



FCC RF Test Report

APPLICANT : Butte L.L.C.
EQUIPMENT : Wireless Device
MODEL NAME : JK29LP
FCC ID : 2AETK-1013
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Oct. 07, 2015 and testing was completed on Dec. 16, 2015. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

**SPORTON INTERNATIONAL INC.**

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



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR5O0723-01B	Rev. 01	Initial issue of report	Dec. 21, 2015

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.1	-	99% Bandwidth	-	Pass	-
3.2	15.247(b)	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	Conducted Band Edges	$\leq 20\text{dBc}$	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 0.51 dB at 2389.920 MHz
-	15.207	AC Conducted Emission	15.207(a)	Pass	EUT doesn't have related port
3.6	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

Butte L.L.C.

100 M Street, S.E., Suite 600

Washington, District Of Columbia, 20003

1.2 Product Feature of Equipment Under Test

Product Feature	
Equipment	Wireless Device
Model Name	JK29LP
FCC ID	2AETK-1013
EUT supports Radios application	WLAN 11b/g/n HT20 Bluetooth v4.0 LE

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

1.3 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Maximum (Peak) Output Power to Antenna	802.11b : 20.65 dBm (0.1161 W) 802.11g : 23.53 dBm (0.2254 W) 802.11n HT20 : 23.53 dBm (0.2254 W)
99% Occupied Bandwidth	802.11b : 14.35MHz 802.11g : 18.45MHz 802.11n HT20 : 19.35MHz
Antenna Type	Fixed Internal Antenna with gain 1.17 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.4 Modification of EUT

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

1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	Sporton Site No.	
	TH02-HY	03CH07-HY

Note: The test site complies with ANSI C63.4 2009 requirement.

1.6 Applicable Standards

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

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r03
- ♦ ANSI C63.10-2009

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. FCC permits the use of the 1.5 meter table as an alternative in C63.10-2013 through inquiry tracking number 961829.

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: 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 (Y 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 mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	20.65	20.61	20.64	20.64

2.4GHz 802.11g mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	23.53	23.48	23.50	23.48	23.49	23.51	23.50	23.51

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	23.53	23.48	23.49	23.50	23.49	23.51	23.52	23.50

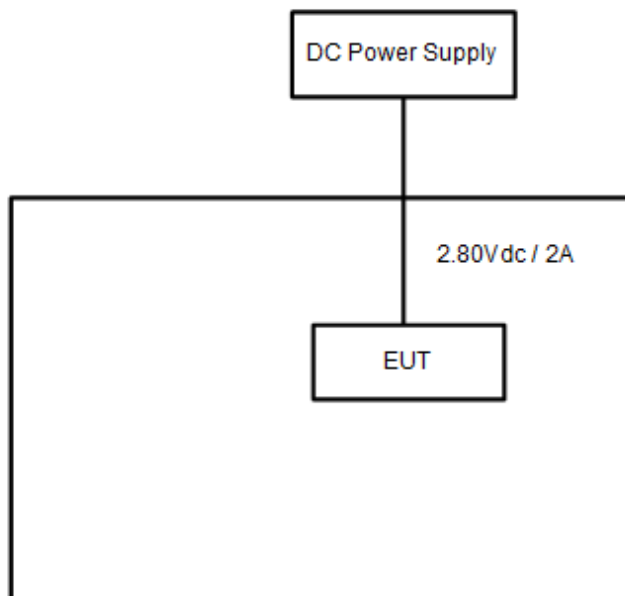
2.3 Test Mode

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.

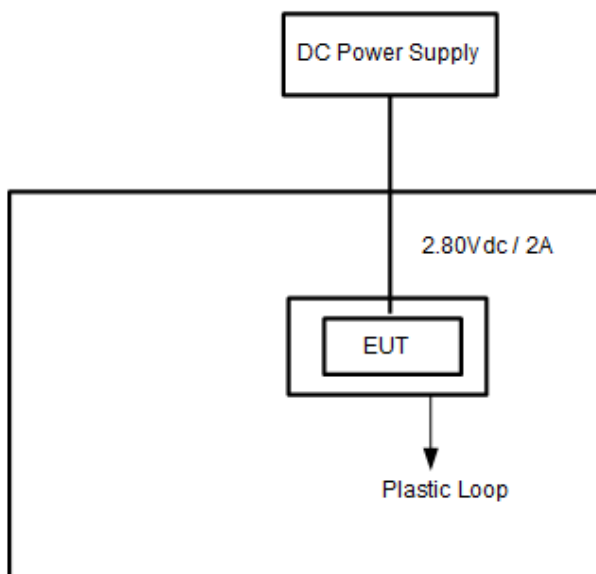
Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<WLAN Tx Mode with Plastic Loop Mode >



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	DC Power Supply	Topward	3303DR	N/A	N/A	Unshielded, 1.8 m



2.6 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit/receive.

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 4.2 dB and 10dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 4.2 + 10 = 14.2 \text{ (dB)}\end{aligned}$$

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.

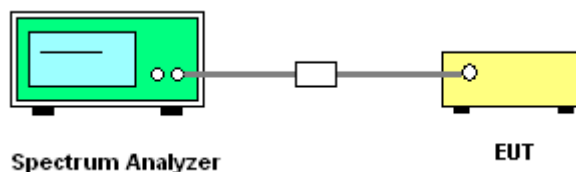
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

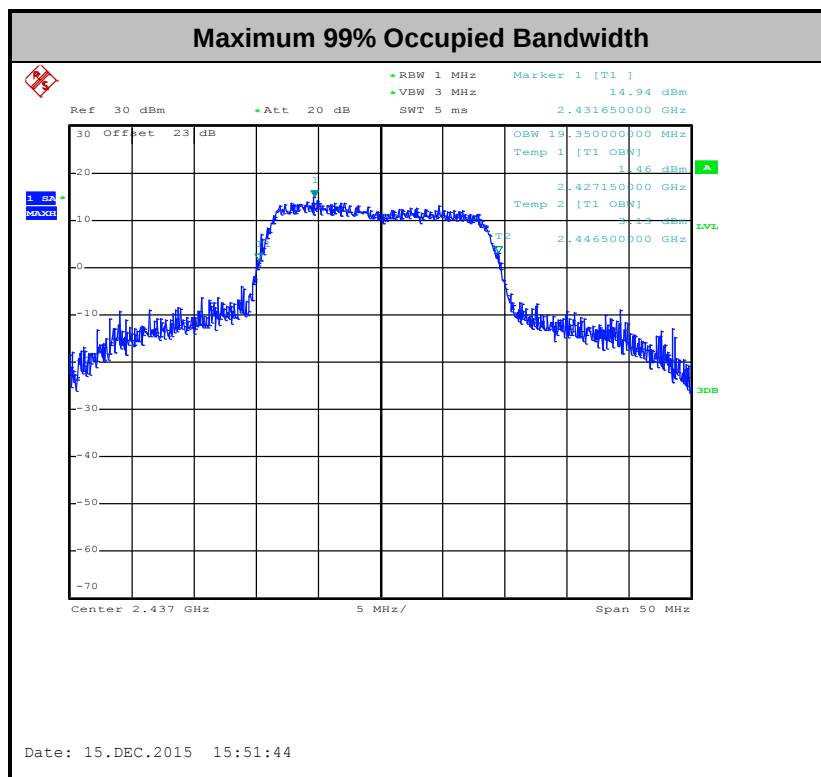
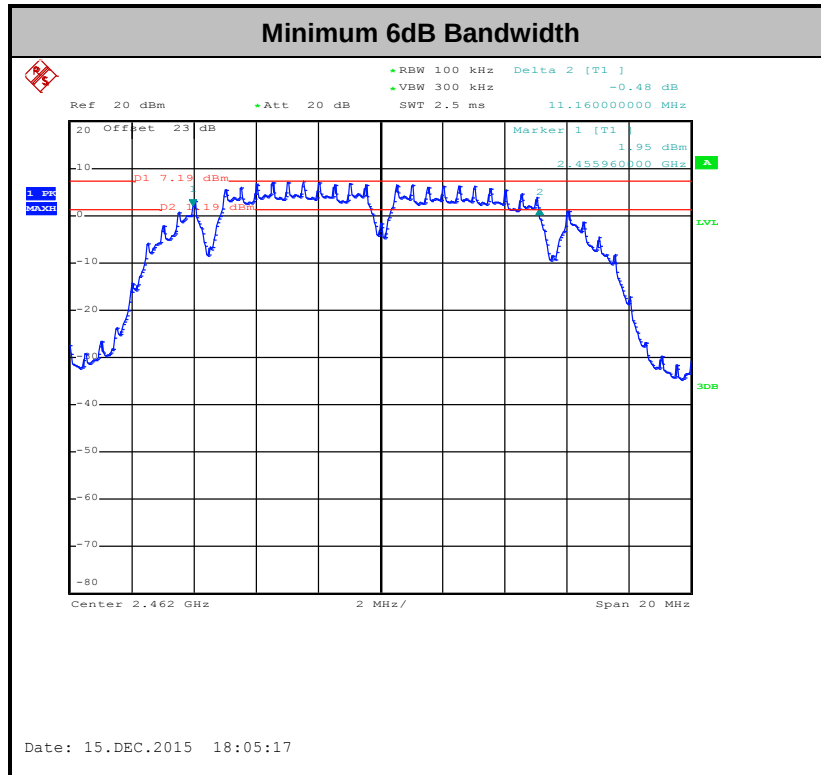
1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v03r03.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit 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 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.

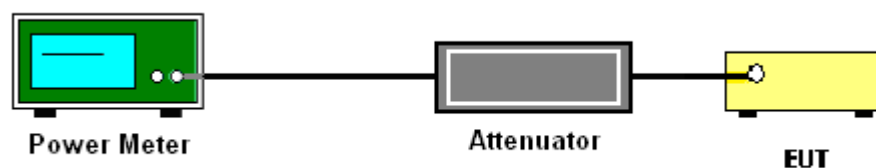
3.2.2 Measuring Instruments

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 v03r03 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.

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.

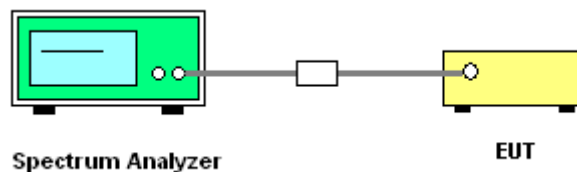
3.3.2 Measuring Instruments

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 v03r03
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.

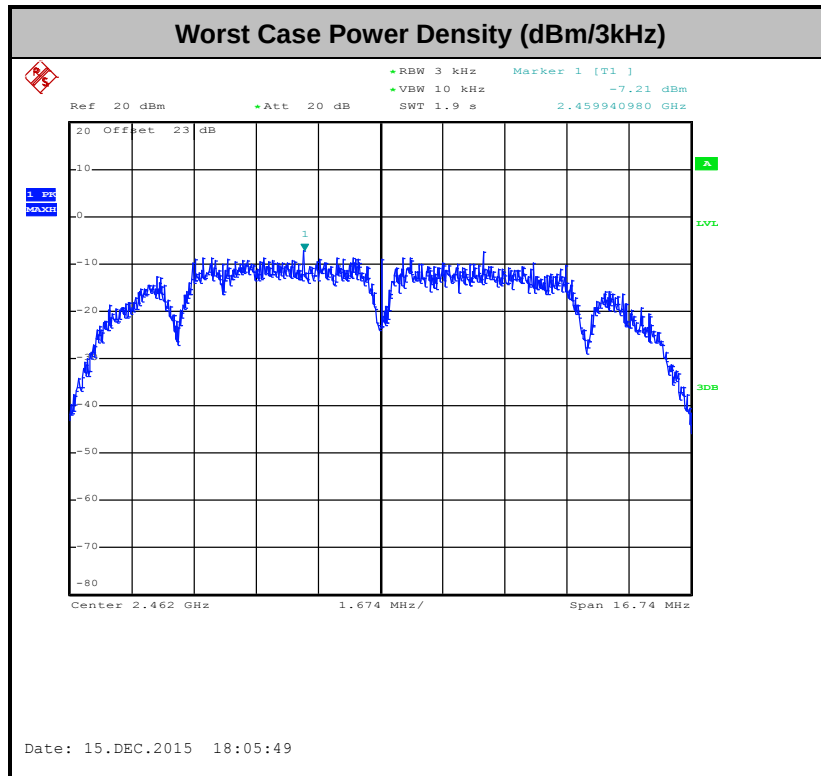
3.3.4 Test Setup





3.3.5 Test Result of Power Spectral Density

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).

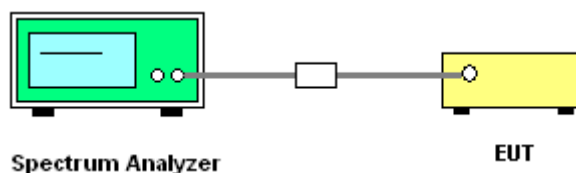
3.4.2 Measuring Instruments

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 v03r03.
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.

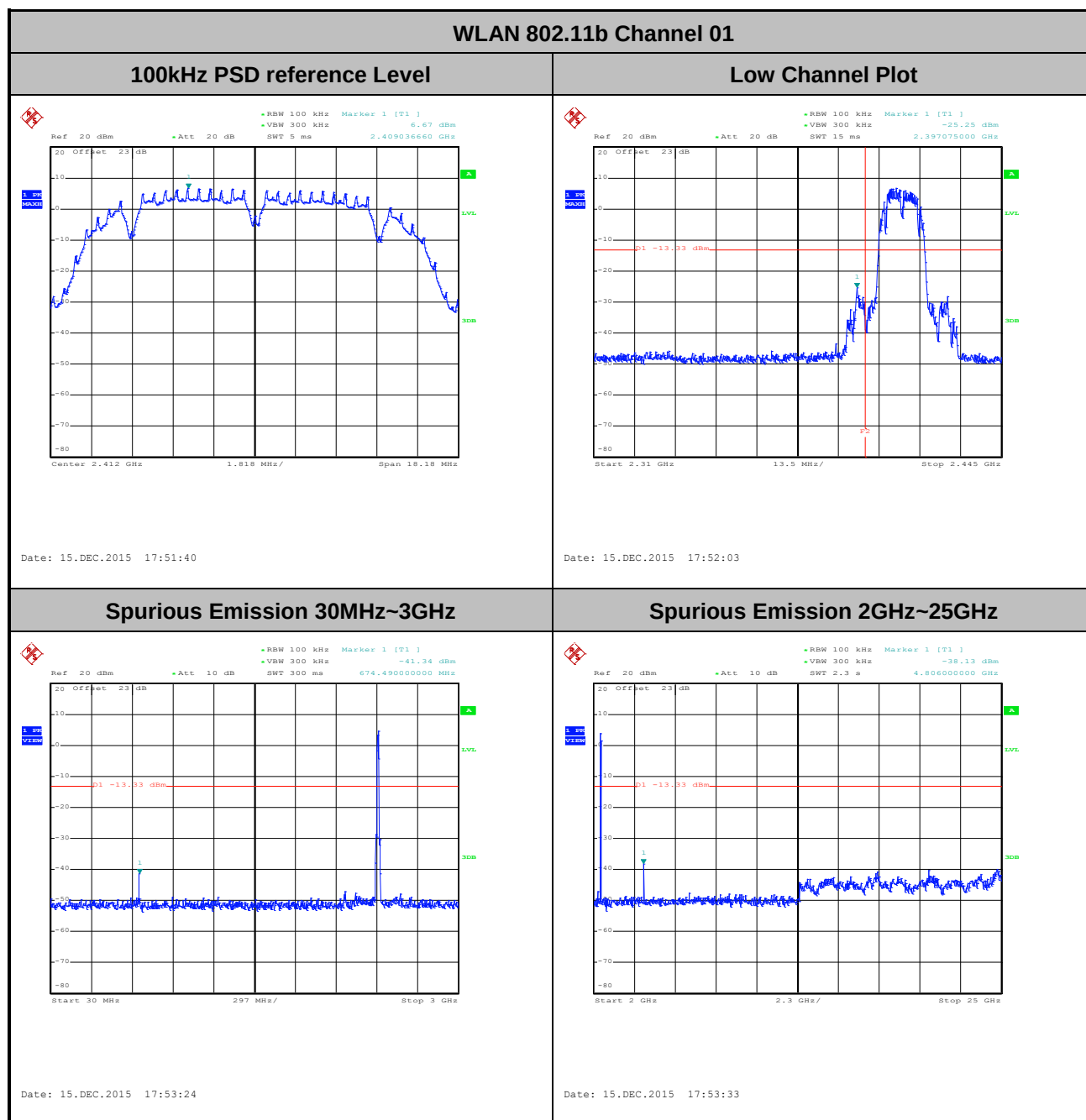
3.4.4 Test Setup





3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	Tommy Lee

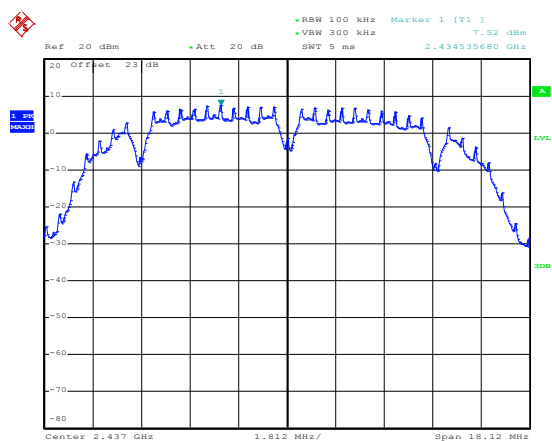




Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	Tommy Lee

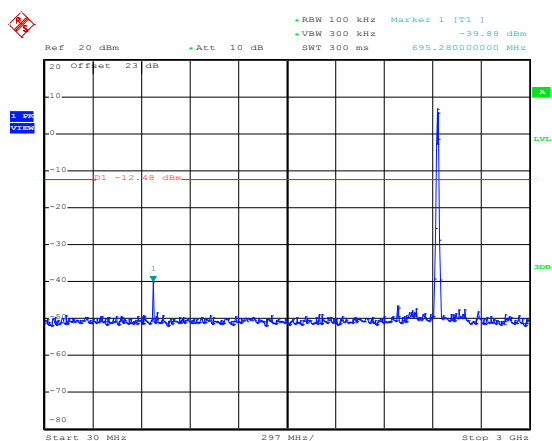
WLAN 802.11b Channel 06

100kHz PSD reference Level



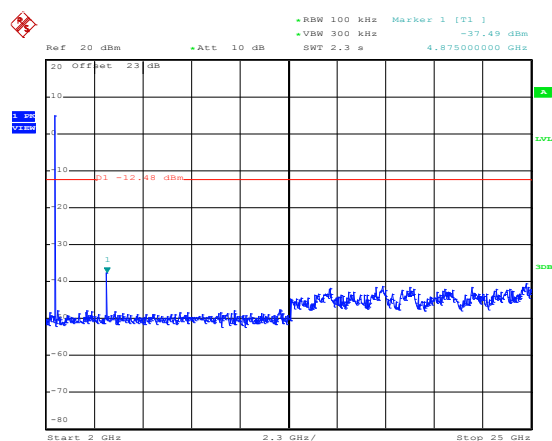
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Spurious Emission 30MHz~3GHz



Date: 15.DEC.2015 18:01:53

Spurious Emission 2GHz~25GHz



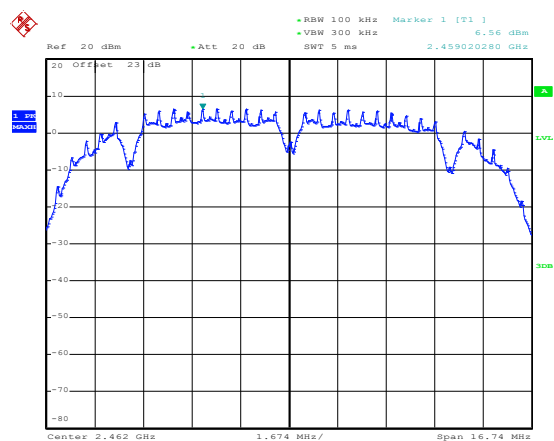
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Test Mode :	802.11b	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	Tommy Lee

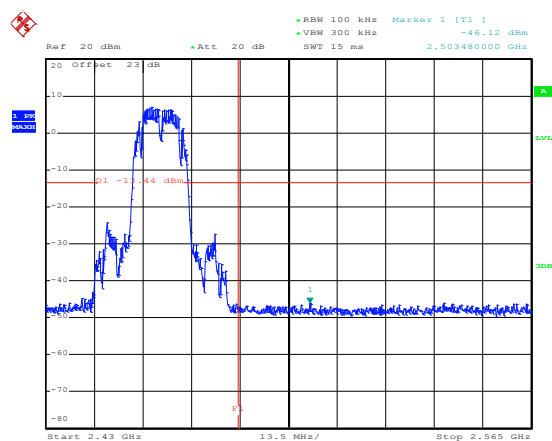
WLAN 802.11b Channel 11

100kHz PSD reference Level



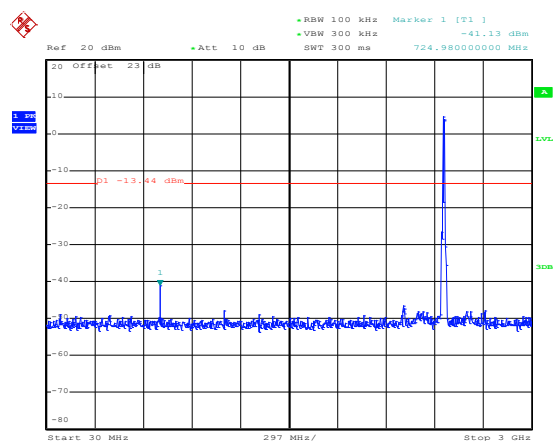
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High Channel Plot



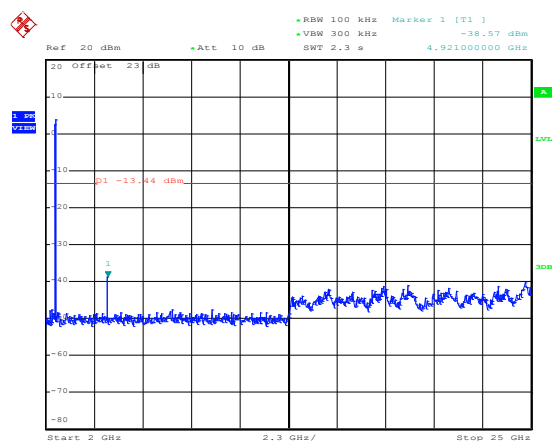
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Spurious Emission 30MHz~3GHz



Date: 15.DEC.2015 18:08:09

Spurious Emission 2GHz~25GHz



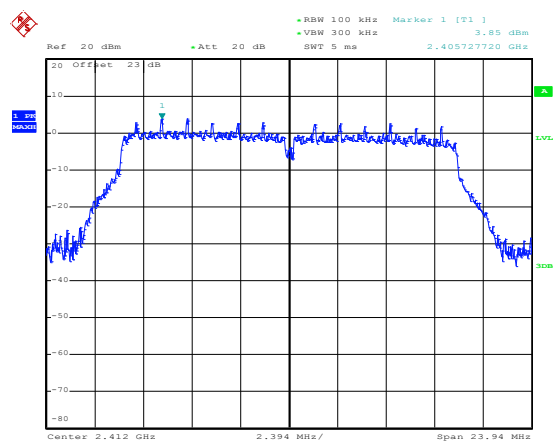
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Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	Tommy Lee

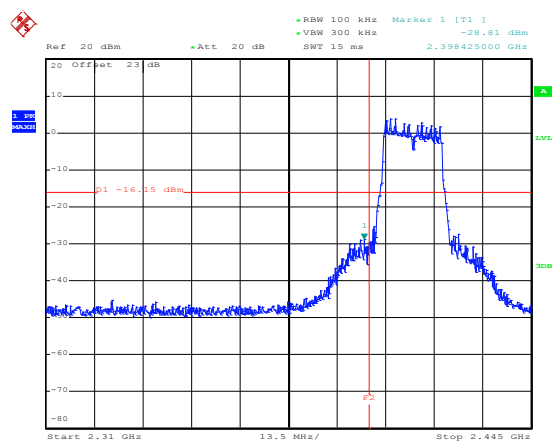
WLAN 802.11g Channel 01

100kHz PSD reference Level



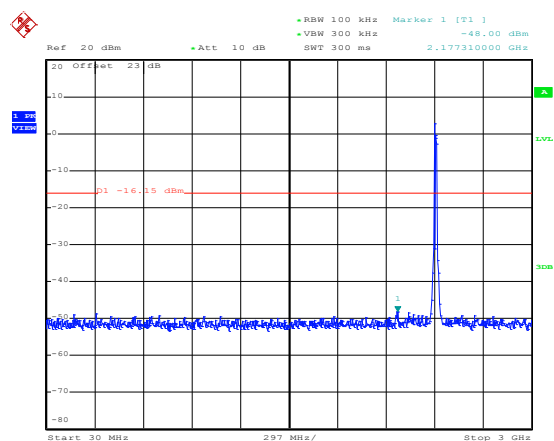
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Low Channel Plot



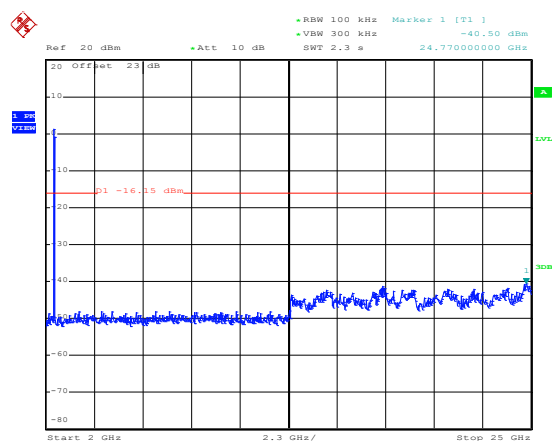
Date: 15.DEC.2015 16:04:00

Spurious Emission 30MHz~3GHz



Date: 15.DEC.2015 16:04:14

Spurious Emission 2GHz~25GHz



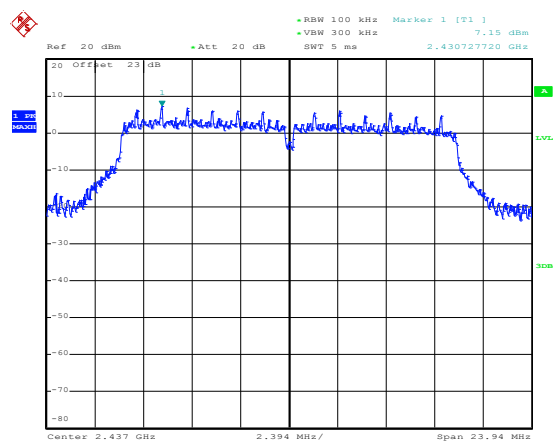
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Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	Tommy Lee

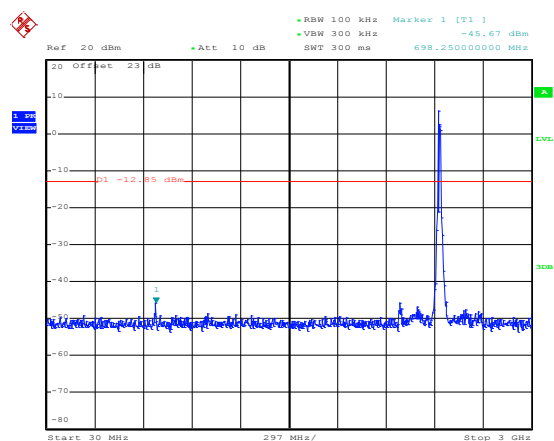
WLAN 802.11g Channel 06

100kHz PSD reference Level



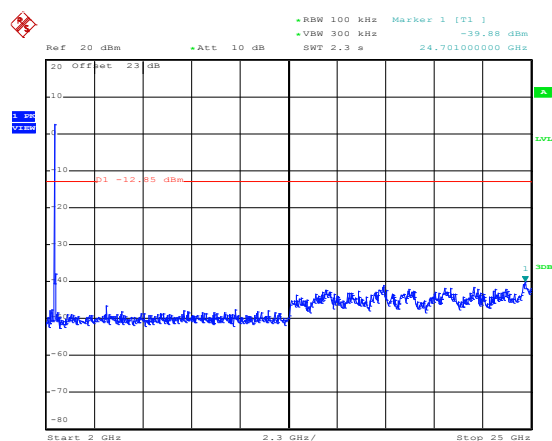
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Spurious Emission 30MHz~3GHz



Date: 15.DEC.2015 16:08:43

Spurious Emission 2GHz~25GHz



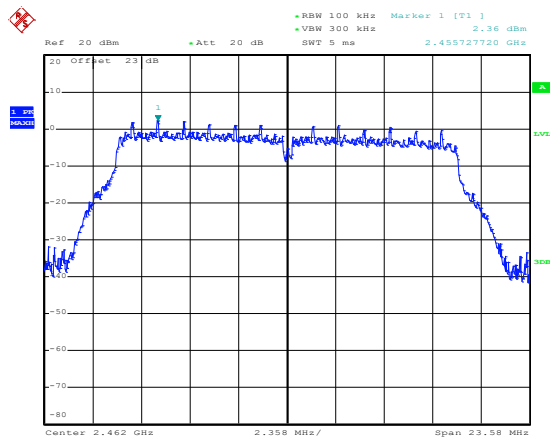
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Test Mode :	802.11g	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	Tommy Lee

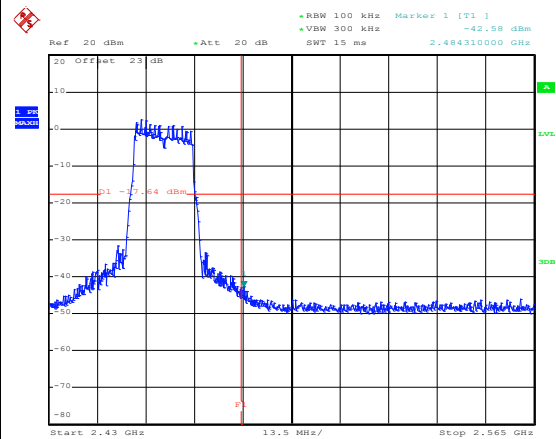
WLAN 802.11g Channel 11

100kHz PSD reference Level



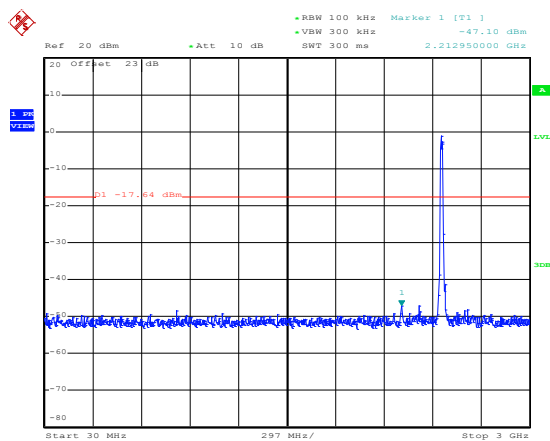
Date: 15.DEC.2015 16:16:00

High Channel Plot



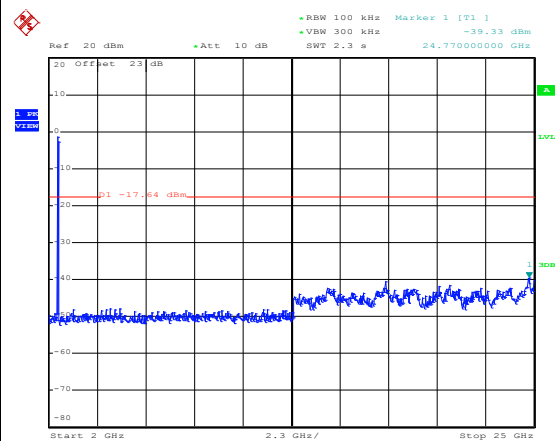
Date: 15.DEC.2015 16:17:40

Spurious Emission 30MHz~3GHz



Date: 15.DEC.2015 16:24:18

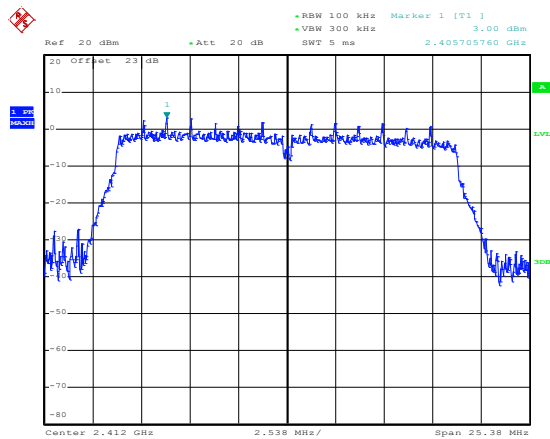
Spurious Emission 2GHz~25GHz



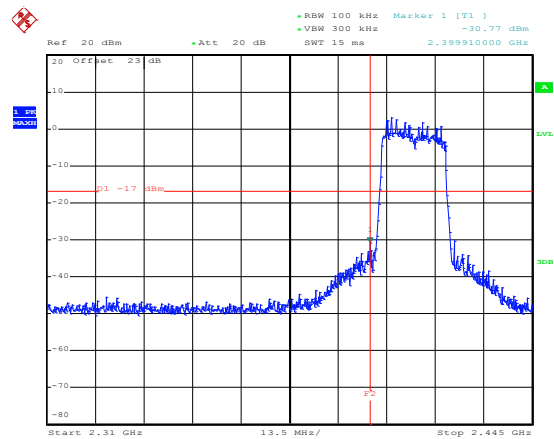
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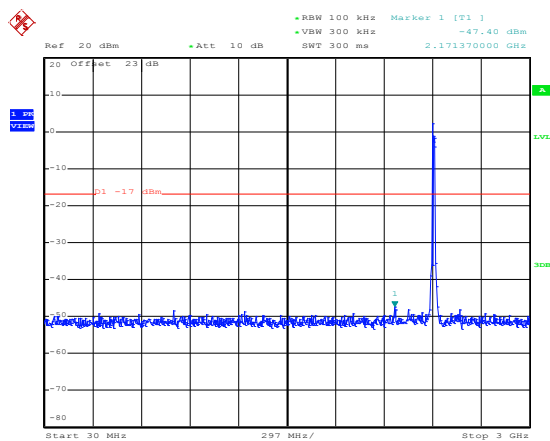
Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz Low	Relative Humidity :	51~54%
Test Channel :	01	Test Engineer :	Tommy Lee

WLAN 802.11n HT20 Channel 01**100kHz PSD reference Level**

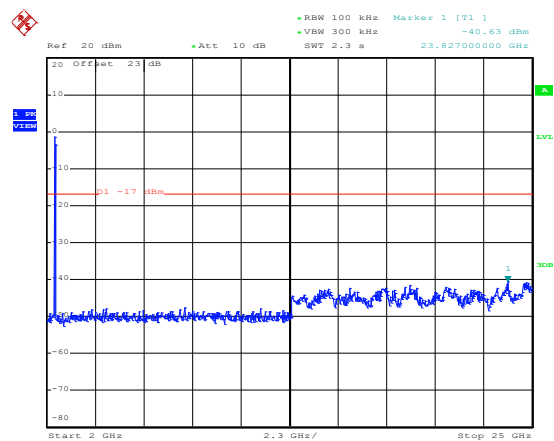
Date: 15.DEC.2015 15:57:15

Low Channel Plot

Date: 15.DEC.2015 15:57:33

Spurious Emission 30MHz~3GHz

Date: 15.DEC.2015 15:57:47

Spurious Emission 2GHz~25GHz

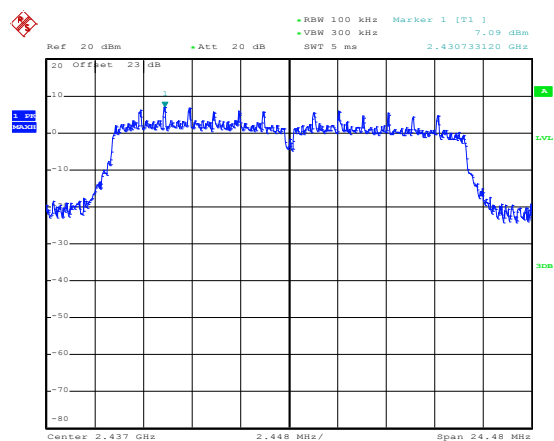
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Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz Mid	Relative Humidity :	51~54%
Test Channel :	06	Test Engineer :	Tommy Lee

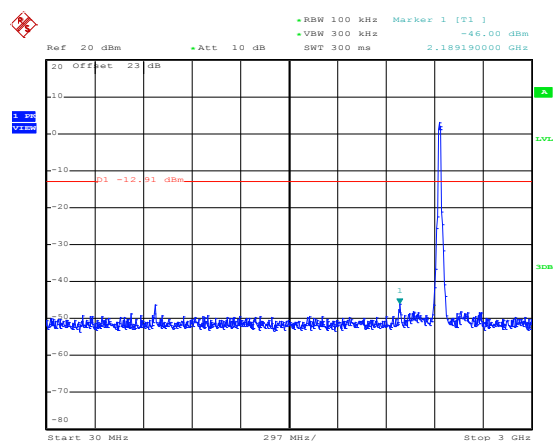
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



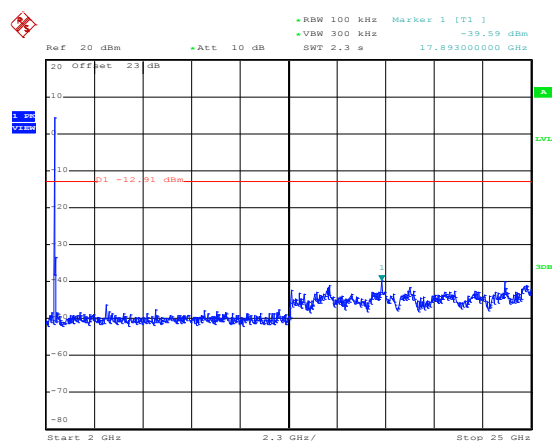
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Spurious Emission 30MHz~3GHz



Date: 15.DEC.2015 15:50:31

Spurious Emission 2GHz~25GHz



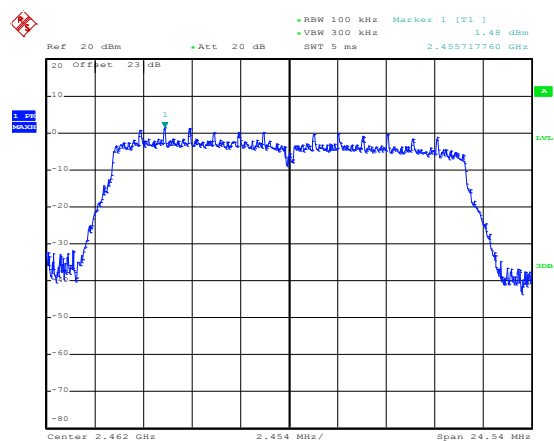
Date: 15.DEC.2015 15:50:39



Test Mode :	802.11n HT20	Temperature :	21~25°C
Test Band :	2.4GHz High	Relative Humidity :	51~54%
Test Channel :	11	Test Engineer :	Tommy Lee

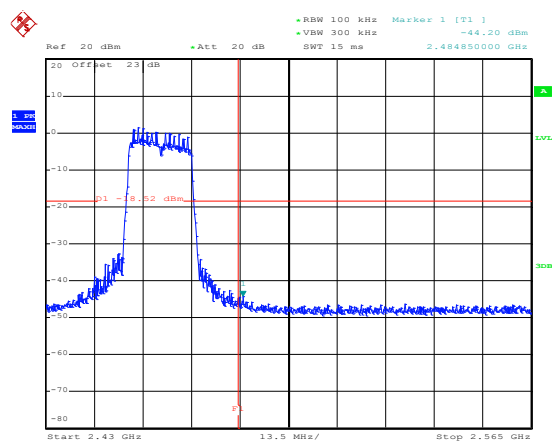
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



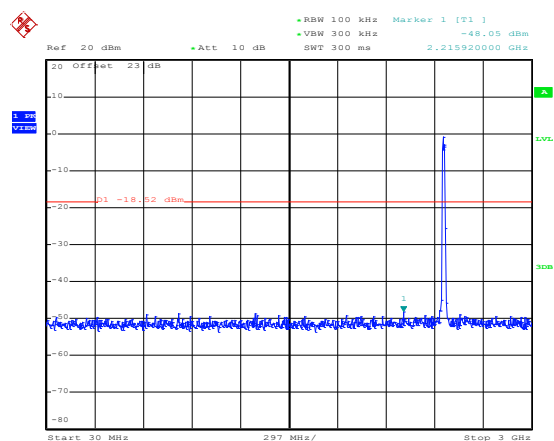
Date: 15.DEC.2015 15:42:16

High Channel Plot



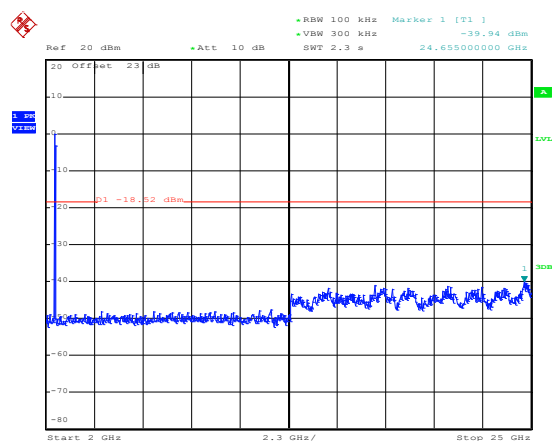
Date: 15.DEC.2015 15:44:09

Spurious Emission 30MHz~3GHz



Date: 15.DEC.2015 15:44:59

Spurious Emission 2GHz~25GHz



Date: 15.DEC.2015 15:45:08



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 v03r03.
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.

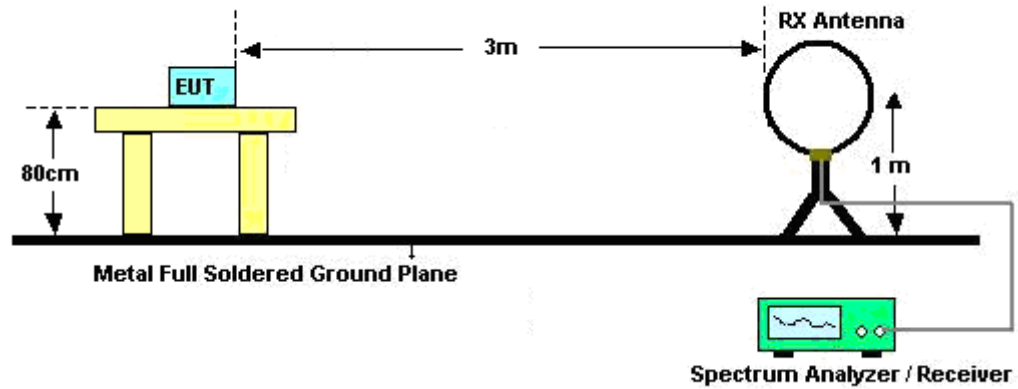
For average measurement:

 - 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.

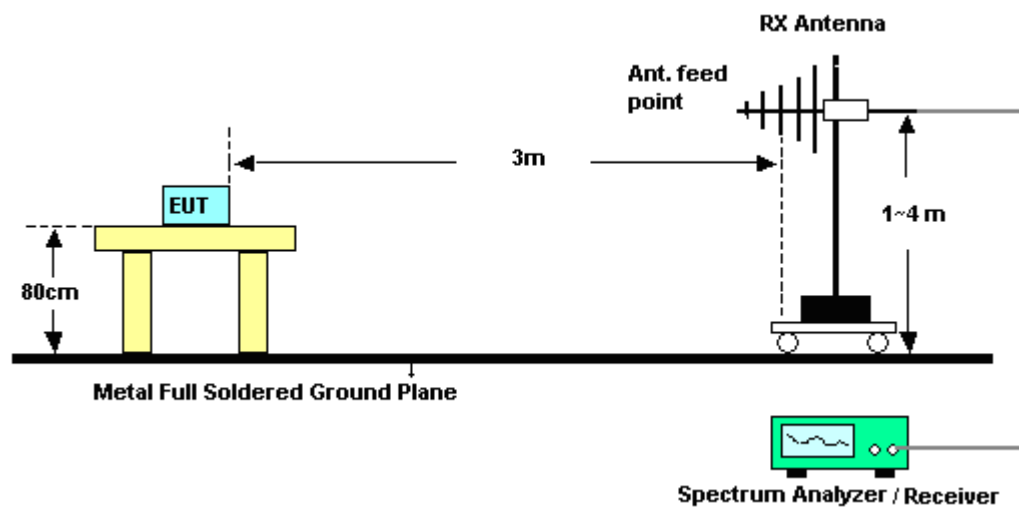
Band	Duty Cycle(%)	T(μ s)	1/T(kHz)	VBW Setting
802.11b	100.00	-	-	10Hz
802.11g	97.22	1400.00	0.71	1kHz
2.4GHz 802.11n HT20	97.02	1300.00	0.77	1kHz

3.5.4 Test Setup

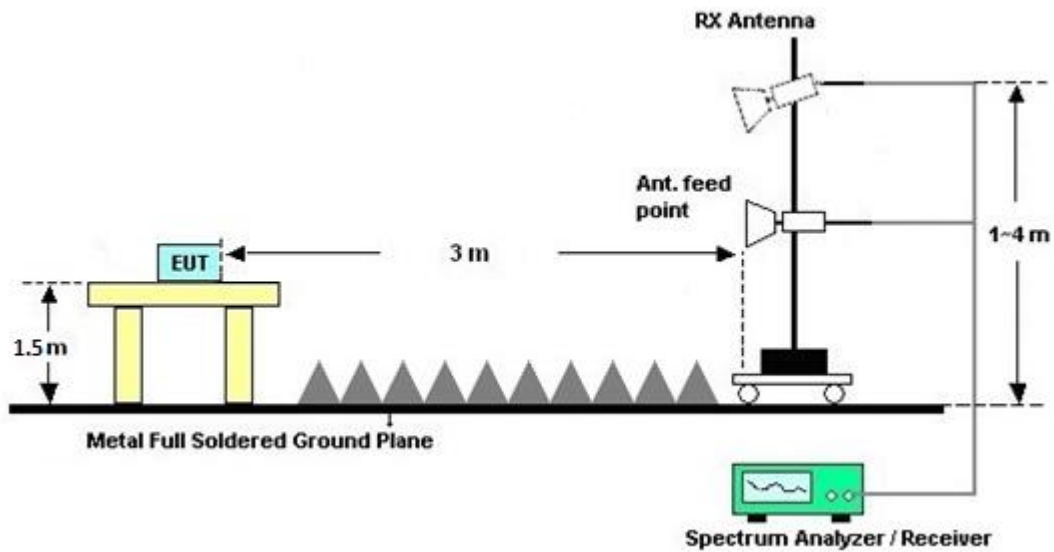
For radiated emissions below 30MHz



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.

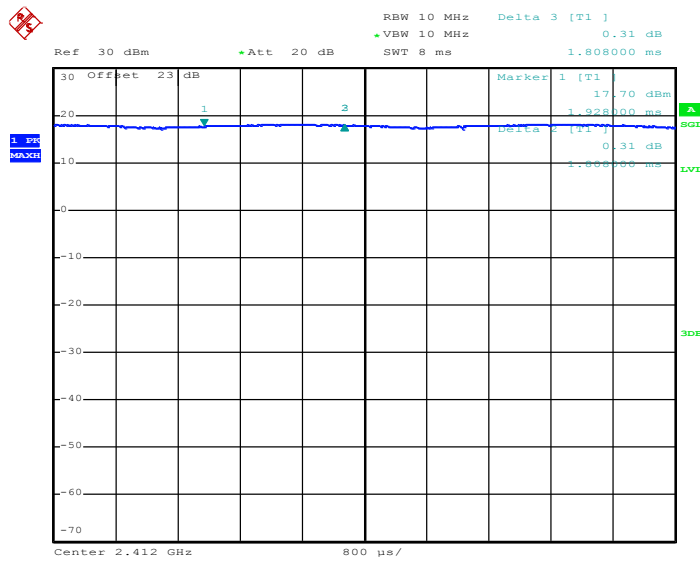
3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B and C.



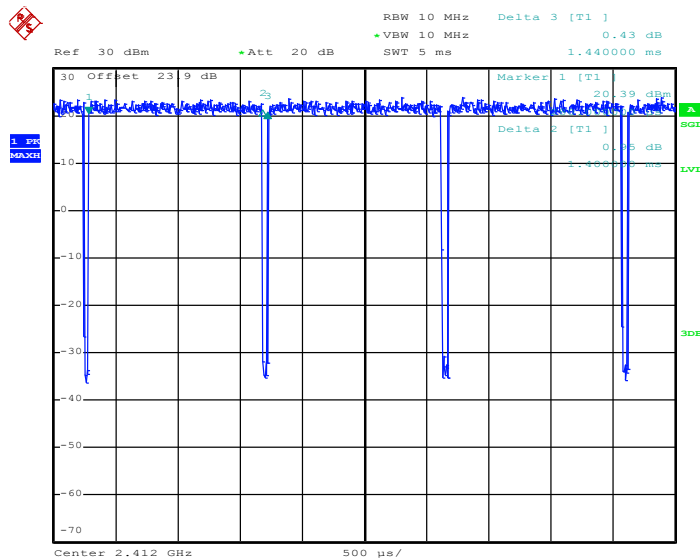
3.5.7 Duty Cycle

802.11b



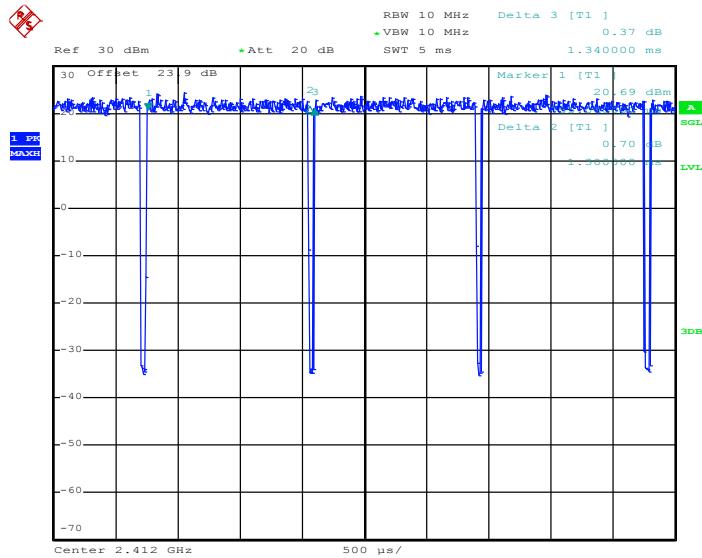
Date: 11.DEC.2015 14:34:04

802.11g



Date: 11.DEC.2015 11:09:46

802.11n HT20



Date: 11.DEC.2015 11:19:10

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

Please refer to Appendix B and C.



3.6 Antenna Requirements

3.6.1 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.

3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.6.3 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
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Jul. 29, 2015	Dec. 11, 2015 ~ Dec. 15, 2015	Jul. 28, 2016	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Jul. 29, 2015	Dec. 11, 2015 ~ Dec. 15, 2015	Jul. 28, 2016	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 18, 2015	Dec. 11, 2015 ~ Dec. 15, 2015	Jun. 17, 2016	Conducted (TH02-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 12, 2015	Dec. 11, 2015 ~ Dec. 15, 2015	Oct. 11, 2016	Conducted (TH02-HY)
Bilog Antenna	Teseq GmbH	CBL6112D	35379	30MHz~2GHz	Oct. 15, 2015	Dec. 14, 2015 ~ Dec. 16, 2015	Oct. 14, 2016	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 21, 2015	Dec. 14, 2015 ~ Dec. 16, 2015	Aug. 20, 2016	Radiation (03CH07-HY)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 02, 2015	Dec. 14, 2015 ~ Dec. 16, 2015	Nov. 01, 2016	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Dec. 14, 2015 ~ Dec. 16, 2015	Sep. 01, 2016	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz ~ 18GHz	Apr. 20, 2015	Dec. 14, 2015 ~ Dec. 16, 2015	Apr. 19, 2016	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz-1000MHz	Mar. 12, 2015	Dec. 14, 2015 ~ Dec. 16, 2015	Mar. 11, 2016	Radiation (03CH07-HY)
Preamplifier	MITEQ	JS44-180040 00-33-8P	1840917	18GHz ~ 40GHz	Jun. 02, 2015	Dec. 14, 2015 ~ Dec. 16, 2015	Jun. 01, 2016	Radiation (03CH07-HY)
Signal Analyzer	Rohde & Schwarz	FSV 30	101749	10Hz~30GHz	Mar. 10, 2015	Dec. 14, 2015 ~ Dec. 16, 2015	Mar. 09, 2016	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	Dec. 14, 2015 ~ Dec. 16, 2015	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 degree	N/A	Dec. 14, 2015 ~ Dec. 16, 2015	N/A	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Dec. 14, 2015 ~ Dec. 16, 2015	Aug. 25, 2016	Radiation (03CH07-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.80
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Appendix A. Conducted Test Results

Test Engineer:	Tommy Lee	Temperature:	21~25	°C
Test Date:	2015/12/11~2015/12/15	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band								
Mod.	Data Rate	N _{Tx}	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
11b	1Mbps	1	1	2412	14.30	12.12	0.50	Pass
11b	1Mbps	1	6	2437	14.35	12.08	0.50	Pass
11b	1Mbps	1	11	2462	14.30	11.16	0.50	Pass
11g	6Mbps	1	1	2412	17.70	15.96	0.50	Pass
11g	6Mbps	1	6	2437	18.45	15.96	0.50	Pass
11g	6Mbps	1	11	2462	17.75	15.72	0.50	Pass
HT20	MCS0	1	1	2412	18.50	16.92	0.50	Pass
HT20	MCS0	1	6	2437	19.35	16.32	0.50	Pass
HT20	MCS0	1	11	2462	18.50	16.36	0.50	Pass

TEST RESULTS DATA
Peak Power Table

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
11b	1Mbps	1	1	2412	20.10	30.00	1.17	21.27	36.00	Pass
11b	1Mbps	1	6	2437	20.65	30.00	1.17	21.82	36.00	Pass
11b	1Mbps	1	11	2462	20.17	30.00	1.17	21.34	36.00	Pass
11g	6Mbps	1	1	2412	22.98	30.00	1.17	24.15	36.00	Pass
11g	6Mbps	1	6	2437	23.53	30.00	1.17	24.70	36.00	Pass
11g	6Mbps	1	11	2462	22.59	30.00	1.17	23.76	36.00	Pass
HT20	MCS0	1	1	2412	22.93	30.00	1.17	24.10	36.00	Pass
HT20	MCS0	1	6	2437	23.53	30.00	1.17	24.70	36.00	Pass
HT20	MCS0	1	11	2462	22.24	30.00	1.17	23.41	36.00	Pass

TEST RESULTS DATA
Average Power Table
(Reporting Only)

2.4GHz Band						
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)
11b	1Mbps	1	1	2412	0.00	17.22
11b	1Mbps	1	6	2437	0.00	17.79
11b	1Mbps	1	11	2462	0.00	17.27
11g	6Mbps	1	1	2412	0.12	15.15
11g	6Mbps	1	6	2437	0.12	17.86
11g	6Mbps	1	11	2462	0.12	13.47
HT20	MCS0	1	1	2412	0.13	14.58
HT20	MCS0	1	6	2437	0.13	17.81
HT20	MCS0	1	11	2462	0.13	12.27

TEST RESULTS DATA
Peak Power Density

2.4GHz Band								
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
11b	1Mbps	1	1	2412	-8.51	1.17	8.00	Pass
11b	1Mbps	1	6	2437	-7.69	1.17	8.00	Pass
11b	1Mbps	1	11	2462	-7.21	1.17	8.00	Pass
11g	6Mbps	1	1	2412	-11.12	1.17	8.00	Pass
11g	6Mbps	1	6	2437	-8.26	1.17	8.00	Pass
11g	6Mbps	1	11	2462	-11.21	1.17	8.00	Pass
HT20	MCS0	1	1	2412	-11.20	1.17	8.00	Pass
HT20	MCS0	1	6	2437	-7.46	1.17	8.00	Pass
HT20	MCS0	1	11	2462	-12.56	1.17	8.00	Pass



Appendix B. Radiated Spurious Emission

Test Engineer :	Jesse Wang and James Chiu	Temperature :	21~23°C
		Relative Humidity :	60~63%

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.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2379.48	59.11	-14.89	74	53.63	5.48	7.68	34.36	213	158	P	H
		2375.25	45.91	-8.09	54	40.43	5.48	7.68	34.36	213	158	A	H
	*	2412	106.38	-	-	100.75	5.63	7.75	34.32	213	158	P	H
	*	2412	103.07	-	-	97.44	5.63	7.75	34.32	213	158	A	H
													H
													H
		2315.13	59.14	-14.86	74	53.91	5.23	7.6	34.44	202	65	P	V
		2386.59	45.87	-8.13	54	40.3	5.57	7.75	34.36	202	65	A	V
	*	2412	105.79	-	-	100.16	5.63	7.75	34.32	202	65	P	V
	*	2412	102.51	-	-	96.88	5.63	7.75	34.32	202	65	P	V
													V
													V
802.11b CH 06 2437MHz		2333.94	59.24	-14.76	74	53.99	5.25	7.6	34.44	100	204	P	H
		2322.87	45.56	-8.44	54	40.31	5.25	7.6	34.44	100	204	A	H
	*	2437	107.73	-	-	101.93	5.8	7.83	34.27	100	204	P	H
	*	2437	104.44	-	-	98.64	5.8	7.83	34.27	100	204	A	H
		2485.84	59.55	-14.45	74	53.55	6	7.91	34.19	100	204	P	H
		2495.08	45.71	-8.29	54	39.65	6.06	7.91	34.15	100	204	A	H
		2318.19	58.45	-15.55	74	53.2	5.25	7.6	34.44	253	68	P	V
		2321.43	45.06	-8.94	54	39.81	5.25	7.6	34.44	253	68	A	V
	*	2437	104.51	-	-	98.71	5.8	7.83	34.27	253	68	P	V
	*	2437	101.24	-	-	95.44	5.8	7.83	34.27	253	68	A	V
		2485.72	59.76	-14.24	74	53.76	6	7.91	34.19	253	68	P	V
		2483.76	45.54	-8.46	54	39.54	6	7.91	34.19	253	68	A	V



802.11b CH 11 2462MHz	*	2462	106.09	-	-	100.15	5.94	7.91	34.23	100	201	P	H
	*	2462	102.89	-	-	96.95	5.94	7.91	34.23	100	201	A	H
		2483.92	61.55	-12.45	74	55.55	6	7.91	34.19	100	201	P	H
		2483.52	46.76	-7.24	54	40.76	6	7.91	34.19	100	201	A	H
													H
													H
	*	2462	108.9	-	-	102.96	5.94	7.91	34.23	251	70	P	V
	*	2462	105.6	-	-	99.66	5.94	7.91	34.23	251	70	A	V
		2484.12	61.01	-12.99	74	55.01	6	7.91	34.19	251	70	P	V
		2483.52	49.09	-4.91	54	43.09	6	7.91	34.19	251	70	A	V
													V
													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.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		4824	54.82	-19.18	74	69.04	-14.22	11.16	59.64	300	186	P	H
		4824	51.34	-2.66	54	65.56	-14.22	11.16	59.64	300	186	A	H
													H
													H
		4824	51.29	-22.71	74	65.51	-14.22	11.16	59.64	200	24	P	V
		4824	48.02	-5.98	54	62.24	-14.22	11.16	59.64	200	24	A	V
													V
													V
802.11b CH 06 2437MHz		4872	56.56	-17.44	74	70.62	-14.06	11.21	59.57	100	163	P	H
		4872	51.24	-2.76	54	65.3	-14.06	11.21	59.57	100	163	A	H
		7308	51.78	-22.22	74	59.57	-7.79	15.08	58.47	100	220	P	H
		7308	44.48	-9.52	54	52.27	-7.79	15.08	58.47	100	220	A	H
		4872	52.87	-21.13	74	66.93	-14.06	11.21	59.57	100	28	P	V
		4872	50.16	-3.84	54	64.22	-14.06	11.21	59.57	100	28	A	V
		7314	53.1	-20.9	74	60.89	-7.79	15.08	58.47	100	20	P	V
		7314	44.78	-9.22	54	52.57	-7.79	15.08	58.47	100	20	A	V
802.11b CH 11 2462MHz		4926	55.83	-18.17	74	69.72	-13.89	11.27	59.5	100	183	P	H
		4926	51.2	-2.8	54	65.09	-13.89	11.27	59.5	100	183	A	H
		7386	50.99	-23.01	74	58.83	-7.84	15.14	58.58	100	234	P	H
		7386	41.99	-12.01	54	49.83	-7.84	15.14	58.58	100	234	A	H
		4926	51.95	-22.05	74	65.84	-13.89	11.27	59.5	265	356	P	V
		4926	49.74	-4.26	54	63.63	-13.89	11.27	59.5	265	356	A	V
		7386	51.08	-22.92	74	58.92	-7.84	15.14	58.58	100	17	P	V
		7386	42.11	-11.89	54	49.95	-7.84	15.14	58.58	100	17	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 802.11g (Band Edge @ 3m)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 01 2412MHz		2389.56	70.7	-3.3	74	65.13	5.57	7.75	34.36	338	176	P	H
		2389.92	52.27	-1.73	54	46.66	5.61	7.75	34.32	338	176	A	H
	*	2412	110.91	-	-	105.28	5.63	7.75	34.32	338	176	P	H
	*	2412	99.76	-	-	94.13	5.63	7.75	34.32	338	176	A	H
													H
													H
		2389.29	66.94	-7.06	74	61.37	5.57	7.75	34.36	102	236	P	V
		2389.83	49.73	-4.27	54	44.12	5.61	7.75	34.32	102	236	A	V
	*	2412	106.18	-	-	100.55	5.63	7.75	34.32	102	236	P	V
	*	2412	95.51	-	-	89.88	5.63	7.75	34.32	102	236	A	V
													V
													V
802.11g CH 06 2437MHz		2386.05	58.91	-15.09	74	53.34	5.57	7.75	34.36	173	72	P	H
		2389.56	45.99	-8.01	54	40.42	5.57	7.75	34.36	173	72	A	H
	*	2437	111.07	-	-	105.27	5.8	7.83	34.27	173	72	P	H
	*	2437	100.12	-	-	94.32	5.8	7.83	34.27	173	72	A	H
		2484.24	59.47	-14.53	74	53.47	6	7.91	34.19	173	72	P	H
		2483.6	46.76	-7.24	54	40.76	6	7.91	34.19	173	72	A	H
		2384.61	59.55	-14.45	74	54	5.55	7.75	34.36	171	159	P	V
		2387.94	45.95	-8.05	54	40.38	5.57	7.75	34.36	171	159	A	V
	*	2437	110.95	-	-	105.15	5.8	7.83	34.27	171	159	P	V
	*	2437	100.21	-	-	94.41	5.8	7.83	34.27	171	159	A	V
		2484	61.11	-12.89	74	55.11	6	7.91	34.19	171	159	P	V
		2484.8	46.81	-7.19	54	40.81	6	7.91	34.19	171	159	A	V



802.11g CH 11 2462MHz	*	2462	109.44	-	-	103.5	5.94	7.91	34.23	195	6	P	H
	*	2462	98.98	-	-	93.04	5.94	7.91	34.23	195	6	A	H
		2483.72	71.81	-2.19	74	65.81	6	7.91	34.19	195	6	P	H
		2483.8	50.83	-3.17	54	44.83	6	7.91	34.19	195	6	A	H
													H
													H
	*	2462	108.22	-	-	102.28	5.94	7.91	34.23	123	26	P	V
	*	2462	97.18	-	-	91.24	5.94	7.91	34.23	123	26	A	V
		2483.92	67.82	-6.18	74	61.82	6	7.91	34.19	123	26	P	V
		2483.6	48.07	-5.93	54	42.07	6	7.91	34.19	123	26	A	V
													V
													V
802.11g CH 01 2412MHz + Plastic Loop		2390	71.83	-2.17	74	66.22	5.61	7.75	34.32	140	159	P	H
		2389.92	53.49	-0.51	54	47.88	5.61	7.75	34.32	140	159	P	H
	*	2412	110.49	-	-	104.86	5.63	7.75	34.32	140	159	P	H
	*	2412	100.1	-	-	94.47	5.63	7.75	34.32	140	159	A	H
													H
													H
		2389.83	72.66	-1.34	74	67.05	5.61	7.75	34.32	209	62	P	V
		2389.92	53.48	-0.52	54	47.87	5.61	7.75	34.32	209	62	P	V
	*	2412	110.35	-	-	104.72	5.63	7.75	34.32	209	62	P	V
	*	2412	99.82	-	-	94.19	5.63	7.75	34.32	209	62	A	V
													V
													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 (Harmonic @ 3m)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11g CH 01 2412MHz		4824	53.75	-20.25	74	67.97	-14.22	11.16	59.64	256	193	P	H
		4824	39.45	-14.55	54	53.67	-14.22	11.16	59.64	256	193	A	H
													H
													H
		4818	51.52	-22.48	74	65.79	-14.27	11.11	59.64	100	360	P	V
		4818	36.27	-17.73	54	50.54	-14.27	11.11	59.64	100	360	A	V
													V
													V
802.11g CH 06 2437MHz		4872	55.03	-18.97	74	69.09	-14.06	11.21	59.57	100	187	P	H
		4872	39.92	-14.08	54	53.98	-14.06	11.21	59.57	100	187	A	H
		7314	54.14	-19.86	74	61.93	-7.79	15.08	58.47	100	239	P	H
		7314	42.3	-11.7	54	50.09	-7.79	15.08	58.47	100	239	A	H
		4872	50.93	-23.07	74	64.99	-14.06	11.21	59.57	100	0	P	V
		4872	36.07	-17.93	54	50.13	-14.06	11.21	59.57	100	0	A	V
		7314	53.14	-20.86	74	60.93	-7.79	15.08	58.47	100	15	P	V
		7314	42.95	-11.05	54	50.74	-7.79	15.08	58.47	100	15	A	V
802.11g CH 11 2462MHz		4920	54.08	-19.92	74	67.97	-13.89	11.27	59.5	100	184	P	H
		4920	39.56	-14.44	54	53.45	-13.89	11.27	59.5	100	184	A	H
		7392	53.96	-20.04	74	61.8	-7.84	15.14	58.58	100	238	P	H
		7392	42.94	-11.06	54	50.78	-7.84	15.14	58.58	100	238	A	H
		4920	50.62	-23.38	74	64.51	-13.89	11.27	59.5	242	1	P	V
		4920	37.28	-16.72	54	51.17	-13.89	11.27	59.5	242	1	A	V
		7392	54.6	-19.4	74	62.44	-7.84	15.14	58.58	100	16	P	V
		7392	43.78	-10.22	54	51.62	-7.84	15.14	58.58	100	16	A	V



802.11g CH 01 2412MHz + Plastic Loop		4824	57.08	-16.92	74	71.3	-14.22	11.16	59.64	230	163	P	H
		4824	40.62	-13.38	54	54.84	-14.22	11.16	59.64	230	163	A	H
													H
													H
		4824	52.98	-21.02	74	67.2	-14.22	11.16	59.64	100	26	P	V
		4824	36.53	-17.47	54	50.75	-14.22	11.16	59.64	100	26	A	V
													V
													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 802.11n HT20 (Band Edge @ 3m)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		2390	72.07	-1.93	74	66.46	5.61	7.75	34.32	298	182	P	H
		2389.92	51.92	-2.08	54	46.31	5.61	7.75	34.32	298	182	A	H
	*	2412	109.77	-	-	104.14	5.63	7.75	34.32	298	182	P	H
	*	2412	99.1	-	-	93.47	5.63	7.75	34.32	298	182	A	H
													H
													H
		2390	68.77	-5.23	74	63.16	5.61	7.75	34.32	182	114	P	V
		2389.92	49.16	-4.84	54	43.55	5.61	7.75	34.32	182	114	A	V
	*	2412	106.52	-	-	100.89	5.63	7.75	34.32	182	114	P	V
	*	2412	95.6	-	-	89.97	5.63	7.75	34.32	182	114	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2389.74	62.68	-11.32	74	57.11	5.57	7.75	34.36	258	180	P	H
		2389.83	46.8	-7.2	54	41.19	5.61	7.75	34.32	258	180	A	H
	*	2437	113.12	-	-	107.32	5.8	7.83	34.27	258	180	P	H
	*	2437	102.91	-	-	97.11	5.8	7.83	34.27	258	180	A	H
		2484.76	62	-12	74	56	6	7.91	34.19	258	180	P	H
		2484.44	47.47	-6.53	54	41.47	6	7.91	34.19	258	180	A	H
		2347.8	58.75	-15.25	74	53.36	5.39	7.68	34.4	286	116	P	V
		2323.05	45.69	-8.31	54	40.44	5.25	7.6	34.44	286	116	A	V
	*	2437	108.95	-	-	103.15	5.8	7.83	34.27	286	116	P	V
	*	2437	98.52	-	-	92.72	5.8	7.83	34.27	286	116	A	V
		2497.76	59.97	-14.03	74	53.91	6.06	7.91	34.15	286	116	P	V
		2491.92	46.21	-7.79	54	40.15	6.06	7.91	34.15	286	116	A	V



802.11n HT20 CH 11 2462MHz	*	2462	110.14	-	-	104.2	5.94	7.91	34.23	287	177	P	H
	*	2462	99.39	-	-	93.45	5.94	7.91	34.23	287	177	A	H
		2484.24	70.12	-3.88	74	64.12	6	7.91	34.19	287	177	P	H
		2483.96	49.73	-4.27	54	43.73	6	7.91	34.19	287	177	A	H
													H
													H
	*	2462	105.76	-	-	99.82	5.94	7.91	34.23	103	28	P	V
	*	2462	94.15	-	-	88.21	5.94	7.91	34.23	103	28	A	V
		2484.48	63.7	-10.3	74	57.7	6	7.91	34.19	103	28	P	V
		2483.92	46.88	-7.12	54	40.88	6	7.91	34.19	103	28	A	V
													V
													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 802.11n HT20 (Harmonic @ 3m)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 CH 01 2412MHz		4818	51.81	-22.19	74	66.08	-14.27	11.11	59.64	233	178	P	H
		4818	38.88	-15.12	54	53.15	-14.27	11.11	59.64	233	178	A	H
													H
													H
		4824	48.25	-25.75	74	62.47	-14.22	11.16	59.64	100	0	P	V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4872	53.4	-20.6	74	67.46	-14.06	11.21	59.57	234	178	P	H
		4872	40.98	-13.02	54	55.04	-14.06	11.21	59.57	234	178	A	H
		7314	51.16	-22.84	74	58.95	-7.79	15.08	58.47	204	238	P	H
		7314	42.53	-11.47	54	50.32	-7.79	15.08	58.47	204	238	A	H
		4872	49.41	-24.59	74	63.47	-14.06	11.21	59.57	100	0	P	V
		7320	52.53	-21.47	74	60.34	-7.81	15.08	58.49	100	23	P	V
		7320	42.6	-11.4	54	50.41	-7.81	15.08	58.49	100	23	A	V
													V
802.11n HT20 CH 11 2462MHz		4926	53.91	-20.09	74	67.8	-13.89	11.27	59.5	100	181	P	H
		4926	39.9	-14.1	54	53.79	-13.89	11.27	59.5	100	181	A	H
		7386	54.59	-19.41	74	62.43	-7.84	15.14	58.58	100	244	P	H
		7386	43.64	-10.36	54	51.48	-7.84	15.14	58.58	100	244	A	H
		4920	50.76	-23.24	74	64.65	-13.89	11.27	59.5	234	23	P	V
		4920	36.78	-17.22	54	50.67	-13.89	11.27	59.5	234	23	A	V
		7386	53.07	-20.93	74	60.91	-7.84	15.14	58.58	100	25	P	V
		7386	43.72	-10.28	54	51.56	-7.84	15.14	58.58	100	25	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

15C Emission below 1GHz

2.4GHz WIFI 802.11g (LF)

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		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11g LF		30.54	24.69	-15.31	40	35.04	-10.35	1.77	31.46	-	-	P	H
		119.91	33.1	-10.4	43.5	49.12	-16.02	2.38	31.1	-	-	P	H
		231.42	35.9	-10.1	46	52.44	-16.54	2.96	31	-	-	P	H
		320.3	36.17	-9.83	46	49.42	-13.25	3.28	31	100	0	P	H
		379.8	34.26	-11.74	46	45.78	-11.52	3.39	31	-	-	P	H
		449.1	29.62	-16.38	46	39.55	-9.93	3.63	30.75	-	-	P	H
													H
													H
													H
													H
													H
													H
		48.9	35.42	-4.58	40	54.92	-19.5	1.77	31.2	100	0	P	V
		119.91	31.34	-12.16	43.5	47.36	-16.02	2.38	31.1	-	-	P	V
		258.96	33.79	-12.21	46	47.83	-14.04	2.96	31	-	-	P	V
		320.3	30.65	-15.35	46	43.9	-13.25	3.28	31	-	-	P	V
		368.6	30.49	-15.51	46	42.38	-11.89	3.39	31.06	-	-	P	V
		895	28.73	-17.27	46	32.43	-3.7	4.66	30.31	-	-	P	V
													V
													V
													V
													V
													V
													V
													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

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. 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)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + 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)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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



Appendix C. Radiated Spurious Emission Plots

2.4GHz 2400~2483.5MHz
WIFI 802.11b (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Vertical
Peak	Site Condition : 03CH07-HY : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site Condition : 03CH07-HY : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site Condition : 03CH07-HY : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Site Condition : 03CH07-HY : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - Low channel location	
1	Horizontal	Vertical
Peak	Level (dBuV/m) vs Frequency (MHz) plot for Horizontal polarization. The y-axis ranges from 0 to 117 dBuV/m, and the x-axis ranges from 2310 to 2400 MHz. A red line indicates the FCC CLASS-B limit at 73.1 dBuV/m. The measured signal is below this limit. A peak is labeled '1' at approximately 2325 MHz. Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Level (dBuV/m) vs Frequency (MHz) plot for Vertical polarization. The y-axis ranges from 0 to 117 dBuV/m, and the x-axis ranges from 2310 to 2400 MHz. A red line indicates the FCC CLASS-B limit at 73.1 dBuV/m. The measured signal is below this limit. A peak is labeled '1' at approximately 2325 MHz. Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Level (dBuV/m) vs Frequency (MHz) plot for Horizontal polarization. The y-axis ranges from 0 to 117 dBuV/m, and the x-axis ranges from 2310 to 2400 MHz. A red line indicates the FCC CLASS-B (AVG) limit at 58.5 dBuV/m. The measured signal is below this limit. A peak is labeled '1' at approximately 2325 MHz. Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Level (dBuV/m) vs Frequency (MHz) plot for Vertical polarization. The y-axis ranges from 0 to 117 dBuV/m, and the x-axis ranges from 2310 to 2400 MHz. A red line indicates the FCC CLASS-B (AVG) limit at 58.5 dBuV/m. The measured signal is below this limit. A peak is labeled '1' at approximately 2325 MHz. Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH06 2437MHz - High channel location	
1	Horizontal	Vertical
Peak	Level (dBuV/m) vs Frequency (MHz) plot for Horizontal orientation. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 2460 to 2500 MHz. A red line indicates the FCC CLASS-B limit at 73.1 dBuV/m. The measured signal is a narrow peak at 2437 MHz, reaching approximately 58.5 dBuV/m. A label '1' is placed above the peak. Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Level (dBuV/m) vs Frequency (MHz) plot for Vertical orientation. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 2460 to 2500 MHz. A red line indicates the FCC CLASS-B limit at 73.1 dBuV/m. The measured signal is a narrow peak at 2437 MHz, reaching approximately 58.5 dBuV/m. A label '1' is placed above the peak. Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Level (dBuV/m) vs Frequency (MHz) plot for Horizontal orientation. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 2460 to 2500 MHz. A red line indicates the FCC CLASS-B (AVG) limit at 58.5 dBuV/m. The measured signal is a broad peak centered at 2437 MHz, reaching approximately 43.9 dBuV/m. A label '1' is placed above the peak. Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Level (dBuV/m) vs Frequency (MHz) plot for Vertical orientation. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 2460 to 2500 MHz. A red line indicates the FCC CLASS-B (AVG) limit at 58.5 dBuV/m. The measured signal is a broad peak centered at 2437 MHz, reaching approximately 43.9 dBuV/m. A label '1' is placed above the peak. Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:0.010KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Vertical
Peak	Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto



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

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Vertical
Peak	Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - Low channel location	
1	Horizontal	Vertical
Peak	Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH06 2437MHz - High channel location	
1	Horizontal	Vertical
Peak	Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto



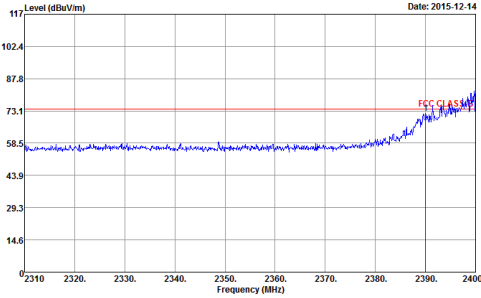
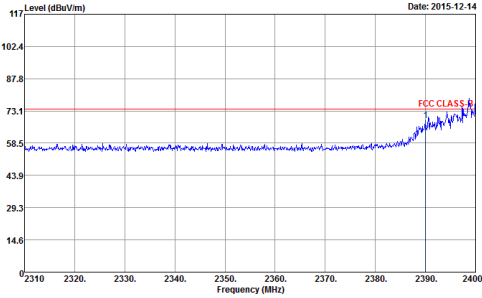
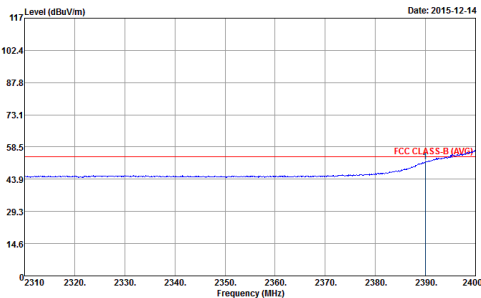
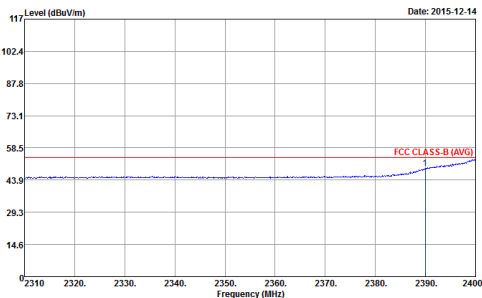
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
Peak	Level (dBuV/m) vs Frequency (MHz) plot for Horizontal polarization. The y-axis ranges from 0 to 117 dBuV/m, and the x-axis ranges from 2460 to 2500 MHz. A red line indicates the FCC CLASS-B limit at approximately 73.1 dBuV/m. The blue trace shows the measured signal, which is below the limit across the entire frequency range. Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Level (dBuV/m) vs Frequency (MHz) plot for Vertical polarization. The y-axis ranges from 0 to 117 dBuV/m, and the x-axis ranges from 2460 to 2500 MHz. A red line indicates the FCC CLASS-B limit at approximately 73.1 dBuV/m. The blue trace shows the measured signal, which is below the limit across the entire frequency range. Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Level (dBuV/m) vs Frequency (MHz) plot for Horizontal polarization. The y-axis ranges from 0 to 117 dBuV/m, and the x-axis ranges from 2460 to 2500 MHz. A red line indicates the FCC CLASS-B (AVG) limit at approximately 58.5 dBuV/m. The blue trace shows the averaged signal, which is below the limit across the entire frequency range. Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Level (dBuV/m) vs Frequency (MHz) plot for Vertical polarization. The y-axis ranges from 0 to 117 dBuV/m, and the x-axis ranges from 2460 to 2500 MHz. A red line indicates the FCC CLASS-B (AVG) limit at approximately 58.5 dBuV/m. The blue trace shows the averaged signal, which is below the limit across the entire frequency range. Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz + Plastic Loop	
1	Horizontal	Vertical
Peak	Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto



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

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	 Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - Low channel location	
1	Horizontal	Vertical
Peak	Level (dBuV/m) vs Frequency (MHz) plot for Horizontal polarization. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 2310 to 2400 MHz. A red line indicates the FCC CLASS-B limit at 73.1 dBuV/m. The blue trace shows the measured signal, with a peak labeled '1' at approximately 2390 MHz. The date is 2015-12-15. Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Level (dBuV/m) vs Frequency (MHz) plot for Vertical polarization. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 2310 to 2400 MHz. A red line indicates the FCC CLASS-B limit at 73.1 dBuV/m. The blue trace shows the measured signal, with a peak labeled '1' at approximately 2345 MHz. The date is 2015-12-15. Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Level (dBuV/m) vs Frequency (MHz) plot for Horizontal polarization. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 2310 to 2400 MHz. A red line indicates the FCC CLASS-B (AVG) limit at 58.5 dBuV/m. The blue trace shows the averaged signal, with a peak labeled '1' at approximately 2390 MHz. The date is 2015-12-15. Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Level (dBuV/m) vs Frequency (MHz) plot for Vertical polarization. The y-axis ranges from 14.6 to 117 dBuV/m, and the x-axis ranges from 2310 to 2400 MHz. A red line indicates the FCC CLASS-B (AVG) limit at 58.5 dBuV/m. The blue trace shows the averaged signal, with a peak labeled '1' at approximately 2345 MHz. The date is 2015-12-15. Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH06 2437MHz - High channel location	
1	Horizontal	Vertical
Peak	Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto



WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak	Level (dBuV/m) vs Frequency (MHz) plot for Horizontal polarization. The plot shows a signal level starting at approximately 102.4 dBuV/m at 2460 MHz, dropping sharply to about 73.1 dBuV/m by 2470 MHz, and then remaining relatively flat with some noise. A red horizontal line indicates the FCC CLASS-B limit at 73.1 dBuV/m. The x-axis ranges from 2460 to 2500 MHz, and the y-axis ranges from 14.6 to 117 dBuV/m. The date is 2015-12-15. Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Level (dBuV/m) vs Frequency (MHz) plot for Vertical polarization. The plot shows a signal level starting at approximately 102.4 dBuV/m at 2460 MHz, dropping sharply to about 73.1 dBuV/m by 2470 MHz, and then remaining relatively flat with some noise. A red horizontal line indicates the FCC CLASS-B limit at 73.1 dBuV/m. The x-axis ranges from 2460 to 2500 MHz, and the y-axis ranges from 14.6 to 117 dBuV/m. The date is 2015-12-15. Site : 03CH07-HY Condition : FCC CLASS-B 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Level (dBuV/m) vs Frequency (MHz) plot for Horizontal polarization (Average). The plot shows a signal level starting at approximately 102.4 dBuV/m at 2460 MHz, dropping sharply to about 58.5 dBuV/m by 2470 MHz, and then remaining relatively flat. A red horizontal line indicates the FCC CLASS-B (AVG) limit at 58.5 dBuV/m. The x-axis ranges from 2460 to 2500 MHz, and the y-axis ranges from 14.6 to 117 dBuV/m. The date is 2015-12-15. Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Level (dBuV/m) vs Frequency (MHz) plot for Vertical polarization (Average). The plot shows a signal level starting at approximately 102.4 dBuV/m at 2460 MHz, dropping sharply to about 58.5 dBuV/m by 2470 MHz, and then remaining relatively flat. A red horizontal line indicates the FCC CLASS-B (AVG) limit at 58.5 dBuV/m. The x-axis ranges from 2460 to 2500 MHz, and the y-axis ranges from 14.6 to 117 dBuV/m. The date is 2015-12-15. Site : 03CH07-HY Condition : FCC CLASS-B (AVG) 3m HF-ANT_130829 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto



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

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

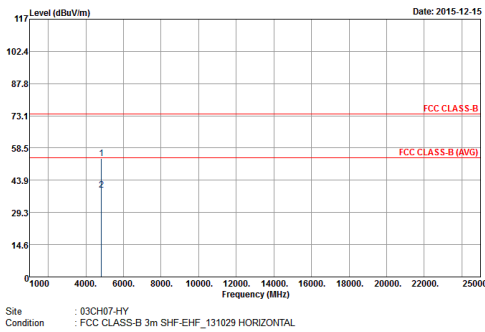
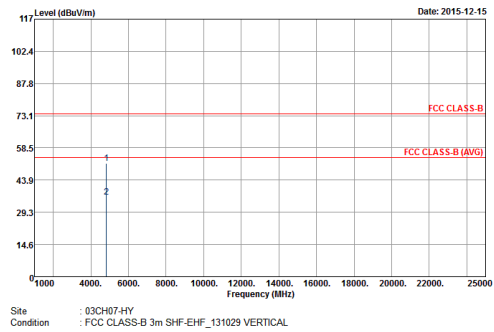
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		

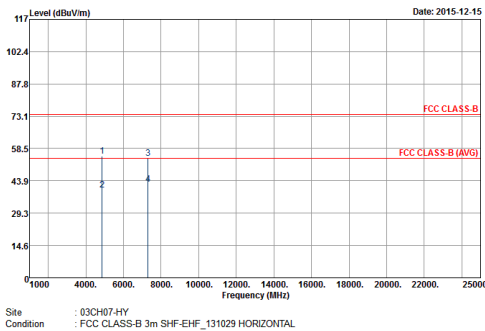
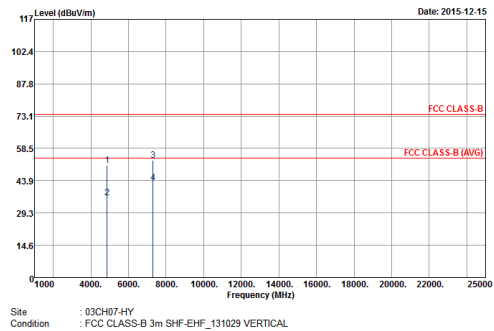


WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2015-12-15 Site : 03CH07-HY Condition : FCC CLASS-B 3m SHF-EHF_131029 HORIZONTAL	Level (dBuV/m) Date: 2015-12-15 Site : 03CH07-HY Condition : FCC CLASS-B 3m SHF-EHF_131029 VERTICAL

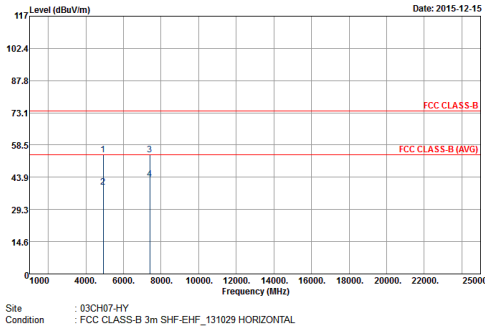
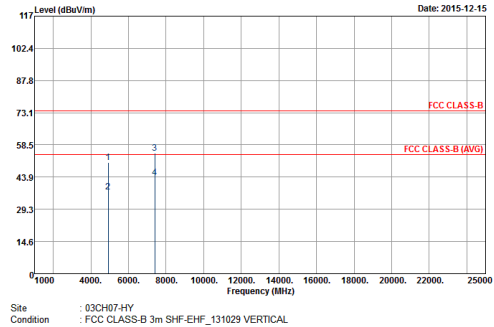


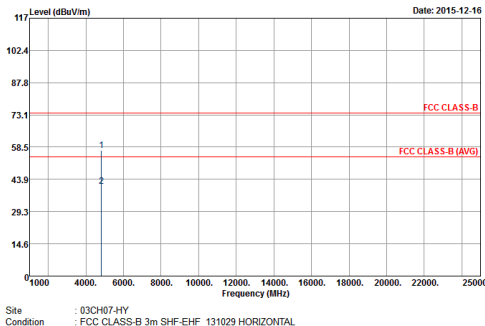
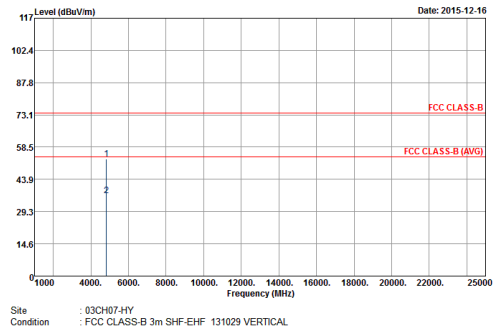
**2.4GHz 2400~2483.5MHz
WIFI 802.11g (Harmonic @ 3m)**

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.		



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz + Plastic Loop	
1	Horizontal	Vertical
Peak Avg.		

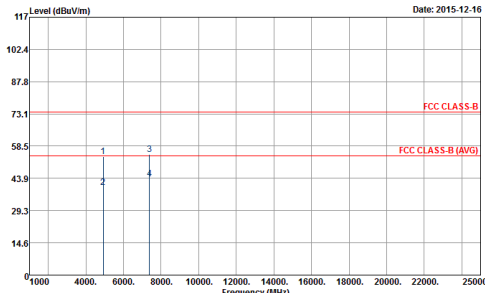
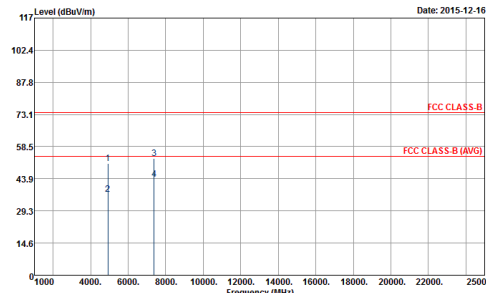


**2.4GHz 2400~2483.5MHz
WIFI 802.11n HT20 (Harmonic @ 3m)**

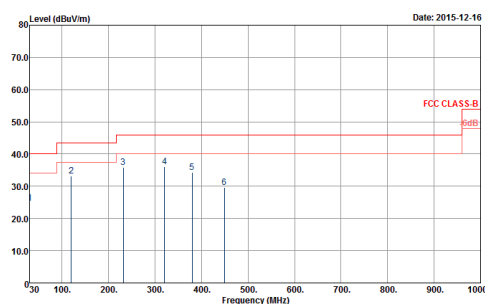
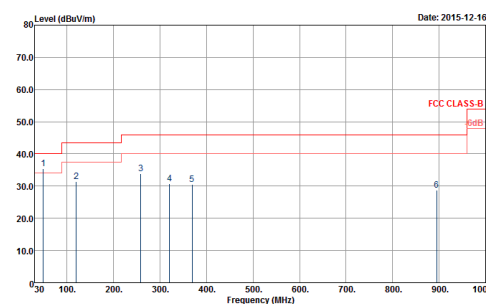
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CH07-HY Condition : FCC CLASS-B 3m SHF-EHF_131029 HORIZONTAL	Site : 03CH07-HY Condition : FCC CLASS-B 3m SHF-EHF_131029 VERTICAL

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CH07-HY Condition : FCC CLASS-B 3m SHF-EHF_131029 HORIZONTAL	Site : 03CH07-HY Condition : FCC CLASS-B 3m SHF-EHF_131029 VERTICAL



WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH07-HY Condition : FCC CLASS-B 3m SHF-EHF 131029 HORIZONTAL	 Site : 03CH07-HY Condition : FCC CLASS-B 3m SHF-EHF 131029 VERTICAL

Emission below 1GHz
2.4GHz WIFI 802.11g (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11g LF	
1	Horizontal	Vertical
QP / Peak	 Site : 03CH07-HY Condition : FCC CLASS-B 3m 6112D_379 HORIZONTAL	 Site : 03CH07-HY Condition : FCC CLASS-B 3m 6112D_379 VERTICAL