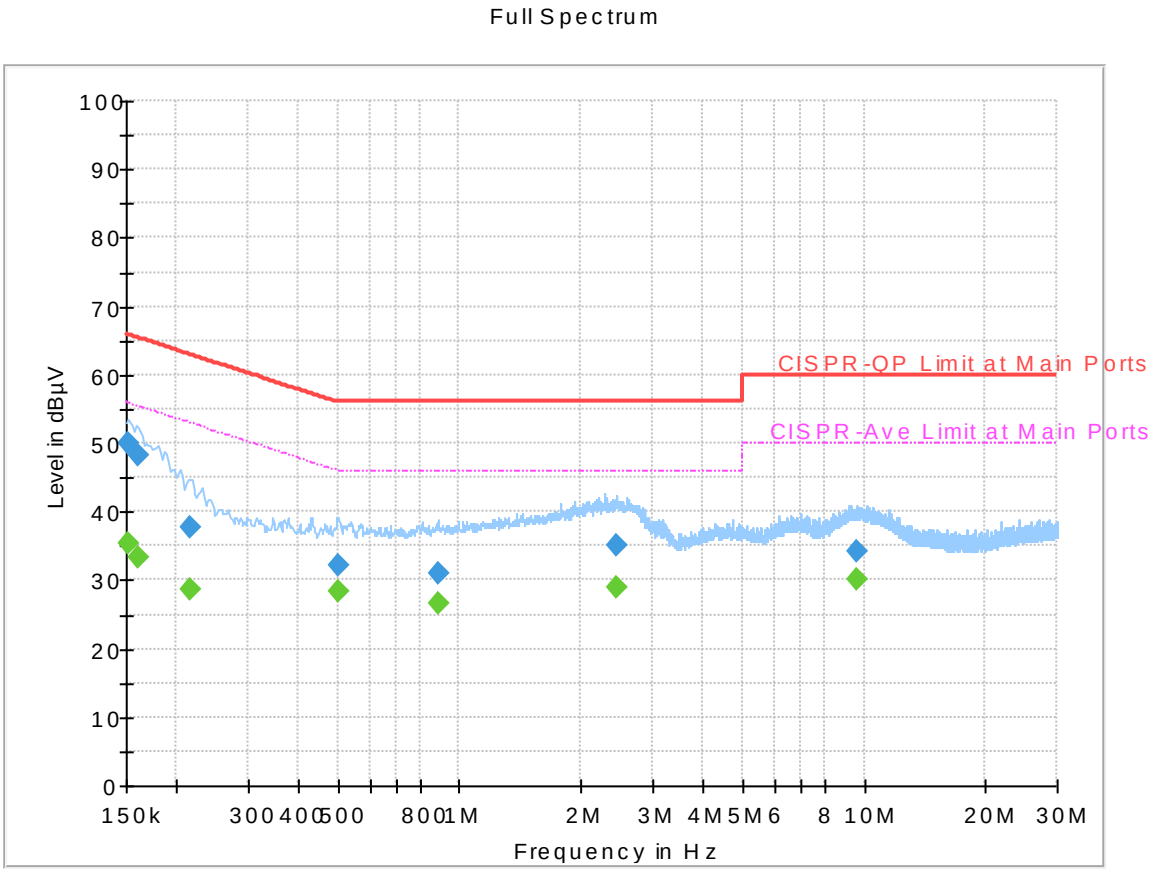
Measured power density (dBm) has offset with cable loss.

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Shareef Yu	**Temperature :**	21~25℃
		Relative Humidity :	51~55%

EUT Information

Report NO :	7D0544-01
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line



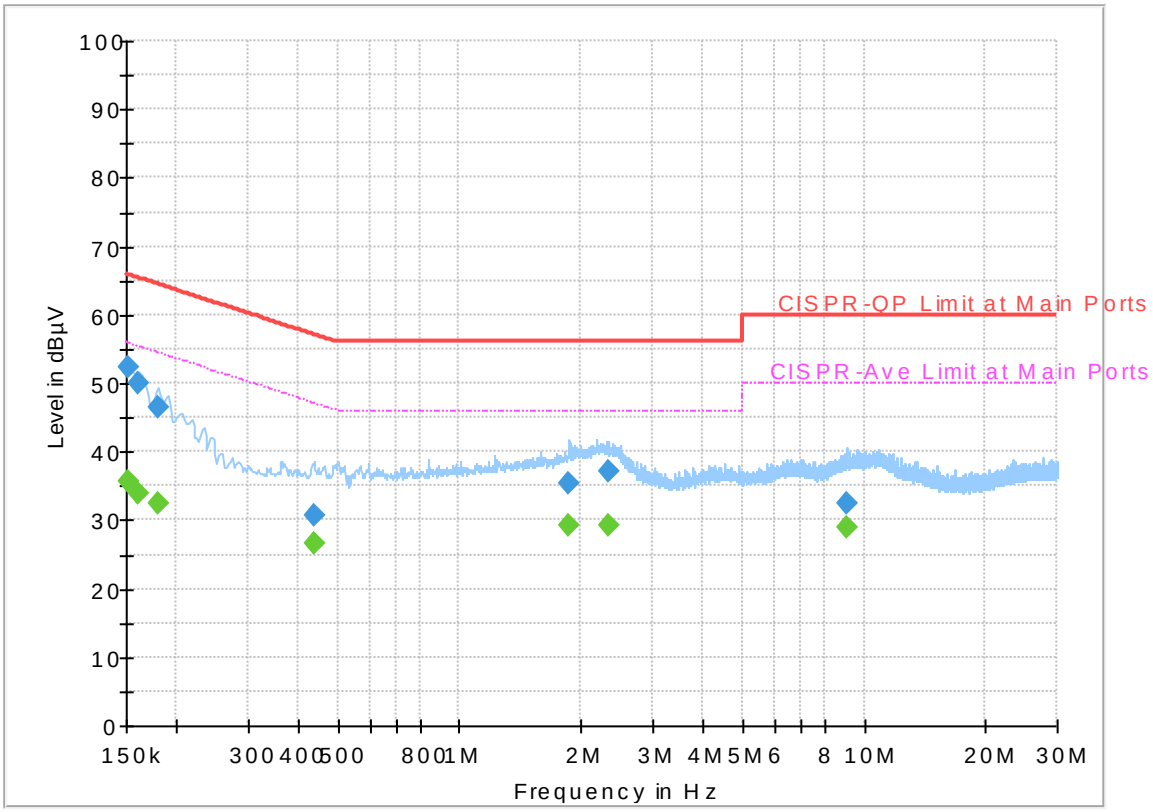
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	35.32	55.88	20.56	L1	OFF	19.5
0.152250	49.93	---	65.88	15.95	L1	OFF	19.5
0.161250	---	33.28	55.40	22.12	L1	OFF	19.5
0.161250	48.22	---	65.40	17.18	L1	OFF	19.5
0.215250	---	28.64	53.00	24.36	L1	OFF	19.5
0.215250	37.74	---	63.00	25.26	L1	OFF	19.5
0.501000	---	28.25	46.00	17.75	L1	OFF	19.5
0.501000	32.15	---	56.00	23.85	L1	OFF	19.5
0.883500	---	26.70	46.00	19.30	L1	OFF	19.5
0.883500	31.01	---	56.00	24.99	L1	OFF	19.5
2.445000	---	28.84	46.00	17.16	L1	OFF	19.5
2.445000	35.19	---	56.00	20.81	L1	OFF	19.5
9.609000	---	30.06	50.00	19.94	L1	OFF	19.7
9.609000	34.13	---	60.00	25.87	L1	OFF	19.7

EUT Information

Report NO :	7D0544-01
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	35.59	55.88	20.29	N	OFF	19.5
0.152250	52.22	---	65.88	13.66	N	OFF	19.5
0.161250	---	33.88	55.40	21.52	N	OFF	19.5
0.161250	49.90	---	65.40	15.50	N	OFF	19.5
0.179250	---	32.34	54.52	22.18	N	OFF	19.5
0.179250	46.38	---	64.52	18.14	N	OFF	19.5
0.438000	---	26.73	47.10	20.37	N	OFF	19.5
0.438000	30.76	---	57.10	26.34	N	OFF	19.5
1.871250	---	29.31	46.00	16.69	N	OFF	19.6
1.871250	35.47	---	56.00	20.53	N	OFF	19.6
2.339250	---	29.26	46.00	16.74	N	OFF	19.5
2.339250	37.02	---	56.00	18.98	N	OFF	19.5
9.051000	---	28.82	50.00	21.18	N	OFF	19.7
9.051000	32.48	---	60.00	27.52	N	OFF	19.7

Appendix C. Radiated Spurious Emission

Test Engineer :	Hao Hsu, Chuan Zhu, and Ken Wu	Temperature :	22~25°C
		Relative Humidity :	52~57%

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Path Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2387.385	57.42	-16.58	74	47.6	27.13	16.29	33.6	101	335	P	H
		2385.915	50.05	-3.95	54	40.23	27.13	16.29	33.6	101	335	A	H
	*	2412	106.68	-	-	96.79	27.18	16.3	33.59	101	335	P	H
	*	2412	103.63	-	-	93.74	27.18	16.3	33.59	101	335	A	H
		2385.915	58.91	-15.09	74	49.09	27.13	16.29	33.6	111	304	P	V
		2385.915	53.14	-0.86	54	43.32	27.13	16.29	33.6	111	304	A	V
	*	2412	110.93	-	-	101.04	27.18	16.3	33.59	111	304	P	V
	*	2412	107.65	-	-	97.76	27.18	16.3	33.59	111	304	A	V
802.11b CH 06 2437MHz		2321.2	51.59	-22.41	74	42.17	26.95	16.08	33.61	100	326	P	H
		2390	41.83	-12.17	54	32	27.13	16.29	33.59	100	326	A	H
	*	2437	108.43	-	-	98.44	27.27	16.31	33.59	100	326	P	H
	*	2437	104.55	-	-	94.56	27.27	16.31	33.59	100	326	A	H
		2489.68	52.85	-21.15	74	42.71	27.4	16.32	33.58	100	326	P	H
		2483.76	42.83	-11.17	54	32.74	27.36	16.31	33.58	100	326	A	H
		2388.88	55.41	-18.59	74	45.59	27.13	16.29	33.6	118	304	P	V
		2389.04	44.07	-9.93	54	34.25	27.13	16.29	33.6	118	304	A	V
	*	2437	112.44	-	-	102.45	27.27	16.31	33.59	118	304	P	V
	*	2437	109.22	-	-	99.23	27.27	16.31	33.59	118	304	A	V
		2483.68	54.12	-19.88	74	44.03	27.36	16.31	33.58	118	304	P	V
		2483.6	44.11	-9.89	54	34.02	27.36	16.31	33.58	118	304	A	V

802.11b CH 11 2462MHz	*	2462	109.09	-	-	99.05	27.31	16.31	33.58	100	326	P	H
	*	2462	105.14	-	-	95.1	27.31	16.31	33.58	100	326	A	H
		2487.96	57.49	-16.51	74	47.35	27.4	16.32	33.58	100	326	P	H
		2488.24	51.27	-2.73	54	41.13	27.4	16.32	33.58	100	326	A	H
	*	2462	111.51	-	-	101.47	27.31	16.31	33.58	119	304	P	V
	*	2462	108.27	-	-	98.23	27.31	16.31	33.58	119	304	A	V
		2487.92	59.3	-14.7	74	49.16	27.4	16.32	33.58	119	304	P	V
		2488.24	52.6	-1.4	54	42.46	27.4	16.32	33.58	119	304	A	V
802.11b CH 12 2467MHz	*	2467	105.43	-	-	95.39	27.31	16.31	33.58	100	327	P	H
	*	2467	101.39	-	-	91.35	27.31	16.31	33.58	100	327	A	H
		2483.92	57.62	-16.38	74	47.53	27.36	16.31	33.58	100	327	P	H
		2484.12	51	-3	54	40.91	27.36	16.31	33.58	100	327	A	H
	*	2467	107.89	-	-	97.85	27.31	16.31	33.58	116	306	P	V
	*	2467	104.67	-	-	94.63	27.31	16.31	33.58	116	306	A	V
		2483.64	60.35	-13.65	74	50.26	27.36	16.31	33.58	116	306	P	V
		2484.12	53.45	-0.55	54	43.36	27.36	16.31	33.58	116	306	A	V
802.11b CH 13 2472MHz	*	2472	101.91	-	-	91.82	27.36	16.31	33.58	100	326	P	H
	*	2472	97.88	-	-	87.79	27.36	16.31	33.58	100	326	A	H
		2483.64	59	-15	74	48.91	27.36	16.31	33.58	100	326	P	H
		2487.04	50.51	-3.49	54	40.41	27.36	16.32	33.58	100	326	A	H
	*	2472	104.48	-	-	94.39	27.36	16.31	33.58	118	305	P	V
	*	2472	101.3	-	-	91.21	27.36	16.31	33.58	118	305	A	V
		2483.8	59.93	-14.07	74	49.84	27.36	16.31	33.58	118	305	P	V
		2485.8	52.86	-1.14	54	42.76	27.36	16.32	33.58	118	305	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	45.72	-28.28	74	61.65	31.29	10.02	57.24	100	0	P	H
		4824	44.69	-29.31	74	60.62	31.29	10.02	57.24	100	0	P	V
802.11b CH 06 2437MHz		4874	46.44	-27.56	74	62.24	31.38	9.99	57.17	100	0	P	H
		7311	42.77	-31.23	74	51.99	36.28	11.77	57.27	100	0	P	H
		4874	45.37	-28.63	74	61.17	31.38	9.99	57.17	100	0	P	V
		7311	42.42	-31.58	74	51.64	36.28	11.77	57.27	100	0	P	V
802.11b CH 11 2462MHz		4924	47.84	-26.16	74	63.47	31.48	9.99	57.1	100	0	P	H
		7386	42	-32	74	51.23	36.47	11.68	57.38	100	0	P	H
		4924	47.41	-26.59	74	63.04	31.48	9.99	57.1	100	0	P	V
		7386	42.02	-31.98	74	51.25	36.47	11.68	57.38	100	0	P	V
802.11b CH 12 2467MHz		4934	47.98	-26.02	74	63.62	31.48	9.98	57.1	100	0	P	H
		7401	41.94	-32.06	74	51.17	36.51	11.66	57.4	100	0	P	H
		4934	47.1	-26.9	74	62.74	31.48	9.98	57.1	100	0	P	V
		7401	42.09	-31.91	74	51.32	36.51	11.66	57.4	100	0	P	V
802.11b CH 13 2472MHz		4944	48.9	-25.1	74	64.48	31.51	9.98	57.07	100	0	P	H
		7416	41.82	-32.18	74	51.02	36.51	11.69	57.4	100	0	P	H
		4944	47.8	-26.2	74	63.38	31.51	9.98	57.07	100	0	P	V
		7416	41.15	-32.85	74	50.35	36.51	11.69	57.4	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.8	58.26	-15.74	74	48.43	27.13	16.29	33.59	104	336	P	H
		2390	48.87	-5.13	54	39.04	27.13	16.29	33.59	104	336	A	H
	*	2412	106.4	-	-	96.51	27.18	16.3	33.59	104	336	P	H
	*	2412	98.71	-	-	88.82	27.18	16.3	33.59	104	336	A	H
		2389.38	61.72	-12.28	74	51.9	27.13	16.29	33.6	101	305	P	V
		2389.905	51.1	-2.9	54	41.27	27.13	16.29	33.59	101	305	A	V
	*	2412	110.15	-	-	100.26	27.18	16.3	33.59	101	305	P	V
	*	2412	102.09	-	-	92.2	27.18	16.3	33.59	101	305	A	V
802.11g CH 06 2437MHz		2387.44	56.42	-17.58	74	46.6	27.13	16.29	33.6	355	294	P	H
		2389.04	45.55	-8.45	54	35.73	27.13	16.29	33.6	355	294	A	H
	*	2437	109.88	-	-	99.89	27.27	16.31	33.59	355	294	P	H
	*	2437	102.12	-	-	92.13	27.27	16.31	33.59	355	294	A	H
		2483.76	58.04	-15.96	74	47.95	27.36	16.31	33.58	355	294	P	H
		2483.76	46.55	-7.45	54	36.46	27.36	16.31	33.58	355	294	A	H
		2386.16	61.52	-12.48	74	51.7	27.13	16.29	33.6	118	304	P	V
		2389.84	51.35	-2.65	54	41.52	27.13	16.29	33.59	118	304	A	V
	*	2437	112.07	-	-	102.08	27.27	16.31	33.59	118	304	P	V
	*	2437	104.33	-	-	94.34	27.27	16.31	33.59	118	304	A	V
		2483.68	63.73	-10.27	74	53.64	27.36	16.31	33.58	118	304	P	V
		2483.92	52.05	-1.95	54	41.96	27.36	16.31	33.58	118	304	A	V

802.11g CH 11 2462MHz	*	2462	107.29	-	-	97.25	27.31	16.31	33.58	102	327	P	H
	*	2462	98.93	-	-	88.89	27.31	16.31	33.58	102	327	A	H
		2486.16	62.54	-11.46	74	52.44	27.36	16.32	33.58	102	327	P	H
		2483.6	49.96	-4.04	54	39.87	27.36	16.31	33.58	102	327	A	H
	*	2462	110.27	-	-	100.23	27.31	16.31	33.58	118	304	P	V
	*	2462	102.28	-	-	92.24	27.31	16.31	33.58	118	304	A	V
		2483.56	65.34	-8.66	74	55.25	27.36	16.31	33.58	118	304	P	V
		2483.68	52.92	-1.08	54	42.83	27.36	16.31	33.58	118	304	A	V
802.11g CH 12 2467MHz	*	2467	105.84	-	-	95.8	27.31	16.31	33.58	104	328	P	H
	*	2467	97.29	-	-	87.25	27.31	16.31	33.58	104	328	A	H
		2485.8	60.06	-13.94	74	49.96	27.36	16.32	33.58	104	328	P	H
		2483.64	49.78	-4.22	54	39.69	27.36	16.31	33.58	104	328	A	H
	*	2467	109.08	-	-	99.04	27.31	16.31	33.58	116	306	P	V
	*	2467	100.87	-	-	90.83	27.31	16.31	33.58	116	306	A	V
		2483.6	62.18	-11.82	74	52.09	27.36	16.31	33.58	116	306	P	V
		2483.52	53.07	-0.93	54	42.98	27.36	16.31	33.58	116	306	A	V
802.11g CH 13 2472MHz	*	2472	104.28	-	-	94.19	27.36	16.31	33.58	100	325	P	H
	*	2472	95.91	-	-	85.82	27.36	16.31	33.58	100	325	A	H
		2483.8	61.04	-12.96	74	50.95	27.36	16.31	33.58	100	325	P	H
		2484.16	50.91	-3.09	54	40.82	27.36	16.31	33.58	100	325	A	H
	*	2472	107.3	-	-	97.21	27.36	16.31	33.58	118	306	P	V
	*	2472	99.43	-	-	89.34	27.36	16.31	33.58	118	306	A	V
		2484.36	62.65	-11.35	74	52.55	27.36	16.32	33.58	118	306	P	V
		2484.44	53.36	-0.64	54	43.26	27.36	16.32	33.58	118	306	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	42.26	-31.74	74	58.19	31.29	10.02	57.24	100	0	P	H
		4824	41.34	-32.66	74	57.27	31.29	10.02	57.24	100	0	P	V
802.11g CH 06 2437MHz		4874	43.82	-30.18	74	59.62	31.38	9.99	57.17	100	0	P	H
		7311	42.63	-31.37	74	51.85	36.28	11.77	57.27	100	0	P	H
		4874	42.46	-31.54	74	58.26	31.38	9.99	57.17	100	0	P	V
		7311	43	-31	74	52.22	36.28	11.77	57.27	100	0	P	V
802.11g CH 11 2462MHz		4924	44.8	-29.2	74	60.43	31.48	9.99	57.1	100	0	P	H
		7386	42.21	-31.79	74	51.44	36.47	11.68	57.38	100	0	P	H
		4924	43.23	-30.77	74	58.86	31.48	9.99	57.1	100	0	P	V
		7386	42.23	-31.77	74	51.46	36.47	11.68	57.38	100	0	P	V
802.11g CH 12 2467MHz		4934	44.48	-29.52	74	60.12	31.48	9.98	57.1	100	0	P	H
		7401	42.05	-31.95	74	51.28	36.51	11.66	57.4	100	0	P	H
		4934	43.35	-30.65	74	58.99	31.48	9.98	57.1	100	0	P	V
		7401	42.97	-31.03	74	52.2	36.51	11.66	57.4	100	0	P	V
802.11g CH 13 2472MHz		4944	43.57	-30.43	74	59.15	31.51	9.98	57.07	100	0	P	H
		7416	41.9	-32.1	74	51.1	36.51	11.69	57.4	100	0	P	H
		4944	42.93	-31.07	74	58.51	31.51	9.98	57.07	100	0	P	V
		7416	42.15	-31.85	74	51.35	36.51	11.69	57.4	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.8	65.36	-8.64	74	55.53	27.13	16.29	33.59	103	337	P	H
		2389.8	50.71	-3.29	54	40.88	27.13	16.29	33.59	103	337	A	H
802.11n	*	2412	106.17	-	-	96.28	27.18	16.3	33.59	103	337	P	H
HT20	*	2412	98.25	-	-	88.36	27.18	16.3	33.59	103	337	A	H
CH 01		2389.8	66.18	-7.82	74	56.35	27.13	16.29	33.59	112	305	P	V
2412MHz		2390	52.55	-1.45	54	42.72	27.13	16.29	33.59	112	305	A	V
	*	2412	110.43	-	-	100.54	27.18	16.3	33.59	112	305	P	V
	*	2412	101.82	-	-	91.93	27.18	16.3	33.59	112	305	A	V
		2389.2	59.67	-14.33	74	49.85	27.13	16.29	33.6	104	327	P	H
		2389.36	47.13	-6.87	54	37.31	27.13	16.29	33.6	104	327	A	H
	*	2437	107.32	-	-	97.33	27.27	16.31	33.59	104	327	P	H
	*	2437	99.39	-	-	89.4	27.27	16.31	33.59	104	327	A	H
802.11n		2484.48	60.67	-13.33	74	50.57	27.36	16.32	33.58	104	327	P	H
HT20		2483.68	49.28	-4.72	54	39.19	27.36	16.31	33.58	104	327	A	H
CH 06		2387.6	62.76	-11.24	74	52.94	27.13	16.29	33.6	120	306	P	V
2437MHz		2389.84	51.65	-2.35	54	41.82	27.13	16.29	33.59	120	306	A	V
	*	2437	111.76	-	-	101.77	27.27	16.31	33.59	120	306	P	V
	*	2437	104.19	-	-	94.2	27.27	16.31	33.59	120	306	A	V
		2484.16	64.56	-9.44	74	54.47	27.36	16.31	33.58	120	306	P	V
		2483.76	52.06	-1.94	54	41.97	27.36	16.31	33.58	120	306	A	V

	*	2462	107.48	-	-	97.44	27.31	16.31	33.58	101	327	P	H
	*	2462	98.86	-	-	88.82	27.31	16.31	33.58	101	327	A	H
802.11n		2489.65	61.8	-12.2	74	51.66	27.4	16.32	33.58	101	327	P	H
HT20		2483.6	50.21	-3.79	54	40.12	27.36	16.31	33.58	101	327	A	H
CH 11	*	2462	110.12	-	-	100.08	27.31	16.31	33.58	115	306	P	V
2462MHz	*	2462	101.7	-	-	91.66	27.31	16.31	33.58	115	306	A	V
		2484.05	65.71	-8.29	74	55.62	27.36	16.31	33.58	115	306	P	V
		2483.8	53.06	-0.94	54	42.97	27.36	16.31	33.58	115	306	A	V
	*	2467	106.49	-	-	96.45	27.31	16.31	33.58	100	326	P	H
	*	2467	97.79	-	-	87.75	27.31	16.31	33.58	100	326	A	H
802.11n		2483.76	61.07	-12.93	74	50.98	27.36	16.31	33.58	100	326	P	H
HT20		2483.52	50.97	-3.03	54	40.88	27.36	16.31	33.58	100	326	A	H
CH 12	*	2467	109.57	-	-	99.53	27.31	16.31	33.58	117	307	P	V
2467MHz	*	2467	101.01	-	-	90.97	27.31	16.31	33.58	117	307	A	V
		2483.52	64.32	-9.68	74	54.23	27.36	16.31	33.58	117	307	P	V
		2483.52	53.42	-0.58	54	43.33	27.36	16.31	33.58	117	307	A	V
	*	2472	104.63	-	-	94.54	27.36	16.31	33.58	100	326	P	H
	*	2472	96.02	-	-	85.93	27.36	16.31	33.58	100	326	A	H
802.11n		2485.4	60.9	-13.1	74	50.8	27.36	16.32	33.58	100	326	P	H
HT20		2484.88	50.89	-3.11	54	40.79	27.36	16.32	33.58	100	326	A	H
CH 13	*	2472	107.99	-	-	97.9	27.36	16.31	33.58	116	304	P	V
2472MHz	*	2472	99.33	-	-	89.24	27.36	16.31	33.58	116	304	A	V
		2487.08	62.93	-11.07	74	52.83	27.36	16.32	33.58	116	304	P	V
		2483.56	53.24	-0.76	54	43.15	27.36	16.31	33.58	116	304	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	41.88	-32.12	74	57.81	31.29	10.02	57.24	100	0	P	H
		4824	41.92	-32.08	74	57.85	31.29	10.02	57.24	100	0	P	V
802.11n HT20 CH 06 2437MHz		4874	42.82	-31.18	74	58.62	31.38	9.99	57.17	100	0	P	H
		7311	42.87	-31.13	74	52.09	36.28	11.77	57.27	100	0	P	H
		4874	41.99	-32.01	74	57.79	31.38	9.99	57.17	100	0	P	V
		7311	43.07	-30.93	74	52.29	36.28	11.77	57.27	100	0	P	V
802.11n HT20 CH 11 2462MHz		4924	44.6	-29.4	74	60.23	31.48	9.99	57.1	100	0	P	H
		7386	42.37	-31.63	74	51.6	36.47	11.68	57.38	100	0	P	H
		4924	42.87	-31.13	74	58.5	31.48	9.99	57.1	100	0	P	V
		7386	41.87	-32.13	74	51.1	36.47	11.68	57.38	100	0	P	V
802.11n HT20 CH 12 2467MHz		4934	44.07	-29.93	74	59.71	31.48	9.98	57.1	100	0	P	H
		7401	42.8	-31.2	74	52.03	36.51	11.66	57.4	100	0	P	H
		4934	42.99	-31.01	74	58.63	31.48	9.98	57.1	100	0	P	V
		7401	42.12	-31.88	74	51.35	36.51	11.66	57.4	100	0	P	V
802.11n HT20 CH 13 2472MHz		4944	43.32	-30.68	74	58.9	31.51	9.98	57.07	100	0	P	H
		7416	42.04	-31.96	74	51.24	36.51	11.69	57.4	100	0	P	H
		4944	42.4	-31.6	74	57.98	31.51	9.98	57.07	100	0	P	V
		7416	42.68	-31.32	74	51.88	36.51	11.69	57.4	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11b (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11b LF		30.27	22.84	-17.16	40	30.32	24.17	0.85	32.5	-	-	P	H
		89.67	28.29	-15.21	43.5	44.92	14.61	1.24	32.48	-	-	P	H
		214.95	30.11	-13.39	43.5	45.68	15.04	1.78	32.39	-	-	P	H
		422.5	26.36	-19.64	46	33.47	22.55	2.68	32.34	-	-	P	H
		742.4	29.41	-16.59	46	30.49	27.74	3.53	32.35	-	-	P	H
		953.8	33.74	-12.26	46	30.07	30.76	4.07	31.16	100	0	P	H
		37.56	30.93	-9.07	40	42.33	20.26	0.83	32.49	-	-	P	V
		40.8	33.69	-6.31	40	46.67	18.68	0.83	32.49	100	0	P	V
		46.2	33.52	-6.48	40	49.27	15.72	1.02	32.49	-	-	P	V
		554.1	29.26	-16.74	46	33.16	25.45	3.07	32.42	-	-	P	V
		757.8	30.49	-15.51	46	31.34	27.88	3.57	32.3	-	-	P	V
		957.3	33.32	-12.68	46	29.42	30.97	4.07	31.14	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2387.28	57.02	-16.98	74	47.2	27.13	16.29	33.6	104	246	P	H
		2386.02	50.61	-3.39	54	40.79	27.13	16.29	33.6	104	246	A	H
	*	2412	107.44	-	-	97.55	27.18	16.3	33.59	104	246	P	H
	*	2412	104.5	-	-	94.61	27.18	16.3	33.59	104	246	A	H
		2386.02	58.2	-15.8	74	48.38	27.13	16.29	33.6	295	294	P	V
		2385.915	52.67	-1.33	54	42.85	27.13	16.29	33.6	295	294	A	V
	*	2412	109.37	-	-	99.48	27.18	16.3	33.59	295	294	P	V
	*	2412	106.31	-	-	96.42	27.18	16.3	33.59	295	294	A	V
802.11b CH 06 2437MHz		2389.1	54.03	-19.97	74	44.21	27.13	16.29	33.6	135	241	P	H
		2388.82	43.53	-10.47	54	33.71	27.13	16.29	33.6	135	241	A	H
	*	2437	110.05	-	-	100.06	27.27	16.31	33.59	135	241	P	H
	*	2437	106.99	-	-	97	27.27	16.31	33.59	135	241	A	H
		2492.16	53.68	-20.32	74	43.53	27.4	16.32	33.57	135	241	P	H
		2485.12	44.15	-9.85	54	34.05	27.36	16.32	33.58	135	241	A	H
		2386.3	54.62	-19.38	74	44.8	27.13	16.29	33.6	282	299	P	V
		2358.16	45.15	-8.85	54	35.49	27.04	16.22	33.6	282	299	A	V
	*	2437	111.17	-	-	101.18	27.27	16.31	33.59	282	299	P	V
	*	2437	108.02	-	-	98.03	27.27	16.31	33.59	282	299	A	V
		2483.6	53.9	-20.1	74	43.81	27.36	16.31	33.58	282	299	P	V
		2483.6	44.67	-9.33	54	34.58	27.36	16.31	33.58	282	299	A	V

802.11b CH 11 2462MHz	*	2462	110.14	-	-	100.1	27.31	16.31	33.58	179	244	P	H
	*	2462	107.1	-	-	97.06	27.31	16.31	33.58	179	244	A	H
		2488.24	59.54	-14.46	74	49.4	27.4	16.32	33.58	179	244	P	H
		2488.16	53.23	-0.77	54	43.09	27.4	16.32	33.58	179	244	A	H
	*	2462	111.35	-	-	101.31	27.31	16.31	33.58	302	94	P	V
	*	2462	108.17	-	-	98.13	27.31	16.31	33.58	302	94	A	V
		2488.08	58.99	-15.01	74	48.85	27.4	16.32	33.58	302	94	P	V
		2488.4	53.39	-0.61	54	43.25	27.4	16.32	33.58	302	94	A	V
802.11b CH 12 2467MHz	*	2467	106.11	-	-	96.07	27.31	16.31	33.58	179	240	P	H
	*	2467	102.99	-	-	92.95	27.31	16.31	33.58	179	240	A	H
		2483.52	59.44	-14.56	74	49.35	27.36	16.31	33.58	179	240	P	H
		2484.04	52.97	-1.03	54	42.88	27.36	16.31	33.58	179	240	A	H
	*	2467	106.93	-	-	96.89	27.31	16.31	33.58	304	95	P	V
	*	2467	103.84	-	-	93.8	27.31	16.31	33.58	304	95	A	V
		2483.88	58.74	-15.26	74	48.65	27.36	16.31	33.58	304	95	P	V
		2484.12	51.88	-2.12	54	41.79	27.36	16.31	33.58	304	95	A	V
802.11b CH 13 2472MHz	*	2472	103.1	-	-	93.01	27.36	16.31	33.58	100	244	P	H
	*	2470	99.98	-	-	89.94	27.31	16.31	33.58	100	244	A	H
		2485.68	58.66	-15.34	74	48.56	27.36	16.32	33.58	100	244	P	H
		2485.72	52.68	-1.32	54	42.58	27.36	16.32	33.58	100	244	A	H
	*	2472	103.22	-	-	93.13	27.36	16.31	33.58	331	92	P	V
	*	2472	100.12	-	-	90.03	27.36	16.31	33.58	331	92	A	V
		2485.12	59.42	-14.58	74	49.32	27.36	16.32	33.58	331	92	P	V
		2485.64	53.38	-0.62	54	43.28	27.36	16.32	33.58	331	92	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	45.56	-28.44	74	61.49	31.29	10.02	57.24	100	0	P	H
		4824	52.49	-21.51	74	68.42	31.29	10.02	57.24	141	96	P	V
		4824	49.88	-4.12	54	65.81	31.29	10.02	57.24	141	96	A	V
802.11b CH 06 2437MHz		4874	47.91	-26.09	74	63.71	31.38	9.99	57.17	100	0	P	H
		7311	46.36	-27.64	74	55.58	36.28	11.77	57.27	100	0	P	H
		4874	53.91	-20.09	74	69.71	31.38	9.99	57.17	207	88	P	V
		4874	51.92	-2.08	54	67.72	31.38	9.99	57.17	207	88	A	V
		7311	45.61	-28.39	74	54.83	36.28	11.77	57.27	100	0	P	V
802.11b CH 11 2462MHz		4924	48.13	-25.87	74	63.76	31.48	9.99	57.1	100	0	P	H
		7386	41.96	-32.04	74	51.19	36.47	11.68	57.38	100	0	P	H
		4924	53.33	-20.67	74	68.96	31.48	9.99	57.1	197	88	P	V
		4924	51.09	-2.91	54	66.72	31.48	9.99	57.1	197	88	A	V
		7386	43.89	-30.11	74	53.12	36.47	11.68	57.38	100	0	P	V
802.11b CH 12 2467MHz		4934	45.42	-28.58	74	61.06	31.48	9.98	57.1	100	0	P	H
		7401	42.93	-31.07	74	52.16	36.51	11.66	57.4	100	0	P	H
		4934	51.48	-22.52	74	67.12	31.48	9.98	57.1	187	88	P	V
		4934	48.72	-5.28	54	64.36	31.48	9.98	57.1	187	88	A	V
		7401	42.66	-31.34	74	51.89	36.51	11.66	57.4	100	0	P	V
802.11b CH 13 2472MHz		4944	42.97	-31.03	74	58.55	31.51	9.98	57.07	100	0	P	H
		7416	42.95	-31.05	74	52.15	36.51	11.69	57.4	100	0	P	H
		4944	47.2	-26.8	74	62.78	31.51	9.98	57.07	100	0	P	V
		7416	41.4	-32.6	74	50.6	36.51	11.69	57.4	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2388.96	64.03	-9.97	74	54.21	27.13	16.29	33.6	104	243	P	H
		2389.905	53.22	-0.78	54	43.39	27.13	16.29	33.59	104	243	A	H
	*	2412	108.61	-	-	98.72	27.18	16.3	33.59	104	243	P	H
	*	2412	101.02	-	-	91.13	27.18	16.3	33.59	104	243	A	H
		2390	56.98	-17.02	74	47.15	27.13	16.29	33.59	304	87	P	V
		2389.695	47.15	-6.85	54	37.33	27.13	16.29	33.6	304	87	A	V
	*	2412	108.25	-	-	98.36	27.18	16.3	33.59	304	87	P	V
	*	2412	100.09	-	-	90.2	27.18	16.3	33.59	304	87	A	V
802.11g CH 06 2437MHz		2384.24	56.43	-17.57	74	46.65	27.09	16.29	33.6	238	243	P	H
		2389.84	46.53	-7.47	54	36.7	27.13	16.29	33.59	238	243	A	H
	*	2437	111.62	-	-	101.63	27.27	16.31	33.59	238	243	P	H
	*	2437	103.63	-	-	93.64	27.27	16.31	33.59	238	243	A	H
		2483.52	59.02	-14.98	74	48.93	27.36	16.31	33.58	238	243	P	H
		2483.6	48.81	-5.19	54	38.72	27.36	16.31	33.58	238	243	A	H
		2388.4	55.96	-18.04	74	46.14	27.13	16.29	33.6	306	301	P	V
		2389.04	47.65	-6.35	54	37.83	27.13	16.29	33.6	306	301	A	V
	*	2437	111.19	-	-	101.2	27.27	16.31	33.59	306	301	P	V
	*	2437	103.37	-	-	93.38	27.27	16.31	33.59	306	301	A	V
		2488.96	57.31	-16.69	74	47.17	27.4	16.32	33.58	306	301	P	V
		2484.88	47.28	-6.72	54	37.18	27.36	16.32	33.58	306	301	A	V

802.11g CH 11 2462MHz	*	2462	109.64	-	-	99.6	27.31	16.31	33.58	100	244	P	H
	*	2462	101.75	-	-	91.71	27.31	16.31	33.58	100	244	A	H
		2483.64	64.76	-9.24	74	54.67	27.36	16.31	33.58	100	244	P	H
		2483.52	53.01	-0.99	54	42.92	27.36	16.31	33.58	100	244	A	H
	*	2462	109.73	-	-	99.69	27.31	16.31	33.58	302	88	P	V
	*	2462	101.91	-	-	91.87	27.31	16.31	33.58	302	88	A	V
		2483.52	64.37	-9.63	74	54.28	27.36	16.31	33.58	302	88	P	V
		2483.56	52.64	-1.36	54	42.55	27.36	16.31	33.58	302	88	A	V
802.11g CH 12 2467MHz	*	2467	108.08	-	-	98.04	27.31	16.31	33.58	100	244	P	H
	*	2467	100.12	-	-	90.08	27.31	16.31	33.58	100	244	A	H
		2483.92	61.06	-12.94	74	50.97	27.36	16.31	33.58	100	244	P	H
		2483.56	50.29	-3.71	54	40.2	27.36	16.31	33.58	100	244	A	H
	*	2467	108.57	-	-	98.53	27.31	16.31	33.58	302	86	P	V
	*	2467	100.64	-	-	90.6	27.31	16.31	33.58	302	86	A	V
		2484.12	61.33	-12.67	74	51.24	27.36	16.31	33.58	302	86	P	V
		2483.72	51.45	-2.55	54	41.36	27.36	16.31	33.58	302	86	A	V
802.11g CH 13 2472MHz	*	2472	106.63	-	-	96.54	27.36	16.31	33.58	204	242	P	H
	*	2472	98.61	-	-	88.52	27.36	16.31	33.58	204	242	A	H
		2483.8	62.66	-11.34	74	52.57	27.36	16.31	33.58	204	242	P	H
		2483.56	52.96	-1.04	54	42.87	27.36	16.31	33.58	204	242	A	H
	*	2472	106.87	-	-	96.78	27.36	16.31	33.58	300	91	P	V
	*	2472	99.06	-	-	88.97	27.36	16.31	33.58	300	91	A	V
		2484	63.18	-10.82	74	53.09	27.36	16.31	33.58	300	91	P	V
		2483.52	53.26	-0.74	54	43.17	27.36	16.31	33.58	300	91	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	41.12	-32.88	74	57.05	31.29	10.02	57.24	100	0	P	H
		4824	47.81	-26.19	74	63.74	31.29	10.02	57.24	100	0	P	V
802.11g CH 06 2437MHz		4874	44.17	-29.83	74	59.97	31.38	9.99	57.17	100	0	P	H
		7311	43.36	-30.64	74	52.58	36.28	11.77	57.27	100	0	P	H
		4874	46.98	-27.02	74	62.78	31.38	9.99	57.17	100	0	P	V
		7311	44.21	-29.79	74	53.43	36.28	11.77	57.27	100	0	P	V
802.11g CH 11 2462MHz		4924	42.66	-31.34	74	58.29	31.48	9.99	57.1	100	0	P	H
		7386	42.16	-31.84	74	51.39	36.47	11.68	57.38	100	0	P	H
		4924	47.52	-26.48	74	63.15	31.48	9.99	57.1	100	0	P	V
		7386	43.37	-30.63	74	52.6	36.47	11.68	57.38	100	0	P	V
802.11g CH 12 2467MHz		4934	43.83	-30.17	74	59.47	31.48	9.98	57.1	100	0	P	H
		7401	42.17	-31.83	74	51.4	36.51	11.66	57.4	100	0	P	H
		4934	47.13	-26.87	74	62.77	31.48	9.98	57.1	100	0	P	V
		7401	42.18	-31.82	74	51.41	36.51	11.66	57.4	100	0	P	V
802.11g CH 13 2472MHz		4944	41.02	-32.98	74	56.6	31.51	9.98	57.07	100	0	P	H
		7416	41.87	-32.13	74	51.07	36.51	11.69	57.4	100	0	P	H
		4944	45.47	-28.53	74	61.05	31.51	9.98	57.07	100	0	P	V
		7416	42.17	-31.83	74	51.37	36.51	11.69	57.4	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.905	64.16	-9.84	74	54.33	27.13	16.29	33.59	212	242	P	H
		2390	52.19	-1.81	54	42.36	27.13	16.29	33.59	212	242	A	H
802.11n	*	2412	106.35	-	-	96.46	27.18	16.3	33.59	212	242	P	H
HT20	*	2412	98.76	-	-	88.87	27.18	16.3	33.59	212	242	A	H
CH 01		2389.8	60.72	-13.28	74	50.89	27.13	16.29	33.59	305	82	P	V
2412MHz		2390	46.83	-7.17	54	37	27.13	16.29	33.59	305	82	A	V
	*	2412	107.29	-	-	97.4	27.18	16.3	33.59	305	82	P	V
	*	2412	98.94	-	-	89.05	27.18	16.3	33.59	305	82	A	V
		2387.44	56.74	-17.26	74	46.92	27.13	16.29	33.6	217	236	P	H
		2390	46.81	-7.19	54	36.98	27.13	16.29	33.59	217	236	A	H
	*	2437	109.47	-	-	99.48	27.27	16.31	33.59	217	236	P	H
	*	2437	101.93	-	-	91.94	27.27	16.31	33.59	217	236	A	H
802.11n		2484.8	58.47	-15.53	74	48.37	27.36	16.32	33.58	217	236	P	H
HT20		2483.52	48.8	-5.2	54	38.71	27.36	16.31	33.58	217	236	A	H
CH 06		2390	53.13	-20.87	74	43.3	27.13	16.29	33.59	297	82	P	V
2437MHz		2389.68	43.9	-10.1	54	34.08	27.13	16.29	33.6	297	82	A	V
	*	2437	109.65	-	-	99.66	27.27	16.31	33.59	297	82	P	V
	*	2437	101.91	-	-	91.92	27.27	16.31	33.59	297	82	A	V
		2484.96	58.77	-15.23	74	48.67	27.36	16.32	33.58	297	82	P	V
		2483.84	48.28	-5.72	54	38.19	27.36	16.31	33.58	297	82	A	V

	*	2462	108.07	-	-	98.03	27.31	16.31	33.58	204	242	P	H
	*	2462	100.22	-	-	90.18	27.31	16.31	33.58	204	242	A	H
802.11n		2483.8	65.36	-8.64	74	55.27	27.36	16.31	33.58	204	242	P	H
HT20		2483.5	52.39	-1.61	54	42.3	27.36	16.31	33.58	204	242	A	H
CH 11	*	2462	109.06	-	-	99.02	27.31	16.31	33.58	304	90	P	V
2462MHz	*	2462	101.16	-	-	91.12	27.31	16.31	33.58	304	90	A	V
		2483.5	64.4	-9.6	74	54.31	27.36	16.31	33.58	304	90	P	V
		2483.55	52.18	-1.82	54	42.09	27.36	16.31	33.58	304	90	A	V
	*	2467	106.73	-	-	96.69	27.31	16.31	33.58	210	240	P	H
	*	2467	98.99	-	-	88.95	27.31	16.31	33.58	210	240	A	H
802.11n		2483.84	61.07	-12.93	74	50.98	27.36	16.31	33.58	210	240	P	H
HT20		2483.8	51.56	-2.44	54	41.47	27.36	16.31	33.58	210	240	A	H
CH 12	*	2467	107.5	-	-	97.46	27.31	16.31	33.58	300	88	P	V
2467MHz	*	2467	99.62	-	-	89.58	27.31	16.31	33.58	300	88	A	V
		2484.08	63.8	-10.2	74	53.71	27.36	16.31	33.58	300	88	P	V
		2483.6	52.63	-1.37	54	42.54	27.36	16.31	33.58	300	88	A	V
	*	2472	105.61	-	-	95.52	27.36	16.31	33.58	207	240	P	H
	*	2472	97.46	-	-	87.37	27.36	16.31	33.58	207	240	A	H
802.11n		2484	61.32	-12.68	74	51.23	27.36	16.31	33.58	207	240	P	H
HT20		2483.6	51.19	-2.81	54	41.1	27.36	16.31	33.58	207	240	A	H
CH 13	*	2472	106.54	-	-	96.45	27.36	16.31	33.58	331	81	P	V
2472MHz	*	2472	98.68	-	-	88.59	27.36	16.31	33.58	331	81	A	V
		2485.56	62.18	-11.82	74	52.08	27.36	16.32	33.58	331	81	P	V
		2483.64	52.83	-1.17	54	42.74	27.36	16.31	33.58	331	81	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	41.56	-32.44	74	57.49	31.29	10.02	57.24	100	0	P	H
		4824	45.31	-28.69	74	61.24	31.29	10.02	57.24	100	0	P	V
802.11n HT20 CH 06 2437MHz		4874	43.65	-30.35	74	59.45	31.38	9.99	57.17	100	0	P	H
		7311	43.89	-30.11	74	53.11	36.28	11.77	57.27	100	0	P	H
		4874	47.11	-26.89	74	62.91	31.38	9.99	57.17	100	0	P	V
		7311	42.95	-31.05	74	52.17	36.28	11.77	57.27	100	0	P	V
802.11n HT20 CH 11 2462MHz		4924	41.35	-32.65	74	56.98	31.48	9.99	57.1	100	0	P	H
		7386	41.59	-32.41	74	50.82	36.47	11.68	57.38	100	0	P	H
		4924	46.02	-27.98	74	61.65	31.48	9.99	57.1	100	0	P	V
		7386	42.11	-31.89	74	51.34	36.47	11.68	57.38	100	0	P	V
802.11n HT20 CH 12 2467MHz		4934	41.53	-32.47	74	57.17	31.48	9.98	57.1	100	0	P	H
		7401	41.81	-32.19	74	51.04	36.51	11.66	57.4	100	0	P	H
		4934	47.74	-26.26	74	63.38	31.48	9.98	57.1	100	0	P	V
		7401	42.56	-31.44	74	51.79	36.51	11.66	57.4	100	0	P	V
802.11n HT20 CH 13 2472MHz		4944	41.88	-32.12	74	57.46	31.51	9.98	57.07	100	0	P	H
		7416	41.39	-32.61	74	50.59	36.51	11.69	57.4	100	0	P	H
		4944	45.43	-28.57	74	61.01	31.51	9.98	57.07	100	0	P	V
		7416	42.11	-31.89	74	51.31	36.51	11.69	57.4	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11b (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11b LF		91.02	27.87	-15.63	43.5	44.39	14.72	1.24	32.48	-	-	P	H
		128.82	24.68	-18.82	43.5	38.23	17.34	1.56	32.45	-	-	P	H
		214.95	30.54	-12.96	43.5	46.11	15.04	1.78	32.39	-	-	P	H
		409.9	25.31	-20.69	46	32.85	22.11	2.69	32.34	-	-	P	H
		720	31.25	-14.75	46	33.27	26.86	3.53	32.41	-	-	P	H
		948.9	33.51	-12.49	46	30.22	30.51	3.99	31.21	100	0	P	H
		35.4	31.27	-8.73	40	41.63	21.31	0.82	32.49	-	-	P	V
		40.8	33.86	-6.14	40	46.84	18.68	0.83	32.49	100	271	P	V
		45.93	33.47	-6.53	40	48.8	16.14	1.02	32.49	-	-	P	V
		437.9	26.01	-19.99	46	32.86	22.76	2.74	32.35	-	-	P	V
		568.8	29.39	-16.61	46	32.91	25.8	3.12	32.44	-	-	P	V
		949.6	34.4	-11.6	46	31.05	30.56	3.99	31.2	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.065	64.6	-9.4	74	54.78	27.13	16.29	33.6	108	244	P	H
		2390	52.39	-1.61	54	42.56	27.13	16.29	33.59	108	244	A	H
	*	2412	110.22	-	-	100.33	27.18	16.3	33.59	108	244	P	H
	*	2412	102.66	-	-	92.77	27.18	16.3	33.59	108	244	A	H
		2389.275	63.96	-10.04	74	54.14	27.13	16.29	33.6	200	323	P	V
		2390	52.58	-1.42	54	42.75	27.13	16.29	33.59	200	323	A	V
	*	2412	111.39	-	-	101.5	27.18	16.3	33.59	200	323	P	V
	*	2412	103.76	-	-	93.87	27.18	16.3	33.59	200	323	A	V
802.11g CH 06 2437MHz		2388.08	57.66	-16.34	74	47.84	27.13	16.29	33.6	118	244	P	H
		2389.52	47.69	-6.31	54	37.87	27.13	16.29	33.6	118	244	A	H
	*	2437	112.21	-	-	102.22	27.27	16.31	33.59	118	244	P	H
	*	2437	104.93	-	-	94.94	27.27	16.31	33.59	118	244	A	H
		2483.6	57.48	-16.52	74	47.39	27.36	16.31	33.58	118	244	P	H
		2483.52	47.48	-6.52	54	37.39	27.36	16.31	33.58	118	244	A	H
		2390	62.54	-11.46	74	52.71	27.13	16.29	33.59	160	310	P	V
		2390	50.27	-3.73	54	40.44	27.13	16.29	33.59	160	310	A	V
	*	2437	114.39	-	-	104.4	27.27	16.31	33.59	160	310	P	V
	*	2437	106.86	-	-	96.87	27.27	16.31	33.59	160	310	A	V
		2483.6	58.71	-15.29	74	48.62	27.36	16.31	33.58	160	310	P	V
		2484.72	48.26	-5.74	54	38.16	27.36	16.32	33.58	160	310	A	V

802.11g CH 11 2462MHz	*	2462	110.51	-	-	100.47	27.31	16.31	33.58	127	246	P	H
	*	2462	103.12	-	-	93.08	27.31	16.31	33.58	127	246	A	H
		2483.55	61.6	-12.4	74	51.51	27.36	16.31	33.58	127	246	P	H
		2483.5	51.72	-2.28	54	41.63	27.36	16.31	33.58	127	246	A	H
	*	2462	112.24	-	-	102.2	27.31	16.31	33.58	171	309	P	V
	*	2462	104.28	-	-	94.24	27.31	16.31	33.58	171	309	A	V
		2484.6	63.08	-10.92	74	52.98	27.36	16.32	33.58	171	309	P	V
		2484.45	51.75	-2.25	54	41.65	27.36	16.32	33.58	171	309	A	V
802.11g CH 12 2467MHz	*	2467	110.11	-	-	100.07	27.31	16.31	33.58	211	239	P	H
	*	2467	102.47	-	-	92.43	27.31	16.31	33.58	211	239	A	H
		2485.56	63.47	-10.53	74	53.37	27.36	16.32	33.58	211	239	P	H
		2483.72	53.01	-0.99	54	42.92	27.36	16.31	33.58	211	239	A	H
	*	2467	111.03	-	-	100.99	27.31	16.31	33.58	298	0	P	V
	*	2467	103.34	-	-	93.3	27.31	16.31	33.58	298	0	A	V
		2487.08	64.26	-9.74	74	54.16	27.36	16.32	33.58	298	0	P	V
		2483.52	51.47	-2.53	54	41.38	27.36	16.31	33.58	298	0	A	V
802.11g CH 13 2472MHz	*	2472	108.06	-	-	97.97	27.36	16.31	33.58	211	239	P	H
	*	2472	100.83	-	-	90.74	27.36	16.31	33.58	211	239	A	H
		2486	62.35	-11.65	74	52.25	27.36	16.32	33.58	211	239	P	H
		2483.64	53.01	-0.99	54	42.92	27.36	16.31	33.58	211	239	A	H
	*	2472	109.33	-	-	99.24	27.36	16.31	33.58	298	0	P	V
	*	2472	101.68	-	-	91.59	27.36	16.31	33.58	298	0	A	V
		2486.96	60.88	-13.12	74	50.78	27.36	16.32	33.58	298	0	P	V
		2486.44	50.87	-3.13	54	40.77	27.36	16.32	33.58	298	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	41.21	-32.79	74	58.47	31.29	10.02	58.57	100	0	P	H
		4824	45.91	-28.09	74	63.17	31.29	10.02	58.57	100	0	P	V
802.11g CH 06 2437MHz		4874	45.33	-28.67	74	61.13	31.38	9.99	57.17	100	0	P	H
		7311	43.25	-30.75	74	52.47	36.28	11.77	57.27	100	0	P	H
		4874	49.28	-24.72	74	65.08	31.38	9.99	57.17	100	0	P	V
		7311	43.05	-30.95	74	52.27	36.28	11.77	57.27	100	0	P	V
802.11g CH 11 2462MHz		4924	44.29	-29.71	74	61.35	31.48	9.99	58.53	100	0	P	H
		7386	42.09	-31.91	74	52.66	36.47	11.68	58.72	100	0	P	H
		4924	46.54	-27.46	74	63.6	31.48	9.99	58.53	100	0	P	V
		7386	41.74	-32.26	74	52.31	36.47	11.68	58.72	100	0	P	V
802.11g CH 12 2467MHz		4934	44.69	-29.31	74	61.76	31.48	9.98	58.53	100	0	P	H
		7401	40.82	-33.18	74	51.35	36.51	11.66	58.7	100	0	P	H
		4934	47.14	-26.86	74	64.21	31.48	9.98	58.53	100	0	P	V
		7401	41.07	-32.93	74	51.6	36.51	11.66	58.7	100	0	P	V
802.11g CH 13 2472MHz		4944	42.32	-31.68	74	59.35	31.51	9.98	58.52	100	0	P	H
		7416	41.7	-32.3	74	52.2	36.51	11.69	58.7	100	0	P	H
		4944	46.44	-27.56	74	63.47	31.51	9.98	58.52	100	0	P	V
		7416	40.93	-33.07	74	51.43	36.51	11.69	58.7	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		2389.905	65	-9	74	55.17	27.13	16.29	33.59	218	242	P	H
		2390	53.31	-0.69	54	43.48	27.13	16.29	33.59	218	242	A	H
802.11n	*	2412	108.1	-	-	98.21	27.18	16.3	33.59	218	242	P	H
HT20	*	2412	101.1	-	-	91.21	27.18	16.3	33.59	218	242	A	H
CH 01		2389.8	61.38	-12.62	74	51.55	27.13	16.29	33.59	300	69	P	V
2412MHz		2390	50.88	-3.12	54	41.05	27.13	16.29	33.59	300	69	A	V
	*	2412	109.16	-	-	99.27	27.18	16.3	33.59	300	69	P	V
	*	2412	101.8	-	-	91.91	27.18	16.3	33.59	300	69	A	V
		2388.24	59.26	-14.74	74	49.44	27.13	16.29	33.6	216	235	P	H
		2390	50.19	-3.81	54	40.36	27.13	16.29	33.59	216	235	A	H
	*	2437	112.77	-	-	102.78	27.27	16.31	33.59	216	235	P	H
	*	2437	105.63	-	-	95.64	27.27	16.31	33.59	216	235	A	H
802.11n		2484.08	60.83	-13.17	74	50.74	27.36	16.31	33.58	216	235	P	H
HT20		2485.04	50.53	-3.47	54	40.43	27.36	16.32	33.58	216	235	A	H
CH 06		2388.88	61.55	-12.45	74	51.73	27.13	16.29	33.6	295	3	P	V
2437MHz		2389.52	49.97	-4.03	54	40.15	27.13	16.29	33.6	295	3	A	V
	*	2437	112.91	-	-	102.92	27.27	16.31	33.59	295	3	P	V
	*	2437	105.73	-	-	95.74	27.27	16.31	33.59	295	3	A	V
		2485.76	62.75	-11.25	74	52.65	27.36	16.32	33.58	295	3	P	V
		2484.32	51.1	-2.9	54	41	27.36	16.32	33.58	295	3	A	V

	*	2462	110.25	-	-	100.21	27.31	16.31	33.58	204	234	P	H
	*	2462	103.12	-	-	93.08	27.31	16.31	33.58	204	234	A	H
802.11n		2484.25	64.33	-9.67	74	54.23	27.36	16.32	33.58	204	234	P	H
HT20		2483.5	53.36	-0.64	54	43.27	27.36	16.31	33.58	204	234	A	H
CH 11	*	2462	111.43	-	-	101.39	27.31	16.31	33.58	297	0	P	V
2462MHz	*	2462	104.14	-	-	94.1	27.31	16.31	33.58	297	0	A	V
		2484.25	63.44	-10.56	74	53.34	27.36	16.32	33.58	297	0	P	V
		2484	52.85	-1.15	54	42.76	27.36	16.31	33.58	297	0	A	V
	*	2467	108.6	-	-	98.56	27.31	16.31	33.58	209	238	P	H
	*	2467	101.31	-	-	91.27	27.31	16.31	33.58	209	238	A	H
802.11n		2484.8	63.45	-10.55	74	53.35	27.36	16.32	33.58	209	238	P	H
HT20		2483.52	53.43	-0.57	54	43.34	27.36	16.31	33.58	209	238	A	H
CH 12	*	2467	109.16	-	-	99.12	27.31	16.31	33.58	293	2	P	V
2467MHz	*	2467	102.15	-	-	92.11	27.31	16.31	33.58	293	2	A	V
		2483.96	62.3	-11.7	74	52.21	27.36	16.31	33.58	293	2	P	V
		2484.56	52.83	-1.17	54	42.73	27.36	16.32	33.58	293	2	A	V
	*	2472	105.33	-	-	95.24	27.36	16.31	33.58	210	283	P	H
	*	2472	98.13	-	-	88.04	27.36	16.31	33.58	210	283	A	H
802.11n		2483.52	63.32	-10.68	74	53.23	27.36	16.31	33.58	210	283	P	H
HT20		2483.52	53.28	-0.72	54	43.19	27.36	16.31	33.58	210	283	A	H
CH 13	*	2472	108.78	-	-	98.69	27.36	16.31	33.58	300	0	P	V
2472MHz	*	2472	101.28	-	-	91.19	27.36	16.31	33.58	300	0	A	V
		2484.32	63.18	-10.82	74	53.08	27.36	16.32	33.58	300	0	P	V
		2483.8	52.06	-1.94	54	41.97	27.36	16.31	33.58	300	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	40.83	-33.17	74	58.09	31.29	10.02	58.57	100	0	P	H
		4824	45.77	-28.23	74	63.03	31.29	10.02	58.57	100	0	P	V
802.11n HT20 CH 06 2437MHz		4874	43.49	-30.51	74	60.67	31.38	9.99	58.55	100	0	P	H
		7311	41.01	-32.99	74	51.79	36.28	11.77	58.83	100	0	P	H
		4874	47.95	-26.05	74	65.13	31.38	9.99	58.55	100	0	P	V
		7311	41.32	-32.68	74	52.1	36.28	11.77	58.83	100	0	P	V
802.11n HT20 CH 11 2462MHz		4924	46.08	-27.92	74	63.14	31.48	9.99	58.53	100	0	P	H
		7386	41.53	-32.47	74	52.1	36.47	11.68	58.72	100	0	P	H
		4924	47.28	-26.72	74	64.34	31.48	9.99	58.53	100	0	P	V
		7386	40.36	-33.64	74	50.93	36.47	11.68	58.72	100	0	P	V
802.11n HT20 CH 12 2467MHz		4934	43.17	-30.83	74	60.24	31.48	9.98	58.53	100	0	P	H
		7401	41.38	-32.62	74	51.91	36.51	11.66	58.7	100	0	P	H
		4934	47.07	-26.93	74	64.14	31.48	9.98	58.53	100	0	P	V
		7401	41.61	-32.39	74	52.14	36.51	11.66	58.7	100	0	P	V
802.11n HT20 CH 13 2472MHz		4944	42.08	-31.92	74	59.11	31.51	9.98	58.52	100	0	P	H
		7416	41.06	-32.94	74	51.56	36.51	11.69	58.7	100	0	P	H
		4944	44.62	-29.38	74	61.65	31.51	9.98	58.52	100	0	P	V
		7416	41.1	-32.9	74	51.6	36.51	11.69	58.7	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 LF		30.54	22.38	-17.62	40	30.34	23.7	0.84	32.5	-	-	P	H
		91.29	28.89	-14.61	43.5	45.41	14.72	1.24	32.48	-	-	P	H
		214.95	30.18	-13.32	43.5	45.75	15.04	1.78	32.39	-	-	P	H
		427.4	25.59	-20.41	46	32.63	22.62	2.68	32.34	-	-	P	H
		748.7	29.55	-16.45	46	30.51	27.8	3.57	32.33	-	-	P	H
		948.9	33.42	-12.58	46	30.13	30.51	3.99	31.21	100	0	P	H
		36.21	31.05	-8.95	40	41.41	21.31	0.82	32.49	-	-	P	V
		40.8	34.15	-5.85	40	47.13	18.68	0.83	32.49	-	-	P	V
		46.47	34.41	-5.59	40	50.16	15.72	1.02	32.49	100	166	P	V
		472.2	24.86	-21.14	46	31.08	23.34	2.81	32.37	-	-	P	V
		567.4	28.72	-17.28	46	32.2	25.83	3.12	32.43	-	-	P	V
		956.6	33.4	-12.6	46	29.55	30.92	4.07	31.14	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is **over limit** line.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) =

Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.

Appendix D. Radiated Spurious Emission Plots

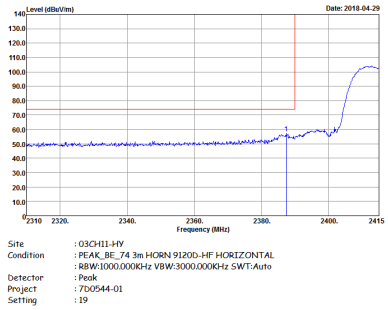
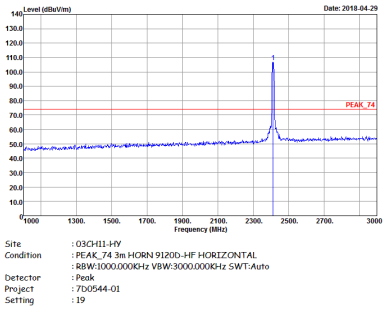
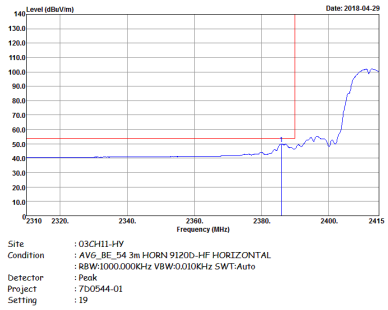
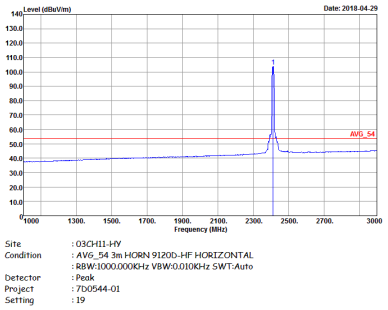
Test Engineer :	Hao Hsu, Chuan Zhu, and Ken Wu	**Temperature :**	22~25°C
		Relative Humidity :	52~57%

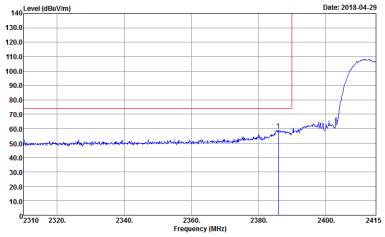
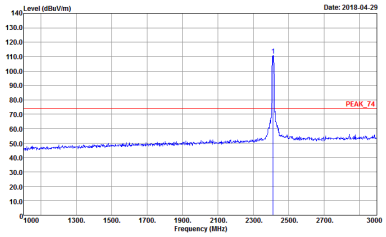
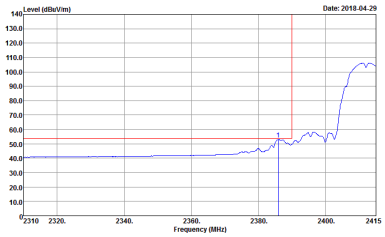
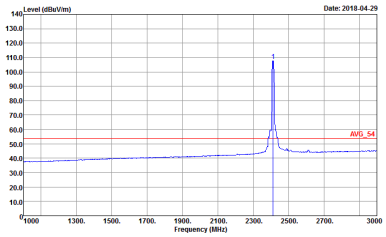
Note symbol

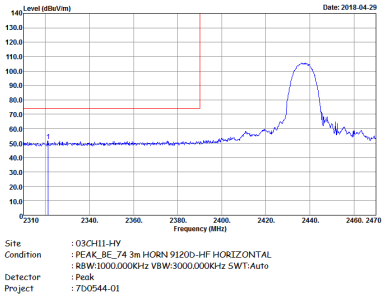
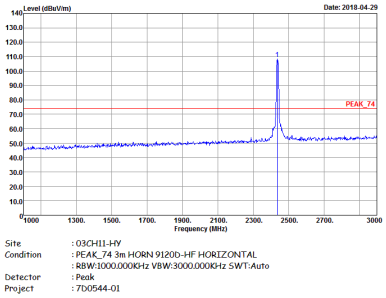
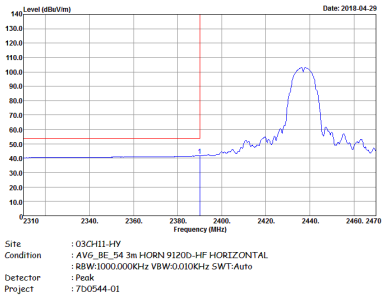
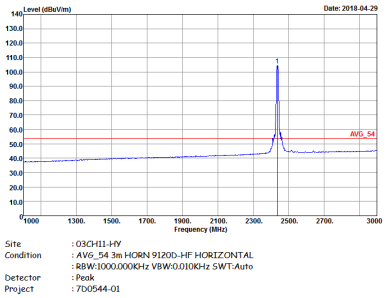
-L	**Low channel location**
-R	**High channel location**

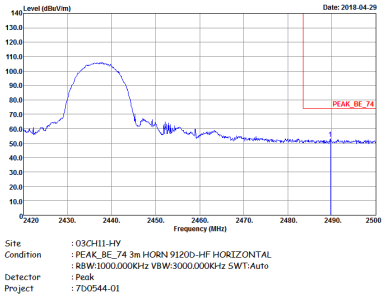
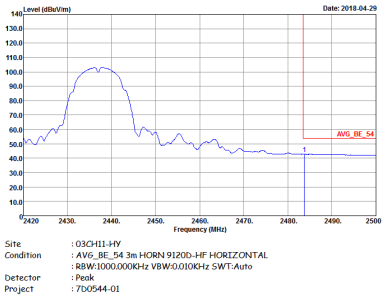
2.4GHz 2400~2483.5MHz

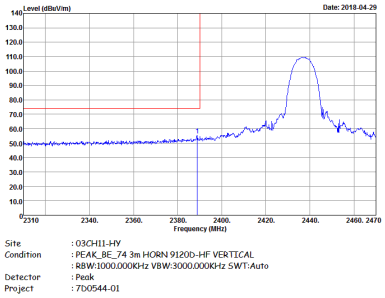
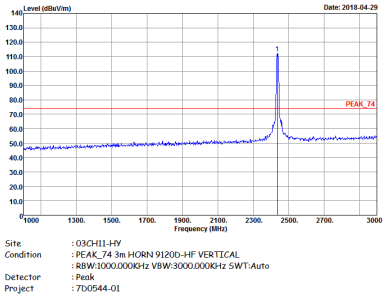
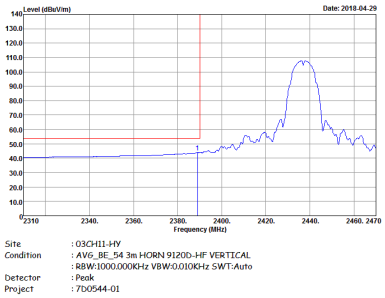
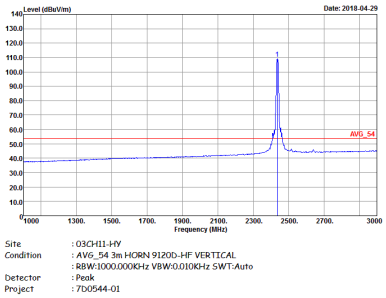
WIFI 802.11b (Band Edge @ 3m)

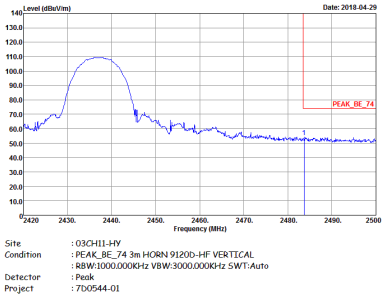
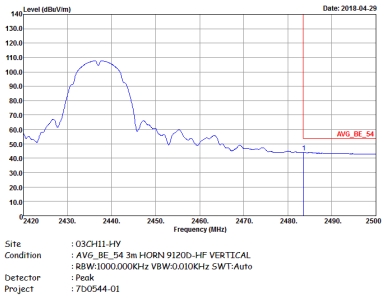
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

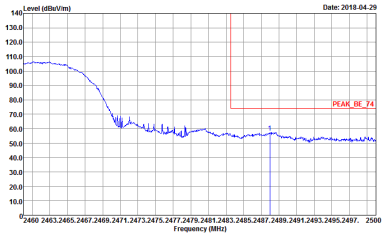
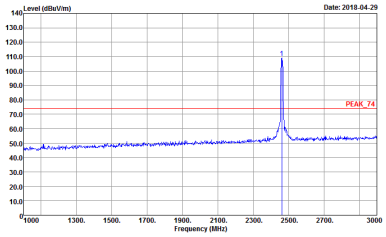
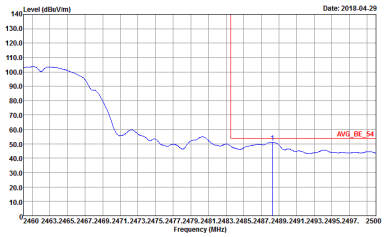
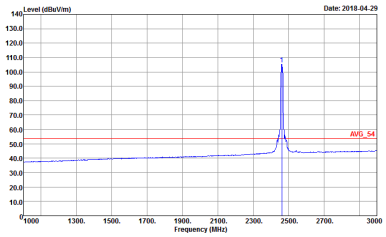
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 19	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 19
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 19	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 19

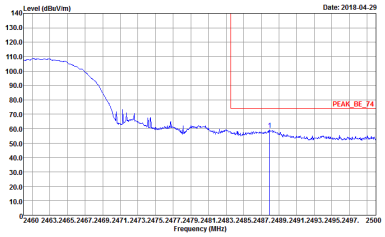
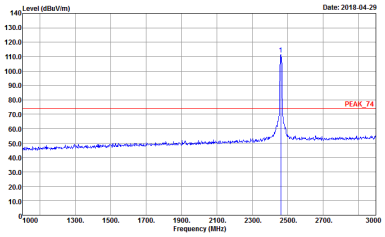
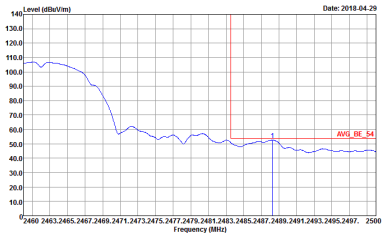
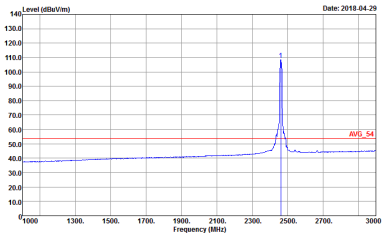
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		

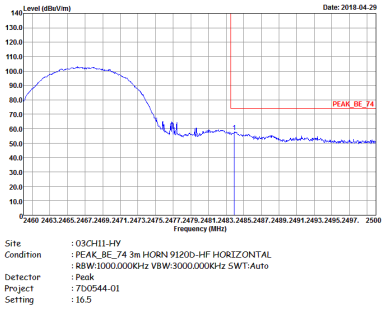
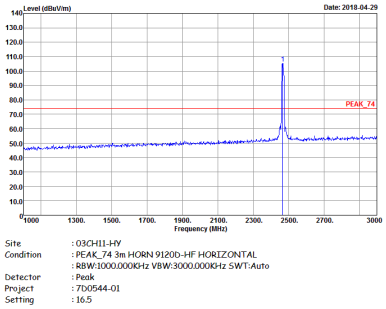
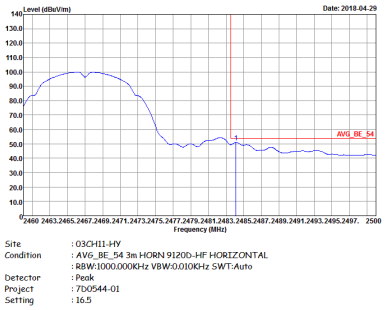
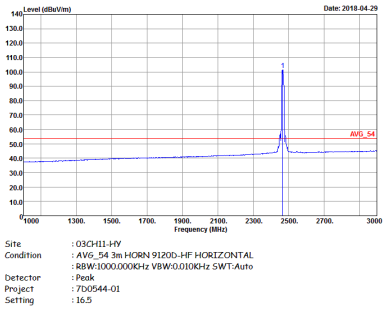
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

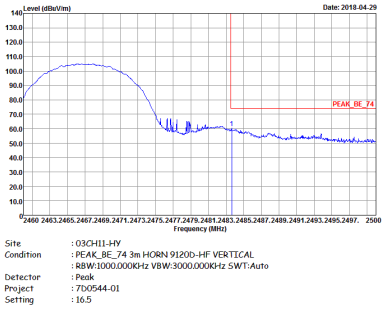
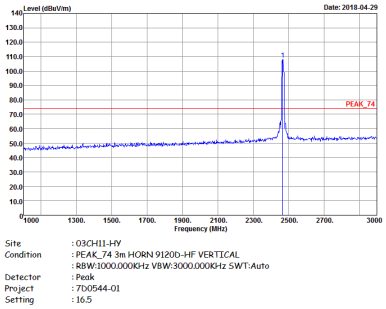
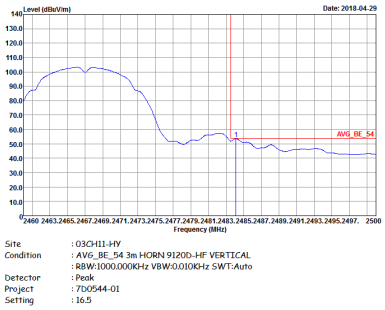
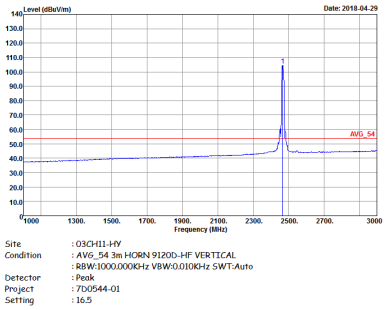
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 19.5	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 19.5
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 19.5	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 19.5

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 19.5	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 19.5
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 19.5	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 19.5

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH12 2467MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 16.5	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 16.5
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 16.5	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 16.5

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH12 2467MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 16.5	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 16.5
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 16.5	 Site : 03CH11-HY Condition : AVG_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak Project : 7D0544-01 Setting : 16.5