



FCC RF Test Report

APPLICANT : Lenovo (Shanghai) Electronics
Technology Co., Ltd.
EQUIPMENT : Portable Tablet Computer
BRAND NAME : Lenovo
MODEL NAME : Lenovo YB1-X90F
FCC ID : O57YB1X90F
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Dec. 07, 2015 and testing was completed on Feb. 01, 2016. We, SPORTON INTERNATIONAL (KUNSHAN) 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

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Approved by: Jones Tsai / Manager

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No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China



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SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	RSS-247 5.2(1)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.1	-	RSS-Gen 6.6	99% Bandwidth	-	Pass	-
3.2	15.247(b)	RSS-247 A5.4(4)	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	RSS-247 5.2(2)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	RSS-247 5.5	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
			Conducted Spurious Emission		Pass	-
3.5	15.247(d)	RSS-247 5.5	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 1.65 dB at 2487.640 MHz
3.6	15.207	RSS-GEN 8.8	AC Conducted Emission	15.207(a)	Pass	Under limit 5.19 dB at 1.460 MHz
3.7	15.203 & 15.247(b)	N/A	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

Lenovo (Shanghai) Electronics Technology Co., Ltd.

NO.68 BUILDING, 199 FENJU RD, China (Shanghai) Pilot Free Trade Zone, 200131, CHINA

1.2 Manufacturer

Lenovo PC HK Limited

23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Portable Tablet Computer
Brand Name	Lenovo
Model Name	Lenovo YB1-X90F
FCC ID	O57YB1X90F
EUT supports Radios application	WLAN 2.4GHz 802.11b/g/n HT20/ WLAN 5GHz 802.11a/n HT20/HT40/ WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/ Bluetooth v3.0 + EDR/Bluetooth v4.0 LE
HW Version	Lenovo YB1-X90F
SW Version	YB1-X90F_151203
EUT Stage	Identical Prototype

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 of Equipment Under Test

Standards-related Product Specification																
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz															
Maximum (Peak) Output Power to antenna	802.11b : 21.13 dBm (0.1297 W) 802.11g : 23.08 dBm (0.2032 W) 802.11n HT20 : 25.86 dBm (0.3855 W)															
99% Occupied Bandwidth	802.11b : 11.59MHz 802.11g : 18.68MHz 802.11n HT20 : 19.13MHz															
Antenna Type / Gain	WLAN for Chain Port 1: PIFA Antenna with gain -1.73 dBi WLAN for Chain Port 2: PIFA Antenna with gain 0.57 dBi															
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)															
Antenna Function for Transmitter	<table border="1"> <thead> <tr> <th></th> <th>Chain Port 1</th> <th>Chain Port 2</th> </tr> </thead> <tbody> <tr> <td>802.11 b</td> <td>V</td> <td>V</td> </tr> <tr> <td>802.11 g</td> <td>V</td> <td>V</td> </tr> <tr> <td>802.11 n SISO</td> <td>V</td> <td>V</td> </tr> <tr> <td>802.11 n MIMO</td> <td>V</td> <td>V</td> </tr> </tbody> </table>		Chain Port 1	Chain Port 2	802.11 b	V	V	802.11 g	V	V	802.11 n SISO	V	V	802.11 n MIMO	V	V
		Chain Port 1	Chain Port 2													
	802.11 b	V	V													
	802.11 g	V	V													
	802.11 n SISO	V	V													
802.11 n MIMO	V	V														



1.5 Component List

Note: There are two types of EUT, the details refer the following table. According to the difference, we evaluate is not affect RF performance, so only choose sample 1 to perform RF test.

Component	Sample 1	Sample 2
CPU	Intel Cherry Trail-T4	Intel Cherry Trail-T4
Flash	Samsung KLMBG4WEBD-B031	Toshiba THGBMFG9C4LBAIR
LCD	INX P101KDA-AK0;10.1;IPS;1200×1920;MIPI;2.5	AUO B101UAN07.1;10.1;IPS1200×1920MIPI;2.5
TP	O-Film TP_GFF_OF/MCF-101-2292	GIS TP_GFF_GIS/TC101GFL11 V.A
Front Camera	Primax CCM L202V 2M OV2740 COB 24PIN BtoB	Ofilm CCM L2740F00 2M OV2740 COB 24PIN BtoB
Back Camera	Ofilm CCM L8858A20 8M OV8858 COB 31PIN ZIF	Ofilm CCM L8858A20 8M OV8858 COB 31PIN ZIF
Battery	CELXPERT L15C2P31 3.8V;32.3Wh;8500mAh; 2cell bty	CELXPERT L15C2P31 3.8V;32.3Wh;8500mAh; 2cell bty

1.6 Modification of EUT

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



1.7 Testing Location

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.			
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	TH01-KS	03CH03-KS	CO01-KS	306251/4086E

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

1.8 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 v03r04
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

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.

2.4GHz 802.11b Peak Power (dBm)							
Power vs. Channel				Power vs. Data Rate			
Channel	Frequency (MHz)	Chain Port	Data Rate	Channel	2Mbps	5.5Mbps	11Mbps
			1Mbps				
CH 01	2412	1	20.37	CH 11	20.87	20.91	21.11
CH 06	2437	1	20.73				
CH 11	2462	1	21.13				
CH 01	2412	2	19.55	CH 11	19.49	19.57	19.60
CH 06	2437	2	19.51				
CH 11	2462	2	19.62				

2.4GHz 802.11g Peak Power (dBm)											
Power vs. Channel				Power vs. Data Rate							
Channel	Frequency (MHz)	Chain Port	Data Rate	Channel	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
			6Mbps								
CH 01	2412	1	21.07	CH 06	20.98	20.75	20.71	23.02	23.01	23.05	22.77
CH 06	2437	1									23.08
CH 11	2462	1									22.97
CH 01	2412	2	20.82	CH 01	20.51	20.66	20.77	22.52	22.78	22.84	22.92
CH 06	2437	2									22.73
CH 11	2462	2									22.41



2.4GHz 802.11n HT20 Peak Power (dBm)											
Power vs. Channel				Power vs. MCS Index							
Channel	Frequency (MHz)	Chain Port	MCS Index	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
			MCS0								
CH 01	2412	1	22.65	CH 11	22.62	22.59	24.61	24.43	24.60	24.45	23.33
CH 06	2437	1									24.13
CH 11	2462	1									24.62
CH 01	2412	2	23.03	CH 11	22.87	22.99	24.57	24.62	24.71	24.67	23.03
CH 06	2437	2									24.06
CH 11	2462	2									24.73
CH 01	2412	1+2(1)	20.06	CH 11	20.25	20.78	23.08	23.08	23.24	22.91	23.12
CH 06	2437	1+2(1)	20.22								
CH 11	2462	1+2(1)	20.46								
CH 01	2412	1+2(2)	19.82	CH 11	20.12	20.20	22.49	22.33	22.28	22.47	22.56
CH 06	2437	1+2(2)	19.97								
CH 11	2462	1+2(2)	20.22								
CH 01	2412	1+2	23.35	CH 11	23.20	23.51	25.81	25.73	25.80	25.71	25.15
CH 06	2437	1+2									25.60
CH 11	2462	1+2									25.86

Note: Chain Port 1+2 is a calculated result from sum of the power Chain Port 1+2(1) and Chain Port 1+2(2).



2.3 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates from the power table described in section 2.2.

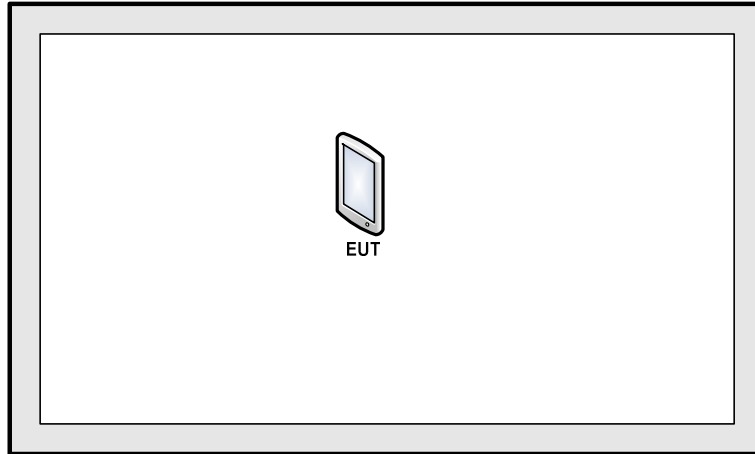
<2.4GHz>

Modulation	Data Rate
802.11b	1 Mbps
802.11g	54 Mbps
802.11n HT20	MCS7

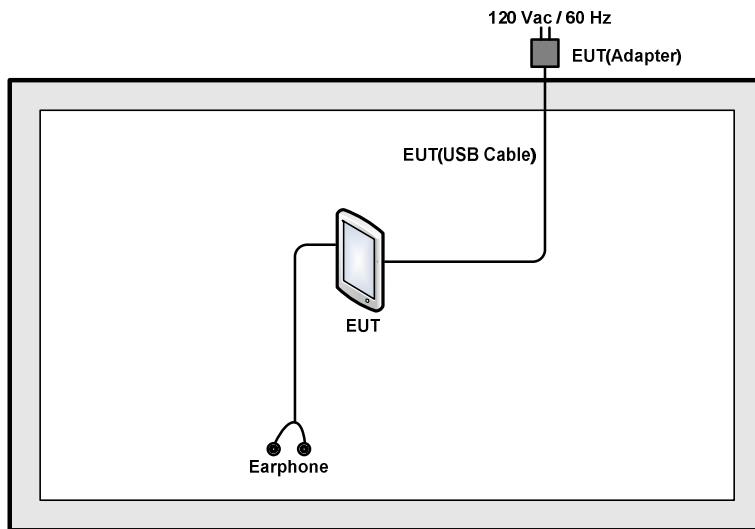
Test Cases	
AC Conducted	Mode 1 : Bluetooth Link + WLAN Link + Earphone + USB Cable 1 (Charging from Adapter 12V) + Sample 1
Emission	Mode 2 Bluetooth Link + WLAN Link + Earphone + USB Cable 2 (Charging from Adapter 5.2V) + Sample 2
Remark:	
1. The worst case of conducted emission is mode 1; only the test data of it was reported.	
2. For radiated test cases, the tests were performed with adapter, earphone, and USB cable 1 for sample 1.	

2.4 Connection Diagram of Test System

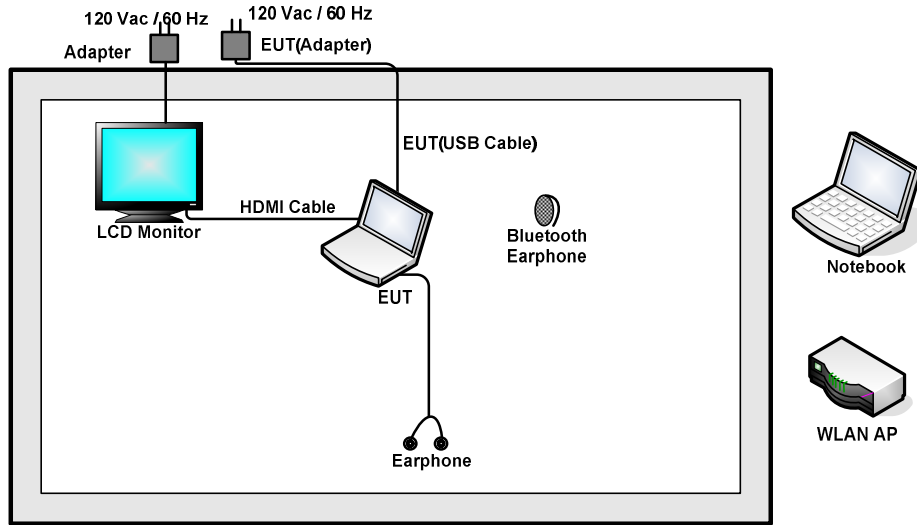
<WLAN 802.11b for Chain Port 1 Tx Mode>



< WLAN 802.11b for Chain Port 2 and g/n HT20 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	N/A	N/A	AC I/P: Unshielded, 0.8 m DC O/P: Shielded, 1.8 m
2.	Bluetooth Earphone	Lenovo	LBH 308	FCC DoC	N/A	N/A
3.	WLAN AP	LINKSYS	WRT600N	Q87-WRT600NV11	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
4.	LCD MONITOR	Dell	P2715QT	FCC DoC	N/A	Unshielded,1.8m
5.	Earphone	Lenovo	LH102	N/A	Unshielded,1.2m	N/A
6.	HDMI Cable	Jce	CTI AWM 20276 VW-180-C 30V E81280-D CHING	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 WLAN AP 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 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.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 5.5 dB.

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)}. \\ &= 5.5 \text{ (dB)} \end{aligned}$$

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

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

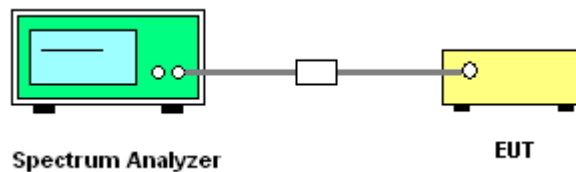
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v03r04.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 1MHz and set the Video bandwidth (VBW) = 3MHz.
6. Measure and record the results in the test report.

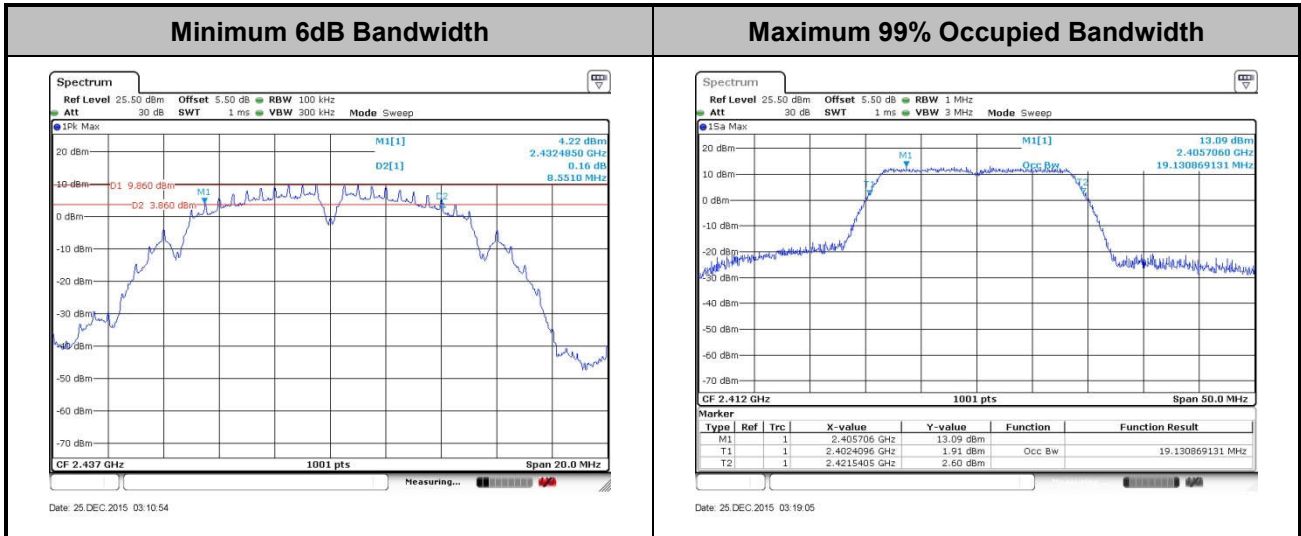
3.1.4 Test Setup





3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A of this test report.



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.

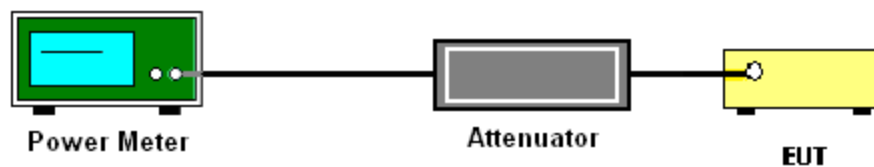
3.2.2 Measuring Instruments

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 v03r04 section 9.1.2 PKPM1 Peak power meter method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

3.2.4 Test Setup





3.2.5 Test Result of Peak Output Power

Please refer to Appendix A of this test report.

3.2.6 Test Result of Average output Power (Reporting Only)

Please refer to Appendix A of this test report.



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 v03r04
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

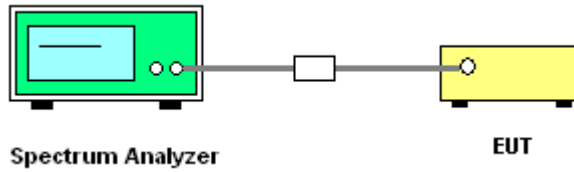
If measurements performed using method (2) plus $10 \log(N)$ exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

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

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

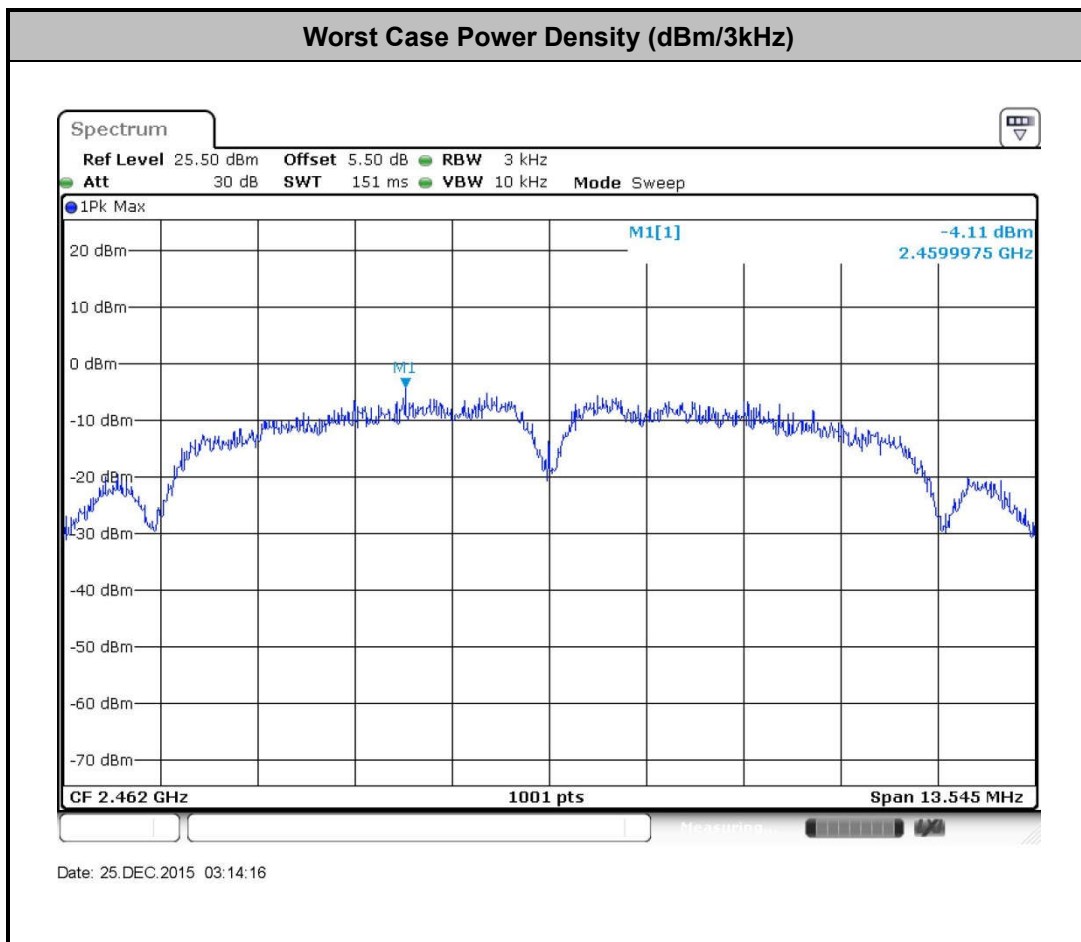
Method (2): Measure and add $10 \log(N)$ dB, where N is the number of outputs. (N=2)

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A of this test report.



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).

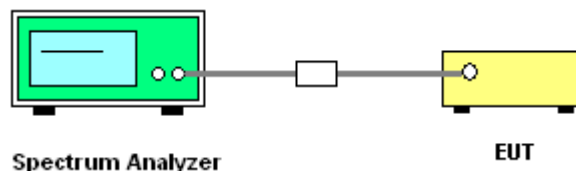
3.4.2 Measuring Instruments

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 v03r04.
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

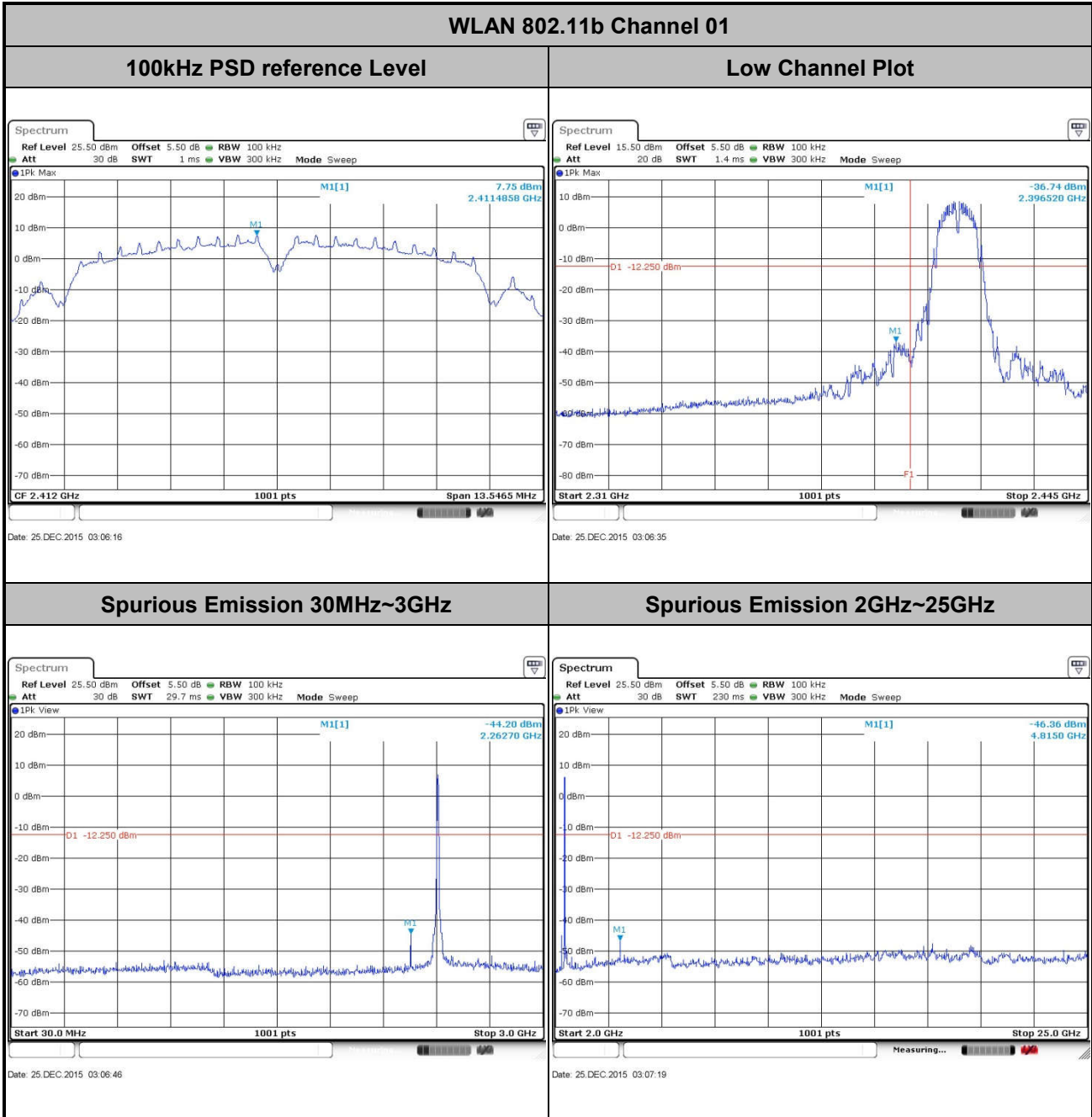




3.4.5 Test Result of Conducted Band Edges and Spurious Emission

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

Number of TX	1	Ant. :	1
Test Mode :	802.11b	Temperature :	24~25°C
Test Band :	2.4GHz Low	Relative Humidity :	49~51%
Test Channel :	01	Test Engineer :	Issac Song

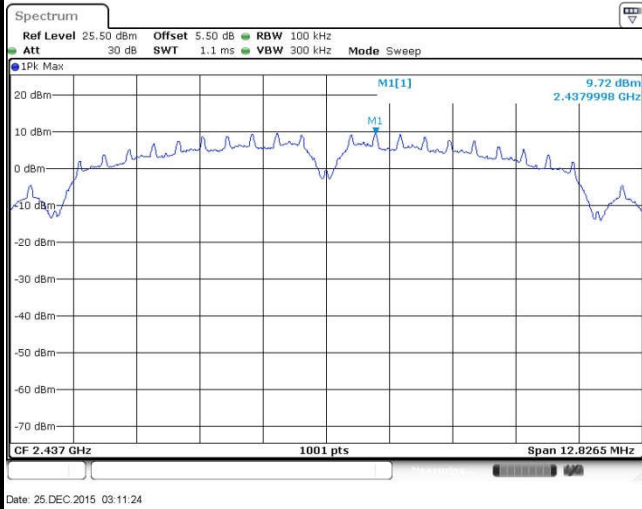




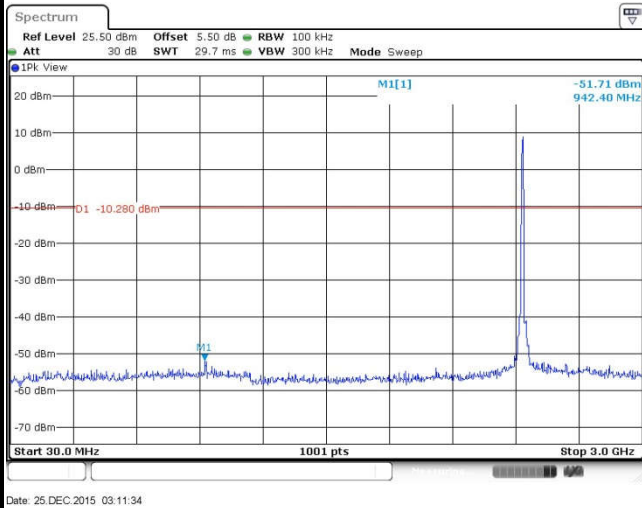
Number of TX :	1	Ant. :	1
Test Mode :	802.11b	Temperature :	24~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	49~51%
Test Channel :	06	Test Engineer :	Issac Song

WLAN 802.11b Channel 06

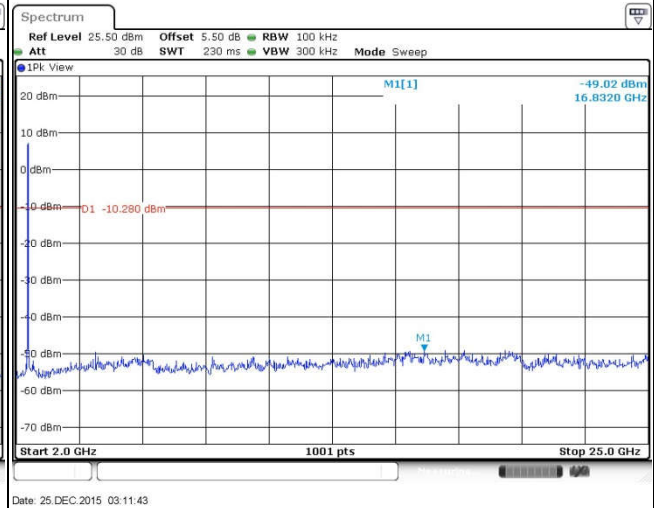
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

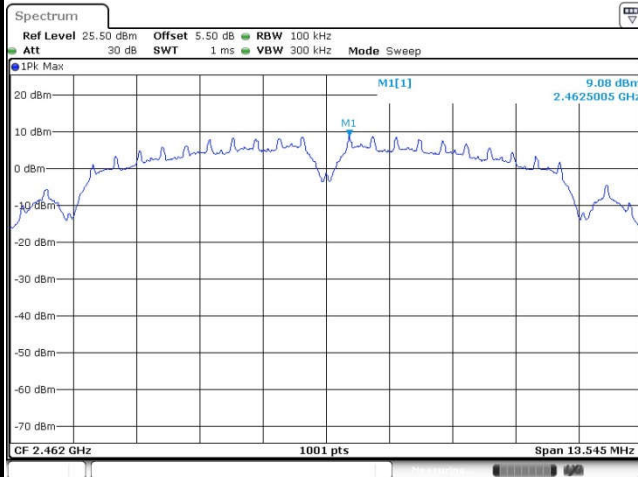




Number of TX :	1	Ant. :	1
Test Mode :	802.11b	Temperature :	24~25°C
Test Band :	2.4GHz High	Relative Humidity :	49~51%
Test Channel :	11	Test Engineer :	Issac Song

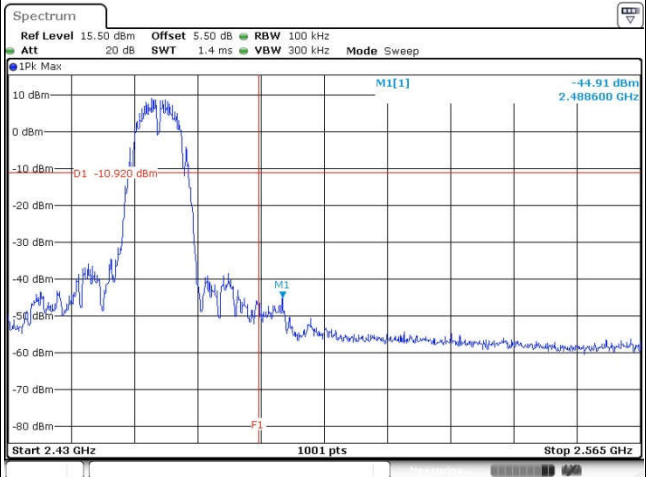
WLAN 802.11b Channel 11

100kHz PSD reference Level



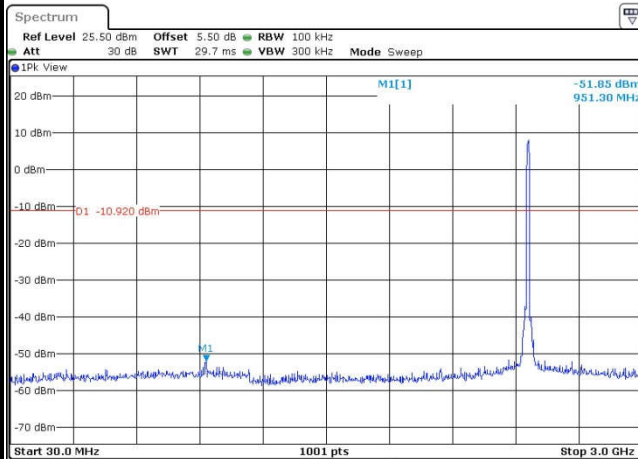
Date: 25 DEC.2015 03:14:26

High Channel Plot



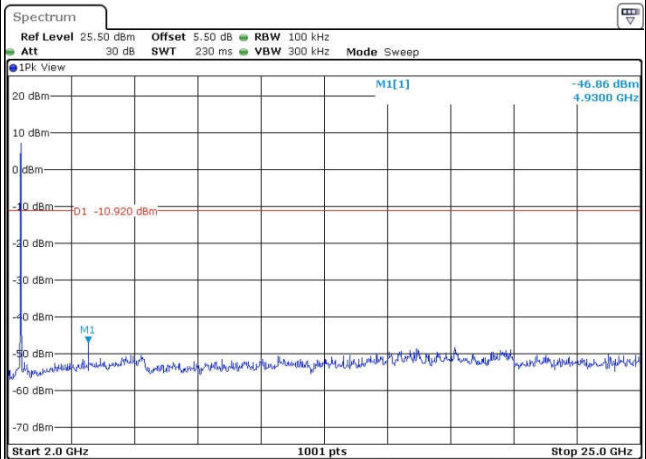
Date: 25 DEC.2015 03:14:50

Spurious Emission 30MHz~3GHz



Date: 25 DEC.2015 03:15:04

Spurious Emission 2GHz~25GHz



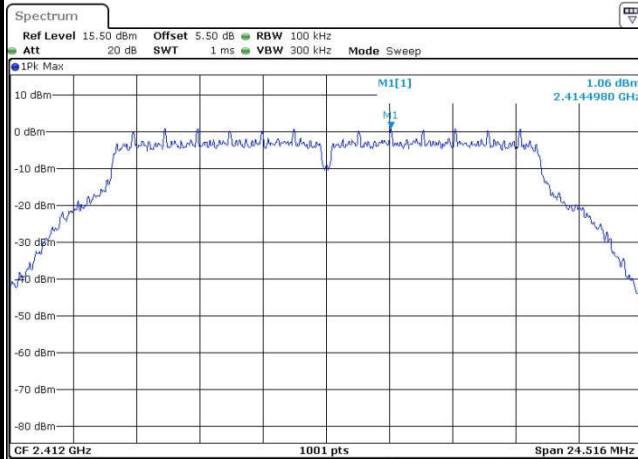
Date: 25 DEC.2015 03:15:12



Number of TX :	1	Ant. :	1
Test Mode :	802.11g	Temperature :	24~25°C
Test Band :	2.4GHz Low	Relative Humidity :	49~51%
Test Channel :	01	Test Engineer :	Issac Song

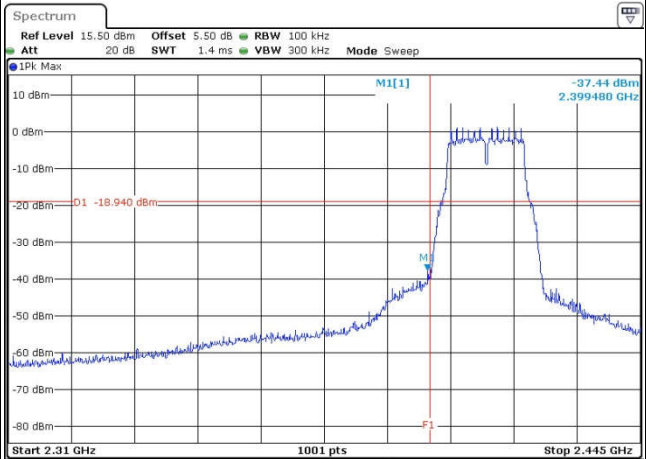
WLAN 802.11g Channel 01

100kHz PSD reference Level



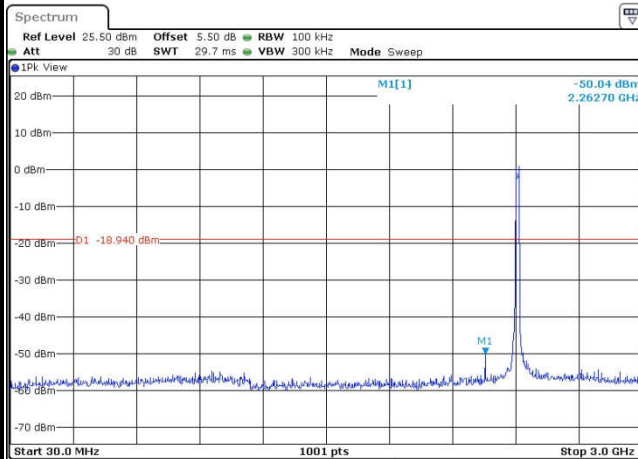
Date: 30.JAN.2016 11:37:27

Low Channel Plot



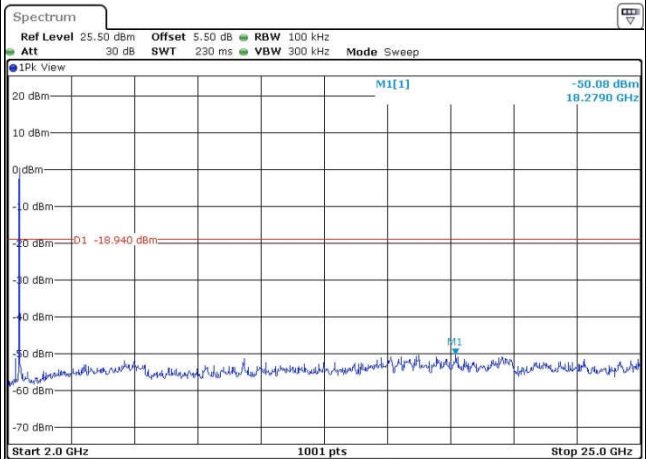
Date: 30.JAN.2016 11:38:13

Spurious Emission 30MHz~3GHz



Date: 30.JAN.2016 11:38:24

Spurious Emission 2GHz~25GHz



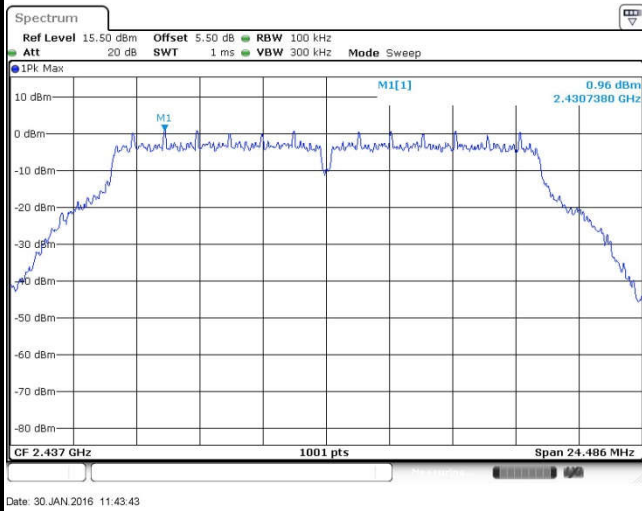
Date: 30.JAN.2016 11:38:33



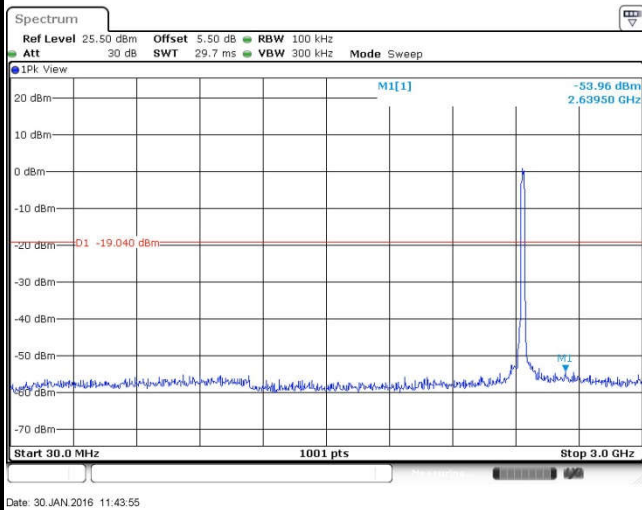
Number of TX :	1	Ant. :	1
Test Mode :	802.11g	Temperature :	24~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	49~51%
Test Channel :	06	Test Engineer :	Issac Song

WLAN 802.11g Channel 06

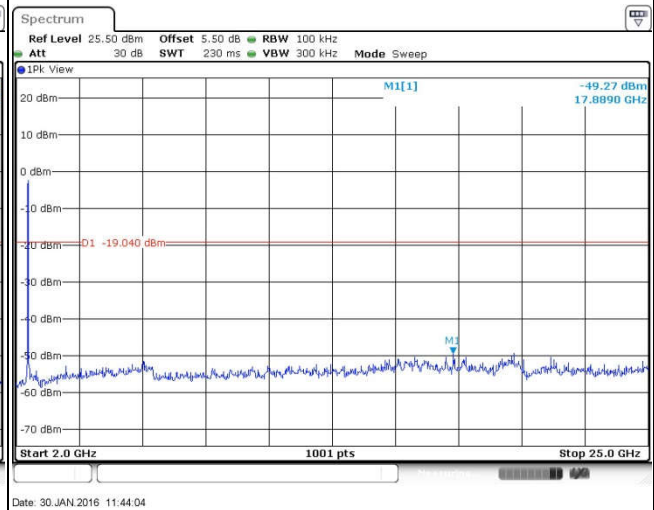
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

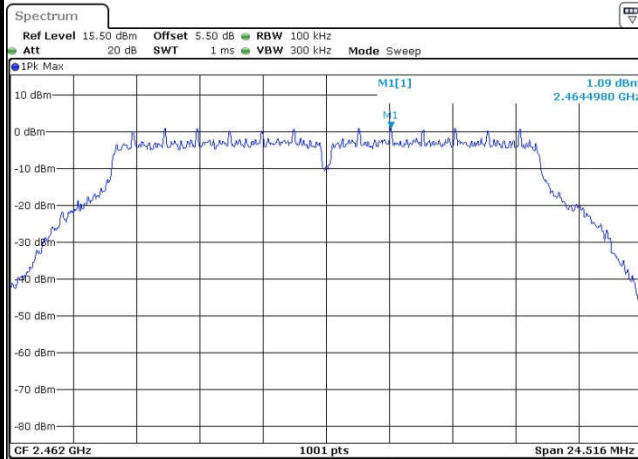




Number of TX :	1	Ant. :	1
Test Mode :	802.11g	Temperature :	24~25°C
Test Band :	2.4GHz High	Relative Humidity :	49~51%
Test Channel :	11	Test Engineer :	Issac Song

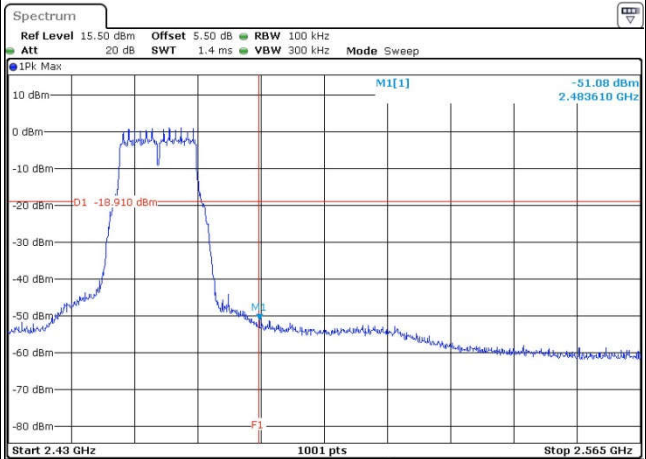
WLAN 802.11g Channel 11

100kHz PSD reference Level



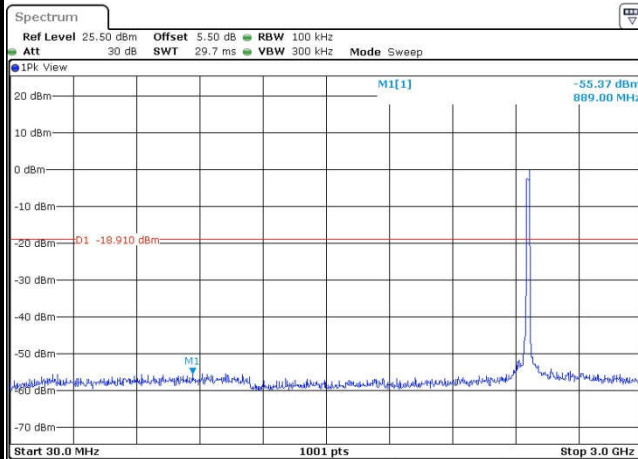
Date: 30.JAN.2016 11:48:32

High Channel Plot



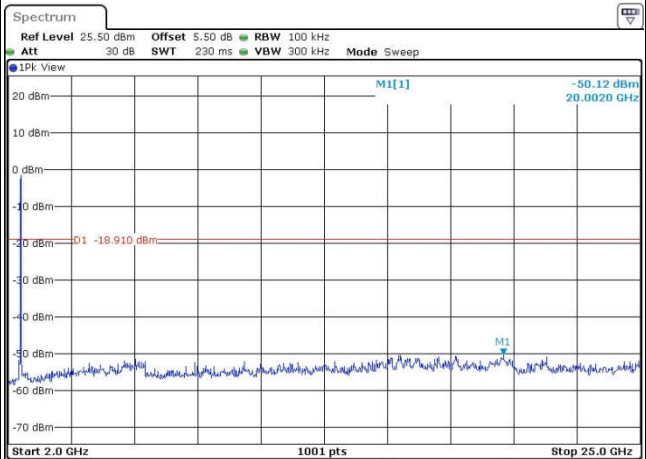
Date: 30.JAN.2016 11:49:11

Spurious Emission 30MHz~3GHz



Date: 30.JAN.2016 11:49:52

Spurious Emission 2GHz~25GHz



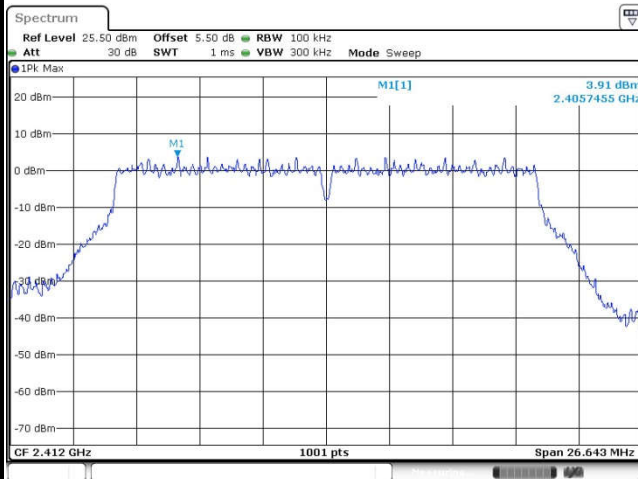
Date: 30.JAN.2016 11:50:01



Number of TX :	1	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	24~25°C
Test Band :	2.4GHz Low	Relative Humidity :	49~51%
Test Channel :	01	Test Engineer :	Issac Song

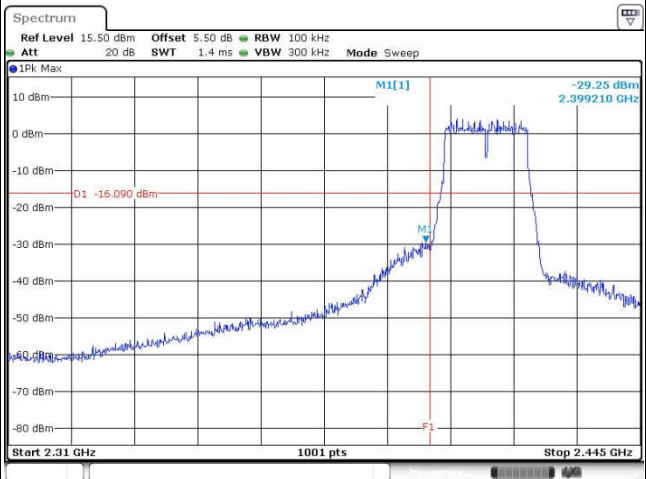
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



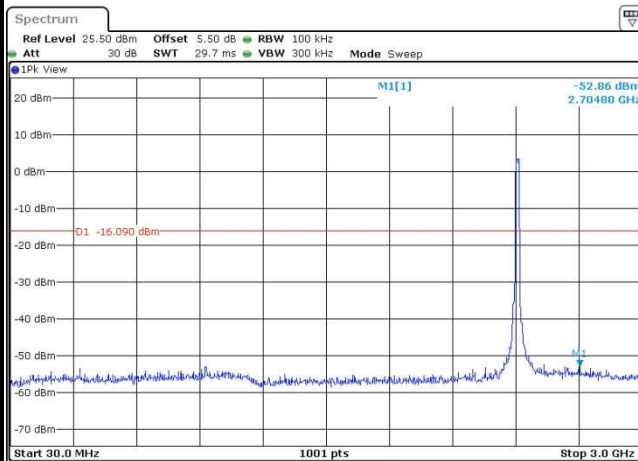
Date: 25 DEC.2015 03:18:21

Low Channel Plot



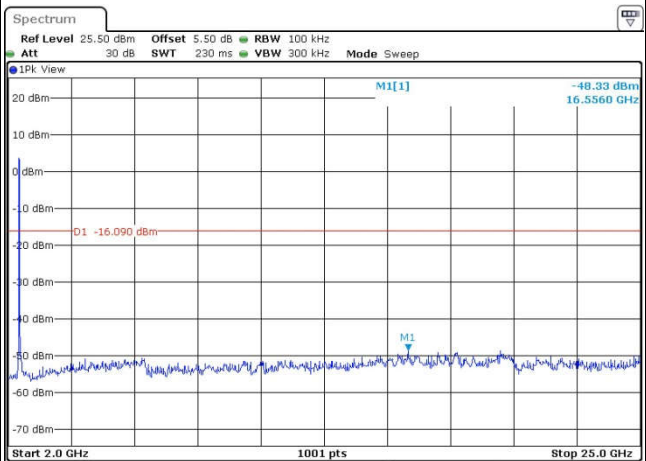
Date: 25 DEC.2015 03:18:32

Spurious Emission 30MHz~3GHz



Date: 25 DEC.2015 03:18:44

Spurious Emission 2GHz~25GHz



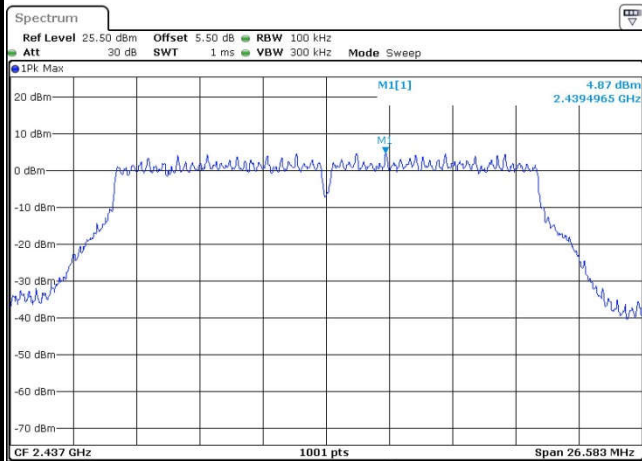
Date: 25 DEC.2015 03:18:52



Number of TX :	1	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	24~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	49~51%
Test Channel :	06	Test Engineer :	Issac Song

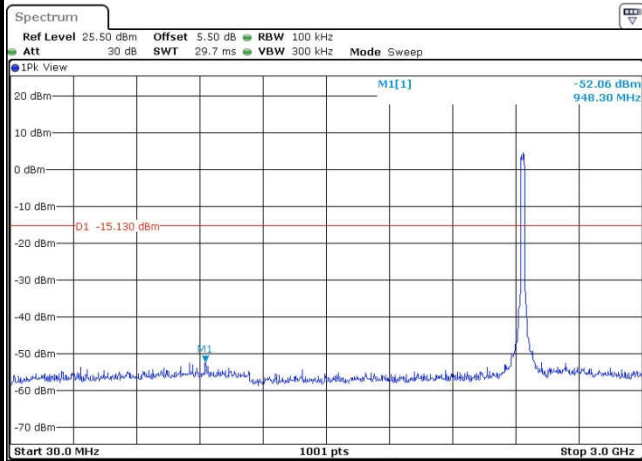
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



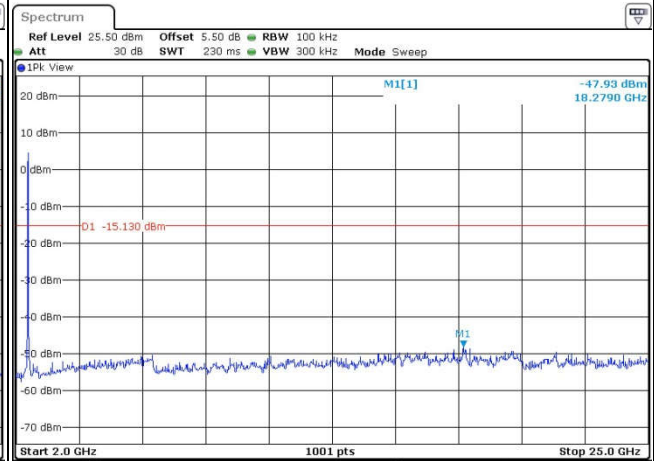
Date: 25 DEC.2015 03:21:18

Spurious Emission 30MHz~3GHz



Date: 25 DEC.2015 03:21:29

Spurious Emission 2GHz~25GHz



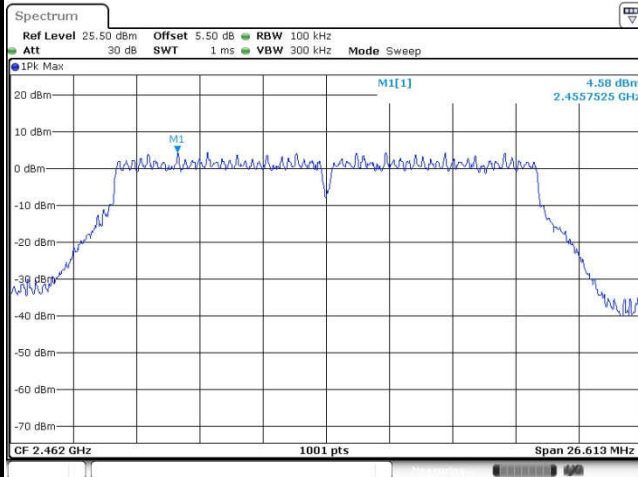
Date: 25 DEC.2015 03:21:37



Number of TX :	1	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	24~25°C
Test Band :	2.4GHz High	Relative Humidity :	49~51%
Test Channel :	11	Test Engineer :	Issac Song

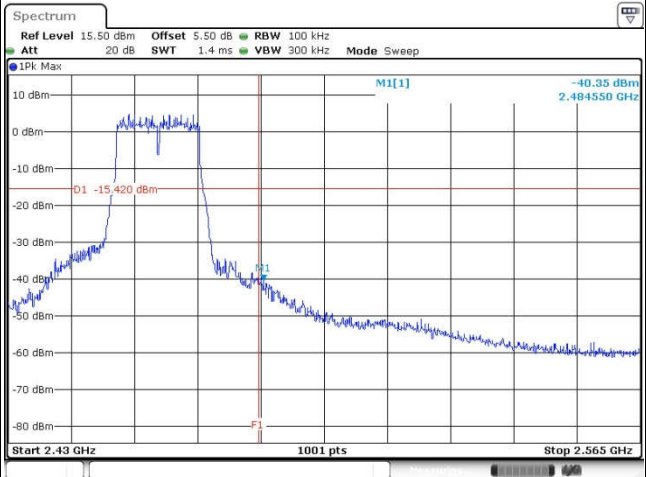
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



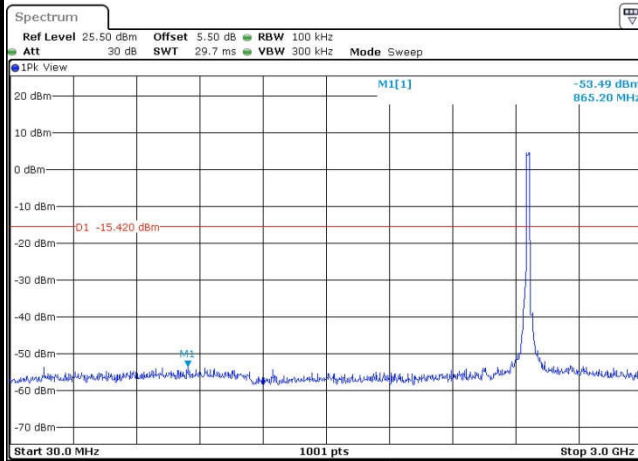
Date: 25 DEC.2015 03:23:59

High Channel Plot



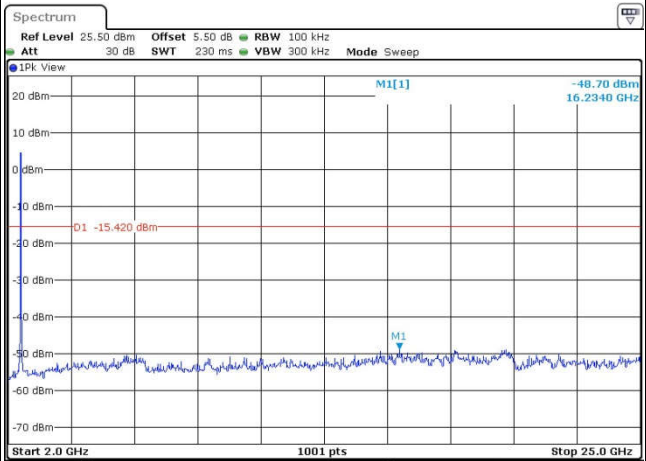
Date: 25 DEC.2015 03:25:28

Spurious Emission 30MHz~3GHz



Date: 25 DEC.2015 03:25:40

Spurious Emission 2GHz~25GHz

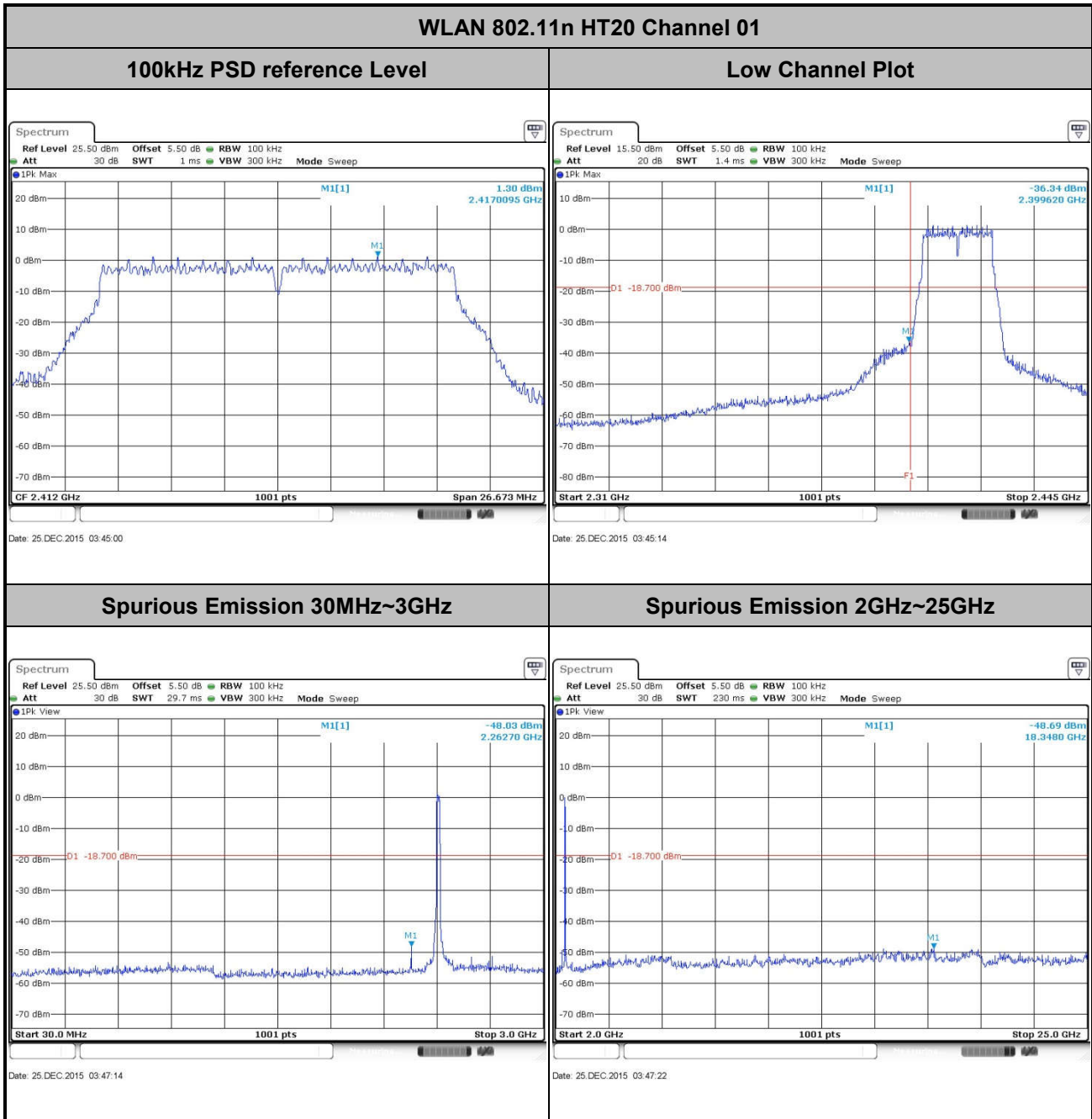


Date: 25 DEC.2015 03:25:48



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

Number of TX :	2	Ant. :	1+2(1)
Test Mode :	802.11n HT20	Temperature :	24~25°C
Test Band :	2.4GHz Low	Relative Humidity :	49~51%
Test Channel :	01	Test Engineer :	Issac Song

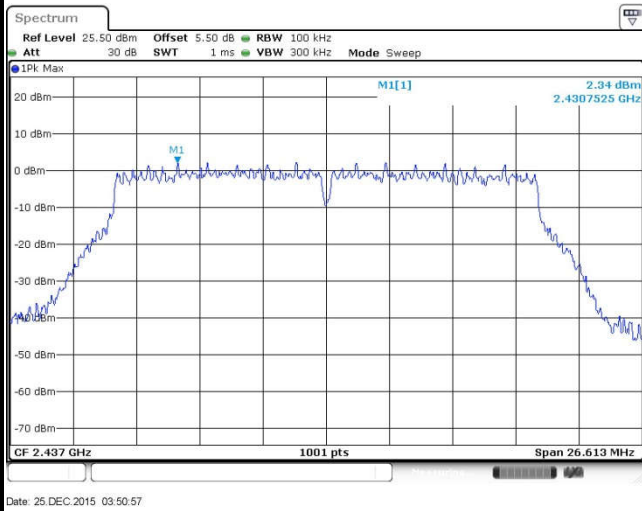




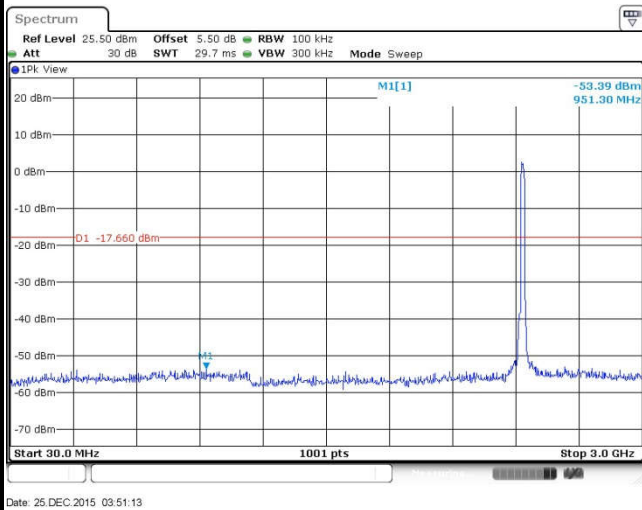
Number of TX :	2	Ant. :	1+2(1)
Test Mode :	802.11n HT20	Temperature :	24~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	49~51%
Test Channel :	06	Test Engineer :	Issac Song

WLAN 802.11n HT20 Channel 06

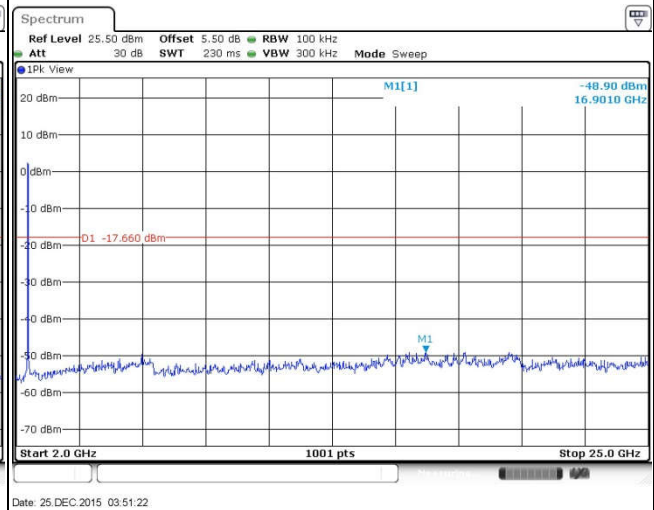
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz

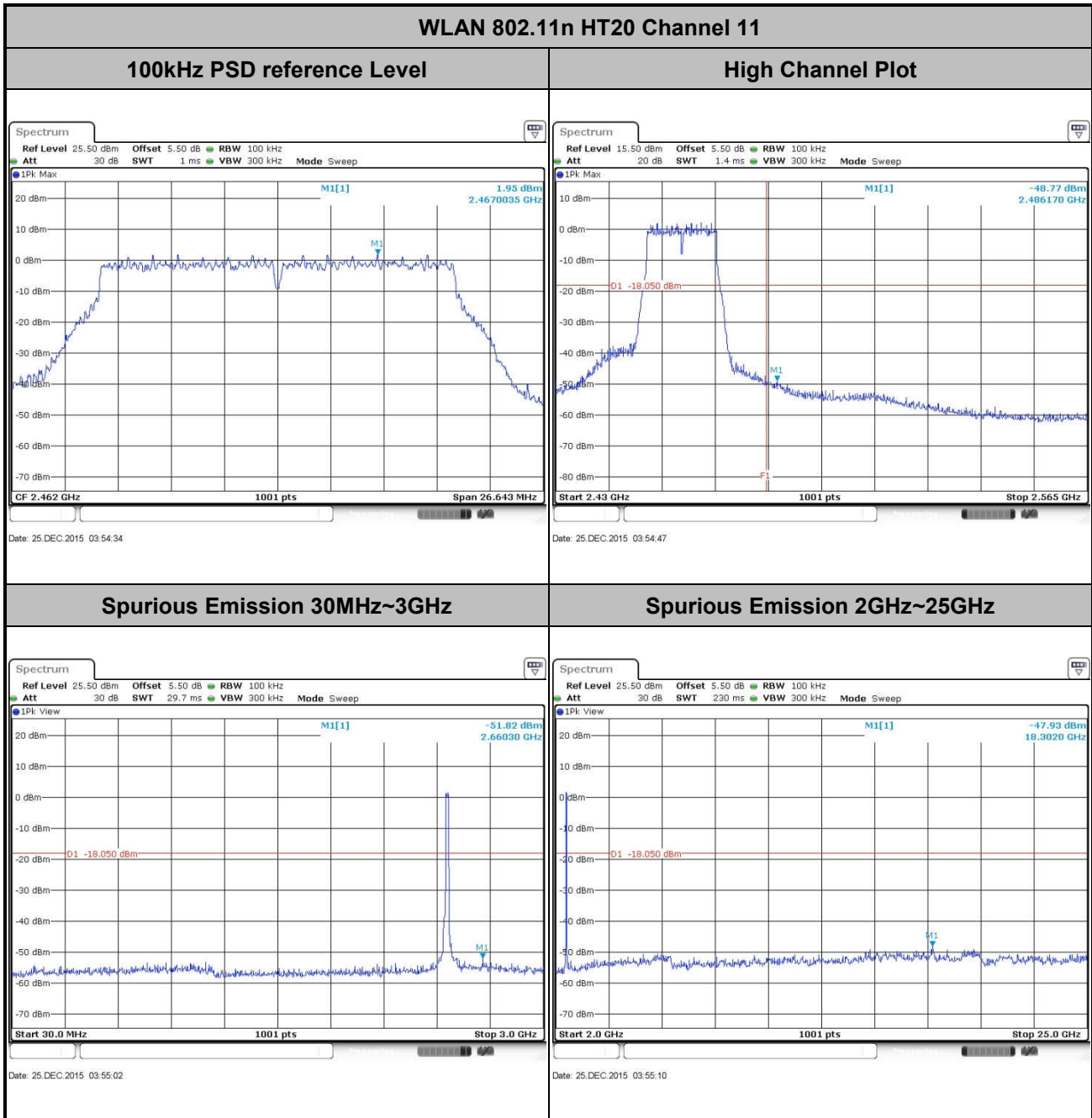


Spurious Emission 2GHz~25GHz





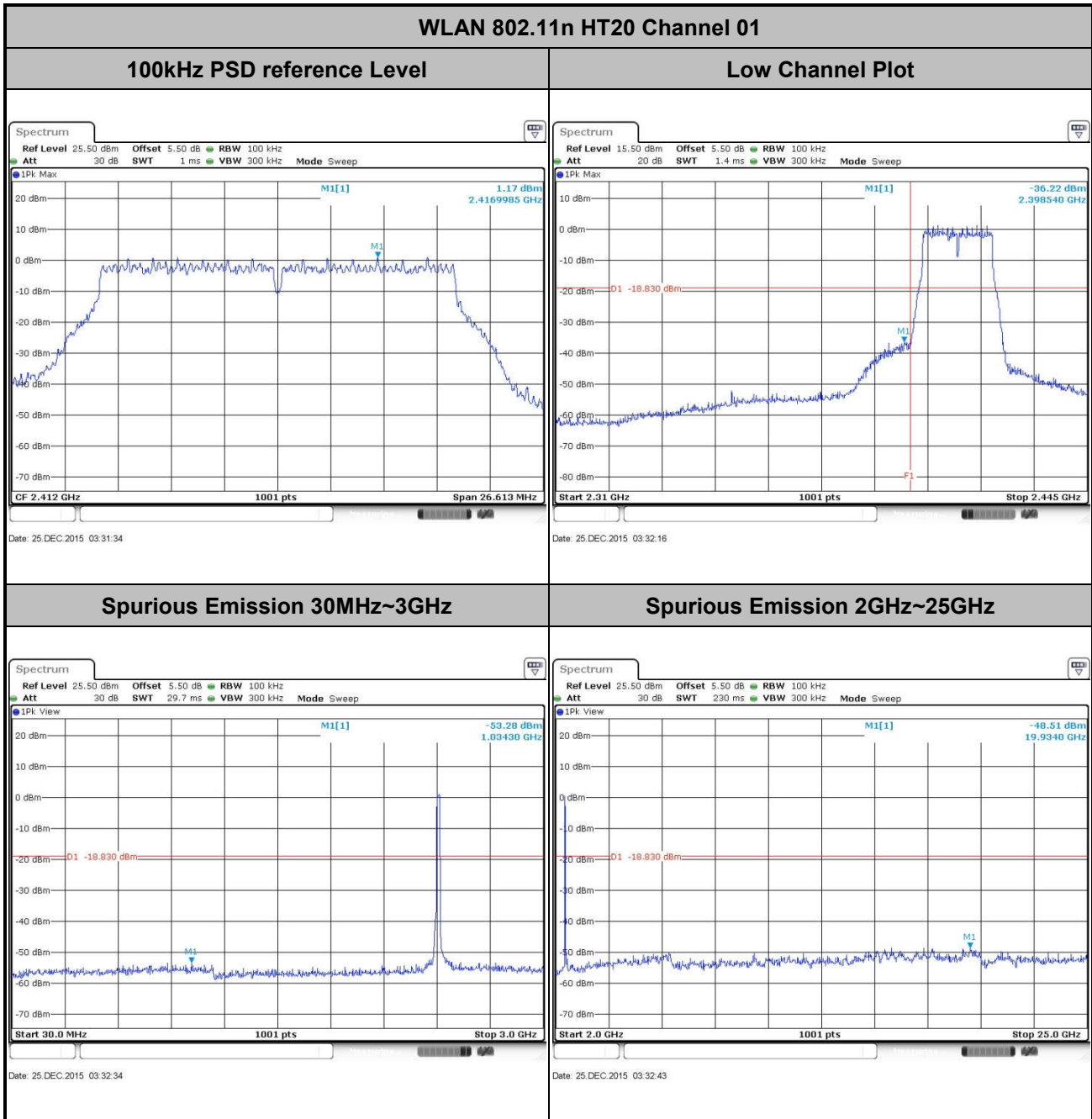
Number of TX :	2	Ant. :	1+2(1)
Test Mode :	802.11n HT20	Temperature :	24~25°C
Test Band :	2.4GHz High	Relative Humidity :	49~51%
Test Channel :	11	Test Engineer :	Issac Song





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

Number of TX :	2	Ant. :	1+2(2)
Test Mode :	802.11n HT20	Temperature :	24~25°C
Test Band :	2.4GHz Low	Relative Humidity :	49~51%
Test Channel :	01	Test Engineer :	Issac Song

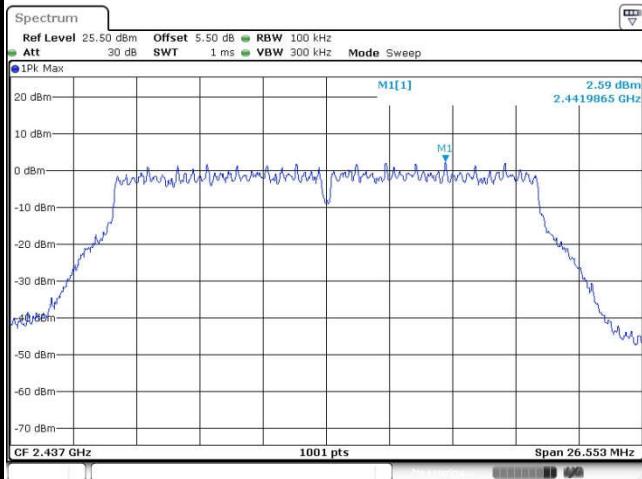




Number of TX :	2	Ant. :	1+2(2)
Test Mode :	802.11n HT20	Temperature :	24~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	49~51%
Test Channel :	06	Test Engineer :	Issac Song

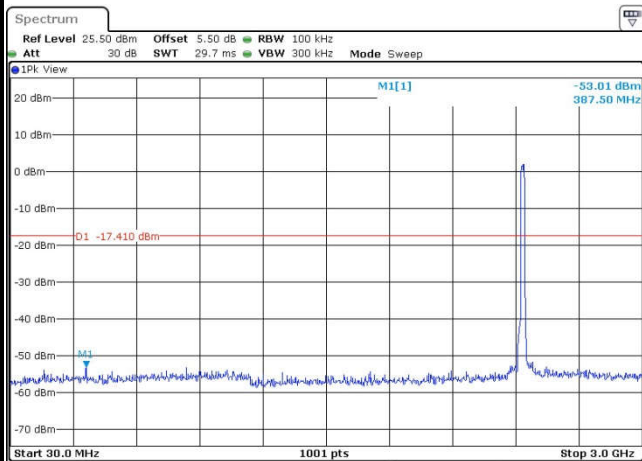
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



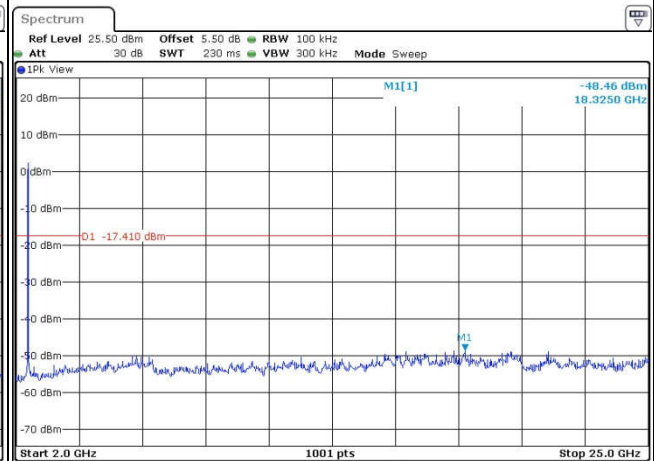
Date: 25 DEC.2015 03:37:21

Spurious Emission 30MHz~3GHz



Date: 25 DEC.2015 03:37:42

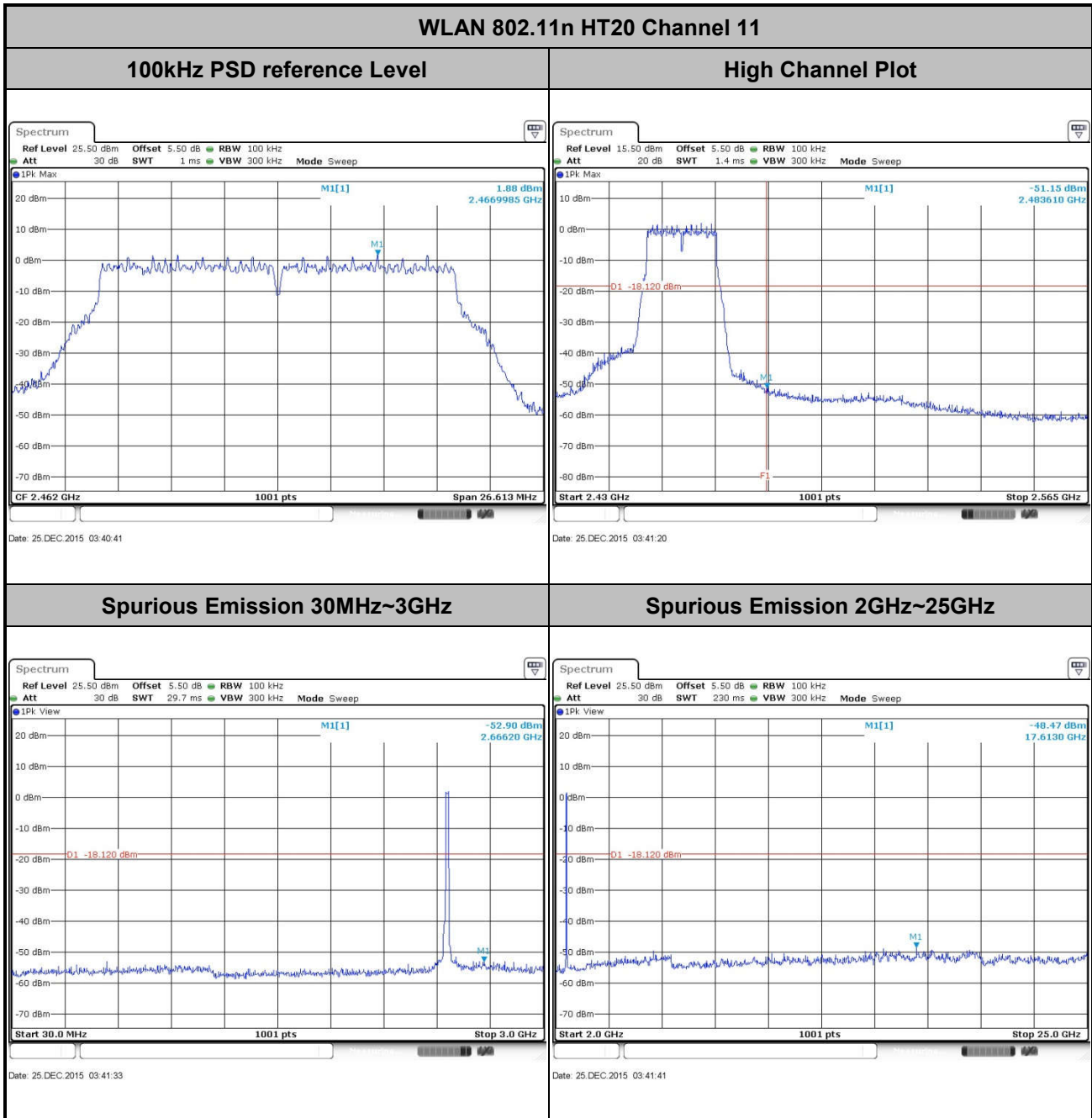
Spurious Emission 2GHz~25GHz



Date: 25 DEC.2015 03:37:50



Number of TX :	2	Ant. :	1+2(2)
Test Mode :	802.11n HT20	Temperature :	24~25°C
Test Band :	2.4GHz High	Relative Humidity :	49~51%
Test Channel :	11	Test Engineer :	Issac Song





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 v03r04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For 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; $VBW \geq RBW$; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.

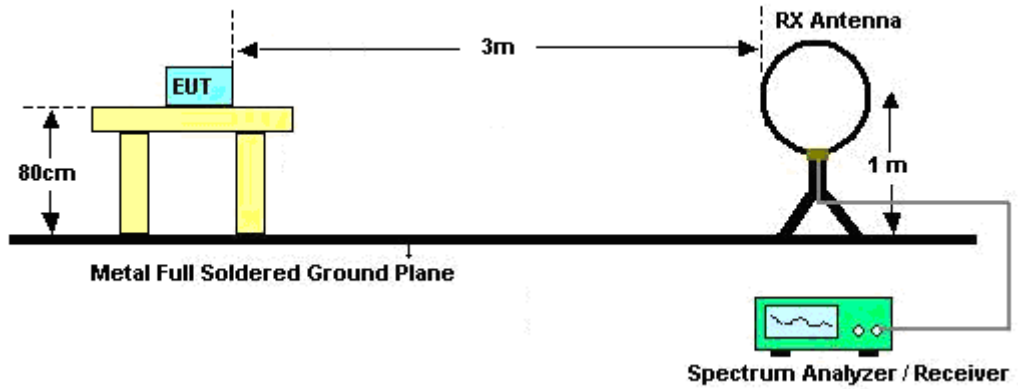
For average measurement:

 - $VBW = 10$ Hz, when duty cycle is no less than 98 percent.
 - $VBW \geq 1/T$, 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.

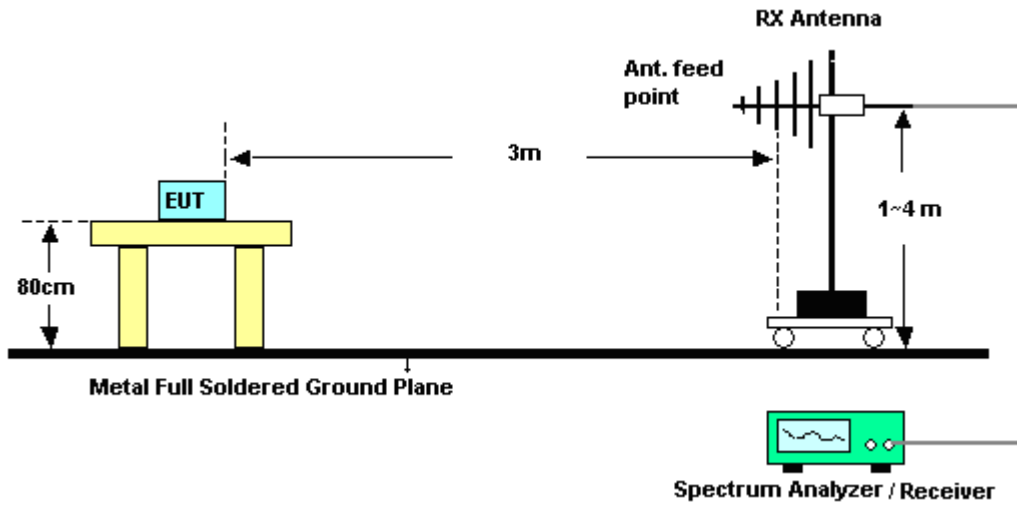
Antenna	Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
1	802.11b	98.62	-	-	10Hz
2	802.11b	99.31	-	-	
1	802.11g	64.29	0.18	5.56	10kHz
2	802.11g	63.83	0.18	5.56	
1+2	2.4GHz 802.11n HT20	57.50	0.14	7.25	10kHz

3.5.4 Test Setup

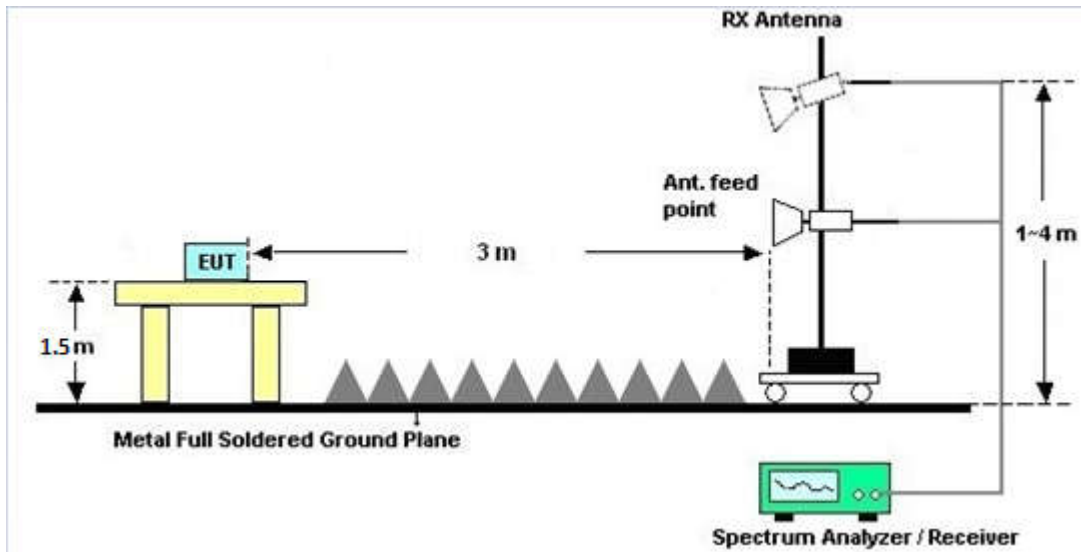
For radiated emissions below 30MHz



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

Please refer to Appendix B of this test report.

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

Please refer to Appendix B of this test report.



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 (dB μ V)	
	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.

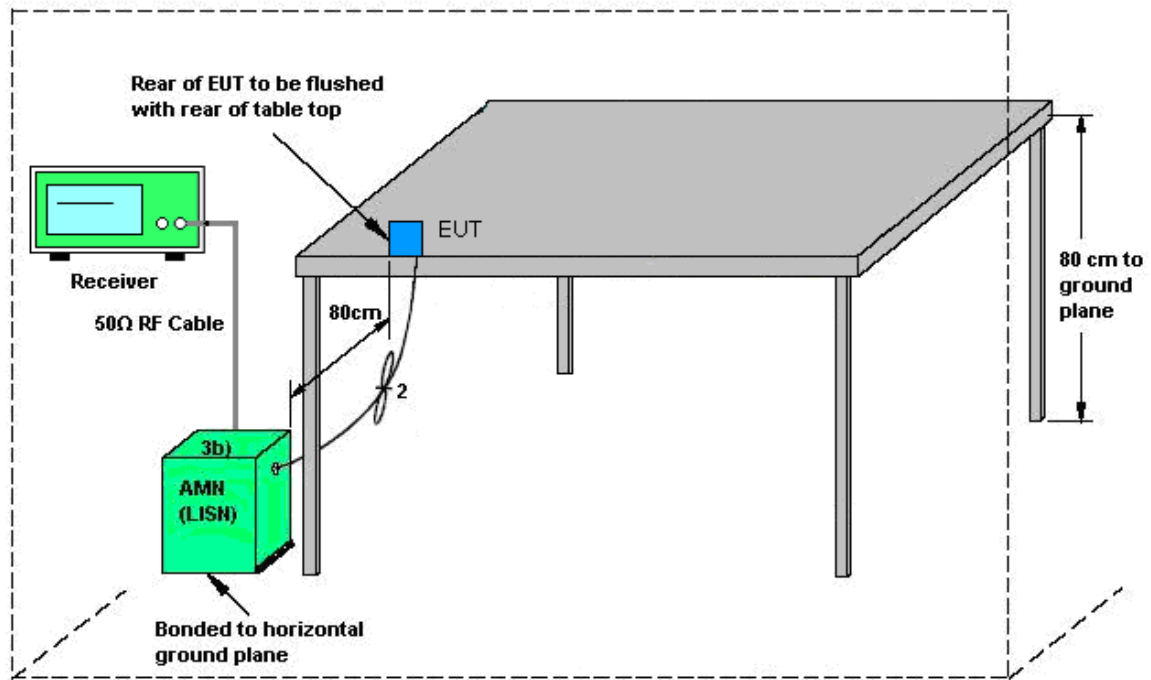
3.6.2 Measuring Instruments

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

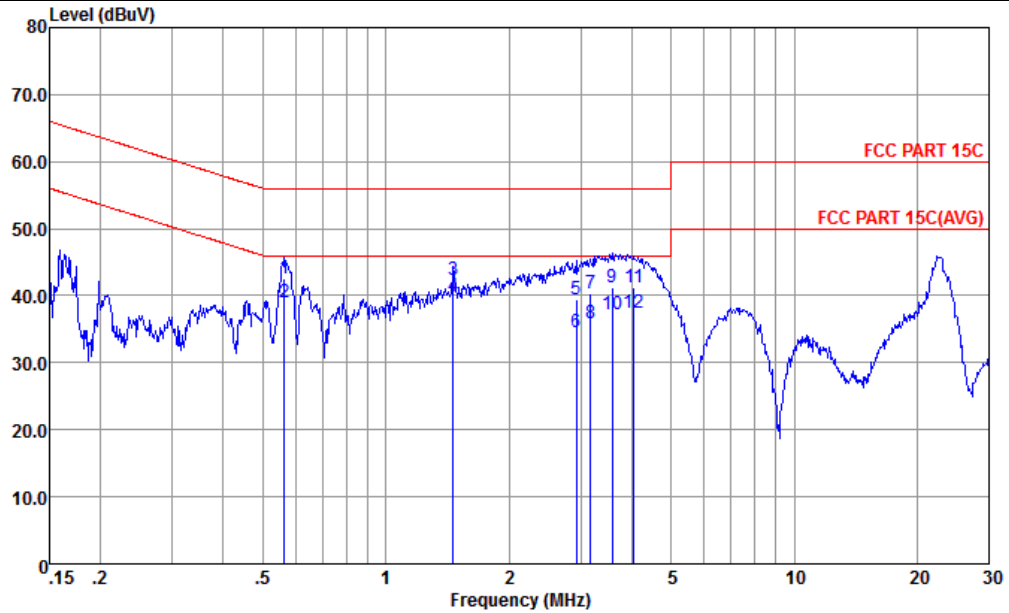


AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	22~24°C
Test Engineer :	Amos Zhang	Relative Humidity :	44~46%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	Bluetooth Link + WLAN Link + Earphone + USB Cable 1(Charging from Adapter 12V) + Sample 1		

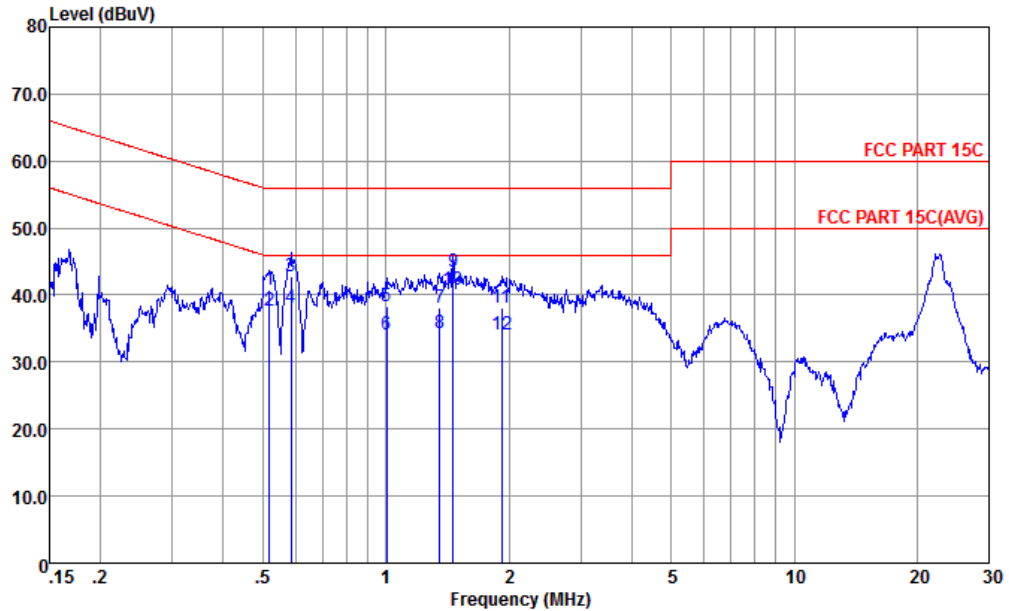


Site : CO01-KS
 Condition : FCC PART 15C LISN-L-20151024 LINE

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.56	42.49	-13.51	56.00	32.10	0.23	10.16	QP
2	0.56	38.89	-7.11	46.00	28.50	0.23	10.16	Average
3	1.46	42.25	-13.75	56.00	31.90	0.21	10.14	QP
4 *	1.46	39.85	-6.15	46.00	29.50	0.21	10.14	Average
5	2.93	39.44	-16.56	56.00	29.11	0.18	10.15	QP
6	2.93	34.64	-11.36	46.00	24.31	0.18	10.15	Average
7	3.17	40.24	-15.76	56.00	29.89	0.19	10.16	QP
8	3.17	35.94	-10.06	46.00	25.59	0.19	10.16	Average
9	3.58	41.25	-14.75	56.00	30.90	0.19	10.16	QP
10	3.58	37.25	-8.75	46.00	26.90	0.19	10.16	Average
11	4.05	41.15	-14.85	56.00	30.79	0.19	10.17	QP
12	4.05	37.45	-8.55	46.00	27.09	0.19	10.17	Average



Test Mode :	Mode 1	Temperature :	22~24°C
Test Engineer :	Amos Zhang	Relative Humidity :	44~46%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	Bluetooth Link + WLAN Link + Earphone + USB Cable 1(Charging from Adapter 12V) + Sample 1		



Site : CO01-KS
 Condition : FCC PART 15C LISN-N-20151024 NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.52	40.79	-15.21	56.00	30.31	0.32	10.16	QP
2	0.52	37.59	-8.41	46.00	27.11	0.32	10.16	Average
3	0.59	42.69	-13.31	56.00	32.20	0.33	10.16	QP
4	0.59	38.09	-7.91	46.00	27.60	0.33	10.16	Average
5	1.00	38.31	-17.69	56.00	27.80	0.37	10.14	QP
6	1.00	34.11	-11.89	46.00	23.60	0.37	10.14	Average
7	1.35	38.11	-17.89	56.00	27.60	0.37	10.14	QP
8	1.35	34.41	-11.59	46.00	23.90	0.37	10.14	Average
9	1.46	43.41	-12.59	56.00	32.89	0.38	10.14	QP
10 *	1.46	40.81	-5.19	46.00	30.29	0.38	10.14	Average
11	1.92	38.02	-17.98	56.00	27.50	0.38	10.14	QP
12	1.92	34.02	-11.98	46.00	23.50	0.38	10.14	Average



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

An embedded-in antenna design is used.

3.7.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV30	101338	9kHz~30GHz	May 04, 2015	Dec. 25, 2015~ Feb. 01, 2016	May 03, 2016	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	30MHz~40GHz	Jan. 23, 2015	Dec. 25, 2015~ Jan. 22, 2016	Jan. 22, 2016	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	30MHz~40GHz	Jan. 20, 2016	Jan. 22, 2016~ Feb. 01, 2016	Jan. 19, 2017	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 23, 2015	Dec. 25, 2015~ Jan. 22, 2016	Jan. 22, 2016	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 20, 2016	Jan. 22, 2016~ Feb. 01, 2016	Jan. 19, 2017	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Ma x 30dBm	Sep. 10, 2015	Jan. 31, 2016	Sep. 09, 2016	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY551502 44	10Hz-44GHz	Jun. 05, 2015	Jan. 31, 2016	Jun. 04, 2016	Radiation (03CH03-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 07, 2015	Jan. 31, 2016	Nov. 06, 2016	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	23182	25MHz-2GHz	Jan. 16, 2016	Jan. 31, 2016	Jan. 15, 2017	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-135 6	1GHz~18GHz	Jun. 25, 2015	Jan. 31, 2016	Jun. 24, 2016	Radiation (03CH03-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA1702 49	15GHz ~40GHz	Mar. 03, 2015	Jan. 31, 2016	Mar. 02, 2016	Radiation (03CH03-KS)
Amplifier	Burgeon	BPA-530	102212	0.01MHz-3000M Hz	Aug.10, 2015	Jan. 31, 2016	Aug. 09, 2016	Radiation (03CH03-KS)
Amplifier	MITEQ	TTA1840-35- HG	1887435	18~40GHz	Aug. 27, 2015	Jan. 31, 2016	Aug. 26, 2016	Radiation (03CH03-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	1889560	1GHz-18GHz	Aug. 10, 2015	Jan. 31, 2016	Aug. 09, 2016	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A023 70	1GHz~26.5GHz	Oct. 24, 2015	Jan. 31, 2016	Oct. 23, 2016	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F1040900 04	N/A	NCR	Jan. 31, 2016	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jan. 31, 2016	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jan. 31, 2016	NCR	Radiation (03CH03-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	May 04, 2015	Jan. 19, 2016	May 03, 2016	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060103	9kHz~30MHz	Oct. 24, 2015	Jan. 19, 2016	Oct. 23, 2016	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060105	9kHz~30MHz	Oct. 24, 2015	Jan. 19, 2016	Oct. 23, 2016	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP00000 0811	AC 0V~300V, 45Hz~1000Hz	Oct. 24, 2015	Jan. 19, 2016	Oct. 23, 2016	Conduction (CO01-KS)



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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.5 dB
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Appendix A. Conducted Test Results

Test Engineer:	Bin Yuan	Temperature:	21~25	°C
Test Date:	Dec. 25, 2015~Feb. 01, 2016	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2		
11b	1Mbps	1	1	2412	11.44	-	9.03	-	0.50	Pass
11b	1Mbps	1	6	2437	11.54	-	8.55	-	0.50	Pass
11b	1Mbps	1	11	2462	11.59	-	9.03	-	0.50	Pass
11g	54Mbps	1	1	2412	18.68	-	16.34	-	0.50	Pass
11g	54Mbps	1	6	2437	18.63	-	16.32	-	0.50	Pass
11g	54Mbps	1	11	2462	18.58	-	16.34	-	0.50	Pass
HT20	MCS7	1	1	2412	-	19.13	-	17.76	0.50	Pass
HT20	MCS7	1	6	2437	-	18.83	-	17.72	0.50	Pass
HT20	MCS7	1	11	2462	-	19.13	-	17.74	0.50	Pass
HT20	MCS7	2	1	2412	19.13	19.13	17.78	17.74	0.50	Pass
HT20	MCS7	2	6	2437	18.88	18.88	17.74	17.70	0.50	Pass
HT20	MCS7	2	11	2462	19.08	19.08	17.76	17.74	0.50	Pass

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	20.37	19.55		30.00	30.00	-1.73	0.57	18.64	20.12	36.00	36.00	Pass
11b	1Mbps	1	6	2437	20.73	19.51		30.00	30.00	-1.73	0.57	19.00	20.08	36.00	36.00	Pass
11b	1Mbps	1	11	2462	21.13	19.62		30.00	30.00	-1.73	0.57	19.40	20.19	36.00	36.00	Pass
11g	54Mbps	1	1	2412	22.77	22.92		30.00	30.00	-1.73	0.57	21.04	23.49	36.00	36.00	Pass
11g	54Mbps	1	6	2437	23.08	22.73		30.00	30.00	-1.73	0.57	21.35	23.30	36.00	36.00	Pass
11g	54Mbps	1	11	2462	22.97	22.41		30.00	30.00	-1.73	0.57	21.24	22.98	36.00	36.00	Pass
HT20	MCS7	1	1	2412	23.33	23.03		30.00	30.00	-1.73	0.57	21.60	23.60	36.00	36.00	Pass
HT20	MCS7	1	6	2437	24.13	24.06		30.00	30.00	-1.73	0.57	22.40	24.63	36.00	36.00	Pass
HT20	MCS7	1	11	2462	24.62	24.73		30.00	30.00	-1.73	0.57	22.89	25.30	36.00	36.00	Pass
HT20	MCS7	2	1	2412	22.53	21.71	25.15	30.00		2.51		27.66		36.00		Pass
HT20	MCS7	2	6	2437	23.02	22.11	25.60	30.00		2.51		28.11		36.00		Pass
HT20	MCS7	2	11	2462	23.12	22.56	25.86	30.00		2.51		28.37		36.00		Pass

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

TEST RESULTS DATA
Average Output Power

2.4GHz Band									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant 1	Ant 2	Ant 1	Ant 2	SUM
11b	1Mbps	1	1	2412	0.06	0.03	17.10	16.14	
11b	1Mbps	1	6	2437	0.06	0.03	17.44	16.05	
11b	1Mbps	1	11	2462	0.06	0.03	17.62	16.18	
11g	54Mbps	1	1	2412	1.92	1.95	13.87	13.89	
11g	54Mbps	1	6	2437	1.92	1.95	13.97	13.58	
11g	54Mbps	1	11	2462	1.92	1.95	13.93	13.37	
HT20	MCS7	1	1	2412	1.61	1.57	14.39	14.41	
HT20	MCS7	1	6	2437	1.61	1.57	15.20	15.28	
HT20	MCS7	1	11	2462	1.61	1.57	15.53	15.88	
HT20	MCS7	2	1	2412	2.40	2.39	12.48	11.52	15.04
HT20	MCS7	2	6	2437	2.40	2.39	13.44	12.40	15.96
HT20	MCS7	2	11	2462	2.40	2.39	13.19	12.86	16.04

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

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	-5.36	-		-1.73	0.57	8.00	8.00	Pass
11b	1Mbps	1	6	2437	-4.66	-		-1.73	0.57	8.00	8.00	Pass
11b	1Mbps	1	11	2462	-4.11	-		-1.73	0.57	8.00	8.00	Pass
11g	54Mbps	1	1	2412	-12.59	-		-1.73	0.57	8.00	8.00	Pass
11g	54Mbps	1	6	2437	-12.40	-		-1.73	0.57	8.00	8.00	Pass
11g	54Mbps	1	11	2462	-12.53	-		-1.73	0.57	8.00	8.00	Pass
HT20	MCS7	1	1	2412	-	-10.31		-1.73	0.57	8.00	8.00	Pass
HT20	MCS7	1	6	2437	-	-9.99		-1.73	0.57	8.00	8.00	Pass
HT20	MCS7	1	11	2462	-	-10.53		-1.73	0.57	8.00	8.00	Pass
HT20	MCS7	2	1	2412	-13.33	-12.29	-9.28	2.51		8.00		Pass
HT20	MCS7	2	6	2437	-12.14	-13.06	-9.13	2.51		8.00		Pass
HT20	MCS7	2	11	2462	-13.54	-12.06	-9.05	2.51		8.00		Pass

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



Appendix B. Radiated Spurious Emission

15C 2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Chain Port				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2388.84	60.53	-13.47	74	64.96	27	5.59	37.02	114	107	P	H
	!	2390	49.77	-4.23	54	54.2	27	5.59	37.02	114	107	A	H
	*	2410.771	106.44	-	-	110.7	27.13	5.61	37	114	107	P	H
	*	2410.855	103.97	-	-	108.23	27.13	5.61	37	114	107	A	H
		2389.47	57.19	-16.81	74	61.62	27	5.59	37.02	393	349	P	V
		2385.78	44.91	-9.09	54	49.34	27	5.59	37.02	393	349	A	V
	*	2412.024	102.09	-	-	106.35	27.13	5.61	37	393	349	P	V
	*	2410.938	99.6	-	-	103.86	27.13	5.61	37	393	349	A	V
802.11b CH 06 2437MHz	*	2438.326	107.05	-	-	110.98	27.39	5.65	36.97	118	108	P	H
	*	2438.326	104.55	-	-	108.48	27.39	5.65	36.97	118	108	A	H
	*	2438.243	101.75	-	-	105.68	27.39	5.65	36.97	338	0	P	V
	*	2438.243	99.25	-	-	103.18	27.39	5.65	36.97	338	0	A	V



802.11b CH 11 2462MHz	*	2460.705	107.71	-	-	111.49	27.51	5.67	36.96	108	103	P	H
	*	2460.788	105.25	-	-	109.03	27.51	5.67	36.96	108	103	A	H
		2483.84	61.87	-12.13	74	65.48	27.64	5.69	36.94	108	103	P	H
	!	2483.52	49.29	-4.71	54	52.9	27.64	5.69	36.94	108	103	A	H
	*	2463.293	104.22	-	-	108	27.51	5.67	36.96	346	275	P	V
	*	2463.293	101.7	-	-	105.48	27.51	5.67	36.96	346	275	A	V
		2483.52	59.78	-14.22	74	63.39	27.64	5.69	36.94	346	275	P	V
		2488.28	46.03	-7.97	54	49.48	27.77	5.71	36.93	346	275	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**15C 2.4GHz 2400~2483.5MHz
WIFI 802.11b (Harmonic @ 3m)**

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Chain Port				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		4824	48.82	-25.18	74	46.14	31.51	7.85	36.68	100	360	P	H
		4824	42.71	-31.29	74	40.03	31.51	7.85	36.68	100	360	P	V
802.11b CH 06 2437MHz		4875	46.5	-27.5	74	43.68	31.59	7.89	36.66	100	360	P	H
		7311	45.79	-28.21	74	38.87	34.03	9.58	36.69	100	0	P	H
		4875	44.93	-29.07	74	42.11	31.59	7.89	36.66	100	360	P	V
		7311	45	-29	74	38.08	34.03	9.58	36.69	100	0	P	V
802.11b CH 11 2462MHz		4923	46.05	-27.95	74	43.11	31.67	7.92	36.65	100	360	P	H
		7386	46.79	-27.21	74	39.52	34.29	9.76	36.78	100	0	P	H
		4923	42.62	-31.38	74	39.68	31.67	7.92	36.65	100	360	P	V
		7386	45.79	-28.21	74	38.52	34.29	9.76	36.78	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**15C 2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)**

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Chain Port				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 01 2412MHz		2389.47	59.29	-14.71	74	63.72	27	5.59	37.02	100	275	P	H
	!	2390	48.4	-5.6	54	52.83	27	5.59	37.02	100	275	A	H
	*	2418.871	103.19	-	-	107.45	27.13	5.61	37	100	275	P	H
	*	2415.197	96.22	-	-	100.48	27.13	5.61	37	100	275	A	H
		2389.47	59.52	-14.48	74	63.95	27	5.59	37.02	300	13	P	V
	!	2389.83	49.02	-4.98	54	53.45	27	5.59	37.02	300	13	A	V
	*	2411.189	100.18	-	-	104.44	27.13	5.61	37	300	13	P	V
	*	2415.197	93.07	-	-	97.33	27.13	5.61	37	300	13	A	V
802.11g CH 06 2437MHz	*	2439.663	104.32	-	-	108.25	27.39	5.65	36.97	100	64	P	H
	*	2444.171	96.71	-	-	100.64	27.39	5.65	36.97	100	64	A	H
	*	2443.921	100.89	-	-	104.82	27.39	5.65	36.97	300	255	P	V
	*	2440.247	93.78	-	-	97.71	27.39	5.65	36.97	300	255	A	V



802.11g CH 11 2462MHz	*	2468.887	105.45	-	-	109.23	27.51	5.67	36.96	147	276	P	H
	*	2465.297	98.32	-	-	102.1	27.51	5.67	36.96	147	276	A	H
		2484.08	64.17	-9.83	74	67.78	27.64	5.69	36.94	147	276	P	H
	!	2489.6	52.19	-1.81	54	55.64	27.77	5.71	36.93	147	276	A	H
	*	2461.039	104.83	-	-	108.61	27.51	5.67	36.96	387	95	P	V
	*	2465.213	97.55	-	-	101.33	27.51	5.67	36.96	387	95	A	V
		2489.12	59.29	-14.71	74	62.74	27.77	5.71	36.93	387	95	P	V
	!	2483.6	48.86	-5.14	54	52.47	27.64	5.69	36.94	387	95	A	V

Remark	<ol style="list-style-type: none"> No other spurious found. All results are PASS against Peak and Average limit line.
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**15C 2.4GHz 2400~2483.5MHz
WIFI 802.11g (Harmonic @ 3m)**

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Chain Port				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 01 2412MHz		4824	43.36	-30.64	74	40.68	31.51	7.85	36.68	106	91	P	H
		4824	42.33	-31.67	74	39.65	31.51	7.85	36.68	339	291	P	V
802.11g CH 06 2437MHz		4875	43.24	-30.76	74	40.42	31.59	7.89	36.66	152	119	P	H
		7311	44.77	-29.23	74	37.85	34.03	9.58	36.69	137	109	P	H
		4875	43.74	-30.26	74	40.92	31.59	7.89	36.66	300	291	P	V
		7311	44.51	-29.49	74	37.59	34.03	9.58	36.69	339	193	P	V
802.11g CH 11 2462MHz		4923	43.86	-30.14	74	40.92	31.67	7.92	36.65	152	110	P	H
		7386	44.48	-29.52	74	37.21	34.29	9.76	36.78	115	137	P	H
		4923	42.04	-31.96	74	39.1	31.67	7.92	36.65	100	224	P	V
		7386	45.18	-28.82	74	37.91	34.29	9.76	36.78	106	229	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15C 2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Chain Port				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2387.76	58.02	-15.98	74	62.45	27	5.59	37.02	100	121	P	H
	!	2386.95	48.26	-5.74	54	52.69	27	5.59	37.02	100	121	A	H
	*	2413.193	105.79	-	-	110.05	27.13	5.61	37	100	121	P	H
	*	2413.36	103.27	-	-	107.53	27.13	5.61	37	100	121	A	H
		2389.47	57.04	-16.96	74	61.47	27	5.59	37.02	292	287	P	V
		2387.04	47.06	-6.94	54	51.49	27	5.59	37.02	292	287	A	V
	*	2410.604	105.08	-	-	109.34	27.13	5.61	37	292	287	P	V
	*	2410.771	102.58	-	-	106.84	27.13	5.61	37	292	287	A	V
802.11b CH 06 2437MHz	*	2435.738	106.49	-	-	110.59	27.26	5.63	36.99	100	116	P	H
	*	2435.738	104	-	-	108.1	27.26	5.63	36.99	100	116	A	H
	*	2435.655	104.87	-	-	108.97	27.26	5.63	36.99	348	286	P	V
	*	2435.822	102.38	-	-	106.48	27.26	5.63	36.99	348	286	A	V



802.11b CH 11 2462MHz	*	2460.621	106.51	-	-	110.29	27.51	5.67	36.96	120	258	P	H
	*	2460.705	104.02	-	-	107.8	27.51	5.67	36.96	120	258	A	H
		2484.04	60.84	-13.16	74	64.45	27.64	5.69	36.94	120	258	P	H
	!	2483.52	51.93	-2.07	54	55.54	27.64	5.69	36.94	120	258	A	H
	*	2460.705	104.93	-	-	108.71	27.51	5.67	36.96	307	285	P	V
	*	2460.788	102.43	-	-	106.21	27.51	5.67	36.96	307	285	A	V
		2483.96	59.38	-14.62	74	62.99	27.64	5.69	36.94	307	285	P	V
	!	2483.52	50.15	-3.85	54	53.76	27.64	5.69	36.94	307	285	A	V
Remark	<p>3. No other spurious found.</p> <p>4. All results are PASS against Peak and Average limit line.</p>												



15C 2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Chain Port				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		4824	46.28	-27.72	74	43.6	31.51	7.85	36.68	122	109	P	H
CH 01		4824	42.58	-31.42	74	39.9	31.51	7.85	36.68	335	129	P	V
2412MHz													
802.11b		4875	47.33	-26.67	74	44.51	31.59	7.89	36.66	108	115	P	H
CH 06		7311	45.08	-28.92	74	38.16	34.03	9.58	36.69	133	161	P	H
2437MHz		4875	42.65	-31.35	74	39.83	31.59	7.89	36.66	311	299	P	V
		7311	44.87	-29.13	74	37.95	34.03	9.58	36.69	305	273	P	V
802.11b		4923	48	-26	74	45.06	31.67	7.92	36.65	100	360	P	H
CH 11		7386	46.43	-27.57	74	39.16	34.29	9.76	36.78	100	0	P	H
2462MHz		4923	42.68	-31.32	74	39.74	31.67	7.92	36.65	100	360	P	V
		7386	45.38	-28.62	74	38.11	34.29	9.76	36.78	100	0	P	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



**15C 2.4GHz 2400~2483.5MHz
WIFI 802.11g (Band Edge @ 3m)**

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Chain Port				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 01 2412MHz		2389.38	55.86	-18.14	74	60.29	27	5.59	37.02	300	28	P	H
		2389.92	46.86	-7.14	54	51.29	27	5.59	37.02	300	28	A	H
	*	2418.955	102.51	-	-	106.77	27.13	5.61	37	300	28	P	H
	*	2415.281	95.34	-	-	99.6	27.13	5.61	37	300	28	A	H
		2390	58.94	-15.06	74	63.37	27	5.59	37.02	112	109	P	V
	!	2390	49.2	-4.8	54	53.63	27	5.59	37.02	112	109	A	V
	*	2411.272	106.91	-	-	111.17	27.13	5.61	37	112	109	P	V
	*	2410.855	99.3	-	-	103.56	27.13	5.61	37	112	109	A	V
802.11g CH 06 2437MHz	*	2436.239	103.43	-	-	107.53	27.26	5.63	36.99	100	302	P	H
	*	2440.164	96.21	-	-	100.14	27.39	5.65	36.97	100	302	A	H
	*	2436.072	106.24	-	-	110.34	27.26	5.63	36.99	300	98	P	V
	*	2439.496	98.91	-	-	102.84	27.39	5.65	36.97	300	98	A	V



802.11g CH 11 2462MHz	*	2459.619	103.49	-	-	107.27	27.51	5.67	36.96	112	303	P	H
	*	2454.943	96.46	-	-	100.24	27.51	5.67	36.96	112	303	A	H
		2483.96	54.97	-19.03	74	58.58	27.64	5.69	36.94	112	303	P	H
		2483.76	46.24	-7.76	54	49.85	27.64	5.69	36.94	112	303	A	H
	*	2459.702	105.27	-	-	109.05	27.51	5.67	36.96	100	108	P	V
	*	2454.776	98.51	-	-	102.29	27.51	5.67	36.96	100	108	A	V
		2483.52	54.76	-19.24	74	58.37	27.64	5.69	36.94	100	108	P	V
		2483.96	46.03	-7.97	54	49.64	27.64	5.69	36.94	100	108	A	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



**15C 2.4GHz 2400~2483.5MHz
WIFI 802.11g (Harmonic @ 3m)**

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Chain Port				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 01 2412MHz		4824	43.94	-30.06	74	41.26	31.51	7.85	36.68	152	107	P	H
		4824	42.93	-31.07	74	40.25	31.51	7.85	36.68	116	219	P	V
802.11g CH 06 2437MHz		4875	43.22	-30.78	74	40.4	31.59	7.89	36.66	105	69	P	H
		7311	45.64	-28.36	74	38.72	34.03	9.58	36.69	115	160	P	H
		4875	43.09	-30.91	74	40.27	31.59	7.89	36.66	302	317	P	V
		7311	45.43	-28.57	74	38.51	34.03	9.58	36.69	300	155	P	V
802.11g CH 11 2462MHz		4923	43.65	-30.35	74	40.71	31.67	7.92	36.65	132	155	P	H
		7386	45.49	-28.51	74	38.22	34.29	9.76	36.78	109	116	P	H
		4923	43.06	-30.94	74	40.12	31.67	7.92	36.65	102	311	P	V
		7386	45.42	-28.58	74	38.15	34.29	9.76	36.78	105	194	P	V
Remark	3. No other spurious found. 4. All results are PASS against Peak and Average limit line.												



**15C 2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Chain Port				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		2390	59.51	-14.49	74	63.94	27	5.59	37.02	317	79	P	H
	!	2390	49.88	-4.12	54	54.31	27	5.59	37.02	317	79	A	H
	*	2415.698	107.13	-	-	111.39	27.13	5.61	37	317	79	P	H
	*	2415.698	99.95	-	-	104.21	27.13	5.61	37	317	79	A	H
		2389.92	57.08	-16.92	74	61.51	27	5.59	37.02	315	278	P	V
		2389.56	46.89	-7.11	54	51.32	27	5.59	37.02	315	278	A	V
	*	2415.615	102.16	-	-	106.42	27.13	5.61	37	315	278	P	V
	*	2415.781	95.04	-	-	99.3	27.13	5.61	37	315	278	A	V
802.11n HT20 CH 06 2437MHz	*	2435.905	107.45	-	-	111.55	27.26	5.63	36.99	325	76	P	H
	*	2435.905	100.42	-	-	104.52	27.26	5.63	36.99	325	76	A	H
	*	2440.748	103.07	-	-	107	27.39	5.65	36.97	308	277	P	V
	*	2440.832	96.23	-	-	100.16	27.39	5.65	36.97	308	277	A	V



802.11n HT20 CH 11 2462MHz	*	2457.198	108.09	-	-	111.87	27.51	5.67	36.96	113	277	P	H
	*	2456.864	101.19	-	-	104.97	27.51	5.67	36.96	113	277	A	H
		2487.68	64.7	-9.3	74	68.15	27.77	5.71	36.93	113	277	P	H
	!	2487.64	52.35	-1.65	54	55.8	27.77	5.71	36.93	113	277	A	H
	*	2465.715	105.04	-	-	108.82	27.51	5.67	36.96	311	107	P	V
	*	2465.798	97.76	-	-	101.54	27.51	5.67	36.96	311	107	A	V
		2485.56	60.26	-13.74	74	63.87	27.64	5.69	36.94	311	107	P	V
		2485.36	48.24	-5.76	54	51.85	27.64	5.69	36.94	311	107	A	V

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												
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15C 2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Chain Port				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		4824	42.72	-31.28	74	40.04	31.51	7.85	36.68	112	299	P	H
		4824	42.74	-31.26	74	40.06	31.51	7.85	36.68	311	277	P	V
802.11n HT20 CH 06 2437MHz		4875	42.9	-31.1	74	40.08	31.59	7.89	36.66	100	360	P	H
		7311	46.38	-27.62	74	39.46	34.03	9.58	36.69	100	0	P	H
		4875	41.4	-32.6	74	38.58	31.59	7.89	36.66	100	360	P	V
		7311	45.59	-28.41	74	38.67	34.03	9.58	36.69	100	0	P	V
802.11n HT20 CH 11 2462MHz		4923	42.48	-31.52	74	39.54	31.67	7.92	36.65	105	177	P	H
		7386	46.22	-27.78	74	38.95	34.29	9.76	36.78	115	166	P	H
		4923	42.34	-31.66	74	39.4	31.67	7.92	36.65	331	228	P	V
		7386	44.96	-29.04	74	37.69	34.29	9.76	36.78	300	155	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



15C Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Chain Port				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 LF		56.19	30.18	-9.82	40	52.51	7.44	0.9	30.67	-	-	P	H
		79.47	32.36	-7.64	40	52.51	9.27	1.08	30.5	100	214	P	H
		96.93	28.95	-14.55	43.5	45.36	12.8	1.19	30.4	-	-	P	H
		154.16	29.03	-14.47	43.5	44.37	13.56	1.5	30.4	-	-	P	H
		174.53	30.99	-12.51	43.5	47.51	12.28	1.6	30.4	-	-	P	H
		326.82	30.06	-15.94	46	43.01	15.38	2.22	30.55	-	-	P	H
		34.85	32.79	-7.21	40	45.08	17.9	0.71	30.9	-	-	P	V
	!	55.22	35.93	-4.07	40	58.12	7.6	0.89	30.68	-	-	P	V
	!	79.47	36.03	-3.97	40	56.18	9.27	1.08	30.5	100	214	P	V
		97.9	28.29	-15.21	43.5	44.59	12.9	1.2	30.4	-	-	P	V
		323.91	29.47	-16.53	46	42.48	15.33	2.21	30.55	-	-	P	V
	481.05	27.22	-18.78	46	36.97	17.95	2.74	30.44	-	-	P	V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency per 15.209(c).
!	Test result is over limit line.
P/A	Peak or Average
H/V	Horizontal or Vertical



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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

- Level(dBμV/m) =
Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
- Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

- Level(dBμV/m)
= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)
= 55.45 (dBμV/m)
- Over Limit(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 55.45(dBμV/m) – 74(dBμV/m)
= -18.55(dB)

For Average Limit @ 2390MHz:

- Level(dBμV/m)
= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)
= 43.54 (dBμV/m)
- Over Limit(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 43.54(dBμV/m) – 54(dBμV/m)
= -10.46(dB)

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