FCC RF Test Report

APPLICANT	:	**Brightstar Corporation**
EQUIPMENT	:	**Mobile phone**
BRAND NAME	:	**Avvio, PULSARE, WUPA**
MODEL NAME	:	**Avvio 794, Avvio 794S, Pulsare 794, Pulsare 794S, WUPA 794, WUPA 794S**
FCC ID	:	**WVBA794X**
STANDARD	:	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	:	**(DTS) Digital Transmission System**

The product was received on Sep. 18, 2014 and testing was completed on Oct. 10, 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.
No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR491805C	Rev. 01	Initial issue of report	Oct. 24, 2014

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 4.31 dB at 2484.460 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 1.65 dB at 0.510 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Brightstar Corporation
9725 NW 117th Ave., Miami, Florida, FL 33178, United States

1.2 Manufacturer

KCMobile Co.,Ltd.
#1305-1, Kolon Digital Tower Villant II , 31, Digital-ro 30-gil, Guro-Gu, Seoul, KOREA (152-727)

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile phone
Brand Name	Avvio, PULSARE, WUPA
Model Name	Avvio 794, Avvio 794S, Pulsare 794, Pulsare 794S, WUPA 794, WUPA 794S
FCC ID	WVBA794X
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/ WLAN 2.4GHz 802.11b/g/n HT20/HT40/ Bluetooth v3.0 + EDR/Bluetooth v4.0 LE
HW Version	V1.01
SW Version	M7207.PULSARE.KC794.W.V01.01.20140821
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are six types of EUT for this project. The differences between them are summary below:

Sample List	Model name	Brand name	SIM Slots
Sample 1	Avvio 794	Avvio	1
Sample 2	Avvio 794S	Avvio	2
Sample 3	PULSARE 794	PULSARE	1
Sample 4	PULSARE 794S	PULSARE	2
Sample 5	WUPA 794	WUPA	1
Sample 6	WUPA 794S	WUPA	2

These models are identical on hardware except the SIM slots. The different model with different brand is for market purpose

1.4 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz
Maximum (Peak) Output Power to Antenna	802.11b : 18.02 dBm (0.0634 W) 802.11g : 19.38 dBm (0.0867 W) 802.11n HT20 : 19.56 dBm (0.0904 W) 802.11n HT40 : 19.51 dBm (0.0893 W)
Antenna Type/Gain	802.11b/g/n : PIFA Antenna with gain 0.8 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

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	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C. TEL: +86-755- 3320-2398		
Test Site No.	**Sporton Site No.**		**FCC Registration No.**
	TH01-SZ	CO01-SZ	831040

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.	
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958	
Test Site No.	**Sporton Site No.**	**FCC Registration No.**
	03CH01-KS	149928

Note: The test site complies with ANSI C63.4 2003 requirement.

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
- 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). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Z plane) were recorded in this report.

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 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 RF Output Power (dBm)						
Power vs. Channel			Power vs. Data Rate			
Channel	Frequency (MHz)	Data Rate 1Mbps	Channel	2Mbps	5.5Mbps	11Mbps
CH 01	2412 MHz	17.35	CH 11	17.98	17.98	17.84
CH 06	2437 MHz	17.58				
CH 11	2462 MHz	**18.02**				

2.4GHz 802.11g RF Output Power (dBm)									
Power vs. Channel			Power vs. Data Rate						
Channel	Frequency (MHz)	Data Rate 6Mbps	Channel	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
CH 01	2412 MHz	19.02	CH 11	19.36	19.28	19.13	19.29	19.19	19.24	19.22
CH 06	2437 MHz	19.21								
CH 11	2462 MHz	**19.38**								

2.4GHz 802.11n HT20 RF Output Power (dBm)									
Power vs. Channel			Power vs. MCS Index						
Channel	Frequency (MHz)	MCS Index MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412 MHz	19.14	CH 11	19.48	19.40	19.34	19.27	19.47	19.49	19.42
CH 06	2437 MHz	19.36								
CH 11	2462 MHz	**19.56**								

2.4GHz 802.11n HT40 RF Output Power (dBm)									
Power vs. Channel			Power vs. MCS Index						
Channel	Frequency (MHz)	MCS Index MCS0	Channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 03	2422 MHz	19.16	CH 09	18.77	18.72	18.64	18.64	18.63	18.88	18.69
CH 06	2437 MHz	19.28								
CH 09	2452 MHz	**19.51**								

2.3 Test Mode

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

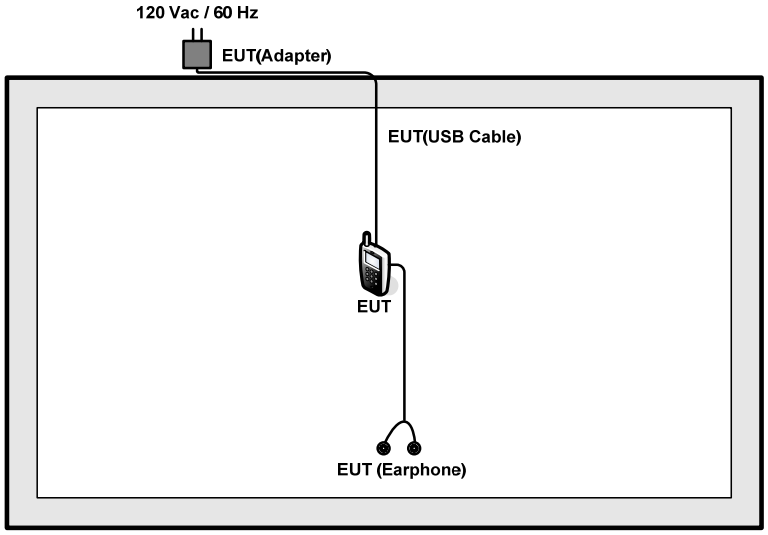
Test Cases				
	Test Items	**Mode**	**Data Rate**	**Test Channel**
Conducted TCs	**6dB BW Power Spectral Density**	**802.11b**	**1 Mbps**	**1/6/11**
		802.11g	**6 Mbps**	**1/6/11**
		802.11n HT20	**MCS0**	**1/6/11**
		802.11n HT40	**MCS0**	**3/6/9**
	Output Power	**802.11b**	**1 Mbps**	**1/6/11**
		802.11g	**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**

Test Cases	
AC Conducted Emission	Mode 1 : GSM1900 Idle + Bluetooth Link + WLAN Link + USB Cable (Charging from Adapter) + Earphone

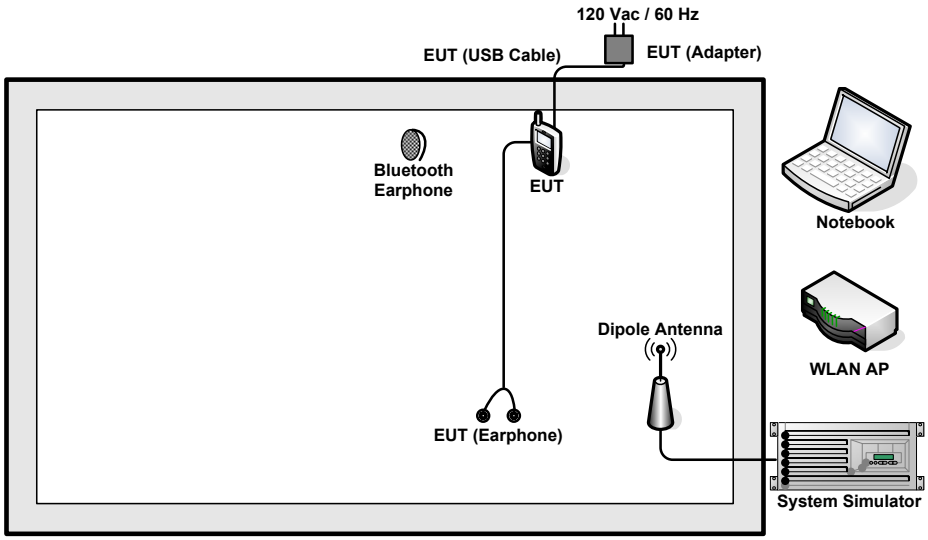
Remark: For radiated TCs, the tests were performed with adapter, earphone and USB cable.

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.	System Simulator	R&S	CMW 500	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-815	KA2IR815A1	N/A	Unshielded, 1.8 m
3.	Notebook	Lenovo	G480	PRC4	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Lenovo	BH-108	PYASH-107W	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 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 7.5 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).
= 7.5 + 10 = 17.5 (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.

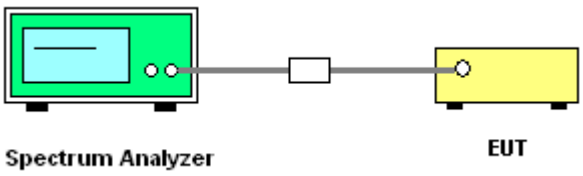
3.1.2 Measuring Instruments

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

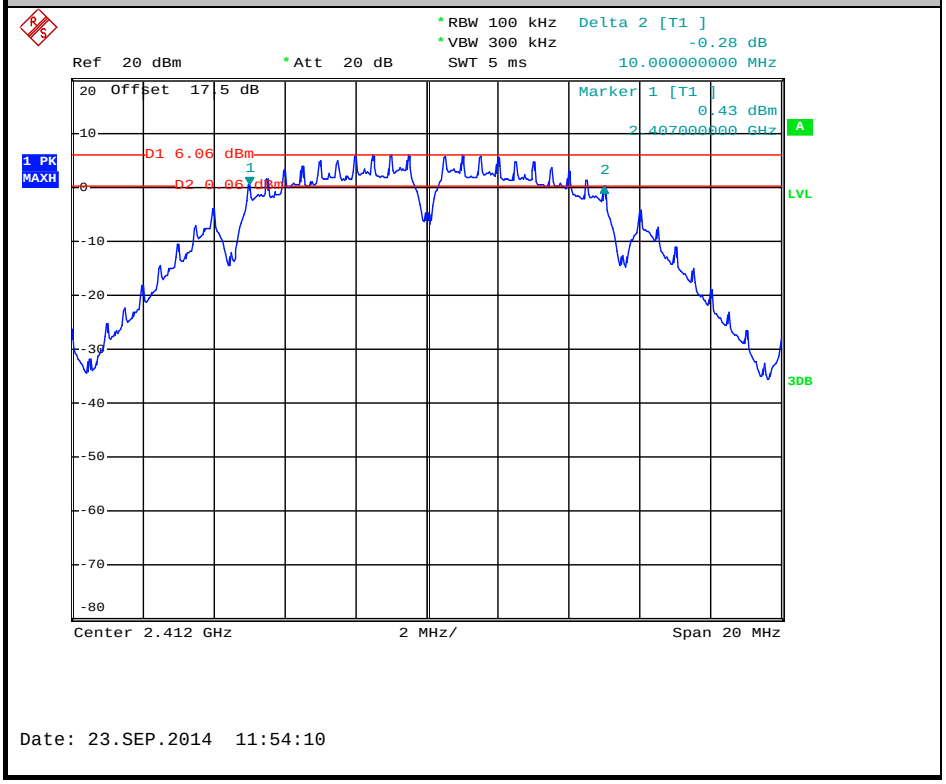


3.1.5 Test Result of 6dB Bandwidth

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

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
11b	1Mbps	1	1	2412	10.00	0.50	Pass
11b	1Mbps	1	6	2437	10.00	0.50	Pass
11b	1Mbps	1	11	2462	10.04	0.50	Pass
11g	6Mbps	1	1	2412	16.36	0.50	Pass
11g	6Mbps	1	6	2437	16.32	0.50	Pass
11g	6Mbps	1	11	2462	16.40	0.50	Pass
HT20	MCS0	1	1	2412	17.56	0.50	Pass
HT20	MCS0	1	6	2437	17.60	0.50	Pass
HT20	MCS0	1	11	2462	17.60	0.50	Pass
HT40	MCS0	1	3	2422	36.04	0.50	Pass
HT40	MCS0	1	6	2437	36.08	0.50	Pass
HT40	MCS0	1	9	2452	35.92	0.50	Pass

Minimum 6dB Bandwidth



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

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting Antenna of directional gain greater than 6dBi are 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.

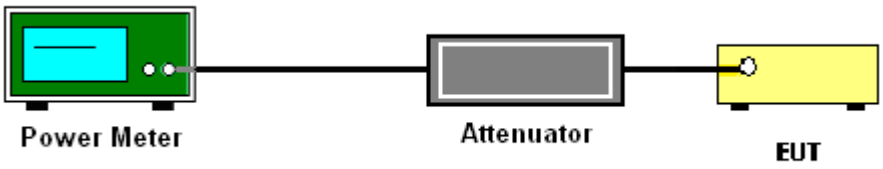
3.2.2 Measuring Instruments

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.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Test Mode :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	RF Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	17.35	30	0.8	Pass
11b	1Mbps	1	6	2437	17.58	30	0.8	Pass
11b	1Mbps	1	11	2462	18.02	30	0.8	Pass
11g	6Mbps	1	1	2412	19.02	30	0.8	Pass
11g	6Mbps	1	6	2437	19.21	30	0.8	Pass
11g	6Mbps	1	11	2462	19.38	30	0.8	Pass
HT20	MCS0	1	1	2412	19.14	30	0.8	Pass
HT20	MCS0	1	6	2437	19.36	30	0.8	Pass
HT20	MCS0	1	11	2462	19.56	30	0.8	Pass
HT40	MCS0	1	3	2422	19.16	30	0.8	Pass
HT40	MCS0	1	6	2437	19.28	30	0.8	Pass
HT40	MCS0	1	9	2452	19.51	30	0.8	Pass

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

3.2.6 Test Result of Average output Power (Reporting Only)

Test Mode :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	0.08	14.75	30	0.8	Pass
11b	1Mbps	1	6	2437	0.08	15.03	30	0.8	Pass
11b	1Mbps	1	11	2462	0.08	15.33	30	0.8	Pass
11g	6Mbps	1	1	2412	0.52	9.11	30	0.8	Pass
11g	6Mbps	1	6	2437	0.52	9.40	30	0.8	Pass
11g	6Mbps	1	11	2462	0.52	9.93	30	0.8	Pass
HT20	MCS0	1	1	2412	0.54	9.07	30	0.8	Pass
HT20	MCS0	1	6	2437	0.54	9.30	30	0.8	Pass
HT20	MCS0	1	11	2462	0.54	9.80	30	0.8	Pass
HT40	MCS0	1	3	2422	1.02	8.28	30	0.8	Pass
HT40	MCS0	1	6	2437	1.02	8.48	30	0.8	Pass
HT40	MCS0	1	9	2452	1.02	9.01	30	0.8	Pass

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.

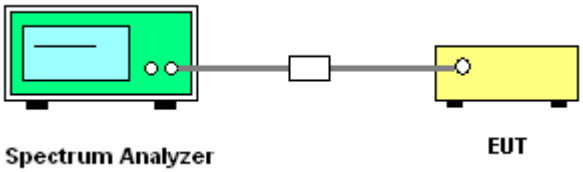
3.3.2 Measuring Instruments

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.

3.3.4 Test Setup



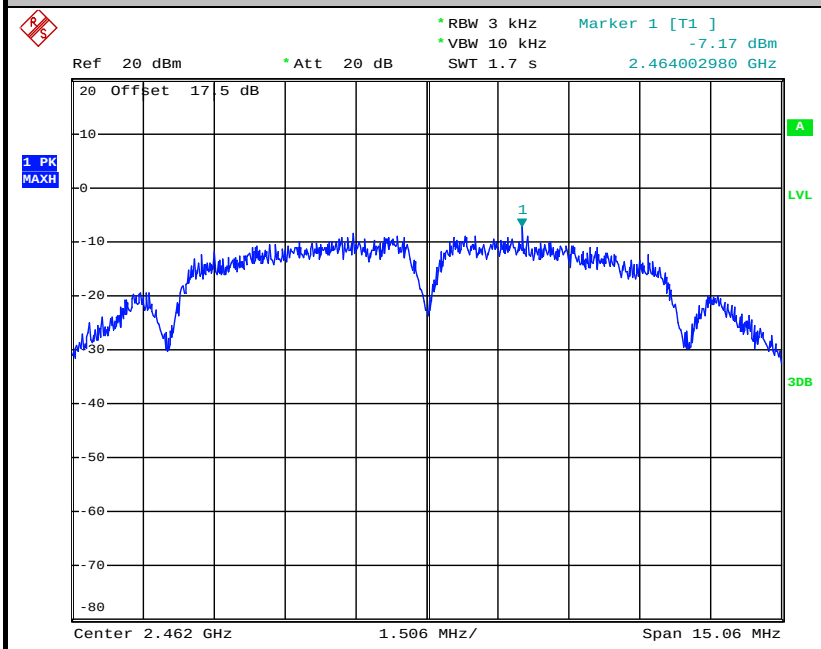
3.3.5 Test Result of Power Spectral Density

Test Mode :	2.4GHz	Temperature :	24~26℃
Test Engineer :	Fly Liang	Relative Humidity :	50~53%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)	Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	-8.30	8	0.8	Pass
11b	1Mbps	1	6	2437	-7.62	8	0.8	Pass
11b	1Mbps	1	11	2462	-7.17	8	0.8	Pass
11g	6Mbps	1	1	2412	-15.78	8	0.8	Pass
11g	6Mbps	1	6	2437	-15.35	8	0.8	Pass
11g	6Mbps	1	11	2462	-14.86	8	0.8	Pass
HT20	MCS0	1	1	2412	-15.23	8	0.8	Pass
HT20	MCS0	1	6	2437	-15.51	8	0.8	Pass
HT20	MCS0	1	11	2462	-14.43	8	0.8	Pass
HT40	MCS0	1	3	2422	-20.15	8	0.8	Pass
HT40	MCS0	1	6	2437	-19.52	8	0.8	Pass
HT40	MCS0	1	9	2452	-18.52	8	0.8	Pass

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

Worst Case Power Density (dBm/3kHz)



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).

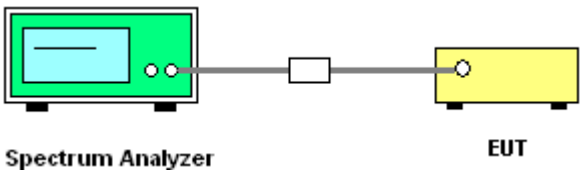
3.4.2 Measuring Instruments

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

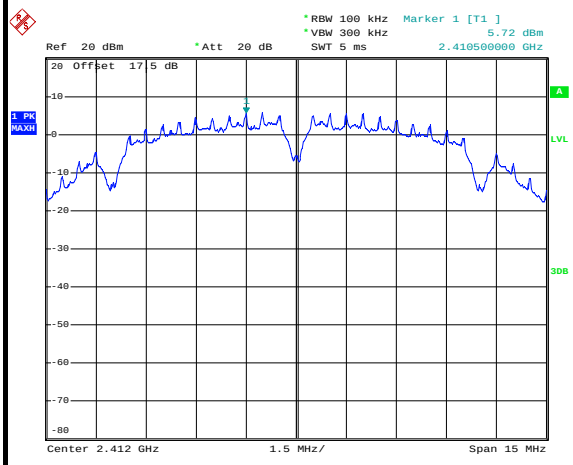


3.4.5 Test Result of Conducted Band Edges and Spurious Emission

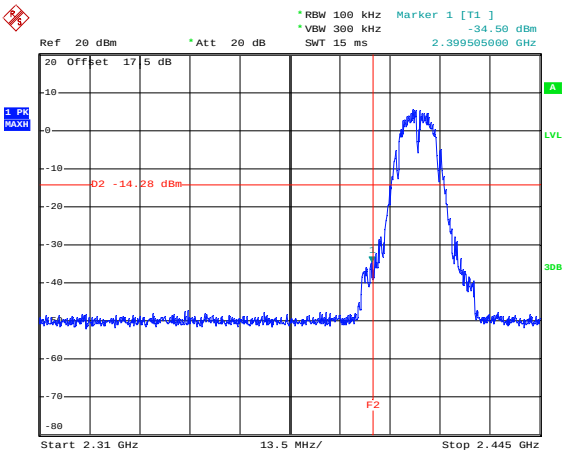
Test Mode :	802.11b	Temperature :	24~26℃
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Fly Liang

WLAN 802.11b Channel 01

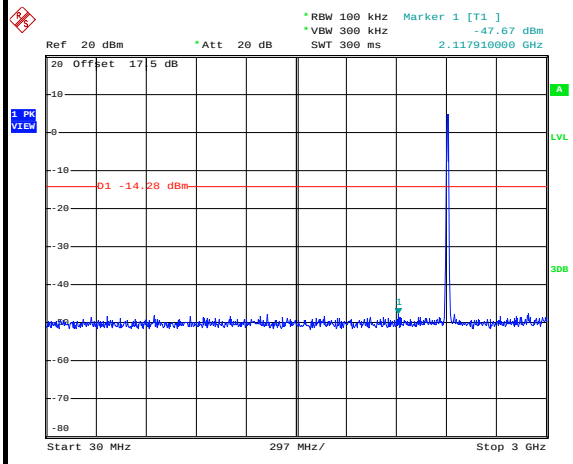
100kHz PSD reference Level



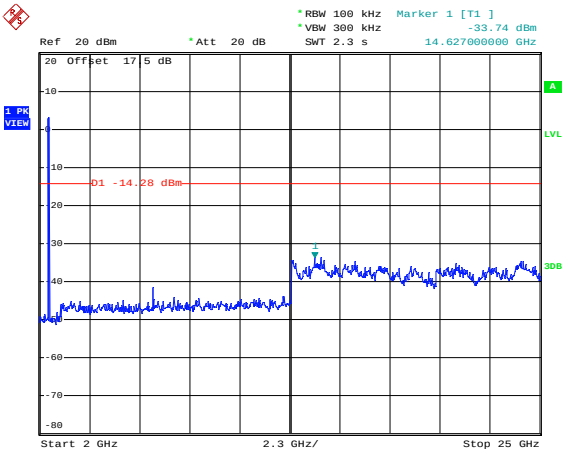
Low Channel Plot



Spurious Emission 30MHz~3GHz



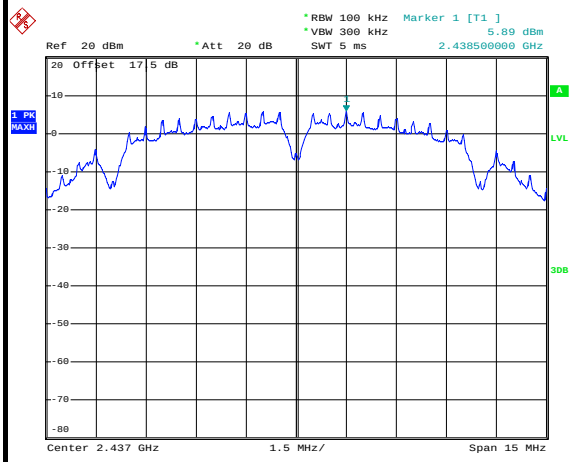
Spurious Emission 2GHz~25GHz



Test Mode :	802.11b	Temperature :	24~26℃
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Fly Liang

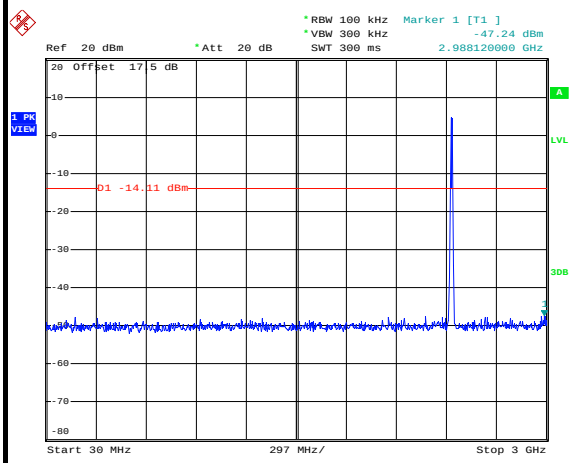
WLAN 802.11b Channel 06

100kHz PSD reference Level



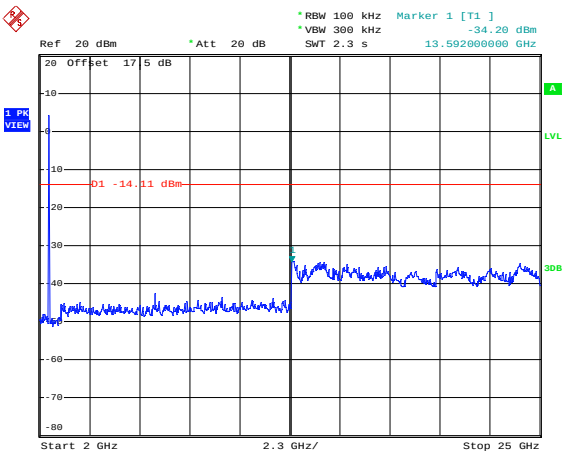
Date: 23.SEP.2014 12:01:23

Spurious Emission 30MHz~3GHz



Date: 23.SEP.2014 12:01:43

Spurious Emission 2GHz~25GHz

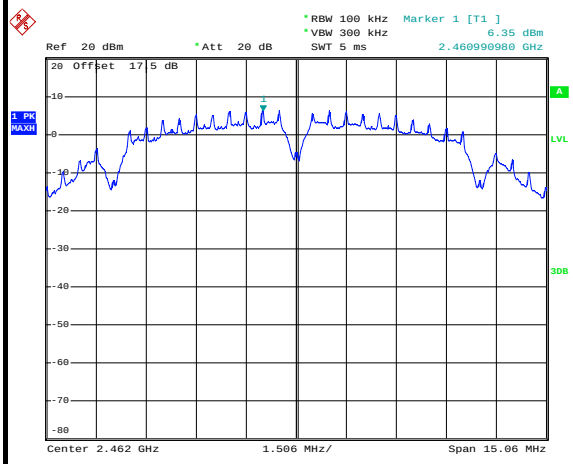


Date: 23.SEP.2014 12:02:01

Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	2.4GHz High	**Relative Humidity :**	50~53%
Test Channel :	11	**Test Engineer :**	Fly Liang

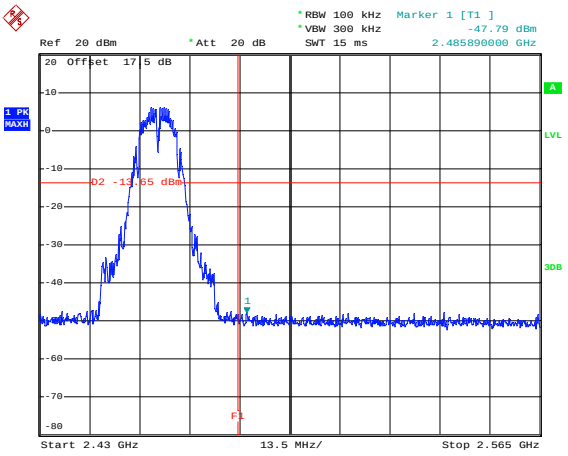
WLAN 802.11b Channel 11

100kHz PSD reference Level



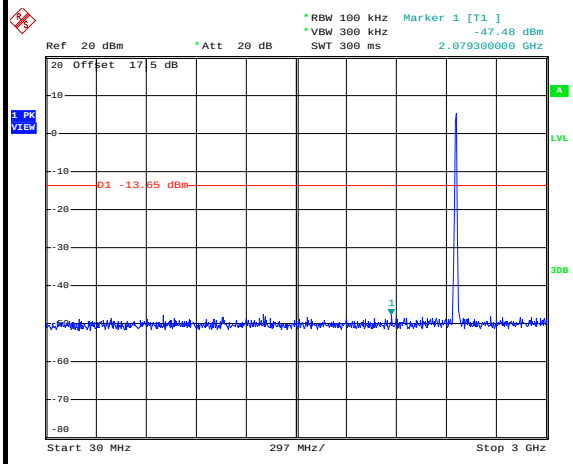
Date: 23.SEP.2014 12:07:35

High Channel Plot



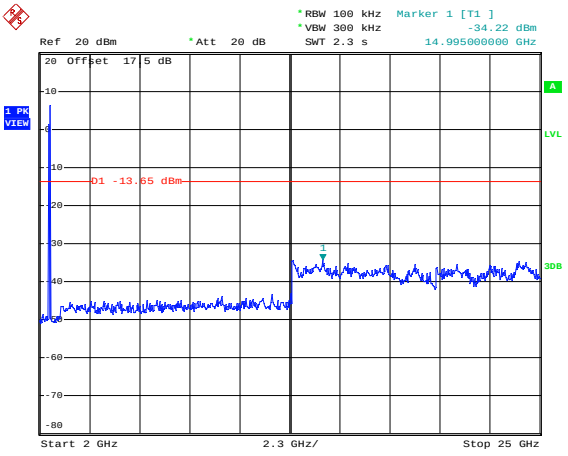
Date: 23.SEP.2014 15:41:10

Spurious Emission 30MHz~3GHz



Date: 23.SEP.2014 12:08:08

Spurious Emission 2GHz~25GHz

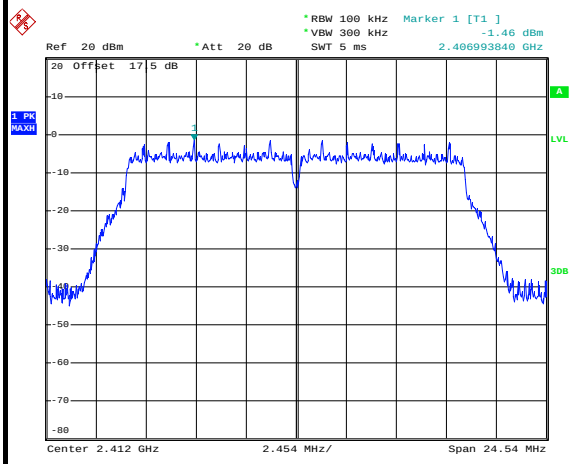


Date: 23.SEP.2014 12:08:27

Test Mode :	802.11g	Temperature :	24~26℃
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Fly Liang

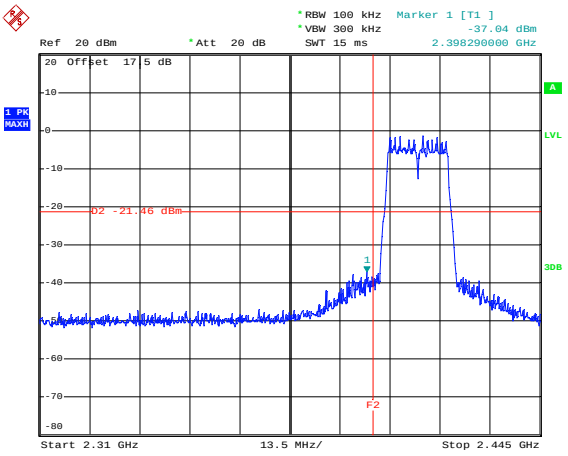
WLAN 802.11g Channel 01

100kHz PSD reference Level



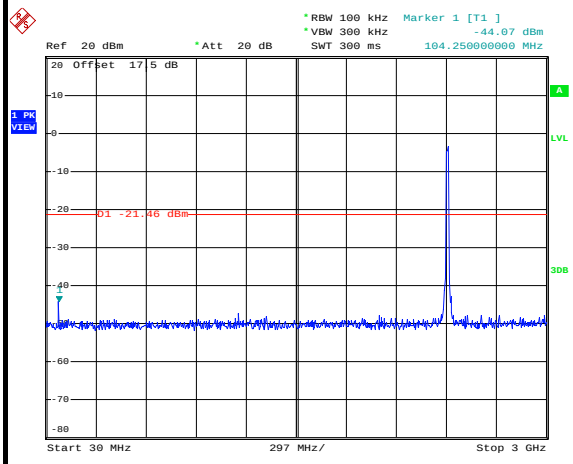
Date: 23.SEP.2014 12:19:15

Low Channel Plot



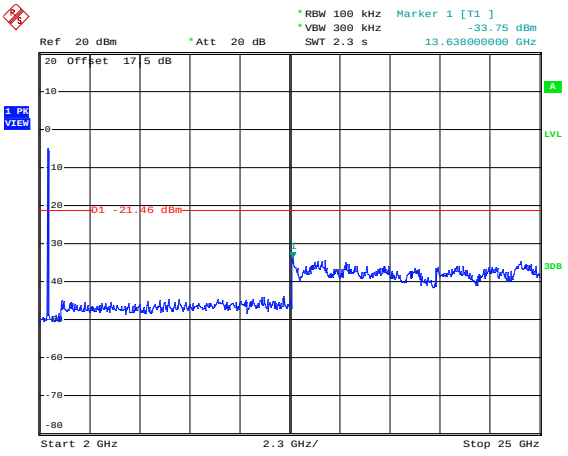
Date: 23.SEP.2014 12:19:29

Spurious Emission 30MHz~3GHz



Date: 23.SEP.2014 15:38:05

Spurious Emission 2GHz~25GHz

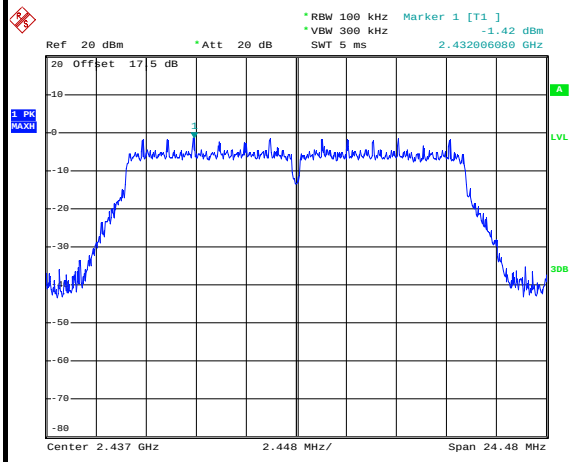


Date: 23.SEP.2014 15:38:24

Test Mode :	802.11g	Temperature :	24~26℃
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Fly Liang

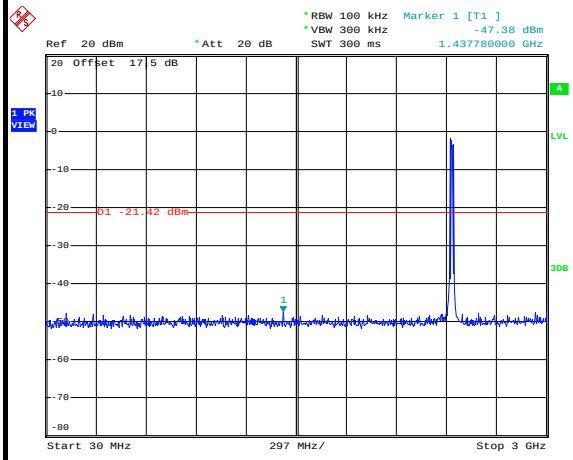
WLAN 802.11g Channel 06

100kHz PSD reference Level



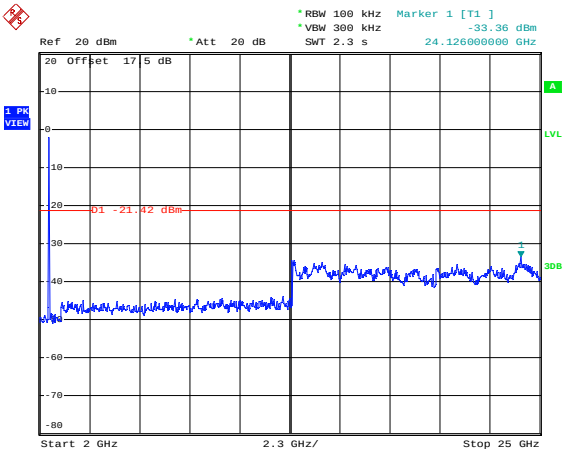
Date: 23.SEP.2014 13:56:56

Spurious Emission 30MHz~3GHz



Date: 23.SEP.2014 13:57:16

Spurious Emission 2GHz~25GHz

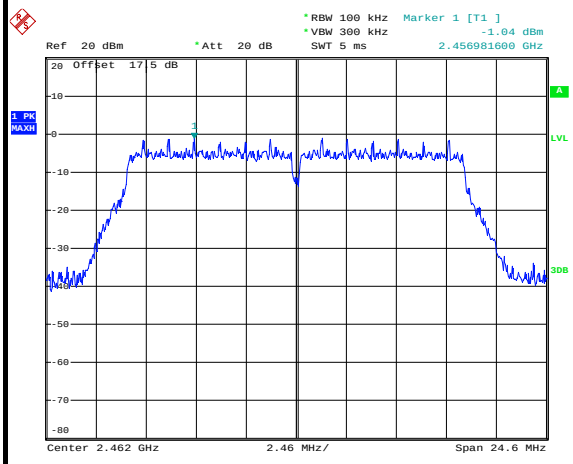


Date: 23.SEP.2014 13:57:34

Test Mode :	802.11g	Temperature :	24~26℃
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Fly Liang

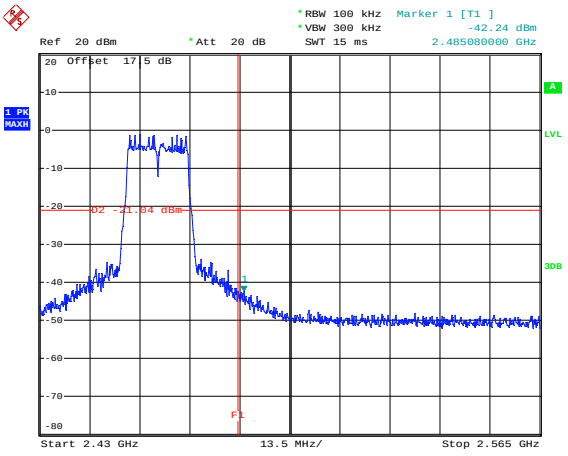
WLAN 802.11g Channel 11

100kHz PSD reference Level



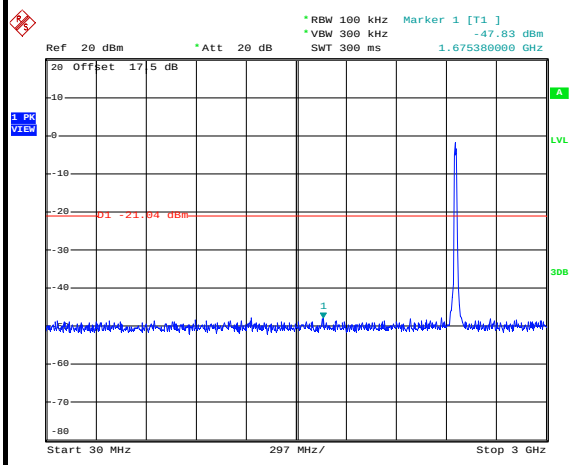
Date: 23.SEP.2014 14:03:03

High Channel Plot



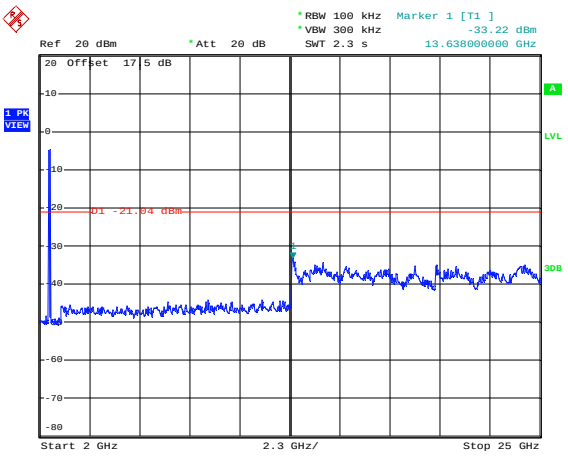
Date: 23.SEP.2014 14:03:17

Spurious Emission 30MHz~3GHz



Date: 23.SEP.2014 14:03:37

Spurious Emission 2GHz~25GHz

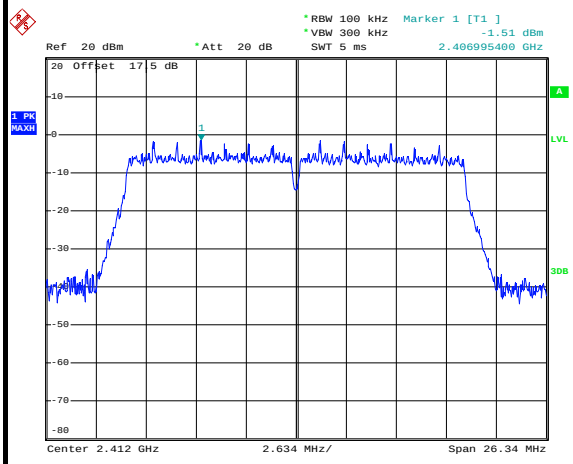


Date: 23.SEP.2014 14:03:55

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Fly Liang

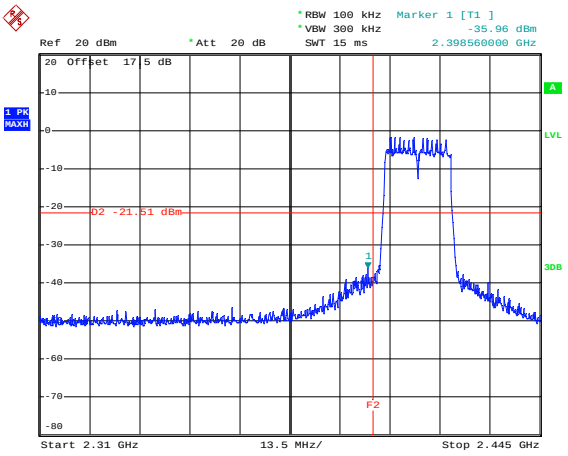
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



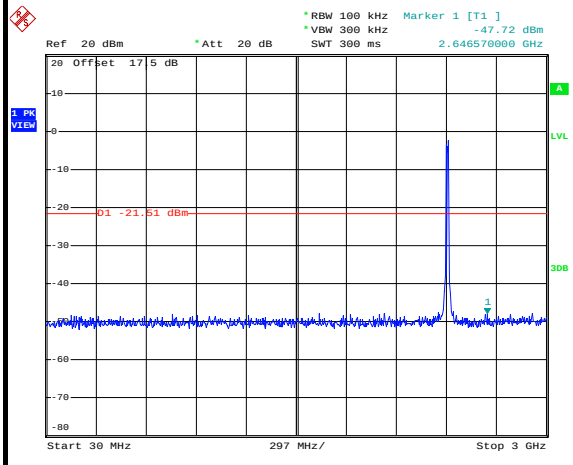
Date: 23.SEP.2014 14:11:14

Low Channel Plot



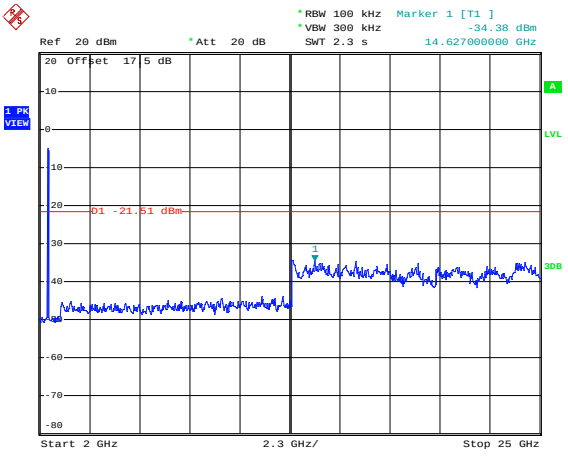
Date: 23.SEP.2014 14:11:28

Spurious Emission 30MHz~3GHz



Date: 23.SEP.2014 14:11:47

Spurious Emission 2GHz~25GHz

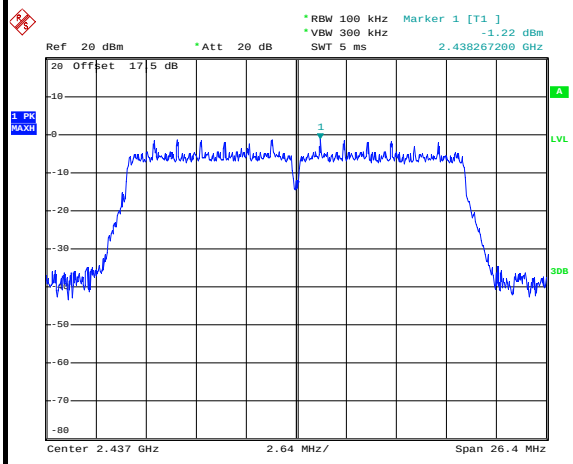


Date: 23.SEP.2014 14:12:06

Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	2.4GHz Mid	**Relative Humidity :**	50~53%
Test Channel :	06	**Test Engineer :**	Fly Liang

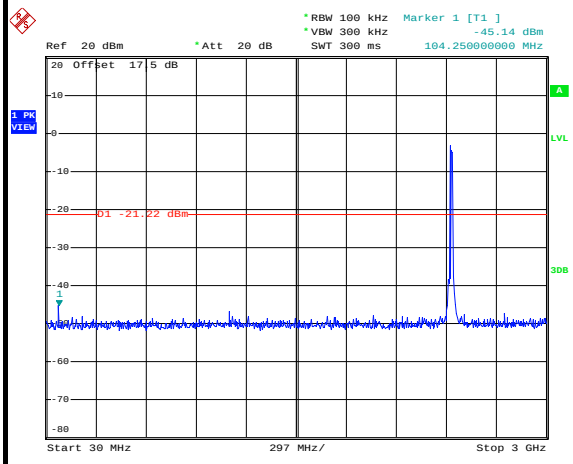
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



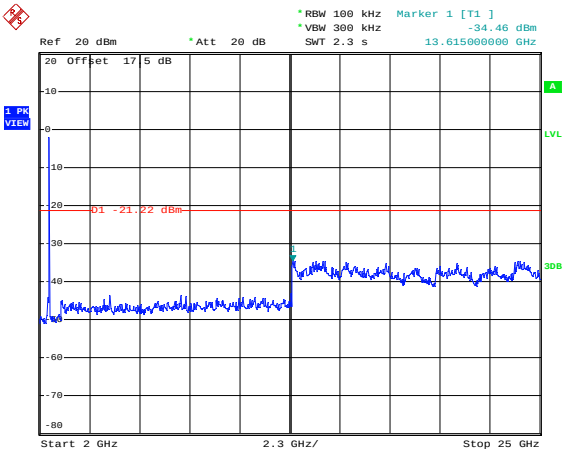
Date: 23.SEP.2014 14:17:12

Spurious Emission 30MHz~3GHz



Date: 23.SEP.2014 14:17:32

Spurious Emission 2GHz~25GHz

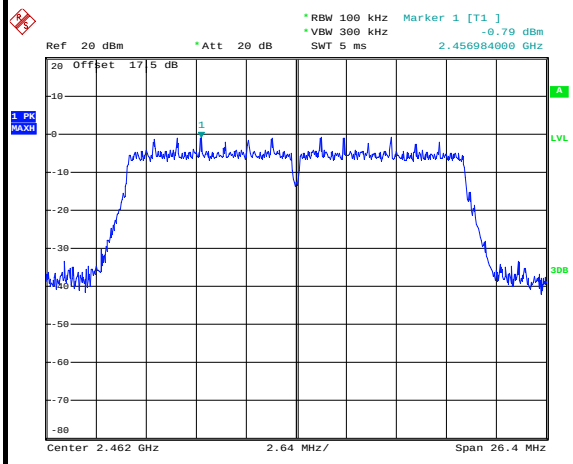


Date: 23.SEP.2014 14:17:51

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Fly Liang

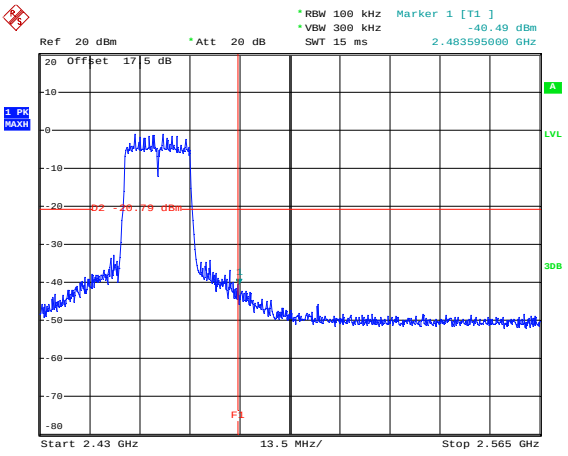
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



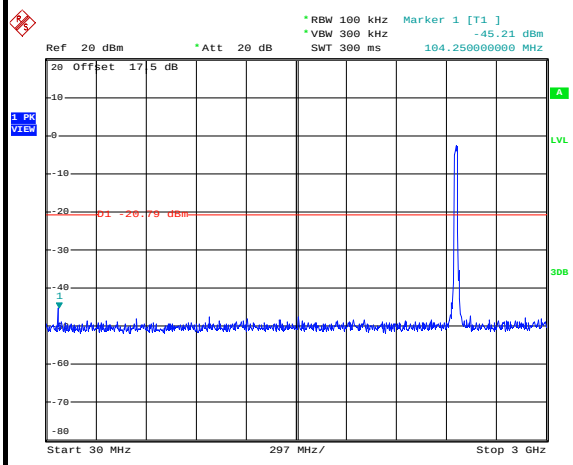
Date: 23.SEP.2014 14:23:37

High Channel Plot



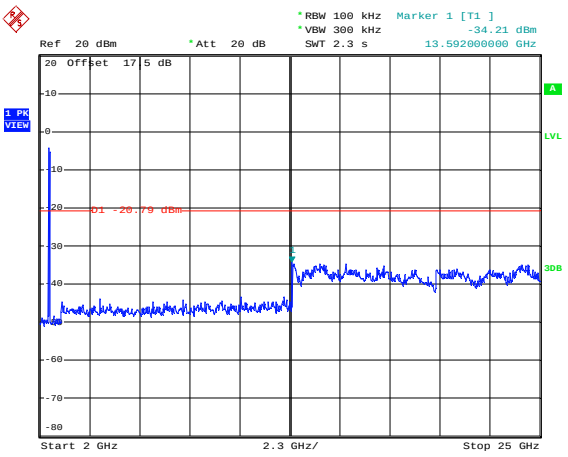
Date: 23.SEP.2014 14:23:51

Spurious Emission 30MHz~3GHz



Date: 23.SEP.2014 14:25:09

Spurious Emission 2GHz~25GHz

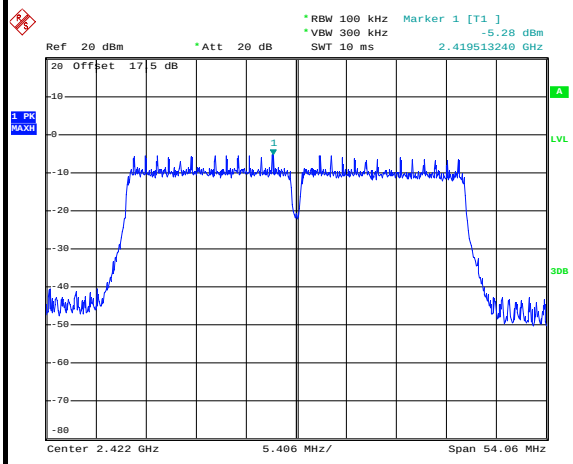


Date: 23.SEP.2014 14:25:27

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	03	Test Engineer :	Fly Liang

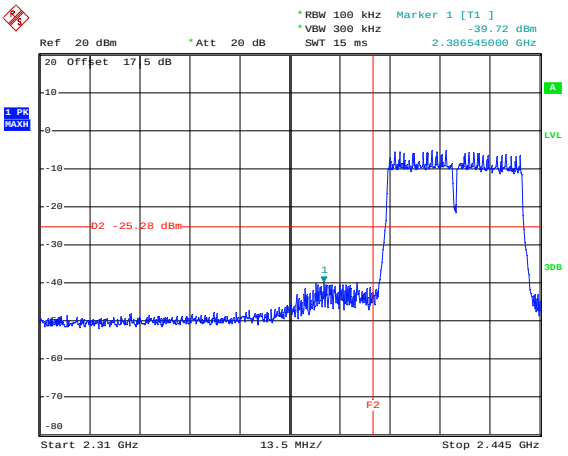
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



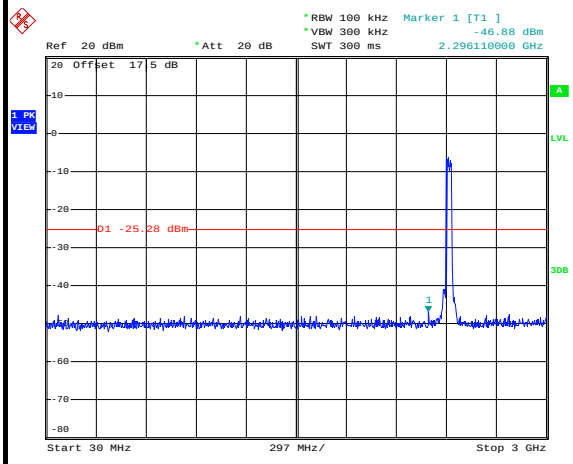
Date: 23.SEP.2014 15:52:00

Low Channel Plot



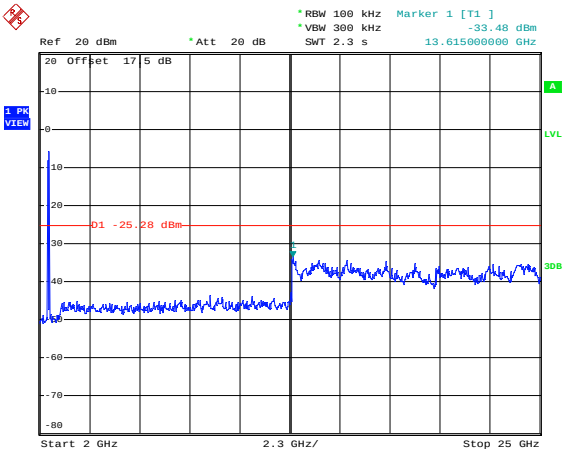
Date: 23.SEP.2014 15:52:14

Spurious Emission 30MHz~3GHz



Date: 23.SEP.2014 15:52:33

Spurious Emission 2GHz~25GHz

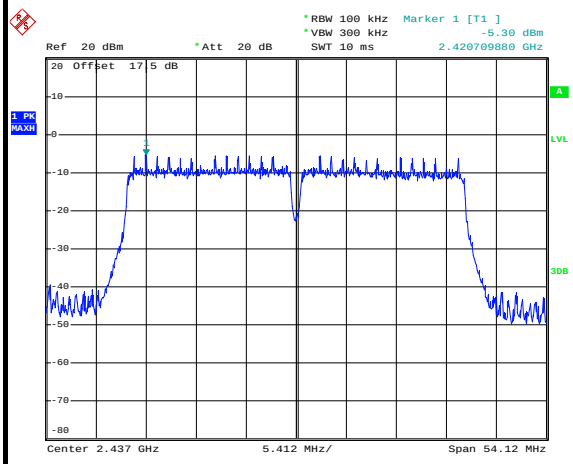


Date: 23.SEP.2014 15:52:52

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Fly Liang

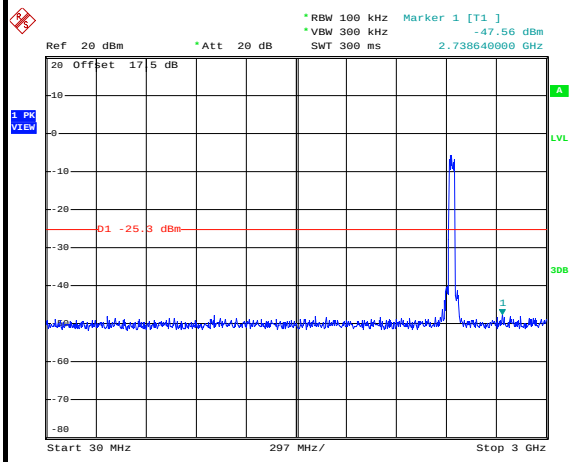
WLAN 802.11n HT40 Channel 06

100kHz PSD reference Level



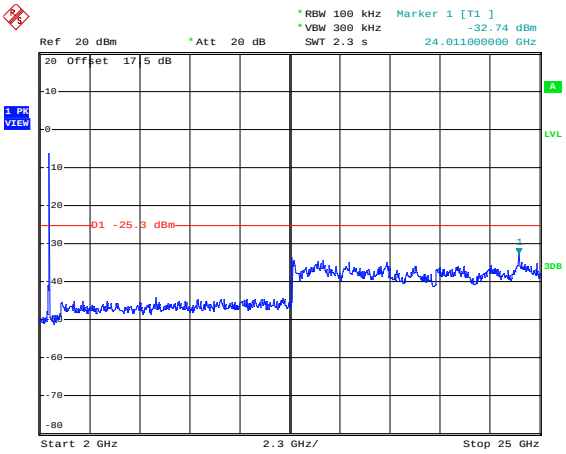
Date: 23.SEP.2014 15:57:46

Spurious Emission 30MHz~3GHz



Date: 23.SEP.2014 15:58:06

Spurious Emission 2GHz~25GHz

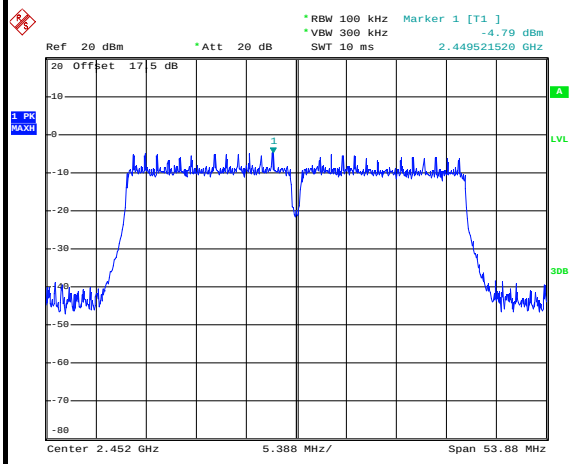


Date: 23.SEP.2014 15:58:24

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	09	Test Engineer :	Fly Liang

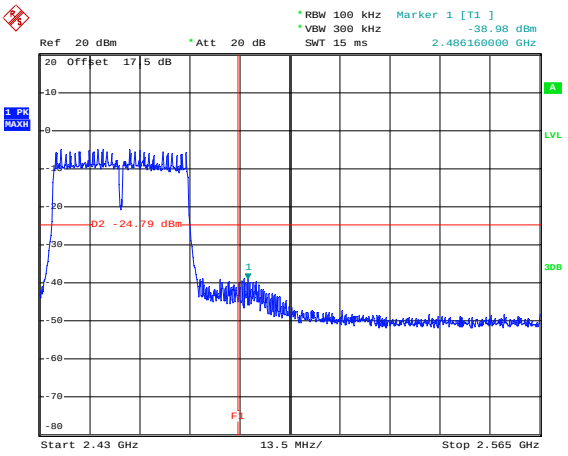
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



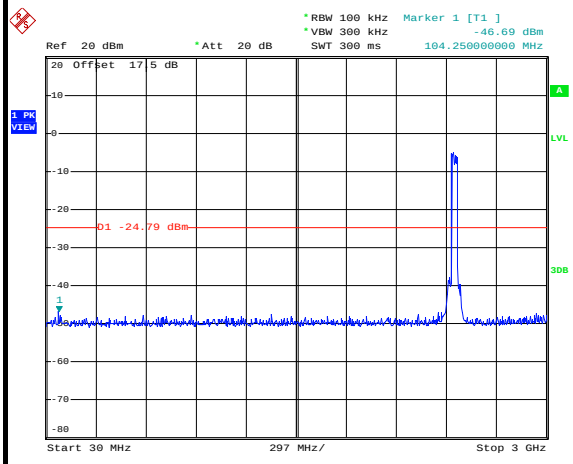
Date: 23.SEP.2014 15:17:24

High Channel Plot



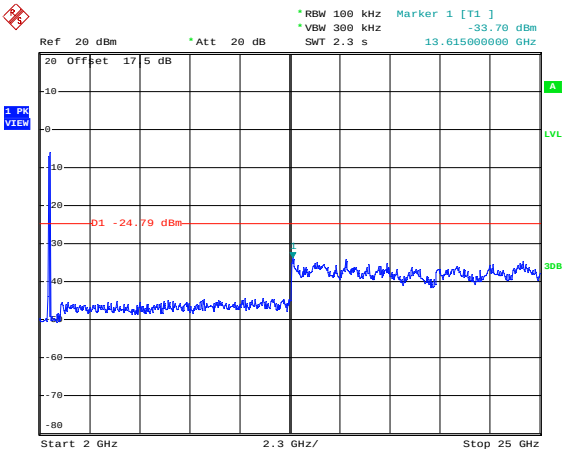
Date: 23.SEP.2014 15:17:38

Spurious Emission 30MHz~3GHz



Date: 23.SEP.2014 15:30:35

Spurious Emission 2GHz~25GHz



Date: 23.SEP.2014 15:25:50

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.

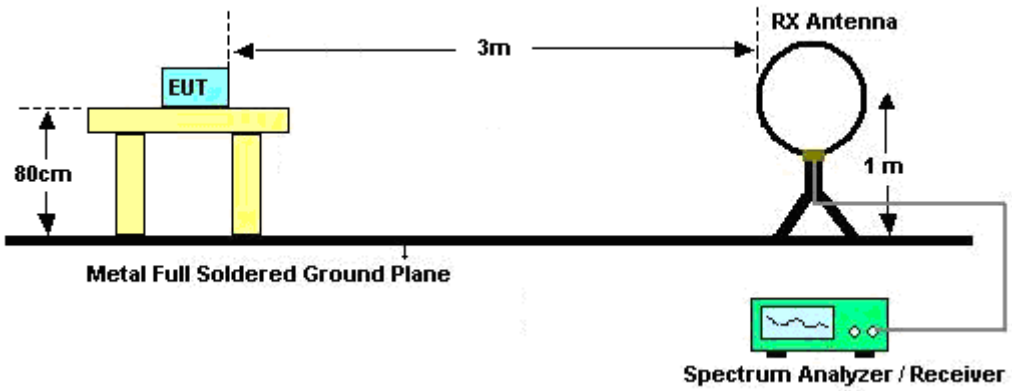
3.5.3 Test Procedures

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.

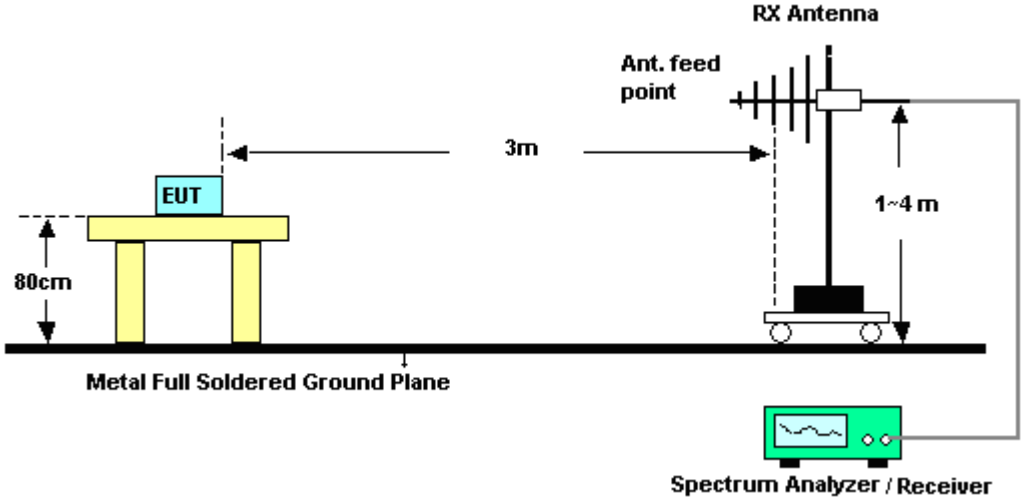
Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	98.13	-	-	10Hz
802.11g	88.78	1.39	0.72	1kHz
2.4GHz 802.11n HT20	88.35	1.30	0.77	1kHz
2.4GHz 802.11n HT40	79.13	0.65	1.53	3kHz

3.5.4 Test Setup

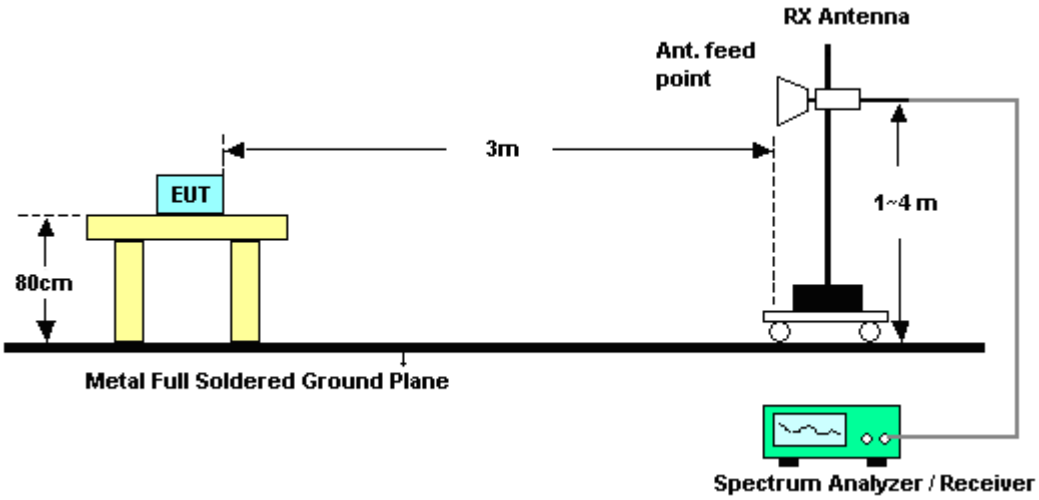
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.5.6 Test Result of Radiated Spurious at Band Edges

Test Mode :	802.11b	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Star Wei

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
2375.25	47.75	-26.25	74	44.6	32.83	3.58	33.26	115	336	Peak
2375.97	39.71	-14.29	54	36.56	32.83	3.58	33.26	115	336	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
2388.75	52.26	-21.74	74	49.07	32.86	3.59	33.26	100	81	Peak
2388.75	38.99	-15.01	54	35.8	32.86	3.59	33.26	100	81	Average

Test Mode :	802.11b	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Star Wei

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
2488.18	53.13	-20.87	74	49.72	33.05	3.66	33.3	200	62	Peak
2484.37	38.18	-15.82	54	34.81	33.01	3.65	33.29	200	62	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
2487.64	51.25	-22.75	74	47.84	33.05	3.66	33.3	100	264	Peak
2489.47	36.12	-17.88	54	32.71	33.05	3.66	33.3	100	264	Average

Test Mode :	802.11g	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Star Wei

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
2387.67	60.8	-13.2	74	57.61	32.86	3.59	33.26	100	37	Peak
2389.92	41.13	-12.87	54	37.94	32.86	3.59	33.26	100	37	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
2389.29	64.5	-9.5	74	61.31	32.86	3.59	33.26	100	246	Peak
2389.65	40.44	-13.56	54	37.25	32.86	3.59	33.26	100	249	Average

Test Mode :	802.11g	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Star Wei

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
2484.46	69.69	-4.31	74	66.32	33.01	3.65	33.29	109	21	Peak
2483.71	45.55	-8.45	54	42.18	33.01	3.65	33.29	200	292	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
2485.9	66.43	-7.57	74	63.06	33.01	3.65	33.29	100	116	Peak
2483.53	43	-11	54	39.63	33.01	3.65	33.29	100	116	Average

Test Mode :	802.11n HT20	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Star Wei

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	65.38	-8.62	74	62.19	32.86	3.59	33.26	178	360	Peak
2389.74	41.89	-12.11	54	38.7	32.86	3.59	33.26	178	360	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
2389.47	67.83	-6.17	74	64.64	32.86	3.59	33.26	100	291	Peak
2389.74	40.99	-13.01	54	37.8	32.86	3.59	33.26	100	291	Average

Test Mode :	802.11n HT20	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Star Wei

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
2485.3	62.55	-11.45	74	59.18	33.01	3.65	33.29	100	295	Peak
2483.74	39.34	-14.66	54	35.97	33.01	3.65	33.29	100	295	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
2485.48	66.63	-7.37	74	63.26	33.01	3.65	33.29	100	99	Peak
2483.53	41.22	-12.78	54	37.85	33.01	3.65	33.29	100	99	Average

Test Mode :	802.11n HT40	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	03	Test Engineer :	Star Wei

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
2388.66	64.76	-9.24	74	61.57	32.86	3.59	33.26	200	193	Peak
2389.02	42.25	-11.75	54	39.06	32.86	3.59	33.26	100	199	Average
2484.64	56.74	-17.26	74	53.37	33.01	3.65	33.29	100	122	Peak
2483.65	38.63	-15.37	54	35.26	33.01	3.65	33.29	100	122	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
2388.93	63.55	-10.45	74	60.36	32.86	3.59	33.26	100	174	Peak
2389.56	39.95	-14.05	54	36.76	32.86	3.59	33.26	100	174	Average
2489.41	47.6	-26.4	74	44.19	33.05	3.66	33.3	100	113	Peak
2483.92	35.42	-18.58	54	32.05	33.01	3.65	33.29	100	113	Average

Test Mode :	802.11n HT40	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	09	Test Engineer :	Star Wei

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
2389.92	51.7	-22.3	74	48.51	32.86	3.59	33.26	111	0	Peak
2379.21	36.03	-17.97	54	32.88	32.83	3.58	33.26	111	0	Average
2487.82	64.48	-9.52	74	61.07	33.05	3.66	33.3	200	0	Peak
2486.26	38.71	-15.29	54	35.34	33.01	3.65	33.29	200	0	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
2386.68	53.82	-20.18	74	50.63	32.86	3.59	33.26	176	0	Peak
2389.29	36.16	-17.84	54	32.97	32.86	3.59	33.26	176	0	Average
2487.58	65.54	-8.46	74	62.13	33.05	3.66	33.3	200	322	Peak
2484.88	41.71	-12.29	54	38.34	33.01	3.65	33.29	200	322	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.

Test Mode :	802.11b	**Temperature :**	22~23°C
Test Channel :	01	**Relative Humidity :**	42~43%
Test Engineer :	Star Wei	**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	106.94	-	-	103.71	32.89	3.61	33.27	114	339	Peak
2412	101.01	-	-	97.78	32.89	3.61	33.27	114	339	Average
4824	49.1	-24.9	74	42.48	35.17	5.25	33.8	100	134	Peak

Test Mode :	802.11b	**Temperature :**	22~23°C
Test Channel :	01	**Relative Humidity :**	42~43%
Test Engineer :	Star Wei	**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	105.27	-	-	102.04	32.89	3.61	33.27	200	282	Peak
2412	99.02	-	-	95.79	32.89	3.61	33.27	200	282	Average
4824	47.69	-26.31	74	41.07	35.17	5.25	33.8	100	124	Peak

Test Mode :	802.11b	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	107.51	-	-	104.21	32.95	3.63	33.28	111	337	Peak
2437	101.36	-	-	98.06	32.95	3.63	33.28	111	337	Average
4874	47.78	-26.22	74	41.12	35.18	5.28	33.8	100	125	Peak
7312	53.95	-20.05	74	45.27	36.2	6.61	34.13	200	145	Peak
7312	38.52	-15.48	54	29.84	36.2	6.61	34.13	200	145	Average

Test Mode :	802.11b	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	102.35	-	-	99.05	32.95	3.63	33.28	176	14	Peak
2437	96.31	-	-	93.01	32.95	3.63	33.28	176	14	Average
4874	47.73	-26.27	74	41.07	35.18	5.28	33.8	100	134	Peak
7312	54.15	-19.85	74	45.47	36.2	6.61	34.13	100	250	Peak
7312	39.52	-14.48	54	30.84	36.2	6.61	34.13	100	250	Average

Test Mode :	802.11b	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	109.74	-	-	106.41	32.98	3.64	33.29	111	42	Peak
2462	103.47	-	-	100.14	32.98	3.64	33.29	111	42	Average
4924	47.59	-26.41	74	40.89	35.19	5.31	33.8	200	235	Peak
7386	53.17	-20.83	74	44.39	36.24	6.7	34.16	100	360	Peak
7386	37.06	-16.94	54	28.28	36.24	6.7	34.16	100	360	Average

Test Mode :	802.11b	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	106.59	-	-	103.26	32.98	3.64	33.29	200	292	Peak
2462	100.34	-	-	97.01	32.98	3.64	33.29	200	292	Average
4924	48.42	-25.58	74	41.72	35.19	5.31	33.8	200	147	Peak
7386	50.2	-23.8	74	41.42	36.24	6.7	34.16	200	165	Peak

Test Mode :	802.11g	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	93.64	-	-	90.41	32.89	3.61	33.27	100	33	Peak
2412	82.58	-	-	79.35	32.89	3.61	33.27	100	33	Average
4824	47	-27	74	40.38	35.17	5.25	33.8	100	245	Peak

Test Mode :	802.11g	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	99.64	-	-	96.41	32.89	3.61	33.27	100	83	Peak
2412	88.37	-	-	85.14	32.89	3.61	33.27	100	83	Average
4824	46.47	-27.53	74	39.85	35.17	5.25	33.8	100	145	Peak

Test Mode :	802.11g	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	105.08	-	-	101.78	32.95	3.63	33.28	111	13	Peak
2437	94.52	-	-	91.22	32.95	3.63	33.28	111	13	Average
4874	47.76	-26.24	74	41.1	35.18	5.28	33.8	132	263	Peak
7312	49.33	-24.67	74	40.65	36.2	6.61	34.13	100	295	Peak

Test Mode :	802.11g	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	100.64	-	-	97.34	32.95	3.63	33.28	200	287	Peak
2437	90.24	-	-	86.94	32.95	3.63	33.28	200	287	Average
4874	47	-27	74	40.34	35.18	5.28	33.8	100	214	Peak
7312	48.76	-25.24	74	40.08	36.2	6.61	34.13	100	256	Peak

Test Mode :	802.11g	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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
120.21	28.5	-15	43.5	49.28	11.8	1.02	33.6	132	226	Peak
299.66	25.42	-20.58	46	44.2	13	1.6	33.38	-	-	Peak
359.8	26.27	-19.73	46	43.19	14.72	1.71	33.35	-	-	Peak
455.83	25.77	-20.23	46	40.64	16.38	1.95	33.2	-	-	Peak
832.19	23.97	-22.03	46	33.74	20.3	2.63	32.7	-	-	Peak
935.98	23.42	-22.58	46	32.39	20.67	2.8	32.44	-	-	Peak
2462	104.21	-	-	100.88	32.98	3.64	33.29	109	18	Peak
2462	93.12	-	-	89.79	32.98	3.64	33.29	109	18	Average
4924	47.17	-26.83	74	40.47	35.19	5.31	33.8	100	263	Peak
7386	48.66	-25.34	74	39.88	36.24	6.7	34.16	100	248	Peak

Test Mode :	802.11g	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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
35.82	26.47	-13.53	40	44.89	14.65	0.55	33.62	100	132	Peak
158.04	28.69	-14.81	43.5	51.45	9.67	1.15	33.58	-	-	Peak
459.71	27.2	-18.8	46	42	16.43	1.96	33.19	-	-	Peak
520.82	26.26	-19.74	46	39.61	17.7	2.04	33.09	-	-	Peak
624.61	23.58	-22.42	46	35.52	18.74	2.27	32.95	-	-	Peak
744.89	20.4	-25.6	46	30.88	19.86	2.45	32.79	-	-	Peak
2462	101.25	-	-	97.92	32.98	3.64	33.29	100	111	Peak
2462	89.15	-	-	85.82	32.98	3.64	33.29	100	111	Average
4924	46.6	-27.4	74	39.9	35.19	5.31	33.8	100	247	Peak
7386	48.7	-25.3	74	39.92	36.24	6.7	34.16	100	256	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	102.54	-	-	99.31	32.89	3.61	33.27	112	350	Peak
2412	92.14	-	-	88.91	32.89	3.61	33.27	112	350	Average
4824	47.17	-26.83	74	40.55	35.17	5.25	33.8	125	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2410 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
2410	101.26	-	-	98.03	32.89	3.61	33.27	200	300	Peak
2410	91.3	-	-	88.07	32.89	3.61	33.27	200	300	Average
4824	46.97	-27.03	74	40.35	35.17	5.25	33.8	135	142	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	105.37	-	-	102.07	32.95	3.63	33.28	110	344	Peak
2437	94.16	-	-	90.86	32.95	3.63	33.28	110	344	Average
4874	46.99	-27.01	74	40.33	35.18	5.28	33.8	200	147	Peak
7312	49.02	-24.98	74	40.34	36.2	6.61	34.13	200	132	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	103.51	-	-	100.21	32.95	3.63	33.28	100	303	Peak
2437	91.56	-	-	88.26	32.95	3.63	33.28	100	303	Average
4874	47.49	-26.51	74	40.83	35.18	5.28	33.8	100	214	Peak
7312	49.49	-24.51	74	40.81	36.2	6.61	34.13	100	152	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	104.8	-	-	101.47	32.98	3.64	33.29	108	0	Peak
2462	94.33	-	-	91	32.98	3.64	33.29	108	0	Average
4924	47.7	-26.3	74	41	35.19	5.31	33.8	100	154	Peak
7386	49.09	-24.91	74	40.31	36.24	6.7	34.16	200	101	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	103.3	-	-	99.97	32.98	3.64	33.29	100	115	Peak
2462	91.94	-	-	88.61	32.98	3.64	33.29	100	115	Average
4924	47.28	-26.72	74	40.58	35.19	5.31	33.8	100	156	Peak
7386	48.71	-25.29	74	39.93	36.24	6.7	34.16	100	135	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	03	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	98.39	-	-	95.13	32.92	3.62	33.28	100	202	Peak
2422	85.82	-	-	82.56	32.92	3.62	33.28	100	202	Average
4844	47.23	-26.77	74	40.59	35.18	5.26	33.8	100	145	Peak
7266	49.09	-24.91	74	40.45	36.19	6.56	34.11	162	33	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	03	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	98.51	-	-	95.25	32.92	3.62	33.28	100	142	Peak
2422	85.26	-	-	82	32.92	3.62	33.28	100	142	Average
4844	46.88	-27.12	74	40.24	35.18	5.26	33.8	100	294	Peak
7266	48.73	-25.27	74	40.09	36.19	6.56	34.11	133	29	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	98.89	-	-	95.59	32.95	3.63	33.28	108	0	Peak
2437	87.78	-	-	84.48	32.95	3.63	33.28	108	0	Average
4874	47.94	-26.06	74	41.28	35.18	5.28	33.8	100	133	Peak
7312	48.57	-25.43	74	39.89	36.2	6.61	34.13	112	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	101.3	-	-	98	32.95	3.63	33.28	100	92	Peak
2437	89.14	-	-	85.84	32.95	3.63	33.28	100	92	Average
4874	47.66	-26.34	74	41	35.18	5.28	33.8	110	78	Peak
7312	48.92	-25.08	74	40.24	36.2	6.61	34.13	100	195	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	09	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	101.59	-	-	98.29	32.95	3.63	33.28	109	320	Peak
2452	91.26	-	-	87.96	32.95	3.63	33.28	109	320	Average
4904	47.5	-26.5	74	40.81	35.19	5.3	33.8	100	233	Peak
7356	49.2	-24.8	74	40.47	36.22	6.66	34.15	132	226	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	09	Relative Humidity :	42~43%
Test Engineer :	Star Wei	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	99.51	-	-	96.21	32.95	3.63	33.28	100	101	Peak
2452	88.83	-	-	85.53	32.95	3.63	33.28	100	101	Average
4904	47.22	-26.78	74	40.53	35.19	5.3	33.8	144	100	Peak
7356	48.48	-25.52	74	39.75	36.22	6.66	34.15	100	21	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.

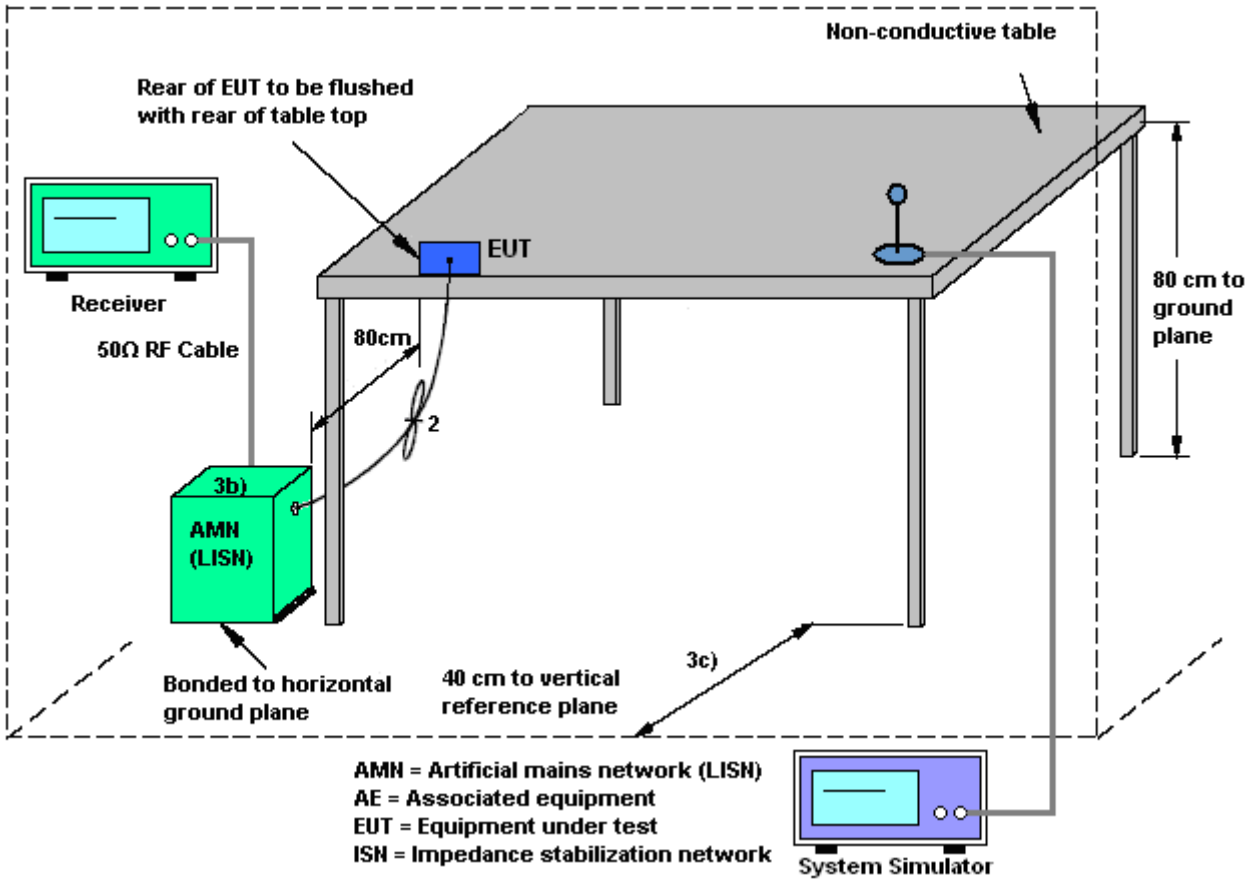
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

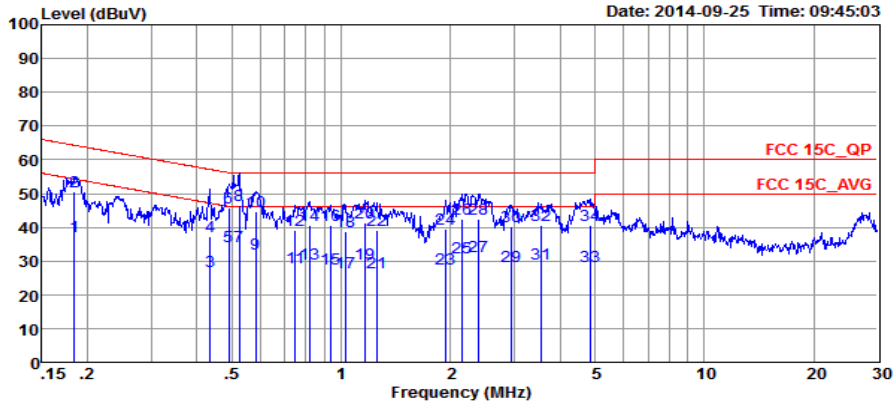
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other 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



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 :	GSM1900 Idle + Bluetooth Link + WLAN Link + USB Cable (Charging from Adapter) + Earphone		

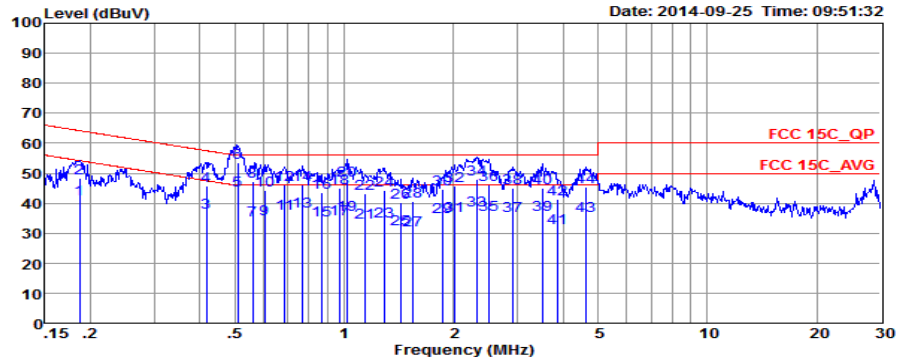


Site : CO01-SZ
Condition: FCC 15C QP LISN_L_20140304 LINE

Mode : Mode 1

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.18	37.43	-16.85	54.28	26.90	0.22	10.31	Average
2		0.18	50.63	-13.65	64.28	40.10	0.22	10.31	QP
3		0.44	26.95	-20.20	47.15	16.50	0.29	10.16	Average
4		0.44	37.25	-19.90	57.15	26.80	0.29	10.16	QP
5		0.49	34.46	-11.68	46.14	24.00	0.30	10.16	Average
6		0.49	45.76	-10.38	56.14	35.30	0.30	10.16	QP
7		0.52	34.34	-11.66	46.00	23.91	0.28	10.15	Average
8	*	0.52	46.44	-9.56	56.00	36.01	0.28	10.15	QP
9		0.58	32.10	-13.90	46.00	21.70	0.25	10.15	Average
10		0.58	44.50	-11.50	56.00	34.10	0.25	10.15	QP
11		0.75	28.14	-17.86	46.00	17.80	0.19	10.15	Average
12		0.75	39.24	-16.76	56.00	28.90	0.19	10.15	QP
13		0.82	29.06	-16.94	46.00	18.70	0.21	10.15	Average
14		0.82	40.56	-15.44	56.00	30.20	0.21	10.15	QP
15		0.93	27.79	-18.21	46.00	17.40	0.24	10.15	Average
16		0.93	40.59	-15.41	56.00	30.20	0.24	10.15	QP
17		1.03	26.61	-19.39	46.00	16.20	0.26	10.15	Average
18		1.03	38.81	-17.19	56.00	28.40	0.26	10.15	QP
19		1.17	29.01	-16.99	46.00	18.60	0.25	10.16	Average
20		1.17	41.21	-14.79	56.00	30.80	0.25	10.16	QP
21		1.25	26.61	-19.39	46.00	16.20	0.25	10.16	Average
22		1.25	39.21	-16.79	56.00	28.80	0.25	10.16	QP
23		1.94	27.81	-18.19	46.00	17.40	0.22	10.19	Average
24		1.94	39.31	-16.69	56.00	28.90	0.22	10.19	QP
25		2.14	31.03	-14.97	46.00	20.60	0.24	10.19	Average
26		2.14	42.33	-13.67	56.00	31.90	0.24	10.19	QP
27		2.40	31.26	-14.74	46.00	20.80	0.26	10.20	Average
28		2.40	42.26	-13.74	56.00	31.80	0.26	10.20	QP
29		2.95	28.32	-17.68	46.00	17.81	0.30	10.21	Average
30		2.95	40.22	-15.78	56.00	29.71	0.30	10.21	QP
31		3.57	29.07	-16.93	46.00	18.50	0.35	10.22	Average
32		3.57	40.57	-15.43	56.00	30.00	0.35	10.22	QP
33		4.85	28.35	-17.65	46.00	17.70	0.41	10.24	Average
34		4.85	40.45	-15.55	56.00	29.80	0.41	10.24	QP

Test Mode :	Mode 1	Temperature :	21~22℃
Test Engineer :	Jack Tian	Relative Humidity :	41~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN Link + USB Cable (Charging from Adapter) + Earphone		



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

Mode : Mode 1

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.19	41.23	-12.97	54.20	30.60	0.32	10.31	Average
2		0.19	48.23	-15.97	64.20	37.60	0.32	10.31	QP
3		0.42	36.86	-10.65	47.51	26.30	0.39	10.17	Average
4		0.42	45.86	-11.65	57.51	35.30	0.39	10.17	QP
5	*	0.51	44.35	-1.65	46.00	33.79	0.40	10.16	Average
6		0.51	53.35	-2.65	56.00	42.79	0.40	10.16	QP
7		0.56	34.41	-11.59	46.00	23.90	0.36	10.15	Average
8		0.56	47.21	-8.79	56.00	36.70	0.36	10.15	QP
9		0.60	34.57	-11.43	46.00	24.10	0.32	10.15	Average
10		0.60	44.37	-11.63	56.00	33.90	0.32	10.15	QP
11		0.69	36.41	-9.59	46.00	26.00	0.26	10.15	Average
12		0.69	46.21	-9.79	56.00	35.80	0.26	10.15	QP
13		0.77	37.32	-8.68	46.00	26.90	0.27	10.15	Average
14		0.77	46.02	-9.98	56.00	35.60	0.27	10.15	QP
15		0.87	34.15	-11.85	46.00	23.70	0.30	10.15	Average
16		0.87	43.45	-12.55	56.00	33.00	0.30	10.15	QP
17		0.97	34.77	-11.23	46.00	24.30	0.32	10.15	Average
18		0.97	45.17	-10.83	56.00	34.70	0.32	10.15	QP
19		1.02	36.28	-9.72	46.00	25.80	0.33	10.15	Average
20		1.02	47.48	-8.52	56.00	37.00	0.33	10.15	QP
21		1.14	33.69	-12.31	46.00	23.19	0.34	10.16	Average
22		1.14	43.29	-12.71	56.00	32.79	0.34	10.16	QP
23		1.29	33.91	-12.09	46.00	23.41	0.34	10.16	Average
24		1.29	44.11	-11.89	56.00	33.61	0.34	10.16	QP
25		1.43	31.52	-14.48	46.00	21.00	0.35	10.17	Average
26		1.43	40.32	-15.68	56.00	29.80	0.35	10.17	QP
27		1.54	30.93	-15.07	46.00	20.41	0.35	10.17	Average
28		1.54	40.43	-15.57	56.00	29.91	0.35	10.17	QP
29		1.86	35.35	-10.65	46.00	24.80	0.37	10.18	Average
30		1.86	44.55	-11.45	56.00	34.00	0.37	10.18	QP
31		2.01	35.86	-10.14	46.00	25.30	0.37	10.19	Average
32		2.01	45.66	-10.34	56.00	35.10	0.37	10.19	QP
33		2.32	37.79	-8.21	46.00	27.20	0.39	10.20	Average
34		2.32	47.89	-8.11	56.00	37.30	0.39	10.20	QP
35		2.51	36.10	-9.90	46.00	25.50	0.40	10.20	Average
36		2.51	46.10	-9.90	56.00	35.50	0.40	10.20	QP
37		2.90	35.83	-10.17	46.00	25.20	0.42	10.21	Average
38		2.90	44.93	-11.07	56.00	34.30	0.42	10.21	QP
39		3.51	36.06	-9.94	46.00	25.40	0.44	10.22	Average
40		3.51	45.16	-10.84	56.00	34.50	0.44	10.22	QP
41		3.88	31.88	-14.12	46.00	21.19	0.46	10.23	Average
42		3.88	41.48	-14.52	56.00	30.79	0.46	10.23	QP
43		4.62	35.81	-10.19	46.00	25.09	0.48	10.24	Average
44		4.62	45.31	-10.69	56.00	34.59	0.48	10.24	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

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	FSP30	101400	9kHz~30GHz	Mar. 03, 2014	Sep. 23, 2014	Mar. 02, 2015	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	13dBm ~-20dBm	Mar. 03, 2014	Sep. 23, 2014	Mar. 02, 2015	Conducted (TH01-SZ)
Power Sensor	Dare	RPR3006W	TH01SZ00019	0.3GHz~6GHz	Mar. 14, 2014	Sep. 23, 2014	Mar. 13, 2015	Conducted (TH01-SZ)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 05, 2013	Oct. 10, 2014	Nov. 04, 2014	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP30	101399	9kHz~30GHz	May 04, 2014	Oct. 10, 2014	May 03, 2015	Radiation (03CH01-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 08, 2014	Oct. 10, 2014	Oct. 07, 2015	Radiation (03CH01-KS
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Jan. 08, 2014	Oct. 10, 2014	Jan. 07, 2015	Radiation (03CH01-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75959	1GHz~18GHz	Jan. 08, 2014	Oct. 10, 2014	Jan. 07, 2015	Radiation (03CH01-KS)
Active Horn Antenna	com-power	AHA-118	701030	1GHz~18GHz	Nov. 18, 2013	Oct. 10, 2014	Nov. 17, 2014	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Mar. 10, 2014	Oct. 10, 2014	Mar. 09, 2015	Radiation (03CH01-KS)
Amplifier	com-power	PA-103A	161073	1MHz~1GHz	May 04, 2014	Oct. 10, 2014	May 03, 2015	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02371	1GHz~26.5GHz	Dec. 10, 2013	Oct. 10, 2014	Dec. 09, 2014	Radiation (03CH01-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Oct. 10, 2014	NCR	Radiation (03CH01-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Oct. 10, 2014	NCR	Radiation (03CH01-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Oct. 10, 2014	NCR	Radiation (03CH01-KS)
ESCIO TEST Receiver	R&S	ESCI	100724	9kHz~3GHz	Feb. 21, 2014	Sep. 25, 2014	Feb. 20, 2015	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Mar. 04, 2014	Sep. 25, 2014	Mar. 03, 2015	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	EMCO	3816/2SH	00103892	9kHz~30MHz	Mar. 04, 2014	Sep. 25, 2014	Mar. 03, 2015	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Dec. 17, 2013	Sep. 25, 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**

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

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