FCC RF Test Report

APPLICANT	:	ZTE CORPORATION
EQUIPMENT	:	Outdoor Wireless AP
BRAND NAME	:	ZTE
MODEL NAME	:	ZXV10 W615 V3
FCC ID	:	Q78-ZXW3614B
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	(DTS) Digital Transmission System

The product was received on Jul. 25, 2014 and testing was completed on Nov. 27, 2014. We, SPORTON INTERNATIONAL (SHENZHEN) 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 (SHENZHEN) INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory
2353

SPORTON INTERNATIONAL (SHENZHEN) INC.
1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town,
Nanshan District, Shenzhen, Guangdong, P. R. China

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR472505A	Rev. 01	Initial issue of report	Mar. 20, 2015

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	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	Under limit 1.17 dB at 2483.500 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 5.76 dB at 0.370 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

ZTE CORPORATION

NO.55. Hi-tec Road South, Shenzhen, P.R.China Postcode:518057

1.2 Manufacturer

ZTE CORPORATION

NO.55. Hi-tec Road South, Shenzhen, P.R.China Postcode:518057

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Outdoor Wireless AP
Brand Name	ZTE
Model Name	ZXV10 W615 V3
FCC ID	Q78-ZXW3614B
EUT supports Radios application	WLAN 2.4GHz 802.11b/g/n (HT20/HT40) WLAN 5GHz 802.11a/n (HT20/HT40)
HW Version	V3.0
SW Version	V2.0
EUT Stage	Production Unit

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification subjective to this standard

<table>
<tr><th colspan="2">Product Specification subjective to this standard</th></tr>
<tr><td>Tx/Rx Channel Frequency Range</td><td>2412 MHz ~ 2462 MHz</td></tr>
<tr><td>Maximum (Peak) Output Power to antenna</td><td>802.11b : 25.20 dBm (0.3311 W)
802.11g : 29.73 dBm (0.9397 W)
802.11n HT20 : 27.24 dBm (0.5297 W)
802.11n HT40 : 24.22 dBm (0.2642 W)</td></tr>
<tr><td>Antenna Type / Gain</td><td>WLAN for Chain Port 0:
N-type Dipole Antenna with gain 1.20 dBi
WLAN for Chain Port 1:
N-type Dipole Antenna with gain 1.20 dBi</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>
<tr><td>Antenna Function for Transmitter</td><td>
<table>
<tr><td></td><td>Chain
Port 0</td><td>Chain
Port 1</td></tr>
<tr><td>802.11 b/g/n
SISO</td><td>V</td><td>V</td></tr>
<tr><td>802.11 b/g/n
MIMO</td><td>V</td><td>V</td></tr>
</table>
</td></tr>
</table>

1.5 Modification of EUT

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

1.6 Testing Location

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.	
Test Site Location	1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595	
Test Site No.	**Sporton Site No.**	
	TH01-SZ	CO01-SZ

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.	
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755- 3320-2398	
Test Site No.	**Sporton Site No.**	**FCC Registration No.**
	03CH01-SZ	831040

1.7 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 v03r02
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.4-2003

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

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: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

2.1 Carrier Frequency and Channel

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

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test shown in the following tables.

WLAN 2.4GHz 802.11b Average Power (dBm)							
Power vs. Channel				Power vs. Data Rate			
Channel	Frequency (MHz)	Chain Port	Data Rate 1Mbps	Channel	2Mbps	5.5Mbps	11Mbps
CH 01	2412	0	**22.42**	CH 01	22.38	22.29	22.27
CH 06	2437	0	22.38				
CH 11	2462	0	22.40				
CH 01	2412	1	21.76	CH 06	22.08	22.07	22.10
CH 06	2437	1	**22.12**				
CH 11	2462	1	21.78				
CH 01	2412	0+1(0)	22.08	CH 11	22.31	22.31	22.32
CH 06	2437	0+1(0)	22.24				
CH 11	2462	0+1(0)	**22.36**				
CH 01	2412	0+1(1)	21.65	CH 11	21.96	21.95	21.98
CH 06	2437	0+1(1)	21.95				
CH 11	2462	0+1(1)	**22.02**				
CH 01	2412	0+1	24.88	CH 11	25.15	25.14	25.16
CH 06	2437	0+1	25.11				
CH 11	2462	0+1	**25.20**				

WLAN 2.4GHz 802.11g Average Power (dBm)											
Power vs. Channel				Power vs. Data Rate							
Channel	Frequency (MHz)	Chain Port	Data Rate 6Mbps	Channel	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
CH 01	2412	0	26.81	CH 11	27.11	27.08	27.06	27.04	27.11	27.09	27.05
CH 06	2437	0	26.95								
CH 11	2462	0	**27.12**								
CH 01	2412	1	26.19	CH 06	26.11	26.08	26.10	26.11	26.16	26.17	26.19
CH 06	2437	1	**26.47**								
CH 11	2462	1	26.12								
CH 01	2412	0+1(0)	26.65	CH 11	26.71	26.69	26.64	26.71	26.70	26.69	26.71
CH 06	2437	0+1(0)	26.71								
CH 11	2462	0+1(0)	**26.75**								
CH 01	2412	0+1(1)	26.46	CH 11	25.90	25.99	26.01	26.03	26.07	26.09	26.10
CH 06	2437	0+1(1)	16.57								
CH 11	2462	0+1(1)	**26.68**								
CH 01	2412	0+1	29.57	CH 11	29.33	29.36	29.35	29.39	29.41	29.41	29.43
CH 06	2437	0+1	27.11								
CH 11	2462	0+1	**29.73**								

WLAN 2.4GHz 802.11n HT20 Average Power (dBm)											
Power vs. Channel				Power vs. Data Rate							
Channel	Frequency (MHz)	Chain Port	Data Rate MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412	0	24.44	CH 11	24.65	24.63	24.58	24.66	24.65	24.68	24.66
CH 06	2437	0	24.57								
CH 11	2462	0	**24.70**								
CH 01	2412	1	23.65	CH 06	23.98	23.97	23.92	23.93	23.89	23.96	23.95
CH 06	2437	1	**24.01**								
CH 11	2462	1	23.75								
CH 01	2412	0+1(0)	24.00	CH 11	24.28	24.25	24.34	24.28	24.29	24.31	24.29
CH 06	2437	0+1(0)	24.13								
CH 11	2462	0+1(0)	**24.35**								
CH 01	2412	0+1(1)	23.85	CH 11	24.05	24.03	24.08	24.09	24.09	24.10	24.04
CH 06	2437	0+1(1)	23.79								
CH 11	2462	0+1(1)	**24.11**								
CH 01	2412	0+1	26.94	CH 11	27.18	27.15	27.22	27.20	27.20	27.22	27.18
CH 06	2437	0+1	26.97								
CH 11	2462	0+1	**27.24**								

WLAN 2.4GHz 802.11n HT40 Average Power (dBm)											
Power vs. Channel				Power vs. Data Rate							
Channel	Frequency (MHz)	Chain Port	Data Rate MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 03	2422	0	**21.44**	CH 03	21.43	20.02	19.63	19.69	19.51	19.15	19.17
CH 06	2437	0	21.26								
CH 09	2452	0	21.12								
CH 03	2422	1	**21.22**	CH 03	19.45	19.50	19.17	19.15	19.08	19.05	19.12
CH 06	2437	1	21.12								
CH 09	2452	1	20.89								
CH 03	2422	0+1(0)	**21.26**	CH 03	19.85	19.76	19.57	19.26	19.11	19.18	19.05
CH 06	2437	0+1(0)	21.04								
CH 09	2452	0+1(0)	20.86								
CH 03	2422	0+1(1)	**21.15**	CH 03	19.52	19.65	19.04	18.98	19.03	19.08	19.05
CH 06	2437	0+1(1)	20.77								
CH 09	2452	0+1(1)	20.75								
CH 03	2422	0+1	**24.22**	CH 03	22.70	22.72	22.32	22.13	22.08	22.14	22.06
CH 06	2437	0+1	23.92								
CH 09	2452	0+1	23.82								

Note: Chain Port 0+1 is a calculated result from sum of the power Chain Port 0+1(0) and Chain Port 0+1(1).

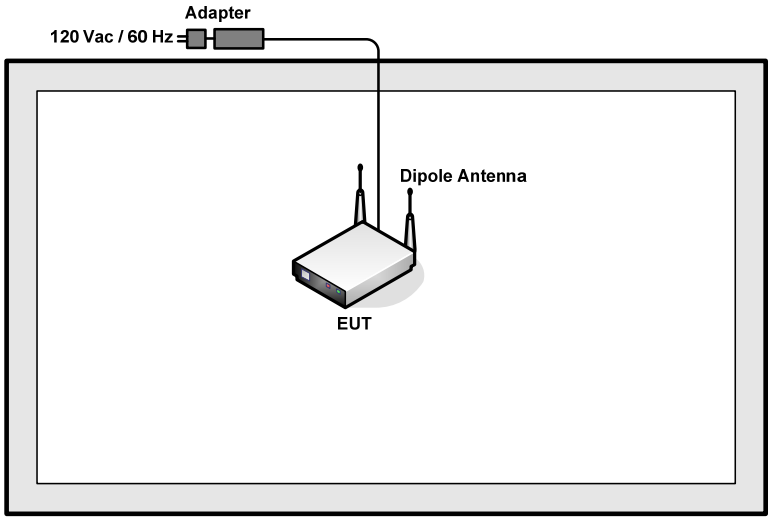
2.3 Test Mode

Final results of test modes, data rates and test channels are shown as following table.

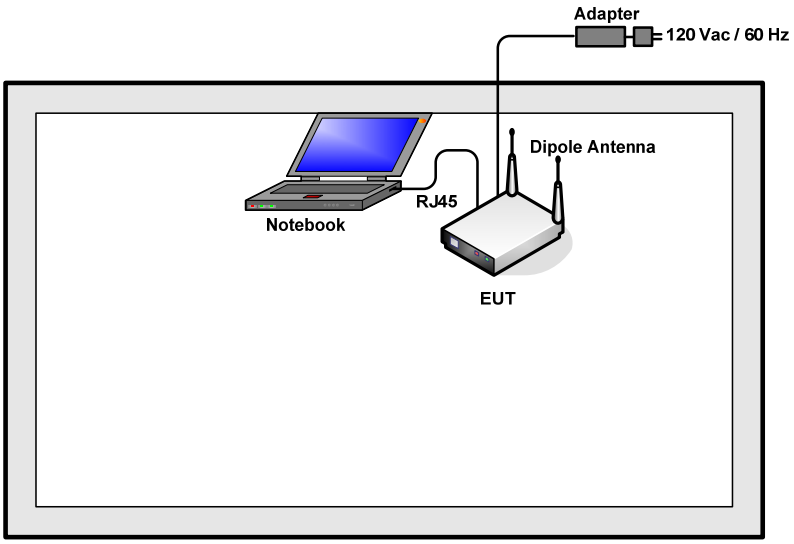
Test Cases				
	Test Items	**Mode**	**Data Rate**	**Test Channel**
Conducted TCs	**6dB BW Power Spectral Density**	**802.11b**	**1 Mbps**	**1/6/11**
		802.11g	**6 Mbps**	**1/6/11**
		802.11n HT20	**MCS0**	**1/6/11**
		802.11n HT40	**MCS0**	**3/6/9**
	Output Power	**802.11b**	**1 Mbps**	**1/6/11**
		802.11g	**6 Mbps**	**1/6/11**
		802.11n HT20	**MCS0**	**1/6/11**
		802.11n HT40	**MCS0**	**3/6/9**
	Conducted Band Edge	**802.11b**	**1 Mbps**	**1/11**
		802.11g	**6 Mbps**	**1/11**
		802.11n HT20	**MCS0**	**1/11**
		802.11n HT40	**MCS0**	**3/9**
	Conducted Spurious Emission	**802.11b**	**1 Mbps**	**1/6/11**
		802.11g	**6 Mbps**	**1/6/11**
		802.11n HT20	**MCS0**	**1/6/11**
		802.11n HT40	**MCS0**	**3/6/9**
Radiated TCs	**Radiated Band Edge**	**802.11b**	**1 Mbps**	**1/11**
		802.11g	**6 Mbps**	**1/11**
		802.11n HT20	**MCS0**	**1/11**
		802.11n HT40	**MCS0**	**3/9**
	Radiated Spurious Emission	**802.11b**	**1 Mbps**	**1/6/11**
		802.11g	**6 Mbps**	**1/6/11**
		802.11n HT20	**MCS0**	**1/6/11**
		802.11n HT40	**MCS0**	**3/6/9**
AC Conducted Emission	Mode 1 :WLAN (2.4GHz) Link + LAN Link + Adapter			
Remark: For Radiated TCs, the tests were performed with adapter.				

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	Lenovo	G480	PRC4	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
2.	Adapter	ZTE	RD4800850-C55-CMG	FCC DoC	N/A	Unshielded,1.8m
3.	Dipole Antenna	N/A	N/A	N/A	N/A	N/A

2.6 EUT Operation Test Setup

For WLAN function, the engineering test program was provided and enabled to make EUT continuous transmit/receive.

For AC power line conducted emissions, the EUT was set to connect with the Notebook under large package sizes transmission.

2.7 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 5.0 dB and 10dB attenuator.

Offset (dB) = RF cable loss (dB) + attenuator factor (dB).
= 5.0 + 10 = 15.0 (dB)

3 Test Result

3.1 6dB Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

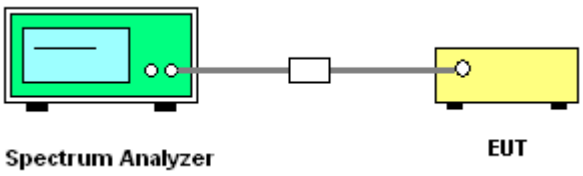
3.1.2 Measuring Instruments

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 v03r02.
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. Measure and record the results in the test report.

3.1.4 Test Setup

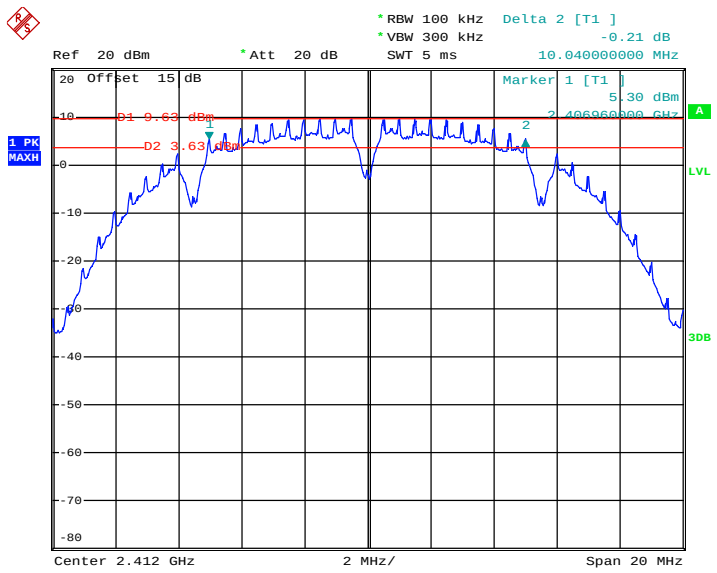


3.1.5 Test Result of 6dB Bandwidth

Test Band :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Mygai Mo	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	6dB Bandwidth (MHz)		6dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Chain Port 0	Chain Port 1		
11b	1Mbps	1	1	2412	10.08	10.04	0.5	Pass
11b	1Mbps	1	6	2437	10.04	10.08	0.5	Pass
11b	1Mbps	1	11	2462	10.04	10.08	0.5	Pass
11g	6Mbps	1	1	2412	16.36	16.36	0.5	Pass
11g	6Mbps	1	6	2437	16.36	16.32	0.5	Pass
11g	6Mbps	1	11	2462	16.32	16.32	0.5	Pass
HT20	MCS0	1	1	2412	17.56	17.60	0.5	Pass
HT20	MCS0	1	6	2437	17.56	17.60	0.5	Pass
HT20	MCS0	1	11	2462	17.32	17.36	0.5	Pass
HT40	MCS0	1	3	2422	36.32	36.48	0.5	Pass
HT40	MCS0	1	6	2437	36.36	36.40	0.5	Pass
HT40	MCS0	1	9	2452	36.28	36.40	0.5	Pass
11b	1Mbps	2	1	2412	10.04	10.08	0.5	Pass
11b	1Mbps	2	6	2437	10.04	10.08	0.5	Pass
11b	1Mbps	2	11	2462	10.08	10.08	0.5	Pass
11g	6Mbps	2	1	2412	16.32	16.36	0.5	Pass
11g	6Mbps	2	6	2437	16.36	16.34	0.5	Pass
11g	6Mbps	2	11	2462	16.32	16.32	0.5	Pass
HT20	MCS0	2	1	2412	17.54	17.54	0.5	Pass
HT20	MCS0	2	6	2437	17.58	17.52	0.5	Pass
HT20	MCS0	2	11	2462	17.28	17.54	0.5	Pass
HT40	MCS0	2	3	2422	36.32	36.40	0.5	Pass
HT40	MCS0	2	6	2437	36.32	36.32	0.5	Pass
HT40	MCS0	2	9	2452	36.12	36.44	0.5	Pass

Minimum 6dB Bandwidth



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

3.2 Peak Output Power Measurement

3.2.1 Limit of Peak 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.

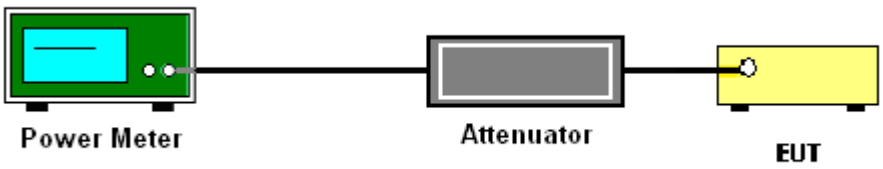
3.2.2 Measuring Instruments

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 v03r02.
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

Test Band :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Mygai Mo	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Max. Limit (dBm)		DG (dBi)		Pass/Fail
					Chain Port 0	Chain Port 1	SUM	Chain Port 0	Chain Port 1	Chain Port 0	Chain Port 1	
11b	1Mbps	1	1	2412	22.42	21.76	-	30.00	30.00	1.20	1.20	Pass
11b	1Mbps	1	6	2437	22.38	22.12		30.00	30.00	1.20	1.20	Pass
11b	1Mbps	1	11	2462	22.40	21.78		30.00	30.00	1.20	1.20	Pass
11g	6Mbps	1	1	2412	26.81	26.19		30.00	30.00	1.20	1.20	Pass
11g	6Mbps	1	6	2437	26.95	26.47		30.00	30.00	1.20	1.20	Pass
11g	6Mbps	1	11	2462	27.12	26.12		30.00	30.00	1.20	1.20	Pass
HT20	MCS0	1	1	2412	24.44	23.65		30.00	30.00	1.20	1.20	Pass
HT20	MCS0	1	6	2437	24.57	24.01		30.00	30.00	1.20	1.20	Pass
HT20	MCS0	1	11	2462	24.70	23.75		30.00	30.00	1.20	1.20	Pass
HT40	MCS0	1	3	2422	21.44	21.22		30.00	30.00	1.20	1.20	Pass
HT40	MCS0	1	6	2437	21.26	21.12		30.00	30.00	1.20	1.20	Pass
HT40	MCS0	1	9	2452	21.12	20.89		30.00	30.00	1.20	1.20	Pass
11b	1Mbps	2	1	2412	22.08	21.65	24.88	30.00		1.20		Pass
11b	1Mbps	2	6	2437	22.24	21.95	25.11	30.00		1.20		Pass
11b	1Mbps	2	11	2462	22.36	22.02	25.20	30.00		1.20		Pass
11g	6Mbps	2	1	2412	26.65	26.46	29.57	30.00		1.20		Pass
11g	6Mbps	2	6	2437	26.71	16.57	27.11	30.00		1.20		Pass
11g	6Mbps	2	11	2462	26.75	26.68	29.73	30.00		1.20		Pass
HT20	MCS0	2	1	2412	24.00	23.85	26.94	30.00		1.20		Pass
HT20	MCS0	2	6	2437	24.13	23.79	26.97	30.00		1.20		Pass
HT20	MCS0	2	11	2462	24.35	24.11	27.24	30.00		1.20		Pass
HT40	MCS0	2	3	2422	21.26	21.15	24.22	30.00		1.20		Pass
HT40	MCS0	2	6	2437	21.04	20.77	23.92	30.00		1.20		Pass
HT40	MCS0	2	9	2452	20.86	20.75	23.82	30.00		1.20		Pass

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

3.2.6 Test Result of Average output Power (Reporting Only)

Test Band :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Mygai Mo	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Chain Port 0	Chain Port 1	Chain Port 0	Chain Port 1	Sum Power
11b	1Mbps	1	1	2412	0.02	0.02	20.26	19.45	-
11b	1Mbps	1	6	2437	0.02	0.02	20.20	19.94	
11b	1Mbps	1	11	2462	0.02	0.02	20.19	19.65	
11g	6Mbps	1	1	2412	0.16	0.16	16.76	15.91	
11g	6Mbps	1	6	2437	0.16	0.16	16.98	16.35	
11g	6Mbps	1	11	2462	0.16	0.16	17.07	16.02	
HT20	MCS0	1	1	2412	0.16	0.16	14.42	13.62	
HT20	MCS0	1	6	2437	0.16	0.16	14.63	13.88	
HT20	MCS0	1	11	2462	0.16	0.16	14.73	13.70	
HT40	MCS0	1	3	2422	0.26	0.26	9.33	8.96	
HT40	MCS0	1	6	2437	0.26	0.26	9.09	8.77	
HT40	MCS0	1	9	2452	0.26	0.26	8.98	8.59	
11b	1Mbps	2	1	2412	0.02	0.02	19.89	19.52	22.72
11b	1Mbps	2	6	2437	0.02	0.02	20.03	19.59	22.83
11b	1Mbps	2	11	2462	0.02	0.02	20.27	19.67	22.99
11g	6Mbps	2	1	2412	0.16	0.16	16.69	16.21	19.47
11g	6Mbps	2	6	2437	0.16	0.16	16.83	16.29	19.58
11g	6Mbps	2	11	2462	0.16	0.16	16.91	16.41	19.68
HT20	MCS0	2	1	2412	0.32	0.32	14.47	14.04	17.27
HT20	MCS0	2	6	2437	0.32	0.32	14.48	14.10	17.30
HT20	MCS0	2	11	2462	0.32	0.32	14.63	14.25	17.45
HT40	MCS0	2	3	2422	0.62	0.62	9.48	9.26	12.38
HT40	MCS0	2	6	2437	0.62	0.62	9.27	9.17	12.23
HT40	MCS0	2	9	2452	0.62	0.62	9.16	9.07	12.12

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

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 v03r02
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.

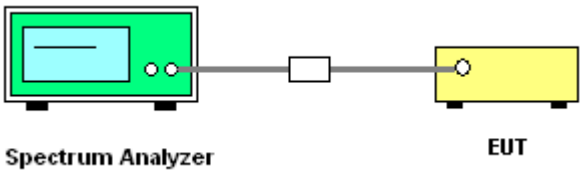
   If measurements performed using method (2) plus 10 log (N) exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

   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



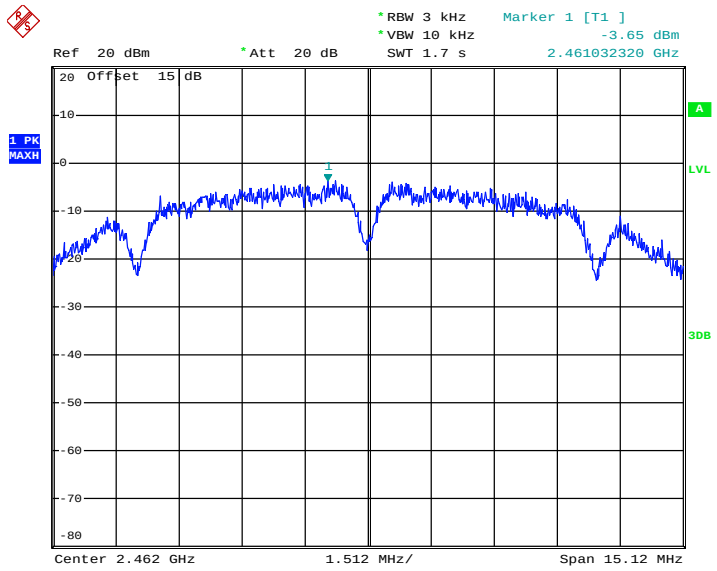
3.3.5 Test Result of Power Spectral Density

Test Band :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Mygai Mo	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Peak Power Density (dBm/3kHz)			Max. Limit (dBm/3kHz)		DG (dBi)		Pass/Fail
					Chain Port 0	Chain Port 1	Worst +10log(2)	Chain Port 0	Chain Port 1	Chain Port 0	Chain Port 1	
11b	1Mbps	1	1	2412	-4.61	-5.18	-	8.00	8.00	1.20	1.20	Pass
11b	1Mbps	1	6	2437	-3.68	-4.13		8.00	8.00	1.20	1.20	Pass
11b	1Mbps	1	11	2462	-3.10	-4.31		8.00	8.00	1.20	1.20	Pass
11g	6Mbps	1	1	2412	-8.66	-9.23		8.00	8.00	1.20	1.20	Pass
11g	6Mbps	1	6	2437	-8.78	-8.50		8.00	8.00	1.20	1.20	Pass
11g	6Mbps	1	11	2462	-8.53	-8.96		8.00	8.00	1.20	1.20	Pass
HT20	MCS0	1	1	2412	-10.55	-11.85		8.00	8.00	1.20	1.20	Pass
HT20	MCS0	1	6	2437	-10.87	-11.48		8.00	8.00	1.20	1.20	Pass
HT20	MCS0	1	11	2462	-10.48	-11.82		8.00	8.00	1.20	1.20	Pass
HT40	MCS0	1	3	2422	-19.70	-18.99		8.00	8.00	1.20	1.20	Pass
HT40	MCS0	1	6	2437	-19.19	-19.99		8.00	8.00	1.20	1.20	Pass
HT40	MCS0	1	9	2452	-19.56	-20.78		8.00	8.00	1.20	1.20	Pass
11b	1Mbps	2	1	2412	-4.42	-4.42	-1.41	8.00		4.21		Pass
11b	1Mbps	2	6	2437	-4.10	-5.02	-1.09	8.00		4.21		Pass
11b	1Mbps	2	11	2462	-3.65	-4.52	-0.64	8.00		4.21		Pass
11g	6Mbps	2	1	2412	-8.36	-9.72	-5.35	8.00		4.21		Pass
11g	6Mbps	2	6	2437	-8.03	-8.89	-5.02	8.00		4.21		Pass
11g	6Mbps	2	11	2462	-7.72	-9.10	-4.71	8.00		4.21		Pass
HT20	MCS0	2	1	2412	-10.59	-11.69	-7.58	8.00		4.21		Pass
HT20	MCS0	2	6	2437	-10.07	-11.17	-7.06	8.00		4.21		Pass
HT20	MCS0	2	11	2462	-9.81	-9.32	-6.31	8.00		4.21		Pass
HT40	MCS0	2	3	2422	-18.92	-18.51	-15.50	8.00		4.21		Pass
HT40	MCS0	2	6	2437	-19.69	-20.26	-16.68	8.00		4.21		Pass
HT40	MCS0	2	9	2452	-19.35	-18.12	-15.11	8.00		4.21		Pass

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

Worst Case Power Density (dBm/3kHz)



Date: 18.NOV.2014 19:21:09

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

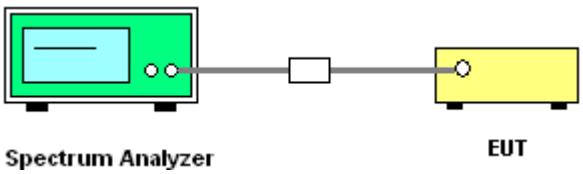
3.4.2 Measuring Instruments

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 v03r02.
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



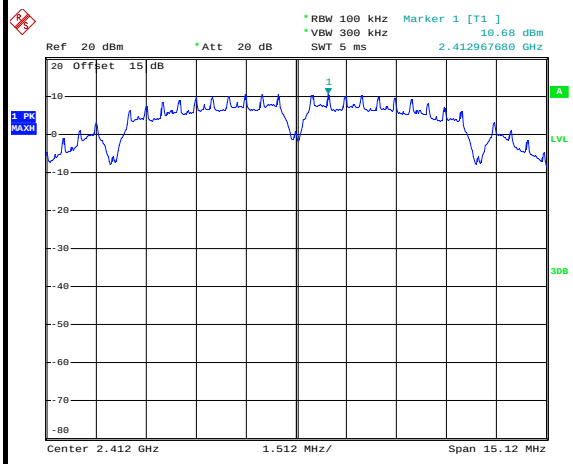
3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Number of TX = 1, Chain Port 0 (Measured)

Number of TX	1	**Chain Port:**	0
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Mygai Mo

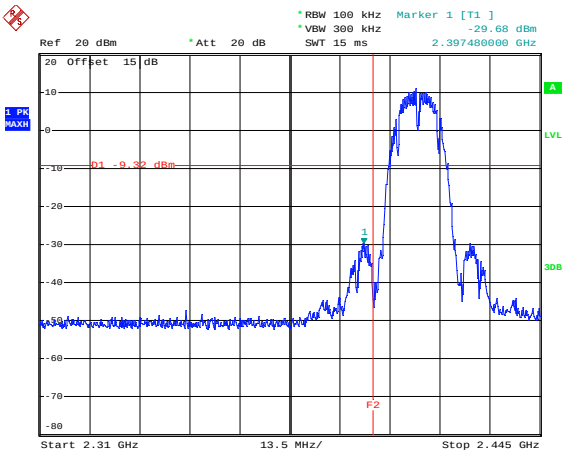
WLAN 802.11b Channel 01

100kHz PSD reference Level



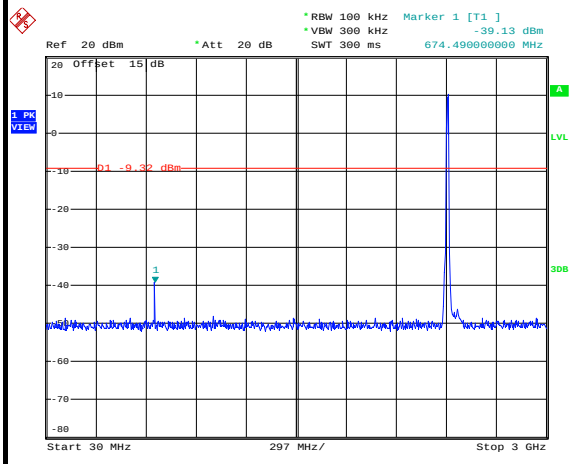
Date: 18.NOV.2014 14:38:52

Low Channel Plot



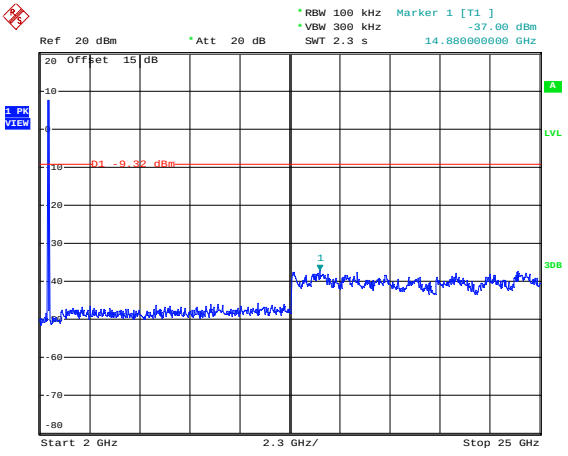
Date: 18.NOV.2014 14:39:13

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 14:45:09

Spurious Emission 2GHz~25GHz

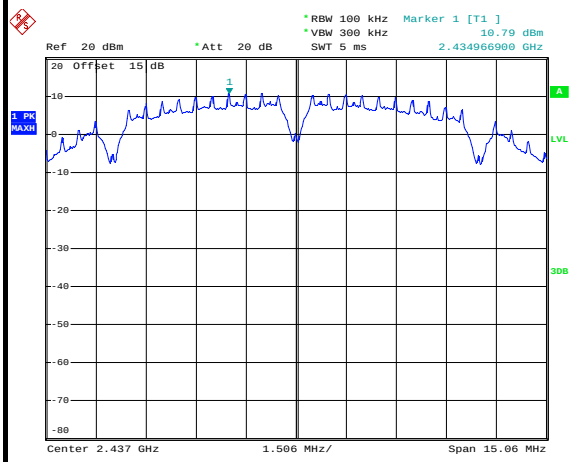


Date: 18.NOV.2014 14:45:27

Number of TX :	1	**Chain Port:**	0
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

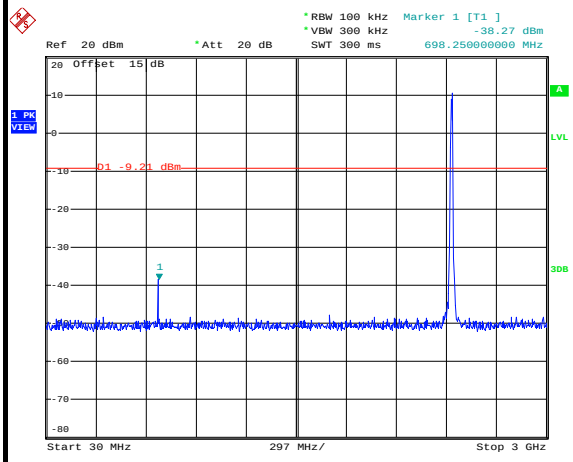
WLAN 802.11b Channel 06

100kHz PSD reference Level



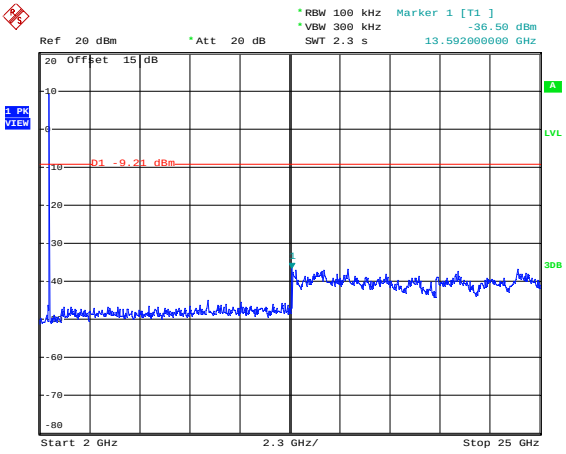
Date: 18.NOV.2014 14:59:51

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 15:01:19

Spurious Emission 2GHz~25GHz

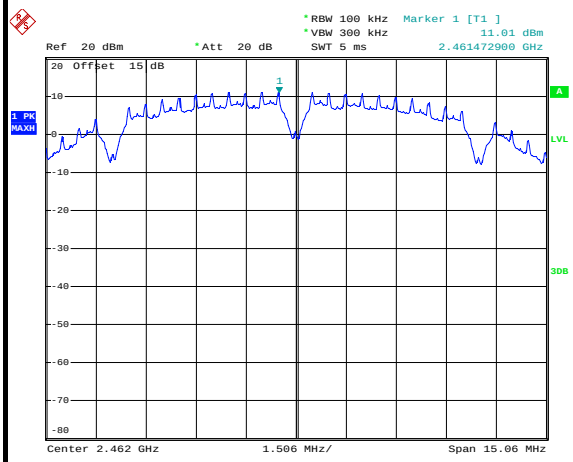


Date: 18.NOV.2014 15:01:37

Number of TX :	1	**Chain Port:**	0
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Mygai Mo

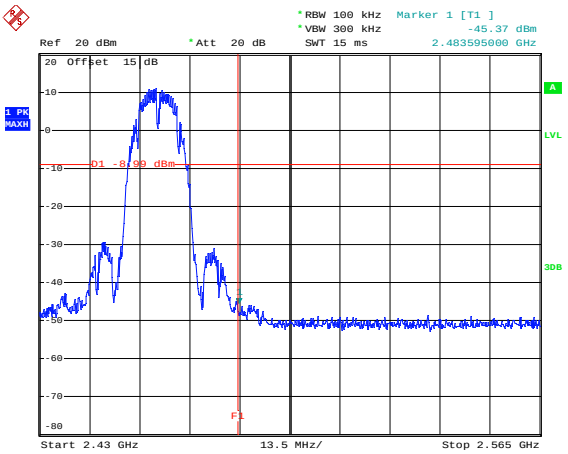
WLAN 802.11b Channel 11

100kHz PSD reference Level



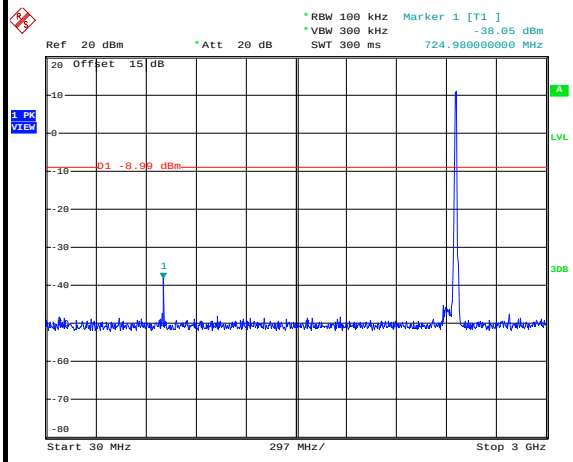
Date: 18.NOV.2014 15:06:08

High Channel Plot



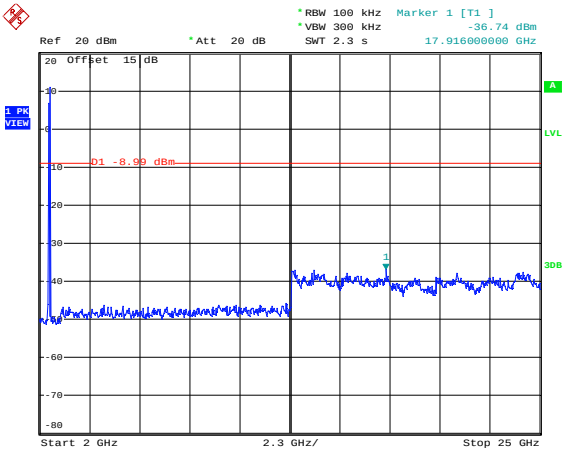
Date: 18.NOV.2014 15:06:44

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 15:07:47

Spurious Emission 2GHz~25GHz

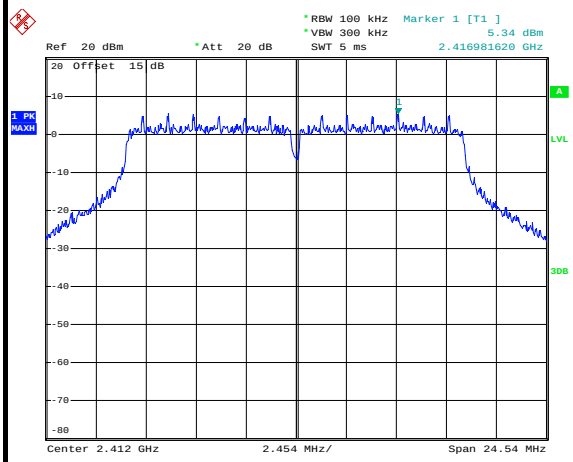


Date: 18.NOV.2014 15:08:05

Number of TX :	1	**Chain Port:**	0
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Mygai Mo

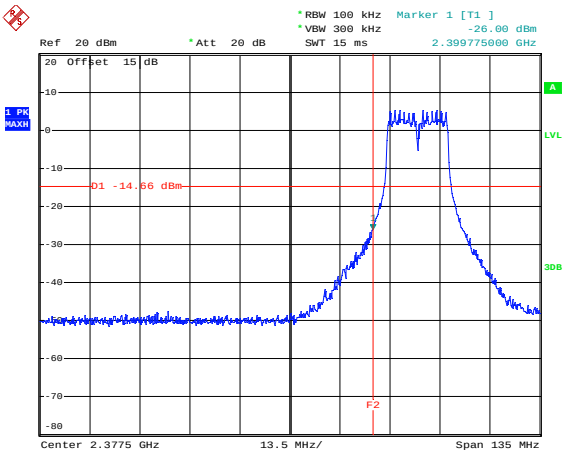
WLAN 802.11g Channel 01

100kHz PSD reference Level



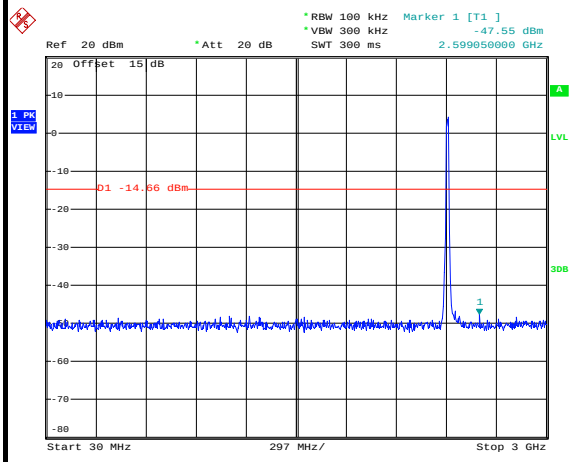
Date: 18.NOV.2014 15:14:19

Low Channel Plot



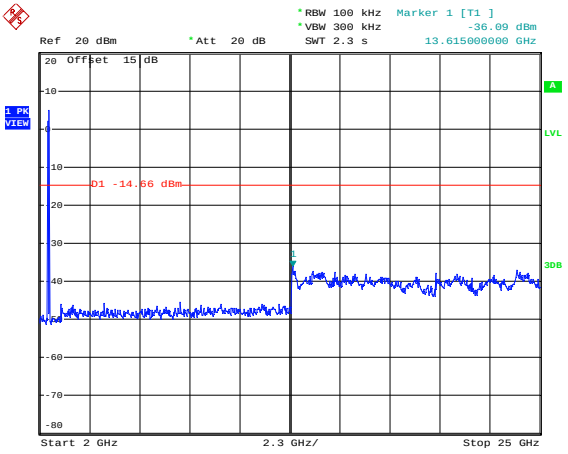
Date: 18.NOV.2014 15:20:04

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 15:20:29

Spurious Emission 2GHz~25GHz

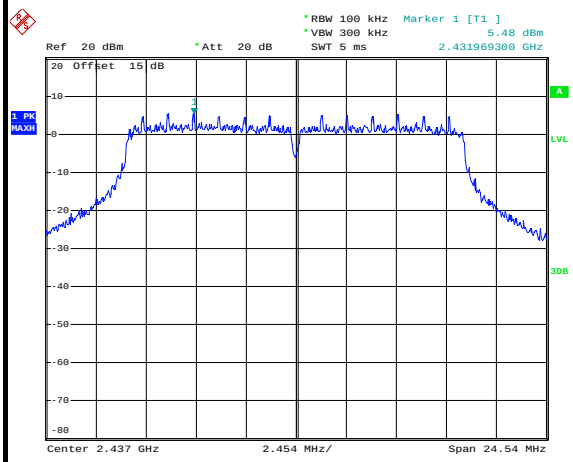


Date: 18.NOV.2014 15:20:47

Number of TX :	1	**Chain Port:**	0
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

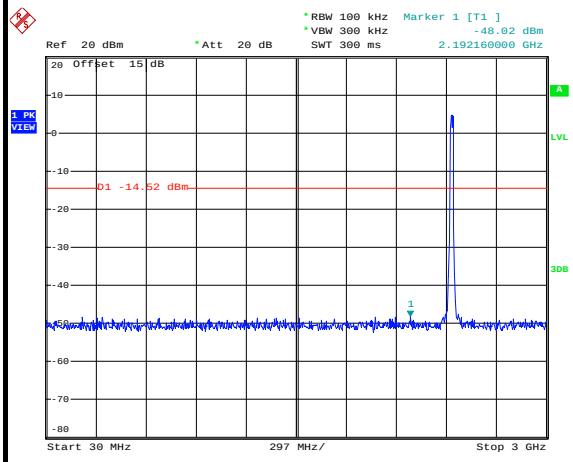
WLAN 802.11g Channel 06

100kHz PSD reference Level



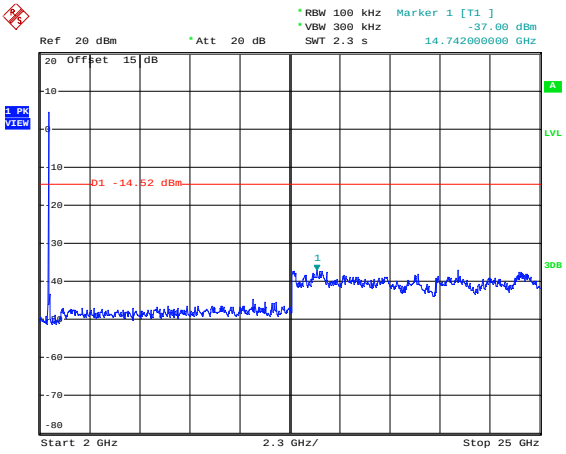
Date: 18.NOV.2014 15:27:31

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 15:28:06

Spurious Emission 2GHz~25GHz

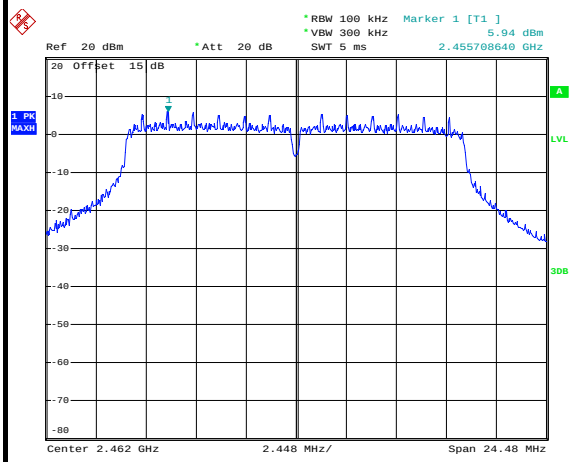


Date: 18.NOV.2014 15:28:24

Number of TX :	1	**Chain Port:**	0
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Mygai Mo

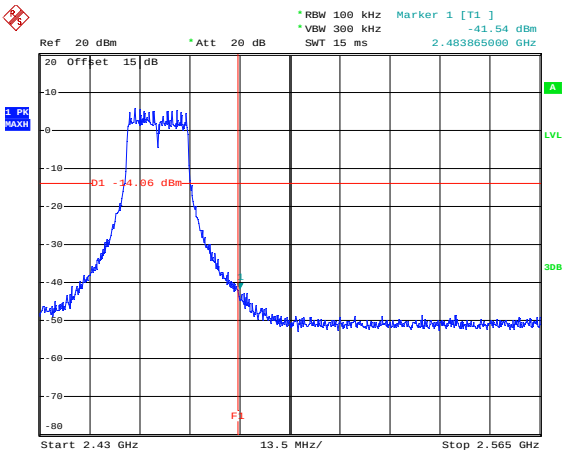
WLAN 802.11g Channel 11

100kHz PSD reference Level



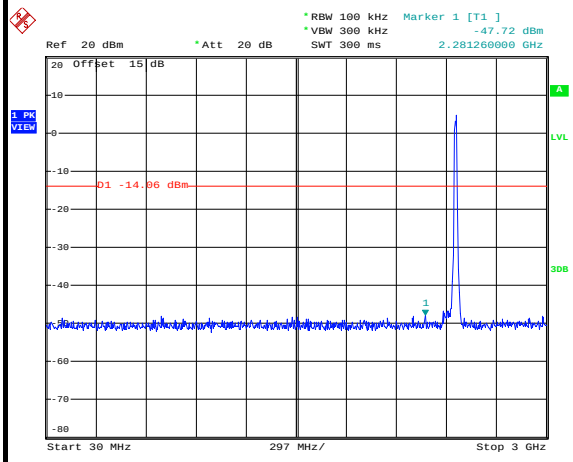
Date: 18.NOV.2014 15:33:27

High Channel Plot



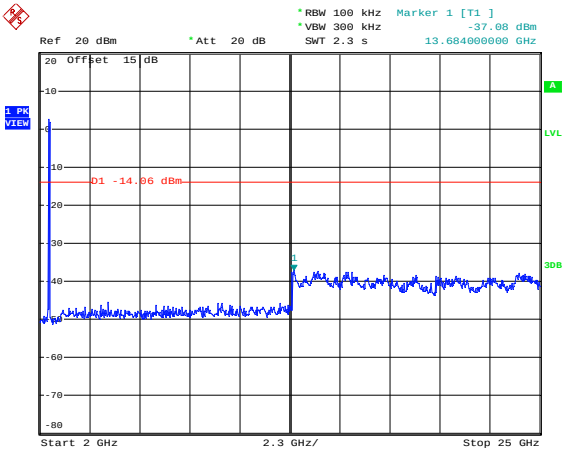
Date: 18.NOV.2014 15:33:47

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 15:34:22

Spurious Emission 2GHz~25GHz

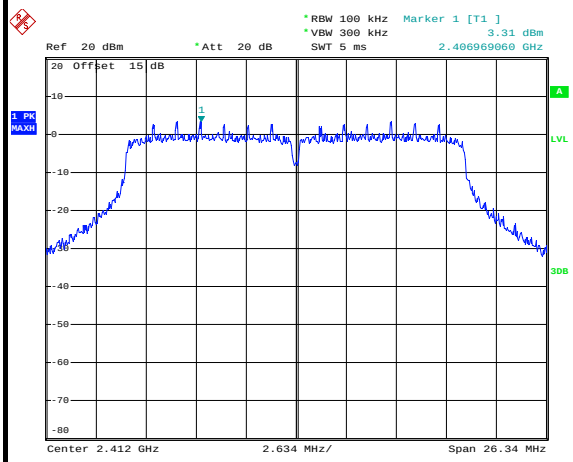


Date: 18.NOV.2014 15:34:40

Number of TX :	1	**Chain Port:**	0
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Mygai Mo

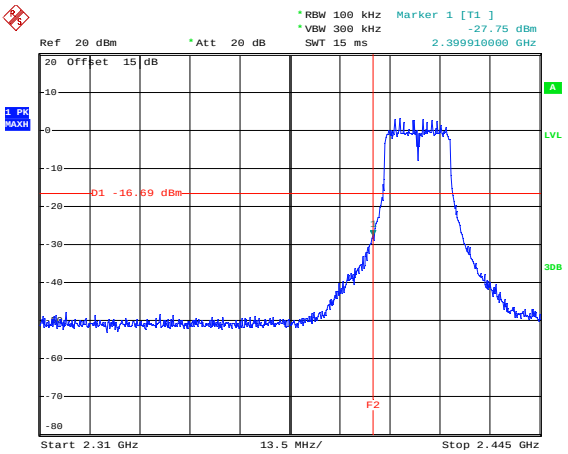
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



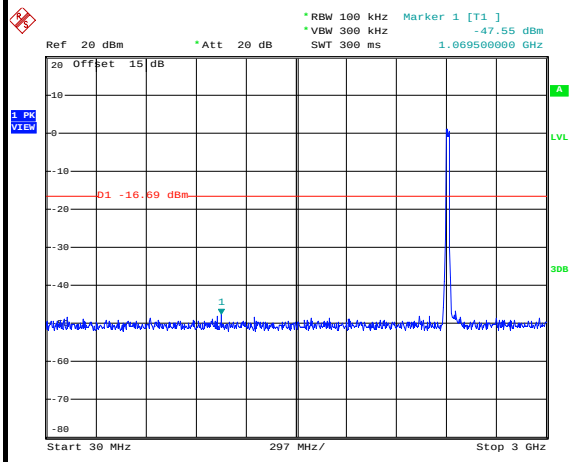
Date: 18.NOV.2014 15:50:17

Low Channel Plot



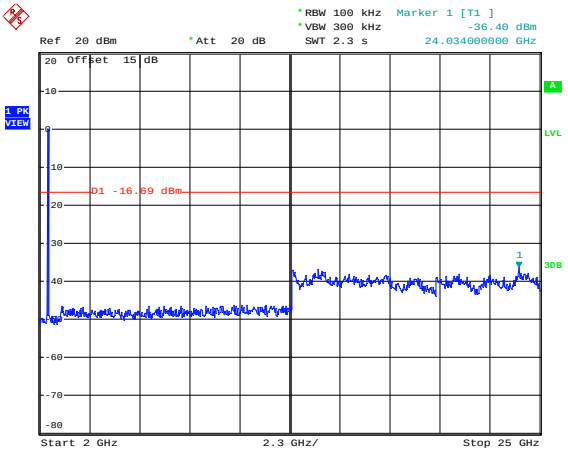
Date: 18.NOV.2014 15:50:36

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 15:51:06

Spurious Emission 2GHz~25GHz

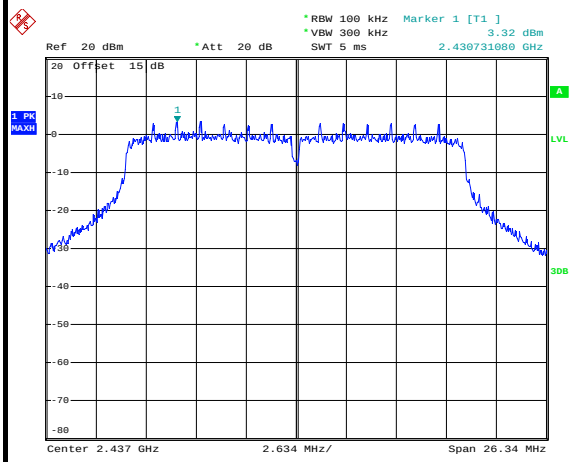


Date: 18.NOV.2014 15:51:24

Number of TX :	1	**Chain Port:**	0
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

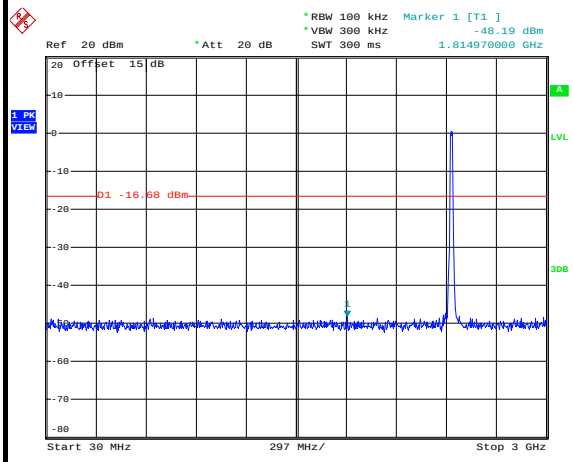
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



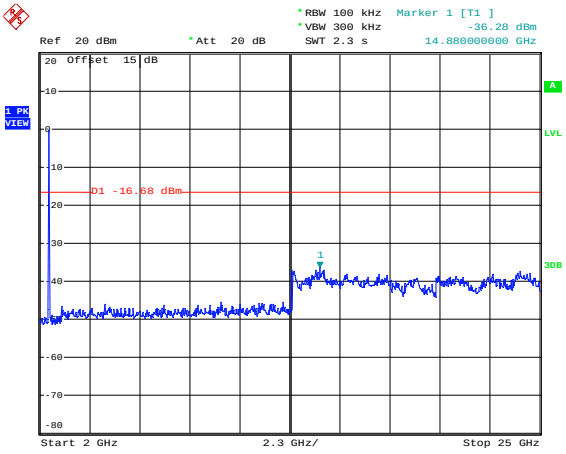
Date: 18.NOV.2014 15:57:41

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 15:58:18

Spurious Emission 2GHz~25GHz

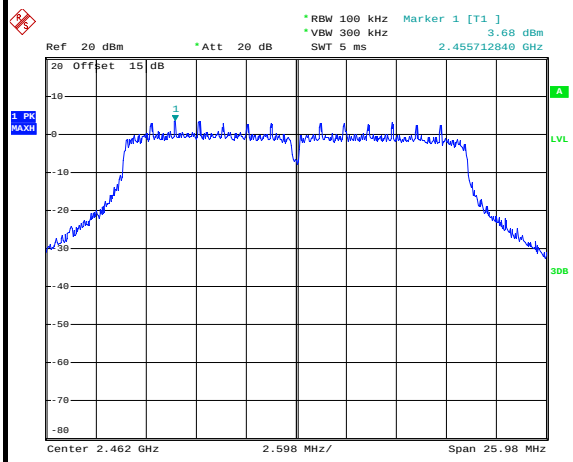


Date: 18.NOV.2014 15:58:36

Number of TX :	1	**Chain Port:**	0
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Mygai Mo

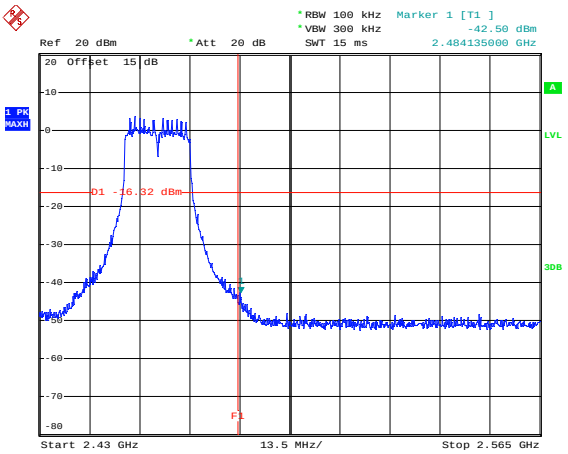
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



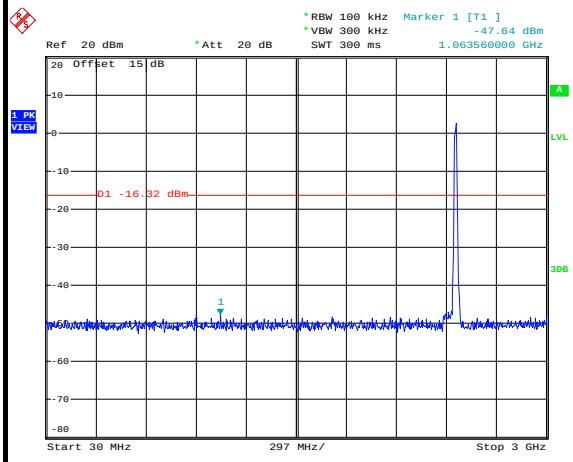
Date: 18.NOV.2014 16:04:43

High Channel Plot



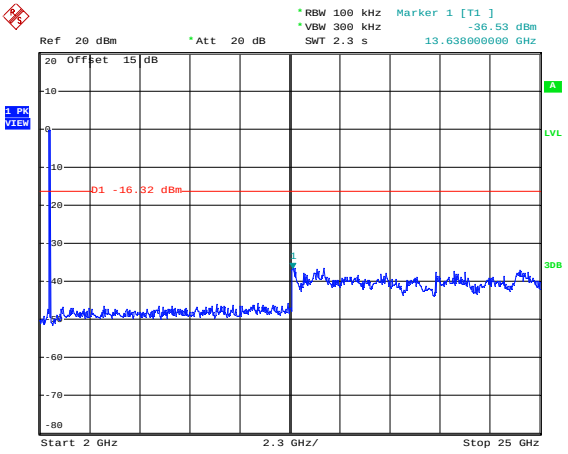
Date: 18.NOV.2014 16:06:09

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 16:06:43

Spurious Emission 2GHz~25GHz

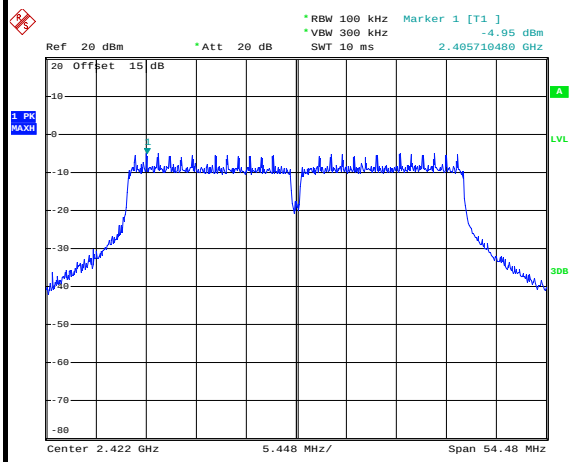


Date: 18.NOV.2014 16:07:01

Number of TX :	1	**Chain Port:**	0
Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	03	**Test Engineer :**	Mygai Mo

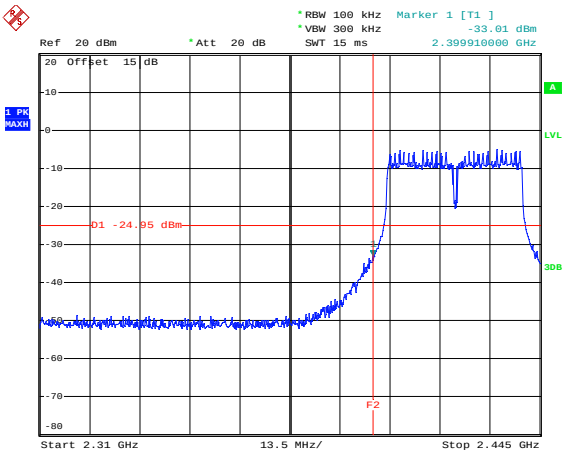
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



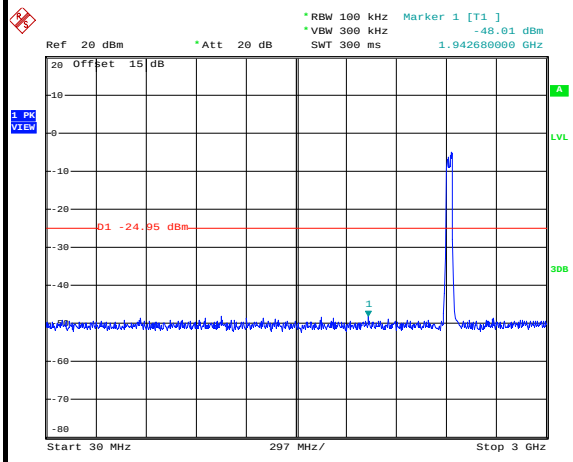
Date: 18.NOV.2014 16:22:10

Low Channel Plot



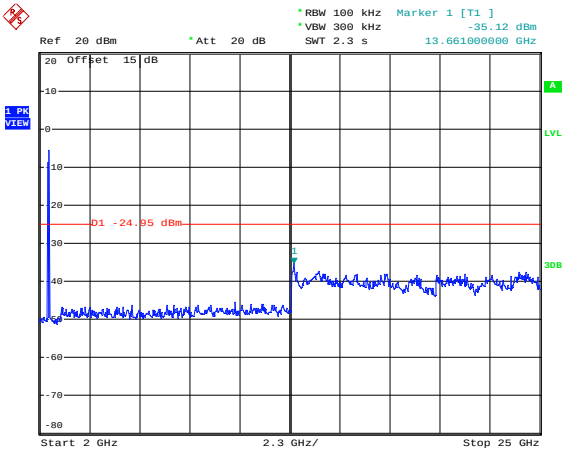
Date: 18.NOV.2014 16:23:03

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 16:23:29

Spurious Emission 2GHz~25GHz

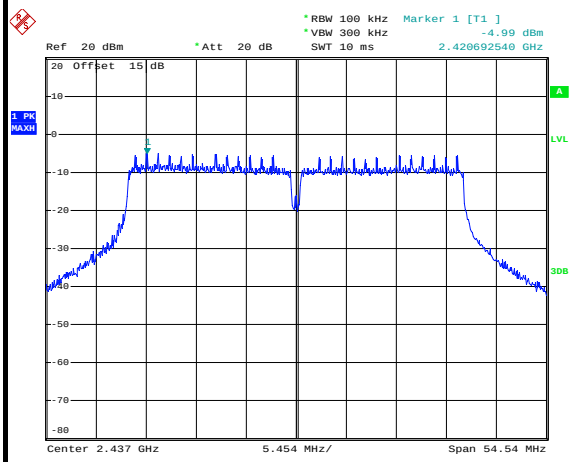


Date: 18.NOV.2014 16:23:47

Number of TX :	1	**Chain Port:**	0
Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

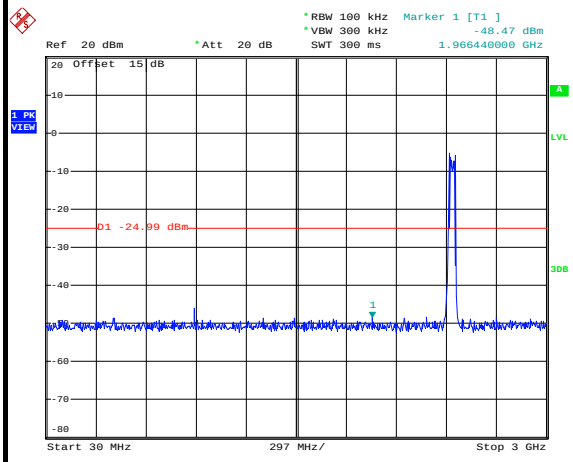
WLAN 802.11n HT40 Channel 06

100kHz PSD reference Level



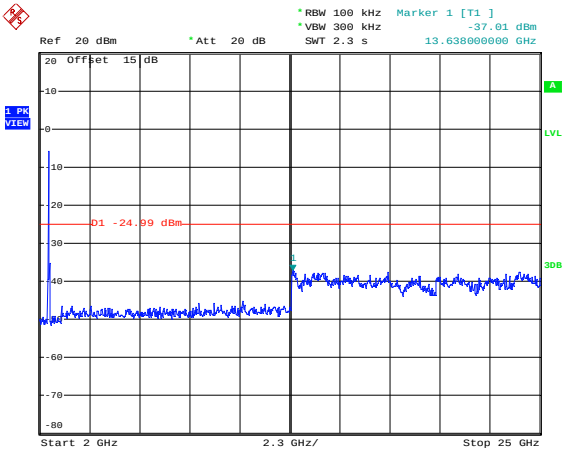
Date: 18.NOV.2014 16:29:56

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 16:35:00

Spurious Emission 2GHz~25GHz

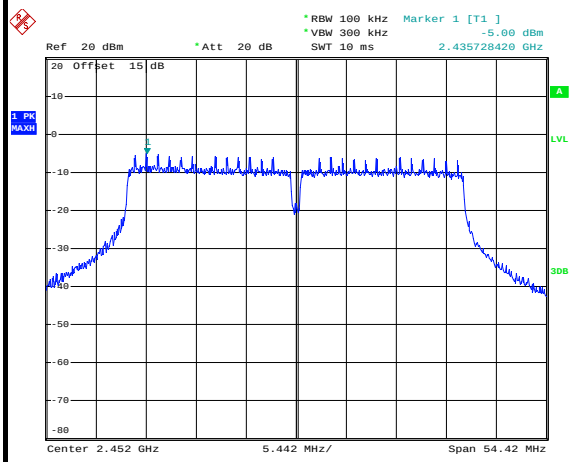


Date: 18.NOV.2014 16:33:09

Number of TX :	1	**Chain Port:**	0
Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	09	**Test Engineer :**	Mygai Mo

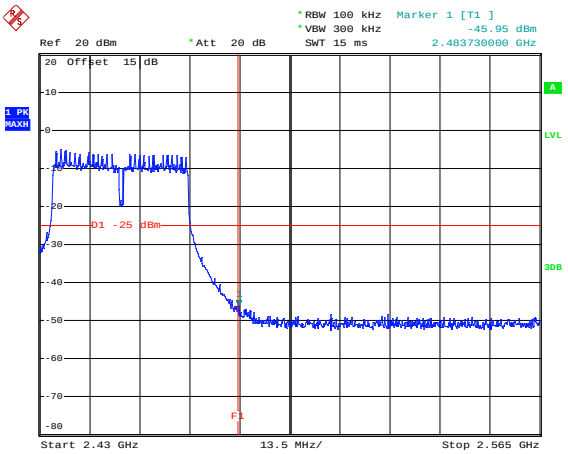
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



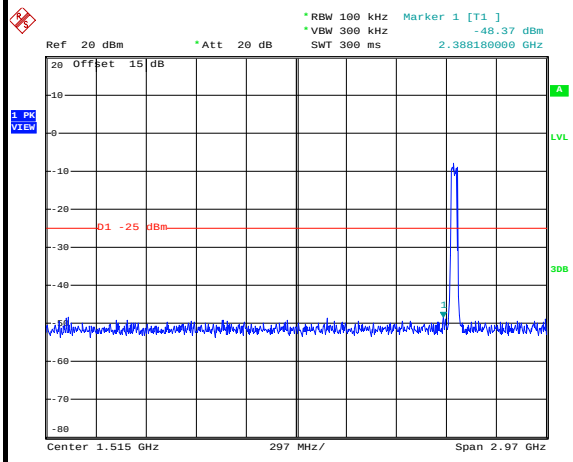
Date: 18.NOV.2014 16:43:46

High Channel Plot



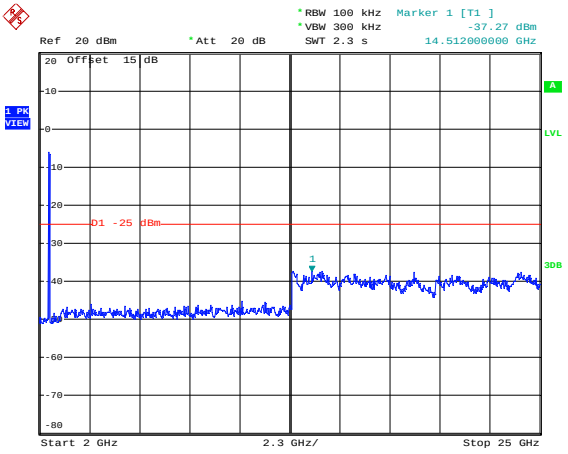
Date: 18.NOV.2014 16:44:14

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 16:46:27

Spurious Emission 2GHz~25GHz



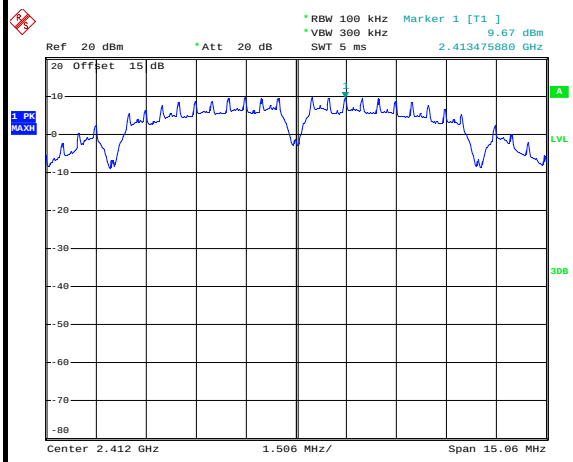
Date: 18.NOV.2014 16:46:45

Number of TX = 1, Chain Port 1 (Measured)

Number of TX :	1	**Chain Port:**	1
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Mygai Mo

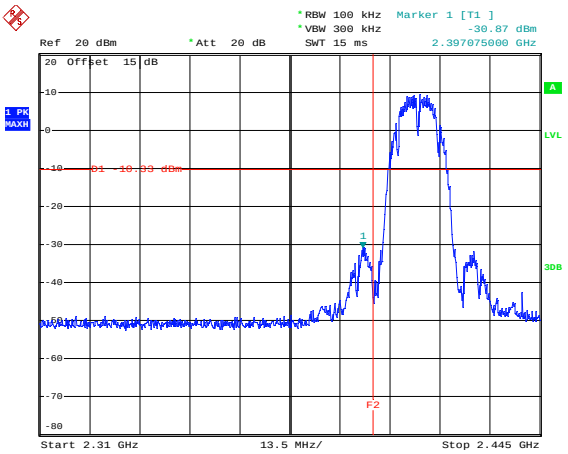
WLAN 802.11b Channel 01

100kHz PSD reference Level



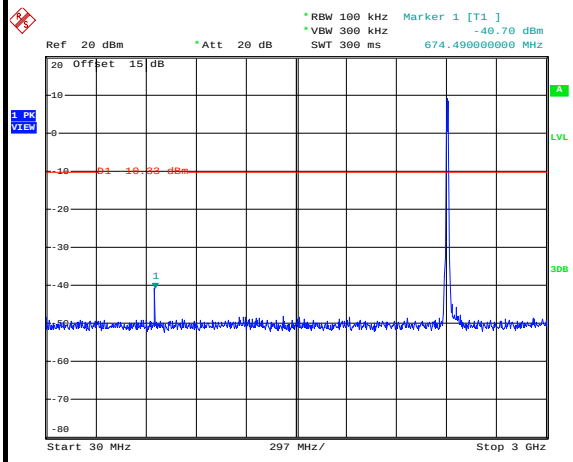
Date: 18.NOV.2014 19:41:20

Low Channel Plot



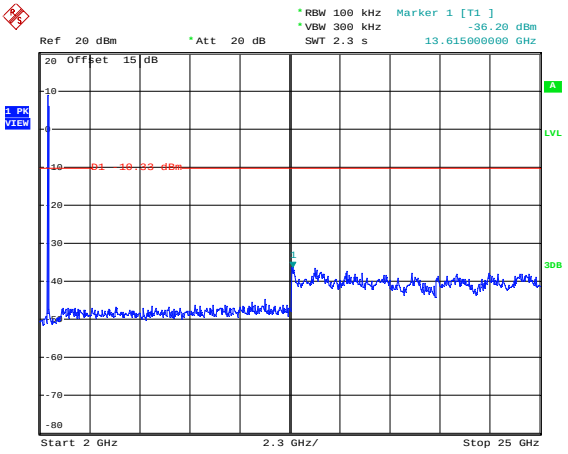
Date: 18.NOV.2014 19:41:38

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:42:03

Spurious Emission 2GHz~25GHz

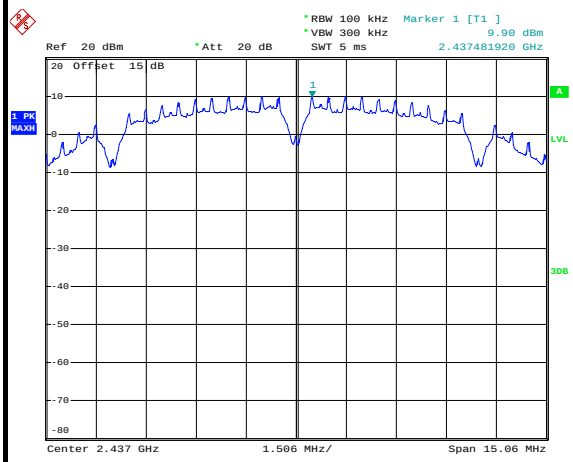


Date: 18.NOV.2014 19:42:21

Number of TX :	1	**Chain Port:**	1
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

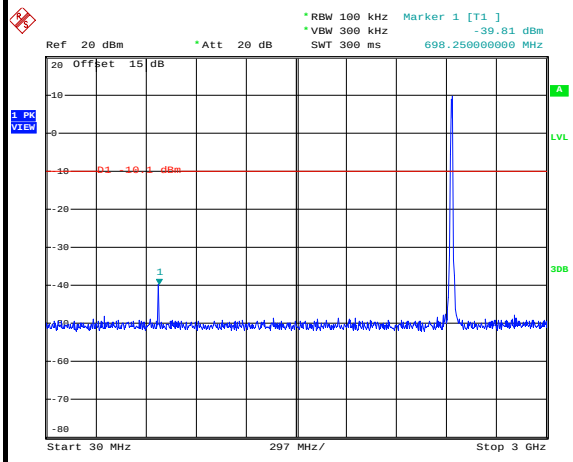
WLAN 802.11b Channel 06

100kHz PSD reference Level



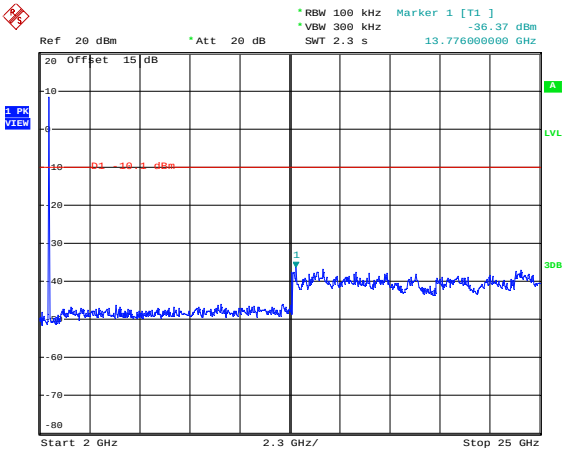
Date: 18.NOV.2014 19:44:54

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:45:23

Spurious Emission 2GHz~25GHz

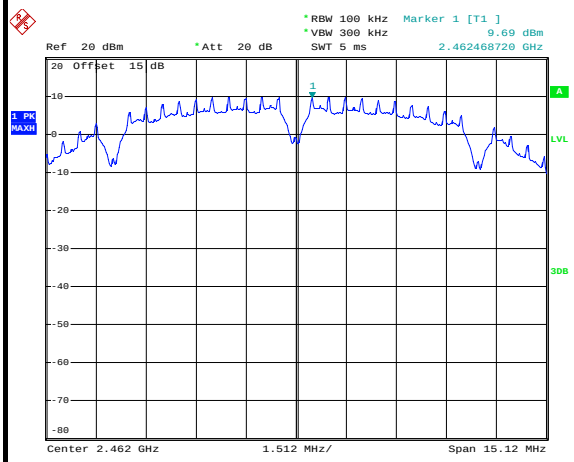


Date: 18.NOV.2014 19:45:41

Number of TX :	1	**Chain Port:**	1
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Mygai Mo

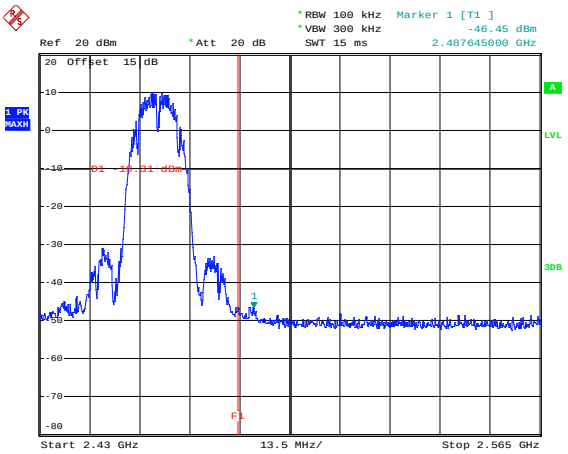
WLAN 802.11b Channel 11

100kHz PSD reference Level



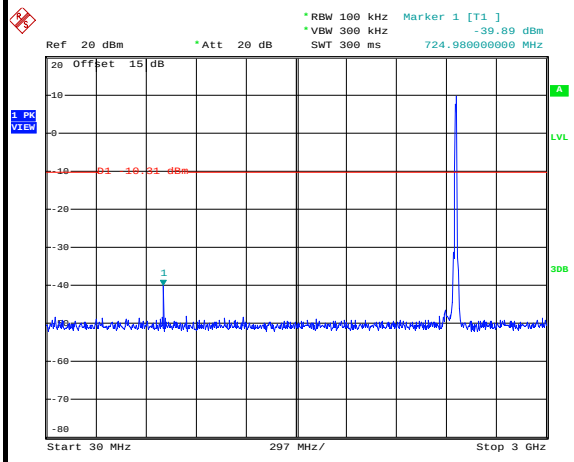
Date: 18.NOV.2014 19:47:55

High Channel Plot



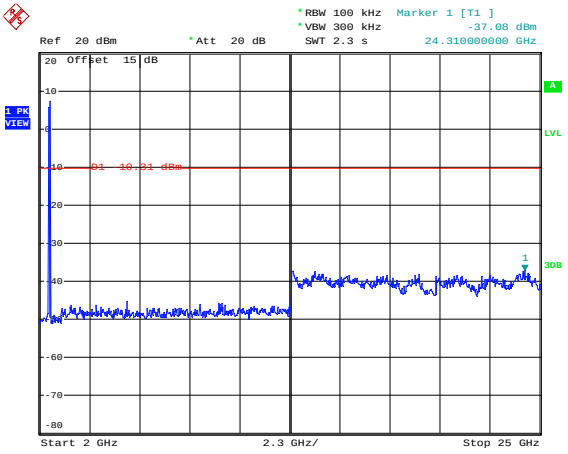
Date: 18.NOV.2014 19:48:16

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:48:42

Spurious Emission 2GHz~25GHz

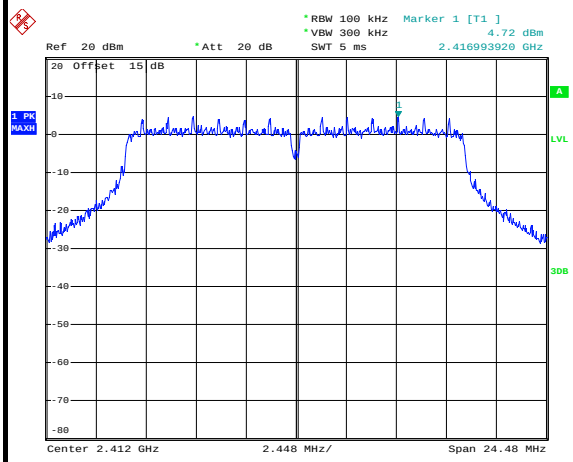


Date: 18.NOV.2014 19:49:00

Number of TX :	1	**Chain Port:**	1
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Mygai Mo

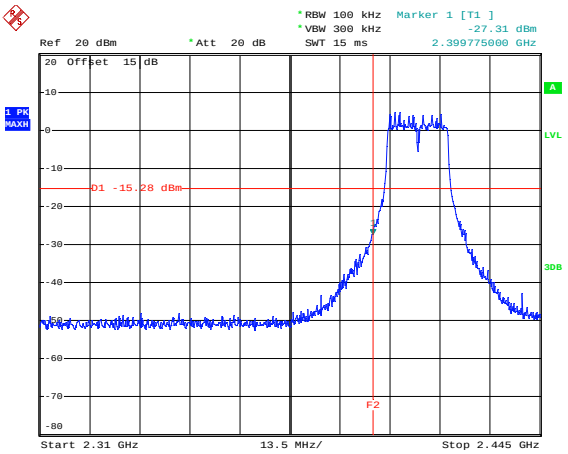
WLAN 802.11g Channel 01

100kHz PSD reference Level



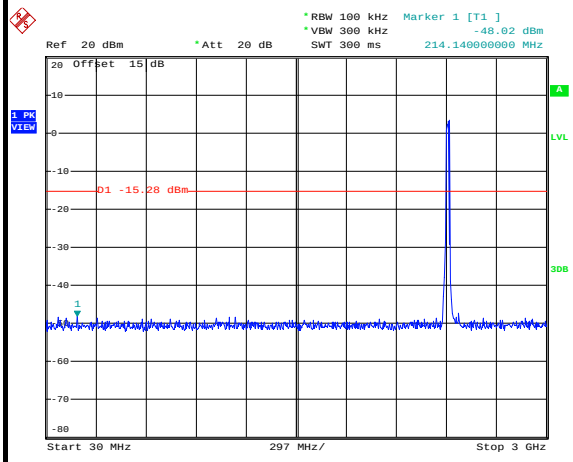
Date: 18.NOV.2014 20:00:51

Low Channel Plot



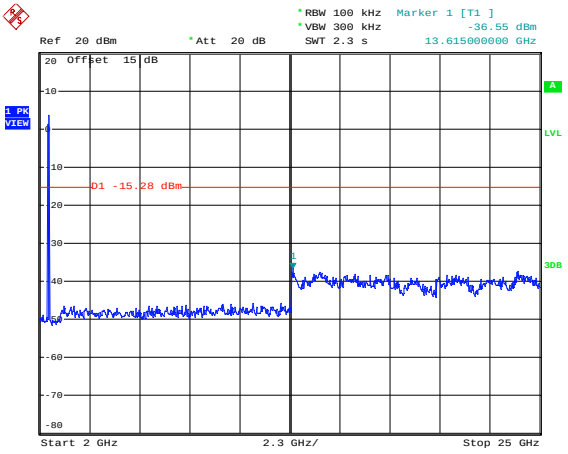
Date: 18.NOV.2014 20:01:11

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 20:01:37

Spurious Emission 2GHz~25GHz

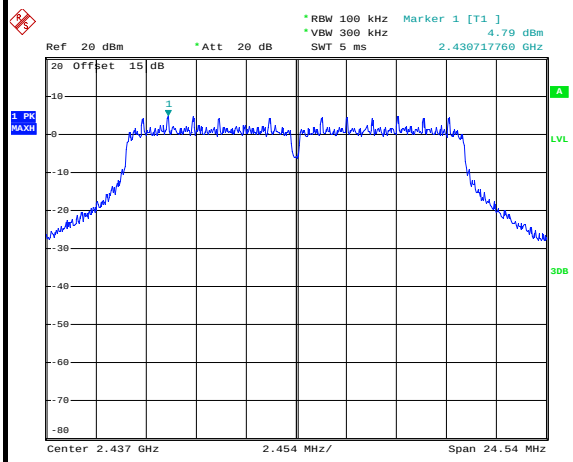


Date: 18.NOV.2014 20:01:55

Number of TX :	1	**Chain Port:**	1
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

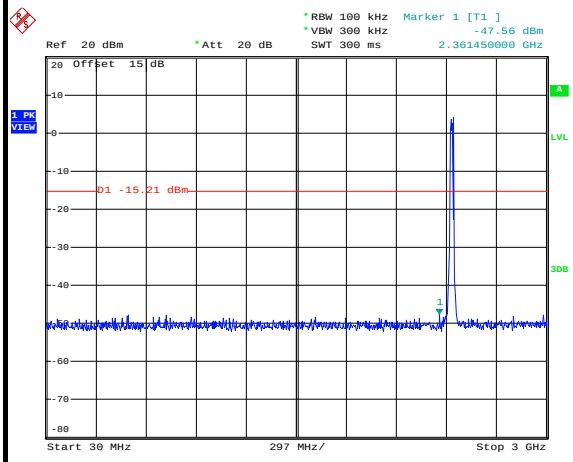
WLAN 802.11g Channel 06

100kHz PSD reference Level



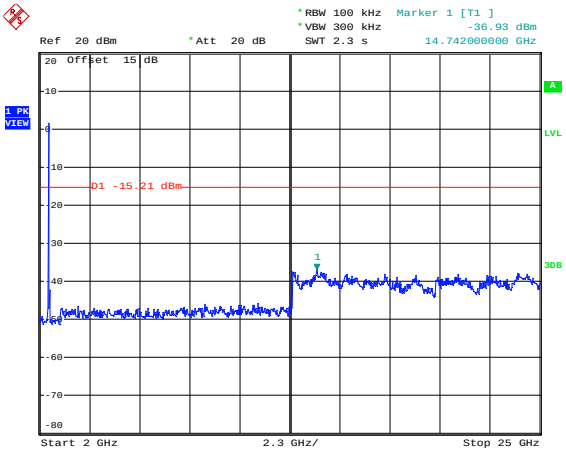
Date: 18.NOV.2014 19:57:07

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:57:32

Spurious Emission 2GHz~25GHz

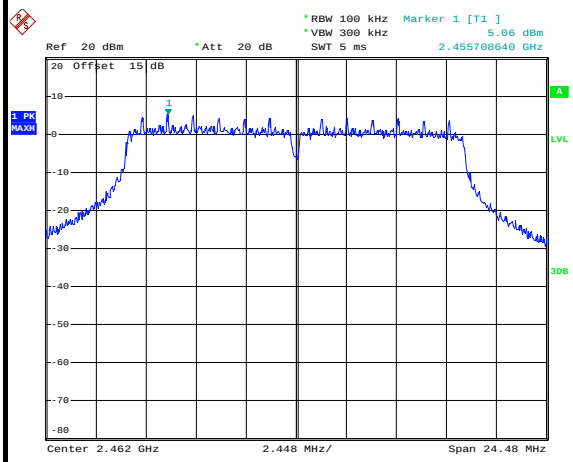


Date: 18.NOV.2014 19:57:50

Number of TX :	1	**Chain Port:**	1
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Mygai Mo

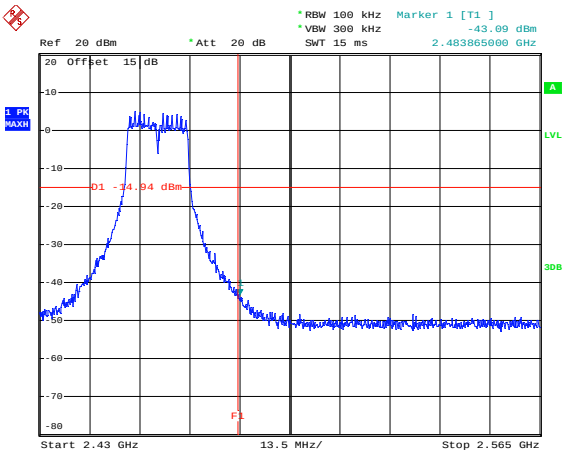
WLAN 802.11g Channel 11

100kHz PSD reference Level



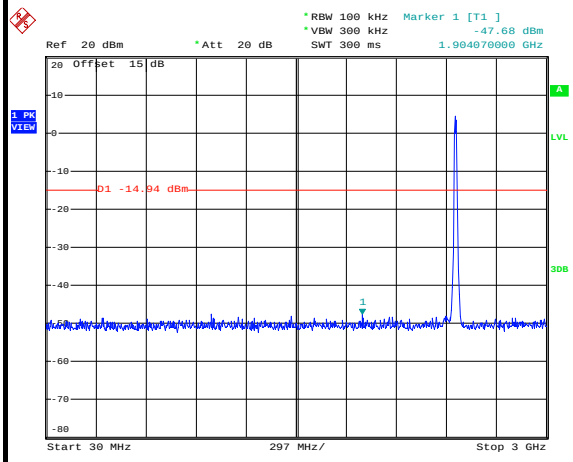
Date: 18.NOV.2014 19:53:09

High Channel Plot



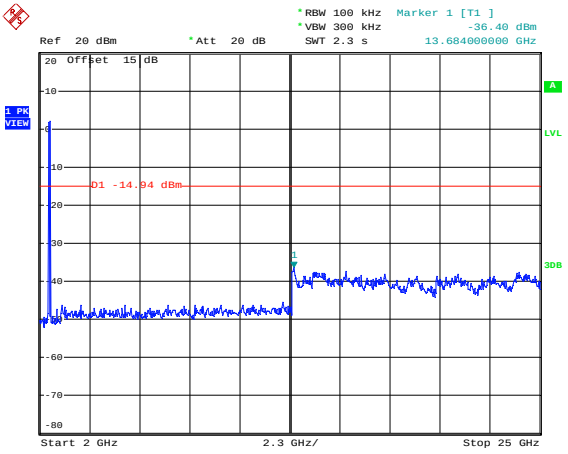
Date: 18.NOV.2014 19:53:34

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:54:12

Spurious Emission 2GHz~25GHz

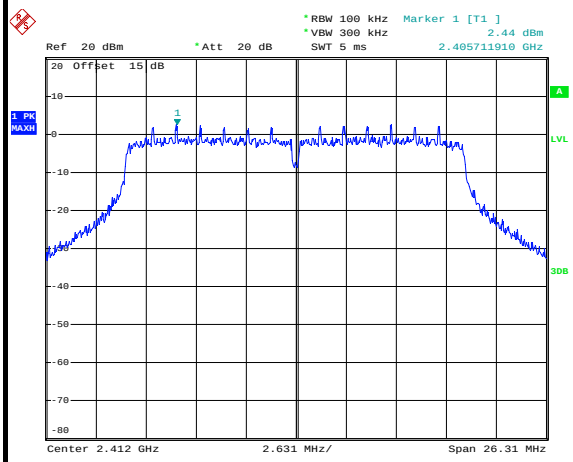


Date: 18.NOV.2014 19:54:30

Number of TX :	1	**Chain Port:**	1
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Mygai Mo

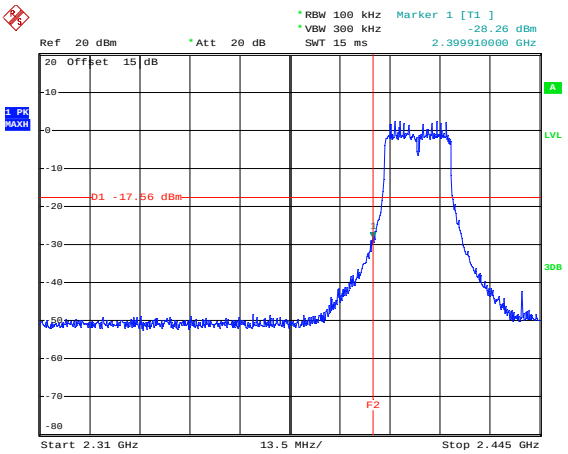
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



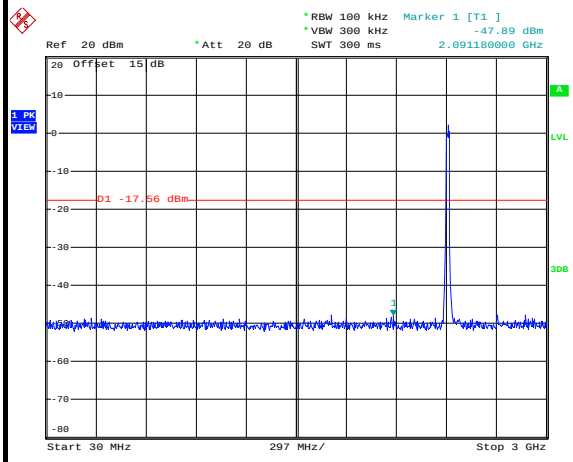
Date: 18.NOV.2014 20:49:44

Low Channel Plot



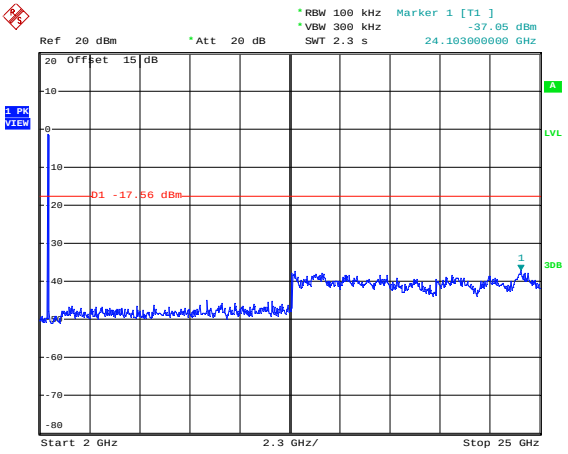
Date: 18.NOV.2014 20:50:17

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 20:51:18

Spurious Emission 2GHz~25GHz

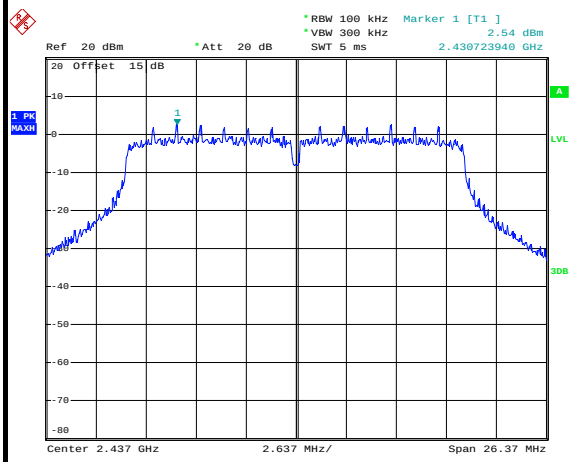


Date: 18.NOV.2014 20:51:36

Number of TX :	1	**Chain Port:**	1
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

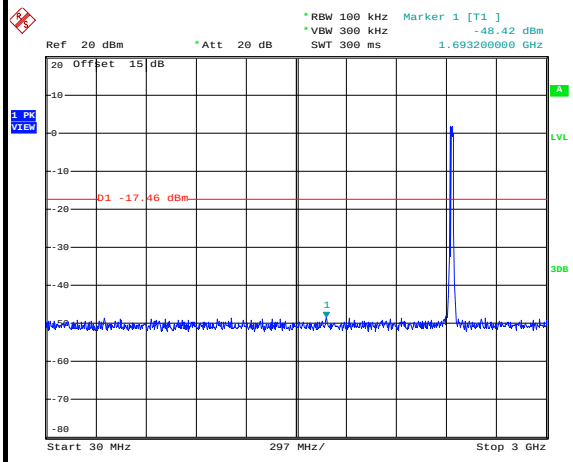
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



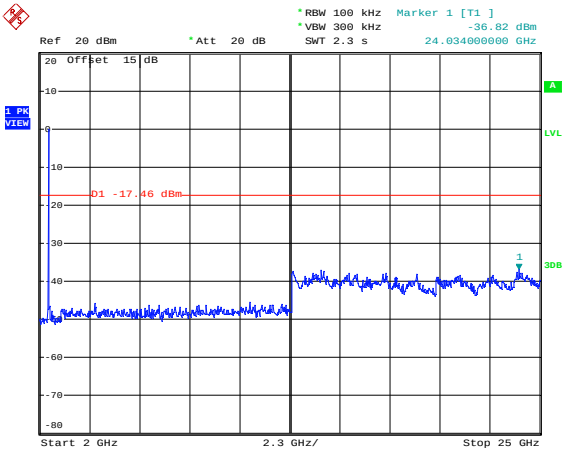
Date: 18.NOV.2014 20:46:41

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 20:47:03

Spurious Emission 2GHz~25GHz

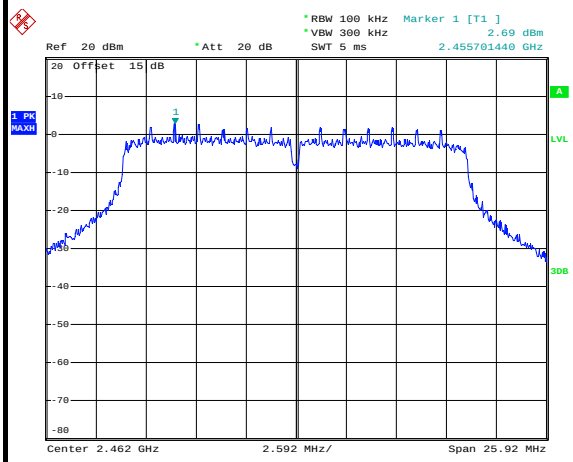


Date: 18.NOV.2014 20:47:21

Number of TX :	1	**Chain Port:**	1
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Mygai Mo

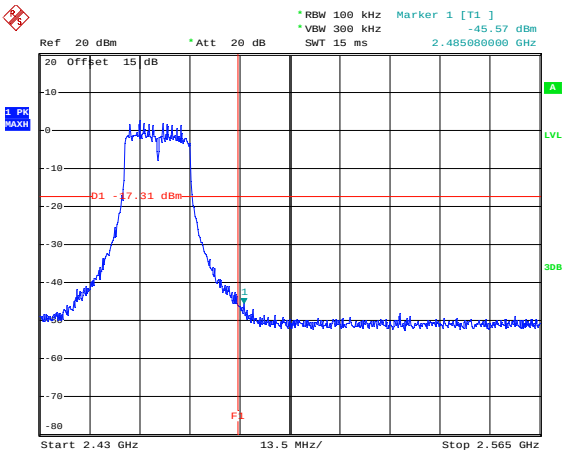
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



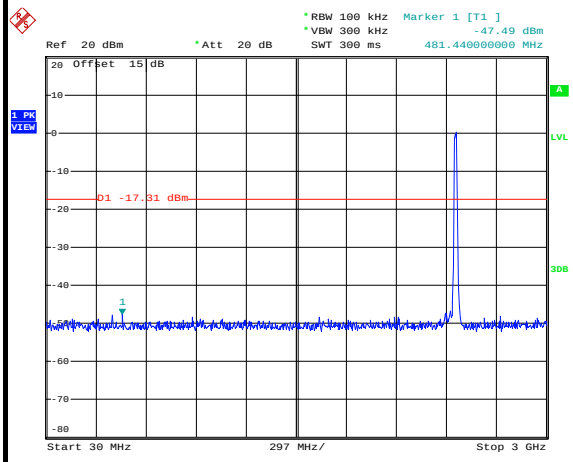
Date: 18.NOV.2014 20:41:52

High Channel Plot



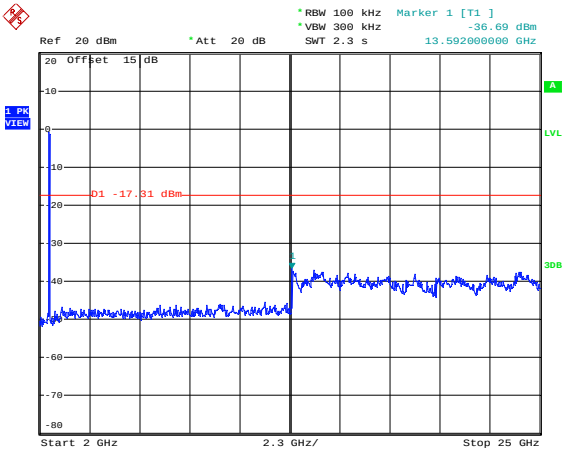
Date: 18.NOV.2014 20:42:10

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 20:42:43

Spurious Emission 2GHz~25GHz

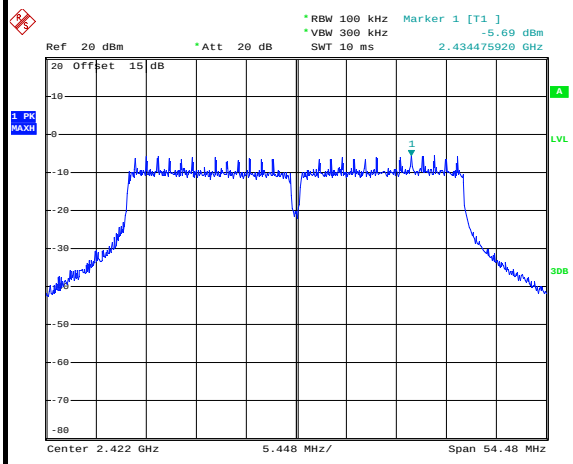


Date: 18.NOV.2014 20:43:00

Number of TX :	1	**Chain Port:**	1
Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	03	**Test Engineer :**	Mygai Mo

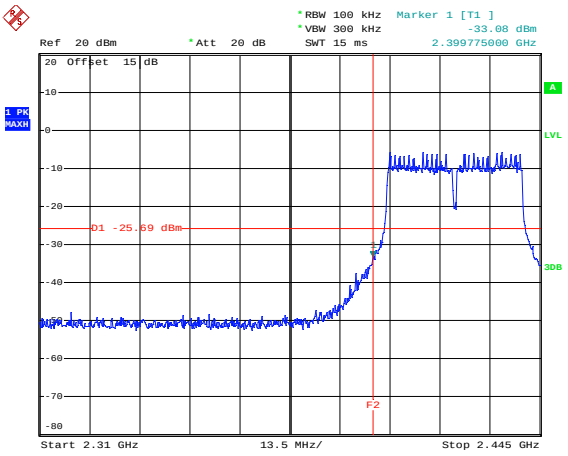
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



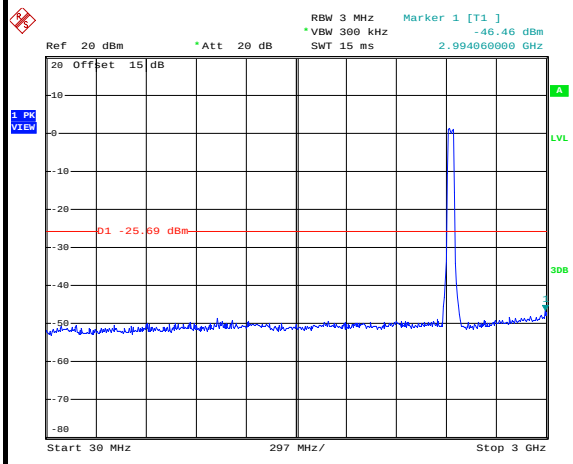
Date: 19.NOV.2014 00:58:45

Low Channel Plot



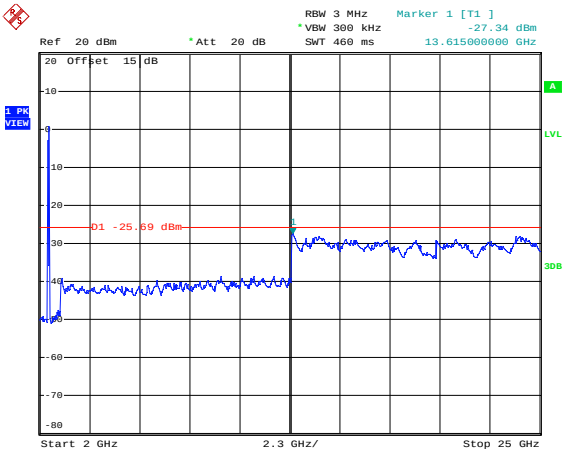
Date: 19.NOV.2014 00:59:09

Spurious Emission 30MHz~3GHz



Date: 27.NOV.2014 01:41:58

Spurious Emission 2GHz~25GHz

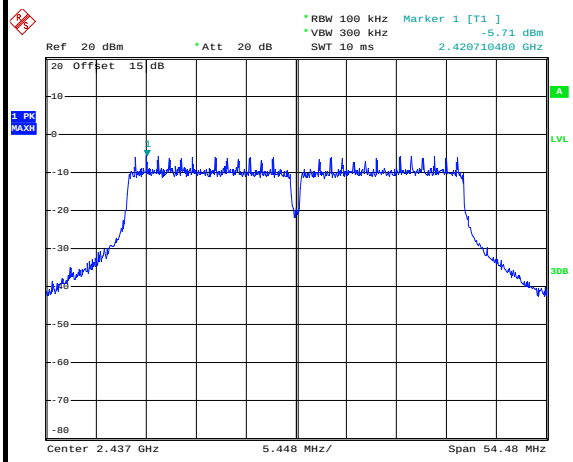


Date: 27.NOV.2014 01:42:16

Number of TX :	1	**Chain Port:**	1
Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

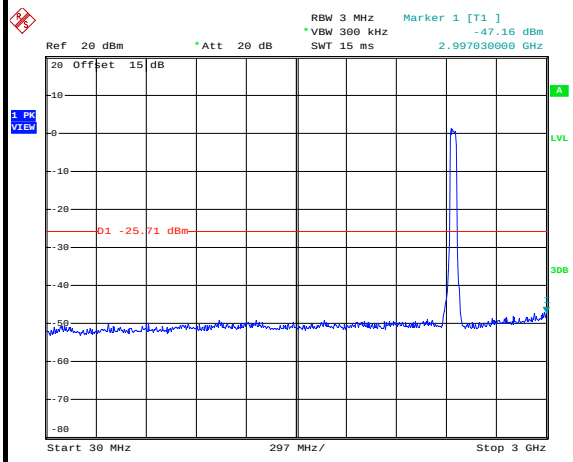
WLAN 802.11n HT40 Channel 06

100kHz PSD reference Level



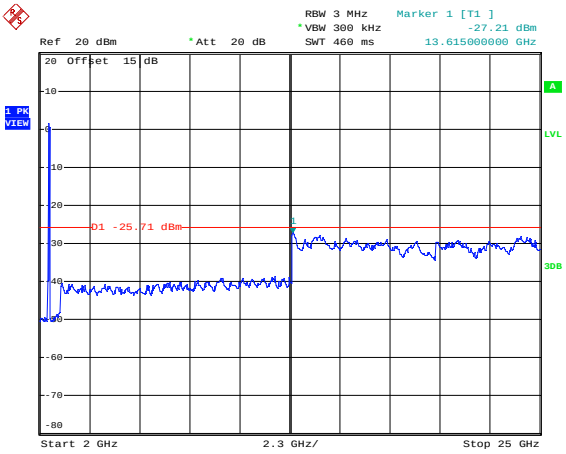
Date: 19.NOV.2014 00:52:05

Spurious Emission 30MHz~3GHz



Date: 27.NOV.2014 01:43:19

Spurious Emission 2GHz~25GHz

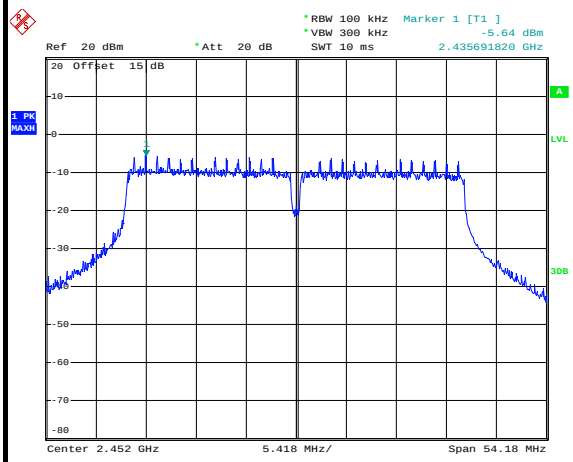


Date: 27.NOV.2014 01:43:37

Number of TX :	1	**Chain Port:**	1
Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	09	**Test Engineer :**	Mygai Mo

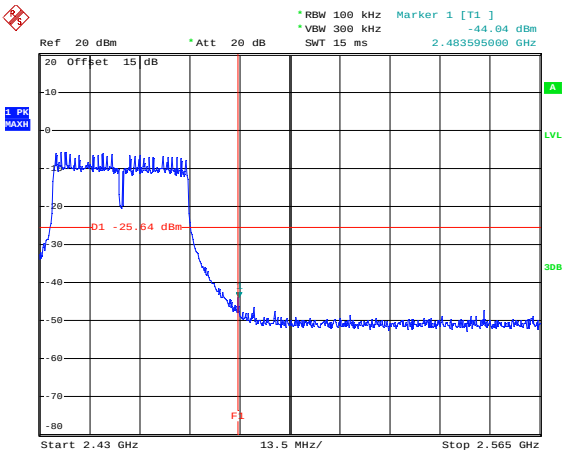
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



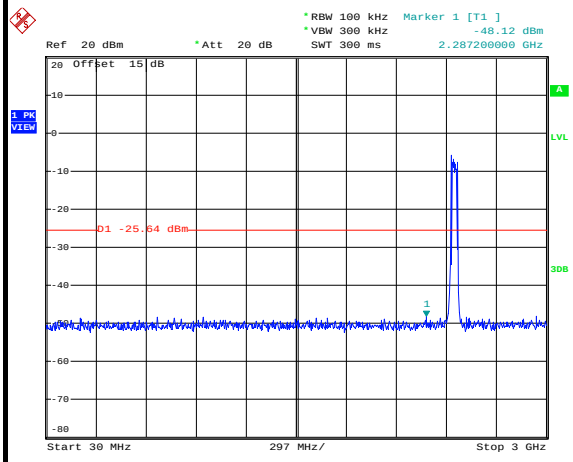
Date: 19.NOV.2014 00:48:12

High Channel Plot



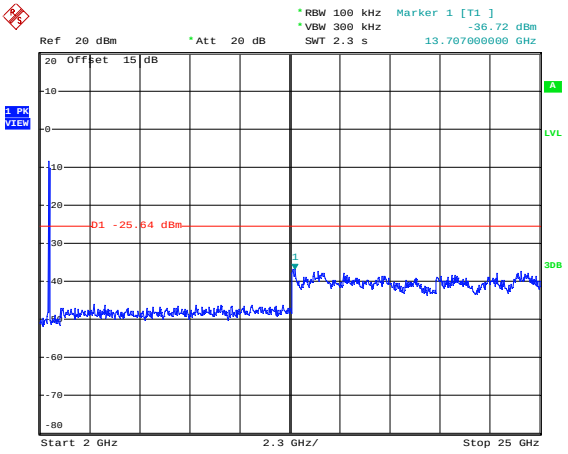
Date: 19.NOV.2014 00:48:31

Spurious Emission 30MHz~3GHz



Date: 19.NOV.2014 00:49:05

Spurious Emission 2GHz~25GHz



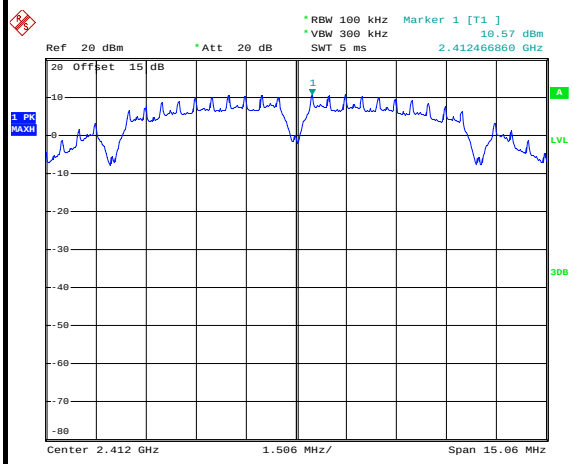
Date: 19.NOV.2014 00:49:23

Number of TX = 2, Chain Port 0+1(0) (Measured)

Number of TX :	2	**Chain Port:**	0+1(0)
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Mygai Mo

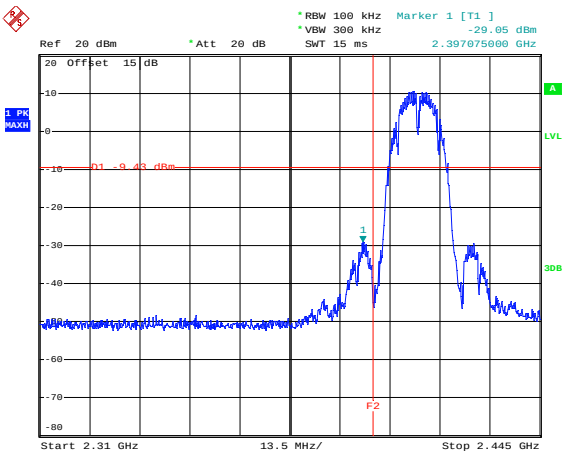
WLAN 802.11b Channel 01

100kHz PSD reference Level



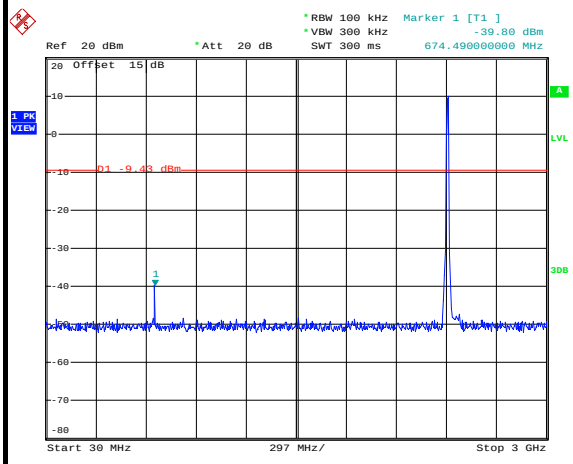
Date: 18.NOV.2014 19:12:29

Low Channel Plot



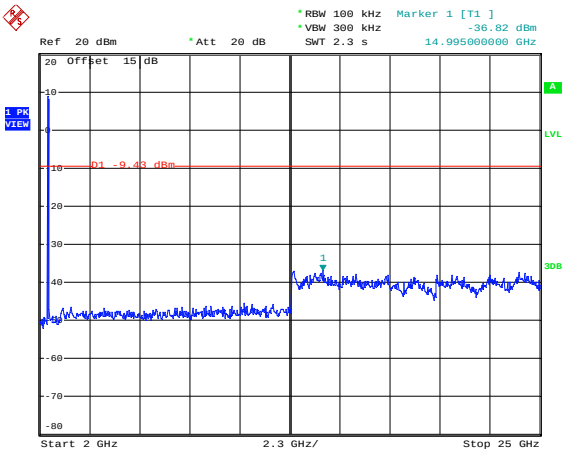
Date: 18.NOV.2014 19:13:40

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:14:10

Spurious Emission 2GHz~25GHz

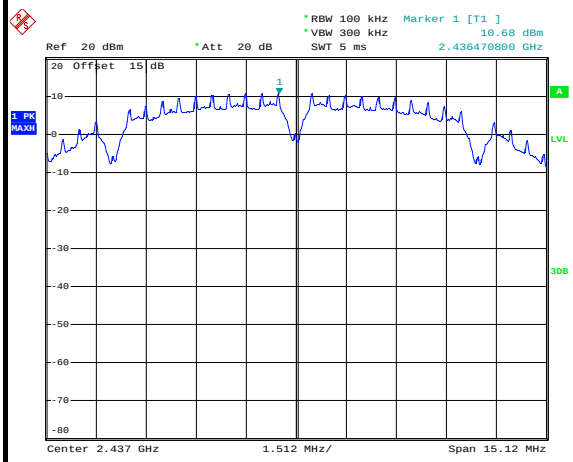


Date: 18.NOV.2014 19:14:28

Number of TX :	2	**Chain Port:**	0+1(0)
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

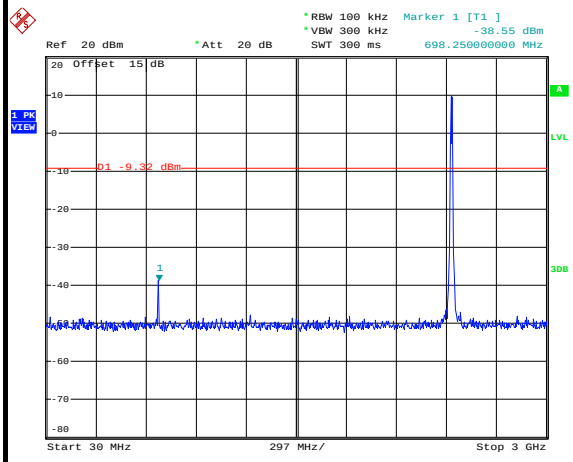
WLAN 802.11b Channel 06

100kHz PSD reference Level



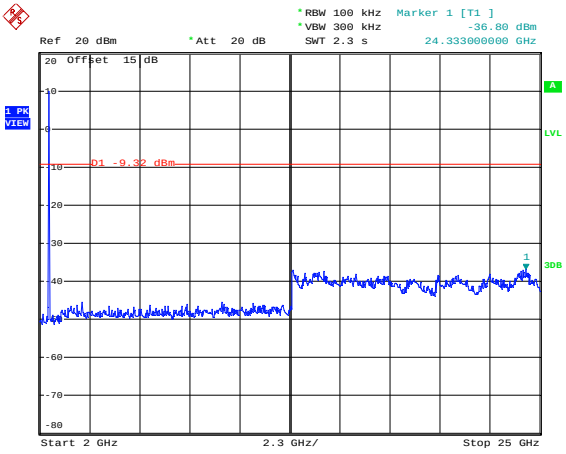
Date: 18.NOV.2014 19:17:14

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:18:00

Spurious Emission 2GHz~25GHz

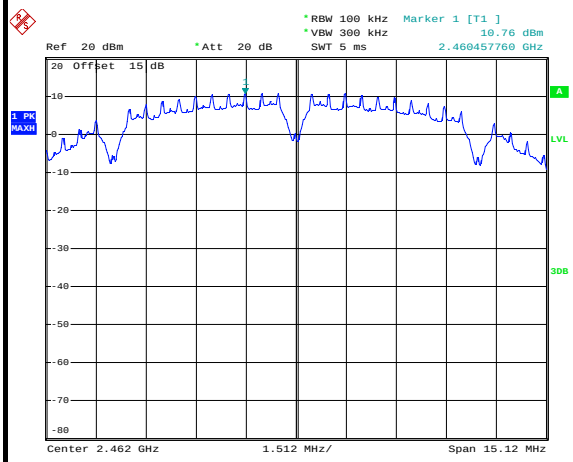


Date: 18.NOV.2014 19:18:18

Number of TX :	2	**Chain Port:**	0+1(0)
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Mygai Mo

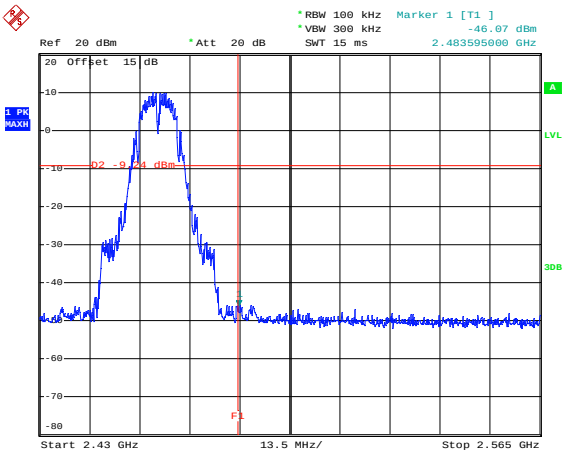
WLAN 802.11b Channel 11

100kHz PSD reference Level



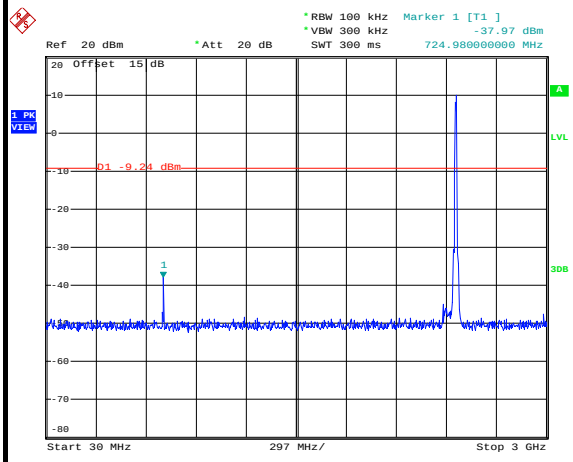
Date: 18.NOV.2014 19:21:54

High Channel Plot



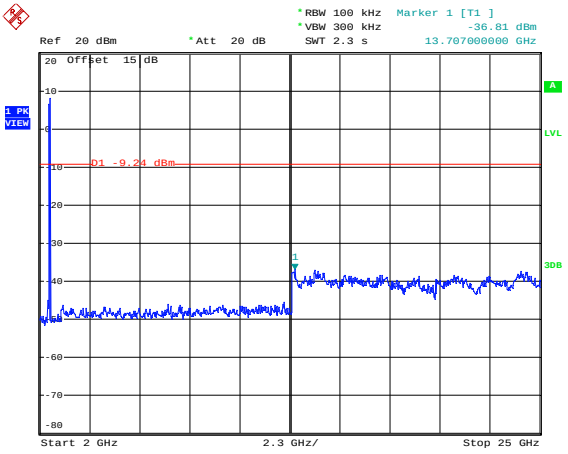
Date: 27.NOV.2014 10:56:21

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:22:42

Spurious Emission 2GHz~25GHz

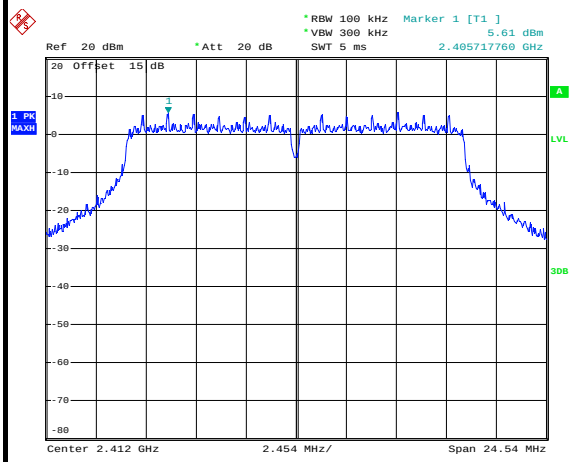


Date: 18.NOV.2014 19:23:00

Number of TX :	2	**Chain Port:**	0+1(0)
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Mygai Mo

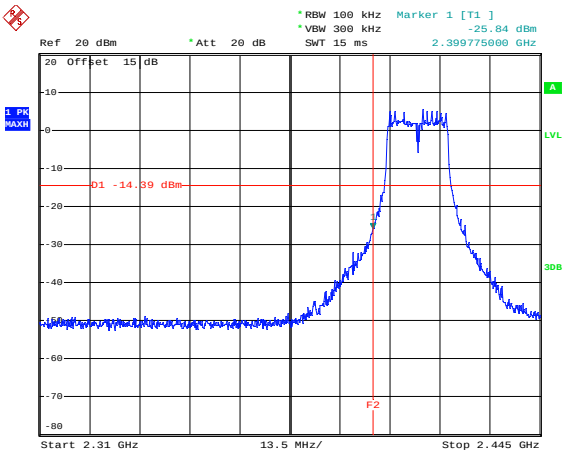
WLAN 802.11g Channel 01

100kHz PSD reference Level



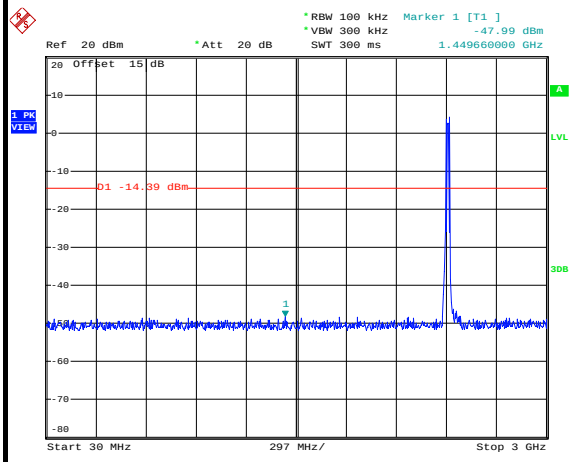
Date: 18.NOV.2014 19:06:35

Low Channel Plot



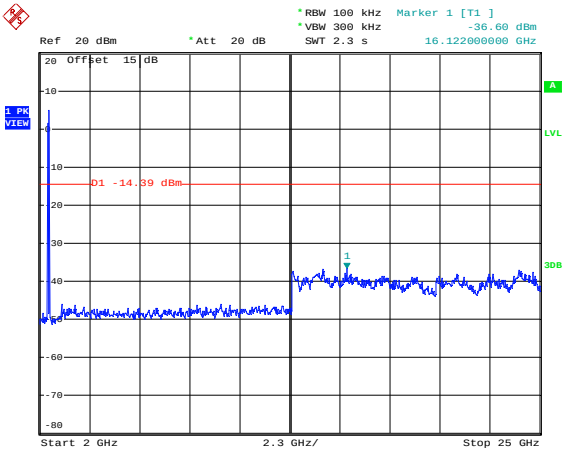
Date: 18.NOV.2014 19:06:53

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:07:34

Spurious Emission 2GHz~25GHz

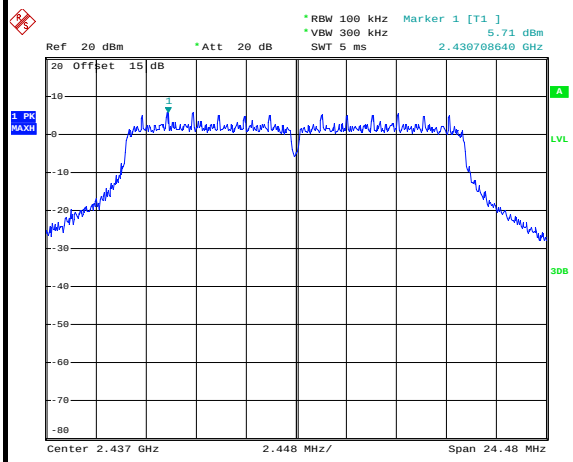


Date: 18.NOV.2014 19:07:53

Number of TX :	2	**Chain Port:**	0+1(0)
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

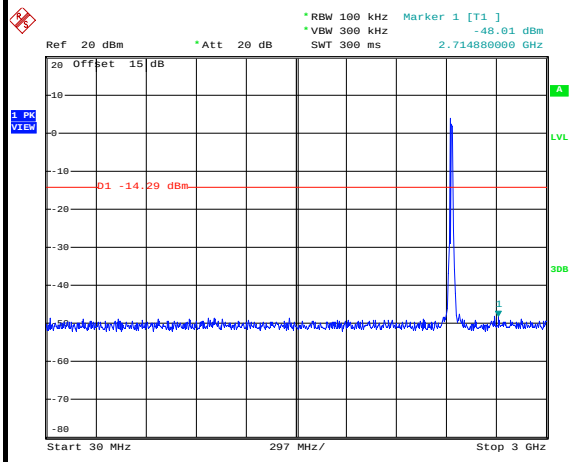
WLAN 802.11g Channel 06

100kHz PSD reference Level



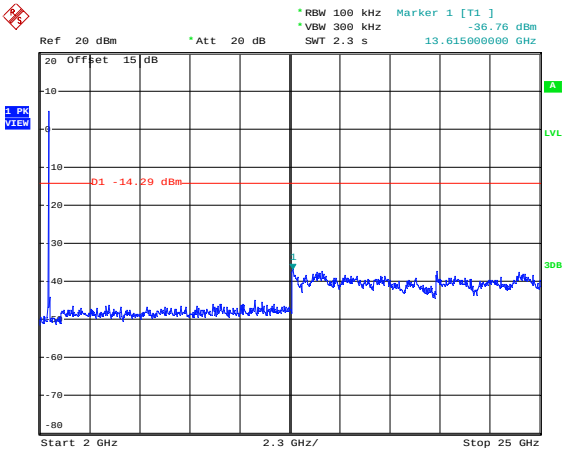
Date: 18.NOV.2014 19:01:05

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:01:49

Spurious Emission 2GHz~25GHz

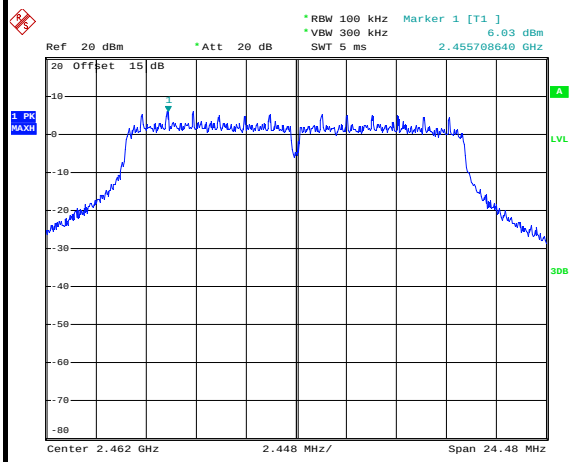


Date: 18.NOV.2014 19:02:07

Number of TX :	2	**Chain Port:**	0+1(0)
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Mygai Mo

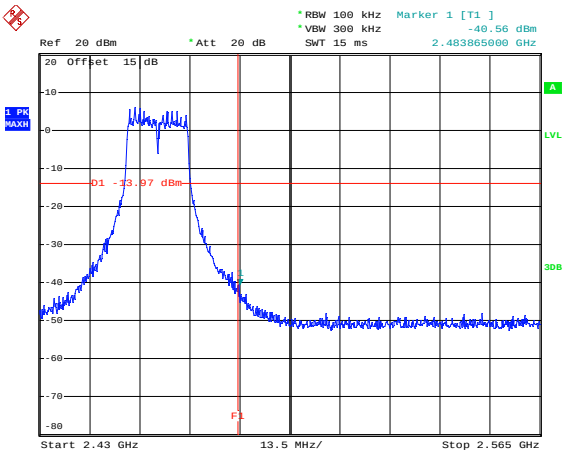
WLAN 802.11g Channel 11

100kHz PSD reference Level



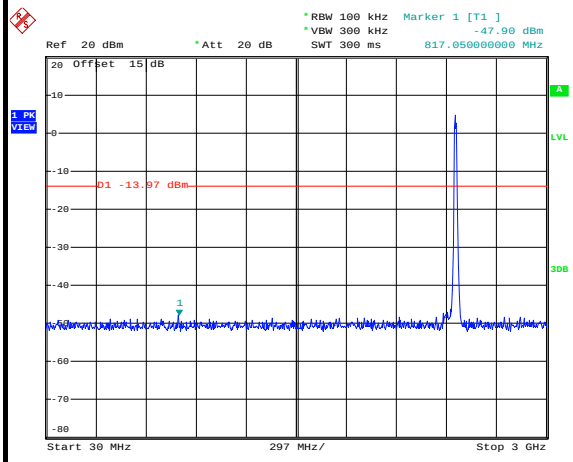
Date: 18.NOV.2014 18:55:09

High Channel Plot



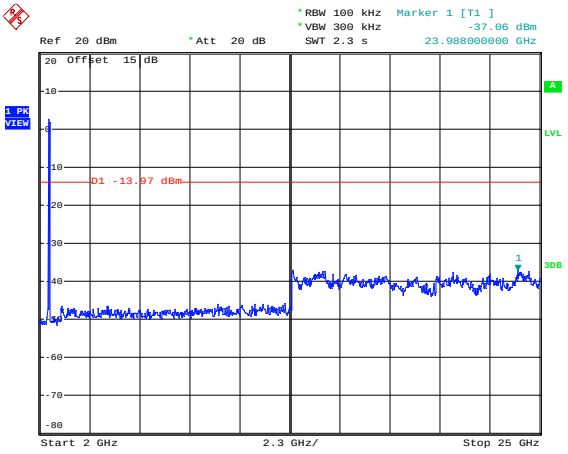
Date: 18.NOV.2014 18:55:39

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 18:57:11

Spurious Emission 2GHz~25GHz

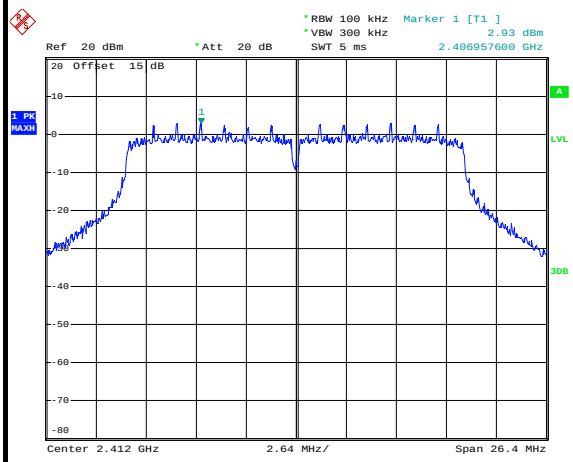


Date: 18.NOV.2014 18:57:29

Number of TX :	2	**Chain Port:**	0+1(0)
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Mygai Mo

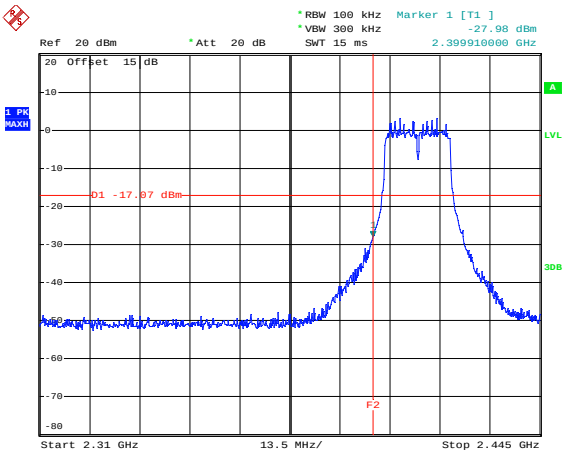
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



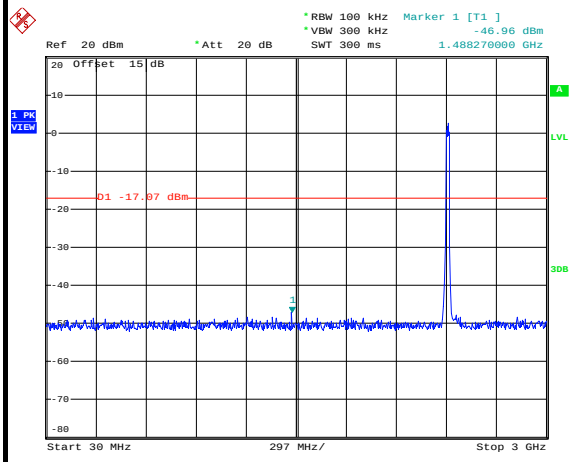
Date: 18.NOV.2014 17:29:04

Low Channel Plot



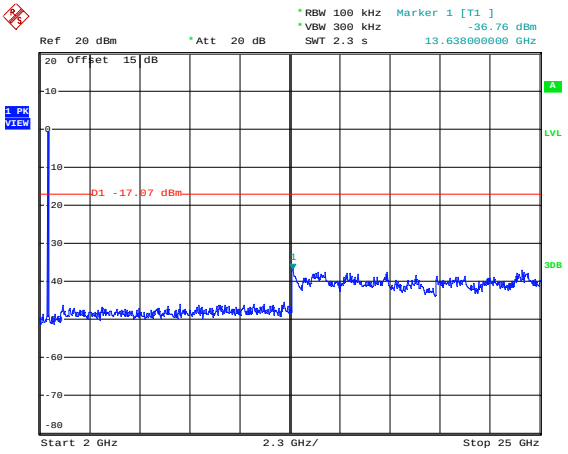
Date: 18.NOV.2014 17:29:26

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 17:31:43

Spurious Emission 2GHz~25GHz

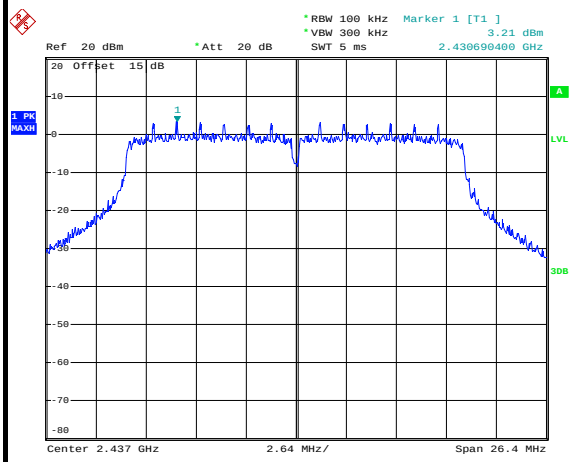


Date: 18.NOV.2014 17:32:01

Number of TX :	2	**Chain Port:**	0+1(0)
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

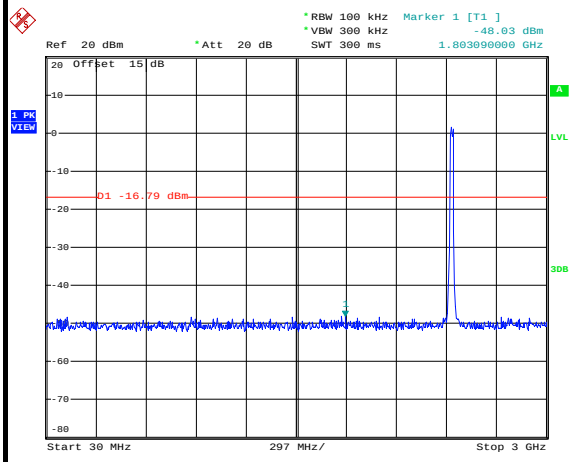
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



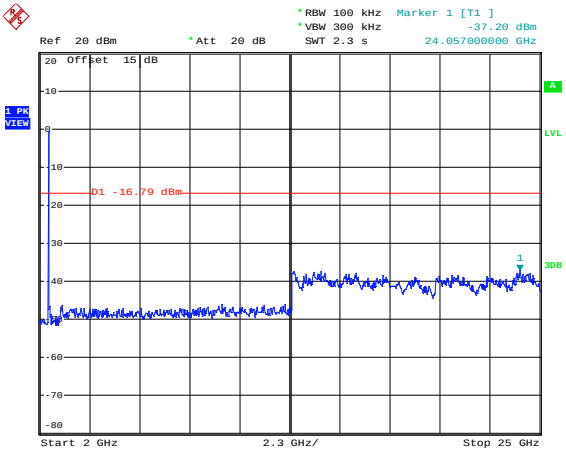
Date: 18.NOV.2014 17:37:01

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 17:37:29

Spurious Emission 2GHz~25GHz

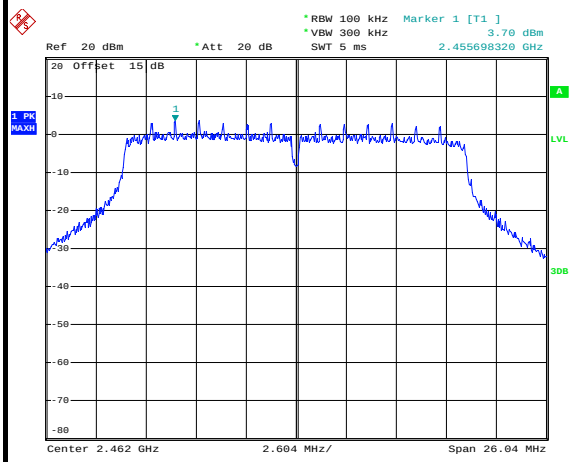


Date: 18.NOV.2014 17:37:47

Number of TX :	2	**Chain Port:**	0+1(0)
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Mygai Mo

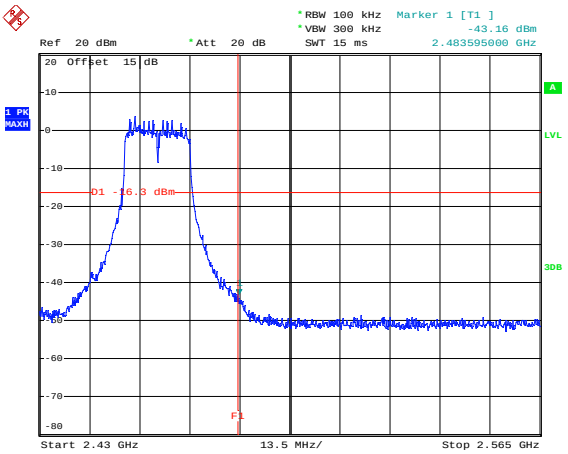
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



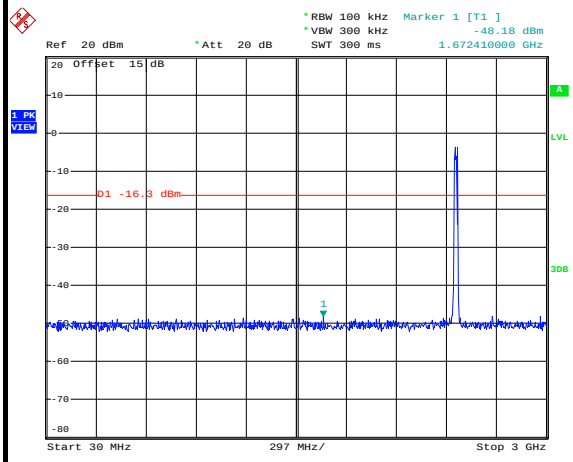
Date: 18.NOV.2014 17:41:01

High Channel Plot



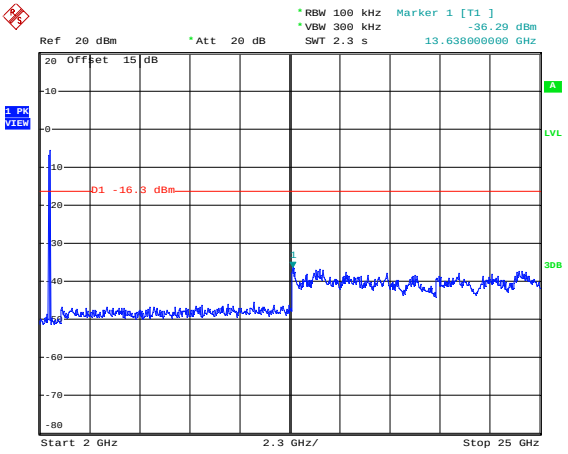
Date: 18.NOV.2014 17:41:23

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 22:57:58

Spurious Emission 2GHz~25GHz

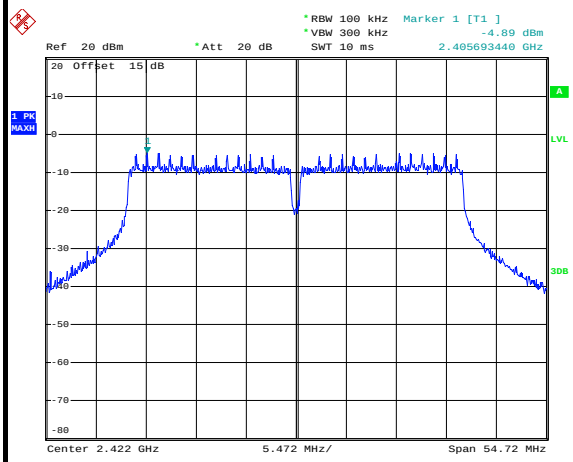


Date: 18.NOV.2014 22:58:16

Number of TX :	2	**Chain Port:**	0+1(0)
Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	03	**Test Engineer :**	Mygai Mo

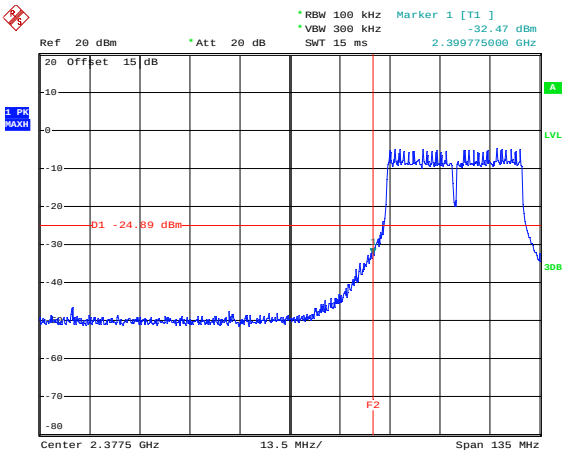
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



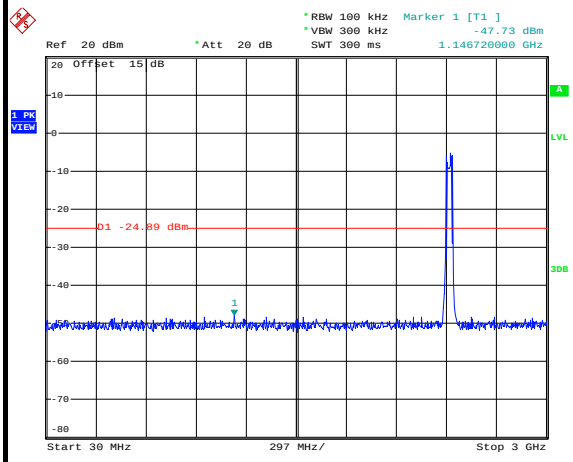
Date: 18.NOV.2014 16:57:03

Low Channel Plot



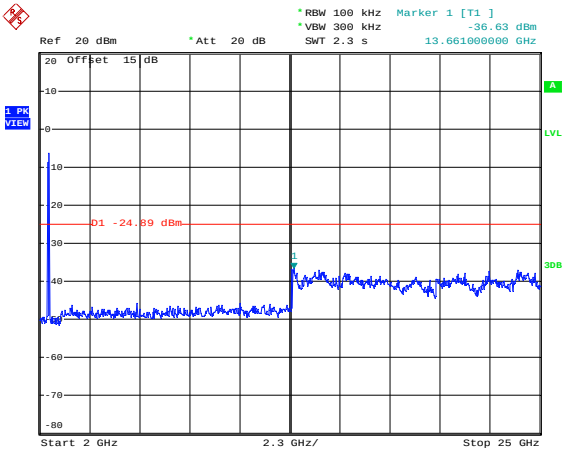
Date: 18.NOV.2014 17:01:07

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 17:03:10

Spurious Emission 2GHz~25GHz

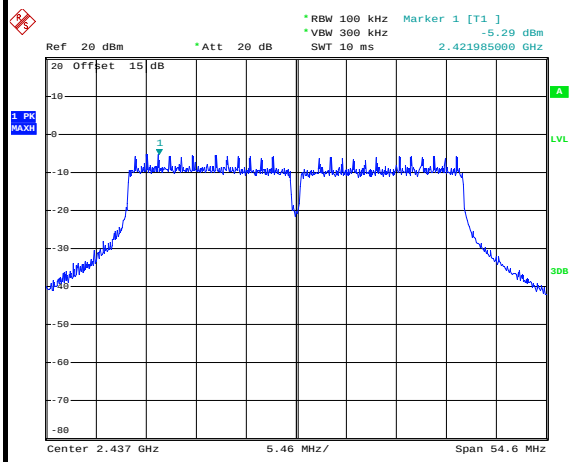


Date: 18.NOV.2014 17:01:49

Number of TX :	2	**Chain Port:**	0+1(0)
Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

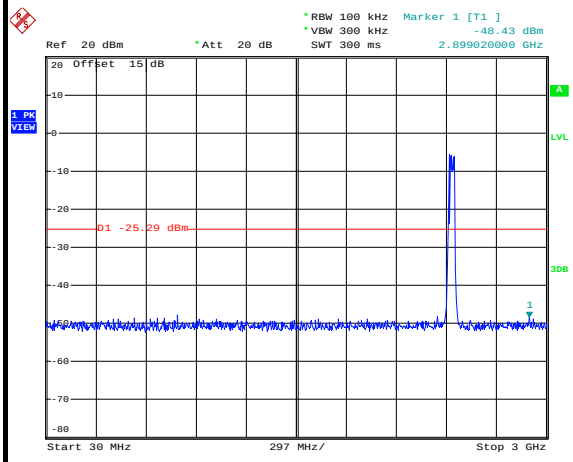
WLAN 802.11n HT40 Channel 06

100kHz PSD reference Level



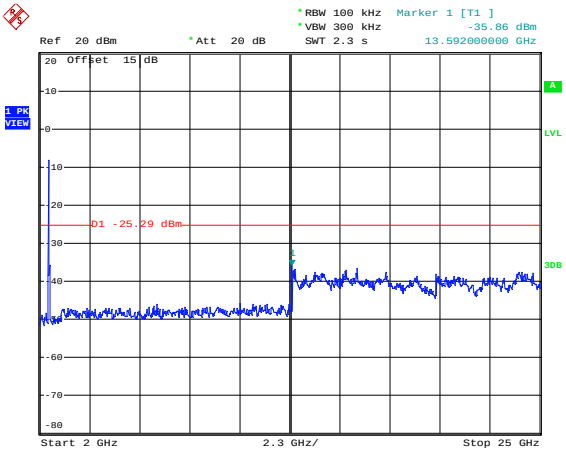
Date: 18.NOV.2014 17:10:15

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 17:12:44

Spurious Emission 2GHz~25GHz

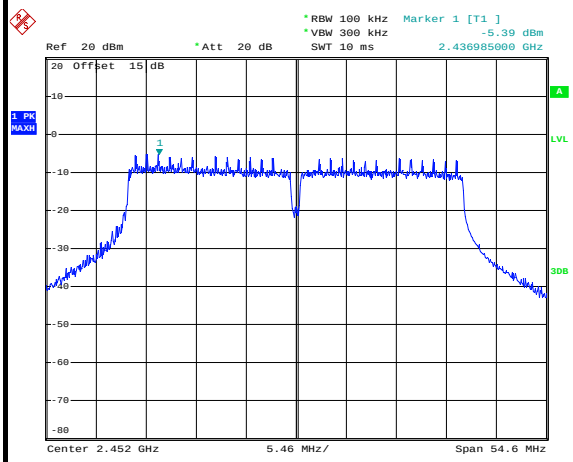


Date: 18.NOV.2014 17:11:26

Number of TX :	2	**Chain Port:**	0+1(0)
Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	09	**Test Engineer :**	Mygai Mo

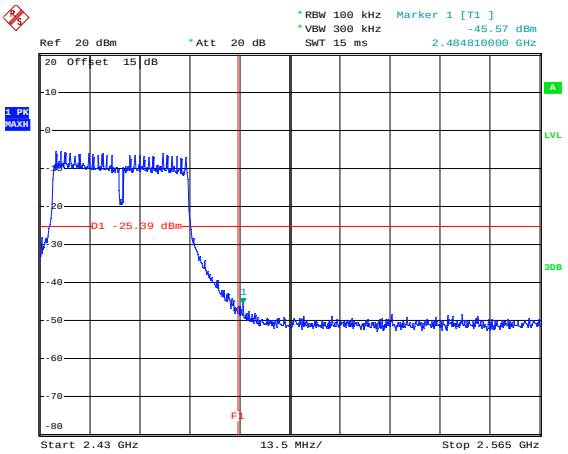
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



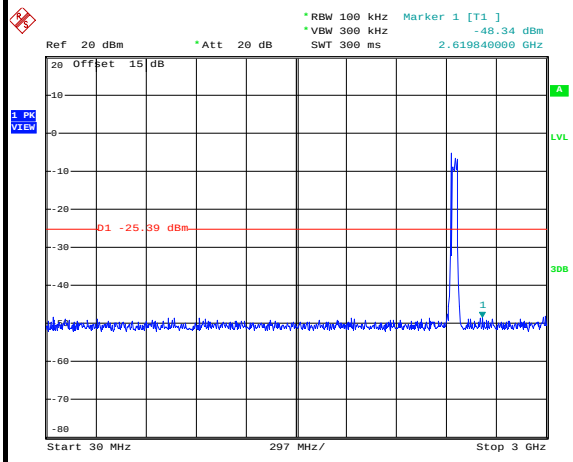
Date: 18.NOV.2014 17:18:03

High Channel Plot



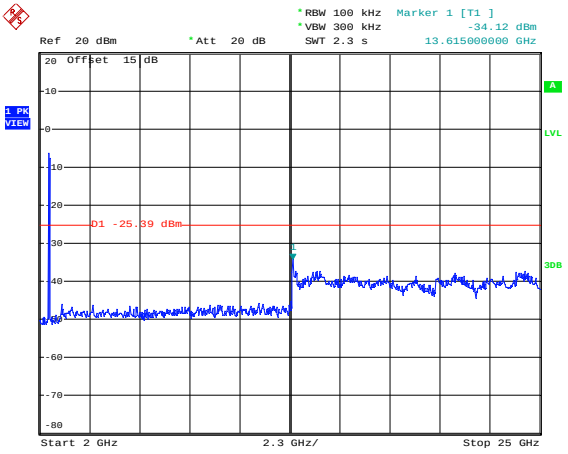
Date: 18.NOV.2014 17:18:25

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 17:20:36

Spurious Emission 2GHz~25GHz



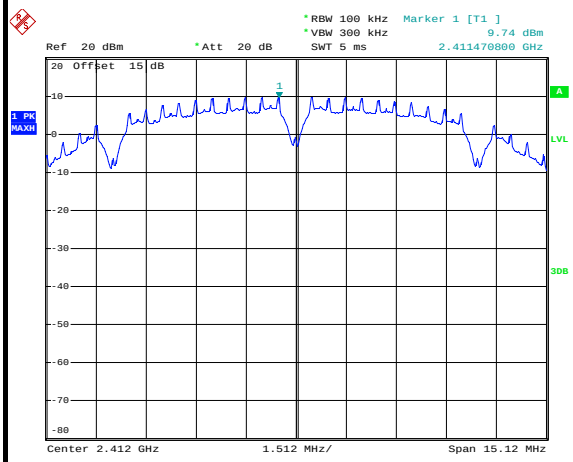
Date: 18.NOV.2014 17:19:07

Number of TX = 2, Chain Port 0+1(1) (Measured)

Number of TX :	2	**Chain Port:**	0+1(1)
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Mygai Mo

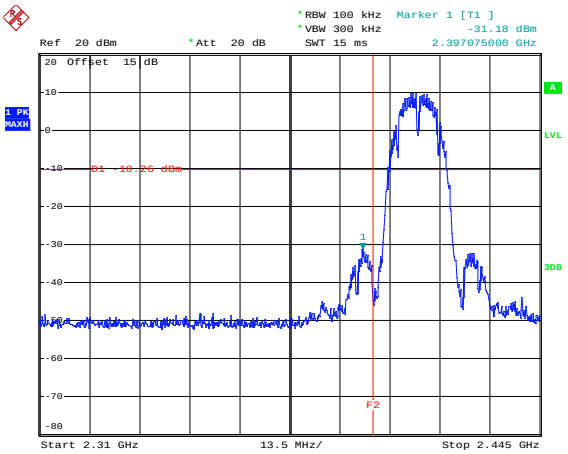
WLAN 802.11b Channel 01

100kHz PSD reference Level



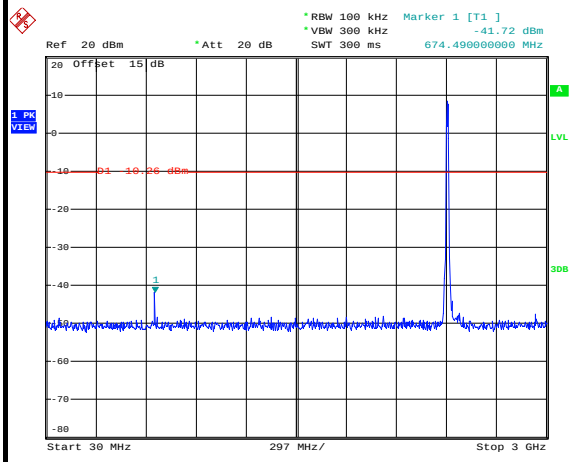
Date: 18.NOV.2014 19:36:35

Low Channel Plot



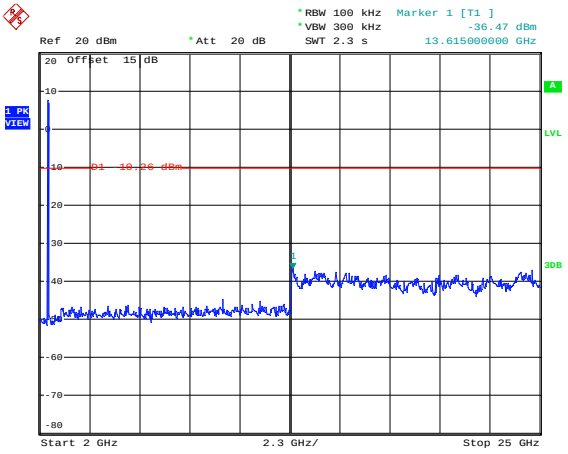
Date: 18.NOV.2014 19:36:57

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:37:26

Spurious Emission 2GHz~25GHz

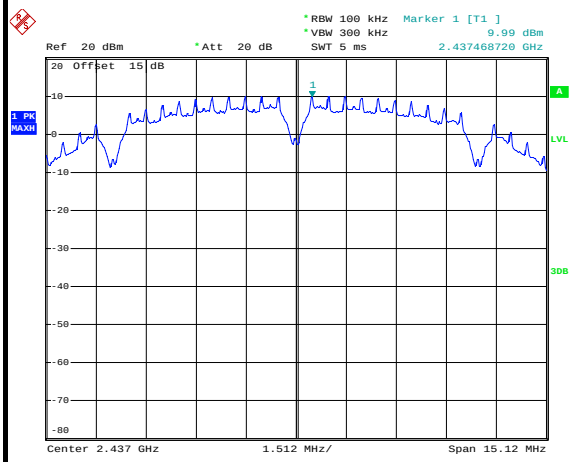


Date: 18.NOV.2014 19:37:44

Number of TX :	2	**Chain Port:**	0+1(1)
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

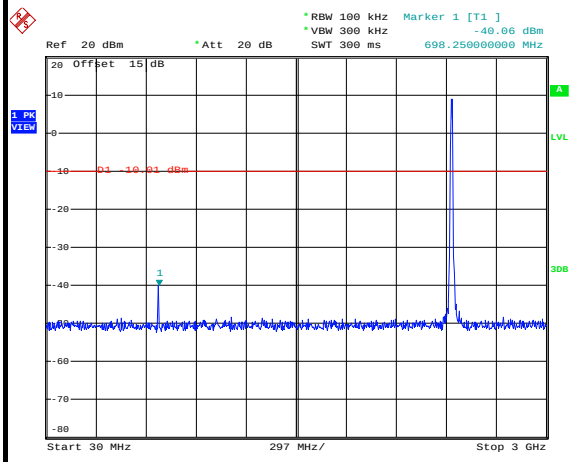
WLAN 802.11b Channel 06

100kHz PSD reference Level



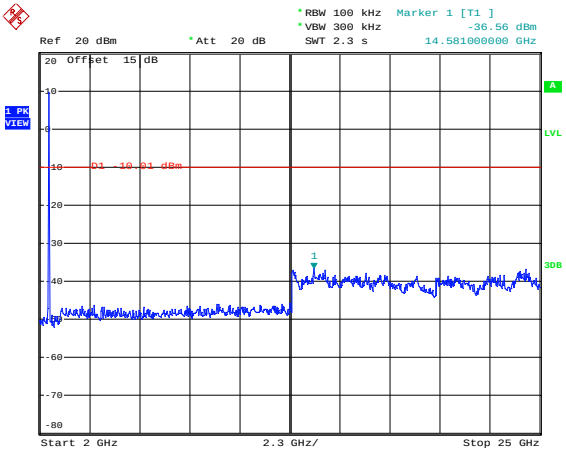
Date: 18.NOV.2014 19:33:32

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:34:03

Spurious Emission 2GHz~25GHz

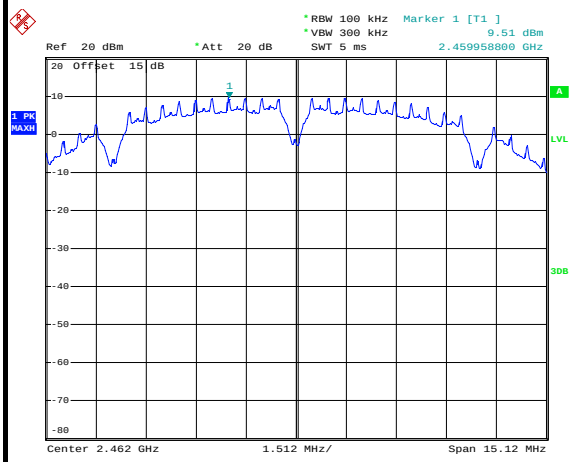


Date: 18.NOV.2014 19:34:21

Number of TX :	2	**Chain Port:**	0+1(1)
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Mygai Mo

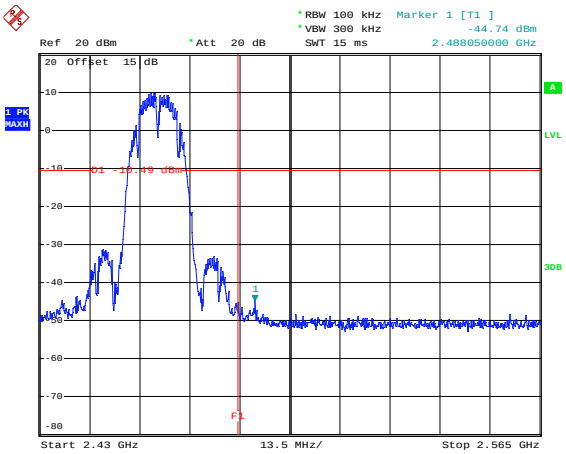
WLAN 802.11b Channel 11

100kHz PSD reference Level



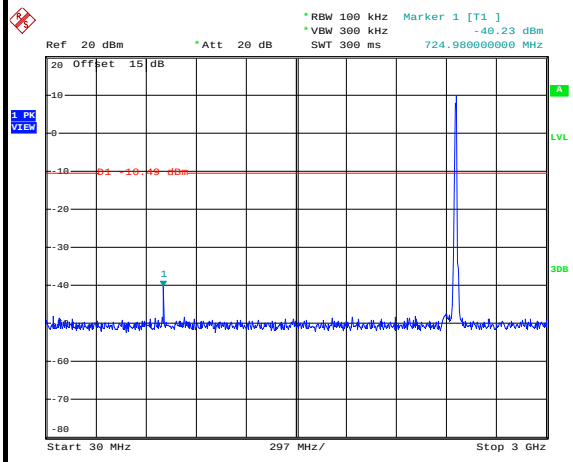
Date: 18.NOV.2014 19:27:22

High Channel Plot



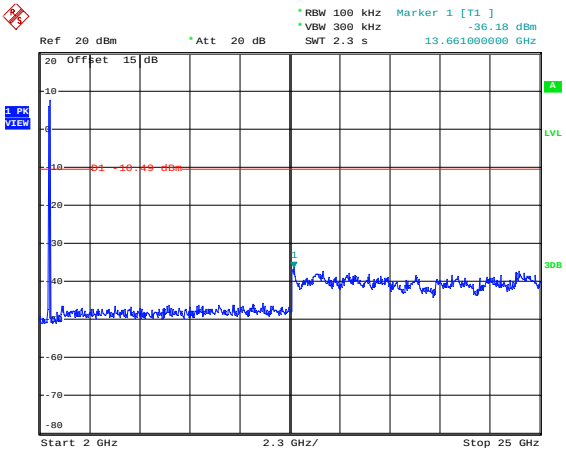
Date: 18.NOV.2014 19:28:50

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 19:29:35

Spurious Emission 2GHz~25GHz

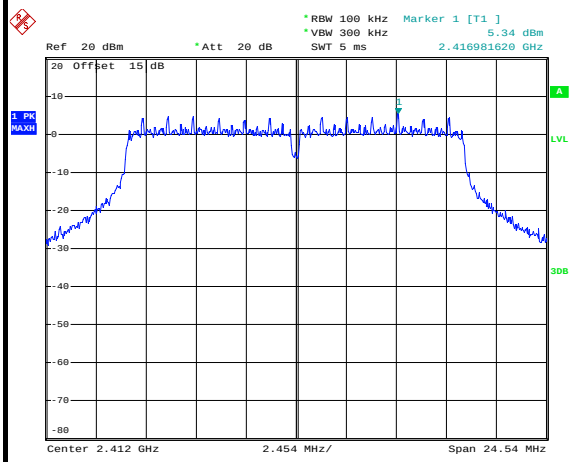


Date: 18.NOV.2014 19:29:53

Number of TX :	2	**Chain Port:**	0+1(1)
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Mygai Mo

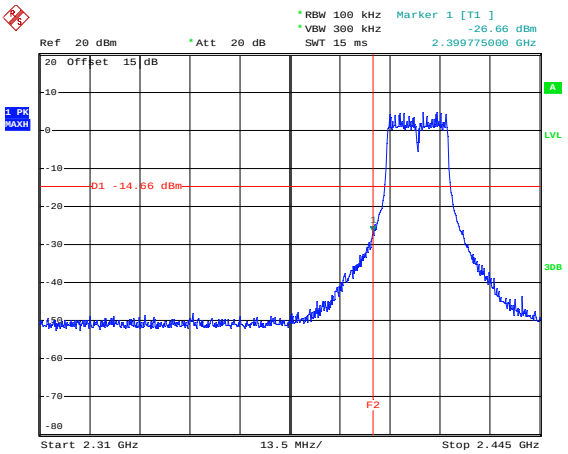
WLAN 802.11g Channel 01

100kHz PSD reference Level



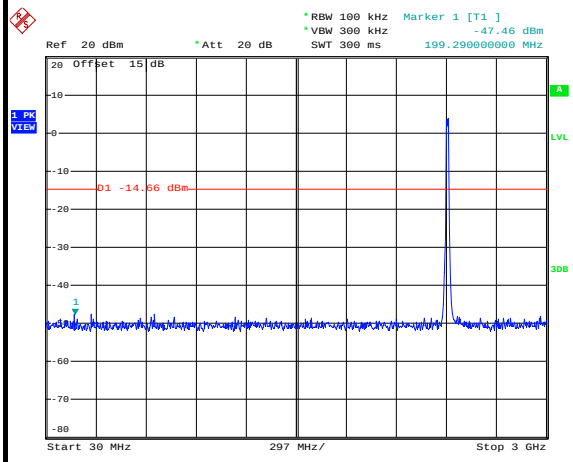
Date: 18.NOV.2014 20:05:28

Low Channel Plot



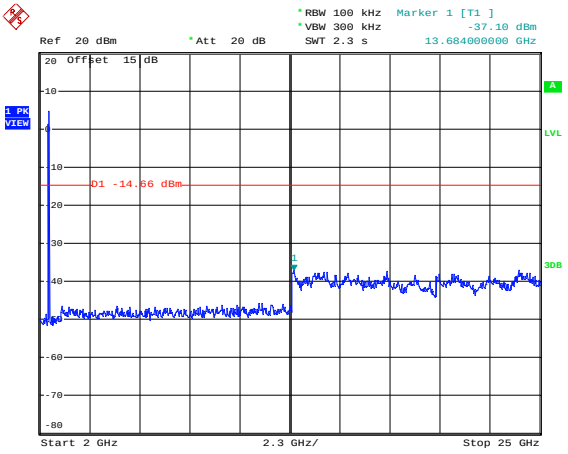
Date: 18.NOV.2014 20:06:13

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 20:06:37

Spurious Emission 2GHz~25GHz

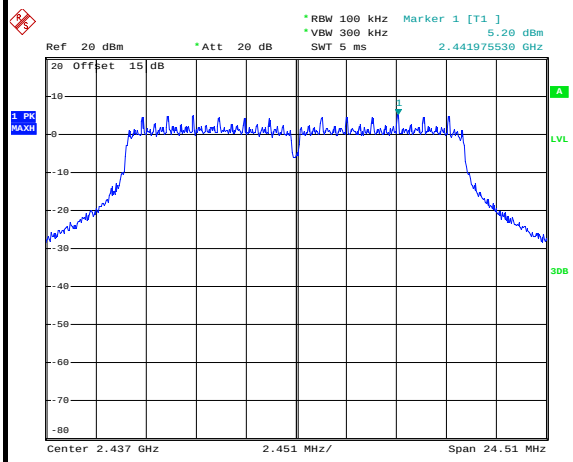


Date: 18.NOV.2014 20:06:54

Number of TX :	2	**Chain Port:**	0+1(1)
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

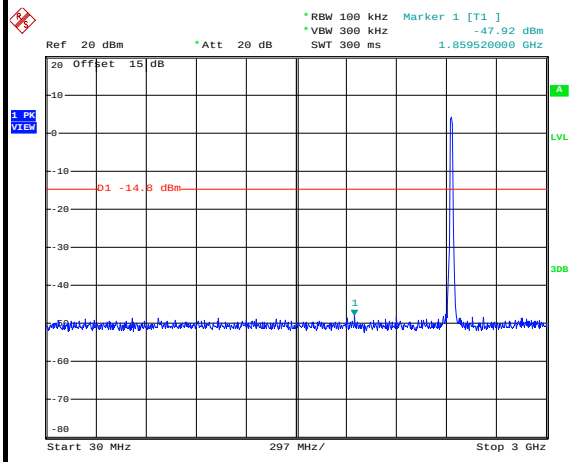
WLAN 802.11g Channel 06

100kHz PSD reference Level



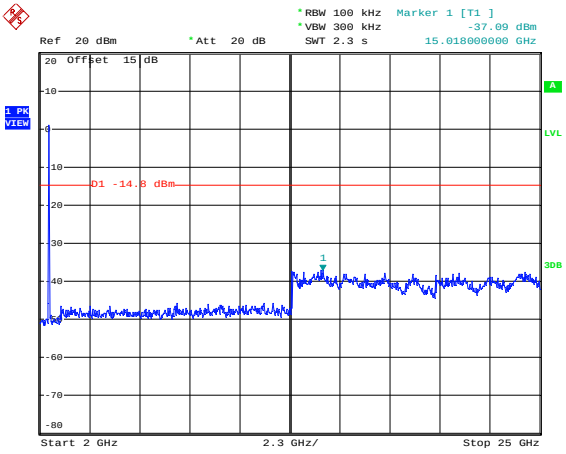
Date: 18.NOV.2014 20:12:42

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 20:14:00

Spurious Emission 2GHz~25GHz

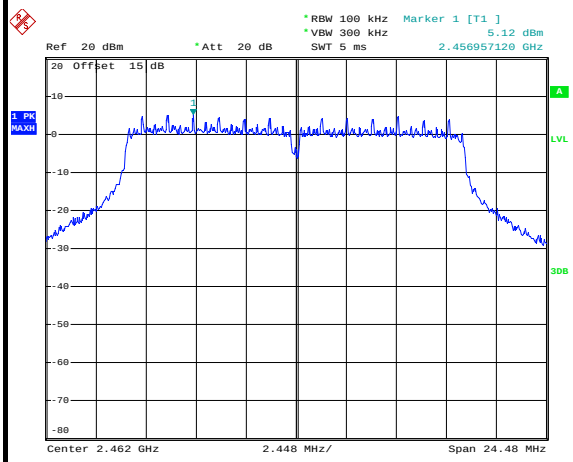


Date: 18.NOV.2014 20:14:18

Number of TX :	2	**Chain Port:**	0+1(1)
Test Mode :	802.11g	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Mygai Mo

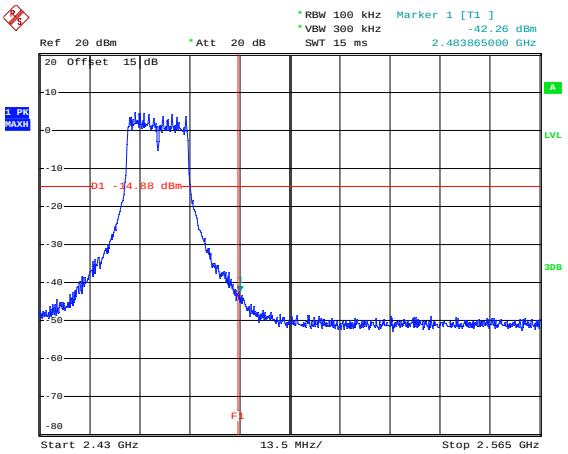
WLAN 802.11g Channel 11

100kHz PSD reference Level



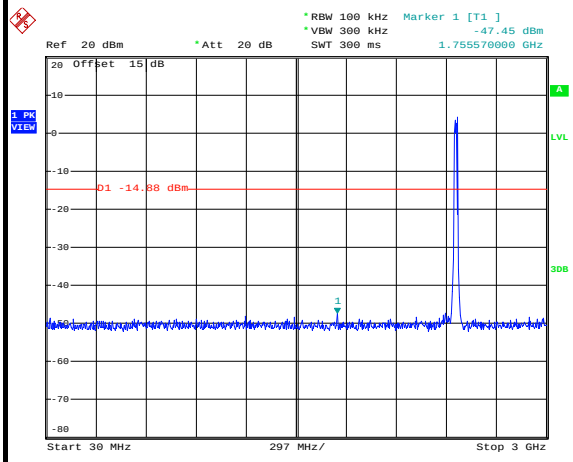
Date: 18.NOV.2014 20:22:40

High Channel Plot



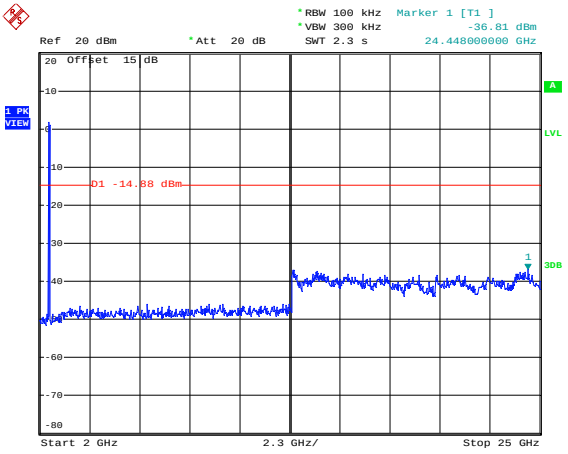
Date: 18.NOV.2014 20:23:14

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 20:24:58

Spurious Emission 2GHz~25GHz

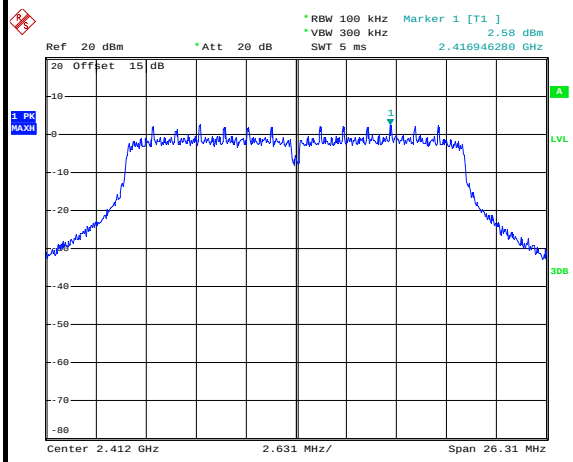


Date: 18.NOV.2014 20:25:16

Number of TX :	2	**Chain Port:**	0+1(1)
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	01	**Test Engineer :**	Mygai Mo

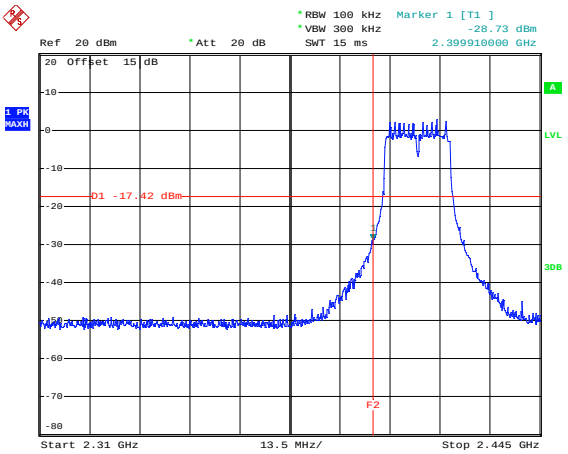
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



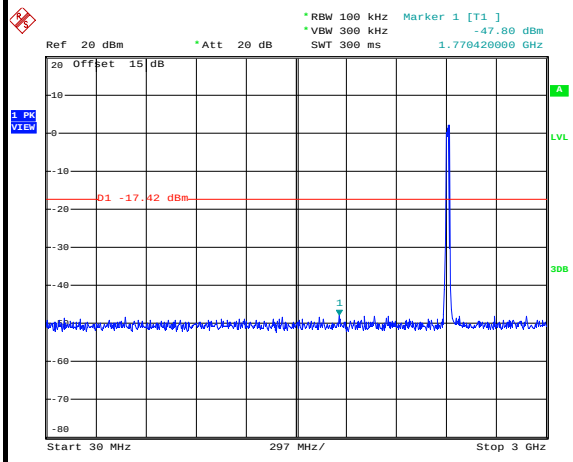
Date: 18.NOV.2014 20:29:13

Low Channel Plot



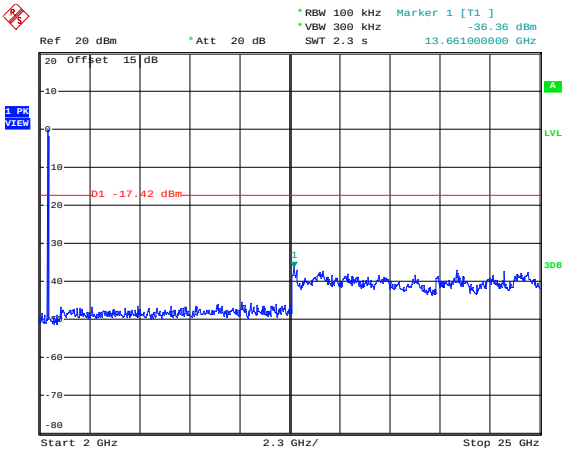
Date: 18.NOV.2014 20:29:55

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 20:30:24

Spurious Emission 2GHz~25GHz

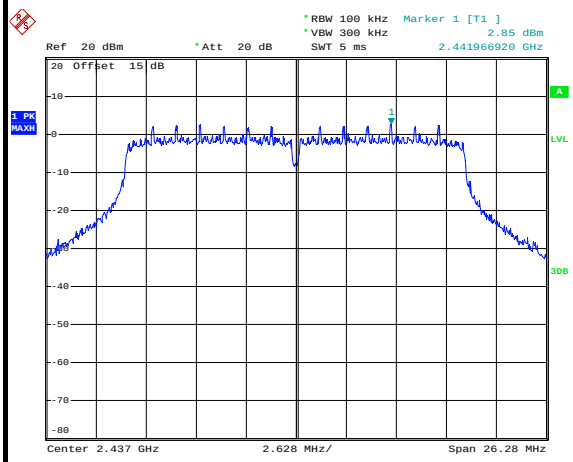


Date: 18.NOV.2014 20:30:41

Number of TX :	2	Chain Port:	0+1(1)
Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Mygai Mo

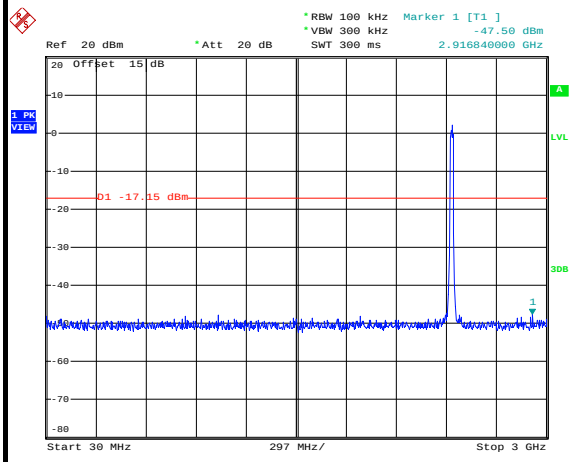
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



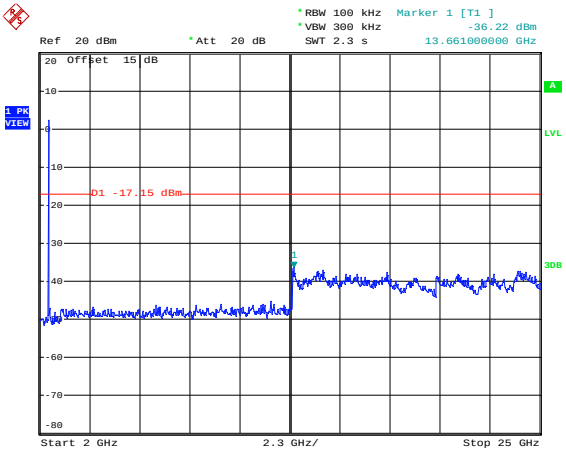
Date: 18.NOV.2014 20:33:03

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 20:33:38

Spurious Emission 2GHz~25GHz

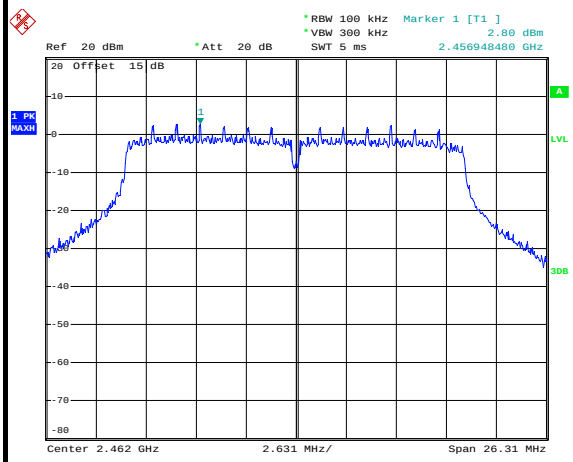


Date: 18.NOV.2014 20:33:56

Number of TX :	2	**Chain Port:**	0+1(1)
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Mygai Mo

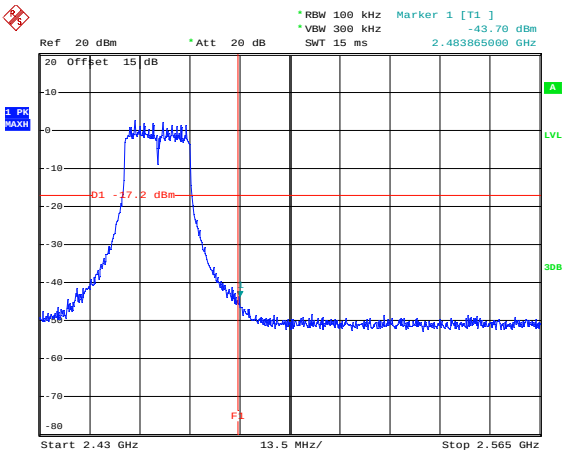
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



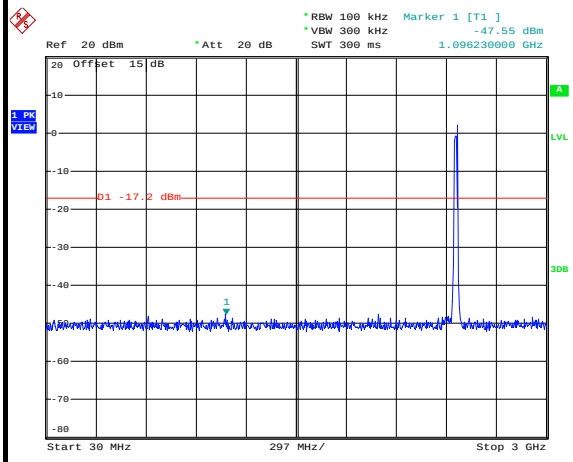
Date: 18.NOV.2014 20:36:30

High Channel Plot



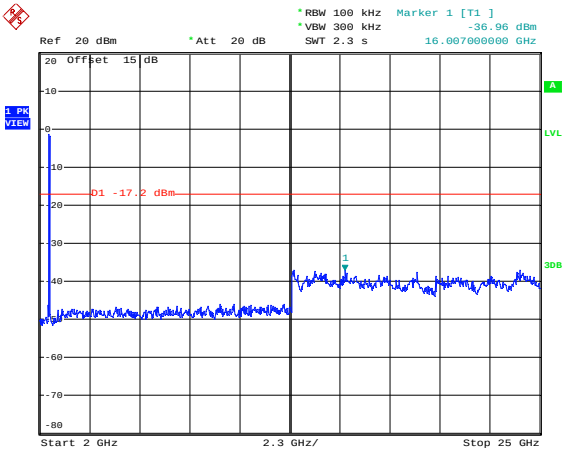
Date: 18.NOV.2014 20:36:51

Spurious Emission 30MHz~3GHz



Date: 18.NOV.2014 20:37:56

Spurious Emission 2GHz~25GHz

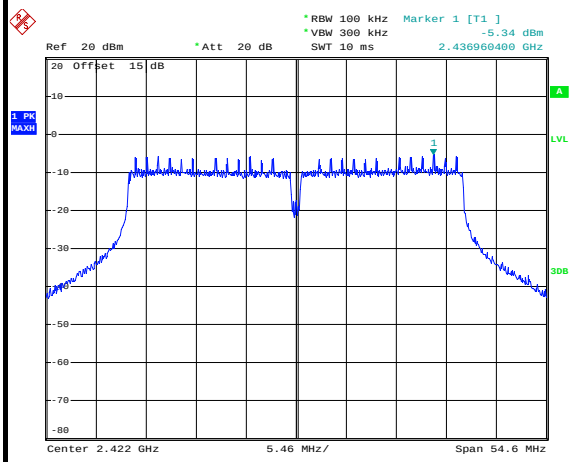


Date: 18.NOV.2014 20:38:14

Number of TX :	2	**Chain Port:**	0+1(1)
Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz Low	**Relative Humidity :**	50~53%
Test Channel :	03	**Test Engineer :**	Mygai Mo

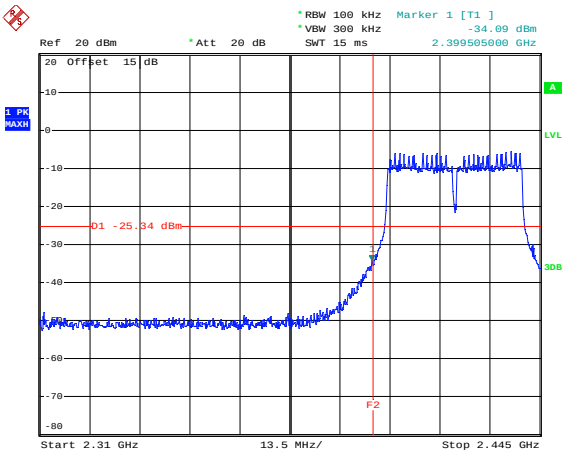
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



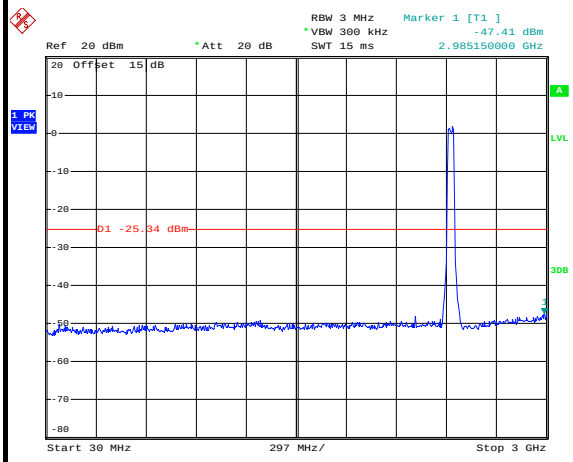
Date: 19.NOV.2014 01:03:20

Low Channel Plot



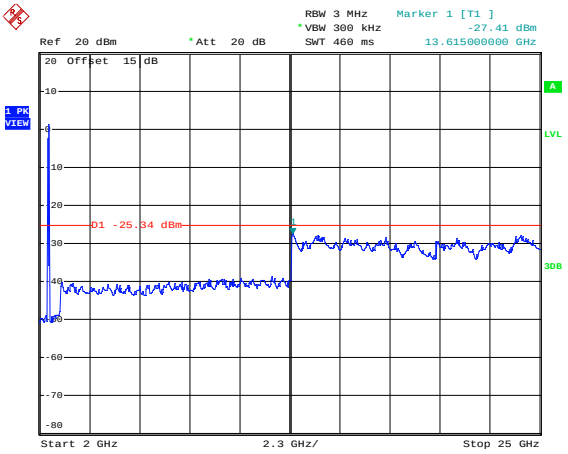
Date: 19.NOV.2014 01:03:54

Spurious Emission 30MHz~3GHz



Date: 27.NOV.2014 01:47:40

Spurious Emission 2GHz~25GHz

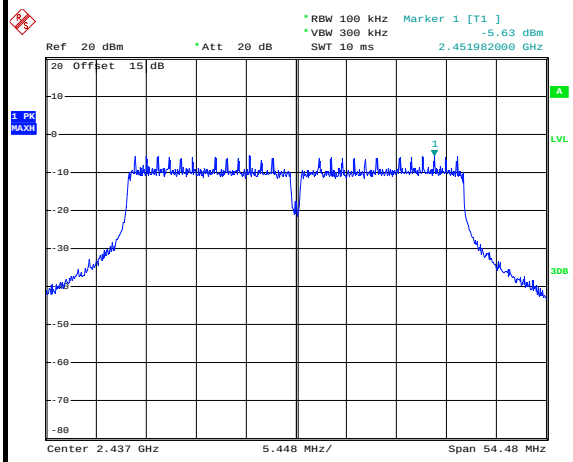


Date: 27.NOV.2014 01:47:58

Number of TX :	2	**Chain Port:**	0+1(1)
Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Mygai Mo

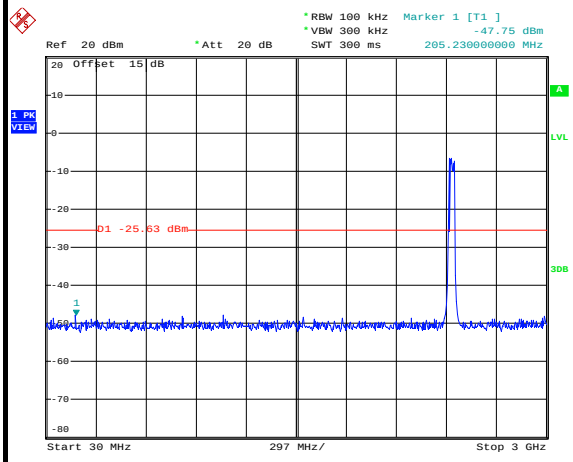
WLAN 802.11n HT40 Channel 06

100kHz PSD reference Level



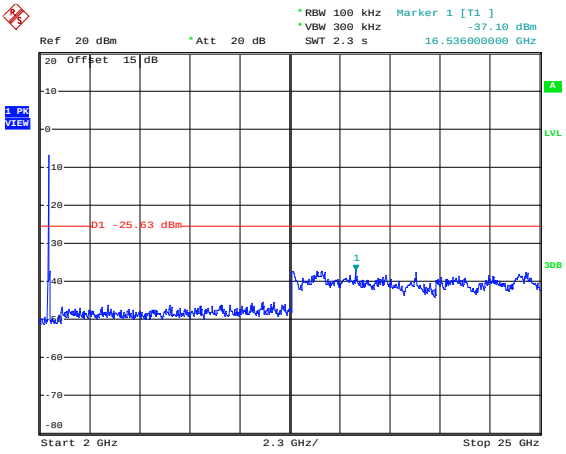
Date: 19.NOV.2014 01:08:42

Spurious Emission 30MHz~3GHz



Date: 19.NOV.2014 01:09:32

Spurious Emission 2GHz~25GHz

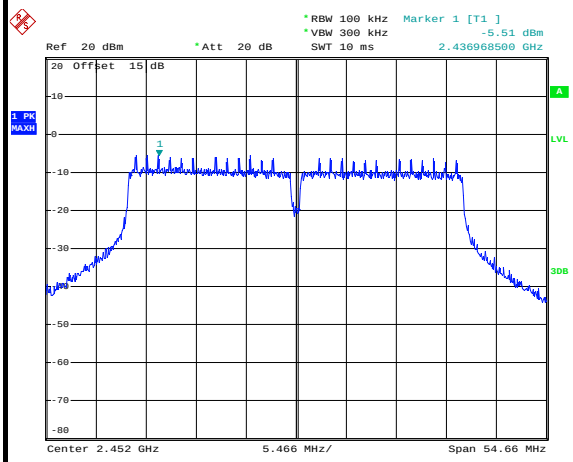


Date: 19.NOV.2014 01:09:50

Number of TX :	2	**Chain Port:**	0+1(1)
Test Mode :	802.11n HT40	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	09	**Test Engineer :**	Mygai Mo

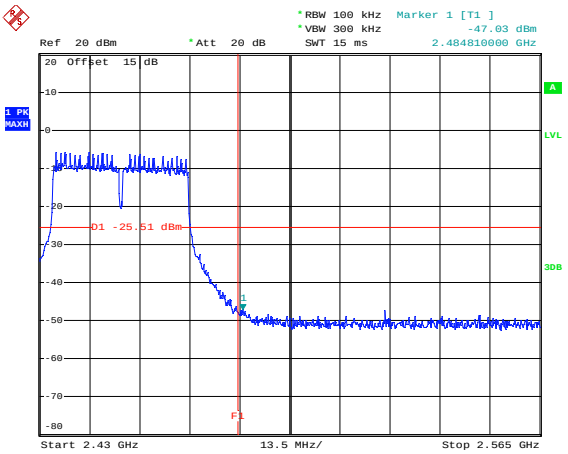
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



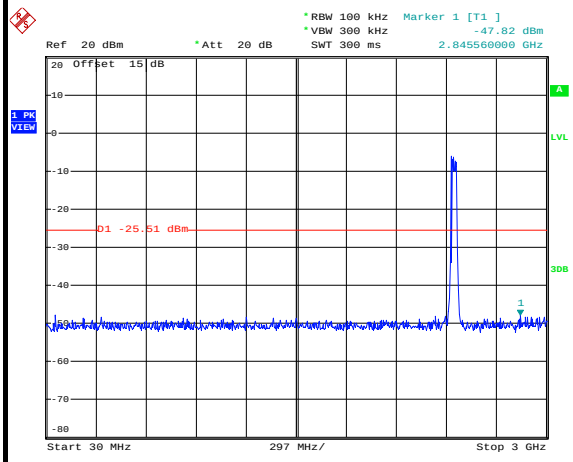
Date: 19.NOV.2014 01:12:45

High Channel Plot



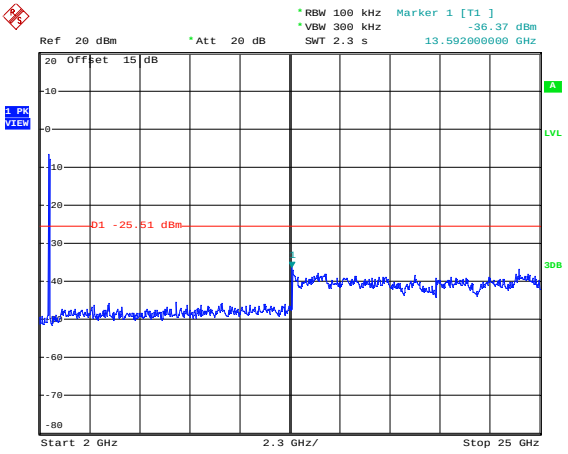
Date: 19.NOV.2014 01:13:08

Spurious Emission 30MHz~3GHz



Date: 19.NOV.2014 01:13:33

Spurious Emission 2GHz~25GHz



Date: 19.NOV.2014 01:13:51

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 FCC section 15.209 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.

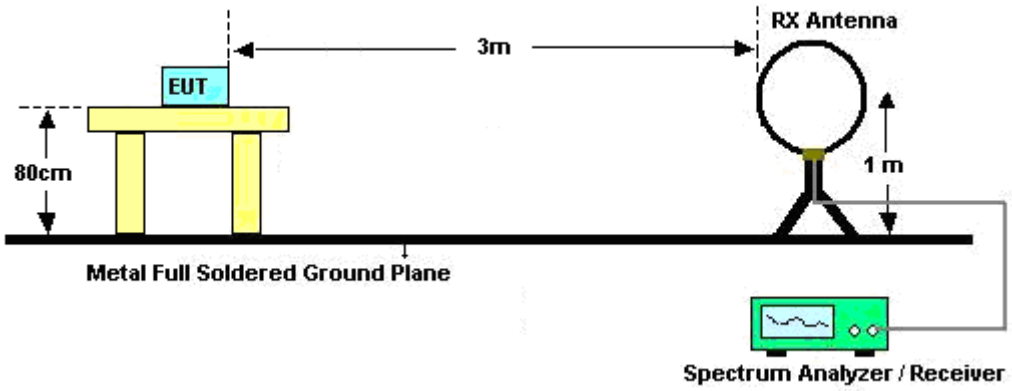
3.5.3 Test Procedure

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r02.
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 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 measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. 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.

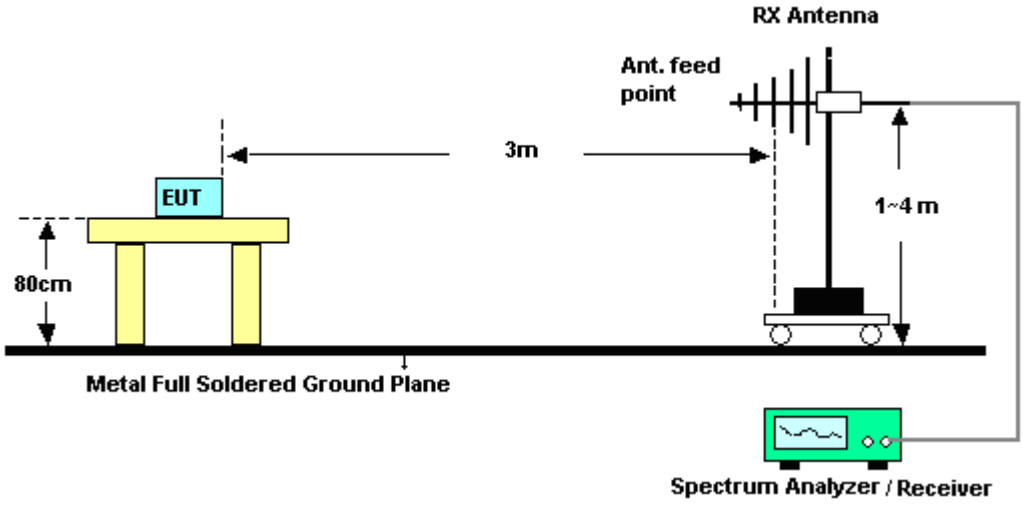
Chain Port	Band	Duty Cycle (%)	T(ms)	1/T(kHz)	VBW Setting
0+1	802.11b	99.47	-	-	10Hz
0+1	802.11g	96.40	1.36	0.74	1kHz
0+1	2.4GHz 802.11n HT20	92.96	0.66	1.51	3kHz
0+1	2.4GHz 802.11n HT40	86.72	0.25	4.02	10kHz

3.5.4 Test Setup

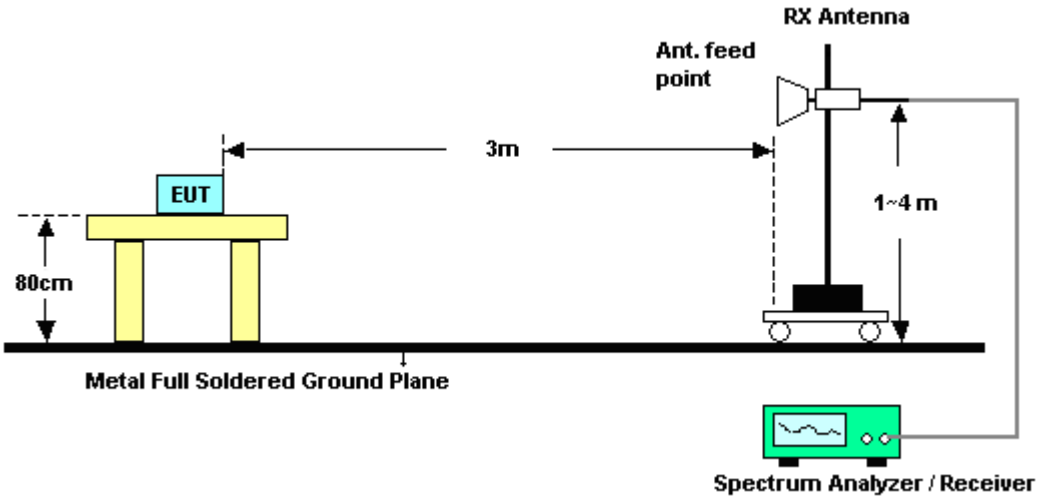
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated 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 per 15.31(o) was not reported.

3.5.6 Test Result of Radiated Spurious at Band Edges

<Chain Port 0+1>

Test Mode :	802.11b	Temperature :	23~25°C
Test Band :	Low	Relative Humidity :	48~52%
Test Channel :	01	Test Engineer :	Gavin Zhang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386.59	54.46	-19.54	74	42.52	32.6	8.6	29.26	110	259	Peak
2386.23	43.81	-10.19	54	31.87	32.6	8.6	29.26	110	259	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386.05	60.48	-13.52	74	48.54	32.6	8.6	29.26	196	152	Peak
2386.14	52.33	-1.67	54	40.39	32.6	8.6	29.26	196	152	Average

Test Mode :	802.11b	Temperature :	23~25°C
Test Band :	High	Relative Humidity :	48~52%
Test Channel :	11	Test Engineer :	Gavin Zhang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2486.89	54.15	-19.85	74	41.85	32.68	8.78	29.16	125	236	Peak
2487.85	45.91	-8.09	54	33.57	32.7	8.78	29.14	125	236	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.53	58.67	-15.33	74	46.37	32.68	8.78	29.16	100	307	Peak
2487.58	51.97	-2.03	54	39.63	32.7	8.78	29.14	100	307	Average

Test Mode :	802.11g	Temperature :	23~25°C
Test Band :	Low	Relative Humidity :	48~52%
Test Channel :	01	Test Engineer :	Gavin Zhang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.93	61.72	-12.28	74	49.78	32.6	8.6	29.26	134	273	Peak
2389.83	47.85	-6.15	54	35.91	32.6	8.6	29.26	134	273	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.65	64.38	-9.62	74	52.44	32.6	8.6	29.26	200	298	Peak
2389.92	52.36	-1.64	54	40.42	32.6	8.6	29.26	200	298	Average

Test Mode :	802.11g	Temperature :	23~25°C
Test Band :	High	Relative Humidity :	48~52%
Test Channel :	11	Test Engineer :	Gavin Zhang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.95	58.17	-15.83	74	45.87	32.68	8.78	29.16	131	273	Peak
2483.59	44.79	-9.21	54	32.49	32.68	8.78	29.16	131	273	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	69.67	-4.33	74	57.37	32.68	8.78	29.16	100	320	Peak
2483.5	52.83	-1.17	54	40.53	32.68	8.78	29.16	100	320	Average

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Band :	Low	Relative Humidity :	48~52%
Test Channel :	01	Test Engineer :	Gavin Zhang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.38	60.91	-13.09	74	48.97	32.6	8.6	29.26	132	100	Peak
2389.74	47.41	-6.59	54	35.47	32.6	8.6	29.26	132	100	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.56	69.36	-4.64	74	57.42	32.6	8.6	29.26	176	308	Peak
2389.56	52.68	-1.32	54	40.74	32.6	8.6	29.26	176	308	Average

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Band :	High	Relative Humidity :	48~52%
Test Channel :	11	Test Engineer :	Gavin Zhang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	61.43	-12.57	74	49.13	32.68	8.78	29.16	100	40	Peak
2483.5	45.49	-8.51	54	33.19	32.68	8.78	29.16	100	40	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.1	67.72	-6.28	74	55.42	32.68	8.78	29.16	100	326	Peak
2483.5	52.61	-1.39	54	40.31	32.68	8.78	29.16	100	326	Average

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Band :	Low	Relative Humidity :	48~52%
Test Channel :	03	Test Engineer :	Gavin Zhang

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.65	54.75	-19.25	74	42.81	32.6	8.6	29.26	100	40	Peak
2389.02	42.91	-11.09	54	30.97	32.6	8.6	29.26	100	40	Average
2489.77	51.84	-22.16	74	39.5	32.7	8.78	29.14	100	40	Peak
2485.39	42.08	-11.92	54	29.78	32.68	8.78	29.16	100	40	Average

ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.56	65.85	-8.15	74	53.91	32.6	8.6	29.26	194	135	Peak
2389.02	52.06	-1.94	54	40.12	32.6	8.6	29.26	194	135	Average
2484.67	54.82	-19.18	74	42.52	32.68	8.78	29.16	194	135	Peak
2483.86	43.77	-10.23	54	31.47	32.68	8.78	29.16	194	135	Average

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Band :	High	Relative Humidity :	48~52%
Test Channel :	09	Test Engineer :	Gavin Zhang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2332.5	51.35	-22.65	74	39.5	32.53	8.43	29.11	101	40	Peak
2364.27	41.41	-12.59	54	29.52	32.56	8.51	29.18	101	40	Average
2483.98	58.17	-15.83	74	45.87	32.68	8.78	29.16	101	40	Peak
2483.68	44.1	-9.9	54	31.8	32.68	8.78	29.16	101	40	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.11	54.64	-19.36	74	42.7	32.6	8.6	29.26	102	311	Peak
2388.39	43.72	-10.28	54	31.78	32.6	8.6	29.26	102	311	Average
2483.65	63.51	-10.49	74	51.21	32.68	8.78	29.16	102	311	Peak
2483.62	48.27	-5.73	54	35.97	32.68	8.78	29.16	102	311	Average

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

Note: Pre-scanned all test modes and only choose the worst case mode recorded in the test report for radiated spurious emission below 1GHz.

<Chain Port 0+1>

Test Mode :	802.11b	**Temperature :**	23~25°C
Test Channel :	01	**Relative Humidity :**	48~52%
Test Engineer :	Gavin Zhang	**Polarization :**	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	103.41	-	-	91.44	32.61	8.6	29.24	110	259	Peak
2412	101.44	-	-	89.47	32.61	8.6	29.24	110	259	Average
4824	43.6	-30.4	74	42.77	34.4	12.86	46.43	105	198	Peak

Test Mode :	802.11b	**Temperature :**	23~25°C
Test Channel :	01	**Relative Humidity :**	48~52%
Test Engineer :	Gavin Zhang	**Polarization :**	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	111.56	-	-	99.59	32.61	8.6	29.24	196	152	Peak
2412	109.2	-	-	97.23	32.61	8.6	29.24	196	152	Average
4824	35.21	-38.79	74	34.38	34.4	12.86	46.43	105	198	Peak

Test Mode :	802.11b	Temperature :	23~25°C
Test Channel :	06	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 2437 MHz is Fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	102.73	-	-	90.59	32.65	8.69	29.2	108	247	Peak
2437	100.62	-	-	88.48	32.65	8.69	29.2	108	247	Average
4874	41.81	-32.19	74	40.8	34.43	12.92	46.34	145	265	Peak
7311	38.21	-35.79	74	34.61	36.22	14.71	47.33	174	321	Peak

Test Mode :	802.11b	Temperature :	23~25°C
Test Channel :	06	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 2437 MHz is Fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	107.66	-	-	95.52	32.65	8.69	29.2	139	256	Peak
2437	105.38	-	-	93.24	32.65	8.69	29.2	139	256	Average
4874	34.29	-39.71	74	33.28	34.43	12.92	46.34	145	265	Peak
7311	38.2	-35.8	74	34.6	36.22	14.71	47.33	174	321	Peak

Test Mode :	802.11b	Temperature :	23~25°C
Test Channel :	11	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	102.61	-	-	90.43	32.67	8.69	29.18	125	236	Peak
2462	100.18	-	-	88	32.67	8.69	29.18	125	236	Average
4924	43.89	-30.11	74	42.64	34.46	13.04	46.25	146	347	Peak
7386	38.26	-35.74	74	34.65	36.26	14.75	47.4	145	274	Peak

Test Mode :	802.11b	Temperature :	23~25°C
Test Channel :	11	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	108.7	-	-	96.52	32.67	8.69	29.18	100	307	Peak
2462	106.45	-	-	94.27	32.67	8.69	29.18	100	307	Average
4924	40.71	-33.29	74	39.46	34.46	13.04	46.25	146	347	Peak
7386	37.88	-36.12	74	34.27	36.26	14.75	47.4	145	274	Peak

Test Mode :	802.11g	Temperature :	23~25°C
Test Channel :	01	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	104.66	-	-	92.69	32.61	8.6	29.24	134	273	Peak
2412	95.15	-	-	83.18	32.61	8.6	29.24	134	273	Average
4824	36.27	-37.73	74	35.44	34.4	12.86	46.43	105	198	Peak

Test Mode :	802.11g	Temperature :	23~25°C
Test Channel :	01	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	110.2	-	-	98.23	32.61	8.6	29.24	200	298	Peak
2412	100.71	-	-	88.74	32.61	8.6	29.24	200	298	Average
4824	36.62	-37.38	74	35.79	34.4	12.86	46.43	105	198	Peak

Test Mode :	802.11g	Temperature :	23~25°C
Test Channel :	06	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	103.25	-	-	91.11	32.65	8.69	29.2	102	321	Peak
2437	93.44	-	-	81.3	32.65	8.69	29.2	102	321	Average
4874	35.22	-38.78	74	34.21	34.43	12.92	46.34	145	265	Peak
7311	39.15	-34.85	74	35.55	36.22	14.71	47.33	174	321	Peak

Test Mode :	802.11g	Temperature :	23~25°C
Test Channel :	06	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	109.39	-	-	97.25	32.65	8.69	29.2	100	301	Peak
2437	100.44	-	-	88.3	32.65	8.69	29.2	100	301	Average
4874	35.91	-38.09	74	34.9	34.43	12.92	46.34	145	265	Peak
7311	38.35	-35.65	74	34.75	36.22	14.71	47.33	174	321	Peak

Test Mode :	802.11g	Temperature :	23~25°C
Test Channel :	11	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
159.01	40.66	-2.84	43.5	57.32	12.1	1.95	30.71	137	262	QP
275.41	27.73	-18.27	46	41.87	13.8	2.6	30.54	-	-	Peak
375.32	25.53	-20.47	46	37.34	15.5	3.08	30.39	-	-	Peak
719.67	26.94	-19.06	46	32.06	20.22	4.34	29.68	-	-	Peak
874.87	36.39	-9.61	46	38.92	21.7	4.82	29.05	-	-	Peak
960.23	38.36	-15.64	54	39.57	22.43	5.06	28.7	-	-	Peak
2462	101.39	-	-	89.21	32.67	8.69	29.18	131	273	Peak
2462	92.8	-	-	80.62	32.67	8.69	29.18	131	273	Average
4924	38.02	-35.98	74	36.77	34.46	13.04	46.25	146	347	Peak
7386	38.76	-35.24	74	35.15	36.26	14.75	47.4	145	274	Peak

Test Mode :	802.11g	Temperature :	23~25°C
Test Channel :	11	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
42.61	36.17	-3.83	40	54.23	11.7	1	30.76	100	230	QP
158.04	39.06	-4.44	43.5	55.72	12.1	1.95	30.71	-	-	Peak
211.39	25.86	-17.64	43.5	43.9	10.34	2.27	30.65	-	-	Peak
717.73	26.6	-19.4	46	31.77	20.19	4.32	29.68	-	-	Peak
874.87	32.81	-13.19	46	35.34	21.7	4.82	29.05	-	-	Peak
960.23	34.94	-19.06	54	36.15	22.43	5.06	28.7	-	-	Peak
2462	110.72	-	-	98.54	32.67	8.69	29.18	100	320	Peak
2462	101.9	-	-	89.72	32.67	8.69	29.18	100	320	Average
4924	35.84	-38.16	74	34.59	34.46	13.04	46.25	146	347	Peak
7386	37.35	-36.65	74	33.74	36.26	14.75	47.4	145	274	Peak

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	01	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	105.76	-	-	93.79	32.61	8.6	29.24	132	100	Peak
2412	96.99	-	-	85.02	32.61	8.6	29.24	132	100	Average
4824	36.66	-37.34	74	35.83	34.4	12.86	46.43	105	198	Peak

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	01	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	110.61	-	-	98.64	32.61	8.6	29.24	176	308	Peak
2412	102.08	-	-	90.11	32.61	8.6	29.24	176	308	Average
4824	36.77	-37.23	74	35.94	34.4	12.86	46.43	105	198	Peak

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	06	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	106.46	-	-	94.32	32.65	8.69	29.2	170	101	Peak
2437	97.69	-	-	85.55	32.65	8.69	29.2	170	101	Average
4874	35.91	-38.09	74	34.9	34.43	12.92	46.34	145	265	Peak
7311	38.72	-35.28	74	35.12	36.22	14.71	47.33	174	321	Peak

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	06	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	111.26	-	-	99.12	32.65	8.69	29.2	107	309	Peak
2437	103.03	-	-	90.89	32.65	8.69	29.2	107	309	Average
4874	35.44	-38.56	74	34.43	34.43	12.92	46.34	145	265	Peak
7311	38.47	-35.53	74	34.87	36.22	14.71	47.33	174	321	Peak

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	11	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	104	-	-	91.82	32.67	8.69	29.18	100	40	Peak
2462	94.56	-	-	82.38	32.67	8.69	29.18	100	40	Average
4924	36.78	-37.22	74	35.53	34.46	13.04	46.25	146	347	Peak
7386	38.03	-35.97	74	34.42	36.26	14.75	47.4	145	274	Peak

Test Mode :	802.11n HT20	Temperature :	23~25°C
Test Channel :	11	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	110.95	-	-	98.77	32.67	8.69	29.18	100	326	Peak
2462	102.68	-	-	90.5	32.67	8.69	29.18	100	326	Average
4924	37.59	-36.41	74	36.34	34.46	13.04	46.25	146	347	Peak
7386	37.92	-36.08	74	34.31	36.26	14.75	47.4	145	274	Peak

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	03	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 2422 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2422	95.53	-	-	83.52	32.63	8.6	29.22	100	40	Peak
2422	87.68	-	-	75.67	32.63	8.6	29.22	100	40	Average
4844	38.96	-35.04	74	38.03	34.41	12.92	46.4	126	248	Peak
7266	39.37	-34.63	74	35.75	36.21	14.7	47.29	185	252	Peak

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	03	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 2422 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2422	107.03	-	-	95.02	32.63	8.6	29.22	194	135	Peak
2422	98.32	-	-	86.31	32.63	8.6	29.22	194	135	Average
4844	37.16	-36.84	74	36.23	34.41	12.92	46.4	126	248	Peak
7266	38.76	-35.24	74	35.14	36.21	14.7	47.29	185	252	Peak

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	06	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	97.92	-	-	85.78	32.65	8.69	29.2	101	38	Peak
2437	89.61	-	-	77.47	32.65	8.69	29.2	101	38	Average
4874	36.77	-37.23	74	35.76	34.43	12.92	46.34	132	224	Peak
7311	40.63	-33.37	74	37.03	36.22	14.71	47.33	119	347	Peak

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	06	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	102.89	-	-	90.75	32.65	8.69	29.2	100	133	Peak
2437	94.71	-	-	82.57	32.65	8.69	29.2	100	133	Average
4874	37.05	-36.95	74	36.04	34.43	12.92	46.34	132	224	Peak
7311	38.81	-35.19	74	35.21	36.22	14.71	47.33	119	347	Peak

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	09	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	1. 2452 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2452	97.41	-	-	85.27	32.65	8.69	29.2	101	40	Peak
2452	89.61	-	-	77.47	32.65	8.69	29.2	101	40	Average
4904	39.2	-34.8	74	38.05	34.45	12.98	46.28	125	214	Peak
7356	41.76	-32.24	74	38.16	36.24	14.73	47.37	127	315	Peak

Test Mode :	802.11n HT40	Temperature :	23~25°C
Test Channel :	09	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	1. 2452 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2452	104.2	-	-	92.06	32.65	8.69	29.2	102	311	Peak
2452	95.74	-	-	83.6	32.65	8.69	29.2	102	311	Average
4904	39.07	-34.93	74	37.92	34.45	12.98	46.28	125	214	Peak
7356	40.34	-33.66	74	36.74	36.24	14.73	47.37	127	315	Peak

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.

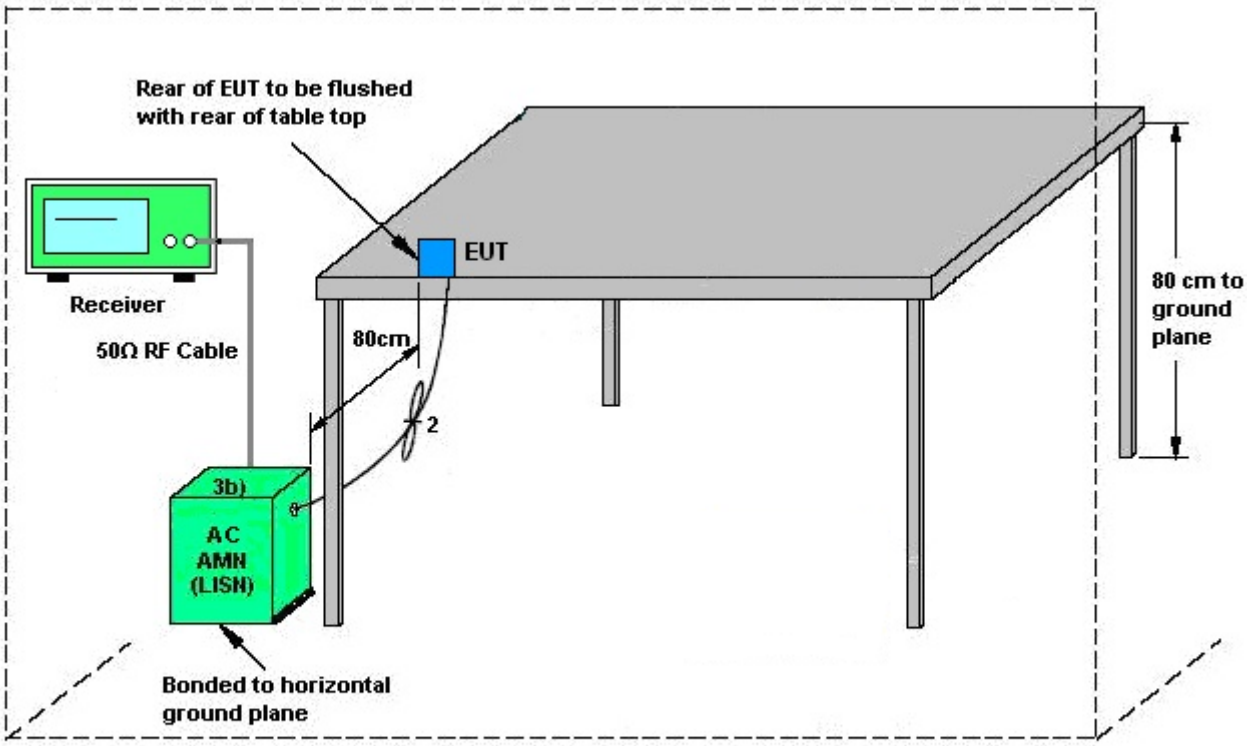
3.6.2 Measuring Instruments

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.

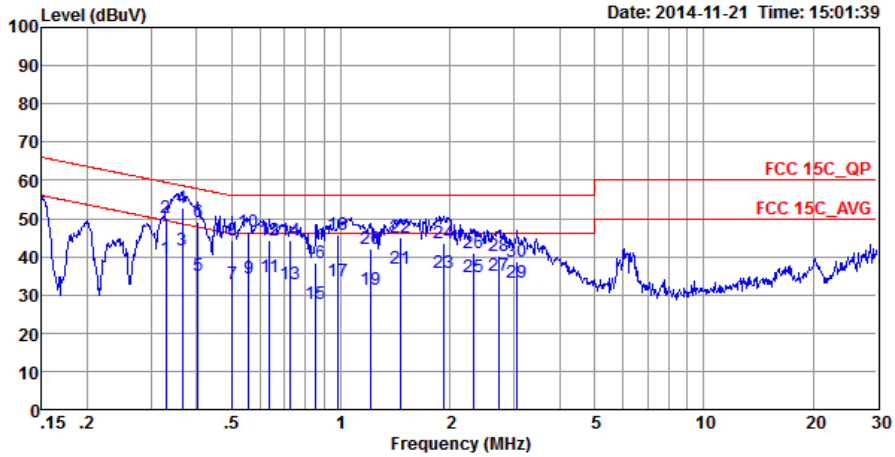
3.6.4 Test Setup



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

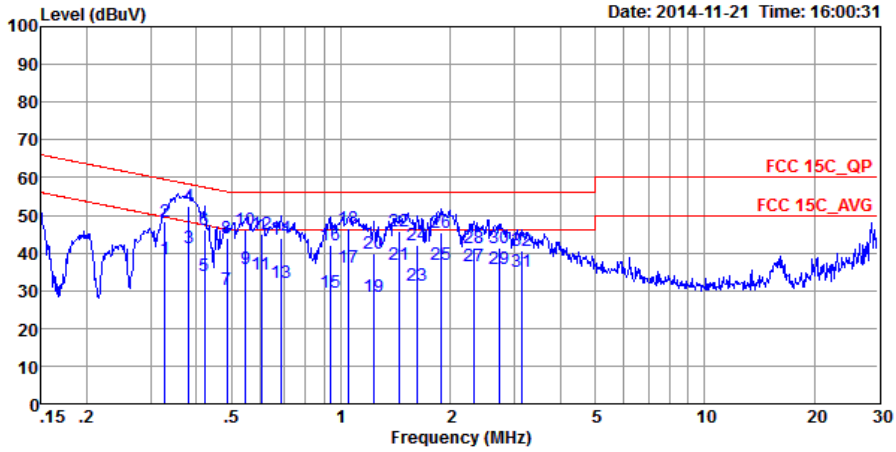
Test Mode :	Mode 1	Temperature :	21~22℃
Test Engineer :	Jack Tian	Relative Humidity :	41~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN (2.4GHz) Link + LAN Link + Adapter		



Site : CO01-SZ
Condition: FCC 15C_QP LISN_L_20140304 LINE

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.33	39.55	-9.89	49.44	29.10	0.26	10.19	Average
2		0.33	50.35	-9.09	59.44	39.90	0.26	10.19	QP
3		0.37	41.65	-6.96	48.61	31.20	0.27	10.18	Average
4	*	0.37	52.85	-5.76	58.61	42.40	0.27	10.18	QP
5		0.40	34.95	-12.82	47.77	24.50	0.28	10.17	Average
6		0.40	49.05	-8.72	57.77	38.60	0.28	10.17	QP
7		0.50	32.95	-13.05	46.00	22.49	0.30	10.16	Average
8		0.50	44.35	-11.65	56.00	33.89	0.30	10.16	QP
9		0.56	34.31	-11.69	46.00	23.90	0.26	10.15	Average
10		0.56	46.31	-9.69	56.00	35.90	0.26	10.15	QP
11		0.64	34.76	-11.24	46.00	24.40	0.21	10.15	Average
12		0.64	44.16	-11.84	56.00	33.80	0.21	10.15	QP
13		0.73	32.74	-13.26	46.00	22.40	0.19	10.15	Average
14		0.73	44.44	-11.56	56.00	34.10	0.19	10.15	QP
15		0.85	27.57	-18.43	46.00	17.20	0.22	10.15	Average
16		0.85	38.37	-17.63	56.00	28.00	0.22	10.15	QP
17		0.98	33.61	-12.39	46.00	23.20	0.26	10.15	Average
18		0.98	45.61	-10.39	56.00	35.20	0.26	10.15	QP
19		1.21	31.31	-14.69	46.00	20.90	0.25	10.16	Average
20		1.21	41.91	-14.09	56.00	31.50	0.25	10.16	QP
21		1.46	36.81	-9.19	46.00	26.40	0.24	10.17	Average
22		1.46	45.11	-10.89	56.00	34.70	0.24	10.17	QP
23		1.93	35.81	-10.19	46.00	25.40	0.22	10.19	Average
24		1.93	43.71	-12.29	56.00	33.30	0.22	10.19	QP
25		2.32	34.65	-11.35	46.00	24.20	0.25	10.20	Average
26		2.32	40.95	-15.05	56.00	30.50	0.25	10.20	QP
27		2.74	35.20	-10.80	46.00	24.70	0.29	10.21	Average
28		2.74	40.40	-15.60	56.00	29.90	0.29	10.21	QP
29		3.06	33.32	-12.68	46.00	22.80	0.31	10.21	Average
30		3.06	38.72	-17.28	56.00	28.20	0.31	10.21	QP

Test Mode :	Mode 1	Temperature :	21~22℃
Test Engineer :	Jack Tian	Relative Humidity :	41~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN (2.4GHz) Link + LAN Link + Adapter		



Site : CO01-SZ
Condition: FCC 15C_QP LISN_N_20140304 NEUTRAL

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.33	38.36	-11.13	49.49	27.80	0.37	10.19	Average
2		0.33	48.26	-11.23	59.49	37.70	0.37	10.19	QP
3		0.38	41.26	-6.99	48.25	30.70	0.38	10.18	Average
4	*	0.38	52.36	-5.89	58.25	41.80	0.38	10.18	QP
5		0.42	34.06	-13.36	47.42	23.50	0.39	10.17	Average
6		0.42	46.06	-11.36	57.42	35.50	0.39	10.17	QP
7		0.49	30.16	-16.07	46.23	19.59	0.41	10.16	Average
8		0.49	43.76	-12.47	56.23	33.19	0.41	10.16	QP
9		0.55	35.72	-10.28	46.00	25.20	0.37	10.15	Average
10		0.55	46.12	-9.88	56.00	35.60	0.37	10.15	QP
11		0.60	34.17	-11.83	46.00	23.70	0.32	10.15	Average
12		0.60	45.17	-10.83	56.00	34.70	0.32	10.15	QP
13		0.68	32.11	-13.89	46.00	21.70	0.26	10.15	Average
14		0.68	43.91	-12.09	56.00	33.50	0.26	10.15	QP
15		0.93	29.66	-16.34	46.00	19.20	0.31	10.15	Average
16		0.93	42.16	-13.84	56.00	31.70	0.31	10.15	QP
17		1.05	35.99	-10.01	46.00	25.51	0.33	10.15	Average
18		1.05	46.59	-9.41	56.00	36.11	0.33	10.15	QP
19		1.24	28.50	-17.50	46.00	18.00	0.34	10.16	Average
20		1.24	40.00	-16.00	56.00	29.50	0.34	10.16	QP
21		1.45	36.72	-9.28	46.00	26.20	0.35	10.17	Average
22		1.45	45.72	-10.28	56.00	35.20	0.35	10.17	QP
23		1.62	31.33	-14.67	46.00	20.79	0.36	10.18	Average
24		1.62	42.23	-13.77	56.00	31.69	0.36	10.18	QP
25		1.89	37.05	-8.95	46.00	26.49	0.37	10.19	Average
26		1.89	45.35	-10.65	56.00	34.79	0.37	10.19	QP
27		2.32	36.49	-9.51	46.00	25.90	0.39	10.20	Average
28		2.32	41.29	-14.71	56.00	30.70	0.39	10.20	QP
29		2.74	35.72	-10.28	46.00	25.10	0.41	10.21	Average
30		2.74	41.42	-14.58	56.00	30.80	0.41	10.21	QP
31		3.16	34.94	-11.06	46.00	24.30	0.43	10.21	Average
32		3.16	40.54	-15.46	56.00	29.90	0.43	10.21	QP

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. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the Antenna exceeds 6 dBi. 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 FCC rule.

3.7.2 Antenna Anti-Replacement Construction

Device use external antennas with N type connector, and device shall be professionally installed.

3.7.3 Antenna Gain

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 $N_{ANT} \leq 4$.

The EUT supports CDD mode.

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.

	Chain Port 0 (dBi)	Chain Port 1 (dBi)	for Power (dBi)	for PSD (dBi)	Limit Reduction (dB)	Limit Reduction (dB)
2.4 GHz	1.20	1.20	1.20	4.21	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
Spectrum Analyzer	R&S	FSP30	101400	9kHz~30GHz	Mar. 03, 2014	Nov. 18, 2014~ Nov. 27, 2014	Mar. 02, 2015	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	13dBm~-20dBm	Mar. 03, 2014	Nov. 18, 2014~ Nov. 27, 2014	Mar. 02, 2015	Conducted (TH01-SZ)
Power Sensor	Dare	RPR3006W	TH01SZ00019	0.3GHz~6GHz	Mar. 14, 2014	Nov. 18, 2014~ Nov. 27, 2014	Mar. 13, 2015	Conducted (TH01-SZ)
ESCIO TEST Receiver	R&S	ESCI	100724	9kHz~3GHz	Feb. 21, 2014	Nov. 07, 2014	Feb. 20, 2015	Radiation (03CH01-SZ)
Spectrum Analyzer	Agilent Technologies	N9038A	MY52260185	20Hz~26.5GHz	May 26, 2014	Nov. 07, 2014	May 25, 2015	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 09, 2014	Nov. 07, 2014	May 08, 2015	Radiation (03CH01-SZ)
Bilog Antenna	TESEQ	CBL 6112D	37877	30MHz~2GHz	Oct. 15, 2014	Nov. 07, 2014	Oct. 14, 2015	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 15, 2014	Nov. 07, 2014	Oct. 14, 2015	Radiation (03CH01-SZ)
Double Ridged Horn Antenna	COM-POWER	AH-840	101073	18GHz~40GHz	Jun. 09, 2014	Nov. 07, 2014	Jun. 08, 2015	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz~3000MHz	Feb. 21, 2014	Nov. 07, 2014	Feb. 20, 2015	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	May 08, 2014	Nov. 07, 2014	May 07, 2015	Radiation (03CH01-SZ)
AC Source(AVR)	Chroma	61601	616010001985	100Vac~250Vac	Mar. 25, 2014	Nov. 07, 2014	Mar. 24, 2015	Radiation (03CH01-SZ)
Turn Table	EM Electronics	EM 1000	N/A	0~360 degree	NCR	Nov. 07, 2014	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM Electronics	EM 1000	N/A	1 m~4 m	NCR	Nov. 07, 2014	NCR	Radiation (03CH01-SZ)
ESCIO TEST Receiver	R&S	ESCI	100724	9kHz~3GHz	Feb. 21, 2014	Nov. 21, 2014	Feb. 20, 2015	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Mar. 04, 2014	Nov. 21, 2014	Mar. 03, 2015	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Mar. 04, 2014	Nov. 21, 2014	Mar. 03, 2015	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Dec. 17, 2013	Nov. 21, 2014	Dec. 16, 2014	Conduction (CO01-SZ)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.3 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.9 dB**